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We love our beavers, but...

BY BOB BANCROFT

They're our national symbol and all that, but we have a very mixed history when it comes to our inveterate dam builders.

The westward exploration of North America was prompted, not just by gold, but the lure of big cash for prized fur. Before European settlers arrived in North America, an estimated 60 million beavers, *Castor canadensis*, lived from the Arctic Circle south to the Mississippi Delta. Between 1853 and 1877, the Hudson Bay Company alone sold 3 million beaver skins.

Pelts became sought-after for European fur hats, coats and robes. Trapped relentlessly for almost two centuries, the beaver population was close to extermination by 1900, a victim of over-trapping and deforestation.

Measuring up to four feet (1.2 metres) long, and related to porcupines and rats, beavers usually weigh 40-60 pounds (18-27 kilograms). The heaviest live beaver on record weighed a whopping 115 pounds (52.2 kilograms). They're the only mammal that keeps on growing as an adult. Usually living for up to 18 years, they occasionally attain a lifespan of 25 years. They only feel safe in water, and instinctively dam running water with branches, logs, twigs, stones and mud to create deeper water and thus better shelter. If you were to place a tape recorder playing running water sounds on top of a dam, beavers would cover it in mud.

Beavers eat twigs, leaves, buds, and the inner bark of trees. Seasonally they also eat ferns, algae and aquatic plants. In British Columbia one felled a cottonwood that was 110 feet (33.5 metres) tall and more than five feet (1.5 metres) thick! Some beavers build burrows or lodges in the bank of a river or stream, around rocks or under tree roots, while many others build dams and then construct a lodge in the resulting head pond. Lodges have an underwater entrance, a living area above water and a sleeping chamber.

And boy, are they ever adapted for working in the water. There are valves that close off their nose and ears, clear membranes that slide over their eyes, and skin flaps which seal off the mouth, leaving front incisor teeth exposed to carry branches through water.

Large livers and lungs let beavers stay underwater for as long as 15 minutes. They swim with webbed hind feet, using their large tail as a rudder. That tail serves as a counterbalance and prop on land, and is slapped sharply on the water's surface to sound an alarm. Beavers can readily defend themselves using large, front incisor teeth to bite would-be predators—or humans.
After beaver populations collapsed, trapping efforts shifted to other fur-bearing mammals like mink and otter. During the next century, beaver populations rebounded. Natural predator populations like wolves, coyotes, lynx and black bears had been reduced across much of its former range. Some people cheer the comeback.

Dam building creates many fertile farmlands and maintains healthy water levels in soils. The cool, deep water behind the dams serve as summer sanctuaries for freshwater fishes. Great blue herons, ducks, amphibians, mink, otters, muskrats, kingfishers and many others check in to beaver ponds. So do fire fighters needing water.

Human “civilization” has steadily encroached upon beaver habitats. As wild neighbours, beavers frequently conflict with humans. Blocked culverts turn ponds into marshes. Mosquitoes and black flies flourish while fields, trails and roads are submerged. Cottage owners have a tree land on the roof in the middle of the night.

Beavers use their noses to sniff out aspen or poplar trees, their favourites. For some protection, I placed more than $500 worth of welded wire mesh around planted oaks and birches beside a pond in front of our house.

Beavers like to live in colonies. Pairs mate for life, with last year’s young and kits of the year forming a family unit. Two-year-olds are banished every spring before the female gives birth to two or five kits. Ousted two-year-olds will travel as far as 60 kilometres in search of new habitats. This is prime time for blocked culverts, flooded fields and highways, and snacking on ornamental trees on front lawns.

Master architects of environmental change, some beavers perform engineering feats second only to humans in their scale and functionality. On a waterway, a beaver dam occasionally attains a height of four metres or more! During times of high water, a section of the dam will usually wash out, which allows for temporary fish passage upward and downstream.

In 2007, landscape ecologist Jean
The Eurasian beaver, *Castor fiber*, L., native to Scotland for centuries, disappeared many years ago. Scottish biologist Peter Collen visited Canada in the late 1990s to see how beavers influence stream ecosystems and riparian habitats. After much scientific research and public discussion, the beaver has been re-introduced to Scotland.