

# Texas Game and Fish

NOVEMBER

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**TEXAS TROPHY.** White-tailed deer, although they seem to be fighting a losing battle against agriculture and livestock, still grow big in South Texas. This magnificent head from Dimmitt County won an annual first prize in the Boone and Crockett Club's nationwide contest two years ago. Floyd Burr, San Antonio, killed the buck; Jake Tiner "rattled" up the deer. Judged for size, balance, and thickness of horns, the weight and beautiful

conformation of these antlers outshone all others. The Boone and Crockett Club is the nationally recognized authority on North American big game records. The longest outside curve of these horns measured 26 and three-eighths inches as compared to the world record of 31 and six-eighths. Overall score for Burr's antlers was 165 and five-eighths points. The world mark is 180 and six-eighths.

# Texas Game and Fish

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

November, 1952

Vol. 10, No. 12

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## The Cover

The mallard duck is the subject of this month's original cover painting by Orville Rice. One of our largest ducks, the mallard is a favorite of Texas hunters. The colorful plumage of the male has long made him popular with artists as a symbol of the duck family. Many mallards winter in Texas, particularly in the marshes and rice fields between Freeport and Beaumont. The story of the mallard is on page 6.

# Lookin' In on the Outdoors

with the Editor

We're downright excited over prospective plans for keeping official figures on record fish and game taken in Texas.

Kenneth Foree, outdoor editor of *The Dallas Morning News*, shoved the idea into action. The Game and Fish Commission, at Foree's suggestion, now has machinery in motion for setting up the plan and keeping the statistics.

All-time records for various species should provide a great deal of interest to Texas hunters and fishermen. A few fortunate individuals will be able to boast, and justifiably so, that they took the top official trophy in Texas. That's an opportunity they previously have been denied simply because no one knows for sure what the leading records are.

It is hoped that some means can be devised to go back into past years to establish standing records at which Texans may shoot. Needless to say, this will be a most difficult job. It may be that some fine trophies will have to be passed by, simply because there will not be enough valid evidence to support the claims.

From that starting point, new marks of unusual catches or kills will be added through the years. A system for substantiating these will be no simple thing in itself. The goal will be to obtain accuracy and reliability, without which records will be meaningless, and at the same time not make it so difficult that possible records will be passed by.

A highlight of the plan will be annual competition for record catches of the year. 'Though nothing is yet definite, chances are the ten best for each species will be recorded and announced; for example the ten top largemouth black bass, the ten best white-tailed deer antlers, etc., for Texas each year.

We are working with Foree in draw-

ing up plans for validating claims, gathering records, etc., and we welcome suggestions from Texas sportsmen regarding any phase of the plan.

The tremendous task forbids the inclusion of the 1952 season, but perhaps the program can be sprung into action as the 1953 fishing season opens.

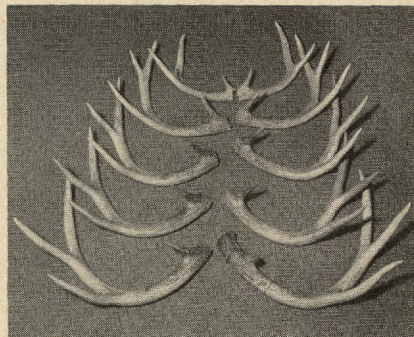
## Hunting Hit Parade

A survey made by the Remington Arms Company a year or so ago raised the eyebrows of a great number of surprised hunters. The results bear repeating.

A nationwide survey was taken to determine which species of game bore the brunt of hunters' shotgun attacks. It was based on the number of shells actually fired at each animal.

With one clean shot, here are the results:

	Percent
Rabbit	29.6
Squirrel	14.0
Quail	13.9
Ducks and Geese	10.5
Pheasant	9.5
Doves	7.0
Other game	3.5
	88.0
Trap and Skeet	12.0
TOTAL	100.0



Although rabbit hunting affords good "fill-in" sport, it is hard for us here in Texas to visualize the bunny as a major target. Yet in many states, where other game is not nearly so abundant, br'er rabbit is highly prized and open seasons and bag limits are rigidly enforced.

## 14-Pointers?

How long does it take a buck white-tailed deer to grow a set of 14-point antlers? Does a deer add a point a year to each horn?

Take a look at the accompanying pictures.

The larger one shows seven sets of antlers taken from the SAME deer, one each year. These were shed over a nine-year period. Those from the third and fourth seasons are missing.

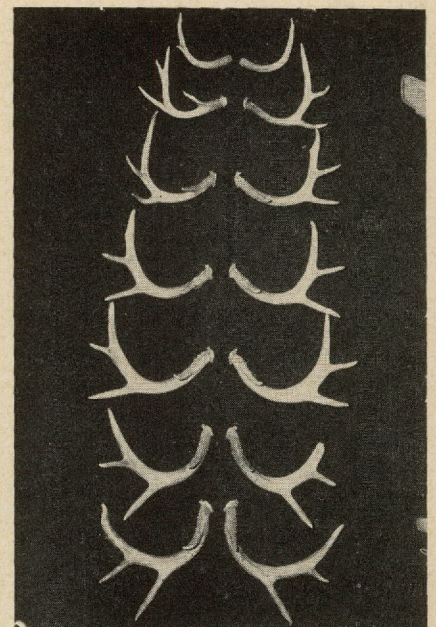
The smaller photo shows antlers from the same buck for five successive years.

Now, just where DO those big 14-point bucks come from?

We can hear the campfire discussions buzzing now. How about sharing some of YOUR ideas with other readers? Just send 'em in—they should make interesting material for this column.

## New Deep-Sea Marks

Texas more and more is getting into the news concerning "deep-sea" trolling for giant game fish. They're



Can you explain it?

still talking about the 58 sailfish landed off Port Aransas in the three short days of the 1952 rodeo, perhaps more sails than had been landed from the Texas coast in an entire previous season.

This year's Freeport rodeo produced the first sail ever entered in that event, and of course, sailfish are no strangers to Port Isabel docks 'way down on the state's southern tip. Marlin are beginning to get a play there, too, with promise of more in the future.

Then, too, a Texan, Alfred C. Glassell, Jr., of Houston, has been very much in the news among international game fishing circles.

It all started last April when Glassell became the first man to officially record a fish over 1,000 pounds caught on rod and reel. His catch was a 1,025-pound black marlin landed at Cabo Blanco, Peru.

Since then the boys have kept outdoor writers in a sweat trying to get new records into print before they were broken again.

For instance, earlier this year, Grantland Rice in a national magazine story claimed the all-time record for Zane Grey on a 1,040-pound Tahitian striped marlin. Actually, this one never got into the books, because it was mutilated by sharks (the rules say mutilated fish don't count). Anyway, the mark has been tied and twice broken since.

In trying to straighten out the Zane Grey story, Jimmy Lingan in *The Houston Chronicle* did a nice job of running down the changes which had occurred over the few short months of 1952. But Jimmy was jinxed. Hardly had his column reached the presses before the record again was broken.

Then Fred Maly, outdoor editor of *The San Antonio Express*, gave us the story from stem to stern. Fred is right at home among the international fishing set, having fished with most of them. He has for a number of years been a member of the Board of Directors of the International Tuna Cup Matches held each year at Nova Scotia.

It seems that the rash of record-breaking fish began in April with Glassell's 1,025-pounder. It since has been broken three times, and all of

the fish came from off Cabo Blanco.

A Peruvian, Tom Bates, undid Glassell's mark in early August with one of 1,040 pounds. Then a week later, Glassell came in with one of 1,090 pounds to regain his championship.

Then as October was being born, a New Yorker, the veteran Kip Farrington, knocked the Texan's record cockeyed with a giant black marlin of 1,135 pounds. And unless someone beats that one before this gets into print, it still stands.

Four official fish over 1,000 pounds in one year, and never before had the mark been attained with rod and reel!

Wonder how it feels to twice gain and twice lose a world's record in one year as Glassell has?

Glassell, incidentally, for the past

three years has been a member of the six-man U. S. Tuna Cup Team. Another Texan, Jim Montgomery, of Rio Hondo, was on the team from 1938 until three years ago when his health forced him from the excitement of the grueling sport.

### Texas' Top Tarpon

Texas has a new tarpon record. It weighed 189½ pounds and stretched out 6 feet 9½ inches long.

A. D. Stenger of Austin was the lucky guy on October 13. This writer hasn't missed going with Stenger on many of his tarpon-fishing jaunts to the coast this year, but on that week end, he caught us out of town and came back with the record. Which should prove what we've said all along

• Continued on Page 31





## Flashes from the Deer Country

Compiled By

EUGENE A. WALKER and TOWNSEND MILLER

Wildlife Biologist

Assistant Director, Publications

A round-up of on-the-spot reports from the state's deer sections indicates that hunting prospects generally appear good as the open season approaches. But the best deer news concerns acorns.

Texas' acorn crop, an all-important factor to deer in most areas, generally is well above average. With the extended dry weather creating havoc among Texas wildlife species by dissipating natural foods, this has come as quite a surprise, although a most pleasant one.

The flush acorn crop means that as the open season approaches, deer in those fortunate sections are fat and healthy. It means, too, that the new crops of fawns is off to a good start.

Hunters have reason to join the Game and Fish Commission in celebrating just about the best news that has come along since Texas game began shrinking before the onslaught of drouth conditions almost two years ago.

There may be better hunting this fall in some sections, too, although the beneficial effects of the bumper acorn crop may not be fully realized for another season or two. And of course, many sections still are badly hit by the sustained dry weather.

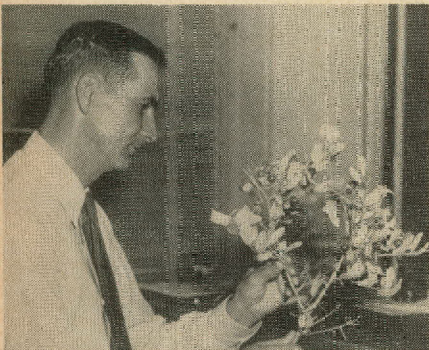
The section-by-section round-up presented below includes most of the state's principal deer country. Some reports on turkey and quail prospects in those areas also are included.

Wildlife being as inconsistent as it

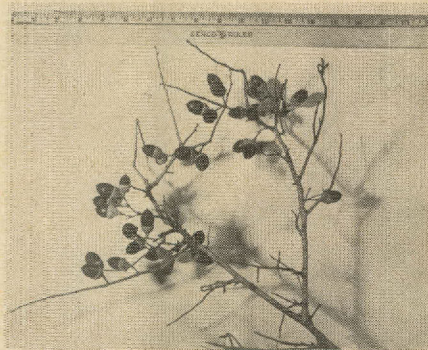
is, even good news sometimes has its disadvantages. For instance, the plentiful supply of acorns makes live trapping of deer difficult; the deer are just that much harder to lure into baited traps. That may put a crimp in the Game and Fish Commission's program of transplanting breeding stock into depleted areas. Last year a similar abundance of natural food cut the number of deer trapped and transported to less than one-third the number anticipated.

As one of the Commission's trappers put it during the first week of this year's fall trapping season, "The only deer we've been able to get near the traps was an old doe locking for a shady spot to rest."

The following are reports gathered



WILDLIFE Biologist Gene Walker sees more than acorns on this heavily-laden live oak sprig. The bumper 1952 acorn crop means fat healthy deer for Texas.



STRIPPED of leaves, the sprig reveals its high productivity. Good acorn crops are common to many sections of the state this year.



TEXAS DEER eagerly seek out acorns such as the nearly three dozen shucked from this one fruitful sprig. That's a tasty and nutritious meal!

from wildlife biologists and wardens around the state:

**MASON COUNTY**—Hunting should be about the same as last year. A good acorn crop is reported in the eastern part of Mason County. Although live oak mast in the southern part of the county appears fairly plentiful, these acorns are falling prematurely. A good crop of Mexican persimmons benefited deer in late summer. Deer are in pretty fair condition.

**TRAVIS COUNTY**—Range conditions generally good. Deer reported in good flesh with prospects for good hunting during the open season. Reports indicate a very good acorn crop with large amounts of live oak, Spanish oak, and black jack acorns present. Post oak mast scattered; absent in some sections.

**GILLESPIE COUNTY**—Estimates indicate more bucks this year than last. Deer in good condition. Best turkey crop in several years reported. Area benefited by September rains. A good acorn crop is reported, but it is spotty in some areas. Spanish oak, live oak, and black jack acorns. Post oak mast scattered; absent in some sections.

**KERR COUNTY**—Apparently more bucks present this year than last. Both deer and turkey reported in good condition with a substantial increase in turkey population. Area benefited by September rains. Pretty good acorn crop overall. Spanish oak, black jack, and live oak producing well with mast generally spotted over the area.

**KENDALL COUNTY**—Deer crop about normal. More turkey than last year. Both deer and turkey already in good condition in October. A number of fat deer reported. This area, benefited by September rains, generally reported in fine shape. Acorn crop extra good. Spanish oak acorns plentiful; black jack and live oak have acorns in moderate amounts. Good crop of wild grapes has been beneficial to turkeys.

**LLANO COUNTY**—Deer looking good. Reports estimated an increase in number of bucks over last year. Only a few turkeys in this county;

however, some young were raised this year. Acorn crop spotted with the greatest quantity being present in the southern portion of this county. Good crop of black jack acorns present where this species occurs; moderate amount of live oak mast; post oak acorn crop poor.

**PANHANDLE AREA**—Prospects for deer and turkey hunting appear about the same as last year. Deer in good condition near streams, which is only area supporting deer to any extent. A good fawn crop is reported—as good as last year. Turkey hatch definitely lower than last year, but there are a good number of turkeys along the Canadian and Washita rivers. Most of suitable habitat just about saturated with turkey. Quail prospects poor due to extreme dry weather. South Panhandle counties in bad shape. Moderately good hatch of blue quail reported in western Panhandle counties near New Mexico where rains were favorable.

**EAST TEXAS REGION**—Deer generally in fair to good condition. Local areas may produce some fat deer and turkeys where mast is adequate. Good fawn crop this year should result in general increase in deer numbers, provided winter food is sufficient to prevent death loss. Ranges very dry as result of extended drouth. Acorn crop short with failure in most areas. Black jack appears best bet for acorns. Most mast is present on bottomland post oak and water oaks. Black jack acorns present on upland in some areas; few scattered trees produced sand jack and post oak acorns in the sand hills.

**POSSUM KINGDOM LAKE AREA**—Not as many deer as last year. Scarcity of rain hurt. Deer in pretty good condition despite poor range. Few acorns but they are not maturing properly.

**COLORADO AND WHARTON COUNTY AREA**—About the same number of deer as last year. Deer all fat. Range conditions near perfect. Big acorn crop, with live oak and black jack producing best. Leases overcrowded and less land open this year to hunting other than through lease. Over-hunted areas growing more dependent for deer supply on

a few big ranches, which are not leased for hunting and serve as refuges.

**SOUTH TEXAS BRUSH COUNTRY**—Probably a few more deer this year. Ranges exceedingly poor due to dry weather, but deer, surprisingly, appear to be in good shape. Coyotes have been rough on fawn crop. Quail prospects appear good. Javelina getting scarce toward Rio Grande but plentiful in McMullin and nearby counties to north, south, and west. Bobwhite not too plentiful but blues improved over last year. Good mesquite bean crop helpful to deer.

**TRANS-PECOS REGION**—In general, reports indicate fewer deer this year than last, when kill was below average. Much country still in very poor condition. Fawn crop short last three years and many fawns from this year's crop have failed to survive. Deer in fair shape on ranches not overgrazed by sheep. Ranges in best condition are in Davis Mountains area, where white-tailed deer are fairly numerous, and both white-tailed deer and mule deer in this area should be in good flesh. Acorn crop spotty; best production by black oaks growing along the canyons. The eastern portion of the region from the Pecos River westward to the mountains has been hard hit by the extended drouth.

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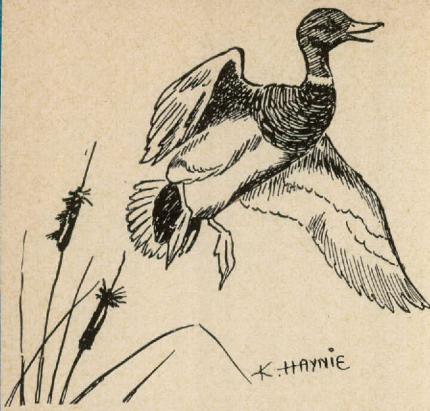
Old Address .....

City ....., State .....

New Address .....

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# His Majesty the Mallard



Where mallards go . . . and stay . . . and why . . .  
and tips on what to plant to make them hang around

By J. R. SINGLETON  
*Wildlife Biologist*

Along with the distinction of being one of the most strikingly colored ducks, the mallard is a big favorite of most duck hunters. They are great sport to hunt and are one of the largest wild ducks.

It will be no surprise to hunters to learn that almost 25 percent or one-fourth of all ducks killed on the Texas Gulf Coast are mallards. While most hunters go out after the "greenhead" or the male mallard, slightly more than one-half of those killed are the female or hens. Mallards and pintails account for almost one-half of all the ducks killed on the coast, the kill being about equal for each of the two species.

There is a considerable difference in hunting the two birds, however. Pintails are great ones for flying and feeding in large concentrations numbering into the hundreds. Mallards operate in small groups and like to feed in very small and secluded pot-holes and ponds.

About the only chance a Texas hunter has to observe mallards in large concentrations is during the late winter. At that time their favorite spot is right down the center of West Galveston Bay and on a few of the large preserves where no hunting is allowed.

Sure they are smart. They must be, to survive.

Mallards will generally work better to a small bunch of decoys while pintails, redheads, and scaup will work best to a large bunch of decoys, where 50 or more will be set out.

Mallards are very particular about the type of country where they feed. While they stay out in the bay during hunting hours, they do almost no feeding there.

Unlike pintails, which are most numerous in the extensive shallow bays of the South Texas Coast, mallards are seldom seen south of Port Lavaca in Calhoun County. During our monthly winter inventory flights\*, no more than 5,000 will be found below Port Lavaca. The heaviest populations and kills occur in Jefferson, Chambers, Galveston, Colorado, Lib-

\*P-R Project W-29-R.



erty, and Brazoria Counties on the Coast, and in Dallas and Denton Counties in northeast central Texas. The peak population of mallards in the coastal counties is approximately 200,000, this number being present in December or January.

Most of the mallards migrating into Texas during the autumn months are birds that were hatched in Saskatchewan, Alberta, and Manitoba, Canada, and in North Dakota. The Canadian Provinces are by far the most important breeding and nesting grounds for mallards.

The accompanying map of Texas shows the counties in which banded mallards have been killed during the past four hunting seasons. Here, again, is a relative figure on mallards . . . of a total of 1,465 banded waterfowl killed in Texas, 481 or 32.8% were mallards. These 481 birds were banded in the following provinces and states:

Alberta . . . . .	36
Manitoba . . . . .	24
Saskatchewan . . . . .	59
Arizona . . . . .	1
Arkansas . . . . .	5
Colorado . . . . .	98
Idaho . . . . .	1
Illinois . . . . .	16
Indiana . . . . .	2
Kansas . . . . .	3
Louisiana . . . . .	1
Missouri . . . . .	15
Montana . . . . .	14
Minnesota . . . . .	3
New Mexico . . . . .	1
Nebraska . . . . .	13
North Dakota . . . . .	44
Oklahoma . . . . .	125



South Dakota ..... 11  
 Wisconsin ..... 5  
 Texas ..... 4

The number of birds banded in each state does not mean, necessarily, that the birds nested in that state. In many instances the mallards are banded during the hunting season or autumn migration. For instance, 125 were banded in Oklahoma, yet few if any mallards nest in Oklahoma; they were banded during the winter months.

Mallards are hatched during the month of June and start their fall migration to arrive on the Texas Gulf Coast during the latter part of October. The main body arrives on the coast in early November. There are always the exceptions, however, as a moderate number of mallards were already on the coast by mid-September of this year.

During their period of residence on the coast, food, water, and protection are of utmost importance to the birds. As stated above, the importance of protection is indicated by their habit of concentrating on West Galveston Bay and game refuges where they will not be molested by hunters. These two areas offer safety, first by inaccessibility, and second by warden protection. Food and water are largely a result of weather conditions, but landowners and hunters can take steps to improve waterfowl feeding and watering conditions, and in most cases at very little cost.

In the mallard range on the coast, domestic rice is the most important food item. Ducks and geese feed in the harvested fields, picking up waste rice as well as the seed of numerous native plants.

Since it would be impractical and uneconomical to plant rice solely as a waterfowl food, the emphasis is placed on natural or native foods, such as duck millet, smartweed, spike rush, delta duck potato and pondweed. All of these occur as native plants over most, if not all, of the mallard range on the coast. The first four species are produced in shallow water on pond or pothole edges. Pondweed occurs in deeper water, usually growing best in more than two feet of water.

The problem is getting these plants distributed or re-introduced to areas where such growths have been destroyed. Since the plants are native, the best planting stock is found locally

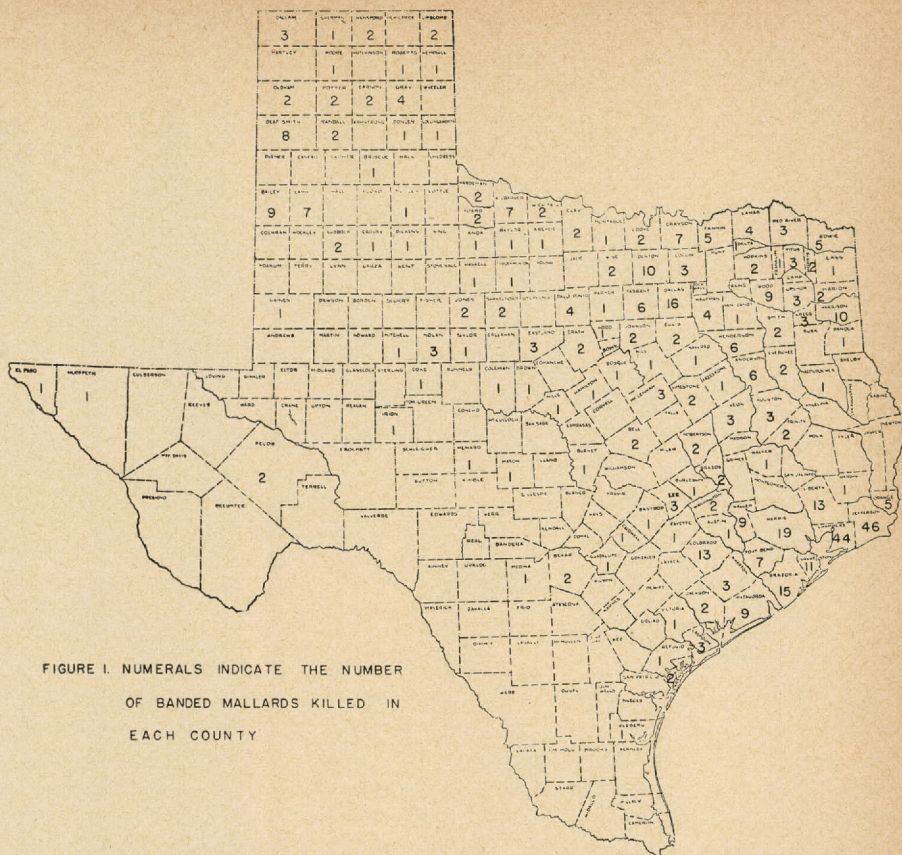


FIGURE 1. NUMERALS INDICATE THE NUMBER OF BANDED MALLARDS KILLED IN EACH COUNTY

and will be adapted to local conditions. Once the plants have been established, water levels, grazing, and burning must be controlled or regulated.

It is generally a waste of time to attempt any improvements if, for instance, the pond is allowed to dry up and remain dry during the spring and summer months. Then, too, if water levels are controlled but the area is heavily grazed, the work may be lost. Several of these plants are just as attractive to livestock as to waterfowl, and will be heavily grazed.

Of all these plants listed above, duck millet is by far the easiest to grow. No cultivation is required, but this is beneficial where possible. The seed are sown on mud flats or in less than one inch of water and at a rate of 25 pounds per acre.

Once the plants reach a height of six or more inches, they produce very well in several inches of water. Another advantage is that the plants are self-seeding each year and no additional plantings are required. Duck millet produces mature seed in about two months after planting. Millet is best established by seed, but the other plants can be started from transplantings.

It is not recommended that an area be planted solidly with any one kind of plant. The best results can be obtained by making spot plantings of several species over a pond. Plants that grow and produce well will spread over the unplanted portions of the pond.

If a local supply of plants is available, several thousand can be pulled and transplanted in a day, depending upon how much labor is used. The best sources of supply are irrigation systems and low areas in road ditches. The writer has given technical assistance to many groups in improving waterfowl hunting grounds, and in most cases, a supply of plants has been located in near-by road ditches.

Wild rice is widely known as an excellent waterfowl food plant, but it will grow in very few Texas sites. It requires deep, cool, clear, running water. For that reason, it is not recommended for general use in Texas.

There are known instances in which landowners ordered duck food plants for their ponds and then learned that the same species were already present as native growth. Such errors can be avoided by making an inventory of existing vegetation prior to any plantings.

# QUAIL with One Wing



By W. C. GLAZENER

Director of Wildlife Restoration

Sorting, counting, and classifying the more than 11,000 quail wings sent to the Commission last year by cooperative hunters was no job for a wildlife technician with an allergy to feathers!

Have you seen a one-winged bobwhite flying across a field anywhere? If you did, and were in good health and cold sober, it must have been the result of over enthusiasm on the part of some interested sportsman.

He would have been collecting wings for the Texas Game and Fish Commission, although actually the Commission is seeking only the wings from quail that have been killed by hunters.

During the last quail season, at least 11,553 bobwhites went into the cooking pots minus one wing. That's

the number of wings sent to the Commission by hunters from nearly all parts of Texas. A look at the accompanying map also will show how the state is divided up into regions for the purpose of evaluating quail statistical data.

The fact that no wings came from certain counties does not necessarily mean that there were no quail present. A number of those counties provided fair to good quail hunting, but the season passed by without any wings being gathered for study purposes in those areas simply because hunters

weren't interested enough. But a total of 304 people did pitch in to help in quail production research by sending the 11,553 wings to Austin.

This idea of getting knee-deep in quail wings is not just for fun. To a wildlife technician with an allergy, that many quail feathers mean a painful lot of sniffles and sneezes.

The objectives are facts and figures, clues that may lead to better quail hunting. More appropriate seasons and bag limits, in keeping with maximum harvest of surplus birds along

• Continued on Page 10

**Table 1**  
**SEX-AGE OF QUAIL AS DETERMINED FROM WINGS COLLECTED DURING THE 1951 HUNTING SEASON**

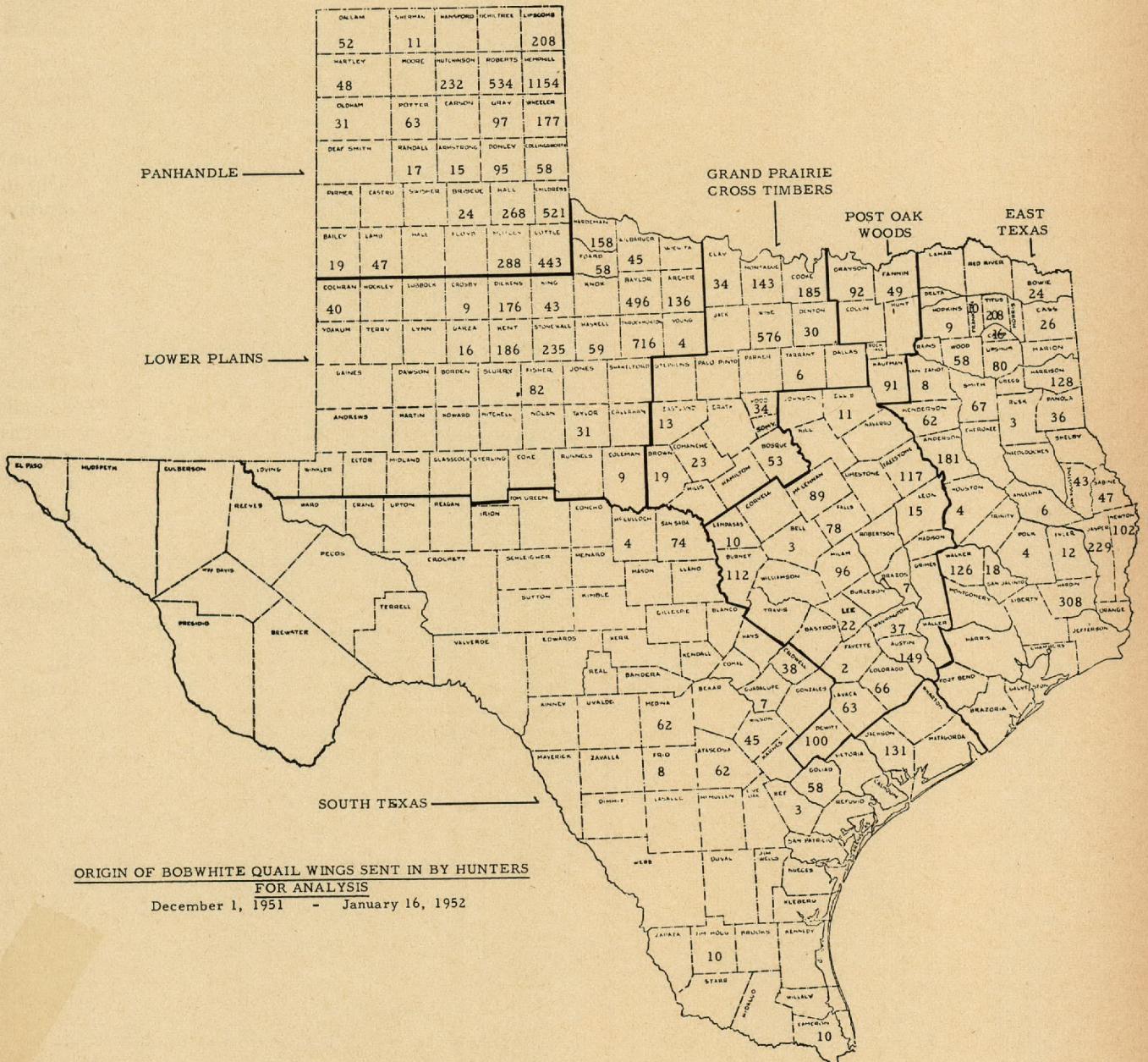
Region	Males	Females	Sex Unknown	Total	Percent Adults	Percent Young	No. Young Per Old Hen
East Texas.....	766	711	153	1,630	31.6	68.4	4.5
South and West Texas.....	*154	*154	*204	*512	*27.0	*73.0	*8.7
Post Oak Woods.....	642	598	200	1,440	32.8	37.2	4.89
Cross Timbers—Grand Prairie	486	419	165	1,070	32.0	33.0	4.9
Lower Plains.....	1,277	1,141	147	2,565	23.8	72.7	6.3
Panhandle.....	1,855	1,724	757	4,336	19.9	81.1	9.6

\* Because of the low number of wings available from this region, the validity of the percentages may be questionable.

Table II

HATCHING DATES FOR YOUNG QUAIL IN 1951 AS DETERMINED FROM WINGS COLLECTED BY HUNTERS

Time Period	East Texas	South Texas	Post Oak Woods	Cross—T Grand—P	Lower Plains	Panhandle
Prior to August 15.....	99.1%	98.6%	99.5%	99.8%	99.6+%	99.6+%
After August 16.....	.9%	1.2%	.5%	.2%	.4%	.4%
No. Young Quail Involved..	1,115	299	968	727	1,867	3,547



## Quail With One Wing

• Continued from Page 8

with possible emergency adjustments in regulatory regions, are definite possibilities from data so compiled.

Glance at Table I, then go back and read it. Do you notice that in all regions except South and West Texas, hunters in 1951 killed more cock quail than hens? That's because they prefer to kill the cocks, you say? Well, maybe so, but it just happens that when young-of-the-year are counted, the sex ratio of cocks and hens runs almost exactly 1 to 1. Also, the difference between the numbers of cocks and hens was less for the past season than for the season of 1950. More about that later.

Take a peep at the columns reading "Percent of Adults" and "Percent of Young." Young birds made up 67.2% to 81.1% of the total birds killed last year. In 1950, young birds constituted 73.9% to 86.1% of the kill.

Why are we interested in this angle? Because it supplies a very definite index to the status of the quail population in any locality. So long as quail are fairly plentiful and composed of 75% to 90% young-of-the-year during the hunting season, that population is in good condition. However, if young-of-the-year drop down to 50% of the total population, it indicates that reproduction that year was too low, and it is time to become concerned. A population in that status is not holding its own.

The last column in Table I tells a story, too. Figures for the individual regions represent the number of young-of-the-year found there for each adult hen. It does not mean that each and every hen raised that many young ones—just that this was the average figure. Many hens never hatched an egg, much less raised a brood of chicks. For instance, the figure 4.5 listed for East Texas means simply that the average number of chicks raised per hen in that area was something like 4.5 chicks.

The Panhandle showed a high average of 9.6 young for each adult hen, based on a total of 4,336 bird wings checked. The Panhandle also had the best known quail population in Texas last year. Despite this, a warning sign was indicated in the figures, because the 1951 ratio had taken a sharp drop

from the average of 14.2 young per hen in 1950. It appears quite possible that the result of this drop may be reflected in lowered populations there this season.

Some people ask when quail hatch. Answers must vary—with the region and the weather. By examining the development of feathers on the wings of young birds it is possible to determine approximately when they were hatched. In 1950 the hatch evidently spread over a period from late May to October. In 1951, it was practically all over by August 15, as a result of the generally dry ranges common to Texas by late last summer. Late nesters either quit or failed. This led to a quail population last winter in which there was a lower percent of young-of-the-year, and a population that could be taking a quick nose dive as we approach this hunting season.

There's another item quite obvious in all these figures. That's the annual "turn-over" in a quail population. Each year, from two-thirds to three-fourths of the quail present during the hunting season are young-of-the-year. What became of the adults left over from the preceding season? Some of

them survive, but many disappear, and are replaced by young ones.

It's this annual "turn-over," plus constantly changing covey membership, that makes the value of long closed seasons for quail—and of quail refuges—questionable. It might be just as well to let hunters harvest a part of the 75% that would die anyway!

How does the Commission secure wings used in the analysis? Entirely through the cooperation of hunters.

Business reply envelopes for mailing wings are distributed through the assistance of game wardens, sporting goods stores, game technicians, and other interested parties. Hunters remove one wing from each bird killed, and mail their collections to the Game and Fish Commission, Austin, Texas. No postage is required.

The wings do need to be separated by the sender according to sex of the birds from which they come. Other essential information includes the date and county of the hunt.

If you are interested in helping out on this collection project and cannot contact your warden for envelopes, just drop a request card to the Game and Fish Commission, Austin, Texas.

## Summary of Seasons

### FISH - GAME - FURBEARERS

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

### Game Animals

- Gallinules and Rails (except coot)—last day of season was October 30.  
Brant, Coot, Ducks and Geese—from noon on October 31 to December 29, inclusive.  
Mourning Doves—last day of season in south zone is November 9 from noon to sunset. (Last day of season in north zone was October 10.)  
Squirrel—October, November, and December.  
Bear, Deer, Javelina and Turkey—November 16 to December 31, both days inclusive.  
Chachalaca and Quail—December 1 to January 16, both days inclusive.

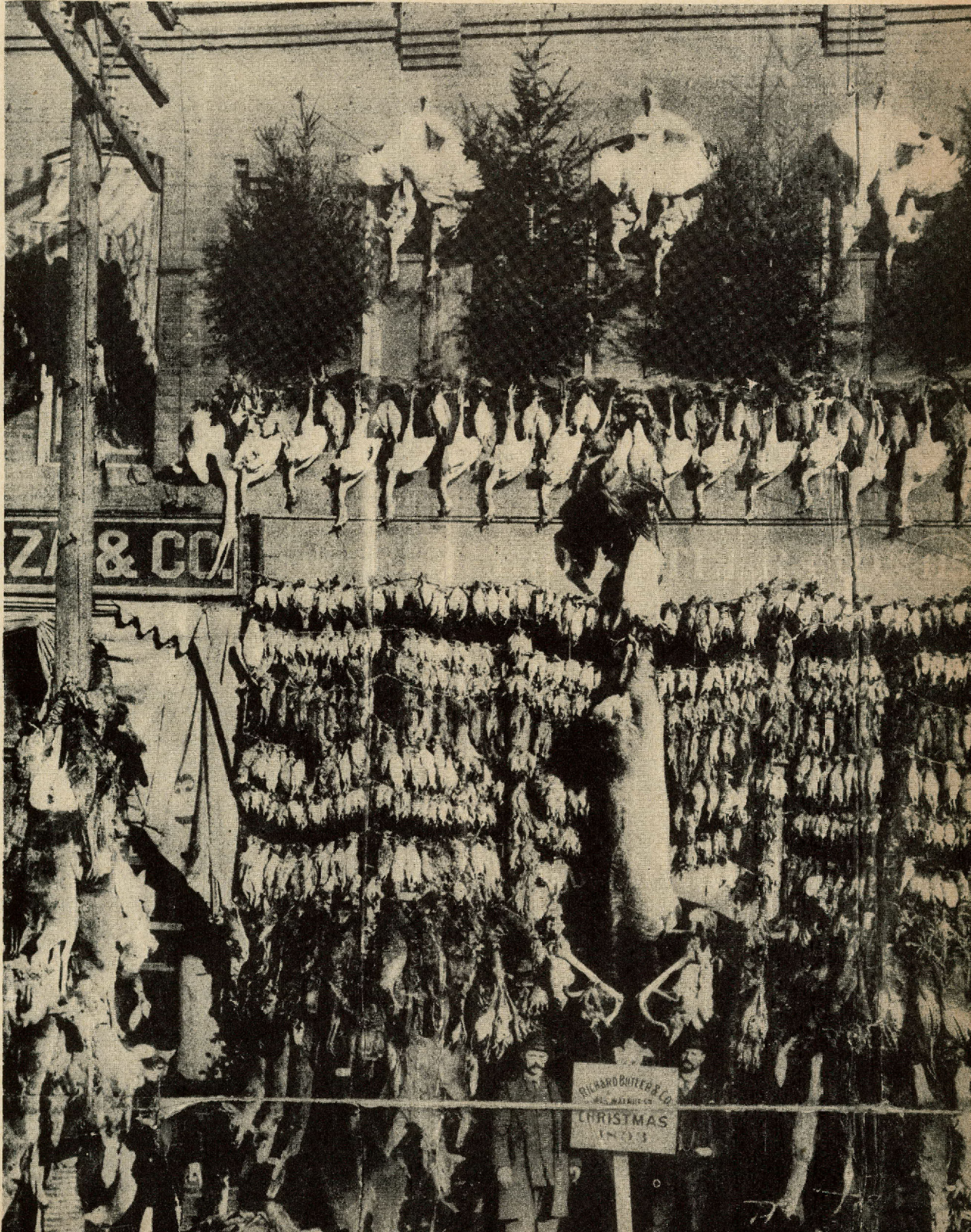
### Furbearers

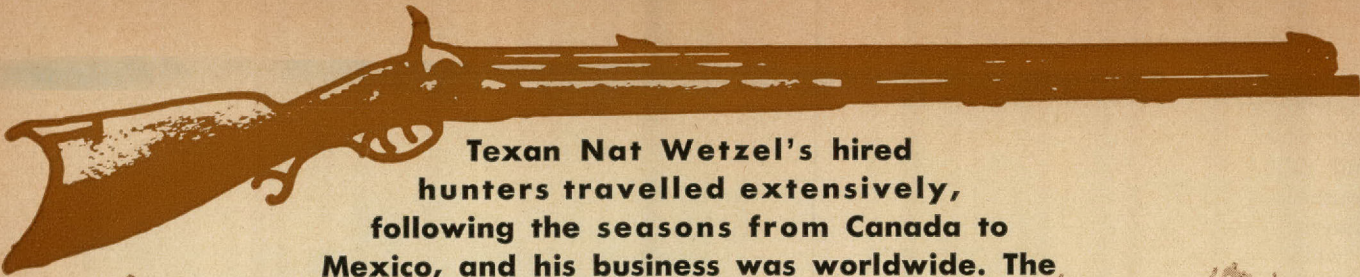
- All furbearers except Muskrat—December and January.  
Muskrat—November 15 to March 15.

### Game Fish

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

# King of the Market Hunters





**Texan Nat Wetzel's hired hunters travelled extensively, following the seasons from Canada to Mexico, and his business was worldwide. The 1893 photo of his Kansas City market on the preceding page shows a typical mass of the game he offered for sale.**

# King of the Market Hunters

By JAY VESSELS

*Assistant Director, Publications*

Second in a series of articles about the days of the market hunters—when Texas game was plentiful and hunters were few.

Nat Wetzel has seen the best and the worst of hunting wild game. He does not consider shooting for the market, as conducted when game overran the country, the more vicious of the two.

The 86-year-old Houston man was one of the world's biggest commercial agents in wildlife half a century ago. At one time he hired 125 professional hunters. His products were shipped to many parts of the world.

But he now insists that the decrease in wild game did not come from market hunting but rather from the encroachment of civilization on natural habitat.

"Not the least of the detrimental causes is the wastefulness of modern hunters," said Wetzel, a sharp-eyed veteran of South Texas. "Hunters nowadays shoot anything that moves. They shoot for the sport. They more often neglect to pick up what they hit. In recent years, I have walked through shooting areas in South Texas where the stench from unretrieved white-winged doves was almost too great to bear.

"In the market hunting days, we shot only what had an edible or marketable value. Gunners shot only at what they could hit and retrieve. They could not afford to shoot and miss, or hit and then fail to pick up, the game." (In those early days there

were no laws to protect game.)

Wetzel admitted that he was slightly grumpy as he discussed past and present of wildlife and hunters. He had been sidelined by a knee hurt in an automobile accident.

This was a double jolt. One jolt came because Wetzel in recent years has been carrying on as a safety engineer. The other jolt was that he was not accustomed to being incapacitated during his active life, roaming from Canada to Mexico.

But his sense of humor was kept sharp by Mrs. Wetzel who eavesdropped from the next room and who commented occasionally when she

thought the conversation needed a co-educational flavor.

Typical was this one:

"Don't forget to tell him about the time I got the double on redheads (meaning the duck)."

Wetzel had been taking care of the compliments and unknown to his wife he had just described what an excellent shot she became.

As Wetzel unfolded the details of his varied career which was climaxed by his agricultural promotion and production conquests in South Texas, it was easy to observe how family harmony had accentuated success.

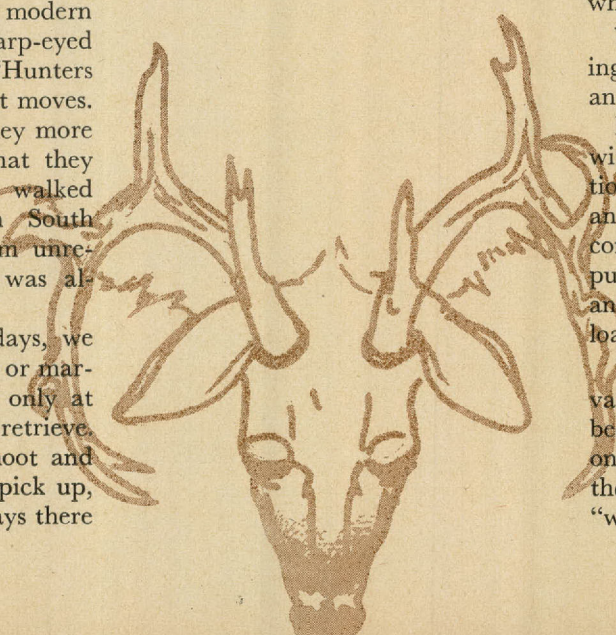
"I never contradicted my husband even though I knew that he was wrong," explained his charming wife.

She refers to her Pennsylvania-born husband as "My Dutchman." And Mrs. Wetzel has been calling him that for 65 years—the duration of their marriage. They were married when she was 18.

Wetzel reviewed his market hunting career just like his had not been an extraordinary field.

Harvesting game was a science with him. He looked for concentrations of game; studied its movement, and always kept posted on weather conditions. He equipped his men with pump guns with five-load capacity and bought ammunition by the carload.

Wetzel's operations have been so varied that at different times he has been called "the melon king," "the onion king," and "the frog king," but the title he likes best is that of the "world's greatest wild game hunter."



His hunting career began back in Danville, Pa., when, at the age of nine years, he began hunting birds and rabbits and peddling them to housewives. After his family moved to Kansas City, he sold newspapers for a while, but he soon got into the game-dealer business, first by setting up shop in a stall in the Kansas City municipal market place.

Mainly because there was no other wild game shop in Kansas City, his first venture was an immediate success. His original source of supply were farmers who brought produce to the city market and who relished the opportunity to fetch in wild birds to sell for a dime apiece.

Before long Wetzel and his young partner, named Johnson, were shipping wild game beyond the United States. Mid-western wild turkeys supplied the royal tables of England for the holidays. The business had such a fabulous growth that by 1886, when Wetzel was 20, it outgrew the city market stall and was re-established in a large downtown building in Kansas City. Wetzel's young associate ques-

tioned the expansion, and Wetzel got a new firm partner, Richard Butler.

Farmers were unable to supply the demands, and shortly Wetzel began hiring professional hunters. They supplied ducks and geese, deer and turkey in the fall and winter; quail and prairie chicken in the spring, and other birds in appropriate seasons.

Wetzel's operations manipulated a great communication network for maneuvering his hunters according to weather conditions and for receiving and acknowledging orders for wild game.

Wetzel was such a big operator that the *Saturday Evening Post* wrote him up as "the pioneer of organized game hunting." (Later Wetzel himself authored articles for the *Post*.)

Wetzel's magic touch subsequently skyrocketed other enterprises to success and, at the turn of the century, he was making a new fortune in the melon business.

He pioneered in that line in South Texas and had vast holdings in Colorado. Wetzel's public spiritedness helped establish his reputation as a substantial citizen.

After the Galveston hurricane, he set up a great system for collecting and shipping emergency supplies to the victims. He personally assisted in the rehabilitation and provided free seed to residents the next spring.

His assistance was described by the newspaper *Texas Coast Promoter* published at League City Station:

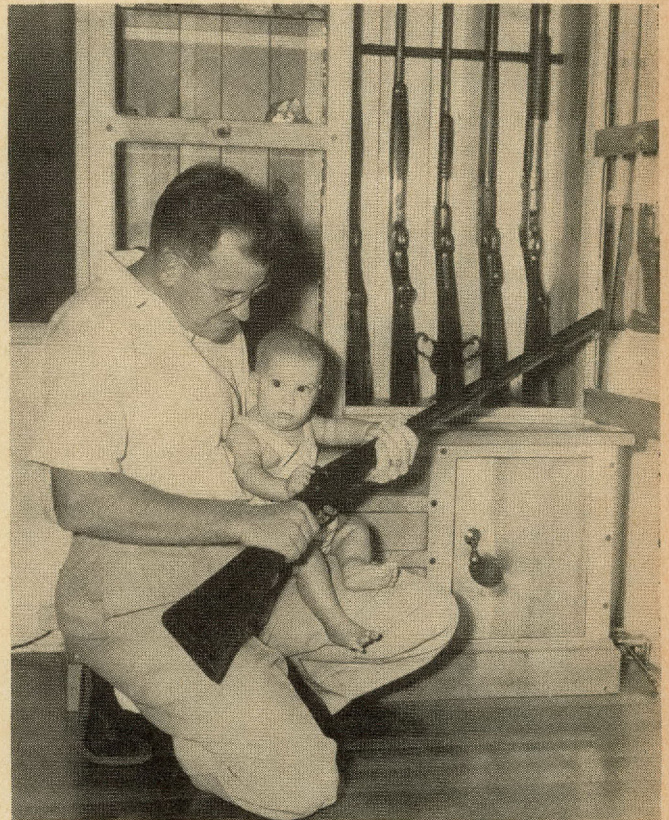
"Mr. Wetzel was the first and only commission man, so far as we know, to take active steps in securing carloads of supplies for the storm sufferers; he also was the only commission man who brought influence to bear upon the Agriculture Department to furnish seed for free distribution in this district and to make an appeal to the express people to haul these commodities free. He was the only commission man in the country to personally visit this devastated district and to assist in suggesting plans and in other ways encourage the people."

Wetzel has a vivid recollection of his varied activities. He recalled how he made money handling frog legs

● Continued on Next Page



TODAY, after 65 happy years together, much of it sharing experiences in the outdoors, Mr. and Mrs. Nat Wetzel remember when he was many times "king."



WETZEL'S old muzzle loader gets the once-over from Bert Lindsay, Austin, and son Lawrence Wetzel Lindsay.

and how he made Houston the nation's leading frog center 40 years ago.

The *Houston Chronicle* some years ago described the activities of Wetzel, the frog tycoon:

"Possibly only the older Houstonians will remember, but back in the first decade of this century, the marketing of frogs was big business here. Frogs gathered in Texas and Louisiana brought top prices in New York, Chicago, London, and other cities.

"The sale of Southern frogs was started by Wetzel, who thus added 'frog king' to his other titles. His prominence as frog royalty is now almost forgotten, but he was given wide publicity 40-odd years ago.

"The *Houston Chronicle* on March 11, 1904, heralded Wetzel's arrival in Houston with more than a half column on Page One. 'Mr. Wetzel,' the article said, 'the frog king is today in Houston. Large contracts have been signed for this season, and the demand for frogs will be greater than ever before.'

"Prior to 1900, there was little demand for frog meat, and the first shipments came from Canada and the Northwest. Wetzel noticed that the frogs of Louisiana and Texas were much larger than the northern frogs and decided to try marketing them. He opened headquarters in New Orleans and Houston and opened up a business as a sideline to his wild game commission business in St. Louis. Liberty was chosen as the Texas shipping point.

"Wetzel trained a group of hunters in the art of catching frogs. These experts were then sent out to conduct classes among all swamp dwellers who could be persuaded to attend. The first season made frog hunting popular, the hunters receiving \$1 a dozen for the giant frogs, and making more money than they ever had made before.

"The frog catch in the two states amounted to about \$50,000 a year for the hunters. Wetzel sold them at prices ranging from \$1.50 to \$2.50 a dozen. Expenses were numerous. Not the least of the expenses was express, as the frog meat had to be speeded to the markets.

"It was during his 'frog king' days that Wetzel experimented with cross breeding frogs and registered one of his few failures. He discovered that a medium sized specie found in the Valley known as the 'leopard frog,' was edible. Furthermore, the leopard frog did not hibernate, but grew the year around. By contrast, the giant bullfrogs of Louisiana and East Texas buried themselves in the mud in the winter."

The newspaper article went on to describe how the project developed according to script, but that just as Wetzel was on the verge of hitting the bullfrog jackpot, his luck changed.

He was driving back to his frog ranch one midwinter night contemplating his new cleanup by having frogs at a time of year when they ordinarily were not available. A cold, wet norther was blowing in, and, as Wetzel neared his place, the whole country-side suddenly seemed to be jumping. The area was covered with frogs, hopping frogs. When the norther struck, the bull leopard frogs tried to dig into the hard bottom of the pond. Failing, they began slipping through the fences by the thousands, seeking a better place to hibernate.

So Nat Wetzel gained more fame, this time as the victim of "Nat Wetzel's frog stampeded." The story of this catastrophe was carried everywhere.

Now, Wetzel and Mrs. Wetzel live quietly in their home, which is decorated with varieties of stuffed game.

Speaking of the time when they lived in the Valley and when Mrs. Wetzel had the only woman's permit to hunt on the King Ranch, she exclaimed, "My, those were the happy days!"

Nat Wetzel heartily indorsed that observation. Memories of his more active years, with the many ups and downs, stimulated the smiling comment:

"If I had it to do over, I believe I wouldn't change a thing."

Above all he feels qualified to counsel the present-day hunter. "If they will only take what they can use and not be so wasteful—if they will do that, I think they can help preserve the remnants of our wildlife and actually help restore some species."

# The Cranes That Came To Dinner and STAYED!

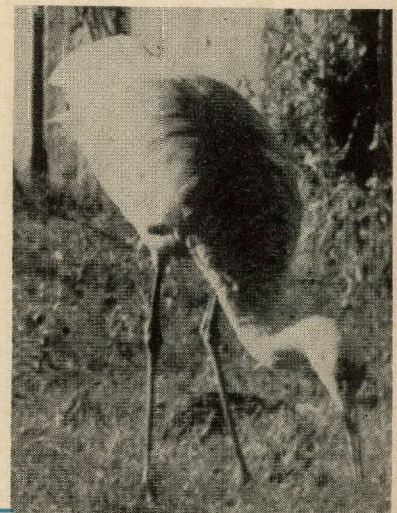
By JACK ARNOLD

TWO sandhill cranes are about to wear out their welcome down at Eagle Lake.

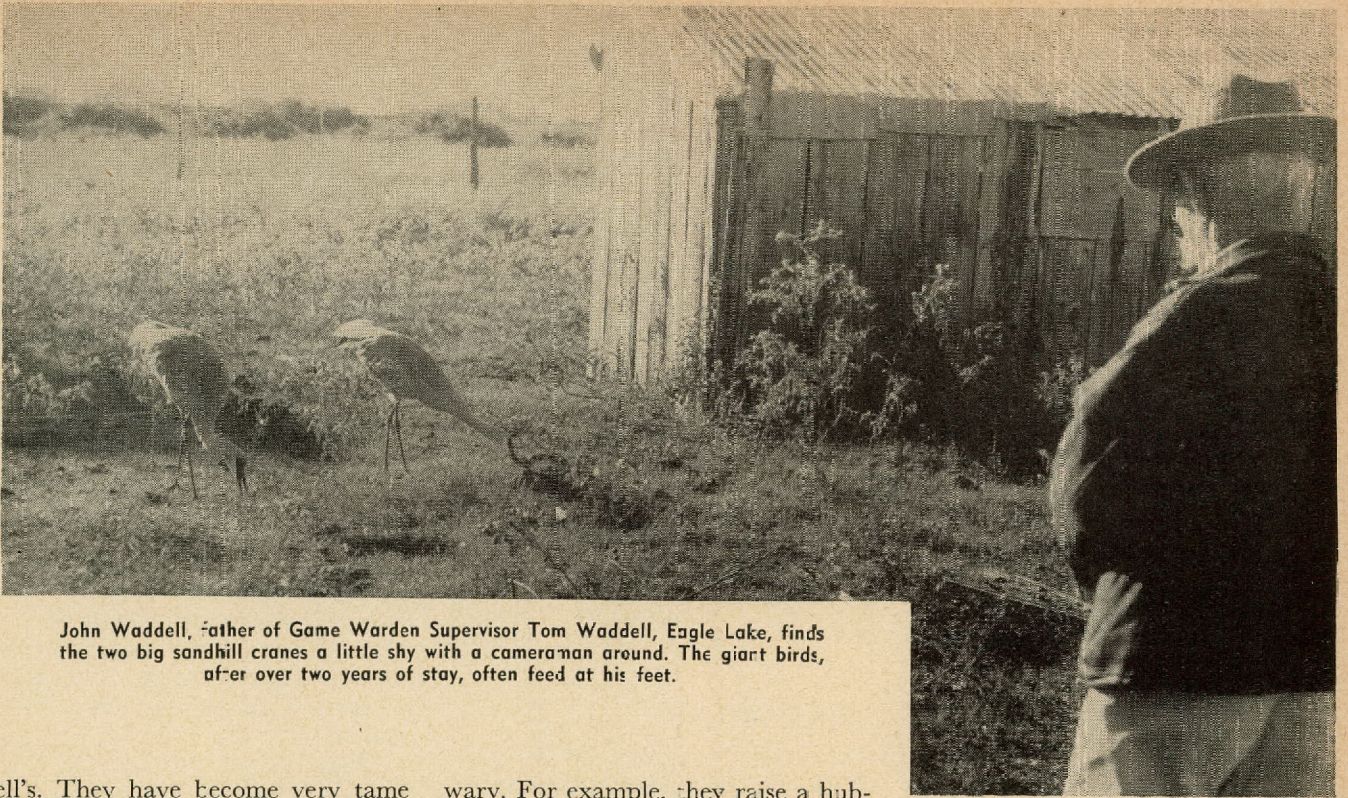
The two big birds dropped in on Game Warden Supervisor Tom Waddell in April, 1950, while the spring migration was under way. Mrs. Waddell saw the cranes light in a nearby pasture. She said one seemed to have a wing injury.

Supervisor Waddell, who is recognized as one of the best posted men on wildlife in the area, promptly reacted to the extraordinary opportunity by scattering grain around. Just as promptly the rare pair began eating and making themselves at home.

That was 30 months ago. Now the birds continue to reside near the Wad-







John Waddell, father of Game Warden Supervisor Tom Waddell, Eagle Lake, finds the two big sandhill cranes a little shy with a cameraman around. The giant birds, after over two years of stay, often feed at his feet.

dell's. They have become very tame and practically eat out of their hosts' hands.

Waddell had hoped that the pair comprised a male and a female, and that the two would nest on his place. He still believes one is a male because it is larger and has a different call. But he has never been able to find a nest, although he believes they could have nested and then lost the eggs or young, if any, to varmints which are abundant in that area.

Waddell has recruited cooperation of all his neighbors to provide the maximum protection to the feathered celebrities. The birds themselves are

wary. For example, they raise a hubbub if a strange dog enters the Waddell pasture. A sightseer, wearing a gaudy sports shirt, stirred them to noisy protests.

The cranes have become so accustomed to the Waddell's hospitality that they now are practically fussy about their feed. They show a preference for shelled corn. They dig up the roots of nut grass which they eat for roughage.

Both cranes keep close to the Waddell place. They drink out of the stock water trough and, during the hot summer days, they found shade in a makeshift shelter Waddell fixed up.

They react just as quickly to cool weather. They squatted on the ground on their long legs when the first northern came. "Still can't understand how they got those long legs folded up," said Waddell.

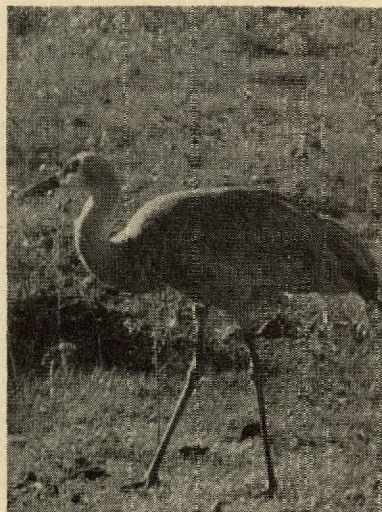
They occasionally fly but these hops are restricted, because one bird has difficulty keeping airborne and the other does not fly very far while soloing.

The graceful long-legged, long-necked cranes have a dull slate color which makes their camouflage perfect. The only conspicuous coloring is their bald red forehead.

Supervisor Waddell calls the cranes about like a farmer calling his chickens. He adds a flourish by blowing through his lips, something like a duck hunter calling in bluebills.

He still manages a smile with the chow summons, but, come spring, these sand hill cranes might well rejoice their mates. There is such a thing as wearing out a welcome, even considering the royal status of these visiting birds.

After all, Supervisor Waddell has some other wildlife housekeeping chores, plus watchdogging of the Animal Kingdom generally and 40,000 specklebelly geese specifically.



# Texas Tracks

By JAY VESSELS

marked both spots by reference to trees on the ground.

He then flew back to Alpine, got another warden, and they stopped the two hunters on the highway. They found only dove feathers. Hamer and his associate drove to the shooting scene and found the shotgun, which was unplugged, and a dove. Both men, confronted with the evidence, plead guilty.

## THE PERFECT ALIBI

Game Warden Bob Evins, now stationed at Junction, thinks he ran into the prize alibi while he was helping restore fishing law and order on the freshly-stocked Pecos river. He found two women and a man fishing with resident licenses although their car license pointed up the fact they were fresh out of Tennessee.

While Evins questioned the trio, one of the women spoke up: "Now, look, the Pecos river doesn't belong to Texas anyway. It belongs to Tennessee. The governor of Tennessee won it from the governor of Texas when Tennessee beat Texas in the Cotton Bowl in 1951." . . . That wasn't the way the judge heard it.

## SAFE COURSE SUGGESTED

Bill Walker, Outdoor Editor of the *Houston Post*, on asking permission to hunt:

"We could devote this entire column to the proper conduct as befits sportsmen in the field, and it would likely die a solitary death, having been read by none other than a couple of bored proof men in the back shop.

"We certainly do *not* believe all sportsmen do *not* conduct themselves properly in the field, but the few who do not give a terrible reputation. And those who do conduct themselves as gentlemen do not need to be told what to do, so why bother reading the rules.

"One thing is for sure, when the mourning dove season opens at noon Wednesday, hunters will be wise who obtain permission before entering fenced or posted properties.

"A hunter has no more right to climb through a rancher's fence than that same rancher has to climb through the window of the hunter's home on a city lot.

"Many landowners would like to act as hosts to their sportsmen friends

who reside in our cities, but experience has taught them this can be bad business. John Doe lets me hunt on his ranch. I take along a friend, who goes back and takes along another friend, and finally it gets to be an endless chain. This alone has caused more farmers and ranchers to stop all hunting on property than anything else."

## FAIR WARNING

Outdoor Editor Kenneth Foree of the *Dallas News* cited this case which could occur elsewhere:

"Any hunter who has gotten a license from Mrs. Ken O'Rear, 1425 North Beckley, had better stop, look, and listen at his tags. Mrs. O'Rear was improperly advised to sign the deer tags with her own name, which might find a Dallas hunter in a deer country jug while wardens put through a call. The tags should bear the hunter's name and if wrong should be re-issued."

## AERIAL SLEUTHING

Flying Game Warden Frank Hamer who operates out of Alpine, recently combined air-ground facilities to round up two men who hunted doves out of season. While flying patrol over the ranch area west of the Glass Mountains in Brewster County, he saw the pair stop their car and get out at a water tank. He was at 3,000 feet but with binoculars could see that the men had shotguns. One fired a shot and walked over to pick up something. Hamer slipped through a mountain pass and buzzed the men at 50 feet. He caught them in the open with guns and got their car license number. He also recognized one of them.

The men left after hiding a shotgun in a clump of grass and after throwing something from the car. Hamer

## Field Data

### FISHING FATALITY

The *Daily News-Digest* of Texarkana recently carried this item:

"A Negro youth drowned in the lake near Garland City Monday in an attempt to remove a fish from a trotline.

"Miller County Coroner Dr. C. L. Winchester said the youth apparently became entangled in the line. He was dead when he was found."

### TOP BEAR AWARD

Fred Maly, Outdoor Editor of the *San Antonio Express and Evening News* wrote:

"Fred Shield, San Antonio oil sportsman, won first prize in the Alaskan Brown Bear division of the Boone and Crockett club's 1951 Big Game hunting competition.

"Shield's trophy, killed in 1950 on the Unimak Island in Alaska, scored 2914 $\frac{1}{16}$  points, or  $\frac{3}{16}$  points better than the next best.

"Bear are rated by measuring the length and width of the skull and the total adds up to the score of points."

### PET DEER SEQUEL

The Picture of the Month in the September issue of TEXAS GAME & FISH, showing a big buck deer in an automobile, helped trace the stag's owner. It turned out that the animal had reason to be unusually docile since it was born in the Dallas Zoo and had been reared in captivity. The owner called for the deer and, of course, carted it the 41 miles back home to Jonestown in his car. The buck, ten points and all, first displayed its rare tameness by poking its big rack under the arm of a surprised

**AMERICAN PINTAIL DUCK.** This duck rivals the popular mallard in numbers killed by Texas hunters and is one of the larger ducks. The long feathers in the drake's tail make it easy to see where the pintail gets its name. The pintail may build its nest close to the water in its far northern breeding grounds or as much as a mile away, but always in a dry place. It has a varied diet, feeding on seeds as well as small fish, insects, and crustaceans.

**SHOVELLER DUCK.** The shoveller is a small duck, only slightly larger than a teal. It is distinctive in appearance. The long flat bill makes this species appear decidedly lengthy from the wings forward, and the shoveller when on water sits with the bill slanting downward. It is a relatively slow flyer and rather easily killed.

•

**LESSER SNOW GOOSE.** This goose, which is somewhat smaller than the more familiar common Canada goose, is easily identified by its white color and distinctive black wing tips. It winters principally in California but many come to the Texas Coast. The snow goose nests far northward and often returns in spring before the ice and snow have melted from the feeding grounds. Its scientific name, *hyperborea*, means "beyond the north wind." The flesh of the snow goose is not as highly favored as that of the Canada goose.

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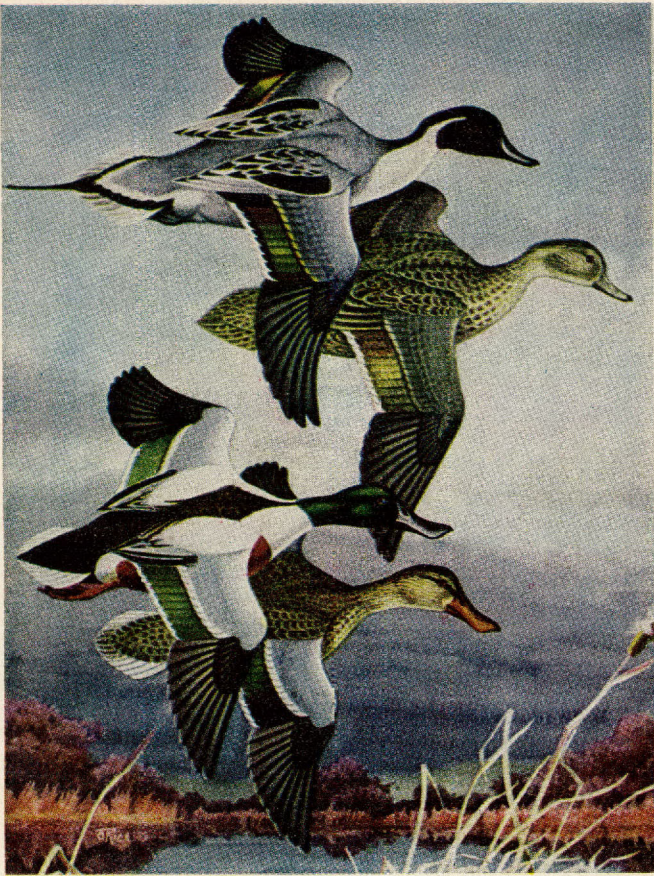
**COMMON CANADA GOOSE.** The largest of five sub-species of *Branta canadensis*, the common Canada goose is the most widely distributed and best known of our North American waterfowl. In size it is second only to the swans and the vanishing whooping crane, often weighing up to fifteen pounds. The Canada goose mates for life, and the gander, although he never sits on the eggs, remains near the nest to challenge all comers.

•

**BALDPATE DUCK.** A surface feeder like the mallard, the baldpate often can be found with canvas-backs, redheads, scaups, or other diving ducks from which it steals food. It derives its name from the white crown of the drake. The baldpate is a shy bird, does not decoy readily, and usually is seen in small groups. When on the water, the large white patch on the flank just in front of the tail is prominent.

**GADWALL DUCK.** The Gadwall, like the baldpate, is a surface feeder and also is a fast flyer. However, it often is seen in large flocks. Not considered particularly wary, the gadwall decoys well. Gadwalls seldom are found on salt water.





Above, **AMERICAN PINTAIL**      Below, **SHOVELLER**  
 Male                                      Male  
 Female                                      Female

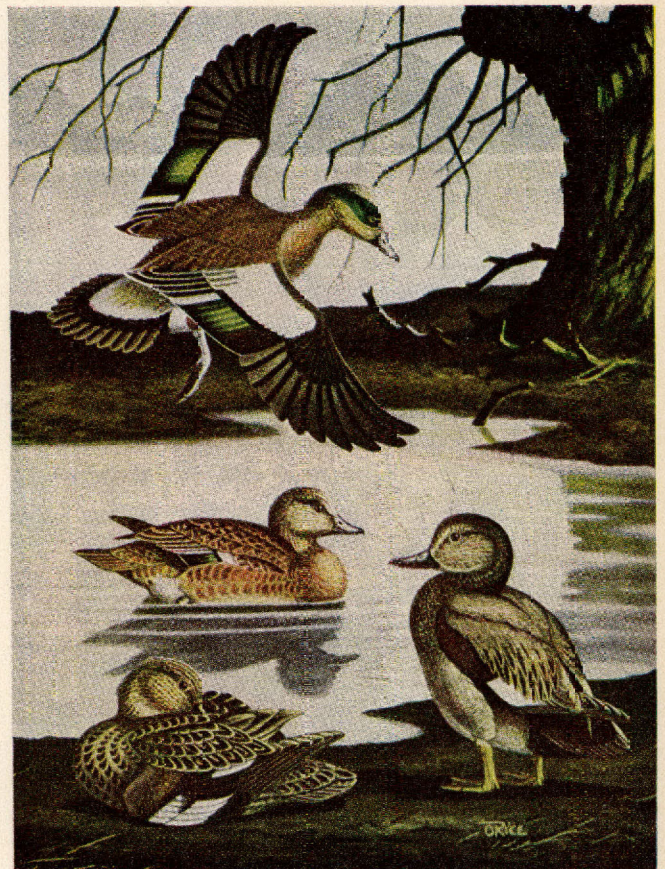


**LESSER SNOW GOOSE**



**COMMON CANADA GOOSE**

*Texas Game and Fish, November, 1952*



Above, **BALDPATE**

Male  
 Female

Below, **GADWALL**

Female                      Male



Georgetown farmer. And Herman, as he was called, was a pet to the very last, according to Game Warden Aubrey J. Shaw. He munched vanilla wafers on the ride back home.

### DOUBLING IN DUCKS

The old timers from inland Texas who make the trips to the Gulf Coast for duck and goose hunting often get two for one on their November trips. This is because they take along their fishing tackle and capitalize on one of the best months of the year for salt water angling.

Jack Baughman, chief of the Game

of the road and were banging away at doves.

"After Martin introduced himself, the excuses came fast and furious. One of the Texans told Martin he had a lease with Governor Shivers just a short way from there.

"In a short time, the hunters were telling their story to Justice Garland Watson. Charges of hunting without a valid license, hunting doves from an automobile, and hunting wild doves with an unplugged shotgun were filed against them. The fines and court costs totaled \$111."

### PLAY IT SAFE, TEXANS!

Editorial in the Houston Post:

"This is the time of the year when it is fun to get out in the open with a gun and go hunting.

on October 14, and two days later a pair was observed in the same general area on the refuge. This is approximately 15 days earlier than their initial appearance last year, Howard said.

Since "whoopers" live and travel as individuals, pairs, or families rather than in a flock, the refuge population will show a gradual buildup as others find the weather in northern climes undesirable enough to tackle the two-thousand-plus-mile flight from nesting grounds in Canada to the Texas Coast.

Their only known wintering grounds are the Aransas Refuge and vicinity where a maximum of 23 birds was counted last year.

### BEWARE HITCH-HIKING RATTLETS

Johnny Hearn, chief of predator control for the Texas Game and Fish Commission, grinned at the report about the skunk sneaking into an Austin man's automobile trunk.

## Game Notes

and Fish Commission's marine laboratory at Rockport, says both the waterfowl shooting months of November and December produce fine fishing. He said the charter boat men along the coast are ready to put their patrons on the hunting grounds in the forenoon and take them to the fishing spots in the afternoon.

Game Warden M. B. Mullinax of Rockport, reports November is "absolutely" one of the best trout months in the Gulf. Red fish also bite good. Mullinax adds that the angling usually remains of a high order on into the first December norther.

Okay, Jeeves, put the fish poles and tackle box in the car trunk along with the guns and decoys!

### DOWN FOR THE COUNT(S)

A Bay City item in the *Houston Chronicle*:

"Can you imagine anything worse than getting caught shooting doves from an automobile off telephone wires in the game warden's front yard?"

"That's just what happened to two hunters from Dallas.

"Seems as though Game Warden Harold Martin's wife had been after him to stay at home some and get some rest. Martin decided he would.

"He had no more than got comfortable in his easy chair when he heard the blast of two shotguns. Investigation revealed that two men had parked their new sedan on the side

## Fish Reports

"But hunting accidents are not fun. When an outing ends in a tragedy, the fun is gone from the sport for those involved and for their friends.

"American hunters on the whole are careful about the way they use their guns. But every year during the hunting season there are accidents which could be avoided.

"There is not much that can be said about it, except to caution hunters to be careful, to be certain that their target is not a fellow human before they pull the trigger, and to be certain that they can see clearly the entire distance of the flight of their bullet.

"Careless hunters give all hunters a bad name."

### WHOOPEERS' HOOPER RATING

Bird watchers the world over alertly await new reports on whooping cranes. Here's the latest communique from Texas:

Along with the season's first norther, that rare and stately bird, the whooping crane, made its annual appearance on the Aransas National Wildlife Refuge near here, according to Julian A. Howard, refuge manager.

The first seen, a single, was located

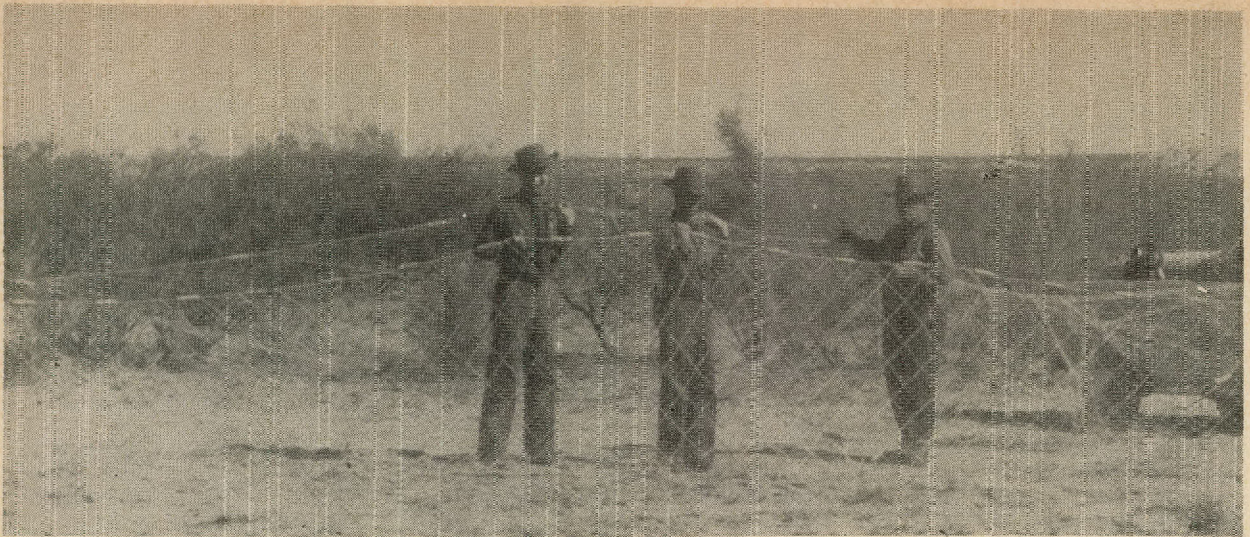
## Press Views

"Lucky it wasn't a rattler," said Hearn.

He said folks down in the big snake country don't leave either trunk tops or car doors open. The reason is that rattlers have been known to crawl into cars and compete for seating space, front or back.

### WARY IS THE WORD

During these days of low water levels migrating wild geese look over pools which once lacked appeal. Take the bass ponds at the Huntsville State Fish Hatchery. Edward Daniel Dolive, member of the hatchery staff, said the geese have been stopping over there in larger numbers than usual. The ponds are small and are fairly close to hatchery buildings. Dolive says this prompts the wary geese to circle and circle before lighting on the water. He adds that anyone who considers careful blind construction a waste of effort might well be present when the big birds cagily inspect the area before coming in.



*Once nets like the one above seized by game wardens in the Pecos River weren't uncommon in that stream . . . pollution threatened . . . fishing practically ceased . . . then, in true West of the Pecos style, the folks got together to do something about it, and . . .*

## They **MADE** Fishing Better

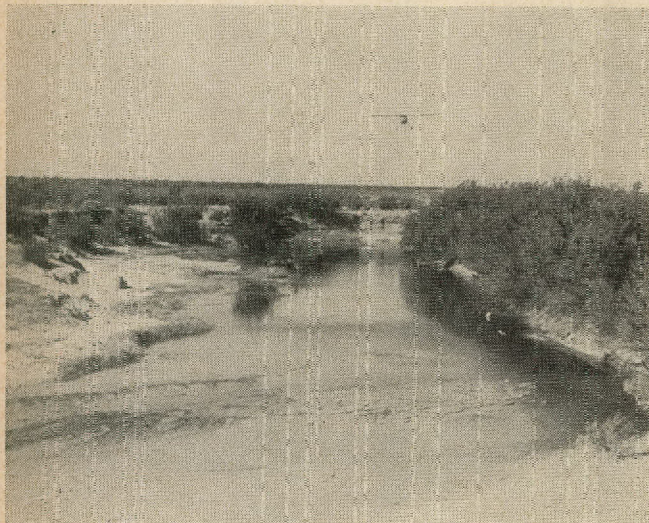
By STEVE HAMLIN

The Pecos River stands for something on the map besides the dividing line between the state of Texas at large and that historic two-gun area known far and wide as "West of the Pecos."

The Pecos River, sir, again stands for good old country fishing. True, the giant catfish of the old days are conspicuously missing and the fishing

hasn't yet reached the sensational stage. But there's good action at many points along the meandering stream, and the fishing comeback has reached such proportions that jackpot success seems just a few seasons away.

In fact, some enthusiasts already are jabbering about limit catches of black bass. That alone is

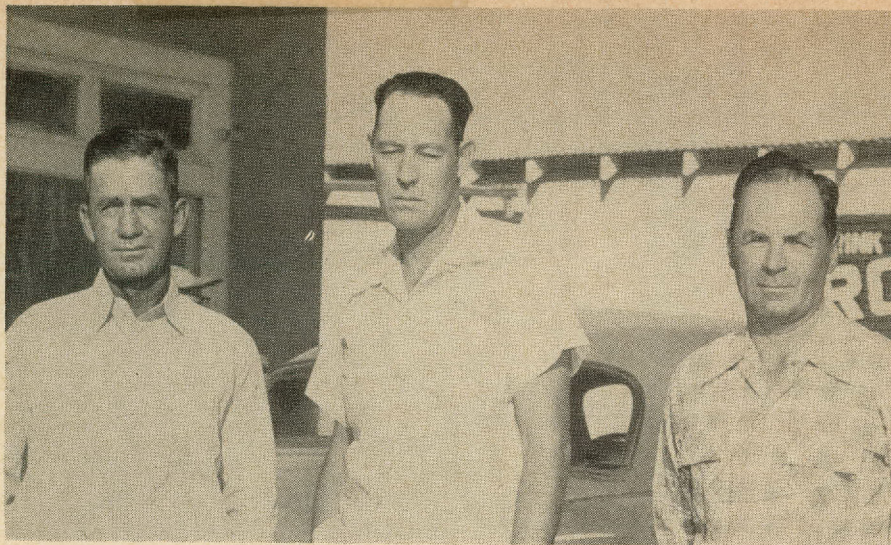


Pecos River sportsmen, with the cooperation of local courts and wardens, struck back hard against fishing law violators. Now Frank Hamer, flying Alpinas warden, shown patrolling the river, finds business slow.



Oil men cooperated, too, to rid the area of threatened pollution from rigs. Note in the background of this aerial shot how near oil installations are to the banks of the Pecos.





Three important figures in the restoration of Pecos River fishing were, left to right, George Brown, Justice of the Peace Ellsworth Greer, and Jim Gauntley. Brown is president of the Imperial Fish and Game Conservation Club, Gauntley, vice-president. Greer, who has handled many of the fish violation cases, says, "When they realized the wardens were here to help them and were here to stay, the offenses fell off."

mighty exciting information to the folks in West Texas, because the Pecos had very few bass until it was stocked.

Of course, the old-timers didn't miss the bass, primarily because they were too busy with the mammoth catfish—"big as a man."

The lure that the size and quantity of those cats provided for outlaws ironically led up to the setting for the current happy development on the Pecos. Once, the tremendous channel, yellow, and blue cats seemed inexhaustible. Some people took advan-

tage. They seined them. They netted them. They dynamited them.

"Even shot them with rifles," recalled Game Warden Supervisor Ray Williams of Alpine.

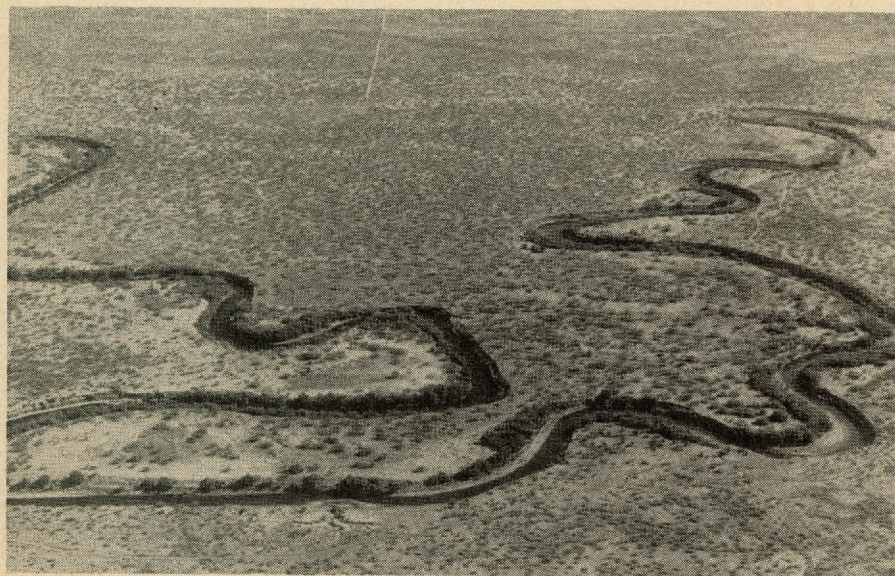
But, as Williams says, an equally sinister factor was the fabulous growth of the Pecos as an oil center, since oil booms threaten oil pollution. Furthermore, great quantities of fish were lost through diversion of water to irrigation purposes.

The combination of the dynamiters and seiners and pollution simply was too much for the Pecos. Fishing fell

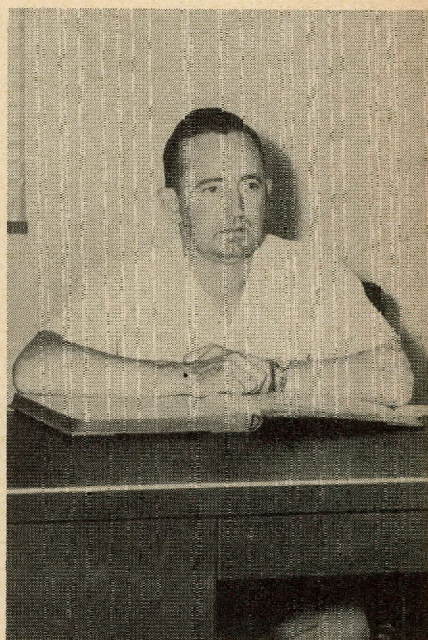
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Bill Henderson, secretary of the Odessa Rod and Gun Club, is convinced the Pecos "is picking up as a fishing spot." He explains, "We know now we are on the right track. We have a good club and have regular meetings. And we keep in close contact with other clubs in this area such as those at San Angelo, Grand Falls, Imperial, and McCamey . . . and, by the way, a fellow just left my place with a string of Pecos fish. Nice ones, too."



The Pecos winds its way across the prairie near Imperial. It now is well stocked with bass, and sportsmen hope its famous giant catfish will return someday.



Cooperation of the courts has been an important phase in the rehabilitation. Justice of the Peace Clarence Key, Crane, has consistently backed up the wardens in policing the coming new bass fishing paradise. "Don't have many cases any more," he explains. "And I tell you right now, it's mighty good to be able to go down to the river and catch a mess of fish again."

• Continued from Preceding Page

off. Finally, fishing practically ceased. Disturbed sportsmen found the answer.

Game Warden Bob Evins, now of Junction, who then was stationed at Midland, observed the wrathful reaction. Frankly, Evins and the others like his boss, Ray Williams, had anything but a sittin' part in the renaissance.

"The oil people began cleaning up their end, since they like to fish, too," said Evins. "And the folks began organizing. Sportsmen's clubs popped up here and there, all for the original purpose of cleaning up the Pecos. Justices of the Peace began handing out limit penalties to violators."

It was a long haul to restore the Pecos, though. Some of the people who had been used to their own individual brand of justice out there where Judge Roy Bean once was the law, kept on dynamiting and seining. So they had to be impressed. Supervisor Williams provided the persuader. He moved a force of wardens out into the river bottom and pitched camp. In one short week end, they grabbed 30 dynamiters and netters. The cooperative Justices of the Peace

made every case stick with a few extra flourishes.

Warden Supervisor Williams who has lived west of the Pecos since 1907, meanwhile had started the restorative ball rolling. There had been a difference of opinion as to the advisability of stocking the river with black bass. "Many thought the water was too salty," said Williams. "They insisted we were just throwing the bass away."

The first shipment of 225,000 bass fingerlings were placed in the river, over a 100 mile stretch, in June, 1951. By the spring of 1952 bass and panfish were being taken over a wide area. New consignments of bass were planted in 1952.

This all added up to the clincher, according to Williams. The skeptics, if any remaining at that time, fell into line.

Williams enthusiastically anticipates the law and order years on the Pecos—and the good fishing years.

"There's plenty of food in this river," he explained. "Not a river in Texas has more natural food. And the Pecos River could well become one of the stand-out bass streams in Texas."



Aroused public opinion has sent most violators scurrying for cover. However, Game Warden Supervisor Ray Williams, right, Alpine, and members of his force regularly pitch overnight camps along the Pecos for periodic checkups. They found a nice site in this draw.

# More HITS With Your RIFLE

By SID WOOLDRIDGE

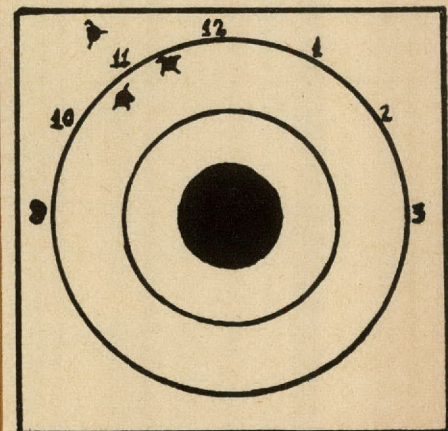


Figure 1

**I**N THIS day of intricate gun sights the necessity for adjustment to eliminate the inevitable accidental sight disalignment is becoming more apparent. Simply speaking, let's adjust our sights so that we shoot where we aim and aim where we shoot.

The fact that our sights are properly aligned is increasingly more important to us as hunters for two main reasons. Financially, we are strained to obtain and maintain a lease in this rapidly commercializing affair, and to miss a well-aimed shot is costing us money. From the conservation standpoint, the hunter shares in the tragedy of the wounded deer which escapes to die unclaimed.

Chances are your sights aren't too far off, so set up your rifle, step off 100 yards, and put your target in a safe place. Take a sure, solid rest to enable you to get the same sight picture, and fire three rounds.

Look upon the target as the face of a clock with the bullseye in the center (see Figure 1).

Let's suppose your three shots were grouped around where the "11" should be on the clock. Now, mister, you have troubles—especially if it seems to be a pretty wide clock.

Iron sights seem to be in the majority, so let's start right here. These sights are moved to correct the error of alignment with two principles in mind:

1. Move the front sights the way the gun shoots.
2. Move the rear sight the way you want the gun to shoot.

Tap the base of the front sight to slide it to the left, toward where your first group was fired. A few hundredths of an inch at the muzzle moves the point of impact of the bul-

let quite a bit on the target, so go slow.

Lowering the rear sight a notch, or with a twist of your screw driver, will depress the muzzle slightly when aligning your sights. This will lower your next group of shots.

Fire a couple of rounds into the target to check your progress. Repeat the process if necessary until you get your rifle "zeroed in."

Now for the gentlemen with rifles sporting telescopic lens. A finer degree of accuracy is possible with these optics, which, of course, is the reason they are used.

The simplicity of aligning the rifle not two sights, on the target by the picture in the "scope" is significant, as the hairs or the post or the dot indicate the point the bullet should strike.

Let us assume that we already have fired our three rounds into the target and the results were the same as before (in Figure 1).

On the right side of the scope is a nob to adjust windage, and there is another on top to adjust for elevation. These nobs are graduated into "clicks," denoting minutes of angle or fractions of minutes of angle.

A minute of angle is approximately one inch at one hundred yards or two inches at two hundred yards.

Assume then that our scope is graduated in minutes of angle and our shot group is centered four inches high and three inches to the left. At 100 yards, three clicks to the right with the windage nob on the side and four clicks down with the elevation nob on top should center your shot (see Figure 2).

Fire a few more rounds and see.

If our deer is somewhere near 100 yards away, we now should be able to

send our shot true to the mark. But since big bucks seldom are so cooperative, and since there is no chance to align sights on the spot to fit the distance of the deer, what do we do if he suddenly appears at 50 or 200 yards away?

Take a look at the ballistics table for the caliber and weight of the bullet you shoot.

The rise of the bullet before it strikes is called the trajectory. The slower the bullet, generally speaking, the higher the trajectory curve. Or the faster the bullet, the more flat the trajectory.

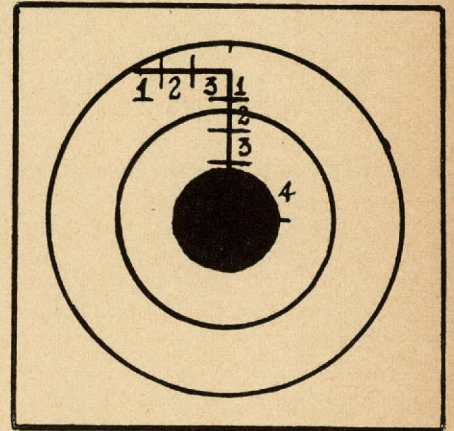


Figure 2

If your rifle is sighted in at 100 yards, for instance, the sample trajectory chart (Figure 3) will show you how high the bullet will be at 50 yards and how low at 200 yards.

With the average rifle, just put it on him if he is within a reasonable distance of 100 yards.

You will find your rifle very consistent with a little help on your part. Getting the cooperation of the deer is another matter!

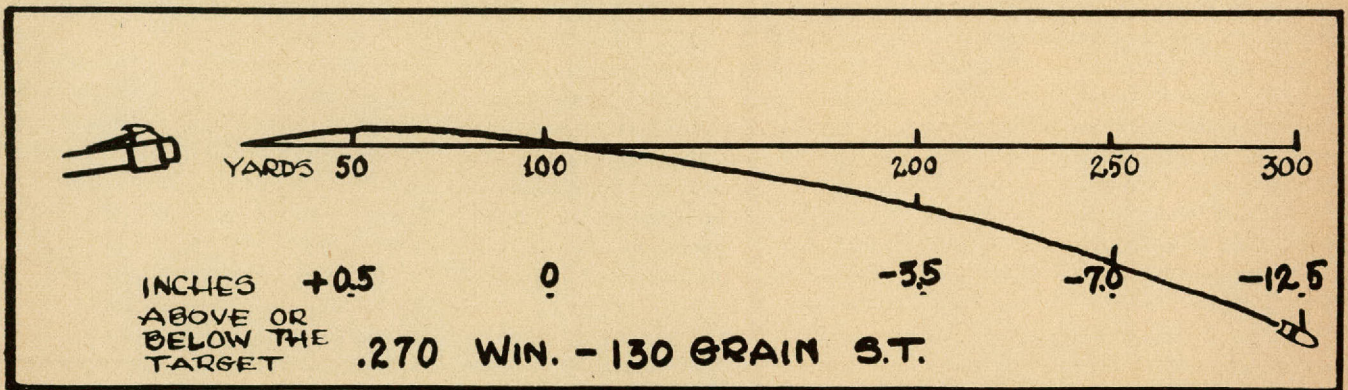


Figure 3



# Texas Squirrels

*First of a series*

By EVERETT F. EVANS

Texas has two species of game squirrels, although one of them is unknown in many communities. The gray or cat squirrel has a very limited distribution, occurring only in the bottomlands of the rivers and larger streams in the timbered portion of eastern Texas.

There are two subspecies of the fox squirrel. The Texas fox squirrel occupies central Texas, while the pine woods fox squirrel occurs in the eastern part of the state. The separate ranges of the Texas fox squirrel and pine woods fox squirrel have not been determined.

A gray squirrel is smaller and more active than a fox squirrel and may be distinguished by the whitish color of its underparts.

All of the three squirrels show a distinct preference for wooded streams. Because the fox squirrel is adaptable to a wide range of habitat conditions, it is found over extensive areas of woodland in both uplands and bottomlands. Gray squirrels are limited to heavily wooded streams in eastern Texas, especially the forests which are made up mainly of tall hardwood trees.

Squirrels show a considerable variation in population in different parts of their range. Gray squirrels seem to fluctuate in numbers over a period of

years. These changes in population may be influenced by food supply, weather, disease, and parasites. The population of fox squirrels tends to be fairly stable from year to year.

Both species move about considerably over a period of time, although the gray has a greater tendency to seek new territory than does the fox squirrel. Movements of fox squirrels are more conspicuous in the timbered section of southeastern Texas than in other parts of the state. Because of the short distances traveled, the local shifting of the squirrel population cannot be regarded as migrations. In this section of the state the food supply for squirrels varies from one woodland to another. When the food supply is scarce in one woodlot or section of a forest, the squirrels move to another.

Before 1900, great migrations of squirrels were reported in the northern and eastern part of the United States. During these migrations the hordes of squirrels moved forward in a comparatively straight line, swimming such rivers as the Niagara and Ohio. Large numbers were drowned or killed.

As late as 1933, a large emigration of squirrels occurred in Connecticut and New York. The animals moved in a westerly direction. In the fall of

1935, a large emigration extended into western New York. These extensive emigrations included only gray squirrels and were believed to be caused by food shortage or overpopulation. According to the best available information, such spectacular movements of squirrels never occurred in Texas.

Modification of habitat is perhaps the main reason for changes in squirrel populations. Unrestricted timber cutting, overgrazing, and drainage have been generally unfavorable to squirrels.

There has not been a recent census of squirrels in Texas, but observations made by field biologists several years ago indicated that the fox squirrel is holding its own in that small part of its range west of the 99th meridian, which is approximately a line drawn from the western edge of Wichita County on the Texas-Oklahoma boundary southward through the western edges of Jim Hogg and Starr Counties in South Texas. The fox squirrel apparently has been somewhat reduced east of this line.

The gray squirrel maintained its numbers fairly well until about 1915, although its range was gradually shrinking before that time. Between 1915 and 1920, the increased use of the automobile and the repeating

shotgun intensified the hunting pressure. The gray squirrel suffered the greatest decline because it is preferred by hunters. A single hunting party sometimes killed as many as 150 squirrels in one day. This excessive harvesting of squirrels continued until about 1935.

In some localities the fox squirrels have been killed beyond their reproductive capacity. A continued decline would eventually remove the gray squirrel from much of its range. The species already has been so reduced that it is now in danger of being removed from all except the most favorable localities.

Gray squirrels have a tendency to concentrate in areas where preferred food is abundant. Over extensive areas of several thousand acres, gray squirrels may reach a density of two squirrels per acre. Fox squirrels rarely exceed a population of one squirrel to three acres. In first-class habitat, fox squirrels may occur at the ratio of one squirrel per acre, but not over extensive areas.

It is always difficult to describe the economic importance of wildlife because there are so many values that cannot be measured accurately. The pleasure which people get from hunting squirrels, or even just watching them, cannot be expressed in terms of money.

The best-known use of squirrels is for sport. The number of squirrels harvested annually in Texas has been estimated at six hundred thousand or more, although the number varies considerably from year to year. Squirrels are hunted more than any other game mammal in that portion of the state east of a line drawn north and south through Austin.

In eastern Texas, where both kinds of squirrels occur, many hunters consider the gray squirrel the better game animal because of its sporting qualities and edibility. The gray squirrel is nervous and moves readily from its hiding place when frightened. At first sight of a hunter or dog, it will remain quiet for only a few minutes before resorting to running and jumping. Once routed from hiding, it runs with great speed through the tree branches or jumps to the ground in an effort to escape. Tree squirrels

naturally are more easily seen when moving.

The fox squirrel is larger and somewhat less agile than the gray squirrel but runs better on the ground. When pursued, the fox squirrel often runs to a log or stump, waiting until the would-be captor gets too close. The fox squirrel takes to a tree only as a last means of escape and usually does not jump from tree to tree as does the gray squirrel. When running from an enemy, a fox squirrel tries to reach its home tree and may run a long distance without seeking safety in other trees.

The presence of squirrels usually does not conflict with the use of land for grazing and other purposes, although squirrels compete with livestock for food to some extent. Hogs eat mast which is the principal source of food for squirrels and bobwhite quail. Cattle may eliminate plants that make bottomlands habitable for squirrels. Crop damage is not an important factor unless there is a large concentration of squirrels, and this situation usually does not exist unless a lack of food causes the animals to invade cropland near wooded areas.

Pecan growers sometimes encourage the hunting of squirrels if the population is large enough to menace the pecan crop. It is probable that little permanent good results from this practice. Metal shields are sometimes placed around tree trunks so that the squirrels cannot climb.

Squirrels are sometimes called forest planters because they aid the reproduction of nut-producing trees, such as the oaks, hickory, and pecan. The squirrels do not find all the nuts that they bury, and many of the nuts sprout to produce seedlings. This helps to account for the spread of trees, including hardwoods and pines, to grasslands and cultivated fields. Although unaware of the results of their thrifty habits, squirrels contribute to the future food supply of several kinds of wildlife by planting trees.

There is little evidence that squirrels prey on birds to any serious extent. Occasionally a squirrel may take bird eggs or young birds, but this predation apparently is minor. The beneficial service which squirrels perform by eating insects tends to offset the limited destruction of birds and

the comparatively little damage from gnawing the bark of hardwood trees.

The fox squirrel and gray squirrel do not store large reserves of food for winter, but they have one habit which is perhaps more important. They cultivate a varied appetite and a wide acquaintance with acceptable foods and the places where these foods are found. While squirrels like some foods better than others, they do not turn up their busy little noses at anything which provides a good meal.

The three principal kinds of habitat in the squirrel range of Texas are the hammock type, poorly drained bottomlands, and well-drained bottomland.

Squirrels use the hammock-type land more than any other because of the greater variety of food and cover. This kind of habitat includes the flood plains of the larger streams and the low, sandy loam ridges near them. The mixed vegetation consists of white oak, water oak, pin oak, magnolia, linden, sweetgum, holly, yaupon, summer huckleberry, grapes, and mulberry. The understory is rather dense, and the crown of the larger trees are not crowded enough to form a continuous canopy.

Poorly drained bottomland includes the lower flat areas of the flood plains. The flats usually lack suitable refuge cover, but squirrels make excursions into them for food. Poorly drained land is used most in spring and summer when food and cover are present. The flats are flooded during winters of normal rainfall so that the squirrels cannot secure the acorns or other mast. The flooding of lowlands protects acorns until late spring, which is a critical period of acorn shortage. Acorns which are not flooded may be destroyed by acorn weevils or eaten by livestock, particularly hogs. Among the typical vegetation of the poorly drained bottomland are pin oak, overcup oak, elm, bitter pecan, black gum, cypress, ash, ironwood, and palmetto. There are few shrubs. Sedges provide most of the herbaceous cover.

Well drained bottomland supports such vegetation as post oak, haws, hackberries, Texas red oak, gum elastic, basket oak, elm, and pecan. There are few ponds and lakes in this kind of squirrel habitat, but water is available along the streams.

When heavy rains poured down on Central Texas in September, they brought death to hundreds of fish in the Highland Lakes. Here is the explanation.

less normal process which occurs each autumn in all but the smallest Texas lakes. This occurs when cool weather arrives, lowering the temperature of the upper layer of water and causing it to "trade places" with warmer layers below.

If the rains had come in November instead of September, very likely few fish, if any, would have died, for the fall overturn in Lake Travis probably would have been completed.

To explain the fall overturn it is necessary for us to understand that there exists three thermal layers in Lake Travis. This means of course that the heavier layer is on the bottom and the lighter or warm stratum

products of decomposition, including toxic gases. The upper stratum contained fish life and fish foods. With the flood, another temporary stratum was added as it rolled along the floor of the lake carrying mud and silt. This layer was much the heavier because of lowered temperatures by rainfall and silt content. It is known as the density current. (See Fig. 1.)

The density current forced the stagnate stratum upward trapping fish life in waters in which they could not possibly survive. At the same time the density current set the above layers into a motion similar to a conveyor belt. (See Fig. 2.) This action in conjunction with the sudden raised level of the stagnate stratum forced fishes into waters which were deficient in oxygen and which contained toxic substances. The result was the destruction of much fish life.

The density current with its mud and silt crawled along the floor of the lake toward the dam. Its appearance and movements were much the same

# THE FLOOD

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# THAT KILLED FISH

---

By CECIL W. REID

*Assistant Chief Aquatic Biologist*

**W**ATER can kill as well as give life to fish. Rain brought death to many Lake Travis fish in September.

Early in that month torrential downpours hit Central Texas. In some localities over 20 inches fell in less than 24 hours. Gigantic Lake Travis rose an almost-unbelievable 57 feet in 19 hours!

As the water rose, the lake's fish began to have troubles. And when the rains had ceased, dead fish were seen dotting the shorelines practically from one end of the lake to the other.

Actually, only a small percentage of the fish population was killed, but the phenomena aroused a great deal of curiosity in the region.

Death of the fish can be attributed to an early "overturn" forced by the flood water.

The fall overturn usually is a harm-

at the top. As cool weather approaches, the temperature of the top layer is lowered and becomes heavier than the lower layers. Thus the heavier water of the upper stratum sinks; the lighter, somewhat warmer water from the lower regions rises and is subsequently cooled. This process is continued until the entire lake is of the same temperature.

The layers are formed by differences in weight, and the weight variations are due to temperature differences, which is to say the layers are created, or stratification is brought about, as a result of difference in densities. Water is most dense at 39.2 degrees Fahrenheit or 4 degrees Centigrade and becomes less dense in either direction from this temperature.

To set the scene for the flood, the three layers had been established. The lower, or stagnate layer, through the past few hot months was laden with

as those of a sandstorm on the plains of West Texas. As this current came in contact with the dam, it took an upward swing (See Fig. 3), and much of this highly turbid water carrying hydrogen sulfide, which had been gathered from the bottom of Lake Travis, poured through the turbines of Mansfield Dam into the upper portion of Lake Austin. The fish in upper Lake Austin were killed by hydrogen sulfide and by the lack of oxygen. Hydrogen sulfide, a product of decomposing organic matter, has long been known as a destroyer of fish life.

Not all is bad in a fish kill such as this. By weight and numbers most of the fish killed were carp, buffalo, shad, and carpsucker. These are undesirable types which are more harmful than beneficial. Nature always seems to have some method for the control of over-population in any species.

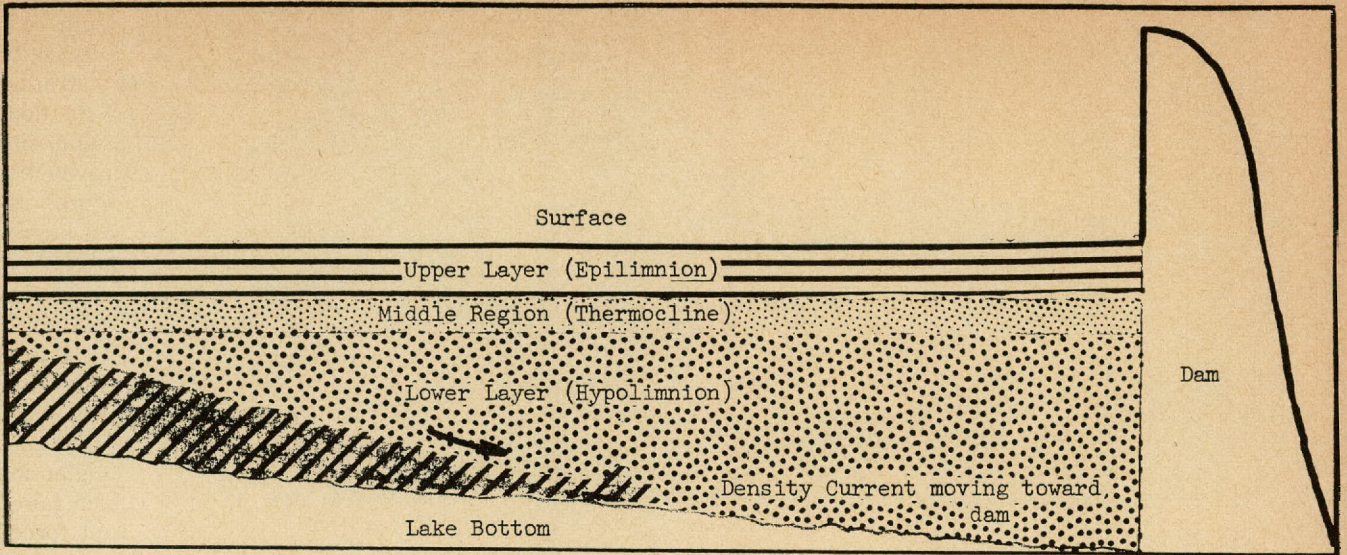


Figure 1

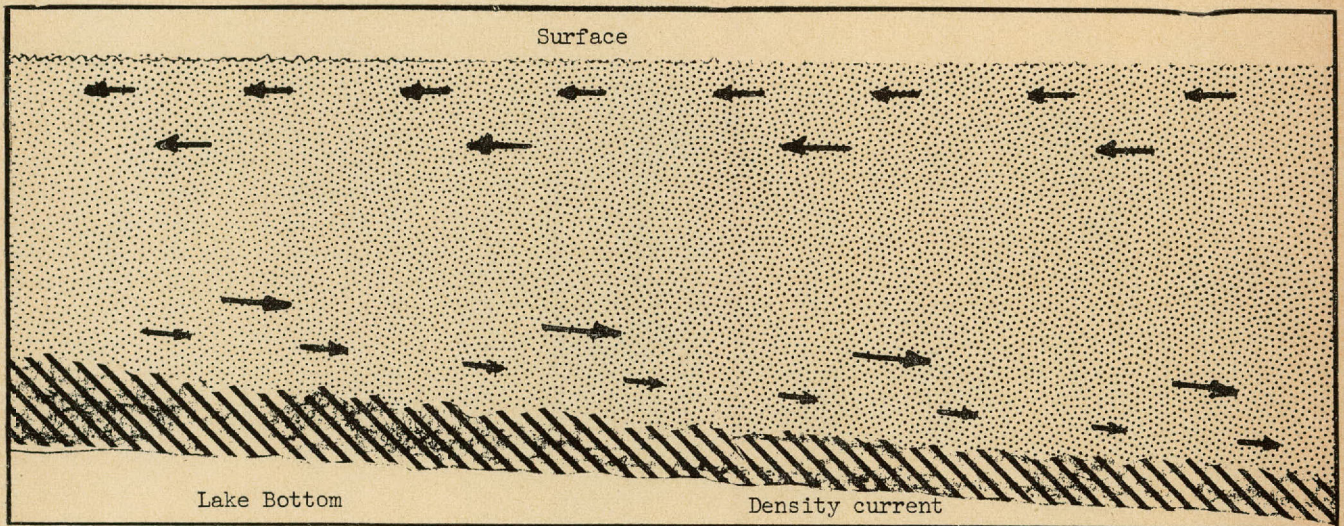


Figure 2

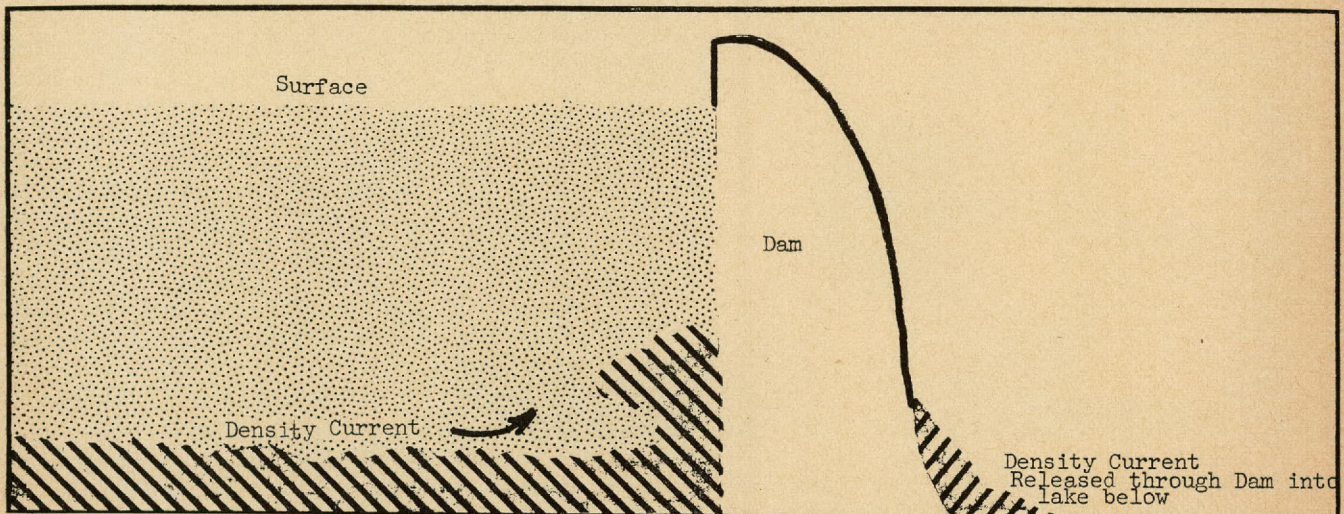


Figure 3



**INTEREST SOARS.** There is plenty of interest and action when Mrs. Barnes' seventh graders at John J. Pershing Junior High School study wildlife and other conservation topics. The sharing of information, the exchange of ideas, the give-and-take of class decisions, and cooperative planning make democracy a reality in this classroom. Wildlife subjects inspired these pupils with a new interest in writing and reading.

By EVERETT F. EVANS

This story could be called "Conservation to the Rescue." In the fall of 1950, Mrs. Nettie Barnes had a new teaching assignment, a group of seventh graders in Houston's John J. Pershing Junior High School. Under a plan designed to help the pupils adjust themselves to a schedule entirely different from that of their elementary school days, the teacher spent

## Conservatio



**DEMONSTRATION.** How does sod and other vegetative cover protect soil against erosion? These pupils find the answer to that question by pouring water on unprotected soil (left) and a comparable sample of sod. It is easy to see that the bare soil allows more water to escape, carrying away plant food elements that crops need.

four periods a day with the same group.

Launching the pupils on their junior high adventures was not the only problem. Equally important was the task of stimulating an interest in reading and other fundamentals which are included in a well balanced school program. For some of the youngsters, it was a case of proving that school isn't such a bad place after all.

As all resourceful teachers must do, Mrs. Barnes took stock of her own experiences and interests, and she made good use of what she had learned from many hunting and fishing trips with her husband. In her own words, they "enjoyed a day in



the woods without a shot being fired as much as the day when a deer or turkey or fishes were brought in."

A teacher possessing two guns was something that bordered on the incredible in the minds of the junior high boys and girls. And her claim to having bagged a deer and turkey taxed their powers of belief almost too much.

Once their faith was established, they went into action. They read every available nature book in the libraries, and they pursued current events, television, and radio programs with the same enthusiasm.

Came August, 1951, and Mrs. Barnes attended the National Audubon Camp near Kerrville. There she got some new ideas and a copy of the Game and Fish Commission's "Wildlife in Texas" to take back to a new group of seventh graders at John J. Pershing Junior High School.

One whiff of conservation and her proteges were off like a greyhound after a jack rabbit. This was learning in its most painless form. English stories, social studies, practical arts, and reading centered around the study of natural resources, particularly wildlife.

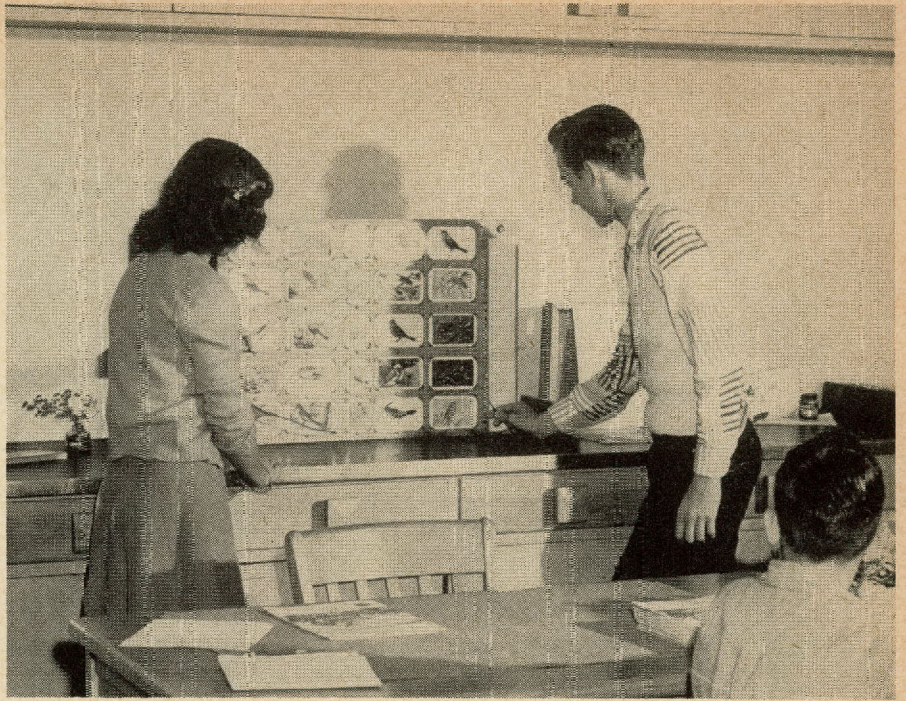
## Education ACTION!

The payoff came when the young conservationists squared off against the city-wide English tests and their six-weeks tests in the spring of 1952.

How did they get over these hurdles? Very well, thank you. In fact, fortified by the added writing and reading experiences gained while enthusiastically pursuing wildlife knowledge, they did somewhat better than Mrs. Barnes' two previous groups that had not studied conservation.

The accompanying pictures tell the story of conservation education in action, a story that can be duplicated in hundreds of Texas classrooms.

● Continued on Next Page



**IDENTIFICATION GAME.** John J. Pershing Junior High School pupils made this electric game for practice in identifying bird pictures. When the right name of a bird is selected, a light flashes to tell the pupil that a correct choice has been made. After a few days of this drill, pupils are ready to take to the woods to look for real birds.

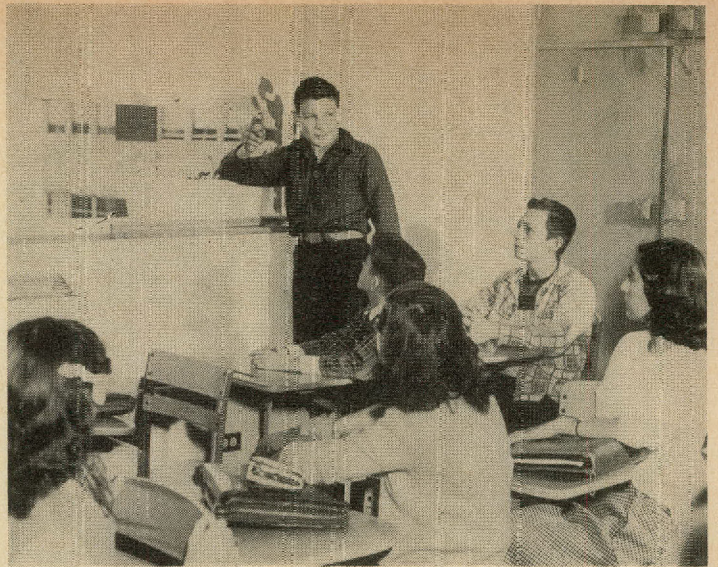


**BLUEPRINT.** Leaf blueprints provide a visual record of leaf size and shape. By this exercise, pupils learn to associate each plant with its characteristic leaf form. The collection of prints can be used by other pupils and is also a good substitute for real leaves when hardwood trees are bare in winter.

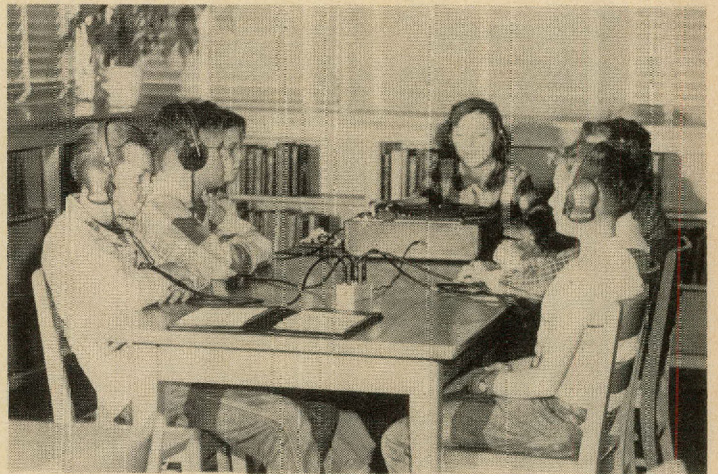
## Conservation Education In ACTION!



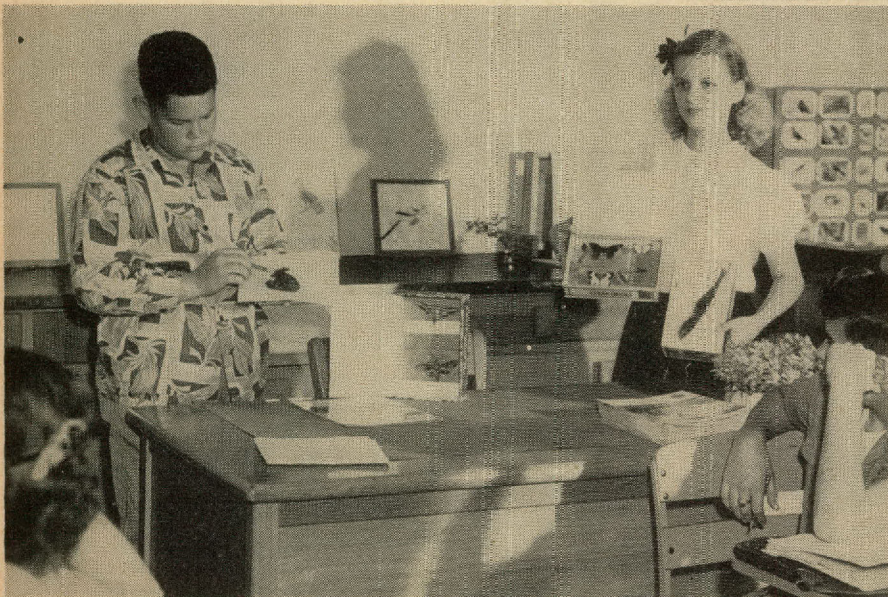
**BIRD NESTS.** A collection of old bird nests gives the pupils a good start in the study of the kinds of habitats which different birds need. These seventh graders turn to books and magazines for help in identifying the nests. Each kind of nest is the trade mark of a particular bird species, and it is also a clue to the life habits of the builder.



**EXPLANATION.** A good way to find out how the parts of a plant develop is to plant some seeds and watch what happens. In this scene, one of Mrs. Barnes' pupils shows a plant to some of his classmates and explains how the roots, stems, and leaves have special work to do. Each student, too, has a part to play in the cooperative study project in conservation.



**LISTENING.** What bird said that? Records of the calls of wild birds provide good practice in the identification of birds by their calls and songs. One good thing about this practice is that the records don't fly away before a bird voice is identified. The playing of records set the stage for a field trip to hear birds in their natural habitat.



**INSECTS, GOOD AND BAD.** If you don't think insects are wildlife, just ask these young scientists at the John J. Pershing Junior High School in Houston. They will tell you that all living things are a part of the balance of nature and that some of our trouble in the control of insects is caused by upsetting this balance through the reduction of the populations of birds and other beneficial wildlife.

# Coastal Passes

By ERNEST G. SIMMONS

Marine Biologist

This is the second of a series of articles dealing with the actual value of fish passes between bay areas and the Gulf of Mexico. Article I dealt with the value of such passes to spotted sea trout. This article concerns their value to redfish, or channel bass.

Redfish populations in bay areas are affected more by availability or lack of passes than are populations of any other fish with the possible exception of the flounder.

During the spawning season in late August, September and October, great numbers of adult redfish gather on the third bar in the Gulf outside passes. These fish spawn at such locations, and the eggs or young drift in through passes toward bay areas.

A small percentage may hatch and live in Gulf waters but most of those that survive enter the bays through Pass Caballo, Aransas Pass, and Cedar Bayou Pass.

The fish trap set up at Cedar Bayou checked migrations of all fish through that inlet day and night for almost a year and a half. Certain basic patterns of movement were recorded.

Many redfish ranging in size from 16 to 31 inches were observed feeding at the mouth of Cedar Bayou in April of each year. These fish were tagged whenever possible, and returns indicated that most fish this size did not desire to enter bay water. Instead, these schools re-entered the Gulf and split up, one group ranging south far beyond Part Aransas; the others traveling north as far as the San Bernard River. These same fish returned to Cedar Bayou in April the following year.

In June, 1950, and June, 1951, many smaller redfish (8-10 inches) moved through Cedar Bayou to bay

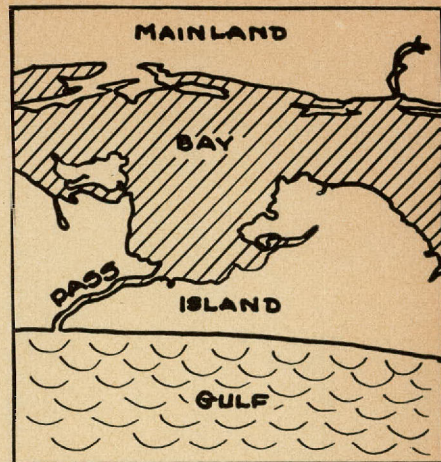
areas. Part of these were fish that had hatched and remained in the Gulf during winter months and part were fish which had hatched in bay areas the previous autumn, wintered in these bays, returned to Gulf waters in early spring, and returned again to bays in June. This is strictly a feeding migration, regulated by available food and by water temperatures.

Many small redfish stayed in Cedar Bayou during summer months, but these began moving out in September and October. This did not hold true for the Laguna Madre. Small redfish move out into the Gulf at this time because of colder water; large ones, 31 inches and up, move out to spawn. All sizes went out during sharp drops in water temperature.

Some large redfish rest in bay areas after spawning before returning to the Gulf. Others never re-enter bay areas.

In summary, it may be seen that:

1. Spawning of redfish occurs in Gulf waters outside passes. Eggs and young drift into bay waters through these passes.



2. Large redfish enter passes in April and May to feed on small mullet, shrimp, crabs, chubs, and squid. They return to Gulf waters and feed along the shore.

3. Smaller redfish (8-10 inches) migrate through passes to bays in May, June, and July.

4. Many redfish feed in passes in the summer.

5. Redfish which entered bays in June and July return to Gulf waters in September and October. They are then 13-15 inches long and one year old.

6. Older redfish return to Gulf waters at a later date. Redfish over 31 inches long do not stay in bay areas except for resting periods after spawning.

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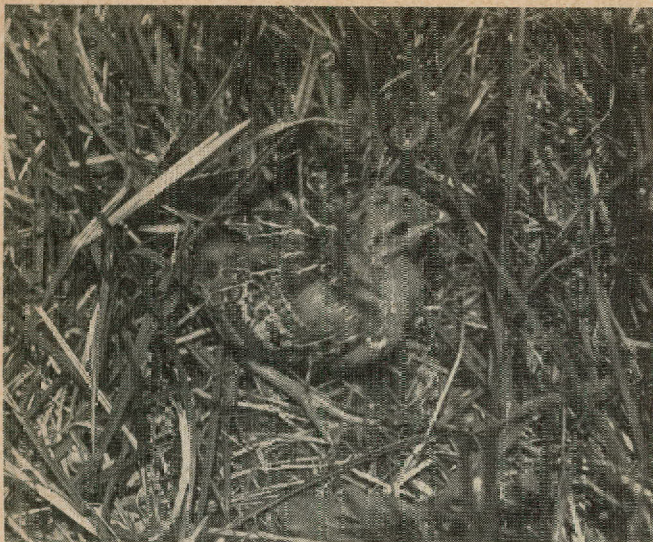
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In some spots in the coastal prairie, habitat remains suitable for the reproduction of the vanishing Attwater prairie chicken like this little fellow.

# The Coastal Prairie

By EVERETT F. EVANS

The Coastal Prairies extend from the San Antonio River on the west along the coast to the Louisiana line and inland fifty to seventy miles from the coast. The marshlands, extensive along the coast east of Galveston, might properly be considered another type as they support large populations of valuable muskrats. These

marshes also serve as breeding grounds for the mottled duck and other game species.

The Coastal Prairies are level tall-grass plains except for woodland along the waterways and isolated tracts of woodland. The principal grasses in the Coastal Prairies are little bluestem, brown-seed paspalums

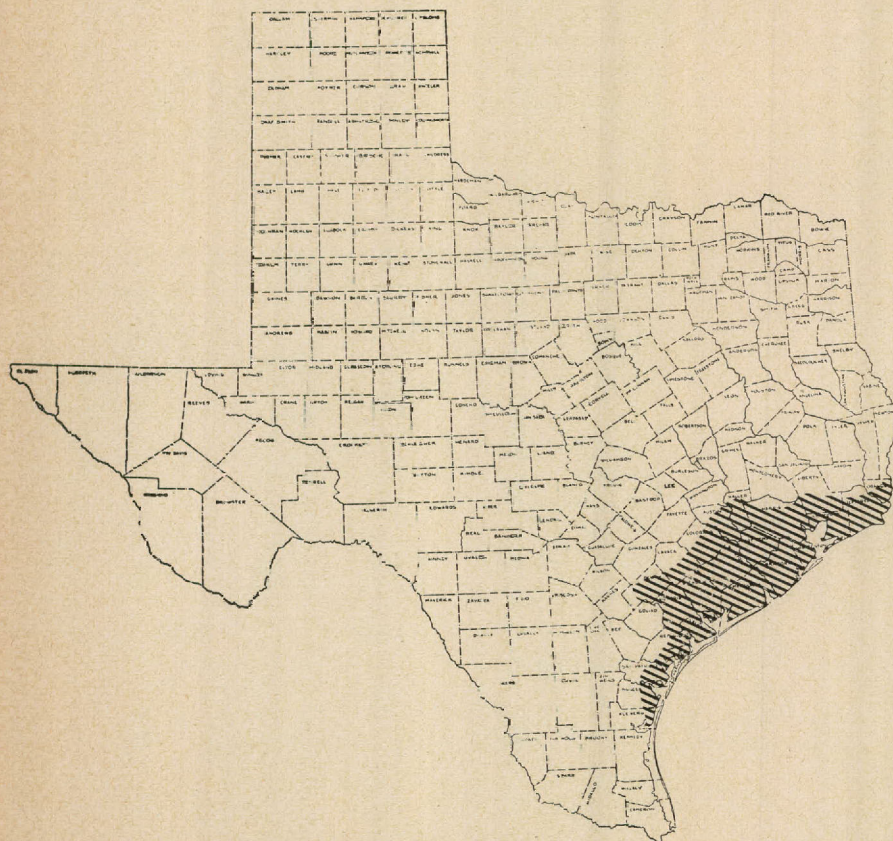
and other paspalums, and marsh grass. Vegetation in the wet areas include saltgrass, sedges, and reeds. Rainfall varies from thirty to sixty inches, the average for the region being about thirty-four inches.

The coastal-type climate which prevails on the Coastal Prairies is a modification of the marine type. In this kind of climate, the temperature is fairly uniform throughout the seasons. The differences between day and night temperatures are much less than in the portions of the state which have a continental climate.

The coastal climate is generally characterized by cool springs, pleasant summers, warm autumns, and mild winters. The Coastal Prairies region has infrequent hurricanes, usually in the summer and early autumn. Most of the killing frosts occur between December 15 and January 20. The long growing season favors the growth and maturity of many kinds of plants which provide food for wildlife.

The soils over much of the Coastal Prairie are brown, acid clays over clay and soft limestone, known as marl. The land is only a few feet above sea level, and the level topography is well adapted to mechanized farming. Tall bunch grasses were the principal native vegetation.

Rice is the most important crop. Other crops are cotton, sorghum, corn and other grains. After a crop of rice is produced, the land is used for pasture for a year or two. Rotation of



\*Adapted from *Principal Game Birds and Mammals of Texas*, Texas Game and Fish Commission.

rice with grasses helps to maintain the organic matter and to keep the soil in good physical condition.

The soils along the western edge of the Coastal Prairie are gray in color and sandy in texture. These soils have subsoils of limy, sandy clays and are acid and low in organic matter.

Grazing and rice production are the two principal land uses. The cultivated land is used for truck crops, hay, peanuts, cotton, corn, and grain sorghums.

Cattle raising is extensive. A variety of crops is raised on the better drained areas, including cotton, corn, and

rice. There is considerable oil production in the region, and the world's largest supply of sulphur exists here. Large quantities of shell are dredged along the coast and used for many commercial purposes.

Foreign and coastwise shipping is largely responsible for the growth of cities such as Galveston, Houston, Corpus Christi, Beaumont, and Port Arthur.

The Attwater prairie chicken is still present in a few localities of the Coastal Prairie. However, regular spring fires, excessive livestock grazing, and intensive rice farming have reduced the range and abundance of

this fine game bird to a point of threatening its existence. The timbered bottomlands generally afford good habitat for deer, turkeys, and squirrels. Bobwhite quail are extensively hunted on the prairies in some sections. Roseate spoonbills, brown and white pelicans, sandhill cranes, long-billed curlews, ducks, and geese, and many other water birds use the region either for nesting or as wintering grounds.

During the hunting season sportsmen from many parts of the United States gather on the Texas Coast for the unexcelled waterfowl shooting.

## Lookin' In on the Outdoors

• Continued from Page 3

—that we are a super jinx when it comes to salt water fishing.

The fish was landed after a 45-minute battle trolling with mullet just offshore near Port Aransas. Stenger was using a two-year-old linen line that originally tested at 36 pounds, a calcutta rod, and a Penn 67 reel. His guide was Malcolm McCauley out of Mathews Boat Docks.

Stenger's tarpon was just 9 pounds short of the North American record caught by Ed Frey near New Orleans in 1951.

He missed a world record for 30-to-50-pound test line by only three pounds. However, his line was sent to The International Game Fish Association for testing, along with data on the fish, by Bill Ellis of Tarpon Inn, Port Aransas. If the old line tests at less than 30 pounds, Stenger may yet have a world record in that class.

No word had been heard at press time.

## Never So Many Guns

With the hunting season already well under way, it's a sure bet that the greatest number of Texas hunters in history will have fired away at their favorite game before the shooting is over this year.

License sales already are climbing toward a record peak, and legal hunting for deer and quail hasn't begun.

This year almost one Texan out of

every 15, and this includes youngsters as well as adults, will hold a hunting license. Many others, who are young enough to hunt without a license or who hunt small game in their home counties, will swell the total of those taking to the field with firearms.

The trend is the same in many other states.

To those whose responsibility it is to preserve the opportunity to hunt it poses a terrific problem—that of providing game for an ever-increasing number of hunters on rangeland and timbered regions that each year shrink before the extension of farming, ranching and industry.

These wildlife technicians, who spend their lives studying and working with game, are doing a terrific job all over the nation.

The number of human beings is increasing. What's more, a greater and greater percentage of them are going hunting each season, with more leisure time and better transportation at their command.

It is hard to convince the hunter who comes in with a small bag of game that a greater number of many species will be killed in 1952 than in "the good old days" some 15 or 20 years ago.

He forgets that he had relatively few competitors hunting with him in the field back then. Thanks to modern scientific game management practices, total kills actually are on the upgrade

—the total is just divided among a greater number of hunters, leaving less for each nimrod.

When we are inclined to cuss lowered bag limits, shorter seasons, and trouble finding any game at all, we've found it helps to stop and think of how sad conditions would be in these days of mass hunting if the game management technicians hadn't stepped in when they did!

## Magazine's Birthday

It's anniversary time for TEXAS GAME AND FISH. Next month the magazine becomes a strapping ten-year-old.

And to celebrate the occasion, plans are underway for a special issue. In it will be . . .

Nope, we're going to change our mind about revealing its contents. We think a ten-year-old is old enough to talk for itself. We will say, though, that it will be a bit different.

And, say, can you think of a better one-dollar Christmas present for that budding ten-year-old hunter or fisherman you've watched grow up than a subscription to TEXAS GAME AND FISH?

Your other outdoor buddies will appreciate the 12 issues your buck will bring them, too, so fill out the handy gift subscription coupon in this issue RIGHT NOW, before Christmas slips up on you.

# NACEP Meets in Texas

## Letters...

Texas was host to its third big conference in the field of game and fish management within a month late in September when delegates of the National Association for Conservation Education and Publicity convened at Galveston.

Gathering on the Gulf Coast were men and women from 22 state game and fish departments whose duty it is to disseminate information to the public about fish and wildlife.

During day and night sessions lasting three days, they covered every phase of conservation education for adults and young, including the various mediums such as pamphlets, news releases, magazines, and radio.

Walt Disney Productions and the American Association of School Administrators were announced as winners of annual national awards presented by the Association in recognition of outstanding contributions to conservation education.

Disney was honored for his production of the film "Nature's Half Acre" and the school administrators association for compilation of the book "Conservation Education in American Schools."

At the conclusion of the conference, Everett T. Dawson, Director of Conservation Education and Publications, Texas Game and Fish Commission, was elected president. He succeeds William G. Kah, Ohio Division of Wildlife.

Three subjects were emphasized in the series of conferences—the depart-

mental magazine, conservation education in the schools, and the use of radio and television to give the public the information about fish and wildlife it desires.

Other subjects discussed included adult education and personal contacts; the importance of conservation-minded sportsmen's groups; the publication of pamphlets, bulletins, and leaflets; photography; news releases, and wildlife exhibits.

During the business session, other officers elected in addition to Dawson as president included Rod Amundson, North Carolina, vice-president; Louis Clapper, Tennessee, Secretary-Treasurer; and Harry Lutz, Kansas, Ed Dolder, California, and Clayt Seagears, New York, directors.

The group also voted to hold the 1953 conference at Smoky Mountain National Park, Gatlinburg, Tenn., with North Carolina as host state.

Editor:

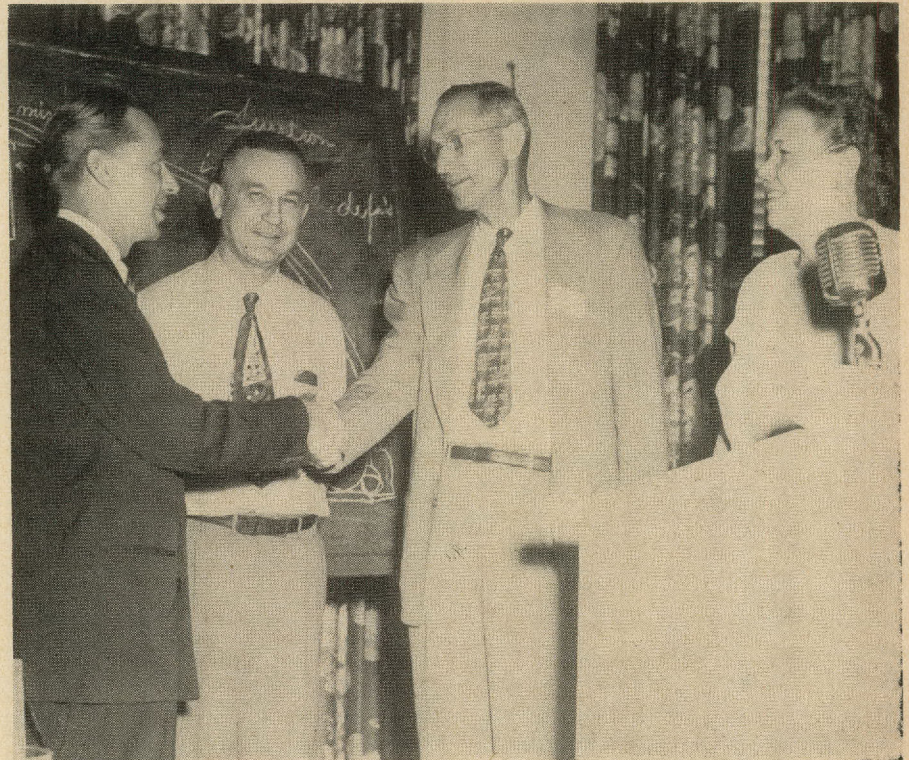
I am enclosing data concerning a banded white-winged dove I shot this year.

I believe it is customary to furnish the hunter with the life history of the bird in such instances. If this is true, I would certainly appreciate one on this bird.

Since I have this occasion of writing you, I should also like to compliment you on your splendid publication. No magazine which I have encountered yet can compare with TEXAS GAME AND FISH. It's the dream hunting and fishing publication for which I have been looking for many years.

George D. Thompson  
Box 671  
Edinburg, Texas

*(Information about the banded dove is every bit as much appreciated as your kind words. The cooperation of hunters like yourself makes it easier for the Commission's Wildlife Restoration Division and the U. S. Fish and Wildlife Service to provide better hunting. Yes, all who send in*



Everett T. Dawson of the Texas Game and Fish Commission, second from right, was elected president of the National Association for Conservation Education and Publicity at its annual conference in Galveston recently. Here he receives congratulations from retiring President William G. Kah, left, of the Ohio Division of Wildlife. H. Nat Johnson, Minnesota Department of Conservation, and Juanita Mahaffey, Oklahoma Game and Fish Department, retiring secretary-treasurer and vice-president, respectively, look on.

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... to ...

... the Editor

information about banded or marked birds receive case histories on these birds. Yours probably already has reached you.)

Editor:

I am enclosing a picture of a "true story" adventure with a four-foot rattlesnake.

It happened when Mrs. Carlisle and I were driving to New Mexico. I had my trusty slingshot with me, and when we saw the rattler crossing the road, I jumped out as the car came to a quick stop.

I missed two quick running shots. Then I stepped closer to make the snake stop and coil . . . the next shot tore him almost in two.

Since taking my first subscription to your excellent magazine last year . . . I have given subscriptions to six friends, all of whom have been delighted. Honestly, to one who is interested in his state and its wildlife, your publication is a grand bargain.

George L. Carlisle, M.D.  
1308 Medical Arts Building  
Dallas, Texas

If you let my subscription run out, I'll sue.

The little magazine contains more facts and real information on fewer pages than any publication I have ever read. Good work!

Too few know about it. Spread the word through local game wardens, service clubs (Lions, Rotary, Kiwanis, etc.), and Boy Scouts.

Carl Apperson  
1115 Main Street  
Commerce, Texas



Dr. Carlisle



No, these hurters didn't jump the gun on the deer season. Buddy Hobby and George Carver, Canadian, killed the big buck shown at left last year near the Canadian River. The photo at right was sent in by Mrs. John Clark of Scgerton. It shows her three sons and husband, left to right, Reece, John, Whit, and Joe Clark, with a quartette of hefty South Texas bucks bagged 'cst season.



*(Those are kind words and are much appreciated. But, say, doesn't anyone ever have a gripe? How can we make the magazine better if no one ever tells us what's wrong with it—what should be in it that isn't or what is in it that shouldn't?*

*(We need "gripe" letters, too.*

*(We, too, are puzzled that so many outdoor Texans are unaware that TEXAS GAME AND FISH magazine exists. After ten years, it would seem that everyone should have seen a copy at one time or another. All the groups you mention are helping us, and others are lending a hand, too.*

*(Readers like yourself who show their friends TEXAS GAME AND FISH, however, are doing the best job of giving others a chance to shake hands with the magazine.)*

Editor:

A few days ago a five-year-old grand kid came in all bespattered with blood and swore that a horned toad spat on him. Although I was raised in Texas and have played with horned toads for 65 or 70 years, I had never heard of such, and I thought the kid was loco. But it HAPPENED TO ME yesterday, and I am looking for some authentic information.

I chased the toad some 30 or 40 paces

before I was able to pick him up. I took him by the tail with my right hand and laid him flat in the palm of the left and walked up to show him to a nine-months-old granddaughter. Of course she reached for him, and when her hand was within some six or eight inches, he squirted "blood" all over her hand and the front of my shirt.

It was all very sudden, like an explosion, and I didn't get the details, although I was looking directly at the frog at the time. But the "blood" appeared to come from his eyes rather than the mouth. Neither the baby nor I experienced any ill effects.

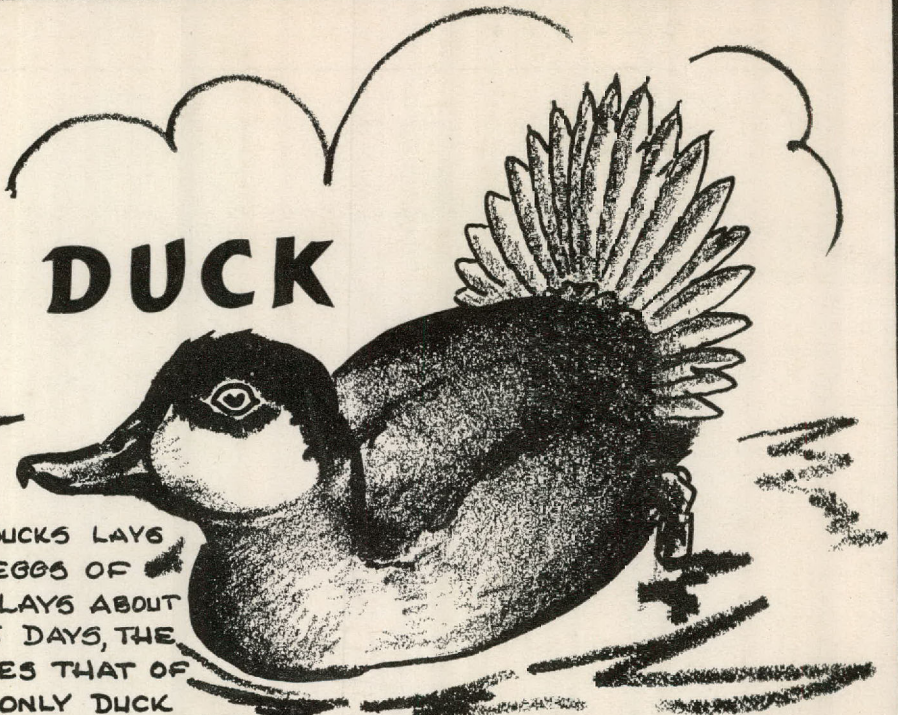
Now . . . won't you please have your biologist give me the low-down on the whole deal?

. . . It is all very interesting to me, as most new experiences are. . .

A. D. Thompson  
201 East Rogers Street  
Arlington, Texas

*(Your observations are quite correct. The experience is unusual although not rare. Cecil Reid, Assistant Chief Aquatic Biologist, says, "When angered, the horned toad forces blood from the corner of the eyes at the victim.")*

# THE RUDDY DUCK



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Woolbridge's

## Texas Game & Fish

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