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NORTHWEST WILDLIFE PRESERVATION SOCIETY

American Marten

Martes americana



Photo Credit: Tom Ulrich

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The American marten is a North American member of the family Mustelidae, sometimes referred to as the pine marten. The name "pine marten" is derived from the common but distinct Eurasian species of *Martes*.

Scientific name: *Martes americana*

Other names: Pine marten, American sable

Characteristics

The American marten is a small tree-dwelling (arboreal) carnivore of the mustelid family. This family is highly diverse and includes such species as wolverine, badgers, weasels, otters and skunk. It is about half the size of a house cat, but with the shorter legs and long supple body typical of the weasel family. It has a slender body with a small pointed muzzle, prominent ears, and a thick, bushy tail. The basic body colour of most martens is a shade of brown, but there is considerable variation both within and between geographical areas, with a range from pale blonde through yellows, tans, reds, greys, and dark browns to nearly black. The legs and tail are darker than the rest of the body on most individuals, and most animals also have a distinctive yellow to orange "bib" patch on the throat and chest. The pelt is relatively light, with glossy guard hairs and fine, dense underfur. Martens vary in size by locality, sex, age, and habitat quality, but adult males are generally about 600 to 630 mm (about 24 inches) in total length, the tail constituting about one-third of that, and weigh about 1 kg (2.2 lbs). Females are considerably smaller, with adults averaging about 530 to 560 mm (21 to 22 inches) in length (including the tail) and weighing about 650 to 700 g (1.3 to 1.4 lbs). They have semi-retractable, cat-like claws.

Similar species:

Mink: Similar size (600 to 800 mm; 23.5 to 31.5 inches); darker fur; less prominent ears; found more often near water.

Fisher: Larger (800 to 1000 mm; 31 to 39 inches); skull wider; frosted or grizzled fur; less prominent ears.

Short-tailed Weasel: Much smaller (300 mm; 12 inches), long and skinny, thin tail; white chest; fur white in winter.

Life Cycle

British Columbia martens breed once a year, in the summer, probably mostly in July and August. The pregnancy is characterized by "delayed implantation," in which the embryo is retained in a state of arrested development for seven to eight months, and the young are born in March or April, about nine months after breeding. Although sexual maturity is reached by 1 year of age, the reproductive potential of the species is relatively low, since effective breeding for females usually does not occur before 2 or 3 years of age and litter sizes are relatively small (one to five young with an average of about three). On the other hand, martens are relatively long-lived, and a female with a secure, productive home range may produce numerous litters over her lifetime. In captivity, 15-year-old females bred successfully while in the wild 12-year-old females were reproductive. In years of food scarcity, females may produce and raise smaller litters, or pregnancies may fail altogether.

At birth, the young are blind, weigh approximately 34 g (about 0.1 lbs), and are either naked or have this covering of soft hair. Their eyes open at 28-40 days of age and they grow and develop rather quickly. As with other mustelids, the female is the sole provider for the kits until they are relatively independent and able to hunt on their own. She begins bringing them solid food and weaning them at 42-49 days, and they are near full size and following her outside the den by 3 months. Juvenile martens start becoming independent in the fall at about 3 and a half months, and usually begin dispersing from their mother's home range at that time.

Females use dens to give birth and to shelter kits. Dens are classified as either natal dens, where parturition takes place, or maternal dens, where females move their kits after birth. American marten females use a variety of structures for natal and maternal denning, including the branches, cavities or broken tops of live trees, snags, stumps, logs, woody debris piles, witch's brooms, rock piles, and red squirrel nests or middens. Females prepare a natal den by lining a cavity with grass, moss, and leaves. They frequently move kits to new maternal dens once kits are 7-13 weeks old. Most females spend more than 50% of their time attending dens in both pre-weaning and weaning periods, with less time spent at dens as kits aged. Paternal care has not been documented.

Marten live approximately 8-10 years in the wild (the oldest individual documented in the wild was 14.5) and up to 15-17 years in captivity.

Habitat

Formerly, the marten inhabited the forest regions of Canada, Alaska, the Northern half of the U.S. and along the major mountain ranges to central California, New Mexico, and West Virginia. Extensive trapping of this valuable furbearer, once known as the American sable, and deforestation extirpated the marten in the southern part of the range and much of the Northeast. Since 1936, when the range had shrunk from nearly all New York to the central Adirondacks, complete protection or special trapping seasons have enabled the marten to recolonize most of the Adirondacks. Although it is still most abundant in the old-growth forests of the High Peaks, the marten occurs in throughout most of the park in coniferous and mixed forests (cedar and hemlock are the predominant trees at lower elevation and subalpine fir and

Engelmann spruce at higher elevation), and even in some areas beyond the Blue Line, e.g., Tug Hill Plateau and Sable Highlands near Malone. The marten is least common or absent from some of the southeastern counties of the Adirondack Park.

Compared to other carnivores, American marten population density is low for their body size. One review reports population densities ranging from 0.4 to 2.5 individuals/km². Population density may vary annually or seasonally. Low population densities have been associated with low abundance of prey species. Neither sex will allow another marten of the same sex in their home territory, though males will tolerate the presence of multiple females. An adult marten will usually cover its entire territory in 8-10 days, hunting as it goes.

Home ranges are indicated by scent-marking. A marten usually has several dens which it occupies while traveling within its home range. These temporary dens, which may contain nests of dry plant materials, are in hollow logs and trees, under stumps or rocks, in old pileated woodpecker cavities, and occasionally under or within old buildings. Winter dens tend to be under snow cover, for example, in stumps and hollow logs. They are rarely found in open fields, where there is no protection from predators or weather.

Behaviour

Marten are carnivores, or meat-eaters, so small mammals (especially voles and mice) are their primary prey in most areas, particularly during the snow-free period. Where available larger prey species such as snowshoe hare, grouse, and squirrels are often important foods during the winter. Martens also prey upon other birds and their eggs, some amphibians, reptiles, and insects, and they eat large numbers of berries in late summer and fall. Berries may be particularly important in the support of newly independent juveniles at that time. Various birds (woodpeckers, wrens, thrushes, jays) appear to be the primary winter prey on Vancouver Island and on the Queen Charlottes. Martens readily eat carrion when it is available, and will often be found at ungulate kill sites.

Like most members of the weasel family, martens are solitary except during the breeding season, at which time a male and female may remain together for several days, and when the young-of-the-year are with their mother. Both exceptions occur primarily in summer through early fall. The animals remain solitary and separate by a "territorial" social system in which the home ranges of neighbouring residents of the same sex overlap very little. Territorial boundaries are marked with feces, urine, and musk from scent glands, and are defended with aggressive behaviour while producing a clucking sound, or screech, growl, hiss and scream.

Martens are active (hunting) mostly at night. They readily climb, and often spend the daylight hours resting on branches and witches' brooms high in trees, especially in summer, but most of their hunting and travelling is done on the ground. In winter, martens may spend considerable time under the snow for both hunting and resting, using tunnels and cavities underground vegetation and woody debris. Although activity is usually restricted to within their home ranges, martens may cover several kilometres in back-and-forth movements while hunting.

Threats

Martens often host external parasites, such as fleas, lice, and ticks, and harbour various tapeworms and roundworms internally, but neither those nor the few diseases that have been diagnosed in the species are known to seriously affect populations. With their high metabolic rate and typically small fat reserves, martens are particularly subject to nutritional difficulties. Inadequate food supplies cause individuals to become increasingly susceptible to parasites and disease because of their declining physical condition. They also become increasingly vulnerable to predation because of both weakened condition and the extra exposure resulting from their need to increase time and area coverage while hunting. Finally, the combination of increased energy expenditure in looking for food and decreased intake when little is found often results in death by starvation. These problems may affect most members of a population in some

years, particularly as winter progresses, but are most common for those that do not have secure home ranges, particularly dispersing juveniles.

Known marten predators include large owls and hawks, fishers, lynxes, bobcats, coyotes, wolverine and wolves, and, in extreme situations, other martens. Some of those, and other species such as weasels and smaller raptors, also compete with martens by using the same prey species.

Humans also play a big part in American marten mortality. At the turn of the twentieth century, the American marten population was depleted due to the fur trade. Numerous protection measures and reintroduction efforts have allowed the population to increase, but deforestation is still a problem for the marten in much of its habitat. American martens are trapped for their fur in all but a few states and provinces where they occur. The highest annual trapping rate in North America was in 1820 (272,000).

Trapping is a major source of American marten mortality in some populations and may account for up to 90% of all deaths in some areas. Overharvesting has contributed to local extirpations. Trapping may impact population density, sex ratios and age structure. Juveniles are more vulnerable to trapping than adults, and males are more vulnerable than females. American martens are particularly vulnerable to trapping mortality in industrial forests.

What We Can Do To Help

- Partnerships with local stakeholders like landowners, foresters, and trappers can be key to helping the marten.
- To avoid potential disturbance of dependent kits in suitable habitat, within marten range, do not cut trees between March 15 and May 31.
- Support habitat protection for all our rare species.
- Support environmental education groups like NWPS, and pass along key information about species throughout the province.

Other Interesting Facts

- They are agile and fast, and can even outpace a squirrel in the trees.
- They are nocturnal, excellent swimmers, fearless, and very curious (which many humans confuse with tameness).
- Martens are called “Apistanéwj” in the Mi'kmaw language.
- Original members of the order *Carnivora* more than 50 million years ago would have resembled modern-day martens.

Where & When to view the animal.

Martens are flourishing in coniferous and mixed forests, so if you want to see a marten jumping and running through branches or catch a glimpse of them along the water's edge or hunting voles in a meadow, daybreak and twilight hours in British Columbia's Mount Revelstoke and Stein Nlaka'pamux national parks are a good time and place to start.