

Great Lakes Binational Toxics Strategy Integration Workgroup Meeting

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Draft GLBTS Management Assessment for Polychlorinated Biphenyls (PCBs)

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Challenge Goals

Have the challenge goals for PCBs been met?

Canada

- Seek a 90% reduction of high-level¹ PCBs by 2000
- Accelerate destruction of stored high-level PCB wastes²

¹ >10,000 ppm

² Consistent with 1994 COA

³ >500 ppm

United States

- Seek a 90% national reduction of high-level PCBs³ by 2006.
- Ensure proper management and disposal of PCBs removed from use

Challenge Goal Status

U.S.

- Lacking sufficient data to determine the status of progress.
 - ◆ EPA has committed to reassess the PCB equipment inventory in early 2005

Canada

- For high-level PCBs in storage, a 90% reduction is likely based on information available as of December 2004 (thus meeting the challenge of accelerated destruction)
- For PCBs that are still in service, it is unlikely that the 90% reduction target will be met.

- **Conclusion: Information continues to be gathered and assessed by EPA and EC to determine whether the challenge goals have been met in entirety.**

Environmental Analysis: Environmental and Human Health Data

**Do we have
environmental or
health data to
assess the
impact of PCBs
in the Basin?**

Environmental Analysis: Environmental and Human Health Data on the Presence of PCBs is Widely Available

- Fish
 - Herring gull eggs
 - Bivalves
 - Water and Sediments
 - Air
 - Food
 - Human Body Burdens
- **Conclusion:** There are sufficient data on PCBs in multiple media to assess the impact of PCBs in the Basin, but there are several data issues that still need evaluation before making conclusions regarding trends and criteria (e.g., data quality issues).

Environmental Analysis: Criteria

Have
sufficient risk-
based criteria
been
established?


Do
levels
in biota, air,
water, etc.
exceed
criteria?

Environmental Analysis: Criteria

- Criteria have been developed for PCBs in some environmental media (fish, sediments, water, food).
- PCBs exceed criteria in:
 - ◆ Fish tissue:
 - GLWQA criterion for PCBs in fish is still regularly exceeded, particularly in lake trout.
 - In 2003, there were 678 fish advisories for PCBs in the Great Lakes Basin (including all of the Great Lakes).
 - ◆ Water and sediments in many areas:
 - In ~ 1/2 of the Great Lakes AOCs, PCB-contaminated sediments are a source of identified impairments.
- Additional environmental data are still being evaluated.

Conclusion: Criteria for PCBs exist, and available data show that environmental levels of PCBs exceed these criteria in some media and areas.

Environmental Analysis: Trends

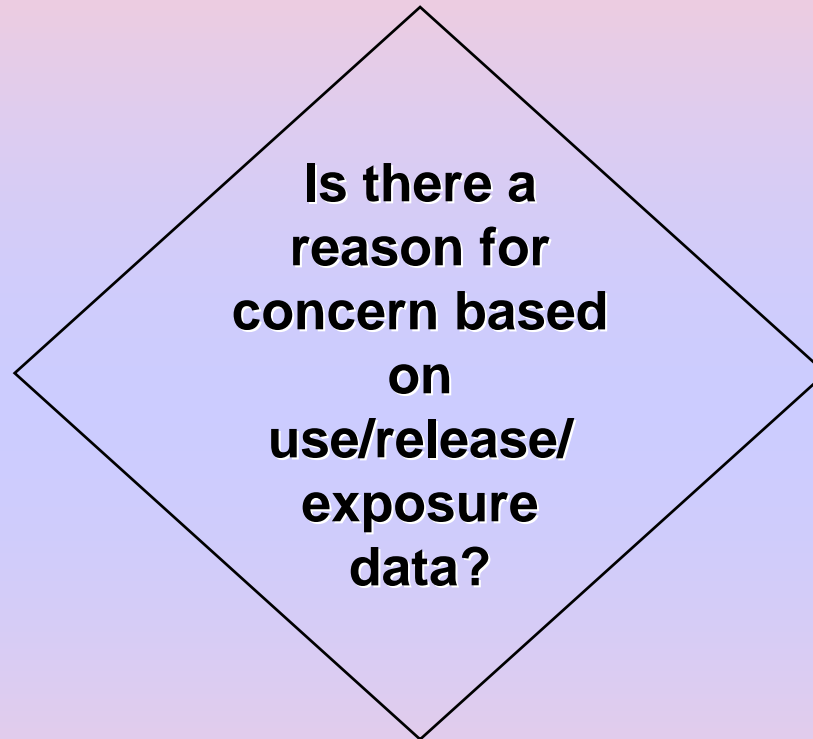


Is the trend
decreasing?

Environmental Analysis: Trends

- PCBs in fish tissue, herring gull eggs, and bivalves have generally been decreasing, although some changes are lake-specific or species/community-specific.
- Water and sediment monitoring programs support a general trend of decreasing PCBs over time.
- PCBs in the air collected from rural areas near each of the Great Lakes have generally declined, but some localized hotspots (e.g., the Chicago plume) and unexplained increases have also been observed.
- **Conclusion: PCBs have generally declined in wildlife and the environment since the 1970s, but need to take a closer look at more recent data (e.g., PCB spikes) before we can make conclusions.**

Environmental Analysis: Impact



- **Conclusion: Yes, because PCBs exceed certain criteria (e.g., fish consumption advisories) and have caused impairments in some wildlife populations.**

Management Assessment: Sources

- Reservoirs of past PCB contamination and environmental cycling (including contaminated sites, landfills, and sediments);
- Equipment and other remaining in-service items containing manufactured PCBs (accidental releases or gradual emissions);
- PCB storage and disposal facilities (accidental release);
- Emissions from combustion of materials containing PCBs;
- Inadvertent generation during poorly controlled combustion or certain chemical production processes;
- Long-range transport (regional and international);
- Others (e.g., dispersive sources)

■ **Conclusion: A better understanding of the relative contributions of all PCB sources and their respective pathways in the Great Lakes basin is needed.**

Management Assessment: Current Regulations or Programs

- Activities to reduce PCB-containing equipment and control releases from storage and disposal facilities
 - ◆ Regulations (e.g., TSCA, CEPA);
 - ◆ Voluntary programs (e.g., outreach to owners of PCB equipment; education; phase down commitments and awards programs, etc.)
- Efforts targeting reservoir sources – Government remediation activities, e.g., in Great Lakes Areas of Concern.
- International/other programs – CEC; LRTAP POPs; UNEP Global Treaty on POPs; LaMPs.
- **Conclusion: Programs are in place and have been effective to address certain sources of PCBs (e.g., electrical equipment), but additional information on the relative contribution of all PCB sources to the Great Lakes environment is needed to determine the overall effectiveness of the existing programs in the basin.**

Management Assessment: What needs to be Done to Address Remaining PCB Sources?

- **Continue existing programs.**
- **Support and help coordinate information gathering efforts to prioritize the remaining PCB sources and determine trends.**

Overall Management Outcomes: Ability for GLBTS to Affect further Reduction/Potential GLBTS Opportunities?

- Support and help coordinate information gathering efforts to prioritize the remaining PCB sources and determine trends

- Referral or participation in another forum
 - ◆ National efforts to reduce PCBs.
 - ◆ Work with GLBTS Dioxin Workgroup to address coplanar PCBs.
 - ◆ Other programs as determined by the outcome of the environmental analysis.

- No lake-specific actions required – Contamination remains, and appears to be a region wide concern.

- Potentially develop new challenge goals targeting other sources of PCBs identified in the environmental analysis.

FINAL MANAGEMENT OUTCOME: Active Level 1 status with priority on collecting information on PCB sources.