

STEWARDS' GUIDE SERIES



Muskoka
WATERSHED COUNCIL



Photo by Elizabeth Sellers

Beavers are the civil engineers of the animal kingdom

The North American Beaver (*Castor canadensis*) has influenced the history of Canada more than any other animal.

Considered the civil engineers of the animal kingdom, beavers are a keystone species in our forested ecosystems. They play a pivotal role by creating wetland

habitat that many species of animals, birds and insects depend upon.

As a landowner, you have two choices when dealing with beavers on your property: share your property by learning how to co-exist with beavers or take steps to remove them.

Did You Know?

- ♣ Beavers may live up to 12 years
- ♣ Beavers are most often found in forested areas or along watercourses bordered by deciduous trees or shrubs
- ♣ Beavers have 3 criteria for choosing a dam site: trees for food and lodge/dam construction, a source of running water, and the right topography for a pond
- ♣ Beavers are most active from dusk to dawn
- ♣ Beavers eat bark off stored branches in the winter and shift to eating plants in the spring as new growth appears
- ♣ Beavers prefer deciduous trees, especially Trembling Aspen, Poplar, Willow and Birch
- ♣ Beavers can fell trees up to 40 cm in diameter
- ♣ The sound of running water triggers beaver activity
- ♣ Unless food is limited, beavers usually go no further than 50 metres from shore to cut trees
- ♣ When beavers exhaust their food supply, they either raise the depth of their pond to reach new sources of food or they move to a new location

On Private Land in Parry-Sound Muskoka

LIVING WITH
BEAVERS

The Benefits Of Having Beavers

- 🌲 Beavers create wetlands and ponds, which provide spawning, rearing and feeding areas for fish. These areas provide a refuge for fish when connecting creeks dry up.
- 🌲 Other wildlife species that use habitat created by beavers include Moose, White-tailed Deer, Great Blue Herons, Hooded Mergansers, Black Bears and a variety of reptiles and amphibians.
- 🌲 Many species at risk in Parry Sound-Muskoka rely on wetlands created by beavers, including the Least Bittern, Spotted Turtle, and Blanding's Turtle.



Credit: Ontario Ministry of Natural Resources
Photos by Jan McDonnell



- 🌲 Beaver ponds act as reservoirs, keeping downstream water levels more constant by reducing flooding in the spring and increasing stream flow during the dry summer months.
- 🌲 Beaver ponds improve water quality. They trap nutrients and sediments running off nearby upland areas before they can enter downstream lakes and rivers.
- 🌲 Plants in beaver meadows store large amounts of carbon from atmospheric carbon dioxide, which is a benefit because it mitigates or defers climate change.
- 🌲 Beaver wetlands provide recreational opportunities, including fishing, hunting, and nature appreciation.



The Impacts Of Not Having Beavers

The benefits that beavers provide are further emphasized when we look at the changes that occur when beavers are removed from an ecosystem. While beaver populations have rebounded to historical numbers in Ontario, the current beaver population of North America is only about 10% of the original number. On a large scale, the loss of about 90% of North America's beavers, and the vital wetlands they once maintained, has greatly affected the continent's hydrology.

- 🌲 As beavers were removed and their dams failed or were destroyed, changes took place in how water was stored and routed from upper to lower watersheds.
- 🌲 Historically, North America's river systems were dominated by ponds, multiple channels, wetlands, and wide riparian zones abundant in fish and wildlife. Today, these same systems are defined by simple, deep, overly wide, single thread channels with narrow strips of riparian vegetation.
- 🌲 In areas where there are no longer any beavers, there is no longer good wetland habitat and the myriad of benefits that this habitat provides for wildlife and people.



Credit: U.S. Fish and Wildlife Service
Photo by Steve Hillebrand

Step 1: Decide

As a landowner, you have two choices when dealing with beavers on your property: share your property by learning how to co-exist with beavers or take steps to remove them.

Step 2: Talk

Talk to the Ministry of Natural Resources (Bracebridge Office 705-645-8747, Parry Sound Office 705-746-4201) if you need more information beyond what is presented in this Guide.

- 🌲 Beavers Stay - Options on this page
- 🌲 Beavers Go - Options on back page

Step 3: Apply

Permits may be necessary, depending on how you decide to proceed. The Provincial Fish and Wildlife Conservation Act and the Federal Fisheries Act are just two of the Acts that may come into force when dealing with beavers.

Prevent Issues

- 🌲 Select species that are not favoured by beavers and place plants you care about away from known beaver trails to limit losses. Beavers avoid conifer trees such as Red and White Pine, White and Black Spruce, and Hemlock.
- 🌲 If removing trees from other areas, place species favoured by beavers where they can easily access it to provide them with alternate sources of food and building material.
- 🌲 Plant poplar and other fast growing species favoured by beavers within easy reach of the beavers to provide food and building material into the future.

Observe & Enjoy

Allow the beavers on your property to live undisturbed and watch the natural cycle of a beaver pond and the wildlife that are dependent on this wetland environment.

Protect Your Shoreline & Structures

Beavers may use a dock as a roof, and/or dig into Styrofoam flotation material for a lodge. To prevent this:

- 🌲 Wrap galvanized welded wire fencing around flotation blocks and wooden supports to protect them.
- 🌲 Stake galvanized welded wire fencing along the water line at earthen dikes to discourage burrowing into the bank.

Trapezoidal Fence

i.e. Beaver Deceiver



Discourages the damming of culverts due to its unnatural shape and large perimeter.

These fences are generally constructed of braced metal posts and 6-gauge, wide mesh fencing buried at least 30 cm into the substrate to prevent beavers from tunnelling underneath. The fence should be at least 30 cm higher than the water level. The downstream end of the culvert should be covered with wire mesh to prevent beavers from entering downstream.

You can find advice and designs for building your own structure on the internet or by calling the MNR (see Resources).

Water Level Control Structure

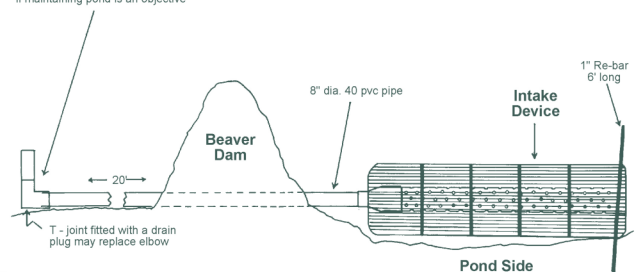
i.e. Beaver Baffler or Clemson Beaver Pond Leveler

Are constructed of large diameter drain pipes (10-12") installed through the dam, with one end fitted with a wire cage and placed in the deep part of the pond and the other end downstream, far away from the dam. The pipe allows water to flow through the dam without the beaver knowing it.

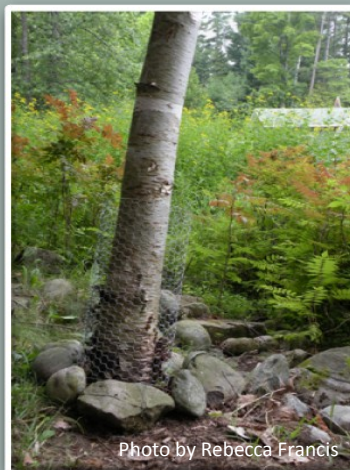
These structures can be effective, but require some maintenance to ensure that components remain in place and free of debris, particularly following a storm event or ice buildup.

Ready-made products are available or you can get plans to build your own online or from the MNR (see Resources).

Elbow and stand pipe are optional. Needed only to manage water level if maintaining pond is an objective.



Protect Your Trees



- 🌲 Wrap individual trees in metre-high galvanized welded wire fencing, heavy mesh hardware cloth, or a few layers of chicken wire. Leave 6 inches of space between the fencing and the tree and hold in place using stakes or rocks (left).
- 🌲 Protect areas of trees by installing 1.5 metre high fencing around the area ensuring that the bottom of the fence is flush to the ground to prevent beavers from burrowing underneath.

Removing beavers tends to be a short-term fix as other beavers may migrate into the empty habitat as long as conditions are ideal for occupation. If trapping is combined with dam removal, beavers may be discouraged from populating the site for a year or two.

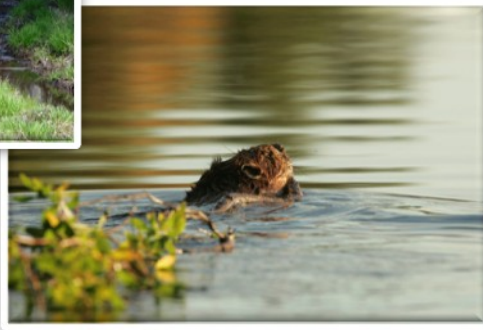
Lethal Action A landowner or authorized agent may humanely kill beavers that are damaging or about to damage their property. Firearm regulations and local bylaws must be followed.

Live Trapping Live trapping beavers should be done by a trained professional to ensure that the entire family is caught and relocated unharmed in suitable habitat. However, beavers are territorial animals and if the trapped beavers are relocated into an area already occupied, then the established beavers will likely attack and kill the relocated family.

Lethal Trapping Lethal trapping must be done by a licensed trapper (unless you are a farmer) and will usually be carried out in the winter during the open season for trapping. Contact the MNR for a list of licensed trappers in Parry Sound-Muskoka (see Resources).



Credit: Ontario Ministry of Natural Resources
Photo by Jan McDonnell



Credit: U.S. Fish and Wildlife Service
Photo by Steve Hillebrand

Dam Removal Beaver dam removal requires planning and it is recommended that you consult with the MNR about procedures and permit requirements. A landowner may remove a beaver dam only to protect their property.

Removal of beaver dams may negatively affect fish and fish habitat by dewatering the upstream pond, stranding fish and releasing sediment and large volumes of water downstream. Consult the Fisheries and Oceans Canada Operational Statement for Beaver Dam Removal (see Resources), which contains important information for proceeding with your project as well as notification requirements.

If you remove a dam, you may be held liable for any property damage that occurs downstream due to your actions.

Resources

Beavers: Wetlands & Wildlife - www.beaversww.org

Hinterland Who's Who - www.hww.ca/hww2.asp?id=82

Extension Note - Options for Controlling Beaver on Private Land - www.lrconline.com/Extension_Notes_English/pdf/bvr.pdf

Call your local Ministry of Natural Resources office (Bracebridge: 705-645-8747 Parry Sound: 705-746-4201) or the Natural Resources Information Centre at 1-800-667-1940

Visit the MNR website - www.mnr.gov.on.ca/en/Business/FW/2ColumnSubPage/290005.html

Visit the Fisheries and Oceans Canada website for the Operational Statement for Removing Beaver Dams, including tips on how to protect fish and fish habitat as well as the notification form - www.dfo-mpo.gc.ca/habitat/what-quoi/os-ao/nl/pdf/beaver-eng.pdf or call the Parry Sound Office at 705-746-2196

The Stewards' Guide Series is a collaborative project



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Cottage Life

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