

# **Kansas Furbearer Guide**





**text by Matt Peek**  
*furbearer biologist, Emporia*

**photos by Mike Blair**  
*associate editor/photographer, Pratt*

Prior to 1850, the lucrative fur trade was the most important factor influencing European exploration and settlement of North America. For many of us, a great deal of mystique surrounds the mountain man trappers and untamed wilderness of this era. While most recognize the historical significance of the fur trade, few recognize that it remains important today. And for the most part, those species that were the staple of the fur trade then, still are today. In Kansas, these species are monitored and managed under the designation of “furbearers.”

As their name implies, furbearers have been predominantly recognized for the quality or value of their fur, though several also provide excellent table fare, oils, musks, and various other products. They are a diverse group of animals in Kansas, encompassing 6 families and consisting of 13 legally harvestable species including beaver, badger, bobcat, red fox, swift fox, gray fox, mink, muskrat, opossum, raccoon, striped skunk, least weasel and long-tailed weasel. Though the coyote is not classified as a

furbearer in Kansas, it is often associated with and monitored as if it were.

Despite our recognition of their historical significance, the prominence of furbearers in our environment today is often overlooked. Highly nocturnal and secretive, most are able to persist in abundance, even in close proximity to people, while going relatively unnoticed. With rare exception, it is actually the presence of people that has allowed the species to become so abundant – first through our removal of the large carnivores from Kansas and most of the United States, then through our addition of agriculture to the landscape.

All of the furbearer species feed heavily at times on either agricultural grains or the rodents associated with them, and most at least occasionally prey on poultry or livestock. Some have even adapted to urban and suburban life. But until recently, people had sufficiently filled the role of top predator. Now, with rather depressed fur prices and a society that is becoming increasingly distanced from the rural, more self-sustaining lifestyle, furbearer

harvest has decreased such that populations have gone largely unchecked. These species that have traditionally been viewed favorably for both the material and aesthetic benefits they have provided have increased past tolerable levels for people in some situations.

Almost ironically, those indiscretions that earn furbearers the greatest disfavor are often the result of our own habitat manipulations - which aren't even beneficial to them. Destruction of wetlands, brushy field borders, and native grasslands result in reduced upland game or waterfowl populations, yet “too many predators” often take the blame. When our houses encroach upon and fragment their habitat, and they are forced to become more reliant upon the byproducts of our own existence for survival, we label them as nuisances or vermin. Despite the conflicts these species sometimes cause, they each have a niche to fill in their natural environments, and their adaptability and persistence in the face of a rapidly changing world are worthy of admiration.



## Raccoon (*Procyon lotor*)

Highly intelligent and adaptable, the raccoon is one of our most abundant furbearers. Raccoons associate with all types of water sources and their surrounding habitats, and can be found throughout Kansas. They are most abundant in the east where the highest interspersion of mature woodlands, water courses, and agriculture occurs. Raccoons have also become well adapted to urban and suburban areas.

With a black mask and a long, ringed tail, the raccoon is easily identifiable, but it is the pet raccoon's habit of dipping food in water that earned it the species name "lotor," meaning "the washer" in Latin. It is thought that by wetting the toes, the raccoon's highly advanced tactile sensitivity is increased, improving the ability to identify a potential food source. Raccoons are omnivorous, primarily subsisting on plant materials including corn, milo, acorns, mulberries, and various other fruits, nuts, berries, and shoots. Seasonally, grasshoppers and insects are important, and fish,

frogs, clams, and crayfish are preyed upon when available. Opportunistic nest predators, raccoons also prey on eggs and setting birds, occasionally even up to the size of waterfowl and turkeys.

Raccoons are non-territorial and are capable of persisting at very high densities. Past estimates in prime Kansas habitat have indicated more than 40 raccoons per square mile, though densities of 20 to 25 per square mile in good habitat are probably common. Despite these high densities, raccoons are generally solitary with the exception of mothers with offspring.

Typically, three or four young are born in April or May. Though they do not hibernate, raccoons do den during freezing spells or times of snow accumulation. Fat reserves, accounting for up to 30 percent of the raccoon's weight, are built up in the fall to get the raccoon through these cold spells and winter in general. Dens most often consist of hollow trees, but old buildings, abandoned burrows of other animals, or other available cavities are also used.

Adult raccoons are excellent swimmers, climbers, voracious fighters, and have few natural enemies. However, they are extremely susceptible to a variety of diseases and parasites. By far most important in Kansas is canine distemper. Although its precise impact is unknown, distemper may account for up to half of the mortality in unharvested Kansas populations each year.

The raccoon is by far the most important furbearer in Kansas in terms of total pelt value and number harvested. Heavily pursued by both houndsmen and trappers, the raccoon has accounted for about half of the annual furbearer harvest and from 50 percent to 75 percent of the economic return from Kansas furharvesting in recent years. The raccoon is also the most economically important species of urban wildlife, and is responsible to a large degree for the rapidly growing animal damage control industry. In the South and Southeast, raccoon meat is a popular food item, and even here in Kansas, there is limited interest in eating the meat.



## Bobcat (*Lynx rufus*)

Bobcats are among the most secretive of Kansas furbearers. They range throughout Kansas, but even where they reach the highest densities in the southeast, they are only rarely seen. Bobcats are usually only a leap away from cover, and closely associate with shrubby edges of riparian woodlands and field borders, timber, rocky ledges or outcroppings, ravines, and other brushy or generally broken habitat types. Their spotted fur provides excellent camouflage in these habitats, and their willingness to crouch and hide rather than to bolt across open spaces aids in their elusiveness.

A large tom bobcat will weigh about 30 pounds, and a partial description can be found in its names – the common name referring to the short, bobbed tail, and the species name *rufus* referring to the reddish coloration of many bobcats. Both male and female bobcats have a distinct white spot on the back of each ear, which may serve as a visual cue for kittens to follow the female through dense undergrowth. Though kittens are usually born in the spring, bobcats may breed and have young at any time of year. Two or three kittens per litter is average.

Like other members of the cat family, bobcats are highly adapted for predation. Strictly carnivorous, they hunt with keen senses of sight and hearing. Cottontail rabbits are

usually their primary food source, but cotton rats, wood rats, and jack rabbits are also preyed upon when cottontails are scarce. Bobcats opportunistically take smaller rodents, squirrels, and birds, and to a lesser extent, beavers, muskrats, and porcupines. Masters of ambush, bobcats occasionally kill adult white-tailed deer, though they do so frequently only in Northern climates when snow conditions favor bobcat mobility and hunting techniques. Unlike canids and some of the other furbearers, bobcats rarely scavenge and do so only when carrion is fresh. However, they will cache and return to larger kills of their own.

Coyotes, great horned owls, and foxes may occasionally prey on young bobcats, but there is no significant predator of bobcats in Kansas, except perhaps for bobcats themselves. Much like domestic cats, male bobcats sometimes kill and eat kittens or juveniles. Probably the most important natural mortality factor is starvation. Kittens may starve during times of low prey availability, and inexperienced juveniles often have difficulty securing enough food to survive their first winter. Starvation rates are highest in unexploited populations where juveniles are forced into marginal habitat on the fringes of

established adult home ranges. Home range sizes are highly variable, but probably average 2 to 4 square miles for females and twice that for males.

The bobcat has the highest individual pelt value of any Kansas furbearer, and Kansas ranks among the top states in annual bobcat harvest. During the 2001-2002 furbearer season, nearly 3,600 were harvested. Trappers account for about two-thirds of the annual harvest, and hunters account for most of the remaining third. Because bobcats could be confused with some endangered species of cats from other countries, federal regulations state that all bobcats must be pelt-tagged in order to leave Kansas. KDWP gathers other information on bobcats during the tagging process, and some of the best furbearer harvest information we have pertains to bobcats. Annual pelt tagging reports are posted on the KDWP web site.



## Virginia opossum (*Didelphis virginiana*)

The Virginia opossum is the only marsupial native to North America. Opossums are highly adaptable and range throughout Kansas, but are most common in the eastern part of the state where deciduous forest, wooded riparian zones, and water sources are most common. Like some of the other furbearers, the opossum thrives in and around towns and cities, taking advantage of abundant food and shelter inadvertently provided by people.

The opossum is identified by its long snout, typically grayish fur, and long, scaly, prehensile tail. They also have 50 teeth, more than any other Kansas mammal. About cat-sized, they typically weigh six to 13 pounds, with males being somewhat larger than females. As a marsupial, the reproductive process of the opossum is unique among Kansas furbearers. Females have a fur-lined abdominal pouch called a marsupium in which young develop. After a gestation period of less than two weeks, up to 17 tiny, naked, and blind young are born. Developed just enough to survive outside the uterus, only those able to crawl into the marsupium and attach to one of 13 or so nipples

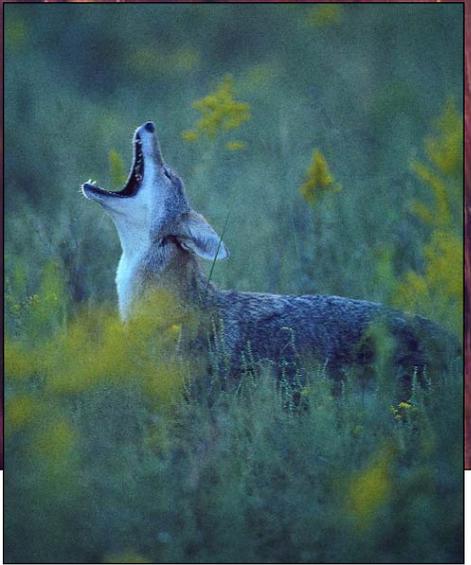
may survive. They remain attached to a nipple in the pouch for the next two months, undergoing most of their basic development. An average of seven young make it out of the pouch, and they are fully weaned and on their own by about 100 days of age. Within a short time after the first litter has become independent, another litter is born.

The opossum finds daytime shelter and refuge for extended periods of cold in rock, wood, or junk piles, hollow trees or logs, burrows of other animals, or various other crevices. Densities of eight to 10 opossums per square mile are probably common in Kansas, but phenomenally high densities of 259 per square mile have been recorded in prime waterfowl nesting habitat. The diet of the opossum is extremely diverse, but primarily consists of plant matter including fruits, berries, and grains, and invertebrates including beetles, grasshoppers, crayfish, and snails. Small mammals, birds and their eggs, and all types of carrion are also consumed opportunistically.

Though highly prolific, opossums experience extremely high mortality and rapid turnover rates within the population. In fact, few

survive past one year, and virtually none past two. Populations are drastically reduced by periods of drought or extreme cold, and are very susceptible to human-induced mortality, especially roadkill. The opossum is a good swimmer and climber, but lacks in speed and intelligence. A common predator evasion technique is "playing dead," which is effective only on those predators that choose not to kill. The great horned owl is the opossum's primary predator, though coyotes, bobcats, and other carnivores will sometimes kill them. Opossums are resistant to rabies, but may be severely impacted by a variety of parasites.

The opossum is a significant furbearer in Kansas in terms of the number harvested, usually ranking third behind raccoons and coyotes. However, individual pelt value is very low, so that most are caught either in damage control situations or incidental to the pursuit of other species. Most opossums are trapped, but some are also taken by houndsmen. Over the past five seasons, annual harvest has averaged almost 27,000.



## Coyote (*Canis latrans*)

Coyotes are not legally classified as furbearers in Kansas, but in many ways, they are monitored and managed as if they were. Coyotes are actually considered nongame, as a result of historic attitudes and the potential for conflict with the livestock industry. Coyotes are not afforded the protection of a harvest season like our furbearers. But their cunning and adaptability are legendary, and it is difficult to conceive a more resilient animal. After surviving decades of cyanide guns, strychnine-laced carcasses, widespread trapping and shooting, bounties, and the all-out ire of mankind, the coyote has responded by expanding its range eastward into parts of the United States where it had not previously existed. In recent times, coyotes have become increasingly adapted to urban life, and have been implicated for attacking pets and even people in a few states where trapping bans have outlawed the most effective harvest technique.

The coyote ranges throughout Kansas from woodlots in the east, through the grasslands of the Flint Hills, to the intensively-managed agricultural landscape in the west. It is easily distinguishable

from other wild members of the canid family in Kansas by its larger size (usually 25-35 pounds) and coloration. In captivity, the coyote's lifespan is not unlike that of a domestic dog, but it rarely lives past six or eight years in the wild. Mortality is probably mainly due to hunting, trapping, and roadkill, but coyotes are also susceptible to various diseases and parasites including sarcoptic mange, canine distemper, and heartworm.

Most coyotes occupy and defend a distinct territory, often with a mate, but some are wide-ranging transients that persist on the fringe of the home ranges of more territorial coyotes. Home range sizes vary by food availability, pack size, and coyote density, but probably average 8-15 square miles in Kansas. Coyotes communicate by scent marking and various vocalizations. Their widely-recognized howl has long been a symbol of the lonesome prairie and adds greatly to the mystique that surrounds the species in Western and Southwestern folklore.

Coyotes usually mate in February or March, and pups are usually born in a den or hollow in April or May. Four to seven pups

are common, but as many as 17 may be born when food is especially abundant. The coyote has a very diverse and seasonal diet. Though diet consists primarily of mice, voles, and rabbits, coyotes feed heavily on plums, sunflower seeds, pears, watermelons, and other fruits, berries, nuts, seeds, and invertebrates when they are available in the summer and fall. In the winter, carrion including livestock and deer often becomes an important dietary component. Coyotes also sometimes prey on domestic poultry and livestock in Kansas, though often they are blamed for the depredations of free-ranging domestic dogs.

Coyotes have usually ranked second or third annually in total value of pelts harvested in Kansas. In recent times, about 15,000 have been harvested each year by licensed furharvesters, with perhaps another 60,000 to 70,000 taken by hunting license holders. Even though the cunning nature of the coyote makes it one of the most difficult species to trap, foothold trapping is usually the most effective harvest technique. Coyotes are also the most common quarry of predator callers.

## Red fox (*Vulpes velox*)



The red fox is the most widely distributed carnivore in the world. Although native red foxes existed in the boreal regions of northern North America at the time of European settlement, the red foxes in the United States today are probably descendants of European foxes released along the U.S. coasts for sport hunting in the 1700s and 1800s. Woodlots interspersed with cropland are typically thought of as prime red fox habitat, but the majority of red foxes in Kansas inhabit the suburban fringes of towns and cities, which offer refuge from coyotes. Red foxes occur statewide, but are most common in eastern Kansas, where urban areas and woodlots are most abundant.

The red fox is identified by its long, bushy tail and characteristic color – orange to red upper parts, black ears and legs, and white underparts and tip of tail. Weighing 10-15 pounds, red foxes are seldom twice the size of a house cat, but their long fur makes them appear larger.

Red fox reproductive rates are highly variable, increasing with the level of exploitation or mortality of the population. In Kansas, the vixen, or female fox, gives birth to an average of five pups around April. The male initially provides

food for the vixen and the pups, and the family group stays together until the pups disperse in the fall. There is typically little overlap between the home ranges of these family units, but one male will sometimes tend to several females.

The diverse diet of the red fox is similar to that of the coyote, consisting primarily of mice, voles, and cottontail rabbits. Red foxes will also prey on other small to medium-sized mammals and ground-nesting birds, or scavenge deer and livestock. Seasonal food items primarily include fruits, vegetables, insects, and eggs. Most notorious for their depredations of domestic poultry, non-native red foxes, also pose a significant threat to native wildlife populations, which evolved without the presence of a similar predator. Red fox depredations have also been implicated for significantly reducing waterfowl survival and nesting success in the prairie pot-hole region of the Dakotas.

Given the red fox's dietary overlap with larger coyotes, it is no surprise that coyotes may competitively displace or even kill their



smaller cousins. Roadkill may also be an important mortality factor for red foxes prevalent in urban areas, as is disease. Sarcoptic mange probably has the most significant impact on Kansas populations, but it is the red fox's susceptibility to the furious form of rabies that has led to their status as a pest in many parts of the world. However, red foxes have not been an important rabies vector in Kansas.

Because of the red fox's limited abundance in Kansas compared to other furbearers, foxes have little importance to our fur trade. About 500 red foxes have been harvested annually over the past few seasons, though double this were harvested several years in the mid-1990s. Like coyotes, red foxes are too wary to enter cage traps, and are most often captured in foothold traps – though they are considered one of the more difficult species to trap. Hunters account for less than one-third of the annual harvest.



## Swift fox (*Vulpes velox*)

The cat-sized swift fox is a representative of the short- and mid-grass prairie ecosystems of the United States and Canada. Considered the least wary of the Kansas canids, swift foxes were extremely susceptible to extermination efforts aimed at larger predators, and were either very scarce or extinct from much of their historic range by the 1950s. However, as predator control activities tapered off, swift fox populations gradually increased. Today, swift foxes have reoccupied much of the western portion of their original range. Kansas, Colorado, and Wyoming now support what is considered the core of the U.S. swift fox population.

In Kansas, the swift fox's current range includes the western three to four tiers of counties. Although once thought to rely on areas dominated by rangeland, swift foxes can survive in highly agricultural landscapes as well. Habitat requirements include flat or rolling landscapes with short vegetation allowing for visual predator avoidance, and soil types suitable for digging dens.

The buff and grayish coloration and small size (about 5 pounds) of the swift fox make it easily distinguishable from other Kansas foxes. Quick and agile, the swift fox's name refers to its fleetness of foot, which it uses to capture prey and escape from predators. Primary prey items include jack rabbits and cottontails. Mice, prairie dogs, shrews, birds, carrion, grasshoppers and other insects, and some plant materials including sunflower seeds are also consumed.

Swift foxes are the most dependent of North American canids, and rely on the protection of dens year-round. Though capable of digging their own, they will also excavate the dens of smaller animals. Dens provide shelter from extreme weather conditions, help to conserve water in an arid environment, and offer protection from predators for both adults and pups. Pups are born around April, usually three to five per litter, and develop quickly. They are full grown by four to five months of age, and disperse a short distance from their parents' home range in their first fall. Home range sizes are commonly 4-5

square miles.

Golden eagles, great-horned owls, bobcats, badgers, and red foxes all occasionally prey on swift foxes, but it is the coyote that is responsible for the majority of the annual mortality in most swift fox populations. Swift foxes are also susceptible to roadkill. Annual mortality rates of swift foxes are usually high, sometimes more than 50 percent, and it is rare for a swift fox to live past three or four years in the wild.

The swift fox has been an unimportant species to the fur trade in Kansas. Since a pelt tagging program was initiated by KDWP in 1994, fewer than 50 per year have been tagged. Despite this, monitoring techniques indicate that swift fox populations are stable in Kansas, and are not unlike what they were in the 1980s when harvest estimates were in the hundreds – the difference now being fewer coyote trappers in the field. Swift foxes are easily trapped, with almost 60 percent of the harvest taken in foothold traps since the tagging program began.



## Gray fox (*Urocyon cinereoargenteus*)

This more distant relative of red and swift foxes is primarily found in the eastern third of Kansas but has extended its range westward into the central part of the state where fire suppression has allowed woody cover to become established. Sometimes considered a representative of the deciduous forest, the gray fox, like the red, prefers brushy “edge” habitat created by a mixture of woods and fields. Typically, as woods become more prevalent than fields, the gray fox outcompetes the red for habitat, whereas reds typically outcompete grays where fields are more prevalent. In Kansas, gray foxes are more sparsely populated than reds and may average two to four per square mile within their range.

The gray fox species name, *cinereoargenteus*, is Latin for “grayish silver,” describing its predominant, salt-and-pepper coloration. With a black dorsal stripe and white underparts turning to orange laterally and up to the ears, the gray fox is the most colorful Kansas furbearer. It is slightly

shorter and stockier than the red fox, but the 10- to 15-pound average weights of the two are the same.

The gray fox is extremely quick and agile like the red, and is recognized by many furharvesters as the more aggressive and less wary of the two. Gray foxes are unique among Kansas canids in that they are excellent tree climbers, a trait that allows them to escape coyotes or other potential predators, survey an area for food, rest in safety, or sometimes even to secure a den in a hollow tree. Gray foxes also use ground dens abandoned by other animals, or various other holes or crevices in or under rocky outcroppings, wood or brush piles, logs, or stumps. Dens are used year-round, but are most important for whelping. An average of three to five young are born in April or May, and these remain in the den until about six weeks of age. After that they begin to leave the den and forage with their parents. Although small mammals including rabbits and various species of rodents constitute major food items, gray foxes

feed more heavily on plant matter than coyotes or red foxes and are considered more omnivorous than the other canids. Where available, corn, apples, wild fruits, and nuts make up major dietary components.

Although predation by other animals is not usually an important mortality factor for gray fox populations, disease can be. Canine distemper is common in our Kansas raccoon population, and it is probably a major mortality factor for gray foxes. Unlike coyotes and red foxes, gray foxes have a high level of resistance to sarcoptic mange.

Due to limited range and sparse distribution in Kansas, gray foxes have been of little importance in terms of annual fur harvest. Up to several hundred may be harvested during some years. Most of these are trapped, but a few are also taken by hunters. Gray fox fur is shorter and more coarse than that of the red fox, and the pelts are not as valuable. However, there is some demand for gray fox pelts by taxidermists or those wishing for a display fur.



## Badger (*Taxidea taxus*)

This popular subject of Western and Southwestern folklore is most often associated with open range or agricultural lands. It exists throughout Kansas. Badgers are scarce in heavily wooded areas of the state, especially in the southeast, and are probably most abundant in central Kansas where the combination of prey and open land are most suitable.

The badger is the largest terrestrial member of the weasel family in Kansas, often weighing 15 to 20 pounds. It has a broad and flattened body and short, powerful legs. Its large forefeet are webbed and equipped with long, curved claws. Pelage coloration includes distinct black and white facial markings and a grizzled gray body with black legs and feet. The badger's size, strength, and aggressive retaliatory behavior make it a formidable opponent for most potential predators, and have earned it the reputation as one of our fiercest mammals.

The badger is physically well equipped for a lifestyle that revolves around digging and is the most fossorial of Kansas furbearers. Badger dens or burrows are conspicuous, consisting of a large

mound of dirt piled around a 10- to 12-inch-diameter hole. Most excavations are in pursuit of prey, but natal dens are specifically constructed. The young are usually born in April or May after a winter arrest in embryonic development known as delayed implantation. From one to five young are born, with three or four being average.

Solitary except during July and August when mating occurs, even badgers with overlapping home ranges tend to avoid each other through scent marking and aggression. Badgers may range over several square miles, but significantly limit their movements during the winter months. Though not true hibernators, they will remain denned for several weeks or more during periods of extreme cold, when excavating prey from frozen ground would burn more calories than could be gained.

The badger's diet consists mainly of underground-dwelling rodents or other small mammals that can be dug out of their nests or burrow systems. The badger uses its keen sense of smell to locate prey, then digs a series of holes until the prey is restricted enough to be captured.

Badgers are often associated with colonial rodents such as prairie dogs or ground squirrels, but also prey heavily upon pocket gophers, mice, and voles. Rabbits, birds, eggs, insects, reptiles, and amphibians are also taken opportunistically. The badger's foraging activity proves valuable for many species of wildlife that lay claim to unoccupied badger dens, and the rodent control provided by badgers is often beneficial to man. However, the large holes left behind provide a minor threat to livestock and farm equipment, and badgers can be very destructive in alfalfa fields where dense rodent populations often exist. As a result, they are viewed unfavorably by many agricultural producers in Kansas.

The badger is of minor importance to the Kansas fur trade in recent times, though pelt prices have more than doubled over the past two seasons. Annual harvests of 800 to 1,000 have been typical. Although badgers can be hunted, this is not usually an effective means of harvest or management. Nearly all harvested badgers are trapped, either at den entrances or incidental to coyote trapping.



## Striped skunk (*Mephitis mephitis*)

The striped skunk is an adaptable member of the weasel family that exists throughout Kansas. Striped skunks are most often found in agricultural fields, pastures, woodlots, and associated fencerows, brushy edges, and rocky outcroppings. They also take advantage of food and denning sites provided by people, and are commonly found in urban and suburban areas where they are usually considered a nuisance. They are least common in the arid southwestern quarter of the state.

Striped skunks are easily recognized by their contrasting white stripe on otherwise black pelage, but there is considerable variation in the width of the stripe. Skunks may range in color from almost

completely black to almost completely white. They are approximately cat-sized and usually weigh from 5-10 pounds, with females being slightly smaller than males. They have a large, bushy tail, a small head with beady eyes, and long, curved claws on their front feet for digging. As a means of self-defense, the striped skunk emits a pungent musk from two anal glands. This bright yellow fluid causes severe discomfort when striking the face of a would-be predator turned victim.

Among the most den-dependent furbearers, striped skunks are capable of digging their own burrow, but usually remodel abandoned badger or woodchuck dens if available. They also take up resi-

dence in or under man-made structures including dumps, junkyards, rock fences, woodpiles, and buildings. They are especially reliant upon underground dens in the winter when they become inactive. Communal denning is common at this time, with a single dominant male taking up residence with as many as a dozen or more females. It is to the male's advantage to be in close proximity to many females during this time, since the short breeding season occurs at the first sign of warm-up in late February or March. Reproductive rates are high, with an average of six kittens being born in late April or May.

Grasshoppers, beetles, and other insects make up the bulk of the striped skunk's diet, but mice, rats, carrion, ground nesting birds and eggs, corn, and various types of plant matter are also consumed. Prey is often acquired by digging, and is usually located by the skunk's keen sense of smell.

The annual turnover rate is high for striped skunk populations. Few skunks live past the age of three. The great horned owl is a primary predator, although coyotes, badgers, and other carnivores also occasionally prey on adults. Predation of kittens by badgers and adult male skunks has been documented, and starvation during winter denning may sometimes be an important source of mortality. Skunks are susceptible to several diseases including canine distemper and most notably, rabies. In Kansas, the striped skunk is recognized as a leading rabies vector, often accounting for 80 percent or more of the animals that test positive for the disease each year.

Striped skunks were a staple of the fur trade into the 1950s, but low pelt values limit their importance today. They are easily trapped, but like opossums, most are caught in damage control situations or incidental to the trapping of other species. Recent annual harvests of 5,000 to 6,000 have been common, though harvests averaged more than 16,000 during a 5-year stretch in the late 1970s and early 1980s.



## Mink (*Mustela vison*)

**T**he mink is a semi-aquatic member of the weasel family that occurs throughout Kansas. Minks are excellent swimmers and primarily occupy habitat surrounding rivers, streams, wetlands, ponds, and lakes. They are most scarce in western Kansas where water courses are lacking. Even so, they are not entirely dependent upon a water source, and spend a good deal of time foraging or traveling in wooded or brushy upland sites. Home ranges vary considerably, but may include up to several miles of linear habitat along a water course.

Long and slender with short legs and bushy tail, the mink's build is not unlike that of its closest relatives and two of our most obscure furbearers in Kansas, the least and long-tailed weasels. Minks have

silky, chestnut-colored pelage and weigh two to three pounds, with males being slightly larger than females. Like other members of the weasel family, minks have highly developed anal glands. They are less proficient than skunks at emitting musk, though some consider minks' scent even more unpleasant.

Like the other mustelids, minks are usually solitary, except during breeding season in February and March. Usually three or four but occasionally as many as eight kits are born around April. Den sites are usually abandoned beaver or muskrat bank burrows, or crevices in rock or brush piles, hollow logs, or abandoned beaver lodges.

Minks are highly carnivorous and prey upon a wide variety of both aquatic and terrestrial animals. They are tenacious predators and

sometimes kill animals as large or larger than themselves. The bulk of their diet usually consists of mammals, with muskrats and mice topping the list. Other prey items include terrestrial rodents, rabbits, crayfish, water beetles, and other insects, fish, and frogs. Minks are also notorious nest predators, especially of waterfowl and domestic chickens. Because they readily cache food, they are prone to killing more than they can eat, especially when their quarry is confined – like in a hen house.

Few minks live longer than three years in the wild. They are sometimes eaten by great horned owls, coyotes, bobcats, or foxes, but the full impact of predation is unknown. Intraspecific aggression (one mink killing another) may be an important source of mortality. Unlike most furbearer species, minks are not significantly affected by diseases, but they may be susceptible to environmental contaminants such as mercury or pesticides.

Minks were among the most economically important Kansas furbearers until about 1970. At that time, long-haired furbearers became more popular garment items, and surpassed the traditional mink and muskrat markets. Currently, harvest levels and pelt prices are low in Kansas, and the mink is of minor importance to our fur trade. About 400 minks per year are harvested in Kansas, almost exclusively by trapping.



## Muskrat (*Ondatra zibethicus*)

The muskrat is a widely distributed semi-aquatic rodent that occurs throughout most of the United States and Canada, including all of Kansas. Muskrats live in marshes, swamps, bogs, streams, rivers, ponds, lakes, and other areas where sufficient water exists to offer them protection from predators. In Kansas, muskrats are most abundant in the southcentral and northeastern parts of the state, where the combination of wetland and riparian habitats are most abundant.

Muskrats weigh 2-3 pounds and have long, laterally-flattened tails and large, webbed hind feet. Their thick, waterproof fur is usually light to dark brown, and is soft and velvety. Muskrats prefer still or slow-moving water with an abundance of aquatic vegetation, which constitutes their primary food source. Cattail, bulrush, and arrowhead make up a large portion of their diet in Kansas, but they are not exclusively herbivorous, and will occasionally eat fish, crayfish, snails, and mussels.

Like beavers, muskrats primarily use bank dens where sufficiently steep banks are available. But muskrats are better-known for constructing conspicuous houses from aquatic vegetation. Houses are

occupied in the absence of banks suitable for denning, or by subordinate muskrats unable to secure a bank den. Muskrat houses are usually up to four feet in height and about six feet in diameter, with one or more underwater entrances that lead to nesting chambers. They are usually occupied by one territorial family during the breeding season but may be occupied by several families in the winter.

Muskrats are density-dependent, making them the Kansas furbearer most prone to boom-and-bust population cycles. Very prolific, muskrats average two or three litters of young per year. Normally, there are about six kits per litter, with reproductive rates being highest when sparse populations have access to abundant food supplies. Most muskrats don't survive past their first year, and mortality factors become more pronounced as populations increase.

Muskrats are preyed upon by raccoons, raptors, snakes, red foxes, coyotes, and especially minks, and experience high rates of cannibalism or mortality inflicted over territorial disputes when densities are high. Despite typically high mortality rates, populations can continue to increase until limited by a more catastrophic event such as drought,

tularemia, Tyzzer's disease, or an "eat-out." All of these can quickly decimate a muskrat population.

At moderate densities, muskrats provide a valuable service for many species of fish and waterfowl by keeping cattails and emergent vegetation from choking out surface water in shallow, marsh-type wetlands. But eat-outs occur when muskrat densities increase beyond their habitat's carrying capacity, and wetland areas are completely denuded of vegetation by feeding muskrats. Most common in the southern U.S., eat-outs can significantly degrade wetlands for years and negatively impact many species that rely on the wetland ecosystem, including muskrats.

The muskrat was historically one of the most important North American furbearers in terms of total pelt value and number harvested, but has diminished in importance to the Kansas fur trade in recent years. During the 1980s, the Kansas annual harvest averaged more than 30,000 muskrats; in the past five seasons, the annual average has been about 7,000. Muskrats are considered one of the best-eating furbearers and are prized for their meat by some furharvesters.



## Beaver (*Castor canadensis*)

The most highly sought-after natural resource in North America during the 1700s and 1800s, the beaver's dense fur was used to make the felt hats considered so fashionable in Europe. Beaver populations were dangerously low by the late 1800s, but through conservation efforts, have rebounded even to the point of overabundance in some areas. In Kansas today, beavers inhabit various waters throughout the state.

Noted as the largest rodent in North America, beavers commonly weigh 40-60 pounds and have been known to reach weights of nearly 100 pounds. The beaver is the most specialized of all rodents for life in the water. Its flat, leathery tail and large, webbed hind feet are perfectly suited for swimming, and membranes in the ears and nose close while underwater. The beaver's dense, tan to chocolate brown fur traps air to keep water off its skin, providing insulation from near-freezing water temperatures during cold winter months.

Beavers usually live in family groups consisting of an adult pair and one or two generations of young, totaling four to eight beavers. The young, or kits, are usually born in April or May, and average three or four per litter. The

home range or territory of the group usually consists of a pond or a stretch of river or stream, and is scent-marked with castoreum (emitted from the castor sacs) and defended against intruding beavers.

In northern climates, beavers often live in "lodges," but in Kansas where steep banks are common, beavers usually burrow dens into the side of pond dams or river banks. The beaver's "food cache" can usually be found nearby. The food cache consists of a pile of sticks and branches collected in the fall and stashed underwater for winter use. The cache is the beaver's only source of food when the water's surface has iced over. The cache is always located close to the den, which is the beaver's air source during these times.

The beaver's instinctive dam-building behavior makes it one of the most ecologically important wildlife species. The dams, which are constructed with sticks and mud, back up water to flood woodlands or surrounding habitat. While these beaver ponds help maintain water supplies during drought periods and create excellent habitat for a variety of fish and wildlife, they often conflict with the interests of man – especially when the flooded area consists of roadways,

parks, or valuable agricultural land.

Exclusively herbivorous, beavers feed on a variety of plants, grasses, forbs, and even agricultural crops. But it is their taste for tree bark that

has drawn them the most attention, and in some cases, ire, over the years. Beavers utilize many species of trees, but young willows and cottonwoods are among the most preferred in Kansas. Felling trees allows beavers access to the smaller, more nutritious branches in the canopy, and provides materials for dam, food cache, and lodge construction.

Beavers seldom venture far from the protection of water, and warn others of danger by slapping their tails on the surface of the water. In Kansas, only bobcats and coyotes prey on adult beavers, though other species may prey on the kits. Tularemia is a disease that can negatively impact beaver populations, and beavers are common carriers of the *Giardia* parasite that causes a human water-borne illness known as "beaver fever."

The beaver is an economically important furbearer because of the value of its pelt and the damage it inflicts through flooding and tree-cutting activities. About 10,000 Kansas beavers have been harvested annually since the mid 1990s, many of which are taken in damage control situations. Beavers may be taken only by trapping, and their harvest season is longer than that of other furbearers. They are widely regarded as one of the most palatable of Kansas furbearing animals.



## Furharvesting in Kansas

With abundant furbearer populations throughout most of Kansas, furharvesting opportunities abound. In fact, furbearers are probably one of our most underutilized natural resources, and the benefits of their harvest are numerous. Most furbearer species are responsible for various depredations or property damage, and furharvesting during the legal seasons acts as the primary means of furbearer population and damage control. Regulated harvest also provides

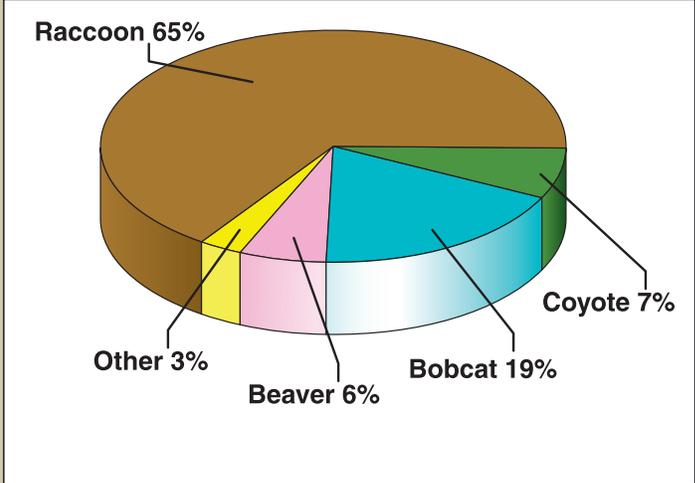
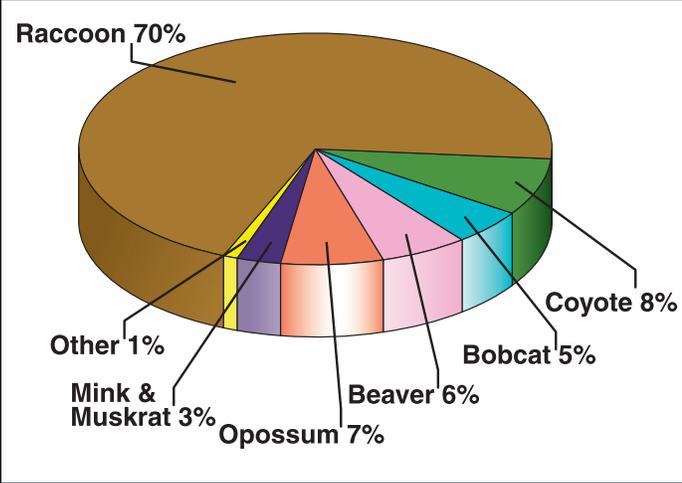
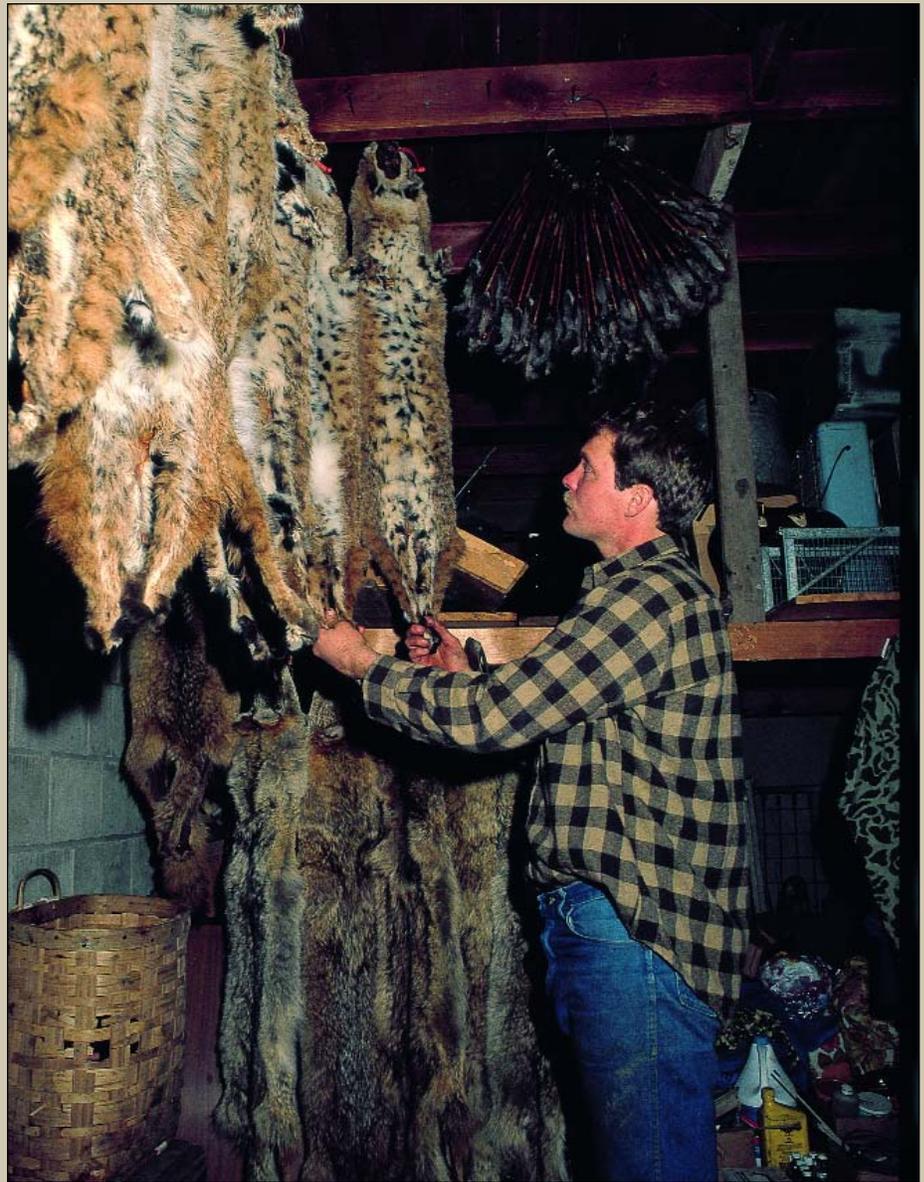
generally rural participants with fur, meat, and income in an environmentally friendly manner. Furharvesting is often considered a recreational pursuit, but as with hunting, “recreation” does not adequately describe the cultural and social importance of furharvesting in the lifestyles of many participants. Perhaps most importantly, furharvesting helps to propagate the positive values associated with furbearer species.

There are about 4000 licensed furharvesters in Kansas,

including hunters, trappers, and houndsmen. Of these, trappers account for the vast majority of the harvest of all species except for raccoon and coyote. Most of the furbearers harvested in Kansas are eventually shipped to Russia, China, or South Korea, often through Canada, but there are three primary outlets through which most of the Kansas furbearer harvest is marketed. Pelts are usually shipped to one of several major fur auctions in the northern U.S. and Canada, sold at one of the two or

three fur auctions held annually in Abilene by the Kansas Fur Harvesters Association (KFHA), or sold directly to one of the 30 licensed furdealers in Kansas. For most furharvesters in Kansas, these fur dealers provide the most critical link to the extensive foreign markets for which the current fur trade exists.

Furbearer pelt values are not what they were during the fur boom years of the 1970s and 1980s, but fur market analysts are currently more optimistic than they've been in over a decade. Pelt values of some species have nearly doubled over the past few years, and are expected to continue to rise. About \$300,000 worth of pelts were sold to Kansas fur dealers alone during the 2001-02 season, not to mention the value of pelts that were kept and tanned or shipped to out-of-state auctions. This is a far cry from the multi-million dollar sales to Kansas fur dealers through the mid 1980s, but all things considered, now is a great time to be a Kansas furharvester.



The pie chart on the left shows the species composition of approximately 41,000 furs purchased by Kansas fur dealers during the 2001-2002 furharvesting season. The chart on the right shows species contributions by percent to the total of approximately \$300,000 worth of furs purchased by Kansas fur dealers during the 2001-2002 season.