

RICHMOND HILL HEADWATERS REHABILITATION PROGRAM



Dove park fishway

PROJECT GOAL

Headwater tributaries of the Rouge, Don, and East Humber Rivers all originate within the boundaries of the Town of Richmond Hill. Historically, these watercourses provided high quality cold water habitat for sensitive species such as brook trout and the endangered redbreasted dace. The increasing amount of urbanization within this region has greatly impacted these important creeks in many ways.



Reconstructed Bank using a Cabled Log Jam

Currently, populations of brook trout and redbreasted dace are fragmented and absent from much of their historic range. The goal of the Richmond Hill Headwaters Rehabilitation Program (formerly the Richmond Hill Adopt-a-Stream Program) is to protect and restore these creeks. Ultimately, the hope is to encourage populations of native brook trout and redbreasted dace to return to their historic habitats, while at the same time improving water quality and fisheries habitat for all native fish populations.

THE NEED

Human development and continued growth within the Town of Richmond Hill has negatively impacted many important headwater tributaries and all their downstream habitat. These impacts include:

- Man-made barriers, such as perched culverts, online ponds, dams, and large unnatural drops can impede the upstream movement of some or all fish species. This results in fragmented aquatic habitat, preventing species such as brook trout from reaching the high-quality

spawning habitat that they need, located in the headwater reaches.

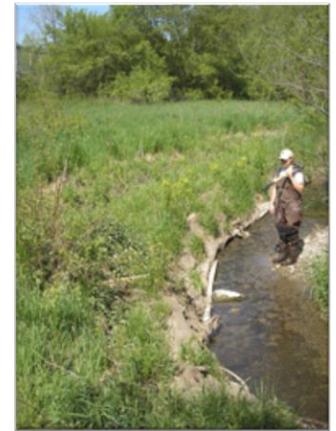
- High stormwater flows result from the large amount of paved surfaces which prevents rain water and snow melt from seeping into the ground and gradually entering the creeks through underground flow. The powerful surges in flow caused by even a minor precipitation event result in the erosion of vulnerable stream banks and can wash contaminated runoff, excess sediment, and garbage into the creeks.
- A loss of riparian vegetation along many sections of these watercourses leave banks vulnerable to erosion, cause water temperatures to rise due to a lack of shading, and affect the food chain as leaves and woody debris provide food and habitat for benthic invertebrates. A riparian buffer is also important as it helps to slow and filter storm water runoff before it enters the creek. A healthy buffer can also provide a continuous corridor for terrestrial species throughout the watershed.
- Many sections of stream were diverted, straightened, and sometimes piped underground to make way for subdivisions. These altered watercourses are often lacking in quality in-stream fisheries habitat.
- Both aquatic and terrestrial invasive species are prevalent throughout the region.

ACCOMPLISHMENTS

Ontario Streams has been active in the Richmond Hill area since the late 1990's. Many smaller projects have been accomplished under the Richmond Hill Headwaters Rehabilitation Program, including:

- Barrier Mitigation: Rocky ramp fish ways, step-pool fish ways, K-dams, and baffles have been installed at several locations throughout the Rouge River headwaters and in Patterson Creek. This has included projects within Dove Park, Newberry Park, Leno Park, the Edward Street culvert, the Boake Trail culvert, as well as private property initiatives. As of 2011, 9 barriers have been mitigated.

- Aquatic Habitat Enhancement and Stream Bank Stabilization: This type of in-stream work has taken place in the Rouge, Don, and East Humber watersheds including: Rouge Tributaries A and B flowing through the Elgin East community



Rehabilitated Shoreline

(specifically in Newberry, Leno and Dove Parks, as well as the L'Arche Daybreak property), Rouge Tributary C (in the Bayview North Community and private property initiatives), Rouge Tributary D (Phillys Rawlinson Park), Patterson Creek and other sections of the Don River watershed, and the East Humber River upstream of Bathurst Street. Various structures and techniques have been employed to stabilize and protect eroding banks, while at the same time enhancing fish habitat. Structures have included: cabled log jams and debris jams, LUNKERS, log covers, deflecting logs/wing deflectors, rock placement, gravel substrate replacement, cedar sweeps, and slope re-grading. Additional details of these techniques can be found in our online [Ontario Stream Rehabilitation Manual](#).

- Riparian Regeneration: Native trees and shrubs have been planted at numerous sites over the years throughout the 3 watersheds to re-establish riparian buffers that will filter runoff, provide bank stabilization, shade the watercourses, and create and connect wildlife corridors. Much of this work has been completed with the help of volunteers.
- Garbage cleanups take place yearly at select sites throughout the Town. This work has also been completed with the help of volunteers from the community.
- Monitoring takes place throughout the Town of Richmond Hill at strategic locations chosen annually. Water temperature monitoring, benthic invertebrate sampling, and electrofishing surveys are all common methods employed.

PARTNERS

Yearly support for this project provided by the Town of Richmond Hill and the Ontario Ministry of Natural Resources and Forestry Aurora District office has been greatly appreciated and vital to this program's continuation. Additional financial support has been obtained from Rouge Park, Shell Environmental Fund, Unilever-Evergreen Aquatic Stewardship Fund, Ontario Ministry of Natural Resources/Evergreen Community Tree Planting Grant, York Environmental Stewardship, Great Lakes Sustainability Fund, Great Lakes Cleanup Fund, TD Friends of the Environment, Ontario Federation of Anglers and Hunters, and private landowner contributions.



Tree Planting in Valleys to help Shade Streams and Filter Water

Each year, volunteer support from the community, local schools, organizations and businesses has been vital to the implementation of the Richmond Hill Headwaters Rehabilitation Program. Ontario Streams would like to thank the 351 Silver Star Air Cadets, American Express, Holy Trinity School, L'Arche Daybreak, Milliken Mills High School's TEAM Program, Oak Ridges Friends of the Environment, Richmond Hill Naturalists, Sai Nilayam, Toronto Elegant Lions Club, and the Ontario Stewardship Rangers. We would also like to recognize the efforts of our Adopt-a-Stream groups at Charles Howitt Public School for their work on the Don in the South Richvale Greenway area, as well as Richmond Hill High's labours on Rouge Tributary B between Newberry Park and Yorkland Street.