

# Texas Wildlife and a

## CONSERVATION-MANAGEMENT PLAN

- Game
- Furbearers
- Others



*by*  
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### **ON THE COVER**

This picture was taken a few years ago on the King Ranch near Kingsville. Mr. Otto Kriegel of Kingsville was driving around on a Sunday afternoon and came upon this deer and her fawn.

Mr. Kriegel crawled through the cactus and managed to snap the shutter just before the mother and fawn sensed his presence and ran away.

# TEXAS WILDLIFE

## And a Conservation-Management Plan

By

**R. E. CALLENDER**

Specialist in Wildlife Conservation

The old world demand for fine furs hastened colonization of North America. Our early history was greatly influenced by game and furs, and wildlife has had its place in our way of living through the years. Almost three-fourths of Texas' 170 million acres of land are forests and grasslands. This state is suitable to most forms of wildlife native to the southern part of the United States. In addition to the

resident species it serves as a refuge for many birds and waterfowl from northern climates where winters are more severe.

Wildlife of Texas is closely interwoven with agriculture and industry. It is a crop of the land and a source of pleasure and outdoor recreation. Conservation of our natural resources including wildlife of the land will determine largely our future standard of living.

### GAME ANIMALS OF TEXAS

Deer, pronghorn antelope, elk, bighorn sheep, bear, peccary or javelina, and squirrels are considered game animals. White-tail deer and squirrels, more plentiful than any of the other game, are more widely distributed and rank as most important.

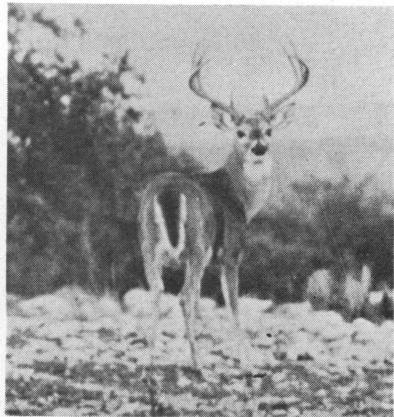
#### WHITE-TAIL DEER

Deer population of the state is approximately 300,000. Forty-six counties report deer as "many" and 115 counties list them as "few" for 1946. State Game Department's reports show that a total of 37,510 legal deer was taken during the 1945 season. Since these records were obtained largely from shooting preserves which make seasonal reports, it is possible that a total of 45,000 to 50,000 was harvested including lands not operated as shooting preserves.

Two principal kinds of deer in Texas are the white-tail and the

black-tail, or mule deer. The white-tail, with its varieties, including the fascinating flagtail, is the most widely distributed and greatest in numbers.

White-tail deer, ranking as most important of all Texas' game ani-



The white-tail deer is the leading big game animal of Texas.

—Kerr County Wildlife Association.

mals, are medium sized; weight 65-125 pounds, sometimes larger; small ears, large tail, white underneath; upper parts reddish brown to dark; under parts white; males are antlered, with horn prongs ranging from two main beams. The first antlers appear in the second spring after birth, and are known to range from two spikes to as many as ten points with the first set. Antlers are shed normally between December and March. A new set is grown annually. Age of deer cannot be determined definitely by the number of prongs on the antlers as male deer sometimes become "spikers" again in old age; however, the antler beams usually grow larger and rougher with age.

White-tail deer are well distributed in brushy woody areas, especially in the Edwards Plateau. Mason, Llano, Kerr, Gillespie, Blanco, Kimble, Bandera and Real

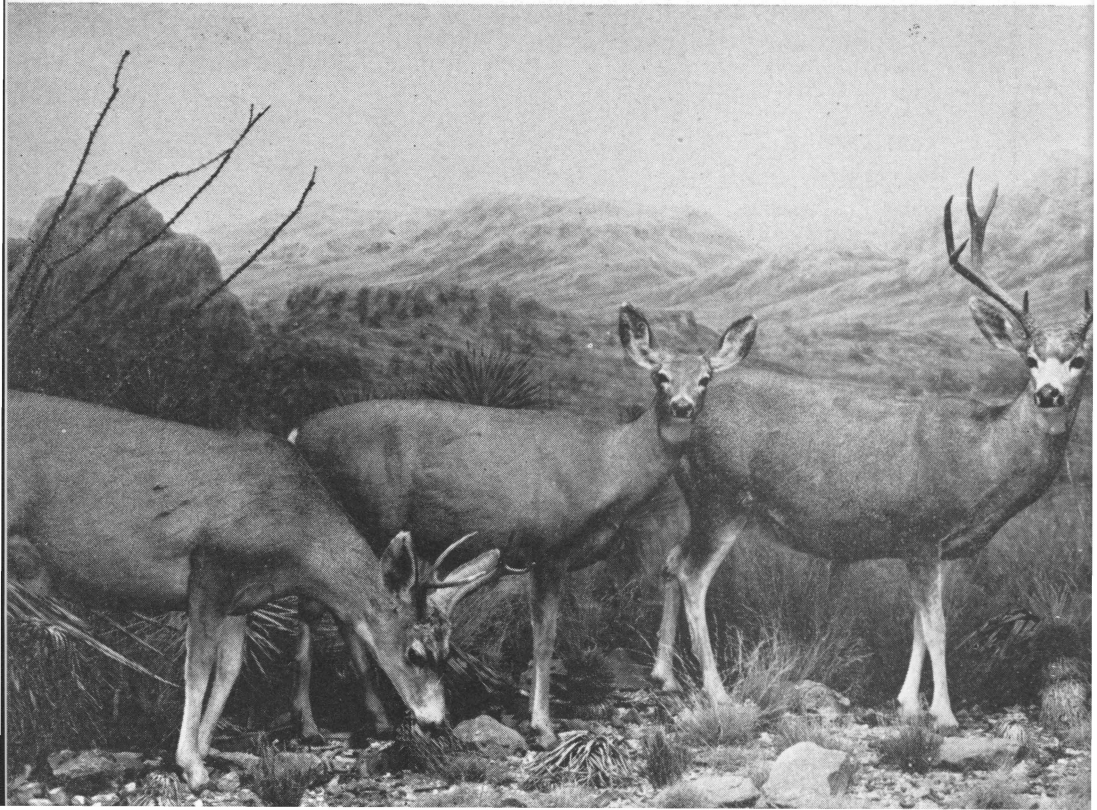
Counties have heaviest deer population. New preserves placed in suitable habitats by the Game, Fish and Oyster Commission are being established in many counties.

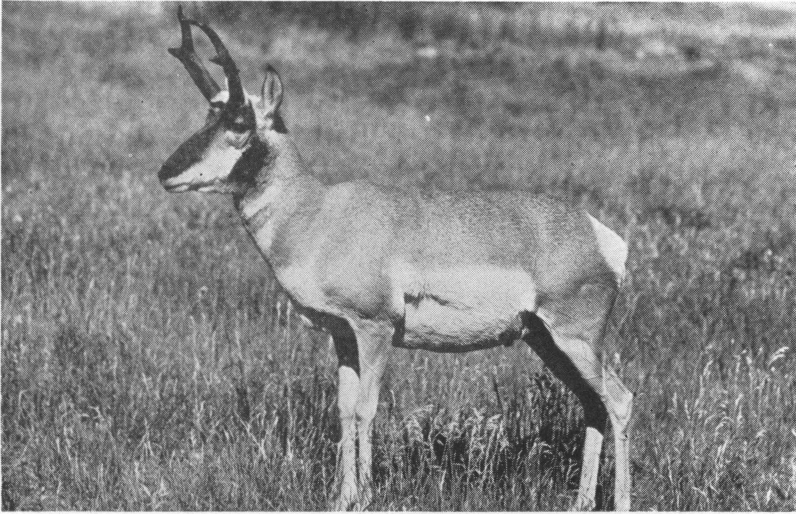
Deer feed on browse, weeds and grasses. Five to six deer are equivalent to one cow in feeding pressure upon the range. Live oak, Spanish oak and shin oak are preferred browse. Tender hearts of sotol, acorns, Mexican persimmons and a wide variety of plants, shrubs and grasses furnish food.

Deer mate from November to January, giving birth to one or two fawns seven months later.

The conspicuous tail of the flag-tail deer or fan-tail deer gives it its name. The flag-tail, a small deer, is found in limited numbers in the highlands of the Chisos, Davis, Chinati, Christmas and several other mountains of the Big Bend.

The mule or black-tail deer is found west of the Pecos River.—U. S. Fish and Wildlife Service.





The pronghorn antelope is the swiftest of all game.—William L. Finley.

### MULE DEER OR BLACK-TAIL DEER

Mule deer or black-tail deer are similar to but larger than white-tail deer. They are a dark grayish brown with a white rump patch; antlers fork equally and prongs do not rise from main beams; ears large, tail narrower with black tip; weight, 150-200 pounds, sometimes larger.

Mule deer are found west of the Pecos River, in Hudspeth, Culberson, Jeff Davis, Presidio and Brewster counties and in the southern parts of Reeves, Pecos and Terrell counties. Small numbers are found also in Hartley, Oldham and Armstrong counties in the Panhandle.

### PRONGHORN ANTELOPE

One of our most picturesque wild animals is the pronghorn antelope, the swiftest of all big game. It is a deer-like animal suggesting a possible cross between a deer and a goat.

Adult bucks have back-flaring, pronged horns extending well above the ears. There are black spots under each ear. Does have shorter horns extending slightly beyond the tips of their ears, with no spots below the ears. The horns of the pronghorn are hollow with a bony center similar to cattle. The external horn sheath is slipped annually and a new set is grown. Further descriptive markings are: Two toes on each hoof; white patch on rump; reddish brown to tan on upper parts and on the back; whitish on sides, on side of head, and base of ears; under parts white; long coarse brittle hair; weight 75-125 pounds.

Mating takes place in the fall and after about seven months, the young are born. Pronghorn antelope usually give birth to twins.

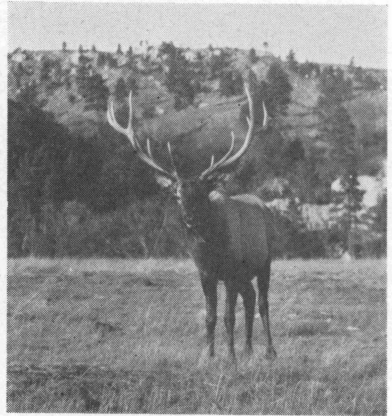
Food of the pronghorn consists principally of weeds. Grass, sage, cactus, yucca, and greasewood are also consumed. Very little water is required; pronghorn can survive,

when necessary, merely on moisture consumed from plants.

Under the present program of protection with a regulated harvest and with new areas being restocked, pronghorn are now second to deer as a big game animal of Texas. Overgrazing of the range with competition by domestic livestock, especially sheep, is the chief limiting factor in the increase of antelope.

Pronghorn antelope have been protected under a closed season since 1903. The first legal hunting season in more than 40 years was held in 1944 with approximately 400 permits issued. This was followed by other open seasons under limited permits in 1945-46. Five hundred and twenty-six permits were issued in 1945 and in 1946 there were 502 permits with 449 hunters going afield with 389 antelope taken. These regulated antelope hunts are the first public hunts of their type ever held in Texas.

Pronghorns formerly ranged west of a line running from Fannin County on the north to Kenedy County on the south. The eastern boundary of their former range touched Kaufman, Limestone, Bastrop and Goliad Counties. The present range is confined mainly to Culberson, Hudspeth, Jeff Davis, Presidio, Pecos and Brewster counties west of the Pecos River; also includes Hartley, Oldham, Moore, Roberts, Bailey and Lamb counties in the Panhandle, and Garza, Borden, Stonewall, Mitchell, Coke, Reagan and Irion counties of central west Texas. There is one small herd in Jim Hogg County. Pronghorn antelope prefer open rolling plains country. In recent years they have been trapped in thickly populated areas and stocked in other suitable preserves.



A few elk are still found in the region west of the Pecos River.  
—U. S. Fish and Wildlife Service.

### ELK

The few elk in this state are found in the Guadalupe Mountains of Culberson County. The native elk vanished before 1900. In 1928, 44 individuals were imported from the Northern Rocky Mountain region where they have increased under protection to a present population of four to five hundred.

Elk feed upon deer brush, dwarf oak, buckthorn, mountain mahogany, mescal and sotol. Overbrowsing may develop since elk compete with mule deer for food. The type of range required makes it unlikely that elk will ever rank high as a game animal of Texas, regardless of protection given them.

### BIGHORN SHEEP

Desert bighorn sheep have been in Texas since prehistoric Indian times, but at the present they are almost at the vanishing point. A few still make their home in Culberson and Hudspeth Counties. In a desperate effort to save them, a bighorn sheep refuge has been established by the state in the Sierra Diablos in Culberson County.



A bighorn ram on the lookout.—U. S. Fish and Wildlife Service.

The bighorn is a large brownish-colored sheep with a light rump patch. Males have large, massive, backward-curved horns. Females have horns smaller than the males. These sheep have four toes on each foot, and, unlike domestic sheep, their coat is hairy rather than woolly. Males weigh from 200 to 300 pounds; females, from 125 to 175 pounds.

Bighorns are expert mountain climbers, sure-footed and accurate, as they leap from one rocky ledge to another. The spread of domestic sheep upon their range is offering serious competition to these wild sheep.

A black bear with cubs.—U. S. Fish and Wildlife Service.



### BLACK BEAR

Formerly black bear were common over most of Texas. They are almost extinct at present with a few remaining in the Davis, Chisos, and Guadalupe Mountains of Southwest Texas.

Black bear are so few in number that they are of little importance as game today. Both the Louisiana black bear of eastern and southeastern Texas and the Texas grizzly, formerly west of the Pecos, now are extinct.

Growth of the livestock industry and the depredations of bear upon livestock make their control necessary, hence they are placed on the undesirable list by livestock raisers.

### JAVELINA OR TEXAS COLLARED PECCARY

Javelinas are the only native wild hogs in North America. Early accounts report numerous Javelinas along the Brazos River, near Bryan, Texas; now they are restricted to the southwestern part of the state where they are found in substantial numbers.



A young javelina on the alert.—U. S. Fish and Wildlife Service.

One litter of two pigs is born each year. The pigs are a reddish-tan, but, as they grow up, they turn to a copper-gray with a whitish "collar" about their necks. They are clean in their eating habits and are principally vegetarians. However they are known to eat insects and grubs also. The Javelina has a keen sense of smell and sometimes quietly trails hunters in the woods. They are regarded more beneficial than harmful by many ranchers. Their long tusks cause them to be vicious fighters when one of their number is wounded, but they are not likely to attack anyone unless unduly molested. A gland on the backs just over the hips secretes a strong odorous musk when the hogs become excited.

The flesh of young females is excellent food, but the meat of males has an objectionable odor. Hides and bristles, valuable commercially, cannot be sold under our present game laws. (1946)

### SQUIRRELS

Fox squirrels are widely distributed throughout the timbered sections of Texas. The gray or cat squirrel prefers the bottom land of the eastern sections along streams.

Squirrels, one of our most important game animals, are found in about 160 of the 254 counties. These little animals are the source of fine game meat and squirrel

The fox squirrel is a game animal of interest to old and young alike.  
—U. S. Fish and Wildlife Service.





hunting offers much recreation in the woods.

Squirrels have two mating seasons each year. Most counties have closed seasons during the spring and fall while the squirrels are young and during the time they are in their nests. The litter of young squirrels usually ranges

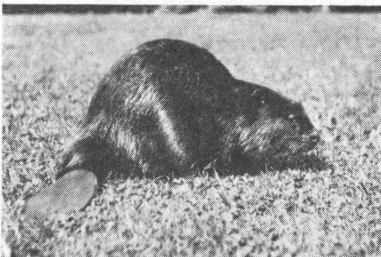
from two to five. In the holes of trees and among tree-tops, they build nests of leaves, grass, and twigs. Squirrels are easily tamed and make fine pets around the house and in parks. They eat tender buds, mulberries and other wild fruits, acorns, nuts, seeds, and corn in the roasting ear stage.

## FURBEARING ANIMALS OF TEXAS

Furbearers in this state are the beaver, otter, mink, ringtail, badger, raccoon, skunk, civet cat or spotted skunk, opossum, muskrat and fox. Furbearers should not be confused with game animals. Furbearers may be trapped and their pelts and skins marketed. This is not true with game animals. Furbearers of Texas are classified by law as property of the state until they are legally taken and all regulations complied with.

Texas fur buyers reported the handling of approximately \$3,000,000 worth of furs during the 1945-46 season. Figures given below include reports from 80% of the licensed fur dealers in Texas for the 1945-46 season. Furs shipped out of the state by individual trappers are not included.

The beaver is a valuable furbearer now being restocked on suitable streams.  
—U. S. Fish and Wildlife Service.



### 1945-46 FUR SEASON

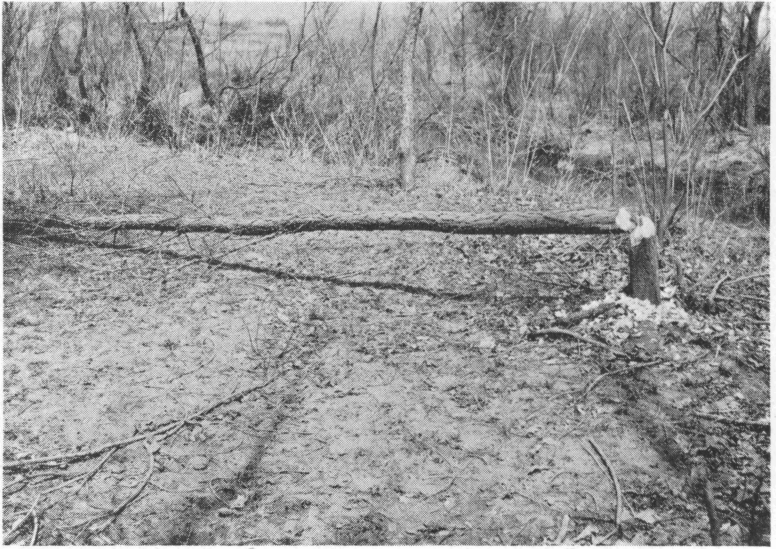
Animal	Number	*Average Price
Badger .....	846	\$ .92
Beaver .....	137	—
Gray Fox .....	56,244	1.38
Mink .....	35,592	19.80
Muskrat .....	417,339	1.25
Opossum .....	330,066	.64
Raccoon .....	164,327	1.58
Ringtail .....	122,829	7.45
Skunk (common large) .....	121,573	.80
Skunk (spotted) .....	13,785	1.35
Bobcat .....	1,508	1.30
Weasel .....	1	.65
Wolf .....	42	1.60
Miscellaneous ..	409	—

\*Average price as reported by one wholesale dealer in furs.

### BEAVER

Beavers were once located in Texas wherever permanent water and trees were found. Their numbers have reduced greatly, but they are still reported in 42 counties, perhaps more abundant along the Pecos, Rio Grande, Colorado, Llano Rivers and other streams in the Edwards Plateau.

Under the beaver restocking program, restoration of these valuable furbearers is planned in counties



A cottonwood tree that has been cut by beaver.—Texas Cooperative Wildlife Research Unit.



Beaver dam on Sweetwater Creek in Wheeler County in the Panhandle.  
—Texas Cooperative Wildlife Research Unit.

where they once lived. Wheeler County, their habitat since the early days, still has enough beaver for restocking some new areas.

Average weight of a beaver is about 40 pounds. The beaver has a broad, flat, scaly tail about 15 inches long; hind feet are webbed; color, yellowish brown to black; fur consists of long coarse hairs with soft heavy under fur.

Food consists mainly of twigs, bark of trees, preferably cottonwood and willow, roots and stems of water plants and grasses. Beavers cut trees of various sizes with their teeth but prefer smaller trees which are more easily managed. They are known to have cut trees three feet or more in diameter. Inner bark of trees is used for food and the remainder for construction of their dams. Beavers are expert in building dams with sticks, mud and stone, thus providing pools of water needed to complete their homes.

Beavers are thought to mate for life and live in colonies composed of two or more families. They breed at about three years of age and give birth to two to five young during April and May. The young are

weaned when they are about two months old. Beaver pelts are valuable as furs used in the manufacture of hats and coats.

### OTTER

The otter is found in limited numbers in the eastern part of the state. This furbearer has a fine dense fur; glossy brown top cover with lighter shading underneath; long neck; slender body with short legs and webbed feet. Otter are naturally at home in water. They feed upon fish, frogs, clams, crawfish and other lower forms of life found in and around the water. Otter are known to feed upon birds and smaller animals. They like to slide down steep muddy banks; their "slides" often aid man in locating their dens.

The otter gives birth to one to three young in the spring. The male seems to be proud of his family and helps care for it. The fine quality of otter pelts rank them among the most valuable of all furs. A strict program of protection by law is necessary if the otter is to survive. Such a program is now in effect.



The otter is almost extinct.—U. S. Fish and Wildlife Service.



Mink pelts make fine fur coats.—U. S. Fish and Wildlife Service.

### MINK

Ninety-one counties in the eastern half of the state and as far west as Mason County, report mink at the present time. Mink are small, slender animals about 20 inches long. The tail is small, bushy, and about the same length as the body. Mink fur consists of long shiny guard hairs with thick soft under coat. Mink have short legs, a very small head with a long neck, and their color is a dark glossy brown. Mink den in burrows of stream banks, under rocks, in stumps and in hollow logs. Five or six young are born during April and May of

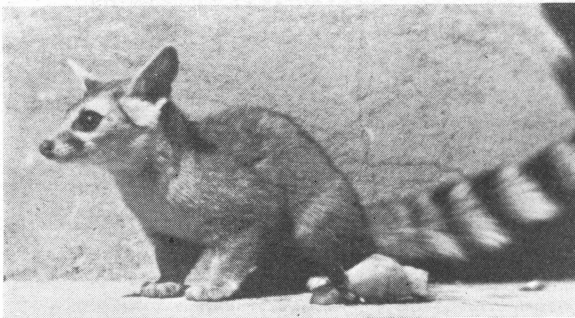
each year. Unlike the otter, males take little interest in the family.

Mink are killers. They feed upon fish, crawfish, frogs, birds, rabbits, and sometimes on poultry.

Their furs sold for an average of approximately \$20 each during 1945-46 season. About 50 of their pelts are required to make a medium sized lady's jacket. Mink can be raised in captivity, but there is little or no mink farming in Texas.

### RINGTAIL

This valuable furbearer is found over the entire state, excepting the plains region of West Texas and



The Texas ringtail is our most beautiful fur animal.

—H. C. Hahn.

deep East Texas. A few have been reported as far east as Walker County. One hundred and fifteen counties now report ringtails. The ringtail is slender; total length is about 30 inches; long bushy tail marked with white and black bands; body, dark brownish gray; ears, long and thinly covered with hair. The main habitat of the ringtail is in the forest and rocky sections of South and Southwest Texas, appearing more abundant in the hilly country of the Edwards Plateau. Three to four young are born in May and June. They feed on insects, rodents, birds, and sometimes do damage to poultry.

### BADGER

Badgers, though not abundant in any locality, are found principally in the plains country of the south and western part of the state. Two to five young are born in late spring usually in grass lined nests built in burrows two to three feet underground. They feed upon rodents, insects, lizards, carrion and other animal matter. Prairie dogs



The badger assists in the control of rodents.  
—U. S. Fish and Wildlife Service.

and ground squirrels are also taken as food. Badgers rank rather low as furbearers. Their greatest value is their help in rodent control.

### RACCOON

One of our most important furbearing animals is the raccoon which is most abundant along the coastal plains region and in the bottom lands along timbered streams. Two hundred and five counties report raccoons in substantial numbers for 1946.

The raccoon is a dark gray with

Raccoons out hunting for food.—Texas Game, Fish and Oyster Commission.



a bushy tail colored with black and gray rings. It has a heavy body and hand-like forefeet. Food consists of a variety of plants and animal matter—frogs, crawfish, insects, rodents, fruits, nuts and green corn.

Three to six young are born in the spring, in nests in hollow trees, caves and old dens of other animals. Coons are curious, mischievous animals and they make interesting pets.

Furs are taken mostly by trapping, but the raccoon is often hunted with dogs for sport. Raccoons are vicious when attacked by dogs and are more than a match for them when in water. The heavy thick fur and durable skins make their pelts valuable for overcoats, fur trimmings and robes.

### SKUNKS

There are six species of skunks in the state. The three most commonly known are the striped skunk, hog-nosed (rooter) skunk and the little civet cat or spotted skunk. Striped skunks are well distributed

and their pelts are the most valuable. They are about the size of a house cat; head very small; short legs; tail large and bushy; color black with two white stripes down the back. The amount of white and the width of stripes vary with individuals. Tail coloration varies from white to black. The long claws on their forefeet are well adapted for digging.

Skunks eat grasshoppers, beetles, crickets, as well as rodents, crawfish, frogs, and lizards. They sometimes depredate on poultry yards.

Skunks den up in holes dug in the ground. They give birth to four to six young in the spring. The scent of the skunk, common to all species, is produced by the two glands at the base of the tail. The scent will be thrown for several feet as a means of protection when danger arises, but only then as a last resort. The glands may be removed by a simple operation when the animals are young if they are desired for pets. Skunks are reported in 238 counties, giving them



Striped and spotted skunks are well distributed in Texas.—U. S. Fish and Wildlife Service.

the rank of about fifth in value as a furbearer.

The hog-nosed or rooter skunk is found mostly in the west. The rooter skunk has a solid white back and tail and a naked muzzle which resembles a hog's nose. The hog-like nose assists in rooting for insects which are a preferred food. Its fur is lower in quality as compared with the striped skunk, but it is marketed along with other skunk pelts with little distinction.

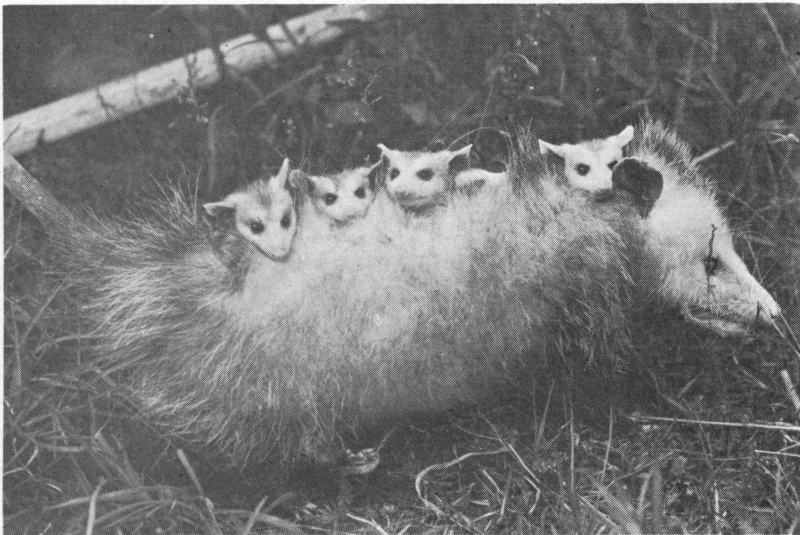
The little spotted skunk is least valuable as a furbearer. It is sometimes referred to as hydrophobia cat, but is misnamed in this way. Spotted skunks are no more subject to hydrophobia than other wild animals, and then only when bitten by other rabid animals.

### OPOSSUM

Opossums are found over most of Texas, most abundant in the woody areas where water is plentiful. They are more numerous than

any other furbearers, especially at the present time. They are taken by trapping and with dogs.

Opossums are about the size of a large house cat; fur is soft with under fur protected by long guard hairs; color varies from gray to almost black; naked tail, ears very small; bead-like eyes; female has a fur-lined pouch on the abdomen. Opossums are our only animals which carry their young in a pouch. They breed like other mammals and the young are born in a semi-developed stage within twelve to thirteen days after mating. The young are tiny at birth. A litter of twelve or more could be held in a tablespoon. At this time they are hairless, without visible eyes, and with only the beginning of a tail. They find their way into the pouch and attach themselves to the teats as though they were grown there. A litter may range from three or four to a dozen or more. The number of teats determines the number that survive,



Mother opossum with her young.—U. S. Fish and Wildlife Service.



Muskrat farming is profitable in the marshes of Southeast Texas.

—U. S. Fish and Wildlife Service.

which is usually seven or eight. The mother's milk is pumped into their tiny bodies through muscular pressure and they remain attached for several weeks, after which the mother continues to carry them in the pouch. Later on they ride upon her back with their little tails twined about that of the mother. They leave the mother at three to four months of age. Two litters are born each year. The male seems to ignore the family. Opossums are expert at climbing trees. As a means of protection, they rely on their ability to sulk as though asleep or dead when attacked.

All kinds of fruits, vegetables, a variety of animal matter, berries, grapes, persimmons, mulberries, crawfish, reptiles, insects, rodents and sometimes birds, domestic poultry and eggs are eaten. Opossums are known to feed on carcasses of other dead animals.

Opossum pelts are of poor quality, but they rank well in money value as they are widely distributed and the number taken each year is large.

## MUSKRAT

Musk rats are large rats with a total length around 18 inches. The tail is similar to that of the wood rat but slightly flattened sidewise. Musk rats have soft dark brown fur with a water-proof underfur protected with long guard hairs. Glands located at the base of the tail produce a strong musky odor, thus accounting for their name. Musk rats are found in fresh and brackish water areas.

They are most numerous in the marshlands along the coast east of Galveston Bay. Being mainly vegetarians, muskrats eat roots, stems,



leaves, seeds, bulbs, grasses and a variety of water plants. They are known to eat fish, frogs and muskels. Muskrats den in burrows in banks of streams and lakes, or they build mounds of grass, weeds and sticks two to four feet high for their homes in the marshes. An average litter is four. All members of a family are quick to defend their premises against other muskrats. They are expert swimmers. Their chief enemies are foxes, owls, minks, and hawks. Muskrat pelts are used in the manufacture of women's coats and neck pieces. Texas marketed approximately \$600,000 worth of muskrat furs during the 1945-46 season, more money per acre than any other of the furbearers. Muskrat farming is extensive in several counties along the coast of the southeastern part of the state.

### FOXES

There are three principal kinds of foxes in Texas, all similar and dog-like in appearance, but varying in size and weight. Their color markings are the easiest points of identification.

The gray fox is the most common except in the Panhandle and in South Texas. Mature gray foxes weigh around seven to eight pounds. They have a long slender nose and erect ears; upper parts grayish tinged with black; under parts reddish brown and white. Their tails are long and bushy with a black top stripe and black tip.

The red fox is the largest, weighing eight to ten pounds; total length about 40 inches; large erect ears; golden reddish color with black legs and feet. The tail is long and bushy, of yellowish color tinged with black and tipped with white.



A gray fox on the trail.

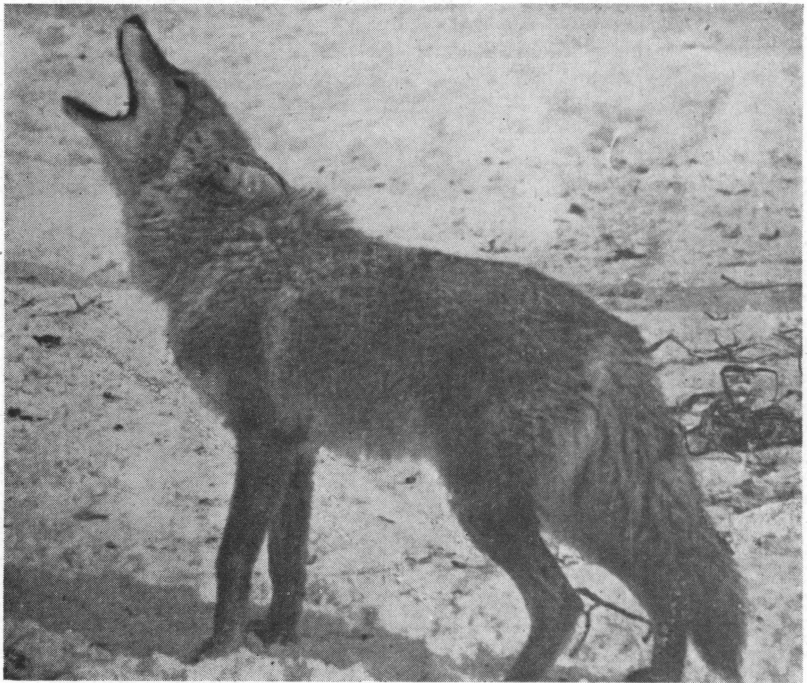
The red fox is reported in a few counties in the eastern and central parts of the state where it has been introduced by sportsmen. Many sportsmen consider the red fox superior to the gray fox in the chase.

The swift fox is the smallest. It has very small ears and is a light, yellowish gray color. Total overall length for adults is approximately 26 inches. It is found on the western plains and in the Panhandle counties.

The desert fox is found in the Trans-Pecos regions and West Texas. It has large grayish colored ears; bushy tail, about 12 inches

long, tipped with brown. The upper parts are a grayish buff with underparts buffy white; length about 33 inches.

All foxes, similar in their feeding habits, eat vegetable and animal matter, small rodents, rabbits, reptiles, birds, insects and sometimes domestic poultry. They are fond of fruits, as well as watermelons and cantaloupes. One to six young are born usually during April. They den in hollow trees, in burrows in the ground, and in cavities among rocks and rocky ledges along creeks and ravines. Gray foxes are expert tree climbers. The fox ranks about seventh as a furbearer.



A coyote, the howling wild dog of the range.—U. S. Fish and Wildlife Service.



Gillespie County 4-H Club boys make money by trapping.—Gillespie County 4-H Club.

## OTHER MAMMALS

### COYOTES

The coyote, one of our chief animals of prey, is found in west Texas from the Panhandle to the Rio Grande. A few are reported in some

central Texas counties. They have been exterminated largely in principal sheep producing counties. Coyotes were reported in 169 counties during 1946.

The coyote is dog-like with upright ears and long, bushy tail; upper parts buffy, mixed with black, giving it a grizzled appearance; back of ears buffy and ears are without black tips; weight 25-40 pounds. They are very wild, cunning animals.

Coyotes eat sheep, goats, and other young livestock, as well as wild game animals, birds, rodents, poultry, insects, wild fruits and melons. Their chief damage is to livestock and wild game.

Young of the coyote are born about 63 days after mating. The litter usually consists of five to seven young. Yet litters of 3 to 14 young have been reported.

While coyotes may damage livestock and game, they also assist in keeping down rabbits and other small rodents. The coyote pelt is of little value.

Chief methods of control are by trapping and by use of poison baits. The cyanide gas-gun trap is proving to be the most effective method at present. The coyote responds well to control measures in all sections except in counties along the Rio Grande. Here these animals come across the border from Mexico and continually restock the area.

### WOLVES

The red wolf, found principally in the southern, central and eastern parts of the state, resembles the coyote in many ways except that it is larger and has a broader head. Color is reddish brown mixed with black; tail with black on upper surface; total length about four feet.

Food habits of red wolves are like those of the coyote except that they eat little vegetation. They are usually taken by trapping and poison baits.

The Texas gray wolf, formerly found in southern and western Texas, is now thought to be extinct. It was the largest of all wolves and its food habits were similar to those of the coyote and red wolf.

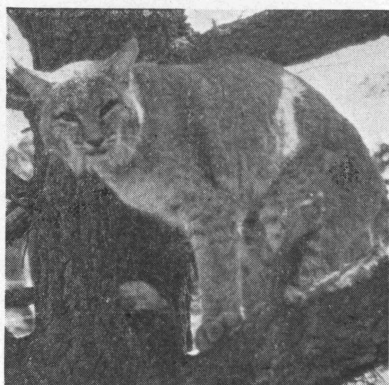
General coloration is buffy and heavily mixed with black along the upper regions; back of ears rusty red; under parts buffy white; tail bushy with black tip; weight 60 to 100 pounds.

### BOBCAT

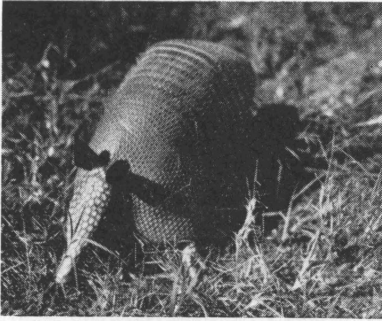
The bobcat, found over most of Texas, prefers the wooded sections in rough, broken country. Many are found in the piney woods of east Texas and in mesquite brush country of south Texas.

The bobcat litter consists of two to four young which are usually born the latter part of April and first part of May. This animal is a large cat weighing from 15 to 25 pounds and sometimes larger. In color, it resembles a tabby cat with grizzled buffy and extensive black markings; tail with three or four black semi-rings, has a white tip; ears tufted.

This large cat feeds upon rabbits,



Control of bobcats has greatly reduced their number.—U. S. Fish and Wildlife Service.



An armadillo rooting for ants, earthworms, grubs and beetles.  
—Texas Cooperative Wildlife Research Unit.

other small rodents, birds, snakes and frogs; also goats, sheep, wild turkey and other game. Hunting and trapping are the principal means by which these cats are taken.

#### TEXAS NINE-BANDED ARMADILLO

The armadillo was originally found along the southern border only, but has now spread over most all counties south of a line drawn from Loving County to the west to Bowie County on the northeast, except the counties lying west of Devil's River.

The armadillo is about the size of a large opossum and is covered with a nine-banded shell; head and tail are also encased. Its legs are

short; there are four toes on the front feet and five toes on the hind feet. The nose is long, pointed, snout-like and the toe nails are long and slightly curved, enabling it to root and dig into the ground. There are no front teeth. The chief weapon of defense is its protective shell and long claws.

The armadillo feeds primarily on tender roots and insects which it finds by rooting into the soil. These include ants, earthworms, grubs, and beetles. Wild berries and fruits are also eaten in small amounts.

The armadillo is often accused of destroying the nests of quail, wild turkey and other ground nesting birds and eating their eggs. Research records indicate, however, that only in rare instances have armadillo taken eggs, and then, perhaps, after the eggs were broken during the rooting process.

Mating usually takes place during September and October, and the young are born in about 150 days, during March and April. Normal litters are always four in number and these are all of the same sex, either male or female.

Armadillo shells are used in the manufacture of ornamental baskets. The meat is of a very fine texture, and in flavor it suggests roast pork.

### IV. GAME BIRDS OF TEXAS

Game birds are ducks, brant, geese, snipe, plover and many other species of shore birds, wild pigeons, chachalaca, prairie chickens, wild turkey, quail (bobwhite and blue quail), doves (mourning doves and white-wing). All song birds or insect-eating birds are protected. The piasano or road runner, typical of the southwest, has been placed on

the protected list by special act of the legislature. Robins and certain blackbirds are protected under federal laws.

Unprotected birds under state law (1946) include the English sparrow, crows, golden eagles, buzzards, ravens, goshawks, blue darter hawks, sharp-shinned hawks, duck hawks, jay birds, \*sapsuckers,



Many kinds of waterfowl spend the winter on our southern coast.

—U. S. Fish and Wildlife Service.

\*woodpeckers, \*blackbirds, starlings, shrikes (butcher birds), and the great horned owl.

*\*Some species protected by federal laws under the Migratory Bird Treaty Act.*

## WATERFOWL

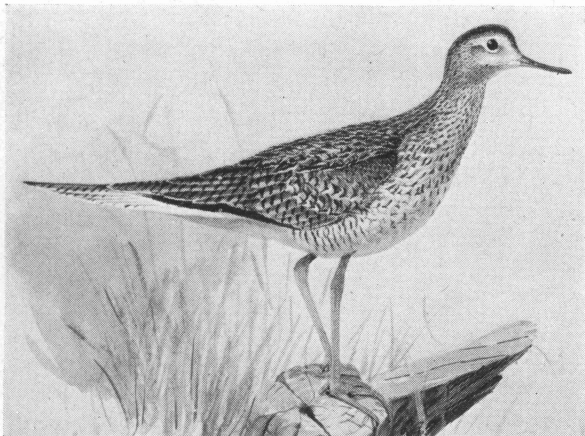
Many of the sixty kinds of waterfowl in North America migrate southward in the fall to spend the winter in Texas, where they congregate along the Gulf Coast. The coast line from the mouth of the Mississippi River westward along the southern borders of Louisiana and Texas and on into Mexico is perhaps the most important wintering region for waterfowl in all North America.

Breeding grounds of Alaska, Can-

ada and northern parts of the United States furnish Texas with most of its waterfowl. However, a few are known to nest in Texas and southern states in limited numbers. Among those nesting in the south are the wood duck, black bellied tree duck, fulvus tree duck, hooded merganser, mottled duck, Florida duck, and the shoveller.

Waterfowl migrations in recent years have varied. The status of our waterfowl ranges from fair to good on the average, but a definite downward dip seems to have occurred during 1945-47. Unfavorable drouthy conditions in the northern regions where they nest, and increase in shooting pressure during the open seasons appear to be the chief limiting factors in our waterfowl supply at present.

The plover is seen most commonly during the spring and fall migration periods.—U. S. Fish and Wildlife Service.



### SNIPE AND PLOVER

Relatively few snipe and plover are found in the state. These birds during the southward migration concentrate on coastal regions as the fall migration season advances. Upland plover, one of the most common, the golden, black-bellied, and the Wilson are found in Texas during this period. The killdeer, a member of the plover family, nests and raises young here.

### WILD PIGEONS

Wild passenger pigeons were once abundant. They are now extinct in Texas, as well as on the entire North American Continent. Written accounts and tradition tell us that wild pigeons were once so numerous that the sky would be darkened by their flights. So great were their numbers that the limbs of the trees about their roosting sites would be broken by the weight of these birds. There remains only the silent reminder now that such could happen to other species of desirable wildlife.

Band-tailed pigeons are found in

the mountainous sections of Southwest Texas and in the Big Bend area where they are relatively few in number.

Red-billed pigeons are found in limited numbers along the Rio Grande. These are now protected by law, and steps are being taken to help the band-tail and red-bill survive.



The mourning dove nests from early spring until frost.



The male whitewing helps raise the family.—George B. Saunders.

## DOVES

The mourning dove is the most common and the most widely distributed of all our game birds. It is migratory and moves about freely from one locality to another and to the most available food supply spots. Mourning doves nest in trees or on the ground and easily adapt themselves to all sections of the country. Of all birds, the mourning dove seems to fit best into our present system of farming and ranching. Doves belong to the pigeon family and their feeding and nesting habits are similar. They nest from early spring until frost, hatching two eggs at a time and following through with one family of young after another during the entire season. Doves feed upon seeds of weeds and grasses. They do not eat insects.

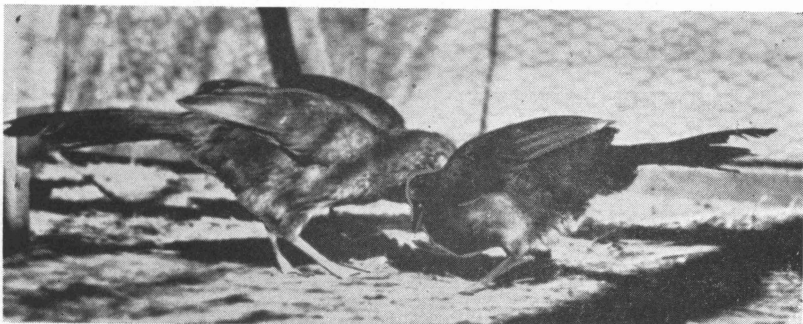
The white-winged dove, found along the Rio Grande Valley as far north as Uvalde and El Paso counties, resembles the mourning dove in appearance and is larger with a white splash of feathers on each

wing. The tail of the white-wing is square and the outer parts of the tail are white. The fine quality of meat and a rapid level flight make the white-wing a game bird of much shooting sport. A population of 400 thousand white-wings was estimated for Texas during 1945, and a total estimated kill of 225 thousand was taken from noon until sunset during a five day open season. Further restrictions will be necessary if our white-wing population is to survive. A white-winged dove refuge has been established between the Rio Grande on U. S. Highway 83 from Zapata-Starr County lines to the west boundary of Brownsville.

The white-fronted dove is found in limited numbers in the Rio Grande Valley. It is about the size of a small pigeon and has a square tail, further distinguishing it from the mourning dove. White-fronted doves are limited in number and are restricted to one area.

The Inca dove is found in limited numbers in South Texas. This dove





The chachalaca is easily tamed.—Texas Game, Fish and Oyster Commission.

suggests a small mourning dove with a long pointed tail. It has a "scaled" appearance and a red or rusty color under wings.

The little Mexican ground dove is well distributed over South, Southwest and Central Texas. It is the smallest of the doves and is not taken as game, due mainly to its small size. The ground dove has a square tail and rusty color under wings.

### CHACHALACA

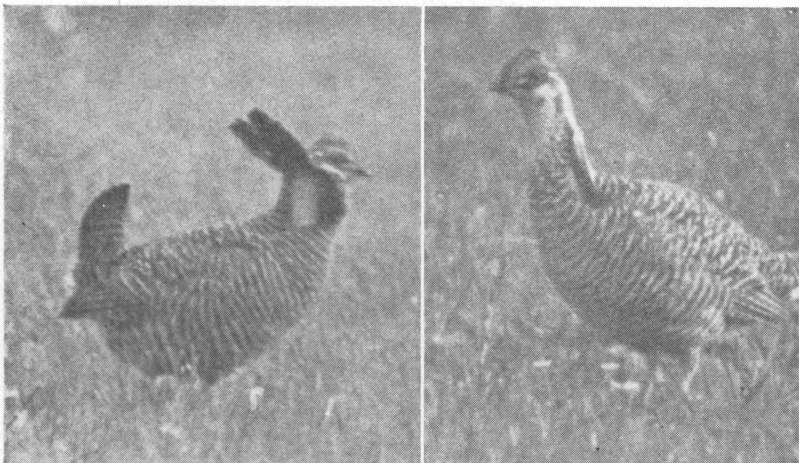
The chachalaca gives a touch of Central American bird life to the extreme southern part of Texas. Courtship and nesting period starts early in March and the males are often seen with two females. They nest in trees, preferably ebony or mesquite, located from five to fifteen feet above the ground. Chacha-

lacas prefer to nest near water where there is a supply of berries and other suitable vegetation for food. They usually lay three eggs of a pale creamy color. These hatch in 22 days and the young leave the nest as soon as hatched. When a week old, the young can flutter eight to ten feet. When about two weeks old, they fly about 100 feet at a time.

Food of the chachalaca consists principally of tender buds, berries and wild fruits, as well as a few insects. The chachalaca is easily tamed and will live contentedly with domestic poultry. This bird seems fond of bread, chopped meat, apples, bananas and milk. Meat of this bird is delicious.

The habitat of the chachalaca is in the lower Rio Grande Valley and across the river in northeastern Mexico.

The male prairie chicken (left) courts his mate.  
—Texas Cooperative Wildlife Research Unit.



## PRAIRIE CHICKEN

The Attwater prairie chicken and the Lesser prairie chicken are still found in Texas. The Greater prairie chicken, formerly on the prairies of eastern and northern Texas, is extinct. The Attwater prairie chicken is found in the Gulf coastal regions from Jefferson County on the east to Refugio County on the west. Its range includes also counties of Harris, Waller, Colorado, Wharton, Matagorda, Chambers and Austin. The future of the Attwater prairie chicken is doubtful due to the destruction of its favorite nesting grounds by rice farming in South Texas and overgrazing of the range by livestock. There is still sufficient seed stock left with prairie chickens reported in limited numbers in 44 counties. Through cooperative game management associations of landowners, efforts are being put forth to maintain and increase the ever diminishing supply of prairie chicken. There is no open season on these birds. (1946)

## WILD TURKEY

The wild turkey is the largest and most wary of our game birds. Approximately 100 counties report wild turkey with some of the heaviest concentrations found in Kimble, Gillespie, Mason, Kerr and Sutton counties. They are numerous also on the Aransas Wildlife Refuge near Austwell and on the King Ranch, in Kleberg and Kenedy counties. Substantial numbers are found in Brooks and Willacy counties. State game preserves and cooperative game preserve areas have been stocked by the State Game, Fish and Oyster Commission during recent years in an effort to distribute and reestablish this valuable game bird.

The wild turkey is slender as compared with domesticated turkeys. It is brownish and less bronzy in color. Its blue head has less evidence of beading than the domestic fowl. Tame turkeys mix readily with wild ones and the tame birds are quick to go wild themselves. At

Wild turkey feeding on the Aransas Wildlife Refuge.—Texas Cooperative Wildlife Research Unit.



the present time more turkeys are taken in Texas than in all of the rest of the 17 wild turkey states combined. Even so, the number has been greatly reduced through lack of protection and overgrazing of the range.

Feeding and breeding habits are identical to that of tame birds which have access to free range. Records of the Game, Fish and Oyster Commission show that 6,367 wild turkeys were taken in 1945. The actual take would probably exceed 10,000 birds if reports had been received from all individual landowners.

### QUAIL

King of the game birds in Texas is the bobwhite quail. Bobwhite quail are well distributed over all sections, except extreme West Texas. They seem to prefer areas interspersed with cultivated fields along fence rows and field margins. The covey often makes its home in plum thickets, berry hedges and around wild grape tangles and along ravines. Bobwhite quail were recently reported in 224 counties.

The bobwhite quail covey breaks up in early spring as the birds pair off for the nesting season. Family instinct is strong and adult birds are loyal to each other. From nine to twenty eggs are usually laid with 14 to 16 eggs appearing to be the average. Eggs hatch in about 21 to 22 days. The young leave the nest as soon as all are hatched. Young quail live with the mother bird, thus forming a family. In early fall, birds from two or more families join and form a covey.

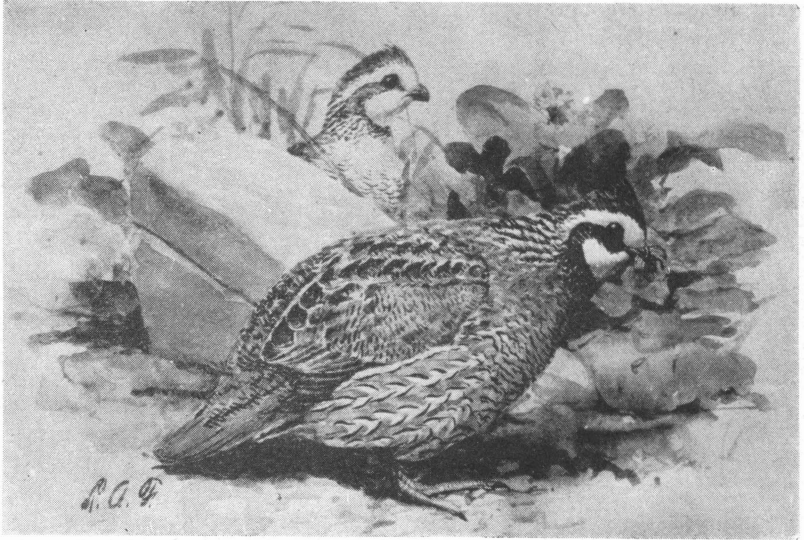


This wild turkey hen is well hidden on her nest.  
—Texas Cooperative Wildlife Research Unit.

Quail are mainly vegetarians but also feed upon small grasshoppers and other insects. A variety of tender vegetation, seeds, wild fruits, corn, oats, peas, and certain of the small grains are eaten. They feed upon weed seeds, wild peas, other wild legumes, and seeds of native grasses. Quail population of an area is largely dependent upon protection and available food and cover. Overgrazing limits quail production.

Blue quail are next in importance to bobwhites. They are found in the south, southwestern and most western parts of the state. Ranges of two species may overlap. It appears that as the bobwhites diminish westward the blue quail take over in more arid sections.

A few Gambel quail are found in



The bobwhite quail is our most important game bird.—U. S. Fish and Wildlife Service.

the El Paso region. These quail are distinguished easily by their black faces and feathered plumes.

Quail prefer well watered areas, but it is known that quail can do with little or no water from water holes or ponds when necessary. Moisture contained in vegetation and in insects consumed appears to be sufficient to sustain them in a normal way. Bobwhites have been known to raise coveys three to four miles from the nearest watering places. Blue quail are even better adapted to dry country.

#### PAISANO OR ROADRUNNER

The roadrunner is a member of the cuckoo family, and is not classed as a game bird. This bird of the southwest is sometimes called chaparral cock, lizard bird, war bird, snake-eater, medicine

bird, cock of the desert and ground cuckoo.

Overall length of the roadrunner is 20 to 24 inches; tail long and about one-half total length; plumage coarse, black to brownish white with the black tinted with a green metallic sheen; long neck feathers forming a crest when erected. There is a naked patch over the eye which is a bright orange-red touched with a bit of blue and white. The bill is long and pointed and serves as a powerful weapon. The roadrunner has an over-sized gullet, enabling it to swallow large objects. Its legs are long and quite strong, making it possible for this bird to cover distances with great speed. There are four toes on each foot, two pointing forward, two backward, giving it added balance.

The roadrunner builds a crude

nest of sticks about four to ten feet above the ground which is lined with tufts of soft grass and snake skins. Mesquite, catclaw and other thorny shrubs are preferred nesting sites. Both male and female birds take part in incubating the eggs and feeding the young. The incubating process begins as soon as the first egg is laid. Three to eight eggs are laid which hatch out on different days. After the first one or two are hatched, their body heat aids in incubating the remaining eggs. Thus "sitting time" required by the parent birds is reduced.

The first birds leave the nest and locate themselves in low trees nearby to be fed, while the rest of the

young family is coming along. Diet of the roadrunner consists largely of insects such as grasshoppers, leafhoppers, treehoppers, caterpillars, centipedes, scorpions, tarantulas and beetles which are consumed in great quantities. Lizards, small snakes and rodents are among the preferred foods. Examination of roadrunner stomachs has shown that small birds were eaten, including wrens, sparrows and larks. There is little evidence that they do damage to young quail. Adult quail are excellent defenders of their young. The vast quantities of insects consumed suggests that the roadrunner may be more beneficial than harmful.



The roadrunner eats insects, lizards, small snakes, and rodents.—D. M. Gorsuch.

## RELATIVE DISTRIBUTION OF WILDLIFE IN TEXAS

The number of counties in which certain species appear from "few to many" as shown by reports from 241 of the 254 counties for the year 1946:

Species	No. Counties
Gray Fox	156
Swift Fox	32
Coyote	169
Red Wolf	45
Bobcat	175
Ringtail	115
Muskrat	39
Opossum	205
Raccoon	218
Armadillo	174
Skunk	238
Civet Cat	152
Beaver	42
Javelina	32
Badger	106
Mink	91
Squirrels	170
Antelope	38
Deer	161
Bighorn Sheep	2
Wild Turkey	114
Prairie Chicken	44
Blue Quail	111
Bobwhite Quail	224
Waterfowl (Seasonal)	216

## REVENUES PERTAINING TO HUNTING, TRAPPING, ETC.

Most wildlife species of Texas are protected by law, either by state laws or by federal laws, and sometimes by both.

The several hundred different game and fish laws at present have as their purpose the protection and regulation of the taking of game, furs and fish. Administration of state game laws is under the supervision and direction of the Texas Game, Fish and Oyster Commission at Austin, Texas. Hunting, trapping, fishing and other such permits are issued by this department and revenues received from the sale of licenses and permits help maintain the Game Department and the game warden service.

Number of licenses and permits purchased by the hunting and fishing public indicates interest as well as the number of sportsmen taking part in the harvesting of game, furs and fish. Revenues received by landowners for leases and the sale of furs show wildlife to be a valuable crop of the land.

### 1944-45 Seasons

Resident hunting licenses	\$ 270,180.19
Non-resident hunting licenses	10,244.40
Resident trappers licenses	11,404.20
Shooting preserve licenses	9,790.00
Antelope hunting permits	2,105.00
Artificial lure licenses	77,787.66
Revenue received by landowners for hunting and fishing leases on their land	873,779.00
Revenue derived by landowners and trappers from sale of furs through licensed dealers (approximately)	3,000,000.00

## A WILDLIFE CONSERVATION-MANAGEMENT PLAN



A Texas ranch girl erects a protective marker on her ranch.

A natural interest in wildlife that carries with it a love for the wide open spaces is common to everyone. Let it be our purpose to conserve all desirable wildlife for the economic and recreational values which it affords.

### WILD GAME, THE PROPERTY OF THE STATE

Wild game and furbearers are considered property of the state. In fact all wildlife is considered as belonging to the people. Wild game and furbearers can be regarded as "possessed" only when properly taken in compliance with all regulations.

The farmer or rancher who produces wild game on his land is not the sole owner, but is a joint custodian. Thus, we have a crop of the land produced by the operator on

his own farm or ranch which becomes the property of the state when it is produced. A rancher may raise 1000 deer on his place, yet he is permitted by law to take only his legal limit during the open season each year. Wild game cannot be sold legally, but the landowner can sell permits in the form of hunting and fishing leases to others who may hunt in accordance with the law on his property. Texas landowners received approximately \$875,000 for hunting, trapping, and fishing leases on their lands during 1945.

### LANDOWNERS ARE KEY MEN

Since wildlife is but another crop of the land, farmers and ranchmen are key men in any program affecting it. The production of game is regarded in a similar manner as

other live crops which are produced on the land. Wild game respects no property lines. It may be produced on one farm and then be taken on the lands of another. Waterfowl raised in Canada may be taken on our own southern coast line.

In Texas the trespass law is the principal authority under which a property owner may control hunting and fishing on his premises. These facts, together with other state and federal laws affecting wildlife, must be considered in planning the wildlife conservation and game management program.

Many landowners of Texas are giving game, furbearers and fish a definite place in their farming and ranching operations. Their long-time objectives are:

To bring back and more evenly distribute the desirable species on their lands; to restore desirable species, once native to the area, but now gone.

To raise such a crop for food, for sport, and for their otherwise economic value; for the natural color they afford.

To use nature's processes of hatching and brooding in the wild.

To maintain and increase them by providing better food and cover, in other words, improved habitats.

To provide an added source of income through an increased game supply.

To control undesirable predators.

To regulate the "take" of game on their lands, harvesting only the surplus over and above needed seed stock.

#### **SOME THINGS REGARDED AS FUNDAMENTAL**

In order to reach these objectives, certain things are taken into ac-

count and regarded as fundamental:

That the most effective way to conserve and maintain game and other desirable wildlife is to provide the proper living conditions for it.

That the cooperation of the public is needed if desirable wildlife is to be maintained and increased.

That fortunately wildlife is renewable resource and the wise use of it appears to be one of the best conservators.

That a regulated "take" of game is to be preferred over long-time closed seasons.

That the producer of game may grow the crop on his land today and it may be harvested on the lands of a neighbor tomorrow; and, therefore, the cooperation of neighbors is necessary.

That landowners make better producers by taking part in the harvesting of game.

That progress depends a great deal on the degree of farmer-sportsman cooperation in effect in the community.

That a planned wildlife program must include all species of desirable wildlife.

#### **LAND AREA REQUIRED**

The area may involve one farm (regardless of size) or a group of farms banded together as a unit. A large area of several thousand acres is to be preferred. Unless the individual holdings are large, it is best to form a cooperative unit involving an entire community or precinct. The county may be considered as a working unit in some of the ranching sections of west Texas where no distinct community lines exist. Quail, squirrels, and some other small game can be managed on smaller blocks of land. Deer and



wild turkey require more space, ranging from 25,000 to 50,000 acres.

### THE COOPERATIVE LAND UNIT

A wildlife cooperative provides an excellent stage for performance on land. It serves as a stage where the research worker can work, where patrol service can better serve, and where agricultural leadership can join with those who operate the land.

A cooperative unit may be outlined as follows:

1. Land is pooled by agreement among individual landowners and the area thereby definitely established (See agreement below).

2. An association of the participating members is formed to operate the area as a unit.

3. Erection of suitable protective markers, on and around the area, thereby inviting the cooperation and assistance of everyone.

4. Members of the association make their program of work.

5. They proceed to execute the program, as planned from time to time.

### PROGRAM OF WORK

Landowners should plan details of the overall program for the entire area, as well as for individual farms or ranches. Good farming and ranching practices favorable to the increase of desirable wildlife should be considered. Plan of work should include all wildlife adapted to the area with emphasis on those species of most interest such as deer, antelope, quail or wild turkey. Control of certain undesirable species may be considered necessary.

Program of work may be divided under four heads:

1. Protection of all desirable wildlife.

2. Improvement of the habitat—food and cover.

3. Control of predators and maintenance of predator balance.

4. Harvest—game, furs, fish.

An adequate program of protection, needed at all times, is not alone sufficient. The wildlife population is largely dependent on available food and shelter. Closed seasons mean little where food and cover are lacking. A regulated harvest of game, harvesting the surplus over and above needed stock, is preferable to closed seasons except when seed stock is at stake or where the particular species is approaching the vanishing point. Long closed seasons sometimes reflect adversely on the interest of the people in the conservation program.

### SUGGESTED ARTICLES OF ASSOCIATION FOR A GAME MANAGEMENT COOPERATIVE\*

- I. Name—This organization shall be known as the \_\_\_\_\_

—Game Management Association.

- II. Membership—Membership of this Association shall consist of all landowners or land operators who have signed up their lands as a part of the \_\_\_\_\_

Game Management Area on the approved form, copies of which are attached and are a part of this instrument; also such others as may be elected to membership from time to time.

- III. Officers—Officers of this Association shall consist of a President, a Vice-President, and a Secretary-Treasurer. Such officers shall be elected annually and will hold office until their successors have been elected and installed.

- IV. Executive Committee — The Executive Committee shall consist of the Officers of the Association and three other members, appointed

\*Submitted as a guide only.

by the President, who shall transact all business of the Association between meetings.

V. Other Committees—The President shall appoint such other committees as may be deemed necessary to direct the activities of the Association.

VI. Meetings—The annual meeting of the Association shall be held during the early spring each year, the exact date and place to be fixed by the Executive Committee. Other meetings shall be held as often as necessary and at such times as the President or Executive Committee may determine.

A majority of members shall constitute a quorum for the transaction of business at any regular or called meeting.

#### GENERAL OBJECTIVES

The object of this Association shall be to:

1. Provide adequate protection for game and other desirable wildlife.

2. Establish and maintain the game management area for the increase of all game birds, non-game birds, game animals, fur-bearing animals and fishes. Special emphasis will be given to quail, wild turkey and deer.

3. Improve cover and food conditions for wildlife.

4. To properly stock and manage the farm ponds of the area; to protect against pollution.

5. Regulate the taking of game to insure an adequate supply of seed stock.

6. Provide regulated hunting in cooperation with the State Game, Fish and Oyster Commission at such time as game supplies might warrant to assure the development

and maintenance of a maximum game crop.

7. Prohibit hunting or trespassing in violation of state laws, or the rules and regulations of the Association.

8. The objectives of this Association shall be carried out under the general direction of the Executive Committee, or such other committees as may be appointed from time to time.

#### PROTECTION

1. Each member of the Association may erect the adopted marker or protective sign on and around his individual holdings (optional). Such markers to be erected at the member's own expense.

2. Any member of this Association who may for any reason withdraw his lands as a part of the cooperative unit shall immediately remove all markers from his land and cease to make any further use of same.

3. It shall be the duty of each member to protect wildlife on his own lands and to report any illegal trespassing to the Executive Committee whether such trespass be on his own property or the property of a fellow member.

4. The Executive Committee shall be the law enforcement committee for the Association and this committee shall cooperate with the local game wardens in law enforcement cases.

5. Any expense incurred by the Executive Committee in enforcing the law shall be paid by the Association upon approval of the membership.

#### FOOD AND COVER

The following activities have been adopted by the Association to improve the food and cover conditions.

1. To save and increase game cover along fence rows, roadsides, ditches, gullies, and other places where it will not interfere with farming practices.

2. To protect and make additional plantings of fruit bearing trees, shrubs, berries, etc., needed for wildlife; to plant plum orchards in the nooks and corners or on wasteland areas as cover spots; provide grape and berry hedges at the head of gullies and along ditch banks.

3. To construct brush shelters for quail with brush or by half cutting small trees and tree limbs and bending them to the ground where they will continue to grow.

4. To apply phosphate and other fertilizers to the ground beneath the shelters to increase weed growth and other vegetation for cover.

5. To plant cover patches or strips of grain to be left unharvested for the birds.

6. To prevent the destruction of nesting cover by fire; to protect the nests of birds and the dens and den trees of wild animals.

7. To provide farm ponds for an adequate water supply for livestock and for the production of fish.

8. To follow a deferred grazing program with livestock and guard against over-stocking the range.

#### PREDATOR CONTROL

1. The following species have been placed on the undesirable list and will be controlled: Stray house cats, Cooper's hawks, sharp-shinned hawks; duck hawks and wolves.

2. A careful study shall be made of all species classified as predators in order that such may have their proper place in a "balanced" game management program for the area.

#### HARVEST OF GAME, FURBEARERS AND FISH

1. It shall be the policy of this Association to operate the unit under a "regulated harvest" plan and not on a long-time "closed season basis."

2. Each member of the Association shall continue to exercise complete control of his own premises and be responsible for his own lands. No rights or privileges are automatically surrendered or granted by a member to anyone, not even the other members of the group.

3. Prior to the opening of the hunting season each year, members shall take an inventory of available game on their respective units and report to the group in session. Members shall limit the "take" in accordance with their agreed allotments or surplus.

4. All hunting, fishing or trapping by others than the owners shall be done under lease or under written permit.

5. All hunting, trapping and fishing shall be done in compliance with state and federal laws, and in accordance with regulations of the Association.

6. Members of the Association shall keep a record of all game and furs taken on their individual holdings and report to the Secretary of the Association. The Secretary of the Association will compile report for the entire area.

7. Regulations adopted which pertain to hunting, fees for hunting privileges, as well as all other details pertaining to same shall be recorded in the minutes of meetings of the Association from time to time. Rules and regulations adopted and recorded in the minutes at either regular or called meet-

ings shall be binding upon the membership.

8. Violations of state game laws, or any of the rules and regulations of the Association, shall bar the person committing such violation from hunting on the lands of the Association for such period as the Executive Committee may determine.

**GENERAL RULES**

1. Any member of the Association who fails to comply with the spirit or letter of the Association, or the rules and regulations thereof, shall be summoned before the Executive Committee for such ac-

tion as may be considered in the best interest of the Association, and said actions shall be final and conclusive.

2. These rules and regulations may be amended or expanded at any time upon approval of a majority of members present at any regular or called meeting, and the rules adopted and recorded in the minutes of the meetings shall prevail.

**AMENDMENTS**

The foregoing plan of organization may be amended at any annual meeting by a two-thirds vote of the members of the Association.

**SIGNATORIES**

We, whose signatures appear on the attached forms, or whose signatures are otherwise affixed, constitute the membership of the..... Game Management Association. We hereby enter into agreement to participate jointly in the program hereinbefore outlined, and to continue in full force and effect for a period of.....years.

The above Articles of Association have been adopted by the majority of the members of this Association. We, the newly elected officers and Executive Committee, hereby declare the organization to be in full force and effect, this the.....day of.....19....

Signed,

President	Address
Vice President	Address
Secretary-Treasurer	Address
Member Executive Com.	Address
Member Executive Com.	Address

**A SUGGESTIVE LAND-POOLING AGREEMENT**

THE STATE OF TEXAS

COUNTY OF

KNOW ALL MEN BY THESE PRESENTS

That I,.....of the county and state aforesaid, desire to join my neighbors to protect, conserve and increase the desirable wildlife species of game birds, non-game birds, game animals, fur-bearing animals, adapted fishes, etc., do hereby bind myself together with my neighbors in consideration of said purposes, and such purposes only, agreeing to combine my lands and act as a unit with them. The following tracts of land are designated by me to become a part of said unit:

I hereby make application for membership in the..... Game Management Association. It is my desire that this agreement and application be attached to the Articles of Association to which I hereby subscribe.

I pledge myself to properly respect the game laws of this state and I will help others to do likewise.

Signed.....

Address.....

Note—The above agreement expresses:

- (1) Declaration of desire, intent or purpose.
- (2) Designation of lands to be included.
- (3) An application for membership.
- (4) A pledge and promise to abide by law and to help others do likewise.

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