

# Glenorchy Conservation Area

## Restoration Project Fact Sheet

### PROJECT DESCRIPTION:



Established in 2008, the 401 hectare (990 acres) Glenorchy Conservation Area in Oakville, protects lands distinguished by the Sixteen Mile Creek gorge, forested slopes, headwater creeks, wetlands and shale bluffs. Managed by Conservation Halton and owned by the Province

of Ontario, the area has been set aside for ecosystem protection and enhancement purposes. While the area is not yet open to the public, Conservation Halton has been busy working on something great.

Initially recommended by planners 50 years ago, the Master Plan for the property was finalized in 2010 and called for ambitious ecological restoration projects to be undertaken in the first ten years. The Master Plan's objectives are to provide 176 new hectares (434 acres) of diverse terrestrial, aquatic and wetland ecosystems and linkages.

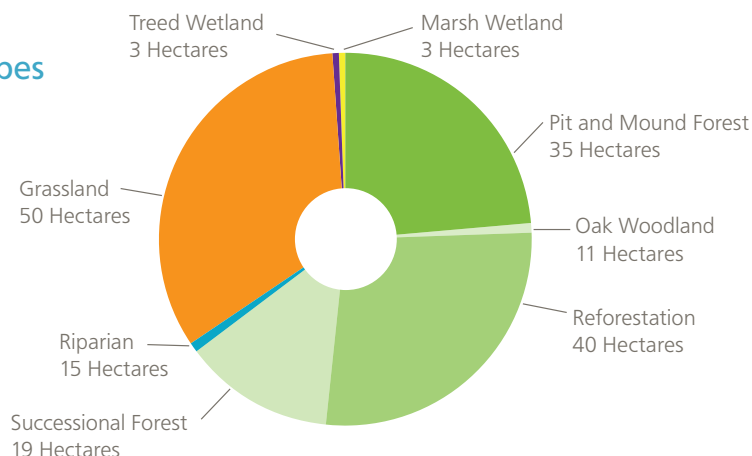
These restoration initiatives form a key component of the North Oakville and Region of Halton Natural Heritage Systems. In 2012, these lands became the first expansion to Ontario's Greenbelt since the Act's inception in 2005.

While implementing the plan, Conservation Halton has focused on providing functioning, diverse and self-sustaining communities of native plants and wildlife which support watershed health. Through careful planning, ongoing monitoring, and site management, this conservation area will become a premier public destination, offering a variety of passive recreational and cultural experiences.

Starting in 2009, these are the ecosystems which Conservation Halton has been targeting as per the restoration plan.

### Ecosystem Restoration Types

(176 Hectares)



### LOCATION

Oakville, North of Dundas Street

### WATERSHEDS

Sixteen Mile Creek, Fourteen Mile Creek, McCraney Creek

### PROJECT START

2009

### SIGNIFICANT FEATURES

Restoring 176 hectares of the North Oakville Natural Heritage System

### PROJECT STATUS

Nearing completion and transitioning to maintenance and management phase

### NEXT STEPS

- McCraney Creek Riparian Restoration
- Successional Forest Planting
- Invasive Species Management
- Grassland Prescribed Burn
- Recreational Trail Plan




### FUNDING PARTNERS

- Conservation Halton
- Infrastructure Ontario
- Hydro One Networks & Métis Nation of Ontario
- Forests Ontario
- Region of Halton
- Town of Oakville
- Environment and Climate Change Canada
- Shell Canada
- Ducks Unlimited Canada
- Alcoa Foundation

## RESTORATION PLAN



### Legend

-  Glenorchy CA Boundary
-  Pit and Mound Forest Restoration
-  Grassland Restoration
-  Marsh Wetland Restoration

## PROJECT HIGHLIGHTS (2009–2016)

**95%** Percentage of Restored Land  
(167 out of 176 Hectares)

The restoration objectives for Glenorchy Conservation Area aim to increase the representation and extent of forests, wetlands, riparian areas, and grasslands providing a rich landscape of well-connected natural ecosystem.

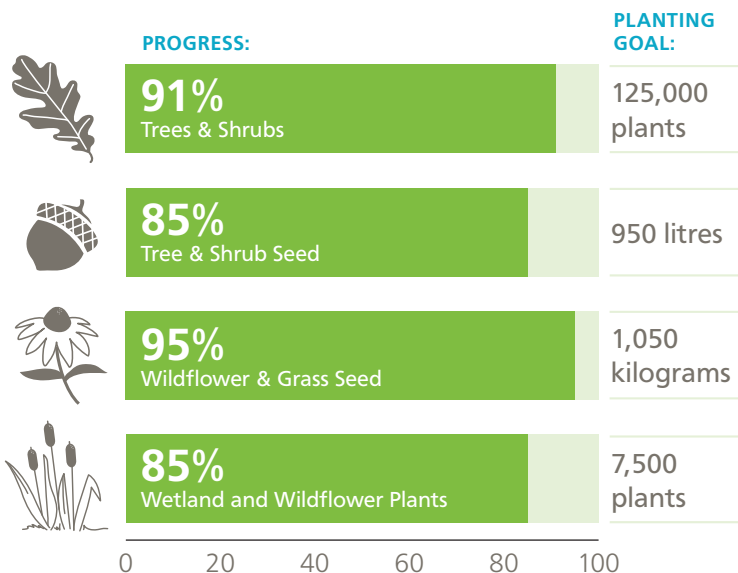
A large tract of native grassland has been established in the centre of the conservation area. Treed swamp, riparian and other wetlands have been restored and created. The existing forests have been expanded using a variety of techniques. All of this work lays the groundwork to provide a substantially resilient ecological landscape and improve the health of the watersheds.

The following provide highlights for three restoration initiatives.

### Forests: Pit and Mound Restoration – 35 hectares

Pit and mounds are microtopographical features that develop when large trees fall in a mature forest. The pits are formed from the uprooted root mass, while the mounds are formed over time as the roots and soil begin to decay.

In adjacent forests in North Oakville, the landscape is dotted with such pits and mounds. On cleared land, these features have been smoothed out over time. By recreating these naturally occurring topographic features during a forest restoration project, a multitude of benefits are achieved.





To prepare the site, a machine was used to replicate the pits and mounds. Following this, the area was planted with more than 60 native species of trees, shrubs, grasses and wildflowers. Tree nuts, like red oak and shagbark hickory, are planted directly into the soil to let them germinate and grow naturally. The diverse seed mixture was spread across the landscape to provide a native ground cover which encourages successful tree growth. Salvaged logs from ice storm damaged trees have been placed throughout the restoration area to provide organic matter and cover for wildlife.



## Wetlands – 6 hectares



Wetlands provide vital services of water purification, flood control, climate change mitigation and wildlife habitat. The coverage of wetlands in the region has been reduced by over 85%; by restoring new treed wetlands and open marshes, an important step has been taken to reverse this loss.

Wetlands are one of the most challenging ecosystems to restore but compared to any other ecosystem provide the highest return on investment for beneficial ecosystem services.

A large two hectare open water marsh has been created as a focal wildlife and water element within the grassland area. The wetland will provide flood storage for

the Taplow Creek subwatershed and provide habitat for a diversity of breeding amphibian and waterfowl species. Several small wetlands have also been created to provide habitat for species suited to seasonal and fluctuating water levels.

These wetlands are bringing life back to Glenorchy, providing habitat that was more common in the area in the past.

## Grasslands – 50 hectares

As southern Ontario was settled, much of the prairie or savannah vegetation was removed. It is estimated that less than 3% of tallgrass prairie and savannah areas remain in Southern Ontario. Grassland birds in North America have experienced some of the most pronounced population declines of any group of birds on the continent and these declines appear to be continuing unabated.

A major element of the restoration plan has been to reintroduce a large area of grassland habitat to increase representation of this ecosystem within the protected areas of Halton.

Grassland restoration has focused on establishing warm season grasses such as Big Bluestem, Little Bluestem and Indian Grass mixed with a diversity of wildflowers such as milkweeds, sunflowers and beardtongues.





Native grasslands and oak woodlands in our area have evolved to be fire-dependent as a result of wildfires and burning by indigenous peoples, hundreds of years ago. This grassland will be managed through prescribed burning which benefit native grassland plants and animals by removing exotic species, by restoring wildlife habitat, and by returning essential nutrient balance to the soil.

This initiative will contribute to recovery of several grassland and meadow dependent species such as Eastern Meadowlark and Savannah Sparrow.

## RESTORATION OUTCOMES

Increase in ecosystem representation at Glenorchy Conservation Area as part of the restoration plan includes:

**25% ↑**

Forest

**88% ↑**

Oak Woodland

**99% ↑**

Grassland

**22% ↑**

Marsh  
Wetland

**16% ↑**

Treed  
Wetland

Implementation of the restoration plan is expected to achieve the following deliverables:

- 176 ha of improved and restored habitat and soil conditions that protect groundwater, natural drainage and self-sustaining natural cover
- 53 sub-catchments restored to enhance hydrology
- 11 km of improved stream edge habitat
- 58 ha of interior forest habitat
- 6 ha expansion of the Provincially Significant North Oakville-Milton West Wetland Complex
- Restoration to enhance species at risk habitat
  - Endangered: Redside Dace, Mottled Duskywing, Henslow's Sparrow, Butternut, several bat species
  - Threatened: Silver Shiner, Bobolink, Eastern Meadowlark, Barn Swallow
- Significant Wildlife Habitat
  - Amphibian breeding habitat
  - Amphibian movement corridors
  - Early successional bird breeding habitat
  - Waterfowl stopover and staging area
  - Waterfowl nesting
  - Marsh bird breeding habitat
- Installation of structures such as bat boxes and snake hibernacula to create wildlife habitat.

## VOLUNTEERS

This significant undertaking would not have been possible without the dedicated work of community residents. Participants gained hands on experience with this environmental stewardship initiative by planting vegetation and managing invasive species. A wide range of volunteers participated from young industry professionals to non-governmental organizations and corporations. Engagement in these projects not only educates participants but also encourages them to become ambassadors for healthy watersheds and natural areas.

## PARTNERSHIP: MÉTIS NATION OF ONTARIO

Together, Hydro One and the Métis Nation of Ontario (MNO) and Conservation Halton improved the Glenorchy Conservation Area through a joint habitat enhancement project. Traditional Métis values and knowledge were integrated into the pit and mound forest restoration area through planting of traditional plants used for ceremonial and medicinal purposes.

Gary Lipinski, President of the Métis Nation of Ontario at the time, said the project “enabled MNO to partner with Conservation Halton and collaborate on what promises to be a groundbreaking biodiversity initiative. This is the first of its kind for the MNO, and we are very proud to share this success with Hydro One and Conservation Halton.”



## NATURAL CAPITAL

As a result of the high value for water regulation, water filtration, flood control, waste treatment, recreation and wildlife habitat—restored ecosystems such as these provide great value in the form of ecological goods and services. Based on non-market ecosystem service values by ecosystem, the restoration areas at Glenorchy Conservation Area will provide key services estimated to be worth \$816,000 each year.

## THE BIG PICTURE

By adding to and complementing the existing natural areas such as the Sixteen Mile Creek valley, this restoration initiative significantly enhances and connects natural areas to ensure they are more resilient and provide improved benefits to local residents.

A natural heritage system looks to create a network of various habitat features and functions including woodlots, creeks, meadows, and thickets rather than isolated greenspaces separated by homes, businesses, and roads. The systems approach is considered the best opportunity to preserve and enhance living natural systems. A natural heritage system allows plant and animal species to maintain vital populations and to thrive. The restoration initiative at Glenorchy Conservation Area supports and enhances the connectivity and function of the Natural Heritage Systems and sets a strong foundation to maintain, restore and enhance watersheds and ecological landscapes in this area of north Oakville.

## FUTURE PUBLIC ACCESS

The natural areas at Glenorchy Conservation Area will provide valuable opportunities for passive outdoor recreation through public trails, lookouts, interpretation, interpretive signage, and education. Conservation Halton will be working with partners to implement this next phase of the Master Plan.

## FUNDING PARTNERS (over \$30,000)



Environment and  
Climate Change Canada

Environnement et  
Changement climatique Canada