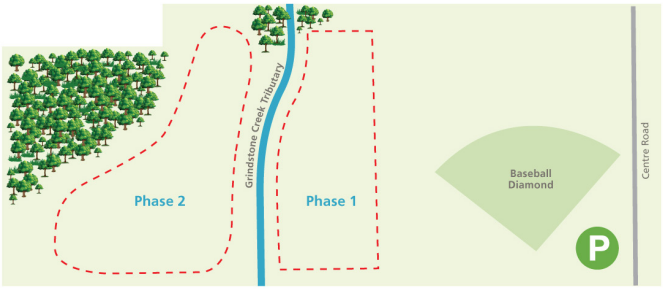
Flamborough Centre Park

Wetland Restoration

PROJECT DESCRIPTION:

Flamborough Centre Park, which is owned by the City of Hamilton, has a seasonally high water table, limited recreational opportunities and challenging maintenance requirements. Conservation Halton collaborated with the City in identifying options for restoring the natural environment on a small portion of the property, which used to be a treed deciduous swamp, before the land was cleared. The initiative will see approximately 2 hectares (4.9 acres) of the underutilized City of Hamilton recreational park transformed to productive treed wetland and marsh ecosystems. This project involves removing a portion of the topsoil from the area creating a shallow wetland and pit and mound features, and planting the area with native species that are tolerant of wet ground conditions.



Phase One	Phase Two
2020	2021
• Emerald Ash Borer Tree Management • Restore 0.5 hectares into a productive forested wetland • Construct 26 pit and mound features (2x2m) and four small wetlands cells (6x6m)	• Restore 0.5 hectares into a marsh ecosystem • Remove a portion of the topsoil from the area to increase flood storage • Restore 1 hectare of swamp forest
• Plant more than 5,000 native trees, shrubs and plants that are tolerant of wet conditions	

WHO ELSE IS INVOLVED?

This project is being managed by Conservation Halton, in consultation with the City of Hamilton. The City played a significant role in managing invasive species on site.

WHAT NEEDS HELP?

Estimates suggest that the coverage of wetlands has been reduced by 85% in Ontario's Golden Horseshoe. Wetlands provide valuable ecosystem services such as controlling erosion, conserving, and purifying water, providing wildlife habitat to surrounding flora and fauna, and recreational opportunities within communities. Through an ecosystem approach to restoration, we can increase the cover of wetlands in the area and add to the adjacent 190 hectare Provincially Significant Wetland complex.

Conservation Halton

LOCATION

Flamborough Centre Park,
969 Centre Road,
City of Hamilton

WATERSHED

Grindstone Creek

PROJECT TIMELINE

Phase 1: 2020
Phase 2: 2021

PROJECT STATUS

Ongoing

NEXT STEPS

Phase 2 Implementation

PARTNERS

- City of Hamilton
- Greenbelt Foundation

SIGNIFICANT FEATURES & DESIGNATIONS

- City of Hamilton Natural Heritage System
- Greenbelt Natural Heritage System
- Flamborough Centre Provincially Significant Wetland Complex

THE BIG PICTURE

This project underscores the critical role of wetlands in providing natural flood control infrastructure and building community resilience to climate change. Part of a larger flood prone area that drains into the upper reaches of Grindstone Creek, the project will add flood storage capacity and is expected to reduce water flows downstream.

Restoration of wetland ecosystems (pit and mound swamp forest, and wet mixed open marsh) and wildlife habitat features (turtle sunning logs, raptor perching and herbaceous plants) will also provide co-benefits to the community including:

- Improved quality of publicly available area for low-impact recreational opportunities like bird watching;
- Increased natural buffers;
- Natural heritage connectivity;
- Diversity of flora and fauna at the site.

Volunteers assisting with planting native species.

Outcomes of the this project.

Once established, this project will provide a healthier watershed for wildlife and the residents of Hamilton.

PROJECT HIGHLIGHTS — WETLANDS & WATER

Thirty pit and mounds and one large marsh were created on site, adding one hectare of wetland to the surrounding Provincially Significant Wetland. A pit and mound technique involves creating uneven topography to mimic the conditions of a natural old growth forest floor that would take decades to re-establish on its own. Both the pit and mound and the marsh wetland will provide breeding habitat for a wide diversity of wildlife. Each of the created features vary in size, depth, and orientation providing different conditions to suit different species.

WETLANDS & WATER CONT'D

The tree and shrub plantings will eventually mature into a native deciduous forested swamp ecosystem. Large woody debris (i.e. tree trunks) were scattered about in open areas to provide habitat for a range of organisms including plants, mosses, lichens, small animals, and insects. Decaying wood is an organic material that has the following benefits for the soil and plants:

- Stores nutrients;
- Improves drainage;
- Holds moisture;
- Balances the pH levels;
- Provides beneficial environment for fungus, bacteria, and other microbes.

The project is designed to provide suitable habitat at various lifecycle stages for amphibians, like the Green Frog.

Large pieces of woody debris salvaged from nearby were installed throughout the site to provide structural diversity.

SOIL & CARBON

To simulate the conditions of a natural wetland, organic material was added to the soil in the form of biochar and woody debris. Biochar is a charcoal and ash product made from burning plant material under low air and high temperature conditions. Organic material helps the wetlands to harbour water-purifying microbes. This biochar is very stable and locks carbon in the soil without decomposing.

ACORN GENETICS

This project included the planting of two species of naturally occurring hybrid oaks including:

- Bur x Swamp White Hybrid Oak (*Quercus x schuettei*)
- White x Bur Hybrid Oak (*Quercus x bebbiana*)

These, and other hybrid oak species occur naturally in Flamborough. Hybrid oaks tend to produce acorns earlier than pure oak species, yielding acorns after 10 years versus 20.

Bur x Swamp White Hybrid Oak Acorns.

PROJECT FUNDING

Thanks to our partners at the Greenbelt Foundation, the first phase of the project has been funded. Conservation Halton is actively seeking financial support to complete Phase 2: 2021 project elements.

Conservation Halton | GREEN BELT Possibility grows here. | Hamilton

905.336.1158
conservationhalton.ca
restoration@hrca.on.ca