

KANSAS FISH AND GAME



VOL. VI

FEBRUARY 25, 1944

No. 11



COMMISSIONERS

LEE LARRABEE, *Chairman*..... Liberal
 GARLAND ATKINS, *Secretary*..... Fort Scott
 JAY J. OWENS..... Salina
 H. M. GILLESPIE..... Wichita
 CHAS. HASSIG..... Kansas City
 HARRY F. LUTY..... Sharon Springs

FISH AND GAME DIVISION

HARRY SMITH, *Superintendent*..... Quail Farm, Cahata
 LEONARD SCOTCHLAND, *Superintendent*..... Meade County Pheasant Farm
 CHARLES TROXEL, *Superintendent*..... Quail Farm, Pittsburg
 SETH WEAVER..... Fish Culturist

DISTRICT GAME PROTECTORS

FRED ANDERSON..... Dornison
 JIM ANDREW..... Anthony
 A. W. BENANDER..... Topeka
 H. D. BYRNE..... Concordia
 JAMES C. CARLSON..... Salina
 JOE CONCANNON..... Lansing
 JOHN DEAN..... Emporia
 JOE FAULKNER..... Coffey
 L. DICK GOLDEN..... Goodland
 ARTHUR JONES..... Downs
 A. E. KYBER..... Seward
 ROY KOPFER..... Oberlin
 OLIN MINGKLEY..... Ottawa
 WALTER RICKEL..... Independence
 JOHN SHAY..... Kingman
 CARL SUBHAM..... Moundridge
 FRED TOBURN..... Irving
 CHARLEY TOLAND..... Wichita
 JOHN Q. HOLMES, Pittman-Robertson Project Leader..... Garden City

LEGAL

R. N. MULLENDORF..... Howard

PUBLICITY

HELEN DEVAULT..... Platt

STATE PARK AND LAKE SUPERINTENDENTS

DUANE CARPENTER, Butler County State Park..... Augusta
 R. A. VAN DALHM, Leavenworth County State Park..... Tonganoxie
 W. F. PIGGOTT, Neosho County State Park..... St. Paul
 GEORGE M. CODY, Decatur County State Park..... Oberlin
 C. R. DAMBORN, Ottawa County State Park..... Minneapolis
 B. E. HALE, Scott County State Park..... Scott City
 A. M. SPRIGGS, Woodson County State Park..... Yates Center



KANSAS FISH AND GAME

Published Monthly By

THE KANSAS FORESTRY, FISH AND GAME COMMISSION

Pratt, Kansas

LEE LARSEN, *Chairman*

GUY D. JOSEPH, *Director*
DAVE LEAHY, JR., *Asst. Director*

GARLAND ATKINS, *Secretary*

Vol. VI

FEBRUARY 28, 1944

No. 11

The How and Why of Things

While the first of creation, the image and likeness, levels its cities and all but destroys itself, nature and spring, the true reconstructionists, have begun their well-ordered task of healing the wounds that winter inflicted on the lower forms of bird and animal life.

On every hand we see nature at work preparing to bring forth in quantity her various kinds.

We shall devote much of this issue of KANSAS FISH AND GAME to a brief discussion of that subject.

Ducks

In this article we intend to discuss briefly the mating and nesting habits of a few pond and river ducks common to Kansas during the spring and fall migrations. Ducks are thought to select new mates every season. The actual mating act may take place prior to the start of the spring migration, as it proceeds along its course or not until the journey has been completed. Once the nesting areas have been reached, however, little time is lost in selecting suitable nesting sites and in the construction of nests. Pond and river ducks, with the exception of the Wood Ducks, are ground nesters. That single exception along with the Bullhead, American Goldeneye, Hooded Merganser and others, is a confirmed tree nester.

During the nesting period eggs are dropped into the nest on successive days and incubation begins in earnest after the normal clutch has been completed. The number of eggs usually found in nests is as follows: Mallards, 8 to 12; Teals, 10 to 12; Canvasbacks, 7 to 10; Wood Ducks, 6 to 21; Redheads, 10 to 15; and Pintails, 8 to 10. The incubation period varies from 21 to 28 days. Only one brood is raised each season.

When the ducklings are in their third week they begin to acquire their first feathers, or juvenile plumage. They then moult from the juvenile to winter plumage. It is not unusual, therefore, to find ducks during the early autumn months in various stages of moult. Only one brood is raised each season.

Male ducks, for the most part, take no part in the care and raising of their young. During the incubation period of early summer the males gather into flocks and go through the ordeals of a double moult. During the first moult they shed the brilliant plumage

of winter, assuming an inconspicuous dress similar to that of the adult female. During the second moult which occurs during the latter part of August or early September, the drakes again assume the brilliant colors so familiar to Kansas hunters. The female undergoes her first moult during the spring and winter months and a second during the early summer months. September finds the female in full autumnal plumage.

Canada Goose

The Canada Goose is presumed to mate for life. The nest of this fine game bird is usually a depression in the ground lined with whatever material can be found near by. The usual number of eggs laid by the nesting hen is five or six. The incubation period is from 23 to 28 days.

The gander does not take an active part in the actual incubation of eggs. He is, nevertheless, always close at hand during that process to protect the male and their young from possible dangers.

The courtship of a Canada Goose is described graphically by Audubon as follows: "It is extremely amusing to witness the courtship of the Canada Goose in all its stages; and let me assure you, reader, that although a gander does not strut before his beloved with the pomposity of a turkey, or the grace of a dove, his ways are quite as agreeable to the female of his choice. I can imagine before me one who has just accomplished the defeat of another male after a struggle of half an hour or more. He advances gallantly toward the object of contention, his head scarcely raised an inch from the ground, his bill open to its full stretch, his fleshy tongue elevated, his eyes darting fiery glances, and as he moves he hisses loudly, while the emotion which he experiences causes his quills to shake and his feathers to rustle. Now he is close to her who in his eyes is all loveliness; his neck bending gracefully in all directions, passes all around her, and occasionally touches her body; and as she congratulates him on his victory, and acknowledges his affection, they move their necks in a hundred curious ways. At this moment fierce jealousy urges the defeated gander to renew his efforts to obtain his love; he advances a pace, his eye flowing with the fire of rage; he shakes his broad wings, ruffles up his whole



A pair of Canada geese and brood.

plumage, and as he rushes on the foe hisses with the intensity of anger. The whole flock seems to stand amazed, and opening up a space, the birds gather round to view the combat. The bold bird who has been caressing his mate scarcely deigns to take notice of his foe, but seems to send a scornful glance toward him. He of the mortified feelings, however, raises his body, half opens his sinewy wings, and with a powerful blow, sends forth his defiance. The affront cannot be borne in the presence of so large a company, nor indeed is there much disposition to bear it in any circumstances; the blow is returned with vigor, the aggressor reels for a moment, but he soon recovers, and now the combat rages. Were the weapons more deadly, feats of chivalry would now be performed; as it is, thrust and blow succeed each other like the strokes of hammers driven by sturdy forgers. But now, the mated gander has caught hold of his antagonist's head with his bill; no bulldog can cling faster to his victim; he squeezes him with all the energy of rage, lashes him with his powerful wings, and at length drives him away, spreads out his pinions, runs with joy to his mate, and fills the air with cries of exultation."

Skunks

About the mating and denning habits of this fur-bearer very little is known. What we have read of the subject are not facts, but simply surmises and opinions.

It is a known fact, however, that actual mating is preceded by tooth and claw combats among the male. Such struggles for mates are mutually considered to be gentlemanly affairs as neither combatant resorts to the discharge of musk, their most potent weapon.

Other known facts regarding this animal are: The gestation period requires 63 days. The young, when born, are about the size of a small mouse. A mated mother will produce as many as 16 young during the season. The breeding season extends from February to June.

Cottontails

The cottontails appear to be very loose in their breeding habits. It is not unusual for them to breed from three to four times during a single season. Naturalists, for the most part, firmly believe that a new mate is selected for each breeding time. The young appear in numbers, as a result of each breeding, from four to seven, seldom less than three. The growth and maturity of the young is very rapid. The nest of the cottontail usually is a scratched out hole or burrow well concealed from the prying eyes of friend and foe. The mother cottontail assumes full responsibility for the preparation of nests and the welfare of the young.

Doves

The mating and nesting habits of this pigeon-like bird, beloved by all, are interesting and well known. During the pairing season the male circles and soars above the object of his affection uttering the mournful love call presumably so pleasing to the female.

In Kansas these birds nest from early May to late August, often to early September. Nests are frail-like structures of small twigs erected on the branches of low trees in dense thickets, on the ground and in many other places.

The two white eggs ordinarily laid require from fourteen to sixteen days incubation. The mated pair remain true and devoted to each other during the entire nesting season, raising as many as three broods during that time. The nestlings require much parental care and attention during the three weeks they remain on their nests.

The young birds take their food mixed with light-colored fluid called "pigeon milk" from the parents' crop. The young are slow in acquiring their power of flight, but such faculties are strong and fully developed before the fall migration is begun. In preparation for that annual event the birds assemble and congregate into family groups.

Swans

The Whistling and Trumpeter Swans are the true swans of North America. The Mute Swan of state lakes, city parks and game sanctuaries are a European importation. Here, with a spirit of nationalistic pride, we discuss one of the North American birds, the Whistling Swan.

Despite a drastic reduction in their former numbers, the Whistling Swan still exists in comparative abundance. They, like the other members of their family, mate for life. Their clutch of eggs usually numbers from two to seven, more often two to five. The period of incubation is said to require from 35 to 40 days. Their favorite nesting grounds are the coasts of islands of the far frozen north where the cygnets grow and

develop under the midnight sun until the fall migration.

The southward flight usually is under way by the latter part of September or very early October. Of their spring migration northward, Elliott (1898) says: "At the advent of spring the swan begin to show signs of uneasiness, and to make preparations for their long journey to the northward. They gather in large flocks and pass much of their time preening their feathers, keeping up a constant flow of loud notes, as though discussing the period of their departure and the method and direction of their course. At length all being in readiness, with loud screams and many 'who-'wao's,' they mount into the air, and in long lines wing their way toward their breeding places amid the frozen north."

Concerning the courtship of the swan, A. M. Bailey, who witnessed the display in Alaska, is quoted by Bent (1925) as follows:

"I witnessed as pleasing a performance as it has been my privilege to see. The tundra was still clothed in its winter coat of white, although pools of brilliant colors had formed here and there by the melting snow. It was in the height of the spring migration, with hundreds of snow geese, little brown cranes and shore birds in sight continually. Then, far out on the tundra I heard a different call, a clamoring, quavering call, first full and loud and gradually dying down. With the aid of the glasses I made out three swans, possibly two males performing for the benefit of the female. They walked about with arched necks proudly lifted, taking high steps, with wings outstretched, two birds occasionally bowing to each other, and as they performed, they continually kept calling. After a few minutes in a given place, they took to wing and drifted across the tundra a hundred yards, where the ceremony was then repeated."

The length of time required for the juvenile swan to assume full plumage seems to be a point of uncertainty among authorities. Doctor Sharpless, quoted by Audubon (1840) says: "The swan requires five or six years to reach its perfect maturity of size and plumage, the yearling cygnet being about one-third the magnitude of the adult." Elliott (1898) says: "It is probable that it takes fully five years before the pure white dress is assumed and the bird becomes such an ornamental object." Baird, Brewer and Ridgway (1884) make a similar statement. Bent (1925) says: "I cannot believe that it takes a swan any such length of time to acquire its full plumage."

The song or lament of the dying swan seems to be another point of argument between the philosophers and ornithologists. The ancient Socrates in the Dialogues of Plato has this to say about the subject: "when they perceive that they must die, having sung all their life long, do then sing more than



Nesting Swan

ever, rejoicing in the thought that they are about to go away to the god whose ministers they are. But men, because they are themselves afraid of death, slanderously affirm of the swans that they sing a lament. . . . I do not believe this to be true. . . . they sing and rejoice in that day more than they ever did before."

On the other hand, Dr. Elliott Coues, famed ornithologist, in his "Key to North American Birds" (1887), says of swans: ". . . it is hardly necessary to add, that their fancied musical ability, either in health or at the approach of death, is feigned by poets but not confirmed by examination of their vocal apparatus. . . . there are no. . . . muscles nor other apparatus for modulating the voice musically."

Finally, in confirmation of the claims of the ancients and the poets, Dr. D. G. Elliott (1898), reliable observer and celebrated naturalist, relates: "I had killed many swan and never heard aught from them at any time, save the familiar notes that reach the ears of everyone in their vicinity. But once, when shooting in Currituck Sound over water belonging to a club of which I am a member, in company with a friend, Mr. F. W. Leggett, of New York, a number of swan passed over us at a considerable height. We fired at them, and one splendid bird was mortally hurt. On receiving his wound the wings became fixed and he commenced at once his song, which was continued until the water was reached, nearly half a mile away. I am perfectly familiar with every note a swan is accustomed to utter, but never before nor since have I heard any like those sung by this stricken bird. Most plaintive in character and musical in tone, it sounded at times like the soft running of the notes in an octave, and as the sound was borne to us, mellowed by the distance, we stood astonished and could only exclaim, 'We have heard the song of the dying swan.'"

Swans, although their flesh is palatable, have never been favorably considered as game birds. The young swans are known as cygnets, the male swans as cobs and the female swans as pens.

Quail

Contrary to popular belief quail produce only one heavy of young during a single nesting season. The fact that many young birds are observed afield during the late summer and early fall months simply indicates that earlier attempts to nest have been frustrated by floods, predators or any one of a dozen other possible causes.

The normal nesting time for quail in Kansas begins during the early part of April and continues through the early days of September. From twelve to eighteen eggs are usually laid before incubation begins. The young are hatched after about twenty-three days. They all peep from their shells at about the same time and are ready to leave the nest as soon as their natal down is dry.

The birds of a heavy are very fond of each other, keeping together if possible at all times. They sleep side by side in a circular group on the ground ready to burst away if surprised by hunters or predators.

Mating begins at the first sign of summer. Then the mating call to quail are heard on all sides. The male in quest of a mate is a quarrelsome individual, fighting fiercely with other males for his mate. After the actual mating, the male is very attentive to the female of his choice, considered a good provider and often assists the female in brooding, feeding and protecting the young.

Although we have said the number of eggs produced by the quail in the wild seldom exceeds eighteen, it is not uncommon for pen raised birds to lay 100 or more eggs during the laying season because of the instinctive urge to produce at least one brood of young during that time.

Law Enforcement

The Commission's force of game protectors capably discharged the many responsibilities and duties assigned to it during the year. The action of many courts of assessing large fines against convicted law breakers was a matter of gratification and encouragement to our law-enforcement officers. In other years it became a custom practice of the lower courts to assess only the minimum fine against those who were convicted of violating the fish and game laws. Such fines naturally did not deter the persistent game-law violators from their evil ways. They had no fear of the courts or of small fines. They could continue to engage in their sharp practices often with a profit even after the fine had been assessed against them. Larger fines will be the means of reducing the number of law violators to a minimum and in hastening that happy, but unlooked-for day when game can go through from season to season unmolested.



The Prairie Chickens go into their dance.

Prairie Chicken

The flat hills of eastern Kansas and the sand hills of western Kansas are the principal prairie chicken areas of this state. In the former area we find the Greater Prairie Chicken and the latter, the Lesser Prairie Chicken.

The nest of the prairie chicken is invariably a molded ground cavity containing in most instances but a scant quantity of nesting materials. The average nest contains some 12 or 15 eggs. The incubation requires from 21 to 23 days. The hens attend wholly to the hatching and rearing of the young birds.

The actual mating of the prairie chicken is preceded by the mating dance; a weird but interesting sight. In the early spring as the love season approaches the birds of both sex assemble at their booming grounds before early dawn where the males dance and cavort before the females, crossing and recrossing each others' paths with their air sacks inflated, wings drooping, tails spread stiffly into fan shape, treading the ground with such rapidity and force that the sound of this movement is audible for a distance of nearly thirty feet. The males seldom fight during these dances but strut, confident that their classic dancing and pompous actions are sufficient in themselves to win the approval of the hen of their choice. These meetings and dances are continued daily, or until the hens have ceased to lay and begin to set.

At the end of summer a caribou huck has accumulated a maximum quantity of fat which lies on the back and is sometimes two or three inches thick.

The buffalo, traditional king of the western plains, at one time normally ranged from the Atlantic seaboard to the Rocky Mountains.



Mrs. Jess Farneske, Sharon Springs, with a few of the ten coyotes shot from her car while driving Wallace county highways.

Wildlife Food Plants and Food Plant Mixture

Below is a list of food plants and a food plant mixture which should furnish wildlife food over a good part of the year. The use of a phosphate fertilizer greatly increases the yield of all of these species, and should be used if at all possible.

Name of Plant	Rate Per Acre	Seeding time
Congress (Beet, Bushbean Great or Clay)	1 bushel	May and June
Soybeans (Lamb, Virginia or Missouri)	1 bushel	May and June
Cornus mollis	25 pounds	May, June, and July
Lupulina-Kansas	25 pounds	March, April, and May
Lupulina-Silvia	25 pounds	April
Buckwheat	25 pounds	July, August
Mixture:		
Cornus or soybeans	10-15 pounds	June and July
Cornus mollis	5-8 pounds	
Kornus heterophylla	5-10 pounds	
Burgham	3-5 pounds	

Raccoons

The mating of this animal, colloquially known the width and breadth of the state as "coon," takes place as near as can be determined in midwinter. For a nest it preempts the hollow limbs of tall trees.

The gestation period is 63 days. The young numbers from three to six. They are believed to be monogamous in breeding habits. Little actual information regarding their family life in the wild is available to us.

Our experience with captive coons causes us to conclude that the male is an undesirable parent because of his furious propensity in destroying its offspring. Whether this tendency is found in wild mate raccoons is a matter of conjecture.

Starlings were introduced in the U. S. about 1890.

Many Coyotes Taken for Bounty

Kansas farmers and hunters killed 55,000 coyotes in the last two years. The returns for the current quarter are not in, of course; but the indications are that the bounty payments for coyotes in July will be the largest since the state began paying a bounty. The 1941 legislature made an appropriation of \$35,000 to pay a dollar a head for coyotes for the twenty-seven months ending June 30, 1943. A year ago in March that money was exhausted by the claims of the counties, and the 1943 legislature made an appropriation of \$20,000 to pay the deficiency.

George Robb, state auditor, reports that he had paid out all but \$130 of this deficiency appropriation and had claims on approximately 1,500 coyotes on file which would not be paid until the new funds became available July 1. The legislature provided \$15,000 a year for each fiscal year beginning July 1. The current quarter is always the largest of the year as this is the season when the boys get out and dig into coyote dens and gather in the pups.

Hundred of coyote pups have been delivered to county clerks alive. Some of them arranged for the killing and scalping of the pups while other county clerks refused to accept live animals for the bounty. The county clerks pay the bounty and then present a claim to the state for whatever has been paid out. One man brought in sixty-nine scalps at one time in a southern Kansas county.

Some of the counties are paying \$2 each for each scalp of a full-grown coyote, but only \$1 for the pups. The county has authority to pay a bounty of \$1 in addition to that paid by the state. The grown animals are more vicious and destructive than the pups, hence the larger bounty payments. Many calves, lambs, and pigs have been reported killed by the coyotes throughout the spring.—*Kansas City Star*.

Pheasants

The pheasant season of 1943 in the opinion of participating sportsmen was a very good one. Birds, according to the reports, were to be found in large numbers throughout all of the twenty-one open counties in northwest Kansas. The taking of the three cock-crows allowed for each day was a small chore for most of the experienced sportsmen. Less experienced hunters report getting their limit only after putting in a hard day's work. Because of the war conditions, the expected number of hunters was not afield during the season. Therefore many birds were left to go into the 1944 breeding season, and we expect not only to reopen the usual counties for hunting but also to open additional counties to pheasant hunting in 1944.

TO KEEP THE RECORD STRAIGHT "OLE DAVE" JOYS IT DOWN

The city dads of Council Grove, Kansas, have set May 28 as a date for the opening of the 525-acre lake near that city for fishing.

A review of the fish distribution records here at the hatchery reveals the encouraging information that the lake has been stocked with approximately 100,000 fish of varying size and kind.

One of the best fish stories heard around in some time is the one told by Governor Schoeppel when he entertained the statehouse press gang at dinner the other night.

Fishing with Ray S. (Red) Pierson at Burlington last summer Schoeppel was amazed to find the Neosho river veteran baiting hooks with long strips of laundry soap. Thinking it all a joke, the governor was still more amazed when he found channel catfish on these same hooks a few hours later when lines were "run." Just to make sure, he cut one of the fish open. Inside was a hunk of laundry soap. "I saw it with my own eyes," the governor argued.

This is indeed a screwy business. If you don't want to grow old and bald before your time, stay out of it. Predators are the cause of our current spirit of discouragement. Less than six weeks ago we were called upon by a group of ranchmen who complained that their ranches were being overrun by coyotes. They wanted the game department to do something about it at any cost. Although we pointed out that such an activity was not the responsibility of the game department we did suggest the employment of trappers and the use of cyanide guns as a means of relief. The delegation thought that a sure solution to their problem despite our warnings to the contrary. That's the ticket! Kill them all, voiced the delegation spokesman. That same delegation or at least many of them, were in the office the other day with a new spokesman. They complain now against the cyanide guns and want the use of them declared to be an unlawful practice. The coyotes, through it's effective use, have been completely destroyed and as a result rabbits have increased to such an extent that damage done by them to farm crops and orchards exceeds that done to livestock and poultry by the coyotes.

The farmer and ranchman will be faced with the problem of predators until the end of time. The solution to that problem lies not in the principal of complete destruction, but rather in the more scientific principal of predator control, or as the conservationists put it, "the maintaining of natural balances."

As the result of a bombing foray recently conducted by the Fish and Game Commission at the Judge George L. Hay farm near Rago, Kansas, several thousand and fewer crows will go northward this spring to plague, plunder, pillage or otherwise sabotage the efforts of nesting migratory waterfowl. For several days preceding the actual bombing of this crow roost, Kansas Game Protectors and Farms had watched crows stream into it in countless numbers.

Four hundred and twelve bombs tied to tree tops and each containing a stick of dynamite and six pounds of steel shot were fired simultaneously after the birds had settled down for their night of roosting.

The actual bombing was done under the personal supervision of W. R. Gaines, Superintendent of the Oklahoma State Game Farms, and Glade Kirkpatrick, Tulsa, Chairman of the Oklahoma Commission. Chairman Lee Larrabee and other members of the Kansas Commission witnessed the bombing. Neighboring farmers and many sportsmen assisted commission employees in killing thousands of crows that had escaped death but were severely injured by the flying shot.

Although this is not the first instance Kansas has attempted to bomb crows out of the state, it is the largest attempt so far undertaken.

The reopening of the Meade County State Lake near Meade, Kansas, is being considered by the Fish and Game Commission as a part of their angler program for this year. The lake was closed two years ago for repairs. The required work, including the removal of coarse or undesirable fish, the planting of fish shelters and fish spawning beds has been completed. Reopening the lake will depend largely on water supply conditions.

Fish

The various species of fish require a variety of spawning conditions. Some prefer sand, others gravel and many others mud spawning beds. Here we propose to discuss the spawning habits of Black Bass and Channel Catfish.

BLACK BASS—What we will say concerning the spawning habits of the large-mouthed black bass will be from the reports of others who have made a study of that action here at the Pratt Fish Hatchery. The ponds here do not have the gravel bottoms and the fish must make the best of existing conditions.

The male fish is the nest builder. He begins its construction in waters ranging from one to two feet in depth. The fish, once it has decided on a nesting spot, removes most of the vegetable matter therefrom and fans the selected spot with fine sand until the excavation forming the nest is from two to five inches

in depth and about twice the size of the fish in width. The fanning of the nest is continued by the nest-builder, apparently to keep it clean until its mate has been selected. In the event the mate is selected before the completion of the nest, she assists the male in his construction labors. Once the fish are mated, the male becomes very active and jealously guards the female and their nest.

The courtship of these fish is of brief duration, only a few days. It is a rough and tumble affair, resulting in many wounds and scars to both fish. After this strange courtship the female begins the depositing of her eggs. During this act the male is very active, striking the female with its head and shoulders in an apparent effort to force the completion of her part of the spawning act.

When the eggs are finally emitted by the female, the male causes their fertilization by injecting his milt into the waters immediately above them. The estimated number of eggs deposited by the female largemouthed black bass is said to vary from two to twenty thousand.

The male fish guards the eggs and nest during the greater part of the time required for the incubation. The length of that time is determined largely by water temperatures.

CHANNEL CATFISH—The channel catfish spawn at the age of three years, but better results are gained at the fourth and fifth year.

Here at the hatchery spawning takes place in kegs supplied for the purpose. Three or four kegs in each pond are staked down at a depth of about two feet under water to keep them from floating. The open end of the keg is placed toward open water, but they can be pierced at any side of the pond. For convenience of collecting the spawn, the kegs are placed about six to ten feet apart.

If the water is clear the male and female may be observed striking and circling around the kegs. The male fish is the master of ceremonies, first preparing the nest by cleaning the keg of silt and dirt. After the debris is cleaned from the keg, a mucus secretion is liberated on the lower inner surface of the keg, making a very smooth, waxy appearing surface.

A female is selected by the male and lured into the keg. If the female refuses to go into the keg, she is many times treated roughly until she is persuaded into the nest. Battles of males for favorite nesting kegs and favorite females also may cause injuries, sometimes resulting in death.

Spawning takes place in the daytime from 8 a. m. to 6 p. m. and usually is completed in from one to three hours. The male and female may be in the kegs headed in the same direction, the vents close together and their bodies slightly tilted outwardly. If dis-

turbed before spawning is complete, the fish will return immediately and complete the process.

After spawning is completed, the females leave the nest, either willingly, or by force of the male fish. At no time has the male ever been observed to leave the nest unless disturbed. He remains over the eggs continually fanning them with the caudal and anal fins to clean them of sediment.

Females spawn but once a year and from all observation they have but one male. However, a male may take care of one or more females a season, but he never has more than one female at a time.

The size and number of eggs depend upon the size of the females. The first year, spawn is small and the eggs are smaller in size than those of females that have spawned for two or more seasons. The spawn from a female ranges from one-third of a pound up to six and one-half pounds. The six and one-half pound spawn is the largest ever to be collected at the Kansas hatchery. The average spawn ranges from one to two and one-half pounds.

Rabbit Industry is Hurt by OPA Ruling

A crisis in the Kansas jackrabbit industry was reported to Governor Andrew Schoeppel recently and he said he would do everything he could to prevent the \$1,000,000 annual business from disaster.

L. H. Gates, McPherson dealer who sells wild rabbit meat in eastern markets, wrote the governor that a new office of price administration ceiling price of 30 cents a head caught him with 58,000 pounds of dressed rabbits in storage which had cost him more than the ceiling figure.

"I immediately laid off seventeen employees and ceased business," he said, predicting other Kansas rabbit dealers would be forced to do the same.

Gates explained that the OPA ceiling was established on January 26, without hearings or notice. He said it made no distinction between jackrabbits averaging three and a half pounds dressed, and cottontails averaging one and a half pounds, but merely established a blanket price of 30 cents a head for all varieties, dressed or undressed. Previously he had been getting 25 cents a pound for jacks in Chicago.

The dealer predicted the action would eliminate 1,000,000 pounds of rabbit meat a year from the market and thousands of dollars worth of furs.

"This new ceiling price is only a third of the New York market price," the governor said, "and apparently it was put into effect without any investigation.

"It hits Kansas pretty hard as a big producer of wild rabbits and I'm going to see what can be done to correct the situation."

ARRESTS IN JANUARY, 1944

DEFENDANT	CHARGE	PROSECUTOR	DISPOSITION
George Wagner	Possession of fur out of season	Carlson	Convicted
D. H. Jiles	Selling furs without trapping license	Holmes	Convicted
Freddie Switzer	Selling furs without trapping license	Jones, Kiefer	Convicted
Earl Jones	Selling furs without trapping license	Jones, Kiefer	Convicted
Alf Burton	Hunting without license	Byrne, Jones, Kiefer	Convicted
Nephi Newell	Selling furs without trapping license	Bondard	Convicted
Harold Richmond	Possession of fur leaving animals in closed season	Toburen	Convicted
Orville E. Hibbs	Selling furs without proper license	Rickel	Convicted
Orville Quirin	Selling furs without proper license	Rickel, Piggott	Convicted
M. L. Stambert	Possession of furs out of season	Jones, Byrne, Kiefer	Convicted
Henry Niemeck	Possession of furs out of season	Jones, Byrne, Kiefer	Convicted
Joe Pitzer	Possession of furs out of season	Jones, Byrne, Kiefer	Convicted
J. H. Moore	Selling furs without proper license	Jones, Byrne, Kiefer	Convicted
V. F. Bondurant	Selling furs without proper license	Jones, Byrne, Kiefer	Convicted
Wm. Tammot	Unlawful selling of furs	Jones, Byrne, Kiefer	Convicted
Paul Melleker	Possession of furs in closed season	Jones, Byrne, Kiefer	Convicted
Willard Smeka	Unlawful selling of furs	Jones, Byrne, Kiefer	Convicted
W. Price	Illegal possession of furs	Bondard	Convicted
Charley Nelson	Hunting without license or proper stamp	Rickel	Convicted
Victor Sims	Illegal fur buying	Andrew, Shay, Ramsey	Convicted
C. Danber	Illegal fur buying	Andrew, Shay, Ramsey	Convicted
Oliver R. Unruh	Possession of furs in closed season	Suenram, Carlson	Convicted
Robert E. Werner	Selling furs without proper license	Holmes	Convicted
Earl Wing	Selling furs without proper license	Holmes	Convicted
R. G. Gierman	Buying furs without proper license	Toburen	Convicted
Gilbert Herrman	Possession of furs in closed season	Jones, Byrne, Kiefer	Convicted
Charley Butts	Selling furs without proper license	Rickel, Piggott	Convicted
Jack Plunk	Attempting to shoot pheasants out of season	Shay, Andrew, Ramsey	Convicted

Jackrabbits

With very little encouragement to do so, we would forego a discussion of this subject. But since jackrabbits are so common to Kansas and a source of so much wealth to many of our citizens, we feel that some discussion, however limited, should be given to them. It is the general opinion of many authorities that jackrabbits do not in the ordinary sense of the word, nest.

The mother jack is thought to protect her young by hiding them in strategic places, visiting each of her young at night when such visits can be made without disclosing the several places of concealment or otherwise endangering the safety of her young to predatory birds and animals.

The same competent authorities believe that jacks do not pair and that the males of the species are given to the practice of polygamy. The young vary in number from one to six, but more often one to three. The number of broods produced each year is a matter of uncertainty. Some authorities claim but one. Others agree that two broods could be produced under favorable circumstances and conditions. Here in Kansas we know that, regardless of the contentious opinion of others, that jackrabbits multiply far too rapidly and their numbers appear to increase steadily each year, despite rabbit drives, market hunting and other circumstances ordinarily considered unfavorable to the increase of wild game animals.

National Wildlife Week Set for March 19 to 25

National Wildlife Week will be observed this year with the week beginning March 19. Proclaimed by President Roosevelt in 1935, the week has been each year sponsored by the National Wildlife Federation from its Washington, D. C., headquarters.

During the week the story of wildlife—its decline, its restoration and its conservation—will be told through the press, from the public platform and over the radio to the 15,000,000 conservationists in the United States. How the conservation of wildlife ties in with pure water, standing forests, less erosion, with more productive lands and fewer dust bowls, will be the theme that presents the drama of American life.

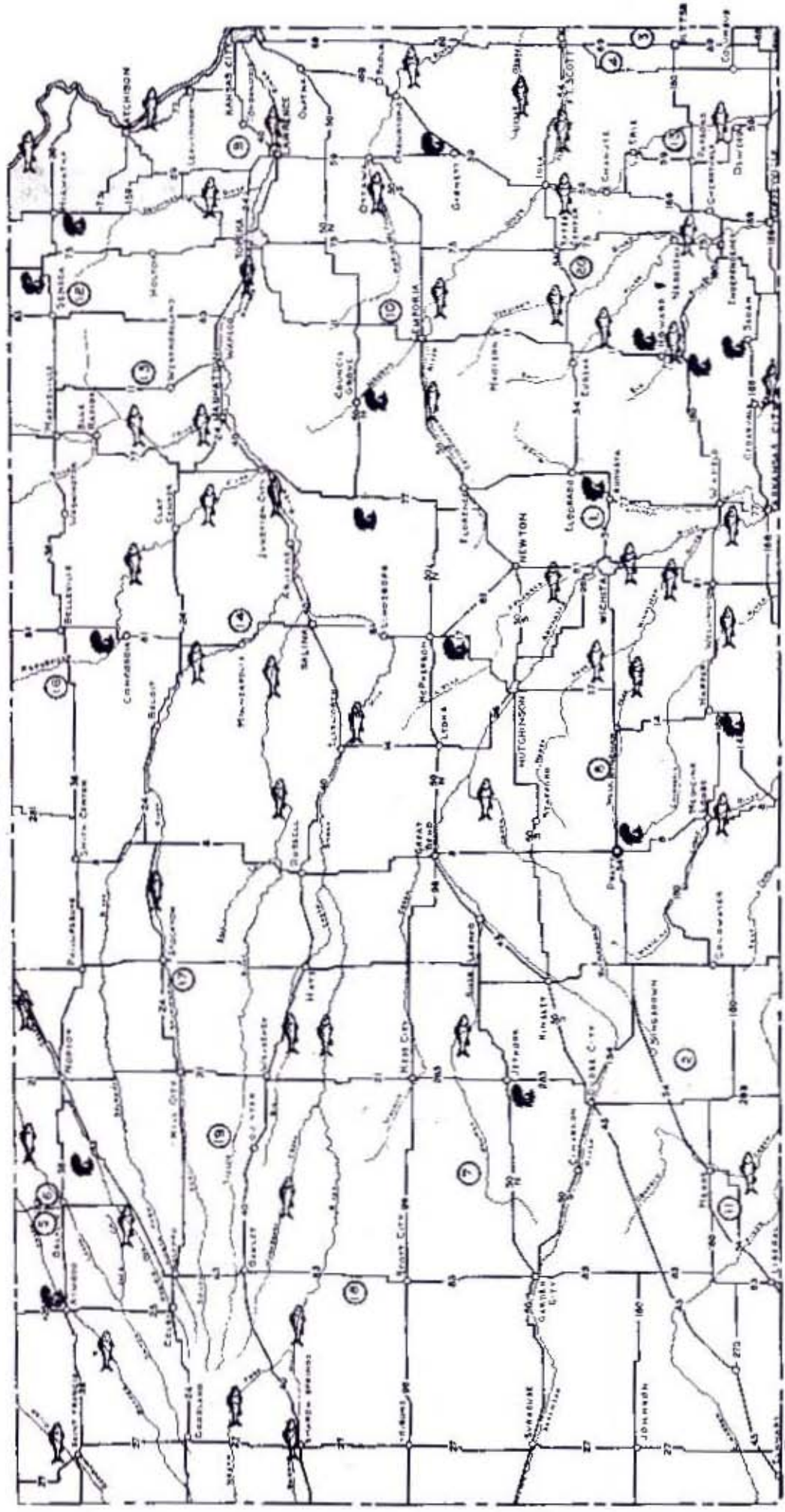
The National Wildlife Federation each year issues a sheet of wildlife poster stamps which are reproduced from paintings by famous American nature artists. This year 35 species are represented in the 64 stamps on the sheet.

Clubs, societies and individuals interested in securing further information about the activities should write the Federation at 1212 Sixteenth St., N. W., Washington, D. C.

More persons have heard owls than have seen them because most owls are active at night.

This month's cover picture is of the bombed crow
roost near Rago, Kansas, and shows only a part
of the general results.

KANSAS FISHING LAKES AND STREAMS



② State Lakes

1. Belter County State Park
2. Clark County State Park
3. Crawford County State Park No. 1
4. Crawford County State Park No. 2
5. Decatur County State Park No. 1
6. Decatur County State Park No. 2
7. Finney County State Park

③ City and County Lakes

8. Kingman County State Park
9. Lawrence County State Park
10. Lyon County State Park
11. Meade County State Park
12. Nemaha County State Park
13. Neosho County State Park
14. Ottawa County State Park

④ River and Stream Fishing

15. Pottawatomie County State Park
16. Reynolds County State Park
17. Rooks County State Park
18. Scott County State Park
19. Sheridan County State Park
20. Woodson County State Park