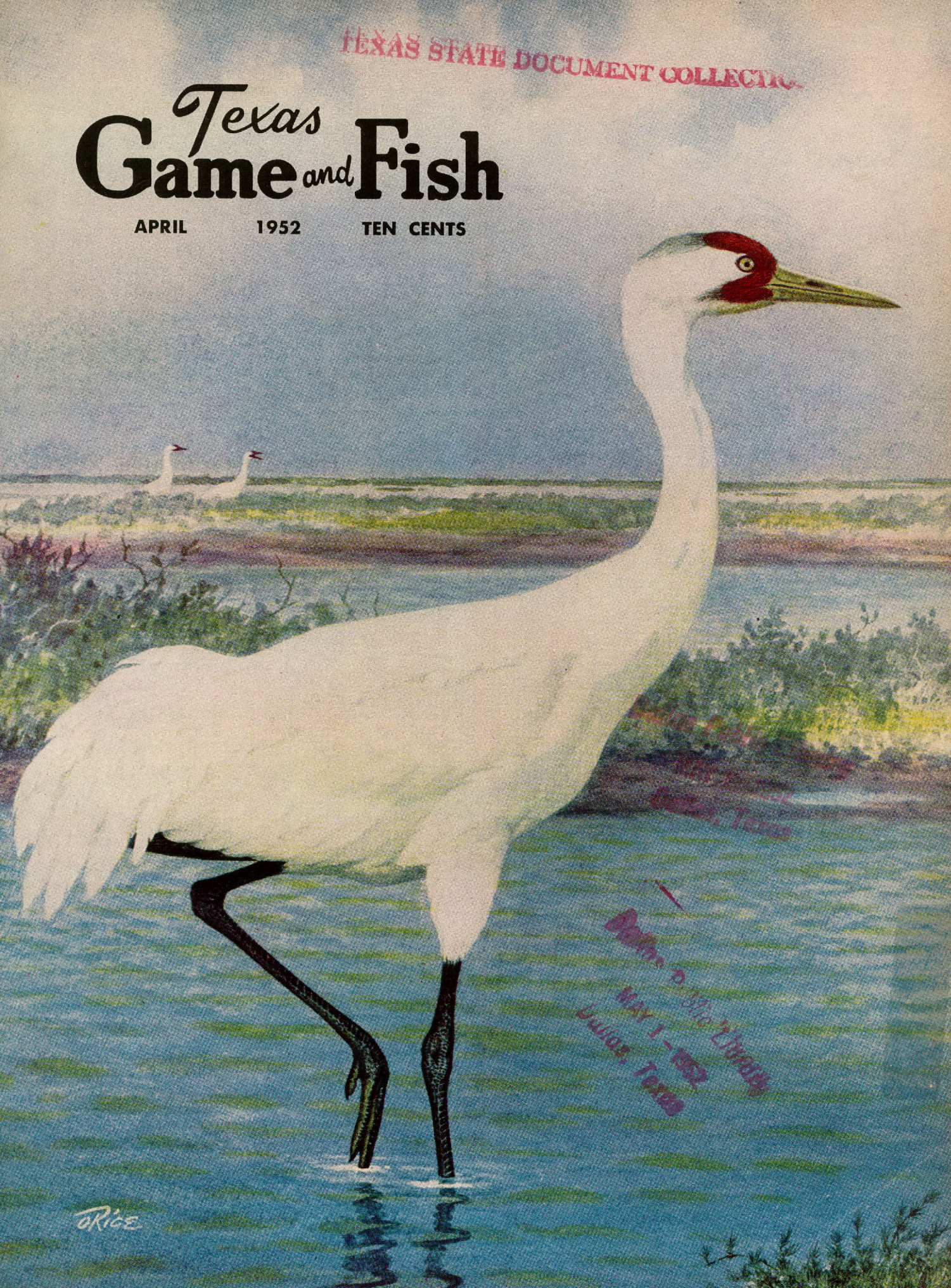
Texas Game and Fish

APRIL 1952 TEN CENTS



Roy Rowell of Houston, subject of an article on page 18 of this magazine, gets some first class aid in handling his beagles from his grandson, Roy Wylie. Here the young fellow holds on diligently as the two dogs strain to join a third which has just struck up the band after finding fresh rabbit scent.

Texas Game and Fish

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

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TEXAS GAME AND FISH is published monthly by the Texas Game and Fish Commission. Subscription price $1.00 per year. Single copies 10 cents each.

TEXAS GAME AND FISH regrets that it cannot continue subscriptions beyond date of expiration. Checks and money orders should be made payable to STATE GAME AND FISH COMMISSION, Editorial and Advertising Offices, Walton Building, Austin, Texas. Entered as second-class matter May 19, 1943, at the postoffice at Austin, Texas, under the Act of March 3, 1879.

Postmaster: If undeliverable, please notify TEXAS GAME AND FISH on form 3578-P at the Walton Building, Austin, Texas.

Manuscripts should be addressed to Editor, TEXAS GAME AND FISH, Walton Building, Austin, Texas. All manuscripts should be accompanied by photographs. TEXAS GAME AND FISH always is interested in pictures of game and fish catches, unusual hunting and fishing scenes, bird dogs, and in group pictures of hunting and fishing organizations. Photographs used in TEXAS GAME AND FISH will be returned after publication.

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TEXAS GAME & FISH invites republication of material since the articles and other data comprise factual reports on wildlife and other phases of conservation.

★ In This Issue ★

April, 1952 • Vol. 10, No. 5

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The Cover

The Whooping Crane, painted by Orville O. Rice for this month's cover, is the only North American bird that can be described as "almost as tall as man." The bird is also very secretive, according to Julian Howard, manager of the Aransas National Wildlife Refuge near Austwell, Texas. He says that "Whoopers migrate just like they live. We never know when they return here from the north, and we never know when they depart." Most puzzling of all is the place where the Whoopers nest. It is a puzzle that Howard and others hope to solve as a possible means of prolonging the existence of the big birds which now total less than 30.

ACCENT ON YOUTH

By TOWNSEND MILLER

Assistant Director, Department of Publications and Division of Conservation Education

STEP aside, dad, and make way for the kids. They show promise of rebuilding wildlife more effectively than any generation since the passing of the frontier.

The boys and girls of Texas seek information about wildlife with the enthusiasm of a hungry bass lunging at an injured minnow.

A glance at shining young eyes during a classroom wildlife talk would melt any worldly heart. Daily stacks of letters, written in the plain but beautiful language of the young, requesting information and pictures of animal subjects are an inspiration to all.

Youngsters, when given a chance to learn about the birds, animals, and fish around them quickly come to regard them as personal friends. They are eager to protect them.

To them, the stilted word "conservation" simply means giving animals a chance to live, and after all, what else is there to it?

Texas young folks not only are learning about wildlife, they are doing something to help maintain and restore it.

One group at Cuero, under the guidance of Game Warden Charles Edmondson, each year participates enthusiastically in the Game Department's dove banding program. Agriculturally-minded youngsters in 4-H and Future Farmers of America organizations are planting plots of quail food or stocking and building farm ponds in keeping with productive fish management practices.

Warden John R. Wood of Brownwood works with Boy Scouts interested in giving wildlife a lift. Other wardens such as Tom Waddell, Eagle Lake; Del Bowers, San Saba; Harley Berg, Waco, and many more have volunteered help to enthusiastic followings. FFA and 4-H instructors and officers of sportsmen's clubs also help guide the youngsters.

The Game and Fish Commission's education division doesn't attempt to provide personnel to teach conservation directly to the youngsters. Its function at present is to gather information needed by these groups, to write, edit and publish it in usable form, and to distribute the material where requested.

The division, headed by veteran wildlife educator, Everett T. Dawson, also helps guide programs set up by wardens, teachers, or any other persons or groups interested.

Heart of the material distributed—at least so far as the children are concerned—is what is known as the "Pupil's Packet." Included are half a dozen large, full-color pictures of Texas wildlife species such as those appearing regularly on the cover of this magazine. On the back of each is information about the life history, range, food, and other facts of interest concerning the species.

Conservation Means Giving Animals Chance to Live

Also included in the packet are leaflets, bulletins, and other material which might aid the student in becoming better acquainted with the wildlife of Texas.

Any Texas youngster can obtain this packet free simply by writing the Division of Conservation Education, Game and Fish Commission, and asking for it.

Teachers or others interested in wildlife instruction are supplied with material in the form of a more extensive and elaborate "Teacher's Packet," also without charge. Key piece is a 48-page book, "Wildlife in Texas," elaborately illustrated but simple and direct in text. Every other page is a full-color picture of one or more species of a Texas mammal, fish or bird. The text presents the life story, range, and characteristics of the animal, in a way that it may be used as a teaching unit.

The packet is designed to aid instructors even though they may not have had any previous training on the subject of wildlife.

This material is prepared by the Game and Fish Commission's Division of Conservation Education and Publications with the help of teachers, supervisors, representatives from other natural resource agencies, and many others.

The eagerness of the young folks for wildlife knowledge naturally makes working with them attractive. Too, they are in the natural learning period of life.

But there is at least one more important reason the Game and Fish Commission has for directing most of its educational program toward the younger set. It is simply that these young folks are the ones who will inherit the benefits of today's conservation practices as well as the responsibilities of maintaining wildlife populations in the years to come.

Game cannot be replenished overnight, and we of the older generations, to a great extent, have not made the most of our chance.

These fourth grade students of the Colorado School District are learning by doing. James Thomas tells his classmates what he learned after being given an assignment concerning squirrels. He is using a full-color picture from the Game and Fish Commission's "Pupil's Packet."

Game Warden John F. Wood of Brownwood explains to a group of interested Boy Scouts that in most cases a shortage of wildlife can be traced to misuse of the land. Holding native grass, he points out that all animals depend, directly or indirectly, on plants for survival.

To Texas youngsters, Theron D. Carroll may well be the best known member of the Game Commission's staff. He has visited with many school children in their classrooms, carrying a large "sample case" filled with mounted specimens and skins of the state's wildlife inhabitants.

A scene at a public gathering of sportsmen recently attests to the popularity of his little informal demonstration talks. As the meeting adjourned, a handful of youngsters emerged from the crowd of adults and approached with smiling faces to greet the friend who had visited them sometime previously. "May we have your autograph, please, Mr. Carroll?" was their earnest request.

Carroll's talks are one of the highlights of the Game and Fish Commission's work with school children. They are brief, timed to fit the average single classroom period, but they are packed with information. The mounted specimens and skins of real mammals and birds, which are passed among the children for close examination, add a never-to-be-forgotten touch.

It seems significant that not one of these delicate specimens has ever been damaged while passing through the reverent hands of these enthusiastic children.

Carroll visits classrooms at the request of teachers who wish to fit conservation and wildlife into a related course. His talks are simple but thorough. A sense of humor, cleverly tuned to the minds of youth, adds punch. The kids love it—and remember the real-life stories he tells.

A single period offers little time for anything more than basic fundamentals, but Carroll covers a lot of territory in a short time.

He starts by explaining that every living thing is either a plant or an animal. The mounted specimens are brought out to illustrate the difference between birds, mammals, reptiles, and other divisions of the animal kingdom.

Interesting facts about each specimen are told—how each is adapted to its manner of feeding, its method of traveling, the climate and vegetative environment in which it lives, and how all this affects the relationship of one animal to another.

Carroll points out that all animal life finally is dependent, either directly or indirectly, on plant life.

Plants in turn are dependent upon water and soil—factors which can be regulated to a great extent by man—and climate, a factor over which man has little control.

Because of this interdependency, he tells them, the Game and Fish Commission, as well as individuals or

groups interested in the welfare of wildlife, must be interested, also in water, soil, and plants.

It is amazing how much the eager youngsters are able to absorb from Carroll's easy-going but forceful presentation.

His talks aren't limited to classrooms, alone, however. He frequently appears before groups of Boy Scouts, 4-H Club members, Future Farmers, or other youthful organizations.

Many of the requests for wildlife publications and talks come from teachers who have participated in summer workshops for wildlife education in Texas colleges and universities.

These workshops, offering college credits in education, are co-operative affairs. The Game Commission and other agencies interested in conservation such as the Texas Forest Service, State and Federal soil conservation agencies, and the State Department of Health provide instruction and guidance for the workshops. Lewis Spears of the Texas Education Agency is co-ordinator.

Representatives of the various agencies point out how each branch of conservation is related to each of the others, and the teachers and prospective teachers are informed of teaching material made available to them by the various agencies.

Eventually, however, even the ultimate results of this work go back to the youngsters.

The Division of Conservation Education and Publications also devotes part of its work to the dissemination of wildlife information to adults. This is done through the publication of bulletins, pamphlets, this monthly magazine, the production of movies, the issuing of news releases and writing of feature stories. But that is another story.

The real accent is on youth. And they are discovering what many adults have forgotten—that the great outdoors, when given a chance, provides the most thrilling wild animal circus of all.

In the hands of these Future Farmers of America, and similar agricultural youth groups, rests the future of Texas wildlife. They are being taught by James G. Kelly, left, and L. R. Faver, instructors in vocational agriculture at Crockett, how the use of land and forests may help or hinder wildlife survival.

Theron D. Carroll of the Game and Fish Commission tells Mrs. D. E. Hughes' fifth grade class at Crockett that many hawks are beneficial and should be protected. He illustrates the talk with one of the many specimens he carries to the classroom for this purpose. When youngsters come to regard animals as their friends by learning more about them, the desire to protect them follows.

Enemies of the Bobwhite Quail

IT IS rather remarkable that so many bobwhite quail survive the perils which they encounter between hatching and maturity. Anyone who has the privilege of seeing a new brood of quail chicks emerging from the nest must wonder how long the fluffy little fellows can escape the dangers which await them.

The principal causes of high mortality of the bobwhite quail are destruction of nests and eggs, hawks, snakes, coyotes and other predatory mammals, parasites and disease.

The reduction of the potential quail crop begins during the nesting season. The number of nesting failures may exceed fifty per cent of the total number of nests established. Many nests are deserted or destroyed before the eggs have a chance to hatch, or even before the laying of the clutch is completed.

Nests which are built in low areas during dry weather are subject to flooding when heavy rains occur. This type of destruction is common where burning leaves nesting cover only in wet lowlands. On poorly-drained land a series of rains may wash mud over the eggs or keep the nests so saturated that the birds leave.

Hail occasionally destroys unprotected nests and young quail. Drought may result in nest desertion, or the intense heat may cause eggs to spoil after premature incubation is started by intense heat.

Human disturbance of quail nests is particularly harmful during the laying season. If the eggs are handled or the nest is disarranged, the birds may leave. Some destruction of nests in the borders of cultivated fields or in meadows is inevitable. Flushing bars on tractors and mowing machines help to prevent some of this loss.

Livestock trample nests and otherwise disturb laying and incubating birds. However, the greater damage is from overgrazing which destroys nesting cover and food. Hogs are particularly destructive on quail range in spring and summer because of their fondness for quail eggs and young birds.

Dogs and cats cause both nest desertion and destruction on farms. In many cases it is difficult to determine whether a nest has been invaded by dogs, cats, or other enemies such as the skunk or coyote.

Several of bobwhite's natural enemies regard quail eggs as a choice delicacy. Among the egg-eaters are snakes, skunks, cotton rat, opossum, bobcat, fox, and raccoon.

In addition to destroying eggs, cotton rats compete with quail for food. A concentration of the rodents also attracts other natural enemies to the quail range.

The destruction caused by the fur-bearing mammals varies according to their abundance. They generally increase when fur prices are low and decline in population when higher prices for fur stimulate trapping and hunting. The opossum is abundant throughout the South and is considered one of the worst enemies of quail.

The principal egg-eating snakes are the "chicken-snakes" (colubers), coach whip, and blacksnakes. The king snake offsets some of its damage by controlling the smaller snakes. Coach whips are the worst offenders because they destroy quail eggs and hunt quail chicks.

Wild and domestic turkeys, bluejays, and crows destroy quail eggs in nests which are poorly concealed. This damage is usually slight, except in areas where nesting cover is very poor.

Red ants are frequently a menace when quail eggs are hatching. As the chicks "pip" the shells, the ants enter the eggs and destroy the helpless young birds. This tragic loss of chicks occurs after the parent birds have spent about forty days in the vain effort to produce a brood. Broken eggs sometimes attract so many ants that the incubating bird is forced to leave the nest.

Contrary to popular belief, most hawks are useful birds. With few exceptions, their beneficial work in controlling rodents more than compensates for the killing of quail.

The Cooper's hawk, one of the worst enemies of the bobwhite, has given the entire hawk family a bad reputation. This bloodthirsty representative of the "blue darter" group is a resident of most of the bobwhite quail range in eastern North America. Cooper's hawks are present in the South throughout the year, but they are generally more numerous during the fall and winter months when migrations arrive from the northern part of their range.

The sharp-shinned hawk is smaller than the Cooper's hawk but is otherwise similar in appearance. Sharp-shinned hawks are rare in the South during the summer months but appear in numbers in October and November. The behavior of this species in the pursuit of quail is much like that of the Cooper's hawk. However, the smaller size of the sharp-shinned hawk makes it somewhat less destructive.

"Blue darters" take their greatest toll of bobwhites on land which does not provide adequate shrubby cover. Where quail and Cooper's hawks are abundant, a reduction of the latter may be necessary. It is well to remember that some predation by hawks

has a beneficial effect. In keen competition with their natural enemies, only the fit and alert bobwhites survive to perpetuate their species.

The red-tailed hawk is a native of the entire range of the bobwhite quail but is generally not numerous in the Southern States. A redtail has no chance to catch a quail in flight. Occasionally an unwary bobwhite may be surprised and caught on the ground. Redtails are valuable for their work in controlling cotton rats and other destructive rodents and have little influence on the quail population.

The red-shouldered hawk is common in the South but is not an important enemy of quail. This hawk, like the larger redtail, is conspicuous when it soars over field and woodland. The Cooper's and red-shouldered hawk look much alike in their juvenile plummage. The adults can be distinguished by their flight habits. Cooper's hawks zigzag through coverts with considerable speed and hide in thickly-wooded places, while the red-shouldered hawk prefers open land and selects a lookout perch which affords good visibility.

The broad-winged hawk is a slow-soaring bird which is much smaller than the red-tailed and red-shouldered hawks. Immature broad-winged and red-shouldered hawks are frequently mistaken for Cooper's hawks. The broad-winged hawk is generally beneficial and should be protected from further reduction in numbers.

The marsh hawk, commonly known as "rabbit hawk," spends the winter in the South but generally nests in the northern part of its range. A distinguishing feature of this species is a conspicuous white rump patch which may be seen as the bird flies back and forth over marshes and fields of broomsedge. The marsh hawk is not an important enemy of bobwhite quail.

The destruction of quail eggs by snakes has already been discussed briefly. A few snakes include young quail in their diet. The coach whip is generally considered the worst reptile enemy of the bobwhite. This snake is widely distributed over the South Atlantic States and the Coastal Plains region.

The coach whip pursues the chicks one at a time in a deliberate manner until its appetite is satisfied. A coach whip is yellowish-brown in color, and some individuals of the species attain a length of eight feet. Its slim body and natural agility enables it to move swiftly through every kind of cover which quail use. Coach whips have been known to devour ten-day-old chicks, and as many as four chicks have been found in the stomach of one snake. Parent quail are helpless in the defense of their brood when this culprit strikes.

The blacksnake, a member of the "racer"" group, is abundant over most of the bobwhite quail range. In behavior, the blacksnake is comparable to the coach whip but is generally less destructive than the latter. The blacksnake prefers to be near streams where it can feed on frogs. This characteristic tends to reduce its consumption of young quail and other ground birds.

The red coluber, commonly called the red chicken-snake, eats quail eggs, but it is not generally considered an important enemy of the bobwhite.

The diamond-backed rattlesnake preys on cotton rats, rabbits, squirrels, and other rodents and occasionally catches a bird. The diamond-back is not a very sociable critter, and it is generally unwelcome because of its poisonous characteristic.

The coyote is one of the principal enemies of the bobwhite quail in the brushlands of Southeast Texas. Control of this predator is necessary when it is abundant on good quail range. Coyote pups are born between late March and mid-May, the period which corresponds to the early nesting season of the bobwhite. The coyote is notorious for the destruction of nests at this time, and occasionally a quail hen is surprised and caught on the nest. When mesquite beans, prickly pear, and Mexican persimmons begin to ripen in quantities in late June, the coyote shifts from grass to brush. Bobwhites generally remain in the grassland if suitable food and cover are available.

The predation of all mammals depends upon their relative abundance, their food supply, and the density of the bobwhite quail population. As already mentioned, skunks, opossum, and raccoon have a definite liking for quail eggs and young quail. It is probable that several other mammals prey on quail to a limited extent.

Parasites and diseases are of minor importance except when the quail population temporarily exceeds the supply of food and cover. Quail chicks may die from coccidiosis, and many adult birds are carriers of this disease which is prevalent among domestic poultry.

The principal parasites among bobwhite quail are tapeworms, mites, lice, ticks, and "chiggers" or red bugs. The first three of these parasites apparently are more likely to infest quail on land which also serves as a range for chickens and turkeys.

"Skunks have a definite liking for quail eggs and young quail."

LANDA PARK LAKE IS RENOVATED

☆

By

JACK BALL,

WILLIAM BROWN,

and

ROBERT KUEHNE

Aquatic Biologists

MILLIONS of Rio Grande perch were involved in a recent "house cleaning" at Landa Park Lake in New Braunfels, Texas. The public interest shown in this project has prompted the authors to record some of the details of the operation with a brief amount of background information.

In recent years the Texas Game and Fish Commission has successfully used rotenone in the renovation of public fishing waters. When undesirable fish populations become established in a body of water, it is very difficult to re-establish good fishing without draining or killing the fish by chemical means. Since draining is not desirable from an economic viewpoint and is sometimes impossible, chemical treatment with rotenone is a most suitable means of killing the existing fish population before restocking with proper fish species.

Rotenone is a chemical compound obtained largely from leguminous plants such as the Derris plant of Australia, Oceania and Southern Asia and the Cube plant of South America. The commercial powder is usually the ground roots and twigs of these plants containing a given percent of rotenone. Rotenone is actually insoluble in water. In fishery work it is made into a thick paste or mortar by wetting and mixing. The paste is then diluted with water and sprayed or scattered over the water. The paste may also be placed in a burlap bag and dragged in the wake of a motor boat. The use of rotenone for killing fish for food has been practiced for many years by natives of tropical countries. Their method consisted of chewing up the plant producing rotenone and spitting it in the water or placing the masticated plant in a basket and putting the basket in the water.

Actually, rotenone kills only insects and gill breathing animals. Its effect upon fish is merely one of suffocation, since it causes the capillaries of the gills to shrink to such a small diameter that little oxygen is taken into the blood stream. Hence, the fish killed are edible and the water safe for all other purposes. Therefore, there is little economic loss in such an undertaking.

Rotenone may be a most useful tool of the fishery worker in reclaiming bodies of water and returning them to good fishing. But first, an accurate analysis of the water must be made by qualified persons to see if rotenone is actually the solution to the problem.

Ascarate Lake at El Paso, Texas, was treated in 1950, and it was the first time that the Game Commission used rotenone on a large scale. Sections of the Blanco and Guadalupe Rivers were treated by Aquatic Biologists and Game Wardens, with the assistance of local citizens during 1951-52.

More recently, part of the North Concho River has been treated as the first attempt to eradicate all rough fish in a stream which is being impounded. In these waters over 90 percent of the fish by weight were rough fish such as gars, carp, suckers and shad. Medina Lake, treated in 1950, may be cited as an excellent example of how good fishing can be restored when proper stocking follows treatment with rotenone. The lake appears to be returning to the excellent bass fishing water which it was when first built.

Rotenone is best used in fishery management to com-

pletely kill a fish population in waters where fishing is poor as the result of a stunted, overcrowded population of one or more game species or when rough fish have taken over and are the predominant fishes by weight. The treating of Landa Park Lake and the Comal River at New Braunfels during December 3-5, 1951 was unique and proposed problems not previously encountered.

Fishermen have had little success in the lake and river for several years, although the clear spring water once had been a favorite haunt of bass fishermen. While game fishes were declining, an overpopulation of stunted Rio Grande perch, introduced from the lower Rio Grande valley, was steadily increasing. Successful rotenone treatment of parts of the nearby Blanco and Guadalupe Rivers gave local citizens and the Chamber of Commerce new hope for improving fishing.

After preliminary studies by the mobile stream survey crew, working on the Guadalupe River drainage, the treatment program was considered feasible and advisable and would be undertaken by the Commission if acceptable to local civic organizations. A new factor not encountered before was the presence of numerous springs throughout the lake, which would prevent a high concentration of rotenone to be maintained. Due to this condition a kill of about 80 percent was all that the biologists would predict.

The New Braunfels Chamber of Commerce was instrumental in the planning of the project and made arrangements for the gathering and disposal of dead fish. The Comal Power Plant of the Lower Colorado River Authority agreed to the plan after determining that rotenone would not be injurious to their copper cooling system. They were most cooperative even though the project caused them many inconveniences.

The lake was treated on December 3rd and 4th, 1951 by Aquatic Biologists of the Commission with the generous cooperation of local citizens. The springs were given several applications of rotenone as Rio Grande perch entered these areas to escape the chemical. The Comal River required little attention since most of the rotenone put in the lake was carried down the river by the strong current. Successive applications at the springs during the week killed many of the "perch" that survived the initial treatment.

Desirable species of minnows and other fish were in no danger of being killed because many were seined and held in a protected area.

Although the lake and river have been stocked yearly with black bass and sunfishes from a rearing pond operated by the City of New Braunfels, very few of these game fish were present in the lake. Probably, more than 90 percent of the fish killed were small Rio Grande perch from three to six inches in length. The remainder were mostly small sunfishes, yellow bullheads and a few bass. The river was found to contain some suckers and flathead catfish in addition to those mentioned above.

The total number of Rio Grande perch killed in the lake, which contains about 20 surface acres, would be hard to determine, because it was impossible to pick up all of them. However, 18 dump truck loads were hauled

• *Continued on Page 32*

This 28-pound flathead catfish was taken at the Power Plant intake screens. It was one of the few large game fish in Landa Park Lake.

Rio Grande perch are being removed from the lake via weed conveyor. It was the second day of hauling. (Photos courtesy Terry Adams, New Braunfels, Texas.)

Some Facts About the Red-tailed Hawk

By JACK M. INGLIS

IF YOU have ever watched a lazy, loafing old red-tail hawk just passing the time of day on his wings, circling around with his mate and exchanging an occasional scream with her, you probably get a kick out of just having him around. Usually they're pretty good neighbors, too. Their scientific name is *Buteo jamaciensis,* and they are the largest of the eastern broad-winged hawks, being only exceeded in size in this group by the western rough-legged hawks. Their flight is slow and rather sluggish and given to soaring, at which time you often get a glimpse of the characteristic red top-surface of the tail. Sometimes when the sun is right, the red shines through the lighter bottom surface and is seen from below. These birds have a "territory" in which other redtails are not welcome. The red-tail is reportedly the shiest of all the broad-winged hawks.

Home country for the red-tail varies from heavily timbered pine stands, maple swamps scattered white pine areas, open bogs, and post oak woods to the mesquite lands of the semi-arid desert country.

Generally this bird is considered a beneficial species and should be protected. However, occasionally there are individuals that acquire a taste for poultry and these have to be controlled. It is too slow to catch many of the songbirds or healthy game birds, but is a good rodent catcher.

Three types of hunting are used by the red-tail to catch its dinner. One is a lofty soaring flight in which it soars to great heights only to drop like a plummet at any movement detected by the bird's exceedingly keen eyes. The second method used is a slow flapping, sailing flight over meadows with a pounce on the prey detected, and the third system used consists of watchful waiting on a commanding post or tree. Much of the hunting must be done in the woods as woodland animals are often found in the stomach contents. However, more generally the birds hunt in the open, making a menu of field mice and rats.

This hawk mates for life and is paired with its mate when it arrives on the breeding ground. The courtship flight is continued through the nesting season even while the young are still in the nest. This act consists of the paired birds soaring in wide circles crossing and re-crossing each other's paths, sometimes almost touching, and rising until the birds are almost out of sight. Finally, one of the birds closes its wings and dives, presenting a triangular pattern to an observer on the ground, checking its flight just above the trees. The repetition of this feat is indeed a spectacular display of acrobatics.

The nests are often constructed in a crotch near the top of tall trees. But where trees aren't available they will nest on cliffs, cacti, or in the absence of other places, practically on the ground in low bushes. They often return to the same woods year after year and many times use the same nest over and over. At times they follow the great horned owl on a nest in the southern part of their range, as the latter bird nests earlier. They also appropriate other hawk, owl, crow or squirrel nests to build on.

Building is a very deliberate process in which the birds lay claim to a site by placing a green sprig there and then proceeding to prepare the place for their use. They visit the site at infrequent intervals and are very cautious about these visits. If they suspect that the operation is being watched they stay away until the "coast is clear." Both sexes work on the nest, building with sticks and twigs one-half inch in diameter or less, and lining the flat and shallow home with inner bark strips of cedar, grape vine or other soft material.

In the eastern and southern portion of its range the red-tail generally lays two eggs, whereas in the western and central portion, the average is three or sometimes four. The shell is smooth, without gloss and generally of a dull or dirty white color. They are sometimes bluish and occasionally pale greenish. They are often plain but usually sparingly spotted. At times they are mottled and occasionally they are heavily blotched. The markings are reddish or yellowish browns.

Incubation takes 28 days with the male assisting the female in this chore. The incubating birds are very shy and it is seldom that one is able to come within one hundred yards without flushing them off the nest. They seem more concerned about their own safety than that of the young. Probably this contributes to a high mortality of young.

The adult birds place a fresh bough in the nest every day, supposedly to act as a sunshade and shield while the young are still small. Even though the adults neglect to protect the young the youngsters are able to inflict considerable damage themselves at an early age. They are very active, walking about in the nest, stretching and flapping their wings and showing much interest in what is going on about them. Their eyes must be exceedingly keen since they have been observed watching birds flying overhead at an early age. Their call is a weak peeping note changing to lusty excited screams when one of the parents comes home.

After the young leave the nest the parents set about to teach them to fend for themselves. This involves teaching the young to hunt by frightening mice from their hiding places and then calling the young, that are circling above, down to catch them. At first the youngsters aren't too successful in their attempts to catch the scurrying prey and depend mainly on the parents for food. Later they master the technique and can manage their own dinners. Then the parents lose interest, and the young ones are on their own.

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Texas Tracks

By JAY VESSELS

Field Data

MIGHTY MIDGET

Warden A. A. Stein of Dallas, tells about the poor fellow caught with a teal duck, illegally taken.

He was taken before the local Justice of the Peace, convinced meanwhile that he should take his medicine.

The hapless hunter pleaded guilty to the charge of shooting one waterfowl out of season.

"Sixty dollars, fines and cost," said the JP.

The hunter looked at the little duck, presented as evidence. It weighed all of a half pound.

"Sixty dollars," mused the defendant. "Judge, I shore am glad it wasn't a goose."

BOB-BOB WHITE!

George Christian of International News Service, reports that "this is the time of the year when Texas farmers can make or break future crops of bobwhite quail."

"Game conservationists have been urging for years that farmers exercise a little additional care in their land-clearing and planting in order to maintain food and cover for quail," he wrote.

"However, this grass roots campaign toward improving wildlife resources is still a foreign thing to many landowners who unknowingly strip their properties of all quail attractions, such as brushy fence rows and unharvested grain."

MOONLIGHT HUNTING VERBOTEN

The warden force in one Texas area insists night waterfowl hunting once was prevalent. Wardens agree furthermore that the shot gun trade developed a deadly accuracy in bringing down waterfowl between dusk and dawn.

One of the wardens explained that at certain stages of the moon and with fleecy clouds, flying fowl are outlined perfectly for scatter gunners.

He said not so many years ago, before improved enforcement facilities and before wildlife conservation education became widespread, night shooting in some sloughs resembled the popping of firecrackers.

GET THE GAFF HOOK!

Pop Boone in his Fort Worth Press outdoor column reports "fishing has been generally good at local lakes."

He wrote that the luck was particularly favorable "at wind-protected spots where camp owners have put down some brush piles."

Pop continued that "this method of attracting crappie has been paying off for sometime, but only recently has it become general practice at Eagle Mountain."

FISHERMEN'S SHANGRI-LA

Aquatic Biologist Leo Lewis at Wichita Falls, tells how sportsmen in that area circumvented the hazard and unpleasantness of speeding boats on their favorite fishing grounds.

In helping clear timber from Lake Diversion they left an isolated area with its tree obstacles. Thus only slow moving craft may safely navigate the area.

The necessary quiet thus is maintained for successful angling.

NEW OUTDOOR GROUP

Bill Walker of the Houston Post reports that "the Matagorda Bay Boat Club of Bay City takes its place among the new outdoor organizations of this area."

"The main purpose of the club," he writes, "is the conservation of natural resources. It plans interesting events for boating enthusiasts, teaching boating safety, and to help out during flood and storm disasters."

PARLEZ-VOUS FRANCAIS?

One of the places for the ailing, in a French community in Texas is called "Hotel Dieu."

A Federal warden caught some waterfowl hunters exceeding their limit. He confiscated the ducks and gave them to the hospital.

The warden noted in his report to headquarters that he had given so many confiscated ducks to "Hotel Dieu."

Headquarters snapped back in effect:

"Please refer to paragraph such-and-such, rule such-and-such about not giving ducks to hotels."

The warden retorted in effect:

"Please refer to French dictionary which will inform you that 'Hotel Dieu' means hospital for God's people who are sick."

ZONING PLEA RENEWED

Paul Timmons in the Amarillo News-Globe observed that "the Texas Wildlife Federation has renewed its request to the US Fish and Wildlife Service that Texas be zoned for duck and goose hunting, with separate seasons for the north and south zones."

He added:

"I don't suppose it will do any good—the US Fish and Wildlife Service apparently has no intention of considering the wishes of the people—but they can't say we didn't let them know in time what we want."

FOULED UP WATERFOWL

Steve Hamlin got so interested chronicling his notes for "Mighty Migration" in the March issue, that he bungled some vital dates.

He wrote that the main goose migration occurs between April 20 and May 10. What he should have written as "between March 15 andApril10." was "between March 15 and April 10."

Game Notes

Some of the folks who know better got disturbed but the geese carried on as always. The geese forgot to read Steve's piece and took off practically on time.

Warden Tom Waddell, authority on departing times for the big birds, said this spring they began leaving about March 10, "a little early because of the mild winter."

Hamlin said he was having trouble justifying the error. "Yet," he offered, "when a man parlays a flock of 100 white-fronted geese into a comeback cloud of 40,000 in 20 years, that's exciting news, especially these days when wildlife is so hard pressed for survival."

Warden Waddell, who headquarters at Eagle Lake, is the man who mothered the amazing comeback which now features the world's greatest concentration of white-fronted geese.

WHO ASKED WHAT?

Warden Grover Simpson, Austin, who helped with the wildlife exhibit at the San Antonio Livestock show observed the poor quality of adult questions as compared to those by youngsters.

He said the most intelligent questions were asked by the young people, from ages 8 to 17. His observation was that the present generation asks because it wants to know; that older ones ask oftentimes just to see what kind of answers they get—since their minds are already made up.

The questions ranged from "how fast does an opossum travel?" to "what are the best methods of quail culture?"

"The youngsters asked and then listened for the answers," said the warden. "If they didn't understand, they asked over again."

CAW, CAW, CAW!

Kenneth Foree, new outdoor editor of the Dallas Morning News, described a field trip he took with Ed Mergard, three time National Crow Shooters Association champion.

Mergard, according to Foree, demonstrated how he calls them right into the sights, and at killing distance. He reported that the champion made five stands during one afternoon and each time lured many of the black birds to sudden death.

Mergard's crow call is so effective that in previous trips he and two others called in and killed an estimated 175 crows.

Then Foree states:

"For 17 years he has been killing crows, which he calls the best hunting since it is the only year-around one, has no bag limit, is better in summer than winter and best during the spring mating time."

Fish Reports

SEINING SHENANIGANS

It was cold. It was wet. The nights were dismal along that eerie river bank. Game wardens know best the brutality of those long, silent vigils.

But the code says the good men never give up.

Finally . . . the pair had 14 catfish in the illegal net.

The code says be gentle yet firm.

The men wanted to plead guilty; pay any reasonable fine; just escape jail.

The code says never work a hardship on violators.

Before the Justice of the Peace, both men freely admitted looting game fish, but turned on the warden like he was a monster. "Handled us like hardened criminals," they chorused.

But the JP knew better. He knew the young warden's reputation for fairness.

CROWS ONLY, WHAM!

Up in Grayson County, the warden force was clearing out the area preliminary to setting off a dynamite blast to kill crows.

"Yep, I got him out, finally," said Warden Hill Lawrence of Denison. He referred to an elderly Negro who had insisted on pursuing his rabbit hunting even after the charges were placed.

"Where did you find him?" asked Warden Clarence Jones of Trenton.

"Oh, he was sitting under a tree wondering what kind of growth produced those strange clusters. I explained that the cases containing dynamite and steel slugs were a new fungus growth."

Lawrence went on:

" 'Dat's jes what I knew all de time,' said the hunter. 'Jes gettin' ready to line up a row of 'em and shoot down dat mean ole fungus.' "

Press Views

FUR PIECE FOR BEAR!

Upshur Vincent, Fort Worth Star Telegram Outdoor Editor, spotted a pair of gunners who go places to get what they want. He wrote:

"Some Texas nimrods think they are going a long way when they drive into New Mexico for grouse. Others go all the way to the Dakotas for pheasant. But few indeed are the Texas hunters who go to Alaska for a bear hunt! However, Andy Gorbett and Bobo Lawrence of this city spent most of last October in that far north country and each did get a bear on Kodiak Island."

THE BIG DITCH

By ROBERT L. RINEARD

(EDITOR'S NOTE: *The author, Cpl. Rineard, is stationed at Sheppard Air Force Base, Texas. His home state is Pennsylvania where for several years before coming to Texas he wrote for the Pennsylvania Angler and Pennsylvania Game News.)*

DEEP in the heart of the level plains of northwest Texas, the fishing varies a great deal from that of the more mountainous states. There are no cold turbulent trout streams. In fact there are very few streams of natural origin, and in their place are many man made lakes both large and small. But this article is primarily concerned with the man made streams, or irrigation ditches which are the blood veins of the Texas ranches.

They carry the scarce and precious water to the farmlands for irrigation purposes. The water is stored in the lakes until needed. It is composed mostly of runoff from rainfall and is quite hard, due largely to the mineral content of the ground under the lakes. In many cases rivers are dammed to form the lakes.

As the water is needed, it is let out of the lakes and conveyed through the system of ditches. This is the primary purpose of the ditches, but they are also used for recreational activities. They vary in size from the large main ditches to the smaller branch ditches.

The largest is approximately 30 feet across, while the smaller ones are about ten feet in width. The amount of flow is controlled by large manually operated gates, which are opened or closed according to the needs of the local ranchers.

As a rule the best fishing is in the early morning or late evening when the water isn't quite so warm. The sun is quite hot during the day as late as October or November. Species vary from an occasional largemouth bass to sand bass, cats, crappie, drum, and bream. Chubs seem to be almost absent in most of the ditches.

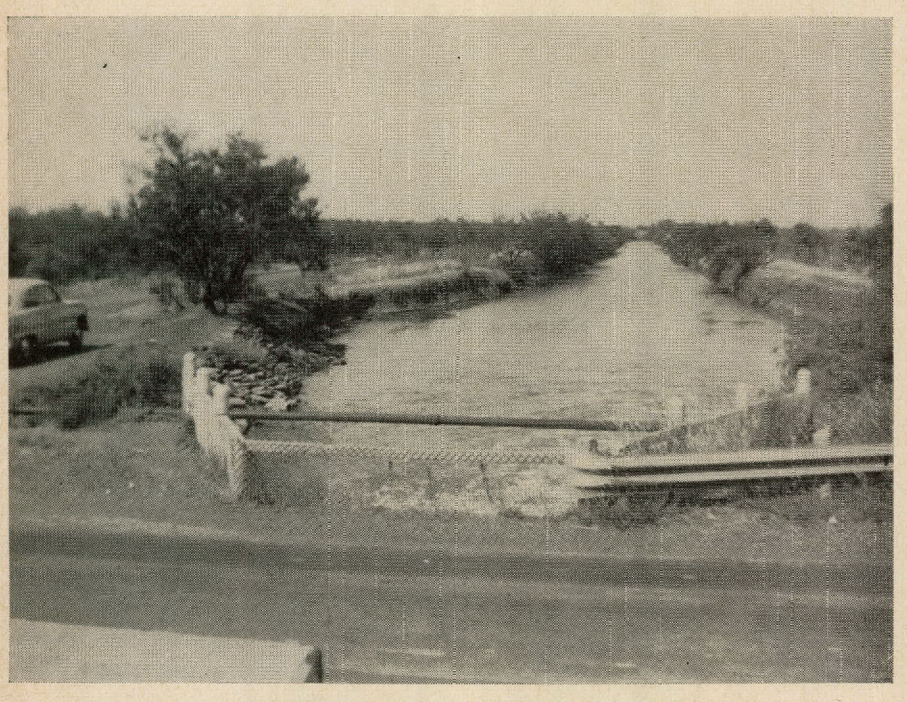
Practically everyone around this area fishes with minnows as they are raised and sold over a large area of Texas and Oklahoma. In fact, their use is encouraged by the Texas fish laws which provide that any resident can fish his or her own county without purchase of a license as long as they use live bait. But a license must be purchased to use artificials, or live bait outside of the county of residence, or to use artificials inside the county of residence. Minnows retail around 25 to 35 cents a dozen.

Thus the minnow dealers handle a lot of business here in Texas. The standard tackle for the ditch fishing is a cane pole about 12 feet in length. Attached to this is an almost equal length of line and various assortments of corks and leads. Of course, some brave souls like myself set forth with a standard casting rod and reel and usually attract a lot of attention!

A landing net or creel is seldom seen, and neither are hip boots. All the fishing is done from the banks. Stringers are usually a length of stout cord or a burlap bag on a rope with a drawstring top.

My first encounter with the ditch took place one evening shortly after coming back from a leave in August. Sgt. Casterlin and I were returning from town and we spotted Cpl. Hurst and his wife fishing the small ditch within sight of Wichita Falls.

I had been wanting to find out about the local fishing, so we stopped and Bill and I ambled over, looked the situation over, and inquired as to their luck. They promptly responded by hauling up a string of panfish and one rather nice catfish. To make matters more convincing, Don got a strike and brought in a



"My first encounter with the 'big ditch' took place one evening shortly after coming back from a leave in August."

good sized drum while we stood there watching.

That was all I needed despite the fact that I had on my good clothes; I vowed I would give him whatever I caught if he would lend me a minnow. He agreed and I promptly rigged up my old casting rod which I had brought back with me from home.

By this time Bill had become interested in the cork on Mrs. Hurst's line, and I saw him make a dive for the pole and sky-ball a bass. I laughed quite a bit but soon remembered my deal with Don.

I made my first cast below where the others had been fishing, and a vicious strike soon followed. I set the hook and knew I was fast to a good fish, although I couldn't see him due to the muddy water. I played him as long as I thought necessary and with an upward swing of the rod, landed a fine 15 inch catfish. By this time, my friends were as surprised as I was and knew that I would be spending more time along the ditches from thence forth.

The legal size of bass is seven inches. The daily limit can consist of 15 of which only ten may be of greater length than 11 inches. Crappie have no size limit and may be taken in daily limit of 25 per day, as may the various species of cats, perch, singly or in the aggregate.

An interesting thing to note is the number of women anglers who grace the lakes and ditches hereabouts. It would seem that their number almost equals that of the men, whereby in many other states fishing is still primarily a man's sport.

The average catch is composed of the smaller panfish and some large catfish; however, sometimes one may strike a good day and get some nice bass. The water is never entirely clear, but usually cloudy. Windy days are common and the lakes are seldom calm.

Some of the lakes are privately owned and a nominal fee is charged for fishing rights. The nearest lake to Wichita Falls is Lake Wichita. A frame pier is built out over the water and many nice catches are taken there. The cost is 60 cents per day.

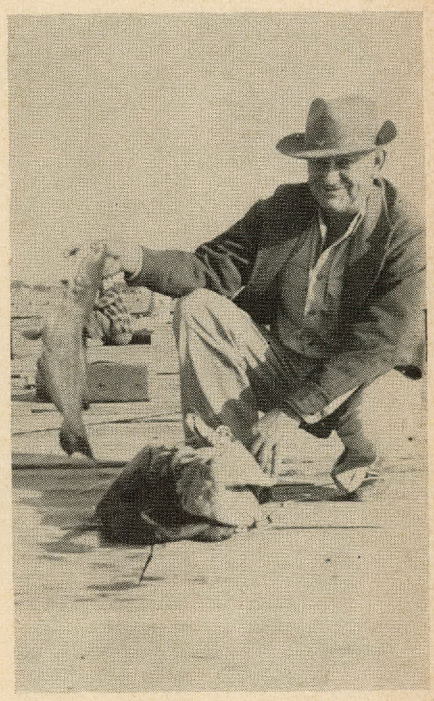
The following Saturday after I caught the catfish on a minnow, we drove out to the main ditch in this area. It was running at average depth for this time of year and looked good. We tried the big hole below the road first. At this spot the water flows over a big gate and drops about ten feet, then races under the highway to spill into a large deep pool which is a favorite spot with anglers in this area.

However, the fish were not hitting, so we drove on upstream to the control gates. This is another favorite spot. Before long the fishing picked up a bit. I floated a nice minnow down stream and it hadn't gone far when the cork popped under and I knew that I had a nice fish.

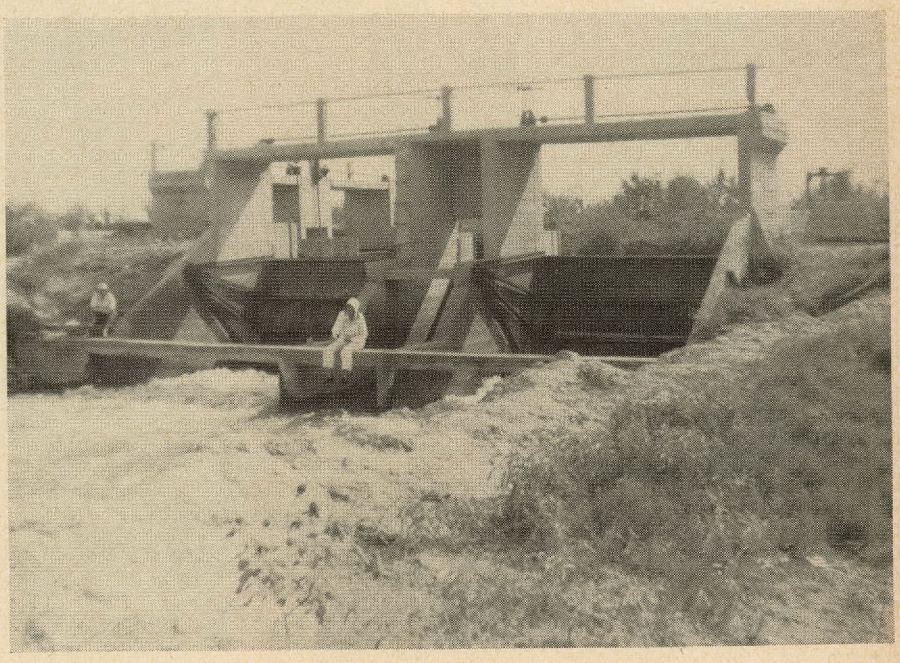
Bill offered encouragement and I proceeded to land a legal white bass. I promptly baited up with a fresh minnow and tried again. This time as I retrieved to make another cast, another bass flashed up at the minnow. This was more like it, just like the trout back home. I hooked and landed this one too, its being about the same size as the first. We caught several others that afternoon, killing only the two larger ones and giving them to a fellow angler.

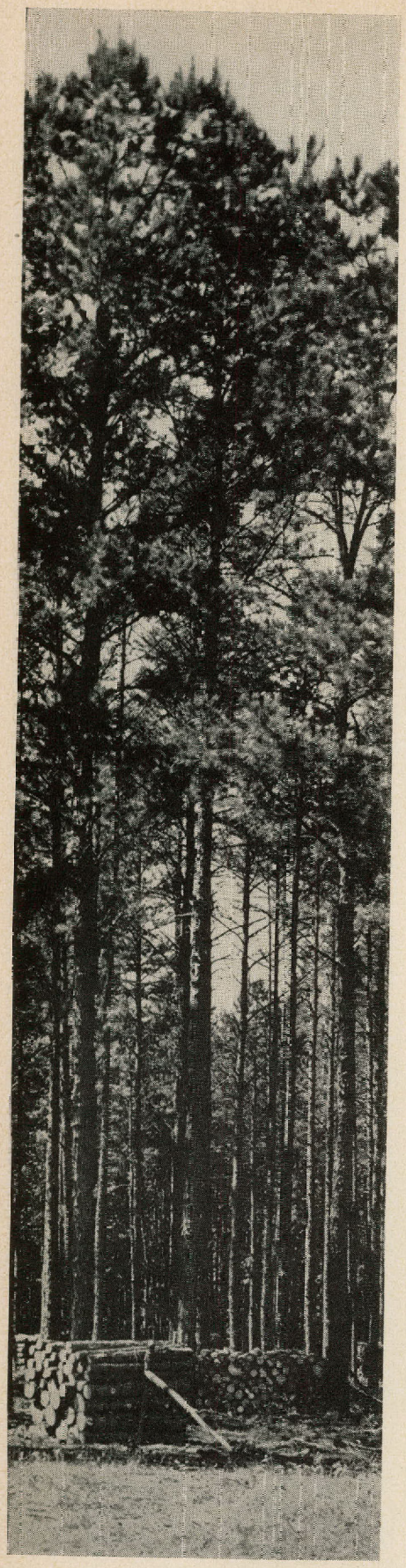
We have yet to get into the bigger fish, but it's a great relaxation to get out along the ditch and float a couple of minnows downstream. The weather here doesn't get real cold until December, thus the fishing season is good for all but about three months of the year. Even then, some of the more hardy members of the angling fraternity do well on the colder days.

To be sure one of the things I will long remember about Texas are the hours I've spent along "The Big Ditch."



To the right, Coy Camp, Wichita Falls, displays a three-pound channel catfish taken in Lake Wichita. The catfish, which measured 20¼ inches, was taken on a minnow. Below, anglers try their luck at the control gates.





Game Regions of Texas—

Pine and Post Oak Belt

DIFFERENT kinds of animals are adapted to different kinds of land. For example, antelope prefer the plains country, while deer prefer forest or brushland. The gray or cat squirrel in Texas is found in bottomland forests. The pine woods fox squirrel occurs in the eastern portion of the state. Other species are found in habitats suited to their needs.

There are many reasons why different kinds of wildlife prefer or require one type of country rather than another. Sometimes habitats, through manipulation and management, can be made suitable for animals that never existed there naturally, but it is usually much easier to increase the native animals in any given locality. The fact that preferences do exist explains the failures of many attempts that have been made to introduce game into country in which the animals have never occurred under natural conditions.

In this series of articles, adapted from *Principal Game Birds and Mammals of Texas,* ten game regions will be discussed. These regions are: (1) Pine and Post Oak Belt, (2) Blackland Prairie, (3) East Cross Timbers, (4) Grand Prairie, (5) West Cross Timbers, (6) Plains, (7) Trans Pecos, (8) Edwards Plateau, (9) Brushlands, and (10) Coastal Prairie.

The Pine and Post Oak Belt includes about twelve million acres of pine-hardwood forests in the easternmost section of the state and five million acres of post oak west of the Pine Belt. This is the region of heaviest rainfall, with 40 to 55 inches of precipitation annually. The southeastern corner of the Pine and Post Oak Belt receives the most rainfall, while the southwestern part receives less than 40 inches annually.

Soils are generally sandy, but there are extensive areas of reddish clays as well as alluvial soils along the

Most of the pine forests in East Texas are managed primarily for sawtimber and pulpwood. Post oak, right, is the principal tree species on approximately five million acres.

streams. Farming enterprises are more diversified than in any section of the state. About half of the people live on farms. Most of the farms are comparatively small, and approximately 50 per cent of them are operated by tenants. Livestock is permitted to run at large in many communities.

The largest oil fields in the state are located in the Pine Belt. Lumbering is second only to oil in value of products.

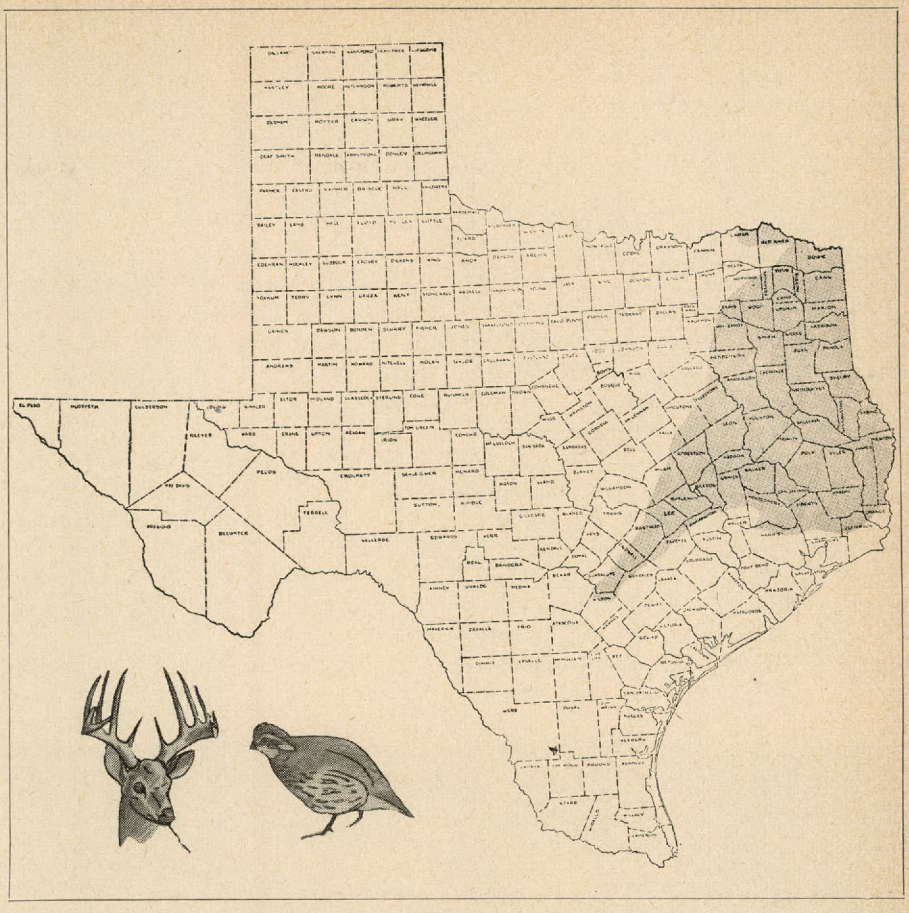
Longleaf, loblolly, and shortleaf pine, hickory, sweet gum, and various species of oaks are the important species of timber in the Pine Belt. Post oak and blackjack oak are the principal trees in the post oak belt. The pines extend westward into Colorado, Houston, Madison, Anderson, and other counties. Bastrop County contains a large "island" of pine, known as the "lost pines."

Uncontrolled burning of pine woodlands as practiced in former years caused heavy losses to young timber and damage to wildlife. Much remains to be learned of the intelligent use of fire in the management of land. Controlled burning is recognized as a useful tool in the management of both timber and wildlife, but the difficulty lies in its use over extensive areas.

Practically all of the virgin pine timberland has been cut over and is now producing a second or third crop of timber. There are several hundred sawmills in East Texas. Two large paper mills draw their raw material from the pine belt, and some pulpwood goes to mills outside the state. Overcutting is widespread in East Texas except on the lands of a few large private operators and on state and federal forest land.

The gray or cat squirrel and the Eastern wild turkey are found only in this region. The extinct passenger pigeon was once common; and many kinds of song birds such as the warblers and vireos inhabit the forests. Beaver were once common along the streams but only a small population of the species remains. The hunting of bobwhite quail is a popular sport, and many sportsmen keep bird dogs for this purpose.

Fox squirrels are found throughout the wooded sections of eastern Texas. All kinds of tree squirrels in Texas show a distinct preference for wooded streams. The fox squirrel is more tolerant and adaptable to a wider variety of habitat conditions than is the gray squirrel. Fox squirrels inhabit extensive areas of woodland, including uplands as well as bottomlands. The gray squirrel, on the other hand, is limited to the heavily wooded streams of eastern Texas, especially the tall-timbered hardwood forests.



Shaded area indicates pine and post oak belt.

During the last 40 years the range of the fox squirrel has been extended westward, but reduced in the south. The range of the gray squirrel has gradually shrunk until now the species is not found west of Guadalupe County. In spite of the reduction of its range, the gray squirrel existed in numbers in East Texas until about 1915. Since that time the species has steadily declined.

Modification of habitats influences the squirrel population greatly, particularly in Eastern Texas. Overcutting of timber, overgrazing, and drainage all have affected squirrels. Overstocking with hogs is detrimental to range and forest management in this part of the state. Hogs compete directly with squirrels for food, particularly during critical periods when food is scarce. Moderate grazing by livestock may improve the habitat for squirrels by thinning out the undergrowth.

The Florida cottontail is the common rabbit of eastern Texas. This species prefers the wooded and brushy areas rather than open prairies and overgrazed pastures. Swamp rabbits are found in the swampy and marshy areas and along wooded streams in the eastern part of the state. This species has been declining in population for several years. Hunting swamp rabbits with hounds is a favorite sport of some East Texans. As other forms of game become scarce or unavailable to the average sportsman, an increase in rabbit hunting may be expected. Perhaps the greatest value of rabbits lies in the fact that they are staple food for most predators, such as fox, bobcat, coyote, hawks, and owls. Rabbits act as buffers against predation on more valuable game birds and mammals.

The principal furbearers in the Pine

• Continued on Page 31

Beagles, Take a

AS FETCHING as are beagle hounds, it's unfair to display them in the field in competition with an equally well-behaved three-year-old boy.

By comparison the hounds took a beating, maybe because a well-disciplined youngster of that age is more rare nowadays than a well-disciplined pooch.

To good-natured Roy Rowell it was just another outing. And outing is the word he uses when he goes afield. Because the beagles and the boy are mere props in his personal routine of keeping fit.

The youngster is Grandson Roy Wylie, age three. The beagles are Heavy Horn, Hy-Rum and Dinah.

The day that Rowell took out both the dogs and the boy, the hounds did their act. They took off when commanded; jumped a rabbit and quit the trail when their master blew the traditional come-here horn.

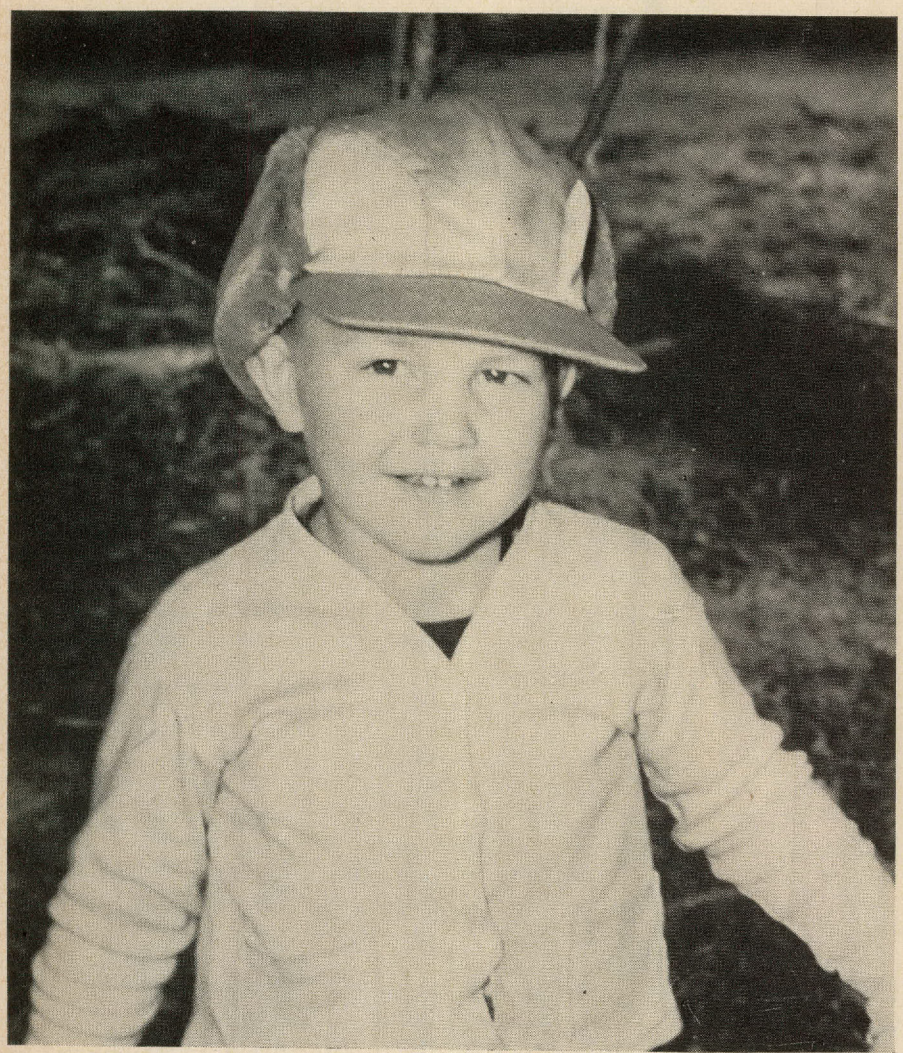
Only passing note was made of that because Young Roy, a child so handsome that his Grandpa said "he should have been a girl," kept the spotlight.

Rowell had explained that he was doing a baby-sitting act for one of his two daughters; that was why the child was at his house. But the part the lad took indicated he was more than a mere stranger on Granddad's premises.

He helped rally the three hounds from their backyard quarters into the pen in the trunk of the car. Once mobile, Young Roy got in the front door, crawled over the back seat of the car and sat docilely in the rear and without tinkering with the doors —both locked from the outside.

While his Grandpa drove along, happily talking about beagles, Young Roy provided a minimum of interruptions. On location, he held the leashes to two of the hounds while the third streaked away for possible scent. When the scout picked up a trail, the two dogs tried to respond.

By JAY VESSEL



Hunting with Beagles is fun! Look at the grin on Roy Wylie's face. He's all of three years.

Rowell called to Young Roy to "hold on." This he did although the hounds strained mightily and half dragged the youngster across a small ditch and through some weeds.

After the show, Young Roy climbed back into the rear car area, got into the seat and obediently held his peace. His dark eyes sparkled with childish enjoyment at being able to carry on "like a man," as his Grandpa put it. They shone especially when Rowell handed him some candy cubes carefully wrapped in tissue paper.

Back home, the lad astutely aided routing the beagles from the car into their corral and soberly took his pose with Dinah for the home-scene photograph.

Rowell's adoration of his grandson was obvious. His attitude toward his favorite beagles likewise was apparent. But the latter called for more treatment.

The modest Houston conservationist does not consider himself a pioneer in plugging for the beagle hound. He goes afield with beagles simply because he prefers them.

Rowell has tried all kinds of dogs, dating back to the original "Old Bob," a cur which was the family dog back in his childhood days in Ar-

Bow (Wow!)

kansas.

"I get the maximum lift out of my beagles," he said. "They are not hard to keep. I feed my three on what it would take for one ordinary, hungry hunting dog. They do not create a disturbance on my premises. In fact,

sistant Director, Departmental Publications

neighbors seem to like them."

But the husky sportsmen pointed out that he did not expect to "reform" others who prefer different types of dogs. He merely considers himself a good judge because he has had all kinds of pooches.

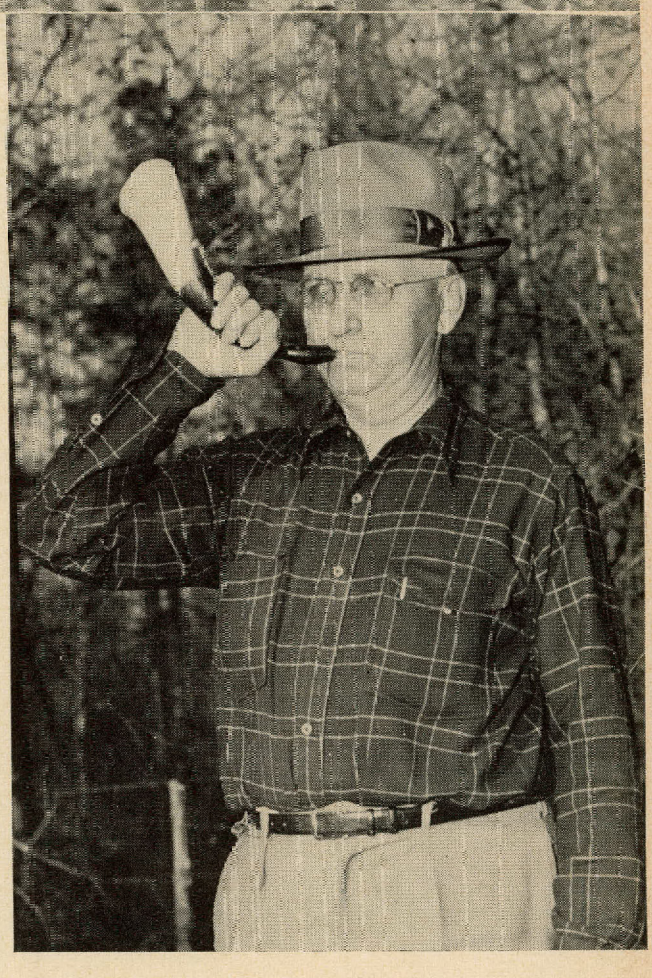
Rowell said he needed an incentive to keep out in the open and that he believes the beagles provide a maximum aid.

"When I had bird dogs," he said enroute to a wildness spot, "I only got into the field with them for about a six weeks period. With the beagles, we get out about ten months of the year because rabbits are the favorite prey and they are available almost the year around."

Rowell, who cannot be accused of trying to capitalize on his beagles because he is not in the dog breeding business, said Texas is "coming around" to the beagle line.

He referred to the beagle organizations in such large cities as Houston, San Antonio and Dallas, and to the district and statewide trials for the low-slung hounds.

Rowell said the beagle movement is strong in the East, particularly in such states as Ohio, Pennsylvania, New York and West Virginia.



On the line! Dinah, above, picks up the scent. Ready to return, Sportsman Roy Rowell horns back his beagles.

They're back! That's Hy-Rum, on the left, and Heavy Horn.

"There are some 500 registered beagle trials in Pennsylvania alone," he explained. "Sometimes there are as many as 500 dogs in one trial."

"After all the beagles concern rabbit hunting and rabbit hunting draws more interest in the bulk of the states than any other kind."

Rowell, who has retired as a big game hunter and likewise shuns mourning dove shooting, contended that a chase involving beagles and rabbits provides top sport.

"Don't let anybody try to make fun of this sport," he said. "I might have done that years ago. But there's a definite challenge as I have found out. For one thing, Mr. Rabbit is not as stupid as some may think."

Rowell turned for a glimpse at his grandson in the back seat. Then he went on:

"I have known rabbits, especially the plain old swamp rabbit, to make the dogs look foolish. Even lose them now and then. I'm just about certain I have seen rabbits jump sideways as far as they could to lose their pursuers. And I'll be doggone if I don't believe that they have the power to

shut off their scent glands."

Of course, in the field the beagles kick up other game. They are tough on 'coons and Rowell said "Heavy Horn" will chase a bobcat until he drops.

But, with or without the show-stealing grandson, Rowell seems to have fun with his beagles. He pipes them back by blowing his horn at the end of the chase and reports consistent success in keeping things under control.

"Only lost one beagle," he said. "Somebody interrupted a dog I called 'Old Man' while he was on the line (on the trail). Got clean away with him. I tried to locate the man. All I could ever find out was that he tried to sell the dog for $10."

The loss of any dog is felt by any dog man. Maybe Rowell felt it just a little more, because he takes good care of his three beagles.

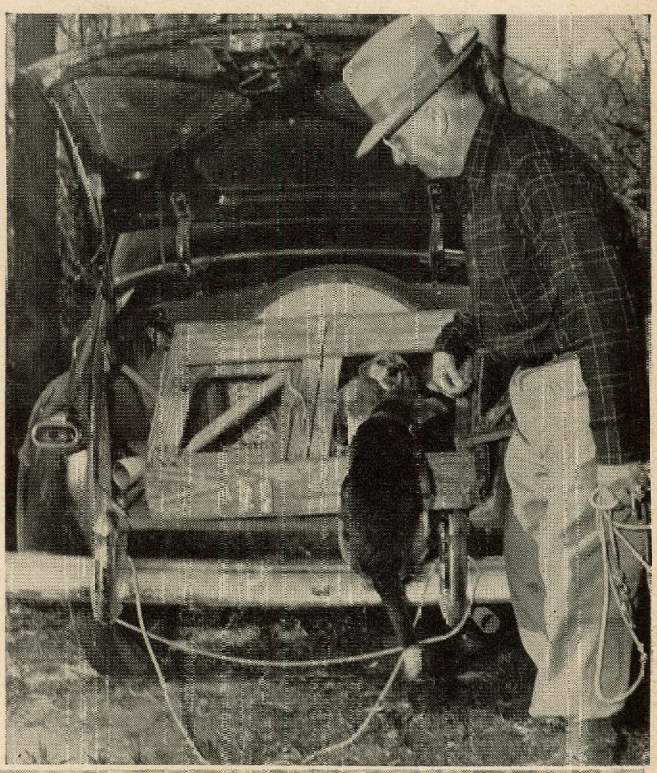
Some time ago "Heavy Horn" wasn't feeling so good. The dog doctor came out. "Heavy's" tonsils needed taking out. He was fixed up pronto and has never missed a trail since, according to the proud Rowell.

Rowell believes the beagles will be around awhile with or without his plugging. After all, these miniature hounds have been doing very well since the days of Henry the Eighth. A top beagle authority reports that the favorite lap-dog of Cleopatra 2,000 years ago was a beagle.

So, on with the chase.

Ow! Ow! Ow! Ow!

☆



Back in the pen and ready to go. Back home, Grandson Roy Wylie expertly checks up Dinah at left. Hy-Rum is next to Rowell, then Heavy Horn, so named because Rowell says his voice on the line is "just like a heavy horn."

☆

"Gabbie," The Great Blue Heron

By J. D. CLAITOR

This story is affectionately dedicated to Mr. W. L. Moody, Jr., now in his eighty-seventh year, an ardent sportsman who has made a profound contribution to the conservation of Texas wildlife.

DURING his five years as a resident of Galveston, Gabbie endeared himself to the entire population. In the intervening years memory of him has become one of the city's treasured legends. While legends are apt to be embroidered as time goes on, the writer has listened to these tales about Gabbie over a period of 37 years; he has heard them related by so many and with such a striking similarity of detail, it is his conclusion that the story told here is true.

In the year 1895, Sanford Southwick lived in the eastern part of Galveston. He had three sons who were enthusiastic fishermen and hunters. They spent all their leisure time in their trim sail boat, the *Silver Cloud,* sailing on the extensive waters of Galveston Bay, hunting and fishing.

One day the three boys were sailing near the shore in a remote part of the Bay when they noticed a commotion in some low scrub growth near the water's edge. Upon investigation they found a great blue heron entangled in the dense growth making a feeble effort to free himself.

The heron is fond of snakes and frogs and the assumption is that he made a dash into the bushes in pursuit of a frog or snake and became so entangled he could not free himself. At any rate, when discovered he was nearly exhausted and, instead of showing fear when the boys undertook to release him, appeared grateful for their aid. Once free, instead of trying to escape, he started in his own language to thank them for their kindly aid. He was so friendly that, after some debate, they loaded him into the boat and started for home, agreeing that they would release him as soon as he was sufficiently rested to fend for himself.

On the way home the bird received a good deal of interested attention. The boys had caught some fish and, cutting one into small pieces, they offered it to the heron. He gobbled it up with great relish, indicating that he was hungry as well as exhausted. No effort whatever was made to restrain him; except for his exhaustion he could have flown away at any time. He seemed as much interested in his human friends as they in him and kept up a constant chatter of small talk. Before they reached the Galveston dock one of the boys laughingly called him "Gabbie," a name by which he was to be known for the remainder of his life.

Incidentally, it was no small task for the boys to carry the great bird from the dock to their home, not because of his weight, but because of his size. Any one who has not had the privilege of meeting one of these splendid fowls will be interested to know that Gabbie's normal height was about four and one half feet. When he stood erect with his neck and bill extended upward, he towered more than six feet; he had a wing spread of about six feet and this was a good deal of live bird to be carried in one's arms. His general coloring was slate gray, slightly tinged with blue; his breast and neck, white; his crest, black, and there was a tinge of brownish pink on the scruff of his neck, on the feathered part of his legs and on the elbow of his wings.

The great blue heron is often confused with the gray sandhill crane, which is an entirely different species of wild fowl. The heron flies with his neck folded; the crane with his neck extended. The crane has no crest; instead he has a close fitting scarlet cap directly above his eyes, as compared to the black crest of the heron. The cap is the only vivid coloring on the crane.

The Southwick home was set in extensive grounds. In addition to the shade trees, there was a spacious lawn, a flower and vegetable garden, a poultry yard and stables. Once there Gabbie was deposited in the poultry yard, where there was an immediate commotion among the chickens, ducks and geese. These fowls sought the nearest refuge, giving vent to their excitement with a bedlam of squawks and cackles, all of which was noted by the heron with complete disdain.

Gabbie quickly became the center of interest of the whole Southwick family and, as the word of his arrival spread through the neighborhood, friends came to see him. He greeted all with his usual chatter and without showing any sign of fear.

In a few days he had sufficiently recovered to be on his feet and he was then given the freedom of the premises, the family believing that as soon as he felt able to fly he would take to his wings and be off. He had no such idea. On the contrary, he spent most of his time the first few days preening himself. His recent experience had ruffled his feathers considerably and it became obvious from the beginning that, in his personal attire, he was a meticulous fellow. Every feather had to be carefully smoothed and polished with his long, keen bill. This done, he would carefully curl the edges of his wing and tail feathers to give them a plume like appearance.

Once his grooming was completed,

the sun's rays brought out iridescent shades from the drab coloring of his back, wings and tail, and he would then strut around the grounds with all the dignity and poise of a Lord Chesterfield.

Very soon he assumed the position of host on the Southwick grounds. A notable fact was that he had no apparent fear of people. He would greet visitors, examine them curiously but kindly, and then start up a chatter of welcome. He was particularly fond of children and they adored him. Strangely enough, he was fond of the friendly dogs in the neighborhood, too. He let them sniff at his long bill; then when they started to play, he joined in their capers much to their delight. Contrasted to this, he showed the utmost contempt for the domestic

present, instead of other members of the family. Southwick was a jolly, wiry, little man, with a great flowing white beard. When anything pleased or amused him he frequently gave expression to his pleasure by dancing a jig wherever he happened to be. One day in the garden, amused at the antics of Gabbie, he started to laugh and dance. To Gabbie this was a new and intriguing kind of play that pleased him. He, too, then started to laugh and dance. In no time at all he caught the rhythm of the step and was keeping time with the old gentleman. After that, each time the two met face to face in the garden, Gabbie expected to dance and the master graciously and joyously obliged him by leading off the step.

Picture, if you will, this fine, old

This accomplished, the birds would resume their normal habits and thus give him the desired opportunity to study their conduct in their native haunts.

It is easy to understand then why Walter and Gabbie at once became friends. Gabbie could more nearly understand Walter's bird talk than he could that of any other human friend. In addition, with Walter's great understanding of wild fowl life, they had something in common that drew them together. They could carry on a conversation for hours, neither seeming to tire of the interesting chit-chat. Furthermore, Gabbie was so completely charmed by this friendship that, to entertain Walter, he would stage all his little tricks and cavort around him like a happy

The Story of One of Galveston's Treasured Legends

fowls on the place. Any time one of these came near he took great joy in teasing it until it began to scream or cackle; then he would spread his wings and let out a "whoosh" of merriment that scattered all the poultry to cover. There was a mischievous glint in his eyes at all times, as contrasted to the usual look of sadness in the eyes of most wild creatures.

Soon it was clear that Gabbie had adopted the Southwicks and that he had no intention of leaving. He was curious about everything people did. When any member of the family went into the grounds to cultivate the garden, or gather flowers and vegetables, Gabbie was right in their shadow. Judging from his questioning chatter, he wanted to know why this and why that? He was like a four-year-old child going through the question-asking period. There was this difference, of course. While one might explain understandingly to the child, Gabbie had to be satisfied with the intonation of the voice and draw his own conclusions.

Gabbie almost at once recognized Sanford Southwick as the master of this small domain. Being something of a king in his own right, he left no doubt about his preference for fraternizing with the master when

gentleman, who looked like the paintings we have of our Biblical prophets, and this magnificent bird that towered above him when he extended his neck upward, sedately walking through their lovely garden, side by side, discussing the state of affairs that concerned them. Gabbie talked continuously. He expected his questions to be answered and his comments to be noticed; he was no idle gossiper. Whenever anything pleased or annoyed him, he would extend his neck and wings and let out a great "whoosh" that could be heard for blocks.

At this point, Walter Grover, a young naturalist, whose home was near that of the Southwicks, enters the picture. Walter had spent much of his life in the remote marshes around Galveston Bay observing wild fowls. He, like John James Audubon, possessed to a great degree the rare talent of making friends of wild birds. It had become a habit with him to sit in the marshes for hours, still as a statue, waiting for the birds to accustom themselves to his presence. Sooner or later, impelled by curiosity, they would come near enough to examine him more closely. It was then that he would soothe their fears with his own particular kind of bird talk.

puppy. When Walter was around, Gabbie could see none but him. Even his venerable master, Sanford Southwick, went unnoticed.

In course of time, Gabbie apparently tired of being simply a spectator and conversationalist at the Southwick menage. When members of the family gathered flowers or vegetables, Gabbie would lend a hand (or bill), generally with disastrous results insofar as the flowers or vegetables were concerned. They would be mutilated beyond use, but since he was trying to make himself useful, there was nothing the family could or would do about it, except to let him have his way.

One day Southwick was in his garden, transplanting a long row of young orange seedlings. He was no longer young and, when he got to the end of the row, he straightened up and heaved a sigh of relief to have the job completed. When he turned there was Gabbie in his wake. Gabbie had pulled out every plant and had laid them meticulously in a neat line in emulation of his master's planting.

This was too much for even a good natured old man. He started to shake his fist and shout at Gabbie. His attitude was menacing and the heron quickly sensed it. He had not been

accustomed to anything but kindness and doubtless this sudden change of manner was a shock. At any rate, it aroused his own anger, and when a heron is angered he is like a domestic goose in the mating season; he will attack anything responsible for his anger. So now he raised his wings, let out a hair raising "whoosh" and darted for Southwick with his dagger sharp bill extended for the attack.

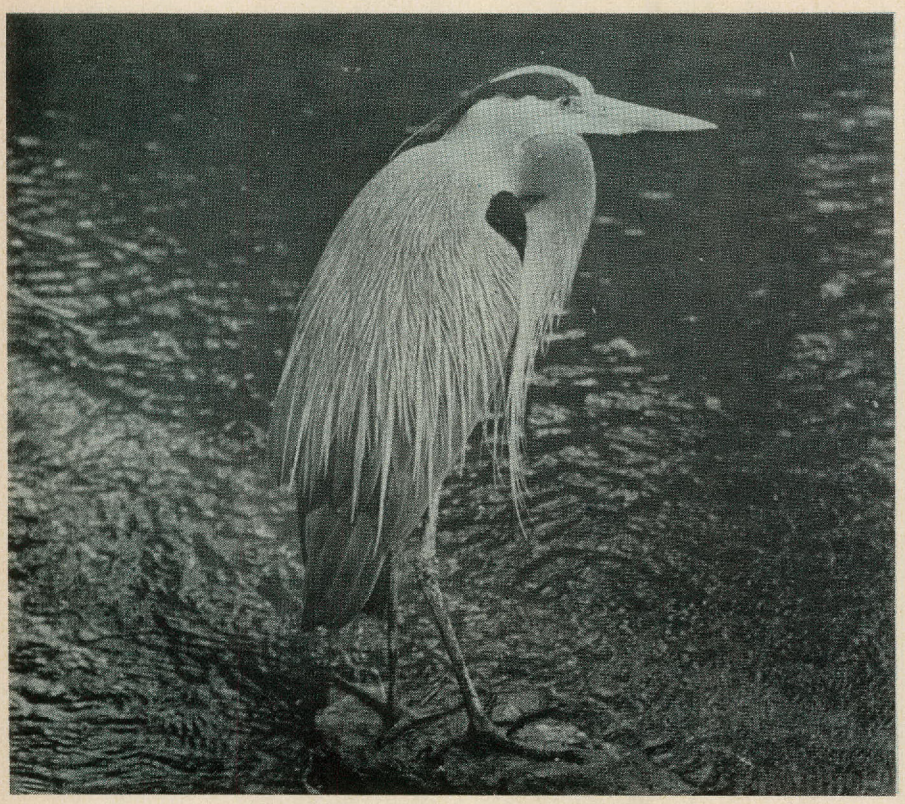
Sanford Southwick was a small man, with nothing belligerent in his make-up. He realized that he would be no match for this great bird with flailing wings and sharp bill. He made a break for the house with Gabbie chasing him and "whooshing" at every step. He reached the door and slammed it shut just in time to avoid being pricked from the rear. For hours Gabbie strutted back and forth before the door, indulging in all the bird profanity he could think of and daring Sanford to come on out and see who was the better man.

Southwick reasoned that as soon as Gabbie's anger subsided they would resume being friends and things would go on as before. Alas! It did not work out that way. Instead Gabbie laid in wait for him at either the front or back door and the moment he stepped outside Gabbie would ruffle his feathers and make a dart for him. He was not one to forget an affront.

The situation soon became intolerable for Southwick. Before he could leave or enter his home, he had to find out which door Gabbie was guarding and then sneak in or out through the other. One morning on his way to the bank where he was employed, he stopped by the home of Walter Grover, whom he knew would be happy to have the heron. He told Walter to get his heron and to do so before he returned to his home that day.

(It may be said, by way of parenthesis, that while it is unusual for pets to turn against their masters, it has been known to happen with certain breeds of dogs and cats, and particularly with wild animals or wild fowls that have been domesticated. When angered or menaced, the latter revert to type. Their first instinct is that of self preservation. In its wild state, every living creature except its own species, is viewed as a potential enemy. Once a friendship between man and one of these is ruptured, it can never be restored. Wildlife lacks the reasoning power to make allowance for human error.)

Walter was delighted to have Gabbie, which afforded him a rare opportunity to pursue his favorite avocation with a degree of intimacy not possible in the marshes. At Walter's home, Gabbie not only had the run of the Grovers' extensive grounds, but in addition the freedom of the neighborhood. Very soon he was on friendly terms with all the neighbors and made frequent calls upon them to see "what was cooking," so to speak.



Wherever he went he was welcomed, most of all by the children, who found him an untiring object of interest. He readily adapted himself to his new home; the change afforded him new opportunities to satisfy his curiosity about people and things. His long thin bill was projected inquiringly into many strange places and in some respects he reminded one of a dog pursuing intriguing scents.

It was here that Gabbie developed a new habit, that of night prowling. The heron is fond of mice and it is possible his preference for these was responsible for his night excursions.

Be that as it may, there was one fairly close neighbor who had not met Gabbie. This gentleman occasionally became too deeply submerged in his cups. At such times, he would return to his home in the wee sma' hours of the morning and try not to disturb his Irish wife. On this particular night he was weaving his way through the alley, with some vain hope of being able to sneak through the back door and get into bed without being seen or heard by his watchful spouse.

Gabbie happened to be loitering in this alley. He had never before seen men in a high state of intoxication and the antics of the inebriate so disturbed him that he spread his wings and let out a deafening "woosh" that aroused the entire neighborhood. The drunk, thinking the devil himself was about to attack him, was sobered sufficiently to remember the nearby county jail and for this he made a break. Arriving there breathless, he insisted that he be locked up for protection for the remainder of the night.

While Gabbie's presence at the Grover home was of great professional interest to Walter, he was never too happy about this splendid bird's living in such unnatural surroundings. He thought often of returning him to the marshes, but upon sober

consideration abandoned the thought. The bird had been coddled so long by this time he feared it would not be able to fend for itself in its native environment. Furthermore, he felt certain that, with Gabbie's friendliness for people, he would fall a ready victim to the first gun-happy hunter that he might encounter.

The great blue heron, even in areas ideally suited to it, is a comparatively rare species. One reason for this is that their young, (one to three in a season), are hatched on the ground in places frequented by minks, opossums and other predatory animals to which these little ones fall an easy prey. The other reason is, of course, that because of their rarity some hunters will kill them for trophies or, wantonly, just to test their marksmanship. It is for these reasons the beautiful white whooping crane, one of America's most spectacular wild fowls, has become almost extinct, there being only thirty-four* known to exist at this time. Therefore, the thought of returning Gabbie to the marshes was finally abandoned.

In the meantime, Gabbie's presence in Galveston had become so generally known, and he had become an object of such great interest, that the Grovers' home place was assuming the aspect of a public garden or zoo. People came all through the day and every day to see this fabulous bird. Once they saw it, they returned often, particularly when there were children in the family. The Grovers were losing all the cherished privacy of their peaceful home grounds and much of the privacy of their home. The Grovers family, kindly and friendly, were totally unable to cope with the curious and thoughtless persons who flocked to their home, so, regardless of their deep attachment to Gabbie, decided something had to be done to rid themselves of the growing annoyance.

In the western part of the city was a popular resort—Woolam's Lake. Water, in Galveston, was no novelty. The lake, however, was surrounded by a dense growth of gnarled salt cedars and these were a novelty, since Galveston had comparatively few trees. The feature attraction at Woolam's Lake was the oyster roasts. For 25c a person could eat all the roasted oysters (a rare delicacy) that he wanted. The oysters were roasted in an open fire made of driftwood gathered from the beach of Galveston Island. Driftwood from the sea has absorbed both salt and phosphorus from the water and, when burned, gives off a tangy, incomparable fragrance. The glowing embers have a bluish cast not present in ordinary wood fires and all this added to the charm of Woolam's Lake. Whole families went there to spend the day, taking picnic baskets to supplement the delicious oysters, and the cedars afforded shade for the loungers.

A few amusement concessions did a thriving business and, to add interest, the owners started a small zoo, composed mostly of the wildlife native to the area. The thought occurred to Walter that at Woolam's Lake Gabbie could be enjoyed by the entire population of the city; that since he was so fond of people his opportunity for mingling with them there would be broadened.

The park people, knowing of Gabbie's popularity, welcomed the idea of having him as an added attraction. Thus, in due course, Gabbie was transferred to Woolam's Lake. Here, too, he was given the freedom of the grounds and at once became the center of interest. He made himself just as much at home there as he had at the Southwick and Grover homes. For him there was this difference, however. There were no dull moments. There were always people about and plenty of activity to keep him interested and occupied. The music of the merry-go-round intrigued him and often he would dance to it through the mere joy of being alive and a part of this colorful life.

He would go from one group to another, examining their lunch baskets and daintily sampling whatever he found that was tempting. He had a kindly greeting for all, but whenever the conversation or interest lagged with one group he passed on to another. Generally he was followed by a group of admiring children. One of his favorite stunts at the park—especially if there was a group of spectators present—was to lift himself almost straight up into the air, sail gracefully across the small lake and land on the other side as lightly as a bit of thistledown.

Gabbie was exceedingly fond of raw oysters, which in those days could be purchased in the shell for 50c per barrel. The demand for oysters at the lake was so great that at all times there were many barrels lined up in neat rows a short distance from the fire where they were roasted. Since those who ate the oysters had to open them, any one would oblige Gabbie by opening an oyster for him whenever he indicated a desire for it.

A blue heron's craw, in a way, may be compared to an accordion; it accommodates itself to whatever amount of food passes through the bird's gullet. The result is that whenever food is plentiful a heron may store enough in its craw to supply its need for a long time, digesting it as needed. It was not unusual, then, with everyone tempting him with food, for him to get so much in his craw that it made him a little out of balance on his pins. Mother Nature had, however, so constituted him that there was never any danger of his overeating. Also she had given him a fine sense of discretion in selecting his food, which made him turn instinctively from any that might be unsuited to his digestive apparatus.

Thus Gabbie became the delight and the talk of Galveston at Woolam's Lake. He became an even greater attraction than the delicious roasted oysters and many went there with their children for no other purpose than to visit him.

Such was the state of affairs on the night of September 8, 1900, when one of America's greatest single disasters occurred. A tropical hurricane, with winds of a velocity that destroyed the delicate recording instruments, swept tidal waves across Galveston Island with a force and fury that, in a few brief hours, left the city a shambles and took a toll of more than five thousand human lives.

Gabbie, the Great Blue Heron, that had brought so much pleasant diversion into so many lives, was a victim of the storm. Had he been able to save himself, it is reasonable to assume that he would have returned to the human friends he had loved so dearly and whose companionship he preferred to the freedom of the wild marshes, to which he could have returned at any time had he so desired.

* Last published report said 28.

Fishes of Texas

The Freshwater Drum

By MARION TOOLE

Chief Aquatic Biologist

THE freshwater drum, *Aplodinotus grunniens,* Rafinesque, has many common names. The most commonly used is that of gaspergou. Other common names for this fish are sheephead, croaker and white perch.

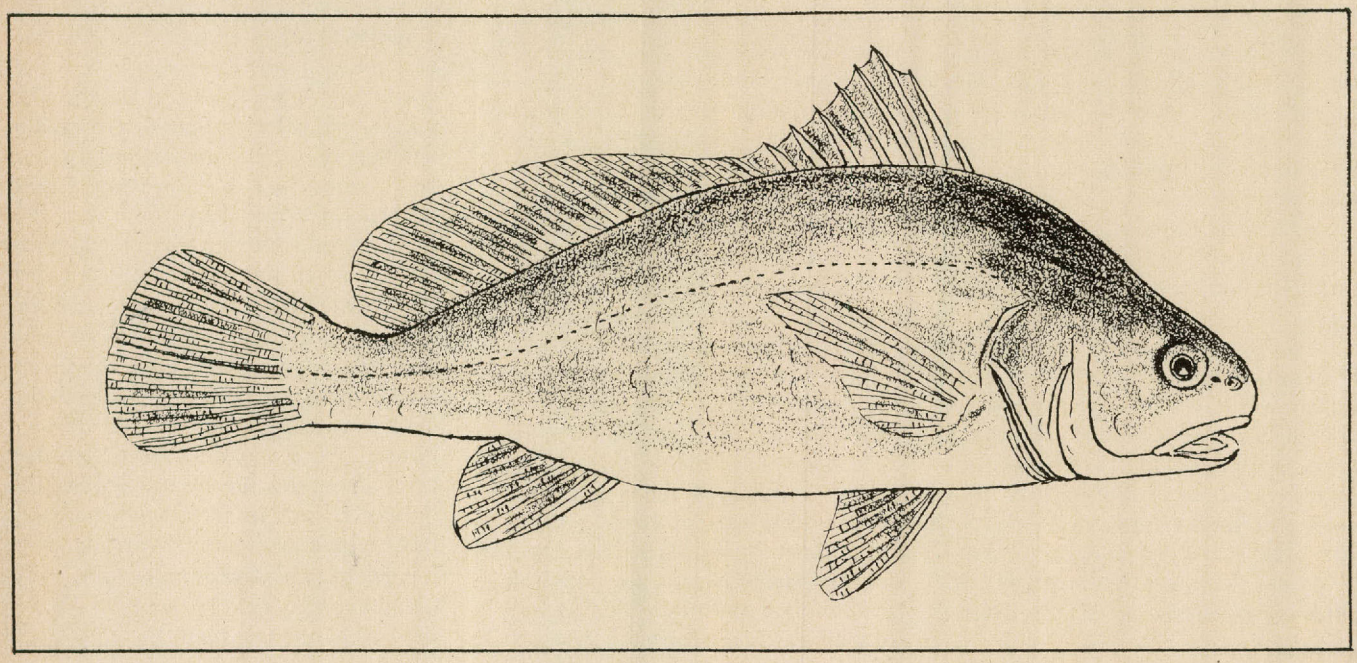
The drum has a steep profile. The back is highly arched forward, under the spiny part of the dorsal fin and then tapers to the tail or caudal fin. In color these fish are silvery gray on the back and sides with a white belly. They are capable of attaining a large size since fifty-pound specimens have been taken.

They are spread throughout the Mississippi River Valley and are fairly well dispersed in Texas. From studies being conducted by the fisheries division they were found to be the dominant species in Lake Austin since 74 percent of the fishes taken in gill nets were drum.

The drum obtained its common name of drum because of its ability to make a grunting sound. This grunting sound is particularly noticeable when the drum is caught. They also make the sound while swimming. Quite a large population of freshwater drum occurs in Lake Walk near Del Rio, Texas. This is a narrow lake bordered by high bluffs. One night the author was running experimental nets in the lake and heard what was first thought to be outboard motors running on the lake. He later realized that all of the sound was due to numerous drum emitting grunts.

The perfect habitat for drum appears to be lakes or streams with a mud bottom since most large populations of these fish are found in such environments. Such habitats are probably conducive to the production of food the drum eat. They consume large amounts of mollusks, such as freshwater clams or mussels and snails. They also eat crayfish, Mayfly larvae and other aquatic insects. While keeping drum in an aquarium, the author placed live minnows with the drum which were not eaten. It was later discovered that if dead minnows were thrown on the aquarium bottom, the drum would consume the dead minnows immediately. They also would eat beef heart cut into strips resembling angleworms.

Commercial fishermen do not think too well of drum as a commercial fish because their flesh tends to soften while iced down. Nevertheless, many drum are sold commercially. Smaller sized drum, up to two or three pounds are better flavored than the larger sized drum since the larger ones develop a strong flavor. The markets sell freshwater drum under the name of gaspergou. This has caused some of the anglers to think that small freshwater drum are a fish known as a gaspergou or gasper and that another kindred species occurs that is large and that these fish are freshwater drum.



The Marine Fishes of Texas

The Electric Rays

By J. L. BAUGHMAN
Chief Marine Biologist

THERE are several species of electric rays throughout the world, two of which occur in Texas. One of these is small, rarely exceeding 18 or 20 inches in length and a pound or so in weight. The other, which is quite rare, may grow to a length of five or six feet and a weight of 100 pounds. Neither one is dangerous.

The most interesting feature of these fish is, of course, the electrical organs. In all animals the contraction of a muscle is accompanied by the generation of a minute amount of electricity. The electrical organs of these rays are merely highly specialized and modified muscles, in which the electrical charge has been greatly stepped up, at the expense of their use as muscles, which in the adult rays they no longer are.

The electrical impulse may be either simply a reflex action, or it may be under the control of the fish. In any event with a large ray the shock is sufficient to knock a full grown man off his feet when he accidentally steps on one buried in the sand.

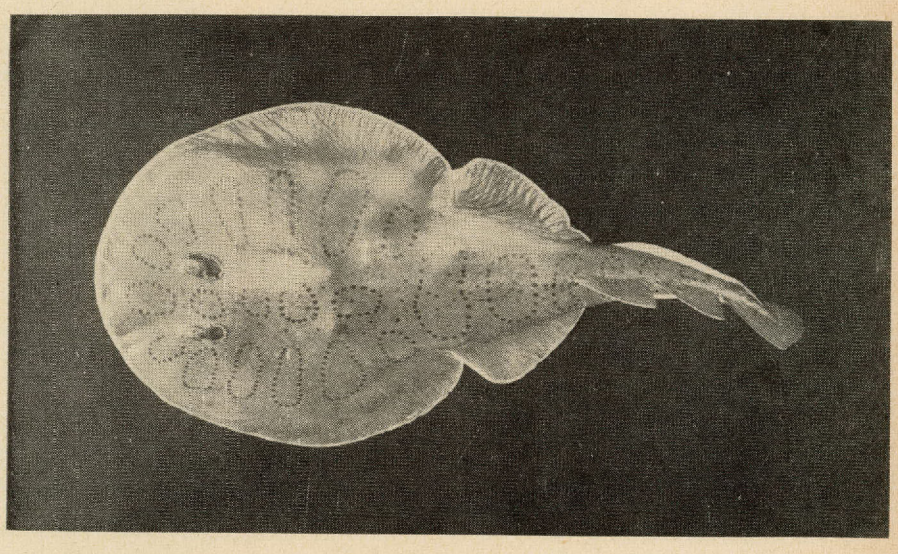
In addition to providing a protection from enemies, there can be little doubt that the ray uses these shocks to kill or stun its prey. Norman says that of two individuals examined one had a two pound eel and a one pound flounder in its stomach. The other had a salmon of nearly five pounds and none of these, either eel or salmon showed any marks on their bodies.

The electrical powers of the Mediterranean species were well known to the ancient Greeks and Romans. Aristotle noted that they caught their prey by means of a stupefying apparatus. Plutarch says that their numbing influence has been known to pass from the nets to the arms of the fishermen.

These torpedoes, as they are often called, are sluggish in their habits, and spend most of their time buried in the bottom, waiting for prey to approach. Besides fish, they eat crustaceans, mollusks, and other bottom-dwelling organisms.

The young are born alive.

Electric rays are of no value. Their flesh is flabby, watery, and tasteless, and their hide too small to be of any value. Greek and Roman writers disagree with this, extolling the flavor of this fish and touting its shock as a sovereign remedy for chronic headache and gout.



The common small electric ray found on the Texas Coast.

Letters to the Editor

Editor:

Sorry to be so late in renewing, and do hope that it won't prevent my getting the next copy of TEXAS GAME AND FISH. I just can't begin to tell you how much I enjoy your magazine. Many speak of the Sears and Roebuck catalog as their "wish book," but to me, TEXAS GAME AND FISH is really a wish book.

From the time I was a child I have loved to fish; so much so that just to feel a perch nibbling at a drop line gives me a thrill. It seems that there has always been something to prevent my getting to go on any real fishing trips, but "never dies the dream."

... My small nephew, less than three years of age, just loves "Nannie's fishing book" and has to be told everything that is in it. You would be surprised how it holds his interest.

To my way of thinking, if parents would encourage such reading by their children, there would be fewer juvenile delinquents. Whoever heard of a boy with a fishing pole over his shoulder, breaking windows out on his way home? Or whoever heard of a young nimrod holding up a filling station on the way home just because he had a gun in his possession?

Yours for a long, long "run." Just wish that it came out each week, for a month is a long time to have to wait.

MRS. FRANK D. SHARP
135 Gifford St.
San Antonio 11, Texas

Editor:

My husband subscribes to TEXAS GAME AND FISH, but for some unknown reason did not receive the November 1951 issue. Life has been unbearable, so is there some way I can get a copy of this particular issue?

MRS. HUBERT KNIGHT
213 South Brighton Ave.
Dallas, Texas

Editor:

... Your magazine is one of the best sources of information I have been able to find on the game of our state.

We are very fortunate to have a staff of Conservationists such as yourselves and I want you to know I am behind you "lock, stock and barrel."

WILLIAM O. RAY
6647 Lindy Lane
Houston, Texas

Editor:

... By the way, your magazine is one of the best; and it gets better every issue. I wouldn't miss a single copy, myself.

Since I am new at the sport of hunting and fishing, the book surely helps me with all the tips it gives. Keep up the good work.

LELON CUDE
1415 McKinley
San Antonio, Texas

Editor:

I have just had the pleasure of looking over the February issue of TEXAS GAME AND FISH. I felt that I should not let anything delay my sending you a short note commenting upon how splendidly I felt your editorial, "Workable Plan for Weapons," by Jay Vessels, handles that ever present situation of a boy and a gun. I wish I could also pass those same congratulations on to the individual who wrote the Amarillo *Daily News* editorial you quoted.

These days it does seem the practice to try to correct situations by passing laws of prohibition. The NRA has been working with youngstrs in our junior program since 1926. Even if we were not already convinced that each youngster is entitled to be taught how to handle guns properly by their elders, the very statistics of the results would be overpoweringly convincing. Nearly three million boys and girls have taken part in this junior program since it started. To the best of our knowledge, there has been but one very trivial accident. I think it is safe to assume that at least hundreds have been prevented.

C. RICHARD ROGERS, Director
Promotion Division
National Rifle Association of America
Washington 6, D. C.

Editor:

I have just finished reading the editorial inside the back cover of the February issue relative to juvenile firearms accidents.

I wonder what percent is due to thoughtless parents?

A year ago I moved into this town from a rural area in central Texas. I was surprised to see scores of small boys here going about with air rifles. Sometimes there are five or six in a group ranging from five to twelve years in age. I understand there is a city ordinance against the use of air rifles within the city limits, so the first lesson in disregard to shooting laws was given these boys with the presentation of their rifles.

Since there is no game other than sparrows or a hapless song-bird that ventures in until pelleted out of the neighborhood, these unfortunate youngsters bang away mostly without a purpose.

During the last year, two windows in the family car and one in the pickup have been broken by BB pellets.

Is it true that early impressions are the most lasting? When these youngsters grow up will they be in the class that goes afield ready to bang away at every moving object unmindful of what the ultimate target of their fire might be?

I have four boys. All have firearms, and I have tried to teach them to use them properly. When the youngest was eleven years old, I induced Santa Claus to bring him his first rifle, a .22 calibre.

Sharing his joy I sat down with him and in a comradely way earnestly explained the deadly accuracy of his prized possession: how the power and velocity of its fire could from a long distance kill a person or one of the calves he was feeding; how imperative it was that he always look before shooting; how the song-bird is one of man's best friends and would anyone murder his good friend without cause?

Then I sent him into the woods among my own livestock with confidence. He has spent many happy hours with his rifle, and if he failed to find game he would return without firing a shot or return to target practice on a safe range.

Was I wrong in restricting my boys to sling shots and bows and arrows until they were old enough to realize the importance in the proper use of a rifle?

C. E. WATKINS
406 W. Harrell St.
Monahans, Texas

Editor:

The children in my room at Baker Junior High are studying conservation. We are learning what we, as students, can do to help conserve the natural resources of our state.

We have taken field trips around Austin to interview different people to find out what they do to help preserve our resources.

We read Mr. Vessels' editorial in the January issue of TEXAS GAME AND FISH, and we, too, think there is still hope in the cause of conserving our resources. We think that if all people learn that our resources are going fast, they will try to help conserve them. Conservation is *everybody's* job! We must remember this.

SAUNDRA POWELL (age 12)
Baker Junior School
Austin, Texas

Editor:

On page 12 of your February TEXAS GAME AND FISH, there is an article concerning the passenger pigeon which is supposed to be extinct.

In the summer of 1924, I was in western New Mexico doing some research work and by chance ran across a small flock of less than a hundred I would say of these birds between the San Andres and San Mateo Mountains. It is very possible that there might be some of the birds in that part of the country unless food or weather conditions destroyed them as they were not likely to be bothered by any hunters.

I hope this information will be of some value to you as I am a lover of our wildlife and do not believe in needlessly destroying our fish and game.

C. B. JACKSON
Box 391
Trinity, Texas

Editor:

I am interested in finding out whether or not there is any way of getting rid of lilies in a small lake that is completely filled with them? The large pads of the lilies cover the lake most of the year. Would draining the lake and cleaning the bottom help?

WALTER R. BENNETT
P. O. Box 801
Denton, Texas

(Lilies are extremely hard to kill, probably due to the fact that they have both submerged and emergent leaves. The only method that I have read about that apparently gives a complete kill is one reported by Surber, Minarik and Innes, entitled, *Control of Aquatic Plants with Phenoxyacetic Compounds,* PROGRESSIVE FISH CULTURIST, Vol. 9, No. 3, July, 1947, pp. 143-150. They recommend the use of 2,4-D, tributyl phosphate and kerosene made by mixing two pounds of 5%, 2,4-D and two quarts of tributyl phosphate as a co-solvent and then adding enough kerosene to make five gallons. The water must be drained off the lilies after which time they may be sprayed with the above solution. Ordinarily, one operation will kill the bulk of the lilies but should any new sprouts appear, then they should be given an additional spray with the substance. This will give a complete kill usually. By using the spray on only surface leaves while water is in the lake, the surface leaves will be the only ones killed and new leaves will continue to emerge. Marion Toole, Chief Aquatic Biologist, Game and Fish Commission.)

Editor:

The accompanying picture gives evidence that there are still some mossbacks left in the brush country of the Lower Rio Grande Valley.

The head of the 26-point, 160-pound white-tailed buck is held by my husband, Jimmie Jones, who shot the deer 20 miles north of Rio Grande City on the R. E. Ploth lease. The big buck charged to the rattle of horns and was shot at a distance of 100 yards with an 8 mm. Mauser, equipped with a K 25 Weaver scope.

MRS. JAMES A. JONES
6905 Reese Lane
Austin, Texas

Editor:

Enclosed is a picture which I think is a little unusual since it includes two species of game. The jack rabbit appears to be in "trouble" since he is so close to the

skunk; however, they are actually about 250 yards apart.

When I came upon the broad-stripe or hog-nosed skunk, I got within five feet of him and flashed his picture. Then I proceeded up through our oats field, spotted two jack rabbits and started stalking them. The rabbits didn't know I was around, because one came within ten feet of me; however, I couldn't get my camera on him, so I continued stalking the other one. The least little rattle or crunching of oats under my feet made him prick his ears. I finally succeeded in getting within about eight or ten feet and flashed his picture.

It was then I remembered I had forgotten to roll the film after snapping the rooter. I thought I had ruined two pictures, but as you can see, such wasn't the case. I got both exposures on the one film.

MURRY BURNHAM
Marble Falls, Texas

Editor:

I am very interested in the article by Dr. Fred Weston in the February TEXAS GAME AND FISH. Jug feeders were mentioned as a good means for scattering small amounts of grain for wild turkeys. Would you please explain in full the details as to how these jugs are set into operation and how they work?

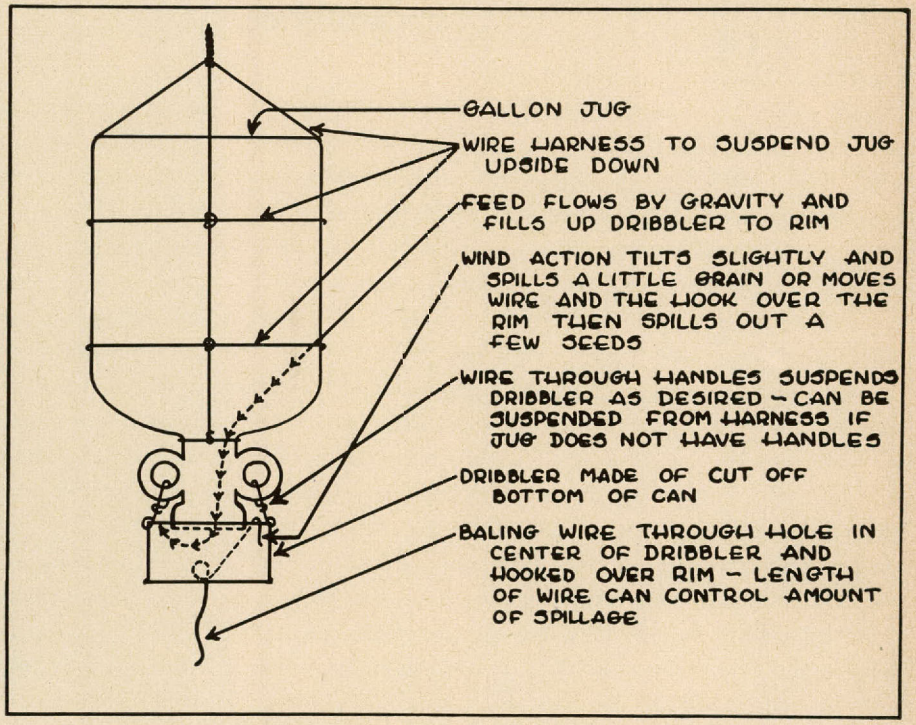
A. W. ECKEL
Poth, Texas

(Dr. Weston says that any jug will do if it is of the small neck variety. Gallon syrup jugs with double handles rig up with more ease and are therefore his favorites. First, the jug must be rigged in a harness so that it may be hung upside down. He finds it easier to do this with stove pipe wire. Then what he calls a dribbler must be suspended under the mouth of the jug. The dribbler can be made from a cut-out can but anything which will hold seed will do. It should be punched, however, so it won't catch and hold rain. One of those holes should be in the center of the bottom.

A length of baling wire should now be run through the center hole with enough left over to hook over the edge of the dribbler with the balance hanging out below. Now the gadget is ready for use.

A stout cord should be thrown over a limb high enough so the feeder can be suspended out of reach of deer and livestock and then attach it to the harness. Take off the dribbler and fill the jug with round grain—like maize and then replace the dribbler. Its rim should be about level with the mouth of the jug and tilted in the direction of the side having wire hooked over it. When wind action on the limb or trailing wire spills out a few grains at a time, pull feeder up to desired height and tie. The spillage can be controlled by the length of the trailing wire.

Dr. Weston also sent us a sketch of the feeder which is reproduced below.)



Stocking Small Ponds in Texas

By WILLIAM H. BROWN

Aquatic Biologist

THE construction of small ponds on farms and ranches for the conservation of water for livestock has progressed rapidly in Texas during the last 15 years. Especially during the present drouth years, ponds have been constructed in enormous numbers. The majority of these ponds are under one-half surface acres in size. These ponds are constructed, primarily, for the watering of livestock; but, it is logical that the pond owner is desirous that the pond serve another purpose whenever possible.

This secondary purpose of fish production in very small ponds proposes serious problems for the fishery biologists. These small ponds require special stocking policies and management techniques. Many of the ponds have water levels which fluctuate greatly. Some go dry or almost dry every year. With these facts in mind, investigations were undertaken to assist the small pond owner.

Small Ponds Require Special Stocking Policies And Management Techniques

Experimental farm ponds have been in operation at the A. E. Wood State Fish Hatchery at San Marcos, Texas, under the supervision of the author since the fall of 1948. Twenty-two ponds were drained during 1950 and a new series of ponds stocked for further experimentation with stocking ratios and other factors. Ten of the 22 ponds drained during 1950 were less than one-half surface acre in size (0.07 acre). These ponds approximate the size of many farm ponds stocked in Texas by the Texas Game and Fish Commission.

The results from these experimental ponds and investigations made by fishery biologists throughout the state indicate that the pond owners are not giving the correct size of their pond or requesting the proper species of fishes when filling out application cards for fish to stock their ponds. Largemouth black bass and sunfish (bream) combinations give poor results in regards to fish production and fishing success in ponds smaller than one-half surface acre; however, they do very well in many ponds slightly over one-half acre in size. The experimental farm ponds operated by the author indicate that channel catfish afford maximum fish production in small Texas farm ponds. Eighteen months after stocking channel catfish fingerlings at the rate of 50, 75 and 100 per surface acre, average weights of 33, 23 and 22 ounces respectively were obtained.

The total weight of catfish produced increased with the number of fingerlings which were stocked, but the individual fish did not weigh as much as those received from smaller stocking ratios. These results indicate that fingerling channel catfish should be stocked in Texas farm ponds at the rate of 50 to 100 per acre, depending upon fertility and other conditions present in the individual pond. Only ponds which are void of fish life should be stocked. Fingerling sunfish, either bluegill, redear or yellowbelly may also be added as forage fish at the rate of 100 per acre.

The pond should not be fertilized if it is used for watering livestock. Over fertilization results in dissolved oxygen depletion, causing fish kills during the hot summer months. Once stocked, the pond should not be restocked until the existing fish population is removed. The pond should be fished heavily when the fish reach edible size. Channel catfish, in most cases, do not reproduce successfully in small ponds. However, by placing nail kegs, milk cans or other spawning devices in the pond, spawns are sometimes obtained. Under these conditions, the fishes must be harvested by hook and line until the fishing becomes poor. Then, if the pond has not gone completely dry, the remaining fish should be seined from the pond and the pond again restocked correctly with fish of the proper species and size.

By following the directions presented in this article, the small pond owner may expect to receive the maximum fish production from his small pond and produce for his dinner table one of the most desirable and tasty game fishes of Texas.

Marine Seminar to Be Held April 11, 12, 13

WHAT has become an outstanding gathering for Texas scientists, educators, students and commercial fishermen will be held at Rockport, April 11, 12, and 13.

It will be the fifth Seminar and Field Study of Marine Sciences. Significance will be added to the occasion since it will include the South Texas Sectional Meeting of the Texas Academy of Science.

The primary host will be the Texas Game and Fish Commission through its Marine Laboratory at Rockport. J. L. Baughman, Chief Marine Biologist for the Commission, will be in direct charge.

These seminars, according to Baughman, are designed to present to Texas colleges and universities a carefully planned and thoroughly integrated series of lectures of the marine sciences and their complete interrelationship with the economic life of the state. Field trips to strategic land and sea areas augment the lectures.

The program includes these subjects on April 11: "Rain and Erosion" by Ben O. Osborn, Department of Agriculture, Soil Conservation Service, San Angelo; "The Role of the Native Vegetation in the Control of Erosion in Texas" by Dr. Vernon A. Young, Department of Range and Forestry, A. & M. College of Texas; "Water Resources of Texas" by Trigg Twichell, Department of the Interior, Water Resources Division, Austin; "Coastal Silt" by Baughman.

On April 12 these subjects will be heard: "The Effects of Domestic and Industrial Pollution on the Gulf Bayou-Galveston Bay Area" by Frank T. Metyko, Consulting Engineer, Harris County Pollution Board, Houston; "Some Experiments on Toxicity of Industrial Effluents" by Jack T. Garrett, Monsanto Chemical Company, Texas City; "The Offshore Shrimp Investigation" by E. D. McRae, Marine Biologist, Game and Fish Commission, Rockport.

The program for April 13 includes: "Molluscs of the Rockport Area" by Howard T. Lee, Marine Biologist, Game and Fish Commission, Rockport; "The Effect of Coastal Passes on the Distribution of Fish in the Bays of Texas" by Ernest G. Simmons, Marine Biologist, Game and Fish Commission, Rockport; "The Redfish and Trout Investigation" by Dewey W. Miles, Marine Biologist, Game and Fish Commission, Rockport; and "The Coast and Wildlife" by W. C. Glazener, Division of Wildlife Restoration, Game and Fish Commission, Austin.

Red-tailed Hawk

• Continued from Page 10

In its feeding habits this is a highly beneficial species. Its food consists mainly of injurious rodents. Little damage is caused to poultry and game. It seems probable that old redtail eats most anything he can catch and handle. However, since he is large and not very manueverable, birds that can dart in any direction when approached are not often taken. On the other hand, small mammals limited to movement on the surface of the ground fall relatively easy prey to the hawk's sharp eyes and plunging dives.

Mammals taken by the red-tailed hawk include house mice, field and wood mice, squirrels (tree and ground), raccoons, gophers, prairie dogs, wood chucks, rabbits, moles, bats, shrews, chipmunks, muskrats, porcupines, weasels and skunks. Remains of as many as nine fox squirrels have been observed in a nest at one time.

Birds eaten include young turkeys, pintails, teal and other wild ducks, quail, doves, screech owls, kingfishers, woodpeckers, crows, meadowlarks, and various songbirds.

Other food items include rattlesnakes, bullsnakes, lizards, turtles, frogs, toads, salamanders, crayfish, grasshoppers, crickets, beetles, grubs and caterpillars.

(Photo of red-tailed hawk on page 11 by Don Bleitz, courtesy *Pacific Discovery.*)

Game Regions

• Continued from Page 17

and Post Oak Belt are raccoon, opossum, mink, skunk, and fox. These species are generally most abundant in the wooded areas along the streams.

Waterfowl and wading birds may be seen on the larger streams, lakes and marshes of this game region during migrations. Some of the common non-game birds in the eastern part of the state are the pileated woodpecker great horned owl, red-tailed hawk, and red-shouldered hawk. The ivory-billed woodpecker is no longer found in Texas.

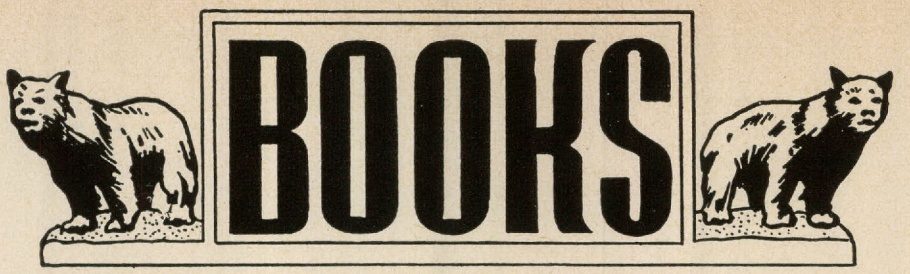
Good commercial clays exist in certain parts of the region. Lignite, iron ores, fuller's earth, and salt deposits are other important resources of this section. All of these things affect wildlife to some extent.

There are many complicated wildlife problems. Much of the farm land is operated by tenants. Active participation and interest in conservation programs involving their lands or their communities often appear of little value to them.

Free ranging hogs severely damage crops of longleaf pine by destroying seedlings. By competing for valuable mast, uncontrolled hogs greatly interfere with the increase of game.

The poor sandy lands are being taken out of cultivation and converted into improved pastures where clearing and mowing operations are removing desirable wildlife cover and food producing plants. Unfortunately, reduction of grazing pressure on undeveloped pastures and woodlands does not accompany the pasture improvement program. On many farms the carrying capacity of the range is much less than the present rate of stocking.

The second largest block of deer range in the state is that portion of East Texas which includes Newton, Jasper, Tyler, Hardin, Liberty, Montgomery, Walker, San Jacinto, Polk, and Trinity counties, and portions of Orange, Jefferson, Harris, Waller, Washington, Grimes, Madison, Leon, Houston, Anderson, Cherokee, Angelina, San Augustine, and Sabine counties.



THE DAMMED MISSOURI VALLEY by Richard G. Baumhoff. 291 xvii pages. Illustrated with 19 halftones. Published by Alfred A. Knopf, Inc., 501 Madison Avenue, New York 22, New York; 1951. Price $3.75.

Bisecting the United States raggedly down the middle is one of the biggest, mightiest, and most controversial rivers in the world. With its tributaries it drains nearly a third of the nation's lands, much of the richest and some of the poorest on the American continent. As taxpayers and as citizens, it well behooves the people of this country to become better acquainted with this vast river basin. Great and spectacular plans are afoot in Washington and elsewhere to harness its potentialities; and the American people will be asked firmly but politely to pick up the multi-billion dollar check if some of them are adopted.

As a newspaper man assigned to cover soil and water conservation programs in the Midwest, Richard Baumhoff has had the opportunity and the responsibility of knowing the region intimately. His travels have taken him into every state, and he has waded through reams of reports issued by the Bureau of Reclamation, the Army Corps of Engineers, and the Department of Agriculture. In this new book he tries, quite successfully, to give the reader as complete a picture as possible of the basin, its people, its resources, and the plans for its development. His newspaper training and experience are evident in three ways: the writing is readable and the material well organized; the research is accurate; and the treatment is thorough. Beginning with a brief narrative trip down the river from its source to its mouth, he launches into a thorough discussion of the various resources, the problems of flood and drought, the philosophy and culture of the people, and the mind-staggering proposals of Pick-Sloan, MVA, and the President's Water Resources Policy Commission. Each is reported factually and without bias; if the author has an axe to grind, he keeps it well-hidden under his topcoat. All in all, it is an excellent treatment of a difficult subject and deserves careful reading by anyone interested in national affairs.

Landa Park Lake

• *Continued from Page 9*

from the weed conveyer and two dump truck loads from the power plant intake screens directly below the lake. Several more loads were taken from the boat dock and the total is estimated at 28 dump truck loads. The majority of the fish killed in the four and a half miles of river could not be gathered and their total, although very great, remains anyone's guess.

Some Rio Grande perch remain in the lake and river, but results were better than had been anticipated. An estimated 90 percent of the fish in the lake and even more in the river were killed during the work.

With the cooperation of the Federal Fish Hatchery in San Marcos, the New Braunfels rearing pond has been drained and approximately 1,000 yearling largemouth black bass and 34,000 bluegill and redear sunfishes have already been placed in the lake. The State Fish Hatchery in San Marcos will stock thousands more of bass fry this spring followed by channel catfish and sunfish fingerlings during the fall delivery season.

Heavy fishing pressure by local residents and tourists prompted the recommendation of special fishing regulations for the lake and river. Fishing season has been closed until May 1953. When the season is reopened, we hope that "operation renovation" will have proved itself successful in restoring the good fishing of previous years.

AN EDITORIAL

What Price Failure?

A RECENT published appraisal of factors behind the heavy fatality rate of sportsmen's club, pinpointed this fact: ". . . about the only time the average club functions at all is when there is something to be against . . . "

The commentary, in a conservation magazine, arrayed under the headline—"Why Sportsmen's Clubs Fail"—cited that:

"In this day of greed and lawlessness, insofar as our wildlife resources are concerned, the properly organized and active sportsman's club is a potent weapon."

The article goes on:

"Unfortunately, however, a great proportion of the clubs in existence are 'weak sisters,' improperly organized and inactive to a state of almost complete lethargy."

The answer, according to the article, is (1) be sold on the need for organization; (2) elect qualified officers with sufficient time to devote to their jobs; (3) don't simply fight things, create something; (4) have regular meetings with interesting programs; (5) provide a job for every member, and (6) be thick-skinned and willing to stick out your neck.

The last-named was described as "perhaps the most important factor of all" (since) "nothing is sadder than a group of sportsmen afraid to take criticism and fearful of trampling on toes . . . And as for sticking out your neck, why be afraid to harrass the poachers and ne'er-do-wells who are stealing your birthright."

Some Texas sportsmen don't need to waste their time reading this piece. They are the ones who belong to strong sportsmen's groups.

This classification, of course, includes the famous Brown County Sportsmen's Club. This outfit has its own distinctive objectives but it is primarily interested in the broad needs of wildlife.

How do they maintain interest and keep up momentum? President Loy Brown answered: "Meet every month; have good programs; never let interest sag."

"Yes," interposed Game Warden John R. Wood, long a key figure in the club, "and have the whole family out. We shape our chow and program for the wives and children, too. You'd be surprised how that strengthens the entire project."

Contrasted with that was the sorry report of a qualified sportsman and conservationist from South Texas: "I've stepped out of the club until they get their feet back on the ground. I'm not a quitter but the sour ones were in power and getting ornerier by the hour."

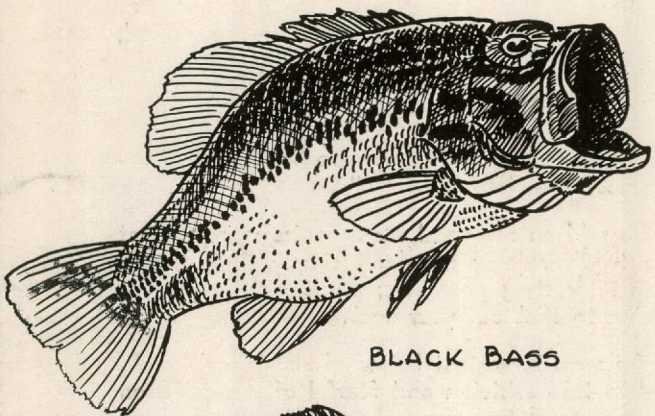
Loy Brown has added this comment:

"We have the kids because they're coming along now with increasing sharpness about wildlife. Pretty soon, they're going to be telling us old fellows, instead of asking us."

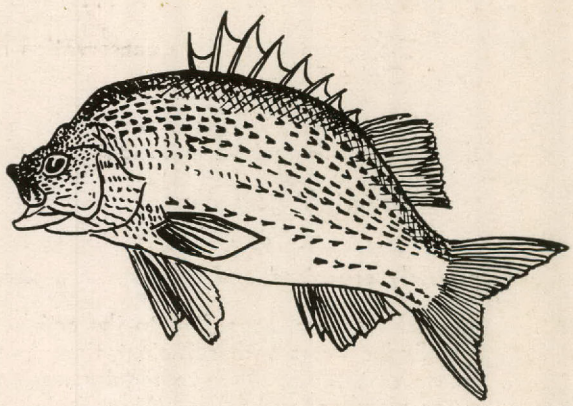
Sure thing! And you might flip back to that "Picture of the Month" in this issue and envision the start that steady three-year-old has toward helping take command.

JAY VESSELS,
Assistant Director, Departmental Publications

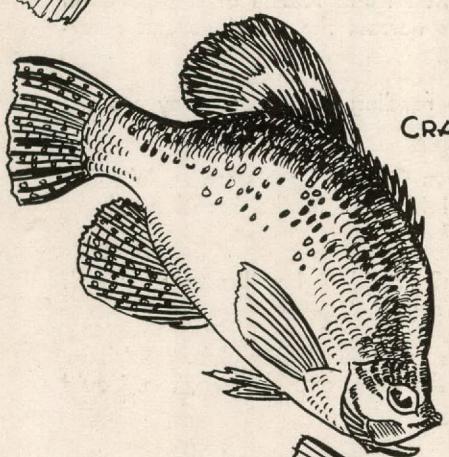
PRINCIPAL GAME FISH OF TEXAS



BLACK BASS



WHITE BASS



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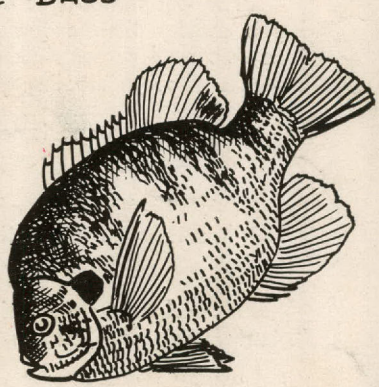
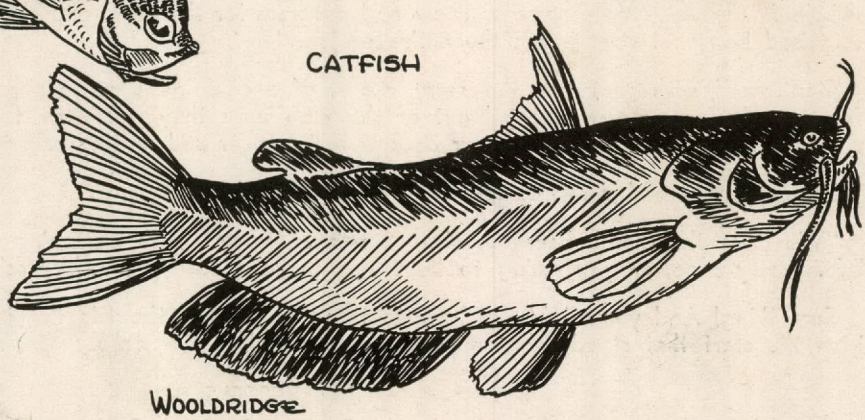


SUNFISH



CATFISH

WOOLDRIDGE