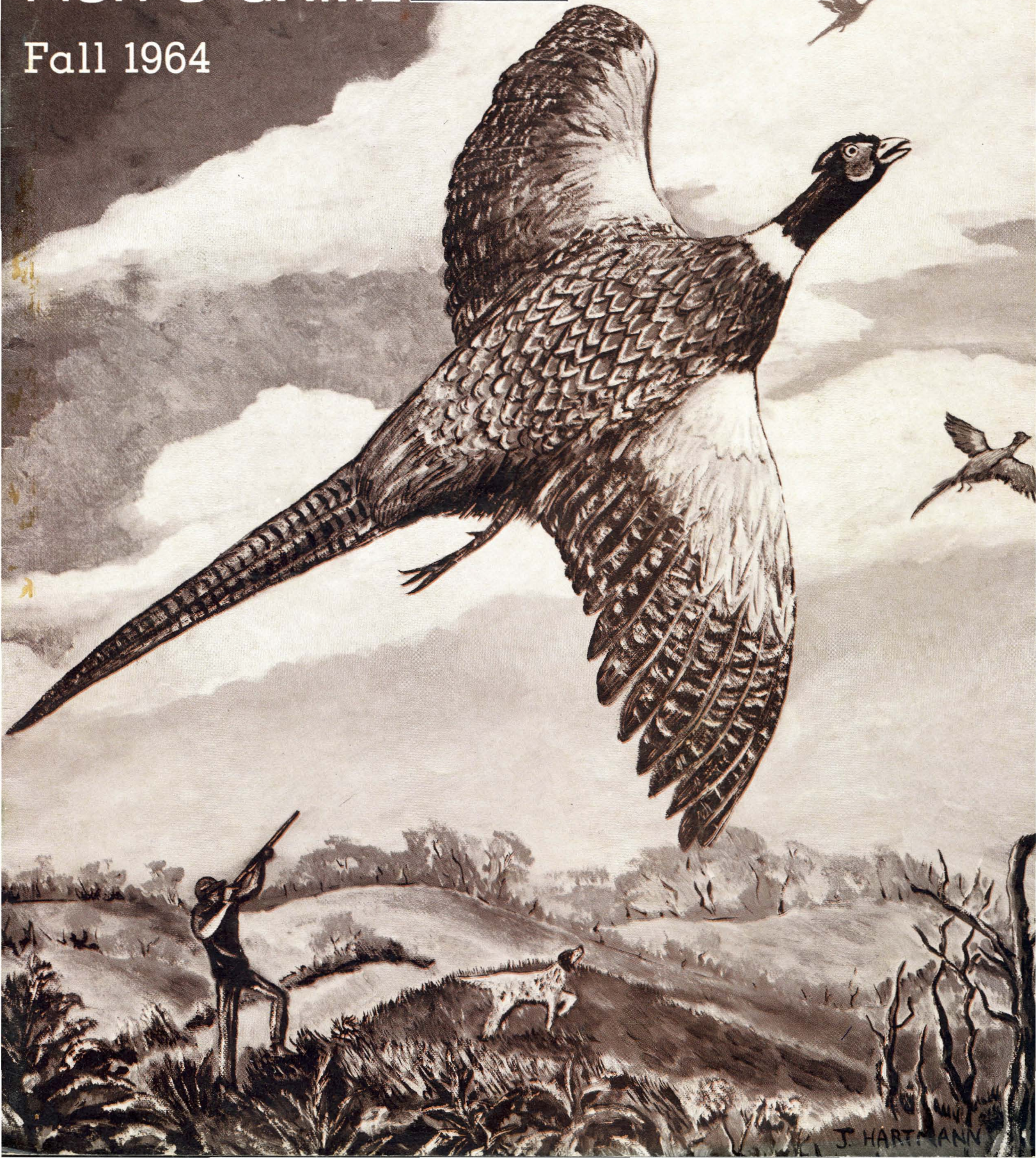


KANSAS FISH & GAME



Fall 1964



Kansas Fish and Game

Vol. XXII

No. 1

Fall

1964

You Had Better Be Ready!

If you ignore the possibility of mandatory registration of the shotgun you use for hunting birds and game animals, your rifle and target-gun, then "you had better be ready." Ready to register each one you own now, to get a permit to purchase one in the future, a permit to purchase ammunition for hunting or target-shooting, and who knows how many other permits which will later be required.

The campaign for total registration is well-organized, judging from the materials which have been seen. Attacks have been made on national sportsmen's organizations, one in particular which has done much for the sportsman and target-shooter, the National Rifle Association. There is no reason to believe it will stop there. The next attack could be leveled at the National Wildlife Federation of your own sportsmen's club.

"A disarmed citizenry is one of the initial goals of police-state dictatorships and subversive elements."

Write now to your congressman and senators expressing your feelings.—John Polson.

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A Place to Hunt . . . Midway, U.S.A.

Kansas, located in the heart of the nation, has a great variety of game in plentiful numbers. Portions of the state lie within the major bobwhite quail and pheasant ranges of the United States. The Flint Hills area of eastern Kansas contains the largest prairie chicken population of any area in the nation.

Located in the middle of the central flyway, Kansas hunters have ample opportunities to harvest their share of ducks, geese, doves and other migratory birds.

Small game animals are generally plentiful. Jackrabbits and cottontails may be taken during most of the year. Squirrels also provide hunting opportunities and the current population can well stand increased hunting pressure.

The preceding statement, quoted from the Kansas Forestry, Fish and Game Commission pamphlet, *Guide for Hunters* speaks well for "Midway, U.S.A., but there are other things to take into consideration too. What about a place to hunt?"

The last issue of KANSAS FISH AND GAME outlined a policy adopted by the commission which would provide more "opportunity" for sportsmen. It stated that the commission realizes the increased need for areas where sportsmen might have the "opportunity" to hunt in addition to private land. The policy adopted was that of land acquisition to provide "public hunting areas." The land which would be acquired, after careful study, would be areas where private land tends to disrupt management units, where access to existing hunting areas is limited or where acreages are too small to provide the necessary food producing areas for waterfowl.

In addition to that mentioned above, during the spring and summer of 1964, all of the existing state lakes and their associated game management areas were visited to evaluate their potential as public hunting areas. Most of the state lake areas were either too small or unsuitable for development as public hunting areas, but there was a number that could be utilized.



The following maps and charts should serve as a guide to the many areas of public hunting lands available to those who enjoy hunting and fishing in Kansas. The acreages quoted are subject to change where the need becomes evident.

The Public Hunting Areas map is designed to assist you in locating the various areas open to public

hunting, Midway U.S.A. It may be used in conjunction with a state road map so that you may pinpoint these areas and the highways leading to them.

Signs posted at the entrance to wildlife lands will give you additional information. Public hunting lands at the federal reservoirs are,

(Continued on next page)

Fish and Game

in some instances, scattered tracts adjoining the water. In such cases, the reservoir manager should be contacted to determine hunting areas.

Public hunting areas managed by the Kansas Forestry, Fish and Game Commission are intensively managed to maintain the best possible wildlife populations. Food and cover areas are arranged to provide ideal conditions for game.

Public Hunting Areas

1. **Marais des Cygnes Waterfowl Management Area, 6,343 acres**—Portions of this area open to waterfowl, quail and squirrel hunting. (Contact resident manager.)

2. **Miami County Game Management Area, 277 acres**—All game species.

3. **Strip Pit Areas, 5,900 acres**—All game species. Local inquiry advised to determine location of the scattered tracts.

4. **Bourbon County State Lake, 380 acres**—All game species.

5. **Leavenworth County State Lake, 506 acres**—All game species.

6. **Douglas County State Lake, 717 acres**—All game species.

7. **Neosho Waterfowl Management Area, 2,956 acres**—Waterfowl, dove, rabbit, squirrel and quail hunting permitted in certain areas. (Contact resident manager.)

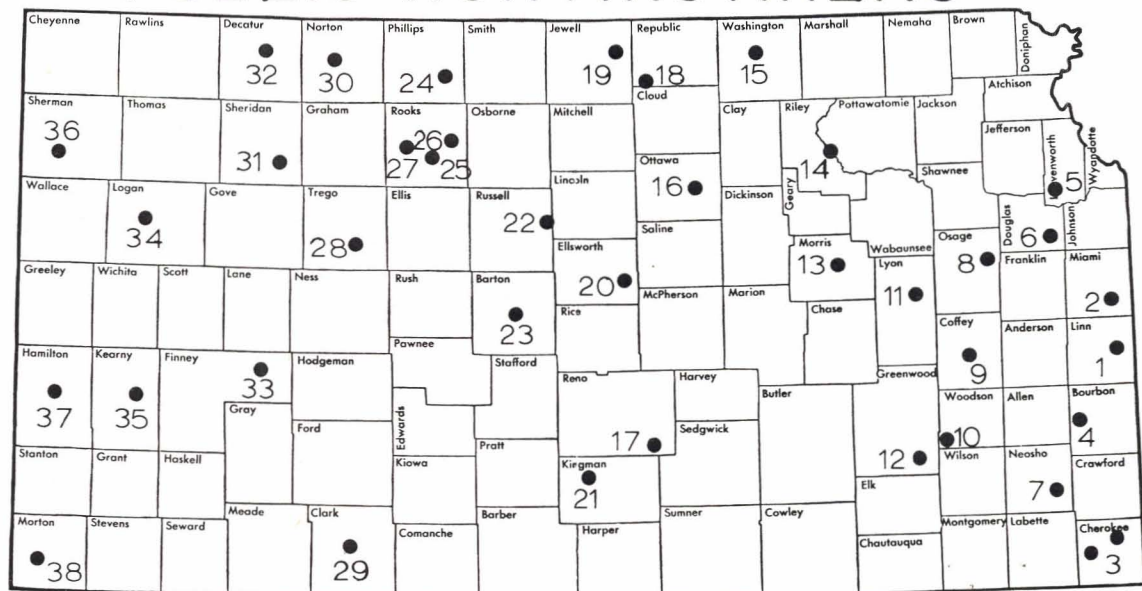
Public Hunting Areas Recently Opened to Hunting

State-owned Areas Opened in 1961 and 1962		Federal-owned, State-managed Areas Opened in 1961 and 1962	
Area	Acreage	Area	Acreage
Kingman County Game Management Area ¹	950	Fall River Reservoir.....	10,092
Lake McKinney Game Management Area ¹	3,000		
Sheridan County Game Management Area ¹	436		
Jamestown Waterfowl Management Area ¹	681		
Neosho Waterfowl Management Area ²	1,500		
Firing Line, free area in hunting pools, inlet canal and outlet canal at Cheyenne Bottoms Waterfowl Management Area ³	3,800		
Morton County Game Management Area ¹	392		
Miami County Game Management Area ¹	277		
South of Big Sugar Creek and west of U. S. 69 Marais des Cygnes Waterfowl Area ⁴ ..	650		
TOTAL STATE LAND.....	11,686	TOTAL FEDERAL LAND.....	10,092

TOTAL ACREAGE OPENED IN 1961 AND 1962=21,778

1. Open for all species.
2. Open for all species with some restrictions.
3. Open for upland game and shorebirds.
4. Open for upland game.

PUBLIC HUNTING AREAS



Public Hunting Areas Recently Opened to Hunting

State-owned Areas Opened in 1963 and 1964		Federal-owned, State-managed Areas Opened in 1963 and 1964	
Area	Acreage	Area	Acreage
Rooks County Game Management Area ¹	333	Norton Reservoir.....	4,000
Kingman Game Management Area ¹	3,050	Cheney Reservoir.....	7,885
Strip Pits Wildlife Management Area ¹	2,337	Tuttle Creek Reservoir.....	10,239
Bourbon County Game Management Area ¹	350		
Clark County Game Management Area ³	1,043		
Decatur County Game Management Area ¹	350		
Douglas County Game Management Area ¹	715		
Finney County Game Management Area ¹	852		
Hamilton County Game Management Area ¹	432		
Leavenworth Game Management Area ¹	376		
Logan County Game Management Area ¹	271		
Lyon County Game Management Area ¹	562		
Ottawa County Game Management Area ¹	611		
Sherman County Game Management Area ³	1,295		
Washington County Game Management Area ²	512		
TOTAL STATE LAND.....	13,089	TOTAL FEDERAL LAND..	22,124

TOTAL ACREAGE OPENED IN 1963 AND 1964=35,213

TOTAL ACREAGE OPENED FOUR-YEAR PERIOD 1961-1964=56,991

- 1. Open for all species.
- 2. Open for all species with some restrictions.
- 3. Open for all species except waterfowl.

- 8. Pomona Reservoir, 3,600 acres—All game species.
- 9. John Redmond Reservoir, approximately 18,000 acres—All game species.
- 10. Toronto Reservoir, 4,369 acres—All game species.
- 11. Lyon County State Lake, 582 acres—All game species.
- 12. Fall River Reservoir, 10,892 acres—All game species.
- 13. Council Grove Reservoir, 4,000 acres—All game species.
- 14. Tuttle Creek Reservoir, 12,500 acres—All game species.
- 15. Washington County State Lake, 574 acres—All game species.
- 16. Ottawa County State Lake, 711 acres—All game species.
- 17. Cheney Reservoir, 12,000 acres—All game species.
- 18. Jamestown Waterfowl Management Area, 3,245 acres—A portion of the area open to all game species. Used primarily for waterfowl hunting.
- 19. Lovewell Reservoir, 4,905 acres—All game species.

- 20. Kanopolis Reservoir, 5,000 acres—All game species.
- 21. Kingman County Game Management Area, 1,562 acres—Portions open to all game species.
- 22. Wilson Reservoir, 4,880 acres—All game species.
- 23. Cheyenne Bottoms, 19,790 acres—Portions of the area open to waterfowl and all other game species. (Contact resident manager.)
- 24. Kirwin Reservoir, 1,890 acres—All game species. (Contact resident manager at National Wildlife Refuge.)
- 25. Woodston Unit, Webster Reservoir, 210 acres—All game species.
- 26. Rooks County State Lake, 333 acres—A portion open for all game species.
- 27. Webster Reservoir, 5,562 acres—All game species.
- 28. Cedar Bluff Reservoir, 12,034 acres—All game species.
- 29. Clark County State Lake, 1,243 acres—All game species except migratory waterfowl.

Reservoir Land to Come Under Forestry, Fish and Game Commission Management Prior to Hunting Season 1965

Pomona Reservoir.....	3,265
Wilson Reservoir.....	6,130
Council Grove Reservoir.....	2,638
TOTAL ACREAGE FOR 1965 . . .	12,033

Potential Reservoir Land That May Come Under Forestry, Fish and Game Commission Management by Hunting Season 1966

Elk City Reservoir.....	12,000
Milford Reservoir.....	12,000
Perry Reservoir.....	12,500
Marion Reservoir.....	3,000
	39,500
Request for Glen Elder.....	18,500
TOTAL POTENTIAL ACREAGE ..	58,000

Those who have hunted on public hunting areas should be familiar with the two signs used by the commission to designate open or closed areas. Almost all of the areas open had been posted prior to the 1964 hunting seasons.

There are other developments which will be taking place in the future to assure sportsmen the "opportunity" to enjoy their favorite outdoor sports. They will be explained in detail in this and other publications when complete plans are developed.

- 30. Norton Reservoir, 3,785 acres—All game species.
- 31. Sheridan County Game Management Area (State Lake No. 1), 436 acres—All game species.
- 32. Decatur County State Lake, 481 acres—All game species.
- 33. Finney County Game Management Area, 852 acres—All game species.
- 34. Logan County State Lake, 271 acres—All game species.
- 35. Kearny County State Lake (Lake McKinney), 3,000 acres—All game species, primarily waterfowl.
- 36. Sherman County State Game Management Area, 1,560 acres—All game species except migratory waterfowl.
- 37. Hamilton County State Lake, 432 acres—All game species.
- 38. Cimarron National Grassland 106,000 acres (A small part of the area managed by the Fish & Game Commission)—All game species.



A Kansas Deer Season for 1965

By LELAND M. QUEAL

Kansas sportsmen soon will have an opportunity, for the first time in over 60 years, to hunt deer in the Sunflower State. The Forestry, Fish and Game Commission has made tentative approval of basic deer management recommendations which include a hunting season on a permit basis for the fall of 1965.

The proposed deer season will include a liberal archery season followed by a short firearms season. No decision has been made regarding the use of particular types of firearms, however, the relative merits of both shotguns and rifles as deer hunting weapons are being considered thoroughly.

The firearms deer season will probably be held late in the year when temperatures are cool and there is a possibility of tracking snow. The principal feature of the firearms season will be the use of limited permits in order to closely regulate the harvest and assure that an over-harvest does not occur. The entire state will not be opened to deer hunting the first year.

Deer are found in every county, with white-tailed deer being predominant in the eastern two-thirds of the state, and mule deer occurring principally in the western portion. In most areas, the deer distribution is associated with the

major stream and river courses and the surrounding habitat. The areas of highest deer densities are in the northern three tiers of counties, and in the southeastern portion of the state. It is in these regions that the first open season will probably be held.

A conservative estimate places the total Kansas population between 25,000 and 30,000 deer. This figure is based partially on estimates of 19,400 in 1963 and 26,800 in July 1964, by State Game Protectors. The Game Protectors' estimates for the state as a whole are based on the individual reports for each county within their respective districts.

Similar estimates were obtained from a survey of rural Kansas landowners in each county conducted by the Game Division in February, 1964. In all, over 3,500 landowners were contacted. Almost 85 percent of the landowners returned useable information. Six different portions of the data were analyzed and used to calculate deer population estimates. The lowest population estimate was 26,600 deer; the remaining five estimates were grouped closely between 30,000 and 33,000 deer. The fact that five of the six estimates were grouped so closely indicates that they are reasonably accurate.

During the past several years, the Kansas deer herd has been increasing at an average annual rate of approximately 30 percent. In 1963 and 1964, the fawn crop made up about 38 and 40 percent, respectively, of the total deer population.

From 1958 through 1963, the number of deer killed by motor vehicles on Kansas highways has increased 160 percent. At the same time, highway traffic volume has increased approximately 7.5 percent. This indicates an average annual increase in highway deer kills of almost 31 percent. During the first six months of 1964, 209 deer were killed in highway accidents; this was an increase of 45 percent over the same period in 1963. The average cost of damage to motor vehicles involved in deer accidents during this period was \$155. The total cost to motorists was in excess of \$31,000.

The landowner deer survey mentioned previously also provided information concerning the effect of deer on the farms and ranches of the state. On the basis of the responses to the questionnaire, approximately 6.5 percent of our Kansas farmers and ranchers experienced crop damage by deer in 1963. In some of the areas in the northern portion of the state, 15 to 20 percent of the landowners reported they had experienced crop damage. These were not "deer damage complaints" in the true sense of the



word, but it indicates that the landowners recognize that deer utilize their farm crops, and that an excessively large deer population could have serious impact on the agricultural economy. Milo, corn, alfalfa, wheat, various sorghums, and beans were the crops most readily used by deer.

The size of a deer herd in most states is limited by the number of deer the food and cover can support during the most critical period of the year, usually the winter. This is termed the carrying capacity. In Kansas, however, with so much of the land devoted to agricultural practices, and with only limited acreage in forestland, it is apparent that the carrying capacity will be influenced by the economic factor—how much crop damage the farmers and ranchers will be able to tolerate.

The proposed hunting season will



provide the only means by which this rapidly expanding deer herd can be maintained within the economic limits imposed by our agricultural industry. In many areas of the state, deer are ceasing to be a novelty, and are becoming, in fact, a liability. A harvest through a controlled permit season must be initiated soon.

The basic deer management policies will include the use of management units. The area to be opened for firearms hunting will be divided into smaller units based on major watersheds and major habitat types, and will be bounded by State and Federal highways, or by rivers. Within each management unit, the number of deer permits to be issued, and the regulations regarding the harvesting of both antlered and antlerless deer will be altered as the various pieces of biological information warrant. Twelve to fifteen deer management units are currently being considered.

Both sexes of deer will probably be harvested in most of the management units. In states that have had experience with "bucks only" regulations, it has been shown that a maximum of about 10 percent of the total deer population can be harvested in any one season. With our Kansas deer population increasing at approximately 30 percent

(Continued on next page)

per year, it is evident that more control will be necessary than can be achieved with "bucks only" regulations if the population is going to be maintained within the carrying capacity. We can expect this rate of increase to continue for several years, and the harvesting of antlerless deer will be necessary to control the population within economic limits. This is especially true of the white-tailed deer population because of a higher rate of production, and a lower rate of hunter success than for mule deer. Approximately 40 to 50 percent of female white-tail fawns in Kansas breed when they are but 6 to 8 months old. This increases the overall production of the species over that of the mule deer population and makes it more imperative that antlerless deer be included as legal game in order to provide an adequate harvest of the deer.

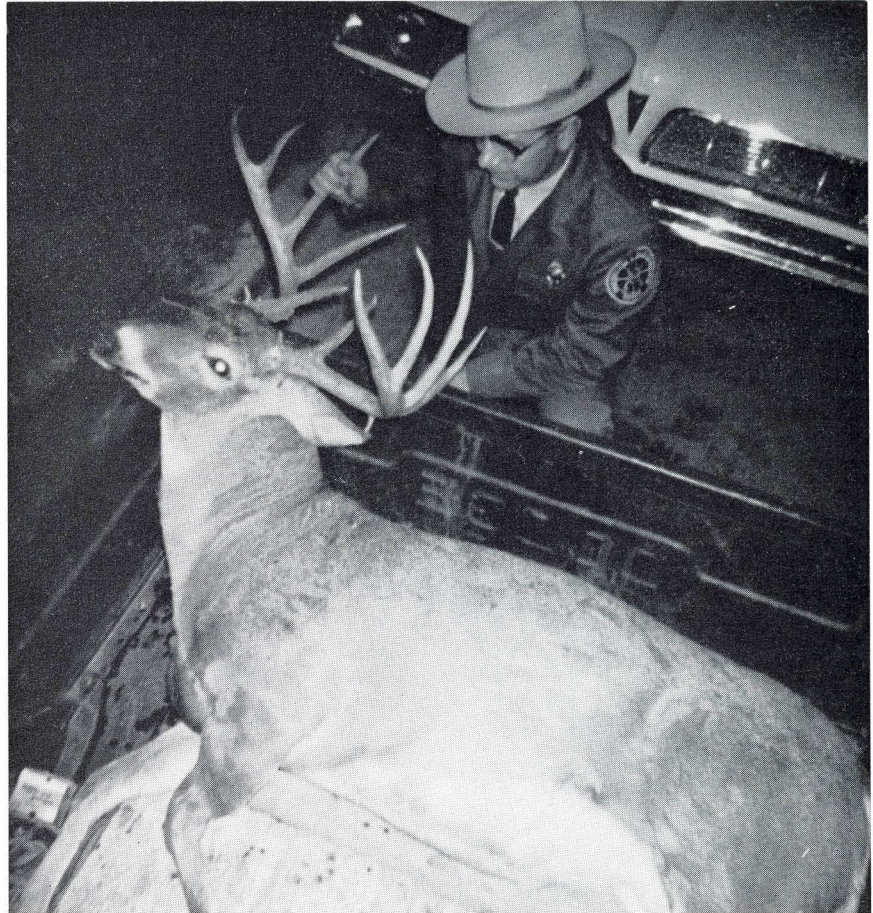
Mandatory check stations are being considered for the firearms season. The check stations will provide for the collection of biological data, for obtaining information regarding hunter success and hunting pressure, and for tagging the deer to show legal possession by the hunter. It is only through such a mandatory checking program that the effects of this first deer season can be accurately evaluated.

The application for the firearms deer permits will undoubtedly be on a drawing basis. It is thought now, that an electronic computer will be used to select the successful applicants for each management unit. In this way, every applicant will have an equal opportunity of being one of the lucky sportsmen who receives a permit the first year.

In 1963, the Kansas State Legislature set the deer permit fee at \$25.00, in addition to the regular hunting license.

What does the rural Kansas landowner think about deer hunting? In the Commission's recent survey, 52 percent of the farmers and ranchers indicated they would allow the holder of a valid permit to hunt deer on their land in the event

(Concluded on page 17)



Game Protector Royal Elder, Manhattan, displays a white tail deer killed by an automobile near the Randolph Bridge over Tuttle Creek Reservoir in October. This deer weighed 286 pounds about 12 hours after the accident. Approximately \$280 damage was done to the vehicle involved.

Highway Deer Kills Continue to Increase

The number of deer killed in automobile accidents on Kansas highways continues to increase at a very high rate. During the first nine months of 1964, 286 deer were involved in automobile accidents. This is a 45 per cent increase over the 197 deer killed during the same period last year. The increase in highway deer kills is one of the indicators of the rapid growth of the Kansas deer population. The limited-permit deer season currently being planned by the Forestry, Fish and Game Commission for the fall of 1965 will help to control the number of deer-car accidents as well as provide limited recreational utilization of this valuable wildlife resource.

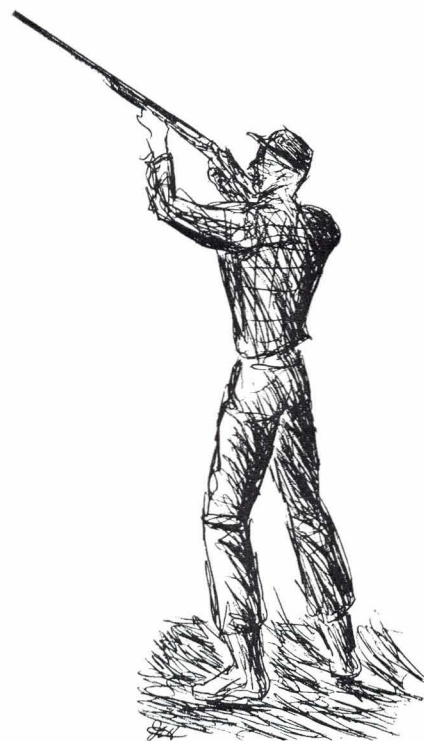
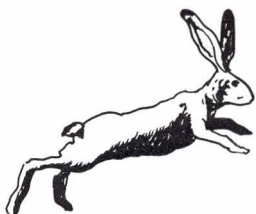
The peak of the breeding season occurs from late October through mid-December. Deer are more active at this time of the year. This is the peak season for deer-car accidents. A collision with a deer can result in serious injury and property damage. Drivers are cautioned to drive with extra care when driving through areas of known deer concentrations, particularly during hours of darkness.

The Good Old Days

19--?--

By THAYNE SMITH

1965



(NOTE: This article is written by a man who has regular columns in a great many of the newspapers throughout the state. Hunting and fishing the many areas of the state and talking with the people of the local areas provides the information for his writings. He is one of the few persons in Kansas entirely dependent for his income on outdoor sports articles about this state. We would like to thank Thayne Smith, *The Kansas Sportsman* for donating this article to KANSAS FISH AND GAME—John Polson.)

Some oldtimers will argue with me, but when it comes to hunting in Kansas, I'm convinced that these *are* the good old days.

To coin an old phrase, Kansas shooters "never had it so good."

I'm not old enough to remember a lot of things that happened prior to the Dirty Thirties, but I do recall that my father (now 83 and a resident of Dighton) used to get a real thrill out of shooting jackrabbits with a shotgun.

He had old single barrel that kicked like thunder, I remember, and used to sit in the old family Model A and pick off jacks out the window as he drove creepingly down a country road in western Kansas.

I couldn't have been more than three years old at the time, but I remember how badly I wanted to try my luck at firing a gun.

Looking back now, I remember, too, that jackrabbits were about the only thing that Dad had to shoot. In those days, Western Kansas—the whole state in fact—was nearly void of pheasants, had only a handful of quail and prairie chicken.

Back then there was only a little water—mostly in lagoons—to attract ducks and geese.

Now, look at the enviable position a Kansas resident who likes to hunt possesses! What a change since those dark and dreary days following the stock market crash!

Kansas hunters today live in a paradise in comparison. Their hunting—especially in the "small game" category—is second to none in the nation.

They can hunt dozens of various kinds of animals, birds and varmints throughout the year.

The big hunting season, of course, comes in the fall. First there is squirrel hunting, which abounds from border to border in tree and timber areas, and is especially good in the eastern half of the state.

Then there are doves, ducks and geese, followed by prairie chicken, pheasants and quail.

How lucky we are in many respects!

Kansas is the last state which has a widespread prairie chicken season.

The federal government announced recently that the prairie chicken and some 20 other birds are in danger of becoming extinct in the future. However, it's no secret that many prairie chicken flocks in eastern Kansas are too large and hunting helps keep them in the right proportion.

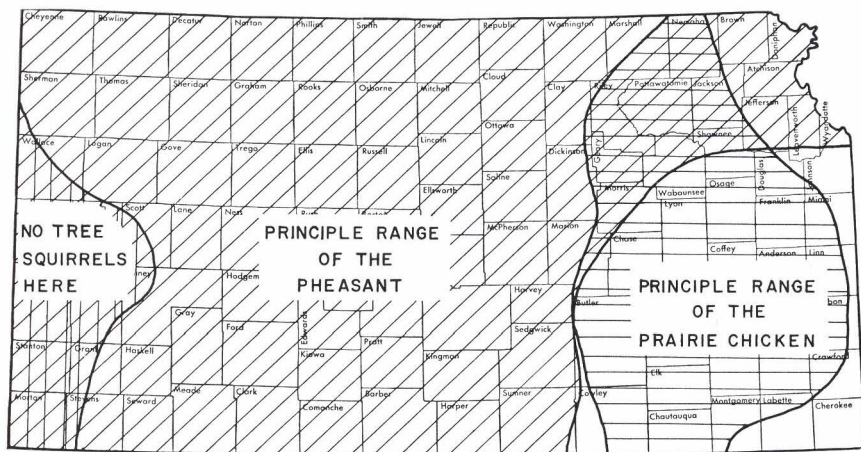
It's no secret, either, that Kansas' quail shooting has been extremely

good in recent years. Better cover, better management of game areas, and mild winters which "carried over" more birds has added to the quantity and quality of quail throughout the state.

The quail population of Kansas has grown in such degree, in fact, that coveys of large quail are being found now in areas where none existed previously.

In an open field of thistles near Cimarron last year, I was with a group of hunters who scared up a nice covey of about 20 quail. The man who owned the property was in the group, and said it was the first quail he had seen on the property in more than 20 years.

(Continued on next page)



Although their numbers have been down because of drouth and other factors the last two years, Kansas possesses fine pheasant hunting. The western half of the state, of course, abounds with ring-necks and attracts thousands of resident and out-of-state hunters each year.

It's interesting to note, too, that the numbers of pheasants found in eastern Kansas counties increases each year, and the "hunting boundary" is moved a little farther east every so often.

Biologists of the Kansas Forestry, Fish and Game Commission believe this trend will continue, and that pheasants eventually may thrive throughout the state—including the wooded areas of eastern Kansas. They explain that each generation of birds wanders a little farther than the previous one, and gradually becomes accustomed to the more humid climate and habitat offered by the eastern counties.

Poor reproduction in the Canadian breeding grounds has kept the number of ducks Kansas hunters can shoot to a minimum the past three years, but it hasn't seemed to affect the number of ducks using Kansas waters as a flyway.

More ducks than ever before are seen in the state, thanks to a number of fine refuge units and more water inundated by man-made structures. The state, of course, now has more large reservoirs than

before—and many others are coming. There are more than 62,000 individual bodies of water in Kansas today.

Where there formerly was only lagoons in the western part of the state, for instance, there are now a few federal reservoirs such as Kirwin, Webster and Cedar Bluff; several state lakes and hundreds of farm ponds. These all contribute to the great number of ducks using the Central Flyway and the number available to Kansas hunters.

Another factor—and one that certainly shouldn't be overlooked—is the fine Game Management Program being carried out in Kansas by the Forestry, Fish and Game Commission.

For instance, it operates one of the nation's largest wildlife refuges at Cheyenne Bottoms, which provides fine duck and goose shooting for thousands each year. It also has developed and is expanding a number of marsh areas in western and central Kansas as duck and goose refuge areas.

Other game management units have been established throughout the state, in natural-habitat areas and on a number of the big federal reservoirs. More than 57,000 acres of land surrounding federal reservoirs in Kansas is managed by the Fish and Game Commission.

In the last few years, some of this land has produced excellent quail, pheasant, duck, goose and small animal hunting. This program, too,

will be expanded with the construction of each additional reservoir in Kansas in the future.

And, if these are the good days, what does the future hold?

The picture is ever brighter.

Kansas, in the next 10 years, could possibly become the nation's top all-around hunting state.

Why? Because of variety.

In December, 1965, Kansas will have it's first deer-hunting season. Sure, it will be limited, but deer are becoming more and more plentiful in the Sunflower State, and with good management the herds will continue to increase in number for years to come.

The state has one fine herd of antelope in western Kansas, and biologists believe this animal, too, can be raised within our borders in sufficient numbers to provide a hunting season sometime in the distant future.

Then, there are wild turkey. They abound in a few counties along the southeastern edge of the state, and game experts believe they can be introduced—and do equally well—in many other areas. Enough turkeys for stocking purposes in this expanded program will be acquired soon from several southern states, if present plans work out.

The list of possibilities is endless—going on and on.

It's good to remember, however, that this excellent hunting which you and I enjoy in Kansas didn't come by accident. It was planned, and if it is to prosper and grow in the future as it has in the past, it will take our support.

We can help by giving the Fish and Game Commission our assistance and support in game management; by doing our utmost to improve farmer-hunter relations; and by familiarizing ourselves with and obeying our game laws.

Most of all, we can provide more good hunting by being just plain "good sports."

At Norton Reservoir . . .

Fish Rehabilitation Project

To insure better fishing in the future, biologists of the Kansas Forestry, Fish and Game Commission and the U. S. Fish and Wildlife Service, cooperating with the Bureau of Reclamation, eradicated the native stream fish from the drainage area above Norton Reservoir. The eradication project, the largest of its kind undertaken in Kansas, took place during October. Low water volumes and moderate temperatures at that time of the year required less toxicant for the operation.

The U. S. Geological Survey has concluded that the eradication project should pose no threat to ground-water supplies in the valley. A rotenone-base toxicant which suffocates the fish and is harmless to humans, livestock, and other warm-blooded animals is used. The chemical was introduced during the first week of October. All of the treated water was to be impounded in the reservoir until it is nontoxic to fishlife. Rotenone is an organic chemical that is quickly neutralized through natural processes and is unlike many of the man-made chemicals that have recently provoked National controversy concerning their use. Fish are edible after being killed with rotenone and the public was encouraged to use the fish.

Norton Reservoir, a Bureau of Reclamation impoundment under construction near Norton, Kansas, will provide a lake of 2,300 acres at irrigation pool level. The new reservoir and the streams above it will produce the best fishing possible through modern stocking and management techniques with the completion of the eradication project.

Game fish will be stocked in the new reservoir and in the reclaimed upstream areas and should grow rapidly to catchable size without competition from undesirable fishes.

Reconnaissance surveys of fish populations in Prairie Dog Creek revealed a high percentage of nongame fish inhabiting the stream. Included were suckers, chubs, green sunfish, bullheads and carp. All of these species can be detrimental to the establishment of a high quality sport fishery. The results of converting the total production of these waters to desirable game fish should mean excellent fishing for thousands of Kansas anglers.

Without the rehabilitation project, Norton Reservoir would provide ideal conditions for a population explosion of undesirable species to the detriment of game fish throughout the drainage area. Increased numbers of nongame fish would make it impossible for maximum game fish production to be established in the reservoir and watershed. Coarse fish populations from the reservoir would spread eventually into upstream areas of the drainage and this would impair the fishing in these streams.

A similar project was carried out on Red Willow Creek above Red Willow Dam near McCook, Nebraska, in 1961 with full cooperation from all ranchers and landowners in the area. Many people were pleasantly surprised by the sudden improvement in water quality of Red Willow Creek from the removal of the rooting fishes such as carp, suckers, and bullheads.

Landowners were highly pleased

with the results of the project on Red Willow Creek and they, as well as the people fishing the reservoir, are now enjoying a fish population composed primarily of high quality species. Northern pike, walleye, largemouth bass, smallmouth bass, channel catfish, and bluegills all grew to catchable size in one year, and the pike and black bass reproduced successfully in 1963, a little more than a year after they were stocked. Before rehabilitation, the majority of the production of Red Willow Creek was undesirable fishes.

There will be no attempt to alter the present access rights across private lands in the Prairie Dog Creek drainage area. Access rights will remain under landowner control. The public is being requested not to introduce any kind of fish into the Prairie Dog Creek drainage area in the future without written approval of the Kansas Forestry, Fish and Game Commission.

A successful rehabilitation project on the streams above Norton Dam will bring maximum production of high quality fishing throughout the watershed with little or no inconvenience to anyone.

Fish eradication above Norton Dam was the result of cooperative efforts of the Kansas Forestry, Fish and Game Commission, the U. S. Bureau of Sport Fisheries and Wildlife, and the U. S. Bureau of Reclamation, under the authority of the Fish and Wildlife Coordination Act.

(See picture-story

on following page)



- ① Biologists blocking lower end of an area of Prairie Dog Creek for a rotenone sample of fish population.
- ② Fish taken from a reach of Prairie Dog Creek at Murphy Bridge. Fish in relative order of abundance were flathead minnow, sand shiner, red shiner, common sucker, creek chub, black bullhead, carp and channel catfish.
- ③ Frank Schryer applying chemical to a stretch of Prairie Dog Creek with a 2½-gallon sprayer.
- ④ Biologists spraying rotenone into a small oxbow in the same area.



⑤ Fish eradication crews winding up the work on Prairie Dog Creek. Ninety some miles of intermittent stream were walked out and treated with back-pack sprayers.

⑥ Game Protector Clyde Ukele with a large carp taken from a small elbow in the Prairie Dog Creek Drainage above Norton Reservoir.

⑦ Kansas Forestry, Fish and Game Commission personnel filling containers with rotenone to be used in treating small isolated pools of trapped water in the drainage of the Prairie Dog Creek.



Wilson County State Lake

By **GEORGE VALYER**

"Want to know where to catch 'em. Well, I'll tell you if you won't breathe it to a soul. You go up the west side of the lake until you start down the hill and you take the fork to the right. This leads you to the island. Just fish off the—"

It is statements like this that raise my blood pressure just a bit. Seems I just can't resist getting excited when someone gives me the location of their favorite fishing spot. Often as not the fish are not biting when I get there but a bit of inside information is always appreciated anyway. When a fisherman goes to a new area, he either spends some time finding out these things on his own or he is fortunate enough to come across someone who knows the area and is willing to give a little advice.

The island which my new-found friend had mentioned is not really an island at all. It is a peninsula. The only thing which keeps it from being an island is a narrow neck of land just wide enough for a roadway. It is located on the west side of Wilson County State Lake just south of the swimming area.

Wilson County State Lake is located just a short distance southeast of the town of Buffalo on U. S. 75. You can't miss it if you stay on the highway since the road passes over the dam. In 1954 when the highway commission planned relocation of this highway, it was decided that the planned earth fill over Woodruff creek could provide water storage for a lake. A conference was arranged between of-



The entrance road from U. S. Highway 75 on the east side of the lake.

ficials of the two state agencies and an agreement was reached whereby the Fish and Game Commission acquired the land and provided the cost of structures which were required to convert the road fill into a water-retaining dam. The actual cost to the Commission for the construction was slightly over \$22,000, a saving of over two-thirds the cost of a comparable dam.

Geologically speaking, the lake lies in an area of limestone outcropping which is underlain with shale. The sharply-rising limestone bluffs on the east side of the lake form a picturesque scene when viewed from across the lake or from a boat. Although there are few fossils to be found on the lake site, other outcroppings to the south and west are rich in remains of the seas which once covered eastern Kansas in ages past.

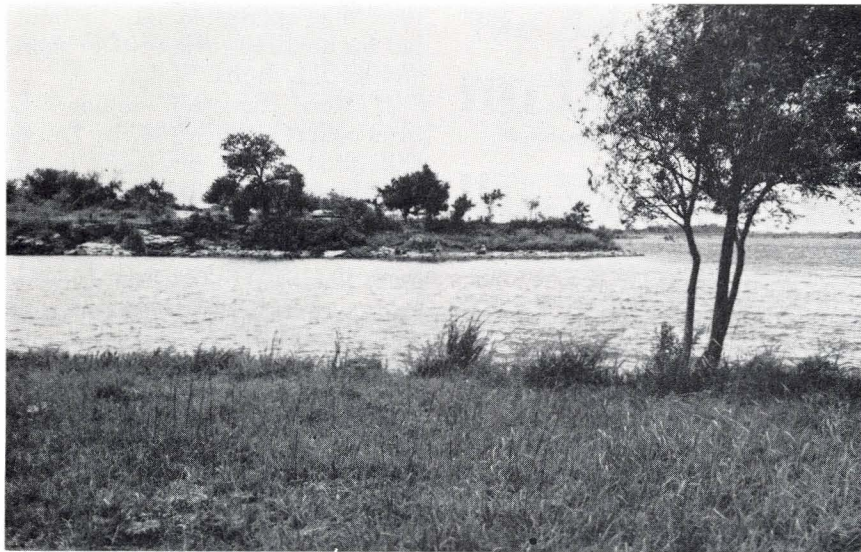
At the north or upper end of the lake, the old roadway which formerly carried the highway provides access to the shores on either side. One can travel all the way around the lake with the exception of a few acres of water lying to the north of the old highway bridge.

This bridge is a favorite spot for angling for crappie during the summertime. It is also a good spot for taking all species during the spring and fall when fish are prone to seek the shallows during the daytime.

The water is almost always clear or, at least moderately so. The drainage area is mostly pasture land and the rocky bottom of the creek tends to prevent rapid siltation.

Fish populations in Wilson County State Lake are generally good although a surplus of small crappie have been noted during the past two summers. These small crappie should not be returned to the water and anglers are urged to take them home. This will help to relieve overcrowding and the result will be larger fish. As far as other species are concerned, the channel catfish seem to be doing quite well at the present time. Anglers take many from one to three pounds and nine pounders have been taken this past summer. The bass range up to five pounds with some probably going larger.

When the lake was opened to fishing for the first time in November of 1958, large numbers of bass



A rocky shoreline greets visitors at Wilson County State Lake.

and crappie were taken. Fishing success slumped in '60 and '61 but is apparently coming back during the past year. Several thousand channels have been added to the waters each fall for the past three years. These have been larger fish fed in rearing ponds through their second summer and are large enough to survive in waters with a heavy bass population.

The superintendent at Wilson County State Lake is A. L. Clarkson of Buffalo. Al also takes care of Woodson County State Lake



The old highway bridge at the north end of the lake is a favorite spot for crappie fishing.

and, between the two, keeps as busy as can be. Being a native of the area, Al Clarkson is interested in all community activities. Before his employment by the commission, he operated extensive agricultural holdings in the vicinity. Al has now turned this operation over to his sons and devotes full time to keeping his lakes in good shape.

There is no concession in operation at the lake but a bait and tackle store is operated in conjunction with a service station just a short distance east on U. S. 75. Food and other supplies are available at Buffalo.

Wilson County State Lake has an abundance of good picnic and camping areas which are heavily used by fishermen and travelers. There is also a sand beach located on the west side of the lake. This swimming area was constructed by the American Legion of Buffalo as a community project and is heavily used during the summer months. The Boosters 4-H Club is also interested in the lake and has plans to place additional trash barrels on the area.

Just off state-owned land at the northeast side of the lake is a pri-

vate summer cabin development. Several cabins have already been constructed and new ones are now being built. This gives an indication of the growing popularity of the lake as a fishing hole.

The total land and water area measures 291 acres and the lake has a total surface area of 119 acres. The boat ramp is located on the east shore next to the dam. A water well is scheduled to be drilled at this location in the near future.

I have only one regret about my last visit to Wilson County State Lake. Time did not permit me to try the spot off the end of the peninsula. However, maybe you'll have time to try it for me. Just cast out about 40 feet off shore and to the east of the land. This is supposed to be the best spot for channels. If you don't catch any, don't blame me. I'm just passing along the information told me by my fishing friend.

Throw Out Old Outboard Fuel

If you have outboard motor fuel left over at the end of the season, throw it out. The Evinrude engineers say that trying to use the fuel next spring will probably cause hard starting and fouling in the fuel system.

Legal Notice

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

JOHN D. POLSON.

Sportsmen Foot the Bill on Non-game Species as Well!

The American hunter spends millions of dollars a year to protect and increase wildlife he does not hunt.

Sportsmen pay for the operation of state game departments which are charged by law to care for *all* wildlife, not just the game species but for the more numerous non-game varieties of wildlife. Song birds, swans, and shore birds don't hesitate to use the feed and cover developed by the hunter for waterfowl.

Hunters spend more than \$150 million a year on wildlife management, according to the National Shooting Sports Foundation, Inc. State agencies, with the hunter picking up the tab, improve and create wildlife habitat for all of nature's creatures.

The 100,000-acre refuge the hunter develops for his favorite game supports hundreds of species of non-hunted wildlife. A red-winged blackbird has no hesitancy about lurching on feed planted for ducks. The general public has access to the refuges the year around to observe wildlife, and the hunter is happy that his sport pays for this valuable by-product.

State game wardens, whose salaries are paid by sportsmen, not only enforce hunting regulations but spend much of their time developing more wildlife habitat.

Hunter subsidization of wildlife comes from license fees, migratory waterfowl stamps, Federal tax on sporting arms and ammunition, direct personal contribution, development of private land and membership in conservation organizations. Here are some of the facts and figures:

1. State game departments in 1962 collected \$68 million from

hunters for licenses, tags and permits. The money was used for land purchase, biological research, wildlife protection, habitat development, conservation education, and generally caring for all wildlife, both hunted and non-hunted species.

2. More than \$220 million has been distributed to state game agencies for wildlife management through the Federal Pittman-Robertson program, known as the "Federal Aid in Wildlife Restoration Act." This act, passed at the request of hunters as a way of helping all wildlife, places an 11% excise tax on the sales of sporting arms and ammunition.

The program has resulted in the purchase and development of 2,370,000 acres of land and about 900,000 acres of prime waterfowl habitat. Hunters use this land for two or three months, but it is open to the public the year around. These areas support more non-hunted species of wildlife than game.

In 1962 state game agencies received more than \$14 million from the tax on sporting arms and ammunition. Over half of this amount went for wildlife research, trails, camping areas, and habitat improvement. More than 60,000 acres of land were purchased for wildlife. The hunter uses it two or three months a year but the public has year-around access.

3. Hunters have spent nearly \$80 million for duck stamps since 1934. The money has been used in part: \$15 million for nearly 400,000 acres of land; \$24 million for refuge upkeep; \$11 million for refuge development; and for waterfowl research. The vast national system of refuges is not only used by water-

fowl that sportsmen like to hunt, but for hundreds of species of shore and wading birds.

4. More than \$12 million has been collected since 1937 by Ducks Unlimited, Inc., a non-profit group of sportsmen. With money from their own pockets, this group of dedicated conservationists has put more than one million acres under water control and developed another million acres of marshes in Canada for waterfowl nesting.

Ducks Unlimited has created more than 5,000 miles of waterfowl breeding shorelines; established more than 700 of their famous "duck factories" (a network of permanent breeding grounds and refuges); restored thousands of acres of resting and feeding areas; and built over 600 dams and other water-control structures. At the same time they were improving conditions for ducks and geese, they also created favorable habitat for non-hunted wildlife.

5. Foundation studies show that hunters spend a minimum of \$50 million a year developing private lands for game. Thousands of hunters and landowners plant feed and cover for game species, but non-hunted wildlife thrive off of it all year.

Because of the great amount of research on game species, biologists know what surplus of game can be taken each fall. State and Federal wildlife agencies set season and bag limits based on annual studies and there is no danger of any species in America being over-harvested.

The hunter often seems a paradox to the non-hunter. Sportsmen spend millions to protect and care for game but then hunt it in the fall. It's difficult for the general public to understand that *the hunter simply takes the annual surplus from nature's bounty*—and quite often the hunter has given nature a helping hand.

Sportsmen are always concerned with the survival of any species. In the decades since state wildlife agencies were formed, no game

(Concluded on next page)

species has been threatened with extinction by the hunter.

The main threats to wildlife today, according to the Foundation, are water pollution, improper use of insecticides, clean farming, urbanization and allied factors which destroy wildlife habitat.

Deer Season '65

(Continued from page 8)

of a controlled season. On a state-wide basis, almost 59 percent of the 50.5 million acres of rural land in Kansas would be open to deer hunting. As the deer population increases, and as crop damage and automobile accidents caused by deer continue to increase, it is probable that even more land-owners will allow deer hunting on their property. For the Kansas sportsman who asks for permission to hunt, there should be no problem in finding a place to hunt for our Number One big game animal.

The specific regulations for each of the several management units will not be decided upon until early in 1965. In the meantime, Kansans can look forward to a deer season which will be based on management policies that have been designed by the Commission to provide the most efficient utilization of this valuable wildlife resource in the best interest of Kansas' land-owners, sportsmen, and the deer herd itself.

Don't Use Boat as Storage Bin

While your boat is laid up for winter, do not use it as a storage bin for heavy equipment. This can cause the bottom to become distorted, say the Evinrude engineers. They also suggest that trailer tie-downs be released while the boat is in storage.

**Get the Landowner's
PERMISSION
to HUNT or FISH**

The Selection of Hunting Companions

By JOHN MADSON and ED KOZICKY,
Conservation Department, Olin
Mathieson Chemical Corporation

Your hunting partner is the most important single element of a successful hunt. Hunting is for fun, and fun is impossible with a selfish, boorish or dangerous companion.

Choose your hunting partner with great care and rate yourself by the same measures.

If he is a casual friend who sometimes irritates you at home, you can bet that this irritation will really blossom out in the boondocks when the going gets rough. A hunting companion should be a close friend whose natural virtues are known to you, and whom you know to be durable under stress.

Choose a hunting partner according to the depth of his interest. Some men do most of their hunting over a cup of coffee. Others are eager, go-for-broke types who'll hang tough until dark. Determine the degree of your own interest and match it with your companion's.

Gun sense is vital in a hunting partner. You can hand a gun to a man and evaluate his total experience in a few minutes. The real hunter handles a gun with assurance, ease and respect. He knows the gun. You owe it to yourself and your family to side with such a man, and you owe it to him to return in kind.

A shoot may be a grim trial to be endured together, or a dream hunt to remember. In either case, it is a mutual enterprise to be shared without selfishness—sharing shooting opportunities, hunting techniques, food, equipment, water, and something of each other. It must never be seriously competitive, and no good thing should be hogged by one man. The only place for selfishness on a hunt is in taking more than your share of work, discomfort or disappointment.

There'll be times when Mother Nature and Lady Luck—a pair of

fickle old jades, at best—team up against you. A predicted sprinkle becomes an all-day rain, you hunt every covert but the right one, or your dog acts up badly. A good partner expects such things and accepts the unchangeable with grace. He can endure adversity and grin off a case of creeping irritation.

And in his eyes, how do you stack up?

Maybe you're cold, hungry or tired. You needn't dwell on it; your partner probably feels the same way. If you honestly feel you shouldn't or can't go on, face it frankly and cheerfully. But don't whine. Whining will ruin everyone's day, and stamp you as a gutless wonder who has no business afield.

One of the gravest offenses against a companion is to betray his confidence and spread the word about his personal game coverts. If a man thinks enough of you to share his prized hunting secrets, respect that confidence. Such places are meant to be shared between you and him, and not be usurped by others.

Nearly as bad is the "claimer" who shoots and grabs, and hotly denies ever missing a shot. There will be times when you're not sure who killed the game. If so, waive your claim and say you missed. No game, not even a trophy, is worth risking a friendship.

A real hunting partner is one who shares without asking a share in return, who gives without thinking, who places your well-being and pleasure above his own.

Such a man may be rich and well-born, or a smelly old gaffer in bib overalls. But mark him well, wherever you find him. He is a gentleman, and a proper man to share your fire with.

Gar and Buffalo Now on Record

Two more large fish have now made the record books of the Kansas Forestry, Fish and Game Commission. Both had no previous registration for the species so Kansas fishermen have some new marks at which to shoot.

The gar was taken by John W. Robson of Arkansas City while he was archery fishing. It weighed 27 pounds, 8 ounces and came from the mouth of Grouse creek where it empties into the Arkansas river. Robson is an ardent bow and arrow fisherman and normally takes many rough fish each summer.

In case you are interested, the new record gar measured 56 inches in length with a 19 inch girth and was taken on May 24, 1964. This fish was believed to be a Short-nosed gar. The only other member of the gar family commonly found in the state is the long-nosed.

A. J. Bertram of Chanute came up with the new record buffalo on June 23. He was fishing at Elk's Lake near Chanute when he tied into the 23 pound, 1 ounce monster. The buffalo sucked in a bait of "Catfish Charlie" which Bertram had cast out in the hopes of hooking a channel. The record specimen measured 34 $\frac{3}{4}$ inches in length with a girth of 23 $\frac{3}{4}$ inches.

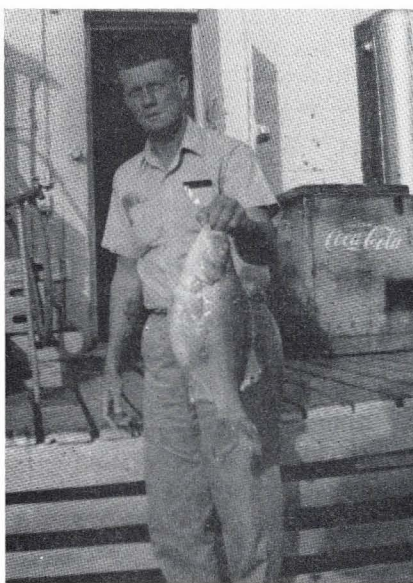
There are three species of buffalo fish found in Kansas, the bigmouth, black and smallmouth. All are members of the sucker family. Bertram's catch appeared to be a bigmouth buffalo. Older adult buffalo fish have a pronounced hump at the top of the profile which gives them their name.

Registering a fish for an official record is not complicated but certain actions must be taken. When a person catches a fish he believes to be a record, it should be weighed on scales legal for trade and the length and girth carefully measured. The weighing must be made in the presence of two witnesses. Next, a photograph should be taken of the fish and the angler. The next step is to write to the Kansas

Forestry, Fish and Game Commission, Pratt, Kansas, for an official registration blank. This blank should be filled out in its entirety and returned along with a clear, sharp photograph. That's all there is to it. If your fish is the largest specimen of its specie, you will be the record holder.



John W. Robson holds the record gar which weighed 27 $\frac{1}{2}$ pounds.



A. J. (Bud) Bertram displays the new state record buffalofish. Assisting him is Chuck Fisher.

Conservation Library Is Official Depository

The International Association of Game, Fish and Conservation Commissioners has designated the Denver Public Library Conservation Library Center as official depository for that organization's records. L. P. Voigt, International President and Director of the Wisconsin Conservation Department, recently notified fellow members of this action, taken in the form of a resolution passed at the Association's annual meeting.

The resolution urges International regional affiliate associations and all individual members to make the Center a depository for conservation materials of significance.

The International Association of Game, Fish and Conservation Commissioners is composed of the heads of conservation agencies in all states and the Canadian Provinces, and represents official leadership in wildlife management throughout North America.

The Conservation Library Center is also official depository for records of the American Association for Conservation Information, the Conservation Education Association, the Midwest Game and Fish Commissioners, the Outdoor Writers of America and in a considerable degree, the depository for other national organizations.

"Thus the International locates its records where they will be coordinated with reference material of like kind and increase service value of the center," said Art Carhart, consultant to the Conservation Library Center.

This resolution and another adopted at the same time support a proposal the Association hopes will lead to the U. S. Fish and Wildlife Service contracting with the Conservation Library Center to provide swift, modern, specialized library services to game and fish departments throughout North America.

Prairie Chickens

Kansas is one of the few states in which a huntable population of prairie chickens has survived the continual advancement of our civilization. At one point in our history, Kansas was composed of small farms and vast areas of grassland thus affording choice habitat for infinite numbers of prairie chickens. However, as advances were made in agriculture and major changes in land use occurred, a major portion of the prairie chicken's former range was destroyed. Today, prairie chickens are restricted to those areas of the state that still contain extensive grassland areas.

Identification

At the present time, we have two species of prairie chicken in Kansas; the greater prairie chicken (*Tympanuchus cupido*) and the lesser prairie chicken (*Tympanuchus pallidicinctus*). The major differences between the two species are in the size, coloration and voice. The greater prairie chicken, as the name implies, is slightly larger than the lessers and have broad, solid black bars on their back feathers and orange air sacs on the sides of their necks. The lesser prairie chickens have a broad, brown bar enclosed by two narrow black ones on their back feathers and their air sacs are rosy red. In overall coloration, both species are a mottled brown similar to a hen pheasant. Both species have the characteristic "ear tufts" or pinnae which gives them their other commonly used name of pinnated grouse. Prairie chickens are Kansas' only game birds with feathered legs.

Habits

Perhaps the most noticeable difference in the characteristics of the



greater and lesser prairie chicken is in the voice, which is an essential part of the courtship performance. Unlike the low, booming notes produced by the greater prairie chicken, the lesser chicken produces a gobbling sound. In the spring, between March and May, one of the most interesting aspects of the prairie chicken's life history is exhibited. This is the season when the chickens gather on the perennial dance areas called "booming grounds," to dance and to inflate the air sacs on the sides of their necks producing a low pitched booming sound. This is essentially a courtship activity and occurs early in the morning starting approximately ½ hour before sun-up and lasting a duration of one to two hours. It also occurs in the evening but not with the regularity as in the mornings. In the early part of the period, the largest number of birds frequenting these booming grounds are males. Here they display themselves, fight and settle territorial disputes. Later in the

season as the tempo of the booming increases, females may be observed sitting passively around the perimeter of the booming area. The number of birds frequenting the booming ground is a very good indication of the reproductive population. By making counts of the birds on the booming grounds, we are able to obtain a reliable census providing an index to the existing breeding population.

Habitat

The greater prairie chicken is the species which is of most interest in Kansas since it is the most numerous and affords a huntable population. At the present time, it is restricted primarily to the Flint Hills region of Kansas occupying approximately the Eastern one-third of the state.

The lesser prairie chicken occurs in small numbers and is restricted principally to the sandy areas of southwest Kansas and are not hunted at the present time.

(Continued on page 21)

The Kansas Beaver

Beaver, one of Kansas' important furbearers, originally lived throughout Kansas, wherever there was an abundance of both water and timber. In the early part of the twentieth century, the population was very near extinction. Then, necessary laws were enacted that would protect the beaver and allow an increase in their numbers. The first protective legislation was the closing of the season in 1911. It remained closed until 1951. Between 1951 and 1958, it was closed or open as the population would permit. Since 1958, it has been open each year for trapping.

Identification

The beaver is the largest member of the rodent family in the continental United States. Other than its distinctive broad, flat, scaly tail, the beaver looks like an overgrown muskrat. That is, he has small eyes and ears. The fur is dark brown on the sides and back fading to a lighter brown or beige underside. The rear feet are webbed to aid in swimming. An adult may measure 30 to 45 inches in length and weigh from 35 to 60 pounds. Rarely, an individual animal may weigh in near the 100 pound mark.

Habits and Habitat

Beavers depend entirely on plant life for their food. They prefer the bark of cottonwood, willow and, where available, aspen.

The most common type of den, in Kansas, is one which is made in the bank of a river or pond. These burrows may reach 40 to 50 feet and be large enough to accommodate a man.

The habitat required by beavers



includes 3 basic elements: (1) an adequate water supply, (2) an ample food supply of trees and other plant materials, and (3) a location where disturbance by man is at a minimum.

Reproduction

The adult male beaver may mate with more than one female. Mating generally takes place in January or February. The beaver has a gestation period of approximately three months. In Kansas, the young are born in April or May. There may be between two and eight, but the average is three. More than four probably will present a problem, as the female has only four teats. The young beaver generally stay with the family for one and a half to two years.

Management

With the decline in the demand for fur and its resulting decrease in prices paid to the trapper, interest in trapping has waned. As an example, in 1943 there were 14,885 licensed trappers in Kansas. By 1959, license sales dropped to a low of 1,225. Since 1959, the number of trappers has leveled off at approximately 2,000.

Since we have so few trappers, most furbearing animals have increased markedly. This is true with

beaver. Kansas' beaver population is underharvested in most areas of the state. This underharvesting has resulted in the current liberal trapping season of 59 days with no restriction on the number of trapping licenses issued and no limit on the number of pelts taken.

Until we can obtain a better utilization of the current beaver surplus, there is little need for an intensive beaver management program.

Trapping the Beaver

The first step to be followed in trapping beaver is to set the trap so the beaver will be drowned immediately after being caught.

The most desirable size trap is a No. 4. A trap smaller than a No. 3 should not be used. The trap should be set in shallow water. Best results will be obtained if you set your traps at slides, along runs, at feeding stations and holes in the ice. Other successful sets can be made in the spillway over the dam or by breaking the dam slightly in one place and setting traps there. The beaver visits the dam to make the necessary repairs and is caught in the trap.

Aesthetic and Commercial Value

The beaver is the source of castoreum which is used commer-

cially. Castoreum is produced by a pair of large musk glands which are just under the skin of the belly immediately in front of the anal opening. Castoreum is a creamy, bitter, orange-brown substance with a very strong odor. It is used in medicine and also plays an important part in the perfume industry.

There is also an aesthetic value to beaver that is not as important for other furbearers. Much of the west was first opened to travel by white trappers in quest for the beaver. The beaver probably played as important a role along these lines as any native game animal.

For the past several years, the average price paid by Kansas fur dealers has been in the neighborhood of \$6 to \$7 per pelt.

Prairie Chickens

(Continued from page 19)

During the spring and summer months, prairie chickens feed heavily upon native range plants and insects. The young birds feed quite heavily upon insect matter while in broods.

If one had to isolate any one factor which limits the population of prairie chicken more than any other, you could sum it up with the word "grassland." In order for any area to support a significant prairie chicken population, it must be composed of a minimum of two-thirds grassland. However, an area which is composed of entirely grassland is not maximally productive, since prairie chickens require small acreages of agricultural crops to afford a readily available food supply during critical winter periods. Waste grain in soy bean and milo fields is especially attractive. Therefore, in order to achieve maximum production of prairie chicken on an area, an optimum ratio of grassland to agricultural land must be present.

Management

In regard to management, it is generally assumed that prairie chicken management goes hand in hand with wise management practices in range and soil conservation. When the rangeland is managed wisely and it is moderately grazed, the best conditions prevail for the prairie chickens. When over-grazing occurs, it is detrimental to both the chickens and the grassland. We have high hopes of maintaining our present prairie chicken populations and increasing the numbers in their present range. With the co-operative efforts of the hunter, the landowner and the Forestry, Fish and Game Commission, we can maintain a good huntable population for the future.

Hunting the Prairie Chicken

There are two general methods of hunting the prairie chicken. The most common method being that of surveying the fields before the season opens and finding the particular field which is used for feeding. Then when the season opens, the hunters station themselves in or around the feeding field and await the arrival of the prairie chickens. The prairie chicken does it's feeding in the early morning and early evening. The other method is that of jump shooting. The advocate of jump shooting usually works the pastures and hay meadows during the daytime. In terms of birds bagged per hunter, both methods of hunting are nearly equally productive.

The bluegill gets its name from a small blue tab that extends backward from the gill cover.

**Get
PERMISSION
to
HUNT or FISH**

Waterfowl Book Released

Eight employees of the Bureau of Sport Fisheries and Wildlife's Southwest Region have authored chapters in the authoritative publication, *Waterfowl Tomorrow*.

Recently released by the Department of the Interior, the 784-page, hard-cover book contains 69 chapters, each written by an acknowledged expert in his particular field.

Beautifully illustrated by the famed wildlife artist Bob Hines, *Waterfowl Tomorrow* also contains 194 photographs selected from more than 3,000 submitted from all over North America.

Edited by Dr. Joe Linduska and Mr. Arnold L. Nelson, this comprehensive and authoritative source book on the world of migratory waterfowl is on sale by the Superintendent of Documents, Government Printing Office, Washington, D. C., at a price of \$4.

Wildlife on Public Lands

A booklet, *Wildlife on the Public Lands*, by the Bureau of Land Management, describes more than 50 species of wildlife and how they are related to the varied lands on which they live. The BLM manages land, not wildlife, but any good land management program gives full consideration to wildlife habitat—and thus to the creatures of the countrysides.

The full-color publication written by Sherman Pearl with photographs by Jim Yoakum is available from the Superintendent of Documents, Government Printing Office, Washington, D. C., for 35 cents each.

Snakes can swallow their victims whole since the upper and lower jaw can "unhook" to encompass large objects.

The skunk uses his potent scent sparingly. He produces it at the rate of only about one-third liquid ounce per week.

The Mallard Duck

The mallard (*Anas platyrhynchos*) is generally considered to be the most popular duck with the hunter. A mere sight of the mallard in flight is enough to make any duck hunter's heart skip a beat and a simple reminder of the pleasure that is yet to come.

Identification

The adult male mallard (drake) is one of the easiest ducks to identify. He has a brilliant green head with a pure white ring around his neck. The breast of the drake is a very dark maroon-brown. His undersides are gray. The bill is

generally yellow to olive-green. The feet may appear orange to red-orange. The speculum, or colored wing patch, is purple with white borders, both front and back.

The entire body of the female (hen) is brown mottled with tan, except the wings. The wings are the same as in the drake but are sometimes slightly browner with paler feather edgings.

In the months from May to October, the drake takes on what is called an "eclipse plumage." During this time, the drake may be mistaken for a hen. After close examination, you will notice that the head of the drake in the eclipse plumage still has traces of his beautiful green feathers which are mixed in with the mottled brown. Eclipse plumage is usually complete by August or September however, it is not uncommon to find drakes not fully colored in early November.

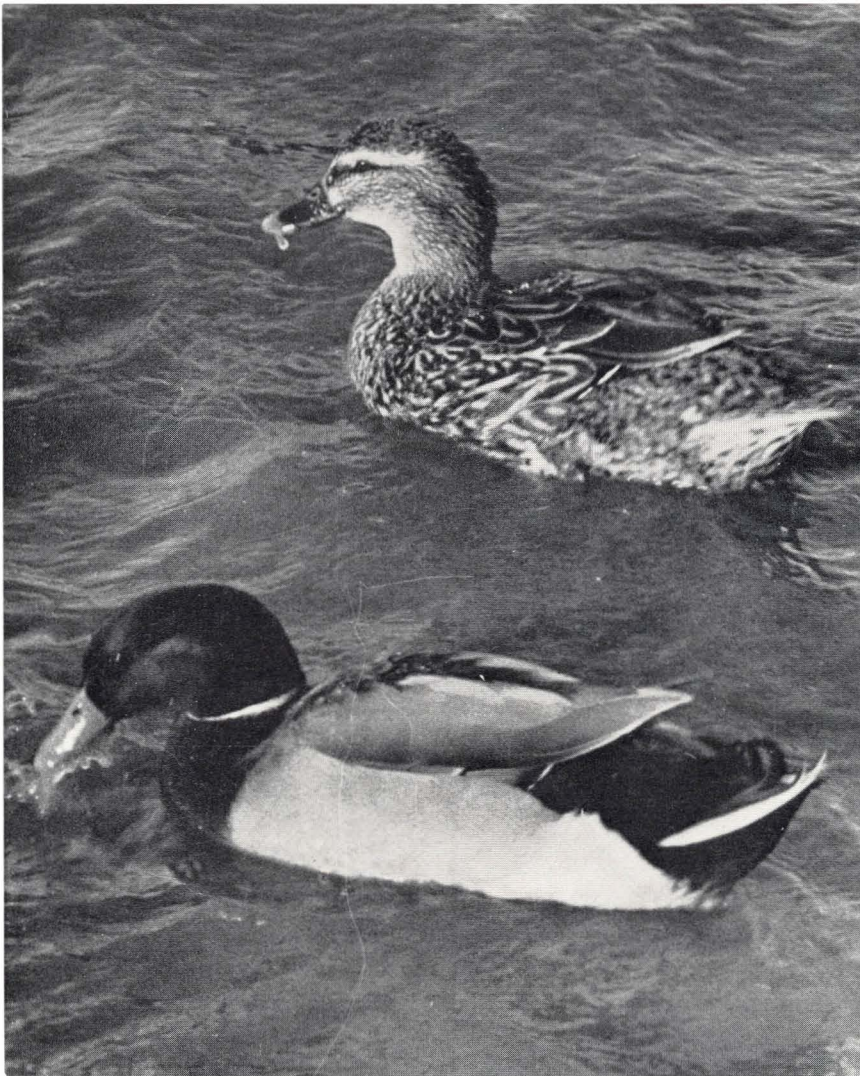
Habits and Habitat

The mallard belongs to a group known as "dabblers." When they feed, they "duck" under the water leaving only their tail exposed.

The mallard is a very suspicious duck. They will circle a spot several times before landing, and they are known to avoid areas that have been shot over. Due to the size of the mallard, they do not appear to be speedy in flight. However, they are known to fly at speeds between 45 and 60 miles per hour.

The mallard starts its migration in September or October. Fall migration usually reaches its peak in Kansas during the last week of November and the first week of December. Large numbers of mallards spend the entire winter in Kansas. The spring migration starts with the breaking up of the ice and the largest numbers of returning birds reach the state in the last of February or March.

The primary foods of the mallard are domestic grain (such as milo and corn), roots, seeds and other parts of water plants. They also enjoy snails, insects and the larvae of mosquitos however, the mallard



prefers a vegetable diet which constitutes 90% of its food. Sometimes proving themselves to be gluttons, they will gorge until a distinct bulge can be seen in the necks of flying birds at great distances.

Reproduction

During the months of May or June, the female will lay from 6 to 12 olive-green eggs. Where there are high concentrations of mallards, two hens may use the same nest. This explains the reason you may find a hen setting on as many as 23 eggs. Hatching of the eggs takes from 27 to 29 days. The young mallards have dark brown upper parts, and are yellowish on the under side. They also have yellow spots at the rump and on the wings and show a dark stripe through the eye. These young mallards are able to run and swim a few hours after leaving the egg.

Hunting the Mallard

When it comes to hunting the mallard, the hunter must have a combination of skill and luck. Both are important. Generally, the method of hunting from a blind with decoys is the most popular. However, there are as many methods of hunting mallards as there are hunters. These include: feed field hunting, pass shooting, jump shooting, and "blind hunting with or without decoys." Any one of these have proven successful but the hunter usually prefers to use a combination of two or more of them. A novice duck hunter should try to hunt with an experienced hunter for best results while learning the sport.

The woodcock seldom sees what it eats. By driving a three inch bill into the mud, its highly sensitive tip feels earthworms, the principal food of the woodcock.

Turtles have no teeth, but their jawbones are often very sharp and their jaw muscles extremely powerful.

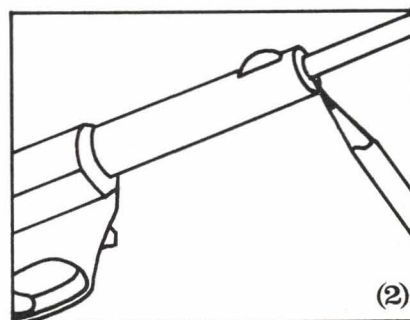
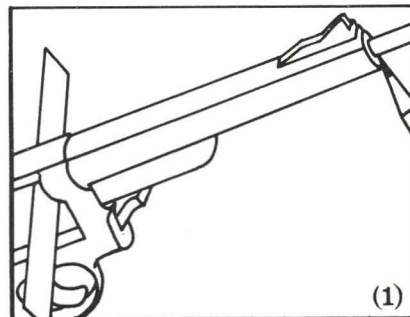
Measuring Barrel Length

For the description of any firearm to be accurate, it must include the measurement of the barrel length.

Because of certain legal and other requirements, the barrel length of both shoulder arms and pistols is taken to be the distance between the muzzle and the breech face.

In the revolver (1), however, barrel length *does not* include the cylinder. To measure, swing the cylinder open, hold a flat against the rear face of the barrel, and measure the length by inserting a rod into the barrel and mark the rod at the muzzle.

In taking the measurement of shoulder arms and pistols (2), insert a rod into the barrel all the way to the face of the closed breech, mark the rod at the muzzle, and measure the rod length as marked, suggests the National Rifle Association.



Tips Especially for Hunters With a Heart Condition

- ▶ Never hunt alone.
- ▶ Tell at least one member of your party about your condition, what medicines you take, how the medicine is given, and in which pocket you carry it. Keep the medication instructions clearly typed or printed on the container.
- ▶ Get a good rest—preferably a full night's sleep—before you set out to hunt.
- ▶ Go a few days early when the hunting area is at a higher altitude than you're used to. This will permit your heart to adjust before you add the active strains and tensions of the hunt itself.
- ▶ Rest along the way as often and as long as necessary—before you get too "bushed."

Hunting can be one of life's great adventures, but hunters who are out of practice as outdoor men can push too hard, too fast, too far. If you take as good care of your body as you do of your gun, you can continue to enjoy hunting seasons for many years to come.

