When Beavers Become a Nuisance

by Dan Banks

The beaver, Castor canadensis , is Canada's national emblem. The exploration and settlement of Canada by Europeans was largely a result of the search for beaver pelts.

These large, aquatic rodents usually live in colonies consisting of a single family unit. A typical colony consists of two adults, two to three yearlings, and three to four young of the year (kits). Two-year-olds leave or are driven from the colony before the birth of the kits in early spring.

Beavers prefer slow-moving streams with muddy bottoms, but are also found in fast, rocky bottom streams, and in lakes. Some colonies will excavate water level around the lodge, and to move in winter food supplies.

During summer months beavers eat mostly grasses and broadleaf plants, forbs, leaves, and other green vegetation. During the rest of the year their main food supply is the inner bark layer of assorted hardwood trees - especially aspen, willow, maple, and birch. Beaver become very active in early fall, cutting and storing large amounts of hardwood branches in underwater food piles called caches near their lodge for under-ice use later in the winter.

Beaver die in a number of ways. Coyote, bear, and bobcat may kill beaver they catch on land. Winter or spring floods may cause some beaver to drown or starve. Newly dispersed young, especially those in poor health, may die as a result of inadequate food caches.

Damage Identification

It's usually easy to identify a beaver colony - recently flooded forest or agricultural lands, fallen hardwood trees with pointed stumps and wood chips looking like they came from a giant chainsaw, roadside culverts mysteriously plugged overnight, or backside holes caused by burrowing.

Prevention, Control, and Department Assistance

Is there really a problem? A plugged culvert and flooded road can be serious. If only a small woodland area is flooded, the inconvenience may be minor and a small price to pay for a genuine beaver dam, lodge, and beaver colony with all of its associated wildlife.

It is the landowner's responsibility to prevent damage caused by beaver. Any disturbance to a beaver dam/lodge or killing of beaver may be done only with a proper permit. This can be issued after all other preventive steps have failed. The Department of Natural Resources will assist the landowner by providing information and advice, lending equipment (when available), and in some cases participating in preventive or

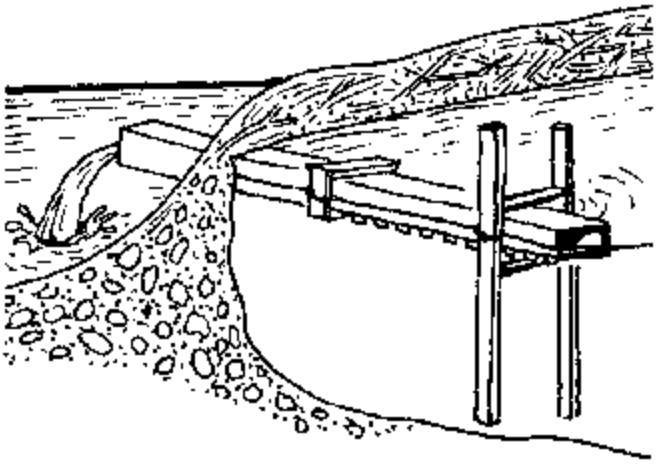
control measures. If control becomes necessary there are a number of recommended techniques.

Electric Fencer Water Level Controller

A temporary electric fence will discourage beaver from repairing a hole you have just made in a dam. Drive two wooden stakes on either side of the newly created opening. At least 18 inches (46 cm) above the water level fasten a plastic insulator to each post. Run a tight horizontal wire (12-gauge soft iron is easy to work with) between these two insulators. Now drop individual wires four inches (10 cm) apart completely across the opening. Trim each to within two inches (5 cm) of the water's surface, ensuring that the horizontal or vertical wires are not in contact with the ground, water, or any vegetation. Hook them to the hot wire of the charger. Ground the fencer with a three-foot (1 cm) metal rod as near to the dam break as possible. Leave for about one week, checking regularly to ensure the system has not been grounded out by floating debris. Leave the fence up once the charger is removed as occasional "reminder periods" may be required. Twelve-volt electric fencers are available at most farm supply outlets at prices ranging from $35 upwards.

Water-level Control Pipes

Water-level control pipes and boxes are used when landowners are content to have beavers present but want to control excessive flooding. They are most suited to small watersheds. The principle is simple. A small breach is made in the dam allowing the installation of an unperforated pipe which extends a few feet downstream. A perforated pipe (3/4 inch (1.9 cm) holes) with its upper end plugged, is staked out into the pond at varying distances depending upon the depth of the water, diameter of the pipe and size of the watershed. Two or more pipes extended out in a "fan" shape are often used. The perforated portion of pipe should extend out into three to four feet (0.9 to 1.2 m) of water to prevent beaver from mudding up to the pipe from the pond's bottom. The water level in the pond will stabilize with the top of the perforated portion of the pipe.



Beaver pipes have been constructed of wood, four-, six-, or eight-inch (10-, 15-, or 20 cm) diameter sewage pipe, corrugated drainage pipe, old metal culverts and other suitable materials. This system works on the principle that beaver build dams in

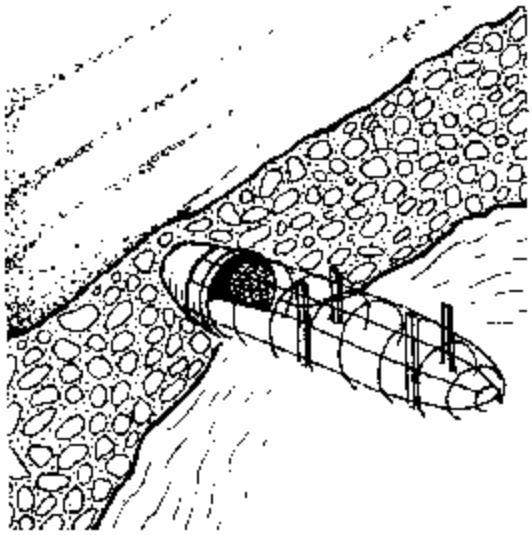
response to the sound of running water. They may hear the water going through this pipe but cannot locate the leak source.

Tree Protection

Beaver sometimes cut down valuable ornamental trees near lakes or streams. This damage usually occurs at night. The best protection consists of encircling individual trees and shrubs with a securely fastened, stiff woven or webbed wire with a mesh no larger than one and a half to two inches (3.8 to 5.1 cm). Remember that beaver will cut trees in winter from a raised snow surface. Tree protection should be at least 30 inches (76 cm) high or even 48 inches (1.2 m) in certain situations. Beaver will not normally eat softwood trees, but any species may be "taste tested" if preferred food trees are scarce. In some circumstances a 30-inch (76 cm) woven wire or a low electric fence running along the entire shoreline has been used to protect the trees and shrubs of a group of residences or cottage owners.

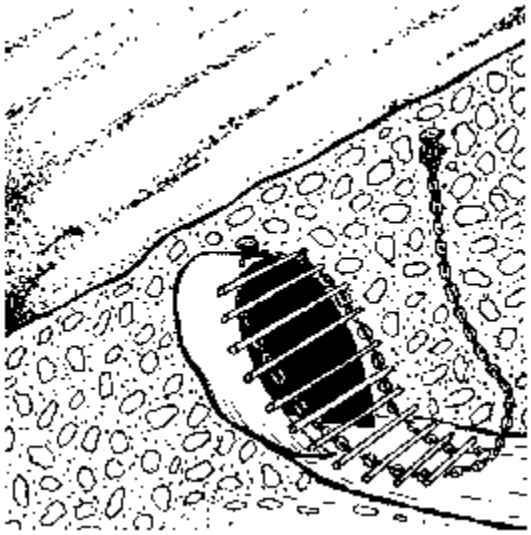
Culvert Guard

There are situations where a beaver pond is acceptable or even desirable but a culvert must remain open to prevent road washouts during flood conditions. In this case a six-foot (1.8 m) length of concrete reinforcing wire is rolled into a cylindrical shape slightly larger than the diameter of the pipe to be protected. It is then fitted over the upstream end of the culvert and a second rolled wire mesh is added to extend the cylinder's length to 12 feet (3.6 m). The upstream end of the cylinder is pinched or wired shut. The device is held in place with metal stakes. Beaver will often construct a semicircular dam around this structure, however, the culvert will still work during flood conditions.



Culvert Protector/Cleaner

If beaver are plugging a small-to-medium sized culvert, make it easier for them! Weld or shove 3/4 inch (1.9 cm) rebar (concrete reinforcing bar) through two lengths of old chain. Securely bolt the upper end of the loop to the top of the culvert (it helps if the end of the culvert was out on a slope when installed). Make sure the protector extends into the pond six feet (1.8 m) beyond the culvert. Run a tail chain from the upstream side of the cleaner to the bank. This device may make it easier for the beaver to build a dam, but by hooking the tail chain to the bumper of your vehicle you can undo a whole night's work in a few seconds! Often this will discourage them.



Live Trapping, Kill Trapping, and Shootings

Live trapping is a difficult, time-consuming and costly process. Due to high beaver populations and limited free habitat into which trapped animals may be released, it is seldom justified in Nova Scotia. During the legal fur harvest season licensed trappers can be asked to control or even completely trap out certain nuisance beaver colonies. On rare occasions permits are issued for out-of-season kill trapping. In other extreme circumstances permits may be issued to individuals to shoot nuisance beaver. Wildlife officers always view public safety as the prime consideration in such cases.

Handling Cautions

Beaver trapping (live or kill) is a difficult and specialized job and is best left to professional trappers and wildlife managers.

Untreated water from any surface source may pose assorted health hazards, one of which is a water-borne organism call Giardia. This organism, associated with beaver and a number of other mammals, can cause intestinal problems in people. Drinking water taken from small surface sources having high beaver populations should be avoided.

Positive Aspects of Beaver

Consider the positive aspects of beaver before removing them or destroying dams:

1. Beaver dams stabilize stream flows and act as sediment traps.
2. Flooded areas are sources of water during drought conditions, when a "fire" pond might be needed.
3. Flooded areas are productive habitat for many species of wildlife.
4. Beaver ponds are important recreational and educational locations.
5. Beaver ponds are esthetically pleasing places in which a great variety of wildlife activity can be observed - even within a small urban setting.
6. They provide a source of income to local trappers.

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