Mercury

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Canada's Mercury Reduction Challenge and Progress

Challenge:

- ***"Achieve by 2000, a 90% reduction in the release of mercury, or where warranted the use of mercury, in the Great Lakes Basin"***
- **Baseline: 1988**

Progress:

- **Approximately 85% reduction**

U.S. Mercury Reduction Challenge and Progress

Challenge:

- ***"Achieve by 2006 a 50% reduction in use and air emissions of mercury nationwide"***
- **Baselines:**
  - **Emissions: 1990**
  - **Use: 1995**

Progress (best guess):

- **Emissions: > 45% reduction**
- **Use: > 50% reduction**

Environmental Analysis: Environmental and Human Health Data Available

- Fish and Wildlife
- Herring gull eggs
- Water and Sediments
- Air
- Food
- Human Body Burdens

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

- **Conclusion: There are sufficient data for GLBTS purposes to assess the impact in the Basin**

Environmental Analysis

Have sufficient risk-based criteria been established?

- Guidelines established for water, air, whole fish, sediment, and human exposure
- Water quality criterion for methylmercury in fish

Environmental Analysis

- Exceedences of both environmental and human health criteria
- Mercury is a cause of GL fish consumption advisories
- Consumption of GL fish adds to human body burdens of methylmercury, which often exceed health criteria

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

- **Criteria information is sufficient to conclude that mercury continues to have an impact on the Basin**

Environmental Analysis

Is the Trend Decreasing?

- Environmental Mercury Levels Enhanced as a Result of Human Activities
- Environmental Mercury Levels in Great Lakes Have Peaked 30+ years ago
  - Sediment cores, fish data, and herring gull eggs indicate declining levels since 1970s

Environmental Analysis

Is the Trend Decreasing? (cont.)

- Not clear whether environmental reduction trends extend beyond mid-1980s
- No change in wet deposition data since 1995
- Puzzling, given emissions decreases
  - *Is monitoring missing something?*
  - *Do North American emissions reductions offset global emissions increase?*

Environmental Analysis Conclusions

- Widespread presence of mercury in the environment with exceedances of risk-based criteria
- Long-term declining trends, but uncertain short-term trends
- Increasing importance of global sources

- **Mercury in the Great Lakes remains higher than in the pre-industrial past**

Management Assessment: Ability for GLBTS to Affect further Reduction?

Recommendations

- Continued information exchange
- Continued binational sharing about progress in reducing use and release and evidence of changes in environmental levels

Opportunities

- Immediate focus: Disseminating information about auto scrap, dental amalgam, and appliances switch removal
- Future involvement with global reduction activities?

Management Assessment: Ability for GLBTS to Affect further Reduction?

Considerations

- Other efforts are emerging that pursue similar goals
  - Commission for Environmental Cooperation; United Nations Environment Program; LaMPs, Hospitals for a Healthy Environment; Pollution Prevention Roundtable; New England States/Atlantic Provinces binational program; Northeast Waste Management Officials Association

Management Outcomes

- Continued active Level 1 status with periodic reassessment by the GLBTS

Management Outcomes

What does the substance workgroup specifically require from the Integration Workgroup in order to realize the suggested management outcomes?

- **Workgroup has not been consulted yet**

Potential future issues:

- **Meeting frequency**
- **Global versus regional focus?**

Next Steps

- In process of completing first cut of the environmental analysis
- Intend to have report on the analysis available for the workgroup prior to the May meeting in Toronto
- The assessment will be the focus of our discussions in May