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January 26, 1992

To Interested Parties;

A copy of the draft Lake Ontario Management Plan Workplan and a set of issues for discussion are attached for your information and review.

Background Information

The Great Lakes Water Quality Agreement (1978) requires the development of a Lakewide Management Plan (LAMP) for Lake Ontario. The Four Parties (Environment Canada, US Environmental Protection Agency, Ontario Ministry of Environment and New York State Department of Environmental Conservation) have developed a draft LAMP Workplan based on work previously accomplished under the Lake Ontario Toxics Management Plan. The LAMP will provide a systematic and comprehensive ecosystem approach to restoring and protecting beneficial uses in open waters.

Consultation and Review Opportunities

The draft Lake Ontario LAMP Workplan was available for public review at the Coordination Committee meeting on January 15, 1993. The meeting was held in Niagara Falls, New York. The draft will be concurrently reviewed by other federal, provincial and state agencies.

The secretariat is interested in your comments. You are urged to send your written comments to the address below, no later than February 26, 1993.

Issues for Discussion

A set of issues for discussion is attached to gather the needed information to finalize the Workplan. The Secretariat will consider your comments as they prepare the final workplan. Please send your responses to the issues for discussion and any other comments by February 26, 1993 to:

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LAKE ONTARIO LAKEWIDE MANAGEMENT PLAN FOR CRITICAL POLLUTANTS

D R A F T W O R K P L A N

Report by the Lake Ontario Secretariat:

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Introduction

On February 4, 1987, the "Four Parties" [Environment Canada (EC), the U.S. Environmental Protection Agency (EPA), the Ontario Ministry of the Environment (MOE), and the New York State Department of Environmental Conservation (NYSDEC)] signed a Declaration of Intent that committed the agencies to develop a toxics management plan for Lake Ontario. The Four Parties issued the Lake Ontario Toxics Management Plan (LOTMP) in February 1989, and updated the Plan in September 1991.

At its October 1991 meeting, the Four Party Coordination Committee for the LOTMP asked the Lake Ontario Secretariat to prepare a conceptual workplan for the expansion of the LOTMP to constitute a Lakewide Management Plan (LAMP), for critical pollutants, for Lake Ontario. This document constitutes the product of the Secretariat.

The goal of the LOTMP is a lake that provides drinking water and fish that are safe for unlimited consumption, and that allows natural reproduction, within the ecosystem, of the most sensitive native species. To achieve this goal, the plan has four objectives to reduce the toxic inputs through: 1) implementation of existing and developing programs, 2) specialized efforts in geographic areas of concern (Areas of Concern), 3) reductions through analyzing the lakewide fate of priority toxics using chemical-by-chemical and ecosystem approaches, and 4) pollution prevention initiatives to move towards zero discharge of the persistent toxic chemicals. Currently, the LOTMP includes actions to reduce loads of toxics overall, with a focus on nine persistent toxic chemicals that bioaccumulate to unacceptable levels in the Lake Ontario food web.

Independent of this Four Party initiative for Lake Ontario, the Great Lakes Water Quality Agreement (GLWQA), as amended in 1987, requires the development and implementation of lakewide management plans (LAMPs) for the five Great Lakes. Within the GLWQA, Annex 2, it is stated that the International Joint Commission (IJC) will perform independent peer reviews of LAMPs at four stages:

- I. "When a definition of the problem has been completed...";
- II. "When the schedule of load reductions is determined...";
- III. "When remedial measures are selected...; and"
- IV. "When monitoring indicates that the contribution of the Critical Pollutants to impairment of identified beneficial has been eliminated...."

The requirements associated with Lakewide Management Plans also include having:

- o A management structure in place to develop and implement a LAMP;
- o The opportunity for public involvement/consultation in the design and implementation of the LAMP;
- o The incorporation of pollution prevention measures and programs in keeping with GLWQA's goal of virtual elimination and philosophy of zero discharge; and
- o Identification of a "fast track" for remedial action that ensures full implementation of existing regulatory, incentive and prevention programs that affect critical pollutants during LAMP development.

The development of the LOTMP has already laid a considerable foundation for a Lakewide Management Plan. Evaluating the LOTMP as a LAMP for toxics alone, it appears that it meets the substantive requirements of a early stage LAMP for Lake Ontario.

Purpose and Scope of the Proposed Lakewide Management Plan

The purpose of the proposed Lake Ontario Lakewide Management Plan (LAMP) is to fulfill the obligations under the GLWQA to:

- o Reduce the loadings of critical pollutants in order to restore beneficial uses;
- o Focus on pollutants requiring control on a lakewide basis; and
- o Coordinate actions for controlling critical pollutants.

The LAMP will address impairments encountered in the open water of the lake, including nearshore areas and embayments:

- o Tributaries, including the Niagara River, are treated as inputs to the lake, and
- o The St. Lawrence River is treated as an output from the lake, and is, therefore, outside the scope of the Plan.

The LAMP will focus on identification of lakewide beneficial use impairments as defined in Annex 2 of the GLWQA and on critical pollutants contributing to these impairments. The Plan will utilize all existing and proposed programs for the reduction, prevention, and elimination of sources of critical pollutants to the lake. The LAMP will provide appropriate linkages to Remedial

Action Plans and other localized efforts to control critical pollutants.

The Plan will recognize and provide appropriate linkages to other resource management initiatives such as fisheries management plans, lake-level management, wetlands protection, watershed management plans, and control strategies for exotic species. The LAMP will draw upon existing analysis of aquatic ecosystem structure and function to assist in directing control action. The LAMP will address habitat degradation attributable to effects of critical pollutants, including substances such as nutrients, metals, organics and suspended solids. Input and participation from other agencies will be sought with respect to the interactions of critical pollutants with fish and wildlife populations and aquatic habitat.

"Fast Track" of LOTMP Toxic Reduction Activities

Remedial activities for the nine persistent toxics identified under the LOTMP will continue throughout the development of the LAMP. In addition, the Secretariat has initiated the development of a toxics control strategy that would, among other things, target particular chemicals for zero discharge activities. The Secretariat will examine existing data to help identify the most important pathways of entry or recirculation of toxics to the lake, to track down the specific locations of sources of these toxics, and to initiate the remediation of prioritized site-specific sources. Consideration will be given to pollution prevention options and regulatory measures, including options for ban and phase-out of certain critical pollutants.

What follows is a conceptual workplan that lays the foundation for expanding the LOTMP into a Lakewide Management Plan for Critical Pollutants. The workplan characterizes the activities required and identifies benchmark products and decision points. The workplan provides detail for Stage I of the LAMP process and a general outline for Stages II and III.

STAGE I: IDENTIFICATION OF THE PROBLEM

The steps for the development of a Stage I Lakewide Management Plan to deal with critical pollutants required under Annex 2 Subsection(a) include:

- o determination of the threat to human health and aquatic life posed by critical pollutants, including their contribution to the impairment of beneficial uses. These determinations will be based upon a comparison of ambient environmental quality data to jurisdictional standards and/or objectives, including applicable ecosystem objectives;
- o identification of the concentration, sources, and pathways of the critical pollutants, including loadings, and when possible, an estimation of total loadings by modelling or other methods; and
- o identification of additional information, monitoring, or research needed to identify and designate critical pollutants and determine load reduction targets.

The Great Lakes Water Quality Agreement, Annex 2, specifies 14 beneficial uses that can be impaired. The IJC has issued guidelines for the listing and delisting of use impairments (IJC, 1991). In the effort to expand the LOTMP into a LAMP, the Agencies will determine the impairment of beneficial uses in Lake Ontario as a prerequisite to the identification, and documentation, of critical pollutants.

I.1. Consultation with Other Agencies on the Lake Ontario Conceptual LAMP Workplan

The Lake Ontario Secretariat, as directed by the Four Parties, has drafted a conceptual workplan for the LAMP. The Secretariat will circulate the Draft LAMP workplan to all agencies for a 60-day review period, and consult on the scope, initial resources and timeframes, overall goals, responsibilities, public involvement, and reporting structure.

I.2. Final Conceptual LAMP Workplan

The workplan will focus primarily on Stage 1 of the LAMP process and will include specific provisions for public involvement in the development and implementation of the LAMP. The Lake Ontario Secretariat will respond to comments from all agencies during finalization of the LAMP Workplan. The final conceptual workplan will identify a public involvement process.

I.3. Identification of Impairments of Beneficial Uses

The initial step in the LAMP process is the identification of impairments of beneficial uses and identification of the pollutants that are causing, or are likely to cause, damage to the ecosystem to the extent that beneficial uses are impaired on a lakewide basis.

Assessment of the First 13 Use Impairments:

The Four Parties to the Lake Ontario Toxics Management Plan have begun to document impairments of beneficial uses in Lake Ontario. An assessment of Canadian use impairments for 13 of the 14 beneficial use impairments listed in the GLWQA has been completed. The report "The Impairment of Beneficial Uses in Lake Ontario" was produced as a result of the study. An analysis for the same beneficial use impairments for the U.S. side of the basin will be completed. The assessment of the 14th use impairment (loss of fish and wildlife habitat) is a separate undertaking initiated by the Four Parties using the U.S. Fish & Wildlife Service (USF&WS) as the coordinating agency.

The Lake Ontario Secretariat will:

- A. Review "The Impairment of Beneficial Uses in Lake Ontario" for 13 of the 14 use impairments, the critical pollutants identified and data gaps for future work.
- B. Review U.S. evaluation of the same 13 beneficial use impairments.

Loss of Fish and Wildlife Habitat Assessment (14th Beneficial Use Impairment):

EPA has developed a Memorandum of Understanding (MOU) with the U.S. Fish & Wildlife Service on behalf of the Four Parties to begin the inventory and assessment of Lake Ontario habitat. The USF&WS will consult with fisheries and wildlife habitat agencies, and the Ecosystem Objectives Workgroup (EOWG), on the development of a consistent binational approach to document and assess habitat loss. The assessment of habitat degradation under the proposed LAMP will focus on habitat degradation due to critical pollutants:

- A. The USF&WS will produce an interim report describing the methods and criteria in determining habitat degradation caused by critical pollutants. The report will provide examples of degraded versus non-degraded habitat, the relative value of habitat, seasonality, etc. in the Lake Ontario basin.

- B. The Lake Ontario Secretariat will coordinate the review of the USF&WS interim report.
- C. The USF&WS will submit a report that provides a preliminary conclusion regarding the impairment of Lake Ontario habitat, and identifies data gaps.
- D. The Lake Ontario Secretariat will coordinate the review of the USF&WS final report, as the basis for a determination concerning habitat degradation as a GLWQA impairment for Lake Ontario.

I.4. Designation of Beneficial Use Impairments and Critical Pollutants

Upon conclusion of the assessment for the 14 beneficial use impairments under the GLWQA, and after consultation with other agencies and the public, the Lake Ontario Secretariat will:

- A. Identify impairments and recommend designation of the critical pollutants responsible for the impairments. This will include evaluation of the updated categorization of toxic chemicals in Lake Ontario being prepared by the Categorization Committee under the LOTMP by March 1993. The Lake Ontario Secretariat will prepare a report summarizing its conclusion.

I.5. Identify Sources and Estimate Loads of Critical Pollutants

In order to deal effectively with critical pollutants, we need to know their concentration within the system, and then sources and loadings to the system. The Lake Ontario Secretariat recognizes the need to identify sources and accurately quantify loads from all significant source categories, including tributaries, groundwater/waste sites, agricultural, rural and urban runoff, and atmospheric deposition. Improved estimates of loadings of priority toxics are being developed under the LOTMP; these efforts would be expanded to include other critical pollutants as identified under the LAMP. To identify sources and estimate loads of the critical pollutants contributing to beneficial use impairments, the Lake Ontario Secretariat will:

- A. Update and improve upon loadings and sources information for toxic chemicals, as initially provided in the LOTMP.

- B. Develop loadings and sources for other critical pollutants, e.g. other toxics, nutrients, sediments.
- C. Recommend a program designed to improve data gathering and assessment.

I.6. Stage I Report Writing and Submittal

- A. Compile and summarize information relating to problem definition: impairments, designated critical pollutants, sources and loadings, information needs.
- B. Review Draft Stage I Lake Ontario LAMP and transmit for internal, external and public reviews.
- C. Adopt Stage I Lake Ontario.
- D. Submit Stage I Lake Ontario LAMP to IJC.

STAGE II: DEVELOPMENT OF RESTORATION OBJECTIVES AND LOAD REDUCTION TARGETS

The level of effort required to develop a Stage II Report has not yet been determined by the Secretariat; therefore, what follows is an outline of major components and products the Secretariat feels will be necessary for the LAMP.

II.1. Development of Restoration Objectives

The toxic problem in Lake Ontario can be characterized on a chemical-by-chemical basis and on an ecosystem basis. Although the LOTMP relies heavily on the chemical-by-chemical approach, ecosystem objectives for aquatic communities (benthic and pelagic), wildlife, human health, habitat and stewardship have been developed that are specific to Lake Ontario. The Ecosystem Objectives Workgroup (EOWG) is currently developing indicators for these ecosystem objectives. Monitoring the ecosystem indicators should, over time, provide useful information on the health of the ecosystem, and the sufficiency of the chemical-by-chemical approach.

The EOWG will:

- A. Develop preliminary ecosystem indicators. Their target date is April 1993.

The Lake Ontario Secretariat will:

- B. Review and comment on the preliminary ecosystem indicators developed by the EOWG. This will also include a public review and presentation to the Lake Ontario Coordination Committee.
- C. Develop an Indicator Monitoring Strategy (Short- and Long-term)
- D. Recommend the adoption of preliminary ecosystem indicators and a monitoring strategy, and make recommendations concerning implementation mechanisms.

II.2. Development of the Load Reduction Targets

A Stage II LAMP entails the development of a load reduction schedule for critical pollutants. These load reductions would be based upon current knowledge of loadings, sources and fate of these pollutants. Agreement on ambient objectives by the Four Parties is required. Source-specific loading reductions would be determined based on the total loadings allowed in order to meet the Four Party objectives.

II.3. Report Writing

- A. Update US/Canadian sources and loadings information, document objectives, indicators/criteria, and rationale for load reduction targets.
- B. Submit Stage II Lake Ontario LAMP to IJC.

STAGE III: SELECTION OF REMEDIAL MEASURES

- III.1. Evaluation of Existing and Potential Remedial Actions
- III.2. Selection of Recommended Actions to Achieve Target Load Reductions and Restore Use Impairments
- III.3. Development of Implementation Plan
- III.4. Stage III Report Writing
 - A. Compilation of U.S./Canadian Alternatives and Evaluations by LOS
 - B. Development of LAMP Implementation Strategy
 - C. Identification of Agencies responsible for Implementation
 - D. Submission to IJC and Response to Review

NOTE: The resources needed for this stage will be dependent upon the outcome of the impairment assessment and agreement on critical pollutants.

PUBLIC PARTICIPATION ELEMENT
of the
DRAFT LAKE ONTARIO LAKEWIDE MANAGEMENT PLAN WORKPLAN

The Public Participation Workgroup will consult with the Lake Ontario Secretariat to conduct the following public participation outreach activities:

1. **Continue Open Coordination Committee Meetings**
 - Enhance opportunities for public input at Coordination Committee meetings by providing additional support from the Public Participation Workgroup in designing and holding the meetings.

2. **Design and Conduct Public Workshops**
 - Develop a Questionnaire and send it to the LAMP mailing list of interested parties.
 - * The Questionnaire will solicit information regarding topics, location, timing, and format of public workshops.
 - Plan public workshops and prepare Issues For Discussion.

3. **Review Citizen Membership on Technical Subcommittees**
 - Reappoint public members.
 - * Survey current members to determine interest in continuing to serve.
 - * Use the Questionnaire to solicit nominations to fill citizen member seats on technical subcommittees.
 - * Based upon the responses from the survey and questionnaire, consider rotating the public membership on technical subcommittees to provide new perspectives.

4. **Improve Media Contacts**
 - Continue to include media at Secretariat sponsored events.
 - Encourage press coverage of Lake Ontario related issues.

5.

Improve Connections to RAP's

- The Secretariat and RAP coordinators will meet annually to exchange information.
 - * The Secretariat will gather information regarding issues that are raised in the RAP process that would be more effectively addressed in a lakewide management plan.
 - * RAP coordinators will learn about issues that are raised in the LAMP that would be more effectively addressed by planning efforts in specific geographic areas.
- The Secretariat members will continue annual visits to RAP citizen committees.

6.

Improve Mailing List

- Use the Questionnaire, as well as "in house" mailing lists, to update the LAMP mailing list.

7.

Develop Lakewide Advisory Network

- Building on existing public participation, establish a network of individuals who will consult with the Secretariat on specific issues related to the LAMP.
 - * The method of consultation will be determined by the nature and timing of each issue.
 - * Use the Questionnaire to solicit individuals that would be interested in being a part of the Network.

8.

Develop Connections Between Local Stewardship Initiatives and Achieving LAMP Goals

- Inventory existing local stewardship initiatives and encourage an awareness of how the stewardship activities and the LAMP goals are interconnected.

9.

Develop Information/Education Materials

- Identify the need for information/education materials.
- Select priority items for production contingent on available funding.