

Hamilton Harbour Remedial Action Plan (HH RAP) Beneficial Uses

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BEACH CLOSINGS AND WATER CONTACT SPORTS



STATUS

2002 Status	Impaired	Requires Further Assessment	Not Impaired
2012 Status	Impaired	Requires Further Assessment	Not Impaired

APPROVED BY 2012 RAP STAKEHOLDER FORUM:

- Beneficial Use x status remain "impaired".
- Beneficial Use x delisting objective wording be updated as follows:
Beneficial Use x will be considered not impaired when Hamilton Harbour public beaches (Bayfront Park and Pier 4 Park) meet the provincial beach management protocol 80% or more of the swimming season for a minimum of three consecutive years.

2002 HH RAP Delisting Objective:

- That Hamilton Harbour effluent to Lake Ontario not give rise to conditions which would cause restrictions on open Lake water contact sports.
- That water quality conditions in the west-end and in the north-half of the Harbour, be such as to permit opening of beaches and which would cause no significant restriction on water contact sports.

Why Update the 2002 HH Wording?

Reasonable: A public beach is a community resource and it should be open a significant amount of time. A beach safe for swimming 80% of the time is reasonable as it allows for postings due to short, special circumstances. The standard to qualify for the internationally renowned Blue Flag program is for beaches to be open at least 80% of the time.

Achievable: Lake Ontario beaches have been safe for swimming more than 80% of the time in 12 of the past 13 years. Pier 4 Beach was safe for swimming more than 80% of the time in 2009 and 2011.

Measurable: City of Hamilton's Public Health Department measures E. coli in the water at both beaches. The Public Health Department is working with Environment Canada to better identify and characterize cyanobacteria blooms in order to post the beaches appropriately.

What Was the Original Problem in Hamilton Harbour?

Swimming was prohibited by a by-law of the Hamilton Harbour Commissioners due to health concerns about E. coli from raw sewage in the water.

IJC Listing Guideline (1991):

When waters, which are commonly used for total-body contact or partial-body contact recreation, exceed standards, objectives, or guidelines for such use.

IJC Delisting Guideline (1991):

When waters, which are commonly used for total-body contact or partial body-contact recreation, do not exceed standards, objectives, or guidelines for such use.

Other AOC Comparisons:

St. Clair River AOC, St. Lawrence River AOC, and Niagara River AOC specifically refer to E. coli at beaches and use "no more than 20% of the geometric means exceeding the PWQO". St. Lawrence River AOC is the only one referring to body contact.

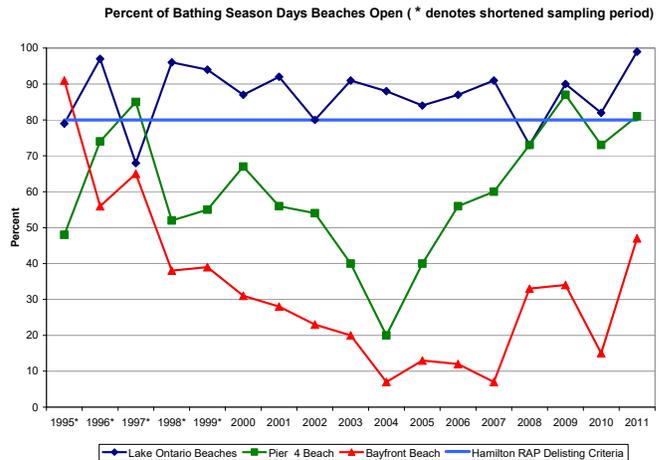
BACKGROUND INFORMATION

What Has Been Done?

- Combined sewer overflow (CSO) tanks were built in West Hamilton to prevent raw sewage from entering HH.
- The by-law was lifted in 1995 so Bayfront Park Beach and Pier 4 Park Beach could be opened for public swimming.
- Pier 4 Beach pilot program (buoys, fencing, beach grooming, shrubbery, bird scaring) has been in effect since 2005. Some of these management techniques were used at Bayfront Park Beach beginning in 2010.

How Are Things Today?

- EC has shown HH beach *E. coli* readings are primarily due to bird droppings not human fecal matter (Edge + Hill 2007). This is a shift from the presumption sewage was continuing to be the culprit.
- This figure provided by the City of Hamilton shows an increase in safe beach days at Pier 4 Park Beach after pilot program began, whereas Bayfront Park Beach continued to struggle. Lake Ontario beaches have been safe for swimming in 12 of the past 13 years.
- A 1998 study did show a higher than negligible lifetime risk from exposure to PAH at Pier 4 Park Beach; however, this risk could be managed if swimmers took a bath or shower with soap within 24 hours after a swim (Hussain 1998).



Source: City of Hamilton

What Still Needs To Happen?

- The City of Hamilton should implement bird management and surface water run-off management changes and practices at Bayfront Park Beach. Vegetation and landscape changes should be main focus of these efforts.
- It is recommended that the City of Hamilton consider improving the exchange of Bayfront Park Beach swimming area waters with the water of the main body of Hamilton Harbour in order to improve water quality at the shoreline. This recommendation should include changes to the shoreline at both ends of Bayfront Park Beach and consideration of novel methods to facilitate the exchange of swimming area waters with the main body of Hamilton Harbour.
- The bird management practices at Pier 4 Park Beach need to continue. Surface water run-off from nearby paved surfaces should be diverted away from Pier 4 Beach.

When Will The Status Change?

- Renewed efforts at Bayfront Park Beach are planned for completion in the next few years.

Where Can I Learn More?

City of Hamilton website <http://www.hamilton.ca/HealthandSocialServices/PublicHealth/SafeWater/Beaches.htm>

Blue Flag Canada <http://environmentaldefence.ca/campaigns/blue-flag-canada>

BARC. 2008. Toward Safe Harbours: Hamilton Harbour Beaches

Edge, T.A. and S. Hill. 2007. Multiple lines of evidence to identify the sources of fecal pollution at a freshwater beach in Hamilton Harbour, Lake Ontario. *Water Research*. 41: 3585-3594.

BARC. 2005. Toward Safe Harbours: Progress Toward Delisting – Water Quality

HHRAP. 2003. Remedial Action Plan for Hamilton Harbour. Stage 2 Update 2002

Hussain, M., Rae, J., Gilman, A., and Kauss, P. 1998. Lifetime Health Risk Assessment from Exposure of Recreational Users to Polycyclic Aromatic Hydrocarbons. *Archives of Environmental Contamination and Toxicology*. 35: 527-531.

Most references can be provided by the HH RAP Office as a PDF upon request