

Broken Agreement

**The Failure of the
United States and Canada
To Implement the
Great Lakes Water Quality Agreement**

September 1991



Great Lakes United

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About This Report

This report was written by Great Lakes United President John Jackson and GLU Field Coordinator Karen Murphy with assistance from numerous organizations and individuals from throughout the Basin, including Lake Michigan Federation, Sierra Club, Tip O' the Mitt Watershed Council, Pollution Probe, National Wildlife Foundation, Canadian Environmental Law Association, Rawson Academy of Sciences, Atlantic States Legal Foundation, and the Great Lakes Research Consortium.

The report was edited, designed and produced by Reg Gilbert.

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Great Lakes United

Great Lakes United is a binational coalition for the conservation and protection of the Great Lakes--St. Lawrence ecosystem.

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Summary

Rhetoric about cleanup and restoration of the Great Lakes by the Federal Governments of Canada and the United States has escalated steadily for years. Action has followed far more slowly. In fact, the two Governments are breaking many of the commitments they made in a solemn international agreement--the Great Lakes Water Quality Agreement.

Toxics Management Strategy

The two Federal Governments have failed to develop a binational "toxic substances management strategy," an overall plan to reduce and eventually eliminate pollution of the Basin. The International Joint Commission first recommended the adoption of such a strategy ten years ago. It is the essence of the Great Lakes Water Quality Agreement taken as a whole. Effective cleanup of the Great Lakes cannot proceed without it.

The success of the 1970s-era phosphorous reduction program undertaken by the two Federal Governments hinged on cooperative efforts to achieve agreed-on load-reduction goals. A similar approach needs to be taken toward toxic substances.

During the past year the Federal Governments made much-heralded efforts to develop a binational strategy. Unfortunately, nothing came of them. Despite drafting several versions of a "Bilateral Pollution Prevention Strategy for the Great Lakes Basin and the St. Lawrence River," the Governments failed to agree.

Instead, each Government released its own pollution prevention strategy document. The Governments held press conferences to hail the completion of these documents in the spring of

1991, but the separate strategies were evidence of an unwillingness to act, not of progress.

Uniform Protection

The Governments have not developed uniform environmental protection standards for the Basin called for in the Agreement. Because the Great Lakes Basin is a single ecosystem, toxic chemical releases in one part often will end up affecting another. Thus, environmental protection standards should be the same throughout the Basin.

Current Government legislation, standards, and regulatory measures are not uniform. The water quality standard for PCBs, for example, varies from as high as 1000 parts per quadrillion in New York and Ontario to as little as 14 parts per quadrillion in Wisconsin.

Current Government legislation, standards and regulations are also not consistent with the principles and objectives of the Great Lakes Water Quality Agreement. In every one of its Biennial Reports over the past ten years, the International Joint Commission has pointed out these inconsistencies and urged the Governments to increase their efforts. Nonetheless, very little progress has been made.

Zero Discharge

The two Federal Governments have failed to develop a comprehensive strategy to achieve zero discharge and virtual elimination of persistent toxic substances.

One of the guiding principles of the Great Lakes Water Quality Agreement is the zero discharge and virtual elimination of persistent toxic substances into the Great Lakes-St. Lawrence River Basin. The International Joint Commission has provided ongoing direction for the

implementation of these principles through recommendations issued over the past ten years, but few of the significant recommendations have been adopted.

Research on the effects of toxic substances on fish, wildlife and human health in the Basin dictates that action to eliminate the inflow of these substances into the Great Lakes should take place immediately. Only by eliminating the discharge of persistent toxic substances--zero discharge--does it become feasible to achieve lasting clean up--virtual elimination--of toxic substances already present in the Basin.

The pollution prevention strategies released by the two Governments last spring fell far short of providing a clear road map for achieving zero discharge and virtual elimination of persistent toxic substances--neither strategy even sets zero discharge as a goal.

Basic Information

The Federal Governments have not compiled basic information and inventories critical to regulating toxic chemicals and to prioritizing regulatory actions.

For example, the Governments pledged in the Agreement that by September 30, 1989 (and biennially thereafter), they would identify and delineate Point Source Impact Zones, areas associated with significant discharges of industrial and municipal wastes and therefore warranting significant regulatory attention.

This effort is one of the prerequisites for any attempt to reduce discharges of toxic chemicals into the Basin. Three years after the agreed deadline this list has still not been compiled.

Even more behind schedule--to the point of absurdity--is the Governments' pledge to develop by January 1982 an inventory of raw materials, processes, products, byproducts, waste sources and emissions involving persistent toxic substances. This inventory is critical to the development of a binational toxics management strategy and to the evaluation of progress being made to achieve zero discharge of persis-

tent toxic substances. No such inventory has been developed.

Contaminated Sediments

The Federal Governments have failed to develop comprehensive management programs for contaminated sediments. Although some resources and staffing have been dedicated to research on remediation technologies, other components of a comprehensive program are lagging.

For example, the Province of Ontario and the Canadian Federal Government developed draft criteria for assessing contaminated sediments. The Province released the draft criteria in 1987, but has not yet formally adopted them.

The Canadian Federal Government began developing sediment criteria in 1987. Five years later it has yet to release even draft criteria.

The U.S. Environmental Protection Agency first began developing sediment criteria in 1985. This year EPA plans to release criteria for five organic compounds and a methodology for developing criteria for metals. EPA plans to release criteria for two to five organic compounds per year. At this rate it will take between 35 and 140 years to develop criteria for the approximately 70 organic chemicals with the greatest potential for building up in the food chain. EPA has not developed a schedule for releasing criteria for metals.

Wetlands

In some areas--such as wetland protection and restoration--Government efforts are moving backwards. According to the IJC's 1991 Science Advisory Board report, approximately 70 percent of the original wetlands in the Great Lakes Basin have been lost. Under Annex 7 and Annex 13 of the Great Lakes Water Quality Agreement, the two Governments pledged to identify, preserve and, where necessary, rehabilitate threatened wetlands.

The Governments have not only failed to develop lists of threatened wetlands, but actions

are now being taken--particularly in the United States--that threaten to destroy many remaining wetlands.

A revised draft of the U.S. "Federal Manual for Identifying and Delineating Jurisdictional Wetlands" was released in May 1991. If the revisions are adopted, it is estimated that the total wetland area protected in some states could be decreased by as much as 90 percent.

Lake Superior

The Federal Governments have failed to take action to protect Lake Superior.

Lake Superior is unique. It is the largest freshwater lake in the world, is relatively undeveloped, with huge tracts of shoreline inaccessible by road, and is accordingly relatively pristine. The International Joint Commission recognized Lake Superior's special character and recommended in its Fifth Biennial Report that the two Governments designate Lake Superior as a demonstration area where "no point source discharge of any persistent toxic substance will be permitted."

The only action the Governments have taken to implement this recommendation is to set up a multigovernment task force and multi-stakeholder committee to discuss it.

Fearing the amount of additional pollution that could be permitted while a plan is being devel-

oped for Lake Superior, environmental groups requested in October 1990 that the Governments immediately place a moratorium on "any new or increased discharges of persistent toxic pollutants into Lake Superior and its tributaries." The Governments have not complied with this request.

Conclusion

The efforts required to clean up contamination of the Great Lakes Basin by persistent toxic chemicals will not be easy. Cleaning up contaminated sediments, combined sewer overflows, and the myriad other problems facing the 43 Areas of Concern will require strong leadership, sustained political will and adequate funding.

These three elements are currently lacking on the part of the Federal Governments. Put simply, the Governments are failing to carry out the commitments they have made in the Great Lakes Water Quality Agreement. They are breaking their pledges to each other and to the 45 million people of the Great Lakes--St. Lawrence Basin.

As a result, the condition of the region's ecosystem and the health and well-being of the people who live in it continues to deteriorate. The United States and Canadian Federal Governments must immediately live up to the promises they have made in the Great Lakes Water Quality Agreement.

Introduction

In the late 1960s and early 1970s the Great Lakes Basin became a symbol for North America's pollution problems. Lake Erie was considered dead. Trash, dead fish, industrial waste and sewage washed up on beaches. The Cuyahoga River erupted into flames.

The United States and Canadian Federal Governments responded to the pollution crisis. The U.S. Clean Water Act and the Canada Water Act were passed in 1972. The Great Lakes Water Quality Agreement was signed by the Governments that same year. State and Provincial Governments throughout the Great Lakes Basin undertook cooperative efforts to save the lakes. Interstate pacts to reduce phosphate discharges were developed between the states bordering Lakes Michigan and Erie. The Canadian Federal Government and the Province of Ontario signed the Canada-Ontario Agreement Respecting Great Lakes Water Quality.

The central promise of the 1972 Great Lakes Water Quality Agreement was the reduction of phosphorous loadings to the Great Lakes through construction of sewage treatment plants, reduction of phosphates in detergent, and control of rural and urban runoff. Substantial progress was made under the 1972 Agreement. Lake Erie came back to life and the other Lakes were much less affected by excess algae.

But the Lakes were increasingly confronted by an even greater threat--contamination by persistent toxic chemicals. In response, the Federal Governments signed the 1978 and 1987 Great Lakes Water Quality Agreements, outstanding, precedent-setting documents that focus on contamination by toxic substances.

The 1978 Agreement pledged the two countries

to work together using an ecosystem approach--one that integrates all components of air, land, water, and living organisms, including humans--to rid the Great Lakes of toxic contamination problems. The Agreement espoused a revolutionary philosophy: that the only rational approach to managing the worst pollutants is zero discharge and virtual elimination of those pollutants.

The 1987 Agreement maintained these basic principles and pledged the Governments to take action on pollution sources not covered in the 1978 Agreement, such as non-point source pollution, contaminated sediments, and airborne toxic substances.

The purpose of this report is to evaluate the Governments' progress in implementing the Agreement and to hold the Canadian and U.S. Federal Governments accountable for implementation of the Great Lakes Water Quality Agreement.

Progress made by the Governments in fulfilling their commitments can be measured in many ways. The most important is thorough assessment of the well-being of the Great Lakes Basin and all its inhabitants. Studies of Great Lakes environmental health have been carried out by a variety of scientists and research organizations. The results of their work can be seen in reports such as *Great Lakes, Great Legacy?*, a book issued jointly by the Conservation Foundation and the Instituté for Research on Public Policy.

Such an assessment can also be made by simply talking with the people who live in the Great Lakes and hearing how they are affected by the quality of the Lakes. Public views and concerns have been compiled in reports such as Great Lakes United's "Unfulfilled Promises," the Assembly of First Nations' "Great Lakes Environ-

mental Impacts on Native Health" and Greenpeace's *Water for Life*.

These reports paint a disturbing picture of Great Lakes health and well-being. While some progress has been made in addressing eutrophication--excessive nutrient loading--the Great Lakes remain critically ill and in need of restoration and revitalization.

Reports such as "Blueprint for Zero," issued by the Sierra Club, and "Prescription for Healthy Great Lakes," issued jointly by the National Wildlife Federation and the Canadian Institute for Environmental Law and Policy, have provided a clear articulation of the demands of the public for action to protect the Lakes. These reports also provide a basis for review of Government progress.

In this report we have used two yardsticks for measuring Government actions. First, we compared the two Federal Governments' actions with those commitments they made in the Great Lakes Water Quality Agreement that had specific timetables attached. Secondly, we compared Government actions with the selected recommendations made by the International Joint Commission since 1978.

There are many deadlines and requirements in the Agreement and the International Joint Commission has made numerous recommendations to the two Governments over the last ten years. We focused our review on those aspects of the Agreement and those IJC recommendations whose implementation we considered the most critical to the restoration of the Great Lakes Basin ecosystem.

Ignoring Agreement Deadlines

Unfortunately, many of the commitments the U.S. and Canadian Federal Governments made when they signed the Great Lakes Water Quality Agreement have no timelines attached to them. Foremost among these is the commitment that:

"The discharge of toxic substances in toxic amounts [should] be prohibited and the discharge of any or all persistent toxic substances [should] be virtually eliminated." [Article II]

This commitment was first agreed to by the two Federal Governments in 1978. Thirteen years later, the goal of virtual elimination of persistent toxic substances is far from being realized.

In almost all cases where the two Federal Governments agreed to timetables, they have failed to meet them. In some cases, the Governments have missed deadlines for implementing important parts of the Agreement by as much as ten years.

In those cases where the Federal Governments have met Agreement deadlines, the commitments were usually of the nature of holding a meeting or producing a report. These are relatively easy commitments to fulfill, and usually have little impact on progress toward protecting or cleaning up the Great Lakes.

This ongoing history of failure to meet deadlines leads concerned citizens to question the seriousness of either Federal Government in implementing the Great Lakes Water Quality Agreement.

This section divides into two parts the significant timeline-based commitments made by the Governments in the Great Lakes Water Quality Agreement: those that have not been met at all, and those that have been met only after--sometimes long after--their deadlines have passed.

Unfulfilled Commitments

Commitments made by the two Federal Governments in the Great Lakes Water Quality Agreement that have not yet been met are, unfortunately, generally the most important commitments.

Pollution Control

By December 31, 1983: Have programs in place ("completed and in operation") to control pollution from industrial sources. These programs were to include control requirements consistent with the General and Specific Objectives of the GLWQA, including programs for the substantial elimination of discharges into the Great Lakes System of persistent toxic substances. [Article VI, 1(b)]

Nearly nine years after this deadline, government programs are far from achieving these goals. Persistent toxic substances still flow into the Great Lakes ecosystem.

Agreement Objectives

By July 1, 1988 and at least once every two years thereafter: Consider proposals to add to or revise Specific Objectives in Annex 1 and to establish action levels under Annex 12 [Persistent Toxic Substances]. [Annex 1 Supplement, 2. (a)]

The IJC had recommended 11 objectives for adoption by the two Governments. Some of these changes had been recommended by the IJC as far back as 1980. The Federal Governments were unable to agree on adoption of

these or other Specific Objectives and they did not, therefore, meet the 1988 deadline. Four years after agreeing to adopt new or revise existing Specific Objectives, no changes have been adopted by the two Governments.

Toxics Definitions

By April 1988: Agree to standard methods for assessing substances. [Annex 1 Supplement, 2. (d)]

The Binational Objectives Development Committee presented its proposed Standard Methods to the Parties on November 30, 1989. This was 20 months after the date they had agreed to. But even today--two years later still--these proposed methods have not been agreed to and adopted by the Governments.

Impact Zones

By September 30, 1989 and biennially thereafter: Identify and delineate Point Source Impact Zones. [Annex 2, 7. (a)]

Point Source Impact Zones are areas associated with significant discharges of industrial and municipal wastes. Three years after the agreed timeline, identification and listing of these areas has not been completed.

Toxics Inventory

By January 1982: Complete inventory of raw materials, processes, products, byproducts, waste sources and emissions involving persistent toxic substances. [Annex 12, 3. (a)]

Such an inventory is critical for developing toxics use reduction programs, but nine years after the deadline no such inventory has been developed and maintained.

Toxics Disposal

By 1980: Implement joint programs for disposal and transportation of hazardous materials. [Annex 12, 3. (c)]

Eleven years after the deadline, no joint disposal programs have been identified. Canada

and the United States have reached agreement on approving transboundary transportation of hazardous wastes. This action does not constitute a waste disposal program, however.

Contaminated Sediments

By December 31, 1988 and biennially thereafter: Evaluate methods for quantifying transfer of contaminants and nutrients to and from bottom sediments. [Annex 14, 2. (b) (i)]

Environment Canada developed a mass balance model for contaminants in sediment and tested it for metals in the Bay of Quinte. The U.S. Army Corps of Engineers has requested an appropriation from Congress to conduct a mass balance for sediments on the U.S. side of the Great Lakes. Neither government has actually conducted such a mass balance.

By December 31, 1988: Develop agreed-on procedures for management of contaminated sediments. [Annex 14, 2. (b) (iv)]

Almost three years after the deadline, no management procedures have been agreed to by the two Federal Governments. Canada has developed draft guidelines for management and has proposed a sediment roundtable between Ontario and the Federal Government this winter to resolve details. U.S. EPA's Assessment and Remediation of Contaminated Sediments (ARCS) program will produce a series of management guidance documents at its conclusion in 1993.

By June 30, 1988, and biennially thereafter: Meet to design a demonstration program for management of contaminated sediments and to decide on an implementation schedule, and report progress on the implementation of this program. [Annex 14, 2. (c) (ii)]

A joint U.S./Canadian program has not been developed, although separate demonstration programs were developed in 1989 and continue to be carried out, with close consultation between the Parties and sharing of information through the U.S. ARCS program and Canada's Contaminated Sediment Remediation Program, administered through its Great Lakes Cleanup

Fund. Both Governments have limited their demonstrations to bench (laboratory) and pilot scale. Neither Government has developed a full-scale demonstration for innovative treatment technologies. Canada's only full-scale demonstration is limited to dredging technologies.

Missed Deadlines

Toxics Lists

By December 31, 1988: Compile three lists of toxic chemicals that are either present in the ecosystem or discharged or potentially discharged into the Great Lakes ecosystem. [Annex 1 Supplement, 2. (c)]

These three lists were compiled by the Binational Objectives Development Committee and submitted to the Federal Governments on November 30, 1989—eleven months later than the date agreed to. These lists still have not been formally adopted.

Phosphorous Reduction

By December 31, 1988: Meet to review effectiveness of phosphorus load reduction plans. [Annex 3 Supplement, 6.]

The review of the phosphorus control program was received at a special meeting of the two Governments in April 1990. This was 14 months after the agreed-to date.

Atmospheric Deposition

By October 1, 1988: Confer on components of the Integrated Atmospheric Deposition Network. [Annex 15, 4.]

A joint committee was established in December 1988 to begin conferring on a joint plan. A plan was finalized in March 1990, about a year and a half late.

Sediment Remediation Technologies

By December 31, 1988 and biennially thereafter: Evaluate technologies for management of contaminated sediments. [Annex 14, 2. (c) (i)]

A conference was held in October 1988 to review technologies for remediation of contaminated sediments. A joint evaluation was published under the auspices of the Sediment Subcommittee of the Water Quality Board in December 1988.

During 1991 the United States and Canadian Governments did evaluate technologies and began testing them, both separately and in consultation, at five U.S. and three Canadian Areas of Concern.

It is likely that all of the subcommittees of the IJC's Water Quality Board, including the sediment work group, will eventually be abolished. The Federal Governments need to develop new mechanisms for working together on sediment issues.

Reporting Requirements

By December 31, 1988, and biennially, thereafter: Report to the Commission progress on:

(i) implementing Remedial Action Plans and Lakewide Management Plans; [Annex 2, 7. (b)]

(ii) programs and measures to reduce the generation of contaminants; [Annex 12, 8.]

(iii) developing watershed management plans and programs to control non-point sources of pollution; [Annex 13, 5.]

(iv) implementing Annex 14 on contaminated sediments; [Annex 14, 4.]

(v) implementing Annex 15 on airborne toxic substances; [Annex 15, 6.]

(vi) implementing Annex 16 on pollution from contaminated groundwater. [Annex 16, (v).]

Of the two reports due in 1988, the Canadian report was submitted two months late, the U.S. report almost six months late. Of the reports due by the end of 1990, neither had been submitted to the International Joint Commission as of mid-September 1991.

Ignoring IJC Recommendations

Since the issuance of the First Biennial Report, the International Joint Commission has made a number of recommendations that provide direction and guidance to the Governments on the implementation of the Great Lakes Water Quality Agreement.

This section evaluates progress in implementing recommendations considered by Great Lakes United to be the most critical to the cleanup and restoration of the Basin.

Zero Discharge and Virtual Elimination

The GLWQA calls for the "virtual elimination of the discharge of persistent toxic substances." It also says that "the philosophy adopted for control of inputs of persistent toxic substances shall be zero discharge."

The IJC has repeatedly criticized the Federal Governments for failing to take this commitment seriously enough. In March 1989, for example, in its typically diplomatic language, the Commissioners concluded, "Although progress is being made [in movement towards zero discharge], the Commission feels that there is room for improvement and acceleration of effort."

The Commission's 1990 Fifth Biennial Report precisely spelled out actions that the Governments should take in accelerating movement towards zero discharge.

Binational Toxics Strategy

IJC Recommendation: "The Parties [should] complete and implement immediately a bi-national toxic sub-

stances management strategy to provide a coordinated framework for accomplishing, as soon and as fully as possible, the Agreement philosophy of zero discharge."

The IJC has made a similar recommendation in every one of its Biennial Reports. In the Addendum to the First Biennial Report in 1982, the Commission said, "The Commission is concerned, however, that there is still no overall management plan for directing and guiding the activities of the Parties and the state and provincial governments in controlling pollution in the Great Lakes System. This absence of an overall management plan, which would ideally integrate and coordinate such activities within and between jurisdictions, has often led to fragmentation of purpose, direction and resources by the relevant jurisdiction. The Commission feels that the Parties should proceed with the development of such an overall management plan for the Basin."

Almost ten years after the recommendation was first made, the Governments have still failed to heed this recommendation, which is so central to accomplishing the goals of the 1978 GLWQA.

Over the past year the Canadian and U.S. Federal Governments made much-heralded efforts towards creating a binational strategy. They even reached the point of drafting several versions of a "Bilateral Pollution Prevention Strategy for the Great Lakes Basin and the St. Lawrence River." However, the two Governments were unable to reach agreement on a binational strategy and in the spring held separate news conferences to release separate strategies.

In March 1991 the Canadian Federal Government announced a \$25 million Great Lakes-St. Lawrence Pollution Prevention Initiative. The main component of the Initiative was establishment of a pollution prevention centre. Six

months later the Federal Government has still not determined where this centre is to be located and what its exact purpose will be. The announcement did not promise action, merely more multistakeholder discussions. The U.S. EPA and several state governors released a U.S.-only pollution prevention strategy at an April news conference held in Chicago. Neither of these strategies set "zero discharge" as a goal.

There is no evidence that further progress has been made towards developing a joint strategy since these initial announcements. The only joint activity in this field that the two Governments have been able to agree on is a "Binational Great Lakes/St. Lawrence River Pollution Prevention Symposium," which is being held simultaneously with the IJC Biennial Meeting in October 1991. This is only more talk--not a strategic plan.

Uniform Protection

IJC Recommendation: "The Parties and all levels of government, including local authorities, [should] cooperatively develop and implement appropriate legislation, standards and/or other regulatory measures that will give enforceable effect to the principles and objectives of the Agreement on a basin-wide basis.

"Additional review and coordination measures [should] be put into effect to ensure that other legislation and/or regulations presently in place that affect matters relevant to the Great Lakes environment--or those enacted in the future--are not inconsistent with Agreement Objectives.

"The measures devised pursuant to the foregoing [should] include provisions for initiation, implementation and coordination of action at all levels of government to enforce the enacted laws and/or regulations."

Government legislation, standards and regulatory measures still are not consistent with the principles and objectives of the GLWQA. In every one of its Biennial Reports over the past ten years, the IJC has pointed out these inconsistencies and urged the Governments to increase their efforts. Very little progress has been made in the 18 months since the IJC's last report.

In June 1989, the U.S. EPA, in conjunction with the eight Great Lakes States, began developing its "Great Lakes Water Quality Initiative." The initiative is intended to develop "uniform criteria and guidance governing water quality in the Great Lakes Basin" and to ensure "a more consistent approach to meeting the obligations of the United States under the GLWQA." Over two years later the Initiative is still far from completion. EPA and the Initiative Steering Committee, made up of representatives of the Great Lakes States and federal agencies, have still not approved a final draft. Although it is a good first step if approved, Initiative proposals still do not fully achieve the goals of the Great Lakes Water Quality Agreement, particularly with respect to zero discharge.

On the Canadian side, progress is even further away. In 1991 the Federal Government released new regulations designed to control discharges from pulp and paper mills, but it did not address the control of organochlorines. Pursuant to the Canadian Environmental Protection Act, a list of priority substances was released in February 1989. This list identified 44 substances that must be assessed. If the substances are found to be harmful, they must be regulated. According to the Auditor General's March 1990 report, assessment had been completed for only dioxins and furans.

The Federal Government says that primary responsibility for controlling discharges lies with the Provincial Governments. However, the Ontario government does not have enforceable water quality standards for persistent toxics. No new control regulations have been issued under Ontario's much-vaunted Municipal-Industrial Strategy for Abatement (MISA), which was launched five years ago with the aim of achieving the GLWQA's goal of "virtual elimination of persistent toxic substances."

In February, Ontario's Environment Minister Ruth Grier expressed her "extreme concern" about levels of dioxins and furans found in the discharge from 27 pulp and paper mills in Ontario, but no actions have been taken by the Provincial Government to strengthen controls on these mills.

Reverse Onus

IJC Recommendation: "The Parties [should] strengthen the principle of reverse onus in policies and programs concerned with the introduction of new chemicals, through appropriate legislation and/or regulations that include mandatory pretesting prior to approval for production and use."

Neither Federal Government has strengthened provisions to enforce the reverse onus principle since this recommendation from the Commission in April 1990. The burden of proof for demonstrating the harm of chemicals still remains primarily on those who are impacted.

Critical Pollutants

IJC Recommendation: "The Parties, in their next biennial reports to the Commission pursuant to Annex 12 [should]:

"report on the extent to which discharges of 11 critical pollutants...have been explicitly considered in the issuance of National Pollutant Discharge Elimination System permits and control orders.

"assure the Commission and the public that no municipal, industrial or combined sewer overflow discharges of these substances are or will be permitted.

"assess and report on the extent to which these 11 substances are used, stored and released in the basin by nonpoint rural and urban sources, including landfills and groundwater, and the measures being taken to prevent their further release into the Great Lakes from these sources.

"report on the extent to which monitoring is in place to confirm that discharges of these chemicals are not occurring."

These reports, which were due on December 31, 1990, had not been delivered to the Commission by mid-September 1991. It is clear, however, that the two Governments will not be able to report that they have achieved the goals laid out here. For example, the 11 critical pollutants continue to be discharged from permitted facilities. The

request for an inventory of use, storage and release of these substances is simply a repeated request for the Governments to create an inventory that they had promised to set up by January 1982--almost ten years ago.

Persistent Toxics

IJC Recommendation: "Target dates for the staged reduction and elimination of these substances [persistent toxic substances] should be set in the very near future and strictly enforced by incorporating them into appropriate parts of the legislative program discussed below."

In the past year the two Federal Governments have made little progress toward setting target dates. The U.S. Government has set up its "33/50" program, by which the releases of 17 pollutants are to be reduced by 50 percent by 1995. The program has three major flaws:

Of the 17 targeted pollutants only two are on the IJC's list of 11 critical pollutants. The 17 pollutants were chosen on a nationwide basis and do not, therefore, address the persistent bioaccumulative chemicals of major concern in the Great Lakes.

The program calls for a 50 percent reduction of *emissions* as opposed to *use*. This means that a company could send these 17 chemicals to a sham recycling operation for incineration and claim it had reduced emissions, even though overall reductions in emissions and in the use of the chemicals would not have been achieved.

The reduction goals for this program are only 50 percent of current levels, even though the U.S.-signed GLWQA calls for zero discharge of persistent toxic substances.

As for the Canadian Government, it has failed to set any targets for reductions in the use or release of persistent toxic substances.

Lake Superior

IJC Recommendation: "The Parties [should] desig-

nate Lake Superior as a demonstration area where no point source discharge of any persistent substance will be permitted. This recommendation should not prejudice or delay the implementation of our other recommendations."

The public fully supported this recommendation to protect and clean up the most pristine of the Great Lakes. In the past 18 months the only action taken to implement this recommendation is that the Federal Governments set up the U.S.-Canadian Lake Superior Task Force in May 1991 to develop a Lake Superior Initiative. A Stakeholder Advisory Committee has now been set up. No time frame for development and implementation of the Initiative has been set.

Fearing the amount of additional pollution that could be permitted while a plan is being developed for Lake Superior, environmental groups requested in October 1990 that the Governments immediately place "a moratorium on any new or increased discharges of persistent toxic pollutants into Lake Superior or its tributaries."

The Governments have not complied with this very reasonable request--one that asks only that the Governments act to prevent a *worsening* of existing conditions in the international treasure that is Lake Superior. In two instances where major new sources of pollutants to Lake Superior were proposed, citizen action--not government action--led the pulp and paper companies to withdraw their proposals.

Human Health

The IJC Commissioners were alarmed by the scientific evidence of pervasive health effects on wildlife and people living in the Great Lakes Basin. They stated, "What our generation has failed to realize is that, what we are doing to the Great Lakes, we are doing to ourselves and to our children." It was on the basis of this major concern that the Commissioners made many of the IJC's recommendations on control of persistent toxic substances in the Basin.

The Commissioners also recommended substantial further study on health effects. They stressed, however, that this research should not

become the basis for delaying control actions: "The Commission concludes that sufficient data exist to mandate actions that would prevent the continued manufacture of, and human exposure to, persistent toxic substances and to promote remediation of areas contaminated by these substances."

IJC Recommendation: "The Parties [should] sponsor and fund research projects to:

"replicate and expand on studies which demonstrate relationships between chemical exposure and human health in the Great Lakes Basin and elsewhere;

"identify other exposed populations and biological species and investigate the effects of chemical exposures on them."

The Canadian Government's Department of Health and Welfare is undertaking considerable research in line with the work requested by the IJC. In January 1990, the five-year \$20-million "Great Lakes Health Effects Program" was set up. Research projects in that program include studies of the health effects of particular chemicals and mixes of chemicals, studies of reproductive and multi-generational effects of chemicals, and studies of two populations particularly at risk--the First Nations, and non-native sports anglers.

In fiscal year 1991, the U.S. allocated \$3 million to study the health effects of water pollutants in the Great Lakes.

Remedial Action Plans

The International Joint Commission's Water Quality Board has listed and reported on conditions in the Areas of Concern since the Board's 1973 report. In a 1985 report, the Board formally recommended that a Remedial Action Plan process be adopted and developed for each Area of Concern. The report contained a table summarizing the Governments' assessment of when Remedial Action Plans (RAPs) would be drawn up. All forty-two plans were to have been written, although not fully implemented, by December 1986. As of September 1991, only

10 Stage II RAPs--plans for cleanup implementation--have been submitted to the International Joint Commission.

Recognizing the difficulties in developing and implementing Remedial Action Plans, the IJC in its Fourth Biennial Report made the recommendation that:

Timetables

IJC Recommendation: "The Parties [should] ensure that each of the jurisdictions establish appropriate timetables to develop Remedial Action Plans in accordance with the requirements of Annex 2 and identify achievable intermediate goals or milestones as tangible measures of progress."

In response to mounting public pressure and inaction on the part of the Environmental Protection Agency, in 1990 the United States Congress passed the Great Lakes Critical Programs Act, which established specific timelines for the completion of RAPs. All U.S. RAPs are to be submitted to the Environmental Protection Agency by June 30, 1991, to the International Joint Commission by January 1, 1992, and incorporated into State water quality plans by January 1, 1993. For the binational RAPs the U.S. is to cooperate with Canada to ensure that the RAPs are submitted to the IJC by June 30, 1991 and finalized by January 1, 1993.

Needless to say, these goals are not being met. Two months after the deadline for submission of U.S. RAPs to the EPA, and with only three months before the deadline for submission to the IJC, only 10 completed RAPs have been submitted to either organization. Completed RAPs are those that have worked through both Stage I (assessment of problems) and Stage II (assessment of needed cleanup measures) of the RAP process.

Nine of the 10 completed RAPs did not fulfill the IJC's requirements for Stage I and Stage II documents. Only three of the Stage II RAPs developed timelines for the implementation of remedial actions. Resources committed to implement cleanup were minimal to nonexistent. One of the RAPs identified the remedial ac-

tions as only proposals; three did not recommend any specific remedial actions beyond studies and monitoring.

The Canada-Ontario RAP Steering Committee has developed a schedule for the submission of Stage I and Stage II RAPs to the International Joint Commission--"subject to periodic review and change." The submission dates for Stage II RAPs range from the fourth quarter of 1991 to the fourth quarter of 1992; there are no timelines for the St. Mary's, Detroit and St. Clair Rivers RAPs.

Although listed as Areas of Concern by the Water Quality Board since 1987, New York's Eighteen Mile Creek and Ohio's Black River have made almost no progress toward assessment and cleanup. As yet no action has been taken to begin the remedial action plan process for Eighteen Mile Creek. The RAP process for the Black River has just been started.

Listing/Delisting

IJC Recommendation: "The Parties, in cooperation with the jurisdictions, [should]:

"develop procedures for listing and delisting Areas of Concern, and for measuring progress with respect to restoring Areas of Concern."

In 1989 the International Joint Commission developed draft listing/delisting criteria and procedures to be used by the Commission to review Remedial Action Plans. The Commission formally adopted these criteria in 1991. The listing/delisting criteria developed by the International Joint Commission represent a good basis for ensuring uniform evaluation of RAPs.

The two Federal Governments have not formally and jointly established procedures and criteria for listing/delisting the Areas of Concern. Although the governments were involved in the development of the International Joint Commission's criteria, they have not formally adopted these criteria for their own use. Last year Canada developed its own, different "principles for delisting criteria," which have never been finalized.

New Areas of Concern

IJC Recommendation: "Identify and designate those locations in the Great Lakes Basin which qualify as Areas of Concern based on these criteria."

The Water Quality Board first identified Presque Isle Bay/Erie Harbor as a "Problem Area" in 1977. In 1990 the International Joint Commission recommended Presque Isle for designation as an Area of Concern. The U.S. Federal Government officially designated Presque Isle/Erie Harbor as an Area of Concern in January of 1991.

The Black River/Sacketts Harbor area in New York State has been reported as a problem area for ten years--but it still has not been designated as an Area of Concern. Surveillance reports conducted in 1981 and 1982 reported high loadings of heavy metals and PCBs from the Black River to Lake Ontario. Water Quality Board reports from 1983 to date have noted problems in the area. The 1983 report noted the presence of elevated levels of trace metals. In 1989 the Board reported that levels of PCBs in fish exceeded the Agreement Objective.

The Water Quality Board identified Trail Creek, Indiana, as an emerging concern in 1989. The report cited heavy metal and PCB contamination in the sediments. Concentrations of these materials exceeded EPA guidelines. Water column concentrations of cadmium, copper, mercury, and zinc exceeded Agreement Objectives. EPA has reported levels of PCBs in fish that exceed Agreement Objectives and the Board of Health has issued a consumption advisory for carp. The Governments still have not designated Trail Creek as an Area of Concern.

The Water Quality Board has also reported elevated levels of PCBs in fish from the St. Joseph River (Benton Harbor) in Michigan. No further action has been taken to designate the region as an Area of Concern.

RAP Revisions

IJC Recommendation: "The responsible Parties and jurisdictions [should] revise all RAPs that the Com-

mission has found do not meet Stage I requirements."

Of the 19 Remedial Action Plans reviewed by the International Joint Commission as of June 1991, only 6 have met the requirements for a Stage I document. Three other remedial action plans met Stage I requirements with respect to some problems.

Neither Government has developed timelines for the revision of these Stage I documents. In several of the RAPs, the IJC has recommended including amended Stage I information as part of the Stage II document.

Public Participation

IJC Recommendation: "The jurisdictions [should] include a detailed plan for public participation as part of the Stage I submission of RAPs."

Of the 19 Remedial Action Plans reviewed by the International Joint Commission, none have included a plan for public participation. However, many of these RAPs were submitted before this recommendation was made. Seven of the nineteen RAPs submitted to the IJC--all in Michigan--had minimal public involvement: two to three public meetings held over a two-year period.

Wetlands

The quantity and quality of wetlands in the Great Lakes Basin has dramatically declined. U.S. Fish and Wildlife Service studies indicate that the Great Lakes states have lost more wetlands than other parts of the nation. Ohio, for example, has lost about 90 percent of its original wetland area; New York has lost approximately 60 percent. In southern Ontario wetland losses have exceeded 80 percent. Significant losses continue.

Recognizing the critical ecological role played by wetlands and the threat to their survival, in 1978 the U.S. and Canadian Federal Governments agreed under Annex 7 of the Great Lakes Water Quality Agreement to identify and preserve significant wetlands that were threatened by dredging and disposal activities.

Annex 13, added in the 1987 amendments, also calls for the identification, preservation, rehabilitation, and restoration of significant wetland areas threatened by urban and agricultural development and by waste disposal facilities. The International Joint Commission has echoed these concerns.

IJC Recommendation: "The Parties and jurisdictions increase efforts to rehabilitate, protect and preserve Great Lakes Coastal Wetlands and to strengthen and initiate programs which reverse wetland loss."

In the 13 years since the wetlands portion of Annex 7 was first included in the Great Lakes Water Quality Agreement, the Governments have failed to develop the promised lists of threatened wetlands.

Under Section 404 of the U.S. Clean Water Act, some regulatory protection of wetlands is provided when a wetland is threatened by dredging or filling. Despite the 404 program, the U.S. Office of Technology has reported that approximately 300,000 acres of wetlands have been lost each year since 1970.

The U.S. Federal Government recently released a revised draft of the "Federal Manual for Identifying and Delineating Jurisdictional Wetlands." If adopted, it is estimated that in some states the total wetland area that would be protected would be decreased by 90 percent. The U.S. Fish and Wildlife Service is currently field testing the manual to obtain more concrete figures for how much wetland loss will occur. Far from reversing wetland loss, this new policy will exacerbate the problem.

Canada has failed to develop and implement regulatory programs, at the local, provincial or national levels, to preserve wetlands. In January 1991, the Federal Government released the "Federal Policy on Wetland Conservation," which stated a policy of no net loss of wetlands on Federal lands, wetland enhancement and rehabilitation, and recognition of the need for sustainable land use practices. The Canadian Federal and Provincial governments have just begun to develop the "Canadian Great Lakes Wetlands Conservation Action Plan," which will

develop recommendations and strategies for wetland protection. At this time the Federal policy has not been implemented through concrete legislative or regulatory actions. The Provincial plan must be translated into action to protect wetlands.

Contaminated Sediments

Contaminated sediments are one of the most significant pollution problems facing the Great Lakes Basin. Forty-two out of forty-three Areas of Concern have contaminated sediments. Despite the fact that many of these sites have been reported as problem areas by the International Joint Commission since the early 1970s, the only criteria used to regulate contaminated sediments are open-water dredge disposal criteria developed in the late 1970s.

IJC Recommendation: "The Commission strongly recommends that the Parties direct increased research priority to the knowledge gaps inhibiting the management of sediments in the Great Lakes system."

Both Governments have begun pilot programs to evaluate various treatment technologies for the remediation of contaminated sediments. The United States established the Assessment and Remediation (ARCS) program under Section 118 in the 1987 amendments to the U.S. Clean Water Act. The ARCS program is a five-year study and demonstration effort to investigate technologies for sediment removal and remediation.

Canada established the Contaminated Sediments Remediation Program through the \$125-million Great Lakes Cleanup Fund. A portion of the money from this fund is to go towards sediment remediation demonstration programs.

During 1991 both governments evaluated technologies and began testing them separately and in consultation at five U.S. and three Canadian sites. Both Countries have limited their demonstrations to bench- (laboratory) and pilot-scale levels. Neither has developed a full-scale demonstration for innovative treatment technologies. Canada's only full-scale demonstration is limited to dredging technologies.

IJC Recommendation: "The Parties, in cooperation with the jurisdictions, [should] accelerate the development of programs related to research... demonstration... and implementation of remediation technologies. [The Parties should also] ensure that adequate resources are made available to meet the commitments."

Neither Federal Government has developed a comprehensive contaminated sediments remediation program. This would require an inventory of contaminated sediment sites, a program for sediment measurement, remediation and cleanup, a strong set of criteria and standards for sediment quality, and a source of funding.

For example, the Province of Ontario and the Canadian Federal Government developed draft

criteria for assessing contaminated sediments. The Province released the draft criteria in 1987, but has not yet formally adopted them. The Canadian Federal Government began developing sediment criteria in 1987. Five years later it has yet to release even draft criteria.

The U.S. EPA first began developing sediment criteria in 1985. This year it plans to release criteria for five organic compounds and a methodology for developing criteria for metals. The agency plans to release criteria for two to five organic compounds per year. At this rate it will take between 35 and 140 years to develop criteria for the approximately 70 organic chemicals with the greatest potential for building up in the food chain. This is unacceptable. EPA has not developed a schedule for releasing criteria for metals.

Conclusion

The Canadian and U.S. Governments are failing to take the actions needed to protect and restore the health of the Great Lakes.

The Governments have failed to meet many of the most crucial timelines specified in the Agreement. Even more fundamentally, progress to restore the Great Lakes has been hampered by Government inaction and a lack of cooperation between the two Governments. The Governments have been unable to develop and implement action plans for the most basic and fundamental environmental programs.

While the Governments develop news releases to announce non-actions, evidence of the damage to the Great Lakes is mounting: cormorants

born with club feet, missing eyes and no brains; bald eagles unable to reproduce; fish populations ridden with tumors; and children with behavioral abnormalities, below-normal memory function, and lower IQs.

We are witnessing a slow destruction of the Great Lakes Basin ecosystem. In order to arrest this process, governments must display the leadership and will power required to prevent new contamination of the Basin ecosystem and to act to restore it.

The public and the International Joint Commission have provided ample guidance to the Governments regarding the actions needed to save the Lakes. The health of the Great Lakes--St. Lawrence River Basin and its inhabitants depend on aggressive action now.