

24. BEAVER

Castor canadensis

SUMMARY

Beavers play an important role in creating wetland habitat for many other species of wildlife. Ducks, songbirds, reptiles, amphibians, moose, bears, and insects all use beaver-created wetlands. Practically any habitat that is suitable for beavers will soon have a resident population. They eat bark and small woody shoots. Beaver habitat can be enhanced through selected cutting along streambanks in order to regenerate small-diameter woody vegetation. Beaver activity can create problems for some landowners due to their ability to flood areas. Landowners dealing with problems from beavers may choose to implement methods of water-control or tree protection, because removing individual beavers does not usually solve the problem.

NATURAL HISTORY

Beaver are referred to by biologists as a keystone species because they can dramatically affect ecosystem structure and dynamics. Wetlands created by beaver can benefit a landowner in a variety of ways, from creating habitat for wildlife species such as fish and waterfowl, to controlling downstream flooding and filtering sediment to improve water quality.

Beaver were removed from most of New England by the early 1800s due to unregulated harvest and habitat degradation. Beavers eventually made dramatic recoveries following wildlife agency reintroduction programs and habitat regeneration starting in the 1920s. However, many of Vermont's roads and villages were developed after beaver were eliminated from the state and were located with little regard to the location of potential beaver habitat. Not surprisingly, as both the beaver and human populations have expanded throughout the latter part of the twentieth century, there has been a corresponding increase in conflicts.

Beavers are one of the few animals capable of modifying their habitat to meet their needs, constructing elaborate dams, lodges, and bank dens and storing food for winter retrieval. Beavers live in family groups comprising a monogamous adult pair, three to four newborn kits, and kits from the previous year. Beavers do not readily accept unrelated beavers into their family groups.

Beaver-created wetlands are focal points for many other wildlife species, including muskrats, otters, raccoons, and moose. Birds such

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Figure 24.1

Beaver within a beaver-influenced wetland



Figure 24.2
Wood ducks enjoy beaver-made wetlands. Courtesy of George Gentry, USFWS.

Beaver ponds are so important to waterfowl that the return of the beaver in New York State resulted in the production of about 60,000 more ducklings annually.

as mallards, wood ducks, black ducks, red-winged black birds, and great blue herons thrive in these small wooded wetlands. Beaver ponds are so important to waterfowl that the return of the beaver in New York State resulted in the production of about 60,000 more ducklings annually. Many amphibian and reptile species also benefit from the modification of wetlands by beaver which are an important food source for fish, birds, and mammals.

Despite the ecological benefits brought about by beavers, flooding caused by beaver dams may sometimes damage roads, houses and agricultural and timber lands. Although many anglers do not

look favorably on beavers, studies indicate that beaver-created wetlands actually benefit trout populations.

HABITAT REQUIREMENTS

Beaver habitat includes low gradient streams and rivers, as well as ponds and small lakes with consistent water levels. Beavers prefer streams that are wider than 150 feet with a gradient less than 6 percent.

Most people are familiar with the beaver's industrious efforts to fell trees within their habitats. The beaver's food requirements vary seasonally. During the summer months, beavers rely almost exclusively on herbaceous foods such as duck weed, duck potato, and water lilies as well as leaves and grasses. Tree cutting and consumption of woody material generally occurs in the fall and winter; beavers favor hardwood tree species such as aspen, willow, and alder. They prefer stems under 4 inches in diameter and within 100 feet of water's edge, but readily fell larger trees and trees up to 300 feet from water. The beaver colony will cache enough woody material to support them throughout the winter months if the surrounding habitat is suitable.

Beaver activity centers around the lodge. Lodges and burrows (or bank dens) surrounded by water provide escape, thermal, and reproductive cover for beavers. Water serves as concealment and easy access for beavers when traveling to and from food sources.

Although they generally stay within 300 feet of water, beavers may range within a .5-mile radius of their lodge. Beaver colony territories do not overlap and usually contain a series of lodges, dams, and ponds of various ages and sizes along a stream's drainage.

MANAGEMENT PRACTICES

A site with an adequate water supply and stream gradient of less than 15 percent will probably support beavers if enough small diameter hardwood trees are within 300 feet of the water's edge. Where only large-diameter trees of preferred species are present, you can enhance beaver habitat by cutting .5 to 1-acre patches perpendicular to the water's edge. These cuts should be pie-shaped and on shallow slopes to minimize the potential for erosion and impacts to the wetland buffer. The cuts should



Figure 24.3 Beaver baffle control system

extend no more than 300 feet from the water and should range from 50 to 120 feet wide. Depending on the size of the water body and the availability of hardwood trees, one strip should be cut every 10 to 20 years to ensure a continuous supply of small diameter woody material. Cutting during the dormant season (November through March) will promote tree sprouting and increase regeneration.

Because beaver ponds are most productive for the 7 years immediately following flooding, abandoning an area for a period of time is often beneficial. Once habitat conditions again become favorable, beavers will return.

If you are experiencing problems with beaver, there are options that can help. In well-established beaver habitats, most conflicts cannot be permanently resolved with the removal of the beavers (they or others will return). You can protect individual trees from beaver damage if you encircle their trunks with hardware cloth or welded wire. In addition, several designs of water control structures are available which may solve flooding problems. Not all sites lend themselves to water control structures.

Regulated trapping is also an effective strategy for managing beaver in wetlands. The removal of beaver during the legal trapping season is a method that ensures utilization of the pelt. Live trapping and transfer of beaver is no longer recommended in Vermont because most appropriate habitat is already occupied. See **Resources** for a link to more options.



RESOURCES

Vermont Fish and Wildlife Department. “Managing Problem Beaver.”
http://www.vtfishandwildlife.com/library/reports_and_documents/Furbearer/Best_Management_Practices_for_Human-Beaver_Conflicts.pdf

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