

BLUFFS CREEK WATER QUALITY IMPROVEMENT PROJECT



PROJECT GOAL

Bluff's Creek is a cold-water stream located in the southern end of Orillia. It originates in the Oro Moraine and drains into Lake Simcoe at Shingle Bay. A local non-profit group called Kids for Turtles contacted Ontario Streams in 2008 to collaborate on this potential project. The overall goal was to decrease phosphorous levels and improve water quality within Bluff's Creek. These improvements would lead to the enhancement of available fish habitat and the rehabilitation of the local aquatic ecosystem.

THE NEED

The water quality in Bluff's Creek has been compromised through poor agricultural practices, increased urban development, and runoff such as salt and other contaminants from roads entering the creek. Phosphorous in the creek has increased significantly due to these practices and there has been a negative impact to the creek's fish community.

Barriers to fish movement within the creek also exist. These barriers consist of perched culverts (as seen below), small dams, and online ponds.



An Erodina Bank along Bluff's Creek

ACCOMPLISHMENTS

In 2008, Kids for Turtles developed relations with three private landowners interested in making improvements on their properties that would benefit Bluff's Creek. Ontario Streams was brought on board to do the stream assessment work, and the analysis of available fisheries data and other relevant records. From this information, Ontario Streams produced the Bluff's Creek Water Quality Improvement Plan, including stream rehabilitation strategies specific to each property. The Plan was

discussed with Kids for Turtles, the landowners, and other project partners including the Midhurst District of the Ontario Ministry of Natural Resources and Forestry and Lake Simcoe Conservation Authority.



Perched Culverts are a Common Obstacle to Fish Migration Throughout Southern Ontario

Conservation Club and The Twin Lakes Conservation Club. Private landowners including Scales Nature Park were key to the success of this initiative. Without their cooperation and concern for the local environment, we would have been unable to make a significant positive impact on Bluff's Creek.

Implementation of the plan began in 2009. Since then, several projects have been completed to improve stream habitat on Bluff's Creek. Tree planting events were held on several properties. Minor stream habitat improvements were also completed, including log placements for cover, and the installation of sweeps and cabled debris jams. Two perched culverts were removed; one was replaced with a small footbridge, while the second was replaced with a larger culvert that was properly placed so it would not be a barrier to fish movement. Additional work included fish and benthic invertebrate sampling, the construction of a cabled log jam to stabilize an eroding bank, and the installation of fencing to keep livestock away from both the stream and adjacent wetland. The largest project completed on Bluff's Creek was the decommissioning of two online ponds that were acting as barriers to fish movement and were also causing increased water temperatures in this cold-water system. Ontario Streams removed the two ponds, and created a small channel through the newly formed valley habitat.

PARTNERS

Project partners for the Bluff's Creek Water Quality Improvement project include Kids for Turtles, The Midhurst District of the Ministry of Natural Resources and Forestry, The Lake Simcoe Region Conservation Authority, Orillia Fish and Game