Niagara Peninsula CONSERVATION
nature for all

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12 Mile Creek Restoration Project — Highway 20 and Rice Road, Town of Pelham

Frequently Asked Questions

Why is 12 Mile Creek important?

The headwaters of 12 Mile Creek originate in the community of Fonthill in the Town of Pelham. The watercourse flows north and discharges into Lake Ontario at Port Dalhousie in the City of St. Catharines.

12 Mile Creek is supplied by groundwater seeping through the sandy soil upon which Fonthill is located. This groundwater is naturally cooled by the earth and seeps from the ground at temperatures typically below 15 degrees Celsius. Native Brook Trout thrive in cold water, and the upper tributaries of 12 Mile Creek are the only place in the Niagara Region that supports a native Brook Trout population.

Why is this work necessary?

The tributary of 12 Mile Creek that we are working on originates on the north side of Highway 20 and flows north toward the Steve Bauer Trail. The first 115m long portion of the creek channel north of Highway 20 is very steep, falling approximately 6.0m (20 feet) over this distance. This steep slope results in the creek channel acting like a waterslide which increases the speed and force of the water contained within it. Over time, the speed and power of this water has eroded the stream's channel and banks. In some areas, the stream channel has been deepened by more than 4.0m.

The native Brook Trout that live in 12 Mile Creek spawn in rocky ramp structures called riffles. For their eggs to be viable, they require clean, clear, and cold water to flow over them. The sediment from the eroded portion of the project area covers and coats these rocky riffles preventing the eggs from hatching. Even though this eroded section of 12 Mile Creek is only 115m long, the sediment originating from this channel has a negative impact on the ability of native Brook Trout to spawn for kilometres downstream.

What does the 12 Mile Creek Restoration Project consist of?

The deeply eroded channel will be filled in and fine graded. A series of rock riffles (rocky ramps) and pools will then be installed throughout the length of the channel. The purpose of the riffle is to allow water to cascade over the structure while the rock helps to prevent erosion from reoccurring. The pools constructed in between the riffles serve to slow the water down and provide a refuge area for fish, amphibians, and insects during times of low flow.

Through the remediation of approximately 115 meters of severely eroded watercourse and improvements to native Brook Trout habitat, this project will extend positive impacts downstream for multiple kilometres, enhancing the range and spawning conditions for this threatened species.

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Will trees and vegetation need to be removed to fix the creek?

Approximately 13 trees are required to be removed from the project site to allow the required work to be undertaken. The understory vegetation will also be removed to allow for the creek to be filled in and the area to be graded to better connect the new channel to its floodplain.

As part of the creek restoration work, 33 new native trees (red oaks, sugar maples, and basswoods) and 260 native shrubs (dogwoods, varieties of willows, elderberries, winterberries, etc.) will be planted, and the entire area will be seeded with a native riverbank seed mix.

The removal of these trees is carefully planned to ensure minimal disruption to the surrounding ecosystem. This approach allows us to effectively address severe erosion and habitat degradation, ultimately fostering a healthier and more sustainable environment.

How long will this take?

The restoration work is scheduled to begin in September 2024 and expected to take approximately 5 weeks (weather permitting).

Should I expect loud noise?

Heavy construction equipment and machinery will be utilized for this project. Construction will be undertaken during typical working hours. There will be no evening or weekend work.

How did this project originate?

As early as 2021, the Niagara Chapter of Trout Unlimited Canada (TUC) identified that this eroding section of watercourse was negatively impacting downstream of native Brook Trout habitat. Members of TUC started to actively solicit partnerships and seek the necessary funding to undertake this restoration project. TUC was successful in obtaining commitments from Niagara Region, Town of Pelham, the Government of Canada through the Environmental Damages Fund, Walker Industries, and Lafarge Canada to contribute to this project.

They were also successful in obtaining permission to implement this project from the three private landowners on whose property the subject tributary of 12 Mile Creek flows.

With the support of grant funding, TUC retained the engineering firm Water's Edge Environmental Solutions to generate the creek restoration design. While TUC is strong in obtaining partnerships and funding, they have limited experience in managing a large construction project. To this end, TUC approached the Niagara Peninsula Conservation Authority (NPCA) in March 2024 with the request that NPCA manage the construction phase of the project due to NPCA's extensive experience in this field. NPCA agreed to take over the role as Project Manager and proceeded to lead the effort to implement the project.

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Were First Nations Consulted?

In preparation for this project, TUC commissioned an archaeological investigation of the site to ensure that there were no Indigenous or colonial artifacts that might be impacted by the proposed restoration work. The archaeological investigation actively included members of the Grand River Six Nations, the Mississaugas of the Credit First Nations, and the Haudenosaunee Development Institute. No cultural features or structural elements were identified in the project area. As such, the investigation's results indicated that the site was suitable to undertake the necessary remediation work.

Who is doing the work?

Through our competitive procurement process, NPCA selected R&M Construction to undertake this work. R&M Construction was founded in 1976 and is a family owned and operated general contracting company based out of Acton, Ontario. They specialize in the construction and restoration of natural waterways (including eroding banks and shorelines) throughout Southern Ontario. Their team has extensive experience in this field, and their fleet consists of specialized equipment which has been outfitted specifically for stream restoration work.

Does NPCA typically do this kind of work?

The NPCA has a long history of managing and funding these types of environmental restoration projects. In fact, one of NPCA's goals is to improve water quality, forest cover, and habitat through its restoration efforts, to benefit local ecosystems and improve the overall health of the Niagara Peninsula watershed. This is achieved by fostering partnerships with local landowners and providing financial incentives to implement voluntary restoration and stewardship projects.

Who should I contact if I have further questions regarding this project?

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