



Fixing the Hwy20 Stormwater Management Pond Outlet Erosion Causing Property and Habitat Damage Above Twelve Mile Creek in Fonthill

Presentation to Mayor and Council of the Town of Pelham, March 7, 2022

Objective for tonight.

A motion by Council to allocate the \$70K approved for the design phase to Trout Unlimited Canada's Niagara Chapter to deliver the Design Engineering plan to fix the Rice Road SWMP outlet erosion problem.

Trout Unlimited Canada

Trout Unlimited Canada is a registered Canadian charitable organization. Our mission is to conserve, protect and restore Canada's freshwater ecosystems and their coldwater resources for current and future generations. Our work is guided by science and research and fueled by the unending passion of our volunteers and professional staff.



Trout Unlimited Canada - Niagara Chapter

The Niagara Chapter of Trout Unlimited Canada is a conservation organization made up of volunteers who care about the last remaining cold water aquatic system in Niagara: Twelve Mile Creek. With our partners, we are working to preserve, protect, and enhance the Twelve for this and future generations.



DAYS OF ACTION
for 12 Mile Creek

NIAGARA
CHAPTER

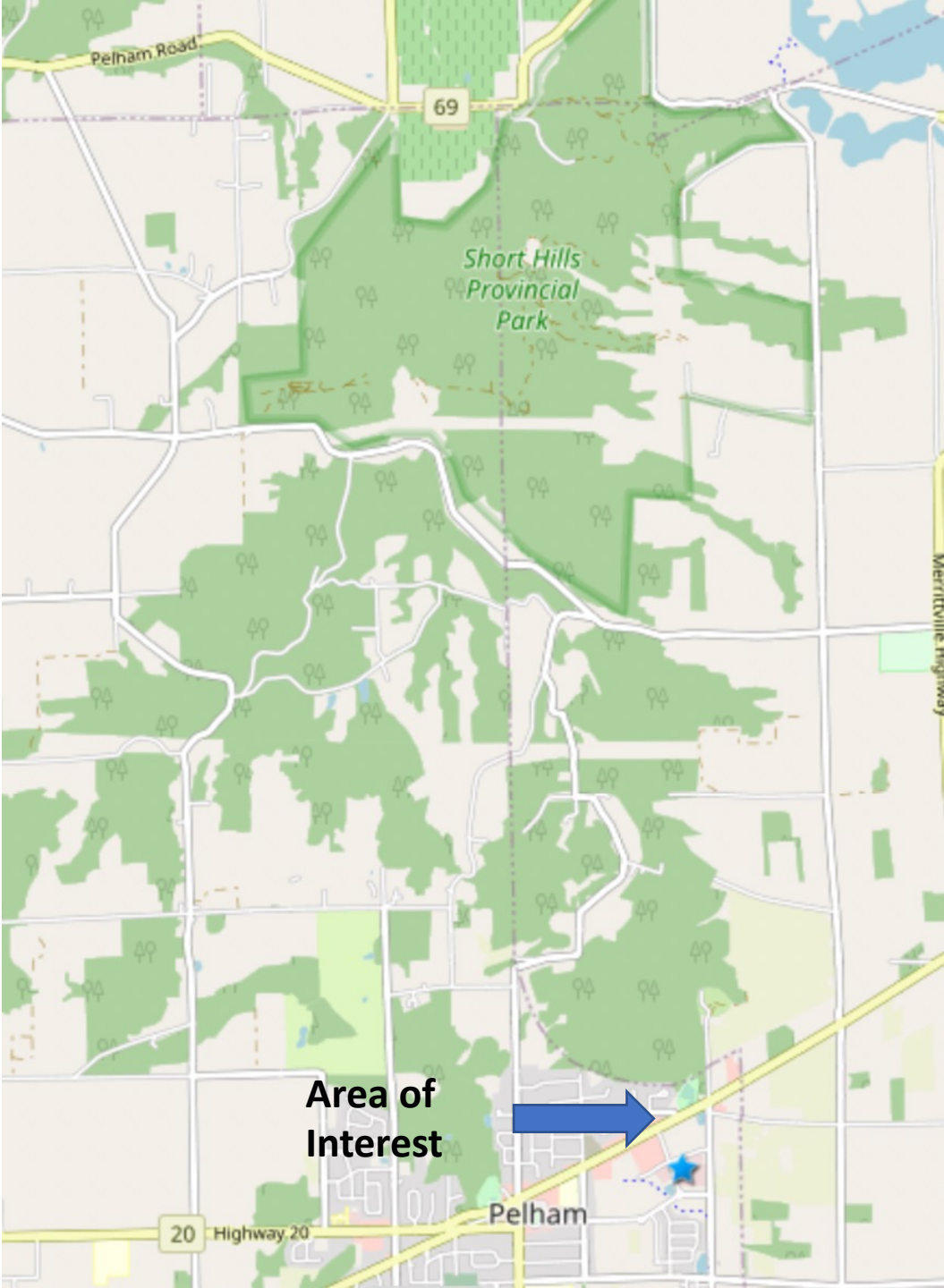
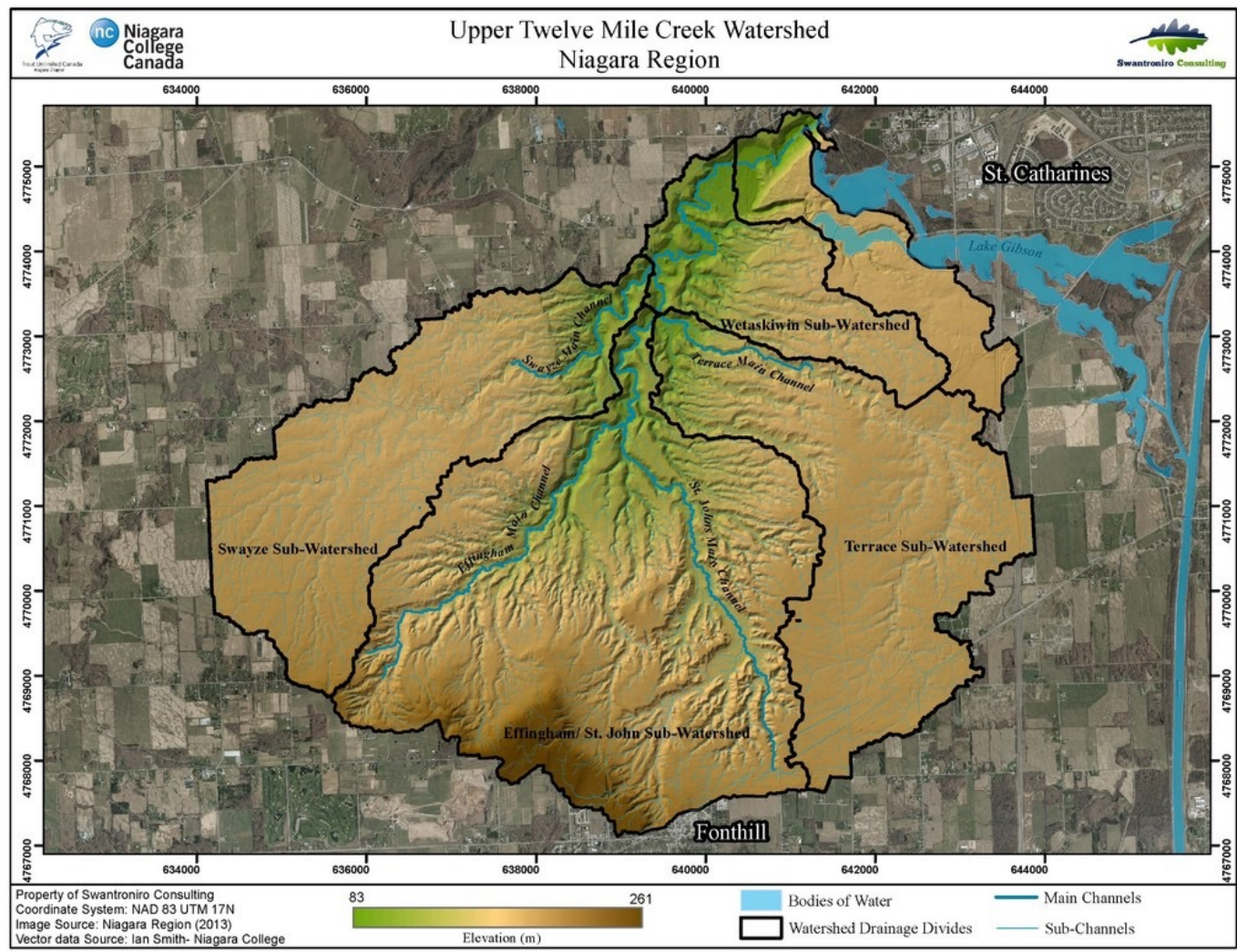
Trout Unlimited Canada - Niagara Chapter

We are celebrating ten years of successful stream restoration projects in the Upper Twelve Mile Creek watershed.

Working in partnership with the Town of Pelham, Niagara Region, MNRF, DFO, NEC and NPCA and private landowners.



The Upper Twelve Mile Creek Watershed is Niagara's "most significant watershed".



Upper Twelve
Mile Creek
Watershed



2018 Aerial

2018 Aerial

1:500



Tools

3 Aerial



8 Aerial

1:500



Property Loss

Pond Outlet

2018 Aerial

2018 Aerial

1:500

Close up of the stormwater
pond outlet at Hwy20
showing erosion of the
bank below the Pelham
Cares building.



Impact of excessive flows



- Scouring, erosion and property loss
- Sediment conveyed downstream into the watershed
- Destruction of vegetation, tree cover
- Damage to aquatic habitat
- Flood damage to properties downstream
- Damage from excess water flows will continue caused by unique weather events (climate change) and any additional development (hard surfaces) upstream



Erosion Control

Design Option : Step Pools

Stormwater step pools are often used for drainage areas to safely convey stormwater down a steep slope, gully, or ravine while minimizing scour and channel erosion potential.



Moving toward a solution

Phase One: Design Engineering

Phase Two: Fund Raising

Phase Three: Approvals and Construction

Phase Four: Beautification

Phase One: Design-engineering:



Water's Edge provides fluvial geomorphology, natural channel design, and water resources engineering consulting to municipal clients such as the Town of Pelham.

Senior staff under president Ed Gazendam has completed numerous stream restoration projects, ranging from full-scale design projects on large river systems to Class Environmental Assessments, baseline studies, and monitoring.

Waters Edge has agreed to provide a design engineering plan within the \$70K budget.





Oversight

Regular reviews at every project milestone by a working group consisting of representatives from:

The Town of Pelham

The NPCA

TUC National

TUC Niagara Chapter (Chair)



It's time for action.