

Biodiversity Conservation Strategy for the Canadian Side of the Detroit River

Restoring Fish and Wildlife in Michigan's Great Lakes AOCs

July 21, 2004

Matthew Child, Essex Region Conservation Authority



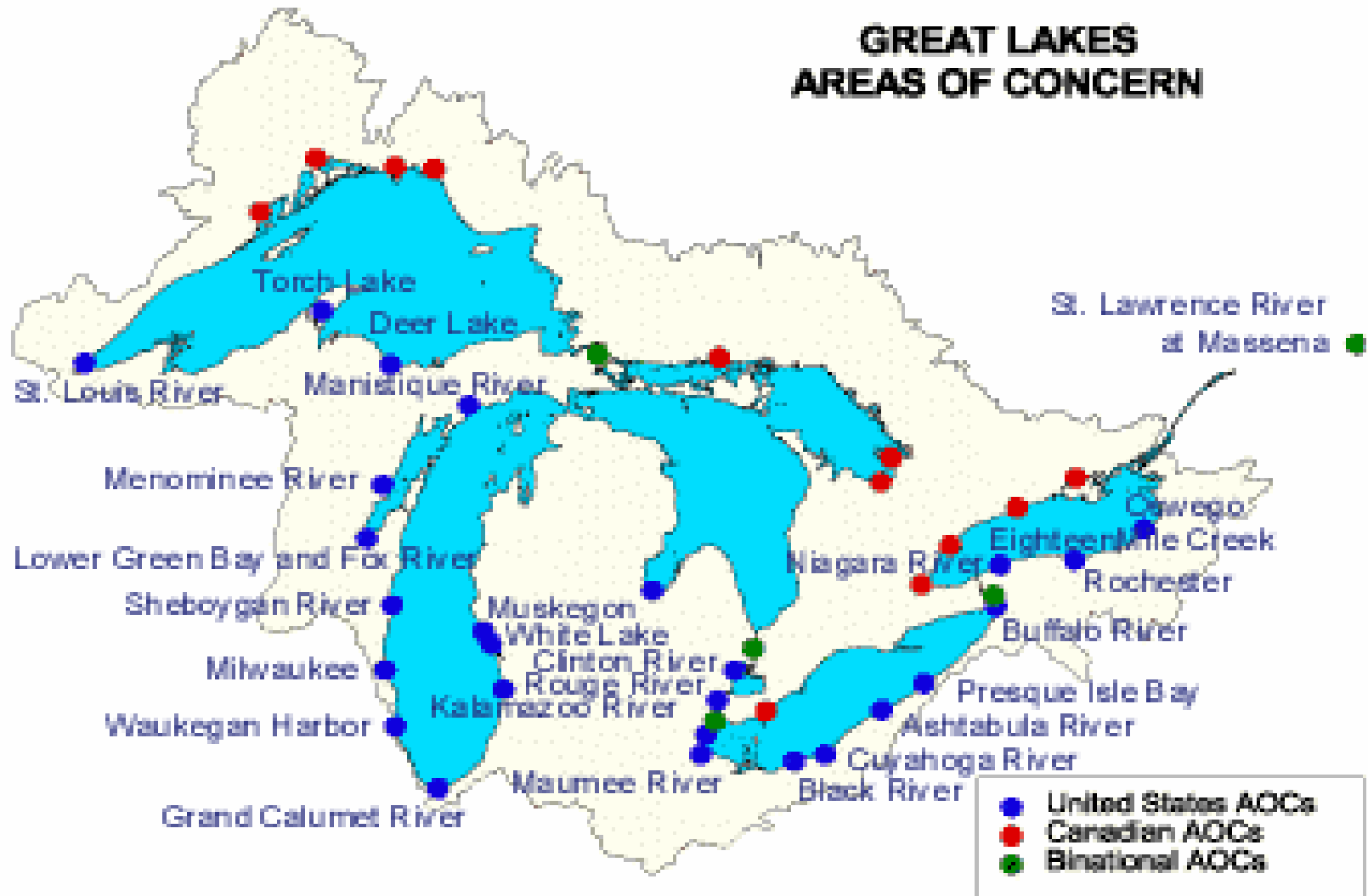
Overview of Presentation

- **Detroit River AOC**
- **Natural heritage issues and the Biodiversity Conservation Strategy**
- **Conclusions and Suggestions**

Detroit River AOC

- **Large and complex**
- **Binational AOC**
- **11 of 14 beneficial uses are impaired**
- **Some differences in the problems in the US and Canadian sides**

GREAT LAKES AREAS OF CONCERN





Detroit River AOC

Detroit River AOC - Canadian Side

- **Point source contaminants**
 - several parameters e.g., PCBs
 - Contaminated sediments a lesser problem than on the US side
- **Non-Point source contaminants**
 - primarily conventional pollutants
- **Natural areas cover**
 - 7.5% is amongst the lowest in Ontario

Detroit River AOC - Canadian Side

- **Natural areas protection**
 - maintain what we've got
 - acquisition and other legal instruments
 - planning documents
- **Natural areas restoration**
 - restore habitats on primarily private lands
 - Biodiversity Conservation Strategy provides the blueprint

Why Restore Habitat?

- **No other region in the province or country has:**
 - **the highest biodiversity**
 - **a greater number of significant (rare) species (240 Federally or Provincially rare species of plants or animals)**
- **Other environmental benefits e.g., water quality**
- **Economic benefits e.g., commercial and sport fishing, reduced purification costs, ecotourism**
- **Key quality of life indicator with implications for community pride, business investment, etc.**

Biodiversity Conservation Strategy

- **Recognition that 12% natural areas coverage is appropriate**
- **Broad support amongst many partners to develop a habitat restoration guidance document**
- **Work commenced in 1996**


Partners (Funding & Technical Committee)

- **Essex Region Conservation Authority**
 - **Environment Canada**
 - **Ducks Unlimited Canada**
 - **Point Pelee National Park**
 - **Human Resources Development Canada**
 - **Essex County Stewardship Network**
 - **Ontario Ministry of Natural Resources**
 - **University of Windsor**
 - **Essex County Field Naturalists Club**
- And many others
-

A Framework for Guiding Habitat Rehabilitation in Great Lakes Areas of Concern

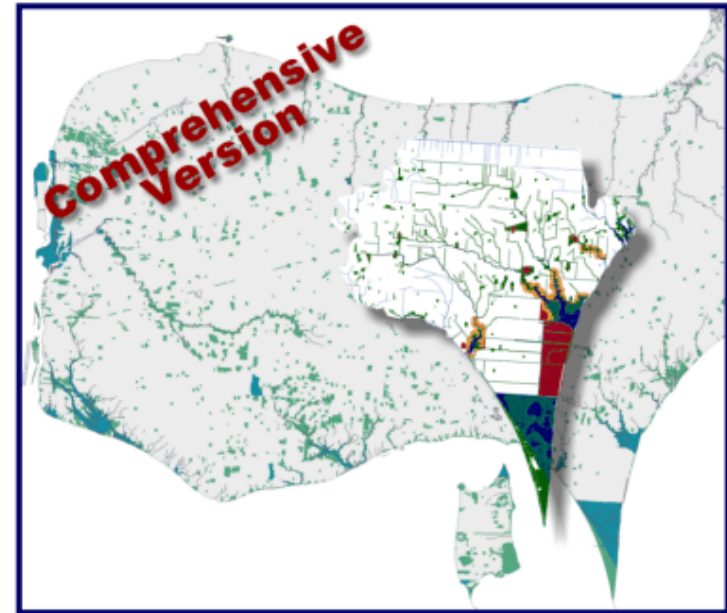


GAYLE HUTCHINGS '87

Canada  Ontario

Essex Region Biodiversity Conservation Strategy

Habitat Restoration and Enhancement Guidelines and Priorities



Purpose of BCS

- **To map the location and extent of existing natural vegetation e.g., forest, wetland and riparian**
- **Prioritize opportunities for habitat restoration and enhancement through the application of accepted ecological principles**
 - create and improve linkages between existing natural areas
 - create larger contiguous areas

Purpose of BCS (continued)

- **Overall objective is to increase the size, extent, and quality of key natural heritage features, including linkages, to improve ecosystem diversity and ecological functions**

BCS and Delisting

- **BCS addresses several BUIs, including loss of fish and wildlife habitat, and degradation of aesthetics, plus indirect benefits to other BUIs**
- **Because the BCS is based on restoring full ecosystem function to a variety of habitat types and their populations throughout the Detroit River sub-watersheds, successful implementation of the Strategy can be expected to lead to delisting.**

Geographic Information Systems (GIS)



- **1:10,000 OBM**
- **1:25,000 OMAF Drainage**
- **1:50,000 NTS**
- **Aerial Photography**
- **Data Correction**
- **Data Analysis**
- **Map Generation**

Guidelines - Forest Habitat

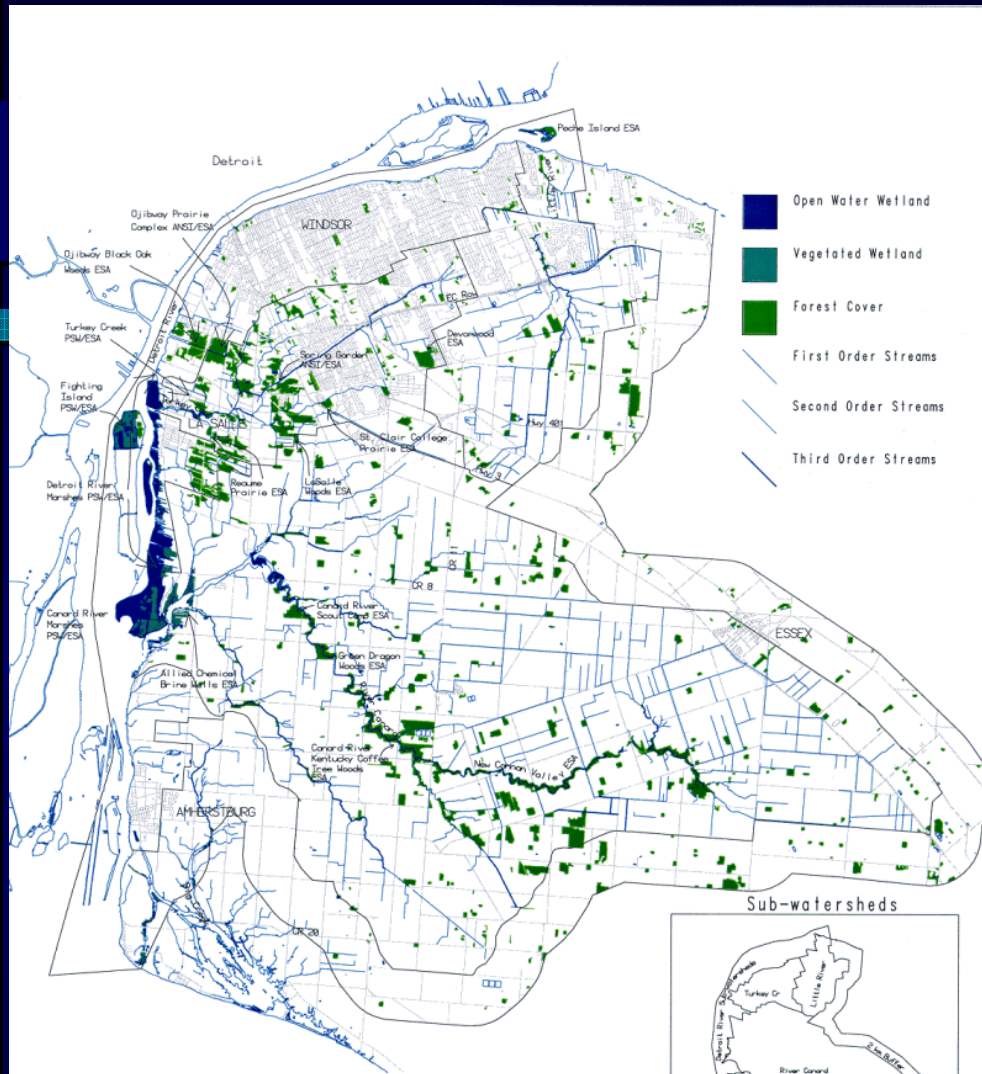
- **Percent forest cover: variable**
- **Size: At least one 200 ha (500 ac) forest patch**
- **Forest shape and proximity to other areas: circular or square in shape and in close proximity to adjacent patches (within 2 km or 1.2 mi)**
- **Incorporate corridors**
- **Assure forest quality through diversity**

Guidelines - Riparian Habitat

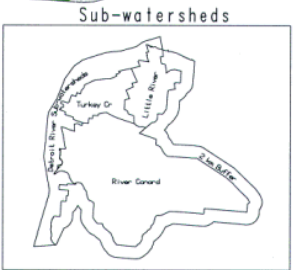
- **75% of stream length should be naturally vegetated - either woody or grassy**
- **30 m (100 ft.) buffer on both sides would be optimal**
- **Percent of urbanized watershed that is impervious: <10%**

Guidelines - Wetland Habitat

- **10% of any watershed**
- **240 m (780 ft.) of natural vegetation adjacent to wetlands would be optimal**
- **Headwater swamps and on-stream or floodplain marshes and swamps are the preferred locations**
- **Wetland shape should be regular for swamps (interior habitat) and irregular for marshes (edge)**



- Open Water Wetland
- Vegetated Wetland
- Forest Cover
- First Order Streams
- Second Order Streams
- Third Order Streams



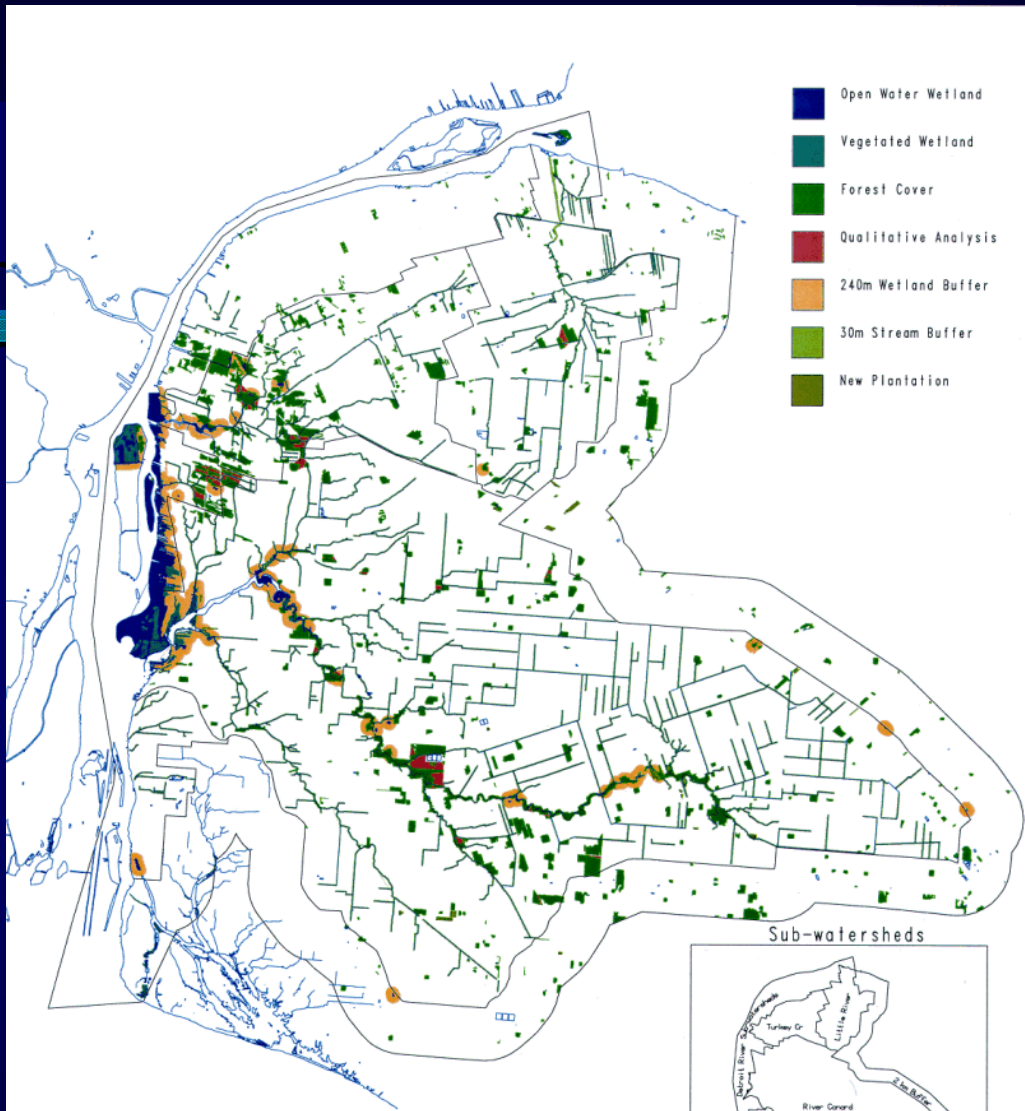
Greater Detroit River Study Area



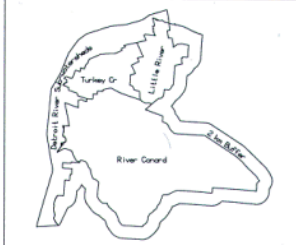
This map based on 1:10,000 digital DEMs. Used with permission of Ontario Ministry of Natural Resources.



Essex Region
Conservation
Authority
Geographic Information Systems



Sub-watersheds



Greater Detroit River Restoration Opportunities



This map based on 1:10,000 digital OBMs. Used with permission of Ontario Ministry of Natural Resources.





MCGREGOR RESTORATION PROJECT

Recommended habitat:

- | | |
|---|---|
|  Upland |  Swamp thicket |
|  Wetland |  Riparian |

Canard Valley Habitat Restoration Project



Canard Valley Habitat Restoration Project



Progress Since 2000

- **Completion of 15 projects:**
 - 357 acres upland/riparian
 - 16 acres wetland
- **Total AOC area is 146,000 acres**
- **0.3% of AOC has been restored**



Concluding Remarks

- **The BCS provides a helpful guidance document for habitat restoration in the AOC**
- **It is one part of a larger whole i.e., protection of existing habitats, agricultural BMPs, etc.**
- **It is worthless if there is no commitment to follow up**

Challenges & Suggestions

- **Ensure municipal buy-in, even ownership**
- **Provide the document to others**
- **Publicize your successes well**
- **Develop a binational scale restoration plan, or at least harmonize with ongoing efforts**
- **Integrate with other efforts (LaMP, CHRS/AHRS, etc.)**

Challenges & Suggestions (continued)

- **Incorporate fish habitat restoration opportunities into analysis**
- **Affect water quality improvements through restoration e.g., wetlands and NPS contaminants**
- **Still accept non-conforming opportunities**

- **Comments?**

- **Questions?**

