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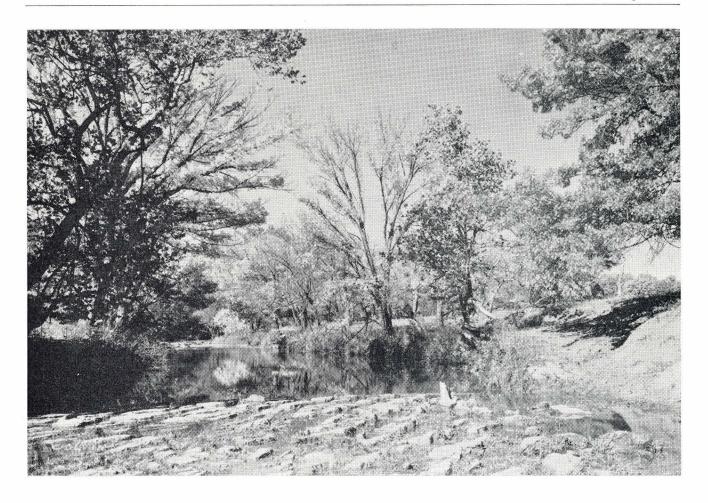
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^{**} Area supervisors.



Small Creeks-Big Fun!

It was a beautiful May day, one of those with the first warmth of summer when you are as lazy as a well-fed house cat. Here I was, driving slowly through the Flint Hills in search of a likely spot to while away an hour or two feeding worms to a few bluegill. I knew just the kind of place I was looking for; it would be a small pool in one of the clear streams which ripple down from the seemingly limitless expanse of grassland. It would have to have a grassy bank on which I could lie while gazing upward at the fleecy cumulus clouds.

Yes, on this day fishing was just an excuse to be lazy and I was not prepared for the excitement which I was to find just over the hill.

As I braked the car to a stop at a small bridge which spanned an equally small stream, I noticed the fisherman crouched low behind a screen of willows about a hundred yards upstream. He seemed to be quite intent in watching something in a pool of the creek which was out of my sight due to the twists and turns

of the watercourse. Although I could see him clearly, the object of his attention was not in view.

Curiosity seemed to get the better of my laziness for the moment so I slid under the fence a short distance from the bridge and started across the grassy knoll which was formed by the bend in the creek. As I approached, I noticed the fisherman was now tying something on the end of his line. When he saw me, he motioned me to walk quietly and keep down so I approached cautiously without speaking. Carefully and slowly he raised the flyrod which had been lying in the grass and I could see the popping bug tied on the end of a light leader. Gingerly he eased the rod out through the willows and I could hear a slight blurp as he worked the bug along the surface of the pool. Suddenly there was a violent splash and the rod bent into a bow as the fisherman set the hook and raised up to begin the battle.

Jumping full upright, I made my way to the bank so I could watch the proceedings and as I gazed down into the clear water I could see a quite respectable bass ripping up and down the pool, the black line on his side showing clearly as he rolled in an attempt to free himself from the stinging barb in his jaw.

That was the way I met John Thomas and learned that small creeks can offer big fun.

As we relaxed in the sun, John explained some of the techniques he uses to take big fish from such small waters. He maintained that the approach was the most important factor in fishing the clear waters of rock-bottomed creeks such as this one. "You have to walk quietly and keep out of sight when you approach these pools," he told me. "These bass are wary and once they see you or feel the vibrations of your steps, you might as well move on to the next hole." "That's the reason I was hiding behind the willows where I could watch the pool without being seen."

We moved on slowly up-stream to the next pool and I remarked that I had heard of fishing for trout in this manner but bass fishing in this way was something new to me. "That's right," he said. "Most fishermen in Kansas are used to taking bass from a lake where you get in a boat and work the shoreline with plugs or fish with minnows from the bank. Not very many have ever tried this small stream fishing." John told me that he had taken bass up to five pounds from this very creek and he had also taken nice channels when the water was up after a rain.

As we approached the next pool, I mimicked John's actions as he crouched down and eased over to the edge of the bank. The last few feet was on hands and knees since there were no willows for protection. The pool was deeper than the last with a deep green color next to a submerged rocky ledge. Small sunfish were working the shallow water along the banks and a large crawdad darted from under a rock to inspect a bit of drift. At the edge of the shadow cast by the ledge, three dark shapes seemed to lie parallel with each other near the bottom. "There, see them." "Those are bass," whispered John. "They'll go a pound and a half or maybe two pounds."

Slowly he eased his rod over the bank and, with a flip, laid the popper directly over the submerged ledge. As the current drifted it over the shadowy forms, John twitched the rod tip and three shadows moved upward to investigate. Another twitch, a swift movement from one of the bass, and the battle was on. It ended only after the sharp edge of a rock had severed the light leader and the fish had regained the shelter of the ledge. I asked John why he didn't use a heavier leader and his reply was that a heavier one would cause too much disturbance in the water and would be more readily seen.

Many times since that day have I returned to the clear Flint Hills creeks to fish for bass. Sometimes I was lucky and sometimes not a fish could I entice. I remember the day I stood on a bridge looking into the water and spotted six large bass lying next to an undercut bank. Fish as I would, I could not get one of them to show the least amount of interest. Then there was the time I bent a grasshopper on a hook and flipped it into a pool expecting to take a bluegill and wound up with a ten-minute battle and a 3½-pound large-mouth.

Even when the bass are not hitting, you can always take small bluegill and catfish. If it is a lazy day in May, maybe they will provide all the action you desire.

The Flint Hills are not the only place in the Sunflower State where you'll find this type of fishing. Nearly every section of the state has its small waterways with a chance for excitement. Even though they may be turbid and murky, such creeks sometimes provide large bullheads, channel catfish and bluegill. I grew up on one such muddy creek in northern Coffey county and, after a rain, you could always catch a good mess of bullheads with sod worms. A few miles distant was Rock creek where one could go for bass and an occasional crappie.

Many fishermen drive right by these creeks on their way to large lakes and reservoirs where they may spend their time in fruitless fishing. Now don't misunderstand, I'm not knocking the lake and river fishing. But the lakes and rivers get the big publicity while the creeks and streams go relatively unnoticed. Youngsters in this day and age when travel is so easy they may get the idea that the only fishing available is over yonder in some other place where there's big water. Of course this just isn't true.

Although you do need light tackle to fish the clear streams, any old pole is good enough to use for bullheads. And, anyone who knocks bullheads just hasn't eaten 'em fresh from the water and browned with a coating of cornmeal. Sure, I'd rather eat fillet of walleye but I can't always take the time and money to go to the reservoirs. Sometimes I just prefer to fish those small creeks and have some big fun.

Dead flashlight batteries can be recharged by night fishermen who don't stray too far from their cars. Remove the batteries from the flashlight and place the tip of one to the positive terminal of the car battery. Use a piece of metal to jump the negative terminal to the base of the flashlight battery. Hold the flashlight battery in place until it becomes warm. The charge should last for some time.

Special Item

Between the time the copy for this magazine went to the printers and before it went to press, Governor John Anderson completed the appointment of a new Commission as authorized by a reorganization act passed by the last session of the Kansas Legislature. This new commission is now serving the people of Kansas in administering a wildlife conservation program for the state.

A complete story on the new commission members will be carried in the next issue of this magazine.

On Our Cover

Coming in for a good deal of attention recently have been the strip pits of southeast Kansas. Although generally small in size, these waters are mostly quite productive of good sized bass, channels, crappie, bullheads and green sunfish.

The good fishing found in the pits is no accident; it has come about through the activities of many individuals and organizations. Some years ago the Kansas Forestry, Fish and Game Commission, working with the co-operation of the coal companies who owned the land, set about to manage many of the water areas for maximum fish production. Local groups have also been responsible for developments in the pit areas. The Cherokee County Sportsmen's Association has developed a pit area near Columbus, Kan., complete with picnic facilities and boat launching ramps. Crawford County State Park No. I north of Pittsburg, a Fish and Game Commission development, is well maintained with picnic and camping areas and contains many pits for anglers to fish.

The cover photo is of a strip pit near West Mineral, Kan., and is indicative of the beauty to be found in these areas. The picture was provided by Tommie Crispino, game protector for Cherokee and Labette counties.

Small streams sometimes produce fine fishing. Look for deep holes and fish with light tackle. Don't forget to obtain permission of the landowner.



Here is a roadway in the Cherokee County Sportsmen's Club pits near Columbus. Water areas on either side of the spoil bank were formed by strip mining operations for coal.



This eight-pound largemouth bass is another product of the strip pit area. It was taken near West Mineral by Jim Bush of Parsons while fishing April 17 of this year. A deep-running lure accounted for this lunker.

Bats carry their newborn with them for a few days after birth. The young bat clings to its mother's fur as she flies about in search of food.

The common toad eats about 10,000 garden pests a year.

No bird of prey, except the shrike, has the power of song.

Weighing only 12 ounces, the female green-wing teal is the smallest of North American ducks.

Notes on the 1961 Squirrel Season

By DAVE COLEMAN, Game Biologist

This year Kansas has a split season on squirrels, the periods open for hunting being April 15 through May 31 and September 1 through November 30. Since this is something new to the Kansas hunting scene, a few comments seem to be in order concerning this change from the usual summer and fall season.

Down through the years Kansas has had varying types of squirrel seasons, differing from a year-round open season in the early 1900's to a four-month fall season in 1957 and 1958. The typical season of past years has opened on June 15 or July 1 and ended on November 30 or December 31. This represents a liberal season on the squirrel, in contrast to the conservative seasons that Kansas have been permitted on game birds. By comparison, in many other states where squirrels are important game species the season covers only one to three months.

In considering what periods of the year are suitable for squirrel hunting it is important to have knowledge of the breeding characteristics of squirrels. Comprehensive and lone-range studies in several states have established the fact that squirrels have two major breeding seasons per year. The peak of the first one occurs in December and early January; that of the second takes place in late May and June. Since the gestation period for squirrels is 44 to 45 days, this means that the peak times for births of litters are February and July. After nursing for approximately two months, these young squirrels are able to shift for themselves. Although they may stay in the same tree where they were born, or nearby, for another month or two, they are not dependent on the mother for existence. Consequently it is possible to hunt squirrels in the spring without greatly reducing their reproductive potential or killing a high percentage of pregnant females. This is not to say that no females carrying or suckling young will be killed at this time, for some squirrels are breeding in nearly all seasons of the year. Obviously, though, it is sounder to base the management of this or any other species on the rule, not the exception.

Now that we have discussed the breeding cycle for squirrels, let's look into some of the other factors that play a part in determining when seasons will be set. First, there is the matter of preference of hunters. Here we get into a great variety of opinions, but they break down largely into two groups—those who like to hunt when the leaves are on and young squirrels are not full grown, and those who prefer fall hunting when the

leaves, mosquitos, chiggers, ticks and spider webs are gone. This years split season provides both types of hunting. Then there is the matter of crop damage by squirrels. Our squirrel population is concentrated largely in the eastern counties where corn is a common crop. Where squirrels are thick in stands of timber near cornfields, they can cause considerable damage to the crops. In southeastern Kansas where the pecan harvest is locally important, squirrels may significantly reduce the supply of these nuts before harvest time.

It was with the above facts in mind that the Commission set the split squirrel season for 1961. The spring season will make it possible for landowners who feel the need, to alleviate crop damage. The average squirrel hunter will be too busy with gardening, fishing, boating and spring odd jobs to venture out, but for those who wish to go forth in May, the tender young squirrels from winter litters will be available. In the second portion of the open season both summer-type and fall hunting will be at hand. With the advent of heavier hunting pressure at that time, few pregnant females will be taken and not many mother-dependent litters will be orphaned. The closed summer period will allow good production of summer litters, and will mean more young squirrels for fall hunting.

National Survey on Hunting and Fishing

A second national survey is under way to measure the various dimensions of hunting and fishing in the United States. In addition to establishing the numbers of participants in these sports and the amount of money they spend in pursuit of game and fish, the study will group individuals by occupations and income.

Hunters will be classified according to the types of game hunted—waterfowl, doves, upland game birds, big game, etc. Due to the growing interest in marine sport fishing, this second survey will include a study of this phase of angling.

The last survey in 1955 showed hunting and fishing to be a three billion dollar a year business with 25 million Americans, age 12 or above, participating. The Bureau of Census who is making the survey this year expects to complete the job by early fall. This year's results are expected to show an increase in the numbers of sportsmen over the 1955 survey.

Two new world's records were set last year in the southeast U. S. A channel catfish weighing 57 pounds was caught in Lake Moultrie, S. Car., and a walleye weighing 25 pounds was taken from a lake near Cedar Bluff, Tenn.



A view of Cowley County State Lake from a hill overlooking the Spillway.

Cowley County State Lake

By GEORGE VALYER

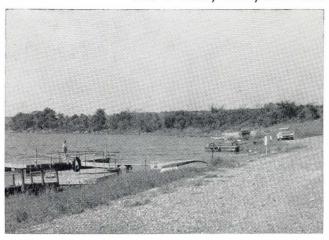
The State Lakes of Kansas . . . twelfth of a series

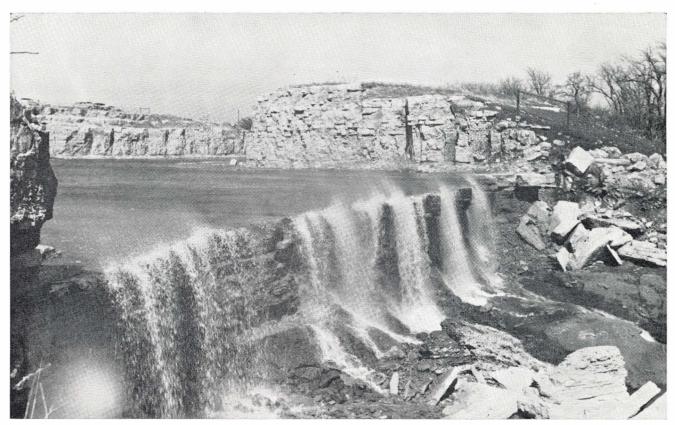
Almost the entire southern border of Kansas from the most eastern county to the far western border is characterized by a wide variety of terrain. Within the space of a relatively few miles, one can travel from gently rolling agricultural land, across rivers and streams and through sharply rising hills. The variety of scenery ranges from the southern portion of the Kansas Flint Hills and their seemingly endless waves of grassland to semi-desert in the Cimarron valley in the Southwest. Between these lie the agriculturally rich Arkansas river valley, the Gyp Hills of Barber county, the big basin area and the flat lands around Hugoton which produce natural gas.

Many persons consider the southern tier of counties as being the possessors of some of the most outstanding scenery in the state and Cowley county certainly upholds this belief. As one travels east from Arkansas City, he moves from the Arkansas River valley into the hilly region in a short few moments and the remainder of the 13-mile trip to Cowley County State Lake is through the hills and valleys characteristic of the southern Flint Hill region.

The lake itself is formed by a dam across Panther creek, a clear, spring-fed stream. The steep hills on both sides of the lake form what could almost be called a canyon resulting in a long, relatively narrow and deep body of water. On the hills overlooking the lake,

The boat dock and launching area at Cowley County State Lake.





The picturesque spillway, cut through solid rock, forms a waterfall where the ledge ends. Note the spray at the top of the falls, a result of strong wind currents. (Photo by Charles Booth, Winfield Daily Courier.)

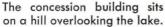
the Kansas Forestry, Fish and Game Commission has laid out picnic and camp areas and a service club from Arkansas City has built a shelter house. A small concession building is also in operation with sandwiches and beverages. A small number of boats are available for rent.

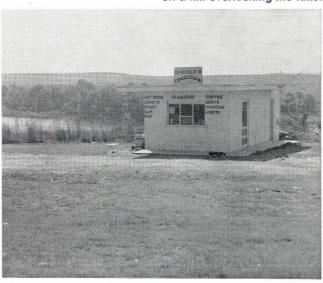
Cowley County State Lake was constructed in 1954 at a total cost of \$146,518. This figure includes cost of the land. The total land area amounts to 197 acres with the lake occupying 84 acres. Construction of the spillway is unique in that it was carved through the side of a hill into solid rock. This provides a scenic attraction when the water is up and running over the drop at the outlet.

Because the lake is clear and deep, it provides ideal habitat for game fish. Large bass and channel catfish are taken consistently and the crappie and bluegill also provide great sport. During the height of the summer, vegetative growth is quite pronounced around the edge of the water in the shallower areas. This is somewhat of a hindrance to bank fishermen and most prefer to use a boat at this time. Actually, submerged aquatic vegetation is almost always a problem in clear lakes. Because the water contains such little suspended sediment, the sun's rays penetrate deeply into the water, stimulating the growth of aquatic plants. Where

waters are not clear and the turbidity is high, sunlight can not penetrate and thus vegetation can grow only in very shallow water.

Those who trailer their boat to Cowley County State Lake will find a boat launching ramp available. The access road to the docking area is quite steep and one





should make sure he has good brakes before starting down the incline.

The whole area is well maintained by superintendent J. W. "Curley" Desbien. You'll find him almost any time of the day mowing the picnic and camping areas, removing trash or checking on conditions around the lake. Curley will be glad to help you with the latest fishing information or give you directions to the camping or picnic areas.

Many kinds of song and game birds inhabitat the area and one can almost always hear the whistling of quail. Occasionally, prairie chicken come into the park from the surrounding pasture land and waterfowl use the lake for resting during the spring and fall migrations. Another attraction for the nature lover is the display of spring and summer wildflowers which grow in profusion on some parts of the property.

Yes, Cowley County State Lake is an interesting spot, particularly attractive to fishermen. Perhaps you can schedule a week end there in the near future.

Nest-building Time

If you were asked "what builds a nest and lays eggs," you would probably say a bird. But, you could also say a fish and be correct. As time is reckoned geologically, fish were present on this earth long before birds ever appeared. However, all fish do not lay eggs; some bear their young alive somewhat in the manner of mammals. The guppie, which is commonly found in aquariums is a notable example of this. Most of the fish native to Kansas are egg layers. Fish which lay eggs are called oviparous. Those which bear their young alive are said to be viviparous. The only fish in Kansas which is viviparous is a small specimen commonly called western mosquito fish.

A typical egg-laying fish is the bluegill. The male bluegill begins his nest building operation in late spring or early summer with June the best month to look for nests in clear water. They will be found along the shore in relatively shallow water. The bluegill needs a sandy or gravelly bottom and the male uses his tail to fan the water creating currents which wash out a shallow saucer-shaped nest. If you find one bluegill nest you will probably find several more in the same locality because these fish usually nest in colonies in suitable sites.

The male usually takes several days to complete the nest since it is from one to two feet in diameter and the depression must be swept free of all foreign matter. Only after the nest is complete does the fish give any thought to a mate. But once the nursery is completed, he chooses a female and drives her over the nest where she lays her eggs. The male then fertilizes the eggs with milt. The bluegill is polygamous and eggs from several females are usually found in one nest. Each nest may contain as many as sixty-thousand eggs.

In the fish world the father is the guardian parent. Once the female has laid her eggs, she leaves the nest for deeper water and pays no more heed to her potential offspring. The male bluegill remains near the nest to guard it by driving away intruders with vicious charges. After the young are hatched the father fish guards them for a while but as soon as they are swimming about on their own, they are left to fend for themselves.

Young fish just hatched are awkward creatures for they carry a bulky yolk sac which makes their swimming attempts look clumsy. This yolk provides nourishment for the small fish until they grow strong enough to seek out food. As the nourishment is used the sac gradually disappears.

Not all fish build nests and guard their eggs. Some species merely seek out a likely looking spot and scatter them along the bottom. The male accompanies the female fertilizing the eggs before they settle to the bottom. The eggs and young fish are left to the mercy of whatever comes along. Prime examples of this would be walleyes and carp.

The major problem facing young fish in any water is to keep from being eaten alive. Young fish are not even safe from their own kind; cannibalism is quite common in the fish kingdom. Although many young fish die from one cause or another, the large number of eggs laid each year provide assurance of survival of the species.



Lowel Dam on Spring river was the site of this catch of nine crappie weighing up to one and one-fourth pounds. The pleased anglers are Mr. and Mrs. Alex Mann of Galena.

Rehabilitation at Two State Lakes

By GEORGE VALYER

Rehabilitation is a good thing in most instances, regardless of what is being rehabilitated. Even women get into the act along about springtime with a new hair-do, a new Easter bonnet and a new girdle. The rehabilitated creature struts forth in a new glory which is surprising even to husbands. In the case of lakes, rehabilitation is just as important but the fishermen is the benefactor.

Lake rehabilitation or renewal has but one purpose, to create better fishing. This is accomplished in several phases but, before we go into the mechanics of the thing, let's consider some of the events which make it advisable.

Like the ladies (bless their hearts), lakes do age. The older they get, the more likely they are to become overpopulated with either rough fish or panfish species such as bluegill. It may be surprising to some anglers to learn that the main cause for consistent poor fishing in a given body of water is that there are too many fish present; such is generally the case in Kansas. When a fish population gets too high, the available food is divided among so many mouths that none get an adequate supply for good growth. The result is a large number of stunted fish.

Other factors are present which have a tendency to throw a lake out of balance. Many fishermen unknowingly contribute to this situation by taking only the more sought-after species such as black bass and channels. Because these fish are the predators which keep the forage species in check, larger numbers of other species survive as the population of predator species declines. The less numerous bass and channels are unable to keep in check the tremendous reproduction of the smaller species and the lake gradually is taken over by unwanted midgets.

The great reproductive capacity of most rough fish is also a factor in overpopulation. Although the egglaying potential of game fish is great enough to make a prize hen hide her head in shame, such fish as carp and carp suckers have an even greater capacity. Bluegill and green sunfish, not to mention crappie, normally deposit twice as many eggs during spawning when compared to channels or bass. Thus, without sufficient predation, rough fish and forage fish populations get out of hand. When a lake reaches this state, fishermen have a harder time latching onto something which will set the reel to singing and the rod dipping. It's then time for rehabilitation.

Some lakes go longer than others before such action is necessary. In general, the clearer the lake, the longer it will remain good. The reason for this is, with good visibility, sight-feeding predator fish can take larger numbers of the smaller fish. You can't eat what you can't see unless it's in your lap.

The solution to these ills is simple enough. The lake is drained and the bottom stabilized with a good vegetative growth. Then the lake is allowed to refill. The next step is restocking with the proper numbers of channel catfish, largemouth black bass, crappie and bluegill.

Lake rehabilitation was begun last summer at Clark County State Lake south of Kingsdown. The original plan was to draw the lake down during late summer so that the fish could be salvaged as soon as cool weather arrived. However, the muddy gremlins got in a lick or two which caused no end of trouble. The plan called for seining the bulk of the fish from above the dam after the water had been drawn down sufficiently but deep silt got in the act, preventing the rescue at that location. So, it was decided to conduct the operation in the catch basin below the dam after the fish had passed through the outlet tube. This worked successfully for awhile until the gremlins hit again. As the water got lower and lower, the accumulation of silt near the outlet caved in, plugging the pipe with a solid mass of mud.

Clean-out of the outlet was accomplished with a high-capacity irrigation pump in a manner faintly resembling hydraulic mining. A pipe was pushed into the outlet tube with a pipe-jack and water pressure was used to flush out the mud. All game fish rescued from the catch basin were transported to Meade County State Lake to provide additional angling opportunities there.

Clark County State Lake will be left dry during the coming summer and a vegetative cover will be established to stabilize the bottom. The outlet will probably be closed sometime next fall and, as soon as enough water is available, fish will be stocked. An

interval of two years is usually required before fish reach catching size. Therefore, it can be expected that this lake will not be opened again to fishing until at least the fall of 1963, perhaps later depending on how quickly the lake fills.

Similar rehabilitation efforts have recently been carried on at Kingman County State Lake. Here, the operations were a little smoother with few difficulties encountered. The actual lake drainage was preceded by another operation which will be of immediate benefit to fishermen. Below the dam, a shallow bayou connected the spillway with the nearby Ninnescah River. This bayou was deepened and enlarged with a dragline in order that it could provide a fishing spot while the lake was closed. When the lake was drained early in March, the game fish were placed in this water.

All trash fish from Kingman County State Lake were removed and thrown out on the bank. Personnel involved in the clean-out operation report that several pickup loads of carp were hauled away. This summer, while the lake bed is dry, a concentrated effort will be made by fishery biologists to remove all trash fish from the watershed of the lake. This will involve treatment of all small bodies of water with toxicant which eliminates the fish population. A number of springs are located in the vicinity of the lake and these will receive the major attention since they may harbor small numbers of carp which could re-enter the lake when it is refilled.

Both Clark and Kingman County State Lakes have been very popular with fishermen in the past. Although these lakes will be closed to fishing for at least two and one-half years, the end result should be worth the waiting time. In the case of Kingman lake, public fishing will still be available in the park area as mentioned before and also in the Ninnescah River which runs through the property. Picnicking and camping will be allowed as in the past.

Rehabilitation, renewal. These words mean better fishing in the future.

Frogs breathe by swallowing air. They don't have ribs and therefore can't breathe by expanding and contracting their chests.

All herons fly with their necks drawn in and their feet extended. Cranes, on the other hand, extend their necks in flight.

Young crows have been known to eat an amount of food equal to their weight in a single day.



A part of the inspection team which viewed the new Neosho Waterfowl Refuge. Pictured on the control structure are (from front to back) Fred Warders, acting director, Dean Smith, refuge manager and Richard Eggen, land management supervisor.

New Neosho Waterfowl Refuge Given Final Inspection

Final inspection prior to official acceptance has been made of the Neosho County Waterfowl Refuge by employees of the Kansas Forestry, Fish and Game Commission, Wilson and Company Engineers and the Frito Construction Company. The inspection, made Tuesday, April 18, revealed that the new refuge is in good condition following completion of actual construction. The refuge is an area of approximately 3,000 acres located near St. Paul, Kan. Water areas will consist of three pools with a total area of 1,390 acres when full.

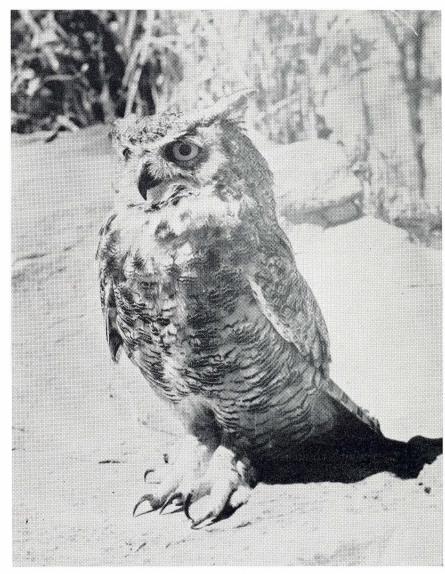
Pool number three, designated as the permanent water storage pool, has already received considerable water from recent rains and waterfowl are now using the area in some numbers. Plans of the Commission call for use of pool three as a fishing area when such use does not interfere with the primary purpose of the development.

The water will be stocked with channel catfish, bass, bluegill and crappie. The area will not be opened for fishing until the fish have reached catching size. Now that construction has been completed, management and operational procedures will be instituted to further develop the area for maximum waterfowl and wildlife potential.

Many boat excursions have been spoiled because the ignition keys were accidentally dropped overboard. To prevent loss of a key while boating, just attach it to a small fishing bobber or other floating material.

HORNED OWL . . No. 14 in a series

Kansas Bird Life



By DAVE COLEMAN

HORNED OWL (Bubo virginianus)

Where Found in Kansas—The horned owl, sometimes known as "hoot owl" or "cat owl," is a year-round resident throughout most of the state. The subspecies found in eastern Kansas is properly called the great horned owl; that of the western portion is classified as the Montana horned owl. There are only minor differences between the subspecies.

IDENTIFYING CHARACTERISTICS—The horned owl is the only large Kansas owl (total length 18-25 inches) with "horns"—tufts of feathers at either side of the top of the head. This bird has a wingspread of nearly five feet, and flies with a few flaps followed by a smooth glide. The over-all color of the plumage is a mixture of sooty brown, tawny, white and gray. The back is darker, but even the lighter underparts are heavily

barred with brown except for a white throat patch. The yellow-colored eyes are large and prominent. The legs and feet are fully feathered, and the talons are long and needle sharp.

SIMILAR Species—The long-eared owl has prominent ear tufts, but is only about the size of a crow. Its underparts show lengthwise streaking rather than crosswise barring. Other Kansas owls lack ear tufts or are of a small size.

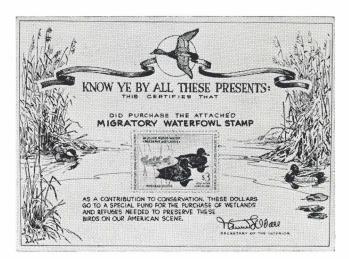
Voice—The average person knows the horned owl better by sound than by sight. The hooting of these birds is especially noticeable during the mating season of January and February. The usual call is a fivenoted series of hoots, sounded in a low resonant voice—hoo, hoohooo, hoo, hoo.

HABITS—Horned owls normally are associated with timbered areas, but in the plains they may sometimes be found on grassy hummocks or rocky cliffs. For a nesting site they commonly select an abandoned hawk or crow nest, a hollow tree, or a high rock ledge. It is not unusual for the female to be incubating her clutch of two or three white eggs while covered by a blanket of snow, for nesting begins in the cold of winter.

Small mammals make up the major portion of the average horned owl's diet. Mice, rats, rabbits, ground squirrels, tree squirrels, skunks and woodchucks are among the list of animals taken. Insects are frequently consumed when plentiful. Both game and non-game species of birds are eaten at times, and poultry is preyed upon when easily obtained. The owls have flight feathers with soft, tapered edges, enabling them to fly with very little noise. Slipping through the trees as silently as a shadow, they can strike unwary prey before their presence is known. These owls are active mainly from dusk until dawn, but occasionally fly about in bright daylight hours if flushed from their perch. Their vision is good both by day and by night, contrary to the popular belief that they can scarcely see in daylight.

Owls are pestered by crows and smaller daytime birds when discovered during the day, so they usually seek a secluded roosting spot such as an evergreen, a hardwood with heavy foliage, or a heavy growth of timber seldom visited by man or other birds. When hunting at dawn or dusk, they often use a very obvious perch such as a telephone pole, utility pole, fencepost, or dead tree in order to get a good view of the surrounding terrain.

Notes—Because of his large size, great strength, and ferociousness when attacking, the horned owl has been called "the tiger of the air." His hunting call strikes terror into the hearts of small animals and other birds, and even gives an eerie feeling to the novice camper who does not know it well. The writer once heard of an unusual attack by a horned owl on a park ranger in the western mountains. This antagonistic bird swooped down upon the unsuspecting ranger as he walked across a clearing carrying a lantern. The force of the attack knocked the ranger to the ground, and his scalp was cut and scratched by the sharp talons. Such happenings are a rarity, however, and no doubt the work of a crazed individual. The average horned owl is a beneficial bird to man, destroying large numbers of destructive rodents. Only when this bird is found destroying poultry or game birds should he be eliminated. The acts of one individual which has acquired a taste for chickens, guineas, or young turkeys do not justify the indiscriminate killing of all birds of this species.



Special Waterfowl Stamp Sale

Still underway is a special sale of the 1960-'61 Migratory Waterfowl Stamps, commonly known as "duck stamps" by most hunters. The sale was launched this year by the Department of Interior in an effort to provide more funds for the purchase of additional wetlands for use as breeding grounds for ducks and geese.

Marshlands in the main nesting areas of the United States are disappearing rapidly and, unless sportsmen and conservationists come to the aid of such areas, migratory waterfowl hunting may slowly disappear from the U. S. hunting scene.

This special sale offers to all persons the opportunity to have a hand in the acquisition of suitable marshlands through purchase of one of these \$3 stamps. The reward for supporters of conservation who make stamp purchases will be a certificate signed by the secretary of the interior and the satisfaction gained from knowing that the contributed amount is an investment which will pay dividends to the sportsman of tomorrow. The certificate, suitable for framing, has a space on which the stamp may be mounted.

Checks or money orders for these stamps should be sent to the Bureau of Sport Fisheries and Wildlife, Fish and Wildlife Service, Washington 25, D. C.

The ermine, the ptarmigan, the Arctic fox and the varying hare change their fur or plumage to white in the winter.

The orange coloring in a prairie dog's eyes permits him to withstand the intense glare of the sun.

The teeth of rodents never stop growing, but they are kept worn down by gnawing.

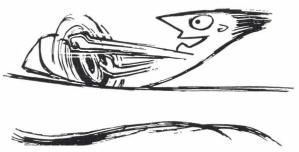
Rules of the Road



 Boats without motors have the right of way over boats with motors.



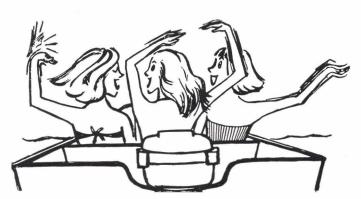
2. Keep right in channels.



When you meet another boat head on, swing to the right.



When two boats are approaching each other at an angle the boat on the right has the right of way.



5. A boat being overtaken always has the right of way.



Do everything possible to avoid a collision in an emergency.



This booth by the Kansas Forestry, Fish and Game Commission proved a popular attraction at the Kansas Sports, Boat and Travel Show held annually in the Wichita Forum Building. This year's show, which boasted an attendance in excess of forty thousand, was staged in February.

The glass snake isn't a snake at all, but a legless lizard.

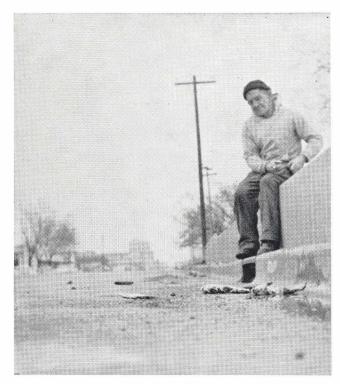
Spaniards were the first white men to see the wild turkey.

The common shrew eats its own weight in food every day.

The sage grouse was originally found wherever sagebrush was plentiful.



Here is part of a herd of 25 mule deer which is frequently seen in Wallace county near Sharon Springs. The herd was spotted during February by Mrs. Tom Jackson who snapped this picture. This area is also host to Kansas' herd of antelope which now number an estimated 100 animals.



Abraham Lincoln Bailey of Hutchinson has a favorite fishing hole and it's located on West Second Street, just three blocks west of Main in this central Kansas town. At this location a storm sewer grating opens directly over Cow creek which flows under the street. Bailey hopes to hook one that won't come up through the grating. The largest he has caught so far was a catfish weighing three and one-half pounds. (Photo by F. R. Edwards, Hutchinson.)

The pheasant's range now includes much of the northern states and the southern edge of Canada.

The nest of the hen pheasant contains an average of 12 eggs. The incubation period is 22 to 24 days.

White pelicans are one of our largest American birds. Their wingspread reaches nine feet.

Antelope seldom pull plants out by the roots, as cattle may do in soft ground, since antelope bite, rather than pull, herbage from a plant.

Generally the ears of the mule deer are 25 percent larger than those of the whitetail deer.

The raccoon is one of the few American mammals that has no living relatives in the Old World.

Of the three thousand kinds of lizards that are to be found in the world, only two are known to have poisonous glands. Both are residents of the North American continent.

Unlike other mammals, when bats are at rest, their body temperature quickly drops to that of the air around them. As a result their energy requirements are much reduced.

Badgers, like some other wild animals, sometimes kill more than they can eat at once. They bury the surplus food and return to it later when other food is scarce or impossible to catch.

Over 67 percent of all outboard boats and motors in the United States today are owned by sport fishermen, according to the Outboard Boating Club of America.



Archie Hatcher of Cherryvale proudly displays the eightpound, three-ounce largemouth he caught on February 22. Location of the set-to was Cherryvale City Lake. Hatcher used a flatfish plug to take the monster.

ARRESTS—NOVEMBER, 1960

Name and address	Offense	Date of offense	Fine
Nick Peters; Jewell	No hunting license	11- 7-60	\$10.00
	No hunting license	11-12-60	10.00
Marion A. Rogers; Wichita	No hunting license	11-12-60	10.00
Charles E. Veatch; Preston	No hunting license	11-10-60	25.00
	No hunting license	11 - 5 - 60	10.00
	No hunting license	11-14-60	10.00
	No hunting license	11-26-60	10.00
	No hunting license	11-26-60	10.00
	No hunting license	11- 4-60	10.00
	No hunting license	11- 4-60	10.00
	No hunting license	11- 4-60	10.00
	No hunting license	11 - 4 - 60 $11 - 4 - 60$	10.00
	No hunting license	11 - 4 - 60 $11 - 4 - 60$	10.00 10.00
	No hunting license.	11- 4-60	10.00
	No hunting license.	11- 4-60	10.00
	No hunting license	11- 4-60	10.00
	No hunting license	11-13-60	10.00
	No fishing license	11-24-60	5.00
	No fishing license	11-27-60	5.00
George Ivan Richard; Erie	Hunting quail without stamp	11-14-60	5.00
Junior R. Hays; Baxter Springs	Hunting quail without stamp	11-13-60	10.00
Doyle Spoonamore; Wichita	Hunting quail without stamp	11-19-60	5.00
	No hunting license; hunting quail without stamp	11-15-60	35.00
	Hunting and possessing game birds during closed season	11-12-60	25.00
	Hunting and possessing game birds during closed season	11 - 1 - 60	25.00
	Hunting and possessing game birds during closed season	11-22-60	30.00
	Hunting and possessing game birds during closed season	11-30-60	15.00
	Possessing game birds during closed season; no hunting license	11-26-60	5.00
	Possessing game birds during closed season; no hunting license	11-26-60	30.00
	Hunting game birds in closed area	11-14-60	50.00
	Hunting game birds in closed area. Hunting on state game refuge.	11-18-60	10.00
The state of the s	Hunting on state game refuge. Hunting on state game refuge.	11- 4-60	10.00
	Hunting on state game refuge.	11-4-60 $11-7-60$	10.00 10.00
	Hunting on state game refuge.	11- 8-60	10.00
	Hunting on state game refuge.	11- 5-60	5.00
	Hunting on state game refuge.	11- 5-60	5.00
	Hunting on state game refuge.	11- 7-60	5.00
	Hunting on state game refuge.	11- 7-60	5.00
	Hunting on state game refuge.	11-26-60	10.00
	Hunting on state game refuge	11-26-60	10.00
Gilbert Schultz; Ellsworth	Hunting on state game refuge	11-28-60	10.00
Gary Albert; Cawker City	Hunting in a restricted area	11 - 7 - 60	10.00
Dean Joyse; Chanute	Hunting and possessing hen pheasant	11 - 12 - 60	25.00
Corwin Hallett; Hutchinson		11 - 12 - 60	25.00
	Hunting and possessing hen pheasant	11 - 18 - 60	10.00
	Hunting and possessing hen pheasant	11-18-60	10.00
Jerry Whitsitt; Emporia		11-23-60	25.00
	Exceeding bag limit on game birds	11-26-60	25.00
	Exceeding bag limit on game birds		25.00
	Shooting game birds from a motor vehicle.		50.00
	Shooting game birds from a motor vehicle		25.00
Bert Askew; Harrison, Ark.	Shooting game birds from a motor vehicle	11- 5-60	25.00 25.00
	Shooting game birds from a motor vehicle	11- 5-60	25.00
	Shooting game birds from a motor vehicle	11- 5-60	25.00
	Shooting game birds from a motor vehicle	11-26-60	15.00
	Shooting game birds from a motor vehicle	11-26-60	15.00
	Shooting game birds from a motor vehicle	11-26-60	15.00
	Shooting game birds from a motor vehicle	11-26-60	15.00
Robert Selensky; Grainfield	Shooting game birds from a motor vehicle	11-26-60	15.00
Delbert Owens; Sedgwick	Possessing migratory waterfowl during closed season	11 - 5 - 60	10.00
Rollins Emmerich; Ft. Riley	Possessing migratory waterfowl during closed season	11 - 7 - 60	10.00
Jack Lee Bunch; Kansas City	Possessing migratory waterfowl during closed season	11 - 14 - 60	10.00
	Possessing migratory waterfowl during closed season	11-14-60	10.00
	Possessing migratory waterfowl during closed season	11-14-60	10.00
		11-25-60	10.00
	Possessing migratory waterfowl during closed season	11-25-60	10.00
	Possessing migratory waterfowl during closed season	11-14-60	10.00
	Possessing migratory waterfowl during closed season	11-26-60	10.00
	Possessing migratory waterfowl during closed season	11-26-60	20.00
	Possessing migratory waterfowl during closed season	11-26-60	20.00
	Exceeding daily bag and possession limit on migratory waterfowl Exceeding daily bag and possession limit on migratory waterfowl	11 - 3 - 60 $11 - 3 - 60$	10.00 10.00
	Exceeding daily bag and possession limit on migratory waterfowl	11- 3-60	10.00
	Exceeding daily bag and possession limit on migratory waterfowl	11-28-60	40.00
	and and benefiting time on migratory materialistics	20 00	20.00

Name and address	Offense	Date of offense	Fine
Robert Coffin, Jr.: Dodge City		11-28-60	40.00
	Taking minnows from state lake	10-26-60	5.00
	Exceeding daily creel limit.	11-17-60	10.00
	Trespassing; operating illegal number of trotlines and limb lines	11-26-60	20.00
	Trespassing; operating illegal number of trotlines and limb lines	11-26-60	20.00
	Trespassing; operating illegal number of trotlines and limb lines	11-26-60	20.00
	Misrepresentation.	11-13-60	50.00
	Misrepresentation	11-12-60	10.00
	Misrepresentation		20.00
	Trespassing.	11- 6-60	10.00
	Trespassing.	11- 6-60	10.00
	Trespassing.	11- 6-60	10.00
	Trespassing.	11-28-60	15.00
	Trespassing.	11-22-60	10.00
	Trespassing.	11-22-60	10.00
	Trespassing.	11-26-60	10.00
	Illegal operation of motorboat on State Lake	11-19-60	10.00
	Operating motorboat without registration and identification numbers:	11 18-00	10.00
Clarence I'm, Daxter Springs	insufficient life preservers	11-28-60	10.00
Merle Smith; Sutton, Neb	Operating motorboat in an area marked as non-boating area	11-30-60	10.00
Marlin Siegrist: Herington	Misconduct on state park property	11-12-60	25.00
	Misconduct on state park property	11-12-60	25.00
	Misconduct on state park property	11-12-60	25.00
	Misconduct on state park property	11-14-60	10.00
AND THE PROPERTY OF THE PROPER			

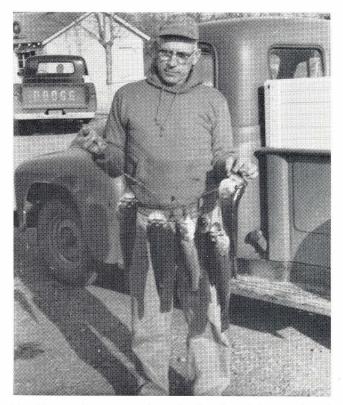
ARRESTS—DECEMBER, 1960

Y	Offense	Date	n:
Name and address Ellis Stephens; De Soto		of offense	Fine
	Possessing game animals during closed season	12-21-60	\$25.00 10.00
	Hunting migratory waterfowl during closed season.	12-23-60	10.00
		12-14-60	
	Hunting on state game refuge. Hunting and possessing hen pheasant.	12- 3-60	10.00
	Hunting and possessing hen pheasant. Hunting and possessing hen pheasant.	12- 6-60	25.00
		12- 6-60	25.00
Dick P. Fresch; Wichita		12-20-60	50.00
Marlin Jones; Garden City		12- 5-60	10.00
John F. O'Neal; Augusta		12- 7-60	10.00
J. M. Cooper; Augusta		12- 7-60	10.00
Richard W. Sage, Jr.; Augusta		12- 7-60	10.00
Eldon Sanders; St. John		12-12-60	25.00
Cal Purdin; Augusta		12- 7-60	10.00
V. A. Vachal; Benton.		12- 6-60	50.00
James Ralph Laughlin; Camdenton, Mo		12- 1-60	20.00
Kenneth Orville Huff; Wichita		12-16-60	10.00
Virgil J. Deckard; Dearing		12-16-60	150.00
Walter Jenkins; Kansas City		11 - 30 - 60	5.00
Orren Dale Kunkel; Liberal		12 - 23 - 60	5.00
	No hunting license	12-26-60	5.00
	No hunting license	12 - 26 - 60	5.00
	No hunting license	12 - 26 - 60	5.00
	No hunting license	12-26-60	5.00
	No hunting license	12 - 27 - 60	5.00
	No fishing license	12 - 3 - 60	5.00
	No fishing license	12 - 31 - 60	5.00
Eugene Helms; Lawton, Okla	no hunting license	11- 4-60	25.00
E. J. Helms; Lawton, Okla	Hunting and possessing game birds during closed season; no hunting license	11- 4-60	25.00
J. C. Hall; Lawton, Okla	Hunting and possessing game birds during closed season; no hunting license	11- 4-60	25.00
Dewayne Moore; Leedey, Okla	Hunting and possessing game birds during closed season; no hunting license.		25.00
G. W. Harrel; Leedey, Okla	Hunting and possessing game birds during closed season; no hunting license.		25.00
E. A. Tiedje; Omaha, Neb.		12-26-60	60.00
11 ' F1 WIL'I'	Hunting game animals during closed season; no hunting license	12-26-60	10.00
	Possessing fur bearing animals during closed season		
		12 - 23 - 60	15.00
	Trapping fur bearing animals without license; possessing fur bearing animals during closed season	12 - 27 - 60	15.00
	Trapping fur bearing animals without license; possessing fur bearing animals during closed season	12-23-60	15.00
	Attempting to trap game birds	12-29-60	20.00
	. Hunting game birds during closed season	11 - 4 - 60	15.00
	. Hunting game birds during closed season	11 - 4 - 60	15.00
Larry J. Jenkins; Wichita	Hunting game birds during closed season	12 - 23 - 60	60.00
Robert Coffin, Jr.; Dodge City	Trespassing	12 - 5 - 60	25.00

		Date	
Name and address	Offense	of offense	Fine
Newton Bradley; Dodge City	Trespassing	12 - 5 - 60	25.00
	Trespassing		15.00
Harry Witterstaetter; Hoisington	Trespassing	12 - 8 - 60	15.00
Duwayne Drake; Russell	Trespassing.	12 - 8 - 60	15.00
Harold Bass; Great Bend	Trespassing	12 - 8 - 60	15.00
Doyle Dean Saffer; Emporia	Trespassing	12 - 23 - 60	25.00
	Misconduct on state park property		5.00

ARRESTS—JANUARY, 1961

Name and address	Offense	Date of offense	Fine
	No fishing license.		\$5.00
		1-11-61	5.00
	. No fishing license	- man	
Crystal J. Reynolds; Wichita	No fishing license.	1 - 31 - 61	10.00
Leon Huser; Victoria	. Possessing illegal fishing equipment; gigging fish	1 - 31 - 61	50.00
Julian Huser; Victoria	. Possessing illegal fishing equipment; gigging fish	1 - 31 - 61	50.00
Robert William Kiebler; Winfield	. Possessing game animal during closed season	1-4-61	5.00
Chrase Hardyway; Wichita	. Possessing game animal during closed season	1-21-61	10.00
Henry M. Walters; Wichita	. Shooting game birds in nonflight	12 - 1 - 60	25.00
Richard V. Curry; Wichita	. Shooting game birds in nonflight	12- 1-60	25.00
Dale Shaffer; McCune	. Taking and possessing fur-bearing animals without license	1 - 3 - 61	5.00
Chuck Nicols; Salina	. Trespassing	1 - 7 - 61	5.00



The Marais des Cygnes Waterfowl Refuge lakes produced some good bass fishing early this spring. Shown here is John Havet of Pleasanton with a string of six which weighed from one and one-half to four pounds. These were taken April 16.



I GIVE MY
PLEDGE AS AN AMERICAN
TO SAVE AND FAITHFULLY TO
DEFEND FROM WASTE THE
NATURAL RESOURCES OF
MY COUNTRY - ITS SOIL
AND MINERALS, ITS
FORESTS, WATERS.

* AND WILDLIFE *

S. L. Loewen,
Tabor College,
Hillsboro, Kans

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