

## **Great Lakes Regional Collaboration PBT Group**

### **I. Problem Statement**

While persistent toxic substances (PTS) have been significantly reduced in the Great Lakes over the past 30 years, PTS continue to be present in the Great Lakes ecosystem at levels high enough to warrant fish consumption advisories and to pose threats to human and wildlife health. More recently, researchers have documented the presence of new chemicals of emerging concern that may also pose a threat to the Great Lakes Basin Ecosystem. Characteristics of these substances, such as sources, fate, transport, persistence, bioaccumulation, and toxicity, must be better understood.

### **II. Goals**

Accomplishing the following goals is necessary to establish and maintain chemical integrity within the Great Lakes Basin Ecosystem, as called for in the Great Lakes Water Quality Agreement.

- Prevent the release of toxic substances in toxic amounts, and virtually eliminate the release of any or all persistent toxic substances to the Great Lakes Basin Ecosystem.
- Reduce environmental levels of toxic chemicals to the point that all restrictions on the consumption of Great Lakes fish can be lifted.
- Significantly reduce exposure to persistent toxic chemicals from reservoir sources by relying on both aggressive source remediation and pathway intervention.
- Protect the general public from toxic substances through effective outreach and education, including protective fish consumption advice throughout the Great Lakes Basin Ecosystem.
- Protect the health and integrity of wildlife populations and habitat from adverse physical, chemical and biological impacts associated with the release of persistent toxic substances.
- Identify and fill the gaps in our scientific understanding that are central to our ability to effectively manage the risks of toxic substances found in the Great Lakes.
- Prevent degradation of high quality waters in the Great Lakes Basin from toxic substances.

### **III. Identifying Ongoing Programs**

There are a diverse set of issues associated with management of PTS in the Great Lakes Basin Ecosystem, and a variety of programs that address these. These include a regulatory review and approval of substances in commerce (TSCA, FIFRA), regulations governing releases to the environment (CWA, SDWA, CAA), proper disposal of PTS waste (RCRA, TSCA), remediating PTS contaminated soils and lake bottom sediments (CERCLA, RCRA), protecting public health through education about healthy and environmentally friendly lifestyle choices (fish consumption advisories), and monitoring PTS in the environment, including sources, transport, and fate, physical chemical

properties, and potential human and ecological health effects. A full discussion of these programs may be found in appendix X.

#### IV. Evaluating Existing Risk Management Efforts and Alternative Approaches

PTS Risk Management Issues	Ongoing Programs	Gaps Analysis	Alternatives/Improvements
Substance Review and Approval	TSCA PMN		
Releases (e.g., air emissions, waste water discharge)	CWA – NPDES, CAA – MACT		
Disposal	RCRA, TSCA		
Remediation	CERCLA, RCRA		
Public Health Advice	State Fish Consumption Advise		
Chemical Screening and Risk Assessment	PBT Profiler, QSAR , HPV, VCCEP		
Monitoring and Surveillance	IADN, GLFMP		

#### V. Key Recommendations

The recommendations below are guided by a number of important principles. Historically, Great Lakes PTS reduction efforts have served as a model for statewide, nationwide and international efforts. This can and should continue. Both regulatory and voluntary programs have proven to be essential in controlling releases of PTS chemicals. These programs should be fully funded and implemented. Moreover, existing Great Lakes PTS programs should continue to play a vital role in PTS reduction efforts, including:

- *Remedial Action Plans* to address beneficial uses impaired by PTS at Areas of Concern,
- *Lakewide Management Plans* for the reduction of critical PTS loads in each Great Lake and
- *Great Lakes Binational Toxics Strategy*, which sets goals and implements reductions for 12 PTS chemicals across the Great Lakes.
- *State of the Lakes Ecosystem Conference* that tracks progress towards achieving chemical integrity and guides intervention action.

(Something about pollution prevention and the precautionary approach? )While in-basin efforts are critical to the restoration and maintenance of the Great Lakes, significant amounts of PTSs are delivered to the Great Lakes via the atmosphere and reducing PTS loads will require reductions in emissions outside the Great Lakes.

Key recommendations are presented below in three major subcategories: 1) legislative/regulatory programs , 2) voluntary programs, 3) education and outreach, and 4) information/assessment needs, to help make strategic decisions about how to manage risks presented by PTS in the Great Lakes Basin.

#### **A. Legislation/Regulatory Program Recommendations**

- Provide garbage collection, household hazardous waste collection, and recycling programs, including electronic waste, to all Great Lakes communities to prevent burning, burying and dumping of solid waste.
  - Funding – Congress, State Legislatures
  - Implementation – State and Municipal Program Implementation
  - Results :
    - X Reduction in TEQ due to garbage burning
    - Y lbs of HHW, electronic waste/year, pesticides
- For currently unregulated contaminants found in wastewater effluent, sewage sludge, or tributaries that pose threats to human health or the environment, develop and implement treatment technologies, effluent limit regulations, and pre-discharge reduction programs
  - Funding – Congress to EPA and States
  - Implementation – EPA Office of Water, State EPA Water Divisions, POTWs
  - Results – Limit deleterious impacts of emerging chemicals of concern in basin
- Pass legislation to promote green chemistry and design for the environment principles in the development of new chemicals for commerce.
  - Funding – NA
  - Implementation – EPA, State P2 Programs
  - Results – Check P2 Results Report
- Require phase-outs of in-use PCB electrical equipment and hydraulic fluids should be implemented, consistent with the Stockholm Convention.
  - Funding - NA
  - Implementation – EPA, State EPAs
  - Results – Reduce inputs of PCBs into Great Lakes Environment
- Assure adequate funding for Superfund Sites and other PTS legacy sources both within and outside the Great Lakes Basin.
  - Funding – Congress
  - Implementation – Federal and State EPAs
  - Limit release of PTS into Great Lakes Environment
- Convene a group of representatives of Great Lakes States and other interested States to discuss implementation of the Clear Air Mercury Rule, and explore the

potential for deeper regional emission reductions than required under this federal legislation.

- Funding – NA
- Implementaion - State EPA's
- Results - TBD

## **B. Voluntary Program Recommendations**

- Broaden the scope of pollution prevention activities targeting PTS throughout the Great Lakes Basin, and strengthen coordination of programs between federal, state, tribal, local and non-governmental parties. Some P2 programs include:
  - PTS product phase-outs,
  - Incorporation of P2 alternatives into federal and State rules and regulations such (e.g., area source rules),
  - Pollution prevention and energy efficiency audits conducted by state technical assistance providers, and Environmental Preferable Purchasing:
  - Green Chemistry.
  - Green Engineering
  - Green Suppliers Network
  - Environmentally Preferable purchasing
  - Life Cycle Analysis

Funding – Congress, State Legislatures

Implementation - Federal and State EPAs

Results – reference P2 Metrics report

## **C. Outreach and Education Recommendations**

- Develop and provide a consistent and easily accessible basin-wide message regarding the presence and possible health effects of PTSs and ways to reduce their output to the general public in the Great Lakes Basin. Example topics include mercury-bearing devices, energy conservation and burn barrels.
  - Funding – NA?
  - Implementation – State Public Health Agencies
  - Results Limit the generation and exposure of PTS in the GL Basin
- Develop and provide consistent fish consumption advice for the Great Lakes to citizens and health care workers in multiple languages throughout the Great Lakes Basin.
  - Funding – NA?
  - Implementation – State Public Health Agencies
  - Results – Protect Human Health in the GL Basin

## **D. Information/Assessment Needs Recommendations**

- Institute a Great Lakes human biomonitoring program, which provides analysis of chemicals of emerging concern, and focuses on sensitive populations.

- Funding – Congress
  - Implementation – CDC?
  - Results Utilize data base to inform, set priorities in PTS programs
- Create and maintain a central body or clearinghouse for chemical screening information from various chemical screening programs, in IRIS, or another appropriate database.
  - Funding – NA?
  - Implementation - EPA?
  - Results -
- Utilize predictive chemical screening programs such as the PBT Profiler and Quantitative Structure Activity Relationships to inform Great Lakes pollution prevention and monitoring programs regarding potential chemicals of emerging concern.
  - Funding – NA
  - Implementation - EPA
  - Results – Prioritize monitoring analyte lists, P2 projects
- Institute a Great Lakes Basin-wide surveillance program to assess the presence and significance of all contaminants of concern in final wastewater treatment plant effluent, sewage sludge, and affected tributaries.
  - Funding – Congress
  - Implementation – EPA. State EPAs, POTWs
  - Results – Inform second recommendation under A above – prioritize development of treatment technologies, water quality criteria, etc.
- Update and improve emissions inventories such as the National Emissions Inventory, the Great Lakes Air Toxics Inventory, and the Toxics Release Inventory.
  - Funding – Congress
  - Implementation – EPA, States, Great Lakes Commission
  - Results – Ability to better target sources of PTS to the Great Lakes Basin
- For selected emerging chemicals of concern, develop water quality and fish tissue criteria for human health consumption and water quality criteria for aquatic life and recreation.
  - Funding – Congress
  - Implementation – EPA, State EPAs
  - Results – Limit the discharge of chemicals of emerging concern from the Great Lakes Basin
- Provide resources needed to adequately monitor chemicals-of-concern for each of the current State of the Great Lakes PTS indicators including contaminants in air, water, fish, and other biota.
  - Funding – Congress
  - Implementation – EPA, States
  - Results –better understanding of emerging threats, trends, etc.
- Fully fund international and national PTS monitoring programs, such as those coordinated by the Commission for Environmental Cooperation (CEC) and the United Nations Environment Programme (UNEP). In particular, air monitoring and improved emissions inventories of PTS outside the Great Lakes Basin will help to

accurately identify relative contributions of atmospheric PTS from local, regional, and global sources.

- Funding – Congress
- Implementation - EPA
- Results Better understanding of out of basin sources of PTS to the GL Basin.

## **V. Connecting PTSs to Other Great Lakes Issues**

Contaminated sediments, disposal sites, and other legacy sources are important sources of PTS in the Great Lakes, particularly for PCBs. Therefore, the PBT Team has a strong interest in ensuring that the AOC Team's recommendations are implemented.

[Insert text on cross cutting (e.g., AOC), sustainability, human health and tribal issues.]