



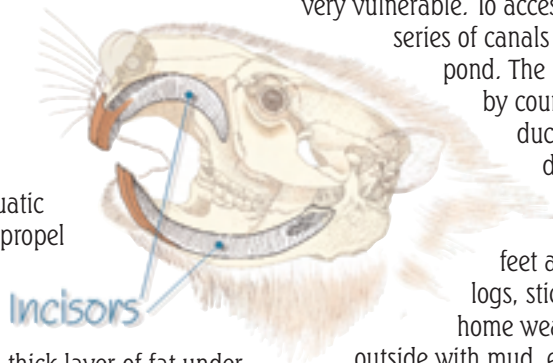
New York's official state mammal, the beaver is familiar to many. Occurring just about anywhere there is moving water and its favored streamside trees, it is a seemingly tireless worker, felling trees and building mud and stick dams and lodges on waters across the state.

## Description

The beaver is the continent's largest rodent, with adults averaging 3-3½ feet and 30-60 pounds. Its broad flat tail is perhaps their most distinguishing characteristic, and aids the animal in a number of ways. It serves as a rudder when swimming, a prop when felling trees, a source of noise to signal danger, and helps propel the animal through the water when extra speed is required. In addition, the tail is a fat storage site that can be a good indicator of the animal's health—thicker when the beaver is healthy and well fed. While some individuals reach 20 years of age, most average under 10.

Beaver have four, large, bright-orange incisors (two on top, two on bottom) that continue to grow throughout the animal's life. Constant gnawing keeps the teeth from growing too long. They use these sharp teeth to fell trees for both food and building material.

Beaver are well adapted for their aquatic lifestyle. Their hind feet are webbed to propel them through the water and their thick fur helps them stay dry and warm. Oil glands keep their dense undercoat highly water resistant, and a thick layer of fat under the skin enables them to remain warm in cold months. Like a number of other aquatic animals, beaver have transparent eye-lids (called nictitating membranes) that enable them to see underwater and protect their eyes. Their ears and nostrils close to keep water out when they submerge. Beaver can swim and remain under water for up to 15 minutes, though they rarely stay under for longer than five minutes.



## Habitat/Foods

Often described as industrious or busy, beaver will rapidly alter an environment to suit their needs. Chiefly nocturnal, they are most active at night and can quickly turn a wooded area with a free-flowing stream into a pond as they cut down trees and construct a dam across the flowing water. Beaver dams are incredible structures that are a marvel to see. A few have measured 2,000 feet long and 10 feet high from the bottom of the stream, but most average 100-200 feet long and 5-7 feet high.

In the beginning stages, mud and rocks are used to hold the wood in place, but as the dam grows, the weight of the wood keeps things in position. Mud, leaves and bottom debris are packed into the face of the dam to hold back the water. Where deeper water already exists—such as in a pond, lake or river—no dam is built.

Beaver construct ponds to create deep water areas where they can build their lodge and safely dive to elude predators. In addition, the impounded water floods the woods, providing easier and safer access to trees. Beaver can then float the wood back to the lodge, rather than drag it over land where the animals are very vulnerable. To access additional trees, beaver may dig a series of canals extending into the woods from their pond. The pond habitat created by beavers is used by countless other creatures including fish, ducks, wading birds, turtles, frogs, muskrat, deer and moose.

A beaver lodge can measure 12 to 14 feet at the base, with five to six feet above the water. It is made from a pile of logs, sticks, rocks and mud. Often, to make the home weather-tight, the lodge is covered on the outside with mud, except for a small portion of the center, which acts as an air vent. Beaver cut underwater tunnel entrances (usually two) to access the lodge. Inside the lodge, beaver excavate a large above-water chamber in the center of the pile. The chamber is bi-level with the feeding and drying area separate from the bedding area. Finely shredded wood fibers line the bed portion of the chamber. In some instances, such as along a river, beaver may build bank lodges instead. During winter, a lodge may hold numerous family members, including the male and female, their yearling young, the kits from the previous spring and sometimes related non-breeding adults.

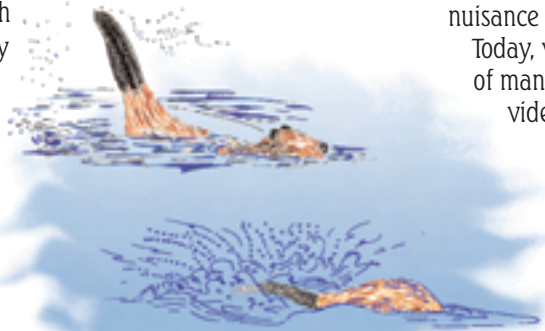
During spring and summer, beaver eat a wide variety of plant material, such as soft, aquatic vegetation and the twigs and bark of trees. Their preferred foods are poplar, aspen, birch, willow and maple; usually less than one foot in diameter though they will not hesitate to cut down much larger trees as well. In autumn, beaver earnestly harvest these species to build a food cache to last them through the winter. Interestingly, this harvest

occurs after the sap has retreated to the roots. Should beaver harvest too soon, the bark could ferment and sour before the end of the long winter. Smaller trees and their branches are brought back to the lodge and anchored with mud and rocks near the pond or stream bottom. A beaver family can require a one- to two-ton winter feed pile.

## Reproduction/Predation

In New York, beaver breed from February through March. Three and one-half months later (usually in June), adult females give birth to a litter of 1-8 kits (average is 2-4). Prior to the birth, older offspring frequently leave the lodge (sometimes voluntarily, sometimes not) and disperse to establish their own families elsewhere. Newborn kits weigh up to one pound and average just over a foot long. Although they can swim right away if necessary, the kits still require a long time to fully develop before leaving the lodge. All family members help care for the young.

In New York, fully grown beaver have few natural predators. When disturbed, they will slap their broad flat tail on the water's surface to signal danger. Though adults are vulnerable on land, it is the young that are the most susceptible to predation by coyotes, fox, bobcats, otters and great-horned owls.



## New York State Populations

Found just about everywhere except Long Island, beaver populations were plentiful in New York State before European settlement. Once Europeans arrived, however, trade in beaver pelts became an important New World industry. The resulting unregulated exploitation, coupled with conversion of forests for human settlement and agriculture, took its toll on beaver populations. By 1840 there were only a few beaver left in the Adirondacks. As their population continued to decrease, several private landowners and the state legislature decided to restore the beaver by releasing 34 adults into the Adirondacks between 1901 and 1907. Incredibly prolific animals, their numbers rapidly increased so that by 1924 a regulated trapping season was held to control nuisance problems, such as damage to trees and roads.

Today, wildlife managers continue to deal with the challenge of managing beaver populations. While beaver activity provides additional habitat for birds and animals, beaver also cause problems by flooding private property, roads, crops and woodlands, and cutting ornamental trees and shrubs. In addition, beaver can adversely affect other species. For instance, by damming a trout stream, beaver can increase water temperatures and prevent trout from reaching important spawning areas. Carefully regulated trapping is the most effective tool available for controlling beaver numbers.

The beaver's ability to modify its environment is second only to humans'. It is this ability that distinguishes the beaver as both a continuing source of public benefit and a wildlife management challenge in New York State.

