

HABITAT TASK GROUP EXECUTIVE SUMMARY REPORT



Introduction

The following provides a brief encapsulation of information presented by the LEC Habitat Task Group (HTG). The complete report is available from the GLFC's Lake Erie Committee Habitat Task Group website at <http://www.glf.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; assist the Walleye Task Group with identifying metrics relating to walleye habitat for the purpose of re-examining the extent of suitable adult walleye habitat in Lake Erie and (5) Develop strategic research direction for Environmental Objectives.

Habitat Project Documentation

In 2008, the HTG continued to document and track habitat related initiatives taking place throughout the Lake Erie and Lake St. Clair basins. This compiled information is available as an interactive "clickable map" which allows for spatial sorting of projects (by watershed or lake basin) and as a searchable table (Excel format). This information is updated annually in April and is available at:

http://www.glf.org/lakecom/lec/spatial_inventory/inventory_index.htm

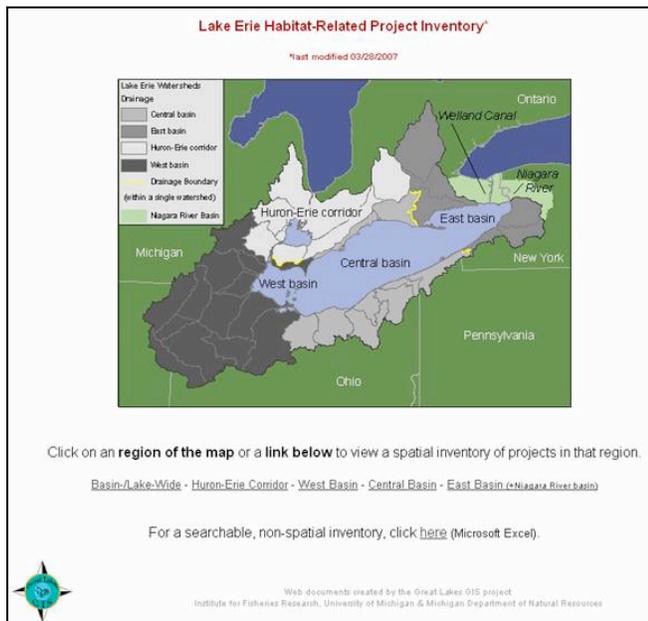


Fig 1. Main web-page of Habitat Project Spatial Inventory

Some of the ongoing projects are given more detailed attention within the complete annual report. These projects include:

- *Ballville Dam Removal Project*
- *Sandusky River Habitat Assessment*
- *Middle Harbor Habitat Restoration*
- *Nearshore Fish Community Assessment*
- *Huron-Erie Corridor: Habitat Research*
- *Grand River Ecosystem Habitat Rehabilitation*
- *Habitat Assessment of Long Point Bay*

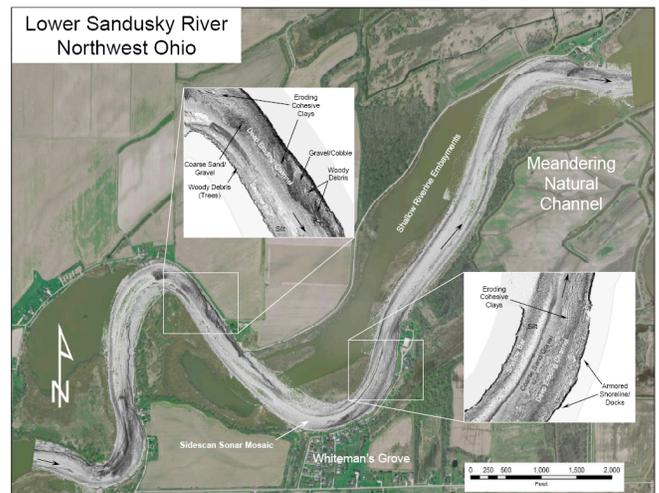


Figure 2. Example sidescan sonar data acquired from the lower Sandusky River, Northwest Ohio. These data were used to characterize and map river bottom substrate and habitat structure in the lower Sandusky River Assessment.

Lake Erie GIS Update

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. The project is currently being partially supported by grants from the Michigan's Department of Natural Resources (MDNR) and Department of Environmental Quality (MDEQ). For MDNR, project objectives include acquiring and mapping data on habitat and habitat suitability of non-game species within Michigan's waters of the Great Lakes. For MDEQ, the project objective is to develop a decision support project to aid in visualizing the impacts of lakebed alteration on fish habitat in Michigan waters of the Great Lakes. We are actively seeking funding for long-term management of the Great Lakes GIS project that will support data updates, education, and Internet distribution.

The HTG encourages all interested individuals and groups to visit the GLGIS website (<http://www.glf.org/glgis>) and consider how you might be able to use or contribute to this exercise.

Identifying Potential Lake Trout Spawning Habitat

As part of its commitment to work with the cold water task group, the HTG continues to make progress toward identifying potential lake trout habitat within Lake Erie. In 2008, this included additional sidescan sonar surveys at previously identified target shoals. Funding for this work was provided by the Canada Ontario Agreement. To date, more than 741 line km (400 nautical line miles) of sidescan sonar data have been acquired and more than 7600 ha of lakebed has been ensonified, mapped, and interpreted along the Canadian north shore in the eastern basin of Lake Erie.

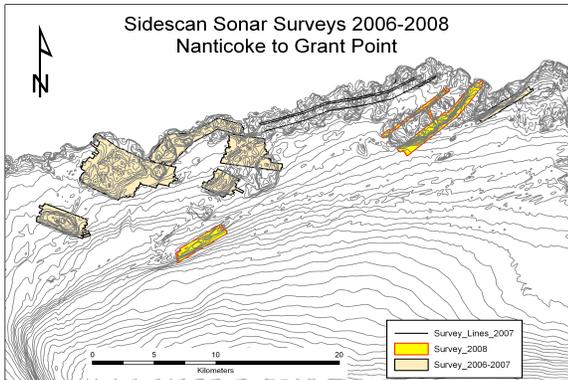


Figure 3. 2006-2008 sidescan sonar data acquisition areas and priority data acquisition areas for spring 2009. Poor weather severely limited sidescan sonar field data collection in 2008.

Ongoing interpretation and mapping work clearly demonstrates the inadequacy of current substrate maps and bathymetric data. This interpretive exercise continues to inform the development of habitat classification within L. Erie. Two separate geodatabases have been created from the sidescan sonar data: 1) traditional substrate maps that classify bottom texture and composition (e.g. bedrock, boulder, cobble, gravel, sand, silt, clay, and cohesive clay), and 2) habitat structure that includes bedrock scarps, ledges, scarp debris, rock piles or linear ridges, woody debris.

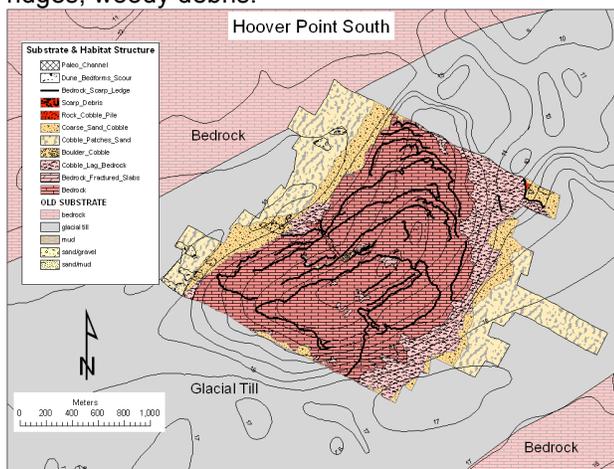


Figure 4 Comparison of existing substrate mapping (old substrate) with new substrate and habitat structure mapping.

The habitat information collected in 2007 was put to practical use in 2008. Identification of potential spawning substrate was used both to direct surveys for evidence of spawning within New York waters (fall gillnetting and egg trap deployment) and to expand the coverage of lake trout stocking to north shore, Ontario waters (Nanticoke Shoal).

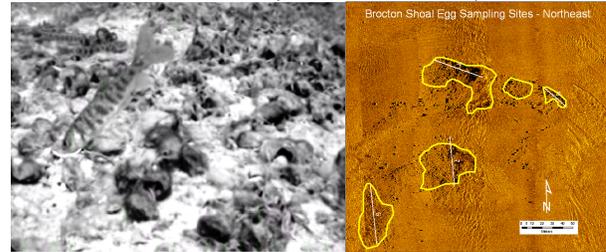


Figure 5. A yearling lake trout orienting on substrate identified by sonar interpretation (left) and a sidescan image showing locations on Brocton Shoal, NY, identified for lake trout egg trap deployment (right).

Concerns continue to be raised regarding the alterations to substrate inflicted by exotics (dreissenid mussels, round gobies) and increased nearshore algal productivity (*Cladophora sp.*).

Compilation of fish habitat metrics

In 2008, the charge to the HTG regarding the development of fish habitat metrics was modified to focus efforts on defining adult habitat within the lake. A modified definition and quantification could be used to re-consider the current walleye harvest sharing formula. This will be approached in two basic stages: i) development of a temperature and light driven model utilizing available long term data sets and ii) validation of the defined habitat quantities using fisheries data. To date, a preliminary examination of available data has taken place. The most promising data source seems to be the Lake Erie Limnological Synthesis (LELS) database and work is underway to investigate the coverage and utility of the data found within it.

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

Recent discussions have led to the conclusion that any strategic direction developed needs to address fish habitat in a much more specific way than the general statements of objectives as laid out in the EO document. In the upcoming year, a survey of the other, species specific task groups (originally planned for 2008) will ensure that we address common research interests across the groups. It has been decided that the development of a "white paper" on desired research direction and priorities (including locations and data gaps) should be developed as a concrete product that can be distributed for use by not only by the LEC but by universities, agencies, and NGOs seeking to develop habitat-related programs pertaining to fisheries management.

The EO document can be found at:

<http://www.glfco.org/lakecom/lec/lechome.php>