

The Beaver

(*Castor canadensis*)

Beavers are more than intriguing animals with flat tails and lustrous fur. American Indians called the beaver the "sacred center" of the land because this species creates rich habitats for other mammals, fish, turtles, frogs, birds and ducks. Since beavers prefer to dam streams in shallow valleys, much of the flooded area becomes wetlands. Such wetlands are cradles of life with biodiversity that can rival tropical rain forests. Almost half of endangered and threatened species in North America rely upon wetlands.

Besides being a keystone species, beavers reliably and economically maintain wetlands that can sponge up floodwaters (the several dams built by each colony also slows the flow of floodwaters), prevent erosion, raise the water table and act as the "earth's kidneys" to purify water. The latter occurs because several feet of silt collect upstream of older beaver dams, and toxics, such as pesticides, are broken down in the wetlands that beavers create. Thus, water downstream of dams is cleaner and requires less treatment.



A Bit About Beavers

Beavers' ability to change the landscape is second only to humans. But that is just one reason why we find the flat-tailed species fascinating. Adults may weigh over 40 pounds, and beavers mate for life during their third year. Both parents care for the kits (usually one to four) that are born in the spring. The young normally stay with their parents for two years, and yearlings act as babysitters for the new litter. While some beaver behavior is instinctive, they also learn by imitation and from experience. Dr. Donald Griffin, the father of animal cognition, has said, "When we think of the kinds of animal behavior that suggest conscious thinking, the beaver comes naturally to mind."

Wildlife rehabilitators find beavers to be gentle, reasoning beings who enjoy playing practical jokes. An Indian word for "beaver-like" also means "affable." Once weaned, their favorite foods include water lily tubers, clover, apples and the leaves and green bark (cambium) from aspen and other fast-growing trees. Tree cutting is part of nature's cycle, and beaver pruning stimulates willows, cottonwood and aspen to regrow bushier than ever next spring. After eating, beavers use the peeled sticks to build a teepee-like lodge (house) on the shore and/or a dam.

By damming streams, beavers often raise the water level to surround their lodge with a protective moat, and create the deep water needed for winter food storage in northern climes. While other wildlife endure wintertime

cold and hunger, beavers stay warm in their lodges with an underwater food cache of branches nearby. A beaver colony, can consist of six or more, including parents, yearlings and kits, yet they peacefully coexist in a lodge with underwater access to the iced-up pond for four months or more in the North.

Because they breed only once a year, require streamside habitats, and two-year-olds leave home each spring to find their own territories, beavers rarely overpopulate. They are limited to a small fraction of the landscape that is close to waterways. Kits have many predators including hawks, owls and otters. Bears, wolves, dogs and coyotes can also take adults that are especially vulnerable each spring when two-year-olds seek new territories. Accidents are another frequent cause of mortality, including falls into abandoned wells, and traffic accidents. Trapping is the most common source of mortality.

Like many wildlife species, beavers self-regulate by starting to decrease their rate of reproduction when occupancy reaches a certain level. In vast areas without trapping, beaver populations may peak, and then slowly drift down to a sustainable level. By the early 1900s, beavers were almost extirpated from North America due to trapping and draining of lands for agriculture. Estimates of the current population are as low as five percent of those present prior to European settlement. Nonetheless, as beaver reclaim some former territory, conflicts with humans arise.

At a German website about European beaver, you can order the [Proceedings of the 2nd European Beaver Symposium](#) (2000) in English. For information about the European Beaver, Castor fiber, and how Scotland is planning to reintroduce beavers, go to www.scotsbeavers.org.

Baffled by Beavers?

When conflicts arise, working with the beaver is most often the best solution. If beavers are removed from good habitat, others will normally move into the empty habitat. Survivors respond with compensatory reproduction and beavers can migrate over tens of miles. Allowing the beavers to remain while addressing the specific problem (for example, flooded roads or tree cutting), also preserves the many beaver benefits. Wetlands are decreasing worldwide, and certain programs, such as the U.S. Wetland Reserve Program, recognize the great environmental value of these vital areas by reimbursing landowners who protect wetlands. The U.S. Fish and Wildlife Service has the Partners for Wildlife program that can provide funding, or materials, for flow devices to qualified agencies or organizations. Freshwater wetlands have been rated in a study by over a dozen ecologists and economists as the world's most valuable terrestrial ecosystem in terms of natural services. By installing flow devices, often most of the beaver wetlands can be saved, while ending the unwanted flooding. Problems with objectionable tree cutting can often be solved with fencing or other methods (see "[How to Protect Trees](#)").

Proven, cost-effective devices, such as beaver pipes in dams, are installed to control objectionable flooding. Road flooding is a common beaver/human conflict that be solved with methods such as "exclosures," Beaver Bafflers" or Beaver Deceivers. Since beavers are quite adaptable, it is best to use [proven techniques](#).

If beavers must be relocated, using Hancock or Bailey live traps are the most humane methods. Snares hold the victim helpless against predators and can cause death by strangulation, or drowning due to entanglement. No kill trap that currently exists will reliably cause an instant death under field conditions, and drowning traps are especially inhumane for animals that can hold their breath for 10 to 15 minutes. Like other wild species, surviving beavers respond to persecution with larger litters. Besides being a temporary solution, removal is

often environmentally disruptive as it leads to the draining of beaver wetlands when beavers are no longer present to repair dams.

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