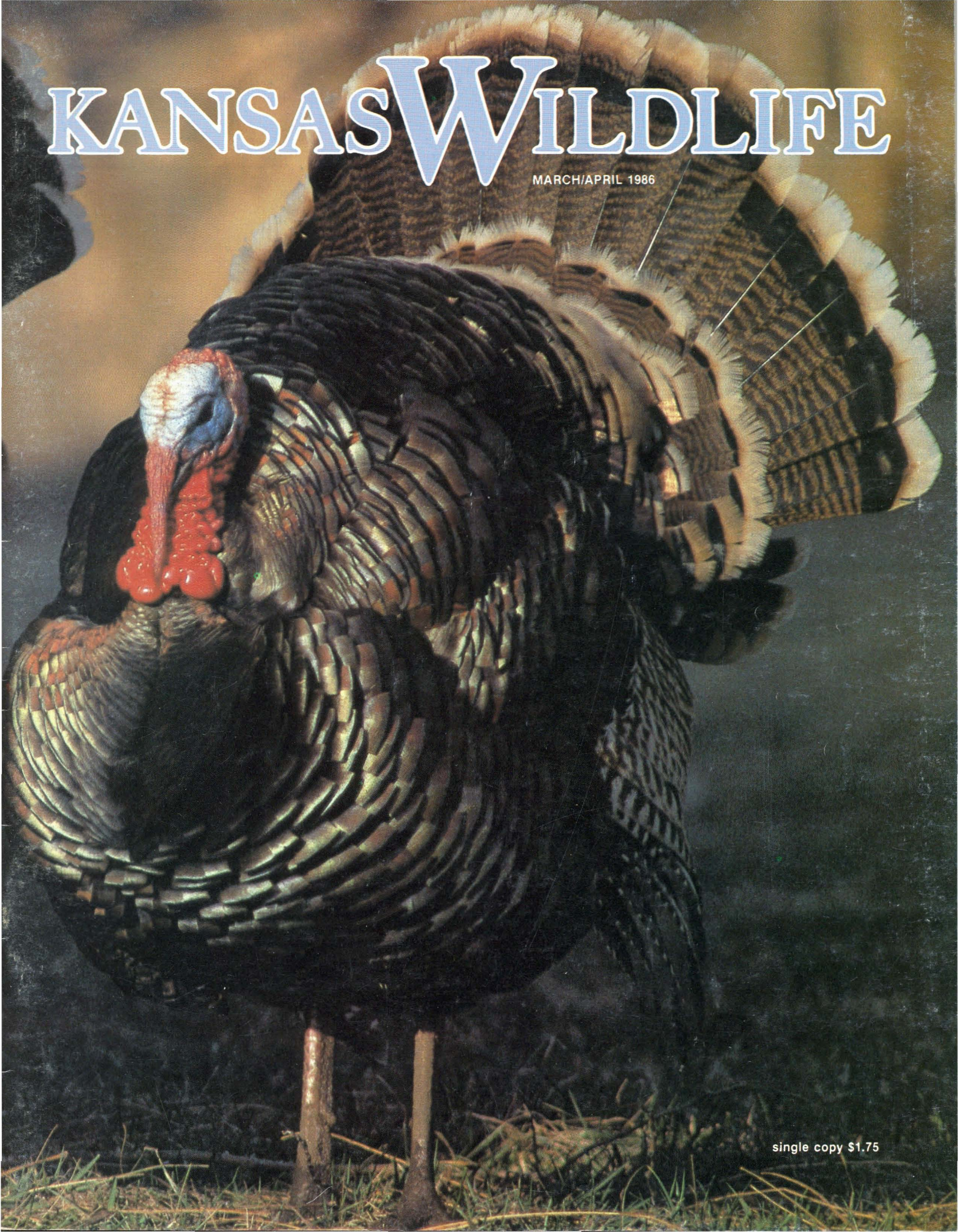


KANSAS WILDLIFE

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Evolution

Some people think we evolved from apes. I don't know. I don't think anybody else does either, though, so I'm not ashamed that I don't know. I do think it's an interesting idea, and there's lots of evidence to support the concept of evolution. In fact, we see evolution every day, whether we want to or not. Evolution is change. More than that, it's growth. It's becoming tomorrow what we cannot be today. Usually evolution means things get better, because change for the worse doesn't benefit anybody. Evolution depends a lot on future benefits to keep going.

People evolve in their attitudes toward life. That is, life in general and the life with which they share this earth. How people react to other forms of life says a lot about how they look at life in general.

A boy who has never caught a fish or shot a pheasant looks forward to an adventure in the catching and the killing. That's a perfectly natural thing, just as it is natural for a young bride to anticipate a child. Each is just as exciting a prospect as the other to the person involved, and it would be a shame to digress here to argue the significance of one over the other. Each is a part of life, each a step in the evolution of a mind. Each determines steps to come.

Evolution is a strong force, and bucking evolution is bucking change. A few people try to do that, but not very successfully. Change is probably the most constant parameter of daily life for us, and if you don't want to change, you're

in for a tough time. Just as our bodies change with age, so will our perspectives. Our attitudes, thank heaven, are not permanent fixtures.

Deciding not to evolve is not an option for us. Still, we can decide to evolve in certain directions. We choose, for the most part, our own activities, friends, and habits. These not only define our current position in life, they direct our evolution.

The boy who lands that bluegill or pops the ringneck will probably want to go afield again. Though he may have thought at one time that he'd be satisfied with one fish or one bird, he will know before the first successful trip is over that it is not only possible to catch and kill, but fun, too.

He'll grow up. His muscles and coordination will develop to the point that shooting a pheasant is easy. He'll look for other challenges in the outdoors. Perhaps he'll wind up fishing only with flies, or shooting only the occasional rooster — and that with the 28-gauge. Eventually he may not want to take anything at all.

His hunting and fishing will become excuses to roam, free of the pressures that tell him where to go when, what to buy, how to be a success, and why he should yield to the pressures. The outdoors will bring him to his senses, pluck him from the whirlpool that sucks at his sanity. He'll not want to take then, just listen. When he does, we call it mellowing. It's really advancing. It's really evolution at work.

Alas, not all people evolve that way. Some never get over the excitement of taking. Like children at Christmas, they would rather get than give. They have changed, but they have not evolved. They see in field sports a chance to prove themselves over and over again. The catch and the kill are proof.

Not very many of these people ask themselves what the proof is of, though; and that's a shame. If you're going to take another life to prove something, you ought to know what you want to prove. It's all very plain to the youngster out for his first bird: He wants to prove he can. He hasn't killed yet and doesn't know if he can shoot well enough under the pressure. He doesn't know if he's quick enough or steady enough. He doesn't know if he's as good as the people who have killed pheasants. He doesn't know, really, if he can go one-on-one with a wild creature and win.

After the first bird, he knows.

If you've climbed Everest once, you don't climb it every year to prove that you can still do it. Everest is the same. The pheasants are the same. If you're evolving, growing normally, you're getting better. Proving that you can do the same thing you did as a 12-year-old is hardly a mark of achievement. Evolution is not measured in quantity, but quality. The mountain can be appreciated again, but it can only be conquered once.

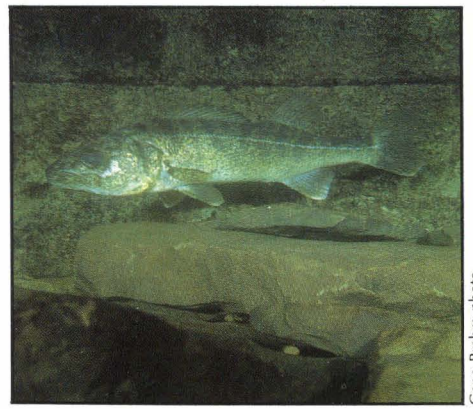
The people who never get enough of taking are unsure of where they're going — or perhaps are afraid of going anywhere at all. They measure the hunt by numbers of birds killed, just like they did in high school. They keep their fish so they can show them. They talk not of what they saw or heard or smelled in the field, what they felt or learned or experienced. Their talk is all of the bag, of weights and measurements and comparisons. Because they can catch and kill more effectively now, they simply catch and kill more. It's often a competitive game with them, pitting themselves against others in their clique, jousting for position, vying for recognition.

How childish.

There is a time for killing, and I will yet kill. But there's a time, too, for slacking the trigger finger, and I find that comes a lot more frequently now. I probably won't kill all that I once wanted to kill, and by that measure will have fallen short. Evolution has caught up with me before I'm really ready for it.

But I won't fight the inevitable. Life isn't here only to take, and it would be a shame if I took a rooster that might have been some boy's first.

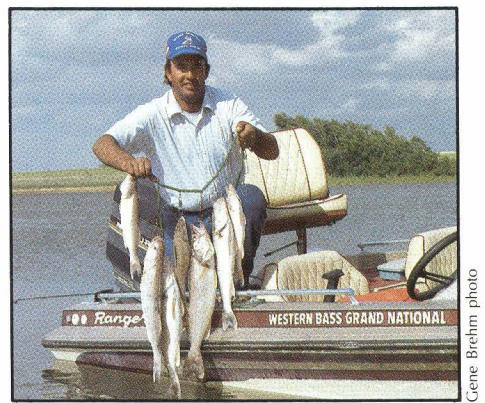
the ways of **WALLEYE**



Gene Brehm photo



Gene Brehm photo



Cene Brehm photo

Ken McCloskey

Pre-Spawn Activity

As March comes to Kansas, winter reluctantly gives way to more moderate weather patterns, and reservoirs typically become ice-free. Restless with the spawning urge, walleye begin to migrate from deep-water winter areas to shallower pre-spawn staging sites. With longer daylight hours and increased water temperatures, hormone levels initiate physiological changes for the male walleye, resulting in the formation of milt (sperm). The males then migrate to spawning areas. This movement usually occurs about mid-March in Kansas, when water temperatures reach 40 degrees F.

tivities. Since all females will not be ready to spawn at the same time, spawning will normally be spread over a two- to three-week period. Most walleye spawning takes place in Kansas reservoirs from March 25 to April 15.

The Natural Spawn

Walleye spawning sites in Kansas are generally located along lee shores in water less than three feet deep, with preferred substrate being rock rubble one to six inches in diameter. Nonetheless, Kansas walleye also utilize water around dam rip-rap (rock over 24 inches in diameter). In many of these areas, wave action and annual weathering have broken down rip-rap boulders into coarse rubble (rock six

usually vacating shallow-water spawning grounds during the day. These fish are not territorial at spawning time, though courtship behavior prior to the spawning act may involve delineated space. As male walleye numbers increase on the spawning beds, courtship groups of from 10 to 20 males are usually formed. These groups patrol the spawning areas, waiting for females to arrive. Once contact is made with a receptive female, a short courtship occurs. Two males approach and initiate body contact. The female will then break from the group, followed closely by her suitors, and make an upward rush parallel to the shore. These three fish will frequently break the surface of the water, and often they will thrash vigorously on the surface for a few seconds. The males position themselves close to and on each side of the female, with their vents close to hers. While the female releases eggs, the males release sperm; thus the egg fertilization occurs in the water. The entire courtship group follows close behind the threesome. Matings are repeated until the female is lying exhausted on her side while the courtship group of males moves off in pursuit of the next ripe female.

Data collected during spawning seasons at Kansas reservoirs suggest that not all mature females successfully spawn each spring. Factors causing this phenomenon are mostly unknown, but weather conditions during the spawn could be a contributing factor.

When they won't bite, we think they aren't there. Even when they do, we wonder about walleye. Here's the life story of this super sportfish.

The development of roe (eggs) in the females began late the previous summer and continued throughout the winter. The full development of roe in the spring does not exactly coincide with that of milt, so the first females to appear on the spawning areas are approximately two weeks behind the males. The female walleye movement usually starts when water temperatures stabilize between 42 and 48 degrees F. The female's arrival initiates spawning ac-

to 12 inches in diameter). Wave action then causes silt to fill in crevices between this coarse rubble.

While these spawning sites are the most used in Kansas, walleye in Wisconsin have successfully spawned in the flooded marsh vegetation of the Wolf River bottoms, in tangled root masses of bog vegetation in Tumas Lake, and on grass banks with standing willows and wood debris in the Mississippi River!

Walleye essentially spawn at night,

Egg Densities

Kansas male walleye mature at age two and females a year later. Egg production averages about 30,000 per pound of fish, with two-fold differences recorded between individuals and between populations. Information collected at Glen Elder Reservoir reveals that egg densities on three major spawning areas vary dramatically each spawning season. These three areas are composed of approximately 1,584,000 square feet of rock-rubble spawning



Gene Brehm photo

strata. In 1976, 1977, 1983, and 1984 these areas had average walleye egg densities (per square foot) of 3.42, 0.76, 95.9 and 60.1 respectively. Total estimated eggs on the three areas were 5,417,280 (1976); 1,203,840 (1977); 151,905,600 (1983); and 95,261,760 (1984). Total eggs deposited on these areas in 1983 were 126.18 times greater than total eggs deposited on the same areas in 1973.

In an effort to explain this large variability in egg densities, walleye spawning data of six years were compared with variables relating to the spawning walleye population structure, reservoir water levels and weather conditions during the walleye spawning season. Weather conditions during the spawn appeared to be a critical variable affecting egg densities. Weather stability is apparently a key. With warm, clear days and cold, clear nights, water temperatures in the shallow-water spawning areas (less than three feet) fluctuate greatly. During this time, the walleye appear to reduce spawning activities. Conditions favoring more consistent fish spawning activity seem to be overcast days followed by overcast nights, conditions that do not produce great variations in day-to-night water temperatures. Spawning periods are extended and more females spawn successfully, increasing egg densities on spawning sites. The second variable that apparently influences spawned egg density is walleye spawning population structure: the more sexually-mature fish within the population, the greater the number of eggs deposited.

Egg and Fry Survival

Since walleye broadcast their eggs upon the substratum and exercise no parental care, the incubating eggs are subject to numerous hazards. Wave action can windrow eggs on the shoreline and cause physical damage to them, or can cover them with silt and other foreign material that can smother them. Other fish using the spawning

areas can prey on walleye eggs. Sudden water level changes can strand eggs on dry ground.

Walleye eggs hatch in about 20 days at temperatures of 50 to 55 degrees F. Colder water lengthens the incubation period, while warmer water shortens it. These factors and others influence walleye egg survival. Data on egg survival in Kansas is limited; but other states have reported egg survival rates on rock-rubble bottoms ranging from 0.5 to 35 percent.

Newly-hatched walleye (fry) average 0.3 inch in length. The fry are attached to a large yolk sac that provides a three-to five-day food supply. Before this food supply is depleted, fry must be able to feed themselves or they will perish. Fry do not have paired fins, and their movement is restricted to vertical swimming. They accomplish this by sinking in the water and then, with a vigorous motion of the tail muscle, move in a vertical direction.

Fry are moved from the spawning grounds, along with their food supply (free-floating aquatic micro-organisms called plankton), by wind-generated water currents. In 10 to 12 days, at 0.4 to 0.8 inches in size, fry develop paired fins sufficient to allow horizontal movements. At 14 to 21 days of age, when they surpass one inch in length, they are able to move into the shoreline to feed on insect larva and small fish. From this point, growth is rapid. With an adequate forage base (primarily gizzard shad in Kansas) they will average eight to nine inches in length by October. During this growth period, numerous hazards have been encountered by the young fish and only one to 15 percent have survived. Most nine-inch fish will survive to a catchable size of 15 inches the following year.

Data from Glen Elder Reservoir indicated approximately 150,000,000 walleye eggs were deposited on three major spawning areas in 1984. Since egg survival ranges from 0.5 to 35 percent, it is possible that from 750,000 to 52,500,000 eggs produced fry. If one to 15 percent of those fry survived to nine inches in October, then the 1984 year class re-

sulted in 7,500 to 7,815,000 walleye. As can be readily seen by these calculations, walleye year classes can vary tremendously, depending upon egg and fry survival in any given year.

Artificial Spawning

At times Kansas Fish and Game biologists will set trap nets to capture spawning walleye to strip the females of eggs and fertilize them in a controlled situation. These fertilized eggs will then be transported to hatchery facilities. Some of the hatched fry are then stocked in Kansas impoundments, while others remain in the hatchery to be nurtured to fingerling size (two to four inches) before stocking.


The question has often been asked, "What is the effect of this procedure on natural spawning walleye populations?" Let's speculate on an answer. Trap nets will generally capture two or three hundred males of a spawning population on any given night. In addition, between 30 and 40 ripe females could be taken. Assuming that these fish would have completed the spawning process, their eggs are lost from natural recruitment. If 50 million eggs were removed from the reservoir, using average egg survival rates (15 percent) 7,500,000 of these eggs would have survived. If we assume an average fry survival rate (7 percent), then we have removed 525,000 fish from the reservoir walleye population.

At the hatchery, though, about 60 percent of these 50 million walleye eggs will survive to be planted as fry. That's 30 million little fish! Restocking only 10 percent of these in the parent lake will far more than make up for the eggs taken. The rest can be used to build other fisheries.

In Kansas, we rely on both natural recruitment and stocking to support our walleye populations. With careful planning and management, existing walleye fisheries can be maintained, others expanded. The goal is to give more Kansas anglers the opportunity to catch this superb game fish. □

a place for HERONS

text and photos by Bob Gress



Peering through the slit in the bur-lap blind, I beheld a remarkable sight! The 20-foot cedars seemed like Christmas trees, each decorated with an assortment of long-legged, long-necked birds. Many were dark in color, others were spotless white with bright yellow or green skin patches near their eyes. Some birds were displaying, waving spread plumes on head, breast, and back like filmy fans. Five species of herons, including the great egret, snowy egret, little blue heron, cattle egret, and black-crowned night heron were present. From the 16-foot tower, I looked down into dozens of nests. Many contained bluish-green eggs. Some nests held small chicks. From mid-April to the end of September, this heronry would pulse with the life of thousands of herons and egrets as they reared their young. The confusion of activity, along with the smell of ammonia and the cacophony of hoots, squawks, and gurgles, made it difficult to concentrate on photography.

Sunnyside Nursery and Landscape Center, just south of Wichita in Hays-

ville, doesn't seem a likely place to find such a large heronry. The business, several homes, and equipment buildings are within 100 yards of the nesting area. Heavy trucks loaded with nursery stock stir up dust within 15 feet of nesting little blue herons. Overhead, egrets watch with casual interest.

Tom and Marilyn Mosteller, along with Tom's brother, Neil, operate the nursery and landscaping firm. Neil first noticed the birds in mid-April, 1983. He didn't know for sure what they were, but he did suspect they were something unusual. Tom thinks the herons were attracted to the area because of some overgrown nursery stock. The area the birds use is a fairly dense planting of cedars, arranged in rows and only four to six feet apart. The overlapping branches are good spots for nest-building.

Guy Ernstring recently completed a Kansas nongame wildlife study on the nesting distribution of herons in the state. His study showed that in 1983 there were 10 active colonies in eight counties, not including approximately 100 colonies of the Great Blue Heron.

Ernstring says the Mosteller heronry is unlike others in the state. For one thing, it's the most accessible heronry — at most other sites the birds flush when a person gets within 200 yards! It's also a mixed heronry, containing five species and the only nesting Great Egrets in Kansas. Finally, with one third of the state's nesting heron population, it's Kansas' biggest roost.

Attempting to determine the number of birds in this heronry seemed a difficult task. In mid-June of 1985, a nine-member team of volunteers assembled to conduct a count of birds returning for the night. Armed with binoculars and notebooks, the group watched hundreds of birds restlessly fly about the trees. Geula McDonald, a Wichita Audubon Society member, had helped on a number of counts during previous years. She had already placed her lawn chair in position and was busy passing out homemade persimmon cookies when she stopped and pointed: Five little blue herons, barely visible in the sky above, rolled to their sides and plummed. They banked into a series of S-shaped maneuvers. On set wings they skimmed the trees and settled into the tops of several cedars.

The count began at 6:00 p.m. as birds began returning to the heronry for the evening. After the first hour, 275 birds had been counted. Between seven and eight o'clock the pace picked up, with 509 birds coming in to roost.

A three-foot-tall egret, showy plumes trailing in the wind, swooped over the counters and alighted on its nearly flat stick nest. Four young immediately stood and clamored for food. One grabbed the bill of its parent, then



pumped it vigorously, hoping to stimulate the adult into regurgitating a meal.

By 8:15 the lawn chairs had been abandoned. The action was reflected in the team's comments. "Record another 25 little blue herons! Here come two more great egrets! Was that a snowy or a cattle? Help!" A flock of cattle egrets appeared suddenly over the windbreak and glided into the cedars. "I think there were 44 in that group!"

Nine o'clock came quickly. A tally showed 1,215 birds in the previous hour. By 9:15 it was too dark to see, so the counters called it quits. Over 2,300 birds had been counted between 6:00 p.m. and 9:15 p.m.! Geula posed the question for the rest of the counters. "So how many herons are here?" The birds already in the heronry when the team arrived had not been counted. Approximately two chicks would hatch from each nest. In the previous year the two-acre patch of trees had over 1,700 nests. A few calculations later it was con-

cluded that, by the season's end, nearly 7,500 birds would have used the area! Geula passed out the rest of the cookies.

To the Mostellers, the most beautiful birds are the egrets or white herons. The great egret and snowy egret are both adorned with long, graceful plumes, or aigrettes, during the breeding season. The mated pairs use these feathers in an elaborate courtship ritual. With much pomp, the birds bow and strut their elegance while uttering a guttural sort of sigh. This display helps cement the bond necessary for a successful nesting season.

The nesting egrets are a daily treat for the Mosteller family, but at the turn of the century these birds were nearly extinct. A high demand for feathers in ladies' fashions, coupled with an unregulated harvest, nearly led to the birds' extirpation. Herbert K. Job, in a 1905 book titled *Wild Wings*, published some figures to account for the egrets' near disappearance:



When we know about the millinery plume trade, we understand the reason. In 1903 the price for plumes offered to hunters was \$32 per ounce, which makes the plumes worth about twice their weight in gold. Here are some official figures of the trade from one source alone, of auctions at the London Commercial Sales Rooms during 1902. There were sold 1,608 packages of "ospreys", that is, herons' plumes. A package is said to average in weight 30 ounces. This makes a total of 48,240 ounces. As it requires about four birds to make an ounce of plumes, these sales meant 192,960 herons killed at their nests, and from two to three times that number of young or eggs destroyed. Is it, then, any wonder that these species are on the verge of extinction?

Since the graceful aigrettes are only present as breeding plumes during the nesting season, harvesting the adults also killed the chicks and unhatched

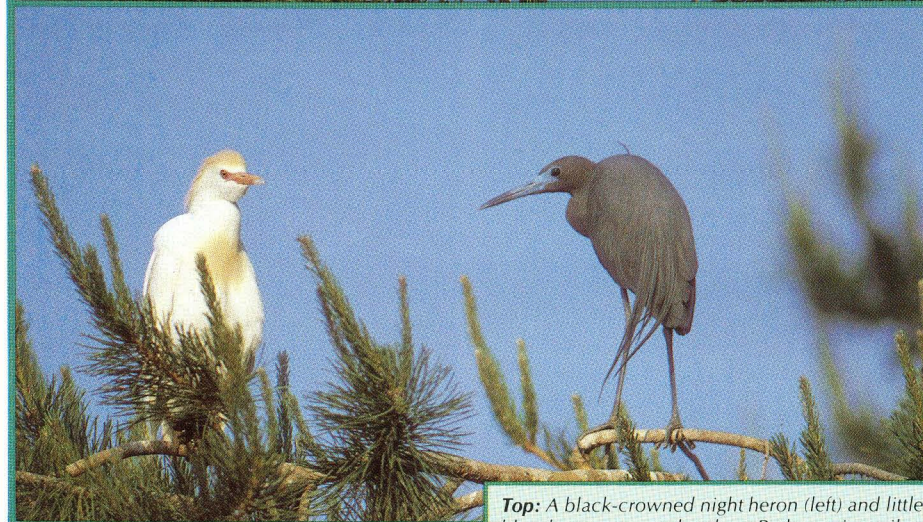


Title Page: A snowy egret perches above the heronry, eye on her nest. **Above:** She settles on her clutch and prepares to incubate. This nest, with those of other herons, is in a dense stand of 20-foot cedars. **Top right:** These little blue herons are nestmates and not yet able to fly. **Right:** A pair of cattle egrets preens; a single male puts on a mating display. **Below:** In the course of a season, the heronry at Haysville may host more than 7,000 birds!



eggs. With continual shooting pressure and virtually no nestling production, egrets had disappeared by the turn of the century from their habitat in the marshlands of the Southern states. A private sanctuary in Louisiana, Avery Island Preserve, was the one notable exception.

In 1886 George Grinnell became one of the first hunters to plead for the welfare of the birds. In the pages of *Forest and Stream*, he urged concerned individuals to unite. Nearly 39,000 people responded, and one year later the Audubon Society was formed, honoring the naturalist and painter John James Audubon. Riding the wave of public concern, a flurry of legislation, culminating with the 1913 Migratory Bird Act, offered the needed protection for the declining egrets.



Top: A black-crowned night heron (left) and little blue heron eye each other. Both are juveniles.
Center: The cattle egret (left) and little blue heron here are adults. Note the difference in appearance of the little blue herons in the photos. Accurate bird counts by species are difficult when juveniles are mixed with adults in flight.
Below: A cattle egret is about to feed her young.

While the plume trade decimated populations of the great egret and snowy egret, the cattle egret was not affected. In fact, this bird was not even found in North America at that time and is thought to have later come from Africa, where it caught insects stirred up by grazing ungulates. The cattle egret was first seen in South America in 1880. A projected flight time of 40 hours would have enabled it to make the 1780-mile trans-Atlantic flight with three rest stops. From South America, the cattle egrets continued to spread and were first seen in the United States around 1930 in the Florida Keys. They arrived in Kansas in the early 1960s. Today the cattle egret has the distinction of being one of the few birds to arrive in North America without human assistance.

Cattle egrets account for nearly 40 percent of the birds at the Haysville heronry. They are outnumbered only by the little blue herons, which represent 50 percent of the total. The adult little blue heron has a uniform slaty-blue



plumage, though for much of its first year of life it is entirely white. As the juvenile's seasonal molt progresses, it is often referred to as a "calico heron." The adult plumage is usually completed by the beginning of the bird's second year.

The black-crowned night heron is the rarest of birds at the Mosteller heronry; but according to Ernsting, it is the most common nesting heron in the southwestern portion of our state. It is the most aggressive of all birds at the heronry. Even the chicks, with their heavy bills and stocky bodies, can put adult cattle egrets to flight if they land too close to a nest.

Mike Dwyer, a recent graduate of Baker University, has accumulated a notebook crammed with observations of the Mosteller heronry. As part of a Kansas nongame wildlife study, he spent roughly 100 hours in an observation tower during the 1985 nesting season. Mike could look into 73 nests, all within 25 feet of the tower. He discovered that 3.4 eggs were laid per nest and only 62 percent hatched. Of these, 1.5 chicks fledged, or left the nest. Mike says the low production may be due to a shortage of food.

There may not be enough small fish, frogs, and crayfish in the rivers, canals, lakes, and ditches around Wichita to continue to support a heronry this size. An adult bird eats a quarter of a pound of food each day. For the course of their annual stay in the Wichita area, the birds in the heronry consume over 140 tons of food! Because of food limitations, then, the heronry may not get much larger.

The cattle egret is not affected as much as the other herons by marsh or riparian food supplies. It is primarily a grassland feeder and often follows cattle, catching spiders and insects stirred up by their grazing.

A heavy concentration of well-fed herons can create waste problems. The droppings from the birds produce an excess of nitrogen in the soil. Coupled with defoliation caused by the thousands of perching birds, it will alter the nesting habitat and eventually cause the birds to seek a new site. In some dense heronries, the birds have been known to move after only four to six years.

On a hot July evening in the summer of 1985, Tom Mosteller sat on a bench overlooking the trees dotted with thousands of birds and talked about the heronry. "Oh, we've enjoyed it! I'm often out in the evening to watch the birds coming in. It gives us a good feeling to have something unique to the area. We've even taken pictures and video-tapes to send to our relatives in Washington state."

Tom described the area as being a treeless plain before his father began

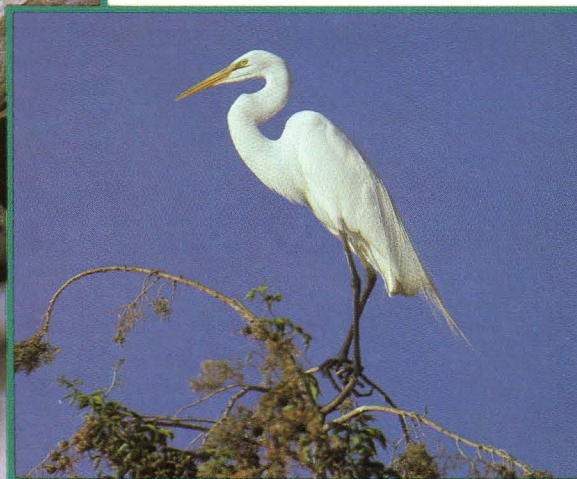


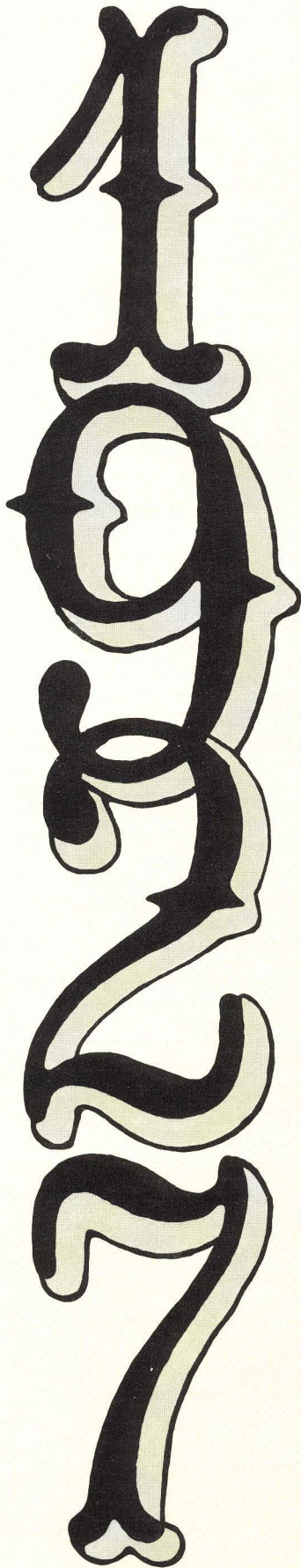
planting nursery stock. "Pappy would have been proud to see the pleasure and beauty these birds bring to so many people around Wichita!" He pointed to a pair of great egrets as they floated over the trees before alighting next to their young.

I thought about herons and people as I bade Tom good-bye. Great natural wonders like the Haysville heronry are rare. The birds are fortunate, indeed, to have landlords as supportive as the Mostellers. □

Top left: This great egret is in full display. Those aigrettes (plumes) once brought \$32 an ounce!

Top right: Aigrettes trailing, another great egret approaches its nest. **Left:** This young cattle egret is the same color as its parents, but hardly as graceful! Its survival depends on security at the nest — something the Mostellers of Haysville help provide. **Below:** A great egret plays sentinel. Birds are at this heronry from mid-April to the end of September.





... Kansas sportsmen remember.



Bruce Taggart

The good ol' days. How many times have you heard someone talk about hunting or fishing and how good it was way back when? Like the time they jumped ducks in the slough and had to bring a wagon down to get them all home, or the day they caught so many fish that the boat sank. The trouble with these stories is you never know how exaggerated they are.

A friend recently gave me a copy of 1927 Kansas Fish and Game regulations. After reading it from cover to cover, I dug out a few more historical facts and contacted local folks who remembered that time. Their observations were just as intriguing as the regulations pamphlet.

About 1.8 million people called themselves Kansans in the late 1920s. Two and one-half million reside in the state today. In the last 55 years the number of farm units has decreased from 166,000 to 74,000, but crop acreage has risen from 24.3 million to 30.6 million. What all these figures mean is that today we have many more people seeking outdoor recreation on less than half as many farm units with significantly less wildlife habitat.

Nonetheless, Kansas sportsmen today enjoy many more outdoor opportunities than did their counterparts in 1927. Today we have the privilege of hunting deer, turkey, antelope and pheasants, none of which were legal game in 1927. Fish, too, are more numerous now, and we have more species inhabiting more acre-feet of water. In fact, 1927 was the year that "for the first time in the history of Kansas the fishermen are given the opportunity to help along the cause by buying licenses."

In 1927 a resident fishing license cost \$1, a non-resident license \$13. In 1984 the cost is \$12 and \$23 respectively. But many other items were also considerably cheaper during pre-Depression days. Wheat was \$1.15 per bushel, firewood \$4 a cord. Bacon was 25¢ a pound, a hamburger cost 5¢ and a 1926 Star Roadster auto sold for \$450. Good ol' days, indeed!

In 1927 the creel limit was 15 game

fish per day with no possession limit. Game fish included bass, channel catfish, crappie, bluegill and yellow perch. Many fishermen think length limits are a new idea, but as with most new ideas, someone had thought of it before. Length limits in 1927 were 12 inches for bass and channel catfish, seven inches for crappie and six inches for yellow perch.

Conservationists back then were also concerned about hooking mortality on catch-and-release fishing. The regulations state: "The Commission asks all fishermen to wet their hands before handling undersized fish to throw them back." Another quote from this old book also has merit today: "Do not hog the fishing waters. Give somebody else pole room."

A few things *have* changed. Today biologists tell you not to throw minnows in the water for fear of contamination, but in 1927 "You are also urged to dump small minnows back into the water. The minnow population is declining."

Bob Holtz is a native of Neosho Falls. He now operates a bait shop in Humboldt. Bob has fished all his life and was 20 years old in 1927. About the only place to fish back then was the river and natural oxbow lakes, but fishing was pretty good. Bob said he could regularly go to the river and fish with sod worms and catch 12 to 15 channel cats in a day—up to 12 pounds in weight! If he went down along the riffles and fished blood bait, he could catch 35 to 40 smaller catfish.

"The Neosho River was good for catfish, drum and rough fish, but you had to go to the oxbow lakes and smaller rivers to catch many crappie, bass or sunfish," Bob recalls. "Back then nobody used artificial baits and more people fished primarily for food."

It seems quite a bit of snagging, trapping, telephoning (stunning fish with electric current) and noodling (catching fish with bare hands) took place. Bob remembers an 83-pound flathead taken from the dam at Neosho Falls by hand-fishing. In one funnel trap 282 channel cats from two to three pounds each were taken in a three-night set. Bob opines: "There are about as many fish in the river today as back then, but the average size is much smaller. The fishing holes were not as crowded in 1927 either."

The bottom line is that, compared to what it was in 1927, fishing today is great! Walleye, stripers, wipers, trout and some other species weren't even available until recently. Black bass,

crappie and white bass have increased in numbers. Of course, anglers have also proliferated—there's no free lunch!

How about hunting? Are the current fees too high? After all, in 1927 a resident hunting license cost \$1, a non-resident license \$15. Now the cost is \$9 and \$50. Some folks think that's too much. But let's look at what they're getting for those extra dollars.

In 1927, you could hunt quail only from November 20 to November 30. The daily bag limit was ten, the season limit 25. It was illegal to hunt on Sunday. Prairie chicken season ran from October 20 to October 30, with a daily bag of five and a season limit of 20. In contrast, upland gunners in 1986 can hunt from early November until the end of January. Besides a daily bag of eight quail and two prairie chickens, a 1986 hunter can also shoot four cock pheasants, a commodity unavailable in 1927.

Everett Stange, another Humboldt resident, was 21 in 1927 and lived on a farm northeast of Yates Center. He drove a Model T roadster to his hunting spots. Everett spent most of his field time jumping ducks from area ponds. He recalls there were many more ducks in that area before all the big lakes were built. He says it wasn't uncommon to flush 200 prairie chickens at a time. In subsequent years he saw prairie become cropland and pastures overgrazed. Chicken populations declined with the habitat. Everett remembers more quail in 1927, too, but fewer bobcats.

Rabbit seasons haven't changed much since 1927, but now there is a limit of 10 on cottontails. There is still no limit on jack rabbits, though jacks are not nearly as abundant as in the twenties. Bill Bongartz recalls the rabbit drives held when he was a youngster. These were large-scale operations and tough to work if you were a game protector. The 1927 regulations observed that "Many good citizens join rabbit and coyote drives without first procuring a hunting license. They figure, if they think at all, that no one will molest them in such a big crowd. This position is similar to mob influence. It is not the right position to take."

Hunting opportunities near Bill's home in western Kansas were limited in the twenties. A life-long resident of Ellis, Bill recalls that rabbits and waterfowl were the only plentiful game. Today this area abounds with whitetail and mule deer, pronghorns, turkeys, and pheasants.

Dove seasons and limits are also very

similar to those written in 1927, but other migratory bird regulations have undergone significant change. In 1927 a waterfowler could take 15 ducks and five geese per day during a three-and-a-half month season. Today the waterfowl season opens and closes in different units at different times, and the daily bag is based on points assigned individual species. Waterfowling has become one of the most complex forms of hunting.

Art Elliott has lived in Humboldt, Kansas for sixty years and hunted every year until recently. Walking into his shop and glancing at the ceiling, you can see Kansas license plates dating back to the first ever issued. "Back in the twenties and thirties it was nothing to walk a half-mile hedgerow and see four coveys of quail," Art says. "The birds didn't fly as far when flushed as they do now. These days you need a telescope to see where they land." He notes the lack of cover and other habitat as the main reason for declines in bird numbers. "One farmer shot 57 quail off his land the year before he hired someone to clean up the hedgerows. The next season he had no cover — and no birds to hunt." Art can't help but laugh when he talks about prices in 1927. "A box of smokeless powder shotshells cost 45¢, a Browning automatic shotgun was \$42.50, and a pair of coveralls that today cost \$20 could be had for 50¢."

In 1927 there were no big game seasons. It was illegal to take any deer or antelope, and there were no turkeys. In 1983 Kansans legally harvested 17,500 deer, 339 antelope and 1,425 turkeys.

Beaver and otter were protected in 1927, but other furbearers could be taken from November 16 to January 31 with a 30-trap limit. Today there is no limit on the number of traps to be set. A trapping license in 1927 cost \$1. In 1984 a furharvester's license costs \$15 and entitles the trapper to participate in a 2.3-million-dollar industry.

In 1927 the governor appointed a State Game and Fish Warden at an annual salary of \$3,600. For that trusted position, this person also had to post a \$5,000 bond for "honest and faithful disposition of duties." The Warden could be terminated "anytime with or without cause." Deputy wardens, at an annual salary of \$1,000, had to post a \$1,000 bond.

Many people today perceive anyone in a Fish and Game uniform as a warden. While in 1927 there was one State Warden, today

there are 71 in the enforcement division. The agency now employs 269 people, including information-education specialists, conservation workers, hatchery managers, and research and management biologists.

Ownership of the wildlife resource is the same today as it was in 1923 when it was defined in the statutes. That is, wildlife belongs to the state—and to every Kansan. Most wildlife exists on private land, and many landowners go out of their way to provide for it. Still, in some areas wildlife only survives *in spite of* the landowner. Just as we have unethical hunters, we also have landowners who purge the land for all they can gain in the short term. Loss of habitat is the biggest threat to wildlife populations in Kansas. Since 1927 a great deal of habitat has been eliminated.

The future of Kansas' wildlife resource will be what Kansans want it to be. It does not hinge on the Fish and Game Commission, or on hunters and fishermen only, but on all Kansans and the values they place on wildlife. In short, it will depend on whether we give more than we take or take more than we give.

In Missouri the public has shown a deep commitment to their wildlife with the passage of an eighth of a percent sales tax for funding their Conservation Commission. This tax has broadened the base of support to include the entire public who owns and has responsibility for the wildlife resource. Missourians have provided funding that dwarfs the Fish and Game budget in Kansas. Here, the only people who contribute tangibly to the resource are the hunters, anglers, trappers — and those who give to the Chickadee Check-off and Wildtrust programs.

Still, Kansans have a real concern for natural resources. If this were not so, we would not have the wildlife bounty that exists today. As habitat shrinks we must make better use of that which is still available for wildlife—game and non-game alike. And we must manage more intensively. Both activities require money. Our commitment to Kansas' wild creatures will be measured by the dollars we dedicate to wildlife conservation.

We enjoy today the benefits of wise conservation practices implemented in 1927 and financed by generations of Kansans that are now gone. What we leave to future generations will tell them much about our priorities. Gaylord Nelson of the New York Times said it well: "The ultimate test of man's conscience may be his willingness to sacrifice something today for future generations whose words of thanks will not be heard." □

LION!

Rob Manes

In a half crouch, the young cougar moved silently through the frosted bluestem grass. His eyes were sharp with concentration; in the vertical slits of his pupils reflected the image of the deer.

He covered the final twenty yards at a full run. Two more strides and he was airborne. His front claws tore deep into the deer's shoulders as his 130 pounds knocked it to its knees. The rear dewclaws raked its flanks until they found an anchor. The deer stumbled to its feet, then tried to bolt, but fell again, kicking.

Sliding to one side, the lion easily pulled its prey over. He turned his head and bit through the throat, crushing the esophagus. After a time the deer lay still.

Though the deer outweighed him by more than 50 pounds, the cougar pulled it with little effort into the shadow of a huge rock bluff. Steam rose from the open body cavity as he ate first the heart, lungs, and liver. . . .

The last confirmed Kansas mountain lion was killed in Ellis County in 1904. During recent years, lion reports have become common in the state, but no conclusive evidence of their presence has been produced. Many people swear that cougars inhabit Kansas, grounding their beliefs in periodic reports of sightings. Equally adamant are those skeptical about Kansas cougar stories.

One reported cougar sighting occurred a few years ago, when a U.S. Fish and Wildlife Service agent was passing through Butler County. Just north of El Dorado his headlights caught a large tan animal, which he positively identified as a mountain lion. He had plenty of time for a second look, as the creature moved

at a casual pace down the road in front of his car — even when he came quite close.

Those who believe there are wild lions in Kansas are quick to use that sighting for proof, but the simple fact that the lion allowed the car so close arouses suspicion that it was an animal escaped from captivity. In fact, several credible sightings might be of semi-domestic mountain lions on the loose. Many cougars are kept legally by licensed game breeders — as well as by people who have purchased them illegally.

There are other reports of sightings. A Harvey County landowner reported seeing a lion several times in less than a month during 1984. He was confident in what he saw, and his description was accurate.

An endangered species biologist from the Arkansas Game and Fish Department positively identified a mountain lion in the Tuttle Creek Reservoir area of Riley County in 1977. It was a young cat, weighing about 80 pounds, that he saw feeding on a road-killed animal. Several other credible reports of a small lion in the same vicinity followed.

In 1978 a road-killed lion was reported in Cowley County, but by the time Fish and Game officials arrived, the carcass was gone and only a small spot of blood remained. It was thought that

word of the dead animal prompted someone to take the carcass for its pelt.

A rural mail carrier reported closing to within thirty feet of a cougar on a county road near Farlington in 1982. That same year several other cougar reports came from the area, but none were confirmed.

Also in 1982, a cougar was reported three times near the northeast Kansas community of Sabetha. Again, there was no confirmation.

Then there are the "black panther" reports, such as those from Coffey and Lyon counties. Though black or dark-colored lions do occur in nature, it is only rarely. The fact that cougars are very rare, if present at all, in Kansas makes the black panther reports hard to believe.



Another Kansas landowner was so confident that the animals he saw attacking one of his cows were lions that he shot at them with a high-powered rifle. Upon investigating the "panther" he hit, he found it to be a large dog belonging to his neighbor.

Dogs are among the most common animals mistaken for mountain lions. Others which have precipitated cougar reports include deer, coyotes, bobcats, and even house cats.

Kansas Extension Wildlife Specialist Robert Henderson has investigated many lion reports during the past decade. One was particularly promising, as someone supposedly had the road-killed cat in possession. When Henderson

arrived, the lion had already been

skinned and the hide was being tanned in a large container. The man who found the lion said there was part of an angus calf in its stomach.

When the hide was dipped up for Henderson to examine, a tuft on the tail quickly pegged the animal as an African lion. An examination of the carcass revealed the cat had rickets, and it was surmised that it had been dumped at the roadside by a circus traveling through the area recently.

Henderson says he is doubtful about the likelihood of wild cougars occupying

Henderson may have been more optimistic about the possibility of cougars living in Kansas at one time, but several years passing without proof has left him doubting. Like other wildlife experts, he will likely be hard to convince.

"Cougars could live in Kansas," he concludes, "but I don't really believe it. There has been no scientific evidence to prove they're here, and until there is some solid proof, I think we have to assume we don't have them."

Lloyd Fox, furbearer specialist for the Kansas Fish and Game Commission, has considerable experience with big cats. Kansas has many of the required habitat characteristics for mountain lions, according to Fox, but not all of them. He says one of the main factors lacking is large expanses of wild country.

"If you look at areas where mountain lions are known to exist," says Fox, "they are much more vast, rugged, and wilderness-like than any place we have in Kansas. Lions are most often found where there are few, if any, developed roads. Also, they establish huge ranges—100 square miles or more. Kansas just doesn't have any wilderness areas that size."

Fox won't say for sure there are no cougars living in Kansas, but he reasons that some evidence of their presence should have surfaced by now. "It's kind of like Big Foot," he says. "You can't prove the animal isn't running around somewhere, but if one were roaming Kansas, I think it would be documented by now."

He points out that the way mountain lions establish their territories also makes it unlikely they would be permanent residents of the state. Though lions do not travel or live in groups (other than cubs with the mother), cougars are social in that they establish their territories adjacent to each other. It would be difficult for two of them to find enough suitable country in Kansas to have adjacent ranges.

Fox offered an example of how this territorial system delayed the comeback of cougars in Yellowstone Park, even

Kansas. He tells of when he saw a yellow domestic cat in a pasture, mistaking it momentarily for a lion. "Out on the open prairie, it can be tough to judge size, because there is nothing to use for scale, and it's such a wide open area," he observes. "I think a lot of people are confused by that."

Henderson also points out that human social trends may influence the number of lion sightings. He notes, "Mountain lions have always been mysterious to people. As our society becomes increasingly urban, natural mystery becomes intriguing."

after removal of a long-term policy which favored their elimination. Under the National Park administration, the extermination of all predators — including lions, bobcats, coyotes, rats, mice, and others — was begun in the early 1900s. It was decades after the extirpation effort ended before cougars returned to the park area, even though suitable habitat was plentiful. It took them that long to re-establish territories, one next to the other, until the Yellowstone region was repopulated.

In studies by Maurice G. Hornocker, conducted on the Idaho Primitive Area, it was confirmed that a mountain lion established home range only where it could do so adjacent to another lion's territory. Some overlapping did occur among females, as well as between males and females without cubs, but the lions in the study showed a strong requirement for their own large tracts of wilderness.

Hornocker also found that the cougars in the study were so dependent upon their territorial system that it kept their population densities far below levels that would threaten to overharvest the available prey. Hence, the abundance of deer in Kansas may not be as important in attracting lions as some people believe.

Not all the experts are skeptics. Marvin Schwilling, KF&G's threatened and endangered species specialist, is more optimistic about the chances of finding a cougar living in the state. Schwilling notes one major problem in providing such proof is the lack of criteria for defining acceptable positive evidence. "We must have something substantial," he said, like "lion hair verified to be taken from a fence in the state, a photo of a lion or its track in Kansas, or some other solid proof."

Schwilling admits there is no way to know for sure that a lion found in Kansas is not one escaped from captivity, but he believes it would be difficult for such a cat to survive in the wild after being cared for by humans.

"I think a lion escaped from captivity would be likely to eat just about anything — including domestic animals and other things a truly wild cat would be reluctant to prey upon," he says. "Wild cougars prefer to eat beaver, raccoon, and especially deer. We have plenty of deer now — more than were here during the early exploration of this area, when we know lions lived here."

Schwilling further supports his optimism with a letter from Robert Henderson, stating that tracks left by a cougar spotted by two Pottawatomie County ranchers "appeared to be lion tracks." Other tracks found in the same area in 1972 were confirmed to be those of a lion.

Schwilling, who investigated dozens of lion reports in his first two years as endangered species project leader, says the number of lion sightings hasn't changed much in the last five years. He notes that there are some areas where lion reports are consistently generated, including Cowley, Chase, and Lyon counties.

Kirk Woods is one of Kansas' few mountain lion hunters. He travels out of state every year with his dogs to hunt cougars in New Mexico. Knowing what he does about cougars and cougar stories, Woods has grown more doubtful about their presence in Kansas.

"Someone will tell you of a lion in a certain area," Woods says, "and the next thing you know, there will be several lions with cubs traveling together around there. And there are always the 'black panther' reports, which can be discounted right away. I've yet to be shown even a lion track in Kansas."

Woods won't commit himself, however. "I'm not saying they couldn't be here. They may travel through the state; but they like really remote country, and we just don't have any here. If they were moving through Kansas, they would travel along shelterbelts, and a deer hunter would have killed one. So many people who report seeing lions in Kansas are wanting to see them, and a lot of dogs can look just like lions from a distance."

Woods is willing to help prove there are cougars in Kansas. He has volunteered his services and his dogs to investigate any timely and credible lion sighting — anywhere in the state, any time. Lions are easily tracked and treed by dogs, according to Woods, and it wouldn't be difficult to locate one if he received the report promptly — and if the lion were actually there.

"I've driven to a lot of places in Kansas just to look at dog tracks," Woods recalls, "so it would have to be a pretty good report. But I would go if it sounded sure."

Whether or not there are cougars in Kansas remains uncertain — at least officially. People who say they've seen the big cats are sure they're here. But experts point to all the research which says Kansas doesn't have anything to offer cougars in the way of habitat.

Audubon magazine called mountain lions "the most elusive animal in the world." Indeed, lion experts say they avoid human contact whenever possible. So it may be some time before we know for sure that lions are here — if they are. If the skeptics are right, and Kansas has no cougars, no one will be able to say they *don't* exist here. Happily, there are a few areas in Kansas where the cats *could* live — and where the question still does. □

Have You Seen a Cougar?

Nearly all the investigations of Kansas cougar reports eventually lead to dogs, and the tracks usually tell the story. It is not difficult to distinguish big cat tracks from those of other animals:

The heel pad of a lion has three distinct lobes on its back edge. A dog's is regular and triangle-shaped. Also, the heel pad of a cat pushes deeper into the track at its front edge. A dog walks on the rear of its foot, forcing the *back* of the heel pad deeper.

Size is no indicator, as many dogs leave tracks as large or larger than those of a cougar. The tracks of an adult mountain lion are three to three and one-half inches wide.

Toenail marks don't separate dog tracks from lion tracks, either. Lions may show fine nail marks where footing is uncertain or when they are running or turning. Dogs' nails may not show if they are clipped or worn down.

The toes of a cougar are small in comparison to the rest of the foot, while dogs' toes make up a large portion of the track. Cougar toes are more oval, not round as canine toes, and dog toes form a symmetrical print, each digit being about the same size. A cougar's toes are of different sizes, like the fingers of a human hand, and they tend to spread wide apart when a cat is walking on soft terrain.

Track patterns can show whether they were made by a cougar. A lion seldom travels a straight course, while dogs usually do. A cat will go out of its way to walk on logs and rocks, apparently to gain a higher vantage point from which to seek prey. Dogs avoid such footing.

Other characteristics of cat tracks include brush marks left as the paws swing from the outside with each step. Cougars often overstep their front tracks with their back feet, obscuring the entire track pattern. Dog tracks are normally distinct.

Researchers have developed other methods for chemical and microscopic analyses of feces and hair. The presence of certain digestive acids in droppings can prove or disprove they were left by a lion. In some instances it is possible to determine the sex of the cougar that left the evidence. But nothing can prove the track or dropping or hair was left by a wild lion.

If you think you've seen a lion, be a skeptic. Don't assume it is unless you've eliminated all other possibilities. If you're quite sure, contact your nearest Kansas Fish and Game office immediately with the exact time and location of the sighting. Incidentally, it is legal to shoot a cougar, as they are not protected animals in the state. No one who has any interest in these creatures, however, would want to see the first confirmed Kansas cougar in 82 years dead.

the center section

Edited by Rob Manes

LETTERS

FOR THE RECORD

Editor:

In reference to the letter in which Mr. Sinclair from Cherryvale put down bowhunters: First, I applaud your answer and second, Mr. Sinclair doesn't know much about bowhunters.

Every archer I know hunts with a bow because he loves the outdoors and the challenge of taking game at close range. Bowhunters are the most dedicated hunters of all.

It's not the killing of the deer that makes an archery hunt successful, but the hunt itself.

Floyd H. Yeager
Kansas City, KS

Editor:

The "What's Wrong at Roadside" article in the November-December 1985 issue of your magazine contained misleading information about the mowing practices of the Kansas Department of Transportation. Ditches must be mowed, otherwise the high growth allows silt to settle and build up, causing flooding of adjacent farm land and roadways during the heavy rain storms. For many years, KDOT's policy has been to mow the entire right-of-way only once every three years, unless an area becomes overgrown with weeds. KDOT policy states that "shoulders should be mowed one mower width wide, or sufficient width to delineate the shoulder." It also states that "special wildlife nesting areas designated by the Fish and Game Commission are not to be mowed before July 15." If anyone knows of an area that should be considered as a nesting area, let us know, and we will work with the Fish and Game Commission to see if it should be so designated. The only areas where herbicides are used are near guard rails and similar spots, because

KDOT does not have sufficient manpower to hand cut the weeds.

KDOT does not burn roadside rights-of-way. On rare occasions, an accumulation of dead trees or brush will be burned in a pile and under controlled situations. Occasionally, a right-of-way is burned when landowners burn on land adjacent to it.

The vast majority of comments KDOT receives from the public ask for more mowing, not less (for appearance). In general, these are the mowing policies that KDOT follows. However, there may be exceptions in particular situations, and we would be happy to discuss these exceptions with individuals or groups who are concerned about them. Like many state agencies, we must strike a balance between the conflicting requests of the public.

Sam Van Leeuwen, Chief
Office of Public Information, KDOT

CONSTRUCTIVE CRITICISM

Editor:

I wanted to express to you my appreciation of your excellent magazine. The articles are well written, and the photography is outstanding.

I have been gone from Kansas for nearly 40 years, but have returned to Scott City annually to hunt pheasants. During the last few years, the cost of the nonresident license has risen drastically, but generally speaking, the quality of the hunting has gone down.

I have observed that the farmers are cutting their fields down nearly to ground level, the ditches are burned bare, weed and fencerows are being eliminated, and no uncut rows or corners are being left in the grain fields. All of these practices eliminate cover for the birds.

I always have 8 to 10 hunters in my party. For a three-day hunt, we end up spending in excess of \$2,500, the majority of which is spent in the local economy of a small town. I'm sure that this annual event pumps a very substantial sum into the economies of many small rural communities whose income base has been hard hit by the problems of the farmers. If the quality of the hunting does not increase drastically, I would think that many hunters will go elsewhere; the result being a loss of income to the towns and a substantial drop in income for your department.

I would recommend that something be done to encourage farmers to institute some good game management practices to rebuild the bird population. This has been done in South Dakota with outstanding results. The hunters have returned in droves, and the income derived from hunting has skyrocketed.

Maurice L. Starr
San Antonio, TX

Editor:

I think the 24-hour fishing license is a great idea. It's perfect for out-of-staters who are here for just a day or two. In addition to the fishing license, I think the state should offer a 24-hour upland bird hunting license. The \$50.50 Nonresident License is fine for hunters who come to our state for a week, or a long weekend of hunting. For the one-day hunter, a \$20.00 fee seems much more reasonable. I believe the Fish and Game Commission would receive several thousand dollars more annually with this policy. Fifty dollars is just too much to pay for one day of hunting.

David Besser
Topeka, KS

Dear Mr. Besser:

Such a license is frequently mentioned and on the surface it appears to have merit. Closer examination indicates it will result in substantial loss of license revenue.

During 1983, there were about 200,000 resident hunting licenses sold at \$9.00, and 46,000 nonresident hunting licenses sold at \$40.00, for a total

revenue of \$3,654,000. In 1984, there were 173,000 resident hunting licenses sold at \$9.00, and 130,000 nonresident licenses sold at \$50.00, for a total revenue of \$3,041,000. Reduced license sales in 1984 were due to lower game populations, particularly pheasants, and to a \$10.00 increase in the nonresident hunting license price. It should be noted, however, that revenue from nonresident license sales nearly equaled that from resident license sales for that year.

Nonresidents spend about 4 days, on the average, hunting in this state. A short term license would no doubt be popular to many nonresidents and would be purchased instead of the regular nonresident license. Thus, appreciable income would be lost. Some compensation would come from persons who would purchase a cheaper license, but will not buy one at the current price. The overall result, however, would be substantial loss of income.

Our nonresident hunting license price compares favorably with those of most other states. Our primary source of income is the sale of licenses and permits and we must be careful not to jeopardize that source. Several state wildlife agencies with lower priced licenses have alternative sources of funding to supplement their financial needs — something Kansas Fish and Game does not have at this time. *Darrell Monte, Chief, Game Division*

NEED TO KNOW

Editor:

I just received my first issue of your magazine. I was amazed at the beautiful pictures and all. It seems so few items that represent our state do it justice! This surely does!

Could you tell me if blue birds are in Kansas? I never see any. Please tell me the best way I could attract them.

L.M. Wyrick
Waverly, KS

Dear Mrs. Wyrick:

Eastern bluebirds are not uncommon during spring and summer in some parts of Kansas, especially in your area. This bluebird's back is deep blue, its breast is rust red, and its belly is white.

Nest boxes have been used, with considerable success, to attract and benefit bluebirds in many parts of the state. Information about building nest boxes is available from the Fish and Game headquarters in Pratt. *Manes*

CAN'T PLEASE 'EM ALL

Editor:

I would like to inquire as to why the Fish and Game Commission obtains trout for anglers in the eastern part of the state but no longer stocks any in the West. The program has provided many hours of enjoyment for anglers in the western part of the state at a time when there are few sources of outdoor recreation. This discriminatory practice by the Commission has not done very much to enhance its image. Could you please explain this policy?

Jim Jacobs
Phillipsburg, KS

Dear Mr. Jacobs:

This agency makes no discriminatory decisions regarding the stocking of sport fish. They are placed in waters where they will provide the most benefit to the largest number of anglers. Other considerations which affect stocking decisions include management needs of individual waters, public demand, and availability of fish.

Since the Kansas Fish and Game Commission does not have a cold-water fish hatchery, trout stockings are particularly subject to the availability consideration. Only about 4,000 catchable-size trout could be obtained for stocking in Kansas waters during the 1985-86 winter, but nearly one thousand were released at the Webster Reservoir stilling basin in December. The remaining fish went to waters in or near Wichita and Manhattan.

The Webster Reservoir trout stocking was publicized in several area newspapers. Your local paper was among those which received written notice of the event from Fisheries Biologist Steve Price. In the news release, Price noted that ice anglers were beginning catch the trout, and he even specified several effective baits.

Thank you for taking time to contact us. *Manes*

Editor:

I think you should spend some of your energy getting some of your ancient game laws changed. You want the people of Kansas to pay for the fish hatchery, and all you will do with the fish is stock some pond where the people who made the project work won't harvest one fish.

You have the duck hunting goofed up to where a hunter has to carry an adding machine

with him to count the points. Then you put an add in the paper where they harvested a lot of ducks, and the only harvest is in your report in the newspaper.

Oklahoma does not have any more fish than the State of Kansas, but in Oklahoma you have a little freedom to noodle, set jugs, and have a sporting chance to catch fish.

Lawrence E. Smith
Coffeyville, KS

Dear Mr. Smith:

Less than one percent of the fish stocked by the Kansas Fish and Game Commission go to private ponds, while survey results show that 27.6 percent of the state's *licensed* anglers prefer to fish in ponds. No disservice is being done to the state's fishermen through the pond stocking program. Since, at present, the Kansas Fish and Game Commission is not supported by income or property tax revenues, the agency certainly cannot afford to waste its resources, as you have alleged.

As for the waterfowl hunting situation — the regulations are indeed becoming more difficult to follow. If waterfowl and other wildlife populations are to remain at huntable levels while mass habitat losses continue, sportsmen must be willing to work and sacrifice for that cause. Surely a little extra trouble to deal with changes in hunting regulations isn't too much to ask, as a minimum effort. Those who do not wish to make required sacrifices, along with others who are dedicated to the conservation effort, will be left to stand aside and watch.

As for the hunting stories you read — rest assured that the Fish and Game Commission has purchased no advertisements to boast of large waterfowl harvests. In fact, several recent Fish and Game public information efforts cautioned waterfowl hunters not to expect an abundance of ducks for the 1985-86 season.

Input received from Kansas anglers indicates most feel handfishing and the use of juglines are not acceptable methods for taking fish. That is the main reason those two activities are not permitted in the state.

The axiom about not being able to please all of the people certainly applies in this situation. If you would like to see these laws changed, you should contact your legislators and Fish and Game Commissioners. If you do not feel that you can enjoy the fine fishing Kansas has to offer, without employing these outlawed methods, perhaps you should fish in Oklahoma. *Manes*

THE LAW

BEHIND EVERY GOOD MAN

Wildlife Conservation Officer Steve Stackhouse was out on patrol the evening of November 2, when an angry citizen stopped at his house to tell him of a man who had bragged about a deer he had killed out of season. So, Stackhouse's wife, Brenda, wrote down the information in detail and then contacted him through the sheriff's radio dispatcher.

After getting the information from his wife, Stackhouse went in plain clothes to the suspect's house. He hoped there would be some obvious evidence, but none was readily visible. After changing back into his uniform, Stackhouse returned to the suspect's home and went to the door. The man's wife said he wasn't there, so Stackhouse told her he had come to "get the deer."

The woman said she knew nothing of any deer. "Besides," she noted, "it would be illegal to kill one right now with a gun. Wouldn't it? My husband would never do such a thing."

Shortly after dark, a vehicle arrived at the house, and immediately someone left in a Blazer that had been parked in the driveway.

The woman's sincerity almost convinced Stackhouse, but he stopped a short distance down the road, where he could observe the house without being seen. Shortly after dark, a vehicle arrived at the house, and immediately someone left in a Blazer that had been parked in the driveway. Stackhouse followed at a distance, not knowing if it involved the deer.

After driving for about 10 minutes, the Blazer turned into a farm residence. Stackhouse drove past the house a short distance and turned his pickup truck around out of sight. Then the suspect's vehicle sped from the farm house drive. Again, Stackhouse followed, staying out of sight, until the driver stopped the vehicle on a remote country road.

To Stackhouse's surprise, the suspect's wife climbed out. He moved in to investigate, and found in the back of the truck a dead deer and a loaded .30-30 rifle.

Stackhouse arrested the woman, and took her back to the house, where the husband confessed to shooting the deer with a shotgun while squirrel hunting. The deer was, in fact, at the house when Stackhouse first talked to the woman. When he left to get into position to watch the house, the woman loaded the deer in the truck — by herself. When her husband arrived home, the woman left to dump the deer.

Stackhouse issued citations to the man for hunting deer during closed season and taking deer illegally. The woman was charged with illegal possession of a deer.

Judge James Davis of Dickinson County fined the husband \$500, placed him on probation for one year, and revoked his hunting privileges for one year. The wife paid a \$250 fine and received nine months of probation.

Stackhouse mused later, "It seems that what my wife did to help me turned out a lot better than what the subject's wife did to help him."

Manes

LEAVE A TIP

South Dakota sportsmen agree that the TIPs reward program is one of the best anti-poaching campaigns to come along. Recently, a Rapid City judge gave the program some assistance.

In a TIPs case involving hunting big game at night, the judge obtained a contribution to the program from an unlikely source. The defendant was fined \$262 and sentenced to a 60-day jail term, with 57 days suspended and 50 hours of community service required in lieu of the other three days.

Then, because the informant who provided the information on the violation received a \$200 reward from TIPs, the judge ordered the culprit to make restitution in that amount to the TIPs fund. *S.D. Game, Fish, and Parks*

GOT HIS GOOSE

Thanks to the help of some concerned citizens, a Wichita man was apprehended in early December for illegally killing a Canada goose. According to Kansas Fish and Game Commission Conservation Officer Mack Long, the suspect allegedly stopped along the Little Arkansas River, south of the Ninth Street bridge, and shot the goose with a pellet gun.

Construction workers near the scene witnessed the shooting and contacted Fish and

Game. Using information provided by the witnesses, Long was able to locate the suspect at work. The man confessed to shooting the goose.

The poacher received a citation for hunting without a license, hunting waterfowl without a migratory waterfowl stamp, taking a game bird while not in flight, and wanton waste (the dead goose was not retrieved). Warning tickets, which carry no fine, were issued for hunting waterfowl illegally, and for using a motor vehicle to take waterfowl. The state violation carries a minimum fine of \$50, while the federal charges have maximum penalties of \$500 each.

Anyone witnessing a violation of game or fish laws can report the incident by calling the toll-free Operation Game Thief number, 1-800-228-4263. The line is open 24 hours a day, seven days a week, and callers may remain anonymous. *David Case*

PARTS IS PARTS

Wildlife Conservation Officer Rand Conrad had only an anonymous telephone message and a few parts of a deer as evidence, but that was enough to convict a Fort Smith, Arkansas man of hunting and possessing a Kansas deer without a permit.

The telephone caller said a Ft. Riley soldier had an illegally killed deer at his house in northern Riley County. Conrad and Riley County Policeman Brad Haller went to visit the suspect's house about 10 o'clock on the evening of December 2.

When Conrad told the suspect about the information he had, the man denied shooting a deer. Conrad persisted, knowing he might have to obtain a search warrant; but finally the suspect told Conrad he could "look around if wanted to."

To make sure the case was a good one, Conrad had the man sign a written consent to search the property. As his flashlight beam crossed the bed of a pickup truck loaded with trash, the head of a whitetail doe appeared. The suspect reacted with surprise.

In a nearby shed, Conrad found three legs and the rib cage of a deer. The suspect then realized he was headed for trouble, saying to Conrad, "My brother-in-law from Arkansas is asleep upstairs. Maybe he knows something about it."

Conrad suggested that the man wake his brother-in-law and bring him down for a discussion of the matter.

"Did you shoot this deer?" asked Conrad.

"Yep," replied the man frankly, and he went with Conrad to the police station, where he posted a \$500 bond. *Manes*

ISSUES

BIG TROUBLE & BIG BUSINESS

The animal rights movement recently has turned to big business to help fund its anti-hunting efforts. For instance, Lever Brothers Corporation currently is donating a portion of its profits from the sale of Shedd's Spread margarine to The Humane Society of the United States (HSUS).

The promotion purports to aid the HSUS' domestic pet spay/neuter program; but Lever Brothers' contribution is likely to free HSUS funds for use in anti-hunting efforts.

Similarly, the HSUS entered into a promotion with Mattel Toys, billing themselves as saviors of seals in the "Snuggles the Seal" promotion. That project has since been abandoned by Mattel, due to pressure from sportsmen. A second company, L.J.N. Toys, Ltd., is making plans to continue the program with HSUS.

Another campaign arrangement between White Rock Products Corporation and the International Fund for Animal Welfare (IFAW) was also portrayed as a save-the-seal effort. It was funded through the sale of White Rock soft drinks.

When contacted by a Wildlife Legislative Fund representative, a White Rock official, who stated that he was a hunter, expressed surprise upon learning of IFAW's reputation as an anti-hunting organization. He said he did not know how White Rock's contributions were being used by IFAW. He found out, and the promotion ended.

Sportsmen can thank White Rock by writing to Alfred M. Morgan, President, White Rock Products, Corp., 1616 White Stone Expressway, White Stone, NY 11357. To push for abandonment of the Snuggles the Seal campaign, write to Jack Friedman, President L.J.N. Toys, Ltd., 1107 Broadway, New York, NY 10010. *WLFA*

SUING FOR STEEL

The National Wildlife Federation (NWF) is calling for a nationwide ban on the use of lead shot for waterfowl hunting, beginning in the 1987-88 season. Citing the most recent U.S. Interior Department environmental impact

statement, which documents widespread lead poisoning in waterfowl, eagles, and other wildlife, NWF promises to take that federal government agency to court to force the lead shot ban.

NWF cites support for their case from the Atlantic, Mississippi, and Central flyway councils, all of which have endorsed flyway-wide conversion to non-toxic shot for waterfowl hunting.

NWF and its affiliates succeeded in a legal case that led to the creation of 22 new steel shot zones in five states for the past hunting season. This method of reducing lead poisoning, called the "hot-spot" approach, has been deemed inadequate by NWF.

NWF cites support for their case from the Atlantic, Mississippi, and Central flyway councils, all of which have endorsed flyway-wide conversion to non-toxic shot for waterfowl hunting. Two states, Nebraska and Iowa, required statewide steel shot use for waterfowl hunting during the past season. Thirteen other states have plans to implement the same requirement in the next few years.

NWF representatives say the continued use of lead shot for waterfowl hunting violates the Endangered Species Act. Despite this, NWF officials say the organization believes hunters, manufacturers, and retailers should be allowed an extra year to adjust to a total ban on lead shot use for waterfowling. Under the NWF proposal, the ban would take effect at the start of the 1987-88 season.

In a letter to state wildlife agencies, NWF Executive Vice President Jay D. Hair made this statement: "... as ethical sportsmen we are obligated to take this important step to eliminate the contamination of the environment by hunters when we have a viable, non-toxic substitute in the form of steel shot." *Manes*

PRAIRIE PETITION

A petition drive to gain public support for a tallgrass prairie preserve in Oklahoma has been launched by the Oklahoma Wildlife

Federation (OWF). Oklahoma Gov. George High has lent his support to the petition and was the first to sign, providing a "vivid demonstration that the public is overwhelmingly enthusiastic about the prospect of the Tallgrass Prairie Preserve."

A committee has been appointed, including local cattlemen, county commissioners, and representatives from chambers of commerce and the Osage Indian Tribe, to help draft legislation creating the preserve. Some concerns still remain among certain groups asked to participate.

Osage Indians, for example, own mineral rights to some of the areas to be included in the preserve. Allowances are being made which would permit mineral exploration to continue and not jeopardize Osage Tribe income. Likewise, concerns expressed by some cattlemen regarding condemnation of land owned by unwilling sellers have been somewhat mollified by assurances that the bill will contain provisions prohibiting the federal government from condemning property in order to complete the acreage necessary for the preserve.

Legislation is expected to be introduced during the first part of 1986. OWF's goal is to have every member of the Oklahoma congressional delegation co-author the prairie preserve bill. *NWF*

FORESIGHT

The new awareness and alliance of sportsmen involved in the conservation effort is anything but a new idea. It's just painfully slow in coming.

The need for such a concerted movement was pointed out in an article printed in the *Scientific American* 50 years ago:

"One of the main reasons for the alarming decline of wildlife in the United States is the lack of organization on the part of sportsmen. There are millions of individuals interested in fish and game, yet there is no articulate voice to speak for them. Now, however, there appears a light in the cloudy picture of conservation. Jay N. ('Ding') Darling, well known for his two years of work as the chief of the Bureau of Biological Survey, appears as one of the guiding spirits of the American Wildlife Institute. The function of this organization is to influence and guide the inarticulate sentiment for the preservation of wildlife."

Sportsmen have made great strides toward organization and gaining influence in key decision-making processes — but the fight is just beginning. *submitted by Robert P. Hudson, M.D.*

HUNTING



MALLARDS ARE TOPS

Most waterfowlers are aware of growing problems of destruction of duck habitat. It is particularly acute with regard to mallard nesting grounds on the northern prairies. Recent surveys have shown mallard numbers to be at or near all-time low levels.

Another survey examined the percent of the total waterfowl harvest accounted for by different species in each flyway. It may not surprise many waterfowlers to find the mallard at the top of the list. In fact, only in the Atlantic Flyway did mallards fail to make up the largest percent of the harvest. In that east coast flyway, wood ducks are number one, accounting for 24.89 percent of the bag; but mallards were close behind, at 24.78 percent.

In the Central Flyway, which includes Kansas, mallards were at 36.80 percent. Green-wing teal (13.65 percent), gadwall (10.95 percent), and blue-wing teal (7.15 percent) were next. The smallest contributions to the remaining 31-or-so percent came from lesser scaup (1.72 percent) and black ducks (.02 percent). Interestingly, pintails, one of the favored ducks among waterfowl hunters, accounted for only 6.50 percent of the total harvest in the Central Flyway. *Manes*

SAVE THE DUCKS

The United States and Canada have issued a draft plan outlining cooperative international efforts needed to conserve ducks, geese, and other waterfowl through the year 2000. Many waterfowl nest in Canada, but migrate and winter in the United States. The draft North American Waterfowl Management Plan is a major step forward in international cooperation to ensure that abundant populations of these

birds continue to survive into the next century.

The draft plan provides information on the status of waterfowl populations, identifies major waterfowl conservation problems, and proposes strategies for resolving the problems. The plan focuses especially on protecting key waterfowl habitats in both countries through a combination of programs ranging from land acquisition and easements to providing incentives for landowners to help conserve and manage waterfowl habitat. It also stresses the need for private conservation organizations, corporations, and individual citizens to participate in the programs. Although the plan does not yet include Mexico, both the United States and Canada hope to work with Mexico in carrying out the waterfowl conservation programs.

The plan establishes acreage for protection of waterfowl habitat in various regions of Canada and the United States. To help achieve habitat conservation goals in Canada, it recommends that the United States develop the means to contribute funds for preserving habitat in Canada. This action is seen as being in the interest of the United States because the majority of ducks harvested by U.S. hunters are produced in Canadian nesting areas.

The draft plan does not change the means by which sport hunting regulations for waterfowl are established in either the United States or Canada. Following a 60-day period when public comments are invited, the draft will be put in final form and distributed for implementation. *USFWS*

GOOD EXCUSES

Each year, archers and firearms hunters are required to return to the Kansas Fish and Game Commission report cards regarding the results of their deer hunts. Hunters who fail to return

cards face the threat of being denied inclusion in the permit drawing for the following year. Often, several report cards are received well after the deadline, and with those tardy reports come some dandy alibis. Most of them are sincere and truthful. Some are almost tragic.

Following are some of the excuses submitted by 1985 Kansas deer hunters:

"I was in the hospital having heart by-pass surgery, so I did not hunt this year."

"The buck was shot in the back of the neck, and the bullet exited through the lower jaw bone, leaving no teeth to be collected."

"I forgot to get the teeth out of my deer before I took it to be processed. So I had to wait until I got the meat, head, and hide back from the locker."

"I got called to work in Florida on December 10 and didn't get to hunt the rest of the season. I just returned."

"The day I shot the deer, my daughter gave birth to a daughter. We had to leave that day for Illinois to help take care of her other daughter."

"I had my deer head and skin in a bag in the garage, and my mom didn't know it was in there, and she threw it away before I got the teeth out of it."

Officials of the Kansas Fish and Game Commission say they will be lenient with those who returned their deer hunter report cards late this year. They will be eligible for next year's permit drawing. *Manes*

BEAVER HISTORY

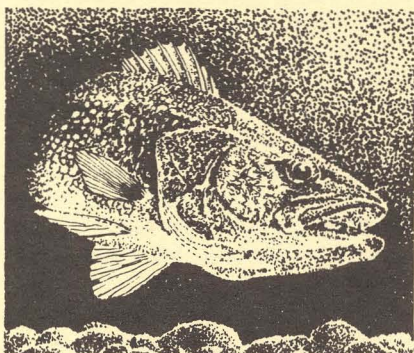
What was believed to be Kansas' last beaver was trapped in 1907 in Douglas County. Through the preceding decades, beaver were exploited, first under high pelt prices; then by trappers who were forced, by low pelt prices, to harvest even more beaver to make a living. Great increases in the availability of steel leghold traps appeared to seal the animals' elimination in Kansas.

The 1911 Kansas Legislature closed the beaver season for ten years. It is now believed that there were still a few small breeding populations left, probably in western and north-central regions of the state. At the end of the ten-year closure, the legislature passed a law requiring the season to remain closed until the Fish and Game Commission saw fit to again allow trapping.

In 1951, the Commission reopened the trapping season in response to increasing complaints of damage done by growing beaver populations. The season was open only irregularly until 1959, when it was put on a yearly basis.

Manes

FISHING



WALLEYE TIME

In March, Kansas Fish and Game Commission biologists gear up for the annual walleye egg collection operation. This is the time of year when walleye begin moving to rocky areas along dams of Kansas reservoirs to spawn. Instead of holding and raising adult brood walleye in hatcheries, fisheries biologists tap into this yearly event for the needed brood fish.

Walleye are present in most Kansas reservoirs, but eggs are taken only from those with abundant populations and accessible trapping sites. Lakes which may be included this year are Milford, Glen Elder, and Lovewell reservoirs.

Large frame nets are set along the dams to capture the brood fish. As they are removed from the nets, the fish that are ready to spawn are transported to a milking station and placed in holding pens. These fish are then stripped of the eggs and sperm and released back into the reservoir. The eggs are fertilized on site by mixing them with milt. Then they are placed in a clay solution to prevent clumping and in holding baskets in the lake to harden. The hardened eggs are transported to the hatchery and placed in special jars, where they hatch in seven to ten days.

Public concern over the effect of the egg taking operation on the walleye population at Webster Reservoir prompted a study in 1976. The study was designed to estimate the size of the walleye population and number of uncollected eggs available to maintain the population. At that time, the population was estimated at 44,100 breeding adults, consisting of 32,200 males and 11,900 females. Total egg production was estimated at over one billion. Approximately 39.5 million eggs were collected by Kansas fisheries personnel. Still, more

than one billion eggs were available for natural reproduction in the lake. If only one-half of one percent of those eggs hatched, 5.15 million young walleye would have been produced. So, there is no need for alarm.

The first priority use of walleye hatched from the eggs is stocking of Kansas lakes. In new lakes or newly renovated ones, fry are stocked at a recommended rate of 3,000 per acre the first year and 1,000 per acre thereafter, until a population is established. Walleye fingerlings are stocked in some state lakes already having fish populations. *Tom Berger*

WHITE BASS IN EL DORADO

Another item can be added to the list of things as certain as death and taxes — white bass in Kansas reservoirs. This may be good news or bad news, depending upon whether you're an avid white bass angler.

Whether you're a white bass fancier or not, that species appears to be a new resident of El Dorado Reservoir. Test netting conducted last fall yielded the first confirmed specimen of white bass from the lake, an eight-incher.

Due to its size, it is assumed that the fish was a result of spawning that occurred in the lake the previous spring. If the fish was produced at El Dorado, it will probably be two or three years before this species begins appearing in angler's creels in substantial numbers.

Because El Dorado has been developing a good black bass population, it had been decided not to stock possible competitors, such as white bass, until conditions in the lake dictated that such a move would be beneficial. However, this unauthorized stocking of white bass by anglers has closed the door on that management option.

Hopefully, the presence of white bass in the lake will not have a detrimental effect on the black bass population, and anglers will be able to enjoy both species. *Ron Marteney*

FISH MARCH

Any long-time Kansas resident knows the weather is about as reliable as the affections of a pet rock; but when the first warm days of late February and early March peel the ice off the state's ponds and lakes, savvy anglers

take to the water. While the water still may be quite cold, the fishing can, at times, be hot. Late winter-early spring angling affords some surprisingly bountiful catches. Crappie and white bass may be the most likely quarry of the fisherman who can't wait for spring, but channel catfish, black bass, and walleye also may be taken from chilly waters.

The key to catching fish during cold months is to fish slowly, using light tackle and small lures. Crappie and white bass can be taken on small jigs worked patiently through a stilling basin, inlet area, or other moving water. Some early jig anglers prefer to use bobbers, allowing sluggish fish ample opportunity to take the bait.

Channel catfish are frequently taken from inlet areas on small lakes and ponds. Using prepared bait, liver, or shad baits, channel cat enthusiasts can find a needed release for their angling anxiety, long before most people even think about putting new line on their reels.

Walleye fishing in March is not a well-kept secret. Toward the end of the month, these favored table fish begin their spawning run on rocky shorelines and dam faces, providing some of the best cold-weather fishing of all.

Black bass fishermen may stand to gain the most from an early trip to their favorite hot spot. Working a jig and pork rind slowly in deep water near submerged points or other breaks, dedicated anglers have taken some of their biggest bass during February.

Whatever the reason, catching fish or just enjoying the warm days, late February and early March can be a good time to wet a line. *Manes*

WALLEYE IN THE DARK

Early spring, when the ice first thaws, is the best time of the year to catch trophy walleye. This is the beginning of the walleye spawn. These fish are among the first to spawn, starting when the water temperature approaches 40 degrees.

For spawning, walleye prefer gradually sloping, rocky shorelines. A female is usually accompanied by several smaller males.

Walleye conduct their spawning activities primarily at night. So, it requires a slightly different fishing method to be successful. First, an angler must be willing to lose a little sleep, because the fish usually become most active after midnight. Spawning walleye move into shallow water, so it isn't necessary to cast far out into the lake. Wading with hip boots, it is possible to cast along the shoreline. The fishing is often best in water no deeper than two or three feet. An important consideration

is to keep the lure out of the rocks while moving it slowly.

An angler who likes to use jigs or grubs for walleye can put a bobber above the lure at a depth that will keep it just off the bottom. A small, floating lure that dives when it is retrieved also works well. When the lure gets fouled in the rocks, releasing the tension on the line will most often allow it to float to the surface.

To be successful, an angler must be able to do all this without the use of a light. Even the slightest illumination on the shoreline will make these spooky fish leave the spawning area for deeper water. Of course, an angler is going to lose some lures. So it is best to walk away from the water's edge several paces and use only a small penlight to aid in retying. *W.C.O. Miller*

SPRING LUNKERS

Fishing for largemouth bass in early spring can be a frustrating endeavor. It seems that just when the water has warmed enough to bring the fish to the shallows, a cold front moves in and pushes them back into deep water. Under these conditions, bass are harder to find and more difficult to catch, but waiting for good weather during a Kansas spring could keep you off the water for a long time. The fish may not feed actively, but they can be caught.

The first step is to locate a likely spring bass hideout. One of the ingredients is water from 10 to 20 feet deep, preferably with brush and a sharp dropoff. Another ingredient is an adjacent shallow flat with water two to ten feet deep. The steep drop from the flat to the deep water is the key factor.

A brushy creek channel dropping off from about 8 feet to 22 feet of water is ideal. The brush along the dropoff is where the fish will hold, probably suspended right in the trees. Knowing these fish are inactive, you can't run a crankbait or spinner bait around the edges and expect them to come after it. You need to put your bait right in front of the fish's nose. One of the best methods for catching these fish is to "flip" a jig with a pork rind or rubber trailer. It's important that you get right over the structure, because you want to drop or "flip" the jig a short distance so that it will sink straight down through the brush.

This technique demands patience. Strikes will be light at best, and there will be branches, stumps, and other clutter that the jig will bump. The line may be the best strike indicator. If it twitches or moves to one side slightly, set the hook quick and hard. If there's no strike on the down fall, bounce the jig up and down slowly, a soft resistance could mean a fish has taken the bait. It takes perserverance

to keep dropping the jig in the trees, letting it fall, picking it up, and repeating the procedure over and over. Remember that the jig needs to fall right in front of the fish, so don't move too far before "flipping" again.

Dark colored jigs of blue, black, or brown and trailers of similar colors seem to work best. The big rubber-skirted jig with a big chunk of pork rind may look bulky, but that's good. This lure combination will fall slowly and represent an easy meal, requiring little of the fish's energy to consume.

Even storm-front enduced lockjaw can be overcome with this technique, and while you probably won't catch a boat load of fish, the fish you do catch will likely be big ones.

A heavy-action graphite bass rod, ten to twenty-pound-test line, and a bait casting reel with the drag set tight will land more fish in this situation. The fish needs to be winched out of the trees and to the surface in a hurry. You're line may be laying over a twig or branch, so setting the hook hard with a stiff rod is a necessity.

Even storm-front enduced lock-jaw can be overcome with this technique, and while you probably won't catch a boat load of fish, the fish you do catch will likely be big ones. Early spring is the best time of all to catch a wall hanger. *Mike Miller*

NAME THAT FISH

Someday you may find yourself in a debate about the proper common name of a familiar sport fish. If so, be careful, as the fish likely has more than one common name. By reading what follows, you can prepare yourself for such a debate about some Kansas fish.

Let's begin with the common sharpie, also called government cat, spot, fiddler, forked-tailed cat, eel catfish, white cat, silver cat, speckled cat, sand cat, Mississippi cat, and (Have you guessed?) channel catfish.

O.K., here's another easy one: Anyone oughta' know the butter ball, paper skin, pollywog, Mutley, horn pout, polly, river cat, and (Got it?) yellow bullhead.

Oh yes, and there's the familiar bean eye, also known as tabby, bashaw, goujon, opelousas, ops, appaloosa cat, yellow cat, mud cat, shovel-headed cat, and flathead catfish.

How 'bout barfish, rockfish, gray bass, silver bass, sand bass, and stripe? Of course, that's

the (Were you fooled?) white bass.

One of Kansas' most common fish is the ricefield slick, or rubber tail, slick, mud bass, shade perch, bluespotted sunfish, pond perch, black perch, and (That's right.) green sunfish.

A close kin of the green sunfish, the bluegill is also called granny, plumb, baldface, copperhead, coppernose bream, yellow belly, red breasted sunfish, bluemouth sunfish, and sunperch.

Would you know a gasper-gou if you saw one? How 'bout a croaker, grunt, gou, campbellite or white perch? They're all freshwater drum.

The jumper, or redeye, or green trout is also called smallmouth bass.

And let's not forget the Welshman, chub, Oswego bass, pond trout, bigmouth trout, green bass, hawg, bucketmouth, bigmouth bass, and (Yes, this one's too easy.) largemouth bass.

Oh, and one more — the newlights, lights, speckled perch, specks, calico bass, white perch, sac-a-lait, grass bass, strawberry bass, paper mouth, tinmouth, bachelor perch, freckle, slab, Mason perch, or bream, is the (Had enough?) crappie. *Manes*

FISH SALVAGE

To most casual onlookers, salvaging the fish from a drained reservoir stilling basin (outlet area) appears to be enjoyable, exciting work. To the people involved, however, nothing could be further from the truth.

Every five years, or more often if warranted, U.S. Army Corps of Engineers personnel remove the water from the state's reservoir stilling basins to inspect the tunnels, gates, and other equipment. In an effort to reduce the loss of sport fish during this dewatering process, Fish and Game personnel salvage the fish trapped in the basins. Depending on the time of year and the amount of flood water that has been released through the basins, this task can involve the removal of only a handful of fish, or, in some cases, more than 20 tons. The species of fish in the basin also appears to depend upon the season and amount of floodwater released, as well as the general abundance of each species in the reservoir and downstream area.

As the fish are salvaged, sportfish are separated from roughfish and are either released back into the reservoir or stocked in nearby public waters. The roughfish are generally made available to the public on a first-come-first-serve basis.

Some interesting non-fish items find their way into stilling basins. Past salvages have turned up everything from artillery shells to television sets. *Jim Beam*

NATURE

NONGAME PHOTO

There isn't much good news for income taxpayers these days, but the Kansas Fish and Game Commission offers some to people who contribute to the Nongame Wildlife Improvement Program. Also known as the "Chickadee Checkoff," it allows Kansans to contribute money to benefit nongame wildlife.

Joe Schaefer, nongame wildlife specialist, says these animals don't receive direct assistance from game management programs, which are financed through the sale of licenses and permits. All money donated through the Chickadee Checkoff option on Kansas tax forms goes to nongame wildlife programs.

Anyone who contributes through the Chickadee Checkoff can obtain, free, a frameable photograph of a meadowlark, the Kansas state bird. The prints are available from tax preparers and Kansas Fish and Game offices. This year's photo was selected from many entries in the annual Chickadee Checkoff Photo contest. Schaefer says the meadowlark theme was chosen to coincide with the 125th anniversary of Kansas' statehood.

Initiated in 1981, the Chickadee Checkoff nets about \$130,000 annually. Last year's contributions were used to fund such projects as nature trail development in Sedgwick, Johnson, and Clark counties; development of educational materials for Kansas schools; reintroduction of eastern chipmunks; establishment of nesting areas for bluebirds and least terns; research and other work to benefit endangered wildlife, including bald eagles; and projects to improve conditions for other nongame wildlife in Kansas.

Schaefer says anyone who desires additional information about the Kansas Nongame Wildlife Improvement Program or the Chickadee Checkoff should contact him at the Kansas Fish and Game office in Wichita. *Manes*

HOME FOR LUNCH

When Richard Roswurm came home for lunch at his Overland Park, Kansas apartment, he found an unexpected guest. It was an adult whitetail deer. Roswurm didn't need to hurry around and get lunch though, as the deer had

already helped itself to an appetizer of his house plants.

The animal had crashed through a large window in the house sometime during the morning. It was captured by workers from a petting zoo in Overland Park and treated for minor cuts.

The deer was released into an enclosed pasture at the zoo and promptly jumped over the five-foot-tall fence. *Manes*

ENDANGERED CATFISH

The Neosho madtom is a member of the catfish family, but it grows to only three inches long. It is mottled with dark and light bands of brown, and its tail has faint verticle bars.

Little is known about the reproduction or habits of the Neosho madtom, and it is considered an endangered species in Kansas. It is found only in the Neosho River and the drainages of its main tributaries, the Cottonwood and Spring rivers. More importantly, the Neosho madtom has been found only in these same stream basins outside of Kansas. Collections have been made in the Grand River in Oklahoma, which is the same as the Neosho River, and in the Spring River in Missouri.

The decline of Neosho madtom populations is attributed to siltation and pollution resulting from agricultural practices, the construction of reservoirs and removal of gravel bars.

The Neosho madtom may benefit from management practices, including control of gravel bar removal, improvements in agricultural techniques that would reduce silt and pesticide runoff, and consideration in future reservoir construction projects. *Manes*

IN THE DARK

The cave salamander is one of Kansas' endangered species. It is colored bright orange with black spots. Its eyes are huge and bulging, and adults are usually no more than seven inches long.

Cave salamanders are found only in the extreme southeast corner of Kansas, in the Ozarks of Cherokee County. There they inhabit limited-light areas of limestone caves which have water flowing through them.

Though little is known about the breeding

habits of the cave salamander, experts believe these amphibians lay their eggs on the underside of submerged limestone rocks, probably from fall to late spring. Cave salamanders depend totally upon small insects and spiders for their food. *Manes*

IMPORTED EGRET

At one time, cattle egrets were found only in Africa. Today they inhabit South and Central America, and much of North America. They are even found in Kansas during warm months.

These tall, white birds get their name from their habit of following cattle or other large animals and eating insects that are disturbed by the movement. Related to the great blue heron, cattle egrets crossed the Atlantic Ocean to South America a few decades ago, and they continue to expand their range northward.

These birds will often stand directly under cattle, looking for their favorite food, grasshoppers. *Manes*

FRIENDLY FIRES

What will Smokey the Bear think when he learns the U.S. Forest Service *purposely* torched 1,000 acres of Colorado timber with napalm? Stay cool, Smokey. It was a friendly fire, set to create grazing grounds for a herd of bighorn sheep.

Fire will become an increasingly common tool for renewing aged and diseased western forests. Man's success in controlling natural fires has led to the rise of tree parasites and dead timber that could fuel catastrophic wild fires. *International Wildlife*

FERRUGINOUS NESTS

The Kansas Nongame Program is funding a study of ferruginous hawks nesting in western Kansas. Stan Roth, a high school science teacher in Lawrence, has been collecting nest site use and productivity data since 1978. More than 100 ferruginous nest sites have been observed each year. Only about one-third are occupied during a given summer. Each nesting pair will switch to one of the previously unoccupied sites every two or three years. The Kansas Fish and Game Commission is in the process of analyzing the data to see if there are any correlations between several environmental factors and productivity. *The Eyas*

NOTES

KANSAS WILDLIFE HERITAGE MONTH

As Kansas celebrates its 125th year of statehood in 1986, many residents will also honor the wildlife of the state during Kansas Wildlife Heritage Month in March. This first ever Kansas Wildlife Heritage Month, with the theme "Rivers: Highways of Our Heritage" is being organized by many Kansas conservation groups. The main goal of Wildlife Heritage Month is to increase public awareness and active concern for the state's wildlife.

Kansas, shaped by the forces that created the Rockies, was born from the eroded mountains and prehistoric seas. It required eons to build the rich prairie soils, carve the rolling hills, cut the courses of prairie streams, and sow the great grasslands.

The Indians, conquistadors, trappers, and mountain men were among the first explorers of the American West, but trails more ancient preceded them. Buffalo, elk, deer, antelope, and a host of other wild creatures knew the prairie first. Kansas once was home to the great predators — grizzly and black bears, wolves, and cougars.

Kansans will never again see the spectacle of millions of buffalo crossing the prairies or thrill to the wolf's howl. Lost forever is the sight of skies darkened by uncounted birds in seasonal flights. The great overland animal migrations are no longer compatible with modern land uses.

Yet, while the most spectacular vistas of Kansas' wildlife heritage will never be repeated, much of the prairie remains wild. The creeks and rivers are still lined with woods; many wetlands and marshes still teem with wildlife; and the sand hills, chalk formations, caves, and canyons endure the forces of man.

Kansas Wildlife Heritage Month is as much a celebration of the future of wildlife as a remembrance of the past. Kansans hold title to the destiny of their native, natural resources; and this special month is a reminder of that trust. When Kansas is 250 years old, the living wildlife legacy remains a valuable part of the state's heritage.

This year's theme, "Rivers: Highways of Our Heritage," signifies the importance of waterways as avenues of travel and storehouses of survival for wildlife and the early explorers.

The first settlements sprang up along rivers and creeks; even today most towns and cities are still tied to rivers. The more Kansans know about the values of rivers, the better they will be able to ensure their future.

Many activities are planned for the celebration, and enthusiastic help from groups and individuals is needed to make Wildlife Heritage Month a success. Projects involving statewide museum and library displays, plantings at the Governor's mansion, a wildlife poster contest for Kansas sixth graders, river and stream cleanups, wildlife trivia items, film festivals, and a marathon run for Cheyenne Bottoms are all part of the event.

You and your energy and imagination can make Kansas Wildlife Heritage Month a success. Some suggestions for getting involved include: explore and experience a river or stream in your area, or organize a local cleanup. Take some time to think about what Kansas wildlife means to you and your family. What would it mean to lose touch with our wildlife — or lose it altogether? Your local library has plenty of information about wildlife. Feed birds in your backyard, go mushroom hunting, or plan a spring turkey hunt. These activities are all a part of celebrating Kansas' wildlife heritage. Creating wildlife habitat on your property will bring you closer to wildlife. Your yard can even be registered through the Backyard Certification Program. Your tax-deductible contributions to the Kansas Chickadee Checkoff program will help wildlife now and in the years to come.

Be a part of Kansas Wildlife Heritage Month, and honor the wild resources of the state. For further information, contact Jan Garton at (913) 539-3004 or Terri Shuman at (913) 722-6024. *T. Shuman*

1986 KANSAS FOREST CONFERENCE

Kansas State and Extension Forestry (KSEF) will present the third annual KANSAS FOREST RESOURCES CONFERENCE at Topeka's Ramada Inn Downtown, March 20, 1986.

The conference is designed to promote awareness of Kansas forest benefits and KSEF services, and to recognize outstanding efforts in tree conservation and beautification.

Included in the one-day event is a picture session for "Tree City U.S.A." award recipients with Governor Carlin, a luncheon, an afternoon program on forestry topics, and an evening banquet.

Program topics will include wood energy and home heating, trees for urban planting, and trees as an alternative cash crop. A colorful slide show of the state's natural resources will also be presented.

Further information is available from the Department of Forestry, KSEF headquarters, 2610 Claflin Road, Manhattan, KS 66502.

Mike Blair

THE WILDLIFE EDUCATION SERVICE

Most wildlife management professionals say lack of public knowledge is the number one problem facing wildlife conservation. The Fish and Game Commission approaches that serious problem with a long-range program to educate young Kansans. The Wildlife Education Service program began almost five years ago and has grown to provide educational materials dealing with wildlife to all Kansas public and private schools.

Currently, the Wildlife Education Service has curriculum materials in every Kansas school for kindergarten through sixth grade students. The seventh through twelfth grade materials will be available this year. The curriculum is especially designed for Kansas, teaching about the habitat and wildlife found in the state. Teachers are provided with manuals, complete with worksheets, bulletin board ideas, student activities, glossaries, opinionnaires, student awards, and reference lists. The kindergarten through third grade materials were distributed in 1983. The fourth through sixth grade materials were distributed during the spring of 1985 to school librarians.

Audio-visual materials dealing with wildlife are available for use in schools through the Wildlife Reference Center, a free-loan facility located in the Fish and Game headquarters at Pratt. This center contains films, videotapes, slide series, posters, books, educational games, computer software, and other wildlife-related resources. The Wildlife Reference Center also includes some unusual learning kits, such as skin and skull sets of many Kansas species.

The only expense for school use of the center's resources is return postage. Due to the demand, materials are checked out on a first-come-first-serve basis. Advanced scheduling is necessary to ensure use of the desired materials. Confirmation of the scheduled items is sent to aid teachers in their planning. A catalog of the

453 titles included in the Wildlife Reference Center is available upon request.

To ensure that teachers are aware of what is available to them through the Wildlife Education Service, workshops are held across the state for school district in-service days, college classes, and educational conferences. Workshop participants are given an opportunity to learn about the program, receive useful literature, and become involved in activities that make learning about wildlife fun for them and their students.

For further information about the Wildlife Education Service, contact the Kansas Fish and Game Commission at the agency headquarters in Pratt. With continued education efforts, the future of wildlife looks much brighter. *Joyce Harmon Depenbusch*

REAGAN SUPPORTS NHFD

President Ronald Reagan has again given strong support to America's sportsmen in an official statement issued for National Hunting and Fishing Day 1986. In his statement, President Reagan noted that hunters and fishermen have helped to establish the conservation movement and that they provide the major source of funds to pay for the programs necessary to conserve wildlife. He also pointed out that sportsmen support many nongame species.

As in the past, a poster contest is slated to draw attention to events of National Hunting and Fishing Day. The 1986 NHFD poster contest will feature prizes totalling more than \$7,500 in U.S. Savings Bonds. For more information, contact NHFD Poster Contest, P.O. Box 1075 Riverside, CT 06878. The national entry deadline is April 11, 1986. *NSSF*

SPORTSMEN ABSENT

Hunting, fishing, and trapping interests must be better represented at future meetings of the President's Commission on Americans Outdoors if they are to receive their fair share of attention as plans are made to maintain and improve outdoor opportunities in America. Camping, canoeing, hiking, and bicycling representatives attended and were heard by the commission.

The commission was established by President Reagan to review outdoor recreation opportunities available to the American public. It will hold several public hearings across the country during 1986. At the end of the year, the commission will make recommendations to ensure opportunities for the future.

"Sportsmen will really be dropping the ball if they don't take advantage of this opportunity to voice their needs and concerns for the future of hunting, fishing, and trapping in this country," said Wildlife Legislative Fund of America representative Carol Porter. "The President's Commission on Americans Outdoors can do a lot to enhance the future of outdoor sports — but it's up to sportsmen to let the commissioners know what they want."

A schedule of public hearings will be available soon. *WLFA*

D.U. ART SHOW

The 14th annual Ducks Unlimited National Wildlife Art Show will be held March 7 through 9 at the Marriot Hotel in Shawnee, Kansas. Well known artists, such as Neal Anderson and Bruce Killen, will be among those represented at the show. In all, 72

painters, carvers, and other artists from across the country will be involved.

Ducks Unlimited is one of the world's most effective private conservation organizations, contributing millions of dollars each year for the preservation of wildlife habitat. The art show is part of D.U.'s fund raising efforts.

A preview party at 7:00 p.m. on March 6 will allow collectors to view and purchase artwork before the show opens. The \$50 ticket includes admission to the weekend show, drinks, and the show's poster done by Guy Coheleach.

A dinner and auction will be held at 6:00 p.m. March 7, with proceeds from the \$35 tickets going to D.U. That price also includes a \$4.00 weekend pass to the art show.

More information about the Ducks Unlimited National Wildlife art show is available from the Shawnee State Bank, 11101 Johnson Drive, Shawnee, KS 66203, (913) 631-6300. *Manes*



FOR THE FUTURE

As more Kansans become aware of plans to construct the Milford Conservation Education Center, contributions are beginning to increase.

Persons or groups which donate \$100 to \$499 will have their names displayed in the center on a large metal plaque with others who have made donations in the category. A donation of \$500 to \$999 will earn the contributor a private brass name plate to be displayed in the center, and donations of \$1,000 or more

will earn recognition on specially designed plaques, which will list the donors name and the amount of the gift.

KANSAS WILDLIFE readers may donate through the tear-out pledge cards included in this issue of the magazine.

To date, major contributions include \$100,000 from the Junction City Area Businesses, \$50,000 from Central Charities of the Central National Bank, and \$500 from the Brunswick Corporation. Many smaller contributions have also been received, including one of \$100 from the Kansas Furharvesters. *Manes*

NATURE'S NOTEBOOK

by Joyce Harmon Depenbusch
Wildlife Education Coordinator
Kansas Fish and Game Commission

A RIPE OLD AGE

Between dodging predators, disease, harsh weather, and searching for food, water, and cover — wild animals have rough lives. No wonder so few of them reach a “ripe old age.” In fact, among wild animals, old age is rare.

Scientists have found that coyotes may live up to nineteen years in captivity, but generally not more than six to eight years in the wild. Why such a difference?

An animal in captivity is provided with essentials — food, water, and cover in a safe environment. Its wild counterpart exerts a great deal of energy just to survive from one day to the next.

Predation is one of the greatest influences on the **life span**, or length of life, of a wild animal. Predator species help to limit the number of prey species in an area.

Disease and **parasites** commonly cause early **mortality**, or death, in wildlife. Most wild animals have, or are **host** to, several different parasites. Animals in captivity are protected against diseases and parasites by vaccination and by isolation from other animals.

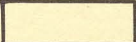
Weather also affects the length of a wild animal's life. Severe winter, drought, flood, and a late cold spell in spring result in dead wild animals. Kansas sometimes has wet, cold springs that kill young wildlife, such as bobwhite quail and pheasants. More than 85 percent of the quail hatched each year die before they are one year old.


When these **limiting factors** are combined with **overpopulation**, wild animals face even more stress. The **density**, or number of animals in an area, affects how they respond to limiting factors, such as disease. A deer herd that has overpopulated an area reduces the quantity and quality of its food supply. Parasites and diseases spread more rapidly under such crowded and stressful conditions. Under-nourished and parasite-ridden deer cannot handle extreme winter cold, and often die in large numbers. Also, predators find such deer easy prey.

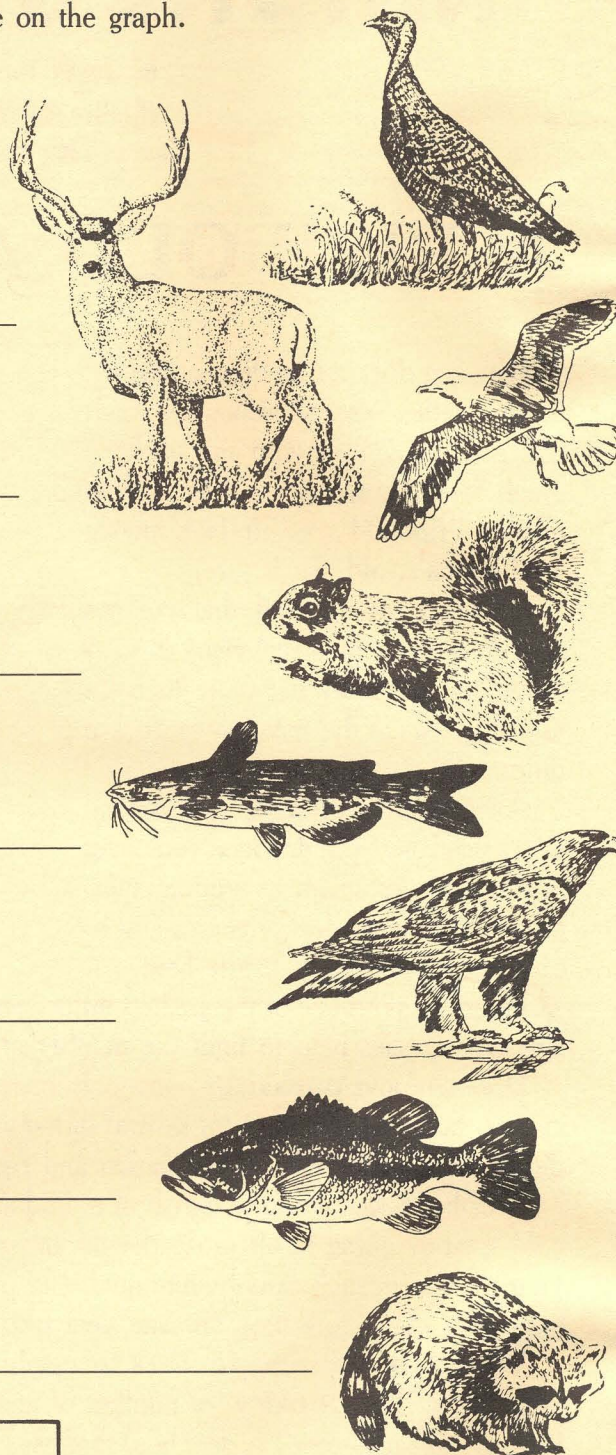
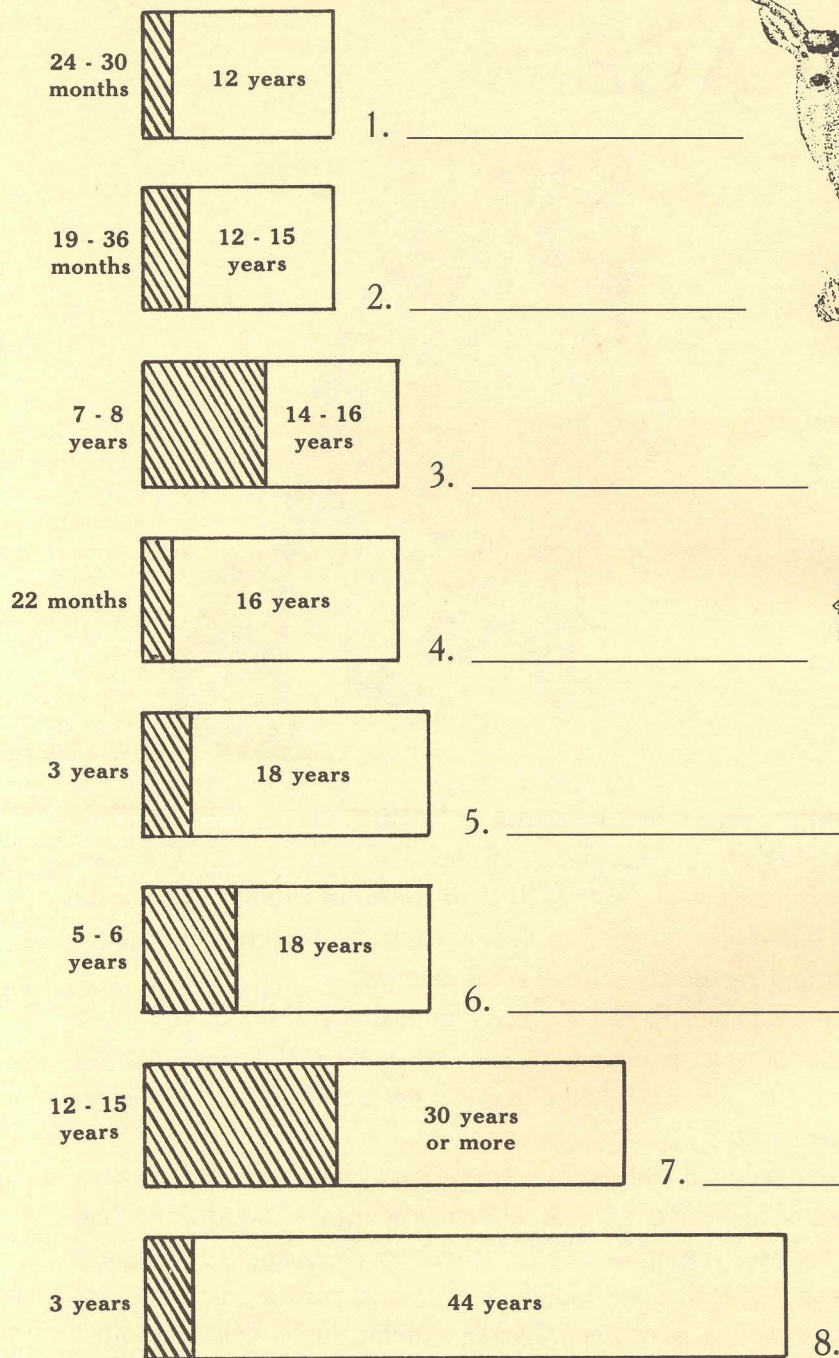
Death is a necessary component of the natural system. It ensures that there will be enough food and space for wildlife populations to survive.



Below is a bar graph that shows the **average life span** (how long an animal will likely survive in the wild) and **potential lifespan** (how long an animal will likely survive under the best conditions). These figures are approximations based on the observations of experienced biologists. See how well you can match the animals to their place on the graph.

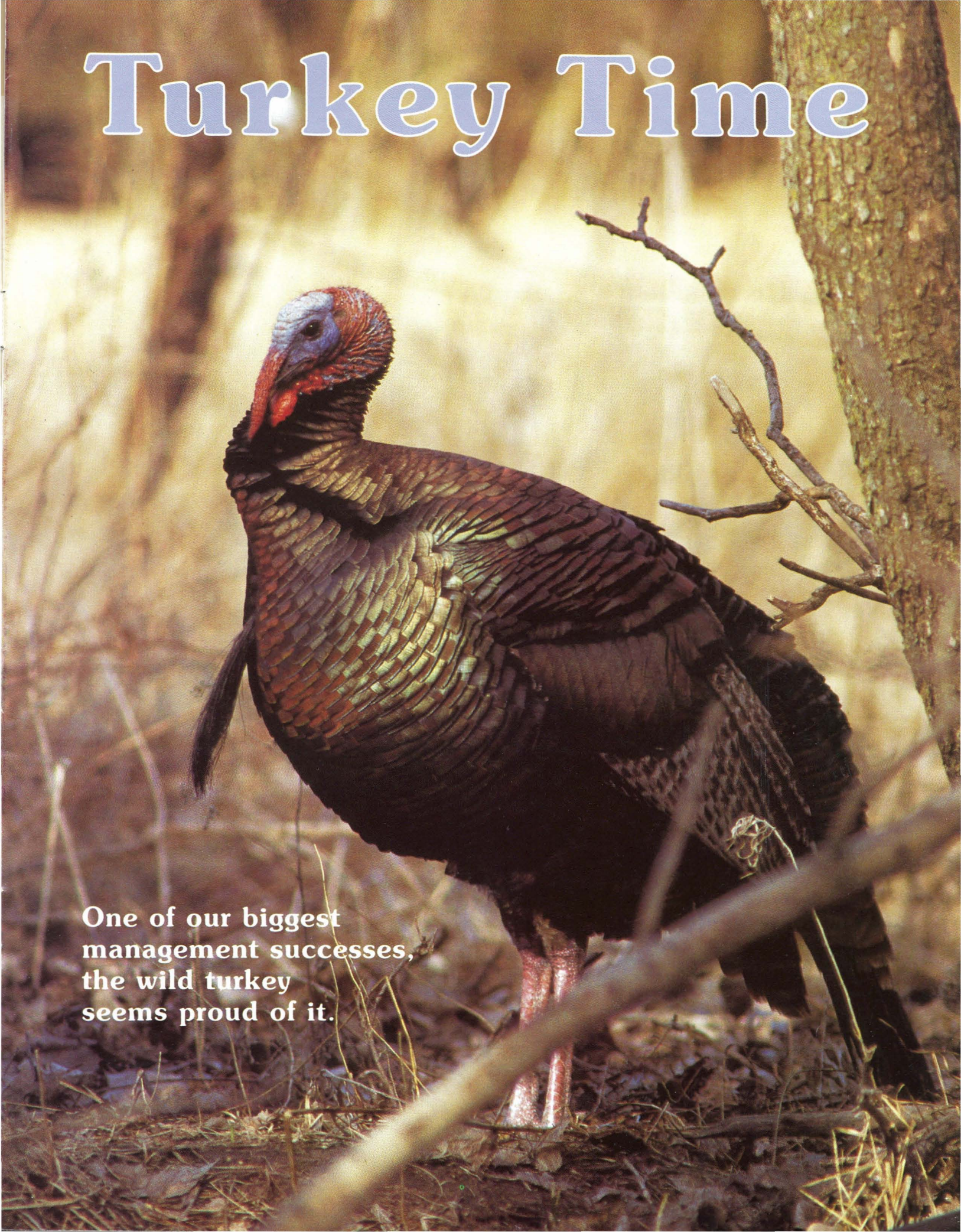
KEY: Potential lifespan 

Average lifespan 

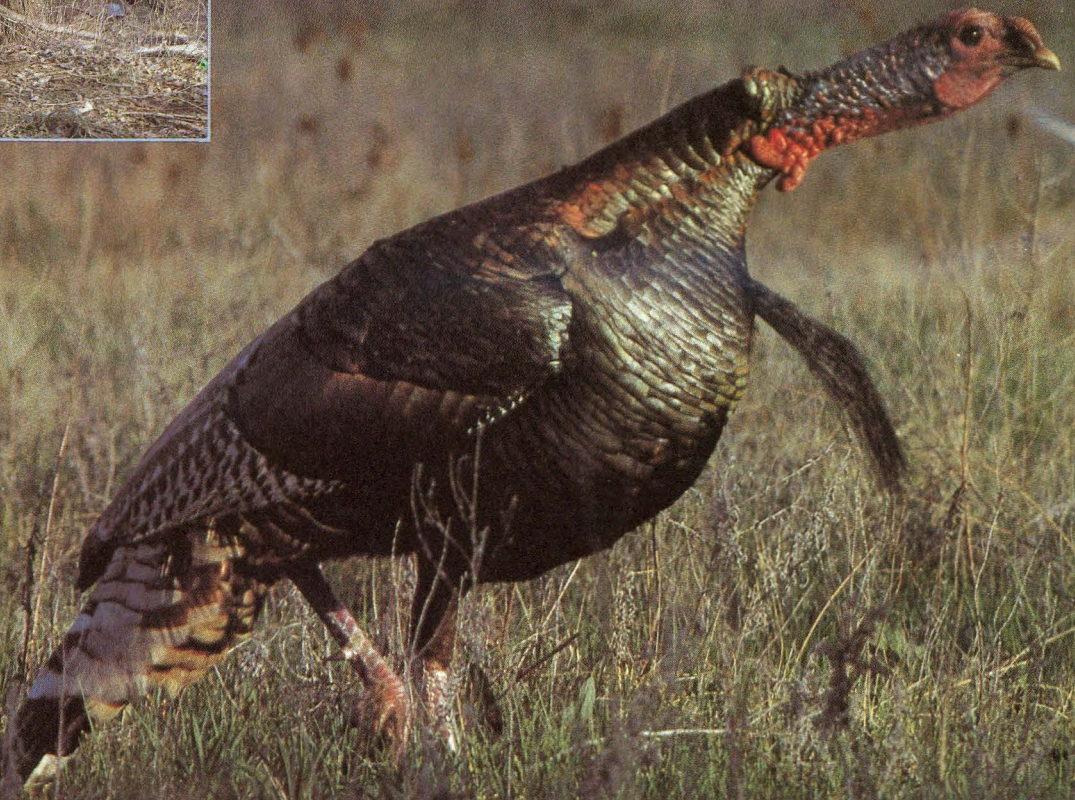


ANSWERS: 1. wild turkey, 2. gray squirrel, 3. channel catfish, 4. largemouth bass, 5. mule deer, 6. raccoon, 7. golden eagle, 8. herring gull

Turkey Time

A photograph of a wild turkey standing in a forest. The turkey is the central focus, facing left. It has a red head with a blue patch around the eye, a red wattle, and dark, iridescent feathers. The background is a blurred forest scene with trees and dry leaves. The text "Turkey Time" is at the top, and a paragraph of text is in the bottom left corner.

One of our biggest
management successes,
the wild turkey
seems proud of it.



Mike Miller
photos by Gene Brehm

There are few sounds in nature like the gobble of a tom turkey in the wet, warm stillness of a spring woods. It wasn't long ago, however, that turkey talk was not part of spring's chorus. The big birds had been eliminated from the Kansas countryside.

While never abundant in Kansas, turkeys did exist along rivers and streams in the eastern part of the state before the coming of settlers. By 1900 their gobble was a sound of the past. It wasn't until the late 1950s that some Rio Grande turkeys from Oklahoma crossed into Kansas and sparked the idea that turkeys could be reintroduced.

The first trap and transplant was done in 1959, and the program was in full swing by 1966. The first birds were ob-

tained from Oklahoma and Texas. As these initial flocks prospered, they were split and relocated in other areas of the state. The first attempt in 1959 netted 26 birds for Kansas, and in 1984 700 more were trapped and transplanted.

Rio Grande turkeys do not fare well in areas with more than 30 inches of rain per year. The Eastern wild turkey was established in moister parts of the state and thrived. A logical sequel was to cross Rio Grande toms with Eastern hens to produce a turkey adapted to north-central Kansas. That was done, and our state now has three distinct races, comprising 25,000 to 35,000 wild turkeys that offer good hunting in every county.

At a glance, it is difficult to tell between Eastern and Rio Grande turkeys. One difference is the coloring on the tips of the tail feathers: The Rio Grande

has a tan- or buff-tipped tail feather while the Eastern turkey has a copper-colored tail tip. The Eastern turkey is also larger than the Rio Grande, a large tom weighing up to 30 pounds. Rio Grande toms seldom exceed 25 pounds.

Wild turkeys prefer wooded habitat but have adapted well to agriculture. Most turkeys in Kansas are found along rivers or streams, though thick shelterbelts may also support flocks. The birds roost in large trees at night, flying down at dawn to feed. In winter, turkeys eat grain, seeds, and nuts (primarily acorns). In summer, insects and grasses are added to the menu. The flocks are mobile and may move up to 10 miles in normal travel, feeding and roosting in a given area for several weeks, then moving on.

Spring is the mating season for turkeys. Sometime in March or April toms

will start gobbling, strutting, and fighting for hens. A dominant tom may attract up to eight hens for his harem. The tom begins gobbling before sunrise, letting any hen within hearing distance know that he's available. If a hen responds to the gobbling with a series of yelps, the tom will begin to strut and display. With

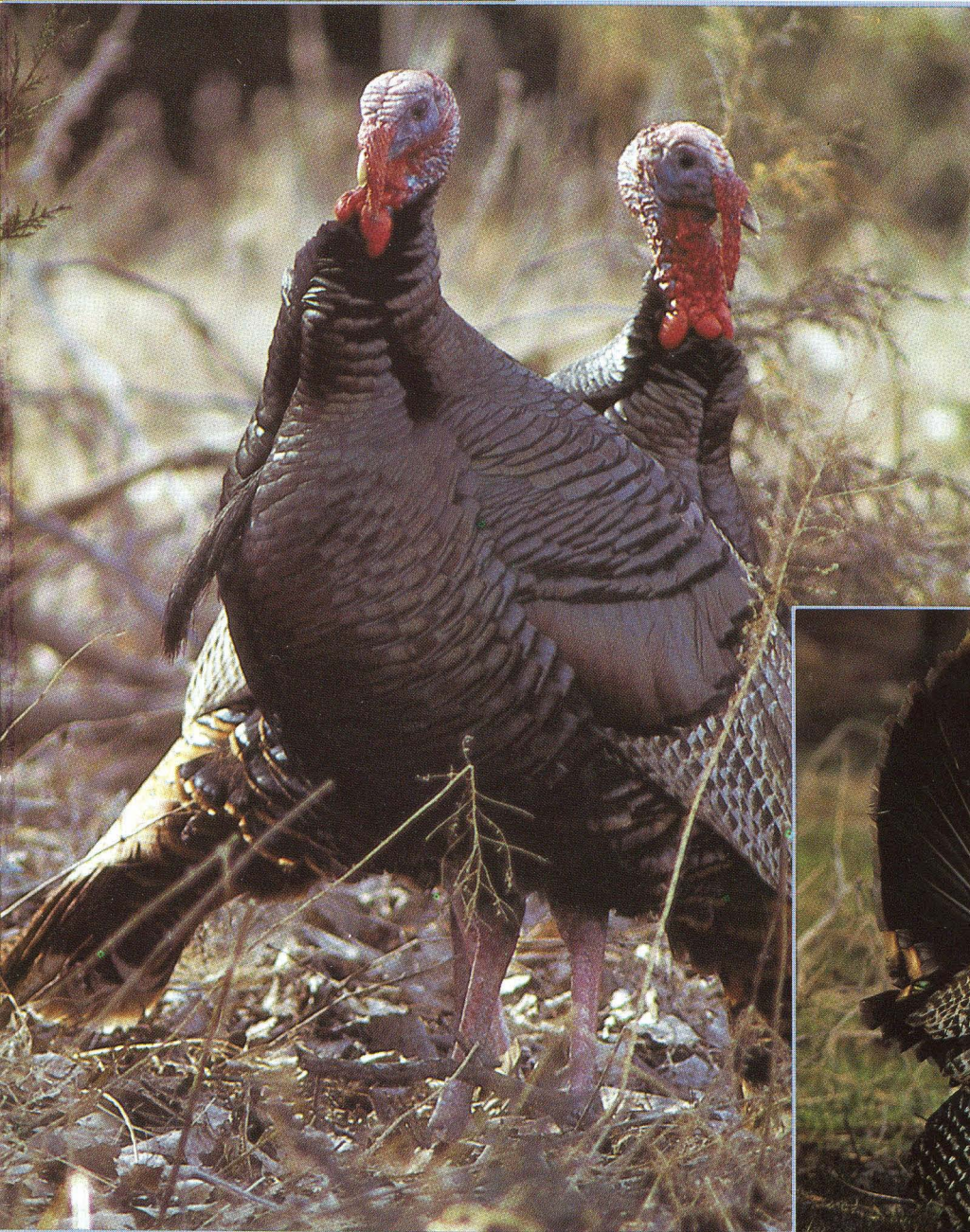
Left: The beard on this tom may measure nine inches and is the mark of a mature bird. Though beards of over 14 inches have been recorded, a turkey with a 10-inch beard is considered a trophy. **Inset:** Turkey hunting is popular in Kansas, where over 4,000 permits are issued annually. **Below:** Turkeys have extremely keen vision and are not colorblind. These two alert toms would be almost impossible to approach. **Bottom right:** Photos of strutting turkeys are usually taken from blinds, and often with the use of a call. A puffed-up tom like this looks bigger than he is.

feathers puffed and tail fanned, the tom looks one-third larger than he is. Blood rushes to the head, and a fleshy appendage called a snood swells until it dangles across the beak. The rushing blood also fills the folds of flesh on the tom's neck, forming a dewlap. The dewlap turns a bright crimson and contrasts with the turquoise on the top of the tom's featherless head. Framed in a fanned tail, the copper and green iridescence of the breast set off the red and blue of the gobbler's head. A black hairlike beard just below the neck completes a picture of male pomp.

Mating is completed in May, and clutches of eight to ten eggs will hatch in June. The poults stay with the hen until the following spring. Speedsters on the ground as well as adept fliers, adult turkeys are usually successful at eluding their natural predators, bobcats and coyotes.

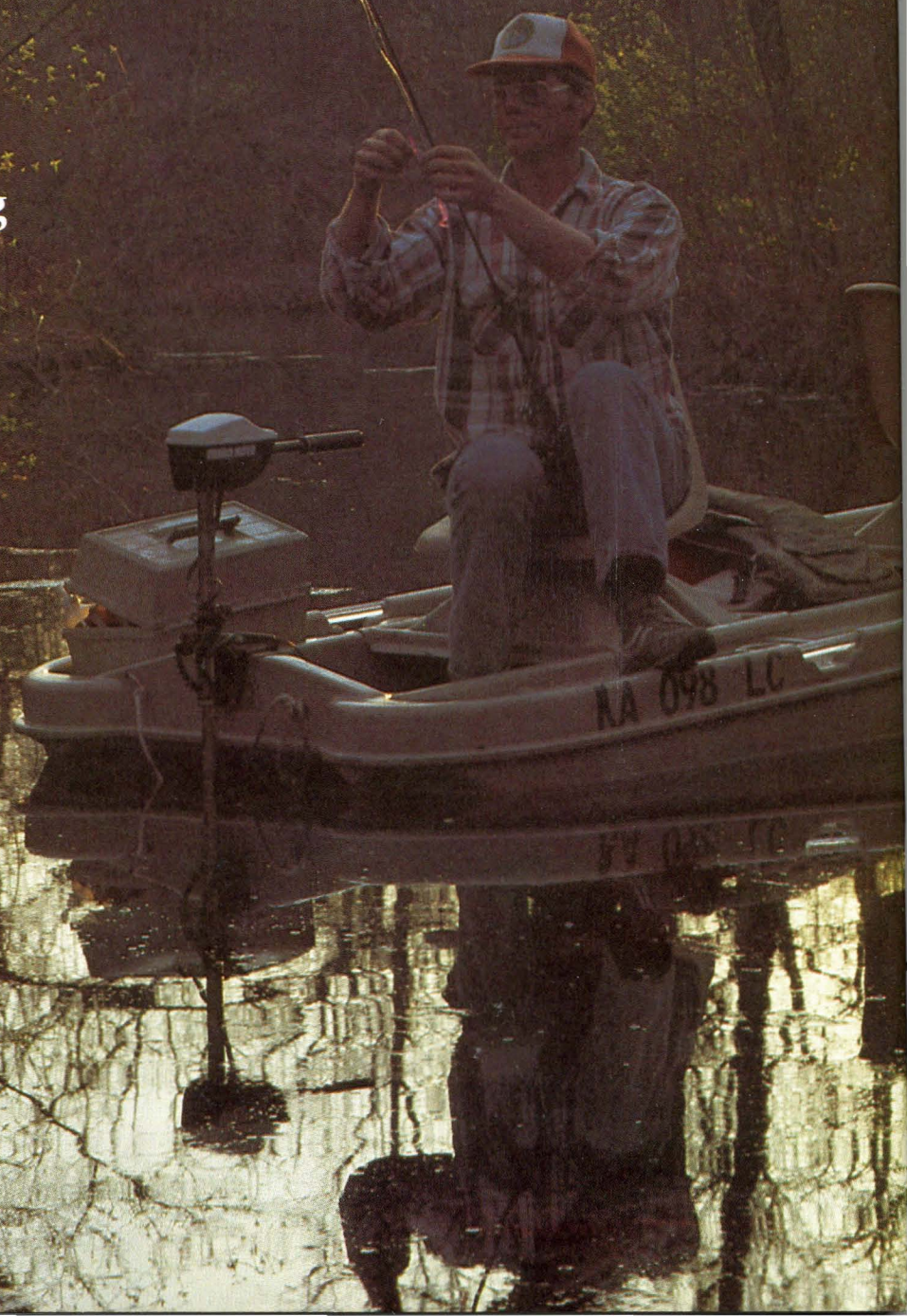
It is during the spring that turkeys are most vulnerable to hunters. But many Kansans are finding that trying to call an old tom turkey into shotgun range is far from easy! The turkey is always on the lookout for danger and, with his sharp eyesight, will catch any movement. His first reaction to anything abnormal is to run. He'll fly if necessary, but that isn't often. No human can outrun a turkey in heavy cover!

The first turkey season in Kansas was in 1974, when 400 permits were issued and 123 turkeys were harvested. In 1984 4,300 permits were issued and 1,430 turkeys were killed. Our turkey population continues to grow each year and, thanks to sound management, the gobble of a tom turkey will be heard in Kansas woodlands for many springs to come. □



Strip Pit Fish

Making mined land
productive involves
more than just adding
water. But that's a
start . . .





Rob Friggeri

Coal mining is big business in southeast Kansas. From the late 1890s, when coal was removed by pick, shovel, and mules, to the 1970s, when the 12-million-pound electric "Big Brutus" removed 135 tons with a single scoop, mining has played a vital economic role there. To date, nearly 50,000 acres have been mined for coal.

Although mining has resulted in many serious environmental problems, there is also a bright side to the story. Sportsmen are now benefiting from hundreds of small lakes and several thousand acres of excellent wildlife habitat that were created after the scars of mining healed. Kansas anglers may have benefited most.

Just as major changes have occurred in mining methods over the years, fishing in strip mine lakes has also changed significantly. Increased fishing pressure, more knowledgeable anglers, and the use of sophisticated equipment are placing heavy demands on our waters today. Still, because so many lakes are available, there are plenty of "honey holes" to go around. Whether you prefer bass, channel cat, bluegill, crappie, redear, or just plain peace and quiet, there's a strip mine lake out there somewhere that will fit the bill.

The State of Kansas got its first mined land in 1926. A total of 24 tracts totaling 5,729 acres had been obtained by 1962, when the Fish and Game

Commission first began operating and intensively managing mined areas. Most of the tracts were donated to the State from individuals or coal companies after they had been mined. A few were sold to the state for a fee of "one dollar and other good and valuable considerations." The only significant purchases of mined land were in 1962 and 1966, when \$51,769 was spent to obtain 2,082 acres in five different tracts. The largest acquisition occurred in December, 1981, when a gift of 8,208 acres was received from P & M Coal Company.

The Kansas Fish and Game Commission currently manages 14,015 acres of mined land in Crawford and Cherokee counties. Its Mined Land Wildlife Area comprises 45 separate tracts, ranging in size from 49 to 640 acres. The area boasts 1,543 acres of water, including over 250 lakes and potholes.

Approximately 90 percent of the Mined Land Wildlife Area has been mined for coal and shows the characteristic series of parallel ridges of disassociated topsoil, subsoil, and parent materials. Heights of mine dumps (from trough to ridge) vary from 10 to 50 feet, depending on when mining occurred and the type of equipment used in the mining process.

Lakes vary greatly in size and depth. Areas mined in the 20s and 30s with small equipment result in pits that are rarely over 15 feet deep. These lakes and isolated ponds are created when water fills valleys between spoil ridges and where mining equipment deviates from the normal parallel stripmine

course. They rarely cover more than 10 surface acres. The steep parallel ridges surrounding these lakes are now overgrown with trees and brush. Although many of these older pits are small, they produce some of the best fishing.

The huge electric shovels and draglines that came on the scene in the late sixties formed much larger pits. The rough parallel ridges were replaced by a rolling terrain as mining progressed and a long terminal pit resulted along the edge of the tract that was mined last. Terminal lakes can be over 200 feet wide and often a mile or more in length. The largest lake on the Mined Land Wildlife Area is 50 surface acres. Maximum depths range from 30 to 60 feet. Terminal lakes are very steep-sided and surrounded by high walls of shale and rock outcroppings up to 50 feet tall. Very little underwater structure exists. The lake resembles a long, deep bath tub with the bottom gradually tapering to shallow water areas on either end. The most prominent bottom feature is a haul road that typically bisects the lake lengthwise, creating a long underwater ridge. This road was used by huge dump trucks to remove coal from the excavation site. Isolated large boulders, rubble and silt piles, and rock ledges make up the remainder of sparse terminal lake structure.

Most strip mine lakes produce high-quality fishing. The clear water environment characteristic of most pits favors sight feeders like bass and bluegill. Water clarity sometimes exceeds 15 feet! Several state record fish have been taken from strip mine lakes.

Although strip mine lakes can produce quality angling, acre for acre they cannot support the quantity of fish found in typical Kansas ponds and lakes. This inability to sustain abundant fish life results from many factors, including infertile soils, poor water quality, lack of shallow-water habitat, and stratification. A well-managed farm pond can easily support 350 pounds of fish per surface acre. Some terminal strip mine lakes produce less than 75 pounds per acre.

The quality of soil in the lake basin and watershed has a major impact on the productive capabilities of that body of water. In many ways, growing a crop of fish is similar to growing a field crop: The richer and more fertile the soil, the better the production.

Three soil types occur on the Mined Land Wildlife Area: Parsons, Dennis, and Hepler. All are poorly drained, low in fertility, and acid. Parent materials are primarily clay shale and limestone, with some sandstone and alkaline shale. After mining, topsoil and subsoils are completely mixed with parent material. The result is no soil horizon and thus, no

soil. In general, organic matter content is low, phosphorous levels are low to medium, and potassium levels are medium to high.

The chemical characteristics of each strip mine lake are unique and depend on the geologic composition of the strata found in and around the coal seam as well as the stripping technique used in the mining process. Since the strata in which coal seams are found is infertile, the water is similarly infertile.

In addition to the limitation of infertility, fish production in strip mine waters is further hampered by pollutants exposed in the mining process. Sulfur- and iron-bearing materials occur in quantity in some coal strata. These impurities are removed in the coal washing process and concentrated into spoil piles called "tipples." When exposed to weather, these compounds react with water and oxygen to form iron sulfate and sulfuric acid. Acid pollution greatly inhibits sportfish populations in some waters. In extreme cases, biological organisms are totally eliminated. The Fish and Game Commission has been active in identifying polluted areas and neutralizing them with agricultural lime. Today acid mine drainage affects very few public strip mine lakes.

The first step in correcting acid pollution is to identify problem lakes by measuring key water quality parameters. The watershed is then mapped, soil samples are taken, and the entire watershed is neutralized with lime distrib-

uted by hand from a barge. Some lakes get acid pollution from underground seeps and springs, so they must be regularly monitored to ensure pH levels remain within the 6.0-to-9.0 range that sportfish require. A total of 23 public lakes have undergone lime treatment and are monitored annually.

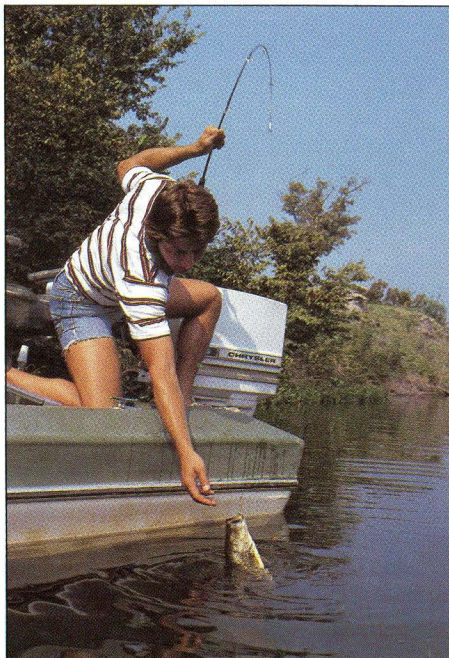
Thermal stratification is a characteristic of most strip mine lakes and contributes significantly to their lower capacities to support fish. High walls inhibit wind-induced circulation, so as waters warm, they stratify into temperature layers. Cool, deep water is not well mixed. Organic decomposition below the thermocline results in insufficient oxygen to sustain life. Most Kansas strip mine lakes are incapable of supporting any life below 20 feet from June through September, a majority of the growing season.

The amount of shallow-water bottom area above the thermocline has a significant influence on the amount of life a lake can sustain. Steep banks and 30- to 40-foot average depths limit primary food production to the ends of terminal lakes. Although a deep 30-acre lake may look like it should be loaded with big fish, it supports few because only five acres on either end are actually producing lower-food-chain organisms. On the other hand, a lake with a maximum depth of 15 to 20 feet may be entirely productive. That's why older, shallower lakes have more fish-producing potential.

One of the goals of the Fish and Game Commission is to provide the public with fish and wildlife use opportunities compatible with the resource and consistent with public demand. Since practically all mined land waters contained sportfish populations when they were acquired, a primary objective was to ensure anglers had adequate access to these fisheries.

Rough, overgrown dumps and steep high walls make shoreline walking impossible, even for the hardest angler. To provide opportunities for nonboating anglers, shoreline access areas are being developed. In large lakes, at least one access site is constructed, usually adjacent to the boat ramp. Additional access sites are developed and maintained near existing roads where extensive dozer work is not required. Access to the shallower ends of deep lakes is preferred but not always feasible. One of the best sites for access development is where feeder streams enter lakes. Channel catfish angling can be excellent at these sites following heavy rains that flush in an abundance of food.

Fishing by boat is by far the most effective angling method in the pits. A lightweight twelve-foot johnboat with a



Gene Brehm photo

You don't need a big engine to fish most mined land impoundments. This angler had a trolling motor up front, and it brought him to the fish quietly.

trolling motor is the most commonly used rig, with the new one- and two-man fiberglass bass boats also a popular choice. Occasionally float tubes or styrofoam water wagons are employed on smaller lakes, full-size bass boats on larger ones.

On smaller water, gravel boat ramps provide sufficient access for the majority of anglers who back pickups to the water's edge to unload johnboats. Boat ramp development is more difficult on large terminal lakes. High walls and steep banks make conventional ramp construction impossible. To feature proper slope, the ramp must be built on adjacent solid ground, requiring expensive dozer and backhoe work. Cement ramps are also necessary to enable full-size boats to safely launch. Since the 1981 P & M Coal Company acquisition, 16 cement boat ramps have been constructed. Ramp development will continue until all lakes over 10 surface acres have a dependable cement ramp.

Of all the methods used to improve fishing on the area, constructing dams is one of the most versatile and productive. A strategically-placed dam that raises the water level of an existing lake can greatly increase the amount of shallow-water area by inundating low areas and spoil valleys adjacent to the lake. This not only increases aquatic productivity, but provides additional spawning sites. Equally important is the benefit of creating permanent protective cover and shade in the form of a band of standing timber around the pit's perimeter.

Dams can bring additional benefits as well. Boat ramps can be constructed easily on dry ground before water levels are raised. Boat access can also be greatly improved by cutting notches across parallel spoils. With a rise in water level, the once-isolated fingers connect to form a large lake. It's sure a lot easier to boat through row after row of spoils than to drag your craft over them!

Before new dams are constructed, a plastic drain line is often installed at the existing water level. This permits the level to be artificially controlled. Water levels lowered in fall drive forage fishes from shoreline cover. Improved growth of predator fish like bass, walleye, and large channel cat result from increased food availability. Better panfish angling follows because population thinning reduces competition for food.

When rehabilitation and restocking must be done to improve fish populations, chemical costs are significantly lower if water volume can be reduced. The ability to draw a lake down is likewise beneficial when repairs to a boat ramp are needed. Dams have even

been used to create catch ponds that prevent polluted runoff from entering a fishable lake. Others have been built to isolate lakes from a stream to prevent entry of undesirable fish species.

As good as they are, dams can only be built on a small percentage of pit lakes. But habitat improvements can be made on nearly all of them. Habitat is vital to healthy fish populations, just as it is to healthy wildlife populations. Whether in the form of aquatic vegetation, brushpiles, tire reefs, or half-cut trees, some type of protective cover is essential for the survival of young fish. Above-water habitat provides shade and stimulates increased numbers of lower-food-chain organisms.

Terminal lakes suffer from a severe lack of habitat. Brushpiles, tire reefs, and half-cuts must be used to supplement sparse aquatic vegetation. The task of cutting nearby trees, dragging

very difficult, but the environment needed for a diverse, healthy fishery is eliminated. Predator fish cannot find adequate forage. Panfish overpopulate. Poor-quality angling for all species results. To curb excessive underwater plant growth, white amur are stocked annually in some lakes. These stockings play a vital role in providing the habitat necessary for a healthy fishery to develop.

Other techniques can improve fishing in the Mined Land Wildlife Area. One is an automatic fish feeder. This floating feeder is used in conjunction with habitat development to concentrate channel catfish and bluegill within reach of shoreline anglers. Floating fish food is dispersed morning and evening by a battery-operated timer. Larger channel catfish have been taken more consistently since the feeder was installed. Bluegill catches have also improved.



Gene Brehm photo

This fisherman took advantage of early-morning feeding activity to reel in a nice largemouth. Calm, clear water is the rule on the strip pits, though many are deep. Because bottom cover is lacking, they can't match the productivity of farm ponds, but they remain good bets for big bass.

them to the site, then weighting them down before taking them to the desired location by boat is time-consuming and expensive — tire reef construction requires hard work, too. But good habitat is worth the effort. Where it is placed in terminal lakes, it will increase fishing success. If habitat is sparse, many fish are forced to be roamers, and locating fish is difficult. Providing habitat concentrates fish in a known area.

While deep pits suffer from a paucity of habitat, clear, shallow lakes rarely need additional cover. In fact, they are often plagued with excessive vegetation! The clear water conditions allow sunlight to penetrate to the bottom, spurring plant growth. When too much vegetation is present, not only is fishing

Since the feeder now in use has proven effective in increasing angler success, another is scheduled for installation shortly.

Once a suitable environment for a productive fishery has been established, fish population structure can be addressed. Fish in strip mine lakes come from several sources. Many are initially self-stocked by fish gaining access from adjacent streams during heavy runoff. Well-meaning (though ill-advised) fishermen and mine company employees stock fish from other waters. Some are stocked through the Fish and Game Commission's farm pond stocking program. And, since the 1920s, state and federal hatcheries have stocked largemouth bass, bluegill, channel catfish,

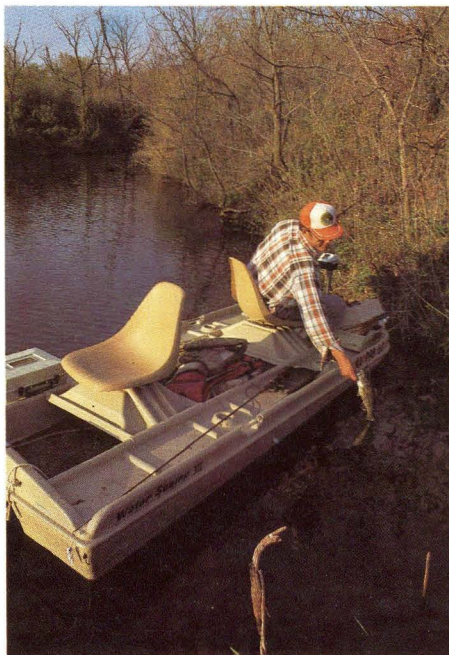
walleye, northern pike, crappie, spotted bass, smallmouth bass, and flathead catfish.

Fish communities in small impoundments are fragile. Many factors can lead to an unbalanced, unacceptable fishery. Persistent environmental problems like excessive vegetation, turbidity, or competition from undesirable species often lead to poor fishing. Unregulated fish harvest plays an even more significant role. In fact, improper harvest ruins future fishing in more good Kansas ponds than any other cause. Strip mine lakes are no different.

Bass overharvest is the most common and most serious problem. Largemouth bass are the primary predator in strip mine fish communities. They're also the most sought-after fish. The quality of the entire fishery depends on how many intermediate-size bass are present and how effective they are in controlling numbers of panfish like bluegill, redear, and crappie. When too many bass are harvested, panfish numbers go uncontrolled. Overpopulation and severe competition lead to stunted, poor-quality panfishing. It's a vicious circle. Poor-quality panfishing in turn leads to poor-quality bass fishing. Lower fish-producing capabilities and heavy fishing pressure make public strip mine lakes especially vulnerable to overharvest.

There are two alternatives available to combat bass overharvest and the overall poor fishing that results. The first is to implement length limits. The second is total rehabilitation and restocking. As extremely large water volumes in terminal lakes make rehabilitation cost-prohibitive, bass length limits are a vital management tool. A 15-inch minimum length limit is in effect on all Mined Land Wildlife Area waters. Fish populations differ from lake to lake, so a single regulation cannot be right for every pit. Still, the 15-inch limit is best in the majority of lakes, and a single regulation avoids confusion and simplifies enforcement. Even in the small percentage of lakes where bass quality suffers as a result of high numbers of bass below harvestable size, not all is lost. Bass overpopulation is much more desirable than bass overharvest. When a lake is dominated by numerous 10- to 12-inch bass, heavy predation often reduces panfish numbers to the point where the remaining panfish have little competition and grow to trophy size. Overharvest problems usually involve bass. Bluegill, redear, and crappie are generally underutilized. Increased harvest of panfish would benefit most fish communities.

In 1979 a four-year study was initiated to collect sportfish harvest and angler



Gene Brehm photo

Just because you have a boat doesn't mean you must fish far from shore. While some pits have little in the way of shallows, most will yield good catches near bank brush like this.

use information that would show the effect angling was having on fish populations in strip mine lakes. It would provide information from which sound fisheries management decisions could be made. Identical eight-month creel surveys were conducted in 1979 and 1982 on lakes totaling 169 surface acres. The 1982 survey followed a two-year period in which no fishing was permitted. A total of 2,734 anglers were surveyed from April through October.

The two-season closing resulted in greatly improved angler success. Total harvest increased 600 percent, from 21 fish per acre in 1979 to 126 fish per acre in 1982. Fishing success increased 450 percent, from .2 fish per hour to 1.0 fish per hour. Projected total anglers using the area increased from 3,049 to 13,163 — although fishing pressure only increased from 89.4 hours per acre to 130.4 hours per acre. More anglers made shorter but more successful trips. The average size of fish remained relatively unchanged. The creel surveys also reinforced the fact that bass are vulnerable sportfish. Of the 1,274 bass caught throughout the entire 1982 fishing season, 801 were taken on opening weekend!

Largemouth bass constituted the bulk of the total harvest, contributing 49 percent in 1979 and 64 percent in 1982. Catch-and-release fish dominated the take. Quality improved. The number of bass harvested over 15 inches increased 45 percent. One of the most significant

changes observed following the closing was a dramatic increase in numbers of catch-and-release fish creeled: Only 424 bass less than 15 inches were caught in 1979; 1,124 were harvested in 1982! But why such a *big* jump? After all, fish this size are protected by the length limit.

Illegal harvest is the most obvious answer. In order for the bass length limit to be effective, anglers must be responsible enough to abide by it. Strict enforcement is difficult because of the isolated nature of pit lakes. It's impossible for a bass to reach quality size when it hits the frying pan at 12 inches.

The temporary closing proved very informative. It was so successful that it has become a part of fish management in the pits. Each spring one "new" area is opened to fishing, while another is selected for closing. No more than two areas are closed at any one time. Habitat development is intensified in each closed area, increasing work efficiency. The closing also provides an excellent opportunity to rehabilitate lakes and have fish populations firmly reestablished before angling is permitted. And because the opening weekend is so popular (50 percent of the total fishing pressure for the year is applied in the first three days), a short opening weekend creel census permits easy evaluation of the success of various management efforts.

Reclamation laws today require coal companies to reclaim mined land in such a manner that pollution and infertile soils are no longer significant problems. Topsoil is stockpiled and replaced. Water quality and erosion is closely monitored and controlled. Even so, serious problems for fish and wildlife persist. Creating shallow-water areas and placing habitat in terminal lakes requires additional expense. So far, coal companies have not been willing to take that extra step to provide good future fishing. Too, many lakes are still stocked haphazardly by individuals. We have the technology to create better fishing than ever before, but some land use policies, unchecked, can still ruin our fisheries.

If you are planning a fishing trip to the Mined Land Wildlife Area, don't expect all the conveniences of home. With the exception of a shelter house in Unit No. 1, the only amenities are gravel roads, boat ramps, and latrines. Camping is permitted anywhere, as long as you keep vehicles on maintained roads. Albeit not aesthetically pleasing on the shore, strip pits are nonetheless productive places to fish. They offer a variety of species, a chance for you to latch onto a realunker. They are waste areas reclaimed, a tribute to energetic fisheries management in our state. □

They stand,
lonesome, battered.
Many don't work.
But they're a part of
the prairie now;
they took

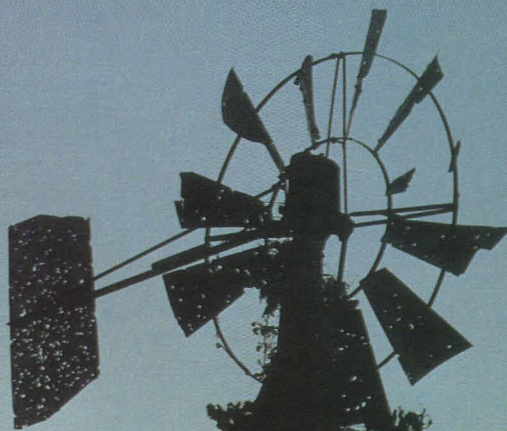
Water from the Wind

text and photos by Mike Blair

Windmills fit the prairie landscape. When transmission lines cut sharp across earth's gentle forms, and ranks of utilities split open spaces into vast quadrangles, windmills alone blend that of man with that of land.

They're not inconspicuous. But neither are they imposing, and they do their job in a quiet way. Visually, they harmonize with sky and grass and

space. They were built to draw water from aquifers below the prairie at a time when gasoline and electrical power were unavailable. Simple but ingenious, the windmill tapped an unending parade of moving air. Weathered wood and rusted steel are now the time-worn badges of service in a harsh environment. Smacking of an earlier time, windmills link the present to an era when all things were simpler.

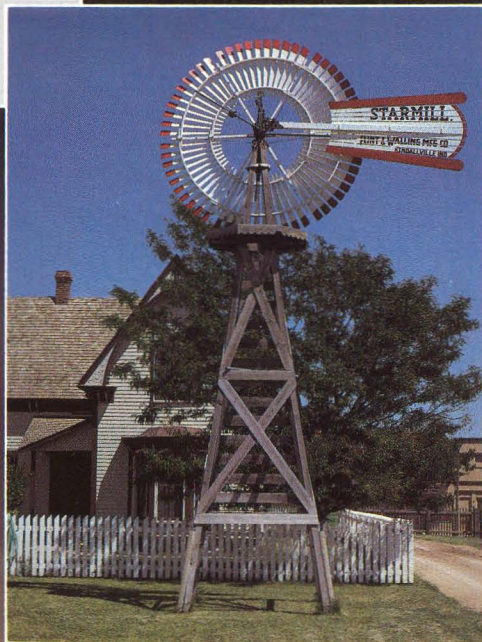
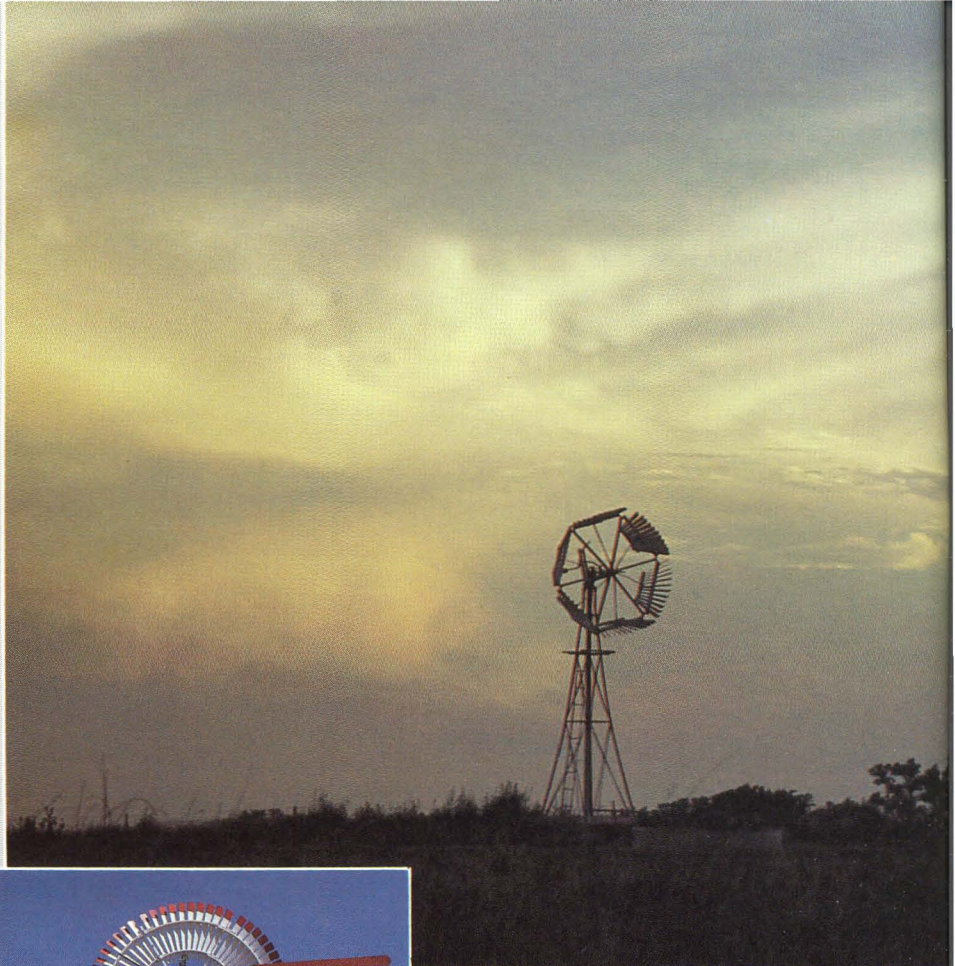


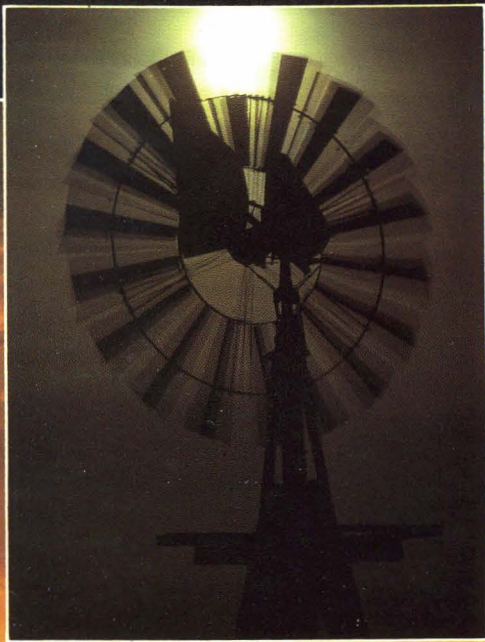
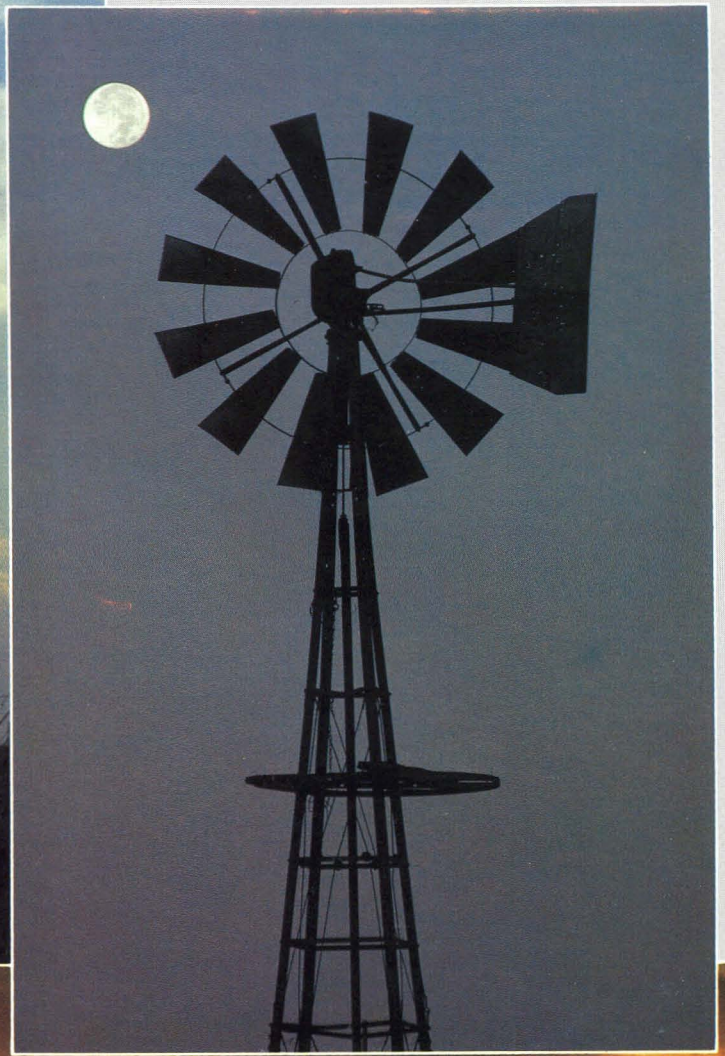
In the shadow of great steel threads now crackling with 115,000 volts of electricity, nestled between metal monsters lurching their way around pivots at the bidding of motors, windmills call upon power and water unobtrusively, without offense. They do it without the gouging of land required for pipelines and transmission towers, and without the chug and whine of oil well and irrigation engines. Though they dot the land, windmills don't destroy its character.

Up close, the hollow groan of metal marks a changing breeze through the steady whirl of blades. Water slowly pulses from the pump in long draughts, splashing into the holding tank in monotonous repetition. Faintly the word AERMOTOR adorns the vane, resisting nature's best efforts to wear it away. Somewhere on the tower, a weathered handle will be found. Connected by wire or chain to the vane behind the blades, this assembly can be locked to turn the windmill out of the wind — to control water flow. A thousand cattle tracks pock the mud next to the tank.

In a most acceptable way, windmills make the prairie livable. They break the distance into fathomable segments and provide oases for livestock and wildlife. When defunct, they simply fade away like dying trees.

They have earned their place and paid their way. Windmills are naturals. Windmills are Kansas. □





a Kansas wildlife monograph:



the *Harris Sparrow*

Doug Plummer

photos by Gene Brehm

"Cheenk! Cheenk!" came the loud, insistent call from the thicket. For a moment I forget the bite of the cold north wind as I strain to see the bird. "Cheenk!" I whistle in reply, and a large pink-billed sparrow flies up from the tangle of weeds and lands, in clear view, in the upper limbs of a honeylocust. Even without binoculars I see the splotch of black across a white breast, a black crown, a mottled brown back, and two white wing bars. I whistle again, and more sparrows emerge and fly toward the creek. They are all Harris sparrows, *Zonotrichia querela*, and although they are one of eastern Kansas' most common winter birds, their lives and history are little known.

The winter range of this bird is a narrow strip of plains only 200 miles wide that stretches from Iowa to eastern Texas. The heart of this territory is south-central Kansas. During Christmas Bird Counts (the annual bird census of the National Audubon Society), the Kansas towns of Halstead, Ark City, and Wichita regularly report the highest Harris sparrow numbers in the nation.

As I walk along Cowskin Creek, in Pawnee Prairie Park west of Wichita, a squadron of Harris sparrows is scurrying on wings before me. They perch in tree limbs over my head, tame almost, and drop to the forest floor where they kick at the dirt and snow for seeds. A "chi-sa-chi" call echoes, flat and sharp, in the undergrowth.

Common as it is, this bird was unknown to explorers until well into the 19th century — probably because of its limited distribution in the

center of the continent. But in the spring of 1834, two separate parties discovered the Harris sparrow within two weeks time!

Thomas Nuttall was on an expedition across Missouri when he first saw and collected a black-breasted sparrow. He named it the Mourning Finch. Maximilian, Prince of Wied, was at the same time returning from the upper Missouri when he encountered migrating flocks of the bird. But neither man would get credit for the discovery for decades.

In May of 1843, John James Audubon was journeying up the Missouri. With him was Edward Harris, a friend and patron to many of the naturalists of the era. When he discovered the bird near Fort Leavenworth, Kansas, he was unaware that it had already been discovered and named twice. When his drawing of the bird appeared in his 1843 *Birds of America*, it bore the name of Harris.

The Harris sparrow makes its home in Kansas only during the winter. Its summer residence was unknown for a long time. In 1902 the matter was settled when Edward Preble found recently-fledged young near the far north settlement of Ft. Churchill, Manitoba. The next year he found more birds 1500 miles to the west at Great Bear Lake. These two sites generally describe the limits of the sparrow's breeding range along the northern edge of the boreal forest. But as late as the 1930s, a century after its discovery, no one had ever seen the eggs of the sparrow. Its full life history remained unknown.

George Mitsch Sutton, a well-known artist and ornithologist from Oklahoma, accompanied a 1931 expedition that was organized to learn some of the secrets of the Harris sparrow. Near Churchill, where the forest gives way to arctic tundra, Sutton and his party found many

pairs of the birds. But they were elusive, and weeks of searching among the stunted black spruce and tamarack failed to uncover a single nest. "They are the most secretive of any of the small birds I know," one observer wrote.

After more diligent scouting, Sutton finally found a nest. It was hidden on the ground, on the side of a moist, mossy hummock near water. In it were four slightly speckled eggs. "As I knelt to examine the nest, a thrill the like of which I never felt before passed through me," he wrote. "And I talked aloud. 'Here!' I said. 'Here in this beautiful place!' Mine was Man's first glimpse of the eggs of the Harris sparrow, in the lovely bird's wilderness home."

By late summer, the Harris sparrow's young are grown, and the birds begin a leisurely migration. They fly across the Canadian prairies, through the Dakotas, and arrive back in Kansas by late November. Here they are birds of the underbrush, not the near-tundra. They reside in the dense shrubbery along creeks and frequent the sumac and honeylocust of the forest edges.

With the responsibility to tend and protect a nest, they are tamer and more approachable. When I disturb them on my walks, they don't flee for cover the way other kinds of sparrows do. Instead, they seek a high perch to see what the

The Harris sparrow is a transient in Kansas, a seed-eater that manages quite well here in winter. Come spring, it will head for north-central Canada, where it nests on the tundra.





Harris sparrows inhabit all types of cover, from conifer belts to woodlands to brushlots. They shy from really open areas, however, and prefer low brush to treetops.

with seed. On the upturned cable spool that serves as my feeder, I can count as many as eight Harris sparrows vying for a share of the seed. With them flutter the other common winter birds of Kansas woodlands: juncos, tree sparrows, cardinals, chickadees, pine siskins, and an occasional downy woodpecker.

As the days lengthen and warm weather approaches, Harris sparrows begin to sing. Through the woods rings a fragile, quavering two-noted whistle that speaks of wild lonely places. For Kansans, these gentle notes are the sparrows' farewell song, the signal that they will soon depart for their northern wilderness home. Their memory will remain in the warm spring breeze for those who have made their acquaintance, and whose winters are brightened by their presence. □

fuss is about. They often form mixed flocks with other birds and are frequently seen with tree sparrows, juncos, white-throated and field sparrows.

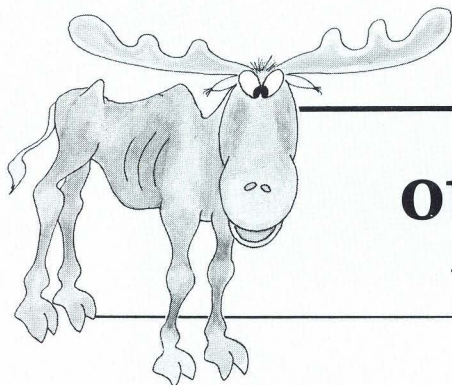
The plumage of individual birds varies enormously. Some have a few black feathers across a tawny breast, while others have a bold badge of black and a crown barely flecked with white. The darker birds tend to be older males, and the amount of black on a bird marks its position in the social hierarchy of the flock. The more black, the more it dominates over its flockmates for a share of the available food.

A flock remains in a given territory for the season, and banding records have shown that Harris sparrows will return to the same winter territory year after year. They live as long as nine years; one Kansas bird was captured eight and a half years after it was first banded.

Their tastes are catholic, and in the wild they feed on a variety of weed and grass seeds, wild fruits and berries. They are easily attracted to feeders. Commercial bird mixtures containing white millet will bring them into a backyard. They favor a low feeding table, or a patch of ground sprinkled



While Harris sparrows do not all look alike, adults can be easily distinguished from other species. No other sparrow has a black cap, face, and throat.



off trail

... with Stub Snagbark®

While cleaning out the Snagbark files the other day, I chanced upon some correspondence. It's not my habit to read mail addressed to others, and Stub will be furious when he finds that I've published his private letters; but I feel compelled to share some. They bear good advice and should be of interest to beginners.

I know what you're thinking: Beginners? What kind of beginners? I don't know; the file just said "beginners."

—*editor*

Dear Beginner:

Before you start, it's best that you reconsider what might happen if you fail. Just because you managed to carry 60 pounds of duck decoys, a loaded Model 12, and a Labrador with a sore foot across a mossy plank on your way to the marsh in the dark last weekend, you shouldn't assume you were cut out for high wire acts. Consult with your Labrador before quitting your present job.

—*Stub*

Dear Beginner:

It's well-written, but I don't think a candy cookbook for backpackers would sell. Most backpackers don't like candy, and those who do won't admit it. Your suggestion in the preface that the women could make candy in camp while the men conquered the peaks would meet with lukewarm reception at best.

—*Stub*

Dear Beginner:

Frankly, no, I've never encountered an eagle nest in one of my tree stands. I suggest you put yours a little lower.

—*Stub*

Dear Beginner:

I don't really know why every other conservation group is "Something Unlimited." Yes, the resource *is* limited, and no, I don't know who they're trying to kid. Yes, they all like donations, and no, they won't share their donor lists with book-of-the-month clubs. Yes, gifts are usually tax-deductible, and no, they do not merit a hunting license discount. I suggest you contact each organization directly to find out where it stands on apartheid, farm legislation, and steel exports. Thank you for your interest in our natural resources.

—*Stub*

Dear Beginner:

Shooting ducks on the water is both illegal and unsporting, and I advise that you stop doing it. Yes, you are liable for the decoys you sunk last weekend.

—*Stub*

Dear Beginner:

It is, indeed, a good rendition. Thank you for sending it. I'd advise against marketing any commemorative model, though. A gold medallion is exceedingly hard to incorporate in a dry fly.

—*Stub*

Dear Beginner:

"Black box" is a photographic technique, not a flight recorder — at least as it is mentioned in the article you sent. I agree that song birds do not belong in flight recorders.

—*Stub*

Dear Beginner:

The cost of hunting and fishing licenses will always be contested by people who don't want to pay for what they get. Aren't you glad you're not in that group?

—*Stub*

Dear Beginner:

That's a tough one. If I were so proficient outdoors as to become a television guru on field sports, I would answer your question on the air. I'm not, so someone else may better steer you in that direction. I can, however, tell you how to know when you're close to being a guru:

You're a proficient fly-tier when you give your best creation to a friend to try on opening day.

You're a skilled canoist when you offer your services in organizing a race and don't enter yourself.

You're a competent bowhunter when you pass up the biggest buck you have ever seen because he is facing away from you.

You're an experienced camper when you volunteer to do the dishes at night, then get up before anyone else to start a fire the next morning.

You're a top-flight bird shooter when you lift The Big Covey in front of your setter and watch the singles scatter in the dusk without raising your gun.

You're a crack rifle shot when you dare to measure your skills on paper targets, in competition with trained marksmen.

You're a master angler when you pull an eight-pound largemouth through the lilypads, then send him back without the hook.

You're an expert woodsman when you share what you know with someone who cannot repay you.

You're a great waterfowler when, as a lone goose banks into your mallard spread, you reach for a thermos and whisper to your partner, "Take him."

That's a start. You may wish to be a renowned hunting or fishing guide, an authority on wilderness survival, a widely-read outdoor writer. I'm sure you'll find your own measure of success in these and other pursuits. Don't be surprised, though, if the folks you want to impress don't share my views on outdoor proficiency. You may have to catch and kill to prove yourself a predator, wear big boots and plaid shirts to give yourself stature, talk shot placement and lure action to present yourself as knowledgeable. There's really nothing wrong with those requisites — they're sure a lot easier to meet than my criteria — but don't sell yourself short.

Good luck, young lady.

—*Stub*

“... to want no extras, no shields; to find the universal elements enough; to find the air and the water exhilarating; to be refreshed by a morning walk or an evening saunter; to find a quest of wild berries more satisfying than a gift of tropic fruit; to be thrilled by the stars at night; to be elated over a bird’s nest, or over a wild flower in spring — these are some of the rewards of the simple life.”

—John Burroughs

