



**HURON-ERIE  
CORRIDOR  
INITIATIVE**

**HECI  
GLRI**

# Fish Habitat Enhancement Strategies for the Huron- Erie Corridor



# Coauthors

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# Huron-Erie Corridor Initiative Background

- Partnership established in 2005
- Purpose: *Provide relevant new science that will assist resource managers in making decisions concerning restoration of native aquatic species and their habitats in the HEC.*

# About the HEC

- Long history of degradation of fish & wildlife habitat in the HEC
- Historic importance of the area for fish & wildlife



## 1. Conceptualize

- Define initial team
- Define scope, vision, targets
- Identify critical threats
- Complete situation analysis

## 2. Plan Actions and Monitoring

- Develop goals, strategies, assumptions, and objectives
- Develop monitoring plan
- Develop operational plan

## 3. Implement Actions and Monitoring

- Develop work plan and timeline
- Develop and refine budget
- Implement plans

## 4. Analyze, Use, Adapt

- Prepare data for analysis
- Analyze results
- Adapt strategic plan

## 5. Capture and Share Learning

- Document learning
- Share learning
- Create learning environment

# Conservation Measures Partnership Open Standards

# Ecosystem Integrity

**Restore Fisheries  
Productivity**

**Remediation of BUIs**

**Fisheries Management**

**Watershed Health**

# HEC Initiative

# Conceptual Theme Areas

- **Native species restoration**
- **Exotic species control**
- **Watershed processes**
- **Conservation Biology and Genetics**
  - **RT&E, stock concept**
- **Predictive modeling**
- **Beach health**
- **Long-term standardized monitoring**
- **Fish community goals and objectives**
- **Importance for adjoining GLs**
- **Communication and outreach**

# Collaborative Goals

- **To create diverse aquatic habitats and restore native species**
- **To develop and implement habitat restoration strategies**
- **To identify and define dominant ecological drivers that create complex and diverse habitats**
- **To define physical attributes for diverse aquatic habitats and characterize use by native species**



# Key Uncertainties

- **Current quality and quantity of fish reproductive habitat in the HEC?**
- **Knowledge of which fish are using the HEC for reproduction, and other components of their life history?**
- **How is fish use of the HEC linked to fisheries population dynamics in adjoining Great Lakes?**
- **Which ecological drivers are dominant forces that create diverse and complex habitats?**

# Principle Hypotheses

- **Production potential of native fish species in Lakes Huron and Erie is limited by the quantity/quality of spawning and nursery habitats in the HEC.**
- **A diversity of spawning and nursery habitats is necessary for the maintenance of fish stock diversity and for promotion of population and community resiliency.**
- **Restoration of spawning and nursery habitats is a viable management option for increasing ecosystem integrity and fish population sustainability, conserving the genetic diversity of native fish species, and for rehabilitating rare, threatened, or endangered species.**

# Science Objectives

- Identify and define dominant ecological drivers that create complex and diverse habitats
- Define physical attributes for diverse aquatic habitats and characterize use by native species.
- Compare current and historical patterns (1850s) in connectivity between spawning and nursery habitats.
- Compare the quality of fringe versus downstream delta habitats for juvenile fish.
- Evaluate fish use of natural and constructed spawning habitats.

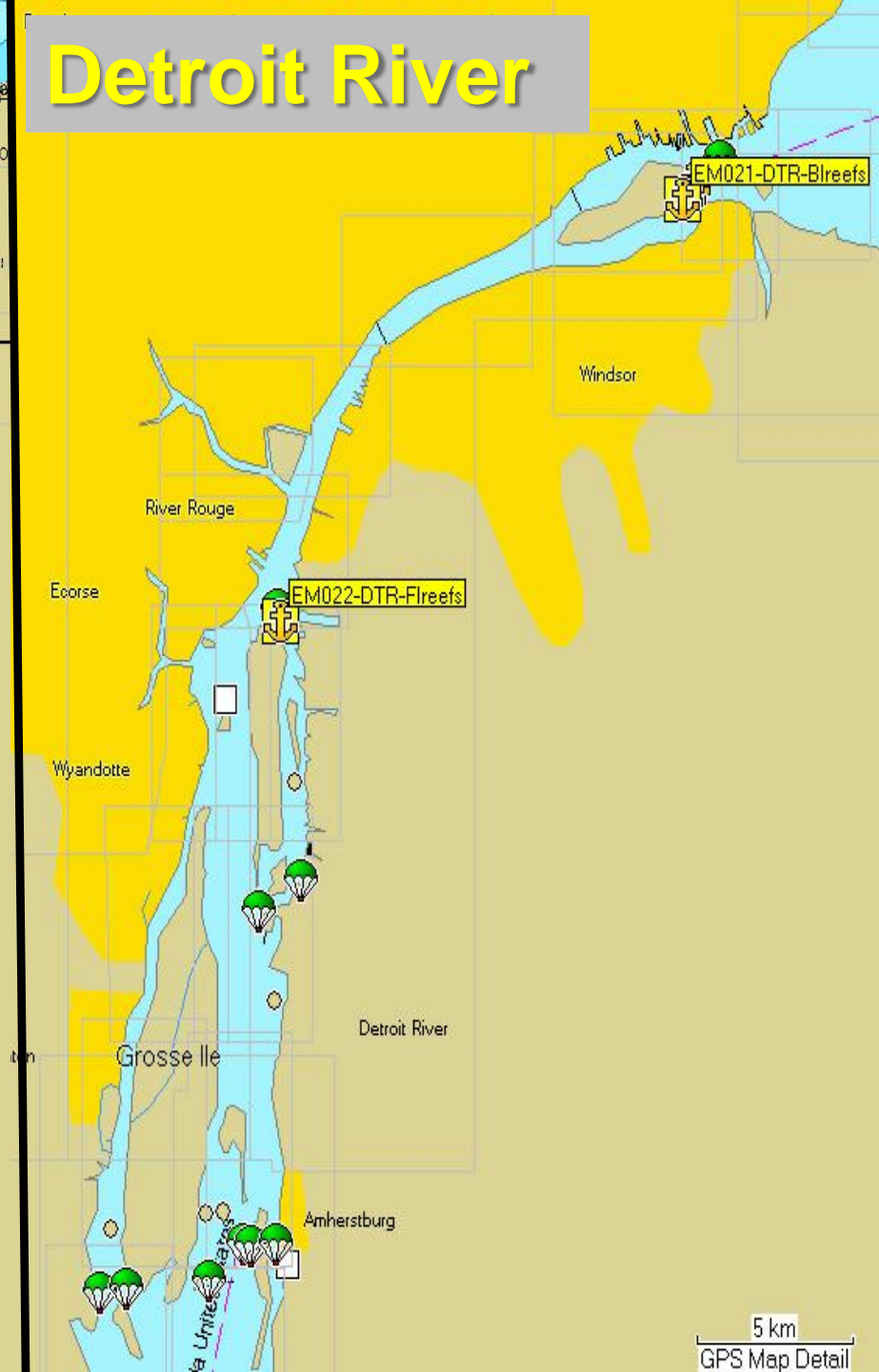
# Approach

- **Intensive field collections**
  - Fish spawning and nursery habitat
  - Throughout the corridor
  - Multidisciplinary and interjurisdictional
- **Pre construction assessment**
  - Middle channel St. Clair River spawning area
- **Post construction monitoring**
  - Fighting Island and Belle Isle reefs
- **Physical and predictive modeling**
  - Hydrology, fish production and distribution

# St. Clair River



# Detroit River





# More Information

<http://huron-erie.org/>



<http://www.epa.gov/greatlakes/glri/>



<http://www.glsc.usgs.gov/>

**HEC session at IAGLR 2011 - Duluth**