



## EASTERN COYOTE

*Canis latrans*

The Eastern coyote (*Canis latrans*) could be one of the least understood and most maligned creatures of the state. This relative newcomer to Vermont is an incredibly adaptable and, therefore, successful predator. Since the 1940s when the coyote was first found in Vermont, it has moved east to New Brunswick, Prince Edward Island, and south to New York City. Today, the coyote is an established member of Vermont's fauna and plays an important role in Vermont's ecosystems.

## VERMONT WILDLIFE FACT SHEET

### Physical Description

In general, male coyotes are larger and heavier than females, weighing between 30 and 40 pounds, although a few may exceed 50 pounds. On average, females weigh around 30 pounds.

There is considerable variation in coat color among eastern coyotes. The face is gray with a muzzle that is dark or reddish along the sides. There is a black line behind the eyes, soft reddish fur behind the ears extending to the next, and white or cream-colored fur under the chin and throat.

The body is most often a brownish-gray with a dark line that runs along the back. The sides are usually dark, and the underbelly is white or cream-colored. The legs usually have a dark stripe partly down the front of the forelegs. Occasionally this coloration sometimes extends onto the flanks. Feet are usually light or buff in color, but occasionally they are reddish around the toes.

The bushy tail is gray above and lighter below. The upper side of the tail has a black spot one third of the way down from the

base and the tail is tipped in black. The tail is about 13 inches long, and in comparison with a German shepherd, it is shorter and bushier.

The body length of coyotes averages between 42 and 55 inches, however, females rarely exceed 48 inches. Coyotes have a small nose pads, less than an inch in width, which distinguishes it from wolves which have a broad nose pad. The ears are large, pointed, and well furred.

Coyote tracks are considerably larger than fox tracks and smaller than wolf tracks, but narrower and longer than most dog tracks. Most people have difficulty distinguishing coyote tracks from those of domestic dogs. Coyotes, like most canines (the gray fox being the exception), have claws that are not retractable and may show up in the track. Dewclaws are usually absent on the rear legs of eastern coyotes.

### Life Cycle

The howl of coyotes can usually be heard on winter nights, especially during mating season in February. They usually begin breeding at two years of age and

may mate for life. The gestation period is approximately nine weeks, with an average litter of six pups.

Coyotes sometimes dig out fox or woodchuck holes for dens, but also use other sites, including natural caves and crevices in ledges, and holes created by overturned trees. Pups are born in late April or early May with solid colored coats and spindly tails, but this will change rapidly as they grow. Their coats will become more like an adult's as they shed their puppy fur, and their tails become fuller three months after birth.

Instinctive wariness makes the adult coyote alter its approach to the den. If coyotes are disturbed while in the den area, they will move the pups to a new den. Until her pups can travel, the den is only a base of operations for the female while she is caring for her young.

Coyote pups, like most wildlife young, are taught the ways of life and survival by their parents. The male coyote helps in feeding and caring for the young. The pups begin to go on short trips from the den at about two

months of age. Gradually, the family hunting trips become longer. Pups travel with their parents through the fall and sometimes during early winter. By January, as the breeding season approaches, most of the young coyotes must finish learning on their own, as many times they are no longer tolerated by the adults. The pups often travel long distances to find a territory that is not occupied by another pair of coyotes. In late winter of their year, a pup may take a mate, but they do not usually breed until the following year.

## **Food Items**

The eastern coyote is an omnivore; it is both a predator and a scavenger with a widely varied diet. The coyote's diet and feeding habits can be more accurately compared to those of the fox than a wolf.

The eastern coyote will eat small rodents, plants, fruit, deer, snowshoe hare, cottontail, rabbits, woodchucks, insects, small birds, and grouse. At certain times of the year, deer meat can be a significant portion of its diet. Although a coyote may kill a fawn or deer in deep snow, it will also readily eat the carcass of a dead deer and other dead animals. Deer numbers are carefully monitored, and there is no indication that coyotes are negatively influencing deer populations in Vermont.

The varied diet of the coyote allows it to survive and readily adapt. Part of the success of the coyote in Vermont may be attributed directly to the heavy losses of deer in winter. In all animals, high nutritional intake results in a higher number of healthier young. The combination of deer carrion during winter and a wide variety of other foods during the rest of the year has

been the key to the coyote's success in Vermont.

The coyote, like many other predators, has a bad reputation. Despite occasional conflicts with humans, the coyote plays an important role in the ecosystem. It is one of Vermont's major large mammalian predators.

The relationship between a predator, such as the coyote, and its prey is complex. Predator populations tend to fluctuate in response to periodic changes in prey densities. In Vermont, the highest coyote densities are on agricultural lands, where prey populations are numerous and varied.

## **Habits and Habitat**

The eastern coyote is much quieter than the western coyote. Occasionally at dawn and dusk during the year, their yapping howls can be heard. Family groups are often very vocal during the spring, summer, and fall while feeding and training the pups. The coyote has a characteristic, high-pitched howl ending with a series of yips. It will sometimes also bark.

Coyotes are extremely adaptable and exist in all habitats in Vermont including places where suburban and rural areas overlap. Part of the reason for the amazing success of coyotes is their incredible adaptability to human changes in the landscape.

In Vermont, coyote family groups have an average home range size of 15 square miles, but will focus most of their activity within a smaller core area of 5 to 10 square miles. The habitat within their home range may include forested areas of both hardwood and softwood trees, open areas (pasture and field), wetlands, and developed areas. Although coyotes are habitat

generalists, a study completed in Vermont in 1988 found that coyotes in the Champlain Valley tended to use forested habitats more during winter and spring and open areas more frequently during summer and fall seasons. Use of different habitats by coyotes depends on many factors including the abundance of prey, the weather, topography, and competition with other predators.

## **Abundance**

Vermont's coyote population will continue to thrive as long as habitat conditions permit it. Coyotes are very adaptable and can be considered natural survivors. Coyotes in Vermont are wild and wary of people because of hunting and trapping seasons. In states like Massachusetts and California, where there is limited negative reinforcement from people, coyotes sometimes associate people with food (garbage, cat food, etc.). In these cases, coyotes may end up living around suburban neighborhoods and can be perceived as a problem. When wildlife and human conflicts arise, more often than not, wildlife loses.

The population of eastern coyotes in Vermont fluctuates between 1,300 and 3,000 in the winter months and 3,300 to 5,000 during the spring, summer, and fall pup-rearing period. Many juveniles disperse in the fall while others may stay with their family group well into their second year.

## **Mortality**

Although little is known about the mortality factors of young coyotes, several studies have shown that between birth and one year, as many as 50-68% die. Adult mortality rates are lower. Several diseases and parasites can affect coyote survival including heartworm, distemper, canine

hepatitis, sarcoptic mange, and occasionally rabies.

## History

The timber wolf disappeared from Vermont in the late 1800s. Because the timber wolf fed almost entirely on hooved prey such as deer, moose, and caribou, the loss of this animal from Vermont resulted in a lack of predation on these species.

The coyote is not a Vermont native; coyotes were virtually unknown east of Wisconsin at the turn of the century. As European settlers moved westward, clearing the forests and eliminating the wolf, the coyote, a much more adaptable canine, moved eastward. Researchers believe that these coyotes may have bred with the few scattered wolves that remained in southern Ontario. A small amount of wolf ancestry would explain the larger size of our present-day eastern coyote. Recent DNA testing has shown that northeastern coyotes do in fact have some wolf ancestry.

There is some question as to whether coyote-dog hybrids, also called 'coy dogs', have contributed any genes to the overall coyote population. There may have been some hybridization with dogs when coyotes first arrived in Vermont because coyote numbers were low. However, coyote-dog hybrids have breeding cycles that would result in pups being born in the middle of winter. In addition, male coy dogs do not assist in caring for their young. Therefore, it is unlikely that wild coy dog populations ever became established.

Vermont's first true coyote appeared in 1948. Since then, coyotes have completed the eastward expansion of their range to the Atlantic Ocean. Reports of

coyote sightings and occasionally dead coyotes in Vermont increased noticeably in the 1960s and early 1970s. The eastern coyote population has since become well established and relatively stable.

In Yellowstone National Park, where the wolf had been extirpated for many of the same reasons it was eliminated in the rest of the country, coyote populations flourished. Recently, wolf packs were reintroduced in the park in an attempt to restore this top member of the food chain. Once established, wolves in Yellowstone competed with coyotes for food and even killed and ate them. The coyote population dropped by almost 50% in the area. The loss of one predator often results in the increase in population of another predator. This has been witnessed in Vermont. Since coyotes became established here naturally, bobcat numbers have declined in Vermont.



## Current Management Efforts

The Fish & Wildlife Department recognizes that people have many differing views on the value of predators. We believe, however, that coyotes are important members of the ecosystem and have evolved together with many of nature's existing prey species. Conservation of the coyote is important to maintaining ecosystem integrity because of the vital role they play as predators.

Coyotes are also a renewable natural resource and the utilization of these animals is appropriate as long as their population remains viable.

In Vermont, coyotes can be taken by hunting at any time during the year. There is a heavily -regulated trapping season that begins the fourth Saturday in October and runs through December 31st.

Coyote furs are presently a valuable renewable natural resource, bringing between \$12 and \$30 a pelt. With practice and patience, a unique form of hunting can be experienced with coyotes. They can be called into close range with a game call that imitates the distress squeal of a rabbit.

Certain groups would like to decrease and even eliminate the coyote population. While coyotes kill other animals to eat and survive, including an occasional deer, they should not be subjected to an extermination program. Coyotes fill the role of a natural predator, a role that is important for maintaining the dynamics and health of our ecosystems. Expensive extermination and bounty programs were common in the past and were responsible, along with habitat loss, for the elimination of natural predators throughout the United States. These techniques have no place in modern wildlife management, which stresses the important of all species.

