

Texas Game and Fish

MARCH

1957

20 CENTS

Department of Game and Fish

MAR 13 1957

Dallas Public Library



Exhibit "A" at Inks Lake

These strings of fish were taken from Inks Lake on January 25, and made up one of many "exhibit A's" used as evidence in a creel census project conducted by Game and Fish Commission aquatic biologists.

In addition to the black bass, white bass, and channel catfish pictured, bluegill and redear sunfish were also plentiful.

These fish were taken from Inks Lake exactly seventy-three days after the lake had undergone a selective-kill treatment designed to reduce the shad population.

Inks Lake's eight hundred plus acres were treated with 326 gallons of a synergistic rotenone liquid which gave an estimated kill of 50.4 tons of shad and 4 tons of fresh water drum. Less than one-half of one per cent of the total kill was composed of game fishes such as black and white bass.

The reduction of shad at the rate of 125 lbs. per surface acre means that the bass and other game fish will have more room to grow and in the words of the biologist in charge of the treating program, ". . . made the game fish hungrier, which in turn, makes for better fishing."

The success at Inks Lake means that other Texas lakes which have an overpopulation of forage fishes may also be "rehabilitated" in the Commission's program to provide better fishing for Texas anglers.—T.D.C.



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.

March, 1957

Vol. XV, No. 3

★ In This Issue ★

★

ACTING EDITOR . . . Theron Carroll, Ass't.
Director Information-Education

Assistant Editor Jean Richmond

Circulation and Advertising Mervyn Krause

Business Assistant Louise Kreidel

Field Editor Jay Vessels

Chief Photographer Lon Fitzgerald

Asst. Photographer Tom Diltz

TEXAS GAME AND FISH is published monthly by the Texas Game and Fish Commission. Subscription price \$2 per year. Single copies of current issue 20 cents each.

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.

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 post office 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.

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

★

Members of the Game and Fish Commission: Herbert J. Frenslay, Houston, Chairman; Howard Carney, Atlanta; Hal Peterson, Kerrville; Robert G. Carr, San Angelo; Frank Wood, Wichita Falls; W. T. Scarborough, Kenedy; J. W. Elliott, Mexia; Henry LeBlanc, Port Arthur; Henry Coffield, Marfa; H. D. Dodgen, Executive Secretary; W. J. Cutbirth, Jr., Assistant Executive Secretary.

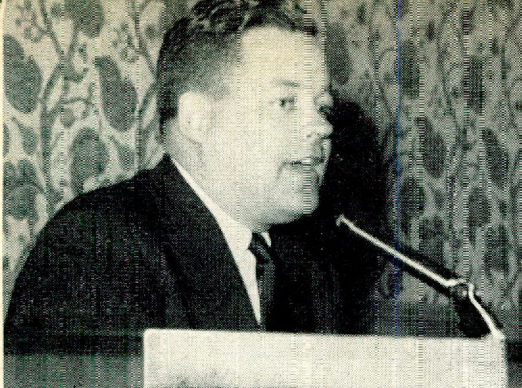
Directors of Divisions: Marion Toole, Austin, *Inland Fisheries*; Eugene A. Walker, Austin, *Wildlife Restoration*; Joe Marks, Austin, *Engineering*; V. E. Skaggs, Austin, *Chief Clerk*; Howard T. Lee, Rockport, *Coastal Fisheries*; Everett T. Dawson, Austin, *Conservation Education and Publications*; Earl Sprott, Austin, *Law Enforcement*; C. L. Friou, *Accounting*; B. M. Collie, *Sand, Shell, and Gravel*.

| | |
|---|-------------------|
| 1957 SCOT Annual Meeting Brings 250 Delegates | 2 |
| Election of officers and committee reports are meeting highlights. | |
| SCOT Speaker Dr. Durwood Allen Chooses Game Conservation Topic | 3 |
| A basic review of game conservation—from production to harvest. | |
| Sandhill Citizen Extraordinary | 6 |
| By A. S. JACKSON | |
| Some people call the kangaroo rat a "two-footed mouse." | |
| Creel Census in Texas Lakes | 8 |
| By WILLIAM H. BROWN | |
| How does your fishing lake compare with others over the State? | |
| Acorns | 11 |
| By DAN LAY | |
| Do you have any idea how many animals rely on acorns for food? | |
| Rabere | 12 |
| By GRANT H. BURTON | |
| The cry of "Mad Dog" became "Mad Fox" in East Texas. | |
| Spotting the Birds of Texas | 14 |
| By OLIN SEWALL PETTINGILL, JR. | |
| The last of a series of seven articles on Texas' birds. | |
| Porcupine | 18 |
| Illustrated by WALTON CUDE | |
| As the Biologists See It | 19 |
| Compiled by JEAN RICHMOND | |
| Biologists report on the game situation all over the State. | |
| Letters | 4 |
| Turtle Pack Spotted | 24 |
| Texas Tracks | 16 |
| Camp Fire Girls Celebrate | 27 |
| Game Commission Meeting | 21 |
| Nutria Law Clarified | 30 |
| National Wildlife Week | 22 |
| Soil Bank Program Explained | 31 |
| It Happened This Way | 22 |
| Things You May Not Know | 31 |
| Guns & Shooting | 23 |
| Outdoor Books | 32 |
| Junior Sportsman | Inside Back Cover |



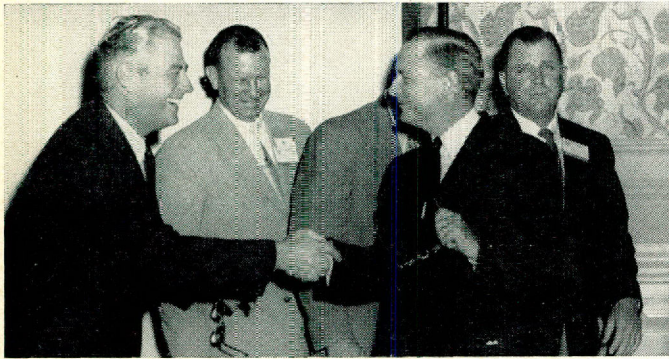
The Cover

The kangaroo rat, a distinctly American animal, prefers arid or semi-arid country and is found typically in the West. Its name comes from its method of locomotion which is, like that of the kangaroo, by means of long leaps on its hind legs. It generally has a total length of 8-10 inches, with its long tail making up 5-6 inches of that. Kangaroo rats are night feeders and are seldom seen except by motorists when their headlights pick them out on desert roads. (Original cover painting by Clay McGaughy.)

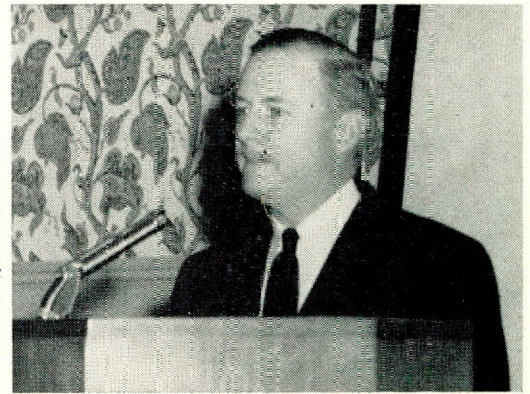


Toddie Lee Wynne, Jr., of Dallas, pictured left, succeeds Harry Jersig, San Antonio, as SCOT President. Above, Kenneth Foree, Dallas (seated), takes notes as the newly elected officers and Board members are introduced.

Below, a mixup on eyeglasses brought the Governor's comment that they could "... see through the same eyes on this program."



Governor Price Daniel, right, gave the welcoming address and expressed interest in a program of proper development of fish and game resources.



1957 SCOT Annual Meeting Brings 250 Delegates

APPROXIMATELY 250 officers, delegates, members, and visitors, representing more than 60 sportsmen's clubs and 60,000 members, were on hand for the annual meeting of the Sportsmen's Clubs of Texas.

Here are some of the highlights of the meeting which was held on January 19, at the Driskill Hotel in Austin:

Governor Price Daniel opened the morning meeting with his welcoming address. He expressed his interest in a program of proper development of fish, game and "... all our wildlife resources," and promised the members of SCOT that he would be by their side working to further conservation. Before the Governor spoke, both he and SCOT President Jersig had removed their eye glasses and placed them on the speaker's rostrum. When the Governor prepared to leave, he put Mr. Jersig's glasses on by mistake. As they made the exchange of eyepieces, Governor Daniel laughingly explained that they could "... see through the same eyes on this program."

To the members of the audience, who rose to their feet as the Governor was leaving, he exclaimed,

"Ya'll sit down, I'm just a fisherman."

Then followed the reports of the various SCOT committee chairmen.

The finance committee reported a cash balance of \$8,416.69 in the corporation's till, as of December 31, 1956.

SCOT had 62 clubs and more than 60,000 members on the rolls at the time of the meeting, according to the report of the membership committee.

At the suggestion of the chairman of the publicity committee, a resolution to express SCOT's appreciation to the Press for cooperation and news coverage was introduced and approved.

Some proposed amendments to the Constitution and by-laws met with some slight opposition from the floor, when presented by the Constitution and by-laws committee. This evidence of "growing pains" was no more than could be expected from the statewide representation of a young, but potentially great, organization laying its foundations.

The technical committee reported its progress and on its cooperative meeting with members of the State Game and Fish Commission.

One of SCOT's most notable ef-

forts to date came to light when the Committee on Public Relations announced that ample funds "... contributed by some friends of SCOT ..." were available to finance the SCOT's F. F. A. Awards Program for 1957.

This awards program has now been voted a permanent project of SCOT, assuring the many Future Farmers of Texas recognition for their work in wildlife conservation. Details of the awards program may be obtained from Mr. George Hurt of the Texas Education Agency or from Sportsmen's Clubs of Texas, Box 2060, San Antonio, Texas.

The committee also reported on the Directors' proposal to send Mr. Val Lehman as SCOT's official delegate to the National Wildlife Conference in Washington, D. C., in March. Cecil Reid was selected to serve as alternate delegate.

Shortly before the morning session was adjourned, a new Game and Fish Commission film, "Conservation at the Crossroads," was shown to the group.

Following an excellent luncheon, the afternoon session convened to hear an address by Dr. Durwood L. Allen, Professor of Wildlife Man-

• Continued on page 24

SCOT Speaker Dr. Durwood Allen Chooses Game Conservation and Management Topic

"Like a shot in the arm!"

"He sure knows his stuff."

"That talk alone would have made this meeting worth while."

These were just a few of the remarks that squeezed through the well-deserved applause given Dr. Durwood L. Allen for his timely, informative address before the members of SCOT assembled for their annual meeting.

He spoke with authority, and his use of wildlife facts left no doubt that he belonged to that "inner circle" of scientists known as wildlife managers.

For the most part, Dr. Allen's talk was a basic review of the subject of game conservation—from production to harvest.

Calling upon his years of field experience for examples, Dr. Allen emphasized the need for a realistic viewpoint in dealing with animal numbers on the land. He pointed out that the science of ecology (the relationships of animals to their environment) had proved that two plus two does not always equal four when applied to wildlife populations. As an example: Extermination of predators in an area does not necessarily guarantee a directly proportionate increase in the animals being preyed upon. Likewise, the "flooding" of an area with pen-raised "brood stock" does not guarantee an abundant huntable supply of game provided by the "breeders."

In explaining the carrying capacity of a range (which is, in terms of the animals using the range, the average number it will support year after year), Dr. Allen pointed out that there were certain critical periods which actually determined what the carrying capacity would be. He also pointed out that these critical periods (or seasons) were not necessarily the same for all animals. His remarks reaffirmed the findings of wildlife biologists in Texas who have compiled data on deer die-offs. These biologists have witnessed losses of deer during extended periods of freezing temperatures and tremendous die-offs in mid-

summer—mainly due to drought conditions.

Dr. Allen reviewed the wildlife managers' findings that every time an animal is removed from a herd or population it could be expected that the survivors will:

1. Have better food and cover.
2. Have a greater security from predators.
3. Be less susceptible to diseases.
4. Have their breeding potential increased.

Age ratios and yearly turnovers in animal populations were also discussed by Dr. Allen. He emphasized, for example, that the turnover of bobwhite quail may be as high as 80 per cent. A covey of bobwhites consisting of twenty birds in the early fall could contain four mature birds and sixteen young of the year. Also, if this covey is located in quail range which is stocked to carrying capacity, sixteen individuals of this covey must succumb to make way for their replacements the following year—if the condition of the range and other related factors remain unchanged.

Dr. Allen emphasized that this turnover could be expected whether the birds were harvested by hunters or given complete protection from the hunters' guns.

In summing up his discussion of animal populations, Dr. Allen remarked that the most practical and economical predator control is to have the hunters "get there first and harvest the crop at the right time." Good game management calls for this same harvesting principle.

Seven criteria which might be used to judge the progressiveness of a state-wide wildlife conservation program were reviewed. These criteria consisted of seven questions:

1. Does the Conservation Department, or Game and Fish Commission, have adequate legal authority to manage the state's wildlife?
2. Does the department employ sufficient trained personnel?
3. Does the department have an adequate wildlife environment development program?



4. Does the department have an adequate educational program to inform the public?
5. Does the department carry out adequate research?
6. Is there a cooperative program with landowners?
7. Does the state organization have the support of citizens' organizations?

Very few states can answer "yes" to enough of the above questions to make a passing grade, according to Dr. Allen.

He expressed his belief that perhaps the most important function of an organization such as SCOT is to bridge the gap between the wildlife management specialist and the public. Active citizens' organizations can be most helpful in reducing the twenty years gap that now exists between the gathering of wildlife research facts and their application in wildlife management.

Dr. Allen commented on the relative "newness" of ecology in the work of the wildlife biologist. He said that the biologist, in his years of study has learned how little he really knows. "This," said Dr. Allen, "should make him humble. He has also learned how little the other fellow knows, and that," quipped Dr. Allen, "has made him unpopular."

In his concluding remarks, Dr. Allen offered one clue which should be used to identify the true conservationist—lay or professional. He said that the true conservationist reveals himself in that the things he wants and works for are for somebody else.—Theron D. Carroll

Letters to . . .



Unusual Catch

Editor:

I am enclosing a photo of a rather unusual catch—a sawfish. It weighed 150 pounds and was eight and one-half feet long.

The fish was caught in Port O'Conner Bay by Alvy Pullin, a barber from Nixon.

R. A. Pullin
Box 781
Nixon, Texas

Are You Changing Your Address?

Then please fill out the following form and send to TEXAS GAME AND FISH, Walton Bldg., Austin, Texas, so that you will continue to receive your copies of the magazine. The magazine is sent second-class mail and cannot be forwarded by the post office nor remailed from this office. Allow six weeks for processing.

Name

Old Address

City, State

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

New Address

City, State

Jr. Sportsman

Editor:

I sure do enjoy your magazine. I especially like the new page for Junior Sportsmen.

I also like the letters to the Editor. Sure is a good bargain, this magazine!

David Barkemeyer,
Burlington

(Thanks, David, to you and the other Junior Sportsmen, for your words of appreciation and encouragement.—Ed.)



Fishing Spot

Editor:

This photo shows the culmination of some six months work by an interested group here in Taylor and Ken Jurgens, biologist with the Game Commission. Since last August, when Ken netted fish from this small body of water located in the City Park here in Taylor, until January 14th, when Ken and his assistant, J. D. Lynch, distributed three gallons of Pro-Nox Fish, it has been quite a struggle.

This 2½-acre lake was once an ideal fishing spot, until lack of interest allowed it to become full of rough fish. The primary purpose in treating and restocking the lake is to afford a fishing spot for the youth of the community.

Ken tells me that with proper procedures the lake will be ready to fish by the spring of next year.

I thought perhaps others might be interested in this one small effort to make a better fishing spot from a useless body of water.

Bill Kennedy,
Taylor Daily Press,
Taylor

Taylor Daily Press Photo

(Mr. Kennedy's name was misspelled in the February issue of TEXAS GAME AND FISH. The correct spelling is with two n's, as above. Our apologies.—J.R.)



Memories

Editor:

This picture was taken on the opening day of goose season, after a hunt on the coast near Sea Drift. Pictured are Arthur Mahavier (myself), left, and D. A. Mahavier, of San Antonio.

This hunt reminded me of the hunts my Dad would take me on when I was young. I could hardly hold up my 10-shot gun, and when a flock of ducks or geese would settle down in the decoys, I would open fire. Since then I've learned not to shoot ducks in decoys, but as a boy it was a thrill!

It has been some time since we have been fortunate enough to have hunting at its best—as it was years ago. This hunt was a fine example that a great deal is being done to improve our duck and goose hunting today.

This hunt brought back many a memory of my boyhood, and I'm sure the picture will remind someone else of one of those successful hunting trips.

Arthur R. Mahavier,
2411 San Pedro Ave.
San Antonio

What Are They?

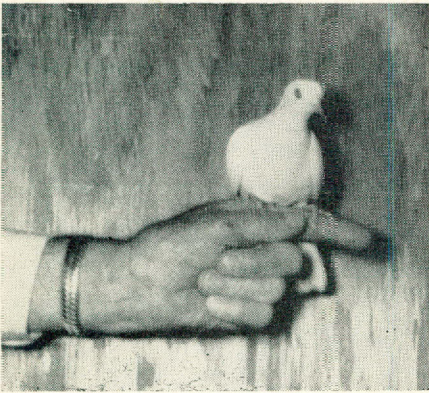
Dear Mr. Meyer:

Will you please tell me the name of the animals pictured at the top of the Junior Sportsman's page? We have wondered for some time, now, and I don't think any of us has come up with the right name.

John Powitzky
Rt. 5, Box 299
Victoria

(These animals are known as Ring-tailed cats. They are about the size of a house cat, when grown, and get their name from their long tail, which is banded with 7-9 conspicuous black and white bands. Those pictured are young—about six weeks old.—Bob Meyer)

... the Editor



Aged Dove

Editor:

This is a snapshot of what I claim is the world's oldest living dove. This white dove has just passed her thirty-first birthday! Its mate died seven years ago at the ripe old age of 23 years, 5 months. I have many doves with ages ranging from 15 to 23 years.

I want to tell you that I enjoy the magazine very much—both the contents and the covers.

Robert L. Miesse,
500 South Cleveland,
Amarillo

Controversy

Editor:

Just a note to say that your note on the chimney swift being the only bird to beat its wings alternately, on page 26 of the January issue, should be corrected. I'm surprised that you repeated this old wives' tale. No bird can (or does) fly with alternate wing beats. This has been disproven many times by modern high-speed photos and close observation. How about printing a retraction?

Harold S. Peters,
Research Biologist,
Atlanta, Georgia

(The note to which you refer was printed under our "Things You May Not Know" column. We goofed—it should have been omitted.)

In our article, "The Chimney Swift," in the September, 1955, issue of *Texas Game and Fish*, we acknowledged, in reference to the early controversy of alternate versus simultaneous wing beats in the flight of the chimney swift, that "The argument was ended in 1932 when Mr. Myron F. Westover, using motion picture photography, demonstrated rather conclusively that the wings of the chimney swifts move in unison as do those of other birds."

It is known that all birds normally fly with wings beating in unison. As to whether the chimney swift or any other bird *can* beat its wings alternately—Quien sabe?—T.D.C.)

Eels Needed

Editor:

We are in need of some common American freshwater eel for our Aquarium. Also, some large alligator snapping turtles. I thought perhaps some fisherman or other person might help us out. It certainly would be appreciated.

Lawrence Curtis, Curator,
Fort Worth Zoo and Aquarium,
Fort Worth

(The James R. Record Aquarium in Forest Park is packing them in—adults and youngsters alike. The building itself is a magnificent addition to Fort Worth's institutions. Simplicity of design and construction was the keynote in planning the aquarium. The displays are broken up into separate more-or-less natural units, in which there are fish galore of every shape and size.

During the first nine months of 1955, over 425,000 visitors came to the aquarium, and indications are that records for numbers of aquarium visitors will be broken.—Ed.)

Kind Words

Editor:

I have been reading your wonderful magazine for a number of years and wouldn't be without it. It has the best

articles on wildlife of any outdoor magazine I have ever found.

My whole-hearted congratulations to you for a job well done.

Lloyd G. Rust, Jr.,
County Attorney,
Wharton, Texas

Editor:

Recently I received my January issue of *Texas Game and Fish Magazine*. The Jay N. (Ding) Darling cartoon on the back of the front cover page is one of the best, if not the best, cartoon of its kind I have ever seen.

Ivan Walling,
Box 51,
Thornton

Salesman

Editor:

I recently had a week-end hunting party at my ranch. Most of the guests were adults. The exception was 12-year-old Lynn Short of Houston.

One of the guests began reading a copy of *TEXAS GAME AND FISH* there in the ranch house and said he'd like to subscribe. Young Lynn quickly became a "salesman," and in an hour he had sold 12 subscriptions—one to every couple not already receiving the magazine.

TEXAS GAME AND FISH sells itself on sight! The example set by Lynn might provide an idea for other readers who frequently write in asking for suggestions to help "our magazine." Enclosed find the \$24 for the new subscribers.

Hal Peterson,
Kerrville, Texas



Success Story

Editor:

Our hunting trip this fall turned out to be highly successful. Four of us (Dillard McCain, Sylvester Kessler, Arvil Fuller and I, left to right) came back with seven fat deer, as shown.

Two 4-pointers, two 7-pointers, and one each with 8, 11, and 12 points. These deer were all taken from the Arthur Essn Ranch at Kendalia.

Henry C. Riley,
Box 188
Queen City

An impudent, winning personality coupled
kangaroo

Sandhill Citizen

By A. S. JACKSON, Biologist

Illustrations by Walton Cude



ON ONE'S FIRST MEETING with a kangaroo rat the impression is likely to be that here is a creature straight out of a Disney movie, characteristic of such without benefit of the cartoonist's license. Over-size, bugged out, black eyes, swollen cheek pouches, and two-legged locomotion give the kangaroo rat an impudent, winning personality not possessed by other members of the rat family.

Indeed, the kangaroo rat is neither kangaroo nor rat; it takes its name because the tiny front legs are not used for locomotion; instead, long hind legs and a long balancing tail like the kangaroo's enable the animal to move about with celerity. As to nationality, the kangaroo rat is distinctly American in distribution, and in kinship most related to the pocket mouse.

The kangaroo rat's preference for arid or semi-arid country and dry sands make it a typically western animal. Many tourists get their first sight of them when their headlights pick them out on lonely

desert roads. Out of a total of some sixteen different species, four species are found in Texas. By far the commonest of these, both in number and in total area of distribution, is the Ord kangaroo rat (*Dipodomys ordii*). By way of explaining the technical term, *Dipodomys* is the Latin equivalent of "two-footed mouse," while the *ordii* refers to George Ord, an early American naturalist.

For those who might want to do some checking up on the identity of a questionable rodent at hand, the following description is offered as a key for the identification of *Dipodomys ordii*:

"Five toes on hind foot, the inside toe small and easily overlooked; tail relatively long, body actually and relatively short (averaging four inches), external cheek pouches; tail seldom white-tipped, dorsal and ventral stripes brownish or blackish; back, cinnamon buff; conspicuous white patches above eye and at base of ear. Total length, 8-10 inches; length of tail 5-6 inches; length of hind foot, 1.5 inches." (*The Mammals of Texas*, by Walter P. Taylor and William B. Davis. Bulletin No. 27: Game, Fish and Oyster Commission, Austin, Texas. August 1947.)



Kangaroo rats are considered delicacies by such enemies as badgers and coyotes. This kangaroo rat hole has been dug out by a badger.



Mounds of sand often betray the small opening, as shown, to the home of a kangaroo rat. Small mouse-like tracks in addition to the groove made by its long tail reveal its presence.

with unusual means of locomotion make the rat truly a

Extraordinary

Photos by A. S. Jackson

In Texas, the Ord kangaroo rat occupies the sandier soils of a broad belt extending from Corpus Christi west to El Paso, and northward through the Panhandle. In so vast an area, the environment of the kangaroo rat will naturally vary somewhat; the one constant requirement seems to be aridity of climate. Sandy soils are seemingly preferred by this little rodent, yet their burrows encroach on the red mixed lands around Childress, and they have been turned out by lister plowing on some of the tighter soils of Cottle county. In Collingsworth county, before the drought set in, their burrows were noted during the fall months well out in farm crop land where feed crops were shocked. But it is in the deep sand grazing ranges of the south plains and Panhandle counties that the kangaroo rat reaches its greatest abundance.

Such ranges will usually be characterized by growth of sage brush or shinoak; often both plants occur together. Here the telltale evidence of a population of kangaroo rats will be yellow mounds of sand usually, but not always, before open entrances. Often faint trails radiate from these; if traveled since the wind last blew hard, there will be mouse-like tracks and in addition the groove made by the long trailing tail of the kangaroo rat.

It is probable that the high populations of Ord kangaroo rats found in deep sand, shinoak or sage-brush pastures result from the greater diversity of vegetation occurring in such pastures, as compared to the vegetation of tighter soils. This variety of plant life provides better living conditions for the kangaroo rat.

Kangaroo rats are nocturnal and therefore come out to feed only at night. As adaptations for this type of activity, it has the large eyes referred to in the opening paragraph, furlined (external) cheek pouches, and a tremendous amount of industry for such a small package. Since travel and support are provided by the hind legs and tail, the front legs are left free to help in the harvesting of food and

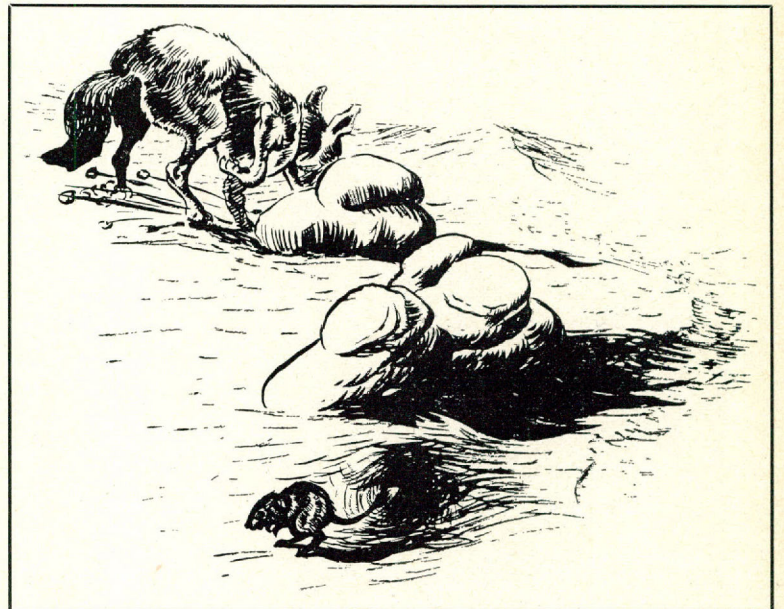
Sandy, arid regions seem to be preferred by these animals. Worn paths and numerous tracks in this dry sandy soil are evidence of the travels of a kangaroo rat.



its transference to the cheek pouches. The latter is done at an amazing rate of speed, so fast indeed that the movement of the front feet is a blur of motion.

Seeds not eaten on the spot are transported to underground storage chambers. Grass stems are also cut into convenient lengths and carried off in the cheek pouches. Often only choice sections of the latter are utilized, and one sees a litter of discarded stems which may represent most of a stool of some species of grass. During spring and fall seasons, the kangaroo rats seem to undergo an urge to clean house; then the mound at the mouth of their burrows reveal an old saying in reverse: "what goes down must come up." The discard of a season's work has been brought up from somewhere far below and kicked out the front door.

● Continued on page 25



Have you wondered which were the best fishing lakes in Texas? Perhaps the answer is here.

Creel Census of Texas Lakes

By WILLIAM H. BROWN, Aquatic Biologist

Photos by Tom Diltz

FISHERY RESEARCH in Texas was greatly expanded during 1953 with the states participation in the Dingell-Johnson Federal Aid to Fisheries Act. The money made available for research and development by this bill has resulted in a vast accumulation of knowledge concerning our public fishing waters. Creel censuses have been conducted by Aquatic Biologists of the Texas Game and Fish Commission on many of our larger public lakes. Fishermen of Texas may be interested in some of the more important

findings of these creel censuses. The data is recorded in tabular form so that comparisons may be made between lakes, fishing methods, best fishing months, etc.

Table 1 shows the monthly rate of catch of fish expressed in fish per man-hour of fishing. One person fishing for one hour produces one man-hour of fishing pressure. If a person fishes for two hours and catches one fish, then his rate of catch is $\frac{1}{2}$ or 0.50 fish per man-hour of fishing. Thus two people fishing for three hours expend six man-

hours of fishing. If they catch a total of two fish, then each person has a rate of catch of 0.33 fish per man-hour of fishing. It may be noted from the table that the rate of catch not only varies from month to month and from lake to lake, but from year to year at the same lake. Many factors combine to influence the fishing success of a lake. These factors include the age of a lake, water fluctuation or level of the lake, spawning success and growth rate of both game and rough fish species, climatic conditions and water temperature, as well as the ability of the individual fisherman to catch fish.

This table may be used to some extent to determine the best fishing period for an individual lake. It is apparent that Spring and Fall are the best fishing seasons in al-

TABLE 1. MONTHLY RATE OF CATCHES FOR TEXAS LAKES EXPRESSED IN FISH PER MAN-HOUR OF FISHING

| Lake | Year | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Avg |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Benbrook | 1954 | ..... | ..... | ..... | ..... | ..... | 0.53 | 0.33 | 0.35 | 0.37 | 0.37 | 0.24 | 0.52 | ..... |
| | 1955 | 0.11 | 0.17 | 0.39 | 0.20 | 0.27 | 0.13 | 0.17 | 0.36 | 0.27 | 0.33 | ..... | ..... | 0.30 |
| Devil's | 1953 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 0.38 | 1.18 | 0.52 | 0.26 | 0.78 | ..... |
| | 1954 | 0.29 | 0.35 | 0.36 | 0.23 | 0.35 | 0.30 | 0.29 | 0.29 | 0.19 | 0.55 | 0.88 | 0.74 | ..... |
| | 1955 | 0.69 | 0.60 | 0.60 | 0.32 | 0.23 | 0.21 | ..... | ..... | ..... | ..... | ..... | ..... | 0.46 |
| Inks | 1955 | ..... | ..... | ..... | ..... | ..... | ..... | 0.70 | 0.85 | 1.18 | 0.98 | 0.50 | 0.42 | ..... |
| | 1956 | 0.16 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 0.68 |
| Medina | 1953 | ..... | ..... | ..... | ..... | ..... | ..... | 0.41 | 0.47 | 0.24 | 0.27 | 0.28 | 0.14 | ..... |
| | 1954 | 0.16 | 0.26 | 0.16 | 0.26 | 0.39 | 0.33 | 0.25 | 0.38 | 0.38 | 0.34 | 0.53 | 0.17 | ..... |
| | 1955 | 0.82 | 0.36 | 0.69 | 0.63 | 0.24 | 0.13 | ..... | ..... | ..... | ..... | ..... | ..... | 0.35 |
| Nasworthy | 1953 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 0.32 | 0.58 | 0.32 | ..... |
| | 1954 | 0.10 | 0.37 | 0.28 | 0.58 | 0.25 | 0.33 | 0.20 | 0.34 | 0.90 | ..... | ..... | ..... | 0.38 |
| Travis | 1953 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 0.71 | 0.90 | 0.60 | 0.52 | 0.41 | ..... |
| | 1954 | 0.61 | 0.33 | 0.21 | 0.23 | 0.33 | 0.35 | 0.62 | 0.32 | 0.41 | 0.25 | 0.33 | 0.38 | ..... |
| | 1955 | 0.18 | 0.24 | 0.19 | 0.29 | 0.33 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 0.40 |
| Walk | 1955 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 0.11 | 0.18 | 0.13 | 0.08 | 0.14 | ..... |
| | 1956 | 0.15 | 0.24 | 0.09 | 0.15 | 0.17 | 0.22 | ..... | ..... | ..... | ..... | ..... | ..... | 0.15 |
| Whitney | 1953 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 0.64 | 0.77 | 0.66 | 0.34 | 0.26 | ..... |
| | 1954 | 0.44 | 0.62 | 0.52 | 0.48 | 0.40 | 0.53 | 1.16 | 0.83 | 0.91 | 0.92 | 0.64 | 0.43 | ..... |
| | 1955 | 0.25 | 0.39 | 0.70 | 0.30 | 0.44 | 0.39 | 0.30 | 0.44 | 0.64 | 0.47 | ..... | ..... | 0.55 |
| Average | ..... | 0.33 | 0.36 | 0.38 | 0.33 | 0.32 | 0.31 | 0.44 | 0.46 | 0.61 | 0.48 | 0.42 | 0.40 | 0.40 |



A Commission biologist meets a man as he brings his strings of fish to the dock.

TABLE 2. RATE OF CATCH BY DIFFERENT FISHING METHODS FOR TEXAS LAKES EXPRESSED IN FISH PER MAN-HOUR OF FISHING

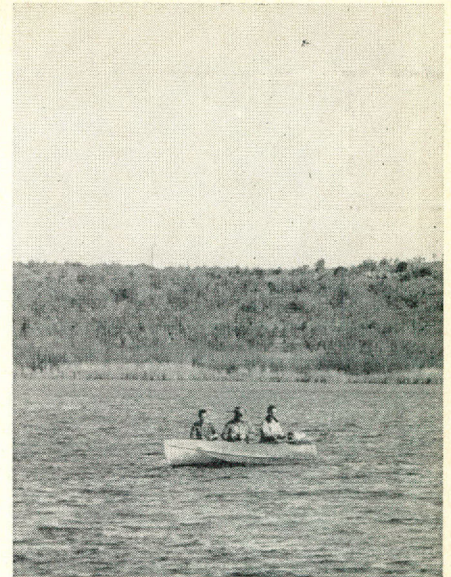
| Lake | Casting | Trolling | Flyfishing | Stillfishing | Trotline |
|-----------|---------|----------|------------|--------------|----------|
| Benbrook | 0.30 | 1.27 | 0.52 | 0.40 | 0.19 |
| Caddo | 0.62 | 1.11 | 1.30 | 2.06 | .... |
| Devil's | 0.44 | 0.31 | .... | 0.66 | 0.14 |
| Inks | 0.45 | 0.20 | 1.05 | 0.70 | 0.28 |
| Medina | 0.31 | 0.30 | 2.13 | 0.72 | 0.19 |
| Nasworthy | 0.23 | 0.37 | 0.62 | 0.41 | 0.16 |
| Travis | 0.29 | 0.41 | .... | 0.55 | 0.12 |
| Walk | 0.09 | 0.19 | .... | 0.43 | 0.10 |
| Average | 0.34 | 0.52 | 1.12 | 0.74 | 0.17 |

most all lakes, with September being the best fishing month. The table also reflects the high rate of catch for a new lake such as Lake Whitney, a point which fishermen have observed for many years. However, it must be remembered that a high rate of catch in fish per man-hour is not the only important factor for measuring a lake's worth for fishing. The number of fishermen using a lake, the fishing pressure reflected in total man-hours of fishing and the total fish harvest from a lake are very important when judging the assets of a lake. Much of this information is recorded in Table 4.

Table 2 reports the rate of catch in fish per man-hour for the different fishing methods. Although there are variations among the individual lakes, stillfishing produces the greatest catch for the time expended. Stillfishing with worms and minnows results in more fish being harvested than any other method. Trotline fishing has the lowest rate of

catch for the time expended than any other method. However, it is very difficult to accurately measure the success of trotline fishing in fish per man-hour due to the extreme periods of time that a line may be in the water without the hooks being baited. Nevertheless, this must be considered as part of this method of fishing and the overall average may be used as a measure of the fishing success by trotlines. Again it must be remembered that the proficiency of the individual angler in the fishing method which he employs most certainly influences his rate of catch.

Table 3 records the calculated total number of different fish species caught from the individual lakes by sport fishermen during a given period of time. The data was computed by taking a known portion of the fishing pressure at regular intervals by creel census and expanding it to cover the entire period of the census. It represents the total



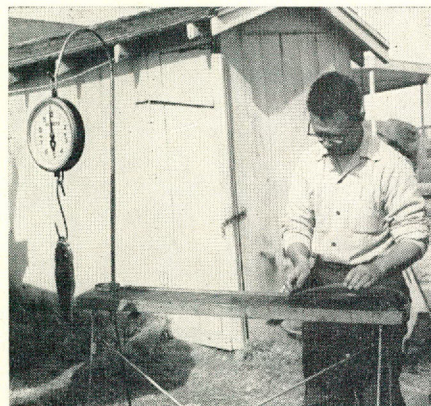
No matter how you fish or what kind of bait you use, your catch is important to the biologist making a creel census. From his data it is possible to determine future needs of Texas lakes.

harvest of fish by sport fishermen from the lake during the period of time shown in the table. These figures represent only part of the entire fish production of a lake, since many lakes have commercial fishermen netting rough fish such as carp, carpsucker, buffalo, suckers, shad and gars under contracts with the Texas Game and Fish Commission. The number of rough fish harvested exceeds the number of game fish caught by fishermen, in many instances.

The table clearly indicates that the sunfish family including the largemouth black bass, crappie and various sunfishes accounts for the greater percentage of all fish caught. In comparing the total number of



The fish are measured and records kept of the number and kind of fish caught.



Fish are weighed and the weights recorded along with information as to the method of taking them.



A biologist records the number and kind of catch taken by this man fishing from a dock.

TABLE 3. CALCULATED NUMBER OF DIFFERENT FISH SPECIES CAUGHT BY SPORT FISHERMEN FROM TEXAS LAKES

| Lake | Period | Number of Months | Largemouth Black Bass | Spotted Black Bass | White Crappie | Black Crappie | Sunfishes (All Species) | White Bass | Yellow Bass | Drum | Channel Catfish | Blue Catfish | Yellow Catfish | Bullhead Catfish | Pickereel | Rio Grande Perch | Carp | Buffalos | Carpusucker | Redhorse Sucker | Cars | Totals | |
|---------------|---------------------------|------------------|-----------------------|--------------------|------------------|----------------|-------------------------|----------------|---------------|---------------|-----------------|--------------|----------------|------------------|---------------|------------------|---------------|--------------|--------------|-----------------|------------|-------------------|---------|
| Benbrook | June 1954- Oct. 1955 | 17 | 316,833 | 0 | 11,732 | 0 | 193,585 | 0 | 0 | 0 | 2,277 | 0 | 0 | 111,126 | 0 | 0 | 1,791 | 0 | 0 | 0 | 0 | 0 | 637,344 |
| Caddo | March 1954- Feb. 1955 | 12 | 96,370 | 2,619 | 6,207 | 18,380 | 187,295 | 6,012 | 16,855 | 1,382 | 545 | 0 | 123 | 807 | 17,939 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 354,534 |
| Devil's | July 1953- June 1955 | 24 | 6,423 | 0 | 15,091 | 0 | 9,089 | 3,582 | 0 | 642 | 9,624 | 70 | 258 | 0 | 0 | 871 | 192 | 0 | 36 | 0 | 28 | 45,906 | |
| Inks | July 1955- Jan. 1956 | 7 | 2,252 | 57 | 1,766 | 0 | 15,482 | 11,286 | 0 | 223 | 3,935 | 0 | 19 | 0 | 0 | 0 | 585 | 202 | 57 | 0 | 40 | 35,904 | |
| Medina | July 1953- June 1955 | 24 | 11,027 | 0 | 14,399 | 0 | 27,245 | 5,513 | 0 | 0 | 6,085 | 0 | 84 | 0 | 0 | 45 | 1,446 | 0 | 0 | 34 | 11 | 65,889 | |
| Travis | March 1954- May 1955 | 15 | 46,873 | 5,520 | 20,657 | 0 | 121,519 | 33,506 | 0 | 1,140 | 22,509 | 4,931 | 2 | 46 | 0 | 0 | 14,683 | 1,643 | 1,031 | 0 | 121 | 274,184 | |
| Walk | July 1955- June 1956 | 12 | 202 | 0 | 257 | 0 | 1,204 | 46 | 0 | 64 | 2,124 | 0 | 92 | 0 | 0 | 9 | 37 | 0 | 0 | 0 | 0 | 4,035 | |
| Whitney | August 1953- Oct. 1955 | 27 | 1,874,821 | 120,632 | 3,466,320 | 520,514 | 2,010,806 | 315,920 | 0 | 86,398 | 495,415 | 0 | 7,507 | 6,340 | 0 | 0 | 64,605 | 2,223 | 0 | 0 | 0 | 8,971,591 | |
| TOTALS | ..... | ..... | 2,354,801 | 128,828 | 3,536,429 | 538,894 | 2,566,225 | 375,865 | 16,855 | 89,849 | 542,514 | 5,001 | 8,085 | 118,319 | 17,939 | 925 | 83,339 | 4,068 | 1,127 | 34 | 200 | 10,399,297 | |

fish caught from the different lakes, the size of the individual lakes must be considered as the one most important factor in determining what the total harvest may be. Sport fishermen after one particular species may find some indication as to which lake affords the best fishing for his favorite fish.

Table 4 is an attempt to show the

fishing pressure and the total harvest of fish in numbers and weight for some of our major Texas lakes. There is little doubt that fishing is "Big Business" in Texas, especially since a nation-wide survey was conducted by Crossley, S-D Surveys with the aid of funds made available by the Wildlife and Fish Federal Aid Acts. This survey showed that

1,418,000 persons age 12 and over fished in Texas during 1955. The average expenditure of these fishermen for their recreation was \$86.69 per person. The total expenditure for all persons fishing in Texas during 1955 was a staggering figure of almost 123 million dollars. With shorter working hours and retirement at an earlier age, the leisure time of an individual is ever increasing. Fishing pressure on our lakes and streams must necessarily increase at this same accelerated rate.

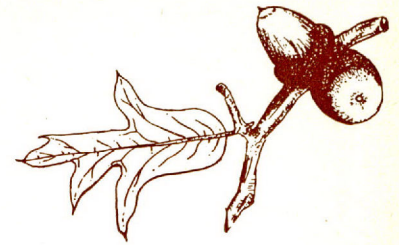
TABLE 4. CALCULATED FISHING PRESSURE AND HARVEST OF FISH BY SPORT FISHERMEN FROM TEXAS LAKES

| Lake | Period | Months of Harvest | Avg. Surface Acres at Time | Total No. Fishermen | Total Man-Hours of Fishing | Total No. Fish Caught | Total Lbs. Fish Caught | No. of Fish Per Surface Acre Per Mo. | Lbs. of Fish Per Surface Acre Per Mo. |
|---------------|--------------------------|-------------------|----------------------------|---------------------|----------------------------|-----------------------|------------------------|--------------------------------------|---------------------------------------|
| Benbrook | June 1954- Oct. 1955 | 17 | 862 | 471,683 | 1,855,351 | 637,344 | 399,972 | 44 | 23 |
| Caddo | March 1954- Feb. 1955 | 12 | ..... | 70,575 | 264,578 | 354,534 | 124,639 | ..... | ..... |
| Devil's | July 1953- June 1955 | 24 | 440 | 16,284 | 99,796 | 45,906 | 27,007 | 5 | 2.8 |
| Inks | July 1955- Jan. 1956 | 7 | 900 | 21,440 | 52,800 | 35,904 | 19,882 | 7 | 3.2 |
| Medina | July 1953- June 1955 | 24 | ..... | 36,368 | 188,254 | 65,889 | 32,609 | ..... | ..... |
| Nasworthy | Oct. 1953- Sept. 1954 | 12 | ..... | 5,857 | 23,648 | 6,711 | 3,542 | ..... | ..... |
| San Angelo | May 1953- June 1955 | 24 | ..... | 78,146 | 269,373 | 336,995 | ..... | ..... | ..... |
| Travis | March 1954- May 1955 | 15 | 42,000 | 151,483 | 884,465 | 274,184 | 213,321 | 1/2 | 0.3 |
| Walk | July 1955- June 1956 | 12 | 250 | 3,189 | 26,758 | 4,035 | 3,073 | 1.4 | 1 |
| Whitney | Aug. 1953- Oct. 1955 | 27 | 15,800 | 2,890,000 | 16,311,820 | 8,971,501 | 4,898,168 | 23 | 12.6 |
| TOTALS | ..... | ..... | ..... | 3,745,025 | 19,976,843 | 10,733,003 | 5,722,213 | ..... | ..... |

One of the greatest indices of the productivity of a lake from the viewpoint of the professional fishery worker is the number of fishermen and the number of man-hours of fishing that it is capable of affording. This table attempts to show, among other things, this expenditure of man-hours for the recreation of fishing. Remembering that this table covers only a minute portion of all of the public fishing waters of the state, it is apparent that the numbers and poundage of freshwater fish caught in Texas during one year's time must reach astronomical figures. If these figures were known, it would be possible to place a "dollar and cents" value on the fish taken home by the angler, but any value placed on the recreation and pleasure afforded could never be overestimated

**

They are a vital part of
Texas' wildlife foods.



Acorns

By DAN LAY

Illustrated by Joe Strongbow

MOST HUNTERS in Texas are affected by the acorn crop. Quail hunters can expect to find the birds in the woods when there is a good crop and less food in the fields.

Duck hunters—even in the marshes—are concerned about acorn crops. If acorns are plentiful, more birds stop in the river bottoms.

Deer and turkey hunters know that a good crop means better shooting and better game. The species of oaks that produce acorns in a given year help determine where one should hunt. All of these things are common knowledge.

Less commonly known is the fact that the oaks which produce the acorns are being cut, poisoned, girdled, bulldozed, and sprayed from planes on a large and expanding scale. Their numbers are being reduced to encourage the production of more pine, more grass, or other crops.

On one area of pine-hardwood type in Trinity County hardwoods have been girdled three times in 23 years. The last treatment this year removed 46 oaks per acre over 4 inches in diameter and left 10. Of the 10 left, only three-fourths of one tree per acre measured more than 9 inches. This is an extreme example but it points to a serious problem facing sportsmen who hunt game that feed on acorns. All kinds of mast and fruit are desirable parts of the food portion of wildlife habitat; but the acorn is the most important and indispensable.

Acorns are used by at least 96 kinds of wildlife. Nothing else is such a universal game food where oaks grow. When acorn production declines, or is eliminated, deer, turkey and squirrels all suffer. The range can't carry as many animal units without acorns.

Deer are considered to be browsing animals, and, true, deer can live on browse without acorns. But the browse supply changes with the season. In spring and summer there may be ten times as much browse as there

is in winter. The number of deer that can be carried is limited by the amount of available food during the fall and winter.

The deer carrying capacity of any range is increased when the browse supply is supplemented with acorns. No matter how good the browse supply might be, more deer can be carried if acorns are available.

How Many Acorns Are Needed?

The best answer is "the more, the better." However, land used for pasture or timber crops can't produce maximum crops of acorns.

So the practicable question is what amount of acorns is needed for minimum wildlife requirements. This involves some calculations, the standards for which are here summarized.

A deer needs 2.5 pounds of air-dry forage a day, a squirrel needs 1.5 pounds a week. A desirable population in East Texas would be a squirrel to 2 acres and a deer to 15 acres. The air-dry matter in fresh acorns is about 75 per cent. Deer should be provided enough acorns for half of the diet for 90 days; squirrels should be able to make half of their diet of acorns on the ground for a 4-week period. In addition squirrels feed on part of the crop before it falls.

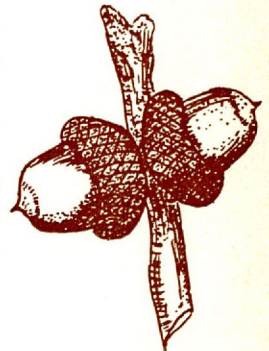
Two acorn studies have shown that about 46 per cent of the crop falls as sound acorns, the balance goes to insects, squirrels and non-game wildlife. Of the sound acorns which fall, only about half will go to deer and squirrels due to the competition of livestock, especially hogs, insects, rodents, and other wildlife.

With these standards, the indicated minimum acorn requirement is 23 pounds of sound fallen acorns per acre. This is a total crop of 50 pounds of well-developed acorns per acre of woodland.

How Many Oaks Are Needed?

To produce a 50-pound crop of acorns, 23

• Continued on page 27



RABERE

*Since Ancient Times
a word to strike fear
in the hearts of men*

By GRANT H. BURTON
Texas State Health Department

Illustrated by Carol Ham

THE WORD RABIES is derived from the Latin word *rabere* meaning to rage. Obviously the modern word is grimly descriptive of the horrible disease of both man and beast, a disease which drives its victims into wild and uncontrollable fits of convulsive rage before merciful death overtakes them.

A friend of mine is fond of saying, "It's possible to get used to anything except a rock in your shoe." Perhaps he shouldn't make the exception. When people grow so accustomed to living in close association with rabid wildlife—as they have in some sections of East Texas—that they give the almost daily sight of rabies-killed foxes and skunks no more than a passing glance, surely they can harden themselves against a minor irritation like a pebble in their shoe.

"I think," Walt Whitman once wrote, "I could turn and live with the animals of the field. They are so placid and self-contained."

Whitman, of course, had had no experience with Texas wildlife. If he had, he wouldn't have trusted an "animal in the field" as far as he could flip a drop of ink from his prolific pen. For while they might be placid and self-contained in a poetic sense, in reality field animals are highly susceptible to rabies infection.

Five or six years ago, as a health education effort, I wrote a piece for *Farm and Ranch* magazine called "East Texas Nightmare." It was the story of a consuming epidemic of wildlife rabies which had swept like a brush fire across 27 counties in the eastern part of the state, of mad foxes driven to a bold and unnatural recklessness entering town to attack citizens in their yards, of tens of thousands of dollars in livestock losses, and—more important—of human life placed in jeopardy of a vicious disease—killer.

That article ended with this admonition: "Remember, East Texas is having a nightmare. There's no

sense of the rest of the state having the same bad dream."

The admonition has obviously gone unheeded, for today at least 36 counties stretched from east to west across the southern half of Texas are standing on the brink of full-blown epidemics which could equal or surpass that of a few years ago. If the truth were known—and it cannot be unless someone is willing to foot the bill for a wildlife rabies census—there probably isn't a section of Texas which isn't being actively threatened.

Prior to 1954, the counties along the Mexican border had never known a case of fox rabies. But they have them regularly today. Counties of West Texas in which rabies was a rarity just a few years ago are now being forced to take emergency action against their rabies problems.

The reason for fox rabies invasions into areas previously free of the disease makes interesting speculation. Some authorities hold that it is due to the thinning out of larger cat species, such as jaguars, which used to keep West Texas' fox populations in bounds. But the widest held theory is that foxes formerly could not successfully compete with West Texas coyotes. Both eat rodents and other small animals but coyotes have the upper hand because of size. In recent years, though, farmers and ranchers have diligently pursued the sheep-killing coyotes until today they are as scarce as purple cows. Result: foxes have moved in from the rabies-regions of Central and East Texas.

The simple rabies transmission pattern of dog-bites-dog and dog-bites-man has been a familiar one at least since the days of the Roman Empire. Even today, whenever rabies is mentioned, the vision most readily conjured up is one of a huge dog with dripping jaws running through the streets. The truth is that the



number of possible rabies-carriers is one of the largest claimed by any disease. ALL mammals are liable to the infection. It may even extend to poultry. The wildlife reservoir, however, does today and apparently will continue to loom as the most serious menace.

Skunk rabies is nothing new in Texas. More than one cowboy on cattle drives along the old Chisholm Trail a hundred years ago fell victim to attacks of so-called "hydrophobia cats," or rabid skunks.

More than 80 per cent of skunks confirmed as rabid by the State Health Department laboratory are of the common striped variety, known scientifically as *Mephitis mephitis*. But since this species is more numerous than the spotted skunk, the infection rate is probably about equal. Laboratory records show that of the 125 skunk heads submitted for examination between January 1 and October 20 of this year, 57 have been positive for rabies and nine were in unsatisfactory condition for testing.

California, the No. 3 state behind Texas and New York in wildlife rabies incidence, recently conducted a survey in three counties which revealed rabies in seven of 21 trapped wild skunks.

There's a new wrinkle in the skunk problem in California and Texas that will bear very close watching. It's the business of trapping wild skunks and selling their deodorized offspring for house pets.

"They're just as sweet as they can be," the manager of a Texas skunk farm says. Sweet or not, a State Health Department veterinarian was sent to brief him on the hazards of his profession. Trapping and offering adult skunks for sale can be a dangerous business from the rabies point of view, the vet pointed out. But when the trapped animal is a pregnant female, and when the litter is separated from the mother for ten days prior to being put up for sale, the danger of the

mother infecting them—if she did happen to be rabid—is eliminated.

Actually, all skunk trappers prefer to capture pregnant females so as to be assured of a litter. Captive skunks, it seems, do not take readily to romance.

Skunk merchandising apparently is a profitable business, despite the hazards. A stinkless youngster often commands fancy prices, according to the Texas trapper. More than that, he claims he sells the pungent gland secretions to—of all people—perfume manufacturers for \$100 a gallon.

One of the most common fallacies concerning rabies is that the disease is a product of the "dog days" of late summer. This myth is dangerous because it causes people to relax their guard at the very time they should be most wary.

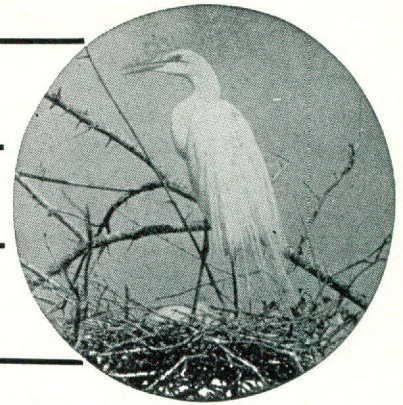
It had its origin centuries ago. The weeks of late summer were known as "dog days" because Sirius, the Great Dog, brightest star in the heavens, rose in the morning and supposedly added its heat to that of the sun. Dogs, thought the ancients, were then susceptible to seizures, giving rise to the notion which still persists that rabies is caused by supernatural forces.

It is a matter of record that of the 543 laboratory confirmed cases of rabies to date this year, the largest number—64—were diagnosed in April. July and September were the lightest months with 41 positive cases each. August, popularly thought to be the worst month for rabies, had 42.

Perhaps one explanation for the spring and fall prevalence is that food is more abundant in summer and animals do not have to roam so far to feed. Thus, the danger of running into a rabid animal is lessened. Another reason might be that animals are more likely to wander during spring mating periods. Then they scatter again in fall and winter to raise their young.

● Continued on page 28

Spotting the Birds of Texas



This is the seventh and last in a series of articles taken from *A Guide to Bird Finding West of the Mississippi* by Olin Sewall Pettingill, Jr. (Oxford University Press, New York) which list some of the interesting birds which appear (in season) in general areas of the state. Each area is divided into smaller localities noting the typical habitat where the birds may be found.

An incomplete list, it is intended only to encourage interest in and enjoyment of birds found in Texas.

AMARILLO AREA

STAKED PLAINS (cultivated areas and grazing lands)

Horned lark
Western meadowlark
Grasshopper sparrow Nesting birds
Lark sparrow
Cassin's sparrow
Burrowing owls (near prairie dog towns)

STAKED PLAINS (shrubs and trees)

Mourning dove
Western kingbird
Mockingbird
Scissor-tailed flycatcher
Bewick's wren
Bullock's oriole
Loggerhead shrike (occasionally)
Lark bunting (migrant also)

MAY BE OBSERVED ALONG HIGHWAY FENCE POSTS AND TELEPHONE POLES EXCEPT DURING SUMMER

Rough-legged hawk
Ferruginous hawk
Marsh hawk
Sparrow hawk
Swainson's hawk (large flights in Spring and Fall)

PALO DURO CANYON (Winter Residents)

Robin
Mountain bluebird Winter Residents

Oregon junco
White-crowned sparrow

PALO DURO CANYON

Prairie falcon
Sparrow hawk
Scaled quail
Road runner
Red-shafter flicker Year-round Residents
Golden-fronted woodpecker
Ladder-backed woodpecker
Black-crested titmouse
Canyon wren
Rock wren
Cardinal
House finch
Lesser goldfinch

PALO DURO CANYON

Mississippi kite
Sharp-shinned hawk
Yellow-billed cuckoo
Great horned owl Nesting (Beginning in May)
Belted kingfisher
Ash-throated flycatcher
Cliff swallow
Blue-gray gnatcatcher
Yellow warbler
Blue grosbeak
Rufous-crowned sparrow

PALO DURO CANYON

Common goldfinch
Chipping sparrow
Orange-crowned warbler Transients (April, Sept., Oct.)
Nashville warbler
Myrtle warbler
Audubon's warbler
Black-capped warbler
Yellow-throat

AMARILLO LAKE

Pied-billed grebe
Great blue heron
Canada goose
Mallard

Baldpate
 Gadwall
 Pintail
 Green-winged teal
 Blue-winged teal
 Shoveller
 Redhead
 Canvas back
 Lesser scaup
 Ruddy duck
 Coot
 Killdeer
 Solitary sandpiper
 Lesser yellow-legs
 Dowitcher
 Western sandpiper
 Avocet (probably nests here)
 Wilson's phalarope
 Ring-billed gull
 Franklin's gull

Fall and Spring
 Migrants

White-throated swift
 Red-shafted flicker
 Ladder-backed woodpecker
 Cassin's kingbird
 Ash-throated flycatcher
 Say's phoebe
 Scrub jay
 Cactus wren
 Crissal thrasher
 Gray vireo
 Scott's oriole
 Brown towhee
 Rufous-crowned sparrow

Nesting
 (April-June)

MULESHOE AREA

(Muleshoe National Wildlife Refuge)

LAKES AND MUD FLATS

Scaled quail
 Waterfowl
 Sandhill cranes

Year-round
 Residents
 Migratory

UPPER ELEVATIONS—8000 FEET

The "Bowl," Pine Spring Canyon—Timber pine,
 Douglas fir, buckthorn and oak

Acorn woodpecker
 Hairy woodpecker
 Western flycatcher
 Steller's jay
 Mountain chickadee
 White-breasted nuthatch
 Pygmy nuthatch
 Hermit thrush
 Warbling vireo
 Audubon's warbler
 Grace's warbler
 Western tanager
 Hepatic tanager
 Gray-headed junco

Nesting
 (April-June)

May be observed at all elevations in the area

Golden eagle
 Poor-will
 Broad-tailed hummingbird
 Violet-green swallow
 Bush-tit
 House finch
 Chipping sparrow

GUADALUPE MOUNTAINS AREA

LOWLANDS—3000 FEET

Creosote bush, greasewood, cactus, yucca
 and salt flats
 Scaled quail
 Lesser nighthawk
 White-necked raven
 Mockingbird
 Curve-billed thrasher
 Lark sparrow
 Snowy plover
 Baird's sandpiper
 Western sandpiper
 Sanderling
 Shore birds (species)

Nesting

Late Spring, late
 Summer, early Fall

FOOTHILLS—5500 FEET

Pine Spring Camp, Guadalupe Pass,
 Pine Spring Canyon

This concludes the series of articles "Spotting the Birds of Texas."

The original purpose in publishing the series was to create and stimulate interest in the many birds found in our State. Reader response has indicated no lack of interest in birds, but it was revealed that there is a scarcity of informational literature, dealing specifically with Texas birdlife, which could be used in field identification.

We are pleased to announce that a contract has recently been awarded for the publication of "A Field Guide to Texas Birds," by Roger Tory Peterson.

Mr. Peterson is well known to the growing thousands of Texas bird enthusiasts, both as an artist and as the author of numerous field guides on birds and other animals of the United States.

The new field guide, which will be well illustrated with numerous line drawings and half-tones, will contain approximately four hundred pages, including at least thirty-six color plates.

Under the terms of the contract, all Texas bird species, of which there are ten or more sight records, will be included.

The need for a field guide to serve Texas birders was recognized several years ago and the Game and Fish Commission began negotiations with several bird authorities and publishing companies in 1950. Houghton-Mifflin Company, through their branch office in Dallas, submitted the bid which was finally accepted.

Now that the details have been ironed out, the writing and publishing of the book will take a year at least.

As things now stand, "A Field Guide to Texas Birds," costing less than \$3 per copy, should be available some time in 1958.—T.D.C.



Sonya Riggs



CADAVERS INCORPORATED

There's always some strange bird or beast on the Game and Fish Commission premises. People bring in "strange" specimens for identification; they fetch in snakes, assorted scorpions and what-have-you. The other day, Al Springs, Assistant Director of Wildlife Restoration, noticed a newly killed bobwhite quail on the sparse lawn in front of the Commission's Austin headquarters. The bird's back was broken and some feathers were burned off its breast. "Obviously struck by a car," observed Springs. "Somebody picked it up, intending to bring it down here, then couldn't find a place to park and tossed it out of the car."

PAPA-SIZE DEER

Replying to a Corpus Christi inquiry, W. S. Jennings, Assistant Director of Wildlife Restoration for the Game and Fish Commission, said the available weight record for a mule deer harvested west of the Pecos is 243 pounds. This moss back, recorded as dressed weight without the heart and liver, was bagged in the Sierra Diablo Mountains in 1946.

REPTILIAN RALLY

How would you like to have a little ole fifteen-hundred-pound turtle bite on your perch hook, Izaak? The marine biologists won't buy this angle, but it might happen down on the Texas coast. Anyway a large herd of leatherback turtles was spotted from the air in the Rockport area. Among the lot was one about seven feet long and weighing an estimated 1,000 pounds. Sort of large for a pin hook, vas? But the really big ones sometimes go up to 1500 pounds. From another viewpoint, the technicians, such as Marine Biologist Terry Leary, who refer to the leatherbacks as *Dermochelys coriacea coriacea*, termed the discovery as not only news but also as having scientific import, since the big reptiles are comparatively rare in the Gulf.

HAIL THE WALLEYES!

Fresh water fisheries men on the Game and Fish Commission staff are ready to embrace (literally) the fellow reporting the catch of the missing walleye pike. These highly regarded game fish, which have thrived far south of their original northland habitat, were introduced in Texas three years ago by plantings in Lake Travis of the Highland Lakes chain and in Devils Lake on the Mexican border. M. Toole, Chief Aquatic Biologist for the Commission, was ready for a long wait for the first walleye catch to appear. But now the time is here for suspense sake. He asks that anybody catching what they think is a walleye contact his local game warden, biologist, or Austin headquarters direct. Walleyes really do have a wall eye and resemble what is commonly called a log perch.

WARY ALOUDADS

Wildlife Biologist A. S. Jackson of the Game and Fish Commission said the Aoudad sheep recently released experimentally in the Panhandle are about as wary "as they make them." He said a Texas trapping crew went on location in New Mexico, where the 31 head transplanted to the Palo Duro Canyon were finally taken, and guarded a water hole trap for thirty days and nights without sighting a single Aoudad. "They knew they were being watched," said Jackson, "and simply passed up the water to keep on the safe side." Jackson added that if and when the Panhandle Aoudads increase sufficiently to warrant an open season, only the thorough and patient hunters will have a chance to get one of the big, heavily-horned animals into gunsight.

HIGH SOCIETY

Wildlife has been showing a greater tendency to attract the high and the low in late years, perhaps because of the widely publicized plight of the Animal Kingdom as typified by the harassed Whooping Cranes. A late example was a complete editorial page column in the Houston Press written by that worldly journalist Carl Victor Little. Dr. Little described his own personal pleasure in watching Nature's minions, with emphasis on bird life. He wrote about seeing the rare Whoopers doing a dance and linked his own observations to those of Joshua J. Harman, assistant manager of the big birds' abode at Aransas National Wildlife Refuge, who, he added, "tells of the antics of the whoopers in the current Texas Game and Fish magazine of which we always read every word of every issue."

Press Views Game Notes

SURF RATTLERS

Surf bathing rattlesnakes, routed by inland drought, have been providing a few extra bargains for anglers probing the beaches along Matagorda Island according to Captain Pug Mullinax, Game Warden supervisor for this area.

Mullinax frankly reported the unusual migration with some concern because he feared some unsuspecting surf fisherman might be bitten. Anglers were cautioned to be on the lookout, particularly in cover growth at water's edge.

Mullinax quoted Foreman Leon Parker of the T. L. Wynn Ranch as saying the rattlers had moved to the surf "in unusual numbers."

In the semi-tropical coastal areas, balmy winter days lure surf casters in large numbers. Mullinax said one man fishing at Cedar Bayou "tied into" a five-foot rattler by casting over it while the reptile lay motionless in shallow water. He added that the snake was "as big around as a man's forearm" and it put up a fierce struggle on the light tackle.

HUGHEY CAUGHT 'EM

Even in running a state agency, there's nothing better than a satisfied customer. Take Hughey Williamson who toured the globe with the U. S. Air Force and then returned to Austin to become a very successful public relations consultant. Williamson, who can also read, receives Game and Fish Commission news releases to qualify his outdoor agency accounts, and noted the "ain't spring grand" piece about fish beginning to bite. A few days later he wrote that he was "a pleased taxpayer." "About those white bass you say are biting," he wrote Gus T. McMammal, chief hot stove league prophet. "They are. I found 'em!"



AVOCATION DE LUXE

Lawrence and Lucille (Mr. and Mrs.) Arnold have an unusual duck hunting season hobby. Between hours as a gateman at the Port Lavaca ALCOA plant, Arnold works as a guide, and his red-headed wife cleans the ducks which are brought in. It's a "Shotgun" season for these hustling parents of four children, and whose household includes three cats and two dogs. On busy weekends when the shooting is good, Mrs. Arnold has cleaned as many as sixty ducks in a single day. Arnold is known for his safety requisites. Nobody ever gets into his boat with a loaded gun; and none of his hunting associates have ever had an accident.

RED HEAD RUCKUS

Kelley McGlamery, young Gulf Coast angler, looked out his bedroom window at Rockport at dawn one morning recently to note that

his trot line was being waved frantically in the air. The tide had gone out and stakes had held the line above the shrunken water level. A low-flying red head duck—they oftentimes just skim the water—had become impaled on a hook. But the bird was more frightened than hurt. When Kelley scrambled to the scene he easily removed the hook from its under-side skin and released it.

WHO'S CUNNING NOW?

Norman Cunningham, Austin merchant, started off his semi-retirement routine at his Lake Austin home with a sensational snafu. The first time he put out his fishing line he landed a fine blue catfish, weighing close to ten pounds, but instead of readying the prize for the frying pan hooked it on a "diaper pin" stringer to show it off to his friends. But the fish proved to be more cunning than its captor and somehow managed to release one corner of the gadget and escaped. "It's a no-mercy policy from here on in," asserted Cunningham.

WHO WAS IT?

Those two unidentified professional journalists pictured with their ducks in TEXAS TRACKS for February shall not go nameless despite a trick played by a dropped line. They didn't mind being anonymous but the Statehouse press corps feared one of their number—Dick Morehead of the Dallas *Morning News*—might be mistaken for somebody else. That was Dick on the right. Other fella was Dan Klepper, outdoor editor for the San Antonio *Express-Evening News*.

SELECTIVE KILL ANGLE

M. Toole, Chief Aquatic Biologist for the Game and Fish Commission, emphasized that the pioneering selective kill method developed in Texas is not designed to exterminate the main target—gizzard shad. This, he explained, is because the prolific shad are a main food fish for black bass. So, *selective* kill is intended as a control measure to prevent rough fish from crowding out the game fish and, also, from becoming so numerous that game fish disdain fishermen's bait.



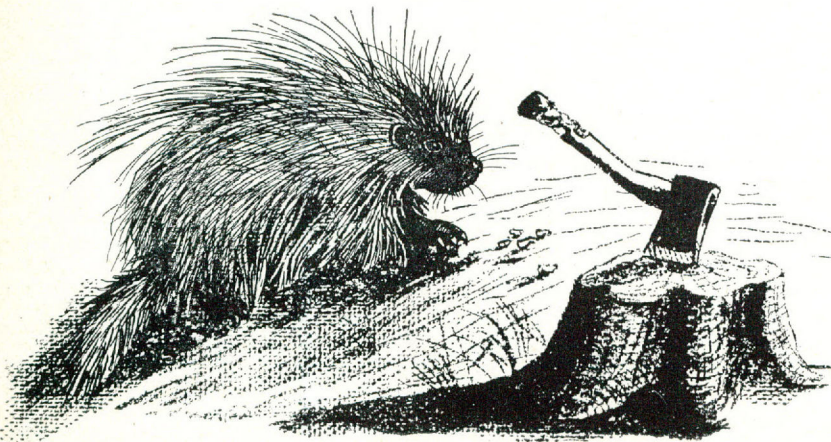
PORCUPINE

The porcupine is found in limited numbers in Northwestern Texas. The diet of these interesting rodents consists mainly of twigs, green buds, shoots and leaves, and the inner bark from several trees such as yellow pine and juniper. They may spend days in one tree peeling the bark, often girdling the limbs or trunk. An over population of porcupines may result in extensive damage to the forest

Although the porcupine spends much of his time in trees, he is quite safe and at home on the ground. Protected from his enemies by a covering of sharp, barbed quills, the "porky" has but two vulnerable spots — his soft belly and his sensitive nose. When attacked, the porcupine will hide his nose under a rock or log, arch his back, and thrash his spiny, flattened tail from side to side. Occasionally, a bobcat, mountain lion, coyote, or wolf may kill a porcupine but chances are that the killer will get a face full of quills. The victor may in turn become the victim if the barbed quills cause infection or work their way into a vital organ.



Walton Cude



Tent poles, tent stakes, axe handles — anything that has been touched by perspiring hands — may be ruined by a gnawing porcupine trying to satisfy his craving for salt. The tree girdling, handle chewing, quill slapping antics of the porcupine have earned him the title "pest" on many occasions, but he still remains one of the most interesting of our North American mammals.



From the Panhandle to the Valley—Big Bend to the Piney Woods, this is the game situation



As the Biologists See It

Compiled by JEAN RICHMOND, Illustrated by Clay McGaughy

These reports from some of the field biologists give a general resume of last season's hunter success and the conditions for game about the State as of February 1, 1957.

Panhandle

The year just past was not only the driest since the drouth began, but it was the driest on record for most of the Panhandle counties. The year, coming after a series of progressively drier ones, had its impact on wildlife, and was reflected accordingly in the harvest of most game species.

Mourning doves, were abundant and provided exceptionally good hunting in the counties to the south-east of the "cap-rock."

The Panhandle antelope kill was lighter than that of the 1955 season.

Summer census of the turkey population has shown declining rate of increase for the past three years. This last summer many ranches on the upper Canadian reaches had no young in the flocks at all. The fall turkey harvest dropped from a record of 900-1200 in 1955 to approximately 450 for the 1956 season.

There was little change in the deer kill for 1955 and 1956. However, the 1956 deer were lighter in weight (averaging 120 pounds field dressed as compared with 136 pounds in 1955), and the difference is believed to reflect the predominance of young deer in the harvest.

There was a good crop of quail in 1956. Scaled quail hunting was excellent in the High Plains counties and high populations and good hunting in the Lower Plains counties to the south. Bobwhite populations held up well, and there were excellent populations throughout most of the Lower Plains Panhandle counties. Interest in hunting remained high throughout the season.

Despite what any biologist would call poor habitat conditions, the Panhandle bobwhite population had not crashed at the beginning of February, 1957. Three factors seem to be saving the quail: the winter has been open and mostly mild; predation and predator populations are light; and winter foods have been supplemented by carried over supplies and an unsuspected source of winter food in the form of insects.—A. S. Jackson

Possum Kingdom

The general hunting bag in the North Central Texas area was small, due in part to drouth conditions, which caused poor range and in some cases insufficient cover.

Hunters kill of white-tailed deer in the Possum Kingdom region was about 30% lower than biologists anticipated. Antlerless deer season in Bosque County only found 103 deer killed on 800 permits issued. This was due in part to the late season. The deer were in good condition, but the bucks' antlers were underdeveloped, possibly because of poor range conditions during the summer.

The bobwhite kill was down from 1955 season, primarily due to lack of sufficient cover and food. Winter carryover of birds will be sufficient, but less than 1955.

Doves were bunched and hard to find, with a resultant low dove harvest. Water-hole and grain-field shooting was good, but there were great areas where doves could not be found.

The future outlook for turkey in this area is fairly bright, providing they are given protection and range conditions do not deteriorate further.—W. T. Wright

Engeling Area

Dove and quail hunting success

was down, due primarily to general drouth conditions. Supplies of stored up ground moisture were short—near critical, making the ground too hot and dry for the eggs of quail and turkey to produce a normal hatch for the 1956-57 hunters.

Summer drouth had destroyed most of the weeds and grasses, making fall and winter food and cover supplies short. The acorns began falling in October and most of the game population fed largely on post oak acorns throughout the winter.

The freeze of 1955 killed most of the buds of water oak, pin oak, bluejacks, blackjack, and red oaks over a large portion of Northeast and Central Texas. Since these species require a two-year period to produce acorns, this meant that their 1956 mast crop would be lost.

The deer were fat and the hunters were about twice as successful as they were in 1955. Census records indicate that the increased deer kill could not be attributed to an abnormal increase in the deer population, but may have resulted from increased breeding activities of the bucks.

Rain, and the subsequent restoration of ground moisture, will be necessary to bring the range back to top condition. If sufficient food and cover plants are available there will no doubt be ample brood stock to utilize them.—E. G. Marsh

Kerr Area

By properly reducing deer herds on the Kerr Management Area by controlled public hunts, a severe winter die-off has been averted, so far.

Unfavorable weather conditions and drouth created critical food conditions for deer. A very small mast crop was available. Public hunts on the area in which any deer—any age, any sex—could be taken, aided

by reducing the herd approximately 30%, or by 149 deer. This was approximately the number biologists recommended be taken. Since recent rains have started the growth of grass and weeds, it is hoped the crisis is past and a good fawn crop can be expected.—T. A. Booker

Southeast Texas

Southeast Texas quail hunters found about half as many coveys in 1956 as in 1955. The difference appears to be attributable to normal rainfall in 1955 and drouth in 1956. Weeds and grasses made few seeds, many longleaf pine cones did not open, but some acorns were available. Many birds moved to the woods where they were difficult to find and shoot.

The winter has been mild and adequate breeding stock should be available for normal nesting. The 1957 quail crop will depend largely on the weather.

The 1956 deer season in East Texas was generally better than in any recent year. An estimated 500 deer were taken around Lufkin, for example. The club system of leasing is increasing and public cooperation is improving in most areas. Most of the suitable range contains adequate breeding stock which will increase rapidly to the carrying capacity level, if properly managed. However, some clubs are over-stocked and many others soon will be. These clubs need to kill more deer of both sexes to prevent range destruction, damage to pines, reduced weights, and die-offs.

The deer hunter of 1957 should watch his range for signs of over-use of key foods such as yaupon and greenbriar and general use of such unpalatable browse as wax myrtle, pine, and sweetgum.

Forestry practices which lead to a pure stand of pine, at the expense of mast-bearing oaks, will seriously affect deer populations in East Texas, as acorns are indispensable deer foods.—Daniel W. Lay

Gulf Coast

The severe drouth did not spare even the normally wet marshes of the Texas Gulf Coast. During the initial 40-45 days of the 1956 water-

fowl hunting season, these marshes were almost totally lacking in fresh surface water, and there were numerous hunting clubs and camps, as well as day-hunting areas that were not hunted during the first few weeks of the season. As a result of the absence of fresh surface water, the ducks and geese were heavily concentrated in a few protected sites or large ranches where water and protection against heavy gun pressure was furnished.

This situation changed the middle of December with the arrival of general rains, which covered practically all of the Texas Gulf Coast region at periods during the last two weeks of December. After that time, ducks and geese were observed in sites where no birds had been observed since 1950, and in some instances where they had not been seen previously. Canada geese, rather than being confined to a small local site, were observed in small flocks numbering from 50 to 200 individuals at various and scattered spots along the coastal region. Ducks were widely scattered, also. This dispersal of the population undoubtedly resulted in improved hunting opportunity for the waterfowl hunters.

Questionnaire survey cards are being returned at present and until these results are compiled, no final data on waterfowl kill will be available. However, it is suspected that the average duck hunter fared just about as well during the 1956-1957 season as he did during the 1955-1956 season.—J. R. Singleton

Lower Rio Grande Valley

There was no open season on white-winged doves in 1956. Populations are slowly increasing, however, drouth has reduced the quality of brush and citrus cover, and brush tracts critically needed for white-wing nesting are being cleared for cultivation.

The harvest of mourning doves was not as great as in 1955 due to the shortage of food, caused primarily by the drouth. Despite a large breeding population, mourning dove concentrations materialized in only a few areas compared with recent years. On the other hand, bobwhite populations and hunter success

showed improvement over recent years, but quail numbers are still low in most areas.

The lack of late summer and early fall rains, and the resultant lack of fresh water ponds along the lower coast restricted the waterfowl distribution largely to coastal areas, sloughs near the Rio Grande, and a few irrigation reservoirs in the Valley. Hunters probably had better than usual success in bagging red-heads, because the birds rafted near the mainland and were accessible to hunters when strong winds caused the birds to move about.—W. H. Kiel, Jr.

Trans-Pecos

In the Trans-Pecos region incomplete records indicate a record number of ranchers participating in shooting preserve operations and an overall higher per cent kill than has been recorded in recent years. This can probably be directly attributed to the rising deer population, a later season (December 8-13), and the allowance of two bucks, a mule deer buck and a white-tailed buck or two white-tailed bucks.

The scaled quail kill for the 1956 season should be considerably higher than that for 1955. This increase could be attributed to a general upswing in the quail population. However, the drouth has caused sportsmen to be reluctant to hunt these game birds.

A lack of moisture during the winter season promises little spring greenery, with the resultant loss of some deer from malnutrition. A more than normal loss of antelope can be expected on almost all ranches. Continued mild weather would permit more game to survive on a minimum quantity of food.

Barring unusual adverse weather extremes, it appears that ample brood stock will remain to provide fair quail, antelope and deer hunting for the fall of 1957.—P. B. Uzzell

Black Gap Area

Despite the dry range conditions on the Black Gap Wildlife Management Area in Brewster County, the outlook is good for the wildlife populations. The critical late winter and early spring months will

find mule deer herds with plenty of dry vegetation and a considerable amount of green brush species available. The area is not grazed by livestock. Spring rains are a "must" if the scaled quail are to produce. There has been a good fawn survival and prospects for another public deer hunt on the area are considered good at this time. Unless there is an unforeseen die-off, the mule deer herds should be hunted.

Last season 61 mule deer bucks were taken along with 20 javelinas. Hunter success was 39% for the six-day season.

Prospects for getting some bighorn sheep for restocking the Black Gap look good at this time. Twenty-five bighorns are to be trapped in Arizona around water holes. Valuable experience gained last year should aid greatly in capturing the sheep.—Tom Moore

Northeast Texas

The 1956 deer season in Northeast Texas was highly successful. Some nice deer, some dressing out 150 pounds field dressed, were taken. The outstanding feature of the hunt was the fine cooperation received from the hunters and landowners. Deer check stations are set up throughout the hunt area, and because of the excellent voluntary participation of the hunter, an estimated 62.5% of the total buck kill was checked.

The antlerless deer hunt conducted in the northeast section of Red River County resulted in only a token number of deer taken, 67 to be exact. Studies indicate that this herd has reached saturation levels. Through a controlled harvest of antlerless deer the annual increase could be checked so the deer herd wouldn't outstrip its food supply.

The deer herds have developed rapidly in this area, providing fine hunting the past five or six years. The future should be even better.

The quail season did not develop as well as expected. Because of the drouth, weeds and grass shriveled up without producing seed, and even the fruits and berries of shrubbery were scarce. Lack of sufficient cover left many young quail to their fate.

Game Commission Asks New License Fees

The Texas Game and Fish Commission moved to simultaneously expedite a new hunting and fishing program and to raise the money needed to finance it.

The Commission advanced proposals designed: To extend present hunting and fishing areas; Immediately effect major parts of its ambitious long-range wildlife restoration plan; Completely overhaul the entire license fee structure to raise the needed money.

Some of the costlier projects include state-wide fresh water lake renovation, coastal fish passes as a means of enhancing salt water fishing, broad big game and upland game restocking, and wildlife management area expansion with emphasis on public hunting to harvest surplus game on the areas.

Chairman Herbert J. Frensley of Houston, said it was up to the Commission to advise the Legislature as to what financing is required and how to raise the money. Ultimately, it was moved to add a new all-inclusive game license costing \$5.50, covering deer, turkey, antelope and such, to the present \$2.15 license,

By the time hunting season came, coveys were wild with the greatest percentage of birds in the woods, where some cover and acorn mast could be found. With the cooperation of the sportsman becoming greater, the future prospects for quail hunting are good.

The 1956 squirrel season was poor, a result of a short spring litter. The kill consisted primarily of older animals. The scarcity of young was probably due to the shortage of food due to the drouth, and the resultant low nutritive level accompanied by a low level of fertility resulting in poor reproduction.

A bumper crop of acorns produced last fall may well result in a good crop of squirrels in 1957. Most of the counties have eliminated spring squirrel hunting in order to prevent the killing of squirrels suckling and carrying young, thus curtailing the potential population.—Kit Carney. **

which would be exclusively for small game such as upland game, ducks, doves, squirrels and the like. Also, the Commission has recommended a \$2.15 universal fishing license.

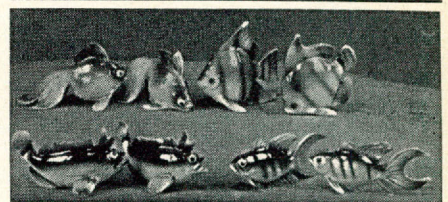
After Commissioner W. T. Scarborough of Kenedy pointed out that Texas has the lowest fishing and hunting licenses in the nation and "the greatest number of exemptions," the Commission authorized drafting a new bill with copies of the measure going to each Commissioner for preparation of the final draft.

The Commission acted to outlaw all exemptions excepting youngsters after Commissioner Frank Wood of Wichita Falls said Texans would go along with any plan requiring that "anyone carrying a gun to hunt also carry a hunting license."

Commissioner Howard Carney of Atlanta, member of the State Senate, said his experience led him to believe that "this proposition which means nothing but good for all Texans will be given generous and favorable Legislative consideration."

Commissioner Henry LeBlanc of Port Arthur said, "All thinking people realize we must have more money to pay for the increasing services we are called on to provide."

The Commission also approved the annual Game Warden's School to be conducted at Texas A. & M. College; decided to investigate big game habitat facilities before approving private restocking based on turkey and deer obtained from the King Ranch; and authorized oil lease explorations on hatchery and management area property.

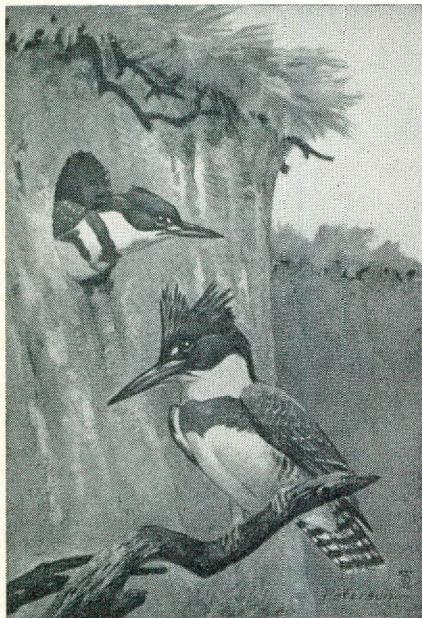


FISH - SALT & PEPPER SHAKERS

On YOUR table for the big "Fish Fry"
Ceramic—Hi-Gloss—Beautiful Colors
\$1.00 per pair or
4 pair assorted \$3.50 prepaid

CONAWAYS Box 7261
San Antonio 10, Texas

National Wildlife Week Set March 17-23, Colorful Conservation Stamps Again Available



The 1957 observance of National Wildlife Week, sponsored annually since 1938 by the National Wildlife Federation and affiliated groups, has been set for March 17-23.

Walt Disney will again serve as honorary national chairman, according to Ernest Swift, the Federation's executive director.

Large Area Opened to E. Texas Sportsmen

A precedent-setting agreement between East Texas Pulp and Paper Company (a subsidiary of Time, Inc.) and an East Texas hunting, fishing and conservation group has thrown open a 40,000-acre tract of land to several hundred Texas sportsmen. R. M. Buckley, president of the East Texas Pulp and Paper Company, and Howard Hargrove, president of the East Texas Wildlife

National Wildlife Week is designed to focus public attention on conservation needs; to start people thinking in terms of the capability of land to meet wildlife living needs as well as the growing outdoor recreational requirements of the public. Each year the theme is built around a particular conservation problem. Last year it was the plight of endangered wildlife species like the nearly-extinct whooping crane. The theme in 1957 will be "Homes for Wildlife," stressing the habitat needs of America's many species.

Through the media of radio, TV, newspapers, and local clubs, people all over America will be shown how soil erosion, over-grazing, unwise drainage, forest fires, water pollution and other abuses have destroyed natural habitat and depleted wildlife populations. Suggestions as to how wildlife homes can be restored or created through conservation projects will be made.

Again, as in the past, Wildlife Conservation Stamps will be available.

Conservation Association, jointly announced consummation of the lease recently.

"An excellent example of the manner in which industry and residents of an area can cooperate to their mutual advantage," Buckley said.

Purpose of the lease is to provide members of the wildlife association with a large area of forest land on which to carry out hunting, fishing and camping activities as well as to promote the expansion and improvement of wildlife in the preserve area.

One of the major stipulations in the contract signed by Buckley and Hargrove calls for strict observance of all local, state and federal game laws in the 40,000-acre preserve tract.

The initial lease is for a term of one year, but it may be extended indefinitely as long as both parties abide by terms of the contract, it was stated.



It Happened This Way . . .

Some years ago in the Piney Woods of East Texas a warden came upon a man just sitting in a car by the side of the road. He stopped and questioned the man, who said that he just had car trouble. The man's apparent lack of concern roused the warden's curiosity, especially when he said that he was alone and vigorously denied having a traveling companion. The warden, suspecting that the man was hunting illegally, sat down to wait. After about two hours, a man with a headlight on his head came up to the car. It was a man the authorities had tried and tried to catch before, but had always been unsuccessful. When the offender saw the game warden waiting for him he said, "Guess you got me fair and square this time."

* * *

Another Hill Country story is of the man who shot and legally tagged a buck. As the man stepped back after tying the tag on the deer's antlers, the deer jumped up and ran off through the brush. A moment or so later the hunter heard a shot from the direction "his" deer had gone. He hurried through the trees and found another hunter approaching a deer on the ground. A quick glance told him that the deer was the one he had just tagged, and he called out to the man that it belonged to him. The second hunter argued the point, but conceded in good manner when the first hunter pointed out the tag he had previously tied on the deer's antlers.

**THE MOST TALKED ABOUT BOOK
IN
OUTDOOR TEXAS TODAY**

**HUNTING THE
WHITE-TAILED
DEER IN TEXAS**
By "The Oldtimer"
Dr. Frederick H. Weston
Only \$4.95
Postage Paid

ORDER NOW!
Send Check or Money Order

Weston Outdoor Publications
605-C Maverick Bldg. San Antonio, Tex.

JUNGMICHEL GUN SHOP
Box 345 Boerne, Tex.

Dealer in Guns and Accessories, building Bench Rest, Target and Sporting Rifles, using Douglas Barrels. Sure I trade.

GUNS

and

SHOOTING

This Month: New Scope Sight

By JOHN A. MASTERS

For some years now, I have been a confirmed user of telescopic sight equipment for rifles. While it seems superfluous to make such a statement, you can shoot no better than you can see, and there is little doubt that you can see better with a scope sight.

Let's slay another demon while we're at it. Nearly any shooter who has not used a scope will tell you that he doesn't like it because it's "too slow." Nothing could be further from the truth. With a properly mounted scope sight, on a rifle with a stock properly fitted, a scope is the fastest of all sights. This fact is well recognized, and did not originate with the writer.

A scope sight enables you to shoot better for several reasons; one of them is that the target is magnified. Another is that the available light is utilized better. The greatest advantage, however, stems from the fact that the reticle or sighting point in

a scope sight appears to be projected onto the target, and since the target and the sighting point appear in the same plane, much easier sighting is possible.

There is no longer any basis for the feeling that a scope sight is not rugged. Modern hunting scopes are practically indestructible, and are virtually weatherproof.

Scopes exist in a bewildering variety. I have used just about all the American-made scopes, and a number of the foreign-built ones. Many are good, and some are downright amazing. One that fits into this class is the new Bausch and Lomb BALvar 24.

As the name suggests, the BALvar 24 is a variable-power glass. The range magnification is from 6 to 24 power. It is mounted in the new B & L target type mount, which is in itself a striking new development.

Dimension wise, the glass is 22 inches long. Weight, including mount, is 36 ounces. It mounts on conventional target blocks. With the blocks mounted 7.2 inches center to center, the clicks in the mount, in both windage and elevation, change the point of impact 1/4 inch. With a 10.6-inch spacing, the change is 1/6 inch. Both of these figures represent the change at 100 yards range.

The field of the scope at 6x is 18 feet at 100 yards, and 4.5 feet at 24x at 100 yards.

The glass is fitted with a parallax focusing arrangement that permits focusing from 50 feet to infinity.

Eye relief at any range is 2 1/4 inches, permitting the use of the scope on rifles of moderate to high recoil characteristics.

Power change is accomplished by the Power Selector Ring, which is calibrated for each step from 6 to 24 power. Optical correction, eye relief and focus are constant throughout the entire range of powers.

The reticle in the BALvar 24 is the new B & L tapered cross hair. The cross hairs taper inward toward the center, and tend to lead the eye to the aiming point. The reticle itself transmits about 25% of the light, enabling the shooter to see the target THROUGH THE RETICLE. This just about eliminates the objectionable "blotting out" of the target by the reticle.

The entire scope and mount assembly is sturdy and dependable. While designed for target and bench rest shooting and long-range varmint shooting, I found mine quite practical as a hunting scope. I like to still-hunt my game, and frequently

Shootin' Shorts

While we're on Bausch and Lomb products, let me suggest that you obtain a copy of their booklet, "Facts About Telescopic Sights." I know of no other literature so jam-packed with facts about scopes and optical accessories. You will understand your scope a lot better after reading this booklet.

Late word from Remington is that they will build the fine Sportsman 58 semi-auto shotgun in both 16 and 20 gauge. Either should make a fine upland game gun, and with the new 2 3/4-inch magnum ammo, may be used on ducks.

For my money, the .244 Remington and the .243 Winchester rate as equals, I have used both extensively, and find little to choose between. I like the .244 in Model 722 a bit better for long-range varmint shooting because of its greater weight, permitting steadier holding. I don't rate either as a big game cartridge for game bigger than white-tail deer or antelope, although there is certain to be some bigger game taken with either. I likewise do not agree with those who think either cartridge will replace the .257 Roberts or the fine little 250-3000.—J.M.

find that I can take an animal unawares. Once I have the critter in my sights, it's an easy matter to crank the scope up to 24 power and really look him over for trophy size. As a matter of fact, I used to pack a 25-power spotting scope around for the purpose. Now I don't even carry a binocular.

The mount, an integral part of the assembly, uses a three-point suspension system, actuated by eccentric rings within the mounting rings. All my tests indicate that it is quite accurate and dependable.

One striking thing about the new B & L reticle is that it *apparently* does not thicken with an increase in power. Thus, at 24 power, no more of the target is obscured at 24 X than at 6 X.

Thus far, I have used mine on a .244 Remington, a .270 Winchester, a .22 long-rifle target rifle, and a .222 Remington bench rest rifle. I have tried the glass under just about all conditions encountered in target shooting, and have used it several times in varmint shooting. It was carried several days in the field on my .270 Winchester during the last deer season, and indirectly caused me to miss a 13-pointer. Wasn't the scope's fault, however.

I found this old mossback napping under a liveoak at about 250 yards. I got myself into a firm sitting position, and after looking at him on 6X, I screwed the scope up to 24X. Just as I found him in the field, I saw him turn his head. I counted the 13 points as easily as I could have standing alongside of him, and brother, the buck fever got me. I tried to settle down, but I was shaking like a leaf. Finally, in desperation, I tried to center the wobble. I squeezed a shot off, but I scored a clean miss.

Personally, since most of my shooting is done with high-power glasses, I find the BALvar 24 the answer to most of my problems. I have all my rifles fitted with target blocks, and use the glass constantly in testing rifles for accuracy. I no longer even take my spotting scope to the range.

A special advantage of the glass so far as bench rest shooting in the Southwest is concerned is the ability to set the glass at the power best

Turtle Pack Spotted by Air Patrol

A Game and Fish Commission aerial patrol in the Gulf revived hopes for survival of the fading sea turtles.

An extensive herd of leatherback turtles (*Dermochelys coriacea coriacea*) was reported by Pilot Warden James Palmer as it swarmed over a thirty-mile length of isolated coastal beach opposite Rockport.

Palmer told C. W. Reid, Director of Coastal Fisheries for the Commission, that he spotted the rare concentration while on a routine flight, checking for pollution evidence, illegal netting and such. This is the first major grouping of this

SCOT _____ • Continued from page 2
agement at Purdue University, principal speaker for the occasion.

An election of officers followed Dr. Allen's timely and informative presentation. Toddie Lee Wynne, Jr., of Dallas, succeeded Harry Jersig of San Antonio as President. Kenneth Foree of Dallas, Secretary, and Charles Tabor of Hillsboro, Treasurer, were re-elected, as were Vice Presidents Charles Haas of Corpus Christi and Herbert Cole of Beaumont. W. G. McMillan, Sr., of Lubbock and Wilson Southwell of San Antonio are the newly elected Vice Presidents.

SCOT's request that it be permitted to operate on a tax exemption status was reported to be under "active" consideration in the Nation's Capitol.

Officers and members of the sportsmen's group were confident that this request would be granted, paving the way for SCOT to establish a headquarters office in Austin manned by adequate personnel to carry out the ambitious program.—T.D.C. **

adapted to our shooting conditions. Sometimes it is a decided advantage to be able to lower the magnification when heat and mirage conditions make sighting difficult.

I wouldn't suggest that you make the BALvar 24 your first scope, but if you have had a great deal of experience with scope sights, I believe you will find it one of the finest you have ever used. **

species noted on the Texas coast.

Reid said Marine Biologist Terrence R. Leary identified the specimens as leatherbacks, uncommon residents of the Gulf of Mexico.

Pilot Warden Palmer was flying in clear weather at a moderate height when he noticed the strange swarm, and dropped to a low level to confirm his observations.

According to Palmer, the turtles were about 75 yards off the beach of St. Joseph and Matagorda Islands in "an extremely thick and extensive school of cabbage heads" (*Stomolophus meleagris*), a common jellyfish.

Biologist Leary said a possible explanation for the turtle concentration might be the presence of large numbers of these jellyfish which comprise part of the diet of these sea reptiles.

"The leatherback," he said, "so named for the smooth, scaleless skin on its back, grows to a large size—up to 1500 pounds. The largest turtle of the approximate 100 seen in this group was estimated to have a length of about seven feet, and therefore would weigh about one thousand pounds."

BOOKING NOW FOR
ALASKA BIG GAME HUNTING
Spring Brown Bear Hunting May 5th to
June 15th
Fall hunting starting Aug. 20th for all
Alaska big game



Write or Wire
CLAY DE LAND

Registered Alaska Big Game Guide & Outfitter

Box 277, Spenard, Alaska
Local reference: C. A. Schwoppe, 109 Thomas Jefferson Dr., San Antonio, Texas. E. C. Schwoppe, 6633 W. Commerce St., San Antonio, Texas.

Placing so many of these animals together led to fights

Kangaroo Rat

• Continued from page 7



After nightfall, pasture lanes are good places to see kangaroo rats darting about in search of food. In some seasons, when grain is being trucked on the paved highways through western country, kangaroo rats may be seen on the pavement at night gleaning grain lost from uncovered trucks. On the night of March 9, 1950, the author with a party of biologists spent the night in a motel in Canadian, Texas. After dinner, an expedition was made to the highway just outside of town where waste grain was attracting many kangaroo rats from the sandy roadside. A half dozen or so of the rodents were captured and confined that night in wastepaper baskets, over which newspapers and magazines were laid. Placing so many of these privacy-loving animals together led to fights, and the resulting high jumps displaced the "lids" over the paper baskets. Since experience earlier in the evening had confirmed that the kangaroo rat is not prone to bite, it was not deemed necessary to get up to recapture them, more especially since a howling March norther was dropping the temperature well below freezing. It was then that the author received his first demonstration of the amount of energy that could be released by a few kangaroo rats loose in a room. Their leaps carried them all over the room like leaves in a whirlwind, and they soon had found the bed covers and ways to get beneath them. Thereafter, and regularly throughout the night, each time the thermostat clicked, one or more rats landed in the writer's face and whisked down his spine.

Not very much is known about the life history or family life of the Ord kangaroo rat. This lack of knowledge stems from the difficulty of studying

an animal that spends so much of its life below ground, and will not, it appears, breed in captivity. In addition to numerous tunnels near the surface which are difficult to trace because of the loose sands, researchers report that there are deep and extensive burrows whose excavation for study comes under the name of hard work. It seems probable that, aside from serving as a home and a place of refuge from hungry predators, the kangaroo rat's burrow supplies a vitally needed escape from the high summer temperatures common to his range. In other words, the cool depths of the burrow are a necessity for an animal that seldom sees water, and must conserve the little water it gets from its food. To that end, nature has equipped Dipodomys with an excretory system that filters and recirculates most of the water but leaves him little margin for enduring 100° temperatures.

The flesh of the Ord kangaroo rat is tender and without offensive odor. Doubtless, were it not for our prejudices, it would be as delectable as quail on the breakfast table. Certainly, there are on the kangaroo rat's home range any number of flesh eaters without prejudice where he is concerned. Among these are the horned owl, the coyote, foxes, hawks, and badgers. The most of the hawk's hunting is done when Dipodomys is underground, but marsh hawks, in flight at the first crack of dawn, are

1956 Index Available

An index of titles and subjects for the 1956 issues of TEXAS GAME AND FISH Magazine, which make up Volume XIV, has been compiled and is now available without charge from this office. In the past this index has been included in the December issue of the magazine.

New Director Chosen

Howard T. Lee, native of Houston, will succeed Cecil W. Reid as Director of Coastal Fisheries for the Game and Fish Commission. Lee's appointment was announced by Howard Dodgen, Executive Secretary of the Commission. Reid resigned to become Executive Secretary of SCOT (Sportsmen's Clubs of Texas) which plans to open state headquarters in Austin.

Lee, 35, has been Assistant Director of Coastal Fisheries since August 1, 1955, when he was transferred from coastal headquarters at Rockport to Houston. Lee received his Master's Degree in Biology at the University of Houston in 1951 and immediately joined the Commission's coastal staff. He served in the Navy during World War II.

known to catch a kangaroo rat now and then. Badgers excavate tremendous amounts of sand digging for them, but how successful they are in catching them nobody knows. An old cowboy once told me that he had witnessed coyotes jumping up

• Continued on page 26

NOW SET OR TAKE UP TROTLINE IN 5 MINUTES

2-WAY SWIVEL SAVES FISH! FISH CARTWHEELS

SLIP HOOK IN GUARD WHEN NOT IN USE

SLIP HOOK OUT OF GUARD TO BAIT

FISH TAIL-SPINS

Octopus Roll-Up

FULLY ASSEMBLED — READY TO BAIT

| | | |
|--|--------|---|
| 80 ft. TROTLINE on winder, 16 assemblies..... | \$3.95 | All-Nylon Seine Cord, 420-Lb. Test \$5.75 |
| 100 ft. TROTLINE on winder, 20 assemblies..... | 5.50 | 6.95 |
| 150 ft. TROTLINE on winder, 24 assemblies..... | 6.95 | 8.95 |

Cotton Seine Cord 155-Lb. Test
Note: Any above Trotline mounted on Roll-up Reel, \$1.00 extra.
Brass swiveled hook guard, \$1.20 doz. Brass U-shaped braid (2 for ea. hook), 15c doz.

FREE WITH ORDER: "Trotline Fishing Secrets," 20-page booklet written by experts. Tells how, when, where to set trotline, illustrated. Baits, trotline laws, tackle. Booklet alone 50¢. Trotlines guaranteed. Send Cash, Save Postage.

F. Lawrenz Mfg. Co., Dept. C, 119 South Lancaster, Dallas, Texas

Kangaroo rats make interesting and docile pets

Kangaroo Rat

• Continued from page 25

and down on kangaroo rat burrows, and that after so much of this the rat would bolt from his hole, only to be caught. Perhaps so? For coping with predators, the kangaroo rat is endowed with an acute sense of hearing, hair-trigger reflexes, and a sense of orientation that makes him aware at all times of the exact location of his basement door. These suffice to keep the species, to use an apt phrase, several jumps ahead of the predators.

Ord kangaroo rats make interesting and docile house pets, and can be handled freely by children. Like other small mammals, they dislike to be grasped, and will struggle if held tightly. If loosely held, they soon cease to object to handling and become quite gentle. However, their nocturnal habits make it necessary to enjoy their antics after nightfall, and practically limits observations to the after-dinner period (a pair loose in the room would help

to endure television commercials).

Almost any small-grain seeds will do for feeding pet kangaroo rats. Milo maize or commercial cracked-grain chicken feed is suitable. In season, stalks of green grass should be added to the diet. As pets they need snug boxes provided with bedding of dried grass or excelsior for day-time sleeping. Such boxes may be inclosed in a larger cage, if you want to keep the pets confined. If there is more than one, there must be a box for each, for they will not usually share quarters. Needless to say, house cats and kangaroo rats are incompatible.

Captive kangaroo rats exhibit an insatiable drive to gather and store food if any stores are left within their reach. The sight of food in any amount seems to trigger an instinct to gather it all and cache it. One trio with the run of a four-room house at night, moved a gallon of milo maize in one night's operation, storing it

in their den boxes in what sounded like frenzied competition for the grain.

Their industry where harvesting food is concerned, and their abundance, makes the Ord kangaroo rat an animal of considerable interest to students of range ecology. What role does this personable rodent play in the complex, inter-related community of plants and animals found on southwestern ranges? How important is the slow but eventual turn-over of soils brought about by burrowing rodents? How important is the "buffer" role of kangaroo rats, that is to say, how many game birds or nests are spared because hungry predators find in kangaroo rats a more abundant and easily secured diet?

Finally, two questions are of especial concern to game managers: how, where, and how much do kangaroo rats compete with livestock and game animals for the products of range vegetation; and, are high populations of kangaroo rats in themselves a product of abusive over-grazing?

For the purpose of answering the above questions and others, a cooperative study of range rodents and their relationships to game and range has been initiated through the cooperative action of the Texas Game and Fish Commission, the Texas Agricultural Experiment Station, and the Department of Game Management, Texas A. & M. College. The location of the research program is the Gene Howe Wildlife Management Area in Hemphill County, near Canadian, Texas. Jack M. Inglis, Research Biologist with the Texas Agricultural Experiment Station, is carrying on the third year of research. All resident species of range rodents are being studied, but as Inglis freely admits, Ord kangaroo rats claim the center of the stage through sheer weight of numbers.

Inglis' activities include a continuous study of plant growth, weights of forage and seeds, and seed availability. The latter is determined by taking series of square-foot samples of soils which are run through a threshing machine designed for the purpose. The separated seeds are

• Continued on page 27



the fish are the same
but . . . there's
plenty **NEW** in
Montague spinning rods

Montague makes spinning rods for every fishing purpose, every fishing pocket-book! Six different "one-piece" salt water rods with detachable grips; three different two-piece salt water rods; 21 "Hologlass" fresh water spinners, and three others, in solid glass, for fresh water.

A fabulous selection of spinning rods, each with the dependable craftsmanship that spells Montague!

they're **MONTAGUE** rods
Montague-Ocean City Rod & Reel Co.
Philadelphia 34, Pa.

fishing's finest for '57



Camp Fire Girls Week Set for March 17-24

During the week of March 17-24, Camp Fire Girls will celebrate their 47th anniversary.

This year the theme of the program will be "Together We Make Tomorrow." In keeping with this theme, the girls are learning how, through service, to be better citizens, homemakers, careerists and civic leaders. As the Boy Scouts' motto is "Be Prepared," so the Camp Fire Girls motto is "Give Service."

As an example of the constructive type of service given by the girls, in Dallas the Horizon Club members serve as assistant playground supervisors. In other communities groups give volunteer work to local hospitals, repair toys for less fortunate children, aid in reforestation programs, collect and contribute used clothing for disaster victims, and perform numerous other service activities.

The National Council of Camp Fire Girls seeks to make available to all girls between the ages of seven and eighteen an educational-recreational program which shall encourage every girl to follow the motto, "Give Service."

Kangaroo Rat

• Continued from page 26

identified as to species, carefully and exactly weighed, and their available amounts calculated on a weight per acre basis.

Over the same soils, an ear-tagged population of rodents is being periodically live-trapped as a means of determining the home range of individuals, their longevity, and other essential information. On other selected areas, hundreds of rodents are being regularly dead-trapped for a collection of stomachs for food analysis. Thanks to a number of controlled public quail hunts on the area the past two seasons, over 800 bobwhite quail crops are available for analysis and comparison of food contents with those of range rodents.

Whatever the findings, they assuredly will be a valuable contribution to our knowledge of range ecology, you may be sure that the term *Dipodomys ordii* will figure prominently in the literature. **

Deer harvest can depend on acorn crop

Acorns

• Continued from page 11

pounds of which fall as sound, an acre should have 5 oaks over 17 inches in diameter. Or it should have 9 oaks in the 13-17-inch class. If these sizes are not available, 28 trees in the 9-13-inch sizes are needed.

This data is from a U. S. Forest Service study in the Southeast. Texas production records are being developed for more accurate determination of the number of trees needed here.

It is possible that further study will show how acorn production per tree can be increased. Certainly the vigorous trees with good crowns are more productive and should be the ones to keep.

It is important to preserve representatives of all available oak species on a range in order to reduce the danger of a crop failure. In the pine region the acorn crop can be grown largely on trees which at the same time are increasing in commercial value. This can be done by saving the best-formed trees.

Even distribution of the oaks over the range is highly desirable. Every acre should have some. Certainly every 40 acres should have enough to average at the above level. Oaks left in river bottoms several miles from the home range are no help to squirrels and little if any help to deer.

Oaks Can Pay Their Way in East Texas

Oak trees are being deadened to grow more pines in the pine-hardwood forests. Is it good business to let some remain? An affirmative answer can be backed up. Strictly from an economic standpoint, it is good business to maintain carrying capacity for wildlife. The National Forest lands in Texas produce about \$10 per acre a year in timber. The money spent by the 60,000 hunters and fishermen who

use these public lands amounts to \$6 an acre or 4.3 million for the 600,000 acres. This is good for area business just as it is good to have lumber and paper payrolls for these sportsmen spend large sums in pursuit of their sport.

Less than 10 per cent of the forest space is needed to produce a 50-pound per acre acorn crop. At the same time some commercial oak product can be grown, so the space can't be charged entirely to wildlife.


By U. S. Forest Service standards a stand of timber is considered to be fully stocked if it is more than 70 per cent stocked. A stand composed of 90 per cent pine and 10 per cent oak would contain far more pine than the average. The costs of getting the last 10 per cent into pine often appear to equal or exceed the possible increased pine production.

One private landowner near Lufkin leases his hunting rights for 75 cents an acre and credits this income to his stand of oaks. The acorns attract a good population of deer, the trees are increasing in value, and he believes this is better than trying to convert to pure pine.

On public lands, there is good reason to save enough oaks to preserve wildlife carrying capacity. It has been predicted that public demand eventually will dictate that wildlife, water, and recreation get more attention than commercial timber production on public lands.

Commercial timber owners primarily concerned with making a profit for the stockholders also have

• Continued on page 28

BOOKLET ON HOW TO **20 PAGES**
Catch 'em 
"TROTLINE FISHING SECRETS"... written by experts.
 How, when, where to set trotline, illustrated.
 Baits, trotline laws, tackle. 50¢ postpaid.
LAWRENZ MFG. CO.
 Dept. C, 119 S. Lancaster, Dallas, Texas

Any PHOTO on Photo Lampshades



Sizes for every lamp. Colored in rich oil paints! Personalize YOUR lampshades with your own pictures or negatives. Style D shown (for table lamp) ONLY \$7.75, plus 50¢ for packing & postage, from negatives. 9" hi, top 10", bottom 14 1/2". Copies of pic. 50¢. Color slides process 55¢. Free details all sizes.

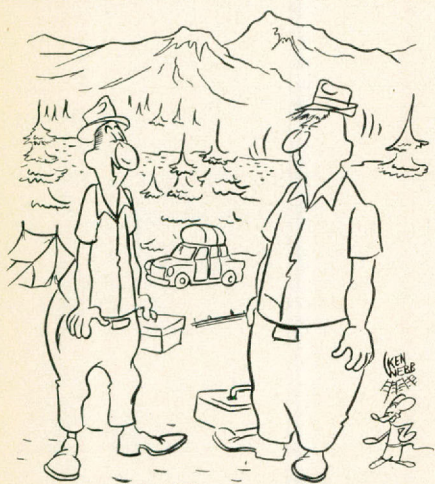
CONAWAYS **Box 7261**
 1707 So. Hackberry **San Antonio 10, Texas**

some practicable reasons for leaving a few oaks. Large sums are spent for advertising. Several companies recently used a picture of a deer with the heading "Timber and Game—Twin Crops." Obviously, it is good business to make friends among hunters because there are so many; 709,000 in Texas in 1955. A real desire to manage wildlife in the public interest on company lands, implemented by a plan to save a minimum number of oak trees, would be something worth advertising.

Economic possibilities are also available to the private forest owners. Leasing of hunting privileges is spreading into East Texas, prices are increasing, and current population trends (12 million predicted in Texas by 1975) all suggest that game eventually will pay in cash as well as in friends.

No one wants to see all deadening of oaks stopped. The problem is to modify the practices enough to save a few oaks for game food production. Most agencies and companies have not been asked to save any oaks, so criticism should be restrained until such time as these facts are known to everyone. Where excessive numbers of oak trees are being killed, a modification probably can be worked out through direct contact with the owners.

There is great urgency in this problem because large acreages are being treated in Texas every year. Once lost, a large oak tree is unlikely to be replaced in our life time. **



I did some fishing in Texas last week—you should see the big one I got away from.

Can wildlife rabies be controlled in Texas?

Rabere

• Continued from page 13

Regardless of the reason, rabies is more prevalent in spring, fall, and winter than in summer. So hunters beware!

Most people know that rabies is one of the few 100 per cent fatal diseases, once symptoms develop. It can be prevented by vaccine if given before the disease incubates following exposure. This usually is about 40 days in adults, with a shorter time in children and persons with deep exposures about the head or shoulders. But with the first show of symptoms—headaches, nausea, excitability—no power on earth can prevent an agonizing death.

It is, of course, as fatal for one animal as another. It will kill a fox as quickly as a dog that the fox attacks, or the child that the dog bites. This characteristic makes rabies largely a self-limiting disease as far as wildlife is concerned.

In other words, the virus is so deadly that it will destroy a large part of the wildlife populations in a rabies epidemic area. It will spread to other areas by the crazy wanderings of an infected fox or skunk, and on and on until the chain of infection is finally broken by natural boundaries or by thinning out vulnerable predators in "clean" areas so the disease cannot gain a foothold.

There are few natural boundaries to wildlife movements in Texas. Therefore the only feasible, though expensive, means of breaking the chain is through the work of professional hunters or trappers permanently hired by the various counties.

Bounty payments do not usually work. During the year of the East Texas "nightmare," the State Legislature appropriated \$15,000 to pay \$2 bounties for foxes killed in counties where rabies had reached the stage of being an acute public health threat. The money was spent in a little more than a year, but the disease spread into new counties each week.

For reasons that can only be guessed at, raccoons and bobcats are seldom found to be rabid. Although they are carnivores, and although heads are frequently submit-

ted for examination, only 3 raccoons and no bobcats have been found positive for rabies in 1956. An educated guess as to why this is so would be that their tree-climbing tendencies makes them able to avoid exposure to attacks of rabid foxes or skunks.

Only a single case of rabies has ever been diagnosed in squirrels in Texas, although the animal is said to be commonly infected in other states.

Whether or not rabies exists in a "carrier" state in some species of Texas wildlife has for years been a subject of great interest to State Health Department laboratory personnel. At one time they thought the prevalence of the disease in skunks indicated a "carrier" status, but they have since changed their minds.

If there is such a thing as a carrier, it is probably among insect-eating bats. The world's largest bat populations are in Central Texas, and, since 1954, a relatively high level of rabies infection has been found to exist among them. More than 15,000 Mexican free-tailed bats have been banded by State Health Department entomologists in hopes of filling in some of the blank pages about their life habits, especially their migratory habits.

Within easy migratory range of the free-tailed bats Central Texas summer retreats are the flight lanes of the vampire bats of Mexico. It could be that the insect-eating free-tail bats from Texas pick up the rabies virus during winter association with the notorious rabies-infected vampires. Another idea is that free-tails, and perhaps other

Complete Repair Service GUARANTEED

Binoculars, Scopes, Recementing, Hard-coating, Post, Crosshairs, Rangefinder or special reticule installed, Refinishing, Bluing. Modern machine shop, 18 years in business.

Write or send instrument for estimate.

Optical Instrument Repair Co.

579 Avondale Ave., San Antonio 10, Texas

bat species as well, may have the ability to carry the virus without succumbing to the infection.

Banded free-tails have not been recovered yet, in the haunts of the vampires, so the theory of their winter migrations into Mexico is still just a theory. But this is a known fact!

On a return check of a Central Texas bat cave, the bat banding team of entomologists found in an accumulation of fresh raccoon feces an aluminum marking band still clinging to a bit of bat forearm bone. A look at the banding key showed it had been placed on a bat in that same cave some weeks before.

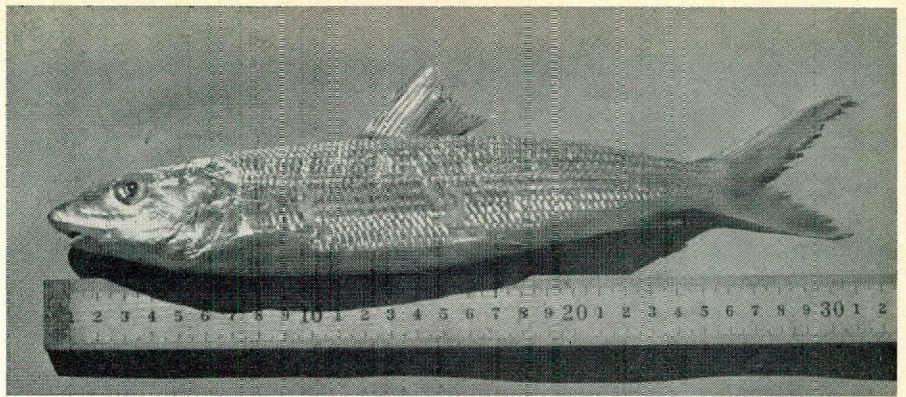
Had the bat been rabid? A free-tail's teeth, though sharp as needles are relatively short. Still they are long enough to inflict a deep wound in or about a raccoon's tender mouth during the death struggle. If this happened, the number of other wildlife species infected by the raccoon can only be surmised.

Some sections of the U. S. are rabies-free too, notably New England and the Pacific Northwest. This same highly desirable state of affairs can be realized in Texas, state health authorities insist, by pursuing a two-pronged program of proved effectiveness:

1. Enforced annual vaccination and registration of all owned dogs, and close control of stray dogs by vigorous, city-employed dog wardens. San Antonio, Fort Worth, Waco, Dallas, Austin, Houston, and other smaller cities require by ordinance that dogs be vaccinated at the time of licensing. Sadly, though, power of enforcement is lacking and ordinances often go unheeded.

2. Thinning predatory wildlife in both rabies-free areas where foxes and skunks are very numerous and in areas where rabies is prevalent. Experience has shown that this can unquestionably be done to best advantage by professional hunters permanently on the county payrolls.

Meanwhile, that old admonition still stands: Wide sections of Texas are faced with a rabies nightmare. Constant vigilance is necessary if the rest of the state is to avoid the same bad dream. **



Popular Bonefish Taken on Coast

The bonefish, popular salt-water sport fish of Florida, made its third appearance on the Texas coast, recently. The latest visitor was 12 inches in length and was taken in 126 feet of water ESE of Port Aransas on December 15.

Charles Dietrich, of the shrimp trawler Donna Jean out of Rockport, brought the specimen to the Marine Laboratory. "I knew I hadn't seen one of those before," he said, when the fish was identified as a Texas rarity.

The bonefish is considered one of the fastest swimming fishes and can put up a savage battle on light tackle. Its fighting ability is even reflected in its scientific name, *Albula vulpes*, which literally translated means 'white fox.' Unlike the tarpon, to which it is closely related, the bonefish does not jump, and an average specimen weighs from 2 to 5 pounds. The fish inhabits the warmer seas of the world, the record 17½ pounder coming from Hawaii.

All of the Texas specimens thus far taken have come from deep water, whereas in Florida they are sought on the shallow sand flats.

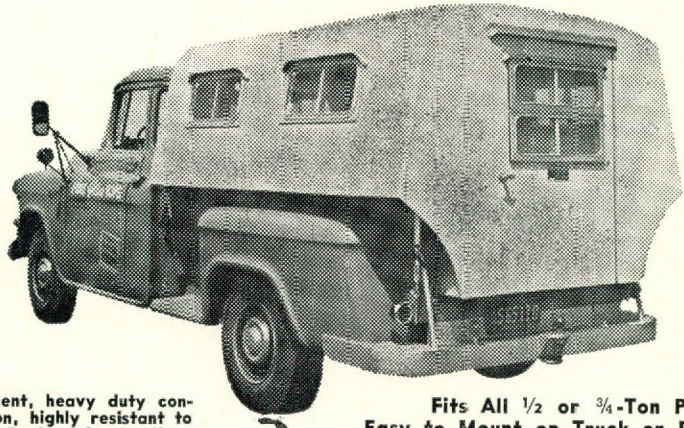
HUNTERS—FISHERMEN

THE PERFECT TOP FOR YOUR PICKUP
1-PIECE MOLDED FIBERGLAS

SLEEPS 5—CARRIES 8 TO 10

- Completely Screened
- Cool in Summer—Warm in Winter

Ideal for your deer hunting trip, camping or fishing. Used by ranchers, oilmen, surveyors and personnel carriers.



Permanent, heavy duty construction, highly resistant to shock. Dustproof, weatherproof, roomy. Can be removed for spare bedroom. No rumble or rattles.

Fits All ½ or ¾-Ton Pickups.
Easy to Mount on Truck or Remove.
"Roamer" Model Shown Above \$395.00
Other Models Low As..... \$238.00

CAL-TEX PRODUCTS CO.

9611 JENSEN DR., HOUSTON

EXPERT BOAT FIBERGLASSING AT LOW COST

OX 7-5926

Property Damage Prompts Nutria Law Clarification By Game & Fish Commission

The Texas Game and Fish Commission has clarified the status of the nutria by pointing out that this small, brown, rat-tailed animal is not protected under state law and may be killed by any means at any time.

This negative attitude on the exotic fur-bearer followed wide-spread reports of major property damage, particularly in the vicinity of lakes, ponds and streams.

Sponsors of nutria as an asset to Texas waters stressed its qualities in eating unwanted vegetation which either interfered with fishing or boating, or both.

But, according to Howard Dodgen, Executive Secretary of the Game Commission, it has been found that the nutria "have become fussy about what they eat" if farm crops are convenient to their aquatic habitat.

In addition to that, the animals

Reduced Gulf Commercial Shrimp Catches Prompt Study; New Booklet "The Texas Shrimp Fishery" Now Available

Concern over reduced Gulf Coast commercial shrimp tonnage has prompted intensified studies to determine the cause, according to C. W. Reid, Director of Coastal Fisheries for the Game and Fish Commission.

He pointed out that for the last fiscal year shrimp landings at Texas ports were about one-fourth smaller than for the preceding year. How-

ever, the combined catch for the year before set a new Texas coastal peak. Receipts then aggregated over seventy-nine million pounds.

"This industry has become a vital part of the economy of many Texas coastal areas," said Reid. "Thus, any variation downward in the harvest has its effect on the population.

"There are several possible explanations for the white shrimp decline," he added. "While shrimp probably live to be over one year old, the shrimp crop is essentially an annual one; that is catches are of shrimp one year old or less.

"In the spring commercial fishing boats harvest large quantities of white shrimp in the bays and Gulf, many of which are spawning or preparing to spawn. The reduction of the breeding stock may reduce considerably the number of larval shrimp which reach the bays.

"There is an increased fishing pressure placed on the juvenile and adolescent shrimp in the shallow bays by bait shrimpers, sportsmen and commercial fishermen. This will bring about a reduction in the number of mature shrimp which reach the lower bays and Gulf. Undoubtedly other factors are of importance but the significance of such environmental factors as the extended drought and the effect on nursery grounds and bay salinities is not fully understood."

Commission appreciation of the importance of the shrimp industry is reflected in a special booklet labeled "The Texas Shrimp Fishery," which has been written by Marine Biologist William C. Guest, with illustrations by Marine Biologist Patricia Pew.

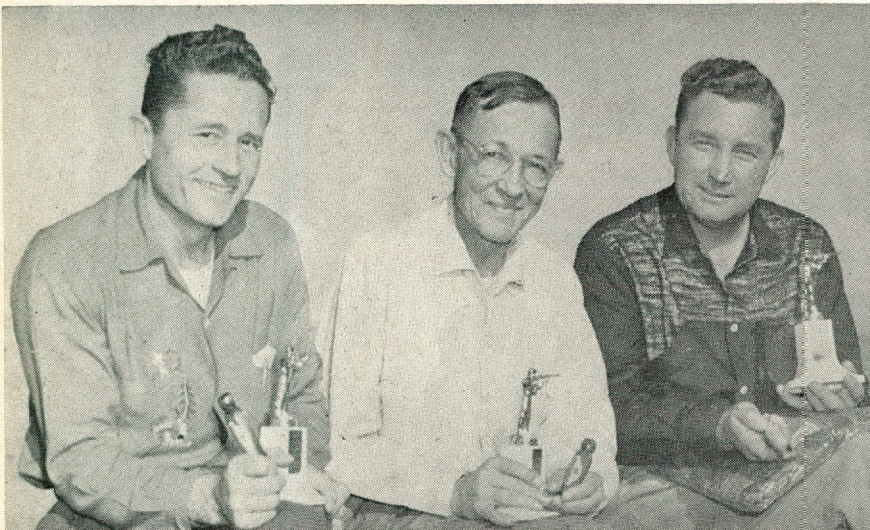
The volume also emphasizes the importance of other commercial marine products such as oysters, crabs and edible fin fish which yield about four million pounds each year plus fifty-three million pounds of menhaden, a fish used for meal and oil.

Copies of the new shrimp bulletin may be obtained by writing Austin headquarters of the Game and Fish Commission.

about half as large as a beaver, reproduce at a terrific pace. They produce up to three litters a year, with litters numbering up to eleven, and have been known to begin bearing young at the age of eight or nine months.

Competition with muskrats in the coastal marshes has caused much economic loss to trappers. Muskrat fur is worth more per animal than nutria and the rats are troubled with loss of their food supply.

CHAMPIONS USE WEEMS CALLS



WEEMS WILD CALLS WIN 1st, 2nd, 3rd
IN TEXAS ANIMAL CALLERS 1957 CONTEST

CHECK THESE FEATURES—

- Made of wood like a fine violin for perfect tone.
- Reed made of special alloy for durability and better results. No other Call has this reed.
- Reed locked in place and tested by hunter who has called thousands of animals. No need for adjustment.

Insist on the . . .

CHAMPIONSHIP CALL

WEEMS WILD CALL \$3
New Record of Instruction With
Plenty of Calling \$2

At Your Dealer or Direct Postpaid

WEEMS WILD CALL

P. O. Box 7261 — Ft. Worth, Tex.

Two Distinct Programs of the Soil Bank Act Explained by Wildlife Management Institute

The many inquiries received by the Wildlife Management Institute reveal that few persons realize that the Soil Bank Act actually set up two separate and distinct programs. These are the Acreage Reserve program and the Conservation Reserve program, both authorized in the Soil Bank Act passed by Congress last year.

The purpose of the Acreage Reserve is to reduce the production of corn, wheat, rice, cotton, peanuts, and tobacco. Participating farmers sign one-year agreements to refrain from growing these six commodities on specified acreages, and, in return, receive negotiable certificates to compensate them for income lost. If the farmer desires, cost-sharing practices may be carried out on the retired

land under the existing Agricultural Conservation program.

The purpose of the Conservation Reserve is to implement soil, water, forest, and wildlife protection. It is the Conservation Reserve program that offers opportunities for the creation of additional habitat for fish and game. Lands eligible for inclusion in this program are those used in crop production including crops which do not require annual tillage, such as tame hay. Noncropland used for pasture, land already in the Acreage Reserve and Federal property do not qualify.

Individual farmers may take part in both the Acreage Reserve and the Conservation Reserve, but not with the same land.

By completing one or more of the

permanent conservation practices on land placed in the Conservation Reserve, a farmer can receive up to 80 per cent of what it *cost him* to establish the practice. The broad practice classifications eligible for cost sharing are: establishing permanent vegetative cover for soil protection; treating farm land to permit the use of legumes and grasses for soil improvements; setting out trees or shrubs; building dams, pits or ponds in order to protect cover crops or to hold irrigation water; and protecting wildlife either by cover, water and marsh management, or dam and pond construction.

Participation in the Conservation Reserve brings the farmer an annual rental for his land throughout the contract period in addition to cost sharing for completing any of the prescribed conservation practices. The contracts range from 3-5 years for land already in approved vegetative cover; 5-10 years where vegetative cover is to be established; and 10-15 years where land is to be planted in trees.

The conservation practices must be performed according to directives established at the State level—subject to review and approval in Washington—by an all-Federal group consisting of the State Agricultural Stabilization and Conservation Committee, the State Conservationist of the Soil Conservation Service, and the U. S. Forest Service official in each State. Other interested agencies such as the State fish and game departments, the State foresters, and the U. S. Fish and Wildlife Service can serve in an advisory capacity on these committees.

County committees, similarly constituted as the State committees, adapt the requirements and recommendations at the local level. These groups execute the actual contracts and agreements, check compliance on the land, and make the payments.

Three practices may be carried out under the Conservation Reserve for the benefit of fish and game. These are G-1, establishment and management of cover specifically beneficial to wildlife; G-2, water and marsh management to benefit wildlife and fish; and G-3, construction of dams or ponds for fish. **

Things You May Not Know

Early Egyptians made an idol of the cat because their food depended on the annual grain harvest. Cats kept swarms of rats and mice from eating the nation's sustenance.

* * *

A centipede does not have a hundred legs. A common house centipede has 15 pairs. Garden centipedes have 21 and some other centipedes have anywhere up to nearly 200 legs.

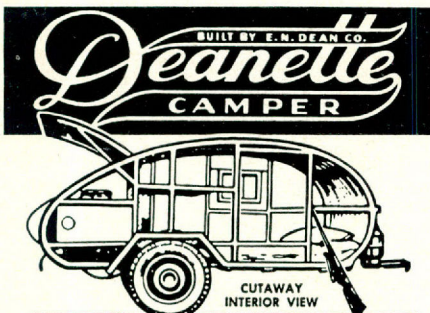
The showy tail of the tree squirrel is not solely used as a decorative feature. It is a vital necessity and its purpose is to maintain and correct the balance of the animal in its daring leaps from branch to branch.

* * *

The "bald" eagle has a fully feathered head. Its head feathers are white. "Bald" in the days when the eagle was being named, retained its old meaning of "white." It was in *that* sense that it was used.

* * *

Caribou are polygamous and a stag in his full prime collects as many does as he can for his harem.



Designed for the SPORTSMAN!

- Overall length — 10 feet; height — 4 feet; width — 4 feet. Sleeps two people comfortably.
- Standard wheelbase. Weight — 700 lbs.
- Welded steel frame; all skin aluminum which serves as insulation against summer heat.
- Large ice box, 18 gallon water tank, convenient grocery compartment, butane tank and stove, inside lights, tail lights, and clearance lights.
- Awning can be attached to form an extra room.

Write for FREE Descriptive Folder and Prices

E. N. DEAN CO. 504 E. JOSEPHINE ST. SAN ANTONIO, TEXAS

**TEXAS
BOB-WHITE QUAIL**

Eggs \$15.00 per 100 Apr.-July

DAY OLD CHICKS—40c
FIVE WEEK OLD CHICKS—80c
NINE WEEK OLD CHICKS—\$1.00
12 WEEK OLD CHICKS—\$2.50 Pair
MATURE QUAIL—\$3.00 Pair

CHEROKEE QUAIL FARM

Box 250 — Phone 5266 - 6239
 Jacksonville, Texas

Outdoor Books

COMMON EXOTIC TREES OF SOUTH FLORIDA by Mary F. Barrett. 114 pages generously illustrated with black and white drawings. Published 1956 by the University of Florida Press, Gainesville, Florida. \$8.50.

Quite a number of the trees found in Southern Florida are also found in the Rio Grande Valley and California. Many are used in ornamental landscaping throughout the Southern states. However, the most complete grouping of tropical and subtropical trees, both native and exotic, is found in the Southern half of the Florida Peninsula. Here, according to the author, is a veritable "open-air museum of trees from all the continents that have tropical or subtropical climates."

This study of trees emphasizes the morphology (study of form) and taxonomy (classification) of various forms. Trees such as the palms and bamboos, as well as pines and related species, have been omitted. Both scientific and common names of each of the trees (with pronunciations) have been included with the descriptions and discussions.

The Keys are based on identification by means of leaves and other vegetative

characteristics rather than flowers and fruits, which are seasonal. Numerous accurate drawings illustrating various portions of the plants and the terminology used are included along with a series of "Explanations" which includes names, characters, distribution and uses.

In the section Descriptions and Illustrations there are drawings of the leaves or stem characteristics of almost every tree for which there is a description. All major groups are illustrated.

Although somewhat technical, this book is written in an easy style. Anyone interested in exotic plants and trees, planning to go to Florida, or just interested in plant life in general, will find this book useful and enjoyable.—J.R.

SHRIMP TIPS From New Orleans. Circular No. 41, U. S. Department of the Interior, Fish and Wildlife Service. 16 pages excellently illustrated in color photographs and drawings. Distributed by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. 15 cents.

Probably one of the most popular seafoods is shrimp. Its diversity in cooking, as well as its high nutritive value makes it one of the most valuable

seafoods, too. It is an economical food since for every pound of shrimp there is less wastage in preparation and cooking than for any other "meat."

Many people have eaten shrimp only as an appetizer, but there are a lot of excellent and tasty shrimp dishes which may be easily prepared. This beautifully illustrated booklet contains 17 famous New Orleans and Louisiana recipes. Such dishes as the well-known Shrimp Gumbo, Shrimp Namburg, Shrimp Creole, and Shrimp Jambalaya are included. Helpful tips on the best way to buy and prepare shrimp are also listed.

For anyone who enjoys cooking, and particularly for the many who enjoy shrimp, this booklet is a "must."—J.R.

YACHTING WORLD ANNUAL 1957, a "Yachting World" publication from Iliffe & Sons, Ltd., London. 192 pages excellently illustrated with 36 full pages of black and white photographs, art plates and 155 text illustrations, including 57 diagrams showing the "new" in yacht design. Published in the U. S. in 1957 by the Philosophical Library, 15 East 40th, New York 16, N. Y. \$10.00.

For all who have an interest in the sea, this excellent publication offers a wide range of general reading in 27 brilliant and authoritative articles by some of the most famous writers in the yachting field, as well as some of the best in photography and art work.

The subjects included in this book are so varied that no matter which phase of yachting you prefer—new developments, sea stories, racing, both large and small boat building—you will find items of interest and enjoyment. Richard Wood tells of the innovation of plastics to yachting. Other articles of an informative nature are included by Douglas Phillips-Birt and Frances Prout. The adventure of ocean sailing is described in exciting style by E. W. R. Peterson. The dreamer of the sea, high wind, and full sail will find satisfaction in articles such as Dudley Pope's "The Lisbon Race." Serious yachtsmen will find a record of the year's race results, as well as a descriptive design section in which designs by the world's leading yacht designers are included.

On the lighter side, Ann Davison relates the misfortunes of a honeymoon cruise. Keith Shackleton writes for the small craft enthusiast in his story of an "Unforgettable Race."

Whether you are interested in large or small craft; design and building; stories; or excellent photographs of sailing craft, this book will provide hours of pleasure.—J.H.B.

Subscribe Now!

To **TEXAS GAME AND FISH Magazine**

Walton State Bldg., Austin 14, Texas

I enclose \$8 for 5 years \$4 for 2 years
 \$5 for 3 years \$2 for 1 year

Please send Texas Game & Fish Magazine to:

Name _____

Street or Box _____

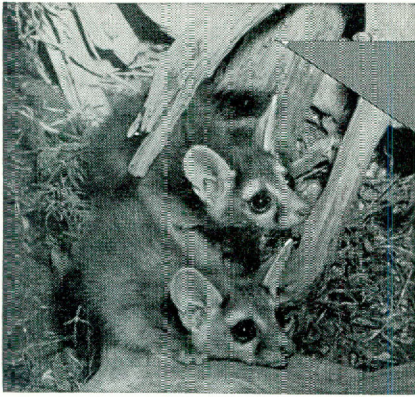
City _____ Zone _____ State _____

New _____ Renewal _____

Sent in by _____

This is a Gift Subscription. Please send one of your special gift announcement cards with my compliments. Sign gift card _____

NOTE—You may expect to receive your first copy of the magazine approximately six weeks after sending in remittance.



Junior Sportsmen

Wildlife Looks To You

For Help

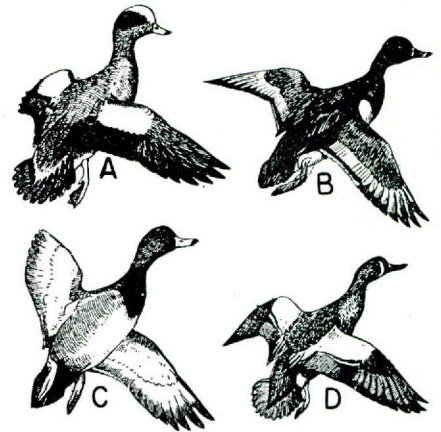
By

BOB MEYER

Supervisor Conservation Education

WILDLIFE QUIZ:

Can YOU name the birds pictured below correctly?



What am I?

(1) I am a large aquatic rodent. I have a broad, flattened, scaly tail. My fur is soft and dense and my hind feet are webbed. What am I?

(2) I am about 9 inches long and my flattened, furry tail makes up about four or five of those inches. I am very active at night and love to eat seeds, nuts, and occasional bird eggs. I usually make my home in a hollow tree. What am I?

(3) I am the largest of the unspotted cats. My ears are rounded and my total body length is around 8 feet. I may weigh as much as 175 pounds. I prefer to live in areas where rocky cliffs, forests or thickets provide shelter. What am I?

(4) I am about the size of a house cat. I have a long tail with conspicuous black and white bands. I make my home in the western half of the state. My diet is made up of insects, lizards and small mammals. What am I?

ANSWERS:

- (A) Baldpate (B) Ring-necked Pheasant (C) Redhead (D) Blue-winged Teal (1) Beaver (2) Flying Squirrel (3) Mountain Lion (4) King-tailed Cat

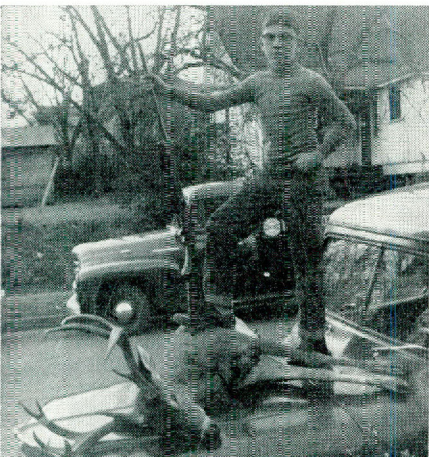
Note to Our Junior Sportsmen:

This is your page! If you have a question about wildlife, or a picture that you are proud of mail it to us. Your letter or wildlife snapshot may be used in the next issue.

This Month's Who's Who:

This month we have two "Who's Who" candidates.

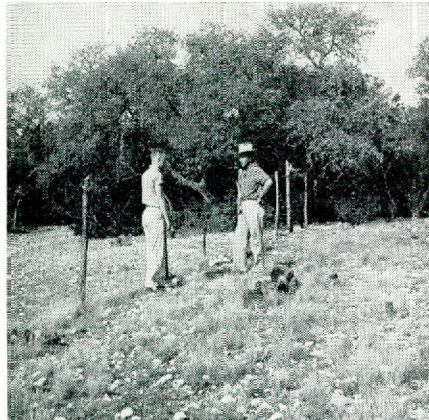
Hunter



William Edward Tosh was just 13 years old when he bagged this fine buck last year. His father had given him a new Browning 16 gauge automatic shotgun, and he had gone out squirrel hunting to try it out. Suddenly this big buck ran in front of him, and he shot it three times with No. 6 squirrel shot. The deer was badly wounded and ran off, with William trailing it by the bloodspots. Some 400 yards away the deer crossed the Neches River, so William went back and got his dad. Together they crossed the river and trailed the buck. About a half mile further on they found the deer, dead. It had 10 points and weighed 182½ pounds. A good-sized deer even for East Texas.

Conservationist

Pictured here are Mills Cox, left, 4-H member from Hays County, and Bert Johnson, right, County Agricultural Agent in Hays County. Cox fenced off the wooded area in the photograph, an area covering approximately 20 acres



of brush land, in order to have cover and food for deer and other wildlife. A brush-clearing program on the ranch made this desirable. Cox is a very active 4-H member and is doing work on several wildlife projects under the 4-H program.

Letter of the Month:

Dear Bob:

I am a Boy Scout 14 years old. For the past two months I have been working on a group of merit badges for my Eagle rank. I am writing a report on the economic importance of hunting and fishing, and I would appreciate any information you could send me concerning this subject.

Phill Schaefer
Schulenburg, Texas

If you want to know the economic importance of hunting and fishing, you will be interested in the sportsman—he's a good spender. Yearly sales of baseball equipment add up to 35 million dollars, and golfers spend 80 million on their sport. This is nothing compared to the 3 billion dollars sportsmen spend yearly.

This nation has five and one-half times as many hunters and fishermen as farmers. What they spend is 7 times the value of our hogs, 22 times the value of our sheep, and 83 per cent of the value of all our cattle. Their purchases amount to twice the sales of all drug stores, 4 times the income of men's clothing stores and are equal to the income of all filling stations. Hunting and fishing is truly big business!

JAVELINA

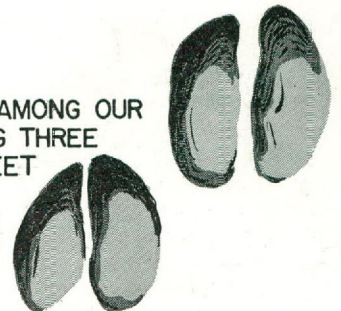
THE JAVELINA, OR COLLARED PECCARY, IS FOUND IN THE WESTERN PART OF TEXAS FROM THE BRUSH LANDS TO THE TRANS-PECOS. NORMALLY, THEY MAY BE FOUND IN HERDS OF FIVE TO FIFTY ANIMALS IN MESQUITE AND CACTUS THICKETS, THEIR PREFERRED HABITAT. WHERE AVAILABLE, THE PADS AND FRUITS OF THE PRICKLY PEAR ARE STAPLES IN THEIR DIETS. ROOTS, MESQUITE BEANS, ACORNS, INSECTS, WORMS, AND REPTILES ARE EATEN ALSO.



THE JAVELINA, PRONOUNCED "HAVE-UH-LEENA," IS GRAY-BLACK IN COLOR WITH A WHITISH "COLLAR." THE AVERAGE WEIGHT AT MATURITY WILL BE ABOUT 35 POUNDS. POWERFUL JAWS AND RAZOR-SHARP TUSKS ARE THEIR CHIEF DEFENSIVE WEAPONS. WHEN EXCITED OR CORNERED THE JAVELINA CHARACTERISTICALLY RAISES THE STIFF BRISTLES ALONG ITS BACK AND NECK AND MAY PRODUCE A STRONG ODOR FROM ITS MUSK SACS.

THESE MAMMALS ARE ODDITIES AMONG OUR TEXAS HOOFED ANIMALS, HAVING THREE TOES ON EACH OF THE HIND FEET AND FOUR ON THE FRONT. THEIR NORMAL TRACK ON THE

HARD, DRY EARTH WOULD APPEAR AS SMALL WEDGE-SHAPED HOLES, WHILE THE FULL IMPRINT, AS ILLUSTRATED, WOULD BE SEEN ON MOIST GROUND.



Texas Game & Fish

To:

Published monthly by

The Texas Game and Fish Commission

Walton State Building

Austin 14, Texas

POSTMASTER: If undeliverable, please notify at above address on form 3579.