

SOUTH CAROLINA'S FURBEARERS



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INTRODUCTION

Furbearing animals have played an important role in the settlement of North America. Early American literature describes how much of this country was explored and developed by trappers in search of these animals. Preceding even the gold prospectors, early trappers pioneered new areas in search of beavers, setting up trading posts that eventually became today's modern communities.

As new areas were explored, undisturbed habitat eventually gave way to development and agricultural communities. During this era in South Carolina's history, little attention was given to management of furbearers or the regulation of their harvest. Many changes occurred in species diversity during this time. A shift became evident from forest dwelling to open land species, which had a higher tolerance for disturbances in the environment.

Land use patterns had changed so drastically by the end of the 1800s that two furbearer species were lost completely, the eastern cougar (*Felis concolor*) and the red wolf (*Canis rufus*).

The red wolf and eastern cougar are species with large *home ranges*. Neither species can tolerate human disturbance. As the acreage of South Carolina's large forests and swamps dwindled, the habitat could no longer meet the requirements for these species.

Mature hardwood stands and pine savannahs, which historically covered most of South Carolina, often lacked the diversity of plant communities needed to support small mammal and bird species and the furbearers that preyed upon them. Modern timber practices, on the other hand, resulting in an *interspersions* of habitat types, appear to benefit foxes and bobcats by increasing prey abundance.

The conversion of hardwood stands to *monoculture* pine plantations, however, has reduced habitat quality for the raccoon in many areas of the state. The most noticeable change has occurred in the upper Piedmont region, where raccoons feed heavily on hardwood mast such as acorns, hackberry and wild cherry. Logging of den and mast producing trees has reduced the number of raccoons these areas can support.

Today, all forms of furbearer harvest, including trapping, are closely monitored and well regulated by the Department of Natural Resources biologists. The greatest threats to South Carolina's furbearers are development and the further loss of quality habitat. Land clearing, conversion of hardwoods to pine stands, wetland destruction and the channelization of our streams and rivers all contribute to this loss. The key to increasing our furbearer populations is the protection and improvement of existing habitat.

Note: All italicized words, with the exception of scientific names, can be found in the glossary at the rear of this book.

OPOSSUM

Didelphis virginiana

Appearance

The opossum weighs 4 to 7 lbs. and stands 6 to 8 inches high at the shoulder. Females are usually smaller than males. The underfur is white at the base and black at the tip and is penetrated by longer coarse white *guard hairs*. This gives the opossum a general grayish white appearance. The tail is hairless and is adapted for grasping.

Distribution

The only *marsupial* native to the United States, the opossum is found from the plains states to the Atlantic coastal states, and from Mexico to southern Ontario. They were introduced in California. Opossums are abundant in every county in South Carolina.



Habitat

The opossum is one of the most adaptable animals in North America. The diversity of food items it will utilize allows it to live in almost all habitats in South Carolina. Opossums thrive in both woodlands and farmlands and are also commonly found in residential areas.

Feeding Habits

The opossum diet is the most varied of all furbearers, with insects being the most important item. Opossums are known to eat fruits, crayfish, snails, worms, frogs, salamanders, dead fish and other *carrion*, mice, snakes, birds' eggs and sometimes even birds and rabbits.

Breeding

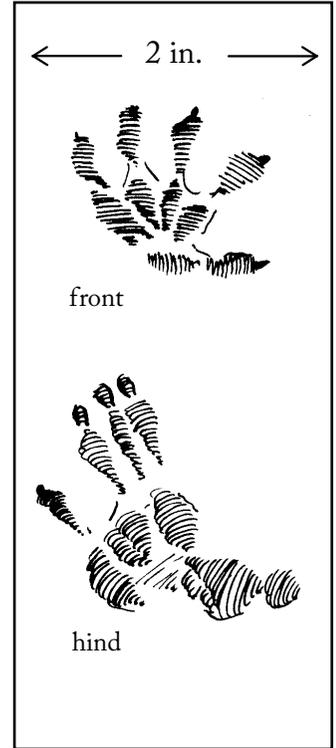
The opossum is *polygamous*, breeding from January through August. Females produce at least 2 *litters* annually in their southern range. The *gestation period* is only 13 days, after which the young crawl from the genital opening to the pouch where they each attach to a nipple for a period of 6 to 7 weeks. This peculiar development trait is characteristic of the *marsupial* group. Litter sizes range from 7 to 11. At about 80 days, the young leave the pouch and often ride on the mother's back. Young are *weaned* at 95 to 100 days and *disperse* to be on their own shortly afterward.

Controlling Factors

Opossums are subject to a high degree of predation, numerous *parasites*, and highway mortality.

Status

The opossum is one of the most common furbearers in South Carolina. Because of their relatively low fur value, very few opossum pelts are sold. Opossums are usually caught incidental to trapping for other furbearers and are often hunted with dogs. Opossum meat is sometimes eaten by sportsmen



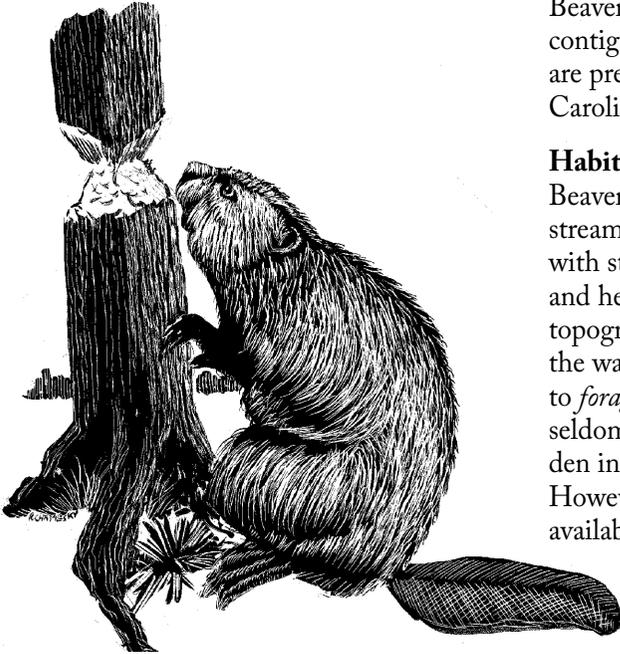
Tracks of opossum



Range of opossum in South Carolina

BEAVER*

Castor canadensis



Appearance

The beaver is the largest rodent in North America. Adults average 35 to 40 lbs. and may exceed 60 lbs. Shoulder height is generally 8 to 9 inches, but the back may be humped as high as 12 inches or more. Beavers are readily identified by their wide, flat leathery tails, which are used in dam building and for producing alarm warnings. The fur color varies between individuals and ranges from blondish brown to dark brown. The beaver has a very dense, soft undercoat overlaid with longer, stiffer *guard hairs*. Sexes cannot be distinguished externally. Beavers are well adapted to aquatic life with large webbed back feet, nose and ear valves that can be closed, lips that close behind the teeth, and a *nictitating membrane* provides a transparent covering for the eye.

Distribution

Beavers are found in each of the 48 contiguous states and Alaska. They are present in portions of all 46 South Carolina counties.

Habitat

Beavers live in swamps, ponds and in streams. Beaver dams are constructed with sticks, logs and mud. The length and height of the dam depend on the topography and can be elevated to raise the water level should the beavers need to *forage* further into the woods. Beavers seldom venture far from water and often den in lodges built from sticks and mud. However, where steep enough banks are available they prefer to dig a bank lodge with underwater entrances. The beaver's habitat of damming creeks and streams often causes conflicts with human interests by flooding timber and agricultural land. However, the resultant wetlands are excellent habitat for raccoons, muskrats, otters and mink, as well as wood ducks and other waterfowl.

* A separate brochure on beaver management and control is available.

Feeding Habits

Beavers are strictly vegetarians, eating leaves, twigs and the inner bark of trees. Favorite tree species are willows, sweet gum, and maple. The felling of trees for food is most common in the winter months. In the summer, beavers feed more on *herbaceous* plants and aquatic vegetation. They will also utilize nearby agricultural crops such as corn and soybeans. Lake front residents sometimes experience problems with beavers *girdling* ornamentals such as plums, cherries, and dogwoods.

Breeding

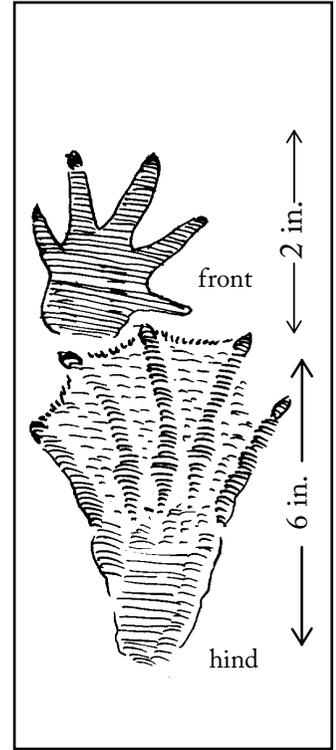
Beavers are primarily *monogamous*. Most breeding occurs in January and February. The *gestation period* is about 107 days, with litter sizes of 3 to 5. Young beavers, called kits, venture out of the lodge at about 2 weeks of age and are *weaned* at 6 to 8 weeks. The young remain in the *colony* for nearly 2 years (22 months), at which time they become sexually mature and *dispersal* occurs.

Controlling Factors

Tularemia is a disease in beavers, often resulting in death. Trapping can control a population locally, and the young are subject to some predation by alligators and snapping turtles.

Status

The beaver, once the most sought after furbearer in North America, was *extirpated* from South Carolina by the late 1800s through uncontrolled trapping. Beavers were reintroduced into the Pee Dee region of eastern South Carolina in 1940 by the U.S. Fish and Wildlife Service, and began to invade the Savannah River drainage from Georgia about the same time. These two populations of beaver have expanded their range, quickly moving towards each other. Beavers are expected to continue expanding until they reclaim all of their former range. In some areas beaver populations have grown to the point that they interfere with man's interests and experienced trappers are necessary to control their numbers. High prices were once paid for beaver fur, but the demand has diminished in recent years to the point that trappers are usually contracted to remove nuisance beavers.



Tracks of beaver



Range of beaver in South Carolina

MUSKRAT*

Ondatra zibethica

Appearance

Muskrats have dark brown fur and a naked tail, which is flattened vertically. They stand about 4 ½ inches at the shoulder and average about 2 lbs. in weight. Muskrats get their name from the scent or “*musk*” glands at the base of the tail. They have partially webbed back feet for swimming, while the front feet possess long claws for digging plant roots.

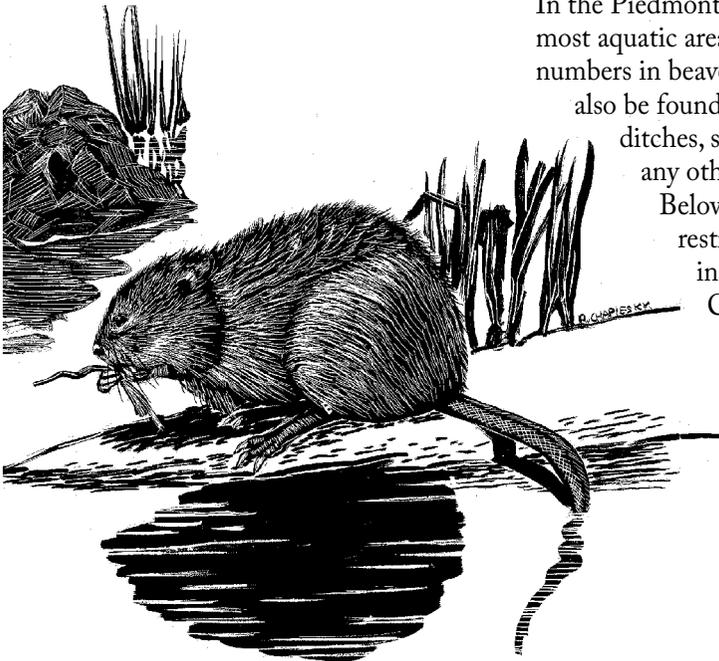
Distribution

Muskrats are found in every state except Florida. They are common along the Gulf Coast and parts of the Atlantic, but are absent from coastal areas of South Carolina, Georgia and Florida. The reasons are not fully understood, but high *salinity* and tidal fluctuations may be responsible. South Carolina populations are found primarily in the Piedmont and in the northeastern section of the upper Coastal Plain.

Habitat

In the Piedmont muskrats are found in most aquatic areas. They reach their highest numbers in beaver ponds, though they may also be found in farm ponds, irrigation ditches, small streams, lakes or any other freshwater habitat.

Below the *fall line*, muskrats are restricted to just a few counties in the northeast end of the Coastal Plain. The muskrat



* A separate brochure on muskrat management and control is available.

may construct lodges or “huts” by piling up vegetation in shallow marshes, but like the beaver, muskrats prefer to burrow dens into ditches or stream banks. Along some of the state’s major reservoirs they have found ideal den sites by burrowing into the styrofoam beneath floating docks. This habit, of course, is not very popular with the dock owners.

Feeding Habits

Muskrats are primarily vegetarians, eating the roots, tubers and lower stems of cattails, bulrushes, smartweeds, waterlilies and duck potatoes. They will eat some agricultural crops, where available, and small amounts of animal matters such as clams, snails, and minnows.

Breeding

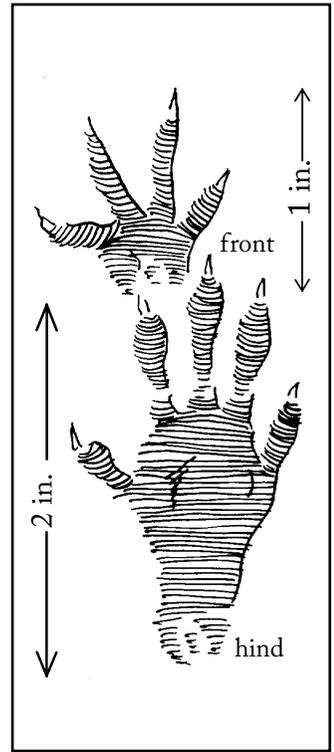
Muskrats are *monogamous* and have been known to breed throughout the year, although the majority of reproduction occurs in the spring and fall. The *gestation period* is about 28 days, and the average *litter size* is 3 to 6. As many as 4 to 5 litters may be produced per year. The young are on their own by 1 month of age.

Controlling Factors

Mink, raccoons, hawks, owls, snakes, turtles and fish heavily prey upon muskrats. Nevertheless, overpopulation is common and results in a large amount of stress related mortality. *Errington’s disease*, a viral infection, spreads rapidly in dense populations.

Status

Because of its abundance nationwide, and relatively consistent fur value, the muskrat is the most trapped furbearer in North America. During the period from 1974 through 1984 the average annual harvest in the United States was over 7 million. In South Carolina, muskrat trapping is popular but the total harvest falls below that of raccoons, opossums, red and gray foxes. The muskrat’s high reproductive potential allows it to compensate for a high rate of predation. Populations tend to be cyclical, and during a peak muskrats may overpopulate and drastically alter the habitat through the consumption of large quantities of aquatic vegetation. Trapping is the most effective means of controlling such high populations.



Tracks of muskrat



Range of muskrat in South Carolina

COYOTE*

Canis latrans

* A separate brochure on coyote management and control is available.

Appearance

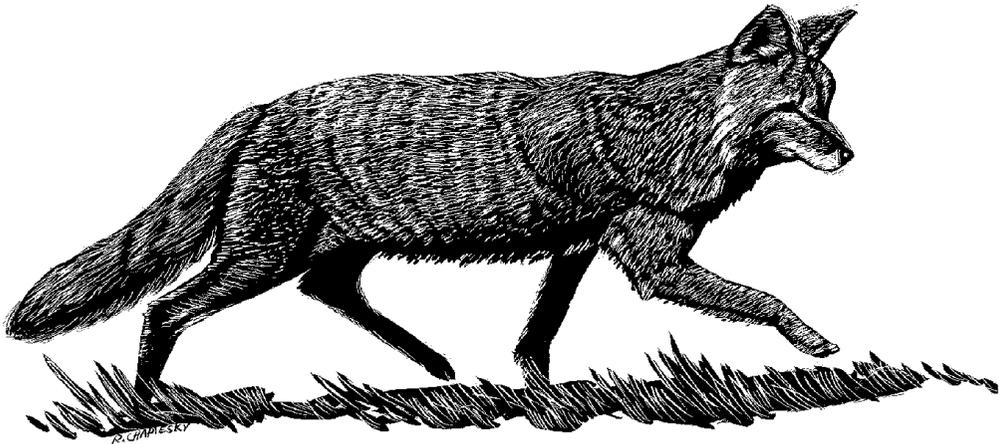
The coyote has the appearance of a small shepherd-type dog, standing 23 to 26 inches at the shoulder, and weighing 30 to 40 lbs. Coyotes over 60 lbs. have been recorded. The fur is generally a grizzled, grayish-brown but varies greatly from a light tan to almost black.

Distribution

Though historically found in the western half of the United States, the coyote is now found practically throughout the country because of range expansion and *translocation* by houndsmen groups. Populations in South Carolina were established in the northwestern counties in the late 1970s, and sightings are becoming more common throughout the state.

Habitat

Coyotes should adapt to most areas in South Carolina but prefer open country. They do well in agricultural communities and have a high tolerance for human populations. When raising young, coyotes will den in brushpiles, gullies, and old abandoned barns.



Feeding Habits

Coyotes are opportunistic feeders. They eat rabbits, mice, and other small mammals and supplement their diet with fruits, berries, and insects. They will eat *carriion* and will also prey upon deer fawns and weakened adults. Coyotes have been known to prey on domestic livestock, particularly young animals.

Breeding

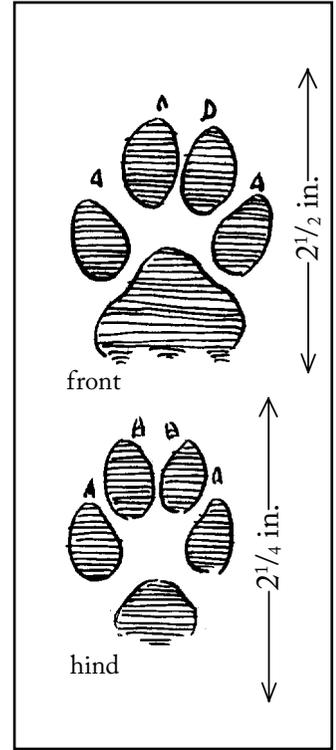
Coyotes are *monogamous*, breeding mostly in February and March. The *gestation period* is 63 days and the average *litter size* is 5 to 7. The pups begin to leave the den at 3 to 4 weeks and are *weaned* at 8 to 9 weeks. The family breaks up permanently at 9 to 10 months. Coyotes are capable of interbreeding with domestic dogs, but survival of the offspring is low. Coy-dogs that do survive are often sterile.

Controlling Factors

Coyotes are subject to canine *distemper*, mange and *rabies*. A few are taken incidental to other hunting activities, and as nuisance coyote problems increase, a demand for contract coyote control work will develop.

Status

Coyotes were first seen in South Carolina in Pickens and Oconee counties in the late 1970s and are now present in all counties of the state. Coyotes are quickly becoming unpopular with livestock producers and sportsmen. However, attempts in other states to prevent the expansion of the coyote population have proven futile. Coyotes are not listed as game animals in South Carolina. Although western *pelts* may bring relatively high values, a market has not developed for the eastern coyote.



Tracks of coyote



Range of coyote in South Carolina

RED FOX

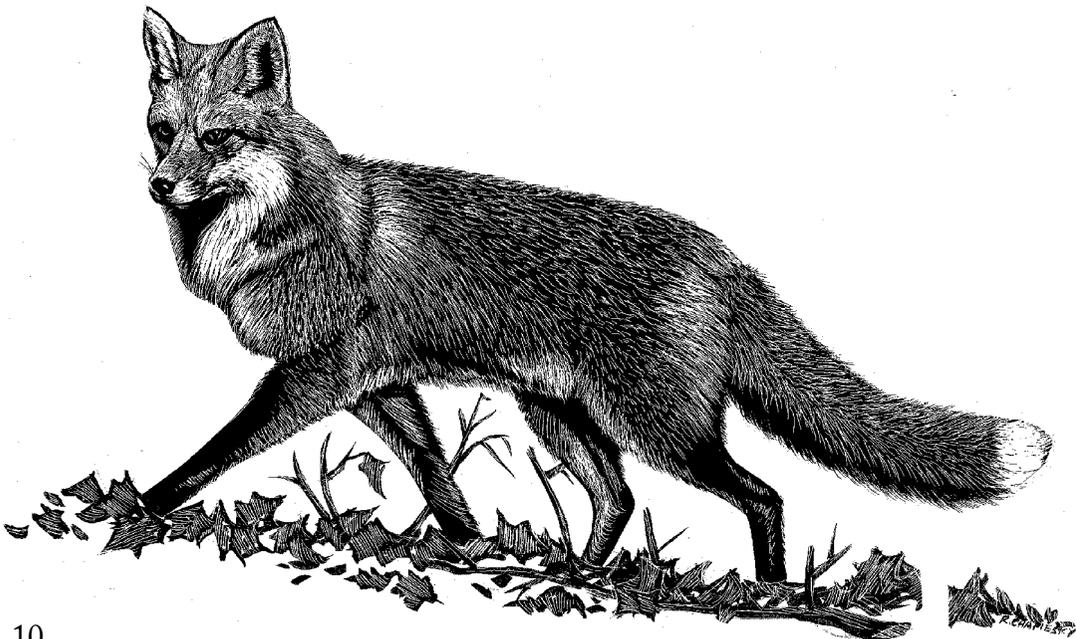
Vulpes vulpes

Appearance

The red fox stands about 16 inches at the shoulder and weighs 8 to 13 lbs. The overall size is slightly larger than the gray fox and the muzzle is longer. The general color ranges from a pale orange to a deep cherry red. The legs are black and the tail is tipped in white.

Distribution

Red foxes are found in all of the contiguous states but are absent from portions of the southwest and high plains. They are found statewide in South Carolina with highest populations in agricultural areas.



Habitat

The red fox favors open areas mixed with small wood lots and hedgerows. In the Pee Dee region of the state it has found an ideal home around tobacco fields and commonly digs dens under old abandoned tobacco barns. Since red foxes do not climb trees like gray foxes do, they use underground dens for escape and resting. Red foxes are also numerous on the pasture lands of the Piedmont region.

Feeding Habits

Red foxes feed on rabbits, mice, birds, and insects and also eat fruits and berries. *Carriion* will be eaten when found. They are opportunistic feeders, taking any acceptable food in proportion to availability.

Breeding

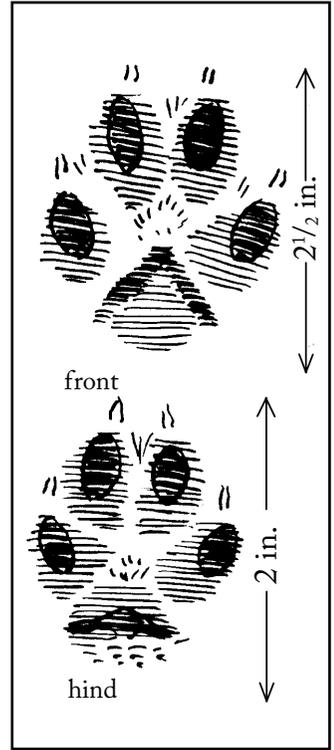
Red foxes are *monogamous*, breeding between December and February. The *gestation period* is about 53 days, and the *litter size* ranges from 4 to 8. The young pups begin to venture outside the den at 5 weeks and are *weaned* at 2 months. The den is abandoned after about 3 months.

Controlling Factors

Red fox populations are largely controlled by *sarcoptic mange* and associated secondary infections. Red foxes are also subject to *rabies* and predation. Habitat competition from coyotes also depresses red fox numbers. The annual *mortality rate* is estimated at 60%. The oldest recorded red fox from South Carolina was 9 years old.

Status

Red foxes are not native to South Carolina but were introduced by houndsmen during the late 1600s from New England and Europe. Though not as numerous as gray foxes, red foxes are common in South Carolina. Numbers of red foxes are declining in other southeastern states with the invasion of the coyote. It is not certain whether coyotes prey upon red foxes or simply out-compete them for the available habitat. As coyotes expand their range into South Carolina, red fox populations are expected to decline here as well. The red fox is the most popular fox among houndsmen because of its crafty and elusive nature.



Tracks of red fox



Range of red fox in South Carolina

GRAY FOX

Urocyon cinereoargenteus

Appearance

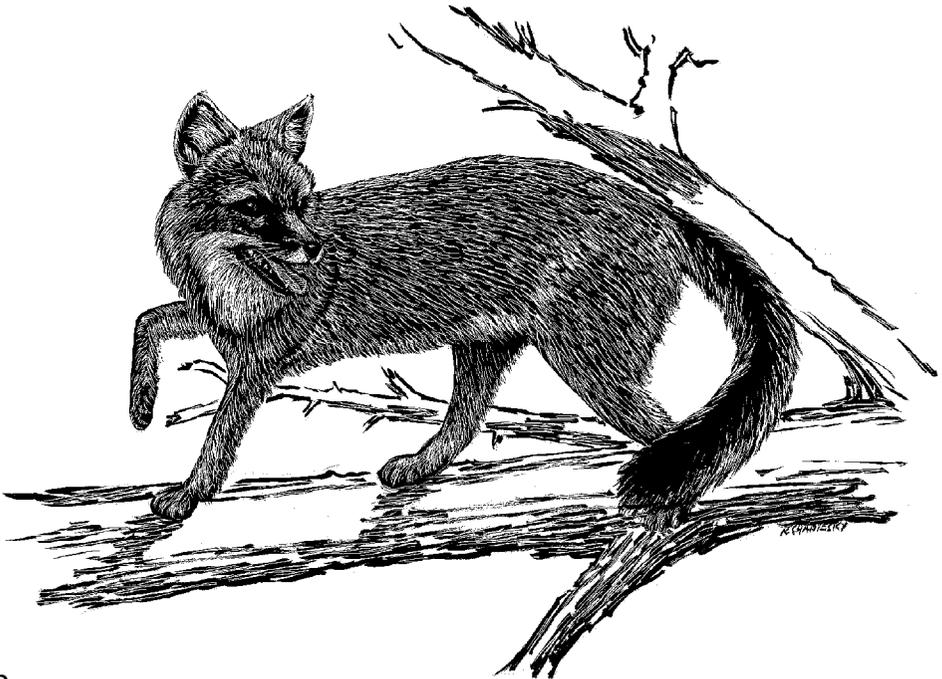
Slightly smaller than the red fox, the gray fox stands about 15 inches at the shoulder and weighs 7 to 10 lbs. Basically gray in color, it has reddish or rusty areas under the throat, on the sides of the neck and on the legs. The amount of red varies, often causing this fox to be mistaken for a red fox. Gray foxes can be identified by the black-tipped tail while the red fox is identified by a white tail tip.

Distribution

Gray foxes are found in all 48 contiguous states, except Montana and Idaho. They are abundant throughout most of South Carolina.

Habitat

The gray fox is considered a woodland inhabitant. While it benefits from an *interspersed* of forests and fields, it can also be found in fully timbered areas. In mixed areas of openland and woods, gray foxes' ranges may overlap those of red



foxes. Unlike the red fox, the gray is able to climb trees and does so occasionally to escape predators and hunting dogs. The gray fox's ability to climb and its adaptation to completely forested areas may explain why they have not been displaced by coyotes, as red foxes have in some areas.

Feeding Habits

The primary food of the gray fox is small mammals such as rats, mice and rabbits. They have been known to occasionally feed on poultry, small birds and insects. Plant foods are more important to the gray fox than the red fox. Grays commonly eat persimmons, grapes and acorns. They will also eat *carriion*.

Breeding

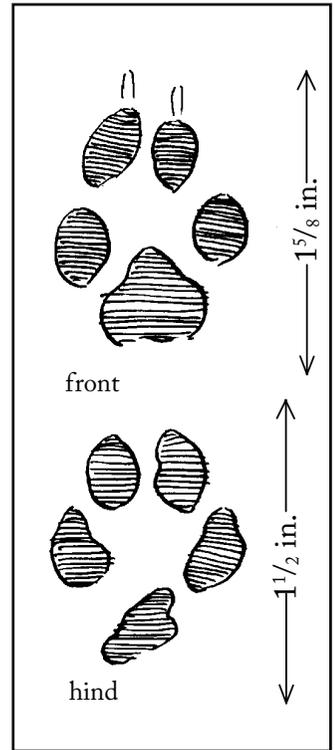
Gray foxes are *monogamous*, breeding in winter, usually late February and March. The *gestation period* is 53 days and the average *litter size* is 3 to 5. The young start leaving the den for short periods of time at 5 weeks of age and may associate with the parents until the next breeding season.

Controlling Factors

Gray fox populations experience periodic outbreaks of canine *distemper*, and parasites may be a problem. The annual *mortality rate* is estimated at 52%. The oldest recorded gray fox in South Carolina was 9 years old.

Status

Foxes were once considered vermin, and bounties were paid for them in some counties. Today, fox fur is fashionable, and many sport trappers recognize their value commercially. Foxes also play a beneficial role in controlling cotton rats, which are major predators on the nests of quail and other ground-nesting birds. Gray foxes, taken primarily by trapping, are second only to the raccoon in numbers commercially harvested. Statewide, gray foxes outnumber red foxes about 4 to 1. Though gray foxes are plentiful in South Carolina, sport hunting by houndsmen is dwindling because of increased development, the growing chain of highways, which threaten the hounds, and the increase in populations of "off-game" species such as deer, which distract the hounds.



Tracks of gray fox



Range of gray fox in South Carolina

RACCOON

Procyon lotor

Appearance

The raccoon stands 9 to 10 inches at the shoulder and weighs 6 to 12 lbs. It has a conspicuous black mask, and the furred tail is marked with alternating black and gray rings.

Distribution

Raccoons exist throughout the United States except in desert areas. They occur statewide in South Carolina. Populations are highest along the coast and decline steadily inland.

Habitat

Raccoons occupy a variety of habitats but are mostly associated with aquatic areas. Raccoons are common in the coastal marshes and in bottomland hardwoods. Swamps with mature hardwood timber are preferred because of the availability of food and den trees. Other important areas are wooded streams flowing through agricultural areas and beaver ponds. The conversion of hardwoods to *monoculture* pines, the destruction of streamside timber, and development of coastal islands have reduced raccoon numbers in some areas.

Feeding Habits

Raccoons commonly feed on crayfish, clams, frogs, salamanders, snails, and turtles. They are infamous predators of bird nests, particularly waterfowl. The diet also



includes a wide variety of plant foods including acorns, berries, and wild grapes. During the winter months acorns may compose as much as 50% of the diet. During certain seasons of the year raccoons invade agricultural fields to feed on corn, watermelons, and peanuts and can cause some damage. Raccoons will scavenge on *carrion* and often invade household garbage.

Breeding

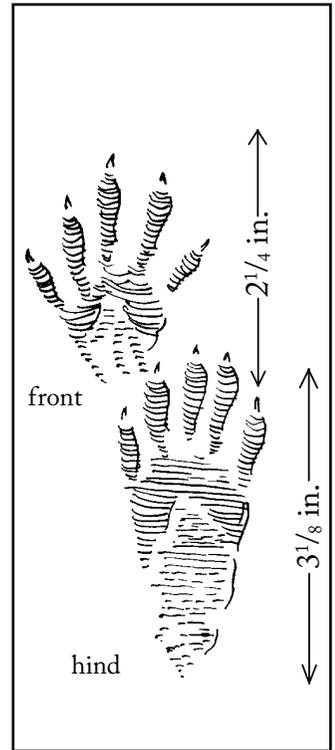
Raccoons are *polygamous*, breeding mostly in January and February. The *gestation period* is 63 days, and the average *litter size* in the South is 2 to 4. The young stay in the den for about 3 months, then accompany the mother in her activities. The family usually breaks up in late fall.

Controlling Factors

Canine *distemper* plays a major role in controlling raccoon populations. *Rabies* limits numbers in some areas. They are sometimes limited by the availability of den trees and food, especially local acorn production. The annual *mortality rate* in South Carolina is estimated at 35%. The oldest recorded wild raccoon in the state was 13 years old.

Status

The raccoon is greatly abundant and is the most commonly commercialized furbearer in the state. South Carolina supports a relatively high raccoon population that provides a lot of recreation for sportsmen. Trapping for raccoons is common throughout the state, with the most highly valued raccoons coming from the Piedmont and Mountain regions where the *pelts* are darker and fuller. In the Coastal Plain, raccoon pelts take on a reddish or yellow tinge, which lowers their value. Raccoons are also hunted at night with hounds. While the raccoon has a valuable pelt, a large number of hunters pursue the raccoon entirely for sport without intentions of harvesting their quarry. Competition among hunts over the best “coondog” is intense, and numerous clubs exist in the state to hold competitive raccoon hunting events. Though populations statewide are high, local populations may fluctuate because of distemper outbreaks and annual weather conditions that affect acorn production.



Tracks of raccoon



Range of raccoon in South Carolina

LONG-TAILED WEASEL

Mustela frenata

Appearance

Weasels are long, slender animals with the typical short legs and low profile of *mustelids*. They are the smallest members of the family Mustelidae found in South Carolina, standing only 2 to 3 inches high at the shoulder. Males weigh 8 to 12 ounces, and females weigh only 3 to 8 ounces. The fur is brown with white or yellow markings on the under parts. In the northern region of weasels' range, they have a white winter *pelage*. However, in South Carolina the summer and winter colors are similar.



Distribution

Long-tailed weasels are found in all 48 contiguous states, and scattered populations exist throughout South Carolina. Though weasels are not abundant anywhere in South Carolina, they are found more often in the Piedmont region than in the Coastal Plains.

Habitat

Weasels occupy a variety of habitats ranging from upland forest to bottomland swamps. They benefit from the “edge effect” that is created at the borders between woods and fields or along fence rows. They may be found in close proximity to man and have been known to raid hen houses.

Feeding Habits

Ounce for ounce, long-tailed weasels are the most aggressive and ferocious predators in South Carolina. The majority of their diet consists of mammals, some of which may be 2 or 3 times the body weight of the weasel. They are fond of rats, mice, moles, shrews, and cottontail rabbits. They also take a variety of small birds, eggs, insects, and occasionally poultry.

Breeding

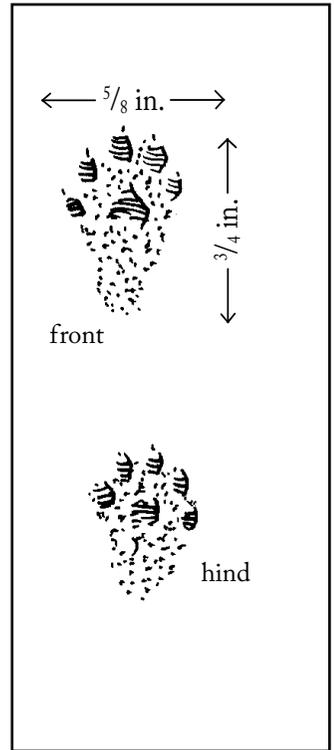
Breeding in weasels occurs during the summer months. They are *monogamous*. Weasels, like other mustelids, exhibit *delayed implantation* of the fertilized egg, and therefore, the *gestation period* can last up to 275 days. *Litter sizes* average 4 to 7 young and are produced in the spring. The young develop fast, and family breakup has usually occurred by late summer. Females may not reach sexual maturity until 1 year of age.

Controlling Factors

Hawks, owls, foxes, bobcats, and dogs prey upon weasels. They are probably susceptible to the same diseases as other *carnivores* such as *rabies* and *distemper*.

Status

Because of their low market value and sparse populations, a commercial harvest of long-tailed weasels does not exist in South Carolina. The weasel probably occurs undetected in some areas of the state because of its low numbers and its secretive nature. So few observations of weasels are made that its exact distribution in the state is not certain.



Tracks of long-tailed weasel



Range of long-tailed weasel
in South Carolina

MINK

Mustela vison

Appearance

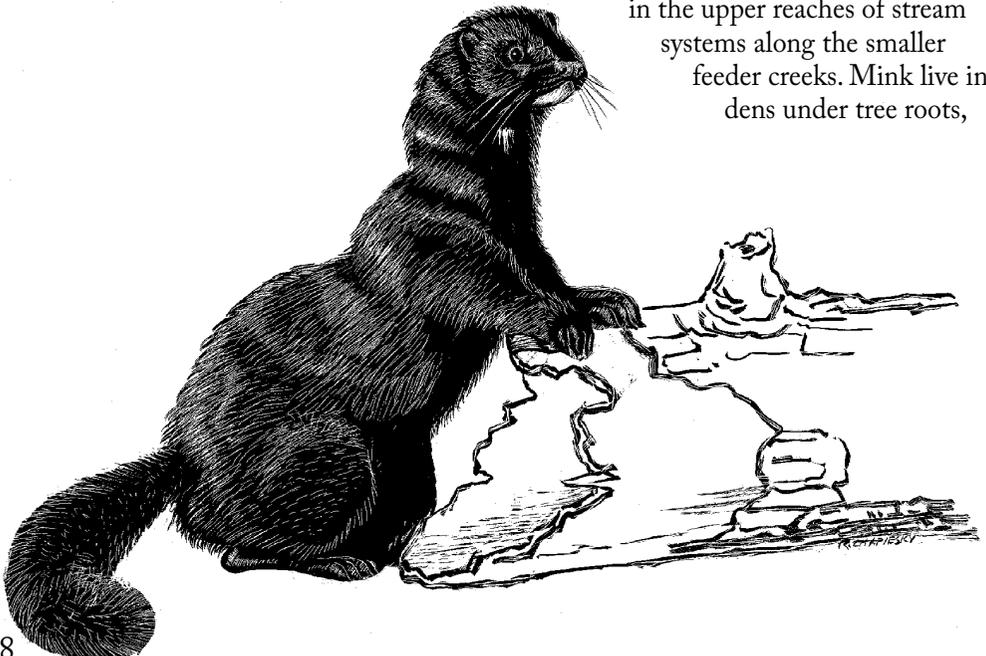
The mink has a long slender body with short stout legs, standing only about 3 ½ inches at the shoulder. Adults weight from 1 ½ to 3 ½ pounds. Males are significantly larger than females, enough so that fur prices are usually given for mink by sex. The *pelage* is dark brown, usually black at the tip of the tail and white under the chin. In some mink a white blaze may also be present on the chest or throat. Mink, like other *mustelids*, have well-developed scent glands and produce a strong *musky* odor.

Distribution

Found in all 49 continental states, South Carolina mink populations are highest in the southern coastal marshes and in the upper Piedmont. Sparser populations occur scattered over the rest of the state.

Habitat

Mink are seldom found far from water. They inhabit saltwater marshes, river swamps, and small wooded streams. During winter months mink congregate in the upper reaches of stream systems along the smaller feeder creeks. Mink live in dens under tree roots,



bridge crossings, and rock piles, and in holes in stream banks. Males have larger *home ranges*, extending a mile or more along the stream. They may have several den sites while females generally have only one.

Feeding Habits

The mink's diet varies among areas depending on the availability of prey species in localized habitats. Statewide, fish are the most important prey item making up about 40% of the diet. Minnows and suckers are the most common fish eaten by mink. Mink also eat a variety of mammals including rice rats, muskrats, gray squirrels, cottontail rabbits, and deer mice. Crawfish are an important component of the diet in most freshwater habitats and are replaced by crabs in the diet of minks living in saltwater marshes. Other foods include insects, frogs, snakes, snails, and waterfowl.

Breeding

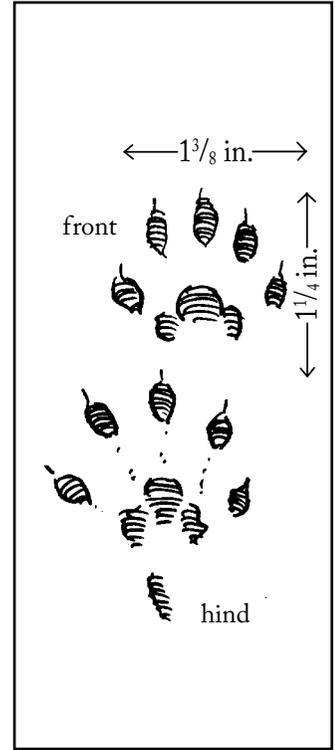
Minks are *polygamous*, and courtship is aggressive and sometimes vicious. Mating occurs from January through March. Because of *delayed implantation*, the *gestation period* ranges from 40 to 75 days. Young are born 30 days after implantation occurs. Only one *litter* per year is raised consisting of 3 to 4 young. Although the young are *weaned* at 8 or 9 weeks, they generally stay together as a family group until fall.

Controlling Factors

Habitat loss and pesticide contamination of aquatic systems are thought to be the most important factors limiting mink populations. Various *avian* and mammalian predators occasionally prey upon the young, and mink are subject to canine *distemper* along with other diseases and *parasites*.

Status

Mink seem to be less abundant in South Carolina now than during the 1950s. The reasons have not been determined, although the indiscriminate use of pesticides such as DDT, which polluted many of our stream systems during the 1950s and 1960s, is suspected as a major reason. The majority of mink sold on the world fur market today are ranch-raised animals. The popularity of ranch-raising mink has caused a decline in wild mink fur values and has resulted in a decreased interest in mink trapping.



Tracks of mink



Range of mink in South Carolina

RIVER OTTER

Lutra canadensis

Appearance

The otter is the largest member of the weasel family (Mustelidae) found in South Carolina. The otter has a long cylindrical body with a powerful tail, making it ideal for life in the water. Males weigh about 15 to 20 pounds, with females slightly smaller. Adult otters measure 35 to 55 inches in length, about one-third of which is tail. As with other *mustelids*, the otter has short, stout legs and stands low to the ground, measuring 7 to 9 inches at the shoulder. The fur is short and very dense. Overall coloration is dark brown, though its underside may be a pale or grayish brown.

Distribution

Otters historically existed throughout North America. Today their range is reduced, and the otter is absent or rare in several Midwestern and Northern states. Despite its nationwide decline, the otter appears to be doing quite well in South Carolina and throughout the Southeast. Otter populations are well established in every county in South Carolina and support a controlled harvest.



Habitat

Otters are always associated with water, preferring clear water relatively free of human disturbance. In South Carolina, otters are found in each of our major river drainages but are most abundant in the coastal marshes and blackwater swamps because of the abundance of food and cover. Another ideal habitat for otters in the low country is found in coastal waterfowl impoundments. In the Piedmont region, otters make good use of beaver ponds, often using abandoned beaver lodges as den sites. The shallow ponds created by beavers usually support an abundance of food items for otters.

Feeding Habits

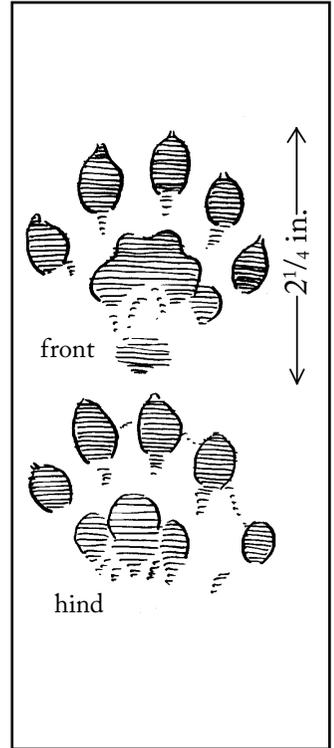
Otter are known to eat almost any animal matter found in aquatic systems including crayfish, crabs, mollusks, fish, turtles, and waterfowl. They are opportunistic, and their diet generally reflects the availability of the prey. Fish make up the largest portion of their diet. When fishing, otters usually prey on the slower fish such as carp, suckers, and catfish. Crayfish and crabs are important seasonal foods for otters.

Breeding

Otters are *monogamous* and do not reach sexual maturity until age two. Most breeding occurs in later winter and early spring. Because of *delayed implantation*, the *gestation period* may last 9 to 10 months. The young are born in late winter, and the female may breed again within a month of birthing. *Litter* sizes range from 1 to 5 and average 2. The young will stay with the mother for about a year and probably disperse just before the next litter is born.

Controlling Factors

Otters, being near the top of the *food chain*, are very sensitive to pollution of aquatic systems. Human activity along waterways and predation of young are also limiting factors. The annual *mortality rate* is estimated at 38%. The oldest recorded otter from South Carolina was 12 years old.



Tracks of river otter



Range of river otter in South Carolina

Status

Man's impact has taken its toll on this species. The indiscriminate use of agricultural pesticides, and the improper disposal of industrial wastes deposited toxins such as DDT, PCB, and mercury in the fish and crustaceans that otters feed upon. The channelization of streams and erosion of fields resulted in siltation of waterways and destroyed many food sources for the otter. These factors severely reduced otter populations earlier in this century. Today, however, otters are making a good comeback. Wildlife management efforts have restored otters to areas in some states where they had been completely *extirpated*. In South

Carolina, where otter populations are stable, several animals have been captured and transported to West Virginia and Tennessee for restocking efforts. The expansion of the beaver population has helped to increase the amount of quality otter habitat in South Carolina. Otter populations in most Southeastern states support a regulated harvest. Currently, otters have one the most valuable *pelts* of all of our furbearing species. Price often has little to do with supply but rather is generally dictated by fashion. As fashions change, so do the demand and harvest effort for otters.



STRIPED SKUNK

Mephitis mephitis

SPOTTED SKUNK

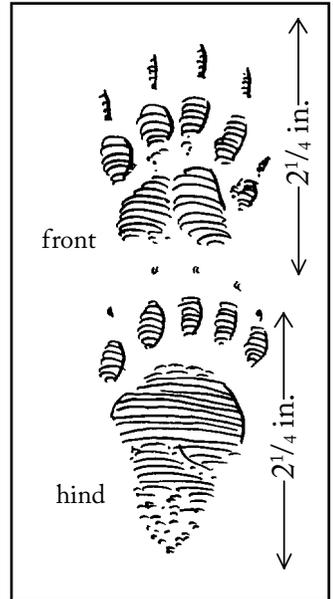
Spilogale putorius

Appearance

Skunks are stout, short-legged animals. They are very distinctive with a long coarse *pelage* of sharply contrasting black and white patterns. The striped skunk is basically black with two parallel white stripes running up the back and joining at the neck. The amount of white varies among animals with some being entirely black or even entirely white. Striped skunks stand about 6 inches at the shoulder and weigh from 3 to 8 pounds, with males being 10 to 15 percent larger than females.



striped skunk



Tracks of striped skunk



Range of striped skunk in South Carolina

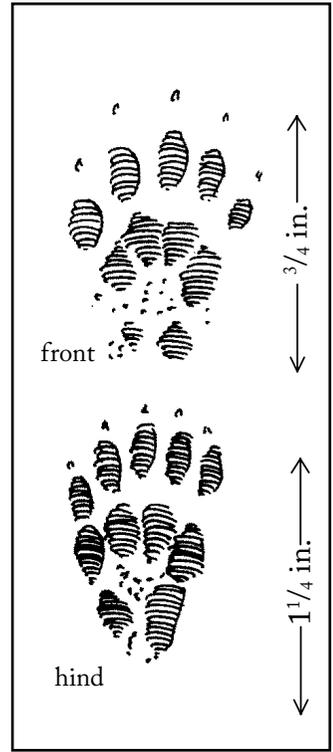
Spotted skunks have 4 to 6 white stripes starting at the head and breaking up into spots near the rump. Spotted skunks, weighing 1 to 4 pounds, are smaller than striped skunks. Both species of skunks have long sturdy claws for digging and possess well-developed *musk* glands for defense.

Distribution

Striped skunks are found in all 48 contiguous states, but the spotted skunk is not found in New England or the north-central states. South Carolina striped skunk populations are greatest in the Piedmont. Spotted skunks are less common and occur most frequently in the highlands of the state.

Habitat

Skunks use a variety of habitat types, preferring woodlands, semi-open farmland, and old abandoned fields. They are often found around farm yards, and their habit of denning under farm buildings and homes causes some problems. In forested areas skunks den in rock piles and under the roots of blown-down trees, or they use their well-developed claws to dig a den in the side of a bank.



Tracks of spotted skunk



Spotted skunk



Range of spotted skunk in South Carolina

Feeding Habits

Skunks are *omnivorous* in their feeding habits. Insects are very important particularly for striped skunks. Other animal matter eaten includes mice, rats, frogs, salamanders, small birds, and eggs. Fruits, berries, and grains supplement the diet in the summer months.

Breeding

Skunks are *polygamous*. The striped skunk breeds in January and February with a *gestation period* of 61 to 69 days. The average *litter* size is 5 to 8. Spotted skunks breed in April with a gestation period of 45 to 65 days. The average spotted skunk litter size is 3 to 5. The young of both species are born blind and are not *weaned* until 8 to 9 weeks of age. Family units stay together until fall.

Controlling Factors

Skunks are preyed upon by owls, hawks, and, to a limited extent, by dogs, bobcats, and coyotes. Most mammalian predators are repulsed by the skunk's odor. Skunks are highly susceptible to highway mortality, and are affected by a variety of diseases including *rabies*, *distemper*, and *tularemia*.

Status

Traditionally, skunks were classified by taxonomists in the *Mustelidae* family and frequently listed in the subfamily Mephitinae. More recently, however, skunks have been classified as the separate family mephitidae.

Little is known about the early abundance and distribution of striped and spotted skunks in South Carolina. Today, skunks are common in the Piedmont and Foothills regions, and populations may be quite abundant in local areas within these regions. Below the *fall line*, skunks are uncommon and their occurrence is spotty. As a furbearer, skunks receive little attention from a commercial standpoint. *Pelt* values have ranged from \$1.00 to \$5.00 in recent years. Most skunks are harvested by trappers incidental to trapping for other furbearer species.

BOBCAT

Lynx rufus

Appearance

Southern bobcats stand about 16 to 22 inches at the shoulder and weigh 12 to 25 lbs. Males are larger than females. Their color ranges from grayish brown to reddish brown with black spots on the legs and lower sides. The tail is short or “bobbed” from which the bobcat gets its name. Their legs are longer than those of domestic cats.

Distribution

Bobcats are found throughout the lower 48 states, but are rare in many upper midwestern states. They are found throughout South Carolina, being most abundant in the Coastal Plain, but apparently increasing in the Piedmont.

Habitat

Usually found in heavily forested areas, the highest densities of bobcats are in bottomland forests of the lower Coastal Plain. Piedmont habitats with a good *interspersion* of forest and clearcut areas support stable bobcat populations.

Clearcuts provide alternate prey numbers species in years when forest prey numbers are low.



Feeding Habits

Cotton rats, mice, cottontail rabbits, and squirrels are the most important components of the bobcat's diet. White-tailed deer appear in their diet during two periods: the hunting season when deer may be crippled or killed but not retrieved, and to a much lesser extent in the early summer during the deer *fawning season*. Bobcats hunt more by sight than do other predators such as the fox, which depends more heavily on the senses of smell and hearing. Bobcats will sometimes eat poultry and young pigs but generally do not pose a threat to agriculture.

Breeding

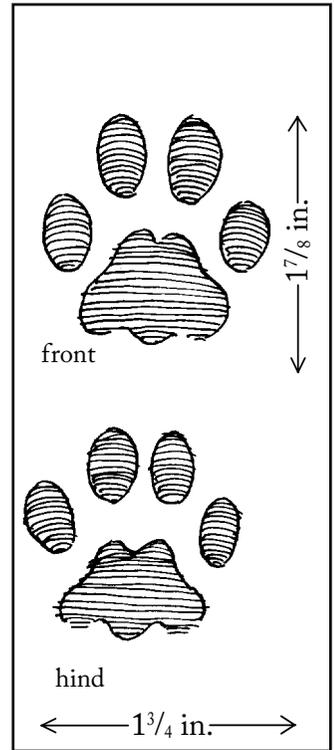
Bobcats are *polygamous*, breeding from late February to early April. The *gestation period* is about 63 days, and the average *litter size* is 3. The young leave the den after 4 to 5 weeks, and the family breaks up by October.

Controlling Factors

Bobcats are subject to feline *distemper*, and prey availability is an important population control. The annual turnover or *mortality rate* in bobcats is estimated at 22%. The oldest recorded bobcat in South Carolina was 15 years old.

Status

The bobcat has one of the most valued *pelts* of all our furbearer species. The demand for bobcat pelts intensified in recent years because of the ban on international trade of various species of endangered spotted cats. While the bobcat is not endangered, its harvest is carefully monitored because of the high demand for spotted cat furs worldwide. Commercial harvesting of bobcats is allowed statewide in South Carolina, providing a particular challenge to sport trappers. Hunting of bobcats with hounds was once very popular but is now uncommon. Bobcats are often blamed for the loss of livestock, which is actually the result of predation by feral or free-ranging dogs.



Tracks of bobcat



Range of bobcat in South Carolina

Harvest Monitoring and Management

The collection of harvest statistics is essential for management of the furbearer resource. Each month fur buyers are required to submit a report indicating the number of each furbearer species purchased within the state. Each fur harvester, including trappers and hunters, is required to report annually the number of furbearers caught and the county of harvest. This information is vital in determining harvest pressure on each species. Harvest levels are compared against fur values for each species to aid in determining furbearer population changes.

Another technique used by the Department of Natural Resources to measure furbearer abundance is the tracking station survey. This survey utilizes more than 1,500 tracking stations covering every county in the state. It is used primarily for bobcats, coyotes, foxes, and raccoons to determine changes in abundance and distribution across the state over time.

The age structure of our furbearer populations, or the number of animals in each age class, is evaluated to measure growth or decline in furbearer populations. The information gained from population age structures indicates how a specific furbearer species has responded following a disease outbreak or following a season of harvest. The technique may be used to identify areas where a particular furbearer is being under- or over-harvested.

Trapping as a Wildlife Management Tool

Most furbearers have tremendous reproductive potential. In the absence of harvest, furbearer populations can quickly increase to levels above the carrying capacity of the environment. When overpopulation occurs, one of nature's control techniques will take effect. Disease, parasitism, and starvation are the most common natural mortality factors, and all are density related. Populations then quickly decline, reaching low levels undesirable to sportsmen and other outdoor enthusiasts. It is during the peak period of the population cycle that the threat to human health and property is the greatest.

Extremely cyclic populations and unhealthy animals characterize this system of control. Through the use of regulated trapping, furbearer populations are maintained below the carrying capacity of the environment. Population cycling is reduced or eliminated, and healthier animals result. Furbearer seasons are set to utilize the surplus animals before late winter, a time when most natural mortality occurs. This harvest is not additive but rather compensates for natural mortality.

Trapping in South Carolina is regulated by specific guidelines. Among them are laws governing trap type and

size and harvesting seasons. Trappers are required to carry written permission from the landowner and must check their traps daily. Trappers must report their harvest by species, county, and harvest technique annually.

Controlled trapping reduces habitat destruction, which may result from overpopulations of herbivorous furbearers such as muskrats and beavers. In addition, trapping is often the only effective way to reduce furbearer populations whose habits may be inconsistent with the landowners' objectives, such as the flooding of crops or timber lands by beavers or depredation of poultry and livestock by coyotes.

South Carolina Department of Natural Resources' biologists have helped to plan and implement trap-testing research through their participation in the International Association of Fish and Wildlife Agencies' Furbearer Resources Technical Work Group. The Technical Work group is in the process of developing Trapping Best Management Practices (BMPs), which are designed to seek techniques and traps that address animal welfare. Trapping BMPs will help ensure furbearer management programs are able to identify traps for capturing furbearing animals that are humane, efficient, safe, and yet practical to use.

In order to ensure that our state's trappers use the most humane traps and responsible techniques, the South Carolina Department of Natural Resources conducts trapper education courses to inform trappers of up to date research. Trappers are also instructed on ethics, ecological principals and basic furbearer biology. Anyone interested in trapper education classes should contact the Furbearer Program at P.O. Box 167, Columbia, SC 29202.

GLOSSARY

Definition of Terms Used in the Furbearer Guide

Avian: of, pertaining to, or characteristic of birds

Carnivore: an animal that predominately eats meat

Carrion: dead and decaying flesh

Colony: used to describe a family of beavers that usually consists of a pair of adults, a set of offspring less than 1 year of age and a set of offspring 1 to 2 years of age

Delayed implantation: a delay in the time of attachment of the fertilized egg to the uterine wall

Dispersal: one-way, long-distance movements by members of a wildlife population, usually not settled on a home range or territory of their own

Distemper: an infectious viral disease, characterized by a liquid discharge from the eyes and nose, partial paralysis and death

Errington's disease: an infectious disease occurring in muskrats characterized by hemorrhaging of the internal organs and usually death

Extirpated: exterminated or wiped out of a particular area

Fall line: a narrow band of sand ridge habitat that crosses the center of the state from Aiken to Cheraw, separating the Piedmont region from the Coastal Plain

Fawning season: the time of year when deer are born, which peaks in May and June in South Carolina

Food chain: the pathway through which food energy travels from one animal to another as each feeds on a lower member and in turn is preyed upon by a higher member, in most cases.

Forage: the act of searching for food

Gestation period: the period of carrying developing offspring in the uterus after conception

Girdle: to remove a band of bark completely from around the trunk of a tree or sapling

Guard hairs: longer, outer hairs that protect the underfur from wear and matting

Herbaceous: soft or succulent leafy vegetation, as opposed to woody vegetation

Home range: the area in which an animal spends all or most of its time

Interspersion: the distribution of different types of plant communities among each other

Litter: the young produced at one birth by a mammal

Marsupial: any member of the order Marsupialia, which are characterized by premature birth and continued development of the young within the mother's pouch

Monoculture: the growth of a single species exclusively in a particular area, loblolly pine for example in the timber industry

Monogamous: breeding with only 1 mate during the year and sometimes for life

Mortality rate: the percentage of individual animals in a population that die, usually expressed on an annual basis

Musk: a powerful substance secreted by glands found in some species of animals

Mustelid: any member of the family Mustelidae, which includes weasels, minks, and otters

Nictitating membrane: an inner eyelid in some animals that permits better vision underwater

Omnivorous: the habit of feeding on both animal and vegetable matter

Parasite: an organism that feeds or grows on or within another organism

Pelage: the fur or hair of an animal

Pelt: the skin of an animal with the fur or hair attached

Polygamous: breeding with more than 1 mate during the year, usually 1 male breeding several females

Rabies: an infectious viral disease found in warm-blooded animals, characterized by central-nervous system disorder and eventually death. It is most important in wildlife among raccoons, skunks, foxes, and bats.

Salinity: the amount of salt contained in a solution, usually a body of water

Sarcoptic mange: a contagious skin disease of some animals, caused by a mite and characterized by itching and loss of hair

Translocation: the process of moving animals from one area to another

Tularemia: an infectious bacterial disease found in some animals, characterized by sluggishness and white lesions on the internal organs. It is particularly important in beavers and muskrats and can be contracted by humans

Weaned: a change from nourishment by mother's milk to other food sources