

Hamilton Harbour Remedial Action Plan (HH RAP) Beneficial Uses

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**RESTRICTIONS ON FISH CONSUMPTION**



**STATUS**

2002 Status (fish)	Impaired	Requires Further Assessment	Not Impaired
2012 Status (fish)	Impaired	Requires Further Assessment	Not Impaired

**APPROVED BY 2012 RAP STAKEHOLDER FORUM:**

- Beneficial Use i status regarding fish consumption remain “impaired”.
- Beneficial Use i delisting objective wording regarding fish consumption be updated as follows:  
Beneficial Use i (fish) will be considered not impaired when there is no significant difference in the fish consumption advisories for Hamilton Harbour compared to reference location(s) and the contaminants of concern are declining in Hamilton Harbour fish.

**2002 HH RAP Delisting Objective:**

That there be no restrictions on consumption of fish and wildlife from the Harbour attributable to local sources.

**Why Update the 2002 HH Wording?**

**Reasonable:** The goal of restoring this Beneficial Use is not to eliminate all restrictive fish consumption advisories, rather to have advisories comparable to appropriate reference sites in the area. Showing a decline in HH fish contaminant levels alleviates concerns that the reference sites are simply deteriorating instead of HH fish actually improving.

**Achievable:** It is difficult to attribute restrictive fish consumption advisories to only local sources, particularly for fish species with large home ranges. A decline in contaminants in HH fish, especially in fish with small home ranges, is being used a surrogate for improvements in local conditions.

**Measurable:** Likely reference locations are Western Lake Ontario, Lake Ontario central open water, and/or Jordan Harbour.

**BACKGROUND INFORMATION**

**What Was the Original Problem in Hamilton Harbour?**

In the 1992 Stage 2 it was recognized that some species on the HH advisory list accumulate contaminants lake-wide due to migration into Lake Ontario. Prey fish (smelt, alewife, and gizzard shad) also move contaminants from Lake Ontario into the HH food chain. Mercury, PCB, Mirex, and pesticides were listed as the causes of impairment in fish. For wildlife, PCB concentrations in mallard ducks and snapping turtles were above U.S. standards. Information on wildlife contamination was considered deficient and the 1992 Stage 2 called for a Canadian standard for wildlife consumption to be developed.

**IJC Listing Guideline (1991):**

When contaminant levels in fish or wildlife populations exceed current standards, objectives or guidelines, or public health advisories are in effect for human consumption of fish or wildlife. Contaminant levels in fish and wildlife must be due to contaminant input from the watershed.

**IJC Delisting Guideline (1991):**

When contaminant levels in fish and wildlife populations do not exceed current standards, objectives or guidelines, and no public health advisories are in effect for human consumption of fish or wildlife. Contaminant levels in fish and wildlife must not be due to contaminant input from the watershed.

**Other AOC Comparisons:**

Niagara River AOC specifies no “locally-controllable contaminant sources” focusing on PCBs. Jackfish Bay, Wheatley Harbour, St. Lawrence River, and St. Clair River AOC all refer to an appropriate reference site.

**What Has Been Done?**

Projects are indirectly related to reducing fish consumption restrictions.

- MISA program reduced inputs of chemicals into HH by industry and municipal WWTPs (Ongoing)
- Natural burying of historical sediments by “cleaner” fill from the watershed and point sources (Ongoing)

**How Are Things Today?**

- Health Canada (Scott 1998) funded a survey of fish consumption from 1995-1997. Only 20% of HH respondents ate their catch in comparison to a 38% average of all five AOCs sites surveyed. In response to “why don't you eat your catch”: 70% of non-eaters reported polluted water and 32% reported dirty or contaminated fish. Researchers reported a noticeable ‘stigma’ attached to eating fish from HH.
- Current fish consumption advisories are still severely restrictive as shown in the table below with PCBs being the main driver behind fish consumption advisories in HH.

Current fish consumption advisories for Hamilton Harbour (meals per month)		Fish length in cm ->													
		15	20	25	30	35	40	45	50	55	60	65	70	75	>75cm
Chinook Salmon	General Population											1			0
Saumon quinnat	Sensitive Population											0			
Rainbow Trout	General Population						4		2			1			0
Truite arc-en-ciel	Sensitive Population						4					0			
Brown Trout	General Population				1										
Truite brune	Sensitive Population														0
Northern Pike	General Population														4
Brochet	Sensitive Population														4
Largemouth Bass	General Population	8				4									
Achigan à grande bouche	Sensitive Population	8				4									
Yellow Perch	General Population	8		4		1									
Perchaude	Sensitive Population	8		4		0									
White Perch	General Population	2		1		0									
Baret	Sensitive Population			0											
White Bass	General Population			0											
Bar blanc	Sensitive Population			0											
Black Crappie	General Population	4	2	1	0										
Marigane noire	Sensitive Population	4		0											
Rock Bass	General Population	8	4												
Crapet de roche	Sensitive Population	8	4												
Bluegill	General Population	1													
Crapet arlequin	Sensitive Population	0													
Brown Bullhead	General Population			2											
Barbotte brune	Sensitive Population			0											
Channel Catfish	General Population				1					0					
Barbue de rivière	Sensitive Population									0					
Freshwater Drum	General Population			1		0									
Malachigan	Sensitive Population					0									
Carp	General Population			4		2		1				0			
Carpe	Sensitive Population			4						0					
White Sucker	General Population	4				2									
Meunier noir	Sensitive Population	4				0									
Rainbow Smelt	General Population	1													
Éperlan arc-en-ciel	Sensitive Population	0													

Data Source: OMOE

**What Still Needs To Happen?**

- A detailed assessment of fish consumption restrictions in HH needs to be completed. This is being done for the Toronto AOC by OMOE and goes beyond the basic listing in the advisory.
- ArcelorMittal Dofasco Boat Slip Sediment Remediation Project has a PCB component (targeted for 2015 completion)
- The source of PCBs measured in the Windermere Arm area sediments needs to be determined.

**When Will The Status Change?**

- A re-evaluation should be made after all scientifically feasible and economically reasonable actions have been implemented.
- Anticipate years of natural recovery after the last sediment project is completed.

**Where Can I Learn More?**

OMOE. 2011. 2011-2012 Guide to Eating Ontario Sport Fish (*along with previous versions*)  
 BARC. 2004. Toward Safe Harbours: Progress Toward Delisting – Fish and Wildlife  
 Scott, F. 1998. Down by the Bay: a profile of shoreline fishing and fish consumption in the Hamilton Harbour area  
*Most references can be provided by the HH RAP Office as a PDF upon request*