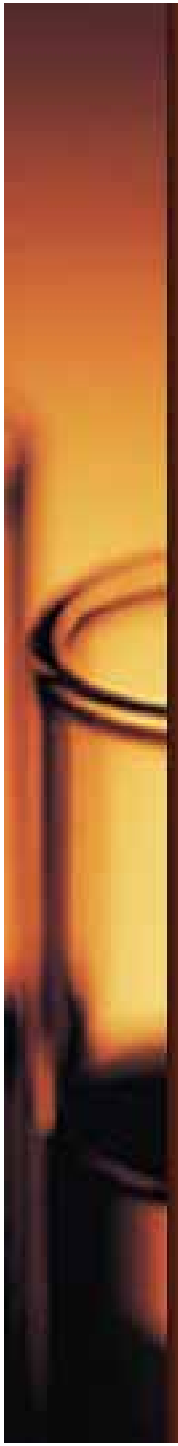
Emerging Contaminant Surveillance

Great Lakes Binational Toxic Strategy

SECTOR AND SUBSTANCES WORKING GROUPS Meeting

September 24, 2008



Project Status

- 2 Year Grant with Clarkson University signed 8/27/2008 for analysis of fish tissue
- Approving grant with UIC for analysis in sediments
- Ongoing meetings with study participants to establish work plan
- Chemical lists established for varying media for analysis
- Preliminary analysis being conducted
- Approving Grant with SRC to screen additional compounds under IUR.

Project Partners

- Environment Canada Herring Gull Program
- U.S. EPA Great Lakes Fish Monitoring Program
  - Clarkson University
  - Aaron Peck - NIST
- E.C. Great Lakes Fish Contaminant Surveillance Program
- IADN (Air & Precipitation)
  - Indiana University
  - Environment Canada
- Great Lakes Sediment Assessment Program (GLSAP)
- University of Illinois at Chicago

Surveillance Strategic Plan

- **Identify chemicals of concern**
  - CMP
  - Syracuse Research Corporation/Environment Canada North American Chemical Inventory Screening Project
  - Etc.
- **Develop Screening protocols**
  - Physical / Chemical Properties
  - Production rates
  - Analyzability
  - Etc.
- **General Categories of Emerging Chemicals**
  - Non Organic compounds
  - Siloxanes
  - Other Chemicals of concern
  - Halogenated compounds

Emerging Chemicals – Fish / Gull Eggs

- Chemicals identified for analysis in the Great Lakes Fish Contaminant Surveillance Program (GLFCSP) and the Herring Gull program were chosen based upon their "analyzability", potential harm, overlap with CMP, etc.
- Chemicals for the GLFMP will be chosen based upon similar criteria and with an effort to avoid duplication.

•Bisphenol A

•Chlorinated paraffins

•Siloxanes

•PFCs

•PFSA & Sulfonamides

•Non PBDE BFRs

•Non BR flame retardants (Dechlorane plus)

•PBDE BFRs

•Linear saturated fluorotelomer alchols (FHETs)

•Linear fluorotelomer unsaturated acids (FTUCAs)

•HHCB (Galaxolide)

•AHTN (Tonalide

•ADBI (Celestolide)

•AHMI (Phantolide)

•ATII (Traseolide)

•Musk Xylene

•Musk Ketone

•methyl triclosan

Emerging Chemicals - Air

- Chemicals identified for analysis in both air and precipitation in the Integrated Atmospheric Deposition Network (IADN) operated by Environment Canada were chosen based upon their “analyzability”, potential harm, overlap with CMP, etc.

- Management of IADN on US side will be competed in 2009 and may take on additional chemicals based upon the award of the program.

IADN (air)

•Siloxanes

•PFCs

•PFSAs

•FHETs

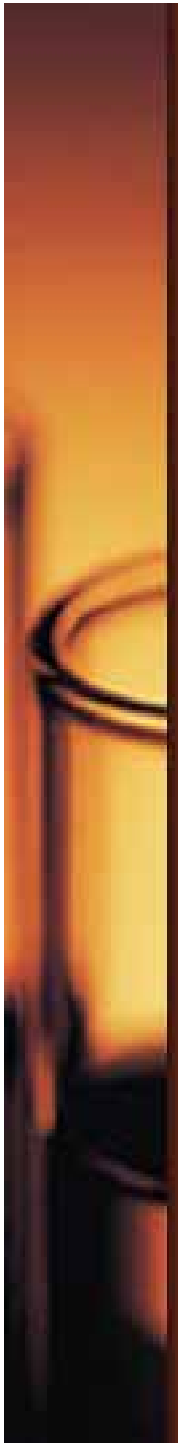
•Flame Retardants (PBDE and non-PBDE)

IADN (precipitation)

•PBDEs

•New Flame Retardants

IADN
Integrated Atmospheric Deposition Network

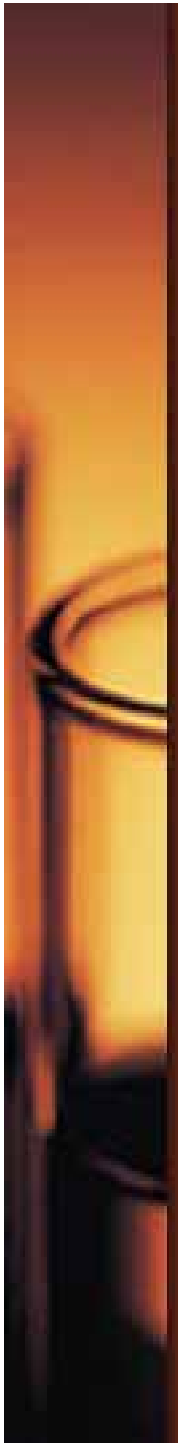


Emerging Chemicals - Sediment

- Chemicals identified for analysis in the Great Lakes Sediment Assessment Program (GLSAP) were chosen based upon their “analyzability”, potential harm, overlap with CMP, etc.

- In 2008, GLNPO will award a grant to the University of Illinois at Chicago for identification of select emerging chemicals in Great Lakes Sediment Cores. Chemicals will be chosen based upon similar criteria to the GLFSP and presence in other media and with an effort to avoid duplication.

- **A list of potential chemicals or categories is not provided.**



Emerging Chemicals - Water

- Chemicals identified for the Great Lakes Water Quality Monitoring and Surveillance Program (GLWQMSP) were chosen based upon their inclusion in the CMP and their interest by the BTS.

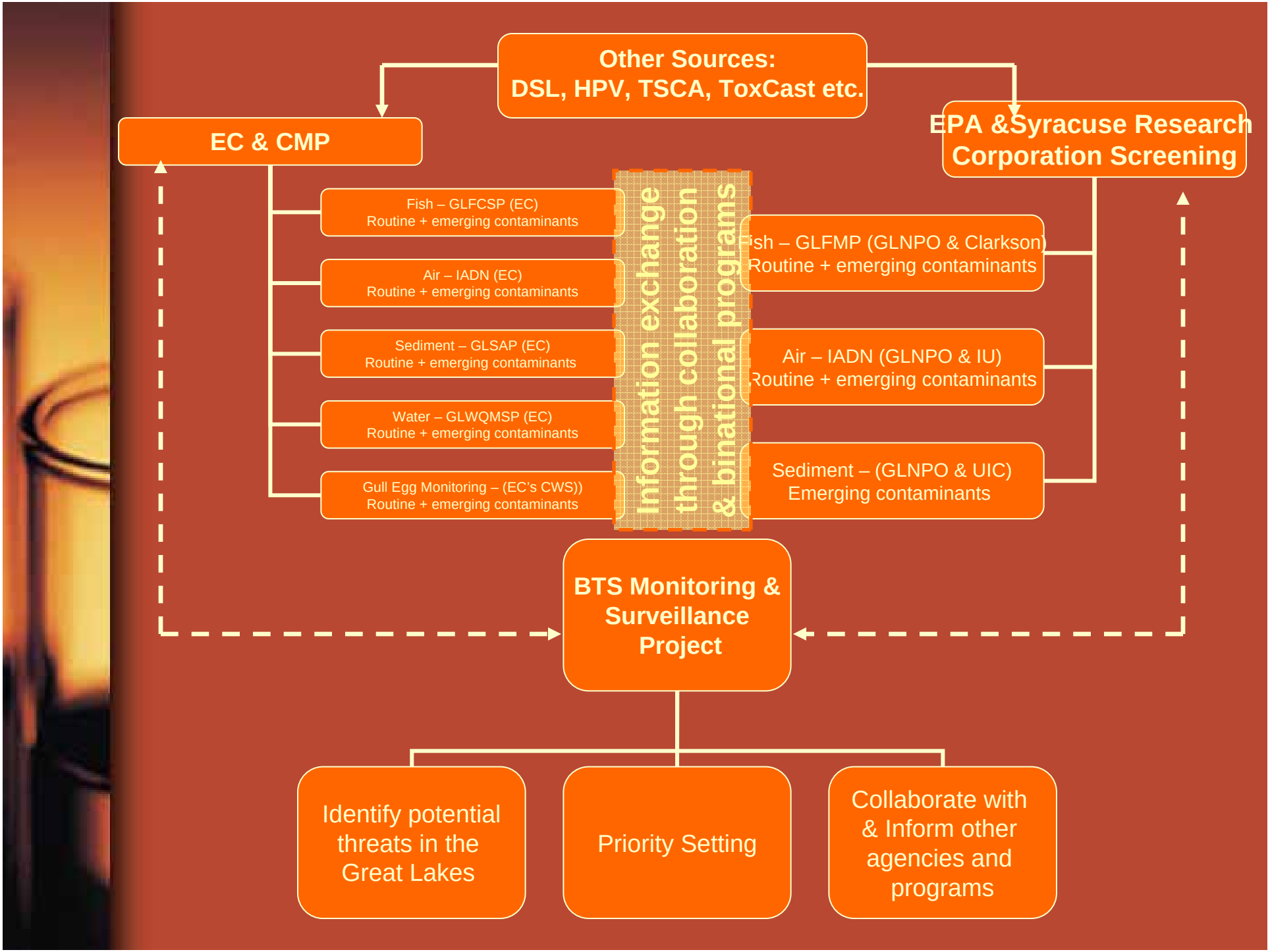
- Surveillance and monitoring for parameters of emerging concern is being prioritized by discussions with risk assessors and managers, in order to first address substances that are most likely to be persistent, bioaccumulative, and/or inherently toxic in the aquatic environment and is providing an early warning system to help anticipate possible future toxic substance problems.

  •endocrine disruptors

  •in-use pesticides

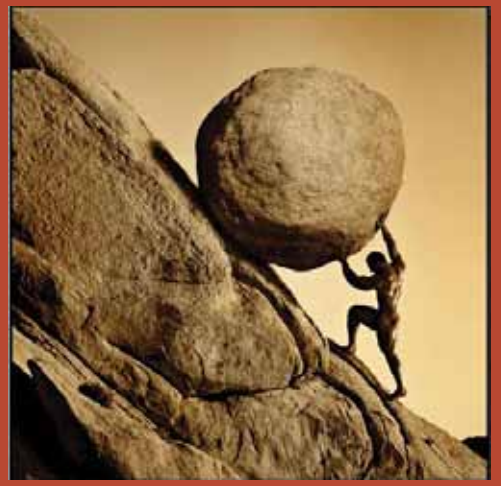
  •Pharmaceuticals

  •Etc.



Challenges

- Access to standards
- Access and Quality of archived tissue
- Method development
- Longevity of programs
- $$$
- Creating a good acronym



Rewards

- Collaboration can result in screening for a larger number of chemicals for fewer dollars
- Help establish international monitoring programs
- Meets GLWQA criteria for screening of emerging contaminants

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