

Wild Things in Your Woodlands

Beaver (*Castor canadensis*)



Photo: USFWS

Beavers are the largest rodents in North America. Adults range from 35 to 46 inches including the tail, and weigh from 45 to 60 pounds. They have a heavily muscled, strong-boned body, with a dorsally flattened tail that serves as a paddle for swimming. Their thick, insulating fur is chestnut to dark brown in color. Beavers are monogamous and typically have one litter of two to four young each year. Kits remain with their parents and younger siblings for two years before setting off on their own. In the wild, beavers typically live from 10 to 12 years, a long life span for a rodent.

The beaver, appropriately designated New York's state mammal, has played an important role in shaping the state's natural environment as well as its history. In the 1600s, Europeans exploring this region found the beaver plentiful. Most bodies of water, large or small, had dense populations of beavers. Beaver trapping proved to be a good way of making a living, with exports of beaver pelts from New York to Europe reaching nearly 80,000 annually in the late 1600s. By the late 1800s, however, the beaver was nearly extirpated from the state due to overexploitation and deforestation. A decline in demand for beaver pelts, combined with protective legislation, reintroduction efforts, and recovery of suitable habitat, led to a rebound of beaver populations in the 1900s. Today, beavers are abundant throughout the state, recently returning even to the waters of New York City and Long Island after 200 years of absence.

Beavers require a constant, plentiful source of water, where they typically build a dam to flood the area and construct a lodge as a home site. They are most often found along stretches of streams and rivers narrow enough to be dammed, with moderate to little gradient and ample food adjacent to the waterway. However, some live along large rivers, forest-lined lakes, or wooded marshlands. Beavers are unique among mammals in their ability to change their own environment to suit them. Ponds constructed by beavers create habitat for other animals as well, including other furbearers, waterfowl, amphibians, reptiles, fish, invertebrates, and other animals who visit these habitats to feed. By damming streams, beavers create ponds that offer protection from predators, and aid in establishing suitable food resources like sedges, grasses, and wetland shrubs. Beavers are herbivores and locate food using their sharp sense of smell. They feed mostly on herbaceous vegetation during the summer and on the bark, twigs, and buds of aspen, maple, willow, birch, alder, and black cherry during the fall and winter. In preparation for winter, they harvest twigs and branches and pile them in the water, weighting them down with mud. This food pile provides a source of food that they can access below the ice if

the pond freezes over. Beavers are active all year and may emerge from the den during the winter to feed on fresh material as well.

Beavers have many interesting physical features that make them well suited to their semi-aquatic, tree-felling lifestyle. For example, they have long, chisel-like incisors that grow continuously. Gnawing on wood is a necessary activity for offsetting this growth. There have been reports of up to 300 trees being cut by one adult per year. Beavers do not cooperate in cutting trees. Furthermore, a beaver cannot control the direction in which a tree falls. In addition to their large teeth, beavers have a large, paddle-shaped tail with a leathery covering. The tail is used as a rudder and propeller while swimming, and acts as a support when a beaver sits upright. An alarmed beaver also uses its tail to warn others of danger by slapping it against the water's surface. The beaver has several adaptations for underwater activities. Its lips can be closed behind the incisors, and by pressing the tongue tightly against the roof of its mouth, the beaver can gnaw underwater without choking. Special valves also close off the nostrils. Transparent eyelids called nictitating membranes allow the animal clear vision underwater while protecting its eyes from debris. It is able to remain submerged for 15 minutes because its heart rate slows.

Beavers are interesting animals that create habitat for other wildlife, and are fascinating to observe. They are active in the evening and at night. A good way to observe beavers is to visit an active beaver dam about an hour before sunset. Initially, the male beaver emerges from the lodge to patrol the area for danger. Later, the female and young will join him. Beavers have very poor eyesight and a quiet observer can sit back and watch the animals go about their daily tasks.

Although the dam-building behavior of beavers is captivating, at times their activities can cause unwanted flooding or damage to valued trees. For more information on dealing with damage done by beavers, visit the Internet Center for Wildlife Damage Management at <http://icwdm.org/wildlife/beavers.asp>

Kristi Sullivan coordinates the Conservation Education Program at Cornell's Arnot Forest. More information on managing habitat for wildlife, as well as upcoming educational programs at the Arnot Forest can be found by visiting the Arnot Conservation Education Program web site at www.arnotconservation.info