A Cooperative Bi-National Approach to Monitoring the St. Marys River Great Lakes Connecting Channel

By: Gary Kohlhepp, Michigan DNRE
Presentation Overview

• Background/Issues

• Resolution Process/Approach

• Results

• Lessons Learned
Background

• Complaints about floating material in the water and deposited on shore, came to a head in 2006

• Elevated *E. coli* levels found in 2002, 2003, 2006

• Reactionary sampling

• Political firestorm
Presentation Overview

• Background/Issues
• Resolution Process/Approach
• Results
• Lessons Learned
Sugar Island Monitoring Work Group  
(Formed in February 2007)  

U.S. Environmental Protection Agency  
Environment Canada  
Health Canada  
Michigan Department of Environmental Quality  
Ontario Ministry of Environment  
Chippewa County Health Department  
Algoma Public Health  
Inter-Tribal Fisheries and Assessment Program  
Sault Ste. Marie Tribe of Chippewa Indians  
Bay Mills Indian Community  
Garden River First Nation
Purpose

• Review existing data and monitoring activities
• Identify data gaps and monitoring needs
• Develop proactive interagency monitoring plan
  - coordinated sampling design/implementation
  - data comparability
  - common reporting
• Ensure timely communication among agencies and the public
Workgroup Activities

- Floating material response
- Weekly *E. coli* sampling
- Sediment sampling
- Source identification
- Treatment plan inspections
- Public meetings
Presentation Overview

• Background/Issues
• Resolution Process/Approach
• Results
• Lessons Learned
Floating Material Response

- Incidents reported in 2007 (5), 2008 (4), 2009 (4)
- All 2007 samples natural (algae, pollen, insect exuviae)
- Three 2008 incidents natural material (one was a dark gray substance with sewage-smell)
- 2 incidents in 2009 were personal care products
- Blue-green algae common
Figure 4.1. 2008 Results For All Agencies

E. coli (cfu/100ml)

Sample Date
CCHD 2008 Results

E. coli Geo Mean (cfu/100mL)

Sample Date

- Bumstead
- Harrington
- Eitrem Cove
- Eitrem East
- Smith
- SI Township Park
- Welch

MI WQS
Source Tracking Study

- Monitoring for the human *Bacteriodes* DNA marker
- Human specific strain an indicator of human sewage
- Water collected weekly at 18 sites
Bacteriodes Results

- 7 of 180 (4%) positive
- Positives on 3 occasions
- First week had multiple hits
- September hits unexplained
- 4 of 7 positives at one stormwater outfall
Presentation Overview

- Background/Issues
- Resolution Process/Approach
- Results
- Lessons Learned
Lessons Learned

• Co-chairs not involved prior to 2007
• Broad participation - knowledgeable staff
• Cooperative monitoring with comparable methods
• Extensive QA/QC
Lessons Learned (continued)

- High-level management support
- Frequent communication
  - among agencies
  - with the media and public
- Transparency - annual reports, data availability
Acknowledgements

Dave Rockwell, Jamie Schardt (U.S. EPA)
Debbie Burniston, Chris Marvin, Kate Taillon (EC)
Randy Conroy, Michelle Selzer (MI DNRE)
Rod Stewart, Lilian Keen, Jason Hamilton (OME)
Christine Daley (CCHD)
Sherri Cleaves, Jennifer Francella (APH)
Bob Lehto, Dan Tadgerson (SSM Chippewa Tribe)
Amanda Bosak (Bay Mills Indian Community)
St. Marys R. Bi-National Public Advisory Committee