

Texas Game and Fish

APRIL

1964

20 CENTS

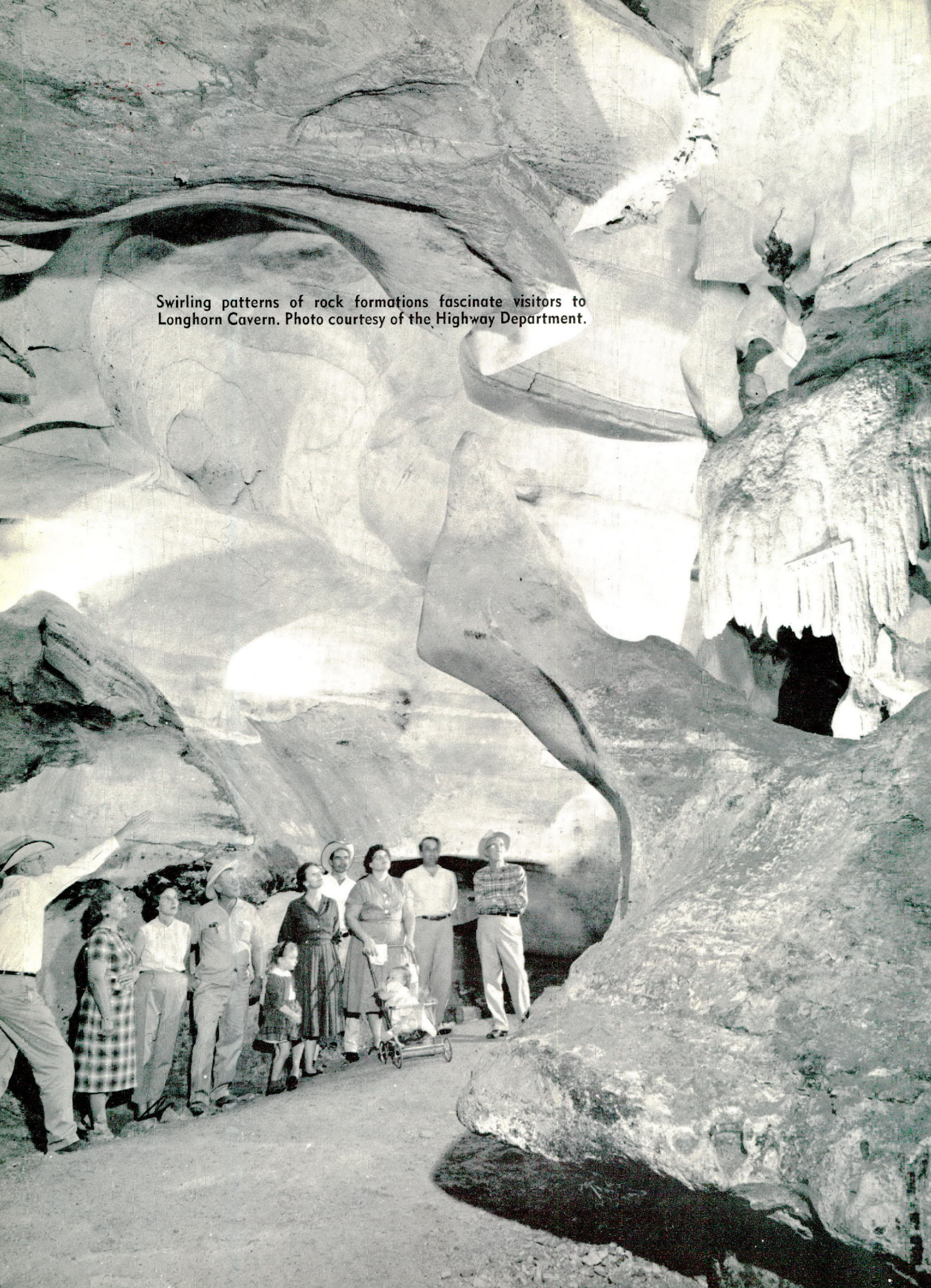
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MAY 21 1964

PAN AMERICAN COLLEGE
EDINBURG, TEXAS



Swirling patterns of rock formations fascinate visitors to Longhorn Cavern. Photo courtesy of the Highway Department.





Long shots Short casts

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MAY 21 1964

PAN AMERICAN COLLEGE
LONGBURG, TEXAS

CANNY KNOW-HOW: Don't throw away that five-gallon can. At least 80 practical uses have been thought up for this common but versatile article, and you can probably think up some of your own. Here are a few suggestions. When thoroughly washed out, the five-gallon can makes an excellent container for drinking water. Remove the top, punch the bottom full of holes and, with the aid of a friend, you have an adequate shower. For an instrument to use in looking deep below the surface of the water, remove one end of a can and then cut a small opening in the opposite end through which to peer. Cut and bent into the proper shape, and with the aid of two pieces of wire, the five-gallon can becomes a reflector oven. To make an emergency frying pan or grill, cut off one end of the can, and insert a tin of canned heat. Fishermen and boaters can use a can as a marking buoy and it serves as an effective life preserver when someone falls overboard or the boat overturns.

YOU'LL THANK YOUR ANCHOR: Don't fish a large body of water without an anchor, even if you just intend to troll. And take plenty of line. If the motor fails, you may drift away from shore as well as toward. So always have at least twice as much line as will be necessary to reach bottom wherever you will be fishing.

BANDS ACROSS THE BORDER: Six snow geese, shot last season by Washington nimrods, had been banded by a team of Russian biologists. A report on the recovered bands received from the USSR Academy of Sciences revealed that four of the geese were banded in July, 1962, and two, one year earlier. All the geese were banded in a portion of the USSR lying above the Arctic Circle about 550 miles northwest of Nome, Alaska, and some 2,500 miles or more from where the geese were bagged. This confirms that many snow geese nest to the west of Alaska, as well as to the east, while few if any nest in Alaska itself.

LITTER LET-OUT: A new anti-litter idea has been proposed, whereby, instead of an admission charge to park areas across the country there could be an ex-mission requirement. This would be in the form of an arm-load or bag of rubbish (one's own, or picked up at random) deposited at the exit gate. This might not only promote anti-litter citizenship, it might also substantially reduce recreation maintenance costs. One way to do it might be to have an admission charge that would be subject to rebate upon deposit of trash outside the area.

DIMINUENDO: Three danger signs were noted in the 1963 Christmas Count of the Cocoa, Fla. winning bird-spotting team. For the first time since 1951, not a single bluebird was sighted--an indication that the songbird may be dying out. A sharp decrease in myrtle warblers was also noted. Both declines are believed by some to be related to the use of pesticides. The bluebird nests in residential areas where insecticides are heavily used, and the myrtle warbler frequents spruces in the North, which have been sprayed to kill the spruce budworm. A continued drop in wading birds, such as herons and ibises, was also noted. This is attributed to the drainage of Florida wetlands, the natural habitat of these birds.

DOLLARS AND SENSE: The Texas Parks and Wildlife Department is eligible to receive over one million dollars in federal aid money during this fiscal year. Texas will receive \$781,394 for wildlife restoration, derived from a federal excise tax on sporting arms and ammunition, which must be used to defray expenses of projects to help wildlife species. An additional \$306,254, from revenues from a federal excise tax on sport fishing tackle, will come to Texas for fish restoration work under terms of the Dingell-Johnson Act. Since 1938, the Parks and Wildlife Dept. has received almost 16 million dollars through these two federal aid programs. Under terms of both Acts, the state pays the initial cost of the project and is reimbursed up to 75 per cent of this expenditure with federal funds, upon completion of the project. Federal aid in Texas has helped finance the acquisition and development of several game management and public hunting areas; the trapping and transplanting of deer and turkey, and notable research on fish toxicants, aquatic herbicides, quail habitat and deer-livestock relationships.

—Joan Pearsall

Texas Game and Fish

CURTIS CARPENTER Editor
 ANN STREETMAN Assoc. Editor
 NANCY MCGOWAN Art Editor
 JOAN PEARSALL Edit'l Asst.
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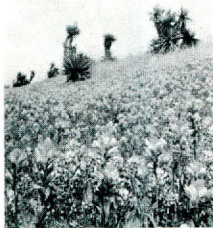
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 JAY VESSELS Journalist
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 ARVID LARSON Photographer
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 ADELINE JOHNSON Darkroom Tech
 LOUISE KREIDEL Business Assistant

The Cover



Whether this is your first spring in Texas, or whether you are a native old-timer, you can't help but catch your breath at the beauty of scenes such as this. The profusion of bluebonnets, beloved State flower; Indian paintbrush, and Spanish dagger, is typical of the unique and unfailling charm of this season of the year in the Lone Star State. Photo courtesy of Texas Highway Dept.

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APRIL, 1964

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Where You Lead

CONSERVATION is a family affair, at least at first, for it is in the family that attitudes are planted and tastes developed.

Teaching a child to understand conservation is, in part, teaching him to know animals, trees, water—the outdoors—on a personal basis. A boy who likes to stroll through the woods just looking and listening, who knows what a skunk's eyes look like, who can identify a raccoon track and who can spot a deer scrape is likely to relate his childhood pleasures to his adult responsibilities when conservation measures confront him later.

The child gets an interested attitude for wildlife from his parents' actions and conversations much as he acquires a taste for cornbread as he sits around the family table year after year. If parents enjoy hunting and fishing and nature strolling alone and with the family, a youngster just accepts outdoor fun as a valuable recreation.

This emotional osmosis of atti-

tudes from the family, unfortunately, can work on the negative side. If dad enjoys getting away with game law violations, a son soaks up a little of this attitude, and even with all of his dad-taught knowledge and love of the outdoors, he's not an asset to conservation.

But kids don't come in handy molds, not even kids of the same family. Therefore, no matter how carefully the foundation is laid Johnny may not find the same kind of satisfaction as his dad in such outdoor outings. He may eat the cornbread while at home, but he may not care enough about it to encourage his wife to bake it for him later. But, dad still must teach Johnny his responsibility as a part of the human family toward conservation of outdoor resources.

There are no easy formulas for a father to use in this kind of conservation education. Every man has to choose an approach which springs from his own relationship with his child. ** THE EDITOR

Banding gives the facts on

birds across the border

by TED L. CLARK
Wildlife Biologist

SPRINGTIME is important to white-winged dove hunters, but with emphasis on traps, not guns. The aim of the whitewing banding program now being executed by the Parks and Wildlife Department is better management and therefore better hunting.

The main objective is to determine the extent of "migrational homing" of this fine game bird. In other words, biologists want to know if whitewings pick a nesting location purely at random or if they return each year to a specific site to perform their parental duties. A knowledge of migrational homing should help biologists determine the importance of nesting habitat and loss of it by land clearing or severe freezes. Furthermore, the effects of hunter kill of certain segments of the white-wing population, as related to migrational homing, might lead to better management and assurances that the species will remain on the list of game birds.

The game department has often

been criticized for its highly restrictive hunting seasons aimed at protecting whitewing broodstock. These critics argue that there is no need to be so conservative with the population that breeds in Texas, for if this population is over-killed one year, birds that normally nest in Mexico will come up to fill the void the next spring. To be sure, there are large numbers of whitewings



The old places to nest are still the best. At least, that is how the birds' preferences tend to indicate, from data gathered so far.



The white-winged dove is a prime favorite with hunters, whom Parks and Wildlife biologists hope to benefit by current research.

that nest in Mexico, but department biologists doubt that they can be counted on to rejuvenate the Texas nesting population.

To execute its duty of managing whitewings, the department must have facts, objectively gathered and based upon sound research. To this end, a special trapping and banding program was initiated in the Lower Rio Grande Valley in the spring of 1960. The program was designed to trap and band a large number of adult whitewings on their nesting grounds and, at the same time, to obtain band returns from birds previously banded under other banding programs.

Terminology of Banding

The age classes involved in this program are adults and nestlings. Adults are birds that have reached breeding age. Since whitewings are hatched and reared during the period May through August, an adult bird is at least seven months old by the time its breeding activity begins in April. *Nestlings* refer to birds unable to fly and still on the nest at the time of banding. A nesting colony is an area where large numbers of whitewings nest and rear young each year. A nesting colony, as used in this article, may be only a few acres of citrus grove or native brush tract, or it may cover several square miles, but it is a distinct entity and has



Taking a wide-eyed look at the world is one of the whitewing debutantes, whose all-important nesting site is being closely studied by biologists, with aid of the banding program.

boundaries. A *band return* refers to a banded bird that is trapped in some year other than that in which it was banded and/or in some nesting colony other than the one in which it was banded. A banded bird that is trapped in the same colony in which it was banded during the same year is referred to as a *repeat*.

By the time that whitewings begin to arrive in Texas in early April, the biologists have prepared a welcome for them. Selected nesting colonies, to be used as trapping stations, have been pre-baited with an abundance of whole kernel corn. Small traps constructed of welded wire have also been placed in each trap station. For a week or two the newly arrived birds are given time to become accustomed to feeding on the corn before the traps are set to catch them.

Actual trapping operations normally begin during the last week of April and continue until trapping success suddenly declines, usually in late May. All traps are checked twice daily, at midday and just before dark. During the early period of trapping, it is not unusual to catch up to 400-500 birds a day, all of which have to be banded with serially numbered aluminum leg bands. During all banding operations, detailed records must be maintained as to the exact date, age and location pertaining to each band. In addition to recording information on the birds being banded, the band number of each previously-banded whitewing trapped is also recorded along with data pertaining to the date, trap station and age of the bird. Records of bands placed on birds for the first time are called '*banding records*.' Those records pertaining to trapped birds that already have a band are called '*trap return records*.'

Just to point out the importance of these records, for every man-hour spent trapping the birds, about three man-hours are spent maintaining the banding and trap return records. Trap return records take the greatest amount of time. The record of every banded bird taken from the traps is entered on 3 x 5-inch index cards showing the band number, date, location, and age at the time of banding. The date and location

of each subsequent recovery is also entered on the same card. This time consuming task is absolutely necessary so that the biologists can differentiate between a record indicating a band return and one which merely represents a repeat. Only the returns are valuable in appraising the extent of migrational homing.

Low Interchange of Birds

Partial results indicate that whitewings return to the same colonies to breed each year. Based upon a total of 675 band returns, 91 per cent were taken in the nesting colony where they were banded. Of these 675 band returns, 494 had been banded in native brush nesting colonies and 93 per cent exhibited migrational homing. Of the 181 birds banded in citrus nesting colonies, 85 per cent "homed" in on the citrus grove where they were banded. The data further indicates that an average of 84 per cent of all whitewings banded as nestlings return to their birthplace to breed year after year, while 16 per cent breed elsewhere. After a breeding colony has been selected, 92 per cent return to that colony annually to breed. Both nestlings and adults show a slightly higher degree of homing to native brush than to citrus nesting colonies.

Since the special banding program began in 1960, only six whitewings banded in Mexico as nestlings have been trapped in Texas. In view of

the fact that 21,377 nestling whitewings have been banded in Mexico in 1957-62 and over 15,000 whitewings have been checked through the department's banding program, the six Mexican birds recorded in Texas as breeding adults emphasize the theory that an interchange of birds will not boost Texas populations. Four of these international birds were banded at San Fernando (about 85 air miles south of Brownsville), and two at Mante (about 250 air miles south of Brownsville).

So it would seem that whitewings are very closely tied to their breeding colonies, with very little interchange of breeding birds between colonies. The loss of their traditional nesting grounds, even for a short period, could have dire effects on the future of the Texas breeding population. As an example, consider the two major freezes which hit the Lower Rio Grande Valley in 1951 and again in 1962, each taking a heavy toll of nesting habitat, especially citrus nesting cover. In the summer of 1950, the Valley had 1,039,000 whitewings in its breeding population; there were only 110,000 in the summer of 1951 following the freeze. The breeding population dropped from 592,000 in 1961 to 301,000 in 1962. It is doubtful that the terrific declines in the years following major freezes are the result of whitewing death loss, but

• Continued on page 24



This trap site is along an unused road in one of the brush study areas. This particular tract supported an average of 308 pairs of nesting whitewings per acre in the year 1960.

BY HOLLYWOOD standards a fish does not have the most romantic characteristics. Fish courtship and domestic affairs are pretty drab for most species—but there are a few dramatic touches.

Some fish, for instance, particularly males of freshwater species, have a special glow for the occasion. This “nuptial coloring” is a brightening of appearance, which attracts females. Some black basses and sunfishes of Texas take on a slight coloration change, but they cannot compete in brilliance with the blushing lovers of the trout family in

Matches and Hatches

by ANN STREETMAN

that the eggs are fertilized as they fall. Then the male scurries to catch them in his mouth during their descent and attaches each to a bubble in the nest. After egg deposition, the female is no longer needed or wanted and is chased from the nursery, leaving the duties to the male who zealously protects the eggs and fry when they hatch about three days later.

Mackerel procreation is an example of the other extreme. Males and females school at spawning time and release eggs and sperm in a great cloud with no apparent effort to insure fertilization.

In between these poles is one of Texas' favorites, the black bass. Preparation is not as painstaking as that of the betta, but procreation is not the unconcerned affair that it is with the mackerel.

As with the betta, the male black bass (both large and small-mouthed) takes the leading parental role. On the bottom at a three to six-foot depth, the male fans out a circular nest with his tail. If the site is gravelly, which it often is with the small-mouth, a ring of pebbles

away his tail fin in the process. Sometimes a few pebbles in the nest provide a handy camouflage for the eggs. More often than with the small-mouthed bass, the large-mouthed male chooses a sandy site or the roots of bulrushes or cattails for the nest and may not even go through the excavation process.

When an interested bass female comes into the male's territory, some say by choice and others say by nipping from the male, a brief courtship of nudging advances ensues. Then the female deposits her eggs in batches and the male fertilizes them. After deposition, mama fins away, and pop would have it no other way. Later, he may repeat the

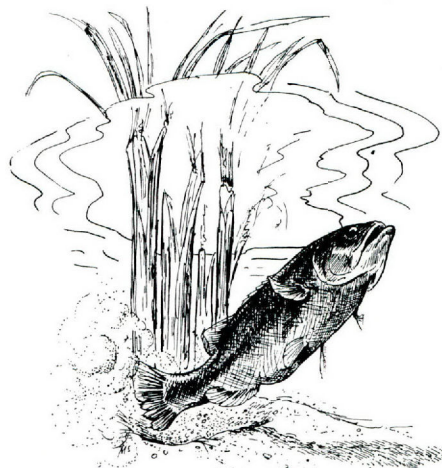


other states. A bit of showing off, some coyness and amorous slapping of tails also goes on with fish and their lady “flappers.”

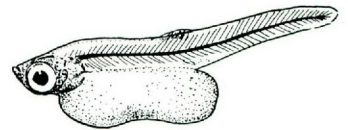
Although fish facts of life vary greatly with the species, a few basics and examples give some pointers on the domestic lives of fishes.

The processes go from the extreme of a blasé scattering of eggs and hit-or-miss fertilization without a backward glance by either male or female, to a careful constructing of nest, detailed courtship and care of eggs and newly-hatched fish.

Bettas, tropical fish, for example, carry out procreation with rigorous care, the male being the more diligent of the sexes. He blows many tiny bubbles and constructs from them a nest—a bed of bubbles—on the surface of the water. The bubbles, coated with a fluid from his mouth, remain intact throughout nesting. If some should burst, however, the male replaces them. As the female releases her eggs with encouraging slaps and an embrace from the male, he releases milt so



usually settles down about the excavation as the dirt and gravel are swept out. A diligent male may wear



same process, with two or three females contributing to his nest. He may finally collect as many as 10,000 eggs. Pop guards the nest and fans the water with his fins, aerating the eggs, which hatch in two to five days. But he remains on duty until the young fish absorb their egg sacs a week or two after hatching. Once the young can swim well the parental care ends, and they are actually in danger of the male's appetite. The weaker youngsters are eliminated, and the remaining fish are scattered and attract less attention from predators singly than they would in schools.

If the bass' eggs should be destroyed, the male builds another nest and repeats his whole parental performance.

The male is not always the nursery maid, as in the cases already

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Texotics

by AL JACKSON
Wildlife Supervisor, Waco

The study of exotic game animal introductions into Texas now underway in the Parks and Wildlife Department is designed to determine the effects of these animals on native populations. The Department does not promote the hunting or sale of these exotic species. The results of the survey showing the estimated numbers and the counties in which the animals occur in Texas are presented in the following article to keep Texans informed on the wildlife situation in the State.

Only two of the exotics mentioned in the article are on the game list in any county in Texas. The Department therefore has no jurisdiction over any of the other exotic animals noted and does not handle information about hunting these privately owned animals.

Any person desiring information on hunting the exotics discussed in the article should contact the chambers of commerce in the counties in which the animals occur.
—Editor

“DEAR SIRs:

It seems that exotic game animals are getting more and more popular here in the Hill Country. These animals interest me—particularly the axis deer and blackbuck antelope—and I’m wondering about stocking these on my 3,000-acre ranch. But first I want some information on what can be expected.

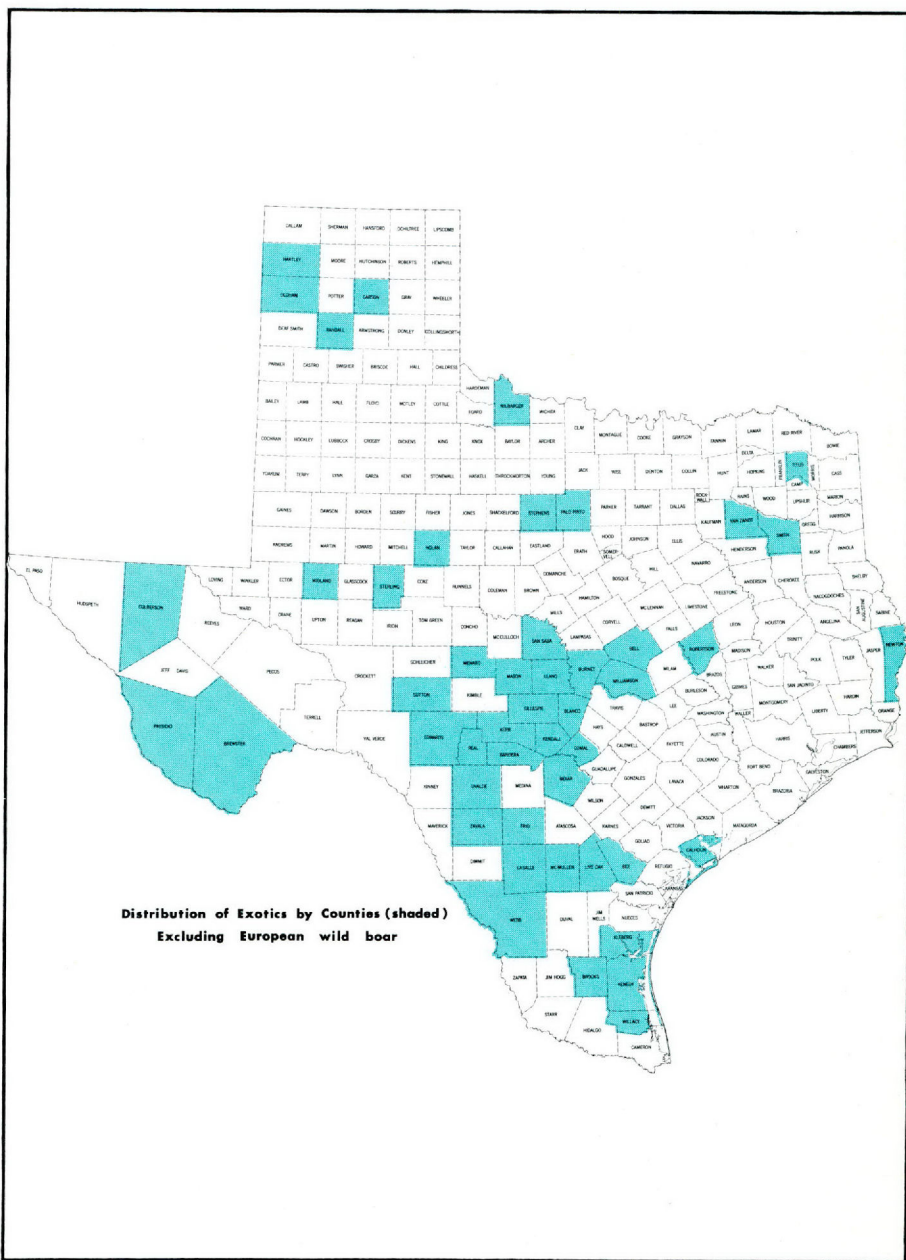
“For one thing, how fast do these different exotics reproduce, and is there a possibility that I may have trouble in later years in controlling the population? You see, I’m a “working rancher” and depend on my livestock and deer leasing for my livelihood. I understand that the introduction of foreign species isn’t always desirable (I’m thinking of the starling and English sparrow), and I certainly don’t want to introduce anything on my ranch that may turn out to be more of a detriment than a benefit.

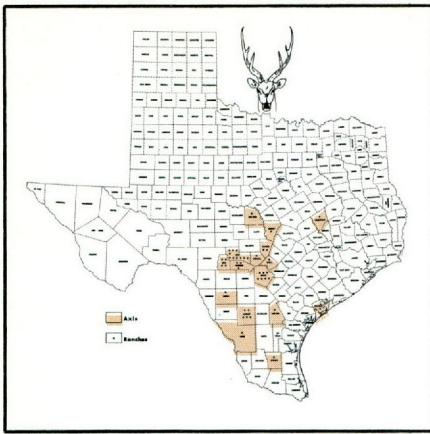
“Another thing. Can you tell me what these animals eat? Again, this is tied in with my pocketbook, since I don’t want anything that will compete too much with my livestock and native whitetails.

“Any information you can give me along this line will be greatly appreciated.”

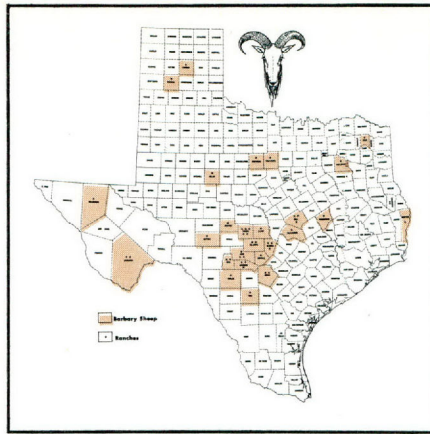
The letter is fictitious, but it poses some typical questions that are being asked more and more frequently. And how do we answer?

Frankly, about all we can say right now is, “Proceed with extreme cau-

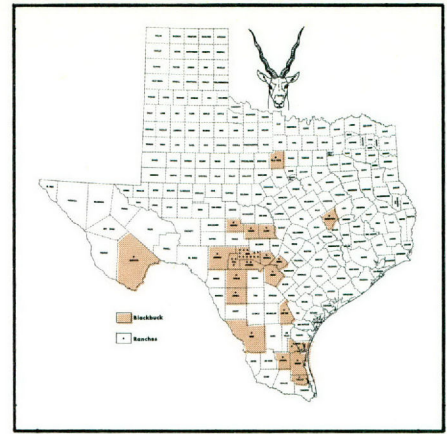




AXIS DEER		County	Est.
County	Pop. '63		
Bandera	28	Kendall	30
Bexar	333	Kerr	1336
Blanco	11	LaSalle	187
Brooks	14	Live Oak	75
Burnet	7	Real	116
Calhoun	?	Robertson	20
Comal	8	San Saba	25
		Webb	4
		Zavala	2



BARBARY (AOUDAD) SHEEP		County	Est.
County	Pop. '63		
Bandera	174	Llano	18
Bexar	19	Mason	118
Blanco	25	Menard	1
Brewster	50	Newton	1
Carson	2	Nolan	55
Culberson	1	Palo Pinto	9
Frio	10	Randall	325
Gillespie	212	Real	74
Kendall	5	Robertson	9
Kerr	63	Stephens	50
		Sutton	40
		Titus	11
		Uvalde	25
		Van Zandt	1
		Williamson	50



BLACKBUCK ANTELOPE		County	Est.
County	Pop. '63		
Bandera	18	Kleberg	25
Bexar	25	Live Oak	60
Brewster	30	Llano	75
Brooks	6	Mason	3
Comal	11	Menard	10
Edwards	550	Palo Pinto	30
Kendall	45	Real	925
Kenedy	10	Robertson	2
Kerry	1796	Uvalde	50
		Webb	11
		Willacy	10
		Zavala	1

tion!" We don't intend to be alarmists, but animals transplanted outside their native ranges have in the great majority of cases either been a total failure or have become a serious nuisance.

Witness our own Virginia white-tailed deer, transplanted to New Zealand in 1901. They've done extremely well there—so well, in fact, that they're considered "pests." But that's not all. They've had an equally serious indirect effect by altering the habitat so that red deer could thrive—and red deer are considered the most pestiferous of the deer species

found there. Hear what K. A. Wodzicki has to say:

"The Virginia deer acted in some measure as a pioneer species in opening up the denser scrub and forest land for earlier liberated red deer, which would not penetrate this tangled growth until tunnels were formed by the more bush dwelling and smaller Virginia deer."

(*Introduced Mammals of New Zealand. An Ecological and Economic Survey.* Dept. of Scientific and Industrial Research, Wellington. Bulletin No. 98, 1950, p. 219).

So by this one example we can see that not only can foreign animals be a threat to us here, but our own North American species can be a threat elsewhere.

Although we admittedly don't know much about exotics in Texas, we're starting an extensive study of these animals to learn just how they fit into our bio-economic picture. As the initial step in planning the study, the first state-wide survey was made last summer to determine the "how many, what kind, and where" of exotics. In this survey, wardens and biologists were asked to obtain

ELAND

County	Est.
Bexar	3
Robertson	2

BARASINGH DEER

County	Est.
Burnet	2
Kerr	30

NILGAI

County	Est.
Kenedy	3020
Kleberg	14
Willacy	300

ORYX

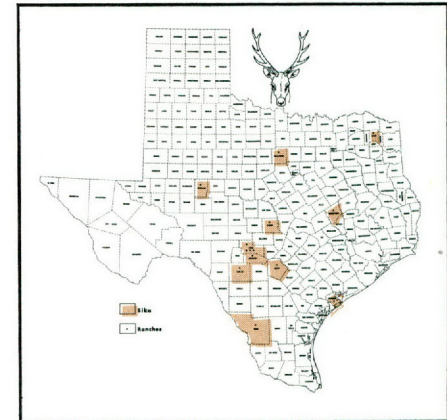
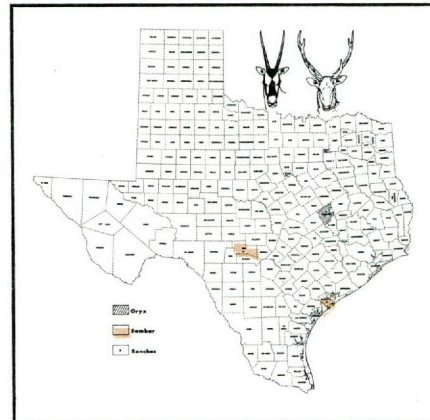
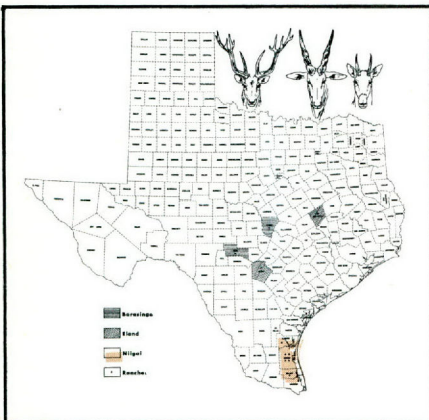
County	Est.
Robertson	3

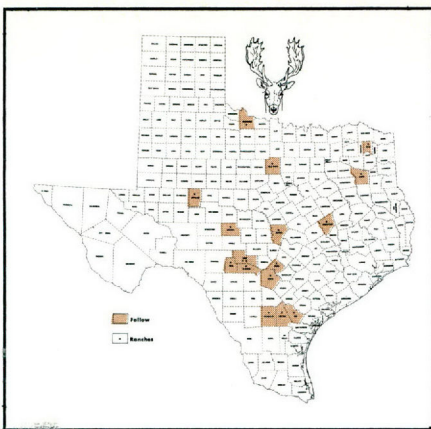
SAMBAR DEER

County	Est.
Calhoun	8
Kerr	30

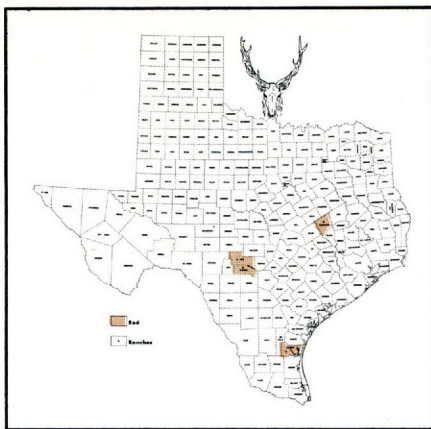
SIKA DEER

County	Est.
Bandera	7
Bexar	6
Calhoun	3
Kerr	551
Llano	13
Palo Pinto	6
Robertson	6
Sterling	7
Titus	8
Uvalde	20
Webb	7

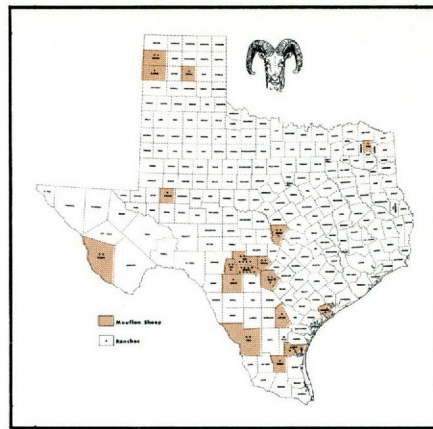




FALLOW DEER			
County	Est. Pop. '63	County	Est. Pop. '63
Bandera	6	McMullen	4
Bee	16	Menard	15
Bexar	12	Palo Pinto	8
Burnet	12	Real	9
Comal	5	Robertson	20
Kerr	24	Smith	23
Live Oak	4	Sterling	17
		Titus	12
		Wilbarger	33



RED DEER			
County	Est. Pop. '63	County	Est. Pop. '63
Bandera	3		
Kerr	8		
Kleberg	9		
Robertson	1		



MOUFLON SHEEP			
County	Est. Pop. '63	County	Est. Pop. '63
Bandera	249	Kerr	195
Bexar	66	Kleberg	45
Brooks	7	Live Oak	4
Burnet	131	Midland	18
Calhoun	7	Oldham	2
Carson	3	Presidio	425
Hartley	12	Real	285
Kendall	345	Titus	4
		Uvalde	45
		Webb	3

information in each county on the following: 1) the kinds of exotics that are present, 2) the sizes of ranches where they are found, 3) the type of fencing (whether or not the fence would restrict the exotic in question to that particular ranch), 4) the year of initial stocking, 5) current actual or estimated numbers, and other information.

The inventory was limited to the group of mammals known to mammalogists as "Artiodactyls," which includes the even-toed hoofed mammals such as deer, buffalos, sheep, goats, antelopes and pigs. It would be surprising if we did not miss any exotics in this first census, but we believe the results are nonetheless complete enough to give us a good picture of where we stand.

Now as to the results of the survey. It indicates there are some 13,160 exotics, of at least 13 different species scattered over the state. Some of the questionnaires indicated "local names" are already being used so that it was hard to tell in some cases just what species was actually referred to.

The 13 species of exotics include six kinds of deer, two kinds of sheep, four kinds of antelope and one kind of pig, as follows:

Family Cervidae—Deer

Axis Deer—*Axis axis*

Sika or Japanese Deer—*Cervus nippon*

Fallow Deer—*Dama dama*

Sambar Deer—*Rusa unicolor*

Barasingha Deer—*Rucervus duvauceli*

Red Deer—*Cervus elaphus*

Family Vovidae—Sheep and Antelopes

Barbary or Aoudad Sheep—*Ammotragus lervia*

Mouflon Sheep—*Ovis musimon*

Blackbuck Antelope—*Antilope cervicapra*

Nilgai or Blue Bull Antelope—*Boselaphus tragocamelus*

Eland Antelope—*Taurotragus oryx*

Oryx or Gemsbock—*Oryx gazella*

Family Suidae—Pigs

European Wild Boar—*Sus scrofa*

With changes in land ownership, stocking histories have been lost in some instances. Also, it is likely that some of the first ranches to receive exotics do not have them now. But the dates of initial stocking were obtained for 178 of 207 transplants, and the record shows that exotics are increasing at a fast clip—not only in population, but in the number of ranches that are stocking them.

The first known transplants of exotics involved nilgai antelope stocked in 1930. Then came axis, sambar, and sika deer, and blackbuck antelope (1932); fallow deer and aoudad sheep (1950); mouflon sheep (1951); red deer (1958); oryx (1960); and eland (1961). No record was obtained for the first barasingha deer or wild boar releases.

The trend in stocking—how the popularity of exotics has grown over the years—is interesting indeed. From 1930 through 1953, a 24-year period, there were 36 ranches stocked for the first time. During the next five years (1954-1958) there were 54 ranches stocked. Then during the last five years (1959-1963), 88 ranches were stocked. In other words, nearly as many ranches were stocked in the last five years as had been stocked in the previous 29 years!

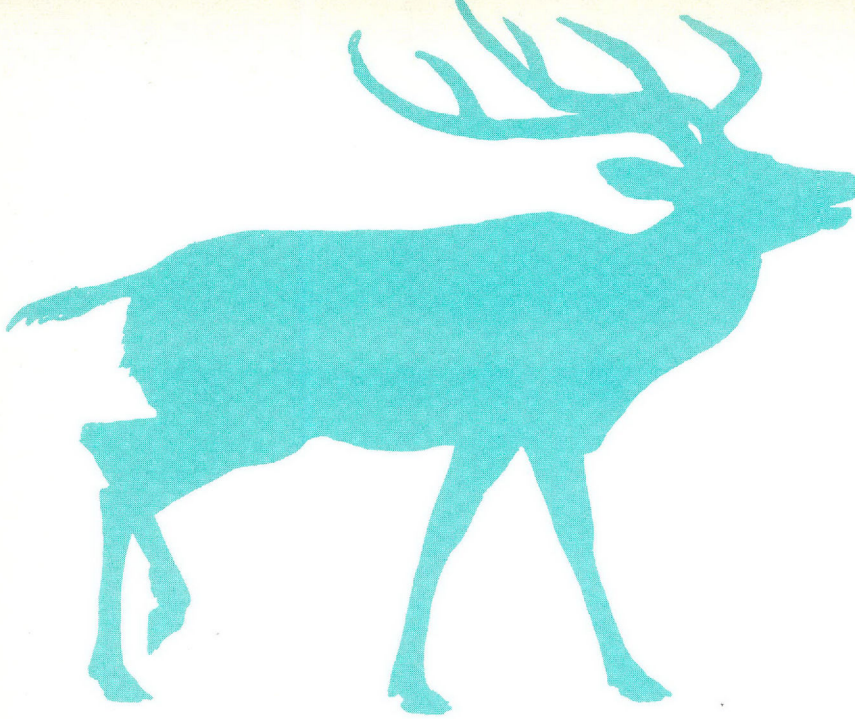
The question may be asked, "Which is the most important species?" The answer depends upon what you're considering. If it's greatest numbers, it would be blackbuck antelope; if it's the number of ranches having them, it's aoudad sheep; if it's the greatest amount of acreage stocked, it's nilgai antelope; and if it's the number of counties having them, it's aoudads again.

Forty-eight of the 254 counties in the state have one or more kinds of exotics. Listed below are the five leaders in total exotics and the five leaders in total species.

TOTAL EXOTICS

Rank	County	Number
1	Kerr	3,877
2	Kenedy	3,030
3	Real	1,409
4	Edwards	550
5	Bexar	464

• Continued on Next Page



SPECIES REPRESENTED

County	No. of Species
Kerr	9
Robertson	8
Bexar	7
Bandera	7
Real	5

Where do the ranches get their broodstock? Several ranches sell exotics for stocking after their herds have produced a surplus; another source, although less important, is various zoos in the United States.

The question may come up now as to who has control over exotics in Texas. In general, it is the landowner. Other than for quarantine restrictions covering the importation of animals into the United States, the trapping, sale, transport, stocking or hunting of exotics is not restricted in Texas, except as follows:

During 1963, the State Legislature declared the aoudad sheep to be a game animal, and closed the season on this species for an indefinite period of time in Real, Coke, Reagan, Val Verde and Kinney counties. Since it is unlawful to sell any game animal in Texas, the Act in effect made it unlawful to sell aoudads.

The Parks and Wildlife Commission, by Proclamation, closed the season on aoudads in the Panhandle Regulatory District, except that the species could be taken by special permit during the period December

13-15, 1963. (Proclamations covering counties where the Commission has regulatory responsibility are subject to annual review, and thus the season may vary in succeeding years, depending upon current conditions.)

Axis deer found outside property enclosed by deer-proof fences are protected in Bexar and Kendall counties until 1966; all axis deer are protected in La Salle County Commissioners Precinct No. 3 until January 1, 1965. Both axis deer regulations are the result of Acts of the Legislature.

Now, let's go into a little more detail on what the survey showed for each species. But remember that the information is not complete in each case, and that when we make a statement, we actually mean "as far as the record shows." If you can add to our store of knowledge, we'd like to hear from you.

The nomenclature used here, including both common and Latin names, for the most part follows that given in *The Systematic Dictionary of Mammals of the World*, by Maurice Burton, Thomas Y. Crowell Co., New York, 1962. For a description of each species, you should refer to Nancy McGowan's article, "Game Animal Texotics," which appeared in the January 1964 *Texas Game and Fish*.

DEER

Axis Deer

The axis is the most widely dis-

tributed of the exotic deer, being found on 41 ranches in 16 counties, mainly in the Edwards Plateau. The total population is estimated at 2,196, of which 240 are actual known numbers and the remainder are estimates. (Some ranchmen know the actual number they have; others, because of the size of the ranch and other factors, are only able to give an estimate.) Kerr County has the largest number, with 1,336 on 10 ranches, followed by Bexar County with 333 on 7 ranches.

Axis deer are restricted by deer-proof fences on 27 of the 41 ranches, constituting about half the total of 443,837 acres where they are found. Free-ranging axis deer are found principally in Bexar and Kendall Counties, and they are decidedly on the increase on these "open ranges."

The earliest known stocking occurred in Kerr County in 1932. Since then, 179 have been reported stocked on other ranches in the state. (Remember that a complete record was not obtained for every ranch; thus the number is actually greater.)

Six ranches reported they sell broodstock. Prices range from \$100 each, to \$500 per pair.

Sika (Japanese) Deer

Sika deer were reported on 14 ranches in 11 counties. The population is estimated at 634, of which 65 are actual known numbers, and the remainder are estimates. The bulk of sikas are found in Kerr County, which has an estimated 551 on 4 ranches.

All sika deer are reported to be restrained by deer-proof fences on ranches totaling 159,844 acres.

The first introduction was made in 1932 in Kerr County. Since then, 78 are known to have been stocked on other ranches in the state.

Only two ranches reported they sell broodstock: one at \$400 per pair; the other at \$400 per trio.

Fallow Deer

Fallow deer were reported on 17 ranches in 16 counties. Their numbers are estimated at 220, of which 137 are actual known numbers. Wilbarger County has the largest number, with 33 on one ranch.

This species is restricted by re-

straining fences on 14 of the 17 ranches, but only on seven per cent of the 577,761 acres involved.

The earliest known stocking was in 1950 in Titus County, although it is believed that some ranches may have been stocked considerably earlier.

Only one ranch reported broodstock for sale, at \$150 per head.

Sambar Deer

This species was reported on two ranches, in Calhoun and Kerr counties. Their numbers are estimated at 38, of which 30 are found in Kerr County where sambar deer were originally stocked in 1932.

The two ranches total 28,400 acres, and both have restraining fences. Neither ranch sells broodstock.

Barasingh, or Barasingha Deer

A total of 32 deer of this species was reported on two ranches in Burnet and Kerr counties. One ranchman knew the actual population—two deer; the other estimated he had 30. Both ranches comprise a total of 9,600 acres, and are bounded by restraining fences. The date of the original stocking is not known for either ranch, and neither sells broodstock.

Red Deer

An estimated 21 red deer are found on four ranches in Bandera, Kerr, Kleberg and Robertson counties. One ranch, comprising 500,000 of the 503,000 total acres, is not bounded by a restraining fence. The earliest red deer introduction was made in 1958 in Robertson County. All others were stocked in 1963. One ranch quotes broodstock at \$250 each.

SHEEP

Barbary (Aoudad) Sheep

A total of 1,588 Barbary sheep is estimated in Texas. They are found on 42 ranches in 26 counties. Of the total population, 463 are actual known numbers.

The largest concentration of Barbary sheep is believed to occur in Randall County, where estimates run as high as 450 sheep in all of the Palo Duro Canyon. The next largest concentrations are found in Bell and

Gillespie counties, with 240 and 212 sheep, respectively. Fences restrict the movements of aoudads on 30 per cent of the 356,657 acres where they are found, or 22 of the 42 ranches.

The earliest reported date of introduction was 1950 in Blanco and Titus counties. Since then, 351 have been used for stocking other ranches.

Two ranches reported broodstock for sale. Prices were quoted at \$150 and \$350 per pair.

Mouflon Sheep

Mouflons were reported on 41 ranches, in 18 counties. Of the total of 1,846 sheep, 289 were listed as actual known numbers. The largest population is found in Presidio County, with 425 estimated on two ranches, followed by Bandera County with 345 on two ranches.

The total range occupied by mouflons is 820,242 acres, of which 11 per cent of the acreage is under restraining fences.

The earliest recorded stocking was in Kerr County during 1951. Subsequently, 633 have been used for stocking other ranches.

The meat of mouflons is said to be tasty and is popular for barbecuing. These sheep are sometimes sold at livestock auctions. They reportedly cross with domestic sheep.

Prices for broodstock range from \$20 to \$150 per pair, with seven ranches reporting they sell broodstock.

ANTELOPES

Blackbuck Antelope

Blackbucks are distributed over 1,217,741 acres; 11 per cent of the acreage is under restraining fences. The survey showed an estimated 3,693 blackbucks are found on 35 ranches in 21 counties. From the standpoint of total numbers, this is the most popular exotic.

Kerr County has the highest concentration of blackbucks, with 1,796 found on 12 ranches, followed by Real County with 925 on three ranches.

The earliest known stocking was in Kerr County in 1932. Since then, 386 have been used to stock other ranches.

Only four ranches sell broodstock, and prices range from \$500 per trio to \$290 per pair. A backlog

of orders is reported, since blackbucks are extremely hard to catch, and death losses are common in transit.

Nilgai, or Blue Bull

Nilgai are restricted to six ranches, mainly adjacent to the lower South Texas coast in Kenedy, Kleberg and Willacy counties. These ranches comprise a total of 1,425,000 acres, and the animals apparently range freely between the various properties. The original broodstock of about a dozen animals was obtained during 1930. This original stock has increased in 33 years to an estimated 3,334. None of the ranches reported broodstock for sale.

Eland

Actual numbers of eland are reported as three on one ranch in Bexar County, and two on one ranch in Robertson County. Those in Robertson County were stocked in 1961, and those in Bexar County in 1962. They have failed to reproduce on either ranch. The two ranches are enclosed by restraining fences and have a total of 2,100 acres.

Oryx or Gemsbock

Three oryx were reported on one ranch in Robertson County. Stocked in 1960, they have not reproduced. The animals are restricted to a 1,000-acre pasture by a restraining fence.

PIGS

European Wild Boar

European wild boar were reported on three ranches in Calhoun County, four in Bexar County and on "several" ranches in Medina County. All are free-ranging and are believed to have a considerably larger distribution, mainly in the Edwards Plateau and in South Texas.

Wild boar have crossed with feral swine in many areas so that the pure stock is limited and hard to distinguish from crosses. Numbers are difficult to estimate because of the animal's secretive habits and sporadic distribution. In this survey, they were estimated at 400 in Calhoun County, 175 in Bexar County, and as "heavy concentrations" in Medina County. **

The Ultimate Weapon

by RONALD PERRYMAN

KILLIAN GIBBS and I played our flashlights along the roadside as we walked through the cool night air, three abreast. The one in the middle was Jerry Pousson, an elderly gentleman of fifteen. As the oldest, Jerry was our leader, and as our leader, he carried our one and only weapon, brandishing it in the moonlight like a warrior. We were after big game. Jerry was a fellow of respectable height and weight, almost imperceptibly larger in the middle than anywhere else. He had a winning way, an air of high school superiority, and on *most* occasions he was fairly sensible. I wasn't at all convinced that skunk hunting was sensible, but after all, it wasn't his idea.

It was Mr. Walley's idea, I guess. Mr. Walley was our ex-Scoutmaster, and he knew how to deodorize skunks. He didn't use "messy creams," or "drippy sprays," or "roll-ons." He performed an operation. And it takes a very brave man. Anyway, he said skunks make very good pets, and would I like to go, and without thinking, I said Yes. Nobody with a thirst for adventure turned down a trip with Mr. Walley.

So the next thing I knew, six of us (one skunk hunter and five tenderfeet) were setting up camp in the middle of prime skunk country, complete with an ancient pickup which we had borrowed for the festivities.

The next morning, Mr. Walley shook me to semi-consciousness in my tent at 3 o'clock. I couldn't imagine what he wanted. It was still dark outside. However, he insisted that I get up, and while I tried to put my left boot on my right foot, he explained patiently that we were going skunk hunting. This rang a bell, so he went on to explain that he and the other two boys, Bobby and Donald, had already been out and captured four of the little beasts, and it was now up to Jerry, Killian, and myself to try our hands at it.

The three of us stumbled aboard our battered "catch-truck," and Mr. Walley tossed our weapon in the back with a clatter. Jerry was appointed to drive, due to his charm, his natural leadership, and the fact that he was the only one old enough to have a driver's license. I still thought it was a little early, but the pick-up complained louder than I could, so I didn't say much. We finally got the old box of bolts rolling, and a few minutes later we were stumbling out again, and Jerry was announcing that the hunt was to begin. So it was that the three of us happened to be walking along that road looking for a skunk with nothing but a couple of flashlights and an old garbage can lid, instead of the 50-calibre machine gun that I knew we should have.

It occurred to me about this time that in all the confusion, I had missed out on a vital piece of information.

"Jerry," I whispered, "what if we see a skunk?"

"Whaddaya mean, what if we see a skunk? That's what we're lookin' for, stupid!"

"Yeah, but, how we gonna get him? I mean before he gets us?"

At this he grinned and ran his fingers through his short black hair.

"Well," he said importantly, "last night Mr. Walley and me came up here. You know there's garbage cans all along this road. Well, we tipped most of 'em over and leaned 'em on a rock. Now all we got to do is peek in each garbage can and see if there's a skunk in there eatin' the garbage, and if there is we just slam this lid on it and we've got 'im." He shook the lid like a gladiator.

It sounded so simple that I relaxed a little, and that's when we saw him. All black and white, a "streamlined kitty with a fluid drive," as Mr. Walley called him, hopped out of a garbage can just thirty feet in front of us and calmly trotted across the road and into the woods.

"No skunk is gonna eat our garbage and get away with it!"

Jerry said it, and the insanity of the remark didn't dawn on me until later. But right then I was worried.

"Jerry," I began, "how are you going to" The rest was lost in the confusion. Jerry was off in the direction of the skunk, with Killian and myself trailing behind. At a safe distance. I was afraid that our leader was losing his mind, and I got no comfort when I glanced at Killian. He was as bewildered as I was.

We must have made quite a scene, the four of us. The skunk was in the lead, bouncing slowly along in an unconcerned way, his tail in the air like a flag, with Jerry a few yards behind, brandishing his garbage can lid. Killian and I brought up the rear, trying to stay at a safe distance and yet keep close enough not to miss any of the action. Our little procession meandered around the trees and through the open woods, the skunk blazing the trail.

I didn't doubt the skunk's lack of concern. Psychologically he had the edge on us, and he couldn't have looked more confident if he'd had a couple of 45's strapped on.

Jerry was gaining when suddenly the skunk stopped in his tracks and his tail went up a little higher. Jerry stopped, too, and so did Killian, and so did I. I don't think anybody breathed for about 20 seconds, and the only movement I could see was a certain quiver in the garbage can lid. Jerry was about 10 feet directly south of the skunk, and he very slowly began to maneuver around to the side, when all of a sudden the skunk

started off in a new direction in the same easy gait, as if nothing had happened. And off went Jerry behind him. By now I knew that our leader was as mad as a hatter, but I couldn't think of anything to do but follow along and see what happened next. The next time the skunk stopped and we all froze, Jerry was a little closer, and he moved a little sooner, edging around to the side in a wide circle. Then the skunk was off again in a new direction in that unconcerned way. And we were off again in a very concerned way. It was a kind of nightmarish "follow the leader." Where the skunk went, we went. And when the skunk stopped, believe me, we stopped. Jerry got closer and closer and I knew he hadn't long to live, when, miracle of miracles, Jerry had the lid on the skunk and he was standing on the lid.

"I got him," he screamed, and our hearts pounded with excitement and panic. Killian and I ran headlong into a solid wall of odor, spun around and ran in the opposite direction.

Skunk odor, at that range, is a fireball that you see with your nose. None of us had been hit directly, not even Jerry, but it wasn't hard to tell that he was still doing his best to get us. The air was so thick that you could slice it up with a knife and package it, if there were a market for that sort of thing. And in the middle of the cloud was Jerry, screaming at the top of his lungs.

"Get a garbage can! Get a garbage can!"

Gratefully, Killian and I ran toward the road, coughing and gasping. We ran down the road through the cool, fresh air for what seemed like 30 or 40 miles before we finally found a can. It was rather large and heavy, but we were in a bit of a hurry and we could still hear Jerry bellowing through the woods.

"Hurry up! C'mon you guys! Huurrrryyy!"

So off we went through the woods, with the garbage can dragging and banging along behind. We thought we could detect a certain note of desperation in Jerry's voice by now, so we ran as fast as we could for fear that he might abandon the project altogether. But when we got there, sure enough, there he was standing on the lid, looking a little wilted, and trying to stretch himself high enough to get a breath of fresh air.

"Hurry!" he gasped.

We slid the can on its side right up to the lid, and Jerry grabbed the lid and scooped the skunk neatly into the can.

Now it seems that in times of great trial the smallest mistakes can cause the greatest disasters. You just forget to figure all the angles. Who would have figured, for example, that not all garbage can lids fit all garbage cans? This, I think, is the question we pondered for that small eternity as the three of us gaped at the two-inch gap all the way around that garbage can lid. Then we dropped the whole thing and ran like hell.

From a much safer distance we watched the skunk climb shakily over the abandoned lid onto solid ground, stamp his feet to show his displeasure, and start off into the woods looking for better times. It was then that Jerry spoke again.

"That skunk isn't gonna get away after all this," he muttered.

I recognized the idiocy of that remark immediately, but our leader seemed doubly determined, so I decided to say nothing. He ran back to the can, grabbed the battered lid, and disappeared into the woods in the direction the skunk had taken. "Maybe," I thought as Killian and I ran to catch up, "maybe the skunk is out of ammo." By the time we got there, Jerry had the skunk again, and once more he had escaped a direct blast.

"Here! You guys hold 'im down! I'm goin' for a can this time!"

I tried to protest, but my conscience wouldn't let me. It was too late anyway, for he had thundered off into the bushes like Casey Jones on a late run. And that skunk hadn't run out of ammo! He hadn't begun to fight.

This time two piteous cries pierced the night air as Killian and I urged Jerry onward and upward.

"My kingdom for a garbage can!" I screamed.

Killian stood with both feet on the lid, and I stood with one foot on the lid and the other approximately six feet away as I reached out uselessly for fresh air. Finally my loyalty succumbed and I ran madly off into

• Continued on page 30





Pick a Park

By JAY VESSELS

SPRING in state parks! Definitely the time favored by countless Texans to resume their favorite outdoor hobbies.

The shade may be a little short as yet, but Nature's own built-in air conditioning suffices.

So what IS your preference? Ornithologist? Botanist? Archaeologist? Spelunker? Gemologist? Horticulturist?

If it's just plain picnicker or sight-seer or hiker or fisherman—the State Parks system is your target.

Yes, spring in the far-flung state parks may mean for you a sensitive fishing spot, a hidden wooded playground, a treasured historic shrine. It may also mean ample room for peace and quiet near the roaring Gulf surf or at an isolated place with a ready-made far-away view.

For the visitors primarily interested in the exhilarating routine of embracing the elements, spring in Texas state parks is the ideal opportunity.

The fastidious may whimper a little because the man-made furnishings are limited. But now Nature's embellishments are superb, even reflecting the fact that Texas does have ideally located parks real estate with tremendous potential. At no other season is the distinction among the recreational, scenic or historic areas more manifest.

Prisoners of the protected winter environment, risking head-on confrontation with the outdoors, may poke their pale, bare toes into the frothy waves at naked Boca Chica (formally known as Brazos Island State Park) at the extreme southern tip of Padre Island. Or they may probe the intriguing depths of rugged Palo Duro Canyon State Park 750 miles to the northwest in the Panhandle.

Those suffering from open-air phobia may find underground challenges in mystic Longhorn Cavern State Park near Burnet.

Contrasting with the adventurous settings are the historic parks. There's the placid site of the signing of the Declaration of Texas Independence, better known as Washington-on-the-Brazos State Park. Some other historic sites are Goliad State Park, Stephen F. Austin State Park, Monument Hill State Park, Old Fort Parker, Fort Griffin State Park, Eisenhower Birthplace State Park, San Jose Mission.

The dignified bird watchers, for their spring migration observations, oftentimes lean toward Bentsen-Rio Grande State Park near Mission, and Goose Island State Park on the coast, not far from the winter rendezvous of the precious whooping cranes.

The botanists and naturalists concentrate on such as Palmetto State Park, near Luling, once known as

Ottine Swamp, which has attracted visitors even from abroad.

Milady, history-minded or not, may prefer such as the palatial Varner-Hogg Plantation State Park at West Columbia, to admire the meticulously kept grounds and to ponder over the exquisite mid-Victorian interior furnishings.

Almost one-half of the parks have some water areas, so don't worry about the inveterate fisherman. He knows his way around state parks, where his rating as a steady customer is properly recognized.

Thus three-fourths of the areas are designed primarily for the surging recreationalists who comprise 95 per cent of the approximately 7,500,000 persons visiting state parks each year.

And, Blossom, dahlings, if you must go primitive there are some secluded stretches at Boca Chica near Brownsville, on the Gulf Coast, and some entrancing sand dunes 650 miles to the northwest around the old buffalo wallow at Monahans State Park. The wide-open space trade may find at least geological impressions of the Old West in the peaks and arroyos surrounding Davis Mountains State Park near Alpine. Or have you heard of the 330,000-acre "pasture" near Marfa.

Spring, indeed, is marvelous! Happy holiday! **

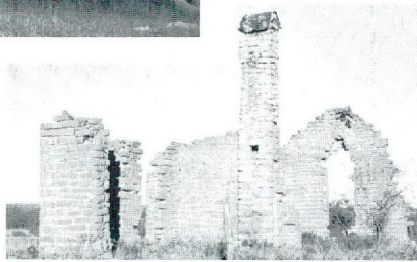


A. F. Kucera, Stephen F. Austin State Park attendant, emphasizes girth of ancient cottonwood, once used to tie Brazos steamboats.



The famed leaning oak trees, slanted over the ages by stormy winds, grace the camping grounds at Goose Island State Park, on the Gulf Coast.

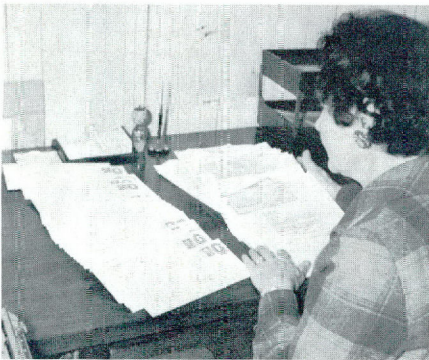
A ruined fortress on the Old Chisholm Trail, in Fort Griffin State Park, is a grim relic of the rugged frontier and cattle drive era.



Spanish moss clinging to the overhanging oak trees decorates the picturesque, narrow road connecting Bastrop and Buescher State Parks.



One of many authentic mid-Victorian antiques at Varner-Hogg Plantation State Park, is this Staffordshire china tea set, in dining room.



Nearly a million annual visitors set records for Garner State Park. Secretary, Miss Lillian Boner, is checking daily reservation lists.



The stately mansion at Varner-Hogg State Park, near West Columbia, is steeped in Texas history and rich in Southern sentiment. House and grounds are meticulously preserved.

OLD-STYLE PARTNERSHIP

by C. W. SHAW

The opportunities for falconry in Texas are limited. Most hawks and falcons found in the state are protected. Only four—goshawk, Cooper's hawk or blue darter, sharp-shinned hawk and duck hawk (true falcon)—are not protected and are therefore legal for use in falconry.

Training the hawks is rigorous, and falconry is not a sport for the casually interested or the junior sportsman.—Editor.

SONNY HEILING is an amiable young man, typical of the public image type of Texan with high, tanned cheekbones, burning brown eyes and a disappearing hair line that belies his 29 years. He talked

freely as he guided the station wagon south on the super highway that stretches 32 lazy miles between Austin and San Marcos.

He expounded on the two things he enjoys most—"being in the woods" and "hawking." Always the outdoors type, Sonny first developed an interest in falconry while still a teenager, and Game Warden Grover Simpson might recall walking up on a slender youngster flying a Cooper's Hawk after pigeons under Austin's Congress Avenue bridge some time

back. Eleven years, a tour in Germany which he dubs invaluable, a wife, two children, one of each brand, and six hawks later, Sonny is one of only three known falconers in Texas.

"That bird I've got now is a German Goshawk. I met a fella in Germany and have kept up a correspondence with him. When I told him I had a Peregrine (falcon) he offered to trade me old Gos for it . . . so I did. This is a short-winged hawk, which means that her wings are shorter than the falcon's, and there is a difference between the two. This bird is better for this kind of country because she flies straight off the fist to a bunny where a falcon, by nature, gets up to 500 or 1,000 feet and circles. You don't need as much room to fly Old Gos.

"Falconers always use the female because they're so much bigger and stronger than the male. Gos weighs about two pounds, give or take a few ounces.

"You know, I was coming back from Marlin a few weeks ago and I stopped at a filling station to get some gas. The old boy looked in the back and asked me what kind of a bird I had, so I told him. And you know what he said? 'That's like one of those chicken hawks you see carrying chickens off all the time.'

"That's how people react to this bird, or to every hawk for that matter. They never stop to think that while a hawk weighs about two pounds, a chicken will hit three or four. That could be compared to a 200-pound man picking up a 300-pound hog and running down the road. It's a plain, simple, physical impossibility.

"And people talk about hawking being inhumane. I'll tell you something. Ol' Gos does one of two things when she flies at a rabbit. She either hits or she misses. She doesn't leave any cripples running around like a



gun hunter might. And they holler about the way she kills. By crushing the skull and pinching the heart. Why, if that's so bad, why is fur trapping legal? When a trapper catches something he just squeezes the rib cage and crushes the animal's vital organs. It saves the pelt and it's the next thing to painless.

"These birds are a pretty wonderful thing to me. When Ol' Gos makes a kill, I feel like I've really done something. I got her as a passage bird (one-year-old). It took me about two months to get her to come to me. It wouldn't have taken me but three or four days if I didn't have to work for a living. The oldtimers used to sit in the dark and just tire the wild out of them. Man, there was a challenge. Staying awake for that long with a bird flappin' around all over the place. You have to start in the dark, put her on your fist and let her get used to you a little at a time. You got to be real gentle or else they get to hate you and would rather starve to death than fly for you. Get a bird more than a year or two old and they'll do that anyway.

"As for falconry's being inhumane toward the bird, this one is taken care of as well as any other pet. She stays in the garage. She's warm when it gets cold and dry when it rains. She gets fed every day, and I let her have a little bit of each rabbit she catches, usually the heart, right on the spot. Just enough to keep her hungry and interested."

* * * *

We arrived at our destination and Sonny talked to the landowner. He was agreeable to letting the bird on his pasture and called Sonny by name. Sonny had been there before, and the farmer was an interested on-looker.

After collecting the bird and all the gear it takes to fly her, Sonny's lean frame had no trouble at all slithering through the barbed wire fence. My not so lean frame, along with camera and sketch pad, has not been on agreeable terms with the likes of barbed wire fences for many years, but that is neither here nor there.

In contrast to any other type of hunting, the falconer tries to stir up as much noise and commotion as

A strong-minded lady who responds to expert handling, Old Gos rewards her master with many a thrill in the ancient sport of falconry.

possible. Kicking through the briars and brambles we went. Sonny talks constantly to Gos as she rides anxiously on her left-handed perch. Every once in a while Gos would jump off the fist thinking she had seen something. Hanging from her jesses (leather thongs around her legs), she would gaze at the ground and beat her wings wildly until she was uprighted by Sonny's steady right hand. "She doesn't think I move fast enough . . . wants to go off and get something on her own."

Just then a cottontail broke cover. The bird was released and off they both went, Gos right on the bunny's trail and Sonny in their wake hollering "Ho! Ho!" Through the mesquite and brush they went until the cottontail disappeared into a maze of brush and vines. Gos retreated to the top of a cedar and glared at the spot where the bunny had vanished. Standing below the tree, Sonny coaxed and begged until the bird decided to settle for the calf's liver offering instead of rabbit heart.

"Isn't that just like a woman. Have to beg her to get her to do something she wants to do anyhow."

"What was this 'Ho' business?" I asked.

"The old boys used to holler every time they released a bird so anybody close by would know that a bird was loose. I used to just stand there with my mouth open and watch, but now I holler because Gos gets more fun out of it when I cheer her on."

We hit the fence line and headed on down the hill kicking at clumps of brush that might harbor an unsuspecting bunny. "I just fly her at rabbits now. She doesn't get to eat any bird flesh or fly at any birds. If she did, I might set her after a bunny and she'd see a chee-chee and off she'd go. She doesn't even know she's supposed to like anything but rabbits and liver. Every once in a while she gets a mouse just to get some fur in her craw. Keeps her digestive system working right."

* * * *

Six bunnies and a good bit of shoe leather later, we struggled back



Photos by Sonny Heiling

through the original strands of barbed wire. Back on to the perch Gos went and, after thanking the obliging landowner, we settled into the front seat for the short drive back to Austin.

"Just two catches out of six. That's not so good, Gos." Looking into the rear view mirror, Sonny lit a cigarette and rearranged himself in the seat. He talked of the American Falconry Association and mentioned that he was responsible for the printing and distribution of the Southwest Falconry Association's newsletter.

He offered some more opinions. "I really love these birds. That one back there has given me a lot of thrills. You know, falconry is something you've really got to love. You've got to really WANT to do it because it takes so much of your time and effort. That's why you won't find any real falconer trying to get other people to take it up. You got to trap the bird, you got to control it, not break it. When you break something you take away its spirit. Then you got to feed it and tame it and give it a lot of love and understanding. And man when you've done all that, and watch it leave your fist and make a kill, or even miss, you really have a feeling of accomplishment. It's really a wonderful thing.

"I can understand why it's called the 'Sport of Kings.'"

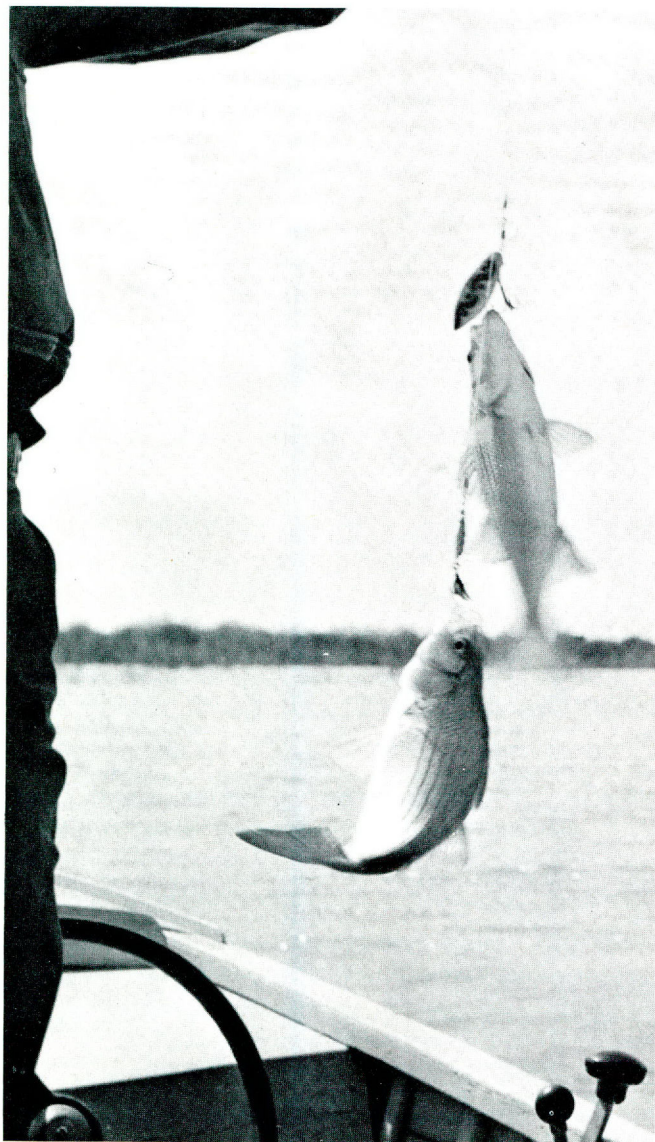
So can we, Sonny Heiling. So can we. **

"HEY, the whites are running again." Pete came into the cafe in rubber boots, slicker suit, old hat, day old beard and all, not a bit bashful about being wet and half frozen as long as he had hot news. He really didn't realize just how fishy he smelled or that he had a fish scale on the side of his nose.

"I've been trolling up the river every morning this week, caught maybe two or three each time in the muddy water, but now the river's down and clearing and I got 12 this morning that weigh 27 pounds," he said all in one breath. One good thing about Pete, he doesn't have any secret fishing holes and won't duck the questions about what bait he used. He knows that most of us in the C. C. C. (Corner Coffee Club) sit around arguing about who's paying the coffee bill and talking fishing or hunting most of the time, but wait until he brings good news from the lake before we actually get off our chairs and go fishing.

After ribbing Pete for a while, Jack finally asked, already knowing the answer, what bait he'd used this time.

Photos by L. A. Wilke



A sight to gladden the eyes, as well as one's sense of achievement, such catches are the order of the day when the whites are running.

"A small gold spoon is the only thing that works now. I'll catch two to your one if you use anything else!" Pete can get real huffy sometimes; we use his free information but won't always take his free advice. After arranging for who was to bring what and where we'd meet after five o'clock, we all had to get back to work. About half of us would end up the day fishing till dark thirty and the rest would grouch at their wives all evening. Texas sportsmen that aren't too lazy, henpecked or occupied with making a living just don't have much spare time to work on the house and yard. By the time the major hunting seasons close in late December or early January, it's time for the white bass to begin running. After cleaning and oiling his guns for storage until the next September, a man has to hurry to straighten out his boat and motor and check his tackle to get in on some of the fastest fishing there is. Perhaps, before he goes, he would like to know some of the whys and wherefores of white bass spawning.

The white bass is a freshwater member of the bass family which includes many marine forms such as the striped bass, white perch, grouper and jewfish. This is an entirely different family from the sunfish family including the largemouth bass, rock bass, crappie and sunfish. Typical in shape of the "stereotype fish," white bass are obviously white or silvery and have four or five narrow black stripes along each upper side. They commonly attain a length of about 18 inches and one and a half to two and a half pounds in weight but a few will grow up to five pounds. As with most other

BONE UP ON BASS

by AL FLURY
I and E Officer, LaPorte

fish, the size of an individual bass and the average size of those in any one lake will vary with the numbers of all fish present, the amount and quality of food available, water temperatures and chemicals, weather conditions and the age of the fish.

Found in the large rivers and lakes of the central United States, white bass are also known locally as sand bass, sandy, striper, bar fish and probably by other names. Until 1932 the only lake in Texas in which white bass were known was Caddo. At that time 13 brood fish were moved into Lake Dallas and subsequent years have seen their progeny gradually spread westward to the state of Colorado. As the white bass were moved westward they were stocked in large artificial reservoirs. These lakes were built for flood control, irrigation and electric power generation;

little thought was given to their recreation potential. Today, dedicated fishermen who number in the thousands, simply take for granted the advantages of push-button electricity and the importance of irrigated crops and protection from floods but feel that the fishing in these lakes alone is worth the cost of construction.

White bass are open water, big lake fish. By far, their staple food is young shad, but minnows, other small fish, larval insects, freshwater shrimp and crawfish are also eaten if available. Feeding, growing and getting caught from spring through fall in the deep waters of the main body of the lake, the bass ascend feeder streams as far as 200 miles in late fall and winter to spawn. Upstream dams or natural waterfalls will stop this migration and allow a concentration of fish to build up at these places.

In most years, when river water temperature rises to about 60 to 65 degrees, usually in January in south Texas and as late as March further north, fishermen can really "mop up." Adult male fish move upstream first, followed by the females as the water continues to warm up. Clear to slightly turbid rises on the streams, caused by light winter rains on the watershed, will give the bass the very best of conditions for spawning. Hard, cold rains causing a very muddy rise will either reduce or stop the run and reduce the catch. White bass are very prolific, some females carrying up to almost two million eggs. Also, they are short lived, most of the spawners being around two years old but some few possibly surviving another two years in Texas. The uncontrollable natural conditions of the headwater streams during spawning time and the age and numbers of white bass present are chiefly responsible for the success of each year's spawn. The large numbers of breeding fish taken by sports fishermen in a good run are unimportant when compared to the numbers of eggs released by the females that are not caught. Tagging studies that have been conducted in Lake Texoma show that only 11 per cent of the white bass in that lake are being harvested.

These fish build no nests; the eggs from the females and sperm of milt from the males are simply released into the fast flowing waters where the breeders congregate. The fertilized eggs quickly hatch and the fry drift with the current to the still water of the upper lake. Growth is fast; by August or September, the young, then about eight months old, will average half a pound and usually reach a pound by the time they are a full year old. Two-year-olds, the most important spawning age, will run from one and a half to two and a half pounds.

The best fishing methods for sandies depend on the time of year and the place. Because of the white bass' voracious appetite and his habit of staying in schools, "fishermen's luck" plays a small role in filling a stringer. Any fisherman who has the slightest idea of what he is doing and when and where to go can almost always take a mess of white bass; those who don't know "who's on first" will have the pleasure of a mighty fine day of fishing but little exercise from catching.

Probably the greatest harvest of sandies is made by



Fellow fishermen can often come in very handy. A flock of gulls diving for shad is a sure giveaway of the whereabouts of feeding bass.

fishing deep water in summer and fall. Many of our best lakes have sand bars in 30 to 60 feet of water and in the lee of a point. Anchoring a boat and fishing straight over the side with a sinker at the end of the line and one or two dropper hooks holding live minnows a foot or so off the bottom can collect some fine fish from these bars. Quite often, such fishing is much better at night than under the hot sun. Lots of good fishermen carry an automobile battery in the boat with 60 feet of rubber-covered wire to hang a sealed-beam headlight over the side so it hangs about 10 to 15 feet off the bottom. The minnow baited hooks are fished near the bottom within the ring of light.

At this same time of year, perhaps into November and December, large schools of white bass may be found feeding at the surface on schools of small shad. This usually happens in early morning or late afternoon during late summer but more toward mid-day as the weather and water cool in fall. I've often wondered exactly why this happens. Shad, like white bass, especially when young, are a schooling fish. They have no teeth and feed on plankton, microscopic plants and animals that live in the upper layer of the water. Shad are also well known for being delicate; they die easily when seined or handled and show signs of suffering when placed in water with a low oxygen content that has little effect on other fish. In summer the lake water reaches its highest temperature, which reduces the amount of oxygen it can hold, but this is also a time of development of plankton "blooms." Do the small shad surface to feed or to gulp air for oxygen and the bass take advantage of them, or do the bass schools search out and find schools of shad below the surface and drive them to the top? At any rate, these feeding sprees do occur and fishermen certainly take advantage of them! If the lake is calm, the churning and splashing of the bass can be seen for half a mile or more.

Sometimes gulls and terns flock above these melees and dive into the water after the shad. You'll be able to see the birds more than a mile away; never pass up a chance to go after them.

Run your boat quickly toward a school, shut off the motor and coast into position about 30 or 40 yards upwind of it and get busy with a light casting or spinning rod and reel. Cast into or just beyond the school with a small gold or silver spoon, a white bucktail jig, rubber-skirted spinner jig, or small wobbling plug and you just can't keep from catching. Many times I have hung a white bass, had him throw the hook and get away, only to have another fish on before I could get the plug back to the boat. Once, after boating a fish and unhooking him, as I turned to pitch him to the back of the boat I propped my rod against the gunwale and let the jig drop over the side. Before I could pick up the rod again, the reel was singing; I had another fine little scrapper.

White has always been my favorite color for this type of fishing because of its resemblance to the natural silvery-white of the shad. However, I firmly believe that when white bass are surfacing, they will hit anything that moves and is about the right size. Someday, I'm going to try a black jig, maybe a purple spoon with orange stripes or a blue plastic worm. Who knows; those whites act crazy: maybe they're as nutty as I am.

At times, these feeding fish will stay up, giving you whirlwind action until your arms get tired. Other times, especially when schools are small, with apparently only 20 or 30 bass, they will go down after two or three casts then come up again 50 or 100 yards away. Most of the time, these school bass taken with shallow running plugs are yearlings, averaging a pound or less. It's always worth a try to snap on a heavy jig or deep running spoon or plug, cast well beyond the school and retrieve four to six feet below the surface. Look out for the "big daddies"! After catching a dozen or so youngsters, a two and a half pound white can surprise you with how hard he'll hit and just might jerk the rod out of your hand.

Trolling is another good trick for taking white bass in late summer and fall. It is almost always necessary to get a small bait down deep, at least 10 to 20 feet below the surface, to be effective. Wire lines and heavy trolling sinkers used for lake trout and walleyes in the Great Lakes region have never caught on in Texas, probably because the smaller size of the white bass calls for lighter tackle than required by these methods. Most trollers use a large, deep running plug on a long line just to get the bait down. Usually a three-foot or longer trailer leader is tied to the plug or to a dropper loop just above it and the real bait is tied on this leader. Small, light colored bucktail flies, with or without a spinner, lead head bucktail jigs and small spoons are the most popular baits to use as trailers. Although double and treble hooks are used on many white bass lures, a single hook of standard strength, about size number one or two, is all that is needed. When a white bass hits, he's not genteel about it, and a single hook is a lot easier to get loose after boating the fish.

Now summer and fall fishing is just fine. It can be

as fast and furious as anyone could want; I'd never pass up a good chance to go. But you've never really lived until you've hit a January spawning run at the headwaters of a lake. After all, even the women and children can hunch over a gas lantern on a warm summer night, bait with a wiggly live minnow, eat a soggy sandwich chased with hot coffee and then go home at three a.m., still having a couple of hours' work to do cleaning 40 or 50 fish for the freezer. Anyone can blink his eyes, grin, and say "I like it; I'm having fun" when the fishing is easy. To really make a memory, you have to get out when the wind is in the north, temperature about 35 or 40 degrees and a few waves or fish splashes get you wet and blue with cold. Then you can truly say it's "fun" fishing.

Slowly trolling a spoon or jig up the river, be ready to drop anchor gently as soon as you get a strike. Stop there and cast for a while over the area where you caught the first fish. You should catch several more. Move on trolling again when the action stops. Casting from the banks is also productive if you can get access. However, this is usually slower fishing because you have to let the fish come to you rather than looking up their number with your trolling line.

If there are any big sandies in the lake, this is the time to catch them. Try different sizes of spoons and jigs; after a few fish are caught, you can tell which lure is doing the most good—stay with it until you're ready to quit. On some rivers you'll have no trouble finding the best fishing holes—they'll be surrounded by boats at anchor. On some days, the only way to get fish is join the crowd; white bass can be very particular about where they stay. Other times you may get lucky and troll over a hot spot all your own. If you learn to play and land your fish as if it were a piece of driftwood, the other boats won't swarm you so fast.

The tailrace just below many dams is sometimes a fantastic, almost unbelievable place to take white bass. If there are two or more dams on the same stream system, with good white bass water in more than one of them, winter fishing below the upper dams can be really great. The fish mostly swim upstream from the lake for their spawning run and are trapped and concentrated below the upper dam. Also, considerable numbers of fish pass over the dams or through the generating or draw down tubes and add to the schools below. Such a situation is found just below Buchanan Dam at the head of Inks Lake. Where the water authorities allow free public access in the tailrace area, a fisherman doesn't need a boat and can often drive his car within a few feet of the water. Set your brakes! More than one excited fisherman has had his car go rolling into the drink because he forgot. The biggest problem is tangled lines and short tempers when fishermen fill the shoreline shoulder to shoulder with more standing behind waiting for a place on the wall.

Spawning runs, depending as they do on reasonably clear water, can be hit or miss affairs. Fishermen who hear on Monday or Tuesday of a good run over the weekend can waste a trip if they wait to get going on the following weekend. That old eight to five, Monday

• Continued on page 25



These bobwhites, having to bail out of their formerly comfortable hay bale homes, find Jack Frost's icy blankets enough to make any bird quail.

Photos by Jim Thomas

Grim Surprise



A refugee from the Big Bend is brought to the ranch house by Kurt Fromm, son of Law Enforcement Chief Weldon Fromm. Warmth, milk and pabulum revived the fawn after its ordeal.



A bevy of bewildered turkeys in the snow have some qualms about this substitute for grass.



It was a near thing for this almost frozen, teeth-chattering opossum, rescued in time.



The world has turned topsy-turvy for this young deer. Brought to safety, it leaves the truck, still wobbly.



Photo Courtesy of Highway Department

The whole family can enjoy and be awed by magnificent Longhorn Cavern, in the State Park of the same name. It is the Southwest's most spectacular and world's third largest scenic cave.

Double Treat

by ELAINE BOSTIC

FOR THOSE who plan a vacation on a shoestring budget yet want variety and action, the Parks and Wildlife Department suggests an answer in a double feature attraction: Inks Lake and Longhorn Cavern State Parks.

Located in the Highland Lakes Chain, scenic hub of Texas, these parks offer the outdoor-minded just about everything in the way of recreation with a dash of history added.

Situated on a scenic loop, Park Road 4 leaves Texas Highway 29,

nine miles west of Burnet and winds through granite mountains and limestone outcroppings, dips lakeside and climbs back to the mountain area and enters US 281 six miles south of Burnet.

Inks Lake, first stop on this scenic loop, is a paradise for the outdoorsman. Boating, swimming, fishing and camping are just a few of the activities offered. A recent improvement program makes this park one of the most modern in Texas, but as in all parks, a visit planned there can be

about as inexpensive as one could want.

Newly developed campsites with running water, tables, grills and area lighting are available for the tent camper. Just-completed screened shelters are offered for those who like a few more conveniences. These provide tables, lights, water and cooking grills. Easily accessible are clean modern restrooms with hot showers and laundry facilities for those who plan prolonged stays.

Boats and fishing supplies are available for those who want to go after the big ones on one of the finest fishing lakes in Texas. A recent selective fish kill has improved the nearly perfect fishing conditions. Catfish, white and black bass, crappie and perch fishing provide many an hour of relaxation and excitement. Yet water skiers and fishermen have no fear of crowding on this spacious constant-level lake which has elbow room for all.

For the young at heart there is a dance terrace overlooking the lake with a juke box for accompaniment. A lovely sandy beach adjoining the patio leads to the designated swimming area. Pedal boats are available in this area for those who wish to cruise the lake shore.

Hiking into the surrounding area, beautiful in the spring under a blanket of bluebonnets and other wild flowers, one may pick up a point or study interesting rock formations.

A lakeside golf course challenges the person who just can't leave his clubs at home.

The second feature on the loop road is Longhorn Cavern State Park. Here the visitor may take a guided tour through the world's third largest scenic cavern and learn of earth formations, Confederate gunpowder and outlaws that once called this spectacular cave home.

Attractive picnic grounds make it an ideal stop for an afternoon outing. After lunch, tickets may be purchased at the quaint concession building, starting point of the tour. On hot days this is doubly attractive as the cave has a constant temperature of 64 degrees the year 'round.

As you pass through the entrance of the cavern the weight of years may be felt. The bones of prehistoric

• Continued on Page 27

YOU SEE them in the clear, green water . . . around pilings, docks, piers and jetties . . . dressed like piscatorial convicts.

There's no mistaking the sheepshead of the Texas coast. By looks and by nature, he's different from just about anything else. In just one respect is he similar to the other fishes: he can put a bend in any rod and reel and can be a real cagey fish to catch.

Except for the dead cold of winter, any time is the time to get sheepshead. Late winter and early spring, however, are the best seasons. After that, we have reason to believe, the sheepshead's diet swings heavily to algae and grasses. Barnacles and small crabs are also on his menu.

The late winter months are tops for fishermen along the Gulf piers and the jetties. Using whole, live fiddler crabs they dig from salt flats and along the beach, fishermen let their bait down right alongside the

to the bays after spending the winter in the Gulf. Once the water warms up, they apparently prefer the diet that causes fishermen to catch them only spasmodically.

In January and February, when there are crisp days calm enough so that outboards and inboard charter boats can get into the Gulf of Mexico, sheepshead afford some of the best off-season fishing.

Sheepshead fishermen generally pick up live shrimp, a regular kingfish or trout popping rig and head for the jetties. They use a float, a steel leader, clip-on weight and a stout sharp 3/0 hook.

They'll anchor the boat just off the jetties so that they can cast into the rocks. Often they get sheepshead by the tubs full. Occasionally, however, they have to change. They let the shrimp run free. In fact, it's called simply "free shrimping." They hook more rocks this way but they sometimes get more fish. Fiddlers



Star in Stripes

by ROY SWANN
Corpus Christi Caller-Times

boulders of the jetties or the piling on piers and docks.

The first thing they feel might be a light tap, like a small perch nudging at the bait. Then it gets a little more powerful. By then, the sheepshead has a mouthful. They set the hook and set it hard because his mouth can crush oysters and barnacles and crabs. Then it's hang on.

For four or five months of the year, starting in January, sheepshead feed on crabs, shrimp and other marine life more than on algae. That's when they are moving back

and small stone crabs are fine baits for this area, too.

Along the piers and docks and Corpus Christi's seawall, fishermen who want sheepshead often carry tackle that is about as odd—to the non-sheepsheader—as the fish itself.

They come laden down with a gallon bucket, a towsack, a garden hoe with the digging end straightened out, a grappling hook line rolled up in the can and a short, stiff Calcutta pole.

With the grappling hooks, they snag cans and bottles and oyster clusters from the bottom. Small crabs stay on them, and that's the way they get their bait. They fill a can and go to work again. With the straightened-out hoe, they scrape barnacles from the pilings or bulkheads. This, they say, is to attract the sheepshead. Then they bait up, drop their line down next to the piling or bulkhead and wait.

Because of the obstacles around which sheepshead feed, a fisherman can expect to lose some tackle. Take

extra hooks, leader and weights. Hooks are very important. The rock-mouthed critters can straighten out hooks or merely snap their jaws shut and close a hook like a safety pin, bending the point right against the shank.

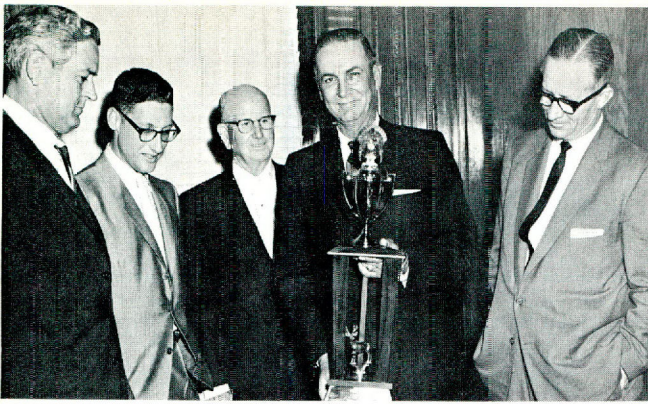
Coastal Bend fishermen, strangely enough, had one of the best sheepshead runs ever in December of 1963. Fishermen loaded up on them as they moved up and down the channels for a couple of weeks.

If you don't get in your licks with the convict fish soon, though, it will be best to wait until fall. Summer-time sheepsheading can be mighty slow.

No matter when, where or how you get sheepshead, don't throw them away before you've given them a try. While few fishermen claim they're the best table fare, most agree that sheepshead are fine eating. Fried in hot, deep fat, they compare to any.

Come to think of it, maybe they're not so different from any other fish.





E. A. Walker, director of the wildlife division of the Parks and Wildlife Department, recently received the Texas Outstanding Wildlife Conservationist Award, given by the Ft. Worth Chamber of Commerce. Left to right are Governor John Connally; Lee Paulsel, Ft. Worth Jaycees; Will E. Odom, chairman of the Parks and Wildlife Commission; Walker and J. Weldon Watson, Parks and Wildlife executive director.

Walker Receives Award

Birds Across the Border

From Page 5

rather are due to displacement of the breeding population.

Where did the displaced birds go to nest? Certainly not to some area in Texas outside the Rio Grande Valley. Indications are that the displaced Texas birds nest in established colonies in Mexico. While it is not known whether these displaced birds will return to nest in Texas as habitat conditions improve, it is rather well established, from our study of migrational homing, that over 80 per cent of the young raised by the displaced birds will return to breed in the Mexican colonies where they were reared, and thus not aid in the rebuilding of the Texas population in subsequent years. It is felt that this condition partially explains the slow comeback of the Texas breeding population

during the years following severe freezes that wipe out much of the nesting cover in the Rio Grande Valley.

Besides pointing out the need for preserving traditional nesting grounds, this knowledge of migrational homing by whitewings indicates some hunting season measures that might help to restore populations. A few of the whitewing nesting areas in the Valley serve as production areas during the summer and are used as roosting sites during the fall. These roosting sites are favorite hunting areas during the September season. Some of the roosting areas, such as the state-owned Longoria unit of the Las Palomas Wildlife Management Area north of Santa Rosa, are gunned so heavily that even during the short hunting season most of the birds roosting on the area are taken by hunters. Although the overall kill of whitewings during recent years has been considered within the limits of proper harvest, some areas, such as the Longoria tract, may have been gunned excessively. If a major portion of the breeding birds and their young using a particular area are killed during the hunting season, they certainly have no chance to return to nest in subsequent years. As a result of this condition, certain top quality nesting areas may not be realizing their full potential in the production of whitewings. Segments of the whitewing population that are being overharvested could possibly be given the needed protection by creating

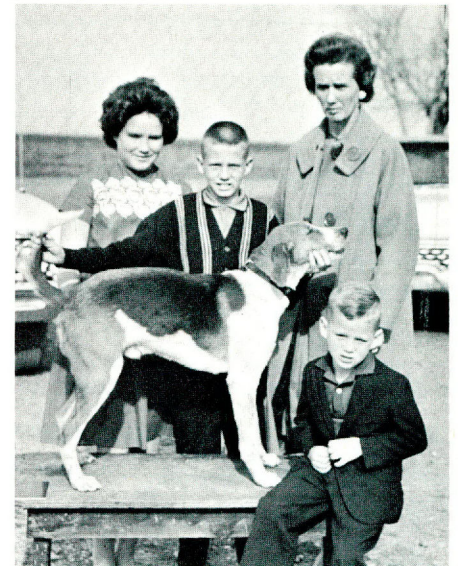
a zone closed to hunting several miles deep around the nesting/roosting areas. Such action might not be necessary on a permanent basis.

No doubt the most important lesson to be learned from the trapping and banding program is that there is very little interchange between white-winged doves that nest in Texas and those that nest in Mexico. In fact, it would appear that the birds that make up the breeding populations in Texas and Mexico are separate and distinct segments of the eastern white-winged dove population, whose nesting range extends from South Texas into northeastern Mexico.

Since our studies to date indicate that we cannot expect our Texas breeding population to be appreciably augmented by birds from Mexico, careful management to protect our broodstock is particularly important. One simple fact concerning whitewings needs to be burned indelibly in our thoughts. When we lose our population of breeding birds, whether it be the result of over-hunting, habitat destruction, or what have you, then we are, for all practical purposes, out of business as far as whitewings are concerned in Texas. **

Murphree Children

Photo by Elaine Bostic



Family of late Game Warden J. D. Murphree poses with 12-year-old Joel's dog, Joe. Daughter Linda Kay is 11; Eddie, 5. Murphree was slain while on duty last December. Donations for the children's trust fund are being received now by Mrs. Murphree at Box 150, Route 1, Center.

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Several large impoundments are near most Texans.

Bone Up on Bass ————— From Page 20

to Friday job spoils more fishing trips than golf and water skiing combined. Good fishermen, who have to keep a job for appearances' sake, watch the weather reports, especially for rainfall on the watershed above their favorite lakes. More reliable is a phone call to a fishing camp, filling station, tackle store or friend not more than a day before you can get away. Just make sure your information source is in regular contact with the fishing conditions and is as close as possible to the exact area you want to fish.

Several large impoundments within driving range of many Texans are very good white bass producers. The whole chain of the Highland Lakes on the Colorado River from Austin to Burnet is good; these include Lakes Travis, Granite Shoals, Inks and Buchanan. Among the best is Falcon on the Rio Grande with very hot runs on the river at Laredo. Medina Lake, west of San Antonio; Lake Whitney, northwest of Waco; Possum Kingdom Lake, about 75 miles west of Ft. Worth and big old Lake Texoma, northwest of Sherman and Denison have all been famous for white bass for a number of years. Several younger lakes in Central and East Texas, like Lake Corpus Christi in South Texas, are beginning to develop promising crops of whites. Even with comparatively small stocks of brood fish, these lakes can equal the best with only one good spawning year.

White bass fishing, besides varying from very hot to very cold from month to month and even day to day, also varies in the total catch from year to year. When spawning conditions are just right in January and February, the hatching and survival of the young are very high. This year's class of white bass, by sheer weight of numbers, will dominate the other age groups for two or even three years. The catch during the year

following a big spawn may be comprised almost entirely of young of the year fish. A 25-fish limit is easy to fill, and on lakes with no limit many a fisherman has stopped after a look at the stringer reminds him he'll have to clean all those fish he can't give away. Most of the fish will be small, of course, a pound or less, and the next spawning run, regardless of conditions, is likely to be light. During the second year, the dominant year class of fish will be somewhat smaller in numbers, but a limit is still easy to take much of the time and the fish will run from a pound and a half to two and a half pounds, a good size for whites. The next spawning season is likely to be a good one if the rivers are right; the two-year-old fish are capable of tremendous production and a new dominating year class can be started.

If extreme drought or rainy conditions occur throughout late winter, the spawn may again be very light and the few survivors of the big spawn will become larger in average size but the numbers will be low enough to discourage many fishermen. Good, continuous white bass fishing in any one lake is, therefore, keyed not only to each year's spawn but also to the spawning success of previous years. Some fishermen will cuss the fishing if there are too many small fish and fuss the next year if there aren't enough big ones for fast fishing. Established white bass lakes seldom get so bad that they're not worth fishing; just remember to enjoy yourself and not compare last year's good points to this year's bad ones.

You'd better go out in the garage right now, straighten out your tackle, dig up all your jigs, spoons and small white plugs and put them in the trunk of the car. If you're in a small town cafe near a good lake and hear a guy holler "Hey, the whites are running again," be ready to take off and get after them. Don't forget a jug of hot coffee; I might be on the river myself, in need of a sip. **

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- ½ teaspoon salt
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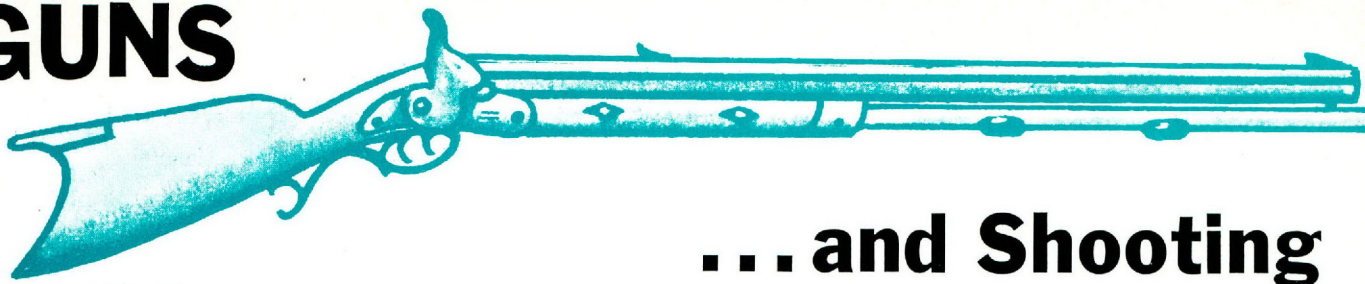
Combine the beaten egg with the other ingredients, all well mixed. Stir well together. Test for additional seasoning. Shape into cakes and *panfry* in hot fat until a golden brown, turning the cakes to brown evenly on both sides.—Recipe from J. Almus Russell.

—*Pennsylvania Angler*

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GUNS



... and Shooting

By L. A. WILKE

This Month: Slide Action

THERE IS no peace for the man who loves guns. We get the idea that we've acquired just about the best that the industry can produce, when along comes a newer and better version.

The latest is the announcement from Winchester of the complete remodeling of two old friends.

Shotgunners long have felt that the model 12 was just about the hallmark. It has been around for more than a half-century and during that time very few changes have been made.

Now we have the Winchester 1200, described as a "new slide action shotgun with the strongest locking system ever made for a repeating shotgun." This new system puts to use a rotating bolt head with quadruple lugs that lock directly into the barrel. It works somewhat like the locking system of the models 88 and 100 in the centerfire rifles.

Currently, barrels of 26, 28 and 30-inch length are available in 12 and 16 gauges. This new gun will replace the field grade only in the model 12. The old reliable still will

be retained only in skeet, trap and pigeon grades.

The weight has been kept down in the 1200 edition, something like six and one-half pounds in the 12 gauge with 26-inch barrel.

The announcement says nothing about what will happen to the 20 gauge.

Two years ago, ammunition companies souped up 20 gauge loads to where the short magnums were just about equivalent to the 12 gauge light loads. And for the past several years there were rumors that the 16 gauge would be dropped from most lines. But Winchester has come out with the new 16, and no mention at all of the 20.

The other remodeled product is the big game rifle, better known as the model 70, which was introduced in the mid-thirties. Mainly the new

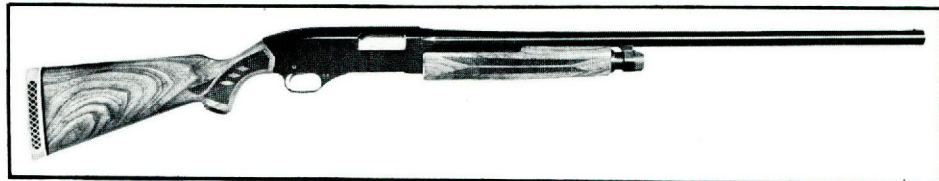
Both sights, front and rear, are detachable, giving the barrel a streamlined appearance when only a scope is used.

The new model 70 will be available in the .243, .264, .270 and the .30-06 in light weights, and the .30-06, .308, .300 Winchester Magnum, .338, .375H-H and the .458 Winchester Manual African, in standard weights.

For one thing, Winchester has held the prices down: the model 1200 shotgun at less than \$100 and the model 70 rifle at less than \$140.

Winchester further is improving its line of rifles for the .22 Winchester Magnum. The new 200 series provides a choice of lever or slide action for this powerful little cartridge.

These guns run about five pounds each and will sell for under \$60.



Winchester 1200

70 is a redesign in bolt and a stronger action. The stock also has been reshaped, with raised comb in check piece, with a contoured pistol grip.

Shotgun shooters also will be pleased to learn that the Model 1100 gas-operated shotgun announced last year in the 12-gauge now is coming out in the 16 and 20 gauges. The principal feature of this gun is the precision timing system that equalized bolt velocity for either the light or heavy loads automatically, without manual adjustment. And a new plastic target load accompanies the announcement. These are made in the 12, 16 and 20 gauges. They can be had either in the power pistol or the H wad loads, with shot size from seven and one-half to nine. They are intended for trap and skeet, but down in this part of the country they will be ideal for both dove and quail.



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Newborn fish can swim well enough to escape their hungry mother.

Matches and Hatches

From Page 6

cited. The trouts and salmons, for example, have the nest-building duties reversed, with the female scraping out a nest with her tail. Neither male nor female continues family ties beyond deposition and fertilization of the eggs.

Not all procreation comes through external fertilization. The young of some species are born alive, but for all except a few rare examples including hammerhead sharks of Texas, this live-bearing simply means that the female's body is the nest site rather than some external place. In these cases, the embryo and mother do not have the same relationship as they do in mammals. The embryo is nourished by the egg nutrients rather than by the mother's body. It is able to swim at birth, a lifesaving talent since the mother will eat any of her brood she can catch. The mosquito fish, found in Texas, is an example of this modified internal development.

Fish eggs are somewhat like hen's eggs. They contain a spark of life, the nutrients to feed the embryo and a protective shell. Although the shell isn't generally the hard, brittle kind which covers a hen's egg, it is nevertheless a protection to the beginning fish. The type of shell and its strength depends on the environment into which it is thrust and the amount of care given by the parent fish. When parental guard is the case, egg shells are often soft and pliable, but eggs which must endure strong waves and currents without the help of nests, some sharks' eggs, for example, have harder, more substantial shells.

Some eggs are bouyant and some not, depending on the species' environment and nesting habits. Most marine fishes have bouyant eggs whereas stream fishes have sinking ones, a characteristic which gives stability in turbulent water. Many of the heavier-than-water eggs also are somewhat sticky which helps to anchor them during their development. Some eggs even have stalks and tendrils which aid in attachment.

The creature that emerges from a fish egg is hardly worthy of its species name, if appearances are im-

portant. As a rule, the eyes are disproportionately large for the transparent body and the fins are not well developed and in some species not even functional. The egg sac which extends about half the underside of the fish adds to the ludicrous look. In spite of appearance, however, the just-hatched of most kinds of fish have enough characteristics or promise of characteristics of the species to be identifiable. The fry live on the nutrients of the egg sac for several days, and therefore do not have to hunt their own meals of algae and plankton until their handy supply is exhausted, or rather absorbed.

Then it's fish eat fish and every-

Arrowheads and other artifacts were left by nomads of old.

Double Treat

From Page 22

creatures have been found in the cave, taking its origin back thousands of years. Arrowheads and other artifacts attest to its use for hundreds of decades as a shelter for bands of roaming nomads.

More recent times see it being used as a factory and storage depot for Confederate gunpowder. The most devious Union spy could never learn the location of this munitions operation.

In the 1870's, Sam Bass, notorious bandit, and his gang, along with other lesser outlaws, used this cavern for a hideout.

Aside from such a colorful history, Longhorn Cavern can hold its own scenic-wise with spectacular works of art that only Mother Nature with the cooperation of Father Time could fashion.

body for himself in a watery world of survival of the fittest. **

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What Others Are Doing

by JOAN PEARSALL

CLEAR PROFIT: In Illinois, the highway department, welfare department, a county forest preserve district and sanitary district have started a two-year cooperative program to clean up 150 miles of polluted streams. By using welfare workers who are receiving relief money, along with regular laborers, taxpayers will save an estimated \$300,000, and the program will be speeded up considerably. Wide use of the unemployed on this sort of project is expected to boost the anti-littering educational program.

NEED TO PREY: European birds of prey—there are approximately 40 species—are believed by British ornithologists to be going into a catastrophic decline as a result of pesticidal poisons. Because the predators tend to feed on partly disabled or dead small birds and mammals, they are absorbing progressively rising amounts of chemicals from small birds and mammals that have been either killed or partly disabled by eating poison-ridden seed, insects or worms.

PUTTING THE BITE ON 'EM: Dogs which pursue elk or deer have been declared public nuisances in Pennsylvania. The law in that state will now permit any person to kill dogs which are close enough to endanger elk or deer, are in the act of attacking, or have been known to have killed the game animals within a three-month period. In the last case, the game warden must be notified. Fines will be assessed against those who fail to notify the owner or game keeper of the killing of a dog within 48 hours, those who harbor a "killer dog," and dog owners who refuse to take action to restrain their dogs after they have been notified.

FOAM DOOM: Wisconsin is the first state to set up a procedure to ban the use of nondegradable

household detergents which have caused foaming actions in waters. The ban becomes effective on December 31, 1965. Some segments of the industry have promised widespread marketing of detergents which will decompose readily and can be removed by normal waste treatment processes. Germany already has such a law.

FLOATING FORESIGHT: The Michigan State Waterways Commission has received the 10th annual Ole Evinrude Award "for significant contributions to recreational boating," because of its program on behalf of the state's more than 500,000 boatmen. The program, started in 1947, provides harbors-of-refuge, improvement of existing waterfront facilities, preservation of cruising areas, installation of state aids-to-navigation, educational programs for boatmen, boat inspections, sanction of races and regattas and safeguarding of bottomlands. This is the first time a state has received the award, which carries a grant of \$1,000 and is made in memory of the late Ole Evinrude, pioneer in the development of the outboard motor.

POLLUTION ACTION: First major steps toward elimination of gross water pollution in the Ohio Valley are virtually completed. In 1948, more than 99 per cent of the persons living along the main stem of the Ohio River did not have sewage treatment facilities, but today, according to the Ohio River Valley Water Sanitation Commission (ORSANCO), 98.5 per cent have plants in operation or under construction. Eighty-six per cent of the industries now are meeting ORSANCO minimum requirements for waste control. ORSANCO expects to devote full attention now toward increased inspection and surveillance, higher standards and control of acid mine drainage.

Texas

Tackle Talk

by CURTIS CARPENTER



Stringing bass or other game fish is a very important phase of a fisherman's routine. I have seen lots of fish lost because they were slipped on a stringer improperly.

The best way to string fish is through both jaws, the upper and the lower. A fisherman is just wasting his time putting fish on a rotten stringer. Be sure the cord is strong from end to end. A good piece of nylon will last longer than a hunk of sash cord. Always test a stringer before you begin threading fish on it. Some big bass fishermen actually use a length of ski rope for their stringer.

On bass which you don't intend to mount, stick the line through the thin skin behind the jaw bones of the upper and lower jaw. Double the stringer back through the loop in your stringer and let it slip up tight on the first bass. Then thread the next fish in the same manner and let it slip down to the first. If the first one is rather small compared to some of the others, take it off and replace it with one of the larger fish.

It's easy to keep fish alive during the winter months. But, when hot summer days heat the upper layers of a lake nearly to the boiling point, fish on a stringer will die quickly unless allowed to settle deep into the cooler water. Fish will not stay alive long in a live box in the summer. It's best to keep them on a stringer unless you change the water in the live box often.

Make it a habit to place your stringer of fish in the boat as soon as you start the motor. Many a good

mess of fish has been stripped off a stout stringer by the force of rushing water.

The taste of fish is often ruined because they were left out of the water too long. Toss your fish back in the water as soon as the boat is stopped. If you are going on a long run, stop and give the fish a chance to load up their oxygen tanks. Keep a towel handy during the summer. You can soak it, spread it over the fish and do much to preserve them. Don't ever let your fish lie in the hot sun. Keep them shaded at all times if possible.

Stringing fish may not seem important to beginners, but old timers will tell you differently. "It's quite a waste of time," they say, "to spend a day loading up the stringer only to lose your catch because of a weak stringer, improperly strung fish or because of careless destruction of the tasty flesh."

* * * *

Pork rind baits are extremely popular for catching bass and other fish. One of the reasons fish go after this favorite is because pork is so flexible. Most pork baits, like Uncle Josh, are flexible when you take them from the bottle. But, if you will take a pork bait, dip it in the water along the side of the boat, and roll it around in your hand for a spell, it'll get much softer and more flexible. Now slip it on your hook, and you're ready.

The best place to use a pork bait

is behind a spoon, certain types of spinner baits and on jigs. Ask your favorite tackle store operator how to fasten the pork on various lures. He'll be happy to show you the secrets.

FISHING TIPS

Better safe than sorry is a maxim that also applies to fishing.

Generally speaking, barbed hooks, which are part of every type of hook and line fishing, are the only really dangerous part of fishing tackle. To anyone who has ever had the unpleasant experience of digging out a hook, or even worse, the cluster of a plug, one time is enough. One precaution against such "surgery" is to disassemble the fishing rod if possible, but never carry any lines with hooks or plugs attached, safety experts suggest.

Some other suggestions made along these lines are:

Keep plenty of space between your spot and other anglers, if any casting is done.

Exercise caution in casting and never cast over someone's head. If in a boat, make all casts overhead.

Avoid jerking fish out of the water. If the hook or plug breaks loose, it can result in the loss of an eye.

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How can such a small animal contain all that odor?

The Ultimate Weapon ————— *From Page 13*

the woods gasping and wheezing; I dashed back to give Killian moral support, if nothing else. A thick green fog hung around us, and we couldn't breathe. I don't know how Killian made it, because I finally did take a breath and gagged, and then I was off again, leaving bits of cloth and flesh on the mesquite bushes behind me.

How, I thought to myself between trips for air, can such a small animal contain all that odor? I thought perhaps Killian was mashing some of it out of him, the way he was standing in the middle of the lid. Maybe he was trying to get the skunk to stop. I tried to say something about it, but I couldn't quite get the words out, and I doubt that Killian would have heard me anyway. He looked petrified.

I was beginning to wonder about the whereabouts of our leader. What if he's deserted us, I thought, and panic stabbed me in the throat.

Suddenly I heard a roar in the distance and light began spilling through the woods. The pickup came crashing through the trees, growling in low like a wounded grizzly. It lurched into the clearing and slid to a stop. The door swung open and out came Jerry, grabbing for the garbage can in the back. Somehow he got Killian off the lid, and this time, much to our relief, the can fitted perfectly.

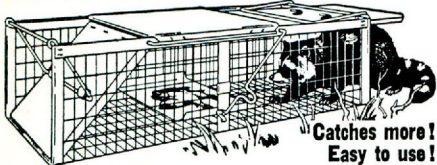
We tossed our potent package into the back of the pickup, as far from the cab as possible.

"Let's go!" Jerry yelled. I don't know why. Killian and I were already inside. Jerry hit the starter and the truck coughed, gasped, wheezed, gagged and finally burst to life in a roar. "Go!" I bellowed, and we lurched forward, careening from one tree to the next. We were lucky the old crate held together, for we ran it wide open all the way back to camp, trying to outrun the smell of that skunk.

It has been close to 15 years now and I can assure you that my first skunk hunt will always be my last. I'm going to stick to wolves, lions, rattlesnakes, grizzly bears, and other less dangerous game.

Oh, yes, the garbage can lid. The next morning we discovered what I think may be a potential weapon for the space age. When we examined the lid, a difficult chore in itself, we found that it had gained an unusual property. Forgive me for being graphic, but the underside of the lid was a sickly green. Now you may not believe this, but may I be sprayed to death by a hundred skunks if it isn't true! That garbage can lid was the best ray gun I have seen to this day. All we had to do was take hold of the handle and point the bottom of the lid toward the enemy. I swear that it would make a grown man spin around in his tracks at 30 yards. At 10 yards it would probably knock him off his feet. And strangely enough, the man behind the ray was safe. We called it the Polecat Ray . . . or Directional Skunk. Maybe we could concentrate it for greater impact. And this has led me to another idea. Can you imagine what it would be like if we turned three or four dozen well trained skunks loose in the middle of enemy headquarters? I wonder if skunks are patriotic? **

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Outdoor Books



THE ORIGINS OF ANGLING, by John McDonald and assisted by Sherman Kuhn and Dwight Webster and the editors of *Sports Illustrated*, 273 pages. Published by Doubleday and Co., Inc., Garden City, New York, \$10.

Fishermen who have a yen for historical roots will find this book satisfying. It is an investigation of the beginnings of angling, built around a study of an ancient manuscript, "The Treatise of Fishing with an Angle." This treatise is believed to have been written early in the 15th Century by a nun and a noblewoman.

The treatise itself, as translated in modernized text, is both philosophical and practical, explaining how to make and successfully use the tools of angling. The ancient author reasons that fishing is the best of all popular sports of the day, for making a man happy and thus contributing to a long life.

"But the angler can have no cold nor discomfort nor anger, unless he be the cause himself, for he cannot lose more than a line or a hook, of which he can have plenty of his own making, or of other men's making, as this simple treatise will teach him; so then his loss is no grievance. And he can have no other grievances, unless some fish breaks away from him when he is on his hook, in the landing of that same fish, or in any case, he does not catch him. This is no great hardship, for if he fails with one, he cannot fail with another, if he does as this treatise which follows will instruct him—unless there are no fish in the water where he is angling. And yet, at the very least, he will have his wholesome and merry walk at his own ease, and also many a sweet breath of various plants and flowers that will make him right hungry and put his body in good condition. . . ."

The modern fisherman who curses over a lost fly or lure which he can replace casually at the corner tackle shop may squirm with shame at the above patience when he learns how complicated making equipment was for the angler of the middle ages.

"After you have made your rod, you must learn to color your lines of hair in this manner. First you must take, from the tail of a white horse, the longest hair that is to be had, and the rounder it is the better. And when you have separated it into six bunches, then color every part of

itself in a different color. First, to make your yellow hair: Take a half-gallon of small ale and crush in it three handfuls of walnut leaves and a quarter of alum, and put them all together in a brass pan and boil them well together. And when it is cold, put in your hair that you wish to have yellow, until it is as dark as you want to have it. . . .

An explanation of how many hairs should compose a line for catching various species is also given.

The author of the treatise gives some technique tips that still sound good.

"The sixth good point is: when the fish bites, that you be not too hasty to smite him, nor too late. You must wait till you suppose that the bait and the hook are well into the mouth of the fish, and then strike him. And this if for the ground-

line. . . . And if you happen to hook a great fish with a small line, you must lead him in the water and labor there, until he is overcome and wearied. Then take him as well as you can. . . ."

These excerpts are from one of the modern texts in the book. For the reader who enjoys early modern English, the book contains a facsimile printing with transcript of the first printed text of the treatise. It looks something like this:

"The thyrd good point is whan the fysshe bytyth that ye be not to hasty to smyte nor to late. For ye must abide tyll ye suppose that the bayte be ferre in the mouth of the fysshe. And thenne abyde noo longer. And this is for the grounde. . . . And yf it fortune you to smyte a grete fysshe wyth a smalle harnays; thenne ye must lede hym in the water and labour him there tyll he be downyd and ouercome. Thenne take hym as well as ye can or maye. . . ."

And, for those interested in old manuscripts per se as well as modern English, there is a facsimile printing of the one incomplete manuscript copy of the treatise made by a scribe around 1450.

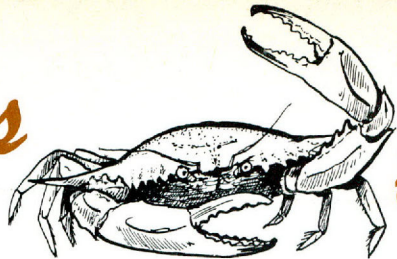
The book is not easy or light reading. The study and analysis of the old treatise can delight a scholar. But with a little delving and honest effort, even a non-scholarly reader can enjoy and finally become intrigued with it. And, if he happens to be a fisherman, he's bound to chuckle and nod agreement occasionally.

—Ann Streetman

RECREATIONAL AND SCENIC PARKS	LOCATION		OVERNIGHT FACILITIES																
	Located Near The Town of	Camping Permitted	Shelters	Group Camp	Trails Permitted	Restrooms or Bathrooms	Cabins	Picnicking	Groceries	Dining Room	Fishing	Swimming	Boats	Golf	Nature Study	Hiking	Saddle Horses	Museum	
ABILENE	BUFFALO GAP	X	X	X	X	X	X												
ATLANTA	QUEEN CITY	X	X	X	X	X	X			X									
BASTROP	BASTROP	X	X	X	X	X	X			X				X	X	X	X		
BENTSEN - RIO GRANDE VALLEY	MISSION	X	X	X	X	X	X			X						X	X		
BIG SPRING	BIG SPRING																		
BLANCO	BLANCO	X	X	X	X	X	X			X	X								
BONHAM	BONHAM	X	X	X	X	X	X			X	X			X					
BRAZOS ISLAND (Open Gulf Beach)	BROWNSVILLE	X	X	X	X	X	X			X	X					X	X		
BUESCHER	SMITHVILLE	X	X	X	X	X	X			X						X	X		
CADDO LAKE	KARNACK	X	X	X	X	X	X			X				X		X	X		
CLEBURNE	CLEBURNE	X	X	X	X	X	X			X	X			X	X	X	X		
DAINGERFIELD	DAINGERFIELD	X	X	X	X	X	X			X	X			X	X	X	X		
DAVIS MOUNTAINS	FT. DAVIS	X	X	X	X	X	X			X						X	X		
EISENHOWER (Modern Boat Marina)	DENISON	X	X	X	X	X	X			X	X			X	X	X	X		
FALCON	FALCON	X	X	X	X	X	X			X	X					X			
FT. PARKER	MEXIA	X	X	X	X	X	X			X	X			X	X	X	X		
GARNER	CONCAN	X	X	X	X	X	X			X	X			X	X	X	X		X
GOOSE ISLAND	ROCKPORT	X	X	X	X	X	X			X				X		X	X		
HUNTSVILLE	HUNTSVILLE	X	X	X	X	X	X			X	X			X	X	X	X		
IRKS LAKE	BURNET	X	X	X	X	X	X			X	X			X	X	X	X		
KERVILLE	KERVILLE	X	X	X	X	X	X			X	X			X	X	X	X		
LAKE BROWNWOOD	BROWNWOOD	X	X	X	X	X	X			X	X			X	X	X	X		
LAKE CORPUS CHRISTI	MATHIS	X	X	X	X	X	X			X	X			X	X	X	X		
LAKE WHITNEY	WHITNEY	X	X	X	X	X	X			X	X			X	X	X	X		
LOCKHART	LOCKHART				X	X	X							X		X			
LONGHORN CAVERN (Daily Cavern Tours)	BURNET	X			X	X	X									X	X		
*MACKENZIE	LUBBOCK				X	X	X									X	X		
MERIDIAN	MERIDIAN	X			X	X	X			X	X			X	X	X			
MONAHANS SANDHILLS	MONAHANS				X	X	X									X	X		X
MOTHER NEFF	MOODY	X			X	X	X									X	X		
PALMETTO	LULING	X			X	X	X									X	X		
FALO DURO CANYON	CANYON	X			X	X	X									X	X		X
PODUM KINGDOM	CADDO	X	X	X	X	X	X			X	X			X	X	X	X		
TYLER	TYLER	X	X	X	X	X	X			X	X			X	X	X	X		
VELASCO (Open Gulf Beach)	FREEMONT	X			X	X	X				X	X				X	X		
HISTORICAL PARKS																			
FT. GRIFFIN (Texas Longhorn Herd)	ALBANY	X			X	X	X			X						X	X		
GOLIAD	GOLIAD				X	X	X			X						X	X		X
GOV. HOGG SHRINE	QUITMAN				X	X	X												X
INDIANOLA	PORT LAVACA	X			X	X	X			X	X					X	X		
JIM HOGG	RUSK				X	X	X												
MISSION TEJAS	WECHES	X			X	X	X									X	X		
MONUMENT HILL	LA GRANGE				X	X	X												
*SAN JACINTO	DEER PARK				X	X	X												X
STEPHEN F. AUSTIN	SAN FELIPE	X			X	X	X									X	X	X	
VARNER-HOGG PLANTATION	WEST COLUMBIA				X	X	X												X
WASHINGTON	WASHINGTON	X			X	X	X												
HISTORIC SITES																			
ACTON	GRANBURY																		(Burial Site Only)
*ALAMO	SAN ANTONIO																		X
EISENHOWER BIRTHPLACE	DENISON																		X
*FANNIN	FANNIN																		X
GEN. ZARAGOZA BIRTHPLACE	GOLIAD																		(International Historic Site)
OLD FT. PARKER (Fort Restoration)	CROSBECK																		
PORT ISABEL LIGHTHOUSE	PORT ISABEL																		
SAN JOSE MISSION (Historical Drama - July-Aug.)	SAN ANTONIO																		(National Historic Site)
SAN SABA MISSION	MENARD																		X

*Facilities not operated by Texas State Parks Board

Letters



to the Editor

Deer Dream



Editor:

This picture is of an East Texas buck that I killed last year near Crockett. This buck, with a 25-inch spread and 18 points, must be somewhere near a record. He weighed 152 lbs. and was three years old according to his teeth. I have killed many bucks but this one was a dream come true.

East Texas is a natural habitat for deer and they have advantages here over other areas in the State. Our big problem is dog hunting. If this could be eliminated we would indeed have a fabulous hunting area.

Oran Standley
Nacogdoches

(How about checking to see if this outstanding buck from Crockett would rate with Boone and Crockett? See related article in the March issue. It wouldn't take many like that to cover a wall.—Editor)

Armadillo Bar-B-Que

Editor:

In the February issue of *Texas Game and Fish*, I read a letter in the Junior Sportsmen section titled, "Killer 'Dillo." In your answer to this letter you suggested the hunter shoot squirrels instead of armadillos since they are good eating.

Haven't you ever tasted Bar-B-Qued armadillo? If not, you have really missed a treat. I have eaten armadillo many times, and it makes the best Bar-B-Q I have ever eaten. I actually prefer it to beef, pork or any other meat. The shell may also be used to make a very unusual and usable basket or bowl.

I have been hunting and fishing all my life and I assure you that I have never wasted any armadillo I shot.

Try one next time you get a chance. You'll like it.

Harry L. Mills, Jr.
Sinton

(Since most people are more inclined to eat squirrel than armadillo, our main reason for that answer was to encourage a child not to kill just for the sake of it, but where the target could be put to some wise use. We appreciate your pointing out that armadillos make good eating, and are glad to pass this on to our readers.—Editor)

Boar, Buck & Bull

Editor:

I killed this wild boar last year in Dimmit County. The game wardens said it was a cross between a wild domestic and Russian boar. He weighed 400 pounds.

After reading your "Whitetail Hunt," (January, 1964), I can't resist telling you that I had almost the exact thing happen to me. I was hunting the last evening of the season, near where the ranch hand had burned pear for the cattle. Just before sundown the deer began to move in. The bull and does discovered me and were spooked and on the alert. I saw this



trophy buck back in the brush. He was a beauty, and how I wanted him. The does fed nearer and nearer—and the old bull started to "blow" and paw up the earth. The buck walked out in open space and stopped *exactly* in front of a cow. I sat there and had one hard chill. As the

does got within 10 yards of me, one wise old doe snorted and away they went, back to the safety of the brush. That buck jumped one big cactus and was gone. Yes, I too wanted to cry! And as I read your article I knew just how you felt. And as the setting sun cast a golden glow on the brush, I sat there and gave thanks for the joy of hunting and the privilege that is ours—to get out and watch wildlife in our great outdoors.

Mrs. T. E. Knott
Seguin

(Although the cows and does deprived you of the trophy, they did, after all, leave you some philosophical ruminations, and an entertaining story to share with us. Thanks for letting us see the boar picture.—Editor)

Handsome Buck



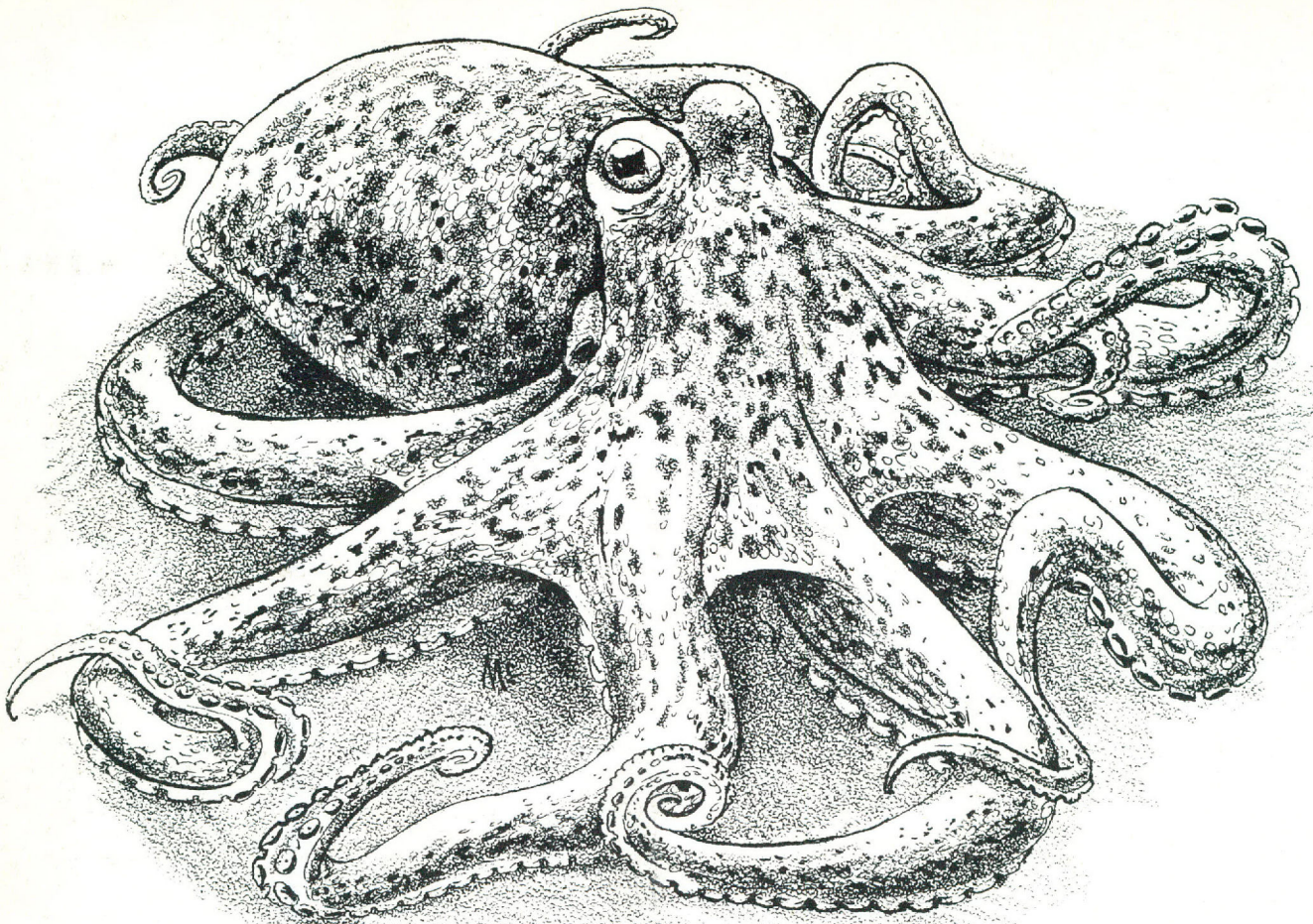
Editor:

This picture is of a whitetail deer killed on the second day of this past season in the southern section of Grimes County, at Stoneham. It does not appear as if the drought we had in this area affected this fine buck any. His antlers, eight points, measured at the end points 20 inches across. Maybe we will start getting more fine bucks like this one in Grimes County.

My wife and two boys and I enjoy your magazine a lot. Keep up the good work.

Eugene E. Gust
Houston

(That animal's a credit to Grimes County and to your ability. Hope you continue to have such good hunting—Editor)



Vacuum Powered

The strength of an octopus' arms is well known and perhaps overrated. Octopuses are capable of amazing adroitness as well as muscular feats but this is largely due to suction. The undersides of the eight arms are plentifully studded with small discs. The common octopus has about 240 on each arm, the largest situated near midarm, decreasing to pinpoint size at the tip. The center of each disc can be raised at will, creating a suction so powerful a tenacious octopus' arms will tear off before the hold is broken. The arm tips are so delicate they can probe into crevices scarcely a hair's breadth wide. This talent of compressibility extends to the body of the octopus. Being boneless and mostly water, the octopus can squeeze in and out of incredibly narrow openings. Once ensconced in a cranny, it can moor itself by suction and resist all efforts to pull it out. Suction

can be applied by one section of discs while another section is free to explore. An octopus can cling to its perch, grasp a crab, skillfully pluck off its shell, pick out every shred of meat from body and legs, and stuff it into its mouth, each of its eight arms occupied. Should danger threaten, the octopus will release its grip instantly and jet away in a flash. Although the octopus' skin is responsive to stimuli the discs are especially sensitive to taste and tactile sensations. An octopus investigating its surroundings brushes objects in its path with supple arms. Should a disc contact anything edible, suction is immediately activated and the morsel seized. To insure perfect coordination each disc must be acutely sensitive, the outer skin of each being shed as soon as it gets worn. Without suction discs the octopus would be as helpless as a shell-less oyster.

—Nancy McGowan