



Great Lakes Coastal Wetlands Consortium

Dedicated to the design and implementation of a regional monitoring program to track and assess Great Lakes coastal wetlands health to support management decisions.



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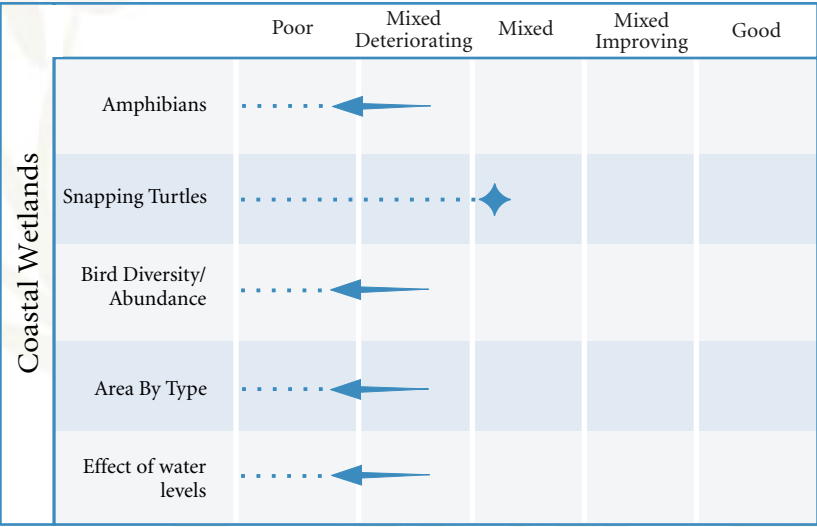
Problems

Environmental and regulatory agencies, as well as the research community, have found it difficult to make objective assessments of Great Lakes coastal wetland health on a basinwide scale. Problems include:

- Monitoring data is available for only five of the 13 indicators assessing coastal wetland health (State of the Lakes Ecosystem Conference, i.e., SOLEC, 1998)
- Deteriorating conditions in Great Lakes coastal wetlands are suggested by the available data
- No long-term strategy is in place to assess the health of Great Lakes coastal wetlands, monitor environmental impacts of development and other activities, and determine the cumulative net gain/loss of coastal wetlands over the short- or long-term

History

- Launched in December 2000 with a cooperative agreement between the U.S. Environmental Protection Agency – Great Lakes National Program Office (GLNPO) and the Great Lakes Commission with numerous partner agencies
- More than 40 participating organizations representing U.S. and Canadian federal and state provincial agencies, academic institutions, and non-governmental entities
- Began by testing scientific methods and indicators of coastal wetland integrity (Phase I), is currently developing a classified inventory of Great Lakes coastal wetlands and a data collection system (Phase II), and will conclude by planning and implementing a Great Lakes coastal wetlands monitoring program (Phase III)



SOLEC 2002 Coastal Wetland Indicators show an overall deterioration in the status of coastal wetlands

Purpose

The Consortium is designing standard protocols and delineating benchmarks for the implementation of a binational/basinwide monitoring program capable of tracking and assessing the existing status and projected integrity of Great Lakes coastal wetlands. The program will serve as decision support for programs and policies affecting the conservation and management of Great Lakes coastal wetlands.

Challenges Ahead

- Obtain and sustain state/provincial participation
- Establish and maintain dedicated sustainable program funding
- Coordinate and integrate data and decision support information

Timeline

Phase I

- Evaluate scientific indicators for wetlands monitoring, including biological, physical, chemical, and landscape measures. These indicators include the following:

<i>Invertebrate community health</i>	<i>Sediment flow and availability</i>
<i>Fish community health</i>	<i>Phosphorus and nitrogen levels</i>
<i>Amphibian community health</i>	<i>Area extent by type</i>
<i>Bird community health</i>	<i>Restored area by type</i>
<i>Plant community health</i>	<i>Habitat adjacent to wetlands</i>
<i>Contaminant accumulation</i>	<i>Land use adjacent to wetlands</i>
<i>Water levels</i>	<i>Human impact measures</i>

- Determine the applicability of the indicators for a Great Lakes coastal wetlands monitoring program. Each indicator is evaluated against seven criteria:

<i>Cost</i>
<i>Measurability</i>
<i>Data availability</i>
<i>Sensitivity to wetland condition changes</i>
<i>Basin-wide applicability</i>
<i>Ability to set endpoint or attainment levels</i>
<i>Statistical approach</i>

(The Consortium awarded \$300,000 in small grants to six research teams for pilot studies at more than 30 wetland sites across the Great Lakes basin to test the indicators.)

Phase II

- Develop a comprehensive Great Lakes Coastal Wetlands Inventory, using existing data
- Develop a geomorphically-based classification system for the inventory, incorporating a standard classification process
- Evaluate and verify methods for collecting basinwide information in order to address landscape-level and wetland contamination indicators
- Assess results of Phase I pilot studies, including gap analysis and indicator development work plan
- Develop an overall monitoring plan, including specifications for site selection, data collection, storage, analysis, and reporting

Phase III

- Develop a monitoring database
- Develop an implementation plan
- Coordinate implementation with Consortium member organizations

Benefits to Partners

- A classified, continuously updated Great Lakes coastal wetlands inventory and central database for Great Lakes coastal wetlands data
- Standardized indicators and methodologies across the basin
- Communication portal between regulatory management organizations and scientific experts
- Periodic analytical reports on binational Great Lakes coastal wetlands status and trends
- Basinwide coordination of monitoring events
- Binational structure and staffing to encourage funding for regional priorities such as regularly collected remote sensing data for the Great Lakes coastline
- Potential funding source for pivotal restoration projects

Needs From Partners

- Participation in program development, including methodology standardization, site selection, implementation, analysis, and reporting elements
- Baseline data and information about wetland sites
- Staff support for program implementation



Participating Organizations

Bird Studies Canada
Canada Centre for Remote Sensing
Canadian Wildlife Service
Cornell University
Department of Fisheries and Oceans
Ducks Unlimited
Environment Canada
Grand Valley State University – Annis Water Resources Institute
Great Lakes Commission
Great Lakes Indian Fish & Wildlife Commission
Great Lakes Protection Fund
Great Lakes Research Consortium
Great Lakes United
Heidelberg College
Illinois Department of Natural Resources
Indiana Department of Environmental Management
International Joint Commission
Kent State University
McMaster University
Michigan Department of Environmental Quality
Michigan Natural Features Inventory
Michigan State University
Minnesota Department of Natural Resources
National Water Research Institute (Canada)
Natural Heritage Information Centre
New York Department of Environmental Conservation
NOAA – GLERL
Northland College
Ohio Department of Natural Resources
Ohio Environmental Protection Agency
Ohio State University – Midwest Biodiversity Institute
Ontario Ministry of Natural Resources
Pennsylvania Department of Environmental Protection
The Nature Conservancy
Tip of the Mitt Watershed Council
University of Minnesota – Natural Resources Research Institute
University of Wisconsin-Green Bay
U.S. Army Corps of Engineers
U.S. Environmental Protection Agency – Great Lakes National Program Office
U.S. Environmental Protection Agency – National Exposure Research Laboratory – Las Vegas (Office of Research & Development)
U.S. Environmental Protection Agency – Mid-Continent Ecology Division (Office of Research & Development)

U.S. Environmental Protection Agency – Region 5
U.S. Fish and Wildlife Service
U.S. Geological Survey
U.S. Geological Survey – Great Lakes Science Center
Veridian Systems Division, Inc.
Wisconsin Department of Administration – Coastal Management Program
Wisconsin Department of Natural Resources

Contact Information

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www.glc.org/wetlands

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