

Beavers

Living in Harmony with Your Wild Neighbors



BEAVERS are a shining example of how wildlife can recover from the brink of extinction. Their pelts were once so valuable they were the standard currency for colonists of the New World, and trapping had decimated the species by the early twentieth century. Finally, given a degree of legal protection, beavers have been gradually recovering over the last century. This process is likely to continue into the future.

Beavers, who are North America's largest rodents, are vegetarians with a very diverse diet. Deciduous trees like poplar, oak, elm, and ash are used for both food and building materials. Their chisel-like teeth are covered with a protective coating of hard, yellowish-red enamel. Their hind feet are webbed like a duck's. Flattened tails store fat in winter, act as rudders, and can be slapped on the water to sound a loud alarm.

Beavers are a "keystone" species—they fundamentally support wetland ecosystems. Beavers create new habitat for insects, fish, birds, and other mammals by removing trees. Beaver dams help prevent damage from flooding and erosion and filter sediments out of the water.

Beavers have made such a comeback that they are now found living in and around cities and towns. Unfortunately, whenever wildlife and humans live in close proximity, there are bound to be conflicts. A little patience and understanding can go a long way toward conflict resolution. Nonlethal approaches have proven to be less costly and better for the environment than removal of resident animals. Happily, creative thinking has led to truly ingenious ways to live in harmony with beavers.

People can live in harmony with wildlife—you just have to know your wild neighbors!

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Vital Statistics

Description: Largest North American rodent, with dark brown fur and a scaly black paddle-shaped tail.

Habitat: Rivers, streams, marshes, lakes, and ponds.

Diet: Herbivorous

Adult Length: 3–4 ft (900–1,200 mm) from nose to tail tip.

Adult Weight: 35–70 lbs (16–32 kg).

Activity: Generally, but not strictly, nocturnal; often active at dusk.

Birthing Season: May and June.

Age When Independent: Dispersal from birth site usually occurs at about two years of age.

Beavers



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Beaver Facts— GEE WHIZ

Beavers are monogamous. They live in small family units called “colonies” and defend their territories from other beavers.

Beavers are ecosystem engineers whose ponds play an important role in flood control.

Plant and wildlife diversity increase dramatically once beavers create their special wetlands, called “flowages.”

Beavers can swim at speeds up to six mph (10 km/h).

While beavers are underwater, a special skin flap prevents them from swallowing water but leaves the front incisors exposed for carrying branches.

Beavers are industrious manipulators of the environment who live in close-knit family groups and build homes in the conical style of teepees and wigwams. American Indians called them “little people.”

Beaver lodges are rich microhabitats used by many species, including nesting waterfowl and basking turtles.

Beavers are still recovering from the fur trade, which began more than 400 years ago.

Wetlands are one of the most productive wildlife habitats on Earth. Rare to begin with, more than half of the wetlands in the lower 48 states have been lost to development.



MAP ADAPTED FROM THE SMITHSONIAN BOOK OF NORTH AMERICAN MAMMALS



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Family Life

BEAVER colonies have from one to ten or more individuals. A “full” colony consists of one adult pair, the most recent litter of young, and the previous year’s offspring. Most beavers leave their family groups at about two years of age to find territories and mates. Pair bonds can last a lifetime.

Mating occurs during the winter. Beavers produce one litter of three or four kits each year, usually in May and June.

Kits are born fully furred and are able to swim within hours of birth.

They are nursed for six weeks. Once they are weaned, parental duties are shared by all members of the group.

In poorer habitats, beavers may have smaller litters or fail to reproduce entirely.

Dens, also known as lodges, are built from branches, mud, and other debris or dug into the banks of rivers and lakes. A colony often maintains several lodges, one or more dams, and—in the north—a food cache in fall and winter.



Control and Damage Prevention



Beavers feed on the inner bark, leaves, and fruit of woody plants; a variety of upland herbs; and aquatic plants such as duckweed, water lilies, pond weed, cattails, and arrowhead. Most of the trees used for food and construction are felled within 100 feet of a main body of water. Beavers can cut down large trees, and they have been known to kill even larger trees by girdling them.

The threat that beavers pose by chewing vegetation in urban and suburban areas is usually recognized only after one or more valuable trees have been lost. With foresight or an expedient response, tree guards can prevent this damage. Cylinders of galvanized welded wire (6" x 6" or smaller) can be used to cage trees. Cylinders should be placed around trees within a few inches of them. The spacing allows for tree growth and prevents beavers from reaching through the squares to get a bite. The cylinders, which rarely need to be more than three feet high, are self-supporting and blend in well with their surroundings as they rust. Beavers are not good climbers; even a three- to four-foot fence can also be a permanent deterrent, especially where trees are grouped, as in an orchard. If trees are grouped, a traditional fence may be more economical.

A key to living with beavers is recognizing that they play an important role in creating and maintaining wetlands—wildlife meccas that also provide flood and erosion mitigation. Beaver impoundments also provide a refuge for sensitive plant species, improve water quality, and add to the aesthetic and recreational value of the lands beavers inhabit. The benefits that beavers provide far outweigh the costs of the simple strategies that can be used to prevent human-beaver conflicts.

N MANY cases of wildlife conflict, the first challenge is making a positive identification of the species in question. This is rarely a problem with beavers because the signs of their activity are hard to miss. The two most common problems with beavers are flooding caused by dam building and damage to trees used as food or building materials. The damming of road culverts is a particularly widespread and serious problem. Beavers can frustrate road maintenance crews by continually clogging culverts and flooding roads.

Beavers are excellent engineers, but they can be outsmarted. Where flooding from beaver dams is an issue, it is possible to install levelers, pipe systems that control water levels without removing the animals or destroying their dams. Beavers are stimulated to dam by visual cues and the sound and feel of flowing water. Beaver Deceivers™ are durable fences that work by filtering the flow of water over a large surface area. Culverts can be protected using fences or pipe systems. The design and installation of flow devices is best conducted using technical assistance and training from experienced professionals—and it usually requires approval from local, state, or federal agencies.



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Injured or Orphaned Animals

WILDLIFE rehabilitation centers provide care for injured and orphaned wildlife until the animals can be released back to the wild. In most states, wildlife rehabilitation can be practiced only with a state or federal permit, or both.

Never try to capture or handle an injured, ill, or orphaned beaver on your own. Adult beavers are formidable animals, even when weakened by disease or injury. A rehabilitator or humane society representative can advise you on the best course of action in this situation.

Orphaned beavers look cute and cuddly, and the idea of raising a kit can be appealing. However, beavers make terrible pets—and municipal ordinances often prohibit keeping a wild animal as a pet. Please do not attempt to raise an orphaned beaver.

Beaver kits, like all other infants, have unique nutritional requirements. Infant formulas available at pet stores may claim to be appropriate for all small mammals, but this is simply not true. Problems that result from an inappropriate diet, such as metabolic bone disease (also known as rickets), can debilitate an animal for life.

Unlike common pets, an orphaned beaver's behavioral and developmental requirements cannot be addressed by most caregivers. Even zoos and wildlife centers rarely have adequate facilities to keep beavers long-term. The best place for these animals is in the wild.

If you find an injured or orphaned beaver, ask your local humane society to recommend a wildlife rehabilitator in your area.



Human Health Concerns

Beavers are susceptible to at least two diseases that may pose health risks for humans: giardiasis and tularemia.

Giardiasis

Giardiasis is an intestinal illness caused by a protozoan, *Giardia lamblia*. Although debilitating, it is rarely fatal. Because beavers, muskrats, and other wildlife have been associated with this disease, the role they play in infection of humans has been investigated. Heavily publicized results of two cases of giardiasis in the early 1980s, one in New Hampshire and one in Washington, implicated beavers as the primary contaminating factor. As a result, the disease was given the nickname "beaver fever." Later, more extensive research found that human waste is the most common source of giardiasis infection among humans. Scientists have found that beavers and other aquatic wildlife play a secondary role at most. Hikers and others who use surface water should consider all sources as potentially contaminated. To prevent giardiasis infection, water purification methods—including boiling and adequate filtration—should be used before drinking. Visit www.cdc.gov for more information.

Tularemia

Caused by the bacterium *Francisella (Pasteurella) tularensis*, tularemia infects a large number of vertebrate and invertebrate animals. North American animals most commonly infected are ticks, deer flies, wild rabbits, sheep, horses, and rodents such as beavers and muskrats. Humans become infected either directly from infected animals (through scratches or insect bites) or from a contaminated environment (ingesting contaminated water or improperly cooked meat). Human cases are sporadic and the number of infections in the United States has decreased dramatically since 1950. Symptoms, including fever, chills, and vomiting, appear following an incubation period of two to 10 days. Prevention is accomplished by controlling infection among domestic animals and avoiding potentially infected wild animals and untreated water. Immunizations are available for people considered to be at risk.

Information on humane prevention of beaver conflicts was prepared by Kieran Lindsey, Natural Assets Consulting, Cedar Crest, New Mexico, and reviewed by Skip Lisle, Beaver Deceivers, Inc., Grafton, Vermont.