

## American Beaver

*Castor Canadensis*

### Identification:

Beaver are the largest rodent species in North America, averaging 40 lbs. You can easily distinguish them by their large size, and flat, paddle shaped tail used to help them swim and build their elaborate dams and lodges. Beaver are always found near a body of running water and are well adapted for underwater lifestyles. Ungainly and slow on land, they are graceful and quick swimmers.



### Adaptations for living in the water:

1. Can completely close nostrils and ears in water.
2. Built in “goggles” or a see-through nictitating membrane protects eyes underwater and allowing them to see when swimming.
3. “Lips” close behind the teeth so they can carry food and building materials while swimming.
4. Muscular tail acts like a rudder in the water, a prop for balancing, and a communication device when danger is near. As a warning they’ll slap their tails on the water surface.
5. Webbed hind feet help swim and walk in the mud. Nimble front paws can hold and manipulate objects.
6. Oil glands coat their dense fur and keep it waterproof.
7. Incisor teeth grow continuously and have heavy metals in the orange enamel making them incredibly strong. Softer back sides wear down quicker insuring teeth are always sharp to more efficiently whittle off bark and branches for food and building materials.

### Natural history:

Beaver fur and castoreum (the oily fluid from their castor glands) has always been valuable to humans and we almost lost beaver when they nearly went extinct in the early 19<sup>th</sup> century. This was largely due to trapping. Trapping was halted for a time, and beavers have been restored to many of their natural areas, although not at previous numbers. Beavers went completely extinct in Great Britain, but have since been reintroduced. Many areas of Europe lost their beaver populations as early as the 16<sup>th</sup> century. Beavers are considered one of the most influential animals in the world. They have impacted human activity, promoted early expansion and colonization, and alter the ecosystems they live in.



### Diet:

Spring and summer beaver feed on grasses, herbs, leaves, fruits, and aquatic plants. During the fall they create a stockpile of twigs and branches anchored underwater near their homes to provide them with food through the winter. They prefer aspen, cottonwoods, willow, and birch. Evergreen trees are rarely eaten, but they may remove them to encourage growth of more popular food items.

### Breeding:

Beaver are monogamous and family oriented. Mating occurs in January-February, after a 100 day gestation period a litter of 3-4 kits are born. Kits stay with their parents until two or three years old. Then they move away to find their own territory. Beavers live together in colonies consisting of the parents and several years of offspring.

### **Behavior in an urban environment:**

The shy beaver are rarely seen, but their activity is instantly noticeable. Branches are chewed to a point with distinct tooth marks, with wood shavings on the ground around them.

Most beaver activity takes place within 165 feet of water. When human development is close to water sources, desirable trees and vegetation can be affected. Harvesting wood is most intense in the late fall, as beaver shore up construction of dams and lodges, and store enough food to sustain them through winter.

Beaver activity also decreases water speed, creating a back up or pond behind their elaborate dams. Creating ponds can flood paths, bridges, roadways and property close to the water. It can also drown mature trees in the area.

Beaver avoid contact with people and pets, and mark their territory to warn off other beavers. Early morning walkers may notice their powerful smell! When threatened they stay in the water, and can hold their breath for up to 15 minutes.



### **Benefits:**

Beavers are considered a “keystone species”, meaning their impact on the environment is beneficial to the health of the overall ecosystem. Beaver dams reduce stream erosion, slow water flow and create beaver ponds. Beaver ponds are productive wetlands, and create great soil for a better variety of plants and homes for many animals. Soil is enriched with beaver droppings and plants grow well with the extra fertilizer! Beaver pruning also encourages trees to sucker and promotes growth of new vegetation, similar to when we dead head our flowering bushes to increase flowering. Wetlands are the most beneficial habitats outside of rainforests and coral reefs and beaver are the only species that can expand and create natural wetlands. Beaver ponds are an amazing place for bird watching and attract a variety of animal species. The wetland they create naturally clean water, and are used all over the world to help remove contamination from water sources. Beaver dams also provided protected nurseries for fish, supporting healthy aquatic ecosystems.

### **What to do when living with beaver.**

1. When developing property near a waterway, be aware of beaver habitat (running water, willows and cottonwoods along the waters edge, few human structures). Even if beaver do not currently reside there, dispersing kits may move in. Most beaver activity occurs with 165 ft of the water.
2. Protect desired trees and shrubs close to the water. For trees with a trunk diameter of less than 2” paint with a 50% sand/50% exterior paint mixture that discourages beaver activity. Activity on larger trees is more likely to occur in fall as they prepare for winter. For smaller, young trees install hardware cloth fences around the bases of trees to about 3’ high. Wire “cage” will need to be



removed when tree grows larger to prevent damage to tree. Make sure trees are protected by the end of summer.

3. Plant fast growing willow and alder that benefit from beaver pruning as an alternative food source to the trees you want to protect. They will grow more vigorously after beaver activity.
4. Keep structures and paths back from natural floodplains. Flooding is beneficial to the soil, surrounding vegetation and wildlife habitat.
5. If structures exist and are in danger from flooding, you can install beaver flow devices \* that allow dams to remain in place, but increase water flow over and through them and reduce the height of beaver dams. This also reduces pressure on surrounding wood.

### **Why don't we remove the beaver from our neighborhoods?**

Relocation is rarely recommended:

1. Colorado Division of Wildlife allows relocation of beaver with a permit. When relocating you must have the land owners permission to put beavers there.
2. Beaver are territorial and new animals will be driven away from inhabited areas. Survival rates can be low.
3. Animals placed in unfamiliar areas where they don't know where to find shelter are at higher risk for predation, being hit by cars, or injury by people or pets.
4. It's difficult to catch all the animals in a colony, or have adequate space to relocate them all, which breaks up family groups.
5. Relocation is used in Denver when current location and activity cannot be mitigated and damage to human structures is occurring.

**You must get a permit from the Colorado Division of Wildlife to relocate beaver**

Lethal removal:

1. If habitat is suitable for beaver new animals will move in. Lethal removal is a short term solution.
2. Litter sizes are dependant on available habitat. With fewer animals in an area, mothers will have more offspring to replace them.

**\*If there is beaver activity causing flooding near your property and you would like the Natural Areas program to examine the area for potential use of a beaver flow device call or email Ashley DeLaup at 303-455-0785 or [ashley.delaup@denvergov.org](mailto:ashley.delaup@denvergov.org)**

Resources

Hinterlands Whos Who, <http://www.hww.ca/hww2.asp?id=82>

Wikipedia.org, <http://en.wikipedia.org/wiki/Beaver>

Link, Russell, "Living with wildlife in the Northwest", <http://wdfw.wa.gov/wlm/living/beavers.htm>