

The Niagara Escarpment: Lockport's Past and Future

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The Rise of the Niagara Escarpment

Key Themes

- ❑ The Niagara Escarpment is a unique Great Lakes land form worthy of conservation.
- ❑ A collaborative approach can yield results to difficult environmental and brownfields problems.
- ❑ Brownfields restoration and open space conservation are interrelated.
- ❑ The hard work lies ahead for cleanup up of brownfields sites and creating a network of public owned conservation land along the escarpment.

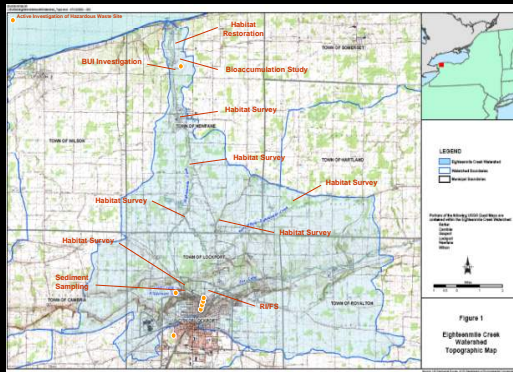
Niagara Escarpment



Canada's Niagara Escarpment Commission: <http://www.escarpment.org/>



Eighteenmile Creek Watershed



Eighteen Mile Creek Restoration Project

OBJECTIVES

- Restore and Stabilize Eroded Stream banks
- Initiate Riparian Zone Restoration
- Control Non-Point Runoff/Improve Water Quality
- Enhance Existing Stream Access
- Improve Safety for Recreation
- Create and Enhance In-Stream Habitat Diversity



Eighteen Mile Creek

Habitat Restoration Project

2002 - 2003

Bio-Engineering Interventions

- Restoring and stabilizing creek banks sediment and erosion control, riparian buffer, biodiversity
- Planting native species – scrub grasses and Tree/shrub/herbaceous vegetation layers to enhance communities
- Installing hydrologic hydraulic Cover Stones (hiding places for fish) in channel structure – cover, resting, foraging, oxygenation
- Overhanging trees for shade – reduce water temperatures, cover, insect food source, wildlife habitat, perches, basking sites
- Choking the channel to increase flow adjust channel width to depth ratio to increase flow, velocity, depth

Slope Stabilization

Downstream (Pre-Restoration) View at Higher Flow Fall 2002

Stone Stepped Wall October 2003

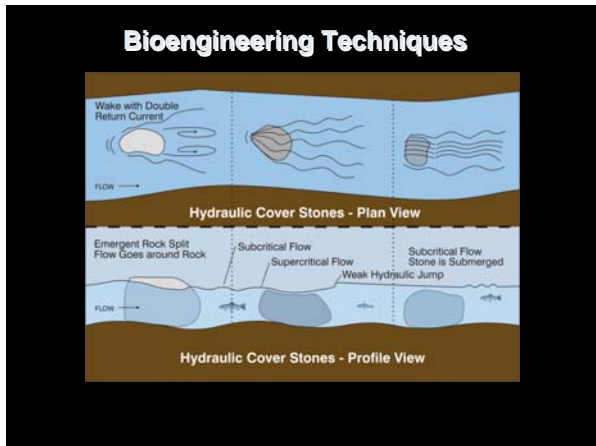
Bioengineering Techniques

Pushed Trees

- Provide shading of stream
- Lowers water temperature for trout and salmon
- Increases terrestrial insects on river (i.e. fish prey)

Locked Limbs

- Provides refuge for fish and habitat for aquatic invertebrates

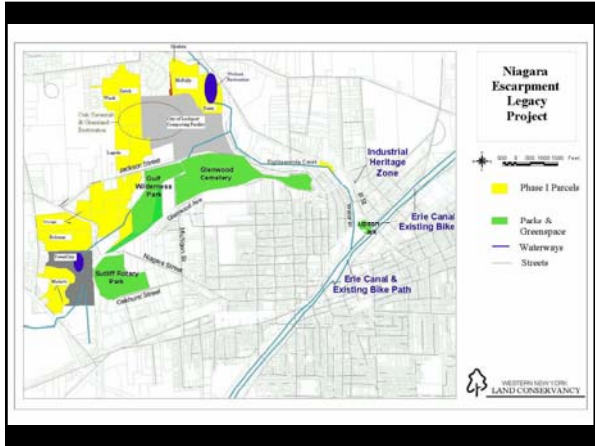


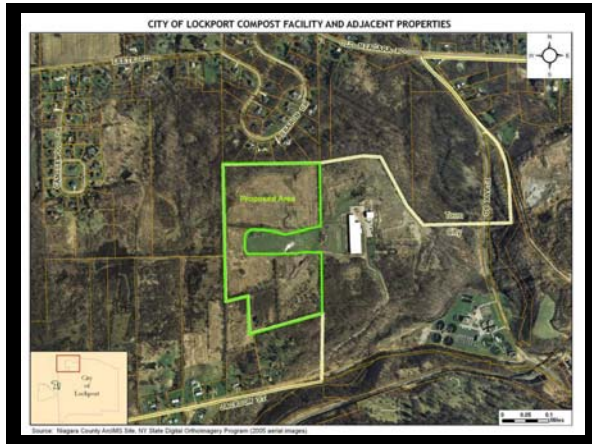
- ## Eighteen Mile Creek Restoration Project Partners
- USEPA Great Lakes National Program Office
 - United States Army Corps of Engineers – Buffalo District
 - NOAA's Office of Ocean and Coastal Management in conjunction with NYS Department of State Coastal management program
 - USDA Natural Resources Conservation Service
 - New York Department of Environmental Conservation
 - Niagara County Legislature
 - Niagara County Department of Economic Development
 - Niagara county Department of Public Works
 - Niagara County Sheriffs Work Program
 - Niagara County Soil and Water Conservation District
 - Lake Plains Resource and Conservation Development Council
 - Cornell Cooperative Extension
 - Americorps
 - Town of Newfane and Town of Newfane Highway Department
 - Ecology and Environment, Inc.

- ## Next Steps: Eighteen Mile Creek & The Escarpment
- ❑ Restoration of the creek above the dam will be crucial to the land trust project of protecting land along the escarpment.
 - ❑ However, the up stream portions of the creek are outside of the official Area of Concern (AOC).
 - ❑ Work underway to expand the AOC to the up stream portions of the creek.
 - ❑ Summer 2007 marks the start of collecting sediment samples and fish tissues samples in the creek above the dam.
 - ❑ Heavy metals and PCBs have been identified in the upper portions of the creek.



- ## Niagara Escarpment Legacy Project
- ❑ Goal: To preserve escarpment for ecological and public benefit, connect public lands along the escarpment and restore native plant and animal life
 - ❑ WNYLC is working with the City of Lockport to restore native grasses to city owned lands on the escarpment with grant from the US. Fish and Wildlife Service
 - ❑ WNYLC has identified and contacted surrounding private landowners to place conservation easements on their property

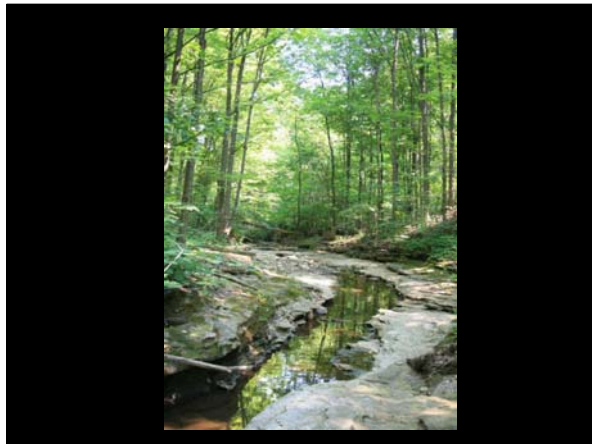




Stakeholders for Niagara Escarpment Legacy Project

- Western New York Land Conservancy
- New York Department of Conservation
- U.S. Fish and Wildlife Service
- The Nature Sanctuary Society
- The Trust for Public Land
- The City of Lockport
- The Town of Lockport
- University of New York at Buffalo Urban Design Program
- HSBC
- Land Trust Alliance
- Land Conservation & Planning
- First Niagara Bank
- ecology & environment inc.
- County of Niagara
- Niagara County Soil & Water Conservation District

High Quality Habitat



Connections: Escarpment & Eighteen Mile Creek Projects

- Both projects are critical for the full restoration of the ecologic system and making the City of Lockport an attractive destination.
- In the near future Western New York Land Conservancy hopes to assist with the wetland restoration within the floodplain of Eighteen Mile Creek.
- Coordination between the Escarpment Legacy Project and Eighteen Mile Creek project is informal.
- Next Step: formalizing and closely coordinating the two projects.

Special Thanks to

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Niagara County Soil & Water Conservation District