

Sheboygan River Area of Concern: Moving Towards Recovery

2018 Wisconsin Lakes Partnership & Water Action
Volunteers Symposium

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What's Ahead

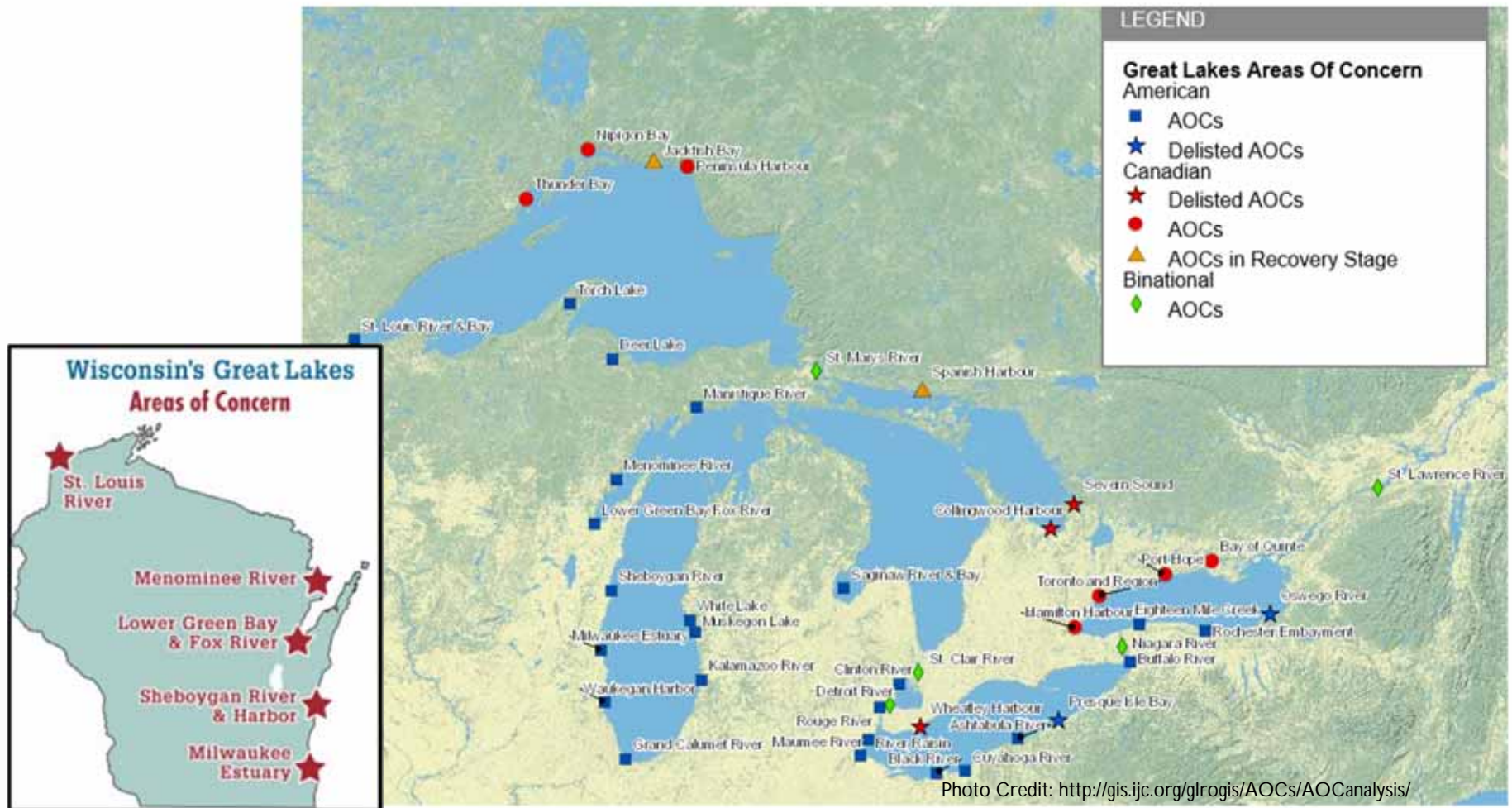
- What is an AOC
- Sheboygan River AOC
- Restoring an AOC
- Habitat Restoration
 - River Habitat
 - Big Projects
- Monitoring/Assessment
- Maintenance-Long Term Care
- Learned Lessons



What is an Area Of Concern (AOC)?

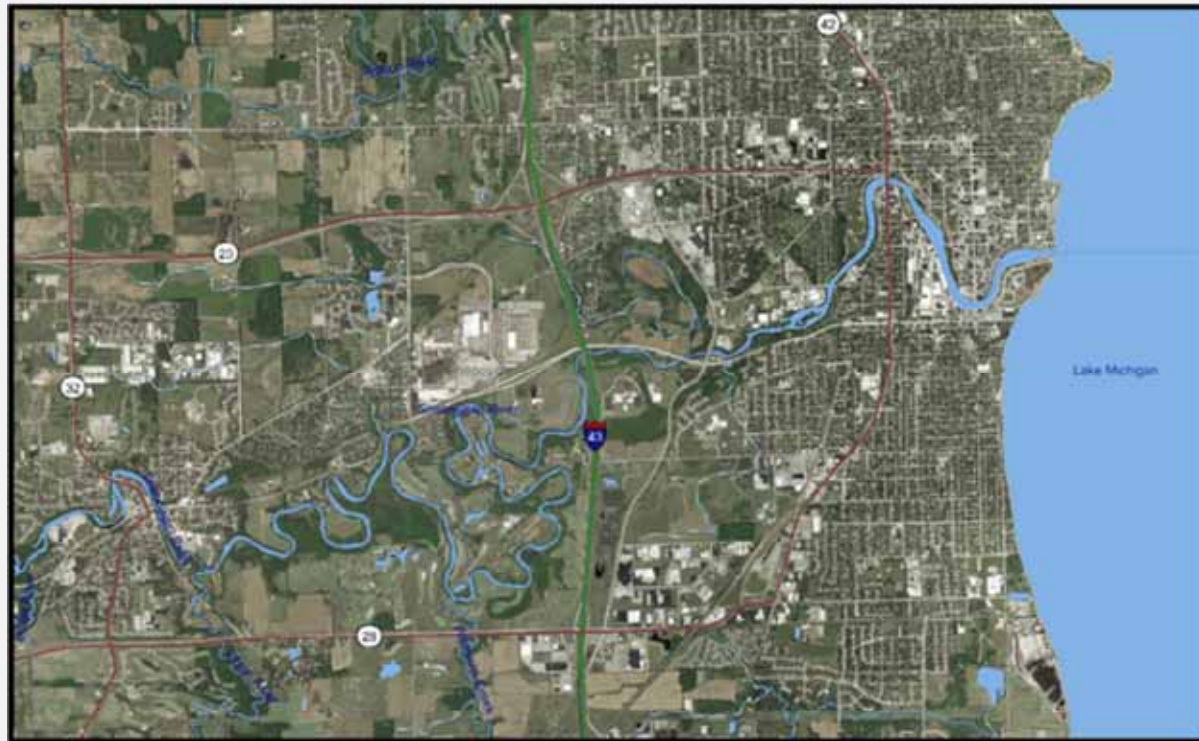
In a 1987, forty-three locations were identified as AOCs by Canada and the United States

“A geographic area where significant impairment of beneficial uses has occurred as a result of human activities at the local level”.



Sheboygan River AOC

- Identified by US-EPA as a priority AOC
- 9 out of 14 Beneficial Use Impairments (BUIs)
- Lower 14 miles of the Sheboygan River
 - Restrictions on fish and wildlife consumption
 - Degradation of fish and wildlife populations
 - Fish tumors or other deformities
 - Bird or animal deformities or reproductive problems
 - Degradation of benthos
 - Restrictions on dredging activities (**removed**)
 - Eutrophication or undesirable algae (**removed**)
 - Degradation of phytoplankton and zooplankton populations
 - Loss of fish and wildlife habitat



Restoring an AOC

Dredging



Habitat Restoration



Monitoring/
Assessment



Photos by Stacy Hronec, WDNR

You Need A Lot Of People!



Habitat Restoration

- Approximately \$5.7 million in funds from the Great Lakes Restoration Initiative (GLRI) were approved for habitat restoration in the Sheboygan AOC in 2012.
- Vetting to completion in under 2 years!
- Projects evaluated by Fish & Wildlife TAC
- 7 projects implemented by DNR and partners
 - 5 major project sites
 - 41 acres
 - 18,300 feet of shoreline.



In-stream Habitat Improvements

- 2 sites in the upper river (Sheboygan Falls and Kohler)
- Assessed benthic habitat of entire 14 mile stretch of river
- Added boulder habitat in river and woody debris along shorelines



Habitat Restoration

Goals of the Habitat Restoration

- Restore native plant communities
- Improve existing wetlands
- Provide shoreline naturalization
 - Invasive species removal
 - Bank stabilization
 - Habitat connectivity



Targeted Invasive Species Control

- 58 sites along the 14 mile long AOC Corridor
- Japanese Knotweed, Phragmites, Garlic Mustard, Buckthorn



The "Big Projects"



Esslingen Park
Taylor Drive Wetland Area
Roy Sebald Sheboygan River Natural Area



Esslingen Park



Esslingen Park



Esslingen Park



Taylor Drive Wetland Area



Taylor Drive Wetland Area



Taylor Drive Wetland Area



Roy Sebald Sheboygan River Natural Area



Roy Sebald Sheboygan River Natural Area



Roy Sebald Sheboygan River Natural Area



Wildwood Island Area Restoration



Wildwood Island Area Restoration



Wildwood Island Area Restoration



Wildwood Island Area Restoration



Photos by Deb Beyer, UWEX

Wildwood Island Area Restoration



Photo by Stacy Hron, WDNR



Wildwood Island Area Restoration



Kiwanis Park



Kiwanis Park



Kiwanis Park



Kiwanis Park



Photo by Stacy Hron, WDNR

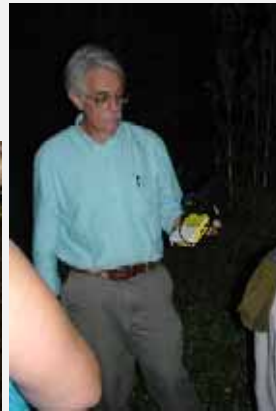
Kiwanis Park



Monitoring/Assessment

Pre/during

- Waterfowl Tissue (Advisory)
- Fish Tumors
- Fish Tissue (Advisory)
- Plankton & Benthos
- Tree Swallows
- Fish Community
- Macroinvertebrates
- Aquatic Habitat
- Herptiles
- Breeding Birds
- Bats
- Mussels
- Wintering Birds
- Fish-Eating Birds
- Small Mammals and Mink
- Natural Community/Rare Plant/Invasive Plant



Post

- Waterfowl Tissue (Advisory)
- Fish Tissue (Advisory)
- Plankton & Benthos
- Tree Swallows
- Mink
- Fish Community
- Macroinvertebrates
- Aquatic Habitat
- Passive Samplers
- Invasive Plant



Maintenance And Long Term

Citizens

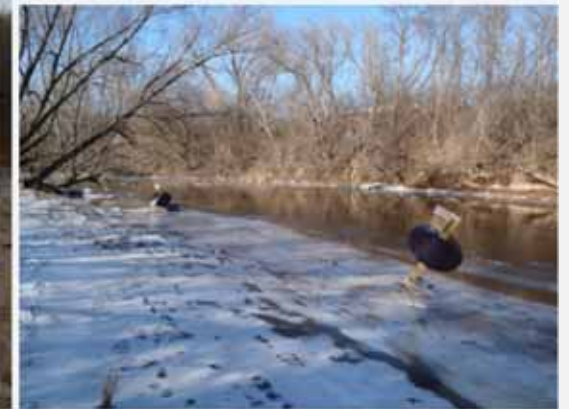
- Mussels
- Frogs and Toads
- Bats
- Birds and Nest Box Surveys
- Invasive Species

Maintenance Plan

- City of Sheboygan
- County of Sheboygan
- Camp Y-Koda
- Etc. Who ever else involved...



Problems Encountered - Ice Dams/Flooding



Problems Encountered



Any Questions??

Planted to establish **102 species of native plants:**

- **42,940 native trees, shrubs, wildflowers, grasses, and sedges**
- **180 pounds of native seed**

Contaminated sediment removed:

- **Approximately 15,000 dump-truck loads**
 - Equivalent to 400,000 cubic yards
- **2,600 pounds of PCBs were removed from the river**
 - The goal of the AOC is to bring the PCB levels down to **1ppm** to be in balance with Lake Michigan



2018 Great Lakes Areas Of Concern Conference

Wednesday May 16th and Thursday May 17th

Blue Harbor Hotel and Conference Center, Sheboygan, WI

The cost to attend the conference is \$80

Registration Deadline: Friday May 11, 2018

Optional Pre-Conference Tour of Sheboygan River AOC

Tuesday, May 15, 2:00 pm to 4:00 pm

See how the Sheboygan River was transformed through remediation and restoration investments under the Great Lakes Restoration Initiative. Registration for this event is limited to 100 people; transportation will be provided.

