

Item for the Information of the Regional Watershed Alliance

TO: Chair and Members of the Regional Watershed Alliance
Wednesday, September 22, 2021 Meeting

FROM: John MacKenzie, Chief Executive Officer

RE: **TORONTO INNER HARBOUR FLOATABLES STRATEGY**

KEY ISSUE

TRCA, through the development and implementation of their Toronto Harbour Floatables Strategy, is working with the University of Toronto Trash Team, Harbourfront Centre, Ports Toronto, and several City of Toronto divisions to implement this adaptive management strategy which envisions a City of Toronto Harbour that is free of floatable debris, with a thriving aquatic ecosystem and abundant recreational opportunities.

RECOMMENDATION

THAT this report and presentation be received for information purposes;

AND THAT member feedback be considered in the development of Version 2 of the Toronto Inner Harbour Floatables Strategy.

BACKGROUND

The Toronto Inner Harbour Floatables Strategy is an adaptive management strategy to improve the aesthetics and environmental health of the Toronto waterfront, through the removal of floatable pollution. Floatable pollution has negative impacts on wildlife, habitat, tourism and recreational opportunities in the Great Lakes. Floating debris can negatively impact tourism, as tourists often choose cleanliness as a factor when selecting destinations. Habitat and wildlife can be impacted through entanglement, habitat loss and ingestion. Floatables can also degrade into microplastics, which is also a significant issue facing the Great Lakes. Elimination of floatable debris can bring positive economic benefits to the local community through the increase in tourism associated with a clean harbour. Additionally, the elimination of floatables debris also contributes to the reduction in plastic pollution in Lake Ontario, which is currently one of the top environmental threats to the Great Lakes. The strategy outlines actions that can be taken by various stakeholders, partners and community groups, in various stages, to move towards the vision of creating a City of Toronto Inner Harbour that is free of floatable debris with a thriving ecosystem and abundant recreational opportunities.

The objective of the strategy is threefold: First, to prevent plastic and litter from entering Lake Ontario at the source; second, to monitor and measure plastic waste that has already entered the Lake, specifically in the Inner Harbour; and third, to develop a program designed to educate businesses in the neighbourhood about practices they can implement to reduce plastic pollution and floatables.

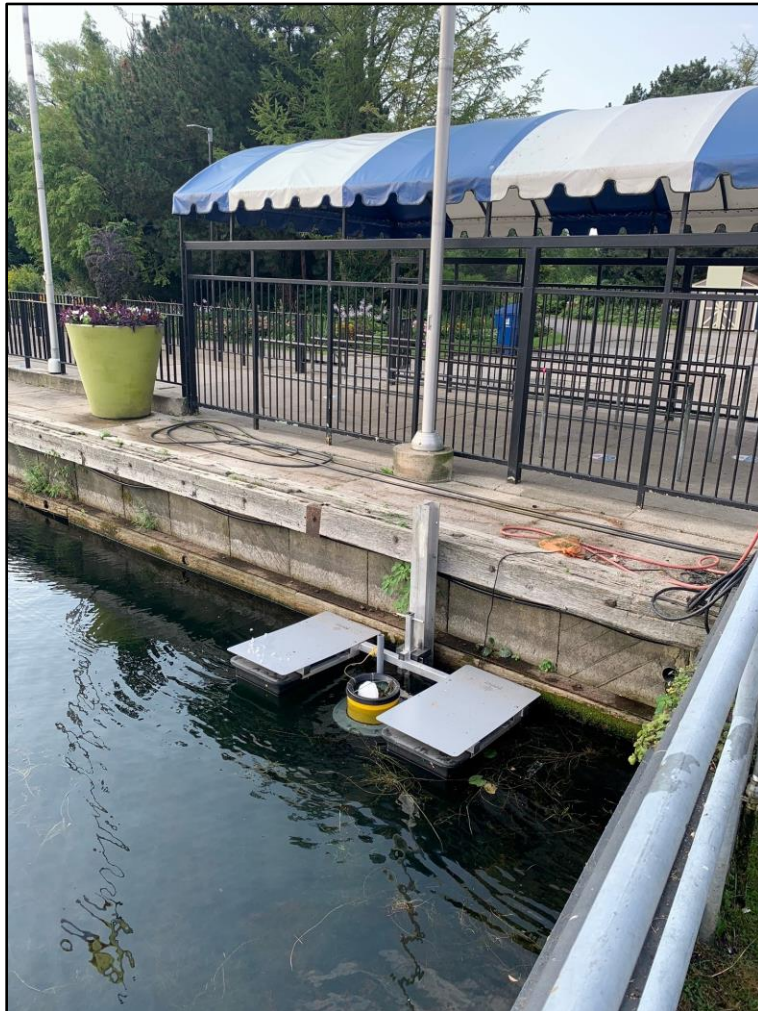
TRCA received funding from Environment and Climate Change Canada in 2019. With this funding Version One of the Floatables Strategy was developed and submitted in April 2020 (Attachment 1).

In March 2021, TRCA received additional funding in the amount of \$60,651.95 from Ministry of

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Environment Conservation and Parks through the Canadian Ontario Agreement (COA). A significant portion of the funds (\$22,000) was allocated to the purchase and installation of 2 seabins on behalf of the City of Toronto Parks Forestry and Recreation division. These seabins were purchased through PortsToronto from Poralu. PortsToronto has an existing relationship with the manufacturer and an extensive understanding of deployment of the seabins in the harbour because of their ongoing Seabin Pilot Project which began in 2018.

One Seabin has been installed at the ferry dock at Ward's Island and the other at the ferry dock at Centre Island on the Toronto Islands.



Seabin installed at Centre Island Ferry Dock

TRCA has designed and had educational signs installed at each location to ensure the public understand the importance of keeping floating litter out of the harbour as well as explaining what the Seabin is and what it does.

Toronto Inner Harbour Floatables Strategy

What is the Toronto Inner Harbour Floatables Strategy?

The Toronto Inner Harbour Floatables Strategy is an adaptive management strategy created by the Toronto and Region Conservation Authority (TRCA) in partnership with other organizations. Together we are looking to address the issue of floatable plastic pollution in the harbour and work towards the creation of a thriving ecosystem, free of floatable debris and abundant recreational opportunities!

What is a Seabin and how does it work?

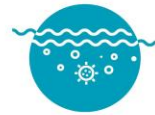
One objective of this strategy is to trap trash and divert it away from the harbour. The use of Seabins has proved to effectively remove floatables from waterways and harbours around the world.

The Seabin is a floating rubbish bin that moves up and down with the natural flow of the water. It collects all floating debris, including microplastics as small as two millimetres—smaller than a grain of rice—and hydrocarbons like fuel and oil that can spill into waterways.

Water is sucked into the Seabin from the surface and passes through a catch bag before being pumped back into the harbour, leaving litter and debris trapped in the catch bag for proper disposal.



Approximately
10,000 tonnes
of plastic enter the Great
Lakes every year



Seabins can capture
microplastics as small as
2 mm
(smaller than a grain of rice)



Each Seabin has the capability to catch
90,000 plastic bags,
35,000 disposable cups,
16,500 plastic bottles and
166,500 plastic utensils
per year



Tiny pieces of plastic (<5 mm in size),
called microplastics, are affecting the
Great Lakes. Microplastics are found in surface
water, sediment, and wildlife, up to
1.25 million particles/km²



One Seabin, in the harbour can
collect over
4 kilograms
of floatable debris per day!



The most common type of litter
debris collected by previous Seabins,
installed in the harbour in 2020, was
"small hard fragments"

Funding for this project was provided by:



This project has been brought to you by:



The majority of the funds from the MECP COA grant (\$30,000) were allocated to staff time to continue research on novel products that prevent pollution from entering the lake, continued collaboration with stakeholders identified in the strategy and the development of Version 2.

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Staff time and the final allocation of funds totaling \$8,500.00 was for the support of the University of Toronto, Scarborough Campus Trash Team, which is a community-based organization which helps monitor, measure and analyze the debris in the harbour. In collaboration with the University of Toronto, Trash Team, "trash tagging" is being conducted to observe how floating plastic moves within the Toronto Harbour and to determine accumulation "hot spots". The program entails the release of floatation devices which contain GPS tracking devices, which inform in real-time how plastic waste is moving around and within the harbour and where accumulation is occurring. This data will then inform further development of the Floatables Strategy, which identifies the need to implement trash capturing devices in the lake, such as Seabins.

The TRCA Government and Communities Relations Toronto/Durham Team is leading the project with involvement of many other TRCA business units and waterfront stakeholders. The TRCA Lake Ontario monitoring team is involved in the Trash Tagging project assisting the University of Toronto team with deployment and capture of GPS tracked bottles.

Through communication with Toronto Water and Toronto Solid Waste, technologies for floatables capture in storm pipes and garbage receptacle standardization across the waterfront is being researched. As part of this, Partners in Project Green have been included due to their work and interest in the watersheds and local business.

Through Harbourfront Centre, the team has connected with the Waterfront BIA and is now discussing an opportunity to develop targeted outreach programs in the local community to educate businesses and the public on how to reduce plastic pollution that can potentially end up in the lake. TRCA's Education team has been included in this effort and will work directly with the BIA.

This fall there is much work underway. The information from all of the actions this summer and fall will be summarized and used to develop Version 2 of the Strategy.

RATIONALE

Given the increasing prominence of floatables as a water quality issue in Lake Ontario, as well as other water bodies, this project is being brought to the Regional Watershed Alliance to inform them about key TRCA-led and supported initiatives in this area, as well as to build support and broader communication of this important subject. Going forward, the Regional Watershed Alliance could also support this work through the advice on program design and identification of additional funding opportunities.

Relationship to Building the Living City, the TRCA 2013-2022 Strategic Plan

This report supports the following strategy set forth in the TRCA 2013-2022 Strategic Plan:

Strategy 2 – Manage our regional water resources for current and future generations

Strategy 7 – Build partnerships and new business models

Strategy 10 – Accelerate innovation

FINANCIAL DETAILS

Funding for this project was secured from the MECP COA grant received in March 2021. Work under the grant is to be completed by February 2022.

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DETAILS OF WORK TO BE DONE

Development of Version 2 of the Toronto Inner Harbour Floatables Strategy due February 2022.

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Date: August 18, 2021

Attachments: 1

Attachment 1: Toronto Inner Harbour Floatables Strategy