

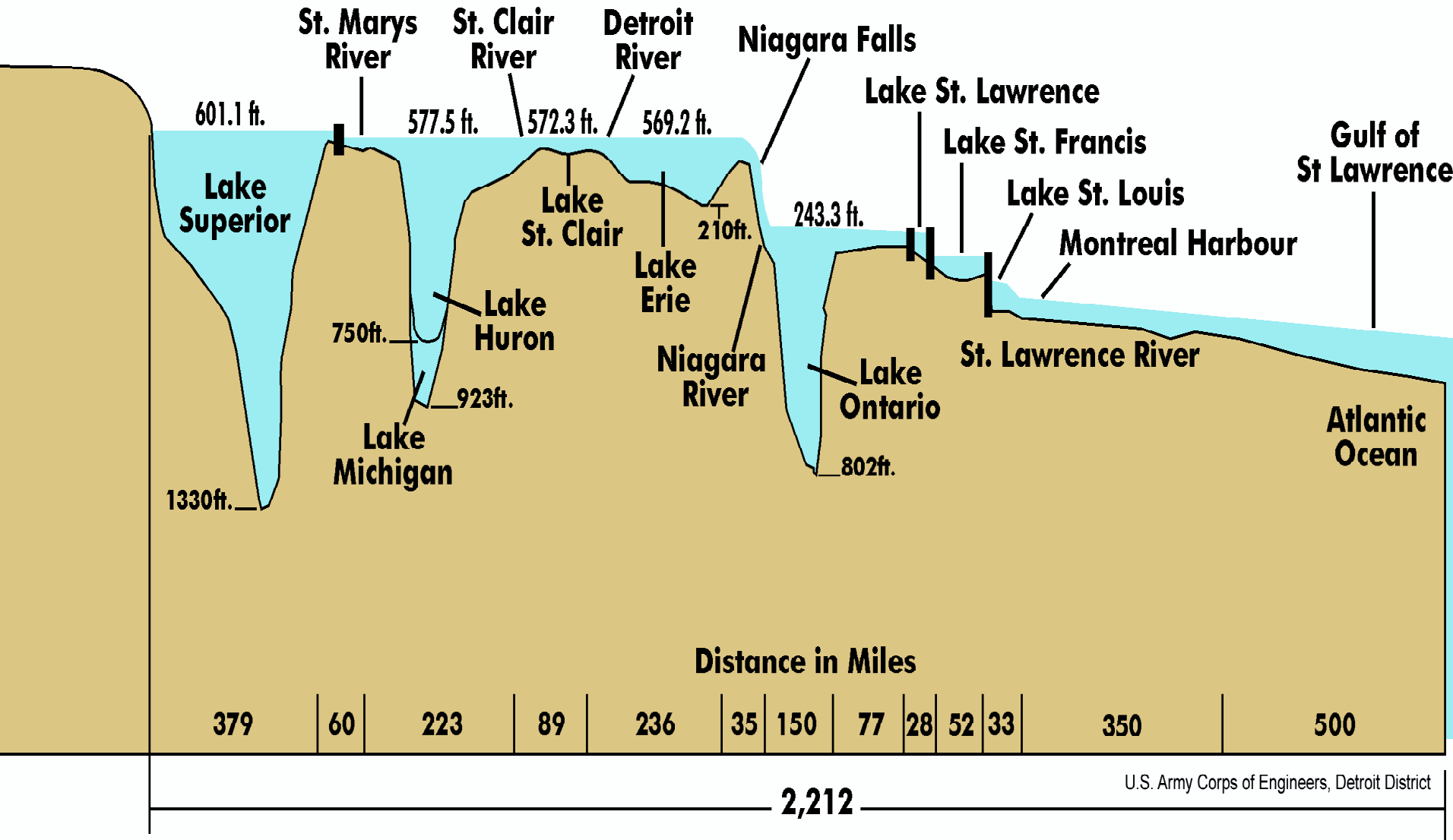
# **GBA Foundation Report on Baird Work**



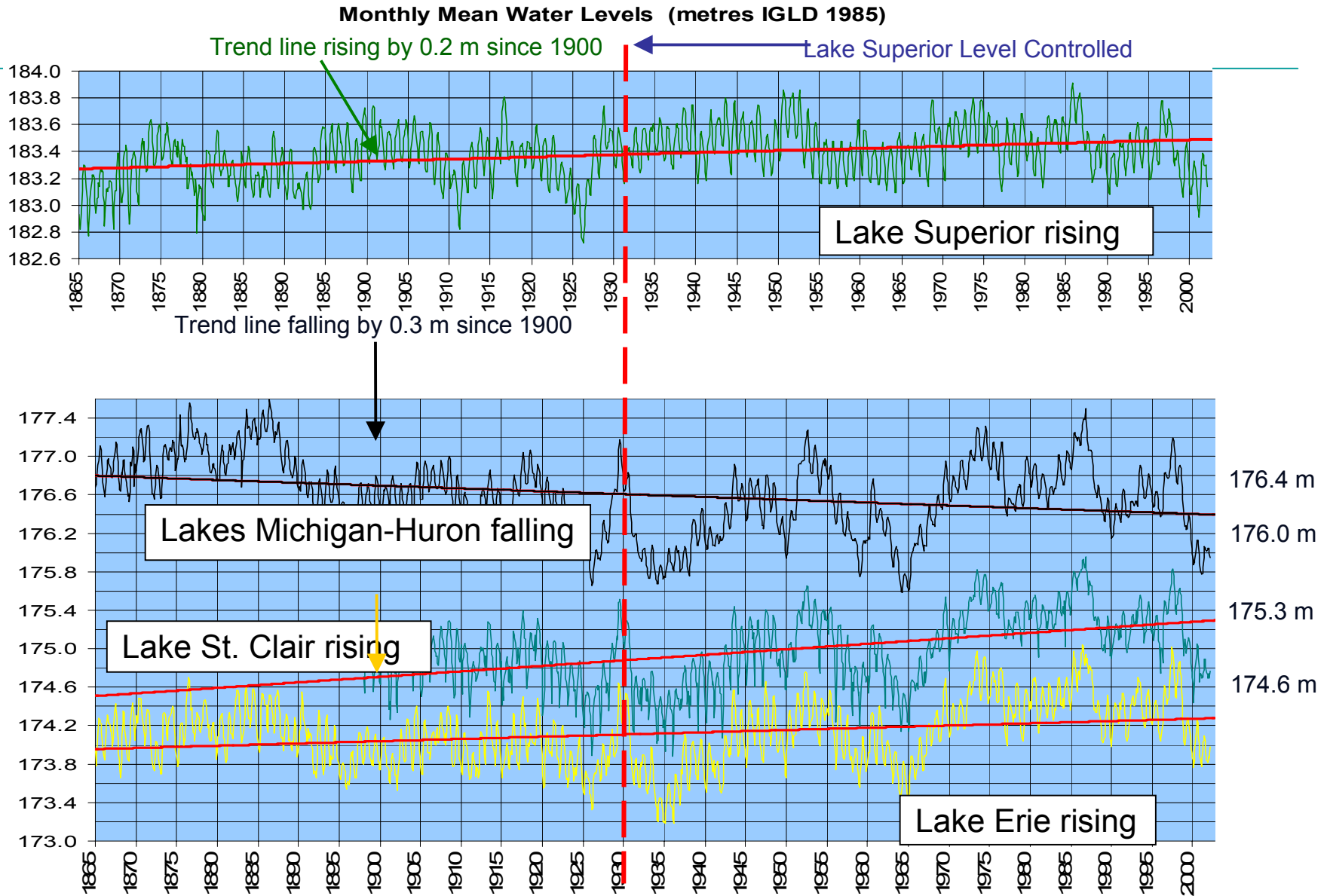
**We never know the worth of water till the well is dry.  
~Thomas Fuller, 1732**

Mary Muter  
Georgian Bay Association

ENGO Forum on Source Protection - January 13, 2005  
Friends House, Toronto

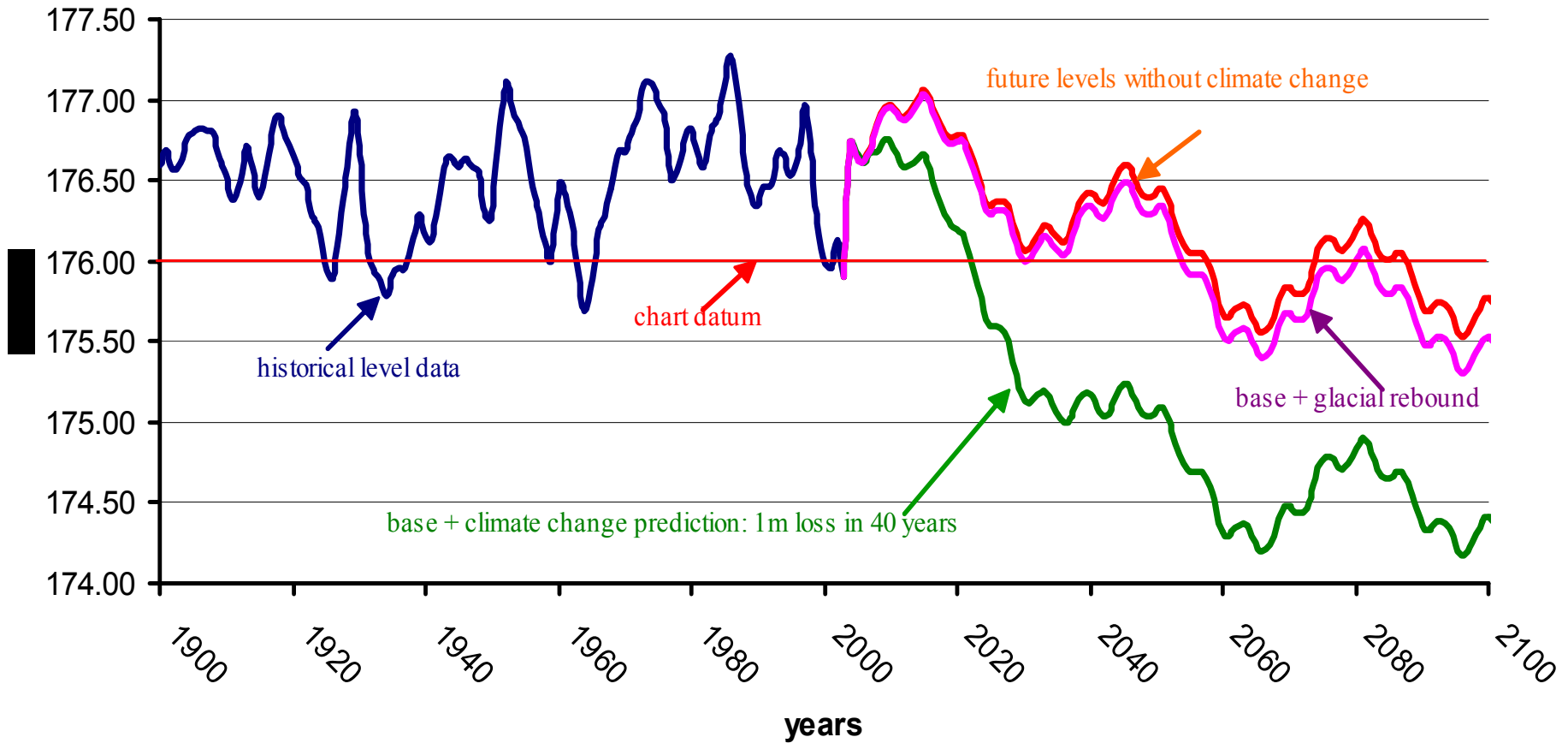


# Great Lakes Water Level Trends over the last 140 years

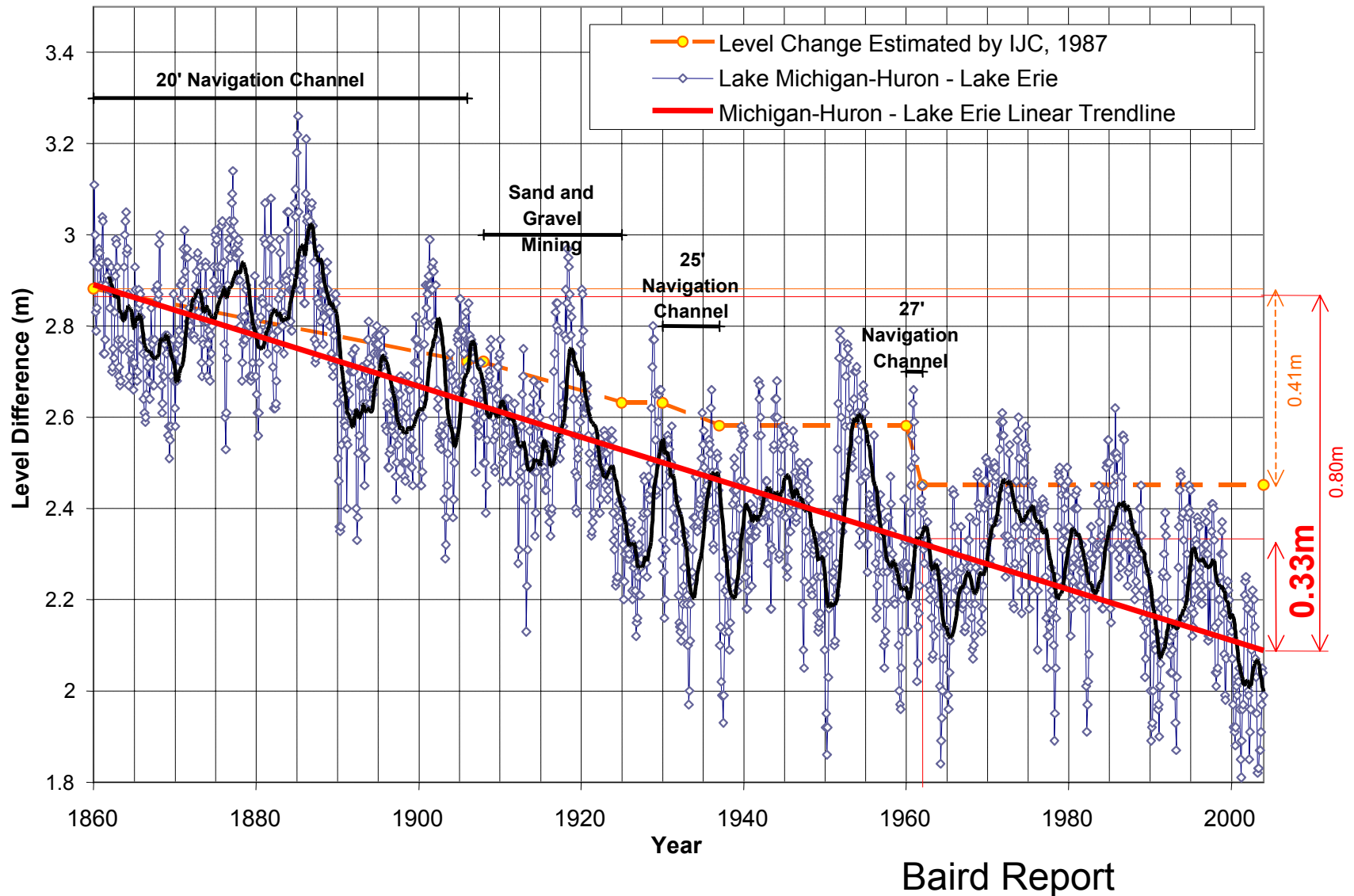


# Where we are going if nothing is done

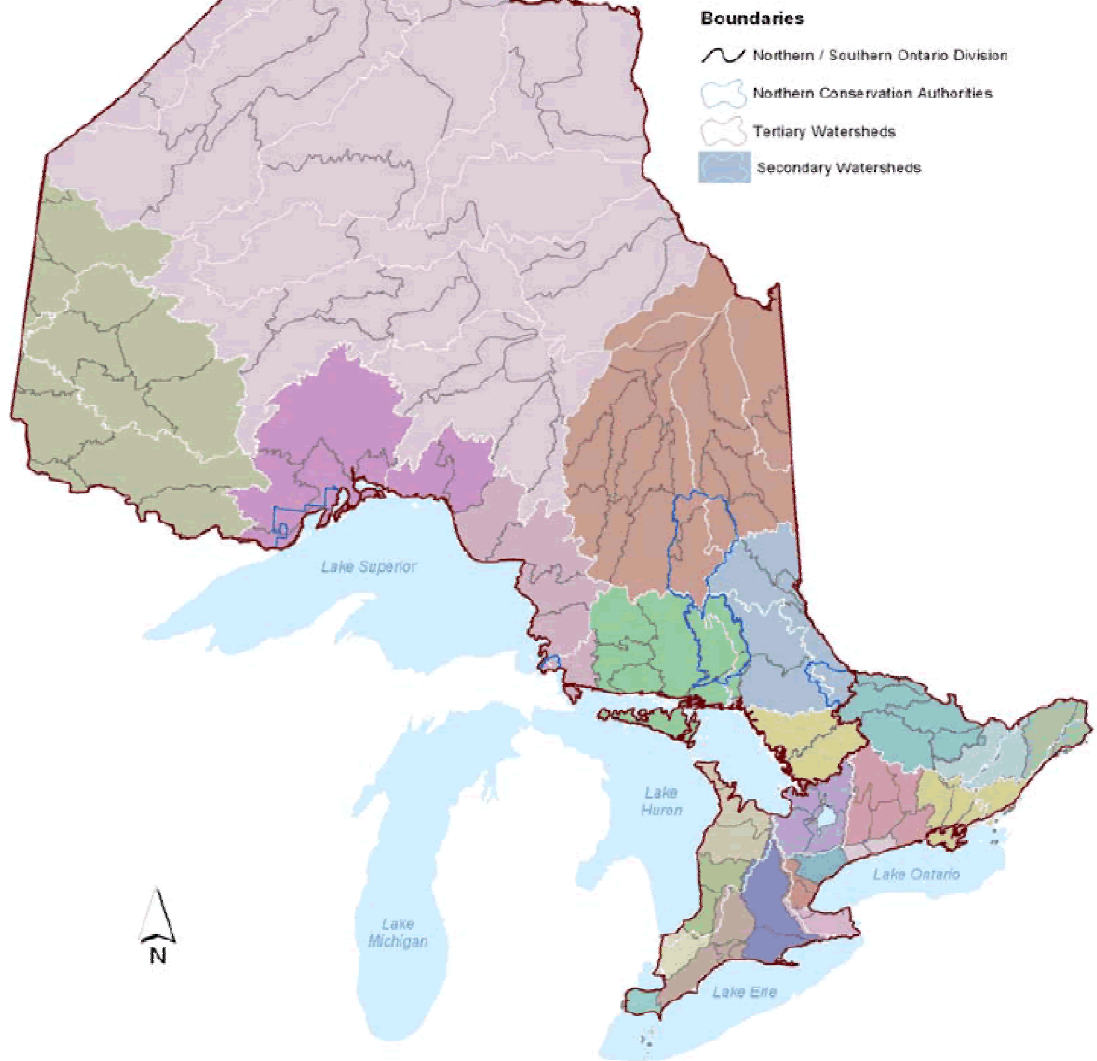
## east and north Georgian Bay Levels



# Key Finding = IJC significantly underestimated impacts of dredging and erosion



# Map of Potential Source Protection Watershed Regions





1999

**Wetlands are needed by 2/3 of  
Great Lakes fish for spawning**

***“Georgian Bay wetlands the most  
diverse and productive of any  
wetlands found anywhere in the  
Great Lakes”***

**Dr. Pat Chow-Fraser**

- **Annex 2001 threatening  
US and Canadian  
legislation against Great  
Lakes diversions**

- **No dedicated government  
monitoring of water levels in  
Lakes Huron / Michigan**

***This is not just a cottage owners' issue***



2001-03

# Why Study Erosion and Not Diversions?

- Diversions are a known
  - Cross-border legislation already in place to limit further diversions from the Great Lakes
  - Annex 2001 amendments to that legislation already under review
- Erosion in the St. Clair is ongoing
  - Has never before been identified as contributing to low water levels
  - Can be stopped

***Get at scientific solutions through a scientific lever***

# Scientists Who Helped Us

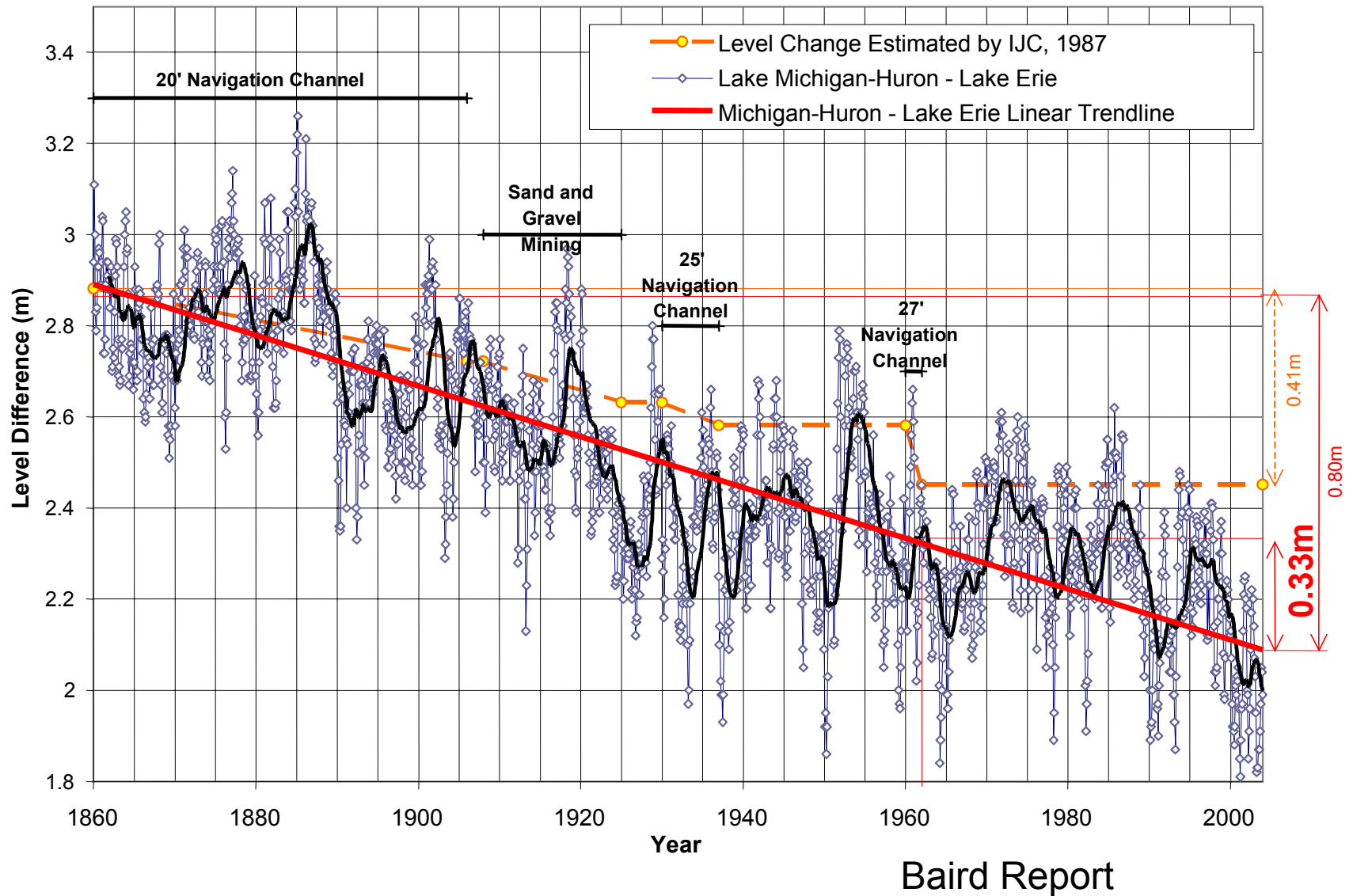
GBA Foundation retained Baird & Associates to investigate the significant and ongoing drop in the levels of Lake Huron-Michigan relative Lakes St. Clair and Erie.

- internationally respected coastal consulting engineers (hydrologists) but most importantly they do work for the International Joint Commission (IJC), Environment Canada (EC) and US Army Corps of Engineers (USACE).

*Funds raised by the GBA Foundation  
made this partnership possible  
Findings so significant the report has been released to IJC, EC and  
USACE*

**“REGIME CHANGE (Man-made Intervention) AND EROSION IN THE ST. CLAIR RIVER AND IMPACTS ON LAKE HURON-MICHIGAN LAKE LEVELS”  
by W. F. Baird and Associates, Coastal Consulting Engineers**

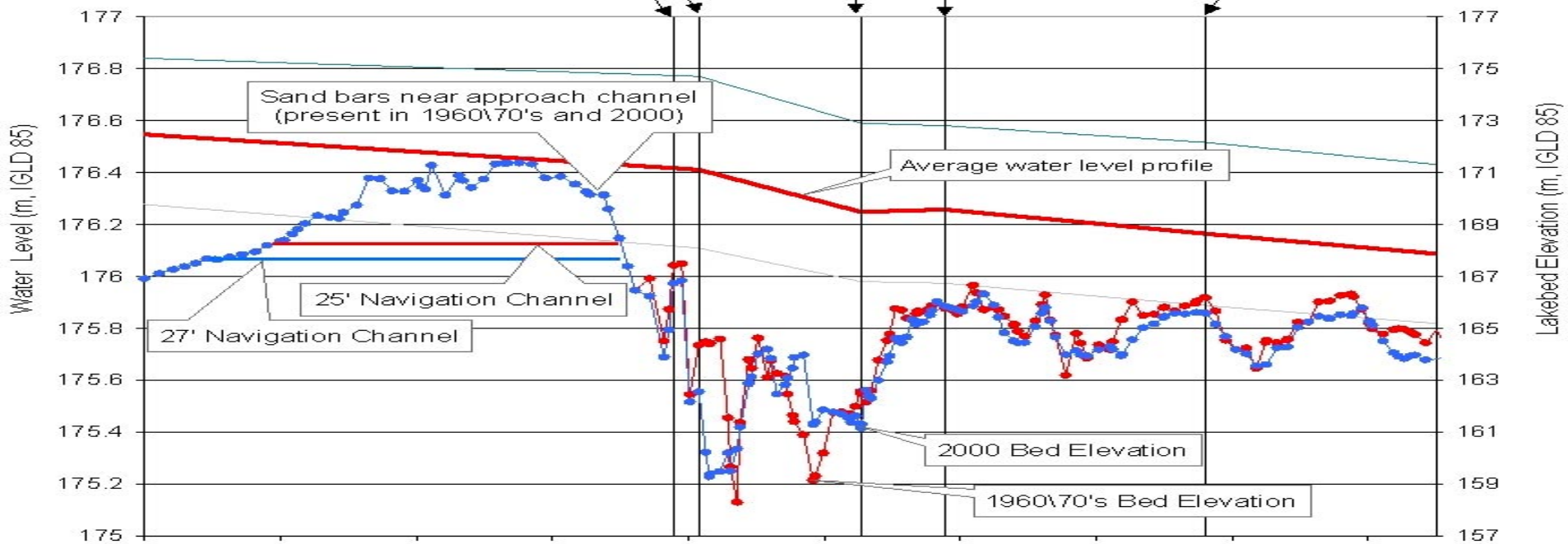
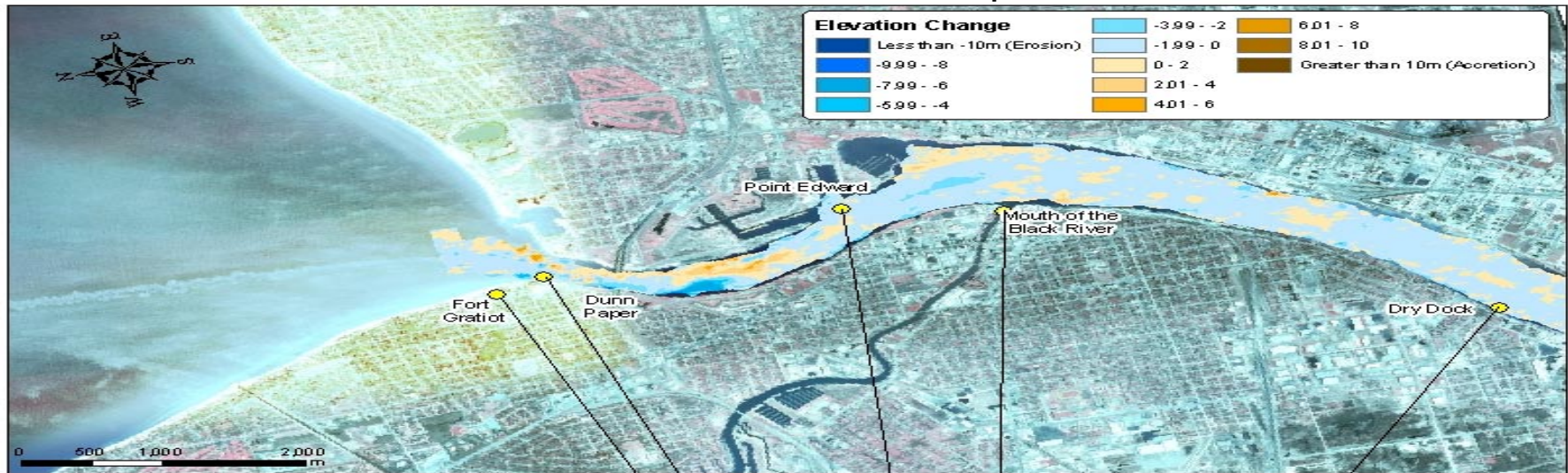
# Key Finding = IJC significantly underestimated impacts of dredging and erosion



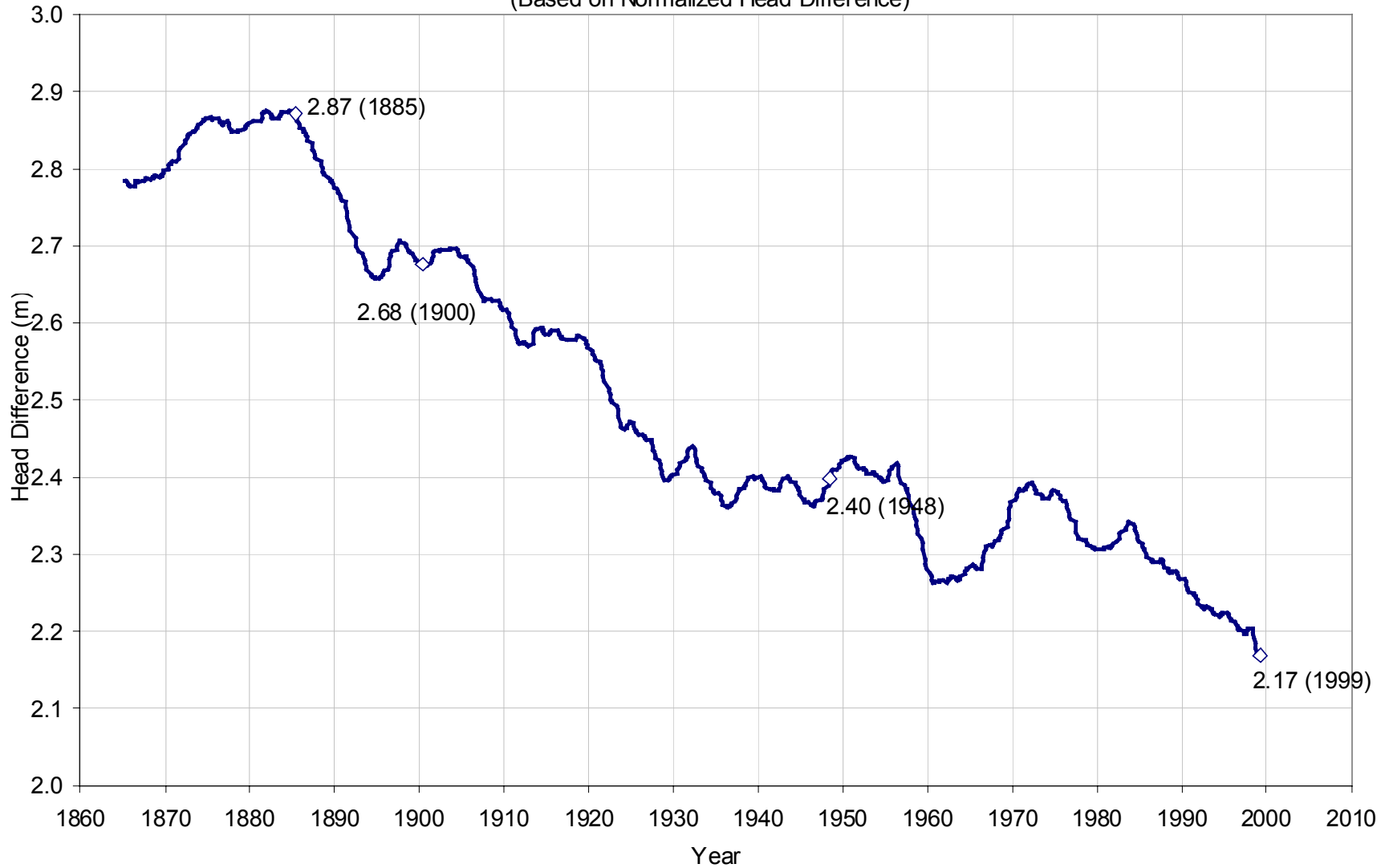
# Further Key Findings of the Baird Study

- Ongoing erosion at Sarnia since the last Seaway dredging project has resulted in 33cm drop
- Flawed government data gathering had masked the impact of erosion
- Filling in the very deep channel at Sarnia will prevent further erosion and could possibly raise levels

# Outflow Profile - Baird Report



Head Difference Drop Caused by Erosion and Regime Change  
(Based on Normalized Head Difference)



# GBAF Actions in Response to the Findings

On Oct 21, 2004 we asked the IJC to do 4 things

1. Issue an Order requiring the **St. Clair Riverbed to be covered over with hard substrate** in the areas where erosion is taking place
  - Issue an Order that either the Niagara River Control Board or the Lake Superior Control Board begin to immediately **monitor and report on the outflow** of Lake Huron
3. Study the changes in the St. Clair and Detroit Rivers as a **special precursor study** to the proposed Upper Lakes Levels Study.
4. Include a review of past attempts/designs to **meet the terms the IJC 1917 Order for mitigation in the St. Clair River** and determine the best mitigation methods under current and future scenarios, **including EC predictions for climate change.**

# IJC Response



- High interest on the day of the presentation
  - Commendations from IJC technical and political staff
  - USACE more open than Environment Canada
- Guarded follow-up response
  - *Referred to Control Boards for comment “Preliminary discussions to include some of your concerns in a revised scope of work”*
  - *Commendations from technical and policy staff*
  - *No commitment to action or timing*

# GBAF/GBA Next Steps



**2003-4 = Science**

Finalize the Baird Study



**2005-6 = “Education”**

Get the US and Canadian governments to assume responsibility for further studies/action

## **US pressure is key**

- Strategic alliances with shipping companies and parallel organizations in Michigan
- Separate education strategies for US and Cdn. federal and provincial/state governments
- May need professional lobbying help including legal issues

# We Need Your Help

**2003-4 = Science**

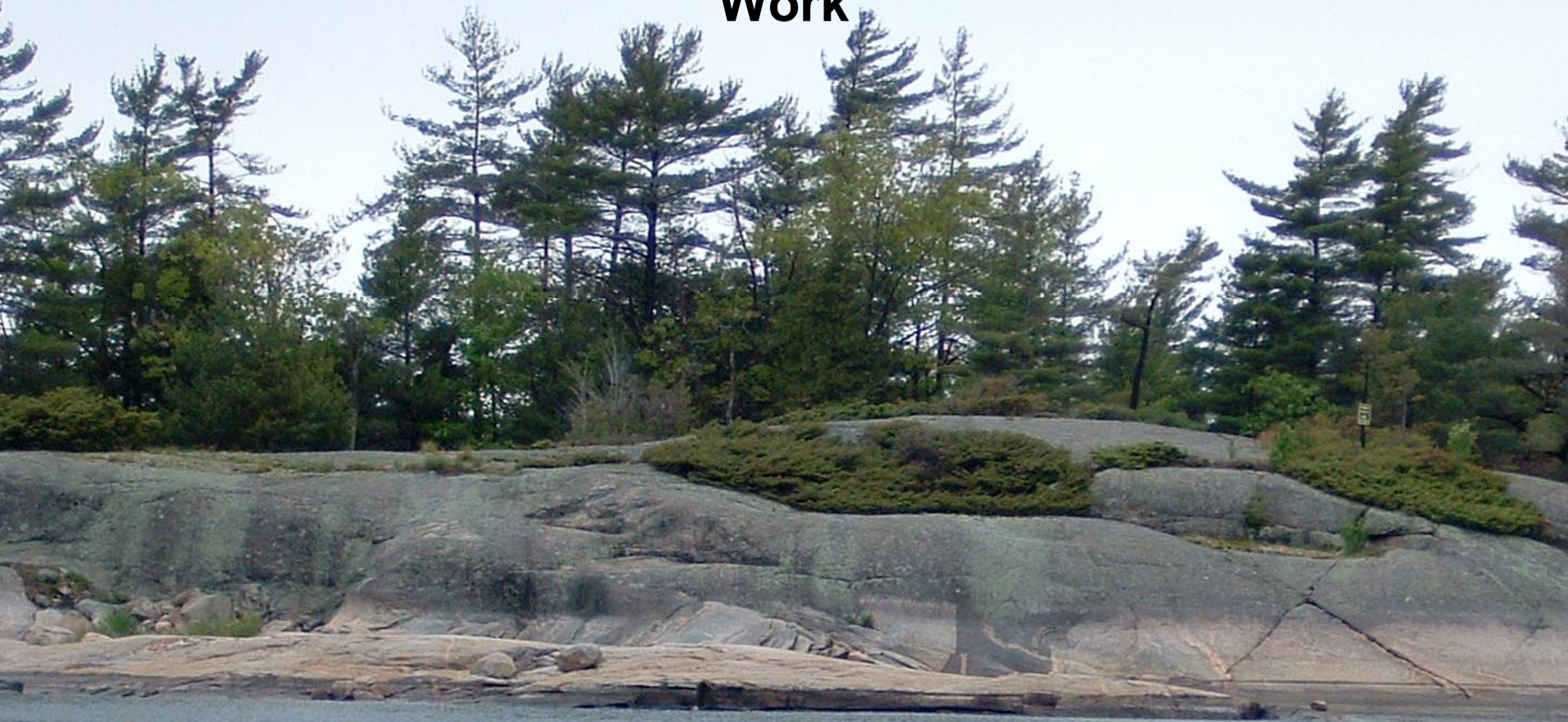
**2005-6 = "Education"**

- Complete the funding of the Baird Study
- Final phase examines causes of ongoing erosion

Need \$90,000

- Contact and political support
- Funds for political and legal education – preliminary budget \$40,000.00

# **GBA Foundation Report on Baird Work**



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~Thomas Fuller, 1732**