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To All Interested Parties:

Please find enclosed the Canada-United States Framework for Lakewide Management Plans for Critical Pollutants. We are pleased to report that this Framework was adopted by the Parties at the Fourth Semi-Annual Meeting of the Parties under the Great Lakes Water Quality Agreement (GLWQA) held in Chicago on 30 November 1989.

The attached Framework has been revised based on comments and discussions at the 17 November 1989, workshop held in Toronto. We believe that the revised Framework now clearly articulates the requirements for Lakewide Management Plans under Annex 2 of the Great Lakes Water Quality Agreement.

From the outset, the Parties have recognized that Lakewide Management Plans for Critical Pollutants will be one of the key elements for achieving the overall goals and objectives of the Great Lakes Water Quality Agreement. To emphasize this point, the introduction to the Framework clearly states that Lakewide Management Plans for Critical Pollutants "will serve as one important step toward achieving zero discharge and virtual elimination of persistent toxic substances, while also serving to restore and maintain the chemical, physical, and biological integrity of the Great Lakes basin ecosystem."

At the workshop several commentators pointed out that the Framework was not explicit in recognizing inter-relationships and calling for linking Lakewide Management Plans (LAMPs) with other programs that are being carried out under the Agreement, such as Remedial Action Plans. Moreover, many commentators believed that the scope of the Plans seemed to be too narrowly focused on pollutants with the possibility that ecosystem concerns would not be addressed.

The Framework has been revised by the Parties to address these points in the following manner. The introductory section has been changed to reflect that LAMPs represent an "integrated approach to toxic pollution" focused on Critical Pollutants, and that it is the intent of the Parties that the Plans "will complement and advance the broad range of activities and goals of the GLWQA".

Regarding planning activities already completed or underway, the Parties, in developing LAMPs, will fully take into account and build upon initiatives such as Remedial Action Plans for Areas of Concern; the Niagara River and Lake Ontario Toxic Management Plans; Phosphorus Load Reduction Plans; Fisheries Management Plans; and efforts that address point source impact zones.

With respect to the comments that LAMPs should address a broad range of ecosystem concerns, the Framework's Introduction was revised to also reflect that "the success of Lakewide Management Plans for Critical Pollutants will be measured not only by the effect they have on reducing loadings of critical pollutants in the respective lake basins, but also to what extent they have contributed to meeting the ecosystem objectives called for in the Agreement."

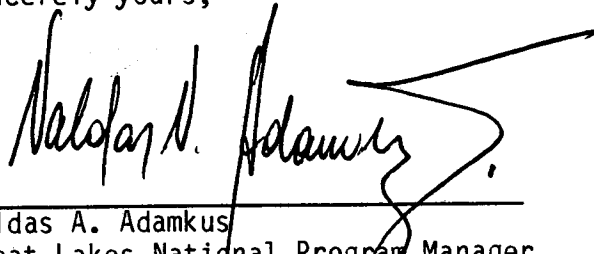
It is understood that in the event that chemical objectives are met, but ecosystem objectives are not, then chemical objectives will be re-examined together with other factors that may be preventing attainment of the ecosystem objectives and indicators.

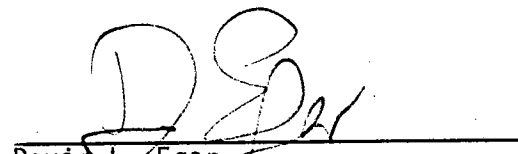
A number of reviewers of the draft Framework raised concerns about the ability of the Parties, in conjunction with the Jurisdictions, to effectively develop and implement LAMPs without appropriate resources. While it is the intent of the Parties to continue to move ahead on the development of the Plans, it is also recognized that the rate of plan development and task completion will be affected by the availability of resources. That point is now reflected in the Framework's section on Timing.

Finally, a major point was raised by commentators concerning the ability of the public to have meaningful input at appropriate stages in the development of LAMPs. The Parties agree and have included a statement in a section of the Framework entitled Institutional Roles that, in addition to establishing Lakewide Advisory Councils, public meetings will be held to correspond with the four review stages called for in Annex 2 of the Agreement. The Parties also agree that involvement of a wide range of stake holders in developing and implementing LAMPs is necessary in order to provide the collective will and resources needed to ensure success.

The evolution of Lakewide Management Plans for Critical Pollutants is at an early stage. The Parties are pleased with the progress made over the course of the last 9 months. This Framework comprises the first step towards clearly articulating the requirements of Annex 2 and the Parties are now prepared to move forward and make this Framework operational. Your comments and input are welcome at all points in the development of the plans.

Sincerely yours,



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12/04/89

CANADA/UNITED STATES
FRAMEWORK FOR
LAKEWIDE MANAGEMENT PLANS
FOR CRITICAL POLLUTANTS

I. INTRODUCTION

In 1987 Canada and the United States recognized the need to revise and update the Great Lakes Water Quality Agreement (GLWQA), while reaffirming the Agreement's broad goals and objectives. One of the important revisions to the Agreement was a new provision calling for the development and implementation of Lakewide Management Plans as a means of reducing the levels of designated Critical Pollutants in open lake waters.(1) Specifically, Annex 2 of the GLWQA requires that the United States and Canada, in consultation with State and Provincial Governments, develop and implement Lakewide Management Plans for open waters, except for Lake Michigan, where the United States has sole responsibility.

The need for a Lakewide Management Plan requirement became increasingly apparent with widespread fish consumption advisories and added evidence of toxic pollution in the open waters of the Great Lakes. In addition there was a growing recognition that a multi-media, multi-source, and multi-jurisdictional approach, patterned after the lakewide phosphorous reduction plans, would be necessary in order to effectively address the pollution problems of the open waters.

As with phosphorus load reduction plans, it was recognized that the Lakewide Management Plans for "Critical Pollutants" are to be focused on total loadings to the Lakes and impairments resulting from chronic exposure to low levels of pollution. It was also recognized that Lakewide Management Plans are to integrate programs and measures addressing the more acute problems of the localized Areas of Concern with the need for Lakewide protection.

By adopting this new integrated approach to toxic pollution, it is the intent and expectation of both countries that Lakewide Management Plans, while targeted on critical pollutants, will complement and advance the broad range of activities and goals of the GLWQA. In that regard, Lakewide Management Plans for Critical Pollutants will serve as one important step toward achieving zero discharge and virtual elimination of persistent toxic substances, while also serving to restore and maintain the chemical, physical and biological integrity of the Great Lakes Basin Ecosystem.(2) As such, the success of Lakewide Management Plans for

(1) Great Lakes Water Quality Agreement of 1987 as amended by Protocol Signed November 18, 1987. Consolidated by International Joint Commission January, 1988. Article IV (f), at p.10..

(2) Id., Annex 2, 2(b), at p.51 and Annex 12, 2(a)ii, at p.109.

Critical Pollutants will be measured not only by the effect they have on reducing loadings of critical pollutants in the respective lake basins, but also to what extent they have contributed to meeting the ecosystem objectives called for in the Agreement.

This framework for Lakewide Management Plans responds to the terms of the Agreement and provides guidance on a systematic approach for preparation of plans by the U.S. and Canada.

The approach called for in this framework paper was based upon joint U.S./Canada workshops and meetings held during 1989 in consultation with the jurisdictions and interested publics. It is also based upon experience with lakewide planning for phosphorus and toxic substances within the basin over the past few years.

II. GOALS AND OBJECTIVES

In support of the broad goals outlined above the GLWQA provides that Lakewide Management Plans shall be designed "to reduce loadings of critical pollutants in order to restore beneficial uses" of the Great Lakes Basin ecosystem. Beneficial uses are defined in ANNEX 2 and include both human and ecosystem health. Restoration of beneficial uses includes attainment of specific numerical objectives agreed to by the Parties in accordance with the GLWQA provisions. In making progress towards achievement of these objectives, the Agreement's provisions also make it clear that Lakewide Management Plans for Critical Pollutants are not to allow backsliding or increase in pollutants in areas where GLWQA specific objectives are not exceeded.(3)

III. SCOPE

The scope of Lakewide Management Plans is focused on critical pollutants that pose a threat to human health or aquatic life, by reducing the levels of these pollutants to meet specific objectives that will eliminate impairment of beneficial uses of open lake waters.(4)

The plans are targeted on Critical Pollutants in order to effectively use and direct financial and staff resources on clearly defined and attainable objectives while continuing to make substantive progress on the broad-based goals of the GLWQA.

(3) Id., Annex 2, 6(a), at p.55; Article IV(f) at p.11, Annex 1, at pp.32-44, and Supplement at Annex 1, pp.45-48.

(4) Id., Annex 2, 6(a), at p.55.

Taking steps to reduce critical pollutants in open lake waters will mean that Lakewide Management Plans for Critical Pollutants will encompass activities that are multi-jurisdictional and multi-media in nature, while integrating and building upon other pollution reduction programs now underway. Moreover, the scope of Lakewide Management Plans for Critical Pollutants will undoubtedly vary from lake to lake as a consequence of the differences in water quality and institutional settings of each lake.

As the knowledge base and level of technology increases, the GLWQA envisions that Lakewide Management Plans will become in turn a major component of plans addressing a wider scope of ecosystem issues.(5)

IV. APPROACH

The approach that is outlined in the GLWQA for developing and implementing Lakewide Management Plans for Critical Pollutants is designed to be an evolutionary and iterative process for reducing pollutants. The first phase is to establish a fast track for remedial action that ensures full implementation of existing regulatory, incentive, and preventive programs that affect the critical pollutants. Reduction strategies will be established for each of these pollutants with explicit numerical control levels and schedules for compliance established to meet the specific objectives of the GLWQA.

On a companion course that is designed to complement and support the fast track process, the GLWQA also calls for introducing a mass balance approach to gathering and analyzing information on concentrations, sources and pathways of critical pollutants that have entered the Great Lakes. Employing the more comprehensive mass balance methodology is a recognition of the degree of complexity involved in choosing the most effective course of action to counter toxic pollution of the Great Lakes ecosystem. And, the mass balance approach is expected to offer a sophisticated management tool to assist decision makers in identifying information needs, coordinating and analyzing various research and data on toxic pollutants, sources, and key ecosystem indicators. It will also help to target and document cost-effective reduction strategies for critical pollutants in the Great Lakes.(6)

The mass balance approach as noted above is designed to complement the remedial actions associated with the fast track process. Intermediate results from the mass balance processes will help in making necessary adjustments on ongoing remedial actions, but employing mass balance should not act as a delay to the fast track process.

(5) Id., Annex 2, 2(a) and (b) at p.51.

(6) Id., Annex 2, 2(a) 6(1)i-x, at pp.55-57, Annex 11, 1(e) and 3(a)-(f), at pp.105-106; Annex 12, 5(a-j), at pp.110 and 111.

In fashioning the appropriate remedial actions for reducing critical pollutants, the GLWQA anticipates relying on existing pollution control programs and procedures to the fullest extent possible. Where necessary, adjustments will be made in existing programs to achieve the greatest level of reduction in pollutants in the shortest possible time and for the least cost. Where it is deemed impossible to achieve the desired reduction in pollutant levels through existing pollution control procedures, new remedial measures will be adopted to achieve the desired goals.(7)

Under the provisions of the GLWQA it is also specified that for each of the key components of the Lakewide Management Plan for Critical Pollutants the Party or agencies responsible for carrying out a component will be identified. A surveillance and monitoring process for evaluating the effectiveness, and for documenting the success of the remedial measure, will also form a part of each plan.(8)

With respect to the design of each Lakewide Management Plan for Critical Pollutants, the GLWQA provides a great deal of leeway to tailor each plan and set of implementation procedures to the particular characteristics and institutional features of each lake basin. In this regard, it is the intent of the Parties to encourage a degree of flexibility that will permit creative approaches in reaching key objectives while ensuring that there is consistency in the basic scope of the plans.

V. OPERATIONAL ELEMENTS

A) Review of Available Information

The individual Great Lakes vary in terms of their water quality conditions as well as their environmental and institutional settings. Consequently, reviews of existing readily available information will be conducted for each of the Great Lakes in order to provide a foundation for the problem definition and identification of critical pollutants.

Such a review will include:

1) Review of available physical and socio-economic information on the lakes:

- Lake characteristics (physical, chemical, biochemical);
- Population distribution and trends;
- Land use;
- Industrial development;
- Environmental status of the lake;
- Impacts.

(7) Id., Annex 2, 6(a),(v) and (vi), at p.56.

(8) Id., Annex 2, 6(a)vii-x, at p.57.

(5)

2) Review of pollutant loading information:

- Direct industrial/municipal discharges to the lake;
- Inventory of point sources including tributaries;
- Inventory of non-point sources including contaminated groundwater and urban run-off;
- Atmospheric deposition;
- Loadings from Connecting Channels.

B) Problem Definition

The problem definition will include:

- 1) Description of impairment of uses in the open lakes caused by pollutants and a definition of the threat to human health or aquatic life based on an evaluation of existing information and data;
- 2) Evaluation of existing information on concentrations, sources and pathways of pollutants, including information that identifies total loadings of pollutants from all sources and already scheduled load reductions;
- 3) Identification of additional information necessary for the implementation of key components of the Lakewide Management Planning process, including information needed for the identification and designation of critical pollutants and work plans for determining load reductions.(9)

C) Identification and Designation of Critical Pollutants:

As part of Lakewide Management Plans the Parties will identify and designate Critical Pollutants with full public consultation pursuant to Annex 2. This process will be consistent across the basin.

D) Determination of Load Reductions

Load reduction necessary to meet Agreement objectives will be identified through necessary monitoring and modelling.(10)

E) Evaluation of Existing Remedial Measures

An evaluation of ongoing remedial efforts and expected effects in reducing critical pollutants will be undertaken.(11)

(9) Id., Annex 2, 6(a)(i)(ii)(iii), at pp.55-56.

(10) Id., Annex 2, 6(a)(iv), at p.56.

(11) Id., Annex 2, 6(a)(v), at p.56.

F) Identification of Additional Remedial Measures

A determination will be made on the necessity of taking additional steps within existing programs to reduce critical pollutants and meet the Agreement objectives.

A priority list of new remedial actions and implementation schedules will be identified if target load reductions for critical pollutants are not being met with existing programs and measures.(12)

G) Assignment of a Center of Responsibility

Assignments of key responsibilities among agencies and persons for ensuring that the necessary implementation of remedial measures are carried out will be made in conformity with agreed upon schedules.(13)

H) Surveillance and Monitoring

Clearly delineated benchmarks will be established to measure progress in meeting the agreed upon objectives and schedules for reducing critical pollutants. Surveillance and monitoring procedures will also be established to track the success of program implementation and restoration of beneficial uses.(14)

VI. INSTITUTIONAL ROLES AND RESPONSIBILITIES

The Canadian and U.S. Governments (Environment Canada and U.S. EPA) have the overall responsibility of managing the development and implementation of each Lakewide Management Plan. The Agreement recognizes, however, that the planning and implementation process will be conducted in direct cooperation with the State and Provincial governments and will build upon existing institutional frameworks wherever possible. The Parties also recognize that if the long term prospects of meeting the goals of the GLWQA are to be successfully realized, the private sector and interested publics must be full participants from the earliest point of design through the implementation of the plans.

The two federal governments envision incorporating the various institutional roles and responsibilities into a workable model for each Lakewide Management Plan for Critical Pollutants as follows:

(12) Id., Annex 2, 6(a)(vi), at p.56.

(13) Id., Annex 2, 6(a)(vii), at p.57.

(14) Id., Annex 2, 6(a)(viii)(ix), at p.57.

A) Working Committees

Each of the Lakewide Management Plans shall be led by a project working committee, consisting of one representative of the U.S. EPA office (e.g. Regional office or Great Lakes National Program Office), one representative of Environment Canada, and one representative from each State and Province bordering the subject lake. Representatives from other appropriate public agencies will also be involved as necessary. The working committee shall be jointly chaired by the U.S.EPA and Environment Canada representatives, except in the case of the committee for the Lake Michigan Lakewide Management Plan effort, which shall be solely chaired by the U.S. EPA representative.

B) Lakewide Advisory Council

It is the intent of the Parties to establish advisory councils comprised of senior representatives of U.S. and Canadian public and private sector organizations, including not-for-profit organizations having interest in the development and implementation of Lakewide Management Plans. The councils will provide important input and advice to the working committees from the inception of the Lakewide Management Planning process through implementation.

The U.S. EPA and Environment Canada shall jointly chair the council, and one representative from each of the other governments represented on the project work committee will also be included on the council.

C) Public Meeting/Workshops

It is the Parties' intent that public meetings and information workshops will be held at appropriate stages in the development and implementation of the plans at sites around each lake basin. At a minimum, public meetings will be held to correspond with the four review stages called for in Annex 2 of the Agreement.

VII. TIMING

The goal of both governments is to initiate the Lakewide Management Plan process in all five Great Lakes over the next two to three years. The process will begin with a review of all pertinent and available information for each lake basin. It is expected that the rate of plan development and implementation will vary among the individual lakes, based upon the level of progress of existing planning efforts, the severity and complexity of water quality problems, and the availability of resources to complete necessary tasks.