

# ***Update on the Canadian Status of Beneficial Use Impairments in the St. Clair River Area of Concern***

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The St. Clair River:

Bridging the Environment and Economy Symposium

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# Current Status Of Canadian BUIs

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## “Impaired” BUIs:

1. Restrictions on Fish and Wildlife Consumption
2. Degradation of Benthos
3. Restrictions on Dredging Activities  
(recommend removal – undergoing consultation – 2014)
4. Restrictions on Drinking Water Consumption or Taste and Odour Problems (discussion paper proposed)
5. Beach Closings (status review – 2014)
6. Degradation of Aesthetics (recommend removal – 2014)
7. Added Costs to Agriculture and Industry (removed – 2012)
8. Loss of Fish and Wildlife Habitat (improving)

# Current Status Of Canadian BUIs

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## “Requiring Further Assessment” BUIs:

1. Tainting of Fish and Wildlife Flavour (removed – 2011)
2. Degraded Fish and Wildlife Populations
3. Fish Tumours and Other Deformities  
(Environment Canada (EC) studies with WIFN – 2013– 14 )
4. Bird and Animal Deformities or Other Reproductive Problems  
(EC frog and turtle studies with WIFN – 2010–14)

## “Not Impaired” BUIs:

1. Eutrophication or Undesirable Algae
2. Degradation of Phytoplankton and Zooplankton Populations

# Priority Issues

**Water Quality**



**Sediment Quality**



**Fish and Wildlife Health**



**Fish and Wildlife Habitat**



# Water Quality

## Municipal Point Sources:

- Sarnia - \$70 million invested in upgrades and sewer separation



*Devine Street  
Combined Sewer  
Separation – Sarnia,  
Ontario 2012*



- St. Clair Township - \$35 million in Sewage Treatment Plant upgrades



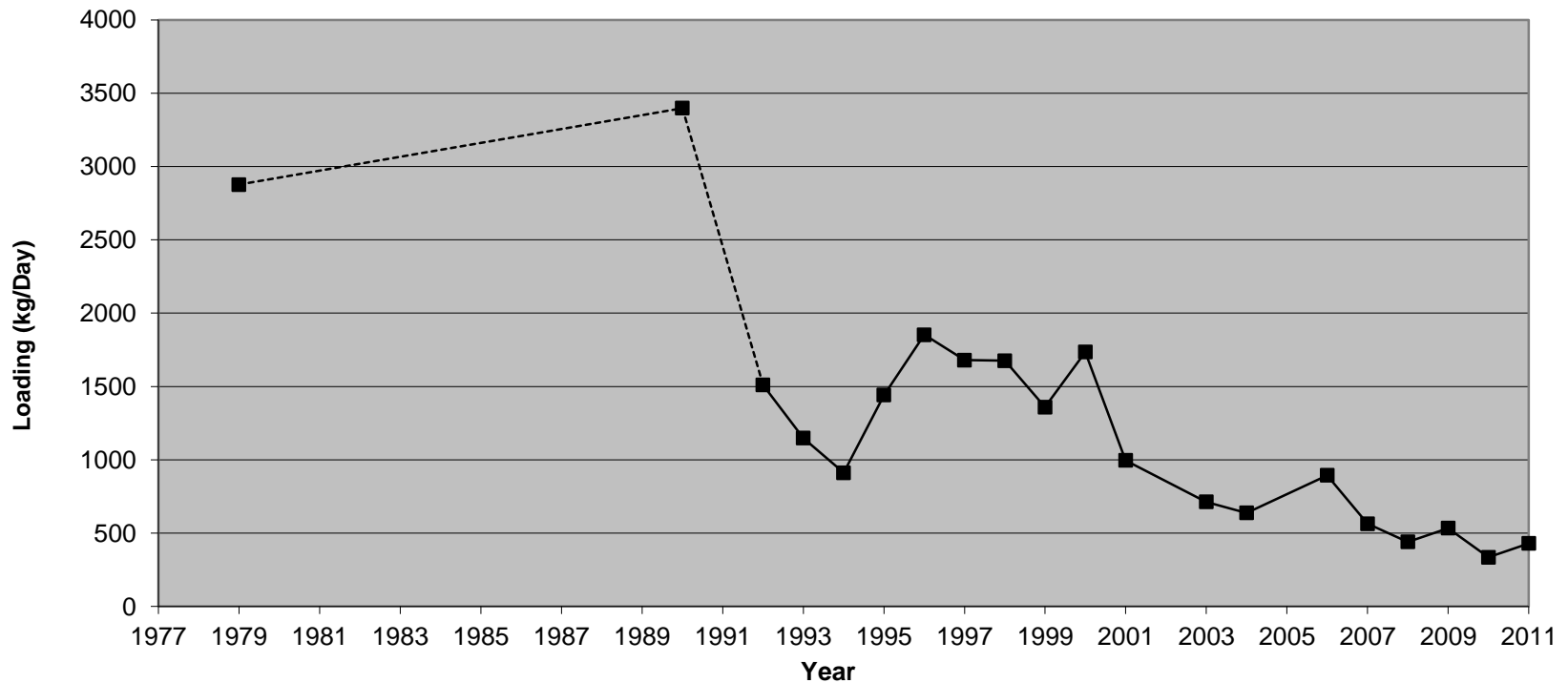
*Courtright Sewage  
Treatment Plant –  
Courtright, Ontario, 2012*



# Municipal Point Source Discharge Loadings

(1990 – 2011)

1979 for reference\*



Municipal STP Loadings: 3 parameters (BOD5, Suspended Solids, Total Phosphorus) for 7 Facilities with point source discharges to St Clair AOC



# Water Quality

## Industrial Point Sources:

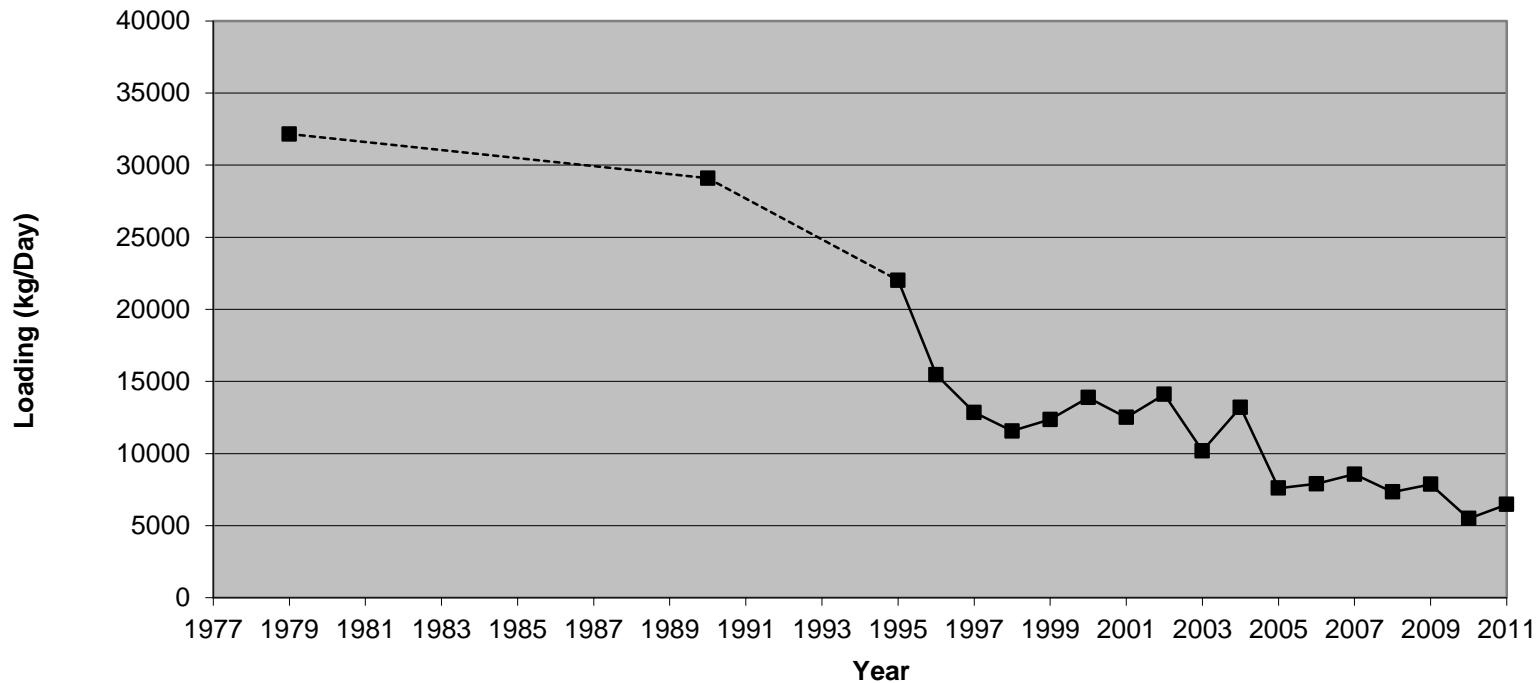
- \$100 million invested in past 10 years to decrease the risk of discharging contaminants
- Upgrades
  - Reduced once-through cooling water
  - More stormwater storage
  - Better treatment
  - Improved monitoring



# Industrial Point Source Discharge Loadings

(1990 – 2011)

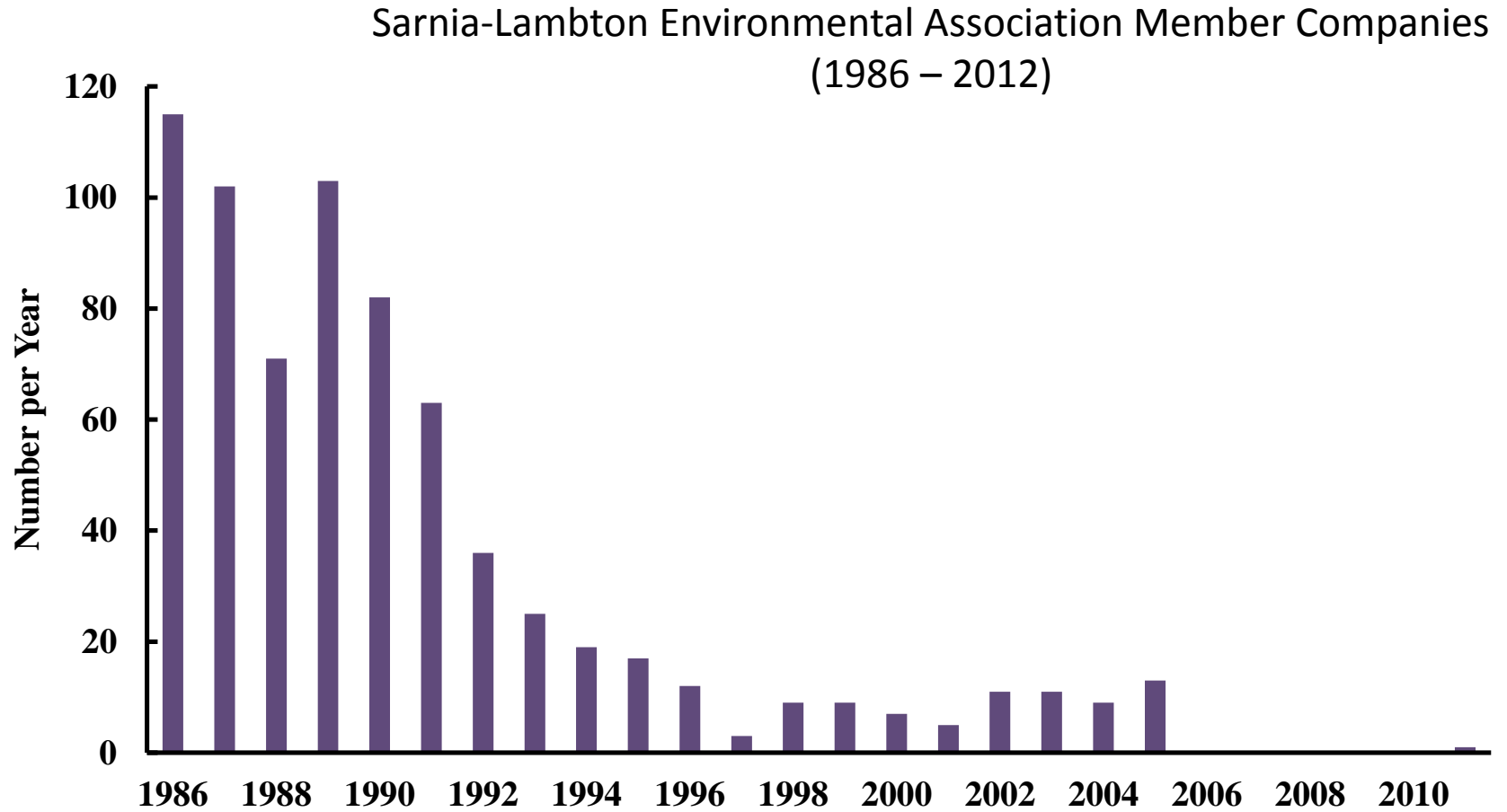
*1979 for reference\**



Industrial Loadings: Includes 19 parameters (Suspended solids, solvent extractables, BOD5, COD, TOC, ammonia-nitrogen, phenolics, phosphorus, copper, chromium, iron, lead, nickel, zinc, chlorides, fluoride, arsenic, cyanide, and sulphates) for 17 Facilities with point source discharges to St Clair AOC



# Industrial Spill Frequency



# Sediment Quality

- Dow cleanup in 2004
- River – wide survey - 3 remaining Areas of Interest (AOI)

## Sediment Management:

- 2007 –2012 additional studies in AOI
- 2013 Final Sediment Management Options Report endorsed by all (CRIC, BPAC, WIFN, AFN)
- Preferred cleanup option – Dredge and Dispose

*Final Sediment Management  
Options Report Prepared by  
ENVIRON, 2013*



# Sediment Quality

## Next Steps:

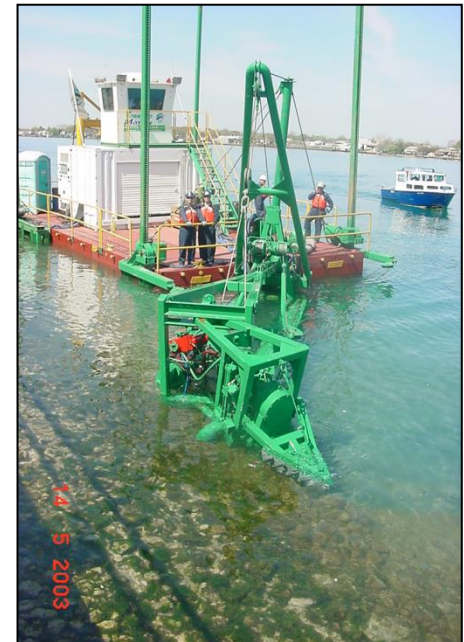
**2014** – Government approval of preferred option

**2015/16** – Detailed engineering design and environmental assessment

**2017** – Peer review, tender, award and mobilization

**2018/19** – Project implementation

*A Hydraulic Dredge  
(Photo Courtesy of  
Environment Canada, 2003)*

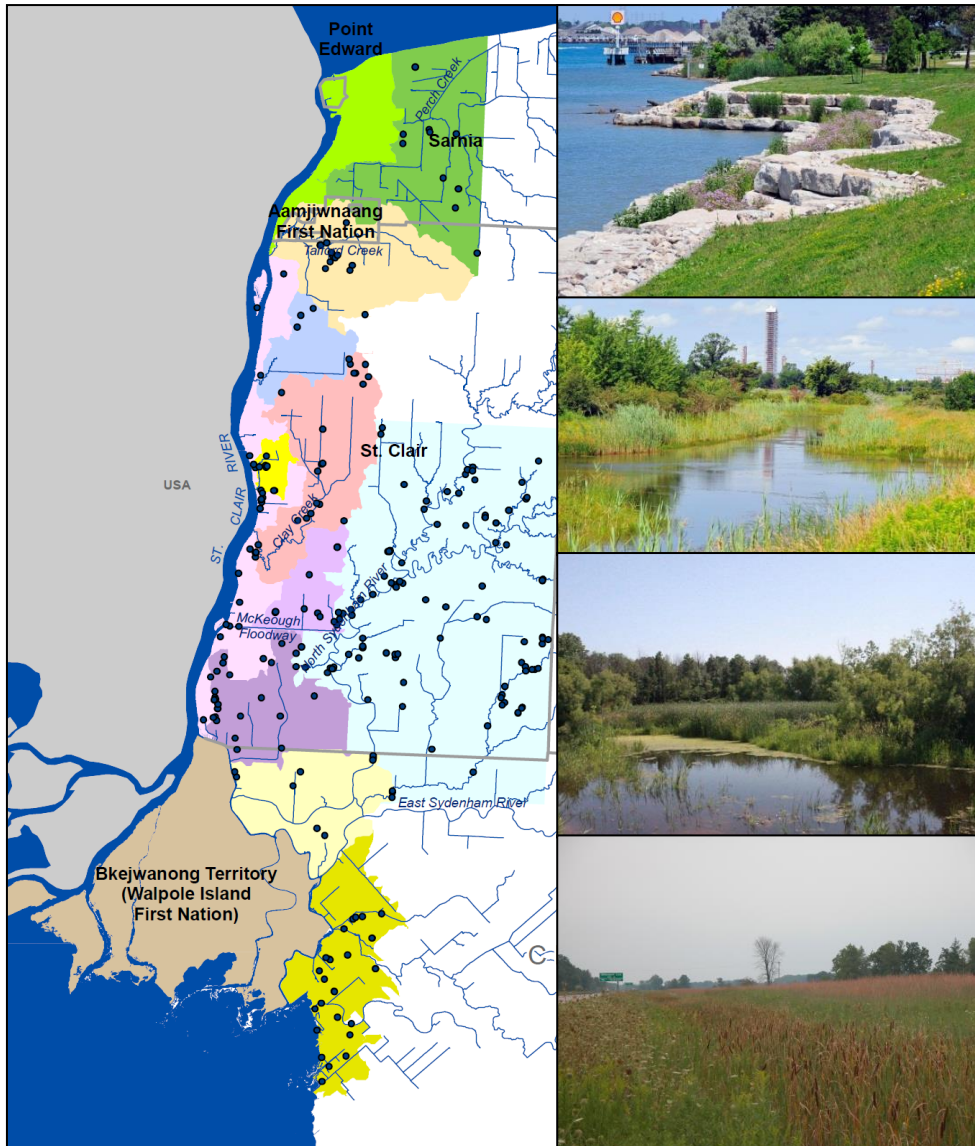


# Fish and Wildlife Health

- Frog & Turtle Research
- Brown Bullhead
- Marsh Bird Monitoring
- Waterfowl Monitoring



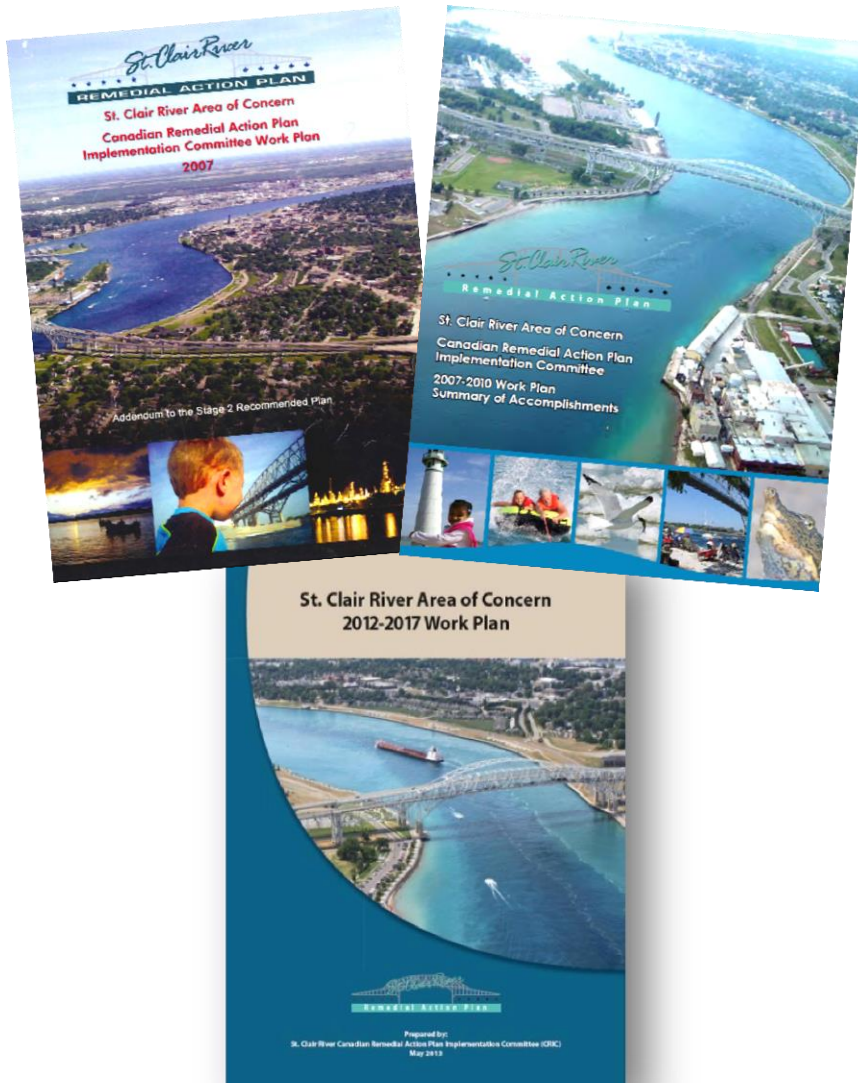
# Fish and Wildlife Habitat



- 1995-2013 - A total of 263 projects
- 845 ha of habitat created or restored
- Habitat projects exclusively implemented by local partners
- \$5.4 million of federal funds has been invested in habitat projects since 2000



# Goals and Priorities



- BUI re-designations
- BUI assessments
- Complete engineering design and implement SMO for remaining contaminated sites
- AOC delisting

Thank you!

