

A Canadian Great Lakes Agenda for the 1990s

**Implementing the
Great Lakes Water Quality Agreement**

September 1991



Great Lakes United

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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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Introduction

In 1972, the Canadian and U.S. Federal Governments signed the Great Lakes Water Quality Agreement. This visionary and precedent setting document, which was amended in 1978 and 1987, should form the basis for Canadian and U.S. actions to protect and restore ecological health in the Great Lakes basin ecosystem.

The promise of the Agreement will remain unrealized if Canada and the United States do not undertake comprehensive concrete actions to achieve the Agreement's goals and objectives. While some progress has been achieved, Canadian programmes to achieve the goals embodied in the Agreement have been incomplete and tentative.

There is no quick fix for the Great Lakes. Their protection and restoration require committed long-term Canadian federal leadership.

This agenda documents some of the issues that must be addressed by Canadian federal policy initiatives in order to achieve the goals of the Great Lakes Water Quality Agreement.

Appropriate actions must be taken on both sides of the International boundary to protect and restore the Great Lakes. To that end, this report complements similar documents released in Washington by Great Lakes environmental groups in 1990 and 1991. Compiled by the Sierra Club, these documents laid out a number of key recommendations for U.S. Federal Government actions to achieve the protection and restoration of the Great Lakes ecosystem.

This "Canadian Great Lakes Agenda" is a collaborative effort of many organizations throughout the Great Lakes region. We hope it will generate a thorough analysis and review of the domestic policy and programme changes necessary to meet the goals of the Great Lakes Water Quality Agreement.

Achieving Zero Discharge Through Pollution Prevention

The Problem

Central to the Great Lakes Water Quality Agreement is a commitment to achieve zero discharge and virtual elimination of persistent toxic substances (table 1). The basis for this commitment was simple—toxic bioaccumulative substances are building up in the Great Lakes and causing dramatic impacts upon the health of all organisms, including fish, wildlife, and humans.

Thirteen years after the goals of zero discharge and virtual elimination were first enunciated in the Great Lakes Water Quality Agreement, Canada has failed to uphold its commitment to achieve zero discharge. The country continues to rely upon dilution as an appropri-

ate "solution" to pollution and has failed to adopt even the most basic programmes of pollution prevention including toxics use inventories and processes for sunseting the worst chemicals. Effective pollution prevention and toxics use reduction require changes in production processes, products, or raw materials that reduce, avoid, or eliminate the use of toxic or hazardous substances and the generation of hazardous byproducts.

The "Green Plan", the Federal Government's blueprint for a healthy environment, which was released in 1990, stated several key federal commitments:

- Canada and the United States will develop a bilateral pollution prevention plan;
- Virtual elimination of persistent toxic substances is a national goal; and
- The Government will develop a comprehensive reporting programme for hazard-

A Citizen's Definition of Zero Discharge

For us "zero" means zero. Pollution must be prevented before it is generated. Production processes (including agriculture) must be reformulated so that these toxic substances are not used, produced, or discharged. "Zero" does not mean reducing discharges beneath some arbitrary level or even beneath the level of detection. Zero means none.

The use of the term "discharge" is not limited to single environmental medium. It applies to toxic discharges into water, air, landfill, product, etc. Nor can persistent toxics be eliminated by shifting them from one medium to another or by attempting to recycle them after they have been produced.

--from the "Statement of Principles" of the Zero Discharge Alliance

ous pollutants being released from industrial and transportation sources.

ammes to achieve reductions in the use of toxic chemicals.

The Green Plan, however, was long on rhetoric and short on specifics. Details of how these commitments will be fulfilled have still not been released.

It was hoped that the Pollution Prevention Initiative, released by Environment Canada in March 1991, and the bilateral Great Lakes Pollution Prevention Agreement to be signed with the United States, would detail specific programmes that would move us towards zero discharge of persistent toxic substances and to a reduction in the use of toxic substances. The Pollution Prevention Initiative, however, did not lay out specific targets, timelines, or pro-

grammes to achieve reductions in the use of toxic chemicals. Instead, the Initiative will establish a Pollution Prevention Centre, which will facilitate discussions on pollution prevention. This does not constitute action to achieve toxics use reduction.

The bilateral pollution prevention plan for the Great Lakes, which was to be developed jointly with the United States, has yet to be agreed upon. In April of this year the U.S. announced its own programme without Canadian agreement and participation.

In its 1990 Biennial Report to the Governments, the IJC recommended that Lake Superior be designated "a demonstration area where no point source discharge of any persistent

Table 1

Persistent Toxic Chemicals Found in the Great Lakes

Chemical	Health Effects
<i>DDT, chlordane, dieldrin, aldrin</i>	Bioaccumulates in fish, wildlife, humans. Persistent in the environment. Long-range effects can include reproductive disorders in wildlife. Suspected cause of cancer in humans.
<i>2,3,7,8-TCDD (most toxic type of dioxin)</i>	Bioaccumulates in fish, which are the route to humans. Present in breast milk and fat. Thought to help initiate cancer. Skin disorders, possible effects on reproductive and immune systems.
<i>Heavy metals (mercury, lead, arsenic, cadmium, copper, chromium, brass, selenium, zinc)</i>	Excessive levels of heavy metals bioaccumulate in fish and wildlife. Human consumption of such contaminated food may cause a variety of health problems. Mercury can cause brain damage, birth defects; lead: anemia, fatigue, irreversible brain damage, especially in children; cadmium: kidney damage, metabolic disturbances; arsenic: damage to liver, kidney, digestive system, bone marrow, suspected cause of cancer in humans; copper, chromium, iron, selenium, and zinc are toxic to fish.
<i>Mirex</i>	Bioaccumulates in fish, wildlife, humans. Persistent in the environment. Suspected cause of cancer in humans.
<i>Polyaromatic hydrocarbons (PAHs) (includes benzo(a)pyrene)</i>	Persistent in bottom sediments. Induces cancer and causes chromosome damage in fish, wildlife and humans.
<i>Toxaphene</i>	Bioaccumulates in fish; found in human milk. Liver, thyroid and kidney disorders in lab animals. Suspected carcinogen. Neurotoxic.
<i>PCBs (polychlorinated biphenyls)</i>	Bioaccumulates in fish, wildlife, humans. Suspected in human developmental problems. Reproductive failures, skin and GI disorders in monkeys.
<i>DEHP (Di-2-ethyl-phthalate)</i>	Carcinogenic in laboratory animals. Possible reproductive toxicity in aquatic organisms. Primary route to humans via food. Little known on human effects.
<i>Lindane</i>	Toxic to developmental and reproductive systems. Bioaccumulates. Carcinogenic in laboratory animals. Reduces fertility and causes fetal malformations in mammals. May be toxic to the immune system.

Source: Great Lakes United, from U.S. EPA and other sources.

toxic substance will be permitted". This recommendation has not been acted upon by the governments of Canada or the United States.

To achieve the protection and cleanup of the Great Lakes-St. Lawrence River ecosystem the Canadian Government must immediately take bold, aggressive actions to institute programmes that will achieve zero discharge and virtual elimination of toxic chemicals.

Recommendations

- The Federal Government should state as a national objective zero discharge of persistent toxic substances from all human sources.
- The Federal Government should establish a freeze on certain discharges. No new or increased discharges should be allowed of any of the 362 chemicals identified by the International Joint Commission's Great Lakes Water Quality Board as posing a threat to human health or wildlife. The Federal Government should work with the Provinces of Ontario and Quebec to implement this policy.
- The Federal Government should use its authority under the Canadian Environmental Protection Act to develop a systematic process to ban the production and use of toxic chemicals or processes that create toxic byproducts, and products that are toxic. The Government should immediately ban the further use or manufacture in the Great Lakes Basin of toxic chemicals with high bioconcentration factors--about 70 of the 70,000 chemicals now being used commercially in the Great Lakes Basin.
- The Canadian Government should immediately establish with the United States a sunset task force to develop criteria for identifying chemicals whose use will be phased out (sunset) and for establishing specific sunset timetables. This task force should submit its recommendations to the Canadian and U.S. governments by the fall 1993 IJC Biennial Meeting.
- A national pollution prevention and toxics use reduction strategy should be adopted in cooperation with the provinces. This should include:
 - 1) Clearly specified toxics use reduction goals and objectives;
 - 2) Inventories, audits and reports of toxics use;
 - 3) Toxic use reduction plans for each industrial sector using toxics;
 - 4) Technical assistance programmes;
 - 5) Community and worker right-to-act provisions;
 - 6) Reorganization of government agencies on a multimedia basis;
 - 7) Toxics use reduction standards; and
 - 8) Toxics use reduction permitting procedures.
- Canada should establish general and specific toxics use reduction goals and targets. The overall goal should be a 50 percent reduction in the use of toxics by 1995 and a 75 percent reduction by 2000.
- To monitor the progress towards achievement of toxics use reduction goals, a uniform system should be established to measure the use and release of toxic chemicals and the generation of hazardous waste. Comprehensive toxics release and use reporting should be established by 1992 and should include information on releases of toxic chemicals to air, land, water, and to offsite and onsite treatment and recycling facilities. Workers and community residents

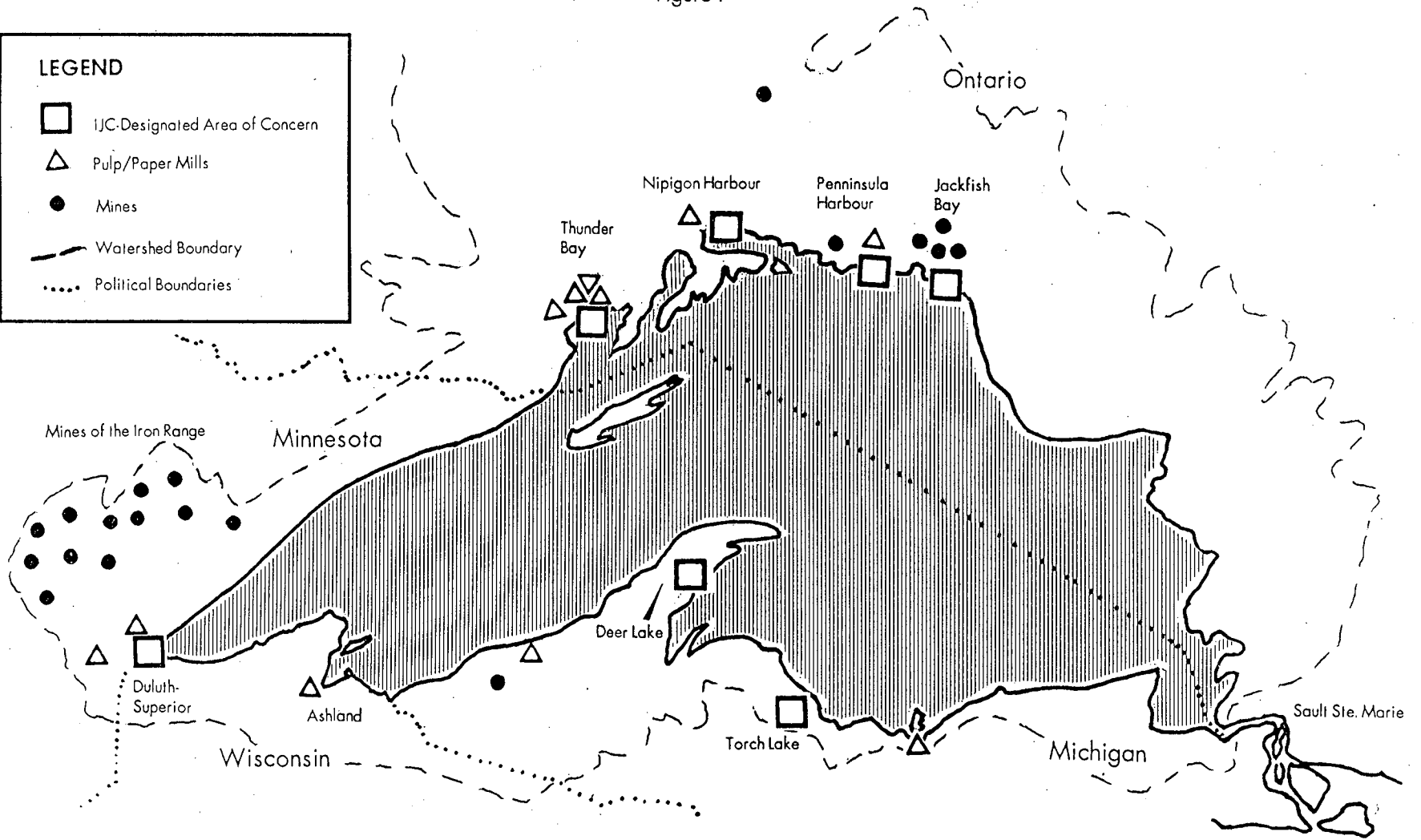
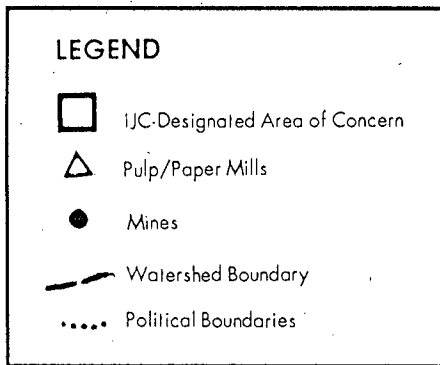
should have: legal rights of access to information reported under this programme; the right to inspect industrial facilities to ensure that chemicals are being handled properly; and the right to sue polluters to prevent them from harming the environment or to enforce environmental laws, even if they are not personally or directly damaged by the pollution.

- The Government of Canada should follow

through on the recommendation of the International Joint Commission to make Lake Superior a demonstration area for the achievement of zero discharge (figure 1).

- The pulp and paper regulations just passed under the Fisheries Act should be strengthened to ban the use of chlorine and chlorine compounds used for delignification and bleaching by the paper industry (figure 2).

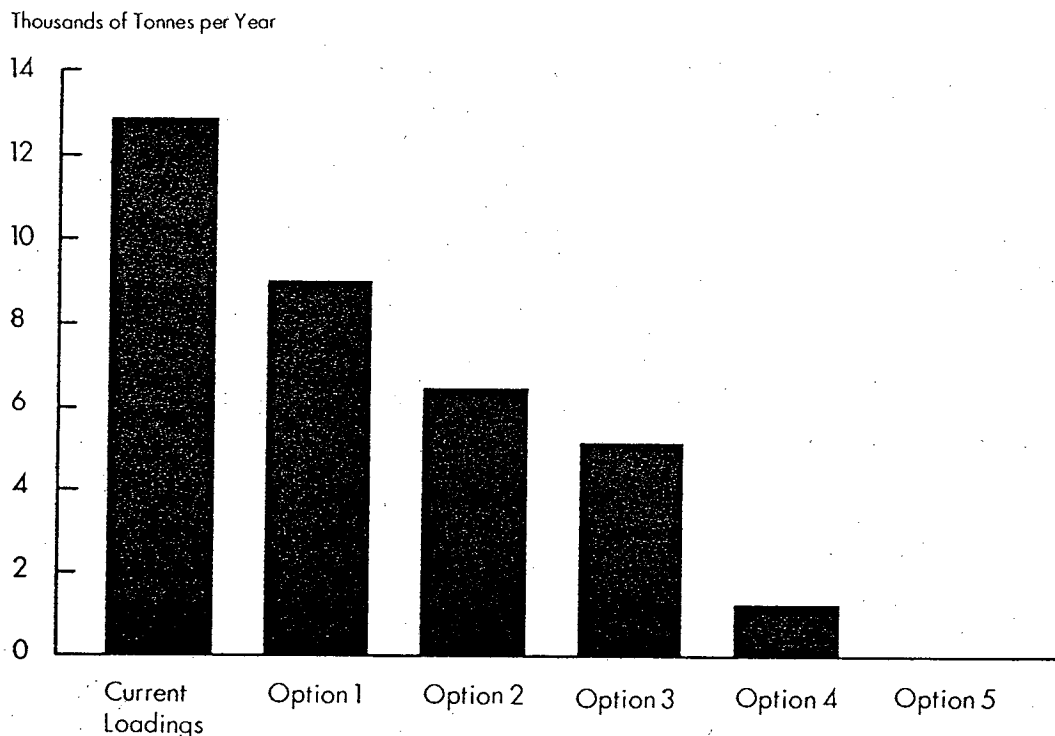
Figure 1



**Major Point Sources of Persistent Toxic Discharges
In the Lake Superior Watershed**

Figure 2

Less-Toxic Alternatives to Conventional Bleaching In Pulp and Paper Mill Processes



Loadings of Adsorbable Organo Halides from Great Lakes Pulp and Paper Mills

Option 1 - Require Best Available Technology (BAT) in All Pulp and Paper Mills

While all U.S. facilities meet U.S. BAT effluent limits, only two of Canada's eight facilities use these technologies. This option would result in substantial reductions in toxic loadings.

Option 2 - Oxygen Delignification

Use of chlorine is reduced by using oxygen as a bleaching agent. Only one mill in Ontario does this. This option would reduce organochlorine loadings by more than 25 percent.

Option 3 - Oxygen Delignification with Chlorine Dioxide Bleaching

Chlorine dioxide bleaching produces approximately 1/6 of the organochlorines produced by pure chlorine. However, one of these chemicals is chlorate, a powerful herbicide.

Option 4 - Oxygen Delignification, High Chlorine Dioxide Substitution with Extended Cooking and Nitrogen Dioxide (NO₂) Pretreatment

Cooking and NO₂ treatment precede oxygen and chlorine dioxide bleaching. Toxic loadings are reduced by more than 80 percent.

Option 5 (The Zero Discharge Solution) - Oxygen Delignification, Ozone Bleaching with Hydrogen Peroxide and Sodium Hydrosulphite Brightening

Oxygen, ozone, peroxide and hydrosulphite delignify and bleach the pulp. This option requires both a process change and chemical substitution. Very bright paper is produced but toxic chlorine chemicals are not. Organochlorine loadings are reduced by 100 percent.

Source: "A Prescription for a Healthy Great Lakes: Report of the Program For Zero Discharge", 1991. National Wildlife Federation and Canadian Institute for Environmental Law & Policy.

Cleanup and Restoration of the Ecosystem: RAPs and LAMPs

The Problem

Because the Great Lakes ecosystem is already contaminated, the governments of Canada and the United States added specific elements to the Great Lakes Water Quality Agreement in 1987 aimed at restoring and rehabilitating "Areas of Concern" (specific locations with degraded water quality) and the overall waters of each of the lakes.

To date, none of Canada's RAPs have been completed. Only seven Stage I RAPs have been completed in Canada; this stage defines the problems. No Stage II RAPs have been completed; this is the cleanup stage. None have reached Stage III, which is completed when monitoring and assessment indicate that beneficial uses have been restored. On average the RAPs are now two years behind the schedule laid out in 1988 by the Federal Government and Ontario for the completion of RAPs.

In its Fifth Biennial Report on Great Lakes Water Quality, the IJC said that "the responsive jurisdictions [should] accelerate the preparation and submission of RAPs". They also recommended that the two governments "provide technical and financial resources needed for their implementation" and that the "parties [should] give high priority to the development and implementation of RAPs, taking into account the need for public involvement throughout the process".

Canada has failed to use an ecosystem approach in RAPs. RAPs should be comprehensive natural resource planning documents that

incorporate fish and wildlife habitat concerns and other land-use issues. This has not been the case to date.

In all but one of the areas of concern, contaminated sediments are a major cause of water quality impairment. The accumulated toxic chemicals in the sediments are a continual source of pollution to the areas of concern. Little guidance and direction have been provided to RAP public advisory committees and coordinators on how to address this crucial issue.

Recommendations

- The Canadian Federal Government should accelerate the completion of remedial action plans and develop a funding programme for implementing RAPs (table 2).
- Direction should be provided by the Federal Government, through its Department of Fisheries and Oceans and the Canadian Wildlife Service, on the incorporation of fish and wildlife habitat protection into remedial action plans.
- RAPs offer an opportunity to develop local blueprints for zero discharge. The Federal Government should provide assistance and guidance to achieve zero discharge of persistent toxic substances in Areas of Concern.
- The Federal Government should develop scientifically based sediment quality criteria that can be used to assess the need for sediment cleanup and to guide sediment remediation efforts and disposal practices. It should also present the options for con-

Table 2

Current Status of Canadian RAPs[^]

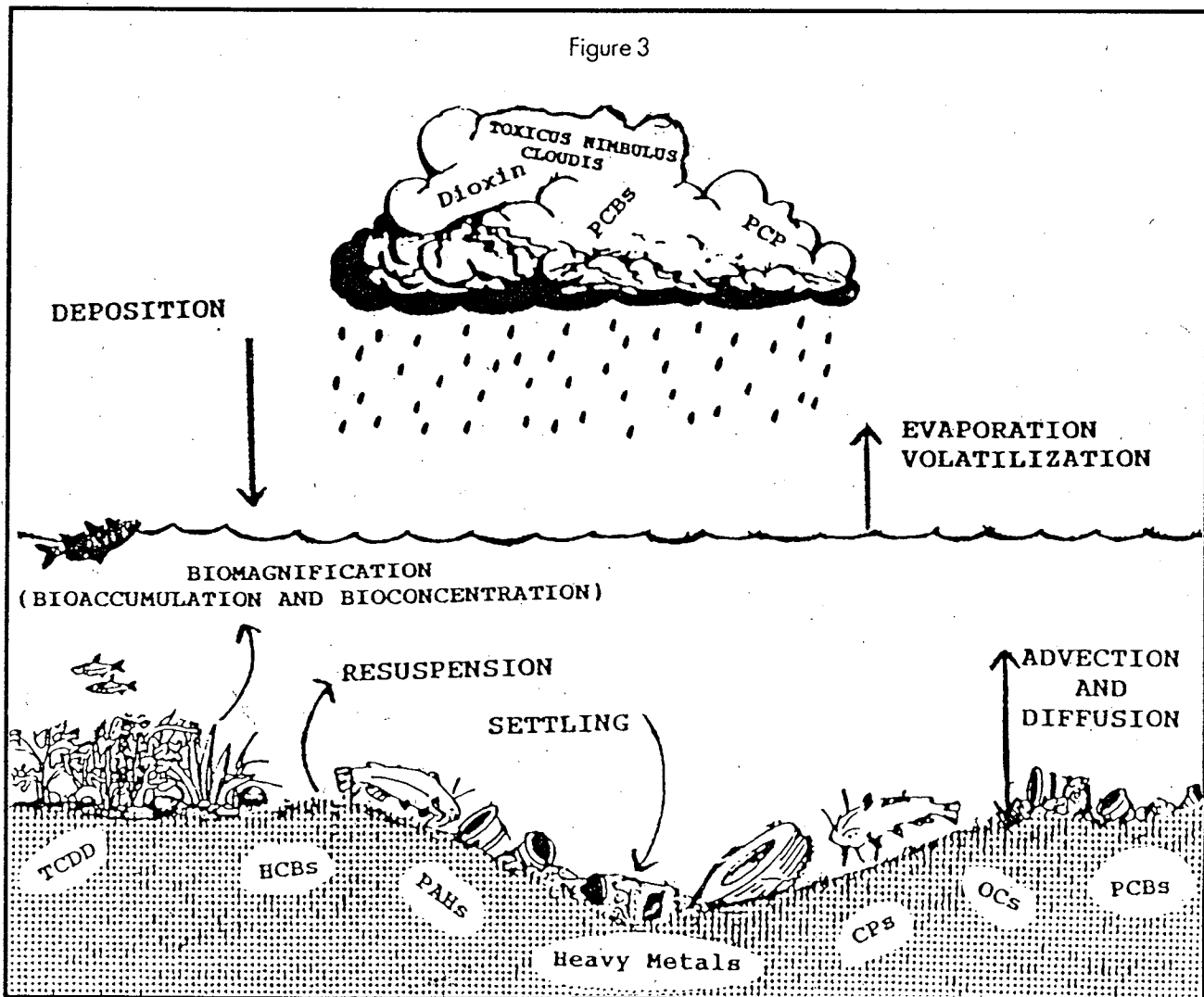
Area of Concern	Stage I RAP		Stage II RAP				IJC Submissions	
	In Progress	Complete	Identify Public Goals	Describe Remedial Options	Select Preferred Options	Draft Complete	Stage I	Stage II
<i>Thunder Bay</i>	*		*	o			3 Qtr 91	4 Qtr 92
<i>Nipigon Bay</i>	*		*	o			3 Qtr 91	4 Qtr 92
<i>Jackfish Bay</i>	*		*	o			3 Qtr 91	4 Qtr 92
<i>Peninsula Harbour</i>	*		*	o			3 Qtr 91	4 Qtr 92
<i>St. Marys River</i>	*		*	o			4 Qtr 91	?
<i>Spanish Harbour</i>	*		*	o			4 Qtr 91	4 Qtr 92
<i>Severn Sound</i>	*	*	*	*	o		Submitted	2 Qtr 92
<i>Collingwood Harbour</i>	*	*	*	*	o		Submitted	2 Qtr 92
<i>St. Clair River</i>	*		o	o			4 Qtr 91	?
<i>Detroit River</i>	*	*	o	o			Submitted	?
<i>Wheatley Harbour</i>	*		*	o			4 Qtr 91	1 Qtr 92
<i>Niagara River</i>	*		o	o			4 Qtr 91	4 Qtr 92
<i>Hamilton Harbour</i>	*	*	*	*	*	*	Submitted	4 Qtr 91
<i>Toronto Waterfront</i>	*	*	*	*	o		Submitted	4 Qtr 92
<i>Port Hope</i>	*	*	*	*			Submitted	4 Qtr 91
<i>Bay of Quinte</i>	*	*	*	*	o		Submitted	4 Qtr 91
<i>St. Lawrence River (Cornwall)</i>	*		*	o			4 Qtr 91	2 Qtr 92

[^]As of June 1991. * = complete o = in progress
 Source: Canada-Ontario RAP Steering Committee

taminated sediment cleanup or control (figure 3).

- Strong public involvement has been a successful feature of Canadian remedial ac-

tion plans and continued funding of this essential element of the RAPs and similar activities related to the Lakewide Management Plans should be continued.



Protecting Human Health

The Problem

In its Fifth Biennial Report on Great Lakes Water Quality, the International Joint Commission concluded, "there is a threat to the health of our children emanating from our exposure to persistent toxic substances, even at very low ambient levels". People throughout the Great Lakes basin are increasingly concerned about that threat.

Traditional health concerns for Great Lakes residents have focused on cancer caused by exposure to toxic chemicals in food, air and water. However, the effects of toxic contamination are much broader; these include decreased reproductive abilities, birth defects, immune system impairments and changes in behaviour. A study of children whose mothers consumed large quantities of Lake Michigan fish found that the children experienced birth deficiencies and reduced learning abilities.

The Federal Government has an important role to play in providing information and advice to people on how to respond to existing exposures to toxic chemicals and how to conduct research aimed at greater understanding of the magnitude and nature of the threat to the Great Lakes.

Studies conducted or funded by the Canadian Government have been important in helping build an information base on the impacts of human exposure to toxic chemicals. Unfortunately, the results of these studies, which show cause for significant concern, have sometimes been downplayed by the Government.

The recent report released by Environment Canada, Fisheries and Oceans Canada, and Health and Welfare Canada, "Toxic Chemicals

in the Great Lakes and Associated Effects", is a case in point. The summary for the report described the levels of contaminants as "decreased substantially" despite statements in the report that showed that the most toxic forms of these chemicals are not decreasing. The attached briefing notes said that developmental and reproductive problems "can" occur in wildlife, while the report itself showed that these effects "are" occurring.

Fish and/or wildlife consumption guidelines are one important mechanism to help Great Lakes residents protect themselves from exposure to toxic chemicals. Unfortunately, the existing guidelines are based on average consumption rates for the population and do not protect the most vulnerable or most highly exposed residents. These include consumers of above-average amounts of fish and wildlife, such as anglers, native people, and the poor. These guidelines also do not protect the biochemically vulnerable, the developing fetus, and infants who ingest contaminants through their mother's breast milk (table 3).

Recommendations

- The Federal Government should continue and expand the research and activities of the Great Lakes Health Effects Programme. Research should focus on studies related to developmental and reproductive problems.
- The Federal Government should establish comprehensive epidemiological cancer and tissue data banks as called for in Annex 12 of the Great Lakes Water Quality Agreement. These data banks are essential to monitor longterm trends of chemical exposure.
- The Federal Government should fund ag-

gressive educational programmes on risk and exposure pathways. These programmes, which must include fish consumption warnings, should be targeted at high risk communities and encourage the involvement of these communities in their own protection.

- Incomplete health studies should not be used as the basis to stall actions to achieve zero discharge. The warning signs are so clear now that we must not wait for further evidence before acting to clean up the Lakes.

Table 3

Great Lakes Toxic Chemicals Found in Breast Milk And Other Human Tissues

Toxic Chemical [^]	Breast Milk	Placenta	Testicles	Highest Levels Found in Heavy Eaters of Fish [^]
2,3,7,8-TCDD (most toxic dioxin)	*			
Chlordane	*		*	*
DDE/DDT	*	*	*	*
Dieldrin	*	*		
HCB	*	*	*	*
Lead	*	*		*
Lindane	*	*	*	*
Mercury	*			*
Mirex	*		*	*
PCBs	*	*	*	*
Toxaphene	*			

[^]All listed chemicals have been shown to bioaccumulate in fish.

Source: Great Lakes, Great Legacy?, 1990, The Conservation Foundation and the Institute for Research on Public Policy.

Protecting and Restoring Coastal Habitats and Wetlands

The Problem

The Great Lakes region is an area of spectacular natural beauty. Unfortunately development pressures continue to destroy and degrade coastal features including wetlands, dunes, islands and other important habitats. Protection of existing natural habitats and wetlands through tax incentives, conservation agreements, public ownership and other incentives is imperative.

The wetlands of the Great Lakes Basin provide vital habitat for fish and wildlife populations; they protect the water quality of lakes and streams by filtering nutrients and pollutants; they are areas of recreation; and they help minimize damage from flooding and erosion (table 4).

Wetland quantity and quality in the Great Lakes region have dramatically declined since the arrival of European settlers in the late 1700s. Conversion of southern Ontario wetlands to other uses has exceeded 80 percent of the original acreage. For the Great Lakes region as a whole, only about 30 percent of the original wetlands remain intact.

Development pressures also threaten other unique coastal features such as dunes, barrier islands, and beaches. These provide important natural buffers against wind and wave energy and protect coastal areas from erosion and storm damage as well as providing important habitat for fish and wildlife. These critical

habitats must be protected from development.

In its 1989 report, the IJC's Science Advisory Board called for the protection of ecological diversity within the Great Lakes by a system of protected nearshore and coastal zone sites. They suggested that such a system would "be a concrete expression of 'anticipate and prevent' strategies to help ward off further ecosystem degradation".

Recommendations

- The Federal Government should adopt as soon as possible the draft federal wetlands policy it has developed. This initiative should include a commitment to an increase in the quality and quantity of wetland habitat in critical areas of Canada such as the Great Lakes. Included in this commitment should be the financial resources necessary to implement the policy's guiding principles as described in the Green Plan.
- Canada should fulfil its obligation under the Great Lakes Water Quality Agreement to inventory and protect Great Lakes wetlands. The Agreement states, "Significant wetland areas in the Great Lakes system that are threatened by urban and agricultural development and waste disposal activities should be identified, preserved, and where necessary, rehabilitated".
- Canada should undertake a programme to promote public awareness and understanding of wetland issues and to encourage conservation by individuals and organizations through tax incentives and other mechanisms.
- The Federal Government should review cur-

Table 4

Benefits of Wetlands

Environmental and Cultural	Economic and Fiscal
<p>Water Quality</p> <p>Wetlands act as natural water filters for chemicals and sediment in urban, farm and natural runoff. They play an important role in holding down Great Lakes pollution from tributaries. They are even used as tertiary wastewater treatment facilities.</p>	<p>Pollution Control</p> <p>Wetlands filter water for free and thus lower the need for, or the loadings into, wastewater and drinking water treatment plants. Further loss of wetlands will lead to increased need for treatment plants and clean-up strategies.</p>
<p>Wildlife</p> <p>Wetlands are among the most biologically productive habitats on earth and are responsible for the existence of hundreds of species of wildlife.</p>	<p>Water Supply</p> <p>Wetlands are major retention basins, providing large quantities of clean water for municipalities. Wetland losses will lead to loss of quality water supplies, requiring costly searches for new sources of water.</p>
<p>Fish</p> <p>Coastal wetlands, and the food, shelter and spawning areas they provide, produce a major part of the Great Lakes fishery. Their role in water quality and erosion control also protect fish habitat.</p>	<p>Flood Control</p> <p>Wetlands help control flooding, and thus prevent the need for costly flood control projects. A one-acre wetland holds 330,000 gallons of water if flooded to one foot.</p>
<p>Rare and Endangered Species</p> <p>Almost 35 percent of all rare and endangered animals, and many plant species, are partly or wholly dependent on wetlands for their survival.</p>	<p>Shipping</p> <p>By filtering tributaries and runoff, wetlands hold back vast amounts of sediment that would fill up navigation channels, saving hundreds of millions of tax dollars in dredging costs.</p>
<p>Recreation</p> <p>Wetlands provide or strongly enhance several recreational activities, including fishing, swimming, boating, hunting, wildlife observation, and general tourism.</p>	<p>Property Protection</p> <p>By preventing flooding and by acting as wave barriers to prevent coastal erosion, wetlands prevent loss of property.</p>
<p>Quality of Life</p> <p>Wetlands are often one of the last green spaces in city, industrial and farm areas and often serve as visual and sound buffers and sites for recreation.</p>	<p>Property Values</p> <p>By serving as scenic open space and as visual and sound buffers, wetlands enhance a community's amenities and therefore its property values.</p>
<p>Education and Research</p> <p>Wetlands are excellent natural laboratories where people can learn about nature, conduct scientific study and learn ways to solve our environmental problems.</p>	<p>Tourism and Recreation</p> <p>By producing so much wildlife and fish, by serving as scenic open space, and by protecting water quality, wetlands greatly benefit businesses based on fishing, boating, hunting, swimming, and sightseeing, including the lodging, restaurant and service sector.</p>
<p>Historic and Archeological Values</p> <p>Some wetlands preserve historic and archeological remains, including early Indian settlements.</p>	<p>Food</p> <p>Wetlands produce much of the fish harvested by the commercial fishing and aqua-culture industries, and are the only place where cranberry, wild rice and other wetland crops can be grown.</p>
	<p>Natural Resources</p> <p>Wetlands produce most of the furbearers for the trapping industry. Forest wetlands can be an important source of timber when managed properly.</p>
	<p>Fiscal and Tax Savings</p> <p>By performing all the above benefits for free, wetlands save billions of tax dollars by avoiding the need for costly flood, erosion, pollution control, dredging and water supply projects. They bring in fiscal revenues by supporting the recreation, tourism, food and service industries. By enhancing residential property values, they maintain higher tax revenues.</p>

rent federal policies and tax procedures to ensure that federal government programmes and activities are not encouraging wetland destruction.

- Once leadership in implementing a federal wetlands policy is shown, the Government should work with Ontario and Quebec to develop similar wetlands policies and en-

abling legislation in the Provinces.

- The governments of Canada and the United States should adopt the recommendation of the Science Advisory Board to develop a system of Heritage Security Plans that would conserve pristine locales in the Great Lakes--St. Lawrence River coastal zone.

Renegotiating the Canada-Ontario Agreement

The Problem

To facilitate federal-provincial cooperation to implement the Great Lakes Water Quality Agreement, the Government of Canada entered into an agreement with the Province of Ontario.

This Agreement, the Canada-Ontario Agreement (COA), spells out the mutual responsibilities of the two governments to undertake actions in support of the GLWQA. The existing COA agreement expired in March 1991; the two governments have extended the existing agreement until a new one can be negotiated.

The expiry of the previous Agreement provides a substantial opportunity for Federal Government leadership in improving the COA Agreement and ensuring that it promotes the goals of the Great Lakes Water Quality Agreement. It was the Federal Government of Canada that signed the Great Lakes Water Quality Agree-

ment and it, therefore, has an obligation to ensure that the COA Agreement supports the commitments made in it.

Recommendations

- The Federal Government should ensure public involvement in the renegotiation of the Canada-Ontario Agreement.
- Yearly reports on progress in achieving the goals of the Great Lakes Water Quality Agreement and the Canada-Ontario Agreement should be made to the House of Commons.
- The renegotiated COA Agreement should include:
 - specific timetables and mechanisms to achieve zero discharge and virtual elimination of persistent toxic substances.
 - a programme and timetables for the establishment of heritage security plans for pristine coastal habitats.