

Saltfleet Conservation Area

A critical component of strengthening regional resilience to the impacts of climate change is the strategic investment in natural assets, like wetlands and forests. This natural or “green” infrastructure can help us mitigate some of the largest threats facing our region, including flooding, water quality issues and rising temperatures.

By understanding what services our natural assets provide, we can better plan for and manage them – just as we would any other municipal asset.

Building an Economic Case

The Hamilton Conservation Authority is creating a new conservation area located above the Niagara Escarpment in the Upper Stoney Creek and Upper Battlefield Creek watersheds in the east end of the city of Hamilton.

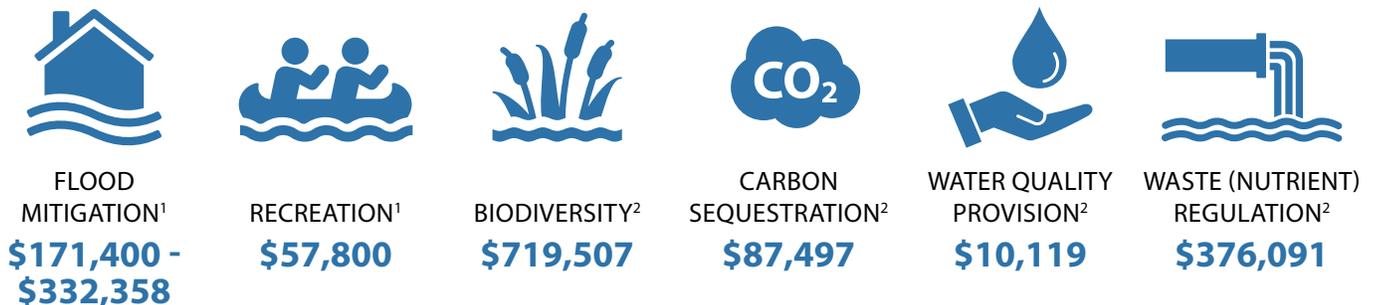
The purpose of the new conservation area is to:

- Reduce downstream flood risk to residential and commercial properties by enhancing and enlarging existing wetland areas, creating new wetland areas and restoring the natural features and functions of watercourses in the area
- Support community well-being by creating new recreational opportunities and linking to the Dofasco Trail
- Support biodiversity by creating new wildlife habitat and connective corridors to other local conservation areas.

To build the economic case for this project, flood mitigation and recreation services provided by the new conservation area were valued using local and recent information that accounted for both climate and population changes in the region. Annual values associated with recreational trips to the conservation area will increase over time as the population of the City of Hamilton and region increases. Similarly, the value that the conservation area provides in terms of flood mitigation will also likely increase with the changing climate. Due to a lack of established projections on the increased occurrence of extreme weather, flooding events, and other climate change-related impacts conservative scenarios of one and two per cent increases in the risk of a severe flood event (what is known as “a five to 50-year event”) were used to get a range of values.

The new Saltfleet Conservation Area is expected to provide multiple ecosystem services that can be considered co-benefits beyond flooding and recreation. A benefit-value-transfer approach allowed for a valuation of the biodiversity, water quality regulation and climate regulation (carbon sequestration) values this project will provide.

Annual value of ecosystem services

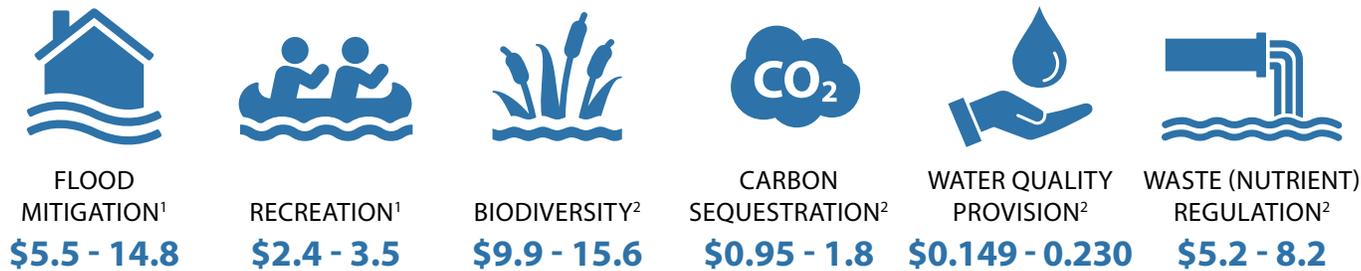


Possibility grows here.



A Healthy Watershed for Everyone

50-year net present value (NPV) range³ of services in million \$



1 Primary valuation. 2 Benefit transfer value. 3 Using 0.5% and 2% discount rates and 1-2% increase in flood incidence

Even by conservative estimate, the 50-year net present value (NPV) resulting from this project will be \$24 million, which exceeds the \$15.3 million estimated project capital cost. If the incidence of 50-year floods increases by two per cent and discount rates are set at 0.5 per cent, the NPV would grow to \$44.2 million—over double the capital cost for the project. This value does not include all the human health and wellbeing benefits that greenspace like conservation areas are known to provide.

The alternative to investing in this natural infrastructure could be an investment in conventional 'grey' flood attenuation infrastructure. The estimated capital cost of building a grey infrastructure alternative in this locale is \$28.5 million. Notably, grey infrastructure would not provide the other ecosystem service values associated with the wetland complex's carbon sequestration, biodiversity and recreation benefits.

Even by conservative estimates, this proposed green infrastructure capital investment would pay for itself and would provide additional value beyond grey infrastructure alternatives.



Beyond the Economic Case

In addition to the services that restored natural areas can provide as infrastructure, they provide communities with more intangible benefits as well. Natural settings can improve moods, lower blood pressure and increase reported happiness.

The Greater Golden Horseshoe is seeing increased demand for large parks as the population grows¹. The Saltfleet Conservation Area will provide new and needed parkland, offering residents new opportunities for restoration and recreation, which benefit physical and mental health.

1 Green Infrastructure Ontario Coalition. 2019. State of Large Parks in Ontario's Golden Horseshoe

