Lake Michigan Coastal Resilience Initiative

Informational Webinar
November 16, 2021
12:30 – 1:30 p.m. Central/1:30 – 2:30 p.m. Eastern
About the Cities Initiative

• Binational coalition of over 135 U.S. and Canadian mayors working to advance the protection and restoration of the Great Lakes and St. Lawrence River

• Current focus on COVID relief, water equity, water infrastructure funding, and coastal resilience
Agenda

• Background
• Habitat and Species Goals
• Project Example
• Project Worksheet
• Technical Assistance
• Workshops
Lake Michigan Coastal Resilience Initiative

- **Phase 1:**
  - NOAA-led trainings
  - Project worksheet completion
  - Technical Assistance
  - Four workshops, one in each state bordering Lake Michigan

- **Phase 2:**
  - Select at least two municipal-scale projects for funding
  - Engineering and design plans (e.g. 60% - 80% construction ready)
Habitat and Species Goals

• Great Lakes Restoration Initiative (GLRI) Action Plan III Focus Area 4
  • **Objective 4.1 Protect and restore communities of native aquatic and terrestrial species** important to the Great Lakes. Identify habitats that support important Great Lakes species and take actions to restore, protect, enhance, and/or provide connectivity for these habitats.
  • **Objective 4.2 Increase resiliency of species** through comprehensive approaches that complement on-the-ground habitat restoration and protection. Implement recovery actions for Federal threatened, endangered, and candidate species. Support population-level protections, enhancements, and reintroductions for native species of importance.
Example - Nature Based Restoration Project

• 2019-2020 – NOAA, CSO and Great Lakes CZM funded 8 state-based workshops
• Workshops assembled experts, entities to identify and rank coastal habitat projects = GLRI Action Plan III, Focus Area 4
• Series identified 31 projects, 4 selected for engineering and design funding
• 1 of 4 = Tifft Nature Preserve Aquatic Enhancement Project (Lake Erie, Buffalo, NY)
Example - Nature Based Restoration Project

Original Developed (2009) and Proposed (2020)

• Vegetation Management and Habitat Diversification—restore 75-acre remnant marsh (cattail management and native plantings)

• Marsh Buffer Restoration—increase and restore vegetated buffers surrounding wetland areas, which are currently dominated by buckthorn.

• Lake Kirsty Living Shoreline Creation—soften 4,650 linear feet of shoreline and the aquatic-upland transition zone.

Goal: Restore up to 300 acres of degraded habitat along the eastern edge of the Lake Erie basin by 2030.

Target species: Migratory and breeding birds, fish (especially northern pike).

Final Funded Plan (2021)

• 60% Design and Engineering Plan Report
  Design Report, Regulatory Review, Overall Implementation Plan

• Restore aquatic-upland transition zone of Lake Kirsty - 2,100 feet

• Enhance Tifft Marsh - 7.6 acres

• Rehabilitate (Invasive species management plan) - 31.7 acres total

• Target species: Migratory and breeding birds, fish (especially northern pike).
Project Partners:
- Buffalo Society of Natural Sciences
- Buffalo Niagara Waterkeeper
- City of Buffalo
- Coastal States Organization
- National Oceanic and Atmospheric Administration (NOAA)
- NOAA Office for Coastal Management
- NOAA Restoration Center
- New York Power Authority (NYPNA)
- New York State Department of Environmental Conservation
- Division of Fish and Wildlife
- Great Lakes Watershed Program
- New York State Department of State
Poll #1

- Do you have a municipal project within the coastal region that would meet GLRI project habitat objectives?
  - Yes (If yes, how many projects do you have in mind? Please briefly describe your project(s) in the chat.)
  - Not yet
Project Worksheet

• Instructions
  • Fill out and return by January 14, 2022
  • Return to: Sue Hoegberg at shoegberg@dewberry.com.
  • Multiple worksheets can be submitted if you have multiple projects
  • Try to fill out as much as possible
  • An example worksheet for Tifft Nature Preserve is available
  • Reach out to your staff resources to help gather needed information
  • Technical assistance is available – request by December 15, 2021
Worksheet Resources

  - Worksheet form
  - FAQs
  - Example filled out worksheet
Priority Project and Location Worksheet

Project Point(s) of Contact

1. Project Lead Organization. Please provide the locality, agency, entity, sponsor, or person that is most likely to be responsible for implementing the project:

2. Point of Contact. If possible, please provide a name and business email address of someone familiar with the project planning who can answer questions; typically, an employee of—or agent for—the project owner:
Project Description

3. Project Name:

4. Project Description. Please include a description of the project or the name of the site. The more descriptive the better.

See FAQ #1 Example Projects

5. Description of the proposed action (e.g. invasive species removal, wetland restoration, shoreline stabilization, fish barrier removal, etc.). Please be as specific as possible.

6. Project goals. The desired change that the project intends to accomplish.

See FAQ #2 Lake Michigan Project Goals
Project Category – Habitat Restoration Type

7. Project category. Select the most appropriate project category based on habitat restoration types as defined by EPA (2016).

See FAQ #3 EPA Wetlands Restoration Definitions

☐ Protection/Maintenance – The removal of a threat to, or preventing decline of, wetland conditions by an action in or near a wetland. Includes purchase of land or easement, repairing water control structures or fences, or structural protection such as repairing a barrier island. This term also includes activities commonly associated with the term preservation. Protection/Maintenance does not result in a gain of wetland acres or function.

☐ Enhancement – The manipulation of the physical, chemical, or biological characteristics of a wetland (undisturbed or degraded) site to heighten, intensify, or improve specific function(s) or for a purpose such as water quality improvement, flood water retention or wildlife habitat. Enhancement results in a change in wetland function(s) and can lead to a decline in other wetland function, but does not result in a gain in wetland acres. This term includes activities commonly associated with the terms enhancement, management, manipulation, directed alteration.

☐ Reestablishment – The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former wetland. Re-establishment results in rebuilding a former wetland and results in a gain in wetland acres.

☐ Rehabilitation – The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions of degraded wetland. Rehabilitation results in a gain in wetland function but does not result in a gain in wetland acres.
Project Location - Zone

8. Project location. Select from the zone(s) below that represent the extent of your proposed project.

- **Lake Zone (Offshore)** – This is the offshore area of the lake where in water is typically greater than ~50 feet in water depth.
- **Lake Zone (Nearshore)** – This is the nearshore area or “littoral zone” of the lake where waves begin breaking and there is enough light reaching the bottom to allow aquatic plants to grow. The size of this zone will vary depending on multiple factors including the shape of the bottom of the lake (bathymetry). Typically, nearshore areas are less than ~50 feet in water depth.
- **Shoreline Zone** – This is the transitional zone from water to land where erosion and accretion occurs. It begins at the top of the bank or bluff and extends to the land-water interface.
- **Buffer Zone** – This is the zone immediately next to the lake. It begins at the top of the bank (edge of the Shoreline Zone) and is the first ~35 feet of the lakefront property. This part of the shoreland property is very important for protecting the lake and maintaining a healthy shoreline.
- **Upland** – This zone sets back from the lake. It typically starts where the Buffer Zone ends 25 feet from the top of the shoreline, and extends to ~1,000 feet inland from the coastal shoreline.
- **Coastal Tributary** – Not pictured in the diagram above, a coastal tributary is a stream or river that is connected to Lake Michigan.
- **Other (please specify):**
9. Please place a point on the map at this link showing the approximate location of your project: Where is your proposed project located? (arcgis.com).

See FAQ #4 Spatial Extents of Projects.

10. Approximate acreage/length of the project. Please provide an estimate of the amount of habitat impacted by this restoration project. It could be in terms of acreage (e.g. five acres of wetland restored) or in terms of length (e.g. 500 ft of shoreline softened).
Locator Tool

• Where is your proposed project located? (arcgis.com)

• Please provide the project name so we can link the point on the map to your project worksheet
Site Description

11. Please describe the current and past land use and general conditions of the proposed site. This could include information about the ownership of the land and/or whether the site may have been contaminated during its past use.

12. Please describe any political or community concerns associated with the project. This could include information about past efforts to restore the site, potential roadblocks, or information about direct or adjacent land uses.

13. How do people currently use the site?
14. What is the vision for the future use of the site?

15. What are the plans for the future management of the site? Which entity is envisioned to manage the site in the future (e.g. park board, conservancy, city, DNR, etc.)?
Coastal Hazards and Project Benefits

• *Nature-Based Solutions for Coastal Hazards: The Basics* ([noaa.gov](http://noaa.gov))
Coastal Hazards

Coastal Hazards to Be Addressed

16. What resources and local areas are susceptible to coastal hazards? This may include community assets, infrastructure, species, habitat, natural resources, or cultural resources, to name a few.

17. What coastal hazard(s) does this project address? Select all that apply.

Coastal hazards affect communities in a variety of ways. Select each example to learn more.

- Stormwater runoff
- Coastal flooding
- High tide flooding
- River flooding
- Storm surge
- Sea level rise inundation
- Wave action
- Coastal erosion
- Tsunami
- Seiche
- Great Lakes water level fluctuations
- Other

Coastal erosion comes from many sources, including stream channelization, wind, waves, seawalls (causing erosion on adjacent properties), lack of sediment, sea level rise, and reduced ice cover during winter storms. Erosion causes damage or loss of land and nearby infrastructure.
18. What ecosystem service(s) will this project provide? Select all that apply.
Project Benefits – Co-benefits

19. What co-benefits are expected from the project? Select all that apply:

- Recreation
- Habitat restoration
- Aesthetics
- Improved water quality
- Social/environmental justice
- Cultural services
- Other (please specify):

____________________________________________________________________________________
Project Benefits - Species

20. Targeted species or taxa that will benefit from the project? Select all that apply.

See FAQ #7 Target Species

Federally threatened, endangered, and candidate species that demonstrate how GLRI investments can have the greatest impact (EPA, 2019; pp 24) GLRI Action Plan III

- Native prey fish (e.g. lake trout, walleye, large and smallmouth bass, brook trout)
- Lake sturgeon
- Yellow perch
- Cisco
- Native freshwater mussels
- Great Lakes piping plover
- Wild rice
- Breeding marsh birds (e.g. rails, grebes, bitterns, black and common terns, etc.)
- Migratory birds and waterfowl
- Other (please specify):
Project Benefits and Impacts

21. Does the project have the potential to provide protection or risk reduction to underserved communities?
   - Yes
   - No
   - N/A

   If Yes, please describe:

22. Has the site been evaluated for any potential adverse impacts to environmental or local social, historical, or cultural assets?

   See FAQ #8 Evaluating Impacts to Environmental or Social, Historical, or Cultural Assets
   - Yes
   - No
   - N/A

   If Yes, please describe:
Project Readiness

23. Please list any potential partners that might be interested in collaborating in a project on this site. We recognize that listing partners here does not imply a formal commitment of any kind. Please provide specific names and contact information if possible.

________________________________________________________________________

24. Have future maintenance requirements for the project been considered?
   □ Yes
   □ No
   □ N/A

   If Yes, please describe the plan:
Project Readiness

25. Has the project been reviewed by the applicable regulatory or permitting authorities?
   - Yes
   - No
   - Underway
   - N/A

   If Yes, does it have preliminary buy-in from them?
   - Yes
   - No
   - Underway
   - N/A

26. Has this project been considered for funding by any other programs and denied (note: does not affect consideration)?
   - Yes
   - No
   - Uncertain
   - N/A

   If Yes, what was the reason?
27. Readiness Score - Your estimate of the readiness of your proposed project:

☐ 1 = Ready for engineering and design! Most of the needed site-specific data are assembled, we have identified partners who are enthusiastic about the project, and we have community support. We also know what permits are required and have preliminary buy-in on the project concept from the permit reviewers.

☐ 2 = Pretty close. A project concept/measure has been selected. We have community buy-in and some key project partners and are working on gathering the needed data and researching the required permits.

☐ 3 = Getting there. We are socializing this within the community and among potential partners for buy-in and support and have gathered some of the preliminary data we need. Some work to evaluate alternatives has also been done.

☐ 4 = Ready to get to work on the details. We know what we want to do, now we need to get to work on the details.

☐ 5 = Concept stage. We know we need something like this and want to explore the feasibility of several design options.
Supporting Site Information (Data)

28. Available data or information that could support site assessment and the preparation of engineering designs for the project. If you have multiple datasets to report, please provide additional details in a separate file and submit it along with this form.

Data or information description(s):

Location covered by the data:

Why are these data important to the project?

If possible, please provide a point of contact to obtain the data or on-line location to download the data:

Additional information:

29. Please list/describe below the data or information needed to support the project. If you require multiple types of data, please provide additional details in a separate file and submit it along with this form.
Technical Assistance

- Intended to assist with completing project worksheets
- Up to two hours available per project
- Please fill out as much as possible in the worksheet before setting an appointment for help
- To request: send an email with your name, contact information, and a brief description of the type of assistance you desire to Sue Hoegberg at shoegberg@dewberry.com.
Poll #2

• What kind of technical assistance do you think you’ll need? (check all that apply)
  • Project concepts
  • Site understanding
  • Hazard assessment/coastal modeling
  • Solutions/alternative analyses
  • Design criteria
  • Data resources
  • Partnerships
  • Other
Workshops

• Four workshops planned for early 2022 (Feb/Mar)
  • Up to 50 attendees per workshop
  • In person, if possible, decision by mid-December
• Tentative locations:
  • Sheboygan, WI
  • Evanston, IL
  • Gary, IN
  • Muskegon, MI
Workshop Goals

• **Need:** Municipal organizations have documented the need for **capacity building support** when **identifying and developing** coastal engineering and design **project plans.** Workshop attendees who are looking to implement coastal resiliency projects along Lake Michigan will receive technical support and project planning guidance in order to elevate attention to and collaboration on proposed coastal project work in this geography.

• **Purpose:** To **share knowledge, seek project partner input on, and build awareness** of potential coastal zone projects **with a community of practice focused on municipal scale, coastal project work in and around the Lake Michigan basin.** Workshop participants will discuss and refine potential projects **to meet the objectives of GLRI Focus Area 4, as well as other potential funding programs.**

• **Outcomes/Objectives:** **Outline scope of municipal scale, coastal habitat projects.** Advance the details of **individual projects, to a level that garners community support,** while simultaneously **setting up projects for success** in highly competitive funding programs like those associated with the Great Lakes Restoration Initiative and others. **Documentation of key workshop discussions** to aid in project design, information and data sharing and future planning.
Poll #3

• On a scale of 1 to 4, how comfortable would you feel attending an in-person workshop with 50 people this winter (2022)?
  1. Would not attend
  2. Not very comfortable
  3. Comfortable
  4. Would definitely attend
Resources

• Worksheet Resources:
  • https://glslcities.org/initiatives/lake-michigan-coastal-resilience-initiative/
    • Worksheet form
    • FAQs
    • Example filled out worksheet
  • https://publications.aqua.wisc.edu/product/nature-based-shoreline-options-for-the-great-lakes-coasts/
    • Example nature-based options

• Technical Assistance:
  • Shoegberg@dewberry.com
Wrap Up
Q&A

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