Photo by Doug Wilcox

Braddock Bay Restoration Public Meeting

The U.S. Army Corps of Engineers, in cooperation with the U.S. Environmental Protection Agency, New York State Department of Environmental Conservation and Town of Greece, have completed a feasibility study for ecosystem restoration at Braddock Bay, Monroe County, NY. Our team will present the results of the study along with its current status and schedule, and seek innovative ideas and considerations for inclusion in the design of proposed restoration plans for Braddock Bay.

Website: http://www.bit.ly/BraddockBay

Wednesday, October 22, 2014
6:30 p.m. - 8:30 p.m.
Eastman Room
Town of Greece Town Hall
1 Vince Tofany Blvd • Greece, New York

US Army Corps of Engineers
Buffalo District
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Great Lakes RESTORATION

Approximately 150 People Attended

Braddock Bay
Public Information Meeting

October 22, 2014

Web: http://www.bit.ly/BraddockBay

E-mail: BraddockBay@usace.army.mil

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Introductions

1. Elected Officials
2. USACE
3. USEPA
4. New York State Department of Environmental Conservation
5. Monroe County
6. Town of Greece
7. SUNY Brockport

Agenda

1. Meeting Purpose & Ground Rules
2. Project Purpose
3. Key Partners
4. Problems
5. Constraints
6. What happens if nothing is done
7. Plan Development
8. Design Process
9. Adaptive Management
10. Public Involvement
11. Frequently Asked Questions
12. Poster Presentations

Meeting Purpose

1. Provide a brief overview of the recommended plan developed as part of the Braddock Bay Ecosystem Restoration Feasibility Study

2. Answer detailed questions during poster board session

Project Purpose: Braddock Bay Ecosystem Restoration Project

1. Restore wetland and habitat diversity in Braddock Bay to improve its suitability for fish and wildlife including northern pike, American mink, and the state listed black tern during the planning period of 2015-2065.

2. Protect Braddock Bay wetlands from erosion during planning period of 2015-2065.

Key Partners

Great Lakes RESTORATION

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DEPARTMENT OF ENVIRONMENTAL CONSERVATION • NEW YORK STATE •

COUNTY OF MONROE STATE OF NEW YORK

Maggie Brooks
County Executive

TOWN OF GREECE 1822

The College at BROCKPORT

ROCHESTER EMBAYMENT MONROE COUNTY

ROCHESTER EMBAYMENT
REMEDIAL ACTION PLAN
OVERSIGHT COMMITTEE

BRADDOCK BAY INTERAGENCY TECHNICAL COMMITTEE
MAIN POINTS OF CONTACT

US Army Corps of Engineers®

DEPARTMENT OF ENVIRONMENTAL CONSERVATION · NEW YORK STATE ·

U.S. FISH & WILDLIFE SERVICE
DEPARTMENT OF THE INTERIOR

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

COUNTY OF MONROE · STATE OF NEW YORK
Maggie Brooks
County Executive

Great Lakes RESTORATION

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STATE UNIVERSITY OF NEW YORK

The Nature Conservancy
Protecting nature. Preserving life.™

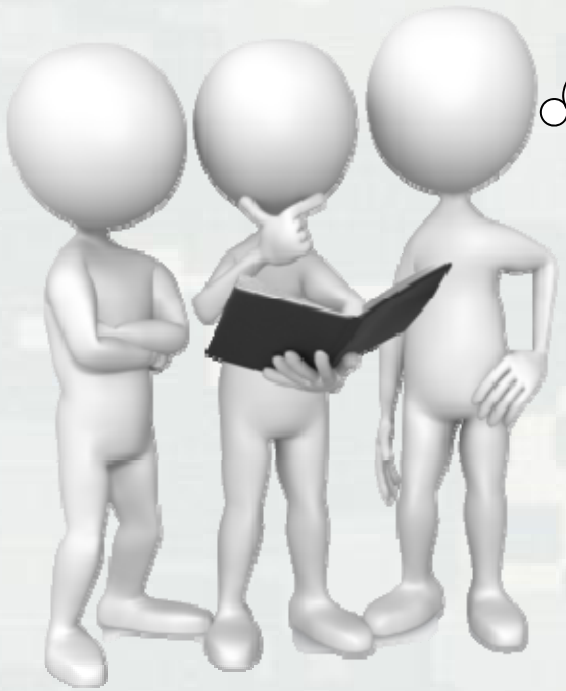
Frequently Asked Questions

http://www.bit.ly/BraddockBay

- 1. What are the problems at Braddock and why is ecological restoration at Braddock Bay necessary?
- 2. What will happen if nothing is done to restore Braddock Bay?
- 3. Is the existing sand bar formation already protecting the Braddock Bay wetlands from erosion?
- 4. What are the benefits of the proposed restoration and how will it improve the ecosystem?
- 5. How will this project affect the nearshore (littoral) movement of sand in Lake Ontario?
- 6. Have projects similar to this been built before, what do they look like, and were they successful?
- 7. How will this project help delist the Rochester Embayment Area of Concern (AOC)?
- 8. How will this project improve coastal resiliency?
- 9. What effect will changes in lake level have on this project?
- 10. What effect is this project expected to have on navigation in the bay?
- 11. What agencies are proposing this project?
- 12. What is the project schedule?
- 13. How can the public comment on this project?

Frequently Asked Question #1

What are the problems at Braddock and why is ecological restoration at Braddock Bay necessary?



Ecosystem Restoration Problems

- Reduced Wetland Quality
- Loss of Wetlands & Barrier Beach

Existing Condition Wetland Quality

- Cattail Dominated Emergent Marsh
  - 181 acres
- Reduced habitat heterogeneity
- Reduced open water interspersion
- Reduced suitability for black tern
  - Target species represents historically present habitat
  - No nesting since 1998
- Reduced suitability for American mink, northern pike, and other fish and wildlife

Existing Condition
Erosion and Wetland Loss

- Gradual Loss of Barrier Beach early 1900s -1970s
- Emergent Wetland Erosion Rate
  - ~1.0 ac/yr (1902 – 2009)
  - ~0.4 ac/yr (1979-2009)
- 106 (59%) acres of Emergent Wetlands lost since 1902
- ~50% replaced by submerged aquatic vegetation (mostly Eurasian milfoil)

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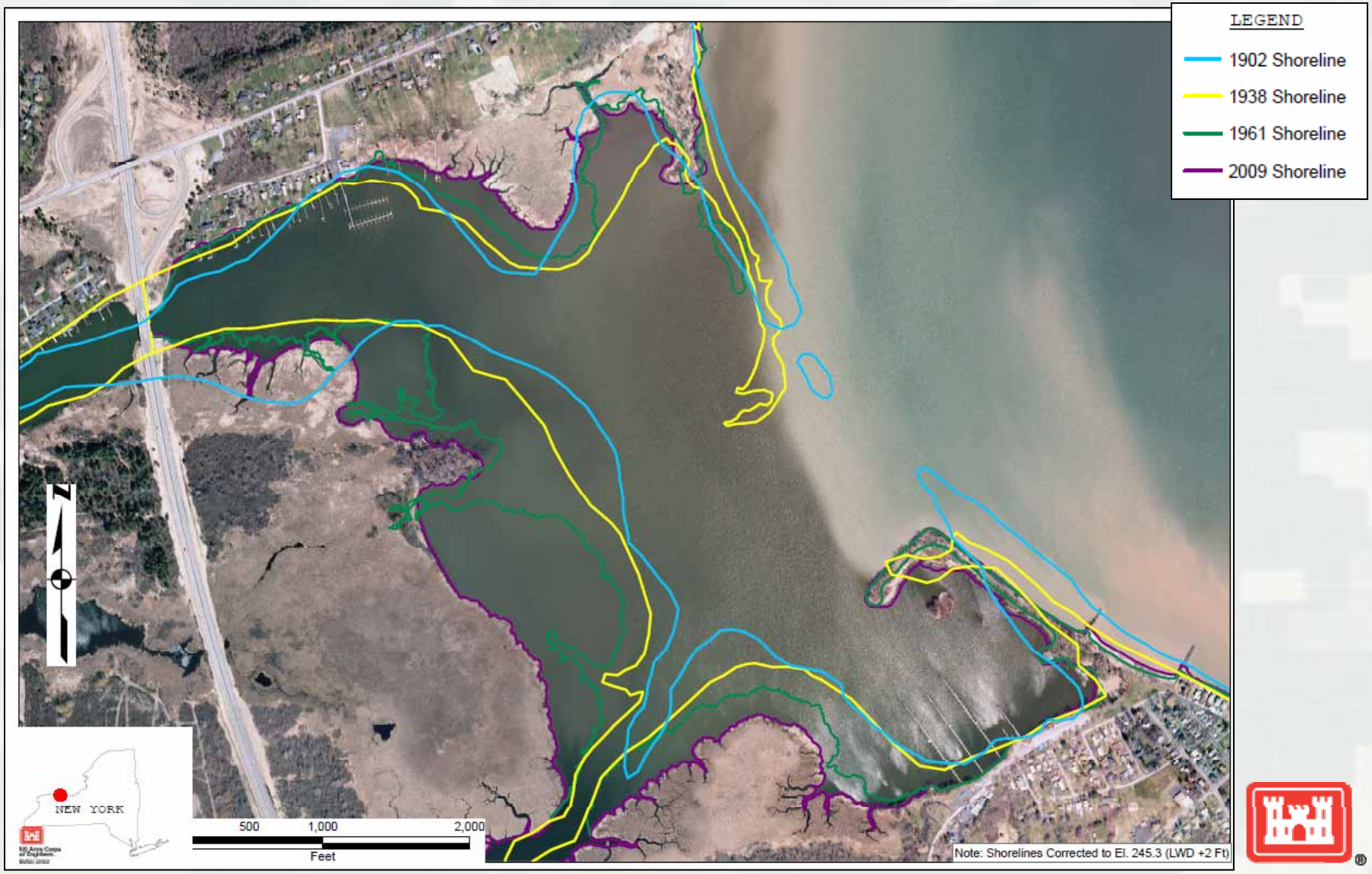
Shoreline 1902-2009



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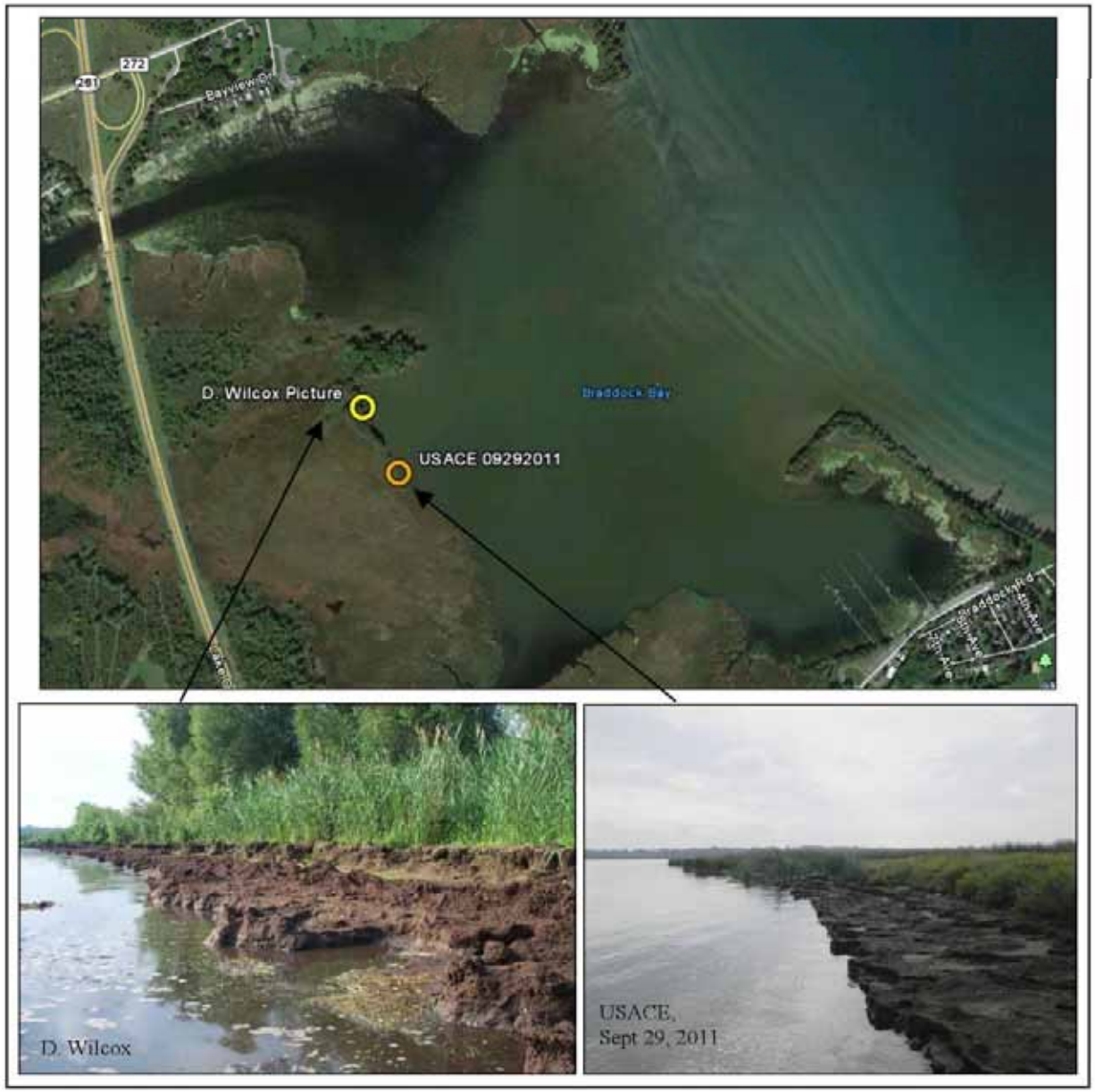
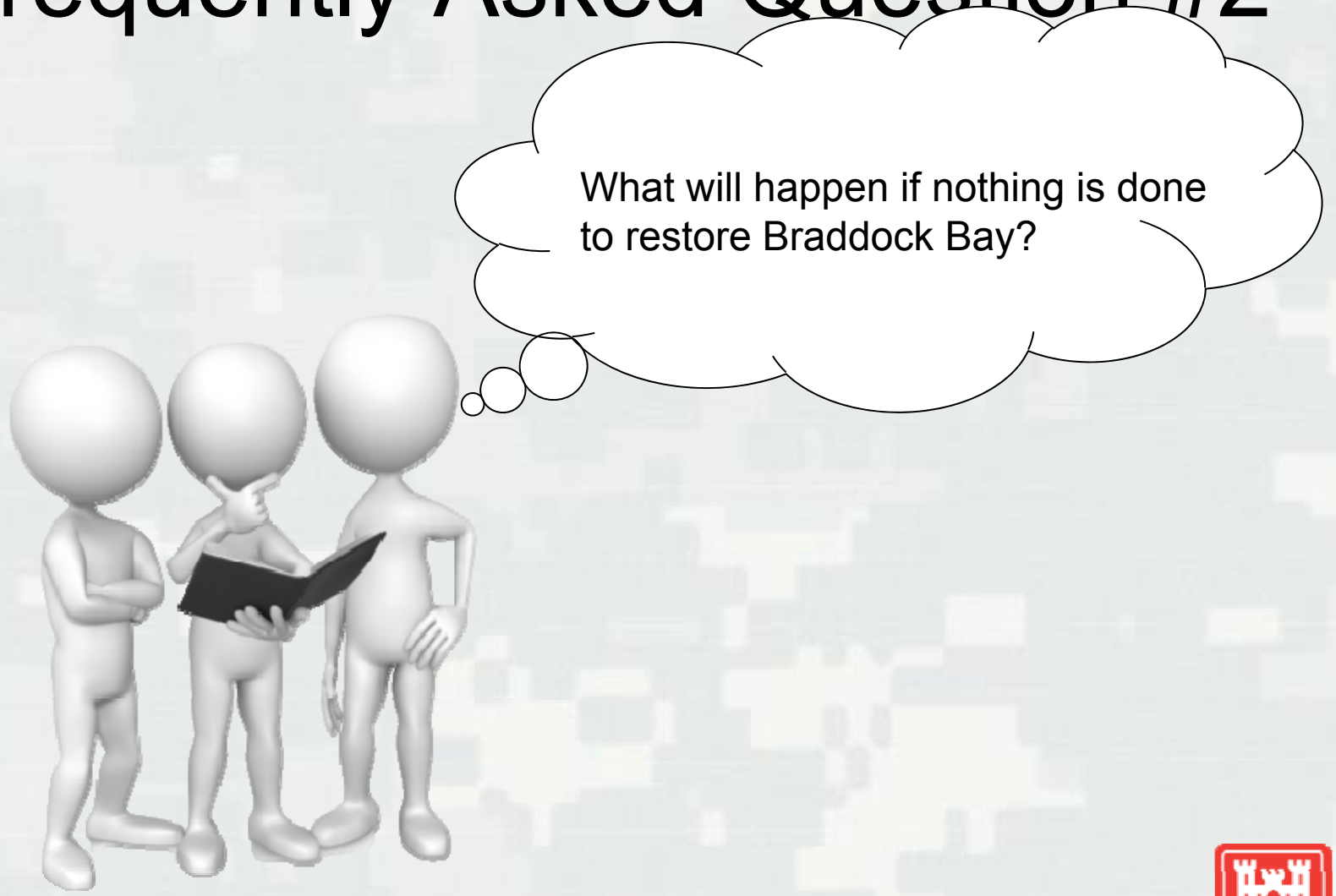
Active Erosion

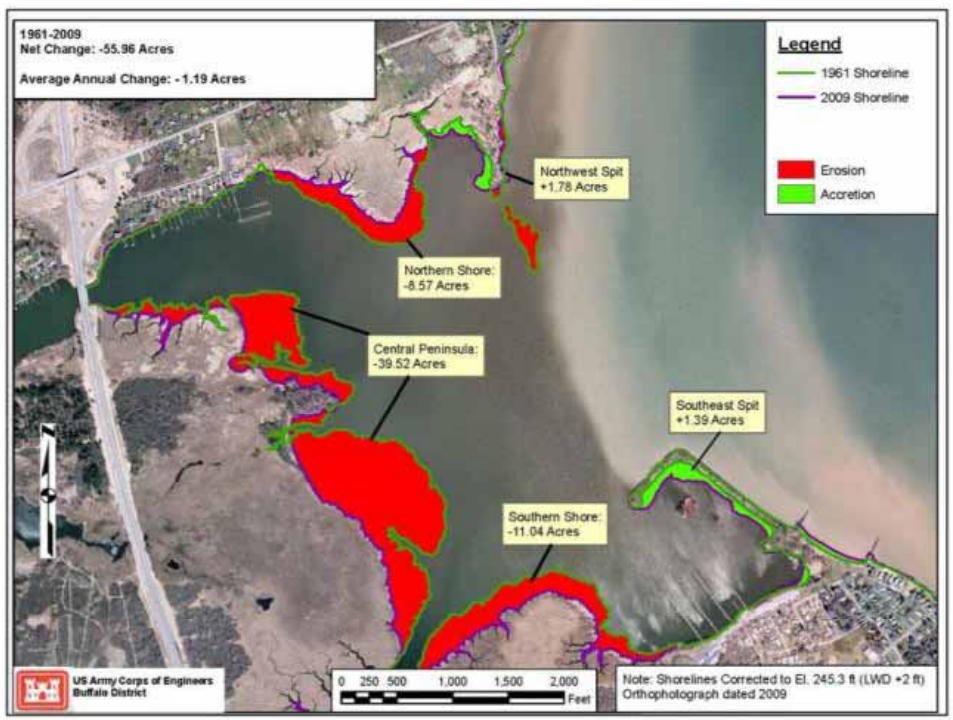


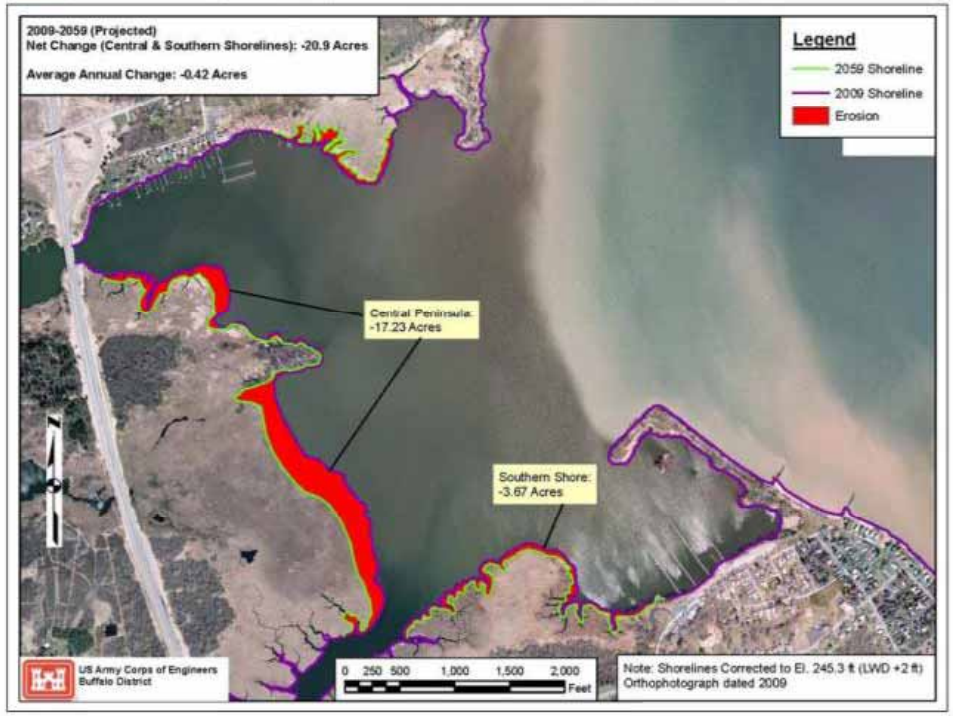
Project Constraints

- **Avoid impacts to nutrient dynamics of Braddock Bay that will worsen algal problems**
- **Avoid impacts to navigability and operation of marinas**
- **Avoid impacts to Lake Ontario littoral drift system**
- Avoid inducing sedimentation in Braddock Bay that will negatively impact ecosystem process, navigation, or compromise existing infrastructure
- Avoid excessive disturbances to intact coastal habitat at Braddock Bay
- Avoid impacts to intact wetland habitat already existing in Braddock Bay
- Avoid project activities that will increase extent of invasive species
- Limited or no construction methods may be allowed during fish spawning and avian breeding time periods

Frequently Asked Question #2







Past Erosion (1961-2009)

Future Without Project Condition Projected Erosion (50 Years)

Future Without Project Condition (50 year)

- Wetland diversity and habitat suitability will remain low due to dominance by monotypic cattail stands and will be poor quality habitat for fish and wildlife
- Emergent wetlands will erode at an estimated 0.4 – 1 acre per year (21 – 50 acres, will be lost over 50 yr project life)
- Existing SAV community in the majority of the bay will remain low diversity and dominated by Eurasian milfoil due to high wave energy and turbid conditions.

Photo by Joshua Unghire, USACE

Photo by Joshua Unghire, USACE

Plan Development

- Town of Greece Letter of Request 24 - JUN 2012 & older
- Feasibility Study Interagency Agreement - 24 JAN 2013
- Draft Feasibility Study FEB 2013 – NOV 2013
  - Developed with Braddock Bay Interagency Technical Committee
    - Multiple Alternatives considered
    - Nearshore Sand Modeling
    - Water Quality Modeling
- Plan recommended to RAC – 25 NOV 2013
- RAC submits letter of support for plan “7c” to NYS DEC – 27 FEB 2014
- Finalized Feasibility Study - SEP 2014
  - Available at: http://www.bit.ly/BraddockBay

Design Schedule

- Design Interagency Agreement Signed (31 JUL 2014)
- Feasibility Study Finalized (SEP 2014)
  - Available at http://www.bit.ly/BraddockBay
- Sediment Geotechnical Analysis Expected (7 NOV 2014)
  - Sand Samples Collected – Fine grained sand (3-4 SEP 2014)
  - Geotechnical Borings – (Early OCT 2014)
- Begin Detailed Design (NOV 2014)
  - Develop with Braddock Bay Interagency Technical Committee
- Adaptive Management Plan (under development)
- SEQR & Other Permits (Winter/Spring 2015)
- Complete Detailed Design Report (Spring 2015)
  - Public information Meeting (Spring 2015)
- USEPA Construction Decision (Summer 2015)

Adaptive Management

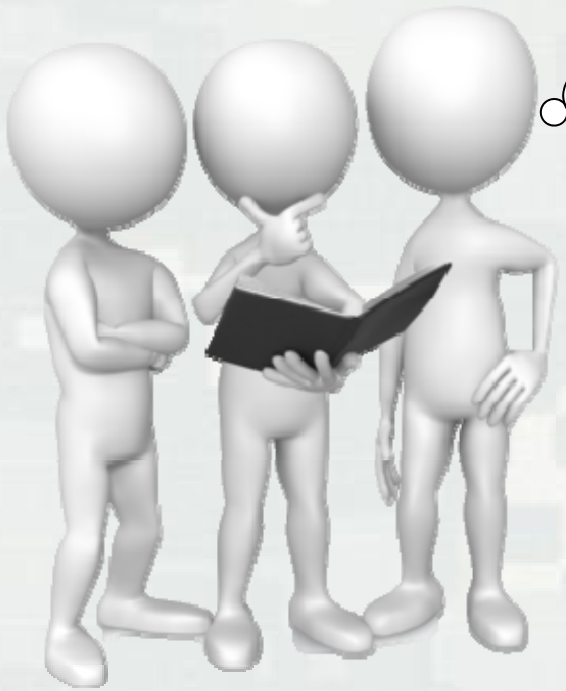
- Monitor to determine if objectives are met
  - Wetland Diversity
    - Expansion of Meadow Marsh
  - Habitat Suitability
    - Plants
    - Fish
  - Erosion
- Monitor to determine if constraints are avoided
  - Eutrophication/Algal problems
  - Littoral Drift
  - Navigability
- Framework for management actions if success criteria are not met

Frequently Asked Question #13

Public Involvement

- Upcoming Public Meeting - 22 OCT 2014
- SEQR Review – Winter 2015
- Joint Application Permit Review – Winter 2015
  - Corps Permit
  - NYS DEC Water Quality Certification
  - NYS DOS Coastal Zone Management Plan
- Design Presentation Public Meeting - Spring 2015
- Announced at: http://www.bit.ly/BraddockBay
- Send comments to BraddockBay@usace.army.mil

Frequently Asked Question #3

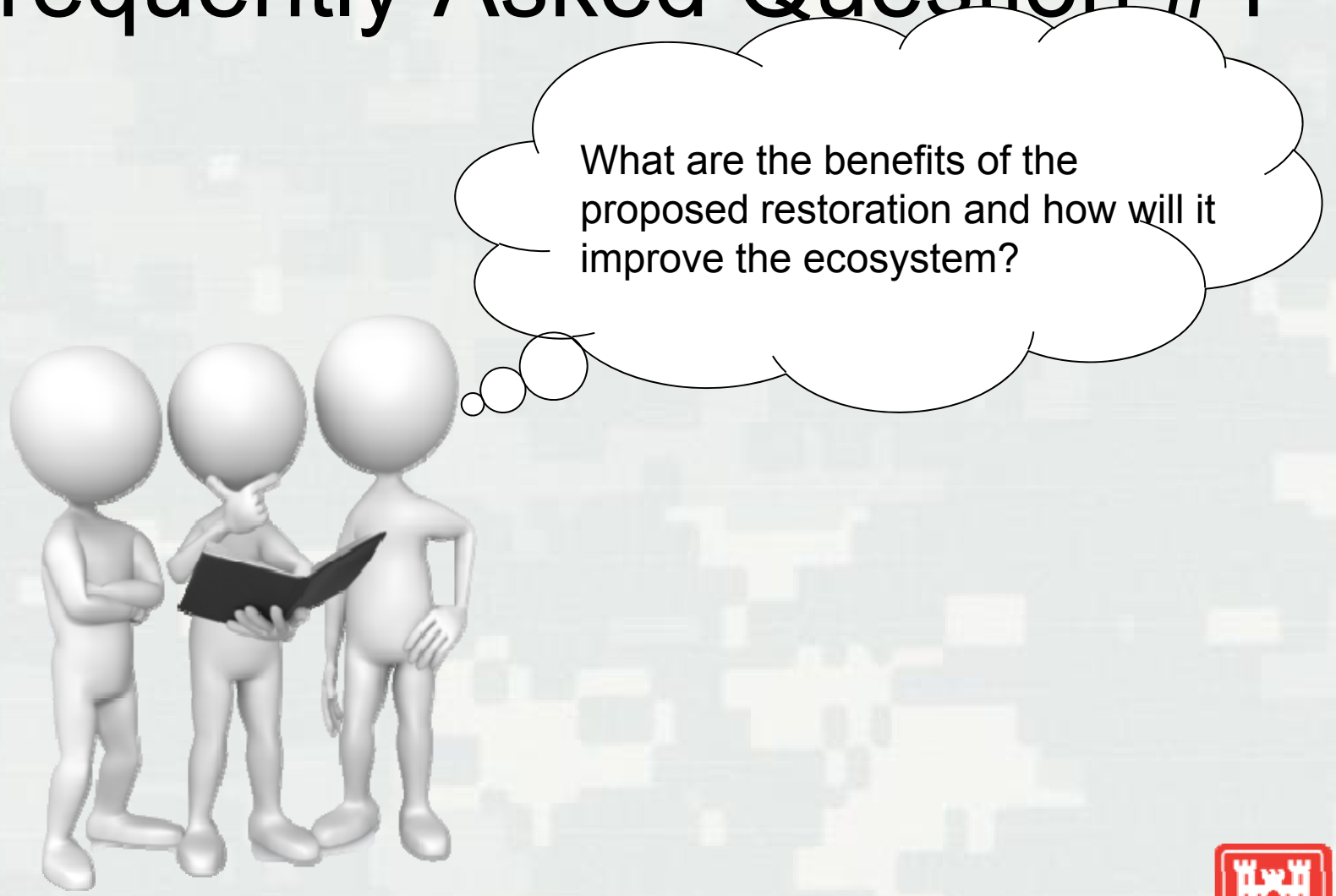


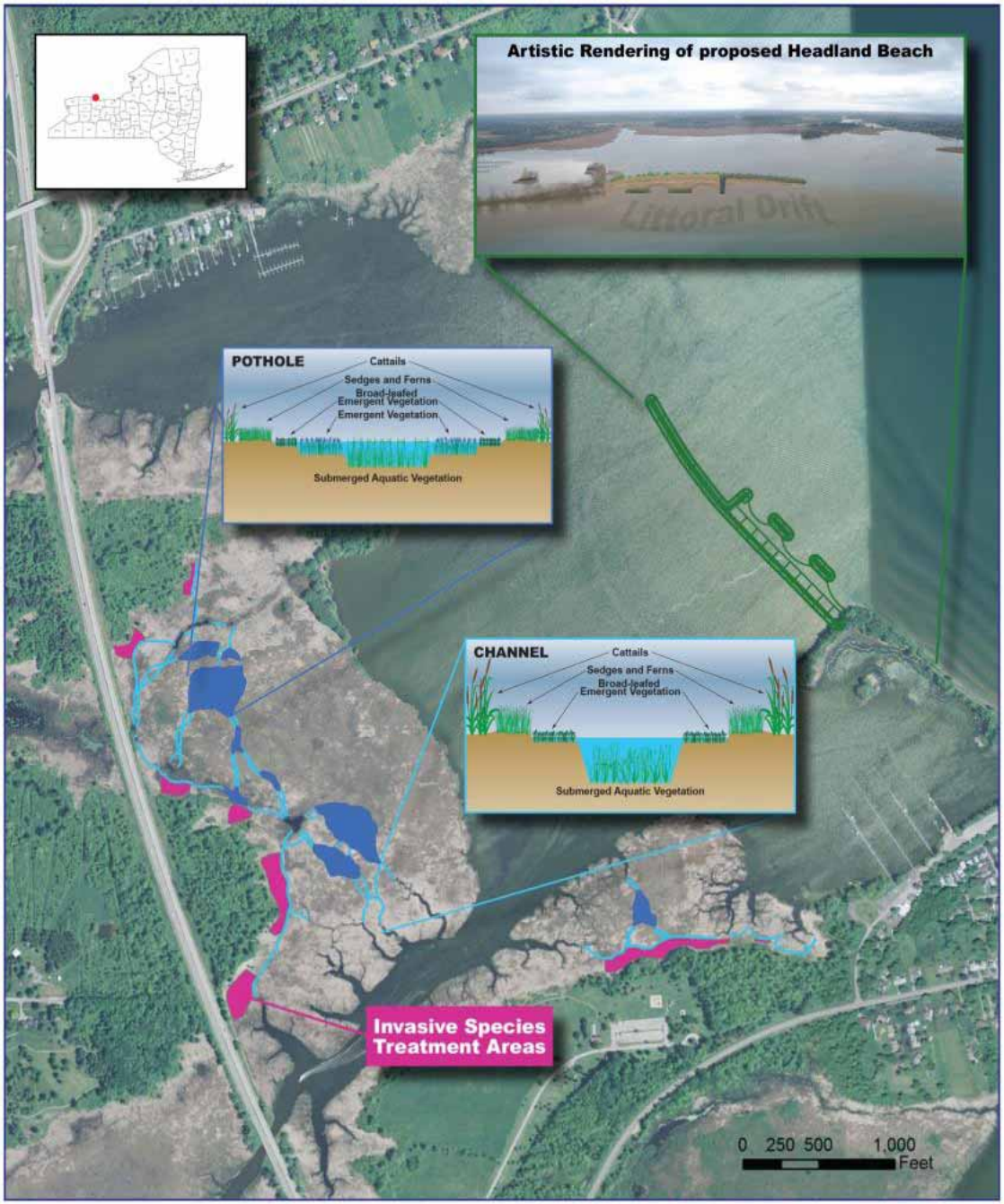
Is the existing sand bar formation already protecting the Braddock Bay wetlands from erosion?

Photo by Doug Wilcox

Braddock Bay

Frequently Asked Question #4

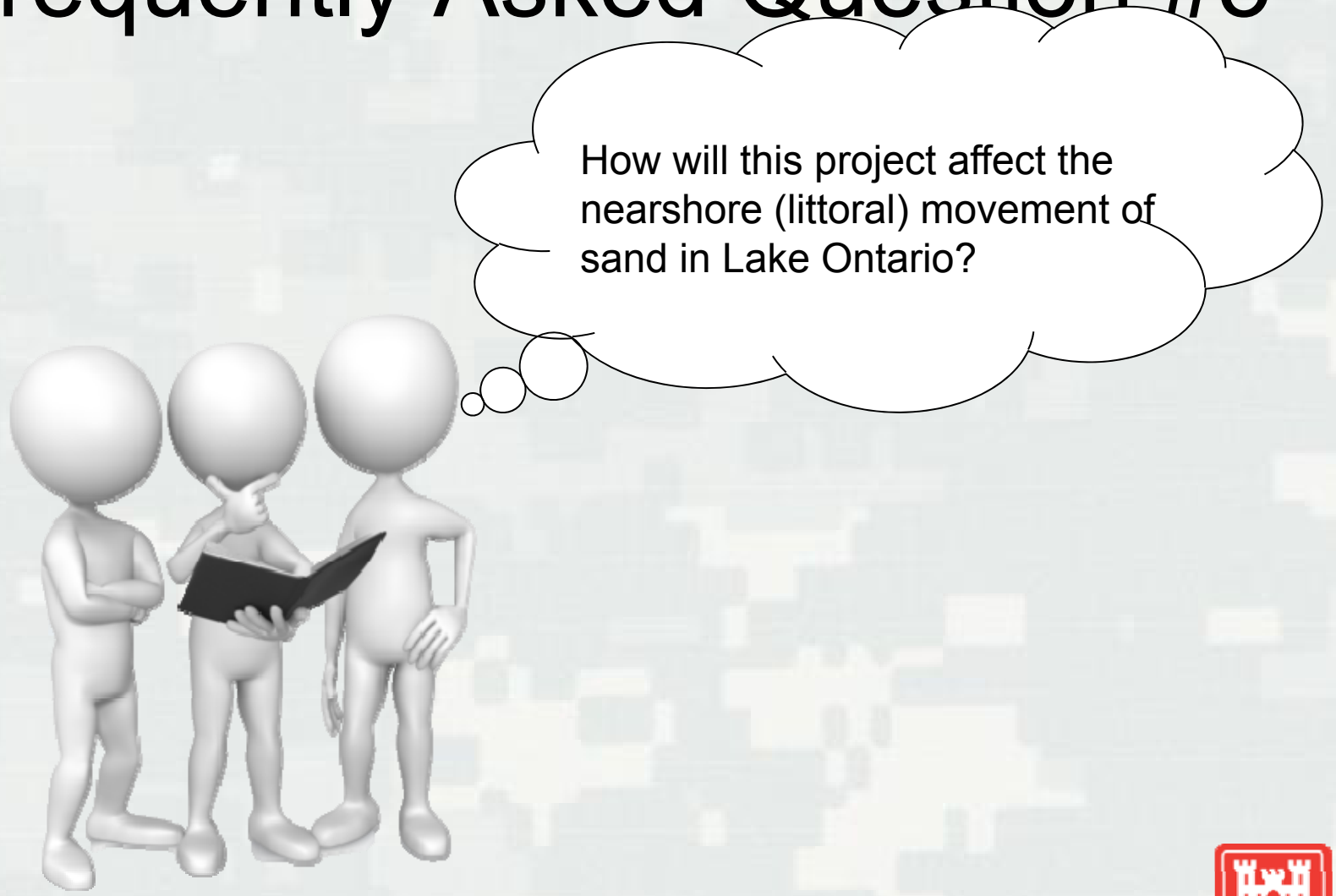




Sims Beach, Euclid OH
Built in 1992

Recommended Plan

Frequently Asked Question #5



Braddock Bay Barrier Beach Restoration

View of Braddock Bay looking southwest and depicting the proposed headland beach. Littoral drift is depicted by the brown shaded submerged areas lakeward of the proposed structure. Under the current plan, all stone structures will be soil choked and planted with native grasses and shrubs to provide wildlife cover and habit. The high portions of the beach will be planted with beachgrass. Pea gravel will be placed around submerged stone structures to create habitat for fish and other aquatic life. Other green enhancements will be developed thru coordination with the Braddock Bay Interagency Technical Committee during the design phase.

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Posters

- General - Craig Forgette & Andy Kornacki
- Coastal - Colleen O'Connell & Jessica Wright
- Environmental - Chris Akios & Mike Voorhees

- USEPA - Brenda Jones & Fred Luckey
- Monroe County - Charlie Knauf
- Town of Greece - Scott Copey
- NYS DEC - Heidi Kennedy & Jerry Pratt

Photo by Brian Hansen

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General Questions

Proposed Braddock Bay Ecosystem Restoration

Objectives

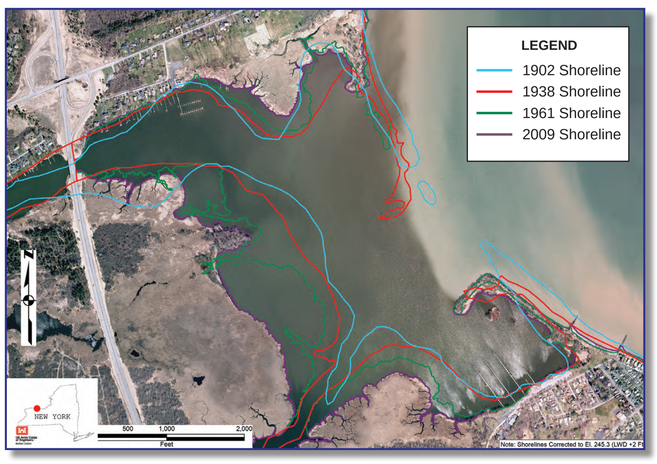
1- Restore wetland and habitat diversity of Braddock Bay

2 - Protect Braddock Bay wetlands from erosion

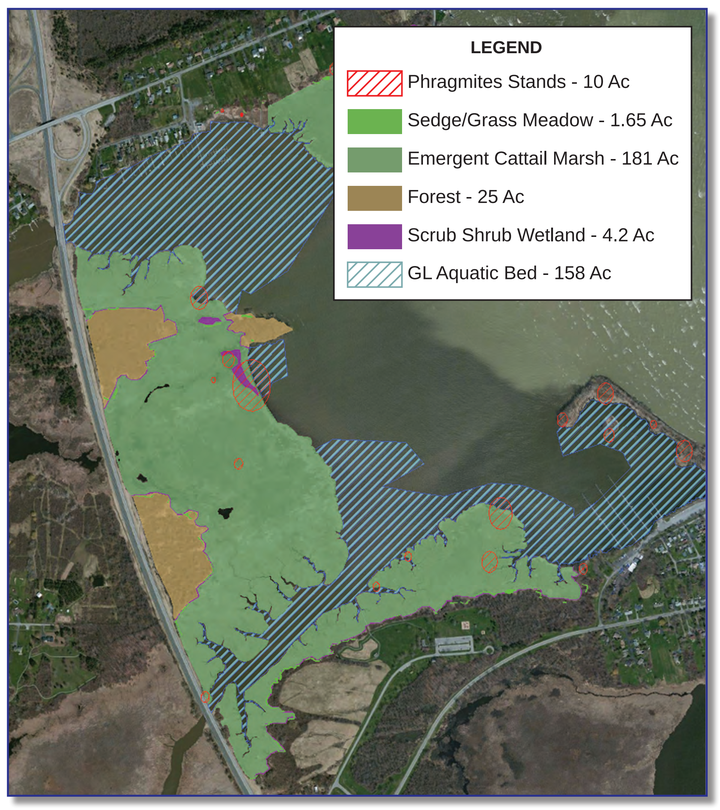
Background

Braddock Bay is an embayment on Lake Ontario consisting of over 340 acres of coastal wetlands located 11.5 miles northwest of Rochester, NY. It is part of a state wildlife management area and is located within the boundary of the Rochester Embayment Area of Concern (AOC), a geographic area prioritized for environmental remediation and improvement by the bi-national Great Lakes Water Quality Agreement.

Through the EPA administered Great Lakes Restoration Initiative (GLRI), the U.S. Army Corps of Engineers (USACE), Buffalo District led a study to investigate potential opportunities to restore the ecologic functions of Braddock Bay.



Loss of protective land spits has given way to erosion of interior emergent wetlands at rates of 1.1 acres since 1902.



Existing wetland is dominated by cattail reducing habitat suitability for black tern and other wildlife.

Sims Beach, Euclid, OH was constructed by USACE in 1992. The beach has remained stable since that time without any beach nourishment.

Great Lakes RESTORATION

Proposed Braddock Bay Ecosystem Restoration

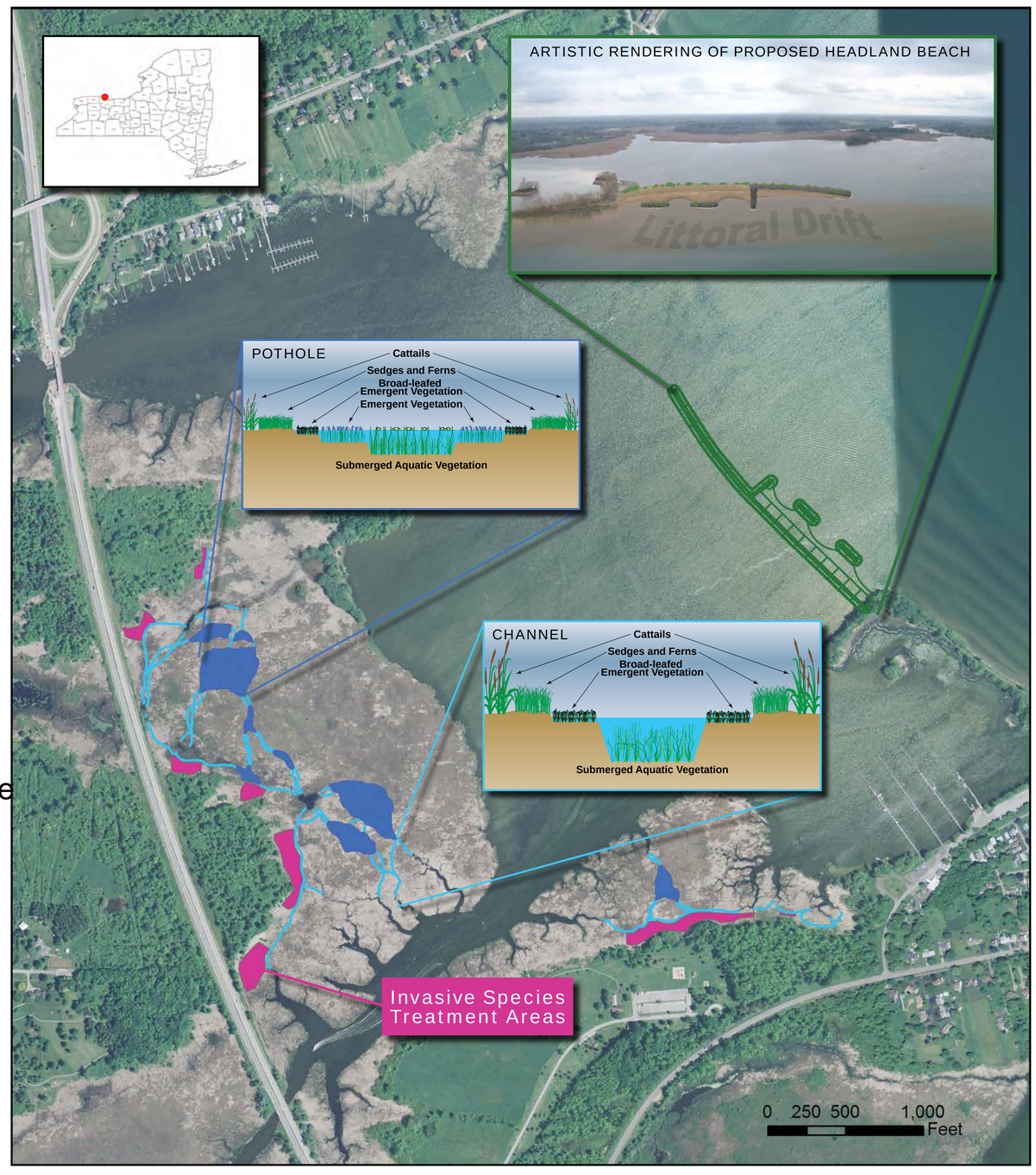
Restoration Plan

Channeling and Potholing:
Approximately 7.2 acres of potholes and 17,791 feet of channels may be excavated in the emergent cattail dominated areas of Braddock Bay.

- Increase topographic heterogeneity
- Increase vegetative diversity
- Improve open water interspersion
- Improve habitat suitability for black tern, northern pike, American mink and other fish and wildlife

Cattail Treatment:
Cattail and other invasive species in areas adjacent to channels and potholes may be treated both chemically and mechanically for two cycles.

- Increase vegetative diversity of 5.3 acres
- Create connectivity between excavated channels and existing sedge grass meadow
- Improve habitat suitability for black tern, northern pike, American mink and other fish and wildlife



Barrier Beach Restoration:
Restore a portion of the historic barrier beach at the mouth of Braddock Bay using a hybridization of hard and soft solutions. A 2600 foot continuous breakwater and several headland rubblemound breakwaters may be constructed across a section of the mouth of Braddock Bay. The area between these structural features may be filled with beach sand and may be maintained by the low energy conditions created by the headland rubblemound breakwaters.

- Reduces erosion of emergent marsh by %55 protecting preventing the loss of approximately 27 acres over the next 50 years.
- Reduces littoral sediments from entering and becoming trapped in Braddock bay restoring littoral drift process.
- Interior submerged aquatic vegetation expected to expand by 15 acres and increase in vegetative diversity due to reduced turbidity.

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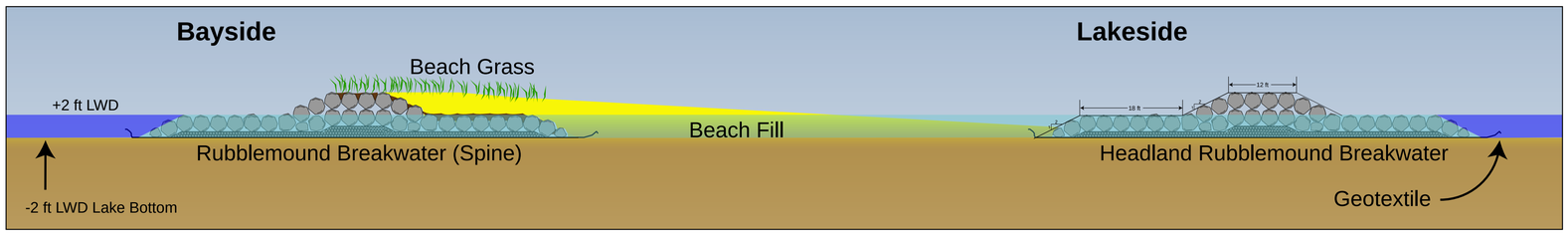
Coastal Questions

Proposed Braddock Bay Barrier Beach Restoration



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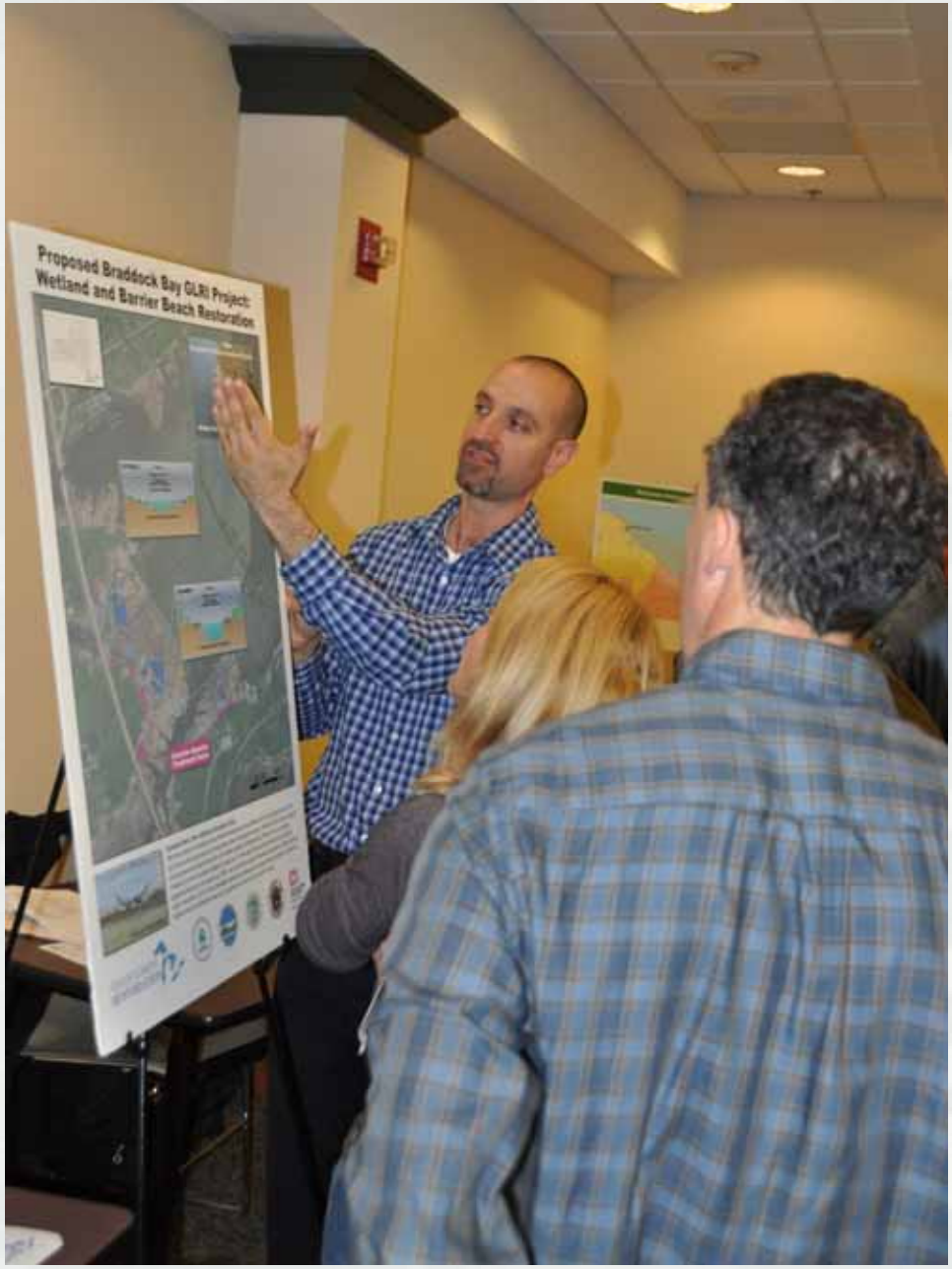

Environmental Questions

Proposed Braddock Bay GLRI Project: Wetland and Barrier Beach Restoration

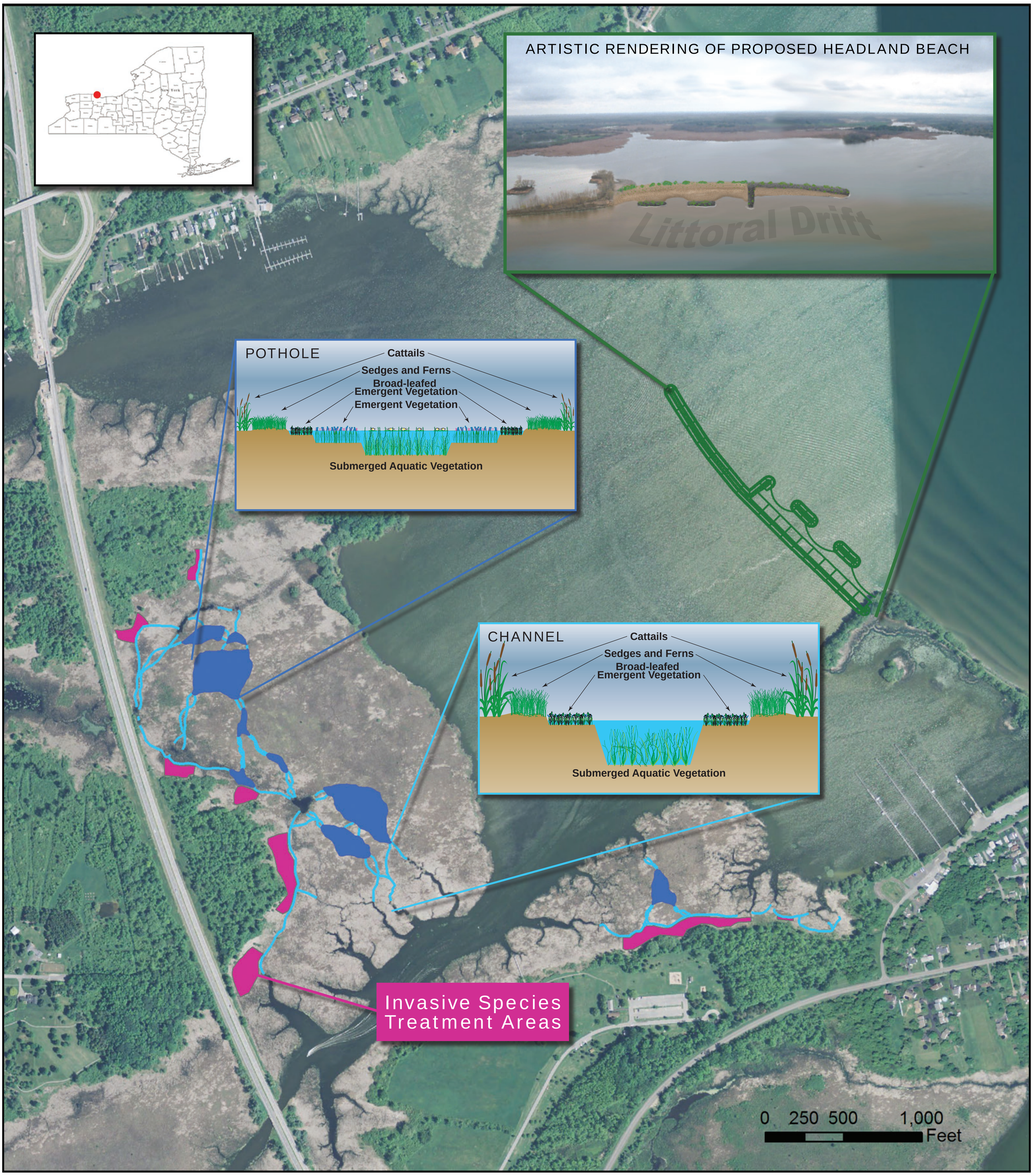

Photo by Brian Hansen

Suitable Black Tern Habitat at Braddock Bay

With this project, the Braddock Bay Wildlife Management Area (WMA) has the potential to be the first GLRI site to be recolonized by an extirpated state endangered species. While the 340 acres of wetland to be restored will benefit many fish and wildlife species, Braddock Bay WMA is the only location in Monroe County to restore habitat for black tern. Of the eight (8) sites within Monroe County that supported black tern as recently as 1998, none presently support breeding populations. Without barrier beach restoration, 32% of the potentially restorable contiguous emergent marsh suitable for black tern habitat present at Braddock Bay are projected to be lost over the next 50 years.

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USEPA on Braddock Bay

USEPA on Braddock Bay

Braddock Bay Restoration

Great Lakes RESTORATION

Maggie Brooks
County Executive

Monroe County

ROCHESTER EMBAYMENT
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County Executive

Monroe County

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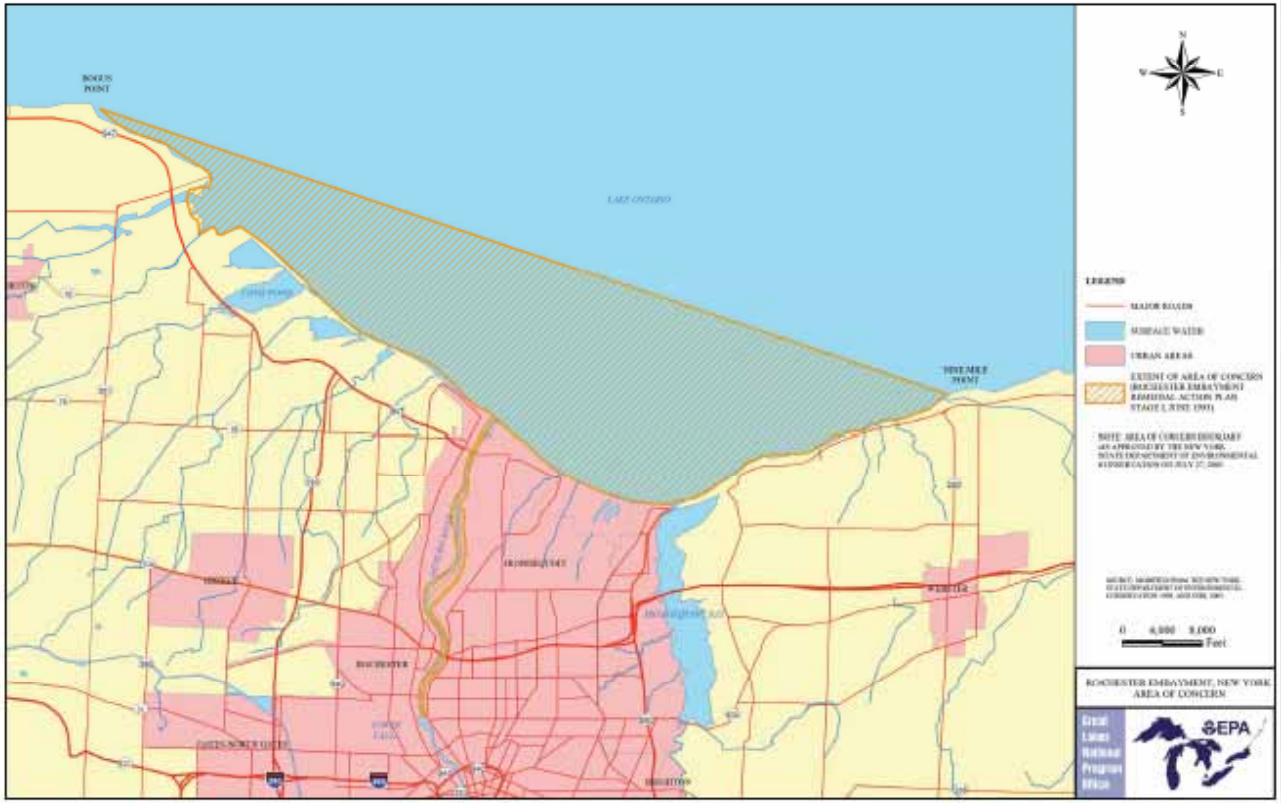
Rochester Embayment Area of Concern



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Town of Greece

Braddock Bay Restoration

Great Lakes RESTORATION

NYS DEC

BRADDOCK BAY
FISH AND WILDLIFE MANAGEMENT AREA

October, 2011

TOWN OF PARMA • NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION • TOWN OF GREECE

SUNY Brockport