

# I. INTRODUCTION

## I.1 Background on Pollution Concerns

Concern for pollution problems in Hamilton Harbour is not new. The problems were identified in a formal way in the early 1970s, leading to the designation of the Harbour by the International Joint Commission (IJC) as one of the 43 Areas of Concern (AOC) identified in the Great Lakes Water Quality Agreement (1987). But even in the 1850s, when a new water supply was being considered for the small but growing city of Hamilton there were concerns. The engineer-in-charge, Mr. Thomas Keefer, recognized that the bay was already contaminated, that growth of the city could make it worse (there was no treatment of sewage at that time and all sewage just drained down to the waterfront), and that he had to find a better source of drinking water out at the beach on Lake Ontario.

Recognition of further problems following the Second World War led to the establishment of water quality standards and a cleanup of discharges of pollution to the Harbour to restore better water quality conditions. In the past 30 years, an estimated \$800 Million has been spent by industry, local municipalities, provincial and federal governments to reduce the discharge of nutrients and contaminants to the Harbour. The first 20 years of these measures (\$600 Million) resulted in major improvements that are documented in the RAP report entitled, “Remedial Action Plan for Hamilton Harbour – Environmental Conditions and Problem Definition” (March 1989). The second edition of this report was published in 1992. The last ten years, 1990 – 2000 (\$200 Million), are documented in Appendix H within this report.

## I.2 The Remedial Action Plan Program

The Remedial Action Plan program under the Great Lakes Water Quality Agreement (GLWQA) is an initiative (formalized in the Revised Great Lakes Water Quality Agreement of 1978 – as amended by Protocol signed November 18, 1987) that requires the Canadian and U.S. governments to develop plans explaining how the remaining problems in each of the Areas of Concern, such as Hamilton Harbour, will be addressed.

There are three stages to be addressed in Remedial Action Plans:

Stage 1 – Environmental Conditions and Problem Definition

Stage 2 – Goals, Options and Recommendations

Stage 3 – Evaluation of Remedial Measures and Confirmation of Restoration of Uses

Stage 1 was completed in 1989 with a second edition produced in 1992. Stage 2 was completed in 1992, with this 2002 report being an update to the original. Stage 3 will not be written until Hamilton Harbour is ready to apply to be delisted as an Area of Concern.



### I.3 History of Hamilton Harbour RAP Process

- 1985 Release of Ontario Ministry of the Environment (OMOE) report, “Technical Summary”, that summarized the water and sediment quality problems and their potential solutions. Based on investigation of the Harbour in the 1970s and early 1980s.
- 1986 First Stakeholder Group formed by OMOE and Environment Canada to discuss and advise on a remediation plan.
- 1987 Release of “Revised Great Lakes Water Quality Agreement of 1978 - as amended by Protocol signed November 18, 1987”. Remedial Action Plans discussed under Annex 2.
- 1989 Release of “Hamilton Harbour RAP Stage 1 – Environmental Conditions and Problem Definition”, March 1989
- 1992 Release of “Second Edition of Hamilton Harbour RAP Stage 1 – Environmental Conditions and Problem Definition”, October 1992  
Release of “Hamilton Harbour RAP Stage 2 – Goals, Options and Recommendations”, November 1992
- 1997 Five Year Review Committee recommends establishment of a RAP Forum to update 1992 Stage 2 report
- 1998 Release of “Hamilton Harbour RAP 1998 Status Report”, September 1998  
RAP Forum established  
RAP Forum review of Goals and Objectives
- 1999 RAP Forum update of Environmental Conditions and Problem Definition  
Formation of the Water Quality Task Group  
Formation of the Urbanization and Land Management Task Group  
Release of “Headwaters to the Bay – Planning for Sustainability in the Hamilton Harbour Watershed”, October 1999
- 2000 Completion of the Water Quality Task Group Report  
Completion of the Urbanization and Land Management Task Group Report  
Formation of the Toxic Substances Task Group
- 2001 Completion of the Toxic Substances Task Group Report  
Formation of the Fish and Wildlife Task Group and Completion of Report  
Formation of the Education and Public Information Task Group and Completion of Report  
Formation of the Research and Monitoring Task Group and Completion of Report
- 2002 RAP Coordinator Report to RAP Forum – Final Approval of Updated RAP Recommendations  
Release of “Hamilton Harbour Remedial Action Plan Stage 2 Update: Draft for Public Comment”, September 2002  
RAP Forum approval of “Hamilton Harbour Remedial Action Plan Stage 2 Update”, December 2002

## I.4 Comparison to 1992 RAP Stage 2 Report

This update to the 1992 “RAP Stage 2: Goals, Options and Recommendations” report is intended to be a stand-alone document that complements the original. It will follow the general format of the 1992 Stage 2 Report in order to allow for comparisons between the reports (Figure 2.).

Figure 2. Comparison of 1992 and 2003 Stage 2 Chapter Titles

1992 RAP Stage 2 Chapters		2003 RAP Stage 2 Update Chapters	
I	Introduction	I	Introduction
II	Description of the Area	II	Description of the Area
III	Goals and Objectives	III	Goals and Objectives
IV	Analysis of Options	IV	Updated RAP Recommendations and Progress on Implementation Actions
V	Selection of Remedial Actions and Recommendations		
VI	Attainability of Designated Uses	V	Attainability of Reaching Delisting Objectives
VI.5	Estimating the Cost and Benefits of Remedial Measures	VI	Costs for Implementation Actions
VII	Public Consultation	VII	Public Consultation
VIII	Surveillance, Monitoring, and Research and Development	VIII	Research and Monitoring Plan
IX	Delisting Criteria	(Merged into Chapter V above)	

The 2003 RAP Stage 2 Update report will be used by the Bay Area Implementation Team (BAIT) as the basis for implementing RAP recommendations.

## I.5 The Purpose of This Report

This report is an update to Stage 2 in the Hamilton Harbour RAP process. As required by the GLWQA, it is to provide:

- a) clear and precise goals consistent with the general and specific objectives of the Great Lakes Water Quality Agreement,
- b) an evaluation of remedial measures already in place,
- c) a discussion of additional remedial measures still required to restore beneficial uses,
- d) the beneficial uses that will not be restored (if any) and why they will not be restored,
- e) the description of a monitoring program to track the effectiveness of the remedial works, and
- f) a listing of the agencies or persons responsible for implementation of the measures that make up the RAP.

## **I.6 The Approval Process for the RAP Stage 2 Update**

Six Task Groups prepared all the recommendations and delisting objectives, and provided information for the status of each recommendation. After RAP Forum approval, the RAP Office took the work of the Task Groups and wrote a preliminary draft. A Technical Editing Team had an opportunity to check for accuracy before the preliminary draft was passed to the members of the RAP Forum for their comments and approval. With the assistance of the Bay Area Restoration Council (BARC), a draft report was presented to the public for comment.

Following receipt of comments from the public, the RAP Forum considered the comments, made appropriate revisions, and included the results of the public survey in this report. Stakeholders in the RAP Forum were asked to endorse the final draft of the RAP Stage 2 Update in December 2002.

A final draft report was passed from the RAP Forum to Environment Canada (EC) in February 2003. EC in concert with the Ontario Ministry of Environment (OMOE) completed their technical review of the document in May 2003.

This report will be sent to the International Joint Commission (IJC) for comment. The IJC serves as an auditor for all Canadian and U.S. RAPs to ensure consistency between the two countries in their programs to eliminate water quality problems in the Great Lakes, and to ensure that the Plan meets the terms of the Great Lakes Water Quality Agreement between the United States and Canada.