

HABITAT TASK GROUP EXECUTIVE SUMMARY REPORT MARCH 2008



Introduction

This year's Lake Erie Committee (LEC) Habitat Task Group (HTG) has produced an Executive Summary Report which encapsulates information from the HTG annual report. The complete report is available from the GLFC's Lake Erie Committee Habitat Task Group website at <http://www.glfc.org/lakecom/lec/HTG.htm>, or upon request from an LEC, Standing Technical Committee (STC), or HTG representative.

Five charges were addressed by the HTG during 2007-2008: (1) Document habitat related projects in the lake Erie Basin; (2) Develop a strategy and support for Lake Erie GIS development and deployment.; (3) Assist the Coldwater Task Group in determining additional lake trout spawning habitat in Lake Erie; (4) Develop a compilation of fish habitat metrics and (5) Develop strategic research direction for Environmental Objectives

Habitat Project Documentation

In 2007, the HTG continued to document and track habitat related initiatives taking place throughout the Lake Erie and Lake St. Clair basins. This compiled information includes contact information for project leads and links or references to completed project documents. New in 2007 is the addition of a field which captures, where applicable, types of environmental data collected by each project. For current projects this includes: water temperature, pH, and dissolved oxygen (bottom, surface/profiles), water clarity (secchi), depth (high resolution data), sediment (sidescan/Ponar grabs), water velocity, river flow regimes, nutrients, vegetative coverage and light penetration. Projects highlighted in the 2007-08 annual report include:

- Bi-national Mapping Project
- Huron-Erie Corridor System: Changing Water Levels and Effects of Global Climate Change.
- Huron-Erie Corridor: Habitat Research-Grand River Ecosystem: Assessment, Monitoring and Rehabilitation.
- Maumee Bay Habitat Mapping Project
- Ballville Dam Removal, Sandusky River Habitat Assessment
- Habitat Assessment of Long Point Bay

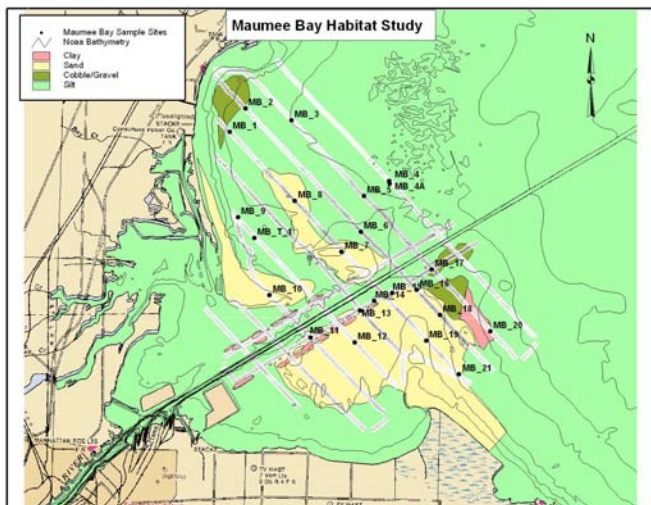


Fig. 1 Maumee Bay Habitat Mapping (ODNR/Habitat Solutions)

This compiled information is available in two formats: as an interactive “clickable map” which allows for spatial sorting of projects (by watershed or lake basin) and as a searchable table (Excel format). Both of these are available on the HTG website at: http://www.glfc.org/lakecom/lec/spatial_inventory/inventory_index.htm

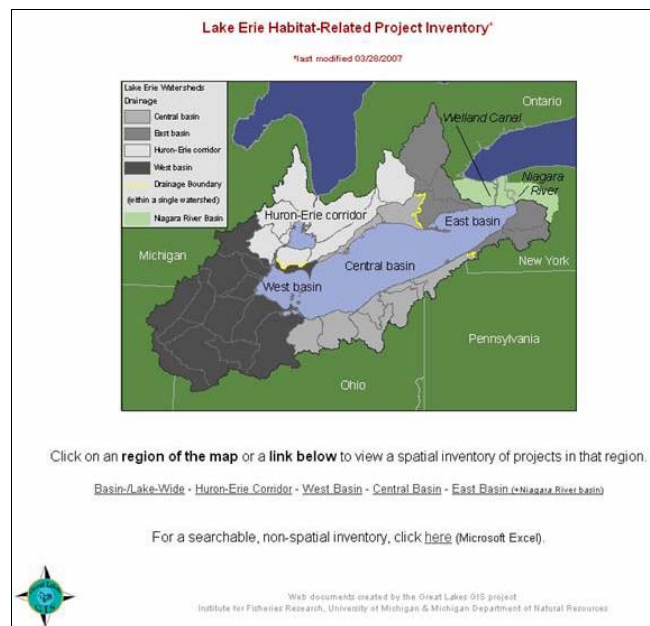


Fig 2. Main web-page of Habitat Project Spatial Inventory

Lake Erie GIS Status

Development of the Great Lakes GIS, including the Lake Erie GIS, has been funded by the Michigan Department of Natural Resources, the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, and the Great Lakes Fishery Commission. In 2007, the development team (IFR-MDNR) worked to disseminate the database and familiarize people with the package. Four workshops (2 U.S and 2 Canadian locations) were held in August and were attended by 52 participants from provincial, state and federal agencies. Currently this tool is being used on individual projects funded through MDNR

(acquiring and mapping data on habitat and habitat suitability of non-game species within Michigan waters of the Great Lakes) and MDEQ (visualizing the impacts of lakebed alteration on fish habitat in Michigan waters of the Great Lakes). Information about the GLGIS can be found at:

<http://www.glf.org/glgis>

Identifying Potential Lake Trout Spawning Habitat

As part of its commitment to work with the cold water task group, the HTG continues to explore methods of identifying potential lake trout habitat within Lake Erie.

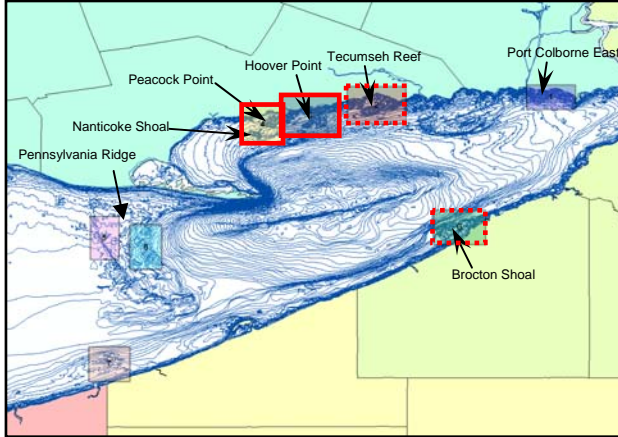


Figure 3. Potential eastern Lake Erie lake trout spawning habitat as identified by GIS analysis of slope, substrate and bathymetric heterogeneity. Red boxes highlight areas where complete coverage (solid) or reconnaissance (dashed) Sidescan sonar and underwater video surveys were conducted in 2007.

Further to the GIS modeling and field testing conducted in 2005 and 2006, Sidescan sonar and underwater video were used to collect substrate and bottom-type information in 2007. In addition to reconnaissance work on historic spawning areas in New York (Brocton Shoal), a thorough coverage of GIS-identified shoals along the Ontario shoreline of the eastern basin was achieved. Greater than 300 line-kilometers of Sidescan information was collected in shoal and nearshore areas (primarily associated with Nanticoke shoal and Peacock and Hoover Points). Preliminary results suggest that: Suitably sized cobble substrate exists both at Brocton Shoal and along the north shore of the eastern basin of the lake. Mapping and quantifying of these habitats continues. Questions as to the suitability of this habitat for lake trout spawning arise from video observations of habitat alterations induced by invasive species (dreissenid mussels, round gobies) and high algal productivity (*Cladophora sp.*).

Compilation of fish habitat metrics

In 2007, the HTG began developing a strategy to identify and compile habitat metrics that might serve as a resource for species-specific task groups (e.g. yellow perch, walleye). This will assist the STC in its

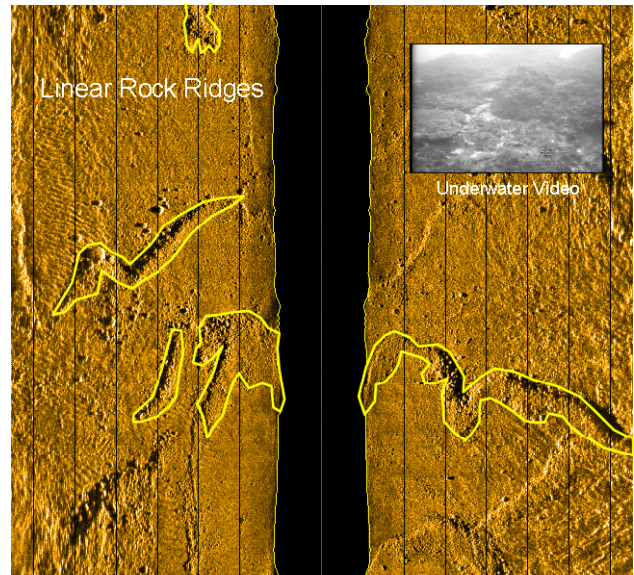


Figure 4. Sidescan sonar image from Brocton Shoal (NY). Complementary video image inset to show dreissenid coverage. Orientation of linear rock ridges outlined in yellow.

efforts to integrate variables external to the stock/recruitment models (e.g. environmental variables) into fisheries management decisions. While some desired datasets do not exist (e.g. high resolution substrate data) others are simply not readily available. As a starting point, we have begun document environmental parameters being collected during current and recently completed projects within the basin.

We are encouraged by, and wish to promote a data compilation project (*Lake Erie Limnological Synthesis*; T. Johnson et al.) which brings together historic and current temperature, oxygen and water clarity measures collected in Lake Erie.

Strategic research direction for Lake Erie's Environmental Objectives (EOs)

The HTG continues to promote the EOs which were developed to further Lake Erie's Fish Community Goals and Objectives. Prior to advocating actions across the broad scales described in the EOs, we are emphasizing research projects that answer questions across multiple scales; especially regarding fine-scale fish/habitat interactions. The EO document can be found at:

<http://www.glf.org/lakecom/lec/lehome.php>

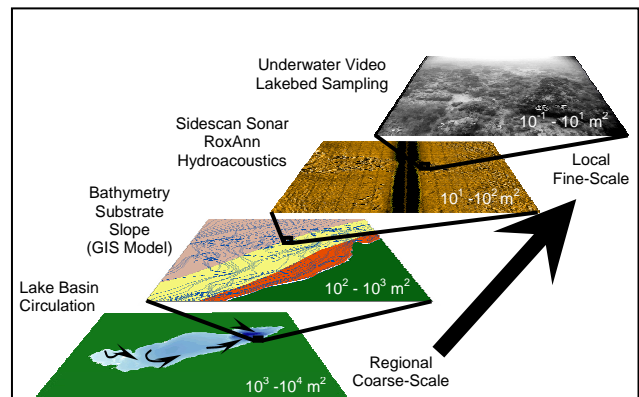


Fig. 5 Example of Multiscale habitat assessment