An Illustrated Guide to

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SMALL GAME AND FURBEARERS

FEDERAL PREMIUM® AMMUNITION

Small Game and Furbearers

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Contents

Cover Photo: Cottontail Rabbit • Tom J. Ulrich

To a surprising extent, furbearers prompted and financed European exploration of North America, whereas small game animals were an important food source for the newcomers who pioneered the New World. But long before white frontiersmen probed the continent's interior in search of trapping grounds and fur trade with Native Americans, furbearers and small mammals were important in Indian cultures and economies. Archeological evidence shows that both were used extensively for clothing, food, spiritualism, trade and ceremony for at least 11,000 years and probably for as long as humans have lived in North America.

The first transcontinental business, the North West Company, was opened in Canada as a supply line for furs exported to France. Attempting to colonize the Americas, other countries, including England, the Netherlands and Russia, competed for the bountiful fur resources.

In the U.S. and Canada, fur trappers and traders roved from beaver pond to beaver pond throughout the unchartered continent. They were followed by loggers, miners, ranchers, farmers, merchants and others. The exploration history of North America essentially was that of the fur trade.

More than 500,000 people trapped furbearers annually in North America during the 1980s, including about 50,000 Native Americans who used some of the animals for subsistence purposes. That decade was the most exploitive of furbearers on record. The annual take has been reduced considerably since, due to decreased demand and expansion of the ranch fur industry. The wild fur business and the economic value of furbearers have lasted longer in Canada than in the U.S., mostly because Canada's vast northern forests produce higher quality fur and there is less mineral deposition in Canada to lure development. Also, roadless and boggy forests are less accessible to loggers.

Small game mammals, particularly rabbits, hares and squirrels, were common fare for explorer spits and settler stewpots. Big game provided the most meat for Native Americans and the newcomers alike. However, contrary to popular notion, those animals were not always readily available - small game was much more abundant, easily taken and efficiently prepared for daily sustenance. The clearing and plowing of North America actually boosted many small mammal populations by increasing habitat diversity for these animals.

America's wildlife continues to be important economically as well as recreationally. More than 108 million people in the U.S. 16 years old and older enjoy some form of wildlife-associated recreation each year. They spend more than $59 billion annually on that recreation, and account for more than 1 million jobs scattered across the country. And this is exclusive of commercial resource uses, such as the multi-billion-dollar fisheries and fur markets. Nearly 20 million Canadians spend about $6 billion annually for wildlife-related activities, and this accounts for more than 200,000 jobs.

There has been considerable study of recreational hunting as an economic resource. A private management firm recently estimated that hunting expenditures alone are in excess of $13 billion annually in the U.S. with a total economic impact of $34 billion. That exceeds annual sales of such companies as Coca-Cola, Caterpillar and RJR-Nabisco. For each 50 hunters in the U.S., enough economic activity reportedly is generated to create one job. Thus, hunting sustains 380,000 jobs nationwide, which is approximately equivalent to the population of the city of Minneapolis. Hunting expenditures annually in Canada exceed $1.2 billion.

By factoring in the economics of non-hunting wildlife recreation, sport-fishing and commercial uses of fish and wildlife, obviously *far more* than 1 million jobs are dependent on how well responsible

government agencies (federal and state) manage basic fish and wildlife resources. This "business" likely is as big as the entire wood products industry in the U.S., which employs 1.4 million people, and is among the top 10 manufacturing employers in 46 states. According to the U.S. Commerce Department, outdoor recreation is among the top three industries in 39 of the 50 states.

Today, nearly 8 million people in the U.S. alone actually hunt small game each year. This recreation has an economic impact of more than $1.5 billion annually. Additional millions of citizens enjoy small game mammals and furbearers in non-consumptive ways, such as viewing and photography.

All of these animals are beneficial because they prey on insects and rodents that sometimes are the bane of farmers, ranchers and others. What damage they do to human enterprise is, for the most part, offset by their own pest-control lifestyles.

Maintaining viable populations of small game and furbearers is important far beyond the economic and recreational values they have. Their existence assures us that the ecological processes and life-support systems vital to human survival and well being are functioning. And the habitats necessary to ensure sustainable utilization of these species provide the space for myriad other animals and activities that improve our quality of life.

Assurance that small game and furbearers will survive for other generations to enjoy depends on compatible human influences on the environment and enlightened management efforts through private, state and federal programs. All wildlife is affected in one way or another by people. But people can build as well as destroy. Of all animals, humans are the only ones able to manipulate knowingly the abundance and distribution of other species. This is done through the craft and science called wildlife management, which arranges landscapes to provide for the varying needs of many species. Habitat indeed is the key, since all wildlife require habitat to produce and sustain viable populations.

Habitat is simply a particular mix of food, water, cover (shelter) and space that a species needs to thrive. And each species has habitat needs different from other species, although many different species may occupy the same general area. Water requirements for desert jackrabbits obviously differ greatly from those of a beaver. What might be year-around food and cover for the vegetarian (herbivorous), stay-at-home prairie dog would be of little use to a meat eating (carnivorous), wide-roving wolverine. Yet it is the wildlife manager's duty to provide as best as practical the needs of all these diverse animal populations in accordance with society's wishes.

This booklet does not feature all furbearers or small game, just those that are most common or economically important. There are numerous other species and subspecies of very interesting creatures in these categories that contribute to North America's diverse wildlife resource. Among furbearers, for example, the kit fox and swift fox are delightful animals, but they are rare in some of their range and occur only in relatively small areas of the western U.S. Thus, not everyone may see them and they are not sought by trappers to the extent of the gray and red foxes.

Also, there are close kin of the raccoon not covered because they are too uncommon and occupy restricted ranges. The ringtail and coati are limited to Mexico and a southwestern and western portion of the U.S. They are not considered significant as a fur resource, but serve an important role in the habitats they occupy.

In essence, all wildlife species and subspecies are important in nature. And they all, in some fashion, enrich the quality of our lives.

Tom J. Ulrich

Eight species of cottontail blanket the United States and portions of Canada and Mexico. They thrive in a variety of habitat types, from coastal marsh to desert. They are a staple for many predators, including sportsmen who hunt the cottontail more than any other game mammal. They range in size from the very small pygmy rabbit, which is about 10 to 12 inches long, to the marsh rabbit which is twice that size. Cottontails are noted for their high reproductive rate. They have a long breeding season in some areas – nine months in Georgia and year-round in Texas, for example. And they have multiple litters annually (sometimes seven or eight) with a mean of 3.1 to 5.6 young per litter. Young rabbits are vulnerable to predation by a host of animals, from crows and snakes to owls and fox. But if they survive a few weeks, they attain the speed, quickness and attentiveness to escape from many dangerous encounters. This rabbit's classic "prey eye" placement on the sides of the head permits them to look back almost as well as forward. Their relatively long, erect ears are excellent sound detectors. Cottontails are herbivorous, and they eat a wide variety of grasses, legumes and woody plants. The woody plants, such as apple, sumac and red maple, are consumed mostly during the winter, when other plant types are dormant. Cottontails prefer early successional stages of vegetation (thick grass and brush, as opposed to trees) as nesting and escape cover, and their numbers are governed primarily by how much of that habitat is available. Because of their inclination for disturbed vegetation, cottontails often are found in close association with human developments.

Tom and Pat Leeson

Four species of jackrabbit occur throughout southern Canada, western U.S. and Mexico. Actually, the jackrabbit is a hare and not a rabbit. Its young are born haired and with eyes open in hastily constructed shallow depressions. Rabbits, on the other hand, are born naked and blind in elaborately built nests. Adult "jacks" are distinguishable from rabbits by their large ears and feet and, overall, they are much larger than cottontails, with some weighing up to 9 pounds. They can run at speeds up to 56 miles per hour and in bounds of 5 to 10 feet. Jackrabbits are prolific breeders. Females in southern Arizona's long breeding season, for example, have the potential to produce seven litters annually, with two to three young per litter. Jackrabbits eat a variety of woody and herbaceous plant material, including cacti. Their habitats are diverse, ranging from midwestern pastures and cropland to prairies, deserts and even mountainous terrain. The jackrabbit's huge ears, which are much larger than those of the cottontail, serve a couple of important purposes. First, they are superb hearing devices that the animals depend on more so than eyesight to detect enemies. Second, they are air conditioners, with complex vascular systems that allow desert breezes to cool blood and thus the animal. Jackrabbits are preyed upon by a host of predators - eagles, hawks, owls, coyotes, cougars and snakes to name a few. It seems that jackrabbit is on everything's menu. Even though they are not hunted commercially for food as they were in the 1800s, jackrabbits still get in trouble with humans because they compete with livestock for forage and can be rather destructive in orchards and tree farms. However, they remain a very important part of wildlife communities because of their efficiency of turning plant material into meat on which wild carnivores survive.

Tom J. Ulrich

The snowshoe hare lives in Alaska, most of Canada and the northern contiguous U.S. Populations also are found in the Allegheny, Rocky and Pacific Coast mountain ranges. The snowshoe is a true hare and not a rabbit, meaning that it produces "precocial" (eyes open and furred at birth) young, does not build nests, and has the characteristic large ears and hind feet. The snowshoe is brown in the summer, but molts into a winter pelage that appears pure white except for black-tipped ears. Actually the winter coat is tricolored, with only the outermost part being white. The middle zone remains tawny and the lower part of the hair is nearly black. As with all hares, snowshoe females are larger on average than the males; one study found females averaging 3.5 pounds each and males 3.2 pounds. The snowshoe can have up to four litters of young per year, with 2 to 13 young per litter. Snowshoe litter size tends to increase in springs with greater snow depths the previous winter. The deeper snow may allow the hares to get at additional food that otherwise would be above their reach. Snowshoe populations fluctuate in 10-year cycles. Biologists have found as many as nine snowshoe hares per acre on average during the high years and far less than one per acre during the low times. Like other hares, snowshoes mainly eat green succulent plants during the summer and switch to woody vegetation in winter. Snowshoes occupy a variety of habitats, but seems to prefer dense second-growth forests, which offer more food and protection from predators. Mammals such as lynx, bobcat, mink, fox, fisher, marten and coyote attack from the ground while hawks, owls and ravens come from the air. Predators have been known to account for as much as 70 percent of the winter mortality in snowshoe populations. Snowshoes are popular sporting animals in the U.S. and Canada, but relatively few are taken for their fur.

Neal & Mary Jane Mishler

Fox squirrels are the largest of America's tree squirrels, weighing up to 3 pounds. They vary far more in color than the gray squirrel - from black to light gray to rusty brown. Their range extends farther west than that of the gray squirrel, but not as far north. Fox squirrels have been introduced into many western cities and are fairly common even in California, Oregon and Washington. In addition to being larger than the gray squirrel, the fox squirrel has ears that are shorter and thicker and noticeably more rounded. Fox squirrels normally produce two litters of young each year, with an average of three per litter. The young develop slowly compared with other rodents, which makes them more vulnerable to hawks, owls, ravens and other flying predators. Fox squirrels roam larger areas than gray squirrels do; some have home ranges of more than 40 acres. About five acres is typical. Fox squirrels prefer woodlot habitat and do well in small forests that gray squirrels tend to shun. In fact, fox squirrels invariably do not reside in areas that are more than 70 percent forested. The animals seem to follow agriculture. Biologists note that the Midwest was heavily forested when the first settlers arrived, and gray squirrels then were abundant and fox squirrels rare. Clearing for cropland caused the gray squirrels to decline in number or disappear, but the remaining woodlots and fencerows allowed fox squirrels to prosper. Because of this association with agriculture, fox squirrels have a somewhat different diet than gray squirrels. They feed heavily on crops such as corn and wheat, as well as the usual acorns and other mast. They also consume a variety of insects. Fox squirrels are a popular game animal in the eastern U.S. and Canada.

Tom J. Ulrich

Gray squirrels are both appreciated and despised. For sportsmen, they are popular game animals. More than 40 million are bagged in the U.S. in most years. On the other hand, gray squirrels can be destructive, by raiding birdfeeders and chewing holes in house vents and eaves, telephone lines and other nuisance behaviors. In Great Britain and South Africa, where they were introduced many years ago, gray squirrels are considered pests. Gray squirrels are smaller than fox squirrels and larger than red squirrels. They can weigh up to 1.65 pounds, with the larger specimens occurring in the northern part of the species' range, which occurs from southern Canada to Florida, primarily east of the 100th meridian. Most of the animals are gray, but there are small populations of melanistic (black) and white (including albinos) gray squirrels. Like fox squirrels, the grays generally produce two litters of three young per year. They also are food for the same predators, including hawks, owls, wild canids and members of the weasel family. Gray squirrels are relatively free of bacterial and viral agents, but are susceptible to ectoparasite infestations. Annual mortality is about 50 percent. Generally covering less than two acres, the home range of the gray squirrel is smaller than that of the fox squirrel. Gray squirrels are noted for occasional "mass movements," when entire populations will emigrate considerable distances all at once. These autumn "shuffles" are not as prevalent in fox squirrels. Gray squirrels prefer relatively mature, dense forests. As the percentage of forested land increases, gray squirrel numbers go up. Gray squirrel food habits are similar to other tree squirrels. They eat a variety of acorns, seeds, fruits and other mast. They also are known to eat many species of mushrooms. Longevity is about six years, but there are exceptions. One female research subject was last captured at age 12.5; she was pregnant at the time.

Tom J. Ulrich

The red squirrel, commonly called pine squirrel, chickaree, boomer, fairy-diddle, spruce squirrel or barking squirrel in different parts of the continent, is found in northern coniferous forests and some hardwood forests in Canada and the United States. Except for the flying squirrel, the red squirrel is the smallest of all tree squirrels; adults weigh between 5 and 9 ounces. Red squirrels are reddish-brown dorsally, with white underparts. They feed heavily on mushrooms, fungi and pine nuts, and are noted for their large caches of pinecones. They are so dependent on evergreen forests that, throughout much of their range, their population size fluctuates in response to conifer cone crops. Red squirrels prefer to nest in cavities in hardwood areas. But in coniferous forests where cavities often are scarce, they build leaf nests and will even burrow under stumps, log piles and stone fences to build nests. In most regions, they produce only one litter per year, with one to seven young per litter. Red squirrels are an important food source for hawks, owls, falcons, lynx and weasels. They are primary prey for fishers. About one-fifth of fishers studied in New York and Maine had red squirrels in their stomachs. Despite their small size, red squirrels are an important animal for trappers in Canada, where about 2.1 million pelts are taken annually.

Tom J. Ulrich

There are 22 species of ground squirrels, so called because they live on the ground, as opposed to the lifestyle of tree squirrels, and because of their burrowing habits. True ground squirrels are primarily western and midwestern animals that range from Mexico to the Arctic. Interestingly, 19 of the 22 species are located within 500 miles of the Great Salt Lake in Utah. Ground squirrels can reproduce rapidly, with short gestations from 24 to 30 days and litter sizes of six to eight young. Plowing of the prairies and intensive livestock grazing both tend to increase the numbers of these animals. Conversely, when farmland or rangeland is abandoned and returns to natural vegetation, ground squirrel populations decrease dramatically. Ground squirrels have home ranges of no more than about 12 acres and as little as a half acre. They feed on all sorts of vegetation, as well as insects, lizards, and other rodents. Because they will feed on various crops and seedlings, ground squirrels are considered by some farmers and foresters to be serious pests. They also are known to prey on gamebird nests, such as those of pheasants and quail. In turn, ground squirrels are preyed upon by a host of avian and terrestrial predators, such as hawks and foxes. They actually were an important food for some Native Americans and, in the 1870s, tons of ground squirrels were shipped to San Francisco and Oakland markets for sale in Chinese markets. This era ended in 1908, however, when it was learned that fleas on California ground squirrels harbored bubonic plague. Although still the target of considerable pest-control activity, ground squirrel populations are doing well.

Tom J. Ulrich

During Lewis and Clark's transcontinental trek across the Louisiana Purchase in 1804 to 1806, the explorers referred to these ground squirrels as "prairie dogs," because of the animals' characteristic bark. The name stuck. Prairie dogs may have numbered billions in the presettlement American West. There are seven subspecies, generally classed as blacktails or whitetails. Most abundant is the black-tailed prairie dog, which inhabits burrows on grasslands and semidesert areas. The white-tailed prairie dog lives in foothills and parklands of the Rocky Mountains. Both subspecies live in "towns" or clusters of burrows that amount to complex underground tunnels. Historically, one such town in Texas was said to cover 25,000 square miles and was believed to contain perhaps 400 million prairie dogs. Land development and pest-control efforts have greatly reduced prairie dogs numbers from their former abundance. Today, a town of more than several hundred acres is unusual.

Approximately 15 inches in length, 5 inches high at the shoulder and with a stubby, 3.0 to 3.5-inch tail tipped white or black according to subspecies, the adult prairie dog weighs 1.5 to 3 pounds. They have "tight" coats that varies among individuals from light gray to reddish-brown. Prairie dogs are highly social, and their social order is dominated by adult males. They have highly developed senses of sight and hearing, and are exceptionally curious, all of which are aids against a variety of predators, including coyotes, fox, bobcats, birds of prey, snakes and badgers. The endangered black-footed ferret's primary food is the prairie dog. Burrowing owls and rattlesnakes commonly use prairie dog dens for themselves. Prairie dogs reproduce once a year, with an average litter of 4 to 6 young. They primarily eat grasses and forbs, but also consume insects and, on rare occasions, ground nesting birds and their own dead. Winters are spent underground for the most part and, in higher, colder regions, the animals may hibernate.

Lynda Richardson

There are six species of marmot in North America, ranging from the widely distributed woodchuck to the Olympic marmot, which is found only above timberline in Washington's Olympic Mountains. Marmots live throughout Canada and have been found in all the United States except the Deep South, High Plains region and desert southwest. Variously called chuck, woodchuck, groundhog, and whistle pig, marmot species differ mainly in size and coloration. The yellow-bellied marmot is the smallest, averaging less than 10 pounds. The Olympic marmot is a comparative monster, weighing up to 24 pounds. Marmot pelage can be yellowish or shades of gray or brown. Some even have mostly white fur. Marmots are true hibernators, meaning that they do not store food for winter but live entirely on the fat stored in their bodies. Large and equipped with five clawed toes, their front feet are exceptional digging tools. Breeding behavior in marmots varies with the species, but all normally produce four to six young. They like to burrow in dry soils in forests or cropland to build their dens and normally confine their movements to within about 100 yards from the den. The primary foods of these herbivores are clover, alfalfa, and grasses and, by feeding and trampling, they can be rather destructive of those crops. The general behavior of marmots also varies greatly, from the aggressive, solitary life of the woodchuck to a quite social demeanor of the Olympic and yellow-bellied marmots. The animals, especially young, are food for predators ranging from cougars to bobcats and bears to fishers. Eagles and hawks also take a share. Marmots are seldom used for food or fur in North America, but they do provide considerable recreational shooting for sportsmen who help landowners control excessive populations.

Tom J. Ulrich

Credited with having encouraged early exploration of many parts of North America by company and "free" (independent) trappers, the beaver has rebounded from early overexploitation to relative abundance. The continent's largest rodent, the beaver lives in colonies - groups of 3 to 12 (usually 5 or 6) individuals sharing a common area and food source. They are distributed throughout most of North America, wherever there is water and suitable vegetation. Beavers eat all sorts of trees and other herbaceous plants. They are noted engineers of the wildlife community, using the logs and sticks that they fell with sharp incisors to build low dams that create small ponds and wetlands used by a variety of fish and wildlife. Many of the aquatic woodland habitats created by beavers are thought to have been significantly helpful in restoring wood duck from their population lows in the early part of this century. The beaver builds its stick and mud "lodge" protruding from ponds, with an entryway below water level and living quarters above. At 35 to 70 pounds for adults, the beaver is clumsy and slow on land, but graceful and efficient in water, propelled with webbed feet and a powerful, flat tail. It has soft, dense underfur protected by thick, long, stiff guard hairs, which makes its pelt prized for clothing. The fur can be dark brown, chestnut, reddish, black or yellow-brown, usually lighter on the sides and underneath. Beavers are monogamous and produce one litter per year, with litter size ranging from one to nine, but averaging three or four.

Tom J. Ulrich

The muskrat is among the most valuable of wild furbearers in North America in terms of number caught and pelt value. It is a stocky, aquatic rodent, with unwebbed forefeet, webbed hind feet, short legs, and a narrow, flattened and scaly tail. The coat color ranges from dark brown to rust red on top; it is lighter on the sides and underneath. Adults weigh 2.4 to 3.6 pounds. The muskrat's soft and velvety pelt, with glossy guard hairs, is valuable for coats and other clothing. Because their gestation is only 24 to 34 days and they can breed again immediately after giving birth, female muskrats have the potential to produce a liter of three to nine kits each month. Thus, most muskrat populations are prolific and can withstand heavy harvest. Muskrats eat a variety of marsh plants, which they also use to build floating houses or to line dens burrowed into stream banks, ditches, levees, dikes and wetlands. When "rat" populations get too large, the animals' grazing on aquatic plants can create eat-outs that cause their habitat to erode and became open water. Muskrats are a popular dish for people in some parts of the country. In food markets, muskrats are sold as marsh rabbit, water squirrel, Chesapeake terrapin or marsh hare.

Tom J. Ulrich

About twice the size of a domestic cat, the bobcat is slightly smaller than a lynx and much smaller than a cougar. These three animals are North America's most common "wildcats," with the bobcat being the most widespread. Bobcat coloration varies within and among regions from light gray to reddish-brown. The coat is streaked and dotted with black that makes for a beautiful fur. Bobcats have retractable claws like most cats and, with powerful legs, are at home in trees and on the ground. They occur or have been credibly reported in all 48 contiguous states, southern Canada and parts of Mexico. They occupy a variety of habitat types, from forest to desert. Bobcats produce their young in early spring and generally have two to four kittens per litter. They have few predators other than human, and adult mortality is very low in unexploited populations. However, they are susceptible to numerous diseases, such as rabies, and sometimes succumb to injuries inflicted by their struggling or escaping prey. Generally solitary, bobcats may range in an area up to 80 square miles, or as small as less than one square mile, depending mostly on food availability. Active mostly at twilight, rather than being truly nocturnal, they feed primarily on cotton-tailed rabbits, snowshoe hares and jackrabbits, although small rodents also are an important food source. White-tailed deer, especially fawns and carrion, provide food in certain parts of the country. Most bobcat populations are in reasonably good shape, but much research is needed to assure the species' future amid pressures from human development.

Tom J. Ulrich

The Canada lynx is a close relative of the bobcat, but is not nearly as widespread. It is common in Alaska and Canada, and is found in a number of northern and high-mountain parts of the lower 48 states. It is typically associated with expansive boreal forestlands with deep winter snows and low temperatures. The lynx has a strikingly beautiful fur that makes it important to the wild fur industry. Besides being somewhat larger than the bobcat, the lynx has relatively long hind legs that make it appear stooped, and large furred feet that allow it to travel easily on snow. It also has prominent, tufted ears. Lynx once were thought to be rare, until researchers found them to be exceptionally reclusive and difficult to observe. Lynx have their young in early summer, with four or five kittens per litter. They have no significant predators other than humans and are much less susceptible to disease than are bobcats. Wolves and wolverines, however, have been known to kill lynx. These mid-sized American cats feed heavily on snowshoe hares, with each lynx killing an average of two hares every three days. Yet, when hare populations fall, the lynx will switch to other prey, including mice, voles, red squirrels, ruffed grouse and ptarmigan, which they typically catch by stalking or ambush. Deer and caribou sometimes are hunted. However, only high snowshoe hare populations can support high lynx numbers. A lynx home range can be more than 90 square miles, especially when food is in short supply. Lynx habitat is diverse forest, with alternate stands of conifer for cover and shrubby openings. Such habitat can be produced by irregular patterns of logging or prescribed fire. The lynx story ultimately will be told by how well snowshoe hare habitat and populations are maintained.

Tom J. Ulrich

Gray wolves are the largest of wild dogs (canids), weighing 100 pounds or more. In North America, they once ranged from Mexico to the Arctic. However, the Mexican wolf now is an endangered species. And in the contiguous states, only Minnesota, Wisconsin, Michigan and Montana have viable populations for gray wolves, also known as timber wolves. Plans are underway to reestablish populations in and around Yellowstone and Glacier national parks and in northern Idaho. Alaska has a growing number of gray wolves, with an estimated population of more than 7,000. There is an even larger population in Canada. Most gray wolves aren't gray. Their fur color ranges from pure white to black, with mixtures of tan, brown, black and white in between. Most wolves run in packs of fewer than a dozen animals. Each pack has a strict social structure headed by a dominant male and female, followed by other mature males and females and subadults. Each pack generally produces but one litter of pups annually, and normally by the dominant pair. The average litter size is six. Gray wolves communicate by posture, expression and sound. The howl is the most commonly heard vocalization. Wolves are carnivorous. They feed opportunistically, and different populations feed on different prey. They eat most everything from hares to bison, including coyotes and beavers. The deer family - deer, elk, caribou and moose - is among the wolf's most available food source. Hunting in packs, wolves are capable of bringing down healthy, mature, specimens. But young, injured, or aged prey are favorite targets when food is abundant. Wolves are important economically in Alaska and Canada, where prime pelts are in demand. Wolf restoration in the lower 48 states is controversial among farmers and ranchers because the animals are capable predators of domestic livestock.

Tom J. Ulrich

The *Clever Coyote* is how a noted biologist once correctly titled his book about this most pervasive of North America's wild canids. The word "coyote" means "barking dog," and the animal's night-time howling in open areas is distinct and common. Healthy adults weigh 21 to 37 pounds. Their pelage has great color variation, from nearly pure gray to rufous. Coyote hair is banded. The fur is attractive and used as an insulated trim for people's overcoats and jackets. As much as 90 percent of adult females and 70 percent of yearling females produce litters, with an average of six young. With its habit of dining on domestic livestock and getting into other mischief that irritates humans, the coyote has been one of the most persecuted species. But more than a century of trapping, shooting and poisoning this wily creature appears to have served only to make it smarter and more adaptable. Coyotes have extended their range eastward in recent decades, and now occur throughout the entire U.S. and Mexico and most of Canada. They even have been found in urban and suburban areas. There have been reliable sightings in such improbable places as the Bronx of New York City. They feed on a wide variety of plant foods, including berries, fruits and seeds. However, they dine primarily on rabbits, hares ground-nesting birds and rodents, and their numbers are controlled in large degree by the availability of those prey species. Coyotes will take an occasional deer, mainly fawns. Minnesota research estimates that each coyote averages about one fawn per year. Although the coyote's impact on deer populations remains unknown, researchers have found that fawn survival rates increase when coyote-control programs were implemented. Despite the real and imagined problems they cause some ranchers, farmers and others, coyotes remain an important and respected part of America's natural make-up.

Tom J. Ulrich

This member of the wild dog family is the most widely distributed carnivore in the world. It weighs 6.5 to 15.5 pounds and is about 4 feet in length, which includes a foot-long tail. The white tipped, bushy tail aids in balance and helps keep the nose warm when the red fox sleeps. Adults typically have a deep yellow-red coat in cold-weather months, with black on the legs, ears and tail; summer pelage is lighter. The red fox's slender muzzle, slanted eyes, pointed ears, tail and rufous coloration make for a picturesque animal. Breeding takes place from December to March, and the mean litter size is five, born and raised in dens that may be used by a number of generations. The red fox has a variety of reputations, from pest to treasured sporting animal. It is disliked around farms, as a predator of small livestock and poultry. Many people in Canada and Europe fear the red fox as a potential carrier of rabies. But it is valued by those who chase fox with hounds or trap them for fur. Red fox generally forage at night and rarely travel more than six miles in search of voles, mice, rats and rabbits that form much of their diet. Red fox commonly are found in rolling farmlands. They are efficient scavengers and readily eat garbage and carrion in many parts of the world, especially in suburban areas. Neither will they turn down a meal of fruits, berries and insects. And the eggs of ground-nesting birds often are a favorite fare. In fact, the red fox can be a significant predator of mallard duck nests in the prairie pothole region of the U.S. and Canada. Biologists have concluded that red fox populations around the world seem secure, because the animal's adaptability offsets human inroads into its habitat and numbers.

Tom J. Ulrich

Smaller than the red fox and with shorter extremities and a salt-and-pepper coat, the gray fox is a member of the dog family but sometimes acts like a cat. When pursued, they often scamper up leaning trees and sit tight to escape hounds or other danger such as coyotes. Thus, gray fox are not favorites of hunters who prefer the speed, endurance and willingness to run of the red fox. Gray fox are found from southern Canada to northern South America. They prefer small wooded areas with brush understories and rock outcrops. The gray fox is labeled an omnivorous carnivore because it not only eats small animals such as rabbits and mice, but readily dines on insects, fruits such as apples and grains such as corn. It is a nocturnal hunter. This taste for cultivated produce keeps the species in close proximity to humans. The animals pair and breed from January to April, with an average of four pups born about two months later. Gray fox are highly susceptible to a host of diseases, ranging from canine distemper to rabies. However, unlike the red fox, they are very resistant to infestation by mange and heartworm. Also, they are apparently are not as valued for fur as are red and Arctic fox, since far fewer are trapped. And, gray fox are well adapted to human-dominated environments; thus they occupy areas from wilderness to suburbs.

Tom J. Ulrich

Arctic foxes are larger than the red and gray foxes of more southern climes. They are finely adapted animals with long, dense winter fur and short legs, ears and muzzle, all of which helps them withstand the bitter cold of the circumpolar Arctic habitat. The Arctic fox lives in all Arctic tundra regions of the world, including Alaska and Canada. They come in two colors, white and blue, both of which are prized furs. The "blue" phase actually is slate gray. Arctic fox live and reproduce in elaborate den systems normally dug under rock outcrops and with numerous entrances. As a predator and scavenger, Arctic fox prey on animals as small as lemmings and as large as waterfowl. But they also scavenge on anything available, including handouts from humans. Arctic fox are solitary animals except during the breeding and pup-rearing seasons. Litter sizes vary widely from area to area and from season to season, but with a mean of about 6.3. Coastal populations generally average 3 to 6; inland populations average 6 to 9. Arctic fox shed during spring and take on a bedraggled, multicolored look that blends well with the rocks, earth and snow patches of summer. Their thick winter pelage returns in autumn, giving these fox a plump appearance. In Iceland, this fox is considered a pest because of its taste for domestic lambs. In most places, however, it is a valuable resource. Biologists estimate that something more than 100,000 Arctic fox are trapped each year, providing much-needed economic opportunities in the Far North.

Tom J. Ulrich

The raccoon is thought of as a bandit not just because it raids poultry houses, melon patches, cornfields, vineyards and garbage cans, but because it looks and acts like a burglar. Raccoons are stealthy, nighttime prowlers and "wear" a black mask. Though catlike because they are capable climbers, raccoons are closely related to canids (coyotes, fox, wolves and dogs). The raccoon has a stocky body, broad head, pointed snout and a bushy tail that features four to seven dark rings. Adults generally weigh from 8 to 20 pounds, depending mostly on diet. The raccoon exists throughout North America, and its numbers have increased significantly since the mid-1940s. There reportedly are 15 to 30 times more raccoons in North America now than 50 to 60 years ago. The animals have extended their range northward into central Canada. Raccoons occur throughout their range whenever there is ready access to fresh or salt water. They will den in the ground, under piles of rubbish, brush, farm outbuildings and even in attics - a habit that causes them to be regarded as pests by many people. Female raccoons typically have one litter per year, usually with two to five young per litter. Raccoons are omnivorous, meaning that they eat almost anything, including carrion, garbage, small animals, fruit, grains, nuts, birds, bird and alligator eggs, snakes, insects, aquatic life and plant materials. Raccoons are very important to the wild fur industry; they are popular game animals; and some - though not many - are utilized for food. Though susceptible to various diseases, such as rabies and distemper, raccoons generally persevere, rebound and thrive. The raccoon is one of the most adaptable and widespread native animals in North America.

Tom J. Ulrich

The wolverine resembles a small bear, but it actually is the largest member of the weasel family. These generally solitary animals are noted for their ill temper and gluttony. This earned them the colloquial name "devil bear." Other predators, including wolves and bears, are not inclined to tangle with wolverines. Wolverine fur, blackish-brown with lighter stripes and spots, is unique in that the guard hairs do not collect ice crystals as do those of other furbearers. Consequently, wolverine fur is prized as trim for parka hoods. With other fur, a person's breath collects as ice crystals and mats on the trim, whereas any ice crystals on wolverine trim may simply be brushed away. Adult males may weigh up to 60 pounds, but around 30 pounds is the norm. Wolverines produce young in late winter through early spring, and generally have two or three kits per litter. They live primarily in alpine and boreal forests and tundra of the Far North. Highly territorial, these animals travel mainly at night, in home ranges up to 250 square miles. They are scavengers as well as effective predators, and can defend their finds of kills from larger predators. They also will cache surplus food. One cache under ice and snow was found to contain 20 fox and 100 ptarmigan. Wolverine populations are naturally of low density and occur in some of North America's least accessible areas. Therefore, they are difficult to study, which accounts for a serious lack of management information on the species. After suffering from overtrapping during the late 1800s and early 1900s, the wolverine is making a comeback in the western states, but it still is uncommon except in parts of Alaska and Canada Public land set asides in wilderness, parks and other development-free areas have benefitted wolverines considerably.

Tom & Pat Leeson

Badgers are the excavators of the weasel family. They have the pointed face and rounded ears of all weasels, but unlike the others, they have short tails, short, stout legs, and very flat bodies. Badgers' pelage varies in color form yellowish-brown to gray on top, and from light cream to buff underneath. Their feet are black to dark brown. The face is white, with black triangles in front of the ears. A white stripe runs along the animal's top from the nose to the base of the tail. Adult males usually are in the range of 24 to 30 inches long and weigh 14 to 19 pounds; adult females are somewhat smaller. The badger's long and powerful recurved foreclaws and short shovellike hind claws are magnificent digging tools, to fashion dens and to burrow after ground-dwelling rodents that are its favorite food. Badgers are noted for being able to dig faster than a person with a shovel. Ground squirrels, pocket gophers and voles are important prey for badgers, which also consume vegetable matter, insects, birds and reptiles opportunistically. Badgers are distributed in treeless habitats across the western and north central U.S., southern Canada and into central Mexico. Young badgers, born in litters of one to four, are preyed upon by golden eagles, coyotes and domestic dogs when they exit their burrows. The adults are solitary animals for the most part, and ornery enough to defend against most predators. Badger fur is popular as trim and as "pointing" on other pelts. It also is used for artist's brushes, paint brushes and shaving brushes. There is a serious lack of scientific information on badger ecology, which leaves the animal's future prospects unknown.

Tom J. Ulrich

Martens are members of the weasel family. They are about the size of a house cat, but with a bushy tail and a pointed face. The usual color, when the fur is prime, is a golden yellow, with darker legs and an orange or yellow throat patch. The average weight of the adult is from 1 to 2 pounds. Actually, the marten is more agile than a cat in the trees, with semi-retractable claws and hind limbs capable of rotating so the animal can descend a tree head first. Vertical "eyebrows" give the marten a quizzical look, and fur on the soles of its paws permit swift passage over snow and ice. Martens are found throughout Canada, extreme northern parts of the U.S. and high-mountain regions of the western U.S. They prefer mature conifer or mixed forests. Their foods include small mammals, birds, insects and fruits, with mice the usual staple. Quick and agile, the marten is an adept hunter that burrows under snow to hunt on the trails of small mammals. Otherwise solitary, marten breed during the summer months but implantation is delayed until winter, when an active pregnancy of 27 days leads to the birth of three or four young. The major threat to martens is clear-cutting large areas of mature forest that are left void of residual stands in which the animals can survive. Like mink, which are smaller members of the weasel family, martens are now raised on fur farms, which reduces trapping pressure on wild populations. Where adequate habitat exists, martens have increased in numbers during recent years. However, decline in stands of mature forests would lead to an inevitable drop in marten populations.

Tom J. Ulrich

The fisher is a typically shaped member of the weasel family, which means it has a long slender body, short legs and furred tail that is about one-third of its total body length. Its fur is darker than that of other members of the weasel family and has a grizzled appearance on the head and shoulders, caused by tricolor guard hairs. Weighing 5 to 15 pounds, the adult fisher is larger than a marten and smaller than a wolverine, but is no slouch as a predator. It forages for and attacks its prey, including martens, porcupines and hares. It also feeds on carrion, and also consumes birds, eggs, insects, amphibians, reptiles, fruits and nuts. Fishers range across the arboreal forest of Canada and in New England, the Great Lake states and the mountainous West. West Virginia and Maryland also have restored populations. Fisher numbers have been growing throughout their range in recent decades, as state and provincial wildlife agencies capture and release animals into unoccupied habitat. The animals breed in spring and give birth about a year later, after a 10 to 11 month delayed implantation. There are about three young in each litter. Because of its size and agility, the fisher is preyed upon almost exclusively by humans. They prefer to live in mixed forests with a diversity of tree species and ages. Intensive logging or wildfire will cause fishers to abandon an area, but they return as the new forest matures. Less intensive logging and prescribed burning have been known to improve areas for fishers by increasing the density of prey species. With restoration efforts and improved management, the fisher has been restored to most of its historic range, and its numbers now are the highest ever estimated.

Jan L. Wassink

Otters are aquatic members of the weasel family. They are curious and playful, which labels them as the "clowns" among furbearers. Their long, streamlined body and short, powerful legs allow their webbed feet to propel them through water at speeds sufficient to catch fish and other aquatic prey. The river otter has highly developed senses of touch and hearing, but is nearsighted - a benefit only for underwater vision. Its dense fur is waterproof and highly prized for apparel. They can weigh more than 30 pounds at maturity. River otters lived in most North American aquatic areas historically, except the frozen Arctic and arid Southwest. Overexploitation in colonial times eliminated the animal from many areas of the country, but restoration efforts are reintroducing otters to much of their former range. The otter's reproductive cycle involves delayed implantation, as with other weasels. Females generally move to a small tributary stream to have their young in rock cavities, stump holes, bank dens, and even abandoned beaver lodges. They produce from one to six pups, which are prey for bald eagles and even killer whales. River otter populations are densest in undisturbed and food-rich coastal areas, including estuaries, stream deltas and coastal marshes. But they also live in high mountain elevations along stream courses. The river otter's basic food is fish. Yet, it eats a variety of aquatic life such as crayfish and other fare such as frogs, snakes and small mammals. Biologists report that the river otter's future never looked better, if water quality, wetland enhancement and riparian protection continue to improve.

Tom J. Ulrich

Though generally solitary and unsociable, the mink is the most widespread member of the weasel family in Canada and the United States. It has the reputation of being bloodthirsty, and not without cause. Mink have been known to create grisly scenes in farmers' chicken houses. They are small, weighing from 2 to 3.5 pounds. Their dark brown fur, with a few white spots, is very lustrous and among the most prized for coats and trim. Breeding among mink is more of a vicious fight than anything else. Scars on the females' necks indicate previous breeding. Mink kits are born in late spring, in litters of up to eight animals. Though they grow up to be efficient predators themselves, they are preyed on early and late in life by such larger animals as coyotes and bobcats. Mink use a variety of wetland habitat, including streams, lakes and marshes. The primary foods for mink are rabbits, hares and small rodents. Other food items include fish and other aquatic animals. Nesting waterfowl also are killed by mink. These mostly nocturnal animals forage over wide areas. Trappers have learned that mink may be here today and gone tomorrow, sometimes absent for a week or two. Biologists report that mink populations generally are secure throughout the species' range. Of 15 subspecies in North America, only the Everglades mink is considered threatened, and scientists think that this may be due to a lack of knowledge about this subspecies rather than abnormally low populations. The high reproductive rate and varied diet of mink are buffers against problems experienced by local populations.

Long - tailed – Summer Pelt

Dwight Kuhn

These two species are similar. Both have brilliantly white winter fur, or "ermine," that is prized for coats. Both species have long, slender bodies and small rounded ears characteristic of all weasels. Their summer fur is a brown or a mixture of brown and white. But always, their tails are tipped in black. The short-tails' body length ranges from 8.9 to 13.1 inches for males and 7.5 to 11.4 inches for females, with the tail being about 30 to 45 percent of the head and body length. Adult male long-tails average 11.8 to 13.8 inches in length, with the tail being at least 40 to 70 percent of total length. Short-tails live throughout the polar region. In North America, they range from the Arctic south to California, Nevada, New Mexico and Colorado in the West. They also occur throughout most of Canada, in the Great Lakes states and as far south as Maryland in the East. They inhabit boreal habitats that may include agricultural land, woodlands, meadows and mountains up to about 4,500 feet. However, they avoid dense forests and deserts. Long-tails are the most widely distributed North American weasel. They range throughout southern Canada and most of the U.S. and Mexico, and occupy virtually all habitat types, from subalpine to tropical, excluding deserts. Short-tail and long-tail females produce one litter a year with litter size averaging six to nine young. Both species are active year around and do not hibernate. And except during the mating season, they are fairly solitary. Short-tailed and long-tailed weasels are efficient carnivores. They are noted for entering tunnels, burrows and nests in search of small mammals, particularly rodents, which represent 50 to 80 percent of their food supply. They also eat fish, birds, bird eggs, amphibians and insects. They have been known to live up to six years in the wild, but their average life span is shorter, since many are killed by other predators, such as owls, snakes, hawks, foxes and even domestic cats.

Short - tailed – Winter Pelt

Jan L. Wassink

The least weasel is circumpolar. It is found in North America from Alaska, across most of Canada and into Montana, across the Midwest in to the Appalachians as far south a North Carolina. It lives in marshes, meadows, cultivated fields, brush and open woods. Smaller than short-tailed and long-tailed weasels, the least weasel is less than 9.8 inches in length, with a tail less than 25 percent of head and body length. It also lacks the black-tipped tail of the short-tail and long-tail. Typically chocolate brown with white underparts in summer, its winter pelage is nearly white. Least weasels have the unique characteristic of their fur being florescent under ultraviolet light; it actually appears lavender, while that of other weasels remains a dull brown. Active both night and day, least weasels spend much of their time year-round hunting and seeking mates. They do not hibernate. Like short-tails and long-tails, the least weasel typically travels a repeated foraging route or circuit, and will burrow under snow to hunt. Like all weasels, the least weasel's traveling gait is a slow gallop or series of leaps, and at a rate of about 5.6 miles per hour. Its home range is about 35 acres, less than that of other weasels, but the least weasel is more territorial. The female least weasel can produce up to three litters of young annually, with three to six per litter. Young attain adult size and self-sufficiency in only four to five weeks. Males, which are twice as large as females, are known to attack trespassing females during periods of food shortages. Least weasels take prey similar to that of other weasels. They are preyed on by the same predators that harass other weasels, except that the least weasel sometimes serves as food for the long-tail. Least weasels were prized by some Native Americans for decoration. That isn't necessarily true for modern trappers, since the fur of this weasel has almost no commercial value.

Tom J. Ulrich

The striped skunk is the most abundant and widespread of North America's four skunk species. The others are the spotted, hooded and hog-nosed skunks. About the size of a house cat, with a triangular head, bulbous nose pad and beady black eyes, the striped skunk has a lustrous black and white-striped or starred coat. There are many variations of stripes. Normally docile, but unsociable, these skunks usually are nocturnal. Found throughout the lower 48 United States, most of Canada and northern Mexico, the striped skunk is acclimated to a wide range of habitats, but seems to prefer edge cover in grasslands, wooded ravines, woodlots, ditches, marshes, croplands and farmsteads, where conditions are right for den cavities or shelters. Being omnivores, they eat an extraordinary variety of food, including rodents, birds, insects, fruit, grasses, grains, amphibians, carrion and garbage. Striped skunks relish the eggs of ground-nesting birds. In the prairie pothole "duck factory" region of the U.S. and Canada, striped skunks are said to be a major cause of waterfowl nesting failure that can reach 100 percent in some areas. The skunk's habitat and food habits frequently put it in contact with people and domestic dogs. The interaction is further opportuned by the striped skunk's mediocre senses of sight and hearing. When startled or threatened, it will turn, raise its tail and emit a noxious musk that is neither soon discarded nor forgotten by those sprayed. Striped skunks are polygamous. The normally breed once a year and average litter size is five to seven kits. Striped skunks are susceptible to a number of serious diseases, and a surprising variety of carnivore predators take these skunks. But the foremost predator is humans, through trapping, vehicular collision, contact with farm machinery and pesticide use. Chiefly because of their preying on mice and insects injurious to farm crops, the striped skunk can be considered a valuable animal.

Tom J. Ulrich

The Virginia opossum is not all that it is credited to be. Foremost, it is not a "possum," which is an Australian marsupial. The Virginia opossum is a marsupial however, meaning that it is a mammal that has premature young and carries and nurses them in a belly pouch. Females sometimes produce two litters annually. Litter sizes vary widely, but a mean of about eight is accepted. Newborns weight less than 0.005 ounce; and, when reaching adulthood, will weigh 10 pounds or more. With a brain smaller than other mammals its size, the opossum apparently is less intelligent, resulting in unique behavior and reactions. When threatened, for example, the opossum often gapes and hisses and then plays dead or "possum." And it seems nearly incapable of recognizing dangerous places, such as highways. But somehow opossums have survived and thrived. They prefer deciduous woodlands in association with waterways, but are found in an array of agricultural, suburban, grassland and forested habitats. They have adapted extremely well to diverse landscapes created by human activity. In fact, they continue to extend their territory northward into colder regions where freezing winter temperatures render some of them tailless. A solitary wanderer without a defined territory, the opossum will eat just about anything that it can catch or find, including invertebrates, small mammals, fruits and carrion.

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