United States Department of State

Washington, D.C. 20520

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Mr. David LaRoche
Secretary, United States Section
International Joint Commission
1250 23rd Street, N.W., Suite 100
Washington, D.C. 20440

Dear Mr. LaRoche:

Enclosed is the United States Government's response to the recommendations made by the U.S.-Canada International Joint Commission (IJC) in its **Sixth Biennial Report on Great Lakes Water Quality.** This document is the final, updated version of the draft response which was circulated at the IJC's Seventh Biennial Meeting on Great Lakes Water Quality in Windsor in October, 1993.

We are providing eight copies of the response document, and ask that these be distributed to each of the commissioners and secretaries of the United States and Canadian Sections.

Sincerely,

Robert B. Ehrnman
Acting Director
Office of Canadian Affairs

United States
Environmental Protection
Agency

Great Lakes National Program Office
77 West Jackson Boulevard
Chicago, Illinois 60604

EPA 905-R-93-004
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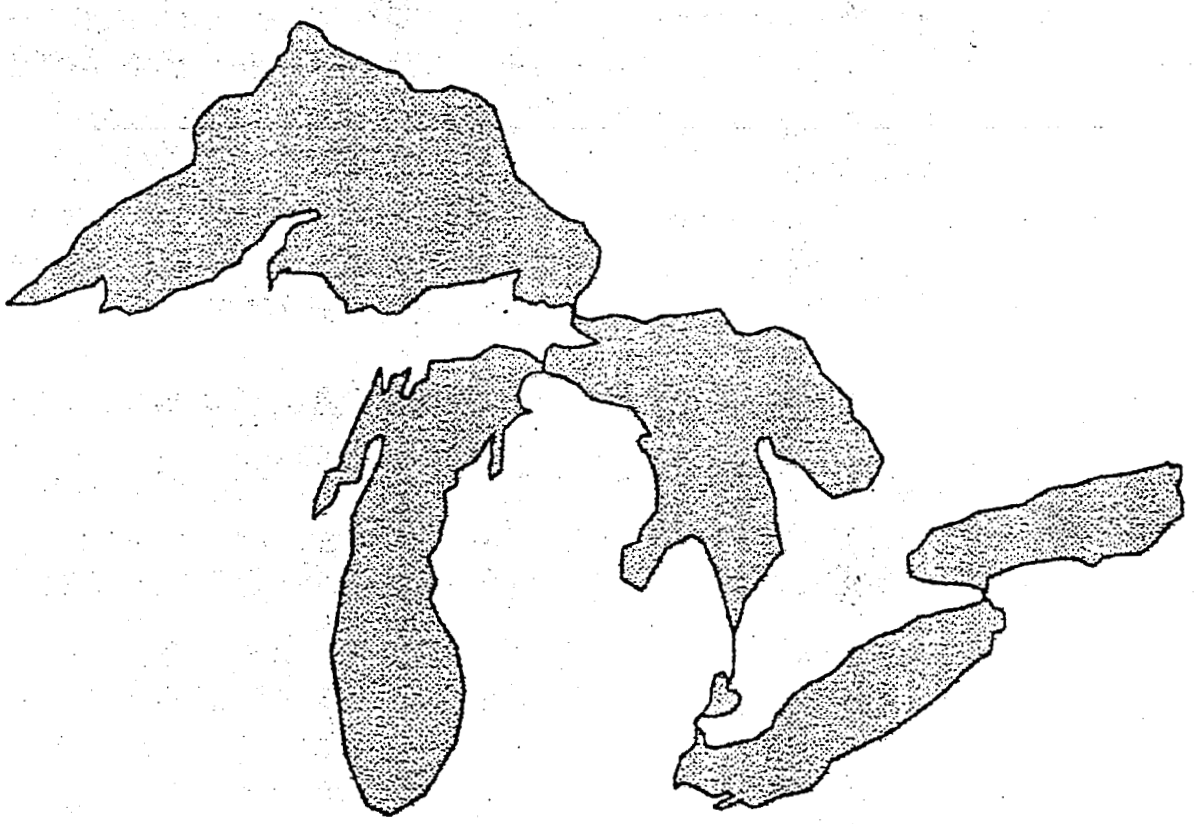
EPA

Response to the International Joint Commission

U.S. Response to Recommendations in the Sixth Biennial Report of the International Joint Commission



United States Response to Recommendations in the International Joint Commission's Sixth Biennial Report

COMMISSION RECOMMENDATION NO. 1:

The Parties adopt and apply a weight-of-evidence approach to the identification and virtual elimination of persistent toxic substances.

U. S. RESPONSE:

The United States applies a weight of evidence approach in regulating persistent toxic substances. Actions have been taken to end or severely limit manufacture, use, or discharge of many such substances, based on the weight of evidence of their harmfulness, before definitive proof was available as to the exact cause-effect relationship between a substance and its adverse effects upon the environment. Also, the United States has programs which require review of substances before they are approved for manufacture or use.

Since 1972, the Clean Water Act has provided for control of toxic substances, without requiring definitive proof of direct cause-effect relationships between specific substances and specific effects, in either humans or in aquatic life. Cause-effect relationships between substances and health effects are inferred, based on laboratory evidence, observed human health effects from accidental exposures, and models which predict health impacts. The weight of evidence from such information sources provides the basis for United States environmental regulations. For instance, while technology-based effluent limits have been imposed on discharges to the surface waters of the United States, the weight-of-evidence on resulting environmental conditions is considered in the setting of environmental quality standards, which in turn provide for even more stringent effluent limits where these are needed to protect the environment.

In recent years, the weight of evidence has been growing with respect to problems among fish-eating birds and animals within the Great Lakes water-

shed. Effects are becoming better known as more information has become available on the presence of toxic substances in the animals and possible mechanisms by which these substances may cause the observed effects. In response to this growing body of scientific evidence, the United States Environmental Protection Agency (EPA) proposed Great Lakes Water Quality Guidance in April, 1993. This proposed Guidance specifies numeric criteria for selected pollutants to protect aquatic life, wildlife, and human health within the United States portion of the Great Lakes System and methods to derive numeric criteria for additional pollutants. The proposed criteria and methods are based on the best scientific information available concerning the effects of toxic pollutants within the Great Lakes. In addition, the Guidance proposes detailed anti-degradation implementation guidance to ensure that States and Tribes in the United States portion of the Great Lakes watershed carry out this important water quality concept in a consistent, protective manner. The proposed Guidance gives special attention to pollutants where the weight of evidence suggests that they are causing or are likely to cause system-wide impacts. For pollutants, such as mercury and PCBs, which exhibit tendencies to bioaccumulate in the food chain and/or persist throughout the Great Lakes System (i.e., bioaccumulative chemicals of concern or BCCs), more stringent controls, such as more restrictive anti-degradation requirements and elimination of mixing zones, are proposed.

COMMISSION RECOMMENDATION NO. 2:

The Parties expand the definition of persistent toxic substances to encompass all toxic substances:

-- with a half-life in any medium, water, air, sediment, soil or biota, of greater than eight weeks, as well as

-- those toxic substances that bioaccumulate in the tissue of living organisms.

U.S. RESPONSE:

The United States is currently considering the Commission's recommendation regarding the definition of persistent toxic substances within its ongoing finalization of the Great Lakes Water Quality Guidance. The United States has proposed that chemicals with a Bioaccumulation Factor (BAF) greater than 1,000 merit special attention within the Great Lakes System. Implementation of the final guidance will focus United States environmental programs on chemical contaminants of most concern.

COMMISSION RECOMMENDATION NO. 3:

The Parties sunset PCBs and seek public acceptance of the means to effect their destruction.

U.S. RESPONSE:

The United States is at an advanced stage of sunsetting PCBs. It has ended PCB manufacture, sale, and all uses, except pre-existing totally enclosed uses which are not accessible to the public. In addition, the United States is pursuing phasedown of these remaining uses. For instance, EPA has been working with a number of utilities serving the Great Lakes area to phasedown their remaining uses of PCBs. A 1993 report from 10 of these utilities estimates that, between 1979 and 1993, 17 million pounds (or about 87%) of the PCBs previously in service have been removed by these utilities.

As the Commission implies, destruction of PCBs both poses technological challenges and engenders public concerns. Because of the United States policy of openness and public involvement in environmental decisions, members of the public are invited to comment on, for instance, cleanup plans for waste sites which have PCB contamination and on issuance of permits for facilities which would destroy PCBs. In recent years, there have been some technological advances in hazardous waste destruction technologies. These offer promise that PCB destruction means will continue to become more environmentally-friendly, thereby diminishing public concerns.

COMMISSION RECOMMENDATION NO. 4:

The Parties sunset DDT, dieldrin, toxaphene, mirex and hexachlorobenzene and, in particular, seek an international ban on their production, use, storage, and disposal.

U.S. RESPONSE:

SUNSETTING WITHIN THE UNITED STATES

All the substances cited by the Commission have been canceled and/or suspended within the United States under the Federal Insecticide Fungicide

and Rodenticide Act (FIFRA). Their production in the United States is no longer allowed, unless intended for export. It is not currently illegal to export suspended or canceled pesticides from the United States, as long as labeling and notification requirements are met. Requirements governing exportation of pesticides are set forth in the Federal Register (February 18, 1993).

In June 1993, the Clinton Administration proposed comprehensive reform of United States pesticide and food safety laws to reduce pesticide use and promote sustainable agriculture. A key aspect of this initiative is a proposed prohibition on export of pesticides that have been suspended, canceled, or voluntarily withdrawn within the United States, because of health concerns. Other elements of this national initiative promote development, registration, and use of environmentally-kind pest management alternatives; provide EPA and the Food and Drug Administration with tools to ensure pesticide laws are appropriately enforced; and improve data on pesticide use so as to measure progress towards reduction goals. Implementation of this initiative will contribute valuably to protection of the Great Lakes.

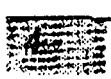
The United States is pleased to inform the Commission of important recent progress to prevent additional pesticide contamination of the Great Lakes. Under innovative pesticide "Clean Sweeps," States have invited pesticide dealers, farmers, and members of the public to turn-in pesticide stocks for safe disposal. During 1992, clean sweeps in the watersheds of Lakes Michigan and Superior collected 220,000 pounds of pesticides, including more than 12,000 pounds of suspended or canceled pesticides, such as DDT, dieldrin, and chlordane.

The United States assumes that the Commission's call for an international ban on the "disposal" of these pesticides refers to reckless disposal of unused stocks. Destruction or appropriate disposal of unused stocks is an important aspect of protecting the Great Lakes ecosystem, as evidenced by the large quantities of canceled substances which have been obtained by clean sweeps.

INTERNATIONAL PESTICIDE USE

The United States recognizes that there is evidence which indicates that the atmosphere is transporting pesticides long distances. The continued use of bioaccumulative pesticides in other countries, therefore, may lead to their ongoing introduction to the Great Lakes. Accordingly, the United States is participating in several international bodies which are addressing trans-boundary environmental issues. Among these organizations are the Organization for Economic Cooperation and Development (OECD) and the United Nations.

In addition, as mentioned, the Clinton Administration is seeking to prohibit export of suspended or canceled pesticides. Also, the United States has signed



two United Nations agreements -- *The London Guidelines on the Exchange of Information on Chemicals* and *The Code of Conduct on the Use and Distribution of Pesticides*. These two agreements establish an international information exchange program on pesticides and chemicals called the Prior Informed Consent (PIC) procedure. Under this, each signatory nation agrees to review international lists of "banned" and "severely restricted" pesticides and to determine whether future import of any of these is in its national interest. The United States wishes the Commission to be aware of its support for this ongoing international procedure, though the United States is not presently seeking an international ban of the five named pesticides.

COMMISSION RECOMMENDATION NO. 5:

The Parties, in consultation with industry and other affected interests, alter production processes and feedstock chemicals so that dioxin, furan, and hexachlorobenzene no longer result as byproducts.

U.S. RESPONSE:

The United States has aggressively reduced the generation of dioxins and is in the process of developing further regulations which, while focusing on dioxins, will result in control of many additional chlorinated organic compounds as well. Also, pollution prevention actions are reducing generation of many toxic substances, including the three cited by the Commission, through changes in feed stocks and production processes.

As a result of past reductions, there is encouraging evidence that dioxin and furan levels have substantially declined in the Great Lakes food web. By the early 1980s, 2,3,7,8-TCDD, the most toxic of the 75 member chemical family of dioxins, fell 90% in herring gulls living in eastern Lake Ontario from levels during the early 1970s. 2,3,7,8-TCDD has generally declined across the other lakes as well. Also, EPA has analyzed 2,3,7,8-TCDF in sport fish taken from each of the Great Lakes in 1978 and again in 1988. During this time, this most toxic member of the furan family declined in all lakes, from 50% in Lake Michigan to 80% in Lake Ontario.

Despite this heartening progress, the United States notes that 2,3,7,8-TCDD remains higher in herring gulls living on Lake Ontario and on Saginaw Bay than in other lakes. The United States is committed to further prevention of new releases of the substances identified by the Commission.

Recent voluntary actions by pulp and paper companies across the United States have shown good results in preventing dioxin. By one study, at the end of 1991, dioxin concentrations in the effluents, sludges, and pulp from 84 pulp and paper mills had been reduced 70 to 85 percent from 1988 levels. Another survey has compared chlorine reduction activities at United States pulp and paper mills between 1989 and 1992. This survey records a marked reduction in chlorine use.

In addition, EPA is pursuing a multi-media rule-making for the pulp and paper industry, a major Great Lakes region industrial sector and a potential generator of dioxins, furans, and hexachlorobenzene. This rule will set effluent guidelines for discharges and maximum achievable control technology standards for air emissions. The Agency anticipates that the rule will set performance requirements, not specify technologies, and will foster pollution prevention approaches that reduce use of chlorine and other chemical inputs to the manufacture of pulp and paper.

In addition, by 1995, pursuant to Section 112(c)(6) of the Clean Air Act, EPA will identify and list categories of sources accounting for at least 90 percent of the aggregate emissions of hexachlorobenzene, 2,3,7,8-TCDD, and 2,3,7,8-TCDF. By 2000, EPA will issue standards for these listed categories, assuring that sources (excepting electric utility steam generating units as provided under section 112(c)(6)) accounting for at least 90 percent of aggregate emissions are regulated.

COMMISSION RECOMMENDATION NO. 6:

The Parties review the use of and disposal practices for lead and mercury, and sunset their use wherever possible.

U.S. RESPONSE:

LEAD

The United States is pleased to note excellent progress in reducing risk posed by lead. This nation has been a leader in creating a growing world market in unleaded gasoline, taking steps to reduce lead in domestic gasoline beginning in the early 1980s. Partly as a result, atmospheric levels of lead over the Great Lakes are much lower than a decade ago. However, lead remains a national public health concern, because of its many continuing uses. Accordingly, the United States is committed to comprehensive reduction of lead exposure throughout its society.

In February 1991, EPA announced a Strategy for Reducing Lead Exposures. This national strategy represents an integrated approach, involving virtually all EPA programs working in concert to reduce exposures to lead. The strategy entails not only reduction of current exposures to lead, but prevention of future lead contamination. It also entails coordination between EPA and other federal agencies such as the Department of Housing and Urban Development (HUD), the Center for Disease Control (CDC), and the Agency for Toxic Substances and Disease Registry (ATSDR).

The goal of the strategy is to reduce lead exposures to the fullest extent practicable, with particular emphasis on reducing risks to children. The strategy focuses on the largest sources of lead which contribute to elevated blood lead levels in children.

Through a variety of measures, EPA has already acted to reduce lead exposure from a wide-range of sources. For example, lead-based paint is a major source of exposure for millions of young children. EPA is vigorously addressing this problem via the development and transfer of information regarding lead abatement technologies and through establishment of five Regional Lead Training Centers during 1992. EPA is also participating in a three year study, which addresses reducing exposure from lead-based paint and from contaminated soil in urban areas by identifying "hot spots". This will greatly assist in the development of guidance on how to reduce exposures.

EPA is bringing all areas of the United States into compliance with the Lead National Ambient Air Quality Standard via implementation of the Clean Air Act and State Implementation plans. The Agency has launched a vigorous multimedia enforcement effort which has targeted facilities that release or emit lead at levels which violate regulations. This effort has resulted in filing of 24 civil judicial cases and 12 administrative actions, under six environmental laws.

EPA views research as an essential component of the Strategy. The Agency has launched a substantial long-term, cross-media research effort to target exposures and reduce risks from major sources of lead in an efficient, cost-effective manner, and to assist in setting risk reduction priorities. Further research includes studies to more fully examine lead health-related effects; improve methods to detect and measure lead in paint, dust, and soil; identify areas of the country with high concentrations of lead where children may be at risk; and evaluate the effectiveness of abatement and remediation technologies.

In addition, the Agency is developing a proposed Significant New Use Rule for lead and lead compounds which would require persons who intend to manufacture, import, or process lead or lead compounds of significant new use to notify EPA prior to starting such activities. This will allow for an evaluation of the new use, and, if necessary, actions to prevent exposures which would otherwise result from that new use. Possible actions could include banning a new use of lead when it would result in unacceptable exposures and when there are economically feasible alternatives.

It may be noted that the Commission recommends that the United States, wherever possible, sunset (i.e., ban by a future date) current uses of lead. The United States is not presently pursuing such bans of select, ongoing lead uses. Rather its comprehensive lead strategy is based on prevention of ongoing releases, stringent regulation, fostering of risk reduction behaviors, and review of intended new uses.

MERCURY

The United States is pursuing many mercury-related activities, both within the Great Lakes region and on a national scale. There are fish advisories for thousands of inland lakes in Michigan, Minnesota, and Wisconsin, because of mercury contamination. There is also some evidence to suggest that atmospheric deposition of mercury may account for much of this contamination and that deposition has increased in recent decades. There are also advisories for mercury "hotspots" within the Great Lakes System, such as the St. Louis River, Lake St. Clair, and Lake St. Francis.

Because of both public concerns about mercury contamination of fish in the upper Midwest and the United States commitment to virtual elimination of persistent toxicants from the Great Lakes, EPA has selected mercury for its "Virtual Elimination" project, announced in August 1993. This project will identify barriers to achieving virtual elimination of mercury and other toxic pollutants in the Great Lakes. The full range of source categories that release mercury will be identified. The project will evaluate existing cost pressures, incentives, and other signals in order to assess how they foster reduction in mercury releases. During 1994, recommendations will be developed to spur the pace of mercury pollution prevention.

This project will supplement EPA's national 33/50 pollution prevention program. In 1991, EPA announced a goal of encouraging firms across the nation to cut releases of 17 high risk chemicals that also offered strong prevention opportunities. EPA sought a 33% reduction (from 1988 levels) in releases and transfers of these chemicals by the end of 1992 and a 50% cut by the end of 1995. Among these 17 were mercury (and lead). Progress to date under this voluntary pollution prevention program has been demonstrable and in the Great Lakes watershed on pace to reach 33/50 goals.

Mercury pollution is being addressed comprehensively within the United States. For instance, pursuant to the Clean Air Act, EPA is sponsoring a study of mercury emissions, their health and environmental effects, technologies to control emissions, and their cost. Also pursuant to the Clean Air Act, EPA will report every two years on the contribution of atmospheric deposition to contamination of designated waterbodies, which include the Great Lakes, in order to identify whether additional steps are warranted to reduce contaminant releases

to the atmosphere. One of the chemicals being assessed under this "Great Waters Program" is mercury. In support of this assessment, EPA and States will undertake intensified monitoring and analysis of mercury in Lake Michigan during 1994 to assess the full range and relative importance of different sources, loads of mercury to the Lake, and environmental fates of these loads.

The United States is also pursuing mercury reduction through water, waste, and toxic substance programs. The proposed Great Lakes Water Quality Guidance would set a lower mercury criterion value for the Great Lakes in order to protect wildlife from long-term exposure. Mercury is the third most commonly found hazardous substance at sites on the National Priorities List targeted by the Superfund Program. The United States has prohibited use of mercury in interior and exterior paints under authority provided by the Federal Insecticide, Fungicide, and Rodenticide Act. Also, the United States canceled use of mercury in joint compounds, adhesives, and acoustical plaster in 1990.

Reduced use and disposal of mercury in batteries is occurring through voluntary actions by manufacturers and through recycling programs. Within the Great Lakes, the United States recently conducted a demonstration project in Duluth, Minnesota to eliminate household uses of mercury.

In addition to voluntary mercury pollution prevention, various Great Lakes States have adopted or are considering additional requirements. For example, the state of Minnesota has enacted legislation which limits mercury content in batteries and addresses their disposal. Other States are also considering legislation to reduce use and disposal of mercury. In addition, enforcement activities are underway to reduce mercury emissions within the Lake Superior basin using existing authority under the Clean Air Act and other United States laws and regulations.

As with lead, it may be noted that the Commission recommends that the United States, wherever possible, sunset (i.e., ban by a future date) current uses of mercury. The United States is not presently pursuing such bans of select, ongoing mercury uses. Rather its comprehensive addressing of mercury releases is based on prevention of ongoing releases, stringent regulation, fostering of risk reduction behaviors, and review of intended new uses.

COMMISSION RECOMMENDATION NO. 7:

The Parties, in consultation with industry and other affected interests, develop timetables to sunset the use of chlorine and chlorine-containing compounds as industrial feedstocks and that the means of reducing or eliminating other uses be examined.

U.S. RESPONSE:

The United States does not support sunsetting all uses of chlorine and chlorine-containing compounds as industrial feedstocks. Rather, the United States pursues a weight of evidence approach, emphasizing the banning, cancellation, or suspension of specific chlorinated compounds that exert deleterious and widespread environmental impacts. As noted earlier, the United States has proposed specific steps through the Great Lakes Water Quality Guidance to reduce release of chemicals which exhibit tendencies to bioaccumulate in the food chain and/or persist throughout the Great Lakes System. As recognized in the International Joint Commission's sixth report, to sunset the use of chlorine and chlorine containing compounds as industrial feed stocks raises many questions of socio-economic impact. Whether each use of chlorine should be eliminated, used only in closed cycle processes, or otherwise be further controlled will need further examination.

In February 1994, the Clinton Administration proposed such further examination. The Administration recommended to the Congress that it authorize, under the Clean Water Act, a study of the health effects of chlorine and chlorinated compounds upon humans and wildlife, and of the availability and efficacy of substitutes for these substances for certain uses. Based on the findings of this study, the EPA would consider, after public comment, appropriate actions to substitute, reduce, or prohibit the use of chlorine and chlorinated compounds in specific sectors.

Given that the pulp and paper industry is both an important economic sector in the Great Lakes region and that studies have shown its potential to release harmful chlorinated byproducts, it should be noted that EPA is developing a multi-media rule-making for the pulp and paper industry throughout the United States which addresses both water discharges and air emissions, through updated effluent guidelines and maximum achievable control technologies. This integrated rule will set levels of performance for the various industrial categories and will encourage pollution prevention. In developing rule options, EPA has looked at the feasibility of elemental chlorine-free and totally chlorine-free technologies.

In addition, chlorinated organic compounds are targeted in many pollution prevention efforts within the United States. These involve systematic approaches to focus on the use and release of targeted chlorinated organics and to work with industries which use these compounds. For instance, within the Great Lakes region, EPA is supporting Michigan Department of Natural Resources, Chrysler, Ford, General Motors and the American Automotive Manufacturers Associations (formerly the Motor Vehicle Manufacturers Association) work on the Auto Industry Pollution Prevention Project. Chlorinated organic compounds are among the 65 persistent toxicants targeted for pollution prevention efforts in

this project. The auto companies are compiling case studies which showcase pollution prevention activities designed to reduce targeted pollutants.

In an additional example, EPA is contributing to a pollution prevention project for the printing industry, which is a partnership between the Environmental Defense Fund (EDF), the Council of Great Lakes Governors, and the Printing Industries of America. Reduction in use of environmentally harmful cleaning solvents, some of which contain chlorinated organic compounds, is one of the goals of this project. In addition, EPA is working with dry cleaning industry associations and individual cleaners to reduce their use of chlorinated organic compounds.

COMMISSION RECOMMENDATION NO. 8:

The Parties, in cooperation with Lake Superior States and provinces, establish a specific date at which no point source release of any persistent toxic substances will be permitted into Lake Superior or its tributaries.

U.S. RESPONSE:

The United States and Canada together accepted the Commission's earlier challenge to designate Lake Superior as a demonstration area where no point source discharge of any persistent toxic substance will be permitted.

In accepting that challenge, the two nations agreed upon a Binational Program to Restore and Protect the Lake Superior Basin and to concentrate on the persistent bioaccumulative toxic substances which are considered to pose the greatest threat to the Lake, whether they come from point or non-point sources.

For many of the substances, non-point sources far outweigh remaining discharges from point sources. Therefore, while the United States is working with Canada to eliminate all releases of persistent, bioaccumulative pollutants in the Lake Superior basin, it is the United States position that setting a specific date for eliminating point source releases is not practical and may, in fact, detract from efforts to reduce and eliminate the more pervasive non-point sources of these chemicals.

The Binational Program for Lake Superior encompasses two major areas. The first is a zero discharge demonstration program devoted to the goal of achieving zero discharge or emission of nine designated persistent toxic substances. The second is a broader program of identifying beneficial use impairments, and restoring and protecting the Lake Superior Basin ecosystem. The ultimate goal of the Lake Superior Binational Program is to protect, and where

necessary, restore the integrity of Lake Superior's ecosystem through pollution prevention, enhanced regulatory measures, and remedial programs. The Program recognizes the unique, relatively pristine nature of the Lake Superior ecosystem and the commitment of the Federal, State and Provincial governments to developing new and innovative approaches to pollution prevention and zero discharge.

The goal of the Lake Superior Zero Discharge Demonstration Program is to achieve zero discharge and zero emission of certain designated persistent bioaccumulative toxic substances, which may degrade the ecosystem of the Lake Superior Basin. This goal is being pursued through actions in three key areas — the waters of the Lake Superior Basin will be designated for special protection and anti-degradation requirements, and reductions in existing loads will be achieved through both voluntary pollution prevention actions and enhanced control and regulatory efforts. The Program focuses on both point and non-point sources of pollutants.

The United States is using all available means to implement the challenge provided by the Commission and is pleased to report that progress is being made in reducing existing discharges, particularly through the revision of point source discharge permits. Since inception of the Binational Program, requirements in the Wisconsin and Minnesota discharge permit programs have been strengthened to further support the reduction of persistent toxic substances. For example, Wisconsin recently revised the permit for their largest industrial point source discharger to Lake Superior to require a toxic substance reduction plan and a bioaccumulation study for persistent bioaccumulative substances. The toxic reduction plan requires that the company examine its waste streams and determine how it can reduce or eliminate generation of toxic substances. In addition, a Pollution Prevention Strategy for the Lake Superior Basin has been developed by EPA and the States, targeting the nine designated pollutants under the zero discharge demonstration program. This strategy will promote and fund innovative pollution prevention efforts, leading to the elimination of persistent toxic substances in the Lake Superior Basin.

COMMISSION RECOMMENDATION NO. 9:

The Parties, in cooperation with Lake Superior jurisdictions, agree to prohibit new or increased sources of point source discharges of persistent toxic substances; and establish a coordinated, planned phaseout of existing sources.

U.S. RESPONSE:

The Binational Program to Restore and Protect the Lake Superior Basin and the Great Lakes Water Quality Guidance proposed by EPA both include commitments to preventing degradation of the high quality of Lake Superior waters. To do this, both efforts are addressing ways of preventing degradation and progressing toward zero discharge.

The Binational Program includes provisions to designate all waters of Lake Superior as Outstanding International Resource Waters (OIRW) through State actions. Under the OIRW designation, increased discharge of certain designated persistent toxic substances would not be allowed without an adequate anti-degradation demonstration which would include the installation of the best technology in process and treatment. In addition, for areas of Lake Superior that States designate as Outstanding National Resource waters (ONRW) under EPA regulations, lowering of water quality by new or increased discharges of any pollutants would not be allowed. This prohibition also applies beyond the ONRW areas to include buffer zones and transition areas designated by the States. The Binational program is currently in the process of developing a list of candidate waters for special protection.

Concerning the phasing out of existing sources, this is being accomplished through revision and tightening of discharge permits as they expire. Also, the United States pollution prevention program is challenging industries to voluntarily reduce generation of toxic substances. The Great Lakes Water Quality Guidance also addresses the phase-out of mixing zones for bioaccumulative chemicals of concern (BCCs); currently the proposed regulation would eliminate mixing zones for existing discharges of those pollutants 10 years after it becomes final and prohibits mixing zones for all new sources. Furthermore, the proposed Guidance provides a framework for dealing with additional bioaccumulative persistent toxic pollutants as they are identified.

Separate reporting of progress under the Lake Superior Bi-National Program is available.

COMMISSION RECOMMENDATION NO. 10:

The Parties, in cooperation with Great Lakes jurisdictions, develop and implement educational programs that incorporate the Great Lakes and ecosystem consideration into existing curricula and educational programs at all age levels.

U.S. RESPONSE:

The United States agrees with this recommendation. EPA recognizes the value of establishing and supporting programs of education on the environment through activities in schools, institutions of higher learning and related educational activities, and encouraging post-secondary students to pursue careers related to the environment. The Agency looks forward to supporting an increasing number of these programs in the future.

Implementation of the 1990 National Environmental Education Act, has provided major new authority and resources which will enhance Great Lakes educational activities throughout the Basin.

The Environmental Education Grants program is authorized by Section 6 of the 1990 National Environmental Education Act. Its purpose is: to stimulate environmental education by supporting projects to design, demonstrate, or disseminate practices, methods or techniques related to environmental education or training. Funds are available to a wide variety of groups.

In fiscal year 1992, Congress appropriated $2.4 million for this program. In response, EPA received more than 3,000 applications totaling more than $100 million in requests. In fiscal year 1993, the program's budget was $2.7 million, EPA received more than 2,300 applications and awarded 261 grants nationwide.

Under Section 5 of the National Environmental Education Act of 1990, a $1.6 million grant was awarded to a consortia of universities, business and non-profit organizations led by the University of Michigan to improve environmental education nationally (but not specific to the Great Lakes) by assembling existing environmental education curricula as well as by developing additional teaching materials. The six primary phases of the Environmental Education and Training program are: Curriculum Framework and Development, Discovery and Evaluation, Module Development, Teacher Training, Small Experiments, and Dissemination.

In the Great Lakes Basin specific environmental education efforts include: a student water quality monitoring program, teacher workshops, curriculum development, and hands-on student/teacher activities aboard the EPA research vessel, Lake Guardian. Additionally, a week-long graduate limnology course aboard the Lake Guardian was offered to students Basinwide.

COMMISSION RECOMMENDATION NO. 11:

The Parties consider supporting, encouraging and cooperating in the identification and development of a UNESCO-MAB Biosphere Reserve proposal within the Lake Superior drainage basin as a means to further focus governmental, public, educational and scientific attention on preserving the high quality waters of Lake Superior.

U.S. RESPONSE:

Isle Royale National Park in Lake Superior is classified as a Biosphere Reserve. The United States is considering expanding the existing Reserve designation with Isle Royale serving as a core zone that could be complemented by designating other non-contiguous areas of Lake Superior as related core areas. Other areas of the Regional Biosphere Reserve would be classified as traditional use areas, experimental use areas, and multiple use areas. A multi-agency cooperative has issued a request for proposals to examine the feasibility of enlarging the designation to include the entire Lake Superior basin under this multiple designation approach.

COMMISSION RECOMMENDATION NO. 12:

The parties join with jurisdictions and local governments in the identification and designation of sustainable development areas, and provide support under the agreement's non-degradation policy to develop a model for conserving and protecting aquatic areas of high quality, including the Grand Traverse Bay region, within a framework of environmentally sensitive and sustainable economic development.

U.S. RESPONSE:

The United States agrees that it is important to protect existing high quality areas. During the past 20 years, some progress has been made in establishing protected areas, but highest priority has been given to restoring degraded areas by reducing pollution. Preventing degradation of high quality areas by pollution and habitat loss is now receiving renewed attention. The United States is placing increasing emphasis on prevention, both as a means of cleaning-up degraded areas and as a means of protecting high quality areas.

Based on the provisions of the Clean Water Act, high quality areas can be designated as outstanding national resource waters and given extra levels of protection. The Clean Water Act also provides that anti-degradation provisions be included in each States water quality standards. These latter provisions are being given new meaning as part of the Great Lakes Water Quality Guidance and are expected to play an important role in maintaining high quality aquatic habitat.

The United States regards sustainable development as an approach that should be applied throughout the Basin. This nation agrees that high quality areas should be protected, and that sites most important to maintaining species

diversity and ecological integrity should be identified and given special protection.

Important steps are being taken to accomplish this. The United States Fish and Wildlife Service is developing inventories of Great Lakes habitats. The United States Forest Service is considering biodiversity issues as part of their New Perspectives procedures. EPA is promoting the concept of sustainable communities, interrelating natural systems and the human populations that inhabit them. This includes managing ecosystems, promoting environmental justice, developing a sustainable economic base, and changing values by promoting public understanding of biological diversity. EPA is supporting the Nature Conservancy in a major Great Lakes ecosystem project to identify high quality areas that possess outstanding ecological values, and in a limited number of cases, is testing protection techniques that encourage sustainable use of natural resources by encouraging compatible economic activity. Successful techniques will then be supported elsewhere throughout the Basin.

These activities build upon State Natural Heritage Programs and resulting heritage data bases which provide inventories of natural features within each State, particularly rare and endangered plants and non-game animal species.

COMMISSION RECOMMENDATION NO. 13:

The Parties not revise the Great Lakes Water Quality Agreement at this time; rather, in their forthcoming review, the Parties, in consultation with the Great Lakes States and Provinces, focus on how to improve programs and methods to achieve the requirements and overall objectives of the Agreement.

U.S. RESPONSE:

The United States concurs with the recommendation as advised in separate correspondence.