Collaboration for Conservation of Great Lakes Coastal Wetlands – Saginaw Bay to Western Lake Erie

LANDSCAPE CONSERVATION COOPERATIVES

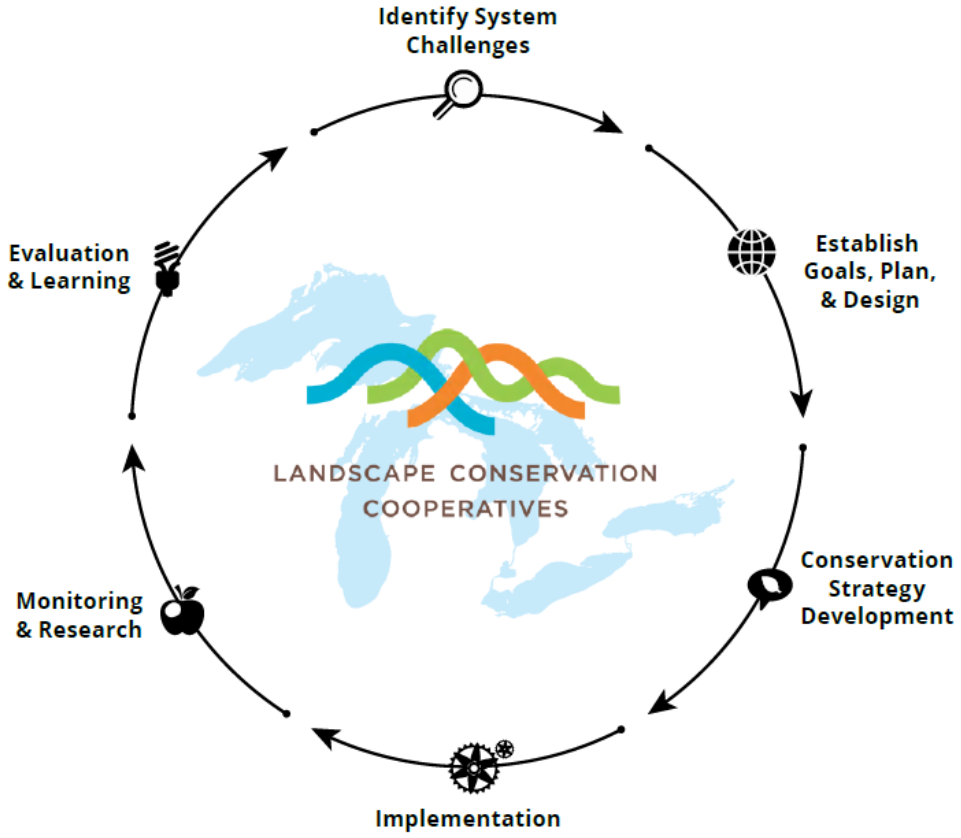
10/25/2016

GreatLakesLCC.org

Coastal Wetland Conservation

- Some high-quality coastal wetlands remain, but it is estimated that two thirds of the original coastal wetlands in the Great Lakes have been converted for another land-use benefiting humans like productive farming, residential development, and industry. Unfortunately, much of this conversion occurred before we understood the multiple values coastal wetlands provide.

The approach and activities – coastal wetlands



- Landscape Conservation Design; landscape assessment and decision support tool development
- Leveraging region-wide monitoring program
- Taking action – guiding implementation investments
- Information management platform

Landscape conservation design

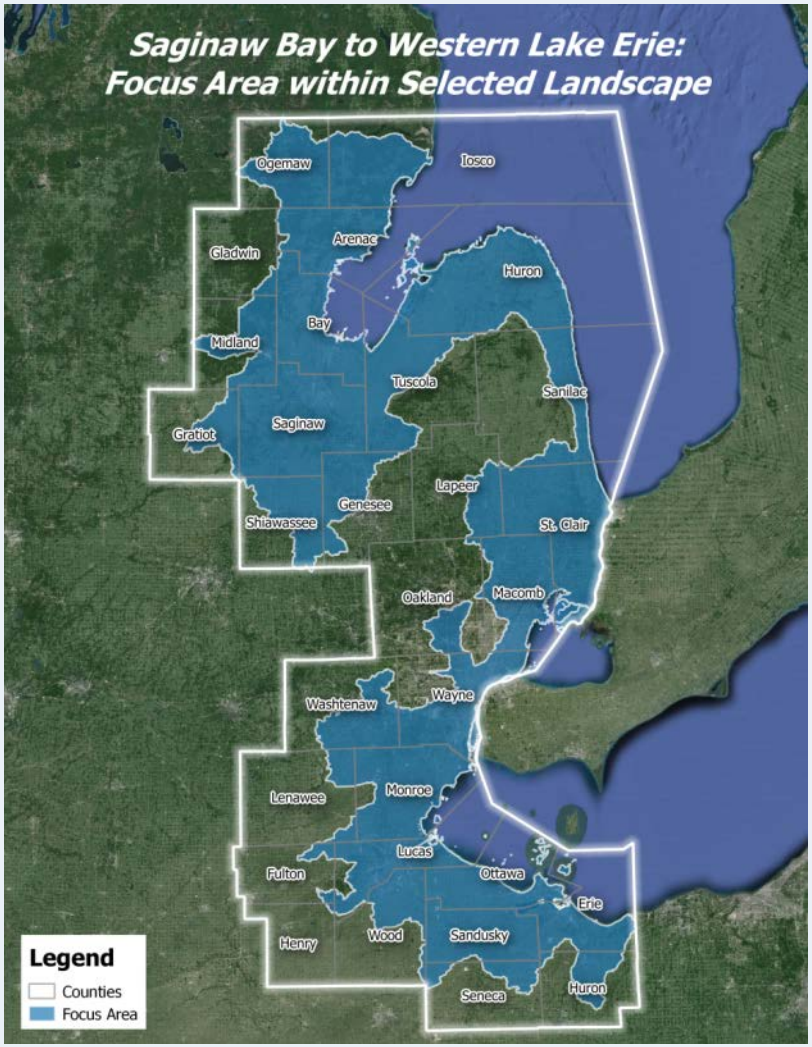
- Effort is guided by the LCCs Coastal Conservation Work Group (~15 members)
- Engages a broad conservation community from conservation organizations to local community leaders

Landscape Conservation Design (LCD) is an ***iterative***, ***collaborative***, and ***holistic process*** that provides information, analytical tools, spatially explicit data, and best management practices to develop shared conservation strategies and to achieve conservation goals among partners.

Some questions being addressed

- What purposes does coastal wetland conservation target (ecological & human well-being)? What are our goals?
- How many restored and protected coastal wetland acres are enough?
- Which coastal wetlands and system characteristics will maintain these benefits under a changing climate and landscape?
- How much will it cost to restore, protect, and enhance these wetlands?

Our focus area for LCD

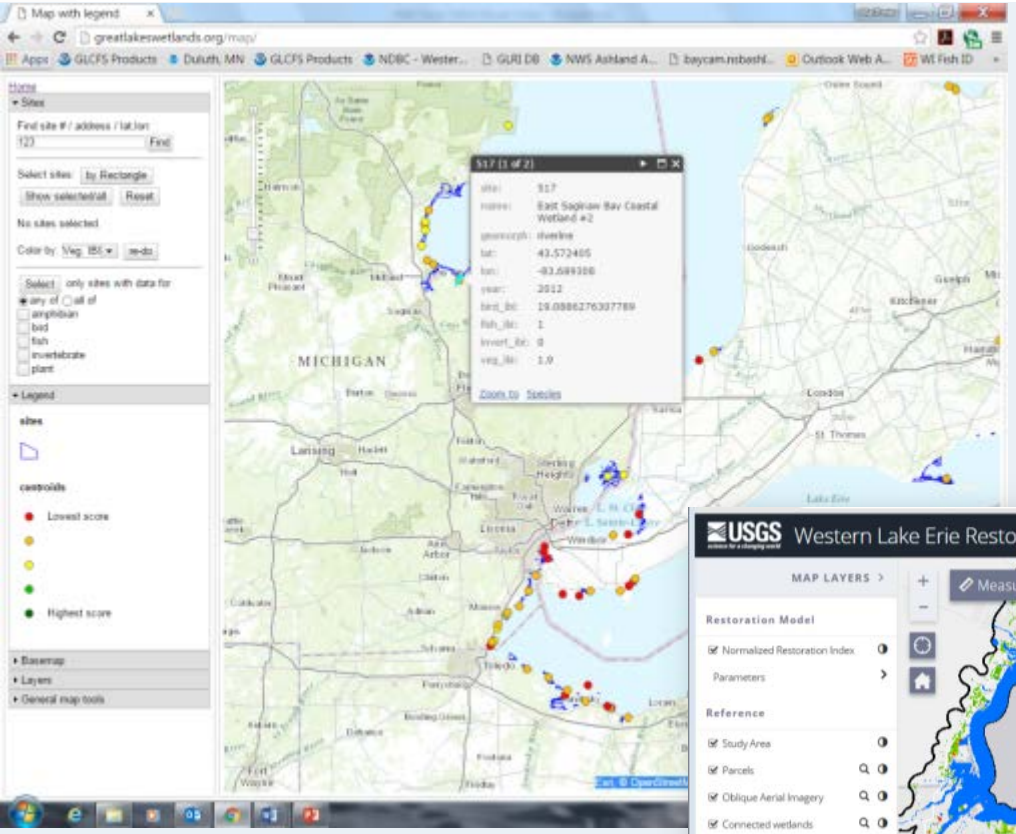


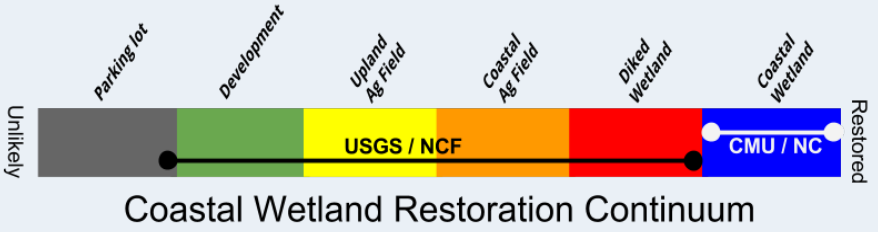
High number and diversity of wetlands

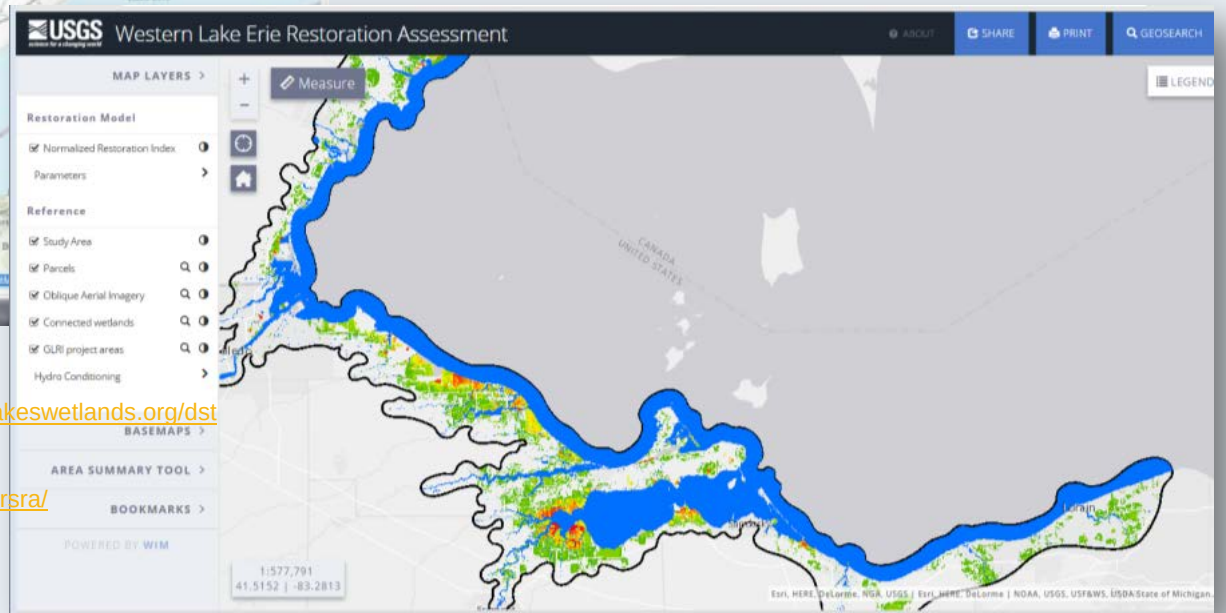
MANY organizations actively working in coastal wetlands

Amazing capacity to collectively attain goals and objectives

Decision support tools







Existing Coastal Wetlands Prioritization Tool: www.greatlakeswetlands.org/dst
Potentially Restorable Wetlands Tools:
- Western Lake Erie http://glcwra.wim.usgs.gov/wlera/
- Connecting River Systems http://glcwra.wim.usgs.gov/crsra/
- Saginaw Bay http://glcwra.wim.usgs.gov/sbra/

Guiding implementation

- Received funding from the Great Lakes Restoration Initiative to implement coastal wetland actions in FY17/18

- A multi-agency team reviewing projects – guided by LCD process and DST

Information management

Secure | https://greatlakesinform.org/issue/coastal-wetlands

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Coastal Wetlands

Coastal nearshore zones are "hot zones" where land, water, and people meet. They are key economic drivers that provide disproportionate ecosystem services supporting most human populations, economies, and qualities of life. The coastal marshes of the Great Lakes provide numerous ecosystem services to people, including buffering homes and roads from flooding, reducing wave energy from storms, providing nursery and feeding resources for fish and thereby supporting a world-class freshwater fishery, supporting nature-based tourism activities, offering aesthetic qualities in terms of an appealing view for residents and visitors, and improving water quality by filtered water through these coastal marshes.

However, over the past decades, the Great Lakes have lost over two-thirds of its wetlands. Restoration and protection of these valuable resources are of the utmost priority in order to improve the health of the Great Lakes.

Several organizations have set forth coastal wetland goals for areas of the Great Lakes. The Lake Erie and Lake Huron Biodiversity Conservation Strategies set a goal of 10% restoration and protection of coastal wetlands in that basin. The Great Lakes Restoration Initiative Action Plan II set a goal of 60,000 acres of restored and protected coastal wetlands by 2019. The International Union for Conservation of Nature (IUCN) has set a target of protecting 10% of coastal and marine areas by 2020. In 2017, progress towards regional goals for coastal wetlands will be tracked in the *Projects & Progress* module.

Strategies to Restore and Protect Coastal Wetlands

A. Identify, establish, and align goals for Great Lakes coastal wetland conservation targets

B. Use science and evidence-based information to focus on the places and actions to best pursue coastal wetland conservation toward attainment of goals

C. Fill knowledge and data gaps when they limit our ability to reduce uncertainty around decision about where, what, and how to conserve coastal wetlands

D. Collaboratively develop a vision for the coastal wetland landscape and step-down implementation strategies, best management practices, and sustainable financing plans

Developing Coastal Wetland LCD Conservation Targets/Indicators

- Reviewed Regional Plans
- Expert Panels – developed proposed targets
- Vetted targets at coastal wetland workshops
- CCWG Technical Team – matching possible targets, comments, and data availability (ON-GOING)
  - Justifying targets
  - Placing targets in an ecosystem services context

- Ecosystem services valuation study – developing socio-economic values for coastal wetland conservation

Comparing SCDRS Indicators and LCD Indicators

SCDR Indicators

# of barriers removed
Percent of accessible tributary habitat
Maintain and increase wetland acreage
Marsh Bird IBI
Invertebrate IBI
Amphibian Index of Biotic Integrity (AmphIBI) for Wetlands (Ohio EPA)
Wetland fish index (WFI) of wetland quality

LCD Indicators

Invertebrate Index of Biological Integrity
Amphibian Biodiversity Index
Marsh Bird Index of Biotic Integrity
Wetland Zooplankton Index
Fish Index of Biological Integrity
Wetland Macrophyte Index
Invasive Plant Index of Biotic Impact
Area Coverage of Wild Rice in Targeted Areas
Area Coverage of Phragmites in Targeted Areas
Black Crowned Night Heron
Black Tern
King Rail
Blanding's Turtle
Northern Pike
Largemouth Bass
Smallmouth Bass
Yellow Perch
Emerald Shiner
Shoreline Softening/Hardening
Residence Time
Hydroperiod
Water Level variation
Flashiness index
Percent of wetlands hydrologically connected to the Great Lakes or Connecting Channels
Percent of natural land cover between nearest Coastal Wetland
Percent of natural land cover within a range of buffers around wetlands
Distance to nearest protected conservation land
Wetland Size
Wetland Complex size
Wetland connectivity

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What's next?

- Establish indicator goals
- Use indicators to:
  - Monitor progress
  - Spatially target conservation efforts
  - Quantify the amount and condition of coastal wetlands needed to establish and attain regional goals