

Hamilton Harbour Remedial Action Plan (HH RAP) Beneficial Uses

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**DEGRADATION OF AESTHETICS**



**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 xi status remain "impaired".
- Beneficial Use xi delisting objective wording be updated as follows:  
Beneficial Use xi will be considered restored when the waters are free of any substance due to human activity which produces a persistent objectionable deposit, unnatural colour or turbidity, or unnatural odour for a period of three consecutive years.
- The RAP Technical Team be directed to evaluate Beneficial Use xi through both a semi quantitative monitoring program and qualitative stakeholder user input.

**2002 HH RAP Delisting Objective:**

When the waters are free of any substance which produces a persistent objectionable deposit, unnatural colour or turbidity, or unnatural odour (e.g. oil slick, surface scum, algae).

**Why Update the 2002 HH Wording?**

**Reasonable:** Citizens observing and recreating in HH should have the reasonable expectation that it will not be objectionable to look at or smell. IJC intention was to target issues created by human activity, not natural activity.

**Achievable:** Reductions of nutrient levels should achieve reduce occurrences of nuisance algae, but climate change weather could increase the frequency of large, area intense storms.

**Measurable:** By its very nature this BU is subjective, but there are four general parameters that can be monitored: clarity (turbidity), colour, odour, and debris. Secchi disc depth quantifies clarity and observational records for the other parameters can be made at the same time as Secchi disc depths are collected. A defined time frame is needed to clarify when a change in status can be made. A monitoring plan and public perception will both need to be used as measurements.

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

This was listed as impaired in the 1992 Stage 2 Report with the causes of impairment listed as occasional oil sheens, algal blooms, objectionable turbidity, floating scum, debris, and putrid material (HHRAP 1992, p. 28). "Algae" added into the delisting objective wording during the 2002 Stage 2 Update.

BACKGROUND INFORMATION

**IJC Listing Guideline (1991):**

When any substance in water produces a persistent objectionable deposit, unnatural color or turbidity, or unnatural odor (e.g. oil slick, surface scum).

**IJC Delisting Guideline (1991):**

When the waters are devoid of any substance which produces a persistent objectionable deposit, unnatural color or turbidity, or unnatural odor (e.g. oil slick, surface scum).

**Other AOC Comparisons:**

St. Clair River AOC, Detroit River AOC, Jackfish Bay AOC, and Toronto AOC wordings are similar to HHRAP. St. Clair River AOC, Ohio, and Michigan qualify sources as anthropogenic/human activity. Ohio and Michigan refer to excessive algae growth due to nutrients. Michigan requires two years, but St. Clair River AOC recently dropped the two years to avoid a single event causing an issue. Some AOCs rely on lack of public complaints as proof of delisting.

### What Has Been Done?

- City of Hamilton is managing combined sewer overflows (CSO) to reduce amount of untreated sewage entering HH. Primary treatment capacity has been increased at Woodward WWTP.
- Upgrades to Halton's Skyway WWTP are ongoing.
- Spill regulations and industrial pollution prevention plans have been implemented provincially.
- Yellow Fish Road™ teaches "Only Rain Down the Drain", helping to prevent oil and other materials entering streams.

### How Are Things Today?

- Cyanobacteria blooms are both an aesthetic and health concern (toxins) with blooms lasting weeks.
- Oil sheens reported by scientists working in Strathearne Slip.
- Black tar-like "blobs" have been reported floating on the surface near Randle Reef.
- Localized debris in shoreline corners occasionally removed by business operators reliant on recreation/tourism.
- Average Secchi disc depths are generally around 2.5 m, but minimum values still are as shallow as 1 m.



Scum and algae



Cyanobacteria bloom



Unnatural and natural debris

### What Still Needs To Happen?

- Investigation into ways to prevent/limit cyanobacteria blooms. This issue goes beyond the Hamilton Harbour RAP.
- Initiate tertiary treatment upgrades of Woodward WWTP to increase capacity and reduce phosphorus loading.
- Complete Randle Reef Sediment Remediation project.
- Continue improvements in the watershed, including stormwater management programs and stewardship.
- Continue public education programs.
- A monitoring protocol needs to be developed and implemented. Toronto AOC is starting a pilot program to evaluate aesthetics in 2012 which may be transferable to HH.

### When Will The Status Change?

- Key words are **persistent** and **unnatural**. Looking for no reports of persistent, unnatural issues for three consecutive years. The time frame for status change is consistent with the eutrophication BUI (viii) as reductions in algae are integral to both BUIs.

### Where Can I Learn More?

EC and OMOE. 2010. Hamilton Harbour Area of Concern. Status of Beneficial Use Impairments.

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

HHRAP. 1992. Remedial Action Plan for Hamilton Harbour. Goals, Options and Recommendations: RAP Stage 2.

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