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said Norm Miller,  
Communications Advisor for Conservation Halton.

Beavers spend much of their life building and maintaining dams that hold back the water and create the ponds in which they live. What most people fail to realize is that the beaver is not the only one to benefit from the habitat it creates.

"Beavers are what we call a 'keystone species'. Without them we would witness a collapse of the ecosystem," explains Dave McLachlin, a biologist for Ducks Unlimited. "The wetlands that beavers help create are the most productive environment we have in Canada. Beaver ponds are home to a diverse array of flora and fauna- from microscopic organisms, to insects, amphibians, birds, and mammals as large as deer and bears, as well as all manner of trees and plant-life."

Beaver ponds not only create biodiversity, but also help with local flood control, reduction of water turbidity, the filtration of herbicides and pesticides, and, eventually the creation of fertile bottomland.

To understand the importance of the beaver pond to the local system we need to understand more about the lifecycle of these ponds.

"Any suitable stream of the right size and with a ready food source is sure to eventually attract a beaver. This usually occurs with the dispersal of the two-year-old males from family colonies," said McLachlin.

The lone male wanders considerable distance in search of territory to call his own. Once a potential home is found, the young male marks it and attempts to find a mate. Once joined by a female, the pair works in earnest to build a pond. The dam comes first, of course. This activity causes the drowning of some trees, which is part of the beginning of the beaver pond life cycle.

Some people view the appearance of a dam in a stream almost as a sign of rodent infestation, believing that the dam and the pond it creates will eventually lead to destructive flooding downstream.

The opposite is actually the case, because beaver dams help control the flow of water in the surrounding area, facilitating flood control in times of high water. They also help maintain a stable water table, making it less vulnerable to drought.

Once the dam is in place and the resulting pond is deep enough to prevent the water from freezing solid in the winter, the mated couple builds a lodge in which to bed down for the winter and rear their kits. When beavers emerge from their lodge the following spring, they enter a changing world.

The flooding that started when the dam was built the previous year has already attracted a variety of wildlife. Spring peepers and frogs are enticed by the wetter habitat and the increased insect population. Garter snakes come in pursuit of frogs and insects. Small fish enter the pond to feast on insect larvae. Migrating ducks, herons and other waterfowl find the ready meals here irresistible.

The pond continues to evolve as the beaver family grows and expands the pond to keep pace. It's estimated that a beaver colony cuts half a hect-

are of trees a year. Not all the trees fall true; many hang up on other trees. These snags become protective habitat for songbirds such as warblers, sparrows, and flycatchers.

By now the trees left standing in the middle of the pond have died and begun to soften with rot. These trees attract a variety of woodpeckers, which excavate living quarters from the trunks. Abandoned woodpecker cavities eventually provide homes for tree swallows and little brown bats, which love the abundance of insects over the water.

By the fifth spring the original pond is now much deeper and larger. There are other, less obvious changes as well. The sediment and debris captured within the pond settle to the bottom, making for better turbidity and allowing for a huge variety of protozoan and insect life.

Turtles, fish, and bullfrogs and fish love these deeper waters. Larger snakes begin to arrive, taking advantage of the abundance of frogs. The grassy areas around the edges of the pond, meanwhile, make for ideal nesting habitat for waterfowl, such as ducks and Canada geese. These same grassy areas are attractive to small rodents, which are, in turn, prey for marsh hawks and foxes.

In just a short period of time an amazing diversity of wildlife calls the beaver pond home.

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"Staff on hand will be able to point visitors to locations in the park where they can see beaver ponds and possibly catch a glimpse of beavers themselves."

The heightened wildlife activity centred on the beaver pond confirms its importance in biodiversity and maintenance of wetlands. In fact, Ducks Unlimited, which has a mandate to protect duck populations, recognizes the value of working with beavers to restore wetlands and the symbiotic relationship between healthy duck and beaver populations.

"The habitat resulting from beaver activity is tremendous habitat. Not only do so many species depend on it for food, shelter and breeding grounds but research has shown that bacteria attracted to a mature beaver pond helps remove nutrients (phosphates and nitrates) contained in the runoff from nearby farms, making for cleaner water. Herbicides and pesticides are also removed in a similar way," said McLachlin.

Beaver ponds are cyclical, however, and come and go.

"They're boom and bust", explains McLachlin. "After about 15 years the beavers will eventually run out of food and be forced to move on to new homes."

Continued on page 10