KANSAS FISH AND GAME

VOL. XV APRIL, 1958 NO. 4

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KANSAS FISH AND GAME

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ENTERED AS SECOND CLASS MATTER AT THE POST OFFICE AT PRATT, KANSAS

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Here is a pond with a good vegetative cover on its dam. Even in February, when this picture was taken, the grass was very evident. This pond is fed by springs coming from a vegetated woody draw and the drainage area has a good stand of perennial grasses. Siltation and water shortages are not a problem here. Unfortunately, many Kansas farm ponds lack these features.

This Farm Pond Question

By FRANK SCHRYER, Fisheries Biologist

During the past several years personnel of the Forestry, Fish and Game Commission has received a multitude of questions pertaining to problems arising from farm fish ponds. Most of these inquiries stem from unsatisfactory fishing results caused by an unbalanced fish population, turbid water, or a heavy infestation of aquatic weeds. The purpose of this article is to at least partially acquaint farm pond fishermen with some of the influents that determine the success or failure of the pond as a fishery.

Before a pond can offer a supplement for the table and many restful, relaxing hours of fun, certain basic characteristics must be present. These characteristics are: (1) A drainage area in permanent vegetation; (2) an adequate water supply; (3) suitable soils; (4) sufficient pond size and depth. Obviously there are other features that are definitely necessary to the well-being of the farm pond and its fish, but in the absence of one of the above basic characteristics, benefits of additional features will not be fully realized.

The importance of the drainage area above the pond cannot be overemphasized because it can "make or break" the farm fishery. It would be foolish to state that a one acre pond, for example, should have a definite number of drainage acres in its watershed, and expect this to be applicable state wide. The kind and amount of vegetative cover, land utilization, soil type, soil composition, and degree of land slope are some of the determinants that influence the amount

of runoff and consequent siltation. Unfortunately, the watersheds above many of the Kansas farm ponds are inadequate, in that they fail to provide the quality and quantity of water that are so necessary for the growth of the fish which the pond owner desires. Water coming from a watershed during and after a rain that contains considerable cultivated land and heavily grazed pastures will definitely carry silt with it. This silt will not only create an undesirable habitat for the fish, but will also decrease the water storage capacity of the pond. Any effort made to decrease siltation would certainly be money in the pocket, for not only is the land benefited, but protection of the original farm pond investment is also attained.

A good source of information for watershed selection, protection, and correction is the local office of the Soil Conservation Service.

Kansas farm ponds receive water from three sources: 1. runoff; 2. springs; 3. wells or a combination of the three. Most ponds in the state use runoff as a water source. Needless to say, this source is entirely dependent upon rainfall, and deeper ponds are needed to compensate for periods of prolonged drouth. Ponds of this type in the eastern part of the state should have water 10 to 12 feet deep, while those in the western part should be at least 15 feet deep.

One mistaken idea held by many people is that the more water that runs in and out of the pond, the better. This condition is actually undesirable since much of the accumulated fertility of the pond is lost over the spillways; however, a trickle leaving the pond is not detrimental.

Potentially a spring-fed pond presents an ideal water supply if the watershed in which the pond is located doesn't impose problems related to that source. Here, too, the flow over the spillway or out the trickle tube should be as small as possible to retain pond fertility.

The clear-water pond has a definite advantage over the muddy or murky pond. The penetration of sunlight into clear water is essential for the growth of the many miscroscopic plant and animal organisms that are a vital link of the food chain for fish. These tiny organisms serve as a food for larger organisms that may be visible to the eye, which are in turn consumed by forage fish (minnows, sunfish, etc.) that are also consumed by predacious fish (large bluegill and bass, etc.). Unfortunately, a muddy pond is lacking in the necessary fertility for good bass and bluegill production and growth, since sunlight is blocked by very small soil particles suspended in the water.

Fortunately for the angler, the channel catfish does grow better than the bass and bluegill in a murky environment, which immediately suggests that only channel cats should be stocked in this type pond. For good results, bass and bluegill should be stocked only in waters where a white object can be seen at a depth of 15 inches or more when the sunlight is shining on the water.

In the western portion of the state there exists a number of ponds that receive water from wells. The primary reason for these ponds is irrigation with fishing being incidental. As an adequate place for fish growth, one very desirable feature is lacking in this type pond. When large quantities of water are released for irrigation, a vast amount of accumulated plant and animal organisms go out with water resulting in tremendous fish-food loss. The water that is put back into the pond from a well naturally does not contain these organisms and considerable time is lost during the fish growing season before the pond regains the lost fertility.

Water drawdowns occurring during the spawning season will, of course, drastically curtail future fish population.

The nature of the soil in the watershed and that beneath the pond enhance or restrict the success of the pond as a fishery. A porous soil in the bottom of a pond will not hold water. Soils containing much sand, gravel, shale or a limestone ledge should be avoided for a pond site. Seepage is likely to exist, and its correction is often doubtful and expensive.

In general, it can be stated that in Kansas the soil fertility of the watershed is adequate to the extent that fertilizing a farm pond with commercial or barnyard fertilizer is unnecessary.

The majority of information pertaining to pond fertilization has its source in the southeastern portion of the United States. In that section of the country, as a result of long and not always wise agricultural practices, the soil fertility has dropped to a point where pond fertilization has become necessary in order to produce an adequate fish population. Fortunately, in our home state the soil situation for fish growth has not reached this low level and farm pond fertilization is not recommended by the Fish and Game Commission.

The surface area and depth of a pond certainly has a pronounced effect upon the outcome of a fish population in a pond. A minimum of one acre of surface water is considered a desirable area. Ponds in the western portion of the state should be 15 feet deep, while those in the eastern part should be at least 10 feet deep in order to assure water during moderate drouths. In addition to these recommendations, only a small portion of the pond should have areas of shallow water. Sides of a pond should slope to a depth of five feet as fast as the nature of the

soil will permit. This is especially true of a clear water pond, for in this situation aquatic vegetation can and does become a problem.

In clear water, pond plants such as pondweed (*Potamogeton* sp.), skunk moss (*Chara* sp.), coontail (*Ceratophyllum*) and several others do present a problem in the shallow areas. These conditions often make it impossible to fish from the shore, and in addition they bring about an overpopulation of small fish, especially bluegills. Large areas of dense vegetation offer efficient hiding places for small fish; consequently larger fish such as bass are unable to feed on them. In such a situation it is easily seen how a pond could become populated with a tremendous number of small fish that do not meet the qualities for angling and table pleasure.

Fencing a good farm pond, in the long run, is definitely worth the additional expense as this is one of the ways to protect the original farm pond investment. Livestock, if permitted to enter the water, will tramp down the banks and thus bring about too much shallow water in the pond. This reduces the original storage capacity of the impoundment in addition to creating muddy water which is unsuitable for rapid fish growth. However, if the pond is shallow and small and is in a poor watershed, fencing by itself will not be a "cure-all."

Sooner or later it is inevitable that the one or more species of fish in a pond will become too numerous and their growth will practically cease, while other species will become too scarce. Unfortunately, the stocking of additional fingerling fish will not correct this situation. For example, let's examine a one-acre pond which has been stocked for a number of years. This pond is relatively turbid with light penetration less than six inches. Here you will probably find the following unbalanced fish population: thousands of small crappie under 5 inches, thousands of green sunfish or black perch under 3 inches, 1 or 2 bass over 2 pounds and less than 6 under ½ pound. Few, if any bullheads over ½ pound and thousands 5 inches long or less, and few channel cat of table size with a modest number below 10 inches. The solution to this problem is to remove all the fish either by draining the pond or by chemical eradication, and then restock with fingerling fish that are the least likely to become a problem. For the pond described above channel cat fingerlings stocked at the rate of about 200 fish per surface acre should produce table size fish at the beginning of the third growing season after stocking. Crappie should not be restocked in small turbid waters since they have a great tendency to over-populate in a very short time. Water of the above described transparency is also inadequate for bass reproduction and growth. It would also be advisable to omit the stocking of bluegill in a turbid pond because of the resulting slow growth.

The most important "don't" pertaining to restocking is bullheads. Besides becoming tremendously overpopulated with literally thousands of small unuseable fish, the bullhead competes with the channel cat for food. The very evident result of this will be small channel catfish.

In clear water ponds where aquatic vegetation becomes so plentiful that fishing is difficult or impossible various chemicals may be used for their control. 2.4-D and other similar products may be used for killing weeds that grow above the water. A 40 percent solution of sodium arsenite containing four pounds arsenic trioxide per gallon is an effective control for submerged vegetation. Naturally, caution is advised when using these chemicals, and all recommendations of the manufacturers should be strictly adhered to. Excess dosages may result in a severe fish kill, while on the other hand dosages that are too small will not kill the problem plants. Livestock and domestic waterfowl should be denied access to treated water for at least three weeks after application.

The best time of the year for weed control measures is in the late spring or very early summer when the plants are still tender and are growing vigorously. Middle and late summer attempts at weed control are more difficult, and higher concentrations of chemicals may be required to get the desired results.

No attempts should be made to kill all of the weeds at one application, that is if most of the pond area is infected. To do so may result in a fish kill due to oxygen depletion. If all of the plants are killed at one time, the subsequent decomposition will remove the oxygen from the water. One-third of the pond area of a one-acre pond, for example, may be treated at one time. Additional treatments can be made at two or three-week intervals depending upon the rate of decomposition. It is quite likely that yearly applications may be necessary for an additional one or two years, since seeds are seldom killed by these chemicals.

Admittedly, all situations influencing the success of a farm pond have not been discussed, but adherence to the above suggestions will alleviate the problems most often encountered in many of the Kansas farm ponds.

Coyotes have a variety of calls. They can, and sometimes do, bark much like a dog.

Four State Lakes Open

What kind of weather would you expect on a New Year's Day? If your answer is "cold," then you would probably be right. At least, that pretty well told the story of January 1, 1958, opening day for fishing at four state lakes in Kansas.

The temperature that morning varied between 10 and 18 degrees depending on what part of the state you were in. Fortunately, warm weather had prevailed up until the last day or two so lake surfaces were not frozen over. You knew it was cold, though, by the way your line froze to the guides when you started to reel in. Yes, fishing was going to be tough. But who can resist an opening day?

Fish, being cold-blooded creatures, are not nearly as active during cold weather as during warm weather. Therefore, one certainly can not expect phenomenal success at a January lake opening. That is the reason for a winter date—to hold down the initial fish take in order that good fishing will be distributed over a longer period of time. Also, fishing pressure will be increased slowly as the weather warms up with the approach of spring.

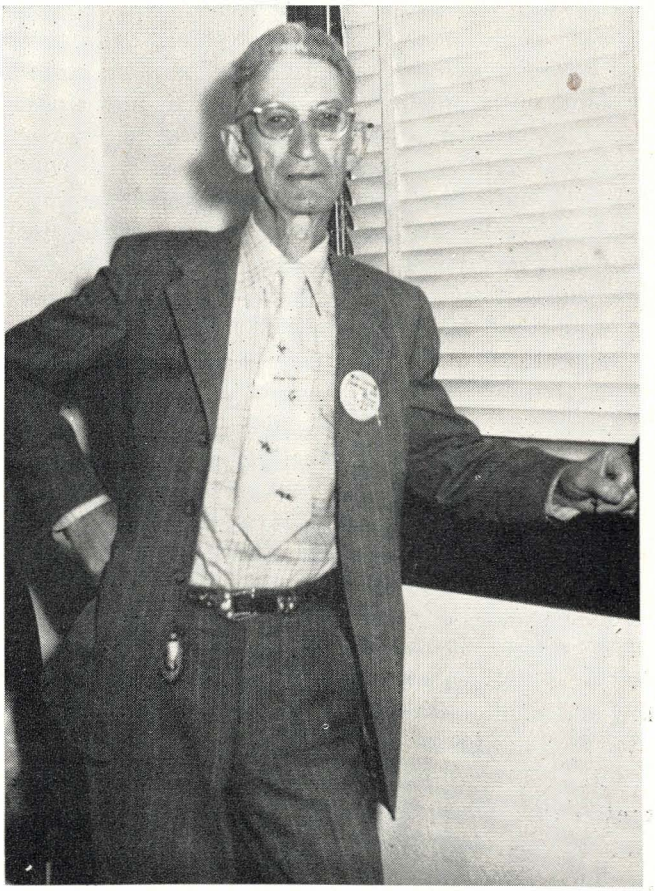
The State Lakes which were opened were Cowley County and Logan County, two new lakes to be fished for the first time, and Butler and Scott, two rehabilitated lakes. All four lakes had been stocked with fish in 1955 and netting tests by fisheries biologists had determined that fish growth was ample to warrant the beginning of fishing.

Cowley County State Lake, 80 acres of crystal clear water located 13 miles east of Arkansas City, proved to be the best on opening day. An estimated 500 hardy fishermen braved the temperatures of winter to cast a plug or bait from the rocky shore or from a boat. About 50 bass ranging from one to one and one-half pounds were taken and some crappie weighing up to three-quarters of a pound. A few bullheads and channel catfish were also strung.

Opening day at the other three lakes was not quite so spectacular with few fishermen willing to shiver and even fewer fish being taken. A few bullheads found their way onto stringers.

What of the future fishing at these fine Kansas lakes? Well, it looks good. The few days of warm temperatures in late winter saw many anglers trying their luck at these impoundments and with good success. Nearly all species have been hitting at Cowley county. Logan county has been producing good bullhead fishing and Scott county state lake has produced some nice crappie and bass. When water temperatures get up around the 50- to 60-degree mark, you can look for a lot of activity in the vicinity of these lakes.

Death Comes to Former Member of Fish and Game Commission



Lee Larrabee

It is with deep regret that "Kansas Fish and Game Magazine" records the death of Mr. Lee Larrabee, 84, former member of the Kansas Forestry, Fish and Game Commission. After a long period of illness, Mr. Larrabee passed away at his home in Liberal on January 5. Funeral services were held January 7.

Lee Larrabee was first appointed a member of the Commission in 1925 and, with the exception of a four year period, served continuously until 1951. In July of 1951 he tendered his resignation as a member of the Commission to Governor Arn and voluntarily retired after more than a quarter of century of service, without pay, to fish and game matters in Kansas.

Very few men have done as much to bolster the fish and game interest of Kansas and worked as earnestly and efficiently for the Commission as did Mr. Larrabee. He worked tirelessly at the job and his decisions were always well founded and approved by his colleagues. A genial man of high ideals and magnetic personality, Lee was well known throughout the state and will be missed by many friends.

One of the picnic and camping areas located in a grove of trees on the west side of McPherson County State Lake. This grove is known locally as the "crow's roost."

THE STATE LAKES OF KANSAS . . . *third of a series*

McPherson County State Lake

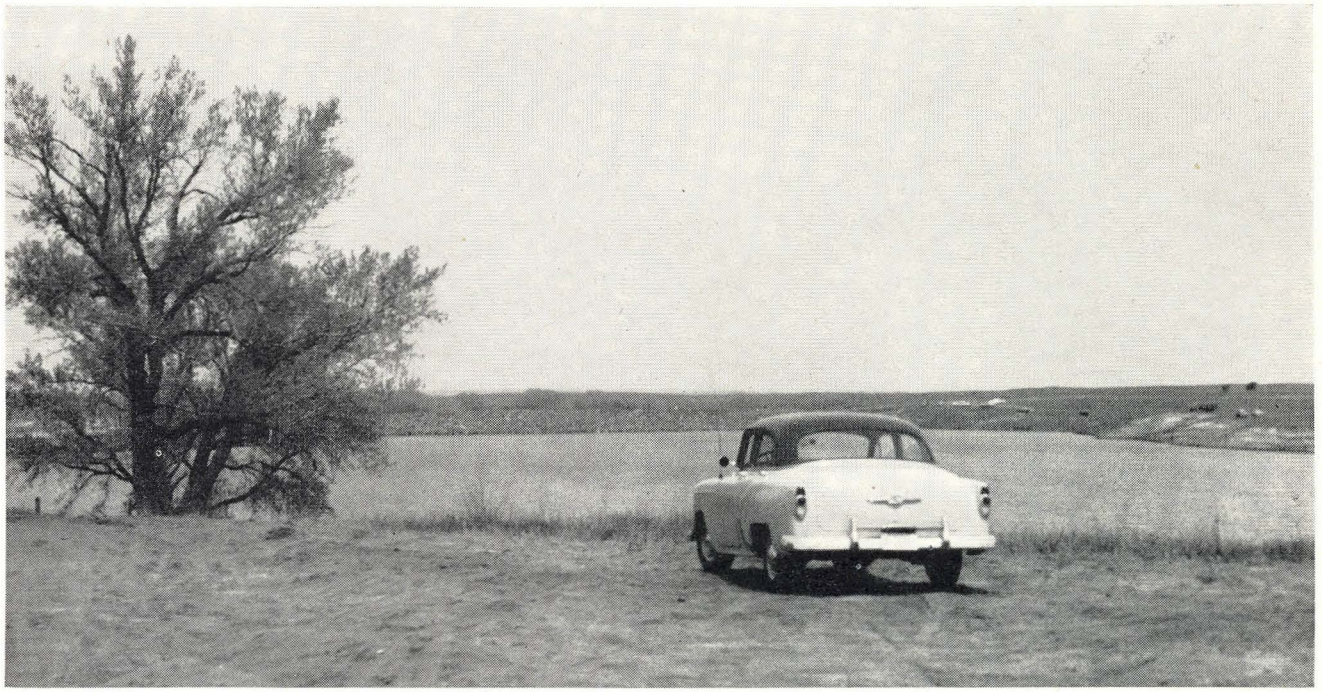
By GEORGE VALYER

What is it about a body of water that attracts the eye and fills the soul with delight? What is it about a lake that seems to beckon to the passerby? Few are those who have not felt the magnetic force of a lake or reservoir. For a fisherman this attraction is doubled, especially for a lake which just plain "looks fishy." This is certainly the situation at McPherson County State Lake.

The greater portion of McPherson County, Kansas, is as level as probably any spot on this earth. Rich fields spread luxuriantly, broken only by an occasional small draw. However, the extreme northern part of the county has an entirely different terrain. Here, you find rolling hills of grass and sharp valleys with small spring-fed tricklets or streams. It is in such surroundings that you find McPherson County State Lake.

Leaving U. S. Highway 56 between Galva and Canton, you travel northward on a county road for seven miles. The last three miles of travel takes you from the flat to the hilly country. As you turn east into the park, your attention is immediately drawn to a grove of trees overlooking a valley. As you drive to the crest of the hill, the lake materializes before you. Here is a sparkling gem set in a background of green hills.

The lake is not large as lakes go. It measures only 46 surface acres but its twisting shoreline and meandering coves give it the appearance of a larger body of water. The water is normally clear since the creek which feeds the lake is springfed. Above the lake one can see the remains of beaver dams built by nature's engineers in times past. These dams were deserted during the drouth years between '52 and '55 when many of the springs ceased to flow enough to keep the ponds full.



McPherson County State Lake from a hill near the entrance.

The dam to form this lake was constructed in 1954 and enough water was backed up by the following year to allow the stocking of fish. Evidently the feeder creek contained specimens of fishlife since the lake contains green sunfish and bullheads, neither of which were stocked. The species placed in the lake include largemouth black bass, crappie, bluegill and channel catfish and they are all found in abundance. Fishing was opened April 1, 1957, and fishermen had fabulous luck for the first few days. Naturally, fishing dropped off somewhat after the initial flurry, but good fishing is expected to be the rule at this fine lake.

The McPherson County State Lake lies on a fenced-off portion of the Maxwell State Game Refuge. Land for this refuge was donated to the Kansas Forestry, Fish and Game Commission by the late Henry Irvin Maxwell. This 2,560 acre refuge of undisturbed prairie land is the home of herds of buffalo, elk and deer. The buffalo and elk are fenced away from the lake, but the deer occasionally crawl under the wires and are seen near the shores. The lake and park area are located on the west side of the refuge while the headquarters and overlook for the refuge are on the east side of the property. To get to the look-out tower from the lake, it is necessary to retrace your route to the west entrance, go north two miles, east three miles, then south two miles to the east entrance. The observation tower is located on a high hill from which most of the area can be readily seen.

The park surrounding the lake is well equipped with all day-use facilities. Picnic tables and grills are plentiful in well shaded locations. Six sanitary units have been erected. Camping is permitted. The major camping and picknicking area is on the west side of the lake where the large grove of trees is located. An additional facility, a boat dock, is expected to be completed this spring by the McPherson County Fish and Game Association, a local sportsman's club.

The next time you want to cast for bass, flip a fly for pan-fish or just lean back and relax while waiting for the catfish to nibble, you might consider McPherson County State Lake. If you look down the shore a few yards, you might see me there too.

When digging its burrow the chipmunk either moves the excavated soil several yards from the opening or makes another entrance, often under a little bush or overhanging rock, and then plugs up the first opening.

Buffle-head ducks use old woodpecker holes or natural hollows in trees as nesting sites. These ducks can dive quickly and emerge from a dive in full flight. In the days of slow-burning powder, they could dive at the flash of the gun and thereby avoid being shot.

The Rains Came

By **JOE GRAY,** Fish Culturist

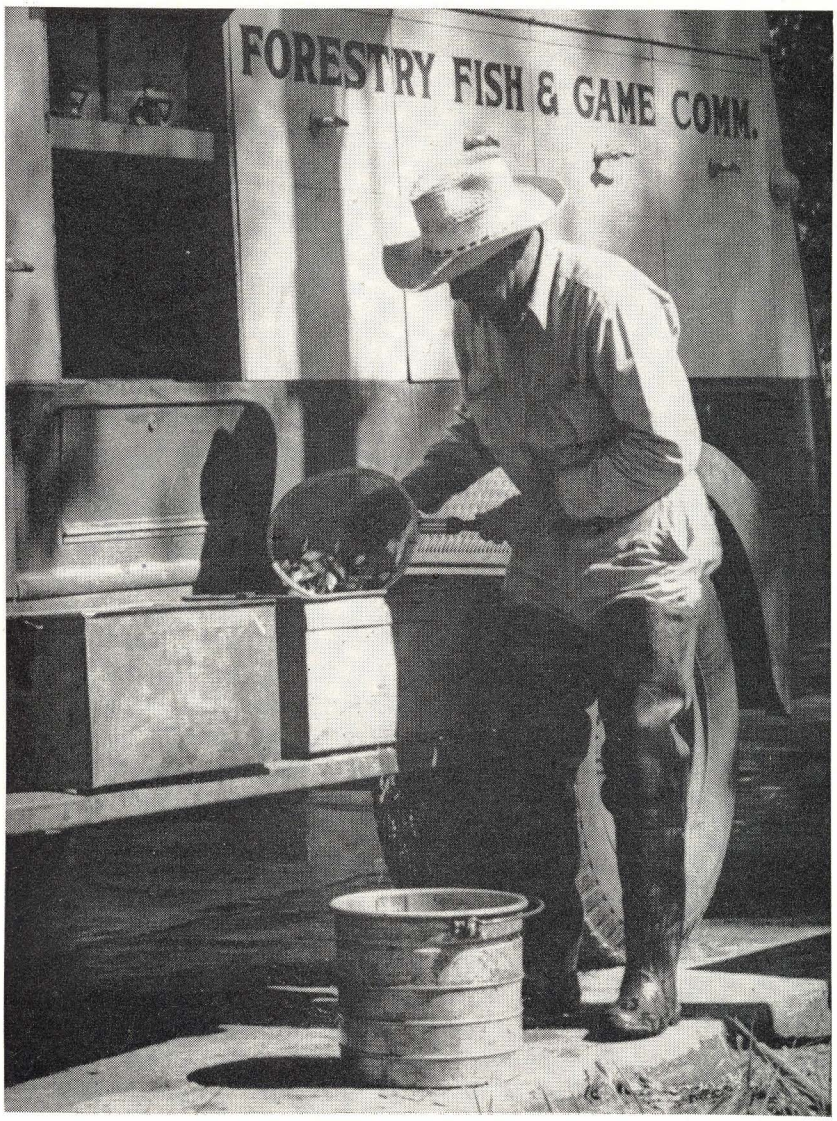
In the spring of 1957, the rains came. Each small stream became a rushing torrent of water, each farm pond a small lake, each lake became a small sea.

Drouth conditions for the previous five years had caused many farm ponds to dry up. Also, the dry years had fostered the building of many additional ponds, lakes and the deeping and enlarging of older ones.

It was evident that many fish would be needed to supply the forthcoming inflow of farm pond applications and to supply initial numbers of fish for newly created state lakes and federal impoundments. Also there were many applications for fish held over from the previous year. Delivery on these applications had been postponed at the request of the farmers or landowners because of the continued drouth conditions.

Seth Way, Superintendent of Fisheries, knew it would take many thousands of fingerling largemouth bass, black crappie, bluegill sunfish, and channel catfish to meet application demands. All applications would be filled to some degree, depending upon the available number of fingerlings. Fingerlings are young fish two to four inches in length.

Way, being a very conscientious person, carefully selected the brood fish prior to placing them in the brood ponds. During the selection of the brood fish, apparently there were some threats made, "either spawn or become acquainted with a skillet." The large mouth bass, black crappie, and bluegill, all members of the sunfish family, spawn similarly and at similar water temperatures. Spawning occurs when water temperature reaches the upper 60's to lower 70's. The spawning appeared to be excellent as there were small largemouth bass, black crappie and bluegill sunfish swimming in every pond. (Apparently the brood fish had understood Mr. Way.)



Seth Way, fish hatchery superintendent, looks over some fingerling fish as they are being loaded onto one of the delivery trucks.

Then it happened. Along came more rain and the Ninnescah River, the source of water supply for the Kansas State Fish Hatchery, became "Old Man River" and spilled over its banks inundating twelve brood ponds. The flood either swept the young ahead of it or destroyed them in its wake. The Ninnescah River had never been known to rise this high before. The twelve ponds which were overflowed were the largest and most productive of the hatchery's ponds.

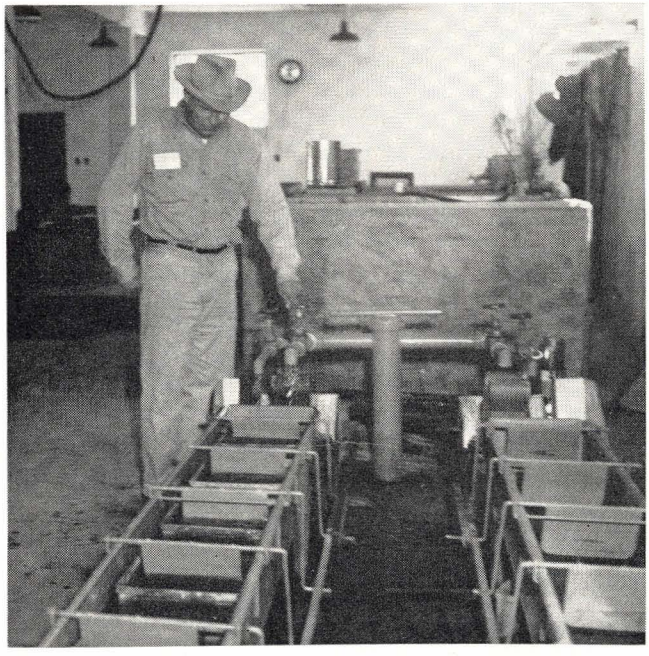
With the flood destroying so many future fingerling bass, crappie and bluegill the fall stocking program was sure to suffer. There was one hope left. The brood channel catfish must reproduce enough to offset the reduced supply of other fish.

Channel catfish spawn when the

water temperature reaches the upper 70's to low 80's; 315 pair of brood channel catfish were placed in six rearing ponds. The first spawn was taken June 4, 1957, and within the next six days, 111 spawn had been gathered from the kegs and earthen jars in the ponds. The two permanent incubators, used in the artificial hatching system, were overflowing with spawn and it was necessary to set up four additional temporary incubators to handle the rapidly increasing spawn. By July 8, 1957, when the channel catfish ceased spawning, a total of 212 spawn had been taken; 67.3 percent of the adults had spawned.

There were channel catfish fry swimming in every available trough. Hatchery employees were making ready rearing ponds as fast as possible with no thought to time. Week ends, holidays and nights had no meaning during the spawning season. Rearing ponds which are destined to receive channel catfish fry (young fish recently hatched) must be completely free of all other species of fish, crayfish, turtles and fish eating insects. After a rearing pond has been readied and refilled with water, each is stocked with approximately 100,000 fry. The channel catfish fry number 11,500 per pound. Usually 8.8 pounds of fry are stocked in each rearing pond. In addition to the rearing ponds, newly created State lakes, Federal impoundments and city or county lakes not having a fish population were stocked with the newly hatched channels. A total of 494,500 weighing 43 pounds were stocked in nine of these lakes or impoundments. Fifteen hatchery ponds were stocked with 148.8 pounds or 1,711,200 fry. There were an additional 28,365 five-day-old fry which weighed 6.1 pounds which were held in troughs for a nutritional test.

Myron Howard is shown here stocking fingerling fish in the waters of Marais des Cygnes Refuge. Such stocking operations are extensive in all parts of the state during the fall season.



Channel Catfish are hatched in these fish incubators. Four additional units were set up in the summer of '57 to take care of the record production.

After stocking the channel catfish fry in rearing ponds, the daily chore of feeding began. The diet fed consisted of dry buttermilk, 50% by weight, and Digester Tankage, 50% by weight. These two components were mixed together with water forming a stiff dough. The mixture was fed in specific areas of the rearing ponds. One day (Friday) of each week, fresh fine-ground beef liver and lungs were fed to each rearing pond of channel fry. The fry were fed once each day, seven days a week. The first week each channel catfish rearing pond received one-half gallon of the mixed feed each day, the second week the feed was increased to one gallon each day. The daily feed was increased one-half gallon each week for twelve weeks. By this time the daily feed was six gallons per day. The practice of feeding six gallons of feed each day to each pond became constant with no additional increase in the daily feed. This continued until the fingerlings were removed for stocking purposes.

Periodically each channel catfish rearing pond was checked with a small mesh seine. This check was made to determine numbers, growth and whether or not there was any disease present.

Channel catfish fry and fingerlings are quite susceptible to many fish diseases and parasites. The most common parasite to attack the channel catfish fingerling is the "Ich" as it is commonly called, the

scientific name being *Ichthyophthirus Multifilis.* A hatchery, rearing large numbers of channel catfish fry, must constantly be on the look-out for this parasite or other parasites and diseases that could effect all the hatchery's fish population. If disease or parasites are found control measures must be taken immediately. Fortunately, only one rearing pond of channel catfish was partially infected with the "Ich" parasite, and control measures were successful. No other ponds of fish became diseased or parasitized.

The 1957 hatching and rearing season of channel catfish fingerlings was undoubtedly the greatest in the history of the hatchery. There were 10,000 pounds or five tons of fingerling channel catfish produced. The total number was a staggering one million, two hundred twenty thousand. To produce this number of fingerlings, 35,000 pounds of feed was fed at a total cost of $2,100.00 There were 121 fingerling channel catfish per pound. To produce one pound of fish, the total cost of the food consumed was 21 cents. Each channel catfish fingerling cost, in food only, slightly less than two-tenths of one cent.

Two thousand eight hundred and seventeen applications for fish were filled during the 1957 fall stocking season. This included farm ponds, State lakes, Federal impoundments and strip pits.

The 1957 activities of the Kansas Forestry, Fish and Game Commission's fish hatchery section could be summarized as follows: The rains came, creating a challenge. This challenge was met and the situation was handled quite satisfactorily.

Governor Appoints Two New Commissioners

Ed F. Madden, Hays, and Roy Amer, Pleasanton, recently were appointed members of the Kansas Forestry, Fish and Game Commission by Governor George Docking. The new appointments became effective January 1 and will extend through a four-year period.

Madden, Hays businessman, succeeds Ross Beach Jr., also of Hays, and will serve as commissioner for the northwest district.

Amer, manager for a Pleasanton Kansas motor company, succeeds Dr. Eugene Berney, Atchison, and is now the northeast area commissioner.

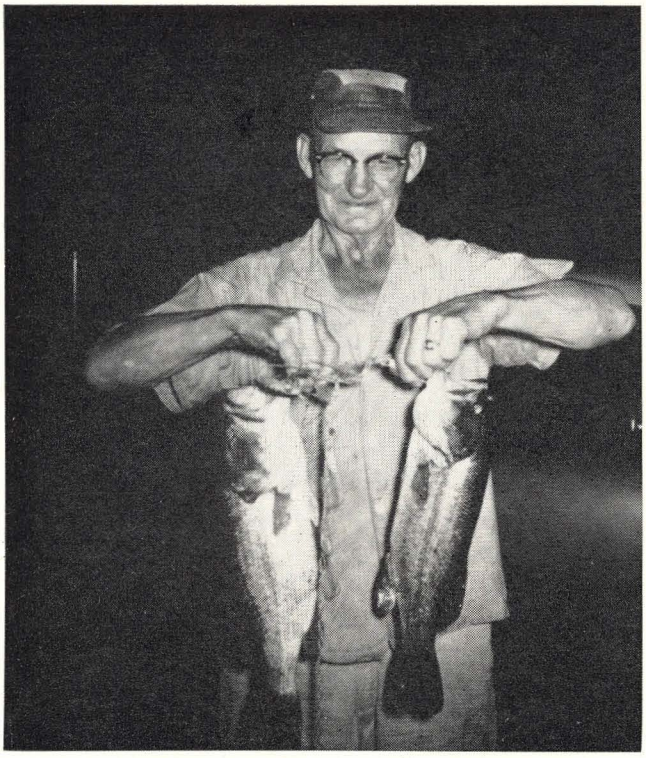
The Forestry, Fish and Game six-man bi-partisan commission now consists of the following men: C. E. Kaup, Manhattan, chairman; Ford Harbaugh, Wellington, secretary; A. H. Alcock, Chanute; J. S. Brollier, Hugoton; Ed F. Madden, Hays; Roy Amer, Pleasanton, members.

October 20, 1957, was a good day in the lives of this quartet of hunters. Newton Ream, Gary Ream, Wayne Davis and Jack Ream, all of Newton, Kansas, are shown here with the 18 ducks and 2 geese taken that day at the Cheyenne Bottoms. (Photo by Coleman.)

This magnificent Canada goose (weight, nine and one-half pounds) would be bragging material for any normal sportsman. The two Wichita hunters who bagged the "honker" also took home seven ducks from a November 24 hunt at the Cheyenne Bottoms. J. E. Wherry and Charles Jackson utilized one of the public blinds for their successful hunt. (Photo by Coleman.)

On Our Cover

Brown County State Lake near Hiawatha is subject material for the cover photo. This northeast Kansas lake is very popular with fishermen as well as picnickers. Fishing was fine last year at this lake. It is expected to continue to yield good catches of bass, channels, crappie and bluegill. The spring-fed impoundment covers 62 acres.



This photo was a long time getting to us but one look at those bass and we knew you'd want to see 'em too. Frank Johnson of Kingman holds two "linesides" that weighed four and four and a half pounds. They were taken on plugs from a private lake near Kingman.

Mrs. Kate Whited of Hutchinson is not afraid to brave the winter elements in the pursuit of her favorite fish, the large-mouth bass. Here she is with four ranging in size from 1½ to 3 pounds. These were taken from a boat on Woodson county state lake.

More bragging-size walleyes are being caught from Cedar Bluff Reservoir. The five fish pictured here were taken in December below the spillway. The lucky fishermen are (from left to right) Joe Rutherford, Luke Meis and George Gross, all from Ness City.

Public hunting areas of the Cheyenne Bottoms were popular this year and hunters had some fine shooting. Pictured here is Joe Mans of Hays who bagged the five mallard drakes in only 1½ hours time. He was shooting from one of the concrete blinds on December 2 when he made his limit kill.

The badger's food includes several kinds of rodents, rabbits, snakes, lizards and insects.

AMERICAN COOT . . . *Fulica americana*

Kansas Bird Life

By **MARVIN D. SCHWILLING** . . . No. 9 in a series

WHERE FOUND IN KANSAS—The American coot, or mud hen as it is more commonly called, is abundant during the spring and fall waterfowl migration throughout the state of Kansas. Some usually stay, at least in the eastern portion of the state, all winter and are associated with the wintering flocks of ducks. Coots are not common summer residents in Kansas.

IDENTIFYING CHARACTERISTICS—The coot, our only marsh bird, is duck-like with a white bill. This mark serves as an infallible field mark. Over-all color of the coot is slate-gray. Its head and neck are blacker than the body, with a white patch under the tail. In flight, a white border shows on the trailing edge of the wing. When swimming it pumps its head and neck with each stroke of the feet.

SIMILAR SPECIES—The gallinules are similar to the American coot, however gallinules have red bills instead of white. Where coots and gallinules are found together, the coot is the larger with a somewhat bigger head. Only two species of gallinules are known to Kansas, both of which are rare and irregular.

VOICE—Various cackling and croaking notes and a guttural kuk-kuk-kuk-kuk.

HABITS—The habits of the coot appear to be about midway between the wading birds and the true swimmers. They often share in the marsh habits of the rails and gallinules, but are more truly aquatic than either. Their toes are lobed, not webbed like a duck, but similar to those of the grebes, enabling the bird to walk on floating vegetation or over soft mud with ease. They are often found in association with ducks on lakes, bays and open water. They dive expertly in deep water for plant foods, but seem to rise from the water in flight with difficulty, pattering their feet for a considerable distance before becoming completely airborn.

Their nests are placed in dense semi-aquatic vegetation such as bullrushes or cattails. The nests are deeply cupped and well built, being cleverly woven among living vegetation so that the nest may rise or fall with fluctuations of the water level. Water depth under the nest usually varies from six to thirty inches.

NOTES—The American coot, or mud hen, is at times extremely abundant throughout Kansas in both spring and fall migration and usually can be found in the company of large flocks of overwintering ducks, particularly mallards. There are only a few scattered nesting records from our state.

I have seen nests with eggs only in the spring of 1951. This nesting colony was in Finney County some six miles north of Garden City in an area locally known as the pronghorn area. I located several nests

during the latter part of May that year. They were situated in bullrush clumps growing in about two feet of water. This area was in the path of a terrific hailstorm on May 30, 1951. The storm was extremely destructive and the stones of such large size that over 200 head of sheep were killed from one flock. Practically all wildlife, birds and animals alike, were killed. Jackrabbits, pheasants and even the muskrats in the marshes were unable to survive. Needless to say this nesting attempt of the coot was not a success.

There are also nesting records from the salt marshes of Stafford County. I know of no records from eastern Kansas. However, six to eight birds remained all summer on the Ottawa Hunting Club Lake near Boicourt, Linn County, in 1956. I made no search for nests although I assumed nesting was attempted.

Hunting stories of "coot" hunts, particularly along the eastern seaboard, frequently appear in popular sports magazines. This is confusing to many readers from the interior states and have even led some to believe that what we call the coot in Kansas is not a coot at all, but must be some other waterbird. They know the bird they read about is not the same bird we have here in Kansas. This confusion or overlapping use of common names is unfortunate as we have the true American coot, only native North American form of this subfamily. The birds referred to as "coots" along the coastal areas are actually scoters and are members of the large subfamily of diving ducks.

Nest of the Coot

Visitors to the Kansas Sports, Boat and Travel Show in Wichita this year found the display pictured here. The Fish and Game Commission booth proved to be very attractive to the throngs which appeared at this annual event. A similar display was used at the Dodge City Sports Show for the first time.

Know Your Friend—The Game Protector

Wallace Ferrell, 38, became a game protector for the Forestry, Fish and Game Commission in April, 1947, and has now completed ten years of service with the exception of a year when he was on leave for navy service. Previously he served four years with the navy during World War II. During both hitches of military service, he was an aviation boatswain's mate on aircraft carriers. After his release from military service he worked for a time for Douglas Aircraft Company in Santa Monica, California, and for the Union Pacific Railroad.

Wally lives in Marysville and works in Marshall, Washington, Clay and Riley counties.

His family includes his wife, Lois, and young son, Stephen Robert.

His main hobby, after hunting and fishing, is carpentry.

Channel catfish usually deposit their eggs in obscure, protected places in a stream—under overhanging rock ledges, deeply undercut banks, underwater muskrat runs and hollow logs.

George Shaw, 43, entered the Fish and Game Commission's Game Protector Service in 1955. He was born in Parkerville, Kansas, and attended the Parkerville schools. As a young man, he farmed for twenty years in Wabaunsee and Chase counties.

Previous to his employment as a State Game Protector he served two terms as sheriff of Chase County and was employed one year with the Emporia police department. He is now assigned to the game protector district comprising the counties of Linn, Anderson and Coffee, with headquarters at Garnett.

George and his wife, Bernice, have two daughters, Janice and Sandra Kay, and one son, Donald.

His main hobby, like many outdoor men, is hunting and fishing.

Bass feed almost constantly, but early morning and evening hours are usually considered the best times for angling.

The skunk is one of the horned owl's staple food items. In skunk habitat practically every horned owl smells of skunk.

Drifting

By Helen Rennie

It seems highly unlikely that any given species of fish would take on new habits of eating and living. Unless, like humans, they have come to recognize the wisdom of a lighter strength sustaining diet as against the heavy smelly nocturnal feast. Channel cat fishermen formerly never appeared until night, and even then, only during the dark of the moon. Such a fisherman would carefully rig his tackle with a slip weight because he believed that any slight resistance on the line would immediately frighten away Mr. Channel.

The angler chose a huge heavy hook and then took pains to conceal it carefully with yards and yards of slimy chicken entrails or a gooey conglomeration of blood substance or perhaps a special concoction of every vile-smelling ingredient known to man. Having made ready the obnoxious ruse, the hopeful fisherman carefully chose a spot where the night feeders were supposedly prevalent. The man anchored his boat and then hoisted his highly odoriferous bait far, far out into the lake.

With a few hundred articles he had heaped into the boat, he settled down to spend a cramped, uncomfortable night, chilled to the bone, with only his thermos of coffee for comfort. The slightest tug on the line called for extreme tact, patience and skill because Mr. Channel was supposed to be notoriously suspicious. This rather rugged routine did result in some spectacular catches. True, not all of those nights were endured in vain.

Today, stringers are just as apt to be full, and come by through a method vastly different. The lines, much lighter, are baited lightly with clean peeled crawfish tails, minnows or sometimes small frogs. These baits are dragged near the lake bottom while the boat drifts. The traditionally cautious channel snaps at the moving morsel and then the angler is in for a thrill that can be likened to no other. The fury and ingenuity of a hooked channel is as that of a woman scorned. This new method finds that the gullible beauties are even more apt to co-operate in the daylight hours.

Truly it is heavenly, this drifting! Any woman that has ever done time as anchor man for her husband will verify my statement. There are no muddy anchors to hoist in and out. The minnow bucket remains in the water floating peaceably along side. The messy hauling back and forth is minimized. As the stringer fills, the fish swim leisurely along with no periods of gasping for air as they are heaved aboard, to lie panting and flopping while a move to a better spot is being perpetrated. The breeze is comfortably cooled by the water and is very pleasant on one's face, on even the hottest day.

With a sensitive finger on the line, this drifting gives one time for thought, meditation and for appreciation of the beauty around us. It again makes, of fishing, that delightful pastime with the qualities of that "old Snoozer" under the tree. It is every bit as relaxing as the method he immortalized, for, like him, you even get to wishing that the reel wouldn't buzz—

"Drifting and dreaming, while shadows fall—"

Mule Deer Bounce Along

The mule deer proclaims his identity in no uncertain terms when he bounds away. Unlike the loping gait characteristic of the whitetail, he bounces along stiff-leggedly, striking all four hoofs at once, reminding one of a boy on a pogo stick.

Fawn's Senses Must Sharpen

The fine art of detecting danger is not miraculously instilled into a fawn deer at birth. The senses must sharpen as physical development progresses, and the young must learn the ways of the wild. During the first few weeks the fawn's safety is dependent upon concealment, and upon the keen senses and habits of the doe. Thereafter he is able to be as elusive as a wisp of smoke.

Presence of Coyotes

The presence of coyotes in an area is usually announced by their barking and howling at night, often at sunset and sunrise. They travel considerable distances and their tracks not only reveal their presence but also information regarding their movements, territories, and feeding habits.

Among yellow-bellied marmots (rockchucks) albinos are rare, but melanistic (nearly black) animals are fairly common in some localities, one of them being the Teton Mountain range.

The bobcat hunts by sight rather than scent. If it cannot leap upon or overtake its intended prey after a brief chase it gives up and resumes the chase elsewhere.

Cowley County State Lake on opening day, January 1, The boat dock and launching ramp are shown on the opposite shore.

The eyes of black bear cubs don't open until the cubs are about 40 days old. Even then their vision appears to be poor for several weeks.

One raccoon for every 10 acres is a fairly good population in most parts of the country. However, as many as one per acre have been found in some midwestern states.

Contrary to popular belief, weasels don't suck blood. They do sometimes kill their prey by biting at the base of the skull and holding fast until the struggle is over.

Lynx and bobcats live in the same areas and it's often difficult to tell them apart. Usually, the lynx is bigger, has an entirely black tail tip and longer ear tufts.

While the owl cannot move its eyes in their sockets, it does have a great area of vision because it can rotate its head in a large arc of 273 degrees.

If moving on land, mink carry their young by the scruff of the neck; if in water, "pick-a-back." A pair was once seen swimming with a youngster that was clinging to both adults.

Coyote pups learn to hunt on the home range of their parents. By autumn the youngsters must seek unstaked territory elsewhere. In their search, pups have been known to wander an airline distance of 120 miles from their birthplace.

During the hatching season, wild turkeys make a hissing sound in imitation of a snake as a protection against predators seeking their eggs.

Bobwhite quail have been known to attempt flights over water and swim ashore if unable to fly the complete distance.

Few centipedes have as many as 100 legs. The common house type has only fifteen pairs; the garden variety, twenty-one pairs.

ARRESTS—NOVEMBER, 1957

Name and address	*Offense*	*Date of offense*	*Fine*
C. B. Ely; Strong City	No fishing license	11–19–57	$5.00
Neville Thomas; Salina	No fishing license	11–21–57	5.00
Harold Klotz; Englewood	No hunting license	11–16–57	10.00
Burns E. Lee; Oklahoma City, Okla.	No hunting license	11–16–57	10.00
Samuel Crawford; Eudora	No hunting license	10–26–57	5.00
Adolph Jensen; Belleville	No hunting license	11– 9–57	5.00
Leo Pargman; Brewster	No hunting license	11– 3–57	10.00
Ira Kolsky; Jennings	No hunting license	11– 2–57	5.00
Vern McFalls; Topeka	No hunting license	11–11–57	15.00
Martin Carroll; Topeka	No hunting license	11–11–57	15.00
Walter F. Morris; Piper	No hunting license	11–29–57	10.00
Walter Eugene Beggerly; Parsons	No hunting license	11–30–57	10.00
R. Wayne Watson; Wichita	Hunting waterfowl with shotgun capable of holding more than three shells at one time, magazine and chamber combined	11– 2–57	10.00
Jerry V. Lyda; Wichita	Hunting waterfowl with shotgun capable of holding more than three shells at one time, magazine and chamber combined	11– 2–57	10.00
Ned Brown; Larned	Killing waterfowl in excess of daily bag limit	10–12–57	Case dismissed
J. H. Ensminger; Prairie Village	Hen pheasants in possesion	11– 9–57	50.00
Eugene Hatcher; Muncie	Hen pheasants in possession	11–10–57	50.00
Harold L. Reece; Wichita	Hen pheasants in possession	11– 9–57	20.00
J. L. Franklin; Yates Center	Hunting rabbits during closed season	11– 2–57	10.00
Carl Gay Love; Yates Center	Hunting rabbits during closed season	11– 2–57	10.00
Duane Dawdy; Topeka	Hunting rabbits during closed season	11– 2–57	30.00
Clarence Harper; Wichita	Hunting quail without a quail stamp	11–24–57	5.00
Dr. A. P. Cloyes; El Dorado	Hunting quail without a quail stamp	11–16–57	5.00
Glen Huncker; Goodland	Hunt, pursue, shoot and kill wild game bird after sunset	11– 9–57	10.00
Keith Rolo; Great Bend	Hunt, pursue, shoot and kill wild game bird after sunset	10–12–57	10.00
Henry Wathens; Great Bend	Hunt, pursue, shoot and kill wild game bird after sunset	10–12–57	10.00
Neal Phillips; Leoti	Trespassing	11– 9–57	5.00
Walter D. Rudiger; Great Bend	Trespassing	11– 3–57	10.00
Wesley Chrislip; Great Bend	Trespassing	11– 3–57	10.00
N. F. Asling; Great Bend	Trespassing	11– 3–57	10.00
Larry D. Smith; Lyons	Trespassing	11– 3–57	10.00
Richard Winslow; Great Bend	Trespassing	11– 3–57	10.00
C. F. Callahan; Wichita	Trespassing	10–27–57	10.00
Raymond Amador; Great Bend	Trespassing	11–10–57	10.00
J. L. Lapka; Great Bend	Trespassing	11–10–57	10.00
Morris C. Riggs; Wichita	Trespassing	11– 9–57	10.00
Glen S. Vrain; Wichita	Trespassing	11– 9–57	10.00
Jerry A. Vaughn; Wichita	Trespassing	11– 9–57	10.00
Bob Wilson; Wichita	Trespassing	11– 9–57	10.00
William J. Rassette; Bunker Hill	Hunt in restricted area, Cheyenne Bottoms game refuge	11–24–57	10.00
Gene Chapel; Salina	Hunt in restricted area, Cheyenne Bottoms game refuge	11–24–57	10.00
Michel Steponick; Russell	Hunt in restricted area, Cheyenne Bottoms game refuge	11–24–57	10.00
W. N. Harman; Wichita	Hunt in restricted area, Cheyenne Bottoms game refuge	11– 9–57	10.00
Melvin Steinle; Salina	Hunt in restricted area, Cheyenne Bottoms game refuge	11–24–57	10.00
Jarrell M. Higgins; Hays	Hunt in restricted area, Cheyenne Bottoms game refuge	11– 4–57	10.00
Marion Richards; Haysville	Hunt in restricted area, Cheyenne Bottoms game refuge	11– 3–57	10.00
Theo R. Quint; Haysville	Hunt in restricted area, Cheyenne Bottoms game refuge	11– 3–57	10.00
John Jay Darrah; Wichita	Hunt in restricted area, Cheyenne Bottoms game refuge	11– 3–57	10.00
Frank Sigle, Jr.; Sylvan Grove	Hunt in restricted area, Cheyenne Bottoms game refuge	11–11–57	10.00
Esten Fisher; Kansas City, Mo.	Misrepresentation	11–10–57	25.00
Foiles Laren Stanley; Oklahoma City, Okla.	Misrepresentation	11–19–57	5.00
Leandrew Hardin; Kansas City, Mo.	Misrepresentation	11–10–57	35.00
Edward David Foreman; Kansas City, Mo.	Misrepresentation	9– 1–57	10.00

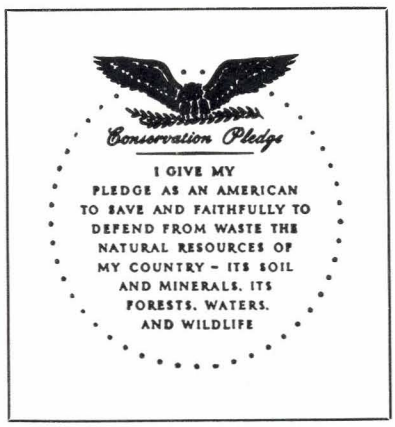
ARRESTS—DECEMBER, 1957

Name and address	*Offense*	*Date of offense*	*Fine*
Paul Dean Short; Pittsburg	No fishing license	9–25–57	$10.00
Edward Bates; Kansas City	No hunting license	12–13–57	45.00
Ray Gonzalez; Garden City	No hunting license	12–30–57	10.00
Phil Bibiesca; Garden City	No hunting license	12–30–57	10.00
Fred Taylor; Axtell	No hunting license	12– 1–57	20.00
Ronnie Bolinger; Hugoton	No hunting license	10–23–57	5.00
C. R. Dobbs; Wichita	No hunting license	10–11–57	15.00
Emmitt Stroud; Wichita	No hunting license	12–26–57	5.00
Frank Lee Schoonover; Carbondale	No hunting license	12– 8–57	15.00
Larry Ravenstien; Ellinwood	Kill waterfowl in closed season	12–15–57	25.00
Richard Kent Doze; Arkansas City	Kill waterfowl in closed season	12–15–57	25.00
Glen Lair; Ellinwood	Kill waterfowl in closed season	12–15–57	25.00
W. M. Weinberger; Hutchinson	Taking waterfowl with a shotgun capable of holding more than three shells at one time in magazine and chamber combined	10–18–57	10.00

Name and address	*Offense*	*Date of offense*	*Fine*
Donald E. Collins; Hutchinson	Taking waterfowl with a shotgun capable of holding more than three shells at one time in magazine and chamber combined	10–19–57	$10.00
Ernest Ross; Wichita	Taking waterfowl with a shotgun capable of holding more than three shells at one time in magazine and chamber combined	10–26–57	10.00
Edison W. Nixon; Salina	Taking waterfowl with a shotgun capable of holding more than three shells at one time in magazine and chamber combined	10–27–57	10.00
Roger E. LeMay; Cottonwood Falls	Taking waterfowl with a shotgun capable of holding more than three shells at one time in magazine and chamber combined	10– 1–57	10.00
Warren DeGoler; Lawrence	Trespassing	12– 6–57	25.00
Charlie Streeter and James Quinn; Wichita	Trespassing	12– 7–57	34.00
Roger Nickell; Parker	Trespassing	12– 9–57	5.00
Robert Nelson; Manhattan	Exceeding daily bag limit of migratory waterfowl	10–24–57	45.00
K. L. Dixon; Gridley	Hunting doves with a shotgun capable of holding more than three shells at one time in magazine and chamber combined	9–15–57	10.00
Edwin Purcelley; Salina	Hunting doves with a shotgun capable of holding more than three shells at one time in magazine and chamber combined	9– 8–57	10.00
Donald Araghright; Atwood	Removing head and feet from pheasants	10–10–57	5.00
Benjamin Francis Hughes; Osawatomie	Possession of fish trap	12– 9–57	10.00

ARRESTS—JANUARY, 1958

Name and address	*Offense*	*Date of offense*	*Fine*
Jerry Manford Harris; Burr Oak	No hunting license	2– 6–58	$5.00
Davis Ivester; Bakersfield, Mo.	No hunting license	1– 4–58	5.00
Lonnie Huffmaster; Galena	No hunting license	1– 1–58	5.00
Ora L. Johnson; Weir	No hunting license	1– 2–58	5.00
Carter Keith; Pomona	No hunting license	1– 1–58	5.00
Francis Flora; Williamsburg	No hunting license	1– 1–58	5.00
Calvin Bestic; San Antonio, Texas	No hunting license	1– 1–58	5.00
Herbert Ross; Topeka	No hunting license	1– 5–58	5.00
Gus Garcia; Atchison	No hunting license	1– 5–58	5.00
Charles J. Smith; St. Louis, Mo.	No hunting license	1– 4–58	5.00
Kenneth Pryor; Kansas City, Mo.	No hunting license	1– 1–58	Case dismissed
Vernon Taylor; Parsons	No hunting license	1–22–58	10.00
Paul N. Powell; Cherryvale	No hunting license	1–21–58	5.00
C. A. Taylor; Parsons	No hunting license	1–22–58	10.00
Louis A. Counter; El Dorado	No hunting license	1–25–58	10.00
Neal Thompson; El Dorado	No hunting license	1–24–58	10.00
George Hamm; Hill City	No hunting license	1–21–58	5.00
Jack Wesley Newcomb; Coffeyville	No hunting license	1–23–58	10.00
Richard Unruh; Copeland	No hunting license	1–28–58	10.00
Weldo Unruh; Copeland	No hunting license	1–28–58	10.00
B. C. Vanover; Commerce, Okla.	No hunting license	1–22–58	10.00
Merdith Barragar; Oswego	No hunting license	1–22–58	5.00
David Treow; Wichita	No hunting license	1– 4–58	10.00
Rine Edwards; Lawrence	No hunting license	1–24–58	5.00
Ray Gene McCumber; Galena	No hunting license	1–23–58	10.00
Rex Willis; Solomon	No hunting license	1–23–58	5.00
Martin Harrist, Jr.; Olympia, Wash.	No hunting license	1–23–58	15.00
Donald L. Lruitt; Novata, Cal.	No hunting license	1–22–58	Suspended fine
Gerald Edwin Rawan; Chanute	No hunting license	1–25–58	5.00
Robert Duane Morris; Kansas City, Mo.	No hunting license	1–12–58	25.00
Bazil Carl Maples; Kansas City	No hunting license	1–12–58	20.00
Billy Joe Collins; Denver 16, Colo.	No hunting license	1–14–58	5.00
Kenneth E. Pinkston; Oakley	No hunting license	1– 8–58	10.00
Robert Voyles; Wichita	No hunting license	12–21–57	10.00
Edwin R. Faulkner; Fullerton, Cal.	No hunting license	1–15–58	10.00
Karl West; Wichita	No hunting license	12–21–57	5.00
Robert Leon Meyer; Garden City	No hunting license	1–21–58	10.00
Noel Scott; Winfield	No fishing license	1– 1–58	5.00
David Viscosky; Leavenworth	Hunting and killing one buck deer	1– 1–58	100.00
David Ridgway; Topeka	Hunting and killing game after sunset	1–20–58	10.00
Carl Fritz; Grantville	Hunting and killing game after sunset	1–20–58	10.00
Charles Swendson; No address	Hunting quail during closed season	11– 9–57	10.00
Paul J. Seifert; Parsons	Hunting quail during closed season	11–18–57	10.00
George J. Sherman; Garden City	Hunting and killing pheasants during closed season	1–10–58	25.00
George S. Payne; Salina	Killing and possession of squirrel during closed season	1–22–58	10.00
Leon Jennings; Wichita	Killing and possession of squirrel during closed season	1–19–58	15.00
Glenn Rickenberg; Bremen	Hunting and killing pheasants during closed season, hunting without a license	1–22–58	50.00
W. E. Cloyes; Wichita	Hunting and killing squirrels during closed season, hunting without a license	1– 1–58	25.00
Larry Ryherd; Iola	Killing cottontail rabbits in excess of daily bag limit	1–25–58	10.00
Lavern H. Brooks; Topeka	Snagging fish	1–18–58	10.00
Ken L. Reeves; Topeka	Snagging fish	1–18–58	10.00



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