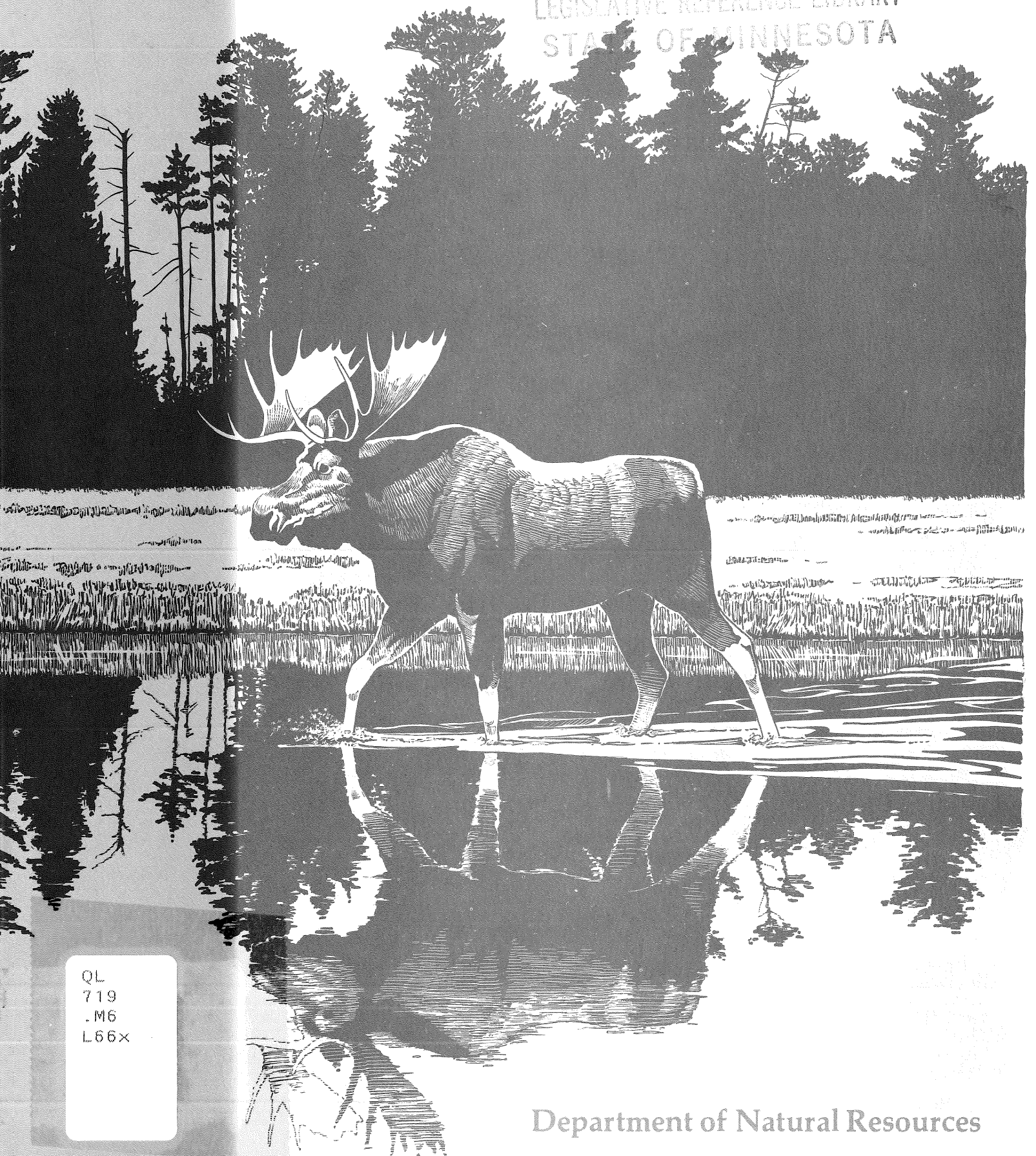
Minnesota Mammals



Department of Natural Resources

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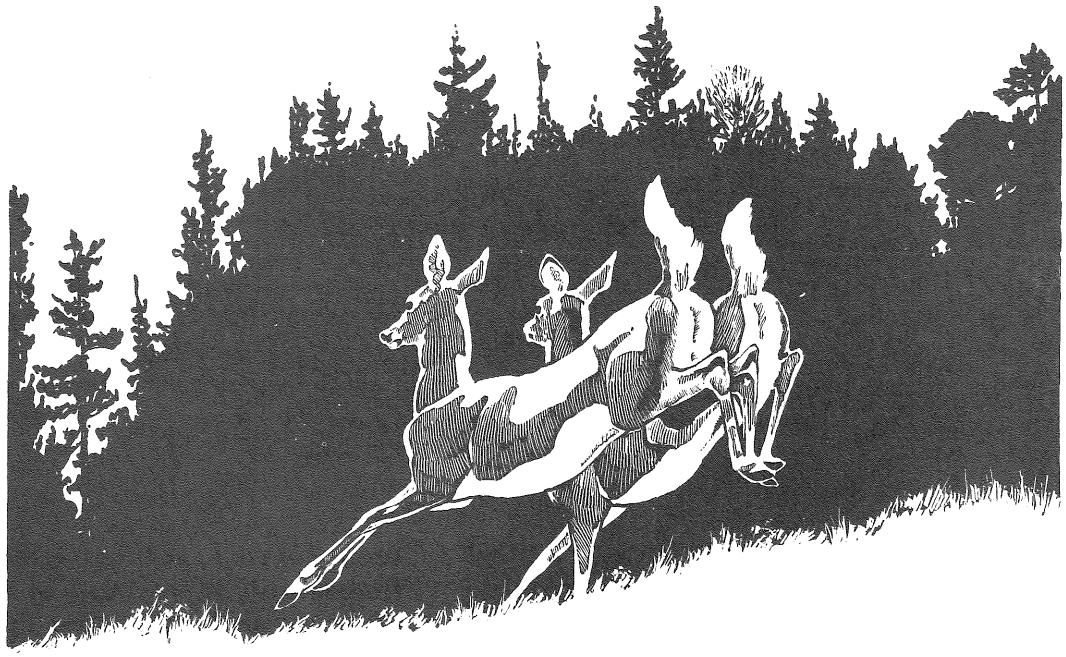
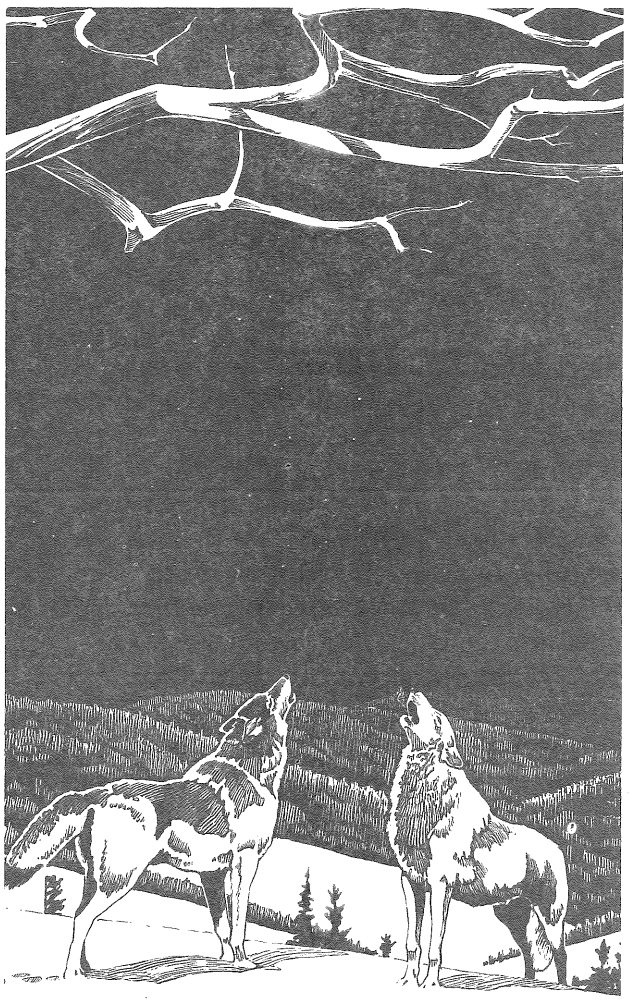


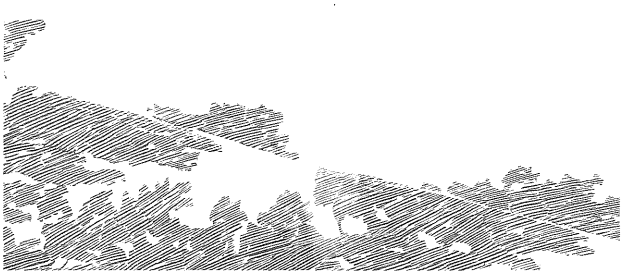
Introduction

What is a mammal? Basically, the term mammal applies to all animals with a backbone (the vertebrates) whose females nourish their young with milk. Another characteristic of mammals is the presence of hair, though the amount varies considerably among the species. Two types of hair form the coat of most mammals: the soft underhair, or fur, which lies next to the skin; and the long, coarse, guard hairs which extend beyond the underhair. Mammals are also warmblooded, a characteristic they share with birds.

To date, the existence of 80 different kinds of wild mammals has been documented in Minnesota. Some species, like the grizzly bear, bison, and woodland caribou, are extirpated in our state, victims of changing land use. Others, like the white-tailed deer, are more common today than in years past.

All Minnesotans are somewhat familiar with our wild mammals. In our cities, we see cottontail rabbits in our gardens and squirrels scurrying through tree tops along our boulevards. On our farms, we may watch a red fox trotting across a sun-lit field, or muskrats swimming in a nearby marsh. Forest-dwelling mammals are just as common, though seldom





seen. But we hear them — the piercing howl of a timber wolf or coyote — or we find evidence of their wanderings — deer droppings in the meadow behind our cabin, or the hand-like print of a raccoon in the mud at river's edge.

Mammals comprise a widely-diversified class of animals. The pygmy shrew weighs less than a dime; the moose a half-ton or more. Some mammals never see the light of day, existing underground all their lives. Others live in trees, dropping to the ground only to forage for food. Some species, like the beaver and otter, prefer an aquatic home, where they spend most of their waking hours in lakes, rivers, and ponds.

Some mammals can fly! Some appear to fly, but are just adept gliders. Some species can outrun a Thoroughbred; for others, an inch is a mile. Some, like the timber wolf, may roam thousands of miles in a year; others never wander from a field or woodlot.

Mammals provide innumerable benefits to Minnesotans. Some provide sport and food for thousands of hunters. Others are a valuable source of natural fur which benefits trappers and, ultimately, all of us who wear warm winter clothing. Wild mammals, and all wild critters, for that matter, are important ecologically, and nice just to have around. Seeing a deer or fox can be a thrilling, unforgettable experience.

The purpose of this publication is to introduce you to our wild mammals. This booklet does not offer an in-depth look at each species. Rather, it provides brief sketches of the 80 species and highlights the habits and habitats of each. Hopefully, it will whet your appetite to learn more about the fascinating world of Minnesota mammals.

Pouched Mammals

Marsupiala

Opossum

Among Minnesota's wild mammals, the **opossum** is probably the most unusual. A marsupial, it is a distant relative of the kangaroo and other animals which carry their young in a pouch.

The opossum is about the size of a house cat. It weighs from four to 12 pounds and measures nearly three feet from its long pink nose to its long naked tail. The opossum wraps its prehensile tail around tree limbs as an aid when climbing.

At night the opossum forages for small rodents, fruits, nuts, birds, insects, carrion, and other foods. After eating, it squats on its hind legs and washes, much like a cat.

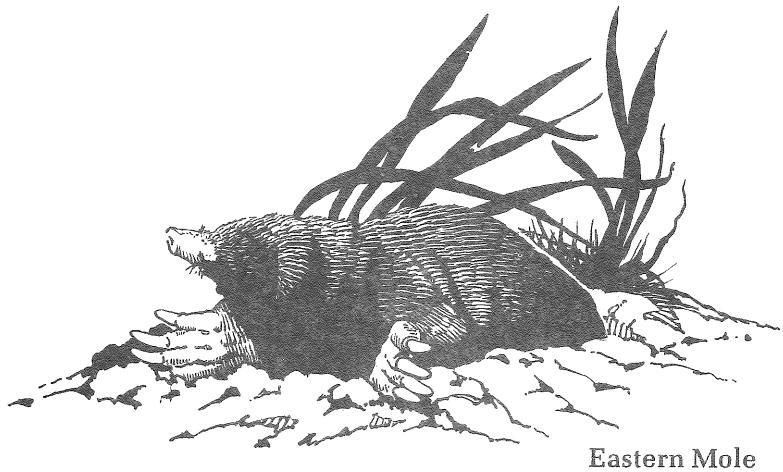
What's truly unique about the 'possum' is how it comes into the world. The young, usually eight to 12, are not fully developed at birth. Their tiny front feet, however, do have minute claws which the babies use to climb up the mother's belly and into her pouch. Once inside, they attach themselves to a teat. There they remain for 60 to 70 days. For another month after that, the young opossums climb in and out of the pouch, never straying far. Finally, when mouse-size, they climb aboard the mother's back where they spend much of their time until becoming more independent.

The opossum lives primarily in southern Minnesota woodlands, but occasionally ranges into north-central counties. The opossum's naked ears, nose, and tail are very susceptible to freezing temperatures, which explains why the species is not found farther north.

Opossum

Insect-Eating Mammals

Insectivora



Eastern Mole

Shrews

Shrews are often confused with mice, but a close look reveals some distinct differences. Shrews have long pointed noses, dense velvety fur, and black beady eyes. They have five toes on all feet while most mice have only four toes on their front feet. Shrews also carry an odor so vile that it keeps most mammalian predators from eating them.

Because of their extraordinarily fast metabolic rate (heartbeat of the masked shrew has been recorded at 1200 times per minute), shrews must feed voraciously, night and day. They eat insects, earthworms, and even small mammals. Shrews have tiny, but very sharp teeth which they can use to bite and tear flesh. One biologist found the remains of several jumping mice which had fallen into a hole while still alive. Shorttail shrews had eaten the mice, leaving only the skins turned inside-out. The poisonous saliva of the shorttail shrew probably aids in subduing mice. A biologist reported a shrew bite which produced painful swelling for several days.

Shrews are the smallest of Minnesota mammals. The **pygmy shrew,** with a body length of about two inches, weighs only one-eighth ounce, hardly more than a dime. The **shorttail shrew,** our largest shrew, weighs about one-half to three-fourths ounce. Both species are found throughout the state along with the **masked shrew,** whose range extends across the northern U.S. and most of Canada. It is probably the most common member of the shrew family.

Most shrews are drab. The **Arctic shrew,** however, is distinctive with its dark brown back, lighter brown sides, and off-white underparts. It lives over much of Minnesota, except the southern tier of counties. The **least shrew** is found in one or two southeast counties, but only rarely.

The **northern water shrew** is "large," up to one-half ounce, and about six inches long, though half its length is tail. As the water shrew swims, it seems to run over the water. It is also an excellent diver. This shrew thrives along meadow streams and bogs of the northern three-fourths of the state.

Moles

Beak-like noses, unseen eyes, no ears, velvety fur, and stubby, hairless tails — these are identifying characteristics of moles.

Eastern moles live underground in fields, lawns, and meadows where their tunneling creates snake-like ridges on the surface. These tunnels usually kill grass, much to the frustration of homeowners. Moles feed on worms — 85 percent of their diet — and insects. In search of food, they literally swim through the soil by digging with their short, outward-facing, spade-like front feet. The eastern mole occurs only in the southeast fourth of the state. It is six to seven inches long and weighs about four ounces.

Starnose moles live in wet areas of northern forests where they push up mounds of black soil. They are named after the 22 pink tentacles on the tip of the nose which aid in detecting worms and insects. The starnose differs from the gray eastern mole because of its dark brown or black fur and its hairy tail which is constricted at the base. These moles are active year-around, burrowing in snow as readily as earth.

Flying Mammals

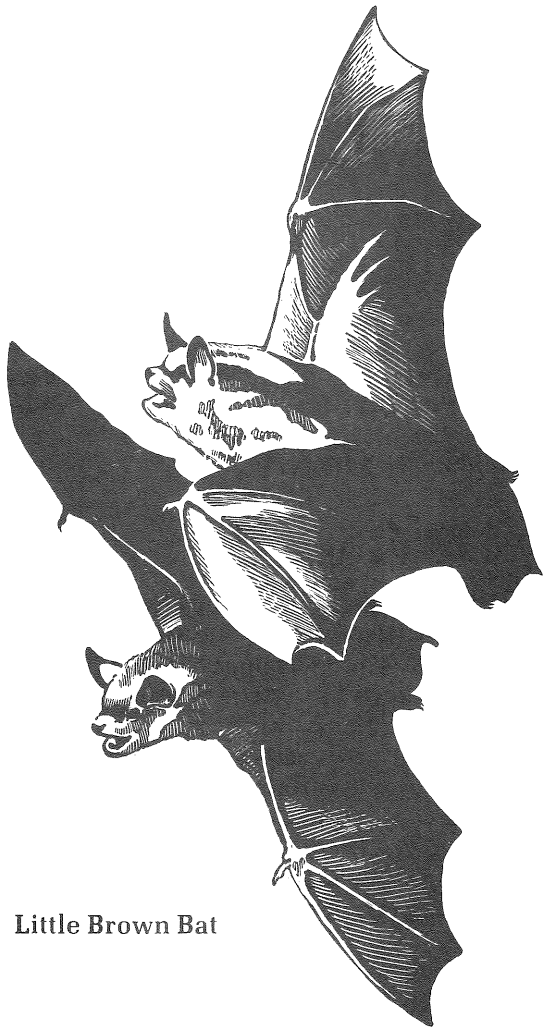
Chiroptera

Bats

Bats, like snakes, are poorly understood. As a result, these tiny winged mammals are feared by many. Much lore surrounding bats has been generated by tropical vampire bats which feed on the blood of livestock, wildlife, and occasionally sleeping humans. Of course, bats are a public health concern because they can carry rabies.

Bat species found in Minnesota are very small, weighing from two-tenths of an ounce to slightly over one ounce. Insectivorous, they feed mostly on beetles and moths which they catch in their cupped tail membranes as they dart and weave through the nighttime air. Once an insect is caught, the bat transfers its prey to its mouth while in flight.

Bats locate insects and dodge obstacles by echo-location. As they fly, they constantly emit supersonic cries. Their ears pick up echoes bouncing off objects. These echoes either guide bats toward prey or away from obstacles. Discovery of this unique principle led to development of sonar and radar by which boats and planes navigate, and fishermen locate schools of fish.



Little Brown Bat

The **little brown bat,** our most common bat species, occurs over most of North America. Together with **Keen's little brown bat,** it hibernates in Minnesota caves. In summer, both roost in caves, hollow trees, and buildings.

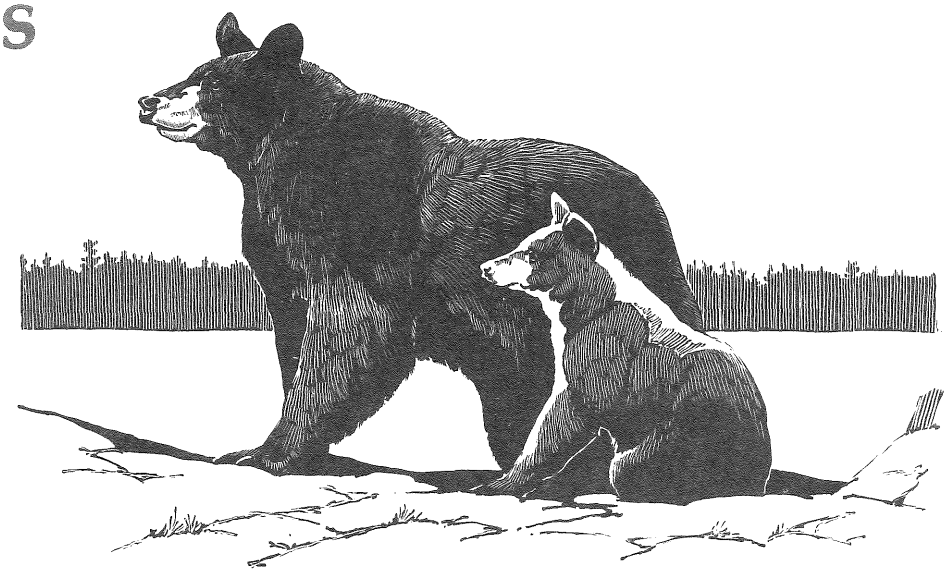
The **big brown bat** is our most common hibernator. Groups of these bats hang upside-down in caves. The **pipestrel bat** is our smallest species, weighing only two-tenths of an ounce. It is found in the same southeastern Minnesota caves, though it is uncommon and almost solitary.

The **silver-haired bat** is a forest dweller that usually lives near water. It feeds among the trees much like the **red bat,** though the latter is noted for its unusual feeding habits. Usually a red bat pair will fly the same route, over and over, in search of food. Another woodland species is the **hoary bat.** It is the largest Minnesota bat, weighing an ounce or more. All three species have white-tipped hairs, are solitary, roost in trees, and migrate south for the winter.

Of seven Minnesota bat species, all but the pipestrel probably occur throughout the state.

Meat-Eating Mammals

Carnivora



Black Bear

Bears

The **grizzly bear** is king of the North American carnivores. Of tremendous size and strength, it usually weighs 400 to 600 pounds, though animals scaling 900 pounds have been recorded. The grizzly differs from the black bear by its pronounced shoulder hump and massive head. But don't worry about trying to distinguish between the two species. The last wild grizzly recorded in our state was sighted along the Sand Hill River in northwestern Minnesota in 1807. Before this sighting, other grizzlies had been observed in the extreme northwest.

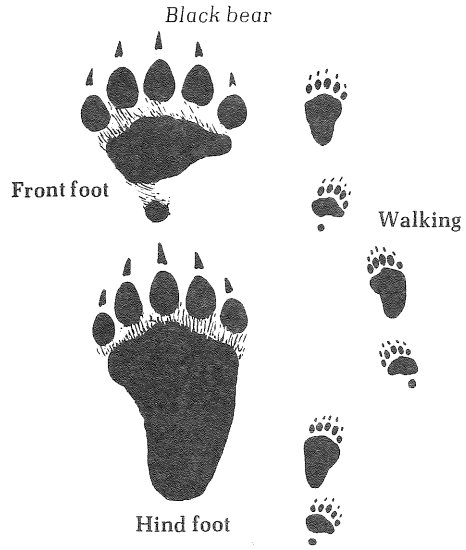
Today, the grizzly is found only in a handful of western states, in Canada and Alaska. It prefers to live as far from humans as possible, usually in rough, mountainous country.

The **black bear** was originally found throughout Minnesota, but now occurs only in northern woodlands. Bears lead solitary lives except when females are rearing their young, or when concentrations of food bring bears together. The black bear is omnivorous, eating anything that resembles food in looks, smell, or taste. It feeds on grasses, fruits, berries, buds or leaves, nuts, insects and their larvae, and on small animals and carrion. Less than ten percent of a bear's food is animal matter.

An adult black bear weighs between 250 and 300 pounds and stands two to three feet at the shoulders. Coat color may vary from light brown to deep black.

The black bear does not truly hibernate, but goes through a period of dormancy during which it does not eat. In its winter den, during January or February, a female will give birth to one to four young. At birth, cubs weigh eight to ten ounces and are hairless. They grow rapidly, weigh about five pounds by the time they leave the den, and 60 to 100 pounds by their first year.

In 1971 the Minnesota legislature gave full big game animal status to the black bear. The DNR now establishes hunting zones, seasons, and bag limits.



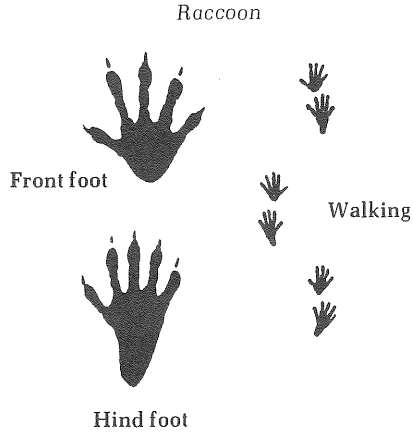
Raccoon

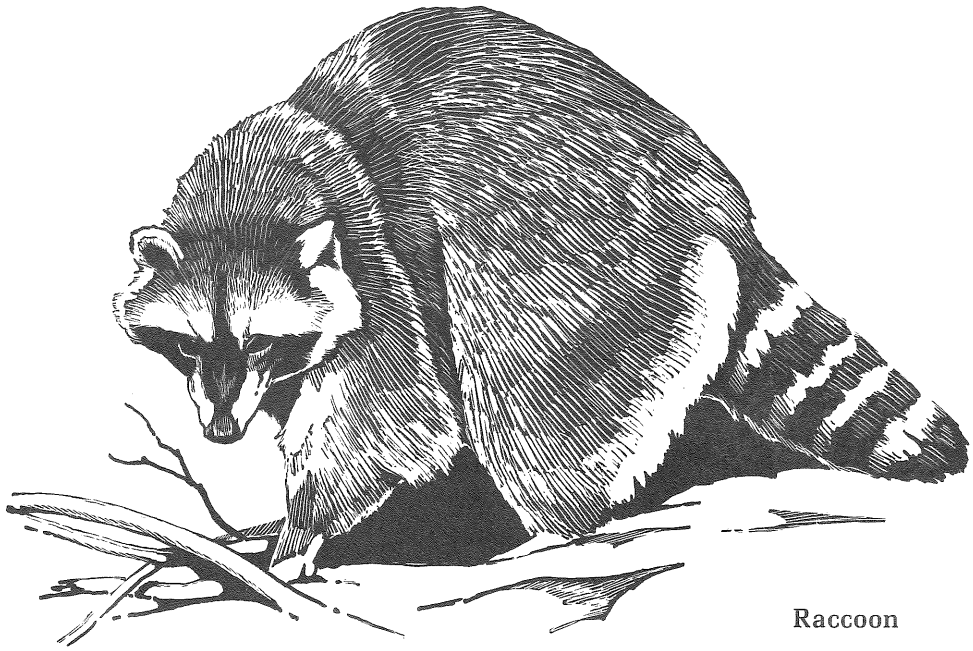
The **raccoon** occurs throughout the state, except in the three northeast counties. The raccoon's antics and its appealing face make it a favorite of some and a villain to others — especially to someone whose cornfield has been raided. Sweet corn is a favorite food, though crayfish, frogs, insects, fruits, and bird eggs are staples in its diet.

Raccoons remain in partial hibernation during most of the winter. The animals often den together in small groups. One woman found 23 raccoons sharing an abandoned house in Swift County. Some raccoons may winter in wood duck boxes if the entrance hole is large enough to squeeze through.

With warming days in February, the males begin to search for mates. After a 63-day gestation period, the female has her litter, which numbers from three to six young. Tiny at birth, raccoons grow fast, eventually weighing 23 pounds or more at maturity. Some may even exceed 30 pounds in weight.

Raccoons are seldom seen in the wild, except in some Minnesota state parks and resorts where they are adept at raiding trash cans and picnic tables. Their tracks, however, can often be found along wetland edges. Look for the distinctive front footprint of the raccoon which resembles the palm print of an infant human.





Raccoon

Weasel

Front foot

Hind foot

Bounding

Long-tailed Weasel

Weasels and Relatives

A unique reproductive aspect of most members of the weasel family is the process of "delayed implantation." In most other animals, fetal development is a continuous process which begins at the time of conception. Weasels mate in the period from late summer to mid-winter. The embryos resulting from fertilization undergo an initial development of about two weeks. Then, a long dormant period occurs during which the embryos remain free in the uterus. After this delay, the embryo becomes implanted in the uterus and development resumes. The young are born in the spring about a month after the delayed implantation occurs.

Three weasel species occur in Minnesota. All are deadly, effective hunters that prey upon chipmunks, mice, and birds. After dispatching their prey, weasels may lap a victim's blood before eating its flesh. As they feed, weasels usually turn back the skin of an animal. By the time they finish their feast, the skin of their prey is inside-out.

Weasels travel by silent, gliding leaps, the hind feet falling exactly in the tracks of the front ones. They also move under the snow, sometimes for long distances, in pursuit of mice and voles. Weasels have also been seen in trees.

Female weasels often make their homes in hollow roots of a tree, under a stump, or in a burrow abandoned by a woodchuck.

All three weasel species normally turn snow white in winter. The short-tailed and long-tailed weasels have a black-tipped tail, while the least weasel is completely white.

The **short-tailed weasel** measures seven to 14 inches, but weighs only two to five ounces. Also called ermine, it is primarily found in woodlands throughout Minnesota, possibly excepting the southeast. It is most common in the northern two-thirds of the state.

The **long-tailed weasel** is slightly larger and has a longer tail. It lives in a variety of habitats but prefers brushy areas, often near rivers and streams. It occurs throughout Minnesota but is more common in the southwest.

Smallest of the three Minnesota weasels, the **least weasel** is also the least common. Its preferred habitat is marshes and damp meadows.

Mink

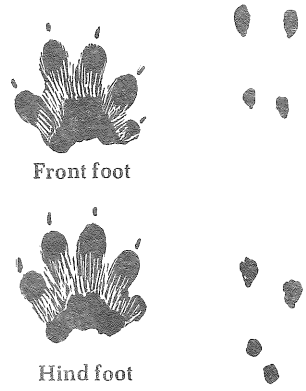
The **mink** is a versatile predator. Lithe and agile, it pursues its prey on land and in water. It can swim and dive with ease and remain underwater for many minutes. It can catch fish as swift and elusive as a trout, though it also eats lizards, frogs, grubs, earthworms, mice, and muskrats.

The legs of a mink are short, but its body is long. Its fur is highly prized for coats and jackets. Its dark brown pelt is soft, thick, and silky, mixed with long, glossy, guard hairs.

Mink nest in hollow logs or stumps near water, or in bank dens dug by muskrats. Litters, averaging five or six young, are usually born in late spring, six weeks after mating. Mink weigh about one-fifth of an ounce at birth but, by maturity, are one to four pounds.

Mink are found throughout Minnesota, though lakeshore and riverfront developments have reduced their populations. They are nocturnal and rarely seen. In winter, however, their tracks are often encountered on frozen marshes where mink travel from one muskrat house to another while hunting.

Mink



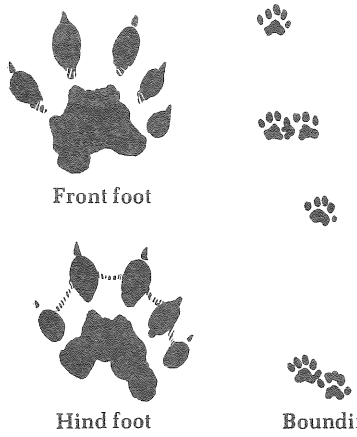
The **otter** is perfectly suited for an aquatic life. Long and sleek, it has short legs, webbed feet, and a long tapered tail. The fur is a rich brown, moderately short, and very dense.

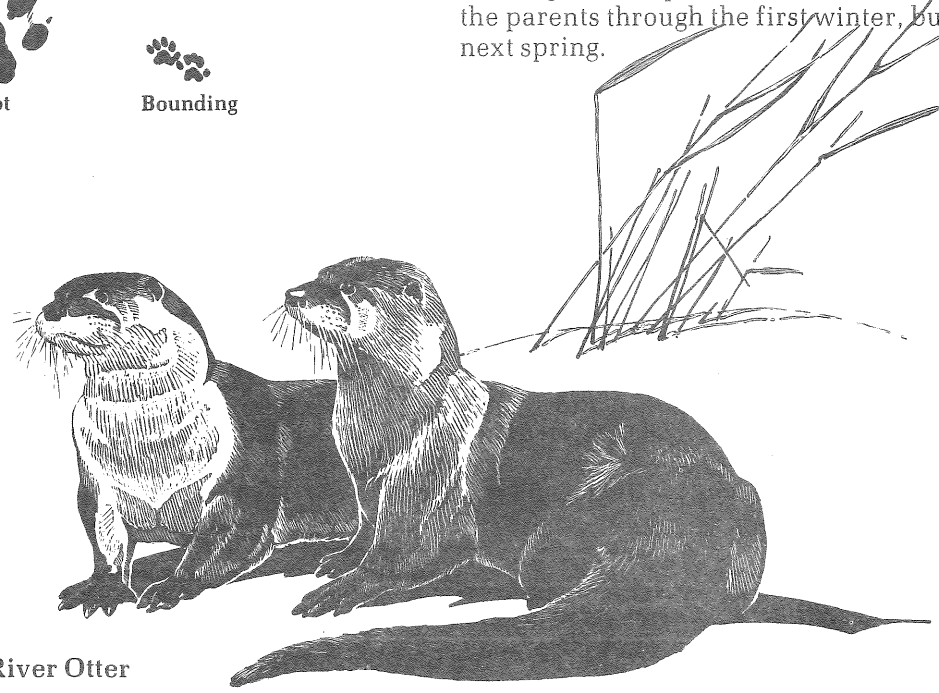
Otters live near streams, rivers, lakes, and ponds, principally in northern Minnesota, though some are found in the southeast along the Mississippi River. Their aquatic diet includes crayfish, fish, and amphibians.

Otters are tireless travelers. In a single week they may range as far as 25 miles. They are playful, often wrestling or spending hours sliding down muddy or snow-packed stream banks.

An adult otter is surprisingly large. It may measure five and one-half feet in length and weigh up to 30 pounds, though 15 to 19 pounds is average. Females give birth to one to five young in spring after a ten-month gestation period. The cubs will remain with the parents through the first winter, but separate the next spring.

Otter





River Otter

Pine Marten

Similar in both size and appearance to the mink, the **pine marten** has soft, dense, yellowish-brown fur which turns dark brown on its bushy tail. It is at home in trees or on the ground. It may pursue and catch a red squirrel in the forest canopy, or stalk mice on the ground below. The marten also eats birds, insects, fruits, and nuts, though mice make up most of its diet.

Marten have a rather low reproductive rate. Females do not breed until two years old, and only three or four young are born after a nine-month gestation period. Marten usually den up in hollow trees. The female will give birth in late March or early April; by fall, the youngsters are on their own. Once apart from the family unit, marten are solitary.

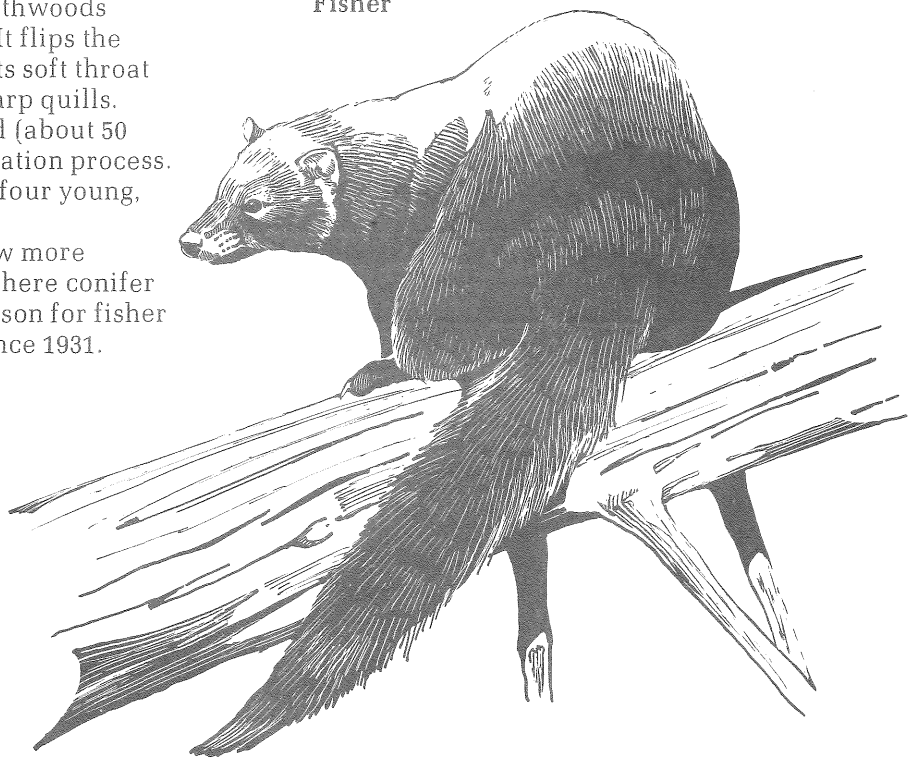
The pelt of the pine marten was important to the early fur trade. In 1875, five Minnesota fur-trading posts purchased 1,600 marten pelts. Marten began to decline in numbers in the late 19th century and have since been rare. In recent years, several marten have been seen or accidentally trapped along the Canadian border, leading biologists to believe that their numbers may be increasing. Marten are currently protected in the state.

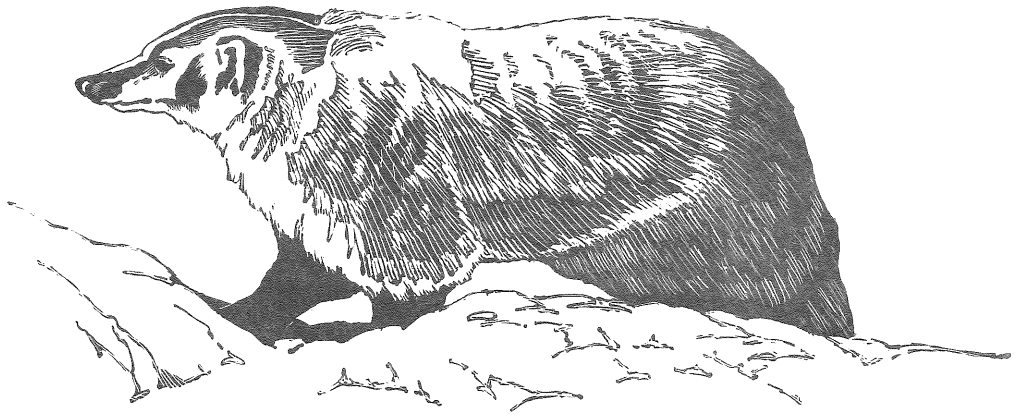
The **fisher** is a large, dark relative of the marten. Like the marten, it is omnivorous, though it usually preys upon small rodents, rabbits, and porcupine. In fact, the fisher seems to be the only northwoods predator that seeks out the porcupine. It flips the porcupine onto its back and bites into its soft throat and belly, usually avoiding the long sharp quills.

The fisher has a long gestation period (about 50 weeks) because of the delayed implantation process. Within days after giving birth to two to four young, the female will seek out a new mate.

Rare for many years, the fisher is now more abundant in northeastern Minnesota where conifer forests are near maturity. Trapping season for fisher reopened in 1977; it had been closed since 1931.

Fisher





Badger

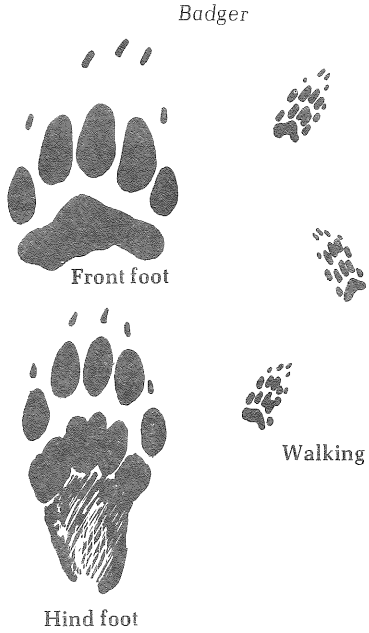
The **badger** is heavy-set and broad-shouldered with short powerful legs. It is a formidable adversary if cornered, but is not the brawler it is reputed to be. In fact, the badger is often quite tolerant of other animals. It will even share its own den with red fox.

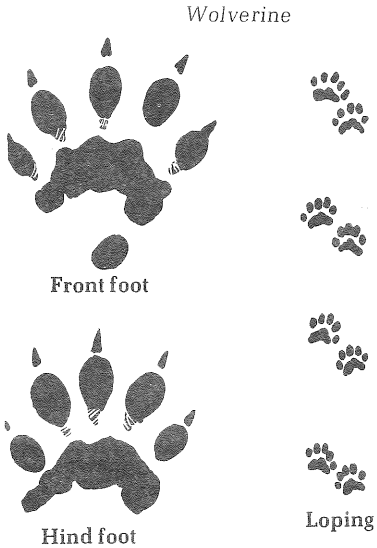
The badger is at home in plains country, where it uses two-inch front claws to dig out ground-dwelling rodents. It also digs an intricate den system, and, at the end of a long tunnel, builds a grass-lined nest.

A distinctive white stripe runs from the badger's nose over its head to the nape of its neck. The fur is yellowish-gray, long, very thick, and the skin loose-fitting. Its long hair, incidentally, is commonly used to make shaving brushes. Average weight of an adult male is 24 pounds; females average 17 pounds.

The badger feeds primarily on mice, ground squirrels, and gophers. In fact, it is the only predator that can dig out the deep-burrowing pocket gopher. Badgers are also fond of snails, grasshoppers, bird eggs, honey, insect larvae, and snakes.

Badgers are found over most of Minnesota except in the heavily forested northeast. They are nocturnal creatures. During cold weather, they keep to their burrows, probably in a state of dormancy.





The **wolverine** is a heavily-built, powerful animal, whose ferocity and devilishness are legendary. The wolverine will indeed poach trap lines, ripping apart trappers' valuable furs and plundering food caches. But just how many of the wolverine's exploits are fact and how many are fiction is debatable.

A relentless hunter, the wolverine may doggedly pursue its prey for many hours. Or, it may climb a tree to wait for an unsuspecting animal.

Nearly four feet long and weighing up to 50 pounds, the wolverine is the largest member of the weasel family. It wears a dense brown coat with two broad yellowish stripes extending along its sides from the shoulder to the base of the tail.

The wolverine was never common in Minnesota. Records of pelts taken by early fur trappers indicate it may have ranged throughout northern forests. In recent years it has been occasionally reported along the Canadian border, with some animals penetrating the state even farther south. The wolverine is protected by law.

Striped Skunk

Striped skunk

Every Minnesotan sooner or later gets a whiff of the **striped skunk's** calling card. The skunk is only the size of a house cat, but few wild animals are willing to tangle with the skunk and its obnoxious odor. Only the great horned owl is unruffled by the skunk's chemical warfare.

Skunks are omnivorous but seem to prefer insects and their larvae, mice, carrion, and eggs. They may invade farmyards and buildings, but usually do more good than harm by living largely on mice and rats. Still, they have been known to kill roosting chickens.

Striped skunks winter in burrows. In spring, females give birth to four to six naked, blind, and helpless young. Though the skin sports only a light fuzz, the white stripes can already be seen on the black skin.

Skunks are intelligent and usually good natured. They also have a certain beauty about them — their hair is long and glistening, and the stripes which run down each side of the animal brilliantly accent the ink-black hair. Despite their gentle manner, skunks can be deadly simply because they are often carriers of rabies. In fact, rabies is more common in striped skunks than in any other Minnesota mammal.

The striped skunk lives throughout the state, but is most common along the western border and least common in the northeast.

The **spotted skunk** is more active than its striped counterpart. It is at home not only on the ground, but also in trees where it searches for food or escapes from pursuers. Preferred foods are insects, small mammals, especially rats, and fruits, though birds, carrion, corn, and other items are eaten.

The black fur of the spotted skunk is punctuated by broken white stripes up front which break into smaller splotches toward the rear. Weighing from one to three pounds at maturity, the spotted skunk is much smaller than the striped.

The spotted skunk lives in open country throughout southern Minnesota and as far as the Canadian border in the northwest.

Dogs

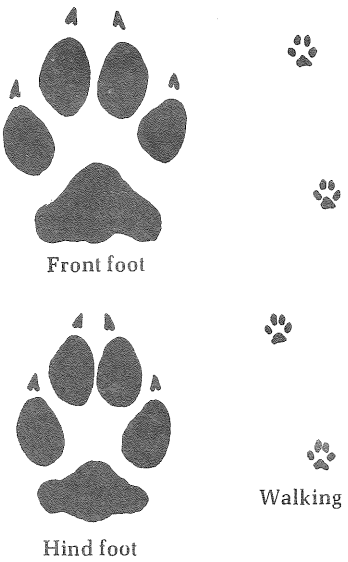
The **coyote** resembles a small German shepherd with a bottle-shaped tail. It has a shaggy, grayish coat which turns white at throat and belly. Adult female coyotes average about 25 pounds and males about 30. Several 50-pound coyotes have been rumored, but the largest on record weighed just 42.

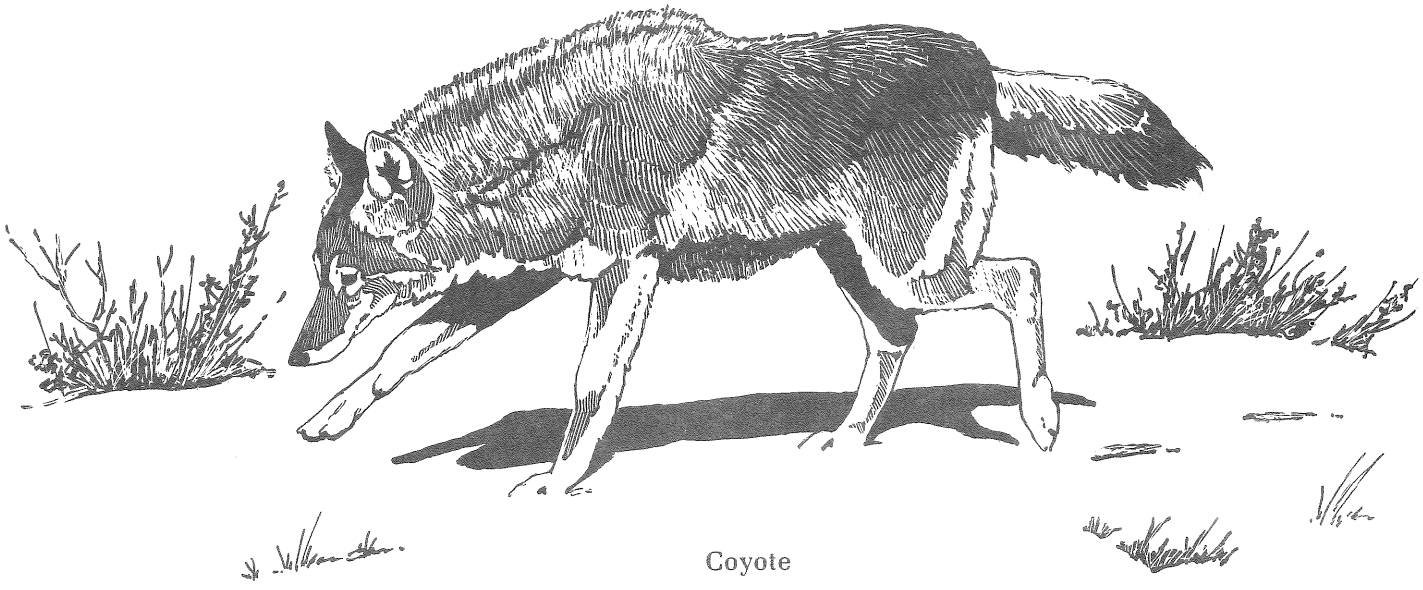
Coyotes are nomads. Males may roam over territories as large as 36 square miles, though females usually stay within a six square mile area. Most of the coyote's rambling is done in its quest for carrion, mice, snowshoe hares, porcupines, and occasionally, livestock such as sheep and small calves.

Like the timber wolf, the coyote tends to mate for life. Pairs usually mate in February and litters — five or six pups — are born in April. Most coyotes live less than two years in the wild, though one animal is known to have reached 13 years of age.

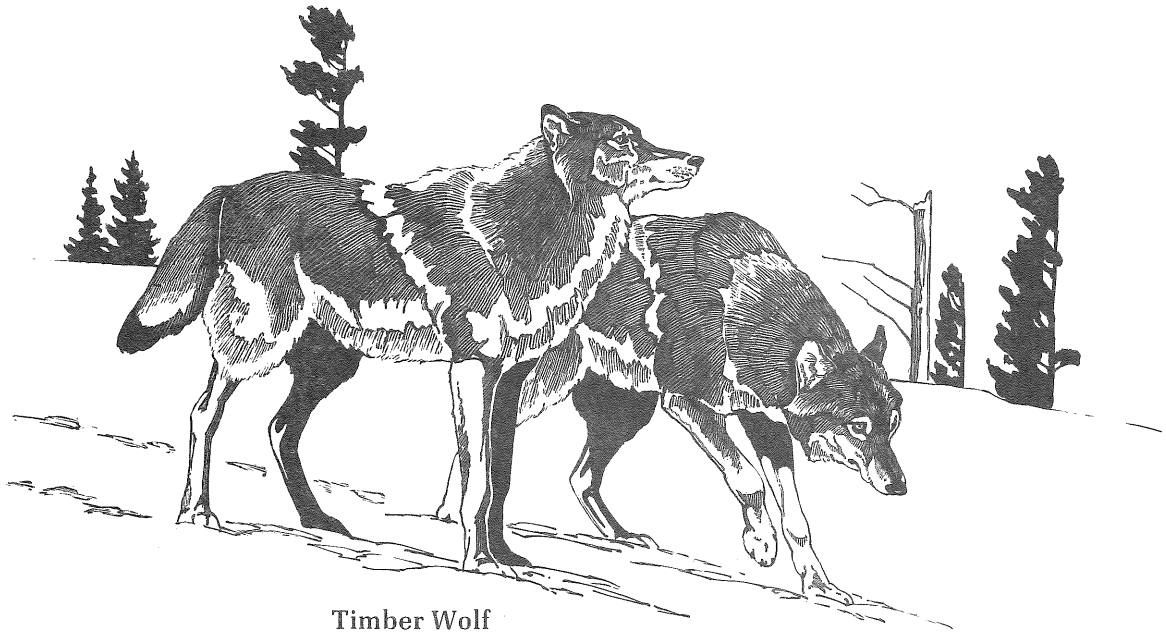
Coyotes were once common on Minnesota's southern prairies but were quite rare throughout northern forests. After widespread logging and fire created better habitat for small mammals, coyotes began to extend their range to the northwoods. Meanwhile, because of intensive agriculture, their numbers dwindled on the prairies. In recent years, however, the coyote appears to be increasing once again in southwestern counties. Although subjected to widespread poisoning and trapping programs, the coyote survives because of its high birth rate and its ability to adapt to civilization.

Coyote





Coyote



Timber Wolf

Among the lower 48 states, Minnesota is unique because it supports a large number — from 1,200 to 1,500 — of **timber wolves.** Michigan, Wisconsin, and possibly New York are the only other states with wild wolves. Together, they have only a few.

A full-grown timber wolf weighs from 70 to 110 pounds. Powerfully-built with steel-strong jaws, muscular legs, and large feet, the wolf is an efficient predator. A typical Minnesota wolf is mixed gray in color with yellowish sides and darker gray on the back. However, individuals vary from almost solid black to buff-white.

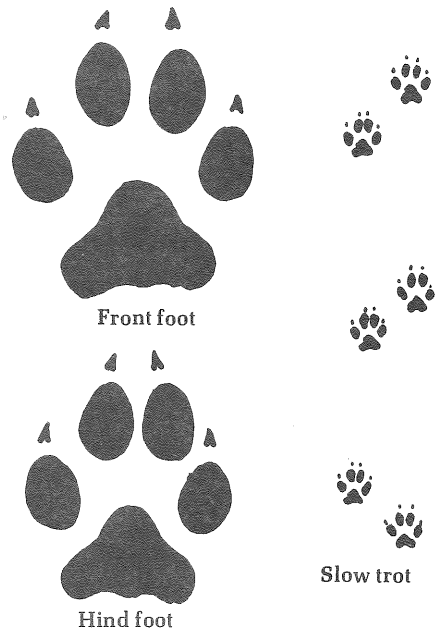
Timber wolves do not breed until two or three years of age. Pups are born usually in late April or early May, and number from four to eight per litter. The wolf den may be situated in a rock crevice or in a hole dug out from under the projecting roots of a tree.

Feeding mostly on deer, beaver, and moose, wolves usually hunt in a pack — a family unit — comprised of young wolves and their parents.

The size of a wolf pack is determined by the number of births, deaths, and dispersals. A given area can support only a specific number of predators. Surplus predators, then, must disperse to other areas or starve.

The timber wolf is a living symbol of wilderness. It must be recognized, however, that the wolf cannot be maintained at maximum numbers in areas that are not wilderness in character.

Timber wolf



Front foot

Hind foot

Slow trot

The **red fox** is well-known for its rusty-red coat, white-tipped bushy tail, and black legs, ears, and nose. But in Minnesota, "Reynard" is a fox of several different colors. Within the same litter may be different color phases including silver-black, nearly solid black, and red bisected by dark bands across the back and shoulders (called a cross fox).

The fox may be active day and night but appears to hunt most during twilight and evening. It is an opportunist that eats rats and mice, rabbits, ground squirrels, birds, snakes, frogs, fish, insects, berries, nuts, and seeds.

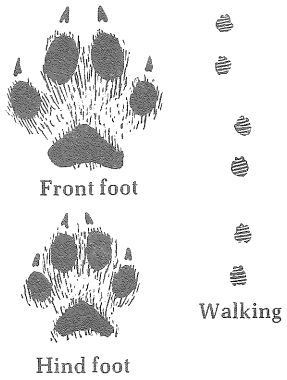
Occasionally, a fox may in turn become prey for coyotes, wolves, bobcats, lynx, or even eagles.

Red fox mate about mid-winter and the female bears from four to ten pups in early spring. They often den up in woodchuck or badger holes. Dens are usually located on an open slope, though some are found in dense woods. Most dens are quite deep — up to 40 feet. The den, however, is little more than a nursery because fox prefer to sleep in the open, even during winter.

The average size of an adult fox is 15 to 16 inches tall at the shoulder and a weight of 10 to 12 pounds. Because of its pelt, the red fox commands high prices on the fur market. Millions of dollars in fox pelts are sold by trappers and hunters in Minnesota each winter.

Red fox are common throughout Minnesota but are seen most often resting or trotting in open fields of farm country.

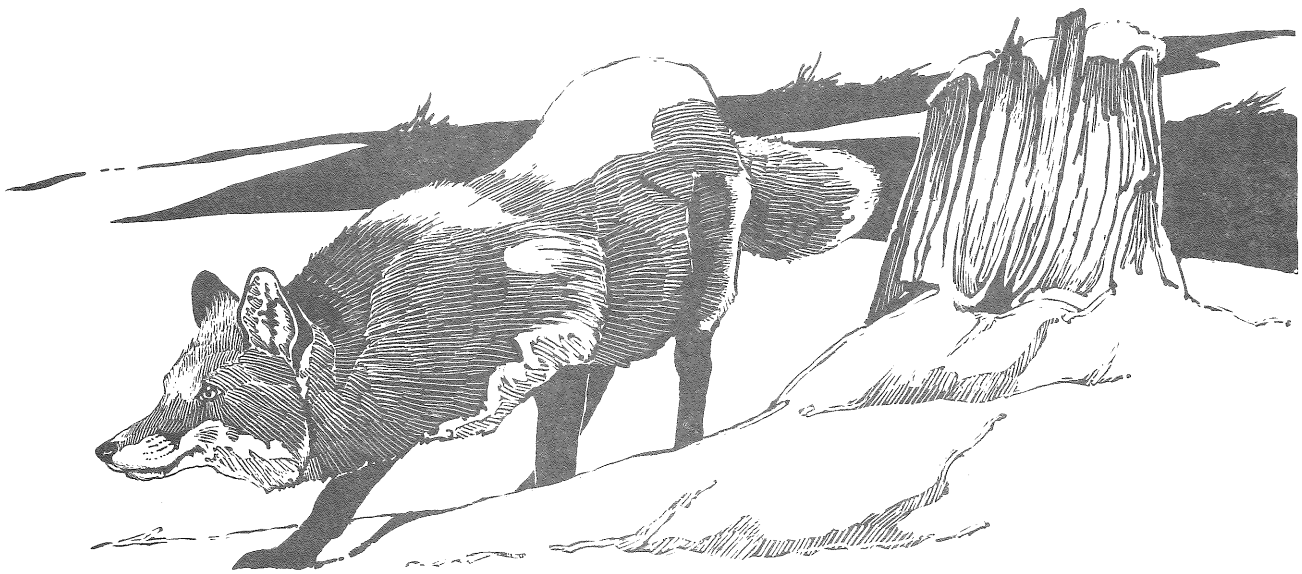
Red fox



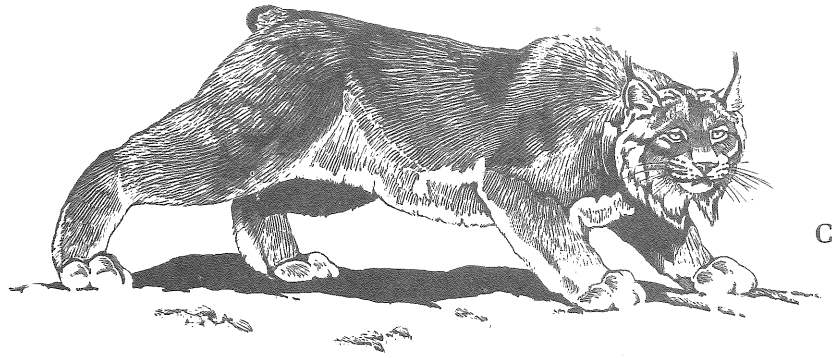
The **gray fox** is not as common as the red and is shyer. It lives in brushy areas of the lower two-thirds of Minnesota. The animal wears a beautiful gray coat which is pale orange about the neck, belly, and underpart of its tail.

Gray fox are smaller than red fox, weighing from five to 12 pounds. Food habits of the two species are quite similar, though the gray is inclined to eat more birds.

In March, about two months after mating, female grays give birth to one to seven pups. Dens are in hollow logs or under rock piles.



Red Fox



Canada Lynx

Cats

The **cougar** was never common in Minnesota but probably ranged over most of the state before it was settled. The last mountain lion taken in Minnesota was killed in Becker County, 1897. In recent years, there have been several reports based on sightings and tracks, especially north of Duluth.

Largest of the North American cats, the cougar may weigh over 200 pounds and measure nearly eight feet long. It usually preys upon deer, but also eats small rodents and rabbits.

Cougars apparently breed once every two to three years and produce litters of one to six kittens. The young are born with spotted coats which eventually fade as the animals turn a tawny brown.

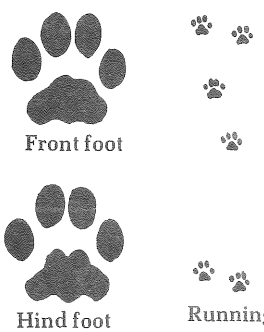
Though **Canada lynx** populations fluctuate, this beautiful wild cat has probably never been abundant in Minnesota. The lynx is one of nature's night patrol, feeding on rabbits, hares, squirrels, and other small animals in the wilderness country of extreme northern Minnesota.

Lynx may be mistaken for the more common bobcat. Lynx are yellowish-gray, with large flat heads and long ears tufted with black hairs. Their feet are larger than a bobcat's, their tails are tipped with black, and the inside of the front legs does not have the heavy dark bars common to the bobcat. Lynx stand 22 to 24 inches at the shoulder and weigh as much as 40 pounds.

Adult lynx mate in late February or March. After a gestation period of 62 days, two to five kittens are born in a den usually in a rock cavity or hollow log. The young are born with black spots which fade away as the animals mature.

Lynx are protected by law and may be taken only during open season.

Bobcat



Front foot

Hind foot

Running

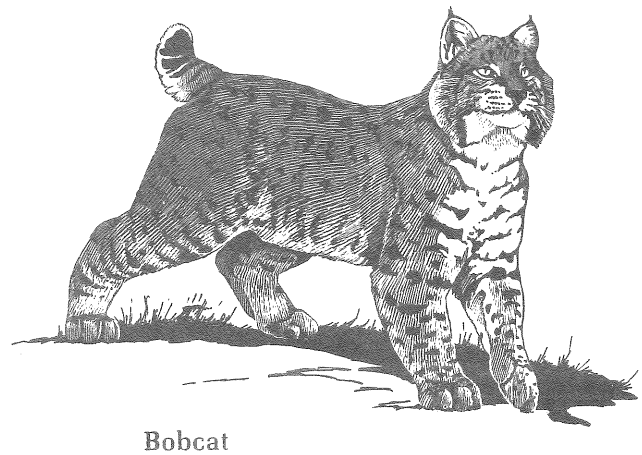
The **bobcat** inhabits much of the same forested country as the lynx, but it is more common. Like the lynx, bobcat populations are affected by the abundance of food — mostly rabbits and mice.

The bobcat appears smaller and more slender than the lynx. It has shorter ear tufts, smaller less furry feet, and the tip of its tail is black only on the top. It is not gifted with tremendous speed or a keen nose. Rather, it depends upon sharp eyesight and stealth to locate and stalk its prey. After getting close, it springs and seizes its victim with needle-sharp claws and teeth.

Dens are lined with moss and leaves before the female gives birth to two or four kittens — usually in May or June. The den may be in a secluded thicket, hollow log, or under roots of an upturned tree.

Bobcats are seldom seen in southern Minnesota. They are most common in woodlands of north-central and northeastern counties. Bobcats appear more adaptable to changing land use than does the more reclusive lynx.

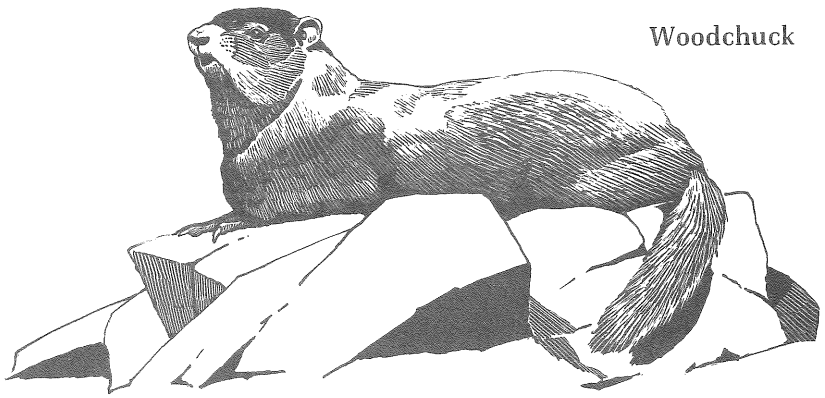
The bobcat is a valuable furbearer and is both trapped and hunted — usually with hounds — for its fur. A designated game animal, it may be taken only during prescribed seasons.



Bobcat

Gnawing Mammals

Rodentia



Woodchuck

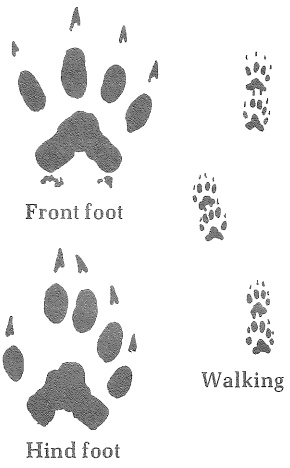
Squirrels

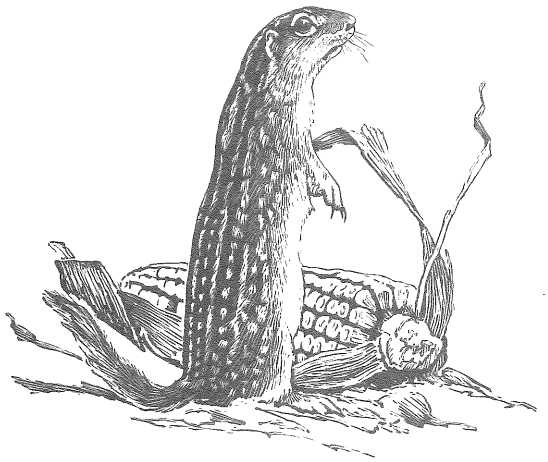
The largest member of the squirrel family, the **woodchuck** may weigh ten pounds or more, and measure nearly one and one-half feet long. It feeds on green, leafy vegetation and on small grains. Garden plants are a favorite, much to the dismay of gardeners in our ever-expanding suburbs.

The woodchuck is found in most Minnesota counties, usually at the edge of open woods and especially in hilly areas. It is diurnal and hibernates for about six months each year.

The Minnesota gopher, famous symbol of the University of Minnesota, is actually the **13-lined ground squirrel.** It weighs from five to nine ounces, and is buff colored with light and dark stripes down its back.

Woodchuck





Thirteen-lined Ground Squirrel

The "gopher" is found in pastures, roadsides, and other short grass areas throughout the state, except the northeast. Seeds and insects are its main foods. While many burrowing animals leave piles of dirt about their burrow, the gopher scatters the dirt widely. Entrances to its burrow appear only as small holes on the surface.

Except for its shorter, thinner tail, the light spots on the upper body, the **Franklin ground squirrel** might be mistaken for the slightly larger gray squirrel. Of course, their habitats — and habits — are quite different, though both may frequent the same woods. This ground squirrel is found in denser vegetation than the 13-lined ground squirrel. Its typical habitat is found along fencelines, railroad rights-of-way, and open woodlands in prairie regions of the state. It is most common in the northwest brushlands. Rather shy, it seldom ventures out of the high grass and keeps to its burrow on cloudy days.

The Franklin feeds on green plants, seeds, insects, bird eggs, and nestlings. It has never been a noticeable enemy of the farmer, but modern agricultural techniques have reduced its numbers.

The **Richardson ground squirrel,** or flickertail, resembles a small prairie dog as it sits upright beside its burrow. Also nicknamed picket pin, this little plains-dweller favors short grass pastures. The flickertail is common in the Dakotas but in Minnesota is usually found in isolated colonies in over-grazed pastures. When drought periods occur, conditions become more suitable for them to become abundant along roadsides and in other grassland areas.

Like other ground squirrels and chipmunks, the flickertail has internal cheek pouches within which it carries grain to its burrow. The animal stores seeds in the fall but does not wake up during winter to consume them. Perhaps the food it eats in the fall provides the body fat it burns for energy during hibernation.

Colored smoky gray and buff, this squirrel may sleep (aestivate) in the summer and enter hibernation in September. It may be active no more than four months of the year. But in that brief time, it destroys much grain — at least it did in years past, when it was extensively poisoned because of its destructive habits.

Eastern Gray Squirrel

Eastern Chipmunk

Chipmunks are woodland creatures which are at home in hollow logs, tree cavities, or underground dens where they store piles of food — acorns, hazelnuts, seeds, berries, insects, and snails.

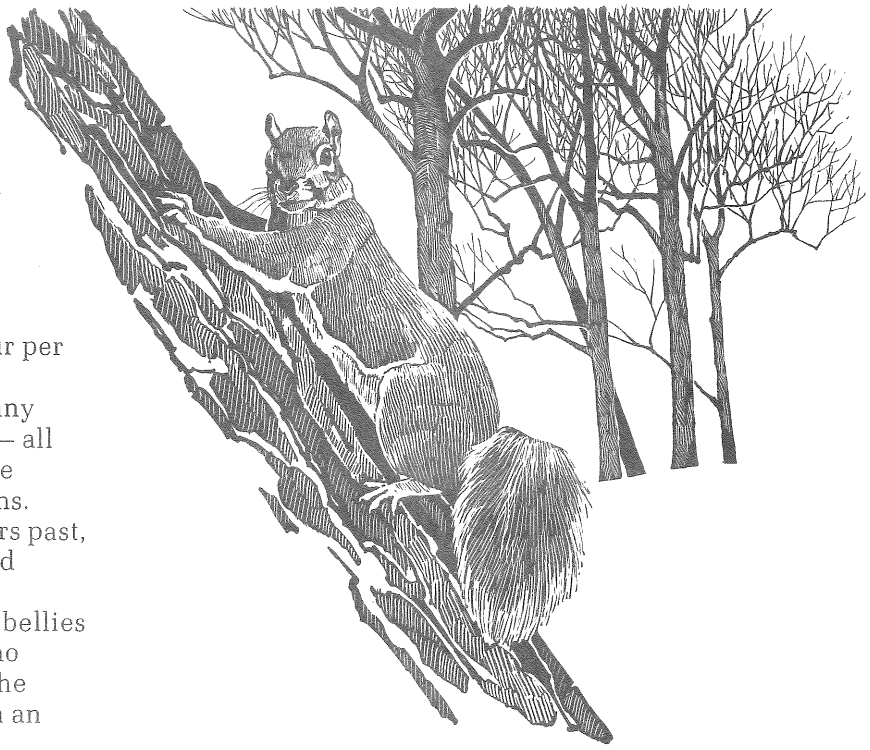
The **eastern (gray) chipmunk** lives where oak trees abound — which includes most of Minnesota, except for the southwest. The **least chipmunk** is found in coniferous forests of northern Minnesota. Both have facial stripes, not found on any other mammals. Chipmunks are unmistakable with their alternating dark and light strips (nine on the least, seven on the eastern), overlaid on rusty and gray body colors.

Chipmunks are quite small. The least is about eight inches long and weighs one or two ounces. The eastern is ten inches long and three to four ounces. Though small, chipmunks are among our most noticeable small mammals. They are very active and inquisitive. Often they are seen noisily "chipping" like birds as they scamper across a road or climb around picnic tables in search of food scraps.

The **eastern gray squirrel** and **eastern fox squirrel** are among the most sought-after small game animals in Minnesota. A squirrel pressed in hiding against a tree is a challenging target. Moreover, its speed on the ground and through the treetops has vexed many a squirrel hunter.

Both squirrel species make their homes in tree cavities but also build leafy nests in summer and fall. By chewing on the scars where small dead branches have fallen, squirrels help to make nesting cavities for future generations. (Fungi soon invades the wood, softening it to create the hollows.) Squirrels occasionally raise their young in the attics of houses. They are not welcome guests, however, because they usually chew through the walls to gain entry. Young

Eastern Fox Squirrel



squirrels are born in spring and fall, about four per litter.

Acorns, hazelnuts, walnuts, and seeds of many trees, plus fungi, and elm buds in late winter — all are important foods for squirrels. Squirrels are accused of digging up lawns as they bury acorns. They may also dig up flower bulbs and, in years past, were serious pests around small cornfields and wooden corn cribs.

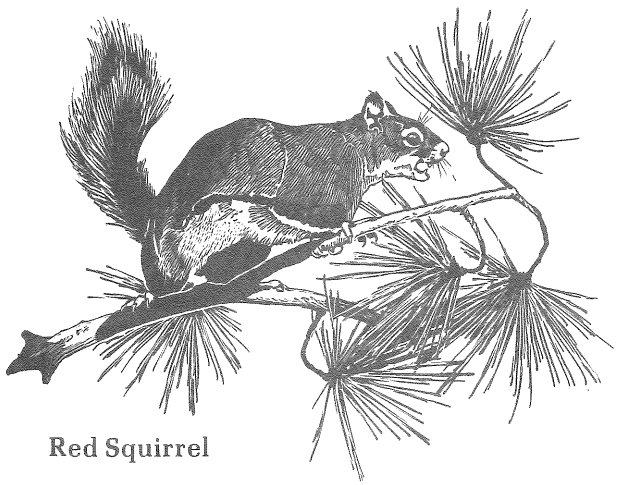
Gray squirrels may have white or brownish bellies and, in winter, white ear tufts. Black and albino squirrels are variations of the gray squirrel. The larger fox squirrels are gray above, white with an orange cast below, and have an orange tail. In Minnesota, there is little color variation.

Though often found in the same woodlands, the two species have different habitat preferences. Grays like denser woods and more populated towns; fox squirrels like grazed woods and small groves and so occur farther west on the plains of the Dakotas. Both inhabit slightly more than the eastern half of the U.S.

Less than half as large as the gray, the **red (pine) squirrel** lives throughout our nation's snowbelt, in mountainous regions and Canada. It is most associated with coniferous woods but hardwoods and thickets, even in the northern prairies, also provide habitat. A leaf nest, usually in a tree cavity or in a crotch of a tree, is its home. However, buildings are also used (one nest was found in an old gasoline pump).

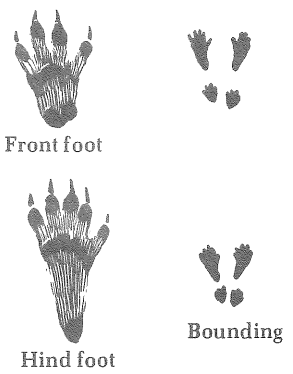
The red squirrel is rusty red above, with a whitish belly, gray sides, and ears that are tufted in winter. It is noted for its bright eyes, perky disposition, and chattering, rattling call.

Foods of the red squirrel are many — nuts and seeds (especially of evergreen trees), berries, insects, bird eggs, and nestlings. It commonly buries nuts and seeds, either in small piles or singly, for use on winter days.



Red Squirrel

Gray squirrel



Flying squirrels do not fly, but glide from one perch to another. Their "flight" is made possible by a fold of skin, a membrane which extends from the front to the hind feet. When the legs are outstretched, the skin stretches out tautly to form a large planing surface which enables the squirrel to glide as far as 150 feet, though most glides are between 20 and 30 feet.

Living in tree hollows or leaf nests, flying squirrels are the only nocturnal squirrels in Minnesota. Seldom will you see them or their tracks. Food is stored in tree hollows for winter use.

Flying squirrels are noted for their dense fur, glossy olive-brown above and white below, large

brown eyes, and mild disposition. Only the shrews and moles have fur that comes close in softness and silkiness to that of flying squirrels.

Weighing two ounces, the **southern flying squirrel** is found in hardwood forests east of the plains states. It is absent in the northern third of Minnesota.

The **northern flying squirrel** is very similar to the other species of flying squirrel, though it is heavier and weighs up to six ounces. This squirrel is widespread in coniferous and mixed forests across Canada, the northern U.S., and mountain ranges. It is absent in the southern third of Minnesota.

Northern Flying Squirrel

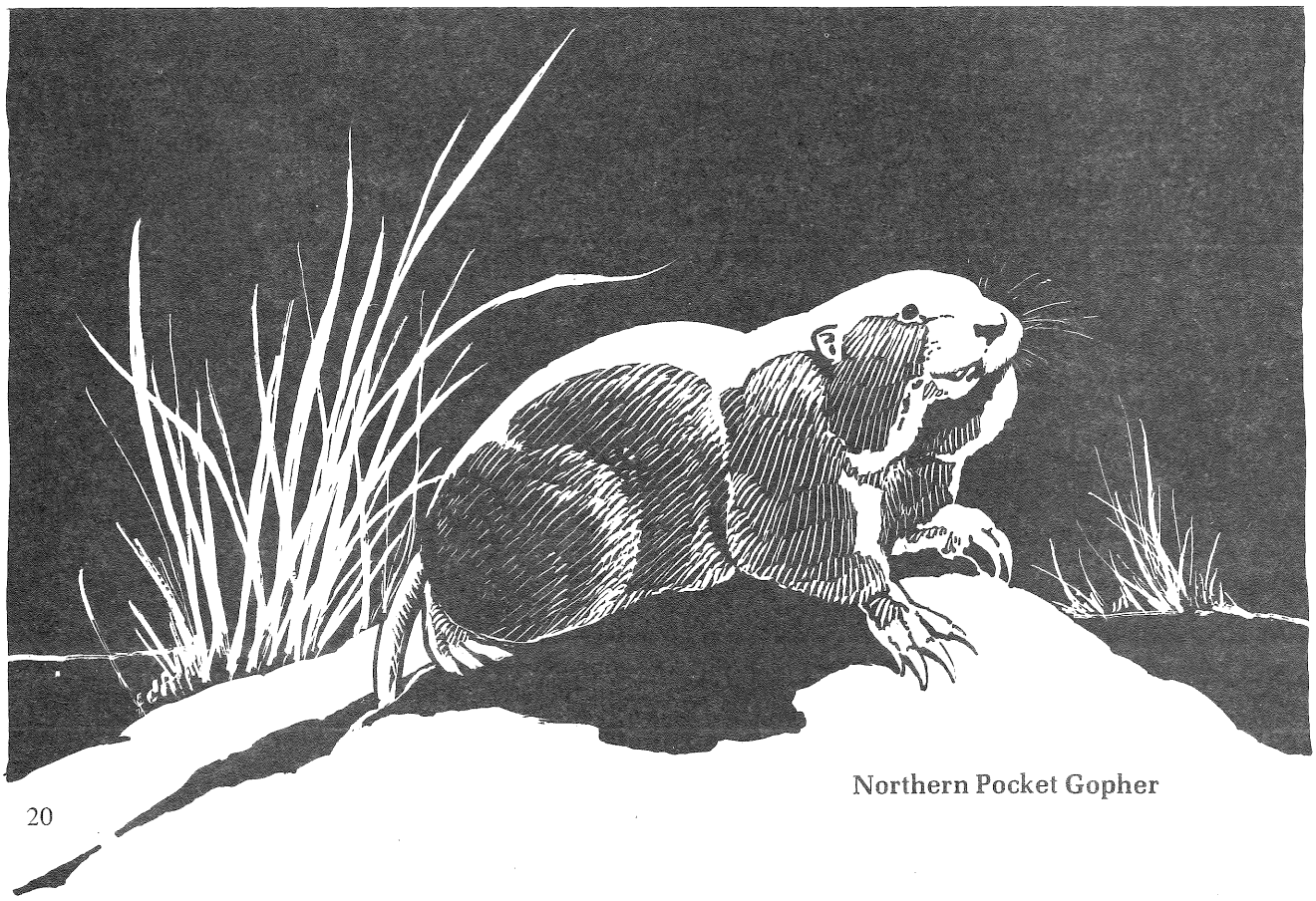
Pocket gophers – Pocket mice

Low mounds of dirt spaced a few feet apart in grassy areas indicate the presence of **plains pocket gophers,** which are found throughout Minnesota, except in the rocky northeastern counties. Grotesque but well suited to subterranean life, they have very short legs, huge front feet and claws, large heads with tiny ears, and protruding teeth. They are usually brown, measure up to 13 inches long, and weigh up to 19 ounces.

Food for these furry miners is mostly plant roots and tubers which makes them unwelcome pests wherever people are growing plants. Their mounds can also interfere with haying activities on farms. Food is carried in fur-lined cheek pouches. They are seldom seen out of their burrow, yet are active day and night. Pocket gophers are a staple in the diet of many predators.

In the Red River Valley of northwestern Minnesota, the much smaller **northern pocket gopher** may be found.

The **plains pocket mouse** and its family includes 38 kinds of pocket mice, kangaroo mice, and kangaroo rats. They all have small front legs, strong hind legs, long tails, and fur-lined external cheek pouches. Our species is tiny, weighing just one-third of an ounce. Its coat is yellowish above and white below. It is typically found in sandy fields. Active in burrows during the day or at night, it busily gathers and eats seeds. It is reputed never to drink water.



Northern Pocket Gopher

Beaver

Beaver

The **beaver** is the largest North American rodent. It weighs as much as 90 pounds, though 40 to 50 pounds is average. Beaver may attain a length of five feet, though 35 to 40 inches is more typical.

The beaver is a perfect example of animal adaptation — in this case to an aquatic environment. Nose and ear valves shut as the animal submerges, and nictitating membranes — similar to those of birds — serve as natural goggles to protect the eyes from irritation. Meanwhile, its lips close **behind** its front teeth, enabling it to carry a branch in its mouth without drowning. Beaver can remain submerged as long as 20 minutes.

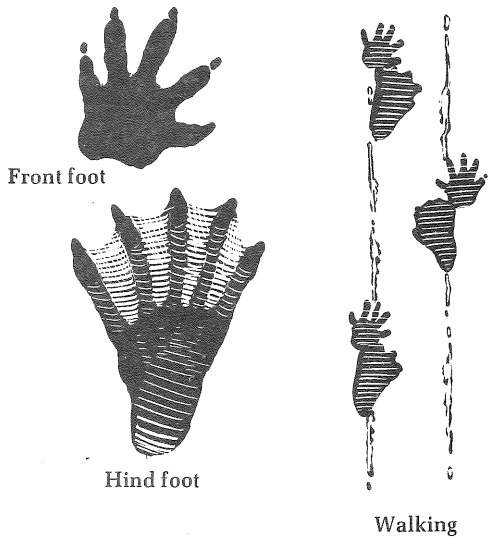
The beaver uses its broad, scaled tail as a rudder when swimming and as a sturdy prop on land. Its strong jaws and chisel-like teeth are capable of gnawing through a six-inch tree in 15 minutes.

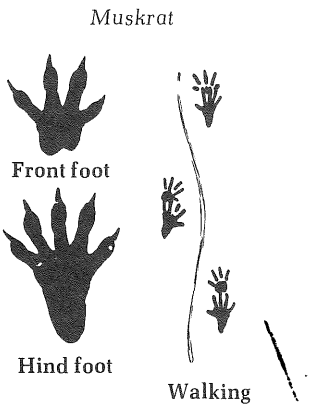
The pelt of beaver is composed of long, coarse guard hairs over a thick, wooly undercoat. It is this luxuriant pelt that lured early trappers and voyageurs to Minnesota and actually led to the early exploration and settlement of our state.

The beaver is nature's original water conservationist and land and wildlife manager. Many biologists believe that the beaver pond supports a greater variety and abundance of wildlife than any other ecosystem in the forest. The ponds also control spring runoff, thus lessening the possibility of downstream flooding.

But as one biologist said, "A beaver in the wrong place is a nuisance. In the right place, he is an ideal conservationist." Beaver now occur in every Minnesota county. Wherever they have become too numerous, they cause problems for people. Their dams flood farmlands, roads and timber, and their penchant for chewing wood has resulted in the loss of valuable fruit and shade trees. Still, beaver are valuable, especially when considering their economic importance for fur. Minnesota trappers take 20,000 to 30,000 surplus beaver most years. The beaver is a renewable resource. In contrast, synthetic furs are made from nonrenewable resources, primarily petroleum.

Beaver





Muskrat

Mice, Voles, and Rats

The tiny **western harvest mouse** looks like a house mouse. It lives in grassy and brushy areas of southern Minnesota. Here it usually makes a little round nest on the ground. Occasionally, it may attach its nest to vegetation several inches above the ground. The harvest mouse eats seeds and insects.

The **deer mouse** and **white-footed mouse** are very similar. Both have large eyes and ears and rather long tails. They nest almost anywhere, in ground burrows, tree holes, old bird nests, and buildings. Deer mice occur throughout Minnesota, while the white-foot is absent in the northeast. Their foods are seeds, nuts, and insects. They can be a nuisance to campers and cottage owners, though they are interesting to watch. Individuals of both species may weigh up to one and one-fourth ounces.

Like a husky deer mouse with a short tail, the **northern grasshopper mouse** is a lion among mice, eating insects, other mice, lizards, and even small birds. It thrives on western prairies, usually living in burrows of other animals.

Lemmings and voles have short tails and legs, small ears, and beady eyes. These little mice eat vegetation, especially grasses. You may never see them, but you might happen upon their trails. These tiny creatures spend the winter on the ground surface in the layer of vegetation compressed by the snow. With adequate snow for insulation, they live in 32 degree F temperature. Without the cushion of deep snow, they may perish.

In spring, after the snow melts, their trails resemble narrow tunnels along the surface where mice have eaten through grain or grass stubble. You may also see little round grass nests, evidence that voles were active just below the snow blanket.

The **southern bog lemming** of our evergreen forest region and the **northern bog lemming,** found in the northwest, live in damp, boggy places. The **red-backed vole,** of wet forested areas in much of our state, will climb trees, unlike any other vole. The **heather vole,** typically a Canadian species, has recently been recorded in northern St. Louis County.

The **meadow vole** is the most widespread and is common all over Minnesota. The **rock vole,** which has a yellow nose, is found only in the far northeast, and the **pine (woodland) vole** only in the far southeast, where it spends most of its time underneath leaf litter. The **prairie vole** is found in rather dry situations in the southern half of the state.

Lemmings and voles seldom weigh more than one to one and one-half ounces. All nest in the ground, or under rocks or logs. These tiny little creatures may seem insignificant in nature's scheme of things, but are the key to survival of many wild predators including weasel, foxes, and birds-of-prey.

The **muskrat** is found in marshes, lakes, and streams throughout the state. It is the largest member of our family of native rats and mice (the Cricetidae), sometimes weighing as much as four pounds.

A valuable furbearer, the muskrat provides income for trappers of all ages. Trapping, of course, helps to keep these prolific animals in balance with their habitat. Muskrats have several litters each season. If they become overly-abundant, they may create problems by digging holes in dikes and dams or tunneling out bank dens along lake and river shorelands.

Cattails are a favorite food of muskrats, though they also relish other water plants, corn, and clams. Although famous for its domed houses of mud and vegetation, it just as often lives in burrows.

Other Rodents

Old world rats and mice are represented in Minnesota by the **Norway rat** and the **house mouse,** two of the least desirable of our mammals. Both species are capable of producing several litters a year and are notorious for damaging property. The rat is also dreaded because it so often carries disease. Worldwide, diseases spread by rats have killed more people than all of mankind's wars.

Unlike most other mice, the **meadow jumping mouse** and the **woodland jumping mouse** are hibernators. Small (one-half to one ounce), with extremely long tails and hind legs, both species eat insects, seeds, and fruit. Both have internal cheek pouches to carry food in. They are rather brightly colored, yellowish above, white below, but the woodland species has a white-tipped tail.

Porcupine

The **porcupine,** nature's living pincushion, is found throughout the upper two-thirds of Minnesota where it lives primarily on tree bark, usually that of pines. Of course, "porky," like a domestic pig, will eat most anything. Salty items are consumed with relish, including axe handles, canoe paddles, outhouses, and even automobile radiator hoses.

A young porcupine is armed and dangerous within minutes after being born. Its quills harden quickly and the youngster is soon capable of lashing out with its deadly little tail.

A single porcupine may have as many as 39,000 barbs. It is safe from attack by most predators. Near Duluth, for example, a magnificent golden eagle was found dead. The bird had tangled with a porcupine and received more than 200 quills in its feet and head. The luckless bird presumably starved. The only significant predator of porcupines appears to be the fisher, which is adept at flipping the porcupine over and attacking its soft belly.

Porcupine

Rabbits and Hares

Lagomorpha

Eastern Cottontail

The ranges of three species of Lagomorphas extend into Minnesota, though none of the species occur throughout Minnesota.

Minnesota emcompasses part of the northern range of the **cottontail**, an animal familiar to nearly all Americans, including those who live in cities. The **white-tailed jackrabbit** is a prairie hare which is more abundant in wide open grasslands of the west. Although both were once numerous, grasslands and jackrabbits have given way to intensive farming in Minnesota's western counties. Lastly, the **snowshoe hare** is a northern species which thrives throughout much of Canada and even as far north as Alaska. In the upper half of Minnesota, it lives in dense woodlands and forest bogs.

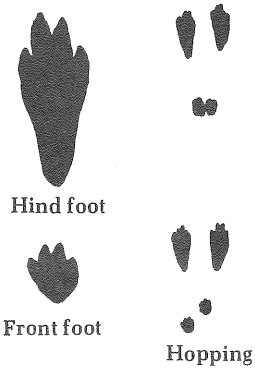
Rabbits are hairless, sightless, and virtually helpless at birth. Hares, however, are precocial — they can hop about soon after birth, and they are born with eyes open and a furry hide.

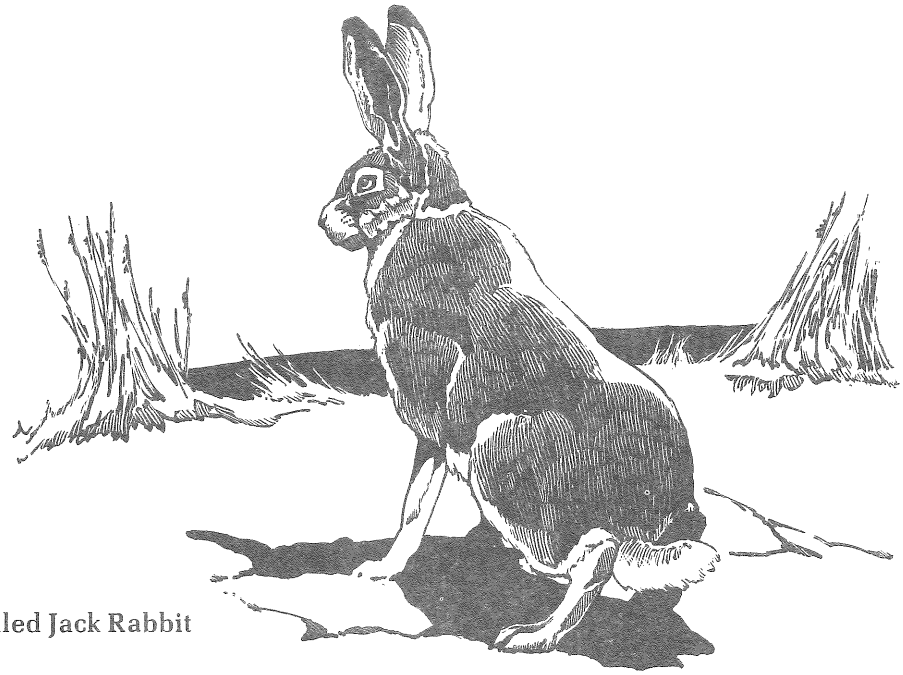
The cottontail is a small (two to four pounds), buffy gray and brown rabbit that is food for many wild predators. Human hunters, too, relish the meat of the cottontail. In fact, it is the number one game animal in the U.S. and pursued by an estimated 60,000 small game hunters in Minnesota.

Throughout the year, cottontails are found in brushy areas such as woodlots, shelterbelts, and even around shrub and conifer plantings in suburban areas. During summer they feed on grasses and clovers, but in winter they eat twigs and bark, especially of fruit trees. Large tree and brush piles are popular shelters for rabbits.

The cottontail is a prolific animal. A female may give birth to a litter of four to six young and within hours after giving birth, be bred again. Three weeks later she will have another litter. The young of the first litter fend for themselves when the second litter arrives.

Cottontail





White-tailed Jack Rabbit

Brownish-gray in summer and white in winter, the jackrabbit lives in open areas and seldom is found near wooded windbreaks, except in the most severe winter weather. Once abundant, jackrabbits have dwindled in numbers because of intensive farming methods.

The "jack" is the largest member of the rabbit and hare family, weighing from six to ten pounds. The long-legged jackrabbit is best recognized by its unusual style of running. When surprised, it will usually bound off with a gait resembling that of a kangaroo. But when frightened, it will drop low to the ground and accelerate to an amazingly fast speed.

In Minnesota, the snowshoe is dark brown in summer, matching the deep shadows of damp northern thickets. But with the coming of winter, its hair turns as white as the snow around it.

Well-known is the cycle of change in snowshoe numbers wherein they become alternately numerous and scarce every few years. Many other animals follow such population cycles, including the jackrabbit, cottontail, lynx, and especially the ruffed grouse.

The snowshoe is slightly larger than the cottontail. It derives its name from the soles of its large feet which are well-furred, particularly in winter, enabling the hare to run on soft snow without sinking.

In summer, the snowshoe eats succulent vegetation and in winter, slender twigs, buds, and bark. It has also been known to nibble on the frozen carcasses of other animals.

Hunting snowshoe hares with beagles is a popular winter sport that provides many hours of outdoor recreation for Minnesotans. Meat of the snowshoe is delicious and can be cooked in a number of ways.

Snowshoe Hare

Snowshoe

Hind foot

Front foot

Hopping

Even-toed Hoofed Mammals

Artiodactyla

Deer

The **elk** is a large, buckskin-colored member of the deer family. It originally lived in the prairie and open woodlands of Minnesota. Most of the state's native elk disappeared before 1900. In 1935, 27 elk were taken from enclosures at Itasca State Park and released in Beltrami County. In the 1940s, this herd grew to about 100 animals, but was slowly reduced in size by irate farmers. (Elk are grazing animals and relish alfalfa, oats, and barley.) Today, there may be only a dozen animals surviving in northwest Minnesota.

Elk are truly magnificent animals. Bulls have large, upward-sweeping antlers. They average 800 pounds, while cows weigh from 500 to 600. Bulls usually collect large harems which may number as many as 20 cows.

Hunting for elk has not been allowed since 1892.

While many other hooved animals have decreased in numbers, the **white-tailed deer** is much more common today than it was before Minnesota's early logging boom. Removal of mature timber across central and northern Minnesota encouraged succulent new growth of vegetation, prime food for deer. By 1920, white-tails were common over much of northeastern Minnesota, though in recent years forests are returning to maturity and deer are declining. Still, Minnesota has from 400,000 to 500,000 deer today compared to an estimated 50,000 at the turn of the century.

Because of its abundance, the white-tail is a familiar sight to Minnesotans. However, deer are not as large as most believe. The back of an adult deer is

White-tailed Deer

seldom more than waist high to the average man. Average live weights in fall are 170 pounds for bucks and 145 for does.

Deer have a thin reddish summer coat which is replaced by a thicker gray winter coat. Antler growth begins each spring and continues until late summer. Most bucks retain their antlers only until the breeding season wanes in December.

Fawns are usually born in late May or early June, usually two per doe. Twin fawns are important to a healthy deer population. Average life expectancy for a Minnesota deer is about three years, so a continuing crop of fawns is necessary to maintain a healthy population. The key to deer reproduction is food — its quality and amount. Deer feed on a variety of grasses, clovers, and small grains in spring, and, during the remainder of the year, on new growth of various trees and shrubs.

The white-tailed deer is the number one big game animal in Minnesota and the nation. Each fall, about 300,000 Minnesota hunters take from 20,000 to 30,000 animals. If these surplus animals were not removed from the herd each fall, deer would become too numerous in some areas, where they would virtually destroy their own food supply.

The **mule deer** earns its name from its noticeably large ears. The white rump patch of this plains dweller is also prominent; its small, black-tipped tail covers very little of the patch.

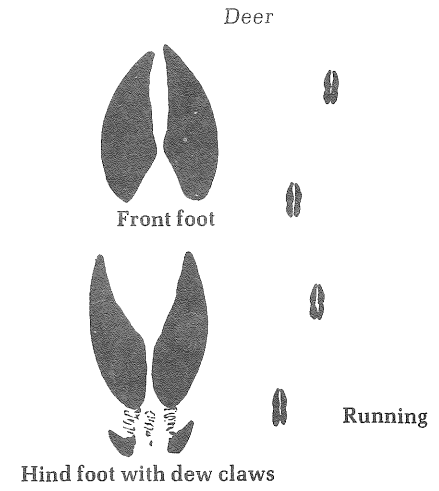
"Mulies" are about the same size as the common white-tailed deer. Bucks weigh from 150 to 250 pounds; does are considerably smaller. Mule deer differ from white-tails by their antlers. The mule deer's antlers branch into forks; those of the white-tail are a series of tines (points) arising from one main beam.

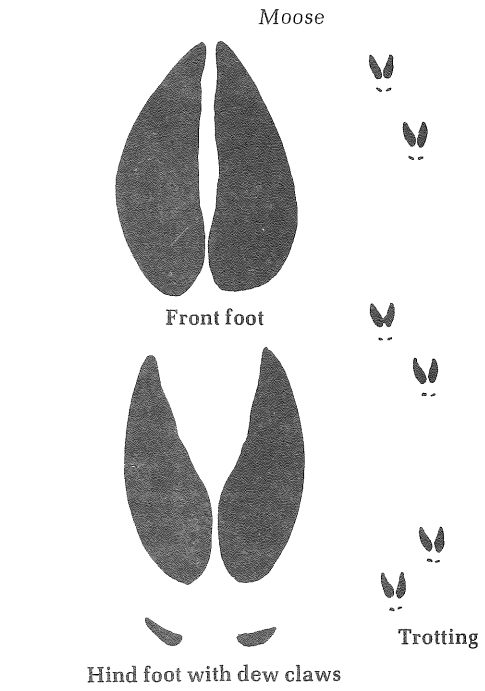
The mule deer can be identified from a considerable distance simply by the way it runs. Its gait consists of stiff-legged bounds or jumps while the animal holds its tail down. When disturbed, the curious animal usually stops after running a short distance to study the cause of the disturbance.

Centuries ago, the mule deer lived in scattered herds along the Red River. Today, it is a mammal of the western plains, though each fall hunters take a few animals in various parts of Minnesota.

The **moose** is the largest member of the deer family, averaging 950 to 1,000 pounds and sometimes exceeding 1,200 pounds. The front shoulder hump and flap of skin hanging below the throat (called a bell) are characteristic of mature moose. Bulls carry flat, palmated antlers which begin growing in April and are usually shed in December and January.

Moose have rather poor eyesight, but acute senses





of smell and hearing. They have long legs and splayed hooves which enable them to move easily in marshy areas and along northern Minnesota streams and lakes where they browse on aquatic vegetation and on various types of willows and shrubs along shorelines. Moose are quite capable of diving to the bottom of shallow ponds and lakes, where they rip up bottom-growing vegetation.

Though they appear formidable, moose are seldom aggressive. Exceptions are a cow that feels her calf is in danger, or a bull in rut. Rutting or mating season occurs from mid-September to mid-October. Calves (usually twins) are born in May or June.

Moose hunting was prohibited in Minnesota from 1922 until 1972 when a limited hunt was initiated. Carefully controlled hunting seasons now give hunters a chance to harvest surplus animals from an estimated total population of 5,000 to 8,000.

Moose

The **woodland caribou** no longer occurs in Minnesota, though it was once relatively common in the mature forests of northern Minnesota. The last native caribou band inhabited the extensive muskeg areas north of Red Lake. Because many northern forests are once again maturing, wildlife biologists may reintroduce caribou in our state.

Caribou are dark brown and sport thick, white manes. The bulls, which average over 200 pounds, have sweeping antlers which can tower several feet above their heads. Cows also have antlers.

Wide-spreading hooves with dewclaws enable caribou to travel over soft tundra and deep snow. They feed on many plants, but during winter subsist largely on mosses and lichens.

Pronghorn

The **pronghorn** was never common in Minnesota. When settlement began, a few bands of pronghorns lived in our western counties. In recent years, some stragglers have been seen in the southwest. Presumably they are animals that have wandered in from neighboring South Dakota.

Sometimes referred to as an antelope, the pronghorn is not a true antelope but a survivor of a distinct North American family of mammals which flourished in prehistoric times.

The pronghorn is America's swiftest animal. It is capable of speeds up to 50 miles-per-hour. Even week-old pronghorns are able to run faster than a man. Their speed and telescopic eyesight are keys to their survival.

Pronghorns have a distinctive cinnamon-buff coat, accented by nearly pure white underparts and rump. Unlike deer, they retain the core of their horns and shed only the outer sheath in late fall.

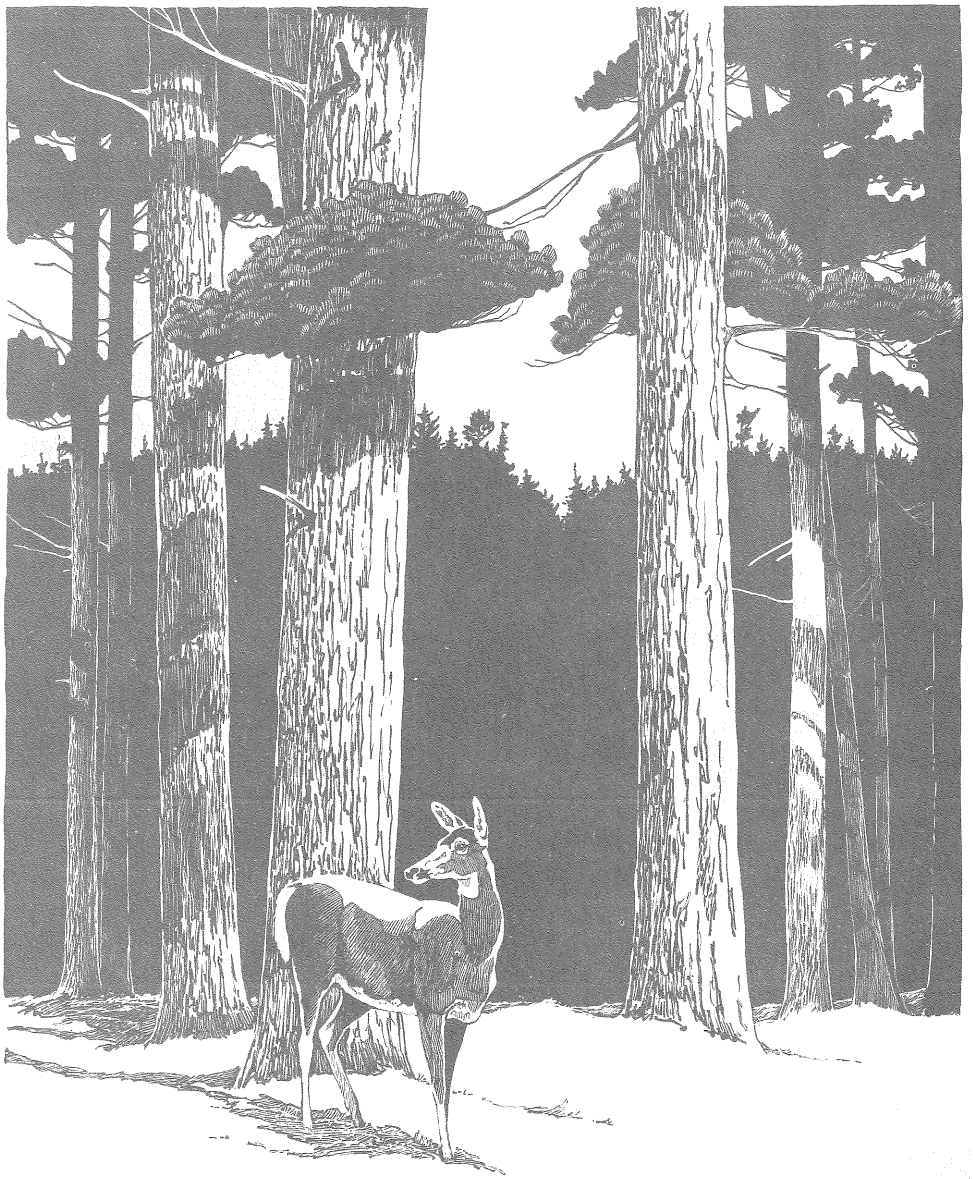
Bison

The **bison or buffalo** once thrived on Minnesota prairies. However, by 1900, settlement and slaughter by market hunters and the U.S. Army combined to reduce buffalo numbers to a handful of captive bison. Soldiers killed thousands of buffalo in an attempt to starve out Indian tribes.

Today, largely because of captive herds, buffalo have been reintroduced in preserves and parks in Minnesota. It is considered extirpated in the wild. Only evidence of the once great herds are an occasional deposit of bones, shallow depressions which were formed by wallowing buffalo, and large boulders worn smooth by thousands of bison as they rubbed off their shaggy winter coats.

The bison is an awesome creature. A mature bull may stand five to six feet high at the shoulder, measure nearly ten feet in length, and weigh more than 2,000 pounds. Cows are smaller, weighing about 1,200 pounds.

Bison are dark brown, but their heads and shoulders are almost black. Thick, shaggy hair covers their shoulders, neck, forelegs, and massive head. Curving outward and upward from the head are sharp horns. Both males and females grow horns. A grazing mammal, the bison feeds almost entirely on grasses.



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