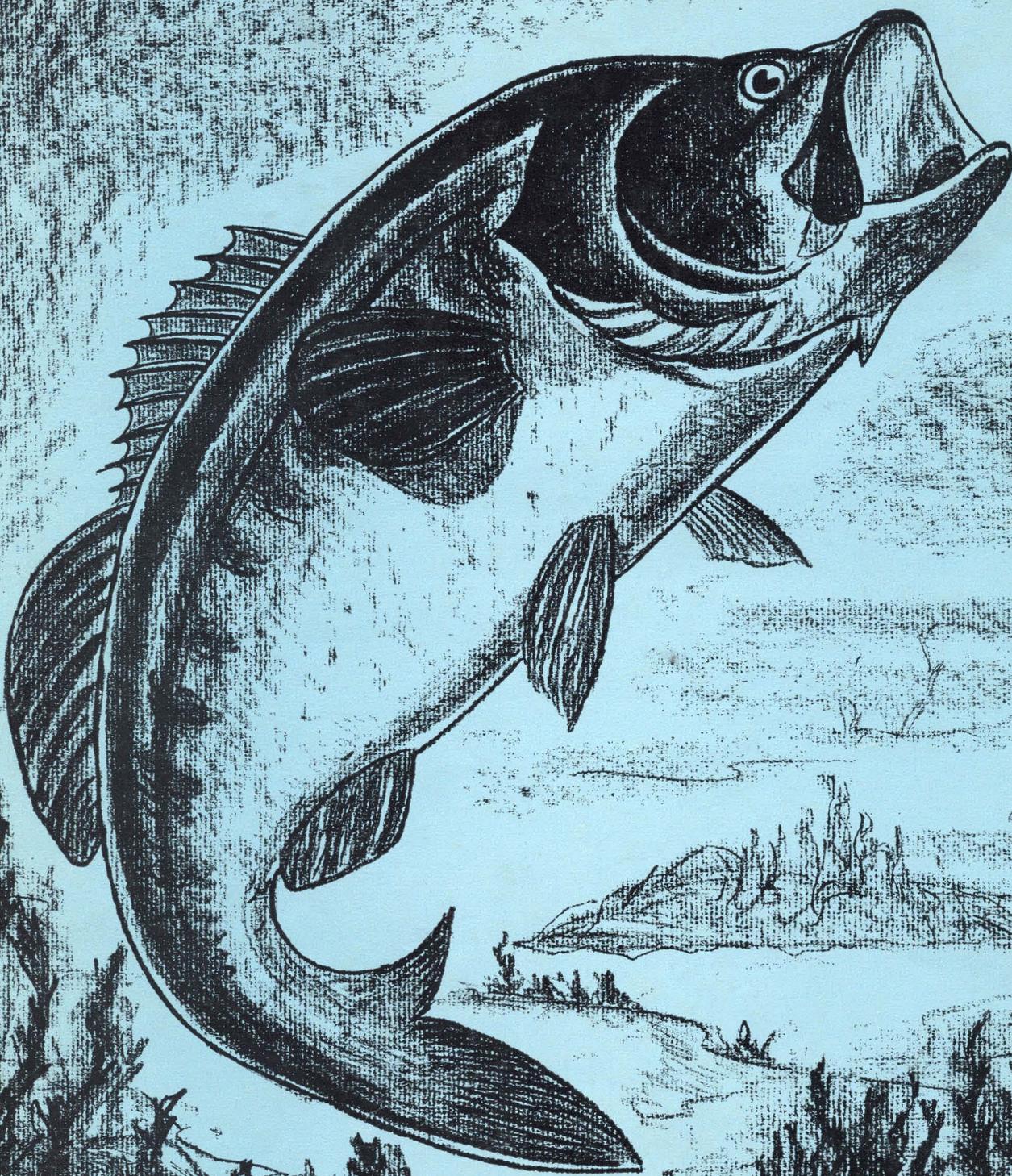


KANSAS FISH & GAME



Hearts and Hunting

The heavy throbbing of your heart when a pheasant breaks cover and takes wing or when a covey of quail explodes beneath your feet is a feeling expected when hunting, but there is also danger! The physical exertion required in hunting can be fatal to the out-of-shape shooter.

A hunter is often not aware of this danger because heart attack deaths are usually listed in press accounts as firearms fatalities. According to the National Shooting Sports Foundation, Inc., deaths from heart attacks while hunting is about three times as prevalent as those from firearms accidents.

Before going on a hunting trip, the American Heart Association advises hunters to have a complete physical examination. The doctor can often suggest ways you can pace yourself without putting strain on your heart.

Don't delay until it's too late—permanently.

—JOHN POLSON.

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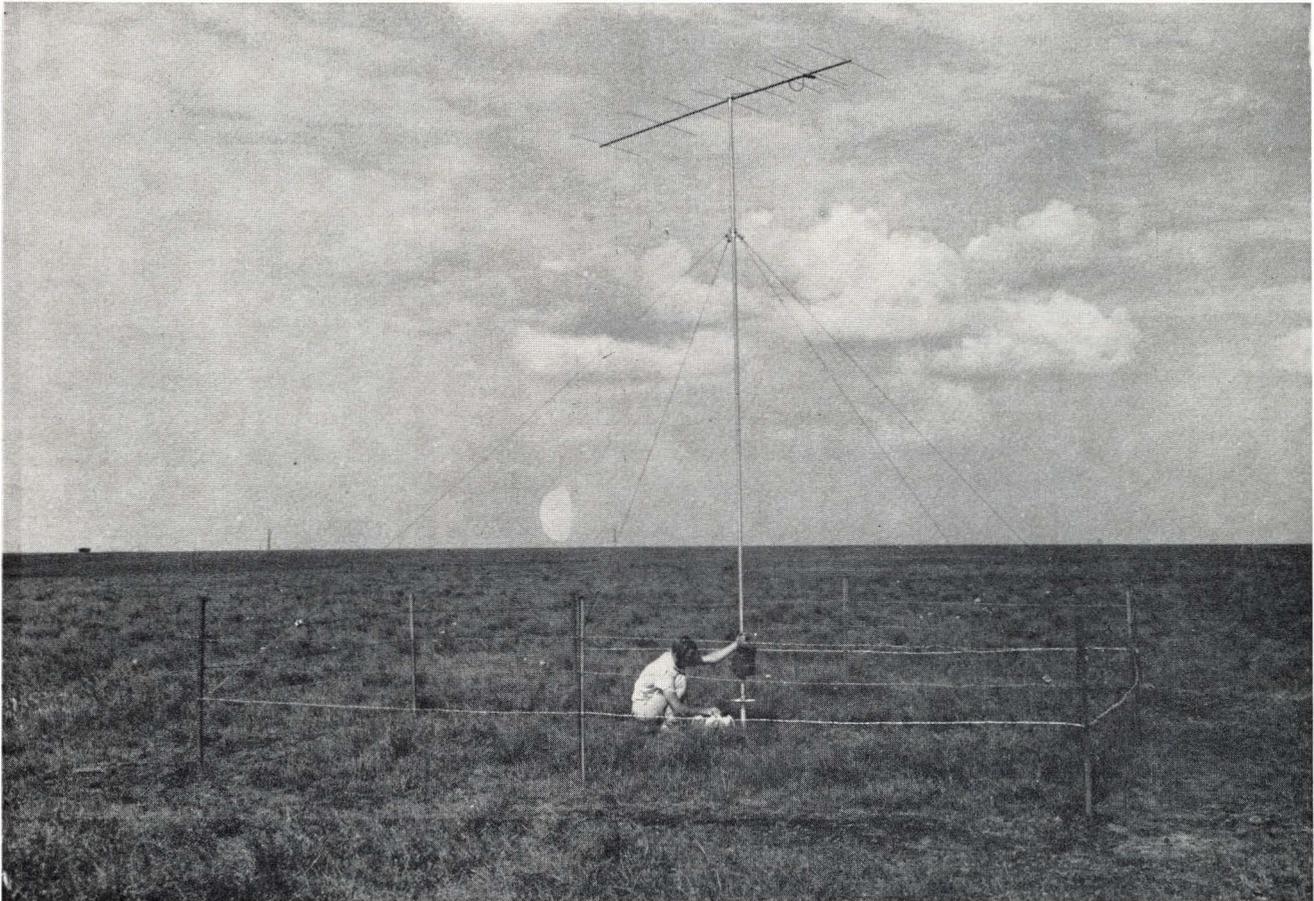
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Transistorized *Tympanuchus*

By JEROME J. CEBULA



Picture a scene in the rolling Flint Hills of northeastern Kansas—prime prairie chicken country. As you stand atop one of the many grass covered ridges of the area, familiar sights meet your eyes: A herd of white-faced cattle grazing on the abundant grass, a few trees in the nearby draws, a slowly turning windmill by a wooden corral, a lone TV antenna, miles of fences—a TV antenna? . . . and there's another one over there! As your eyes continue to wander, eight

of the 20-foot-high towers come into view. What is this, television for the cattle? Nope. The truth is probably stranger yet to most people. These are directional receiving antennae used in tracking radio-tagged prairie chickens across the rolling grasslands.

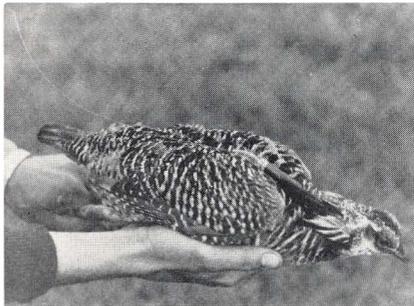
Several graduate students in the Department of Zoology at Kansas State University are currently involved in research designed to learn more about the movements and habits of prairie chickens (*Tym-*

panuchus cupido pinnatus). Under the direction of Dr. R. J. Robel, they hope to answer questions such as how far the birds travel, what happens to the broods of young prairie chickens as they mature, and whether or not different flocks in the same areas ever intermingle. An important requisite the workers had to meet to answer these questions was the ability to distinguish between individual prairie chickens. This is more difficult

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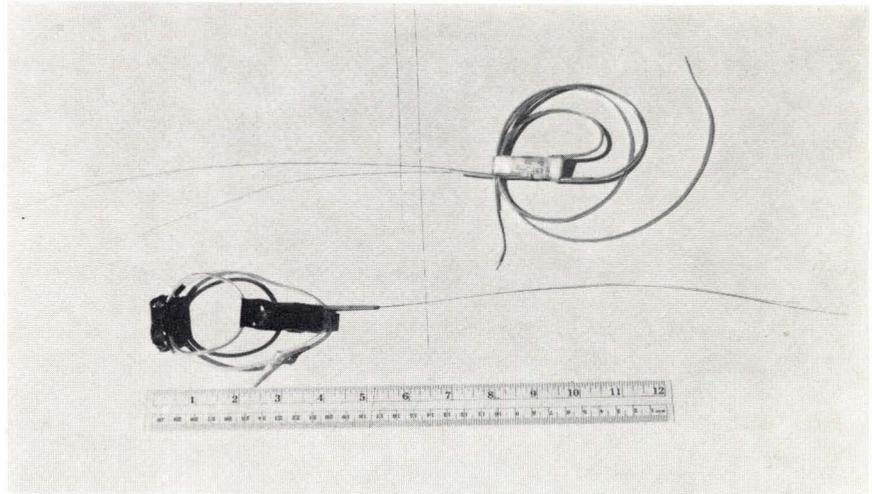
than it sounds since all prairie chickens look alike, especially at a distance. Compounding this problem are the natural secretive habits of prairie chickens. To help solve these problems, the researchers have turned to space-age technology and miniaturized radios.

If man is able to track unseen satellites across the skies using radio equipment, why can't he use similar methods to track wild animals through their concealing habitat? This is exactly what is now being done. Recent advancements have been brought about by space-age methods that have miniaturized radio transmitters. These advancements have inspired the imagination of many biologists concerned with the problems of animal behavior and mobility. Such interest has resulted in a new technique in wildlife research called radio telemetry. Radio telemetry involves the attachment of radio transmitting devices to unconfined study animals. Special receivers can then be used to track the radio-marked animals as they go about their normal activities.



A radio-tagged male prairie chicken ready to be released. Note the transmitter on the back of the bird and the protruding whip antenna.

Miniature radio transmitters and batteries are attached to the prairie chickens by means of plastic tubing harnesses. A mercury battery, which has a life of about two months, rests over the breast of each tagged bird. The transmitter, which has a protective epoxy coating, is held on the back of the bird between the wings. A fine whip



Miniature radio transmitter and harnesses. Note the battery on the completed harness at the left.

antenna extends outward from the back of the transmitter which is about the size of your little finger, and the whole rig weighs less than one ounce. Each transmitter emits a different signal which can be picked up with portable receivers at distances of up to $\frac{1}{2}$ mile.

Eight permanent TV-like receiving antennae have been constructed on the higher elevations of a study area in northeastern Kansas. These antennae are used to locate the "transistorized" prairie chickens by determining the directions from which the signals are being broadcast. As an antenna is rotated, the direction it is facing is indicated by a pointer and compass card. A whistling tone is heard through earphones connected to a receiver when the antenna points toward a radio-tagged bird. The receivers have 10 channels so that 10 different prairie chickens can be followed at the same time. Locations or "fixes" of the individual birds are determined by triangulation and are then plotted on maps to show how far the birds have traveled.

Twelve prairie chickens have been radio "bugged" and tracked to date. Results show that the prairie chickens rarely venture far from the tops of the ridges. They seem to especially like lightly grazed or ungrazed areas. The birds travel more during certain seasons of the year than others.



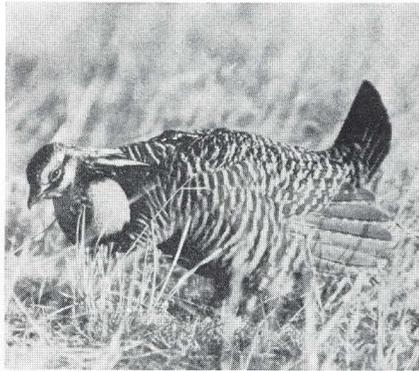
A free radio-tagged male prairie chicken.

For instance, one radio-tagged male confined his activities to an area of less than 50 acres during an entire summer. Other male prairie chickens however had winter ranges covering areas in excess of 400 acres.

Two prairie chicken hens successfully incubated and hatched broods of young birds while carrying radio transmitters. Both of these hens left their nests on the day that the chicks hatched. Radio tracking showed that the hens and their broods traveled extensively during the first two weeks after hatching. Future plans include putting radios on brood members as soon as the chicks are large enough to carry transmitters.

Some of the radio-marked male prairie chickens were observed performing the ritual courtship display termed "booming" on the tradi-

tional "booming grounds." The researchers believe that the transmitters have little or no effect on the natural behavior of the prairie chickens since the birds have incubated, boomed, and otherwise behaved in a normal manner.



A radio-tagged male prairie chicken "booming" or performing a courtship display.



A portable receiver and hand held antenna or electronic "bird dog" being used to pinpoint or flush a radio-tagged prairie chicken.

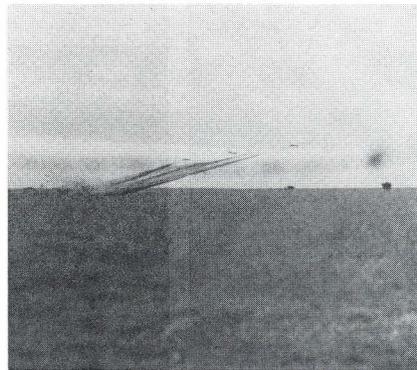
It is interesting to note that none of the tracked prairie chickens have been known to drink water from farm ponds or springs in the area. Perhaps the birds obtain enough water in the food that they consume. This question may also be answered before the study is completed.

On several occasions, radio-tagged prairie chickens have given the slip to students trying to locate them with electronic "bird dog" portable receivers. Prairie chickens don't usually lie low when a man approaches, but if they do they can

be more difficult to flush than a wily pheasant. Many frustrated 'chicken hunters' who have stomped over miles of prairie without seeing a bird can testify to this fact.



Loading one of the small cannons which will project the net into the air.



A cannon-net being fired over a prairie chicken.

Wild prairie chickens are captured on the study area, radio-tagged, and released at the trap site as soon as possible to minimize disturbance of their habits. A cannon-net trap has been used to catch most of the birds needed for the study so far. This interesting device consists of a 40-inch by 60-inch net which is lofted over the unsuspecting prairie chickens by projectiles fired from three small cannons. The net and cannons are set up a day or more before trapping and the cannons are fired electrically from within a nearby blind.

Other states are also using radio telemetry as a tool in wildlife research. Minnesota has used the technique on ruffed grouse and South Dakota is putting radios on her famous pheasants. Some of

the other game birds that have been radio "tapped" include sharp-tailed grouse, bobwhite quail and wild turkeys. Radio telemetry is also being employed in research concerning game mammals, waterfowl and furbearers.



Using a permanent antenna to determine the direction of a radio "bugged" prairie chicken.



A mobile receiving antenna used to track prairie chickens that sometimes wander beyond the range of the permanent antennae.

Research projects such as these are essential to increased understanding of the animals involved. Clearer comprehension of the species by your wildlife administrators will result in better management practices and improved hunting for the public.

In New York City during 1963 there were 549 homicides. The knife (or other sharp weapon) was used in 225 or 41 percent, while physical force (hands or feet) was used in 101 homicides or 18 percent. A rifle or shotgun was used in 37 homicides or 7 percent.



A view of Neosho County State Lake looking northeast. The caretaker's residence is in the background.

Neosho County State Lake

By **GEORGE VALYER**

26th of a Series on the State Lakes of Kansas

Seasons come and seasons go and there are things I like about all seasons in Kansas. But, if I had to pick a season I like most, it would be a toss-up between spring and fall.

When it comes to indulging a good case of spring fever, any time of year, I can think of no place I would rather be than Lake McKinley.

The name Lake McKinley is familiar to most residents in southeast Kansas because it was the first lake ever constructed by public funds in that part of the state. To others living outside the area, it is better known as Neosho County State Lake.

This lake was the first state lake to be constructed in Kansas and was completed in 1927. This was

only one year after the creation of the original Forestry, Fish and Game Commission by the state legislature. At that time, the commission was composed of three members with the governor serving as chairman. The new commission was quite interested in a program of development of fishing and recreational areas and Neosho County State Lake was the first completed

project. Despite the fact that it is the oldest in the system, this lake retains the charm for fishermen which it held from the beginning.

Credit for obtaining the first state lake must go to the sportsmen of Neosho and Labette counties who purchased the tract of land on which it lies and donated it to the fledgling commission. At that time, the commission was operating without sufficient money to purchase lands but did have enough to construct the dam. Through the efforts of M. C. McKinley, enough money was raised to pay for the land purchase. McKinley's efforts were not unrewarded and the lake has since born his name.

Neosho County State Lake does not have any large amount of land surrounding it under state ownership. The original donation was in the amount of 216 acres which has proved adequate for the needs at this location. The lake itself measures 92 surface acres. Picnic and camping areas are located on the east and northeast shores of the lake and are well shaded with mature trees.

Other facilities include a boat launching ramp and two large fishing piers. These piers, jutting out some 60 feet into the lake, are popular with fishermen who do not have access to a boat. To the east of the boat launching area, a shelter house is located in the main day-use location. This is a favorite facility for the nonfishing members of the family.

Lake McKinley also boasts two fish rearing ponds located below the dam. These ponds are used to feed channel catfish to a larger size so that they can successfully be released into lakes. Most of the channels reared at this facility are used at Lake McKinley but some are transported to other state lakes in southeast Kansas.

Neosho County State Lake produced fine fishing for hosts of anglers for many years. However, in 1961 the decision was made to rehabilitate the lake. After 32 years of operation, the lake contained



Luxuriant vegetation lines the shores at Lake McKinley.

hordes of stunted crappie and bluegill and a large population of rough fish. The only solution was to begin again with a new population in balance with the size of the lake. Draining of the body of water was completed in the spring of 1962 and restocking was commenced in the late summer of that year. On March 6 of this year, fishing was once again available at this location.

Since that time, fishing has been good to excellent with many limit catches of bass and channel catfish being reported. The largest bass so far removed this spring weighed in excess of five pounds. The top weight of channel catfish caught is in the neighborhood of seven pounds. Judging by these reported catches, Neosho County State Lake is still a good producer providing plenty of food for good fish growth.

Lake McKinley is located five miles north and three east of Parsons near the hamlet of South Mound. Six miles to the northeast lies St. Paul and the Neosho Waterfowl Management Area, another installation of the Fish and Game Commission. During the summer, the main pool at the waterfowl area is also open to fishing and fishermen

at either location can find alternate public fishing water with just a few minutes travel time. Both of these areas should provide excellent fishing and, if one is not productive, maybe the other one will be.

The genial caretaker at Neosho County State Lake is T. E. Wester who resides in the cottage located near the northeast shore. Wester also maintains Bourbon County State Lake south of Bronson. Whenever his duties are not elsewhere, "T. E." will be glad to assist fishermen in any way possible.

In days gone by, several cabins and summer homes were constructed on private property to the southwest of the lake. Some of these homes are still maintained in an attractive fashion and are regularly used by their owners.

Neosho County State Lake is located in a scenic part of Kansas just a short three miles from the verdant Neosho River Valley. Small springs erupt from the sandstone outcroppings of the creek which forms the lake. The hiker, rockhound and nature lover find much of fascination at this location. Many species of song birds and small animals may be observed in

(Continued on page 20)

Cheney Wildlife Management Area

Cheney Dam and Reservoir is located approximately four miles north of the intersection of US-54 and K-251, on the North Fork of the Ninnescah River. The impoundment was completed in the fall of 1964 by the United States Bureau of Reclamation as a multiple use project for municipal and industrial water supply, flood control, fish and wildlife enhancement and recreation. The reservoir at conservation pool, elevation 1,422 feet, impounds a surface area of 9,552 acres of water. At this elevation, a body of water approximately nine miles in length creates about 67 miles of shoreline above the dam site.

In the fall of 1963, the Kansas Forestry, Fish and Game Commission entered into a cooperative agreement with the United States Bureau of Reclamation for administrative control of approximately 9,238 acres of land and water for fish and wildlife management purposes at Cheney Reservoir. The licensed area is that portion of the reservoir which lies north of a line approximately two miles south of the old Andale road (see map). All of the land north of that line is open to public hunting with the exception of the waterfowl refuge. The wildlife management area, open to public hunting, is marked with black and yellow signs denoting "Public Hunting Area." The wildlife refuge is surrounded by red and white signs stating "Stop—Refuge Area—No Hunting."

The wildlife habitat development program being carried on by the Kansas Forestry, Fish and Game Commission at Cheney Reservoir includes the establishment of food and cover plantings for upland game and migratory waterfowl. Included in these plantings will be corn, sorghums, millets, legumes, grasses and woody plants beneficial

to resident and migratory game. Agricultural fields are leased to local farmers on a share-crop basis with the state's share of crops normally being left in the field for utilization by wildlife. The basic wildlife management principle of "edge" is being employed throughout the area with the planting of grass-legume strips, as well as the establishment of woody plantings along field borders and as cropfield dividers (subdividing large cropfields into smaller field units).

Pheasant and quail are both found on the area and management practices being employed on the unit are directed toward these species. These same management techniques also directly benefit cottontail rabbits, squirrels and mourning doves. Deer also can be found on the area and utilize crops that have been left in the field.

There are, in the plans of the Kansas Forestry, Fish and Game Commission, provisions for the establishment of two hunter-fisherman access areas of about two or three acres in size. One of the areas will be located on the west side of the reservoir and the other near the north end of the area on the east side. The two areas will be equipped with such basic minimum facilities as pit toilets, drinking water, and possibly picnic tables and fire grills. These are not intended as general recreation areas. Responsibility for such areas lies with the Kansas State Park and Resources Authority.

After the land acquisition was completed at Cheney Reservoir, all of the wildlife management area was fenced. The fence was constructed with vehicular parking areas and walk-through gates at various intervals as a convenience to hunters and fishermen.

According to present plans of the Kansas Forestry, Fish and Game

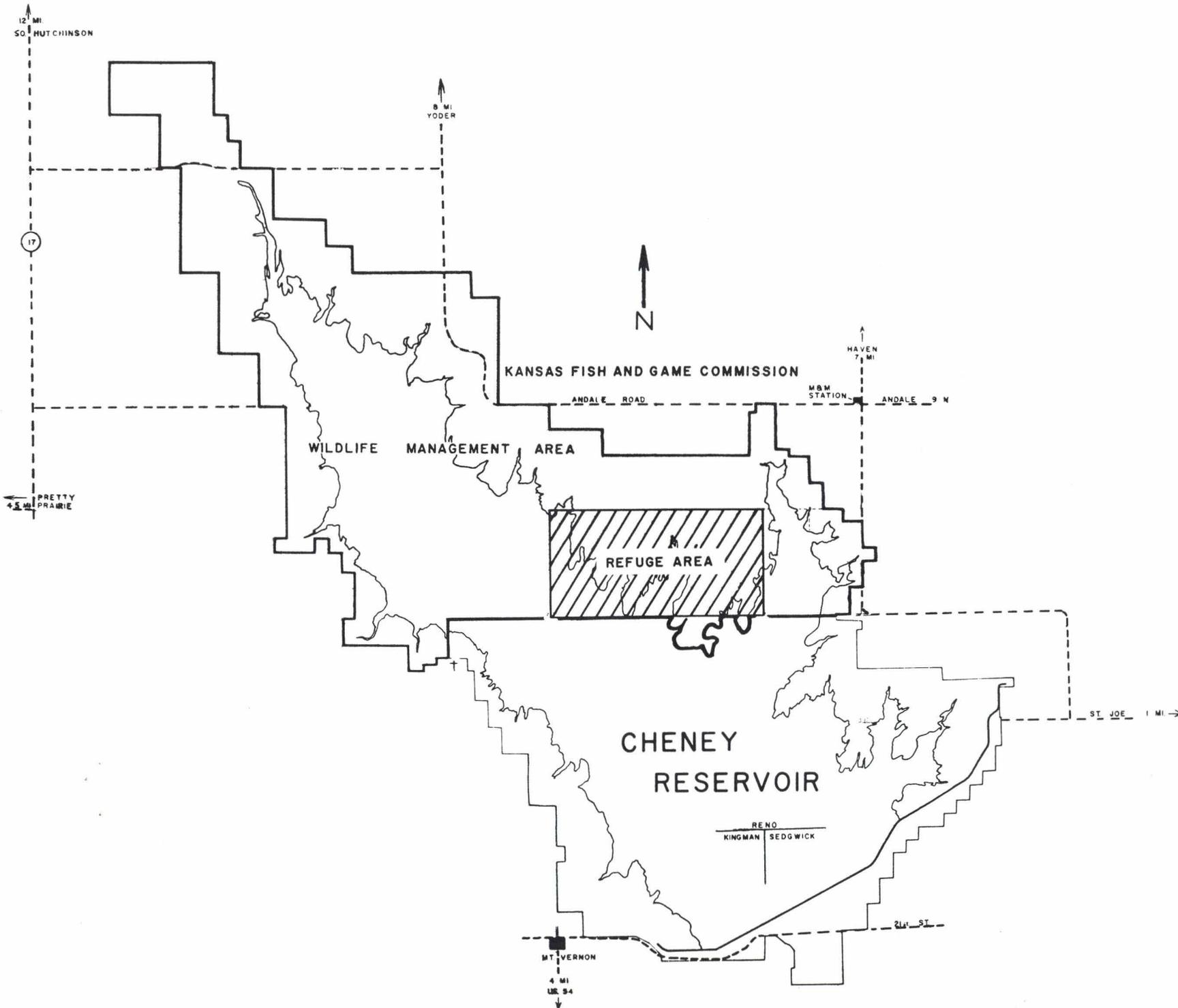
Commission, a buoy line will be established approximately 3½ miles upstream from the dam. From the buoy line north will be a restricted use area. The water zoning is expected to lessen damage to persons and watercraft in the shallow waters. This zoning will not, however, restrict the area to boat-fishing and sight-seeing.

Fisheries management at Cheney Reservoir has included the stocking of bass, bluegill, walleye, crappie, and white bass. Cheney Reservoir was the site of Kansas' first aerial fish stocking May 21, 1965, when 500,000 largemouth black bass were dropped from a C-46 transport airplane. According to later studies, the aerial stocking was a complete success with no appreciable mortality. Stocking of channel catfish was unnecessary as sufficient native stock of this species was to be found in the river. All of the native species of fish found in the North Fork of the Ninnescah River are present in the reservoir.

A state regulation *prohibits the digging of pits* for building of blinds or any other purpose. Duck blinds must be constructed from natural materials found at the site of the blind or be of a portable nature.

Additional information relative to public hunting lands is available from the Information-Education Division of the Kansas Forestry, Fish and Game Commission, Box F, Pratt, Kansas. Inquiries concerning recreational facilities at Cheney Reservoir should be directed to the Kansas State Park and Resources Authority, 801 Harrison, Topeka.

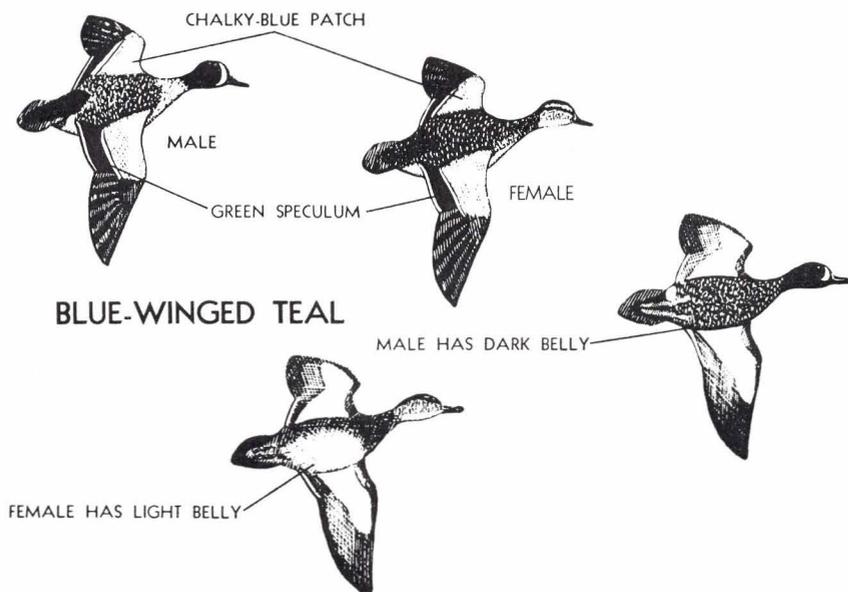
The tail of the beaver is scaly and flat, but contrary to popular belief, it is not used to excavate earth, but helps the animal to stand erect.



The Blue-winged Teal

Major Target of a Special Teal Season

By **MARVIN SCHWILLING**, Waterfowl Project Leader



Of the 28 species of ducks known to Kansas, the blue-winged teal is the earliest to migrate in the fall. They are very sensitive to the approach of autumn and move out of their nesting grounds with the first early frosts in August, moving slowly ahead of fall weather to their wintering grounds in the south. The fall migration is mainly accomplished in September. Blue-winged teal also winter farther south than any other of our ducks. A few do remain in the marshes of the southern states but the majority spend the winter in South America, many as far south as central Chile and Brazil.

The "old-time" hunter looked for the blue-winged teal about the full of the moon in September and praised the sporting qualities of this bird to "sharpen up his shooting eye" before the big fall flights of waterfowl arrived. No duck decoys better than the bluewing.

They fly in large closely bunched flocks, presenting a fairly easy target in spite of their speed. They circle and twist as they pass and re-pass over the decoys before dropping in. Even in dusk or early twilight, teal can be recognized by their erratic flight pattern.

The table qualities of the blue-winged teal are second to no duck. Hunters who ignore these birds and shoot only the larger ducks are missing some delicious eating.

Distribution

The nesting range of the blue-winged teal is basically inland from coast to coast and from northern Saskatchewan to central Kansas. The breeding population has been around four million birds in recent years. In migration, bluewings are most abundant in the Central and Pacific Flyways and least abundant in the Atlantic Flyway. Winter range extends from the southern

United States to central Chile and Brazil.

The blue-winged teal is strictly a surface feeder and frequents shallow ponds, creeks, and the reedy shores of lakes, ponds and sloughs. Thus he is one of our most common farm-pond and pothole ducks in Kansas.

Description

The blue-winged teal is a small duck measuring about 16 inches long and weighing just under one pound. As a comparison, the mallard is 23 inches long and weighs about three pounds.

Plumage coloration, as in most of the ducks, varies greatly from spring to fall, particularly in the males. A good recognition feature which does not change seasonally is the chalky blue shoulder patch on the upper wing surface. A white bar separates this blue patch from the green of the speculum (the brightly colored trailing edge of the wing). A conspicuous white crescent is present on the face between the eye and the bill during spring. In the fall this white crescent is lost, as well as much of the other bright spring plumage and all—males, females and young—assume a plumage similar to that of the female. The female is dark brown above with brown spots on the tan breast. Her plumage becomes lighter and whitish below. Both sexes, young and old, retain the chalky blue on the upper wing and show a dark green speculum—iridescent in males, noniridescent in females. Male and female may be distinguished further by the white bar of feathers that separate the blue coverts and the green speculum in the male. In the female this bar is mostly black, with narrow, white, oblong spots or bars through it.

(Continued on page 20)

Better Than Braggin'

State Fish Records

Species, Where and When

1. **LARGEMOUTH BLACK BASS**—Weight, 11 pounds, 3 ounces. Length, 25 inches. Charles Prewett, Pittsburg; taken from private lake in Bourbon county on January 6, 1965. Spinning rod and reel; Johnson spoon with pork rind.
2. **SPOTTED (KENTUCKY) BASS**—Weight, 3 pounds, 12½ ounces. Length, 17½ inches. Angler was John I. Waner, Newton; taken from Marion County Lake on April 5, 1964. Rod and reel with Shyster for bait.
3. **WALLEYE**—Weight, 10 pounds, 8 ounces. Length, 30 inches. Taken by Roy Laster, Hutchinson, from Kanopolis Reservoir on April 2, 1961. Rod and reel with live minnow for bait.
4. **CHANNEL CATFISH**—Weight, 32 pounds. Length, 40½ inches. Taken by Edward S. Dailey, Gardner, from Gardner City Lake on August 14, 1962. Taken on trot-line with small sunfish for bait.
5. **FLATHEAD CATFISH**—Weight, 72 pounds, 8 ounces. Length, 51 inches. Angler was Howard W. King, McPherson; taken from Kanopolis Reservoir on April 23, 1965, using salt water rod and reel with red worms for bait.
6. **BULLHEAD**—Weight, 4 pounds, 3½ ounces. Length, 17 inches. Taken by Frank Miller, Eureka, from a Greenwood county farm pond on June 18, 1961. Taken on rod and reel with beef melt for bait.
7. **WHITE BASS**—Weight, 4 pounds, 11½ ounces. Length, 20¾ inches. Caught by Ray Cleghorn, Eureka, from Fall River Reservoir on April 12, 1964. Rod and reel with Abu spinner.
8. **BLACK CRAPPIE**—Weight, 4 pounds, 10 ounces. Length, 22 inches. Taken by Hazel Fey, Toronto, from Woodson County State Lake on October 21, 1957. Rod and reel with live minnow for bait.
9. **BLUE GILL**—Weight, 2 pounds, 5 ounces. Length, 11 inches. Taken by Robert Jeffries, Modoc, from a Scott county farm pond on May 26, 1962. Rod and reel with worm for bait.
10. **GREEN SUNFISH**—Weight, 2 pounds, 2 ounces. Length, 12 inches. Angler was Louis Ferlo, Scammon; taken from strip pit in Cherokee county on May 28, 1961. Taken on rod and reel with Abu spinner.
11. **DRUM**—Weight, 27 pounds. Length, 37 inches. Caught by Louis Hebb, Howard, from Howard City Lake on June 27, 1953. Rod and reel with live crayfish for bait.
12. **CARP**—Weight, 24 pounds, 9 ounces. Length, 38½ inches. Taken by Harvey W. Haas, Junction City, from Clark's Creek near Skiddy on June 13, 1963. Spinning rod and reel, 10-pound test line using worms for bait.
13. **BUFFALO**—Weight, 28 pounds. Length, 41 inches. Angler was James H. Webster, Topeka; taken at the spillway of John Redmond Reservoir on June 27, 1965. Rod and reel with night crawlers for bait.
14. **PADDLEFISH**—Weight, 26 pounds. Length, 75 inches. Caught by John C. Huston, Lawrence, from the Kaw River near Lawrence on September 19, 1962. Rod and reel with worms for bait.
15. **GAR**—Weight, 27 pounds, 8 ounces. Length, 56 inches. Taken by John W. Robson, Arkansas City, on May 24, 1964, taken from the mouth of Grouse Creek at Silverdale. Taken with bow and arrow (archery fishing).
16. **WHITE CRAPPIE**—Weight, 4 pounds, ¼ ounce. Length, 17½ inches. Caught by Frank Miller, Eureka, from a farm pond in Greenwood county on March 30, 1964. Rod and reel with live minnow.
17. **STURGEON**—No picture available. Weight, 4 pounds. Length, 30½ inches. Caught by J. W. Keeton, Topeka, from Kaw River near Topeka on November 17, 1962. Taken with rod and reel with worms for bait.



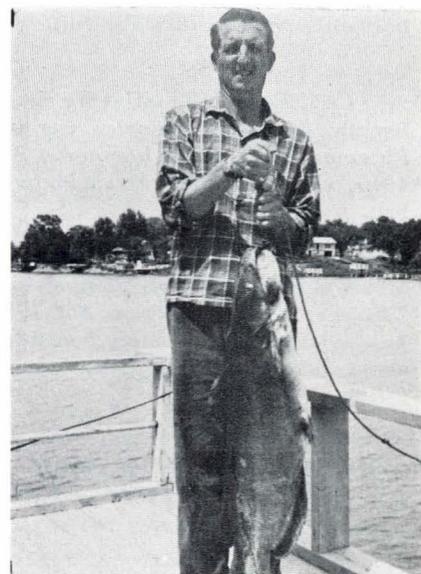
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3. **WALLEYE**—Weight, 10 pounds, 8 ounces. Length, 30 inches.



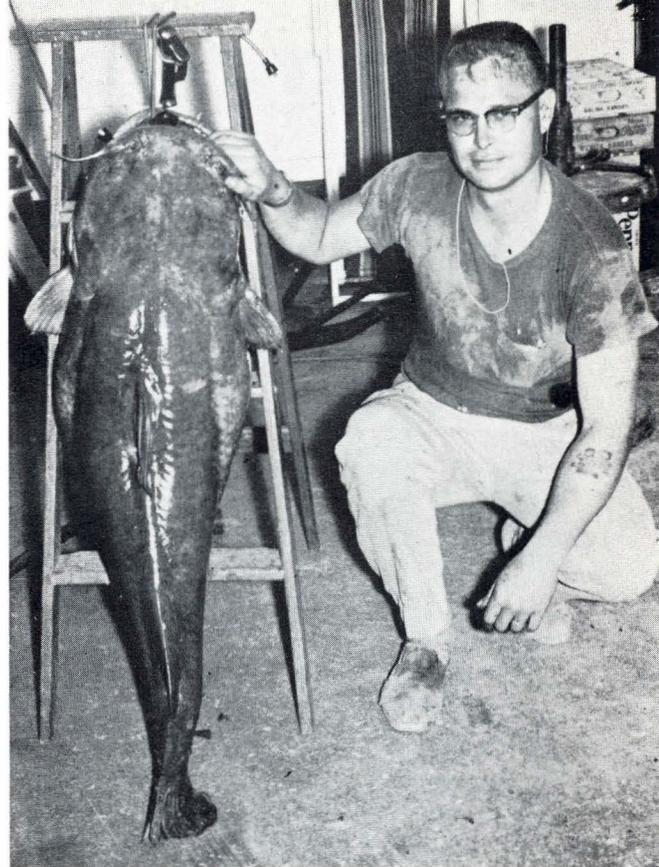
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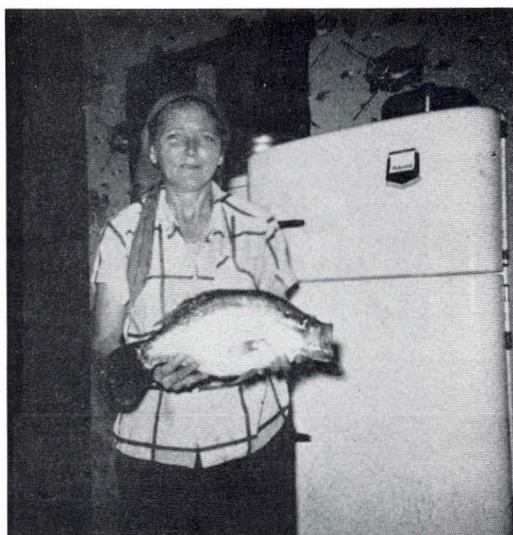
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6. BULLHEAD—Weight, 4 pounds, 3½ ounces.
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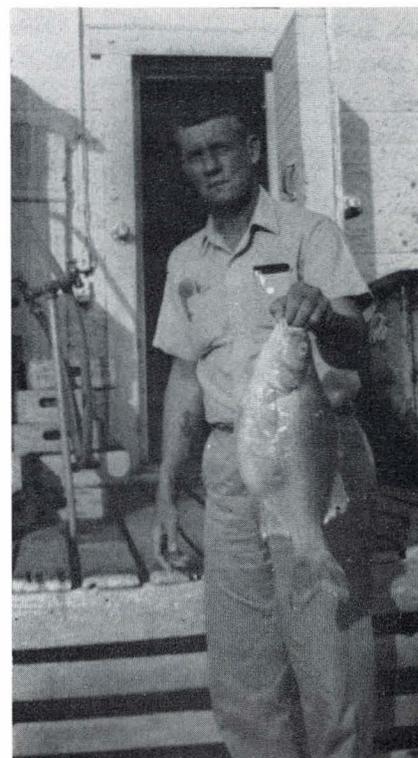


5. FLATHEAD CATFISH—Weight, 72 pounds, 8 ounces. Length, 51 inches.



8. BLACK CRAPPIE—Weight, 4 pounds, 10 ounces. Length, 22 inches.

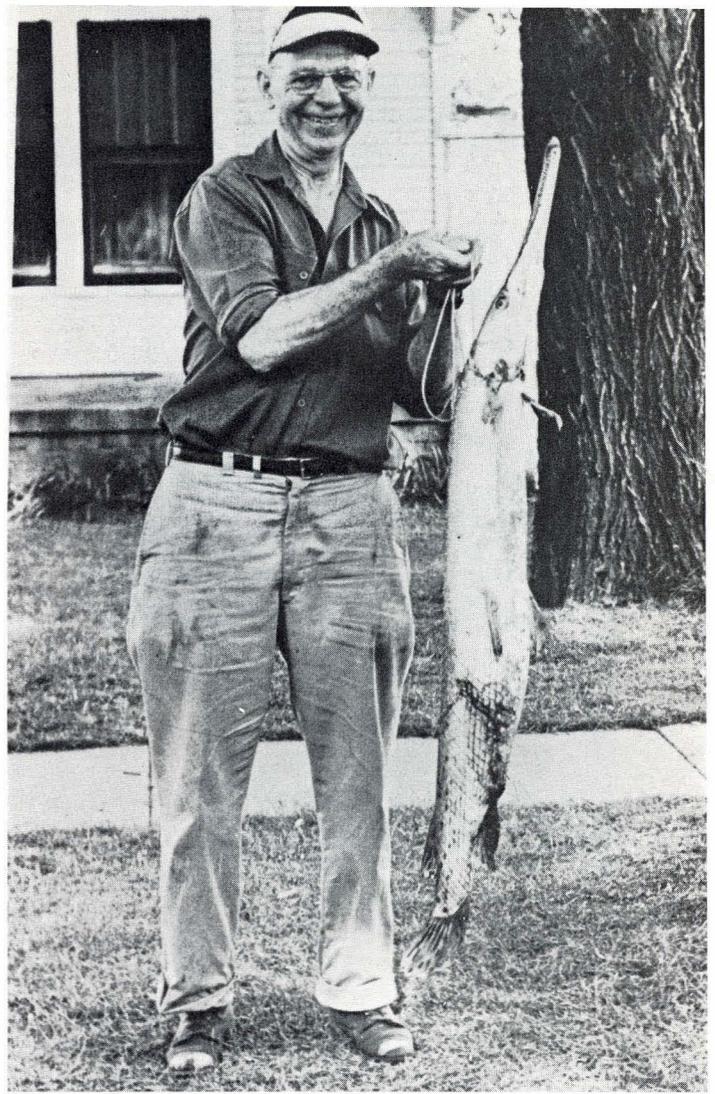
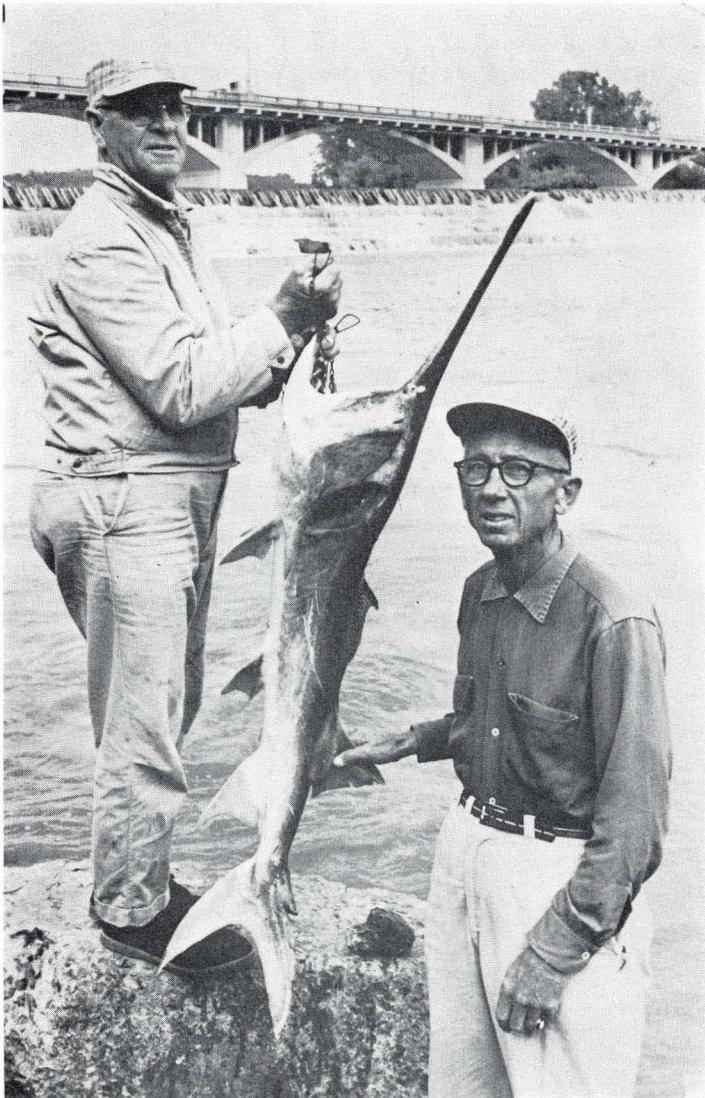
7. WHITE BASS—Weight, 4 pounds, 11½ ounces. Length, 20¾ inches.





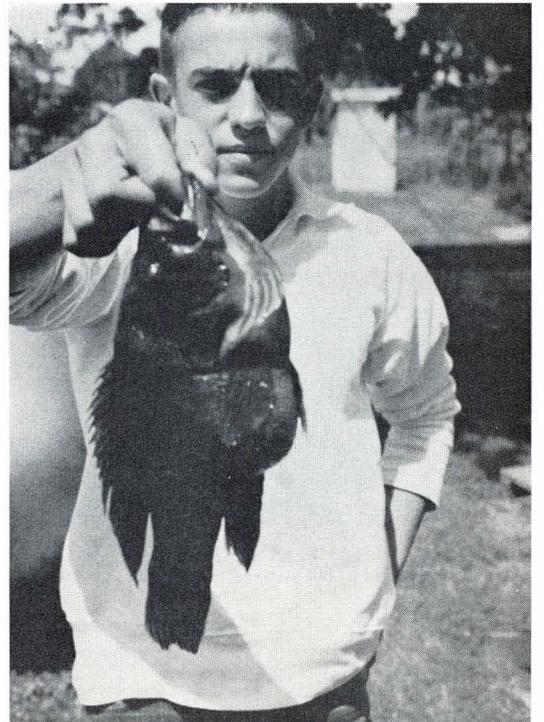
16. WHITE CRAPPIE —
Weight, 4 pounds, $\frac{1}{4}$
ounce. Length, $17\frac{1}{2}$
inches.

14. PADDLEFISH—Weight, 26 pounds. Length,
75 inches.



15. GAR—Weight, 27 pounds, 8 ounces. Length,
56 inches.

10. GREEN SUNFISH—Weight, 2 pounds, 2
ounces. Length, 12 inches.





9. BLUEGILL—Weight, 2 pounds, 5 ounces.
Length, 11 inches.

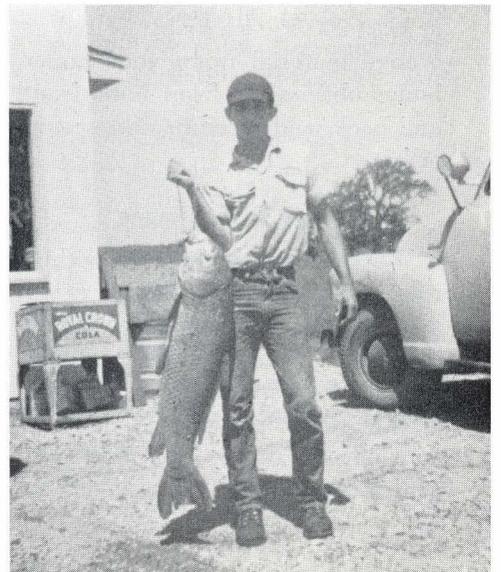
12. CARP — Weight, 24
pounds, 9 ounces. Length,
38½ inches.



11. DRUM—Weight, 27 pounds. Length, 37
inches.



13. BUFFALO — Weight,
28 pounds. Length, 41
inches.



Deer Season Tips for Hunters

Making Your Hunt More Enjoyable

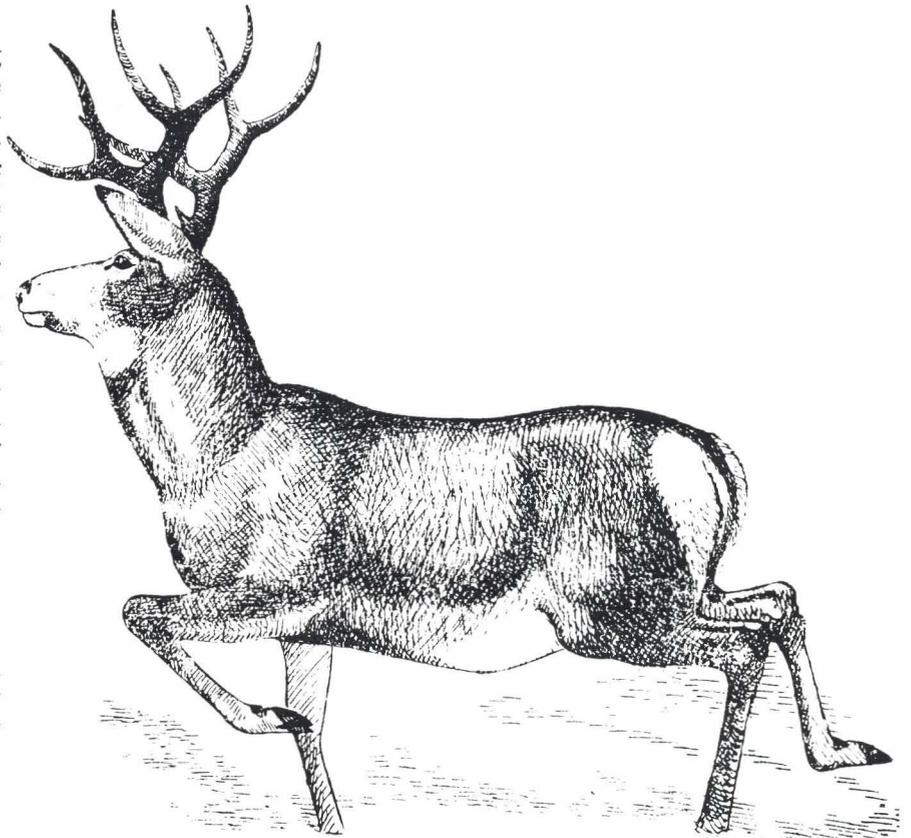
Since most of your deer hunting in Kansas will be done on private lands you should plan to get permission to hunt from the landowner well in advance of the season. If you have friends or relatives in the area you wish to hunt, so much the better. Remember, the landowner has the say as to what type of firearm he wants you to use while hunting on his land. Once you have found a place to hunt, conduct yourself as sportsmen should so that in future seasons you, or perhaps your son, will find a friendly face when asking permission to hunt.

Some Things You Will Need

Weeks before the season opens you should be acquiring several items which are essential to any deer hunt. Be sure you have plenty of warm, lightweight clothing and footwear, a sharp knife, a belt axe (optional), rope for dragging your deer, a clean cloth or plastic sack in which to carry the deer's heart and liver, and your signed permit. For your protection you must wear at least 200 square inches of red or orange material upon your upper body, observable from both front and back, and a red or orange cap or hat.

Know Your Weapon

Whether you hunt deer with a rifle or shotgun you should never go into the field without being thoroughly familiar with your firearm. You should know how to dismantle the gun, what to do if it jams or misfires, or if the barrel becomes obstructed. If you have to



borrow or buy a gun before the season, do so early enough that you will have plenty of time to take the gun out and shoot it. Above all, learn how to handle the weapon safely so that you and your companions are in no danger from careless gun handling. *Remember, CARELESSNESS kills, guns do not.*

Be Sure of Your Target

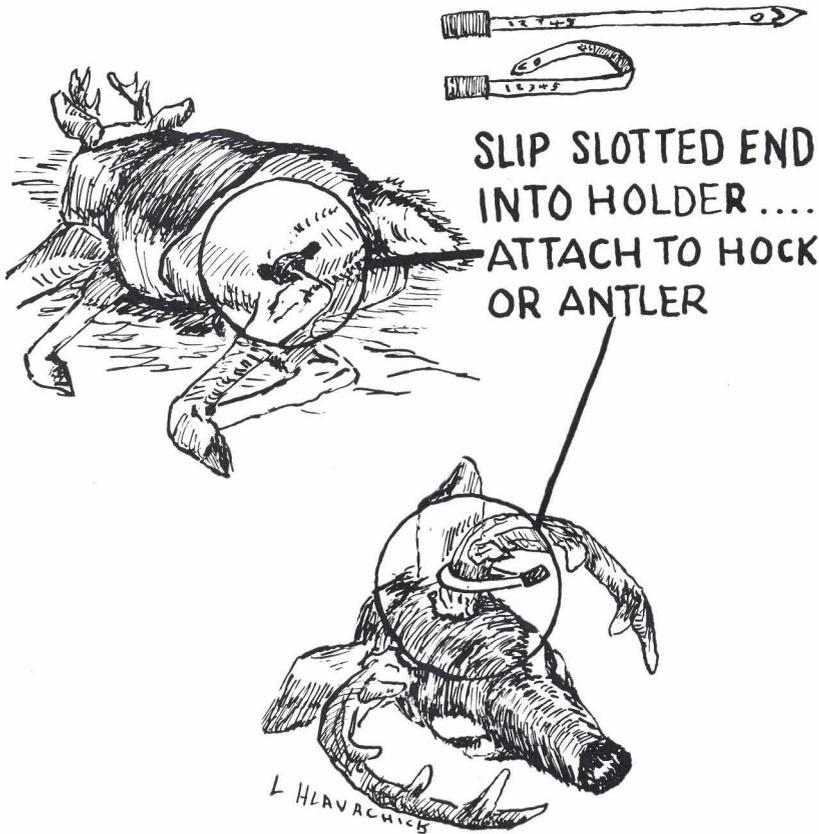
The responsibility to make certain your target is legal game rests entirely with you. A sportsman who will hold off on his shot until he can place a bullet in a vital area will not shoot livestock or another hunter. The season is open for deer only.

Once the Game Is Sighted

Take your time; "buck fever" happens to us all, and sudden excited movements distract deer and deer hunters alike. Unless a deer has been thoroughly frightened he will usually not run wildly at first sight of you, and may even stop to investigate, thereby presenting a stationary target. Making a quick, clean kill as 50 to 100 yards speaks far better of a hunter than killing a running animal with a hail of bullets at 300 yards.

Was the Deer Hit

Every sportsman should follow up all deer at which he shoots. You cannot tell with certainty that a



deer has not been hit, judging by his actions. A deer when hit will usually kick out, hump its back, tuck its tail, bolt, or miss a stride if running. Then too, it may show no outward signs of being hit and go out of sight in the underbrush only to drop dead a few minutes later. After shooting at a deer and watching it disappear you should go to the spot and, following the track, look for drops of blood or tufts of hair. If your deer is wounded every effort must be made to recover the animal. Follow the trail until it vanishes and then comb the area in widening circles until all hope is gone. A sportsman will never, willingly, give up the trail of a wounded animal.

Field Care of Your Deer

Once the deer is down never approach it closely until you are sure it is dead. Get a long stick and touch the fallen deer's eye. This will cause an involuntary twitch if the animal is still alive

and has only been stunned by the bullet. It could save you some embarrassing and perhaps, serious, moments.

If the deer has been shot with either a shotgun slug or a rifle, adequate bleeding probably has occurred. However, to assure thorough bleeding, you can make a deep cut across the lower throat where it joins the brisket.

There are two sets of glands on the hind legs of deer that might leave an unpleasant taste on the meat. One is located on the inside of the leg at the hock and the other on the outside of the leg at the shank. If reasonable care is exercised it should not be necessary to remove either of these glands.

Quick cooling of the carcass is desirable to insure good meat. The entrails should be removed as soon after killing as possible. There are several ways to accomplish this but the following is a good usable procedure: (1) Make a cut completely around the rectum. (2) Start at

the crotch and slit the skin and the next layer of flesh all the way to the breast bone. With your hand in the "palm up" position, use two fingers, one on either side of and behind the knife blade, to guide the knife along this cut and to guard against cutting into the paunch or entrails. (3) Turn the deer on its side, roll out the entrails and pull the rectal area into the body cavity. The diaphragm, a section of muscle separating the lungs from the entrails, should be cut free of the body wall now and the windpipe cut as far up into the chest cavity as possible. A steady pull on the severed windpipe should empty the chest cavity. Save the liver (don't look for a gall bladder as a deer doesn't have one) and the heart, both make excellent table fare. (4) If the deer is not to be mounted, the remaining windpipe should be removed to guard against spoilage from undigested foodstuffs. (5) Wipe the body cavity dry with a cloth or a handful of leaves.

There are several ways to move a deer, but the simplest is to drag it with a rope around an antler or, if antlerless, tie a slip knot around the lower jaw or push the end of the rope through a hole cut in the lower jaw and out the mouth. Do not attempt to drag the deer by the hind legs as it will snag on every rock and tree. If the hide is to be used for leather, dragging can injure it. Dragging over a smooth surface for a short distance will not hurt the hide however. Skinning and quartering the animal in the field will save the hide and provide good leather for gloves and jackets.

Once the deer is back in camp, or home, prop open the body cavity and hang in a cool shady place. If you have a cold storage locker near at hand, the carcass should be skinned and hung for eight to ten days at a temperature of about 34 to 36 degrees. In camp, if the weather is warm, the carcass should be skinned and covered with clean cheesecloth to aid in cooling and protection from flies. Since this

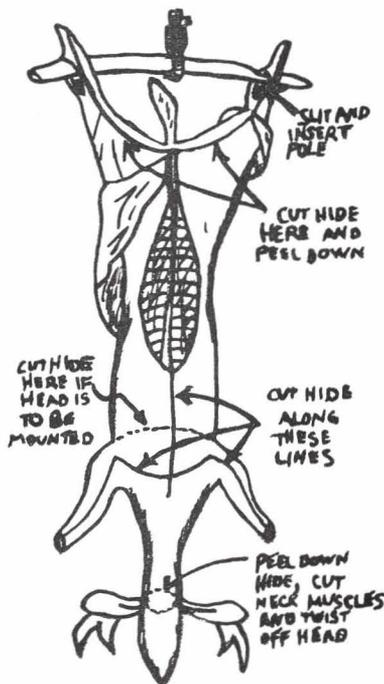
hunting season will be in December there should be no danger from flies or warm weather so the decision to skin or not to skin is up to the hunter.

To skin, hang the deer by the hind legs. Start at one leg, cut the skin from the crotch to the hock on the inside of the leg and proceed with the skinning.

After ageing, cut, package and freeze the meat in individual packages. If you do your own packaging you should take care to trim off all the excess fat. This will save the meat from becoming rancid and unpalatable.

How to Handle a Trophy Head

Split the skin up the middle on one shoulder to the backbone. Cut along the middle of the back to a



point between the ears and then cut to the right and left to the base of the antlers. Cut down the middle of the other shoulder to join the first cut. The cartilage around the ears should be cut close to the skin. Be extra careful around the eyes, nose and lips. Spread salt liberally on the flesh side and rub in. Fold the salted side in and ship to the taxidermist along with the clean skull.

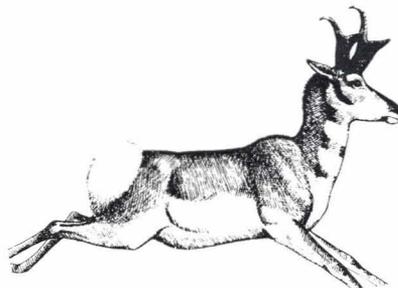
Some Important Things to Remember

This is written to remind the hunter of several items which are of prime importance for the completion of a successful and enjoyable hunt. (1) Permits, once issued to an individual, are not transferable to any other person. (2) Firearms permits are issued by management units only and must be used within the boundaries of the unit named on the face of the permit. (3) All deer taken during the firearms season must be checked into a check station in that unit where killed before 10 p. m. on the day of the kill. A list of all check station locations will be supplied to each permit holder. (4) As soon as a kill is made the animal must be tagged with the metal locking tag provided. The illustration below shows how to lock the tag and where to place it on the deer. In order for your deer to be completely legal it has to be tagged by you at the kill site and by the check station when checked in.

There is a \$100 minimum fine for the violation of any of the above provisions.

A Reminder to Hunters in the Smoky Hill Unit

In November, 1964, 72 head of antelope were released within the Smoky Hill Unit. This release brings the number of antelope in this area to about 150. Each permit holder hunting in this unit is cautioned to be on the lookout for these antelope. *They are not legal game.* Several small bands may be seen throughout the unit, especially in the large pastures southwest and southeast of Goodland. Antelope are smaller than deer, have a lighter color, different "horns," and



show much more white on their bodies. Study the illustration below carefully if you are hunting in this unit.

Legal Firearms

Legal firearms for the taking of deer will be shotguns and rifles. Shotguns are restricted to 20, 16, 12, and 10 gauges using rifled slugs only. Rifles are to be of .23 caliber or greater and capable of using cartridges having an overall length (case and bullet) greater than two (2) inches.

One exception is the .44 magnum that is a legal cartridge in a rifle or carbine. Only soft point, hollow point or other expanding bullets may be used. All handguns and fully automatic weapons are illegal for the taking of deer.

Collection of Blood Samples and Reproductive Tracts

If you are hunting in a unit where does are legal game you have the opportunity of becoming a co-operator in our deer research program. We are requesting, if you bag a doe, that you remove the reproductive tract from that animal and bring it to one of the check stations in the unit. All firearms deer permit holders in those units where does are legal game will be provided with instructions and drawings concerning the removal of the reproductive tracts.

We are also requesting cooperation in collecting blood samples from any deer bagged, either male or female. This sample is to be brought to a check station in the tube that will be provided. Instructions will be sent to all permit holders describing the collection techniques.

Venison for Dinner

Since venison will usually be dry after cooking, moisture is desirable for most cooking.

Trimming fat from the meat is also very important. Fat retains strong flavors and will flavor the meat if not removed. Fat from bacon or fresh pork can be used to replace that removed.

RECIPES

Barbecued Steak

- 1 thick sirloin or T-bone
- 2 tablespoons margarine or butter
- 1 teaspoon dry mustard
- 1 teaspoon salt
- $\frac{1}{8}$ teaspoon pepper
- 1 teaspoon sugar
- $\frac{1}{4}$ teaspoon paprika

Sauce

- 1 tablespoon salad oil
- 1 tablespoon catsup
- 1 teaspoon salt
- 1 tablespoon Worcestershire sauce

Blend margarine or butter with mustard, salt, pepper, sugar and paprika. Rub this mixture well into the steak. Make sauce by mixing the last four ingredients listed. Brush a part of this sauce over the steak. Broil steak 20 to 30 minutes, according to doneness preferred. Leave door of broiler partly open. Watch steak carefully. Turn steak once. Brush frequently with remaining sauce.

Spanish Steak

- 2 pounds chuck steak
- flour for dredging
- 4 tablespoons lard or drippings
- 2 sliced onions
- 1 sliced green pepper
- $2\frac{1}{2}$ teaspoons salt
- $\frac{1}{2}$ teaspoon pepper
- 1 No. 2 can tomatoes

Have chuck steak cut 1 to 2 inches thick. Dredge with flour and brown in lard. Add onions, green peppers, seasonings and tomatoes. Cover closely and simmer approximately 3 hours, or until tender. Serves 4 to 6.

Chili

- 1 No. 2 can kidney beans
- 1 large onion, sliced
- 1 green pepper, chopped
- 1 pound ground deer meat
- 3 tablespoons fat
- 1 No. $2\frac{1}{2}$ can tomatoes
- $2\frac{1}{2}$ teaspoons salt
- $\frac{1}{8}$ teaspoon paprika
- $\frac{1}{8}$ teaspoon cayenne
- 3 whole cloves
- 1 bay leaf
- 1 to 2 tablespoons chili powder

Brown onion, green pepper, and meat in hot fat. Add tomatoes and seasonings. Simmer 2 hours adding water if necessary. About 10 minutes before serving add the beans and heat thoroughly. Serves 6 to 8.

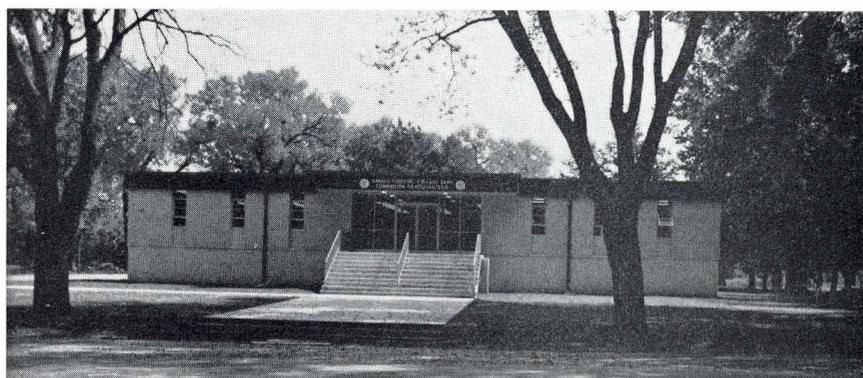
Kansas Forestry, Fish and Game Commission Occupies New Bldg.

The Kansas Forestry, Fish and Game Commission has recently completed the moving of all offices and equipment into the new state headquarters building near Pratt. The new \$133,500 one-story, concrete block with brick veneer building provides much needed space.

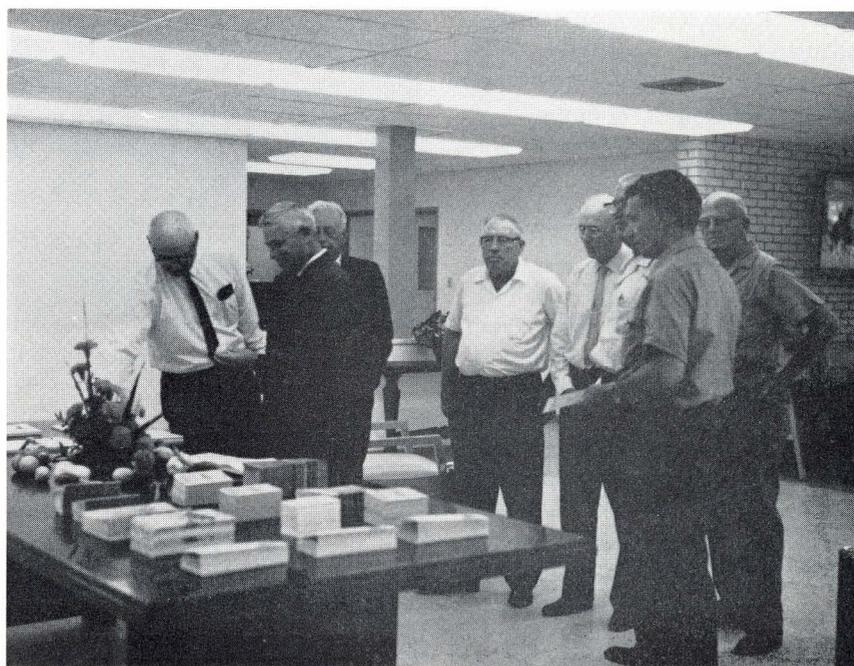
The first meeting of the Kansas Forestry, Fish and Game Commission to be held in the new building took place August 18. The com-

mission also held open house on that date.

The building includes many efficiency and space features. An equipment room centralizes all mailing and duplicating processes. The conference room provides space for commission meetings, division conferences and various other meetings. The spacious full basement eliminates many storage problems and houses the heating and air conditioning equipment.



View of new headquarters building looking east from the old building grounds.



Interior of the new headquarters building. Visitors talk with George C. Moore, Director (second from left).

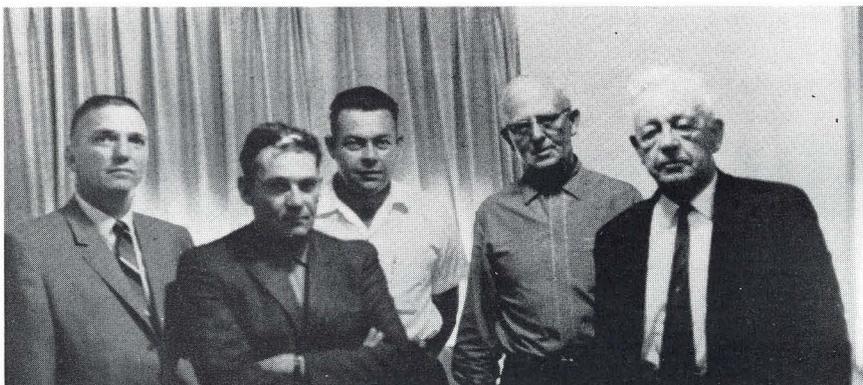
Wells Elected Chairman of Forestry, Fish and Game

The Kansas Forestry, Fish and Game Commission elected a new chairman at their June 10 meeting in Pratt. Robert Wells of Garden City was named to succeed G. G. Boling, Leavenworth, who has served as chairman of the commission for the last four years.

Wells has served on the com-

mission since his appointment in October, 1963.

Harlan Boxberger of Russell was reelected as secretary of the Fish and Game Commission. Boxberger has been a member of the commission since it was reorganized in 1961. He was recently reappointed to a four-year term.



The five members of the Kansas Forestry, Fish and Game Commission. (Left to right) Robert Wells, Garden City, Chairman—Frank Lombard, Enterprise, Harlan Boxberger, Russell, Secretary—Lloyd Brown, Columbus and G. G. Boling, Leavenworth.

Bass Fly to Cheney and Wilson Reservoirs

The Bureau of Sport Fisheries and Wildlife, in cooperation with the Kansas Forestry, Fish and Game Commission, completed the first aerial stocking of fish in Kansas, Friday, May 21.

Intermountain Aviation Co., of Marana Park, Ariz., delivered the one million bass in a specially remodeled C-46 airplane to Cheney and Wilson Reservoirs. The fingerling bass were hatched at the Tishomingo Federal Fish Hatchery near Ardmore, Okla.

Roy Schoonover, Chief of Fisheries for the Kansas Forestry, Fish and Game Commission, said, "According to all indications, the fish survived the flight and the 300-foot drop to the water quite well." Schoonover also pointed out that Kansas anglers can expect more stockings of this type in the future.



Plane used in aerial stocking of fish.

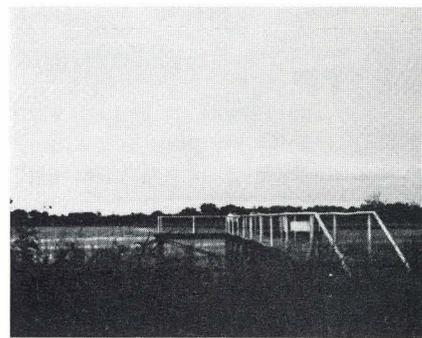
**Get
PERMISSION
to
HUNT or FISH**

Neosho County State Lake

(Continued from page 7)

the area. Heavy timber growth below the dam provides habitat desired by many types of wildlife.

If you have never visited this lake, now is a good time to make plans to do so. Try it and see if you won't have a good time. I will.



One of the popular fishing piers located at Neosho County State Lake.

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I certify that the statements made by me above are correct and complete.
JOHN D. POLSON.

Blue-winged Teal

(Continued from page 10)

The small size of the blue-winged teal will separate it from all other surface-feeding ducks except green-winged and cinnamon teals. The blue wing patch of both sexes is noticeable in flight but in bright light appears almost white. In poor light, flocks cannot be distin-

guished from the other teals, but they can be told from all other species of ducks by their erratic flight, twitterings and chirpings.

Life History

The blue-winged teal is exclusively a duck of the new world. It is a bird of the inland marshes, ponds and sloughs, seldom visting the coastal regions or deep-water areas.

Bluewings are truly warm-weather birds and are the last of the ducks to return to their northern nesting grounds in the spring.

The nest is a neat basket-like structure composed of fine, soft, dead grass lined heavily with down, placed in a shallow depression in the ground. It is seldom far from water and is generally well concealed in grasses of medium height around sloughs and ponds. The creamy white eggs usually number 10 to 12, occasionally 15. Incubation takes from 21 to 23 days and is by the female alone, as the male deserts her once incubation has begun. During the egg-laying period the male establishes loafing areas or territories in which he permits no other drake of his species to enter.

Being late migrants in the spring, these teal are late breeders. Development of the young is exceptionally rapid in preparation for their migration in early fall. As a rule they are able to fly by the time they are six weeks old. The young often begin gathering into flocks in preparation for the early migration even before they are able to fly. They move out of the nesting grounds ahead of most other ducks.

Adult males desert the incubating females and their breeding territories to group into flocks on larger marshes. There they undergo their summer molt. During this molt, the brilliant plumage of the males is gradually replaced by a somber, inconspicuous dress, which in most cases is almost identical with that of the adult female. This plumage is known as the "eclipse" plumage. During this molt period

the birds shed all of their flight feathers and are flightless for a period of two to three weeks. This molt in the female is delayed until after the young are hatched, the hen molting during the period when the young are developing. Since the adult males complete their molt ahead of the females and young, they normally migrate earliest.

Management

Management has two primary tools for influencing waterfowl populations and distribution: Hunting regulations and habitat manipulation. Hunters must depend upon their game departments to devise good inventories for measuring annual production and overall population size. These data provide a basis for sound regulations and permit maximum harvest while still leaving sufficient carryover for breeding stock.

Habitat management for blue-winged teal in Kansas is largely in the form of providing food for the birds during the spring and fall migrations so that they may return to the nesting grounds in good condition. Fat, healthy birds can be expected to nest early and to add good numbers of young to the teal population.

The large Kansas reservoirs built in recent times have high potential value for waterfowl management. When these reservoirs are drawn down in summer it permits millets and smartweeds to grow around the perimeter. These plants are heavily utilized by waterfowl if flooded during the fall and winter. Grain crops, such as corn and milo also are well utilized when planted near the water at the shallow upper end of these reservoirs.

Farm ponds are a valuable addition to waterfowl habitat. They will become even more important in furnishing good new habitat that will benefit hunters and increase food supplies for ducks in coming years. Clustered or "stair-stepped" ponds have a cumulative beneficial use by waterfowl. Sportsmen can create a very good hunting area below a farm pond of five to ten

acres by leveling and fencing several acres of floodable land below the dam. A low dike around this flat will permit seasonal flooding. By holding a few inches of water on this flat in the spring, draining and allowing it to dry in late June, then seeding it to Japanese millet in early July, a good duck marsh can be created. This millet flat should be flooded with a few inches of water just ahead of the fall migration in September. This combination of deep pond water and a shallow feeding area is very desirable for and attractive to waterfowl.

Patterning Shotguns

"Modern shotguns," says Curt Clair, manager of shooting promotion for Remington Arms Company, Inc., "are made to very precise standards. However, there may still be some small differences in shooting characteristics of various guns, even when they are of the same gauge and model. Because of this, it's a good idea to find out where your gun shoots, particularly when you have just acquired a new one. Known as patterning, this is an easy thing to do. Find a safe backstop and tack a large sheet of paper against it. Mark an X in the center of the sheet and then draw a 30" circle around it. Move back 40 yards, aim your shotgun at the X and fire. Follow the same procedure with several sheets of paper and then check the results. By looking at the dispersion of shot around the marks, you will be able to determine if your gun is shooting high, low, to the right, to the left, or right on. Based on the results, you will be able to tell where you should hold on various targets. Of course, if your average patterns are consistently wide of the mark to any great degree, you'll probably want to have your shotgun checked over by a gunsmith."

Hawks can see at least eight times as well as the most "hawk-eyed" human.

Marais des Cygnes Waterfowl Management Area

The Marais des Cygnes Waterfowl Management Area was constructed by the Kansas Forestry, Fish and Game Commission with the aid of Pittman-Robertson federal aid funds. These funds come from an excise tax on sporting arms and ammunition.

The project is located in Linn County, in extreme east-central Kansas. To reach the area, travel north on US Highway 69 for a distance of thirty miles from Fort Scott, or south from Kansas City for a distance of fifty-five miles.

A total of 6,343 acres of land was acquired and three lakes, comprising 1,525 acres of water, were constructed in the year 1955 to 1958.

Waterfowl hunting is permitted on Unit "B" (Wood Duck Lake) with units "A" (Burr Oak Lake) and "C" (Flat Head Lake) being closed to this activity.

In addition to waterfowl hunting, quail, rabbit, squirrel and dove hunting are permitted in the areas outlined on the accompanying map.

Although fishing is good in some years, this activity is not permitted during the period of fall waterfowl migration, in the winter and during the period of spring waterfowl migration when fisherman activity would materially interfere with the project's primary purposes of providing public duck hunting and a resting, feeding and refuge area for waterfowl.

As many as 50,000 ducks now spend the winter on the management area. Through the spring and fall, these numbers increase to as many as 90,000 birds. Thousands of blue-winged teal and pintails stop off during their migration flights. Mallards, shovellers, baldpates, scaup and gadwall are also common as are many herons, egrets and shore birds.

Wood ducks nest here in natural cavities and in nest boxes provided for their use. In all, over 200 spe-

cies of birds have been seen and recorded on the area.

Other types of wildlife include raccoons, opossums, coyotes, foxes, muskrats, mink, beaver and deer. The white-tailed deer population has increased significantly in the past few years.

Waterfowl hunters must stop at the headquarters check station, leave their hunting license and pick up a permit to hunt the waterfowl area. After the hunt, hunters must again report to the check station to pick up their license and report their success.

Hunters for doves and upland game are not required to report to the headquarters check station either before or after the hunt.

In the waterfowl hunting area, portable blinds may be used or temporary blinds may be constructed of native vegetation. These blinds must be removed within ten days following the close of the waterfowl season. No holes or pit blinds may be constructed. Boats may be used, without motors, for waterfowl hunting and these too must be removed within ten days following the close of the waterfowl season.

Some tips for hunters include: Use a dog to retrieve cripples. Use decoys to insure better hunting. Dress warmly and wear hip boots or waders. Let the birds come within normal killing range before shooting. No boats, decoys, ammunition or food are available on the area, so be sure to bring everything you need.

Rifled Slug

A shotgun barrel cannot be rifled and still be used successfully with bird shot. To enable shooters to hunt deer and similar game with a shotgun, a smooth-bore bullet is used that has rifling flanged on the projectile itself. Called the *rifled*

slug, it is extremely effective on deer at ranges that exceed 75 yards. A Winchester Super-X and Super-Speed rifled slug if formed into a deep umbrella-shape, the length is hollowed inside, leaving a greater mass of lead at the nose end. This concentration of nose-weight produces accuracy and stability over woody ranges. Slug loads fired from single barreled guns will group five shots into three or four inches at 50 yards. Open bored barrels—cylinder, skeet or improved cylinder chokes—provide the best accuracy with slugs. Double barreled shotguns are less effective because they have a tendency to cross-fire slugs at practical ranges. The 12- and 16-gauge ammunition, with one-ounce and $\frac{3}{4}$ -ounce slugs, is best for deer. The .410-bore, with a slug weighing only about 85 grains, is for use on smaller game.

There are roughly 20,000 federal, state, county and local firearms laws and ordinances on the books now. Despite this record number, some people want more laws.

"It may be argued that any legislation that would reduce the number of pistols in circulation would substantially reduce the number of aggravated assaults. The argument rests on two mistaken premises. First, it assumes that restrictive legislation will prevent criminals from obtaining guns. The fact is that experience has shown that legislation such as the New York Sullivan Law does not reduce the number of pistols in the hands of criminals. Second, the argument assumes that guns are used in most aggravated assaults, whereas the fact is that they are used in only a small percentage of such assaults."—Police Supt. Robert V. Murray, Washington, D. C.

