

INTERNATIONAL JOINT COMMISSION DETROIT RIVER (ONTARIO) STAGE 2 REMEDIAL ACTION PLAN REVIEW

Introduction

Under the 1987 Protocol to the Great Lakes Water Quality Agreement (Agreement), Remedial Action Plans (RAPs) for designated Areas of Concern are to be developed and implemented by the Parties (Canadian and U.S. Governments) in cooperation with State and Provincial Governments. The Areas of Concern are geographic areas that fail to meet the general or specific objectives of the Agreement, where such failure has caused or is likely to cause impairment of the beneficial use or of the area's ability to support aquatic life. Further, the Agreement states Remedial Action Plans will be submitted to the International Joint Commission (Commission) for review and comment at three stages:

- stage 1-when a definition of the problem has been completed;
- stage 2-when remedial and regulatory measures are selected; and
- stage 3-when monitoring indicates that identified beneficial uses have been restored.

The Stage 2 Remedial Action Plan for the Ontario Portion of the Detroit River Area of Concern has been reviewed by the Commission. The criteria for this evaluation were based on the relevant portions of the 1987 Protocol to the Agreement. As defined in 4(d)(ii) and 4(a)(iii-vi), respectively, of Annex 2 of the Agreement, Stage 2 RAPs are to be submitted to the Commission for review and comment and are to contain:

- an evaluation of remedial measures in place;
- an evaluation of alternative additional measures to restore beneficial uses;
- a selection of additional remedial measures to restore beneficial uses;
- a schedule for their implementation; and
- an identification of the persons or agencies responsible for implementation of remedial measures.

In addition to these required Stage 2 elements, Annex 2 of the Agreement also details general principles for RAPs that include:

- RAPs shall embody a systematic and comprehensive ecosystem approach to restoring and protecting beneficial uses in Areas of Concern; and
- the Parties, in cooperation with State and Provincial Governments, shall ensure that the public is consulted in all actions undertaken pursuant to this Annex.

Have in-place remedial measures been evaluated?

As described in the Executive Summary of the Stage 2 RAP, Chapter six of the Report provides a review of projects completed since 1998. Chapter six does enumerate completed actions as well as activities still underway, but provides brief descriptions rather than evaluations of these remedial measures. For example, the description of the \$110,000,000 upgrade/expansion of the Lou Romano Water Reclamation Plant states “(t)hese upgrades have improved water quality and the elimination of raw sewage bypass”. This major upgrade from primary treatment technology to secondary treatment technology has resulted in considerable improvement to the plant’s effluent. The Lou Romano Plant upgrade warrants discussion (or references) describing the evaluation process that went into selecting this remediation measure and warrants a detailed evaluation in the Stage 2 Report. The Detroit River Canadian Cleanup (DRCC) Steering Committee received an October 27, 2008 presentation on this upgrade that noted it was the largest Biological Aerated Filter (BAF) facility in North America and an ultraviolet light disinfection system was also installed. The DRCC Steering Committee was also provided with data detailing the improvements in solids removals and loadings after completion of the plant upgrade. Inclusion of these details in the Stage 2 report, or future reports, would have helped to meet this evaluation criterion.

Have alternative additional measures to restore beneficial uses been evaluated?

Chapter six describes numerous remedial measures that have been started, are ongoing or completed with the aim of restoring beneficial uses. Chapter seven describes recommendations and implementation actions to be completed. However, in neither chapter does the report set out any evidence that an array of potential measures was considered nor disclose detail of any evaluation of alternative measures that were not selected. Furthermore, the report does not provide a description of how key actions were selected for inclusion in the RAP, nor does it provide an evaluation of the potential effectiveness of these additional measures to restore beneficial use(s).

Chapter seven recommends the construction of a retention treatment basin (RTB) in the City of Windsor and notes that the environmental assessment is complete but no details from the class environmental assessment, phase 1 and 2 report, are provided in the Stage 2 RAP. An examination of the environmental assessment report shows that it provides a credible evaluation of remedial options and it utilizes the results of a modeling study to achieve a significant reduction in the size and cost of the now constructed RTB. Inclusion of these details in the Stage 2 report, or future reports, would have helped to meet this evaluation criterion.

In a 1997 assessment (www.ijc.org/php/publications/html/detroit.html) of remedial and preventative efforts in the Detroit River AOC, the Commission noted that no mechanism was in place to evaluate restoration options and priorities. Therefore, overall, it is recommended that a cooperative modeling effort be established to evaluate and prioritize remedial and preventive options. This is perhaps most needed in the area of non-point source pollution where attention is necessary to ensure that best practices are implemented in the most critical areas and the most

cost effective best practices are utilized so that the maximum environmental net benefit can be achieved.

A suitable evaluation mechanism, or a reference showing existence of one that is in place, is still needed to support remedial efforts in the Detroit River AOC.

Have additional remedial measures to restore beneficial uses been selected?

Chapter seven of the Report details implementation actions to be completed across the range of BUIs related to habitats, pollutant loadings, monitoring and research, education and public involvement and general RAP management.

Has a schedule for implementation been adopted and have persons and agencies responsible for implementation of remedial measures been identified?

Chapter seven of the Report provides a timeline and a listing of participants for each key action. When available, estimated costs are also provided. The listing of participants does not provide any notation of an agency that may be responsible for implementation.

Has an ecosystem approach been taken to the restoration and protection of beneficial uses?

The Stage 2 RAP Report contains considerable material devoted to the updating the status of beneficial use impairments. This material was examined to determine if an ecosystem approach has been taken to the restoration and protection of beneficial uses. In particular, the section on restrictions on fish and wildlife consumption was examined to determine if the inventory of sources for polychlorinated biphenyls (PCBs) that was presented in the 1991 Stage 1 RAP Report has been updated. While the influence of contaminated sediment is appropriately discussed in the Stage 2 RAP Report, no mention of the upstream inputs or point source inputs of PCBs is made. This section of the Report notes that contaminated sediment in the U.S. portion of the AOC is the primary driver of the most restrictive fish consumption advisories, but no mention is made of potential sources of PCB loadings and completed or needed remedial actions. While contaminated sediment is of considerable concern, an ecosystem approach would allow a more comprehensive view of the existing PCB inputs to the Detroit River Ecosystem and it would provide for an examination of progress in the control of sources that were identified in the 1991 RAP document. There is an expected long-term need for continuation of fish consumption advisories in the AOC even though the causes for the most part are outside of the Ontario-portion of the AOC. The identification of locally-caught sport fish consumption as a PCB exposure pathway for certain sub-populations of the AOC remains an important component of an ecosystem approach.

Was the public consulted adequately?

Public consultation in the Stage 2 RAP Report development is well documented and the Report was released for public review on September 23, 2009. The Detroit River Canadian Cleanup (DRCC) hosted three open houses to further encourage public involvement. Based on the

documentation provided in the Report, the DRCC made a diligent effort to consult with the general public.

CONCLUSION

The Commission was pleased to receive the Detroit River Canadian Remedial Action Plan Stage 2 Report. The report shows significant progress and that some RAP activities have already progressed into Stage 3. The DRCC is to be commended for their efforts to engage the public in their RAP activities and their documentation of these activities in the Stage 2 report.

Following the evaluation criteria, documentation should be provided that clearly demonstrates the evaluation of selected measures and the effectiveness of selected remedial actions in contributing to the restoration of beneficial use(s). Particularly, in regard to practices devoted to control non-point sources of pollution, attention is necessary to ensure that best practices are implemented in the most critical areas and the most cost effective best practices are utilized so that the maximum environmental net benefit can be achieved.

The Commission itself has previously highlighted the upgrade/expansion of the Lou Romano Water Reclamation Plant by placing a photo of the plant on its 14th Biennial Report on Great Lakes Water Quality. An evaluation of the environmental benefits that were provided by this \$110 million project is worthy of the DRCC's attention. The Commission looks forward to more comprehensive reporting on how this and other selected remedial action contribute to restoration of beneficial uses in the Ontario portion of the Detroit River AOC, in future RAP updates or the eventual Stage 3 Report.