BRADDOCK BAY ECOSYSTEM RESTORATION

Photo courtesy of Doug Wicox

Sedge Grass Meadow

Sedge grass meadow habitats have become limited in Braddock Bay due to encroachment of cattail. These habitats are important areas of vegetative diversity and are also critical for fish spawning and water bird nesting. The construction of habitat mounds and the treatment of cattail stands will support expansion and reestablishment of sedge grass meadow habitat.

Photo courtesy of Brian Desrosiers

Black Tern (*Chlidonias niger*)

Black tern is a target species of this restoration project. Nesting of black tern at Braddock Bay has not been documented since 1998: a result of decreased habitat suitability. The channeling and potholing is intended to improve suitability by increasing open water areas in the wetland while also improving emergent wetland diversity, thereby creating habitat that will be more favorable to use by black tern and other water birds.

Northern Pike (*Esox Lucius*)

Northern pike is a target species for this restoration. The channeling and potholing work will increase emergent wetland diversity thereby creating more favorable spawning and nursery habitat for this species; as well as other fish and aquatic organisms. In addition, northern pike will be able to more readily access existing sedge grass meadow by using created channels during flooded conditions.

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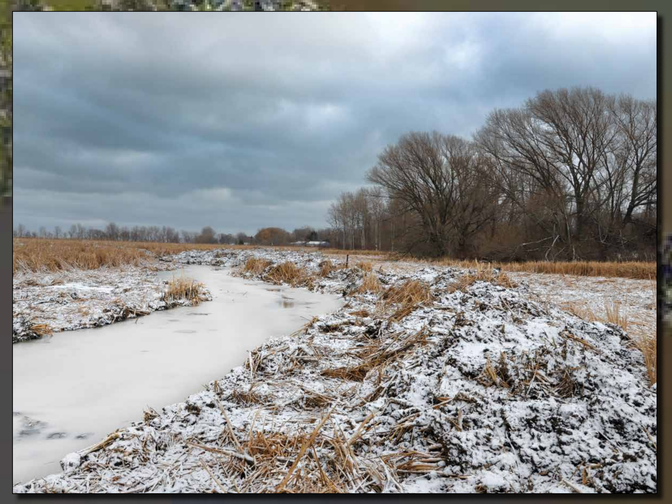

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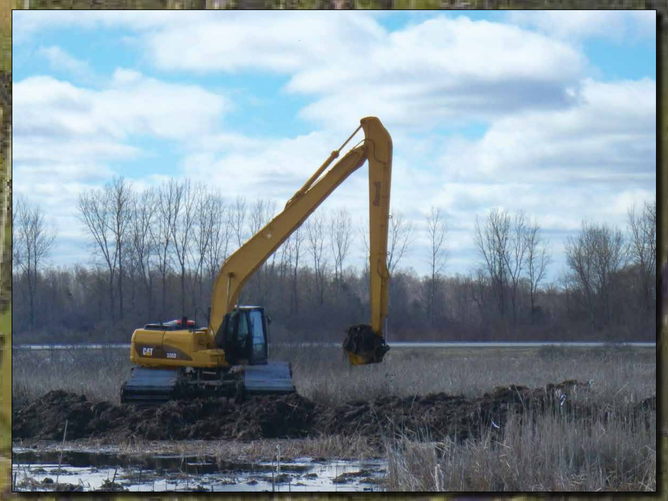

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Braddock Bay Ecosystem Restoration

UNDER CONSTRUCTION

WHAT'S THE PROBLEM?

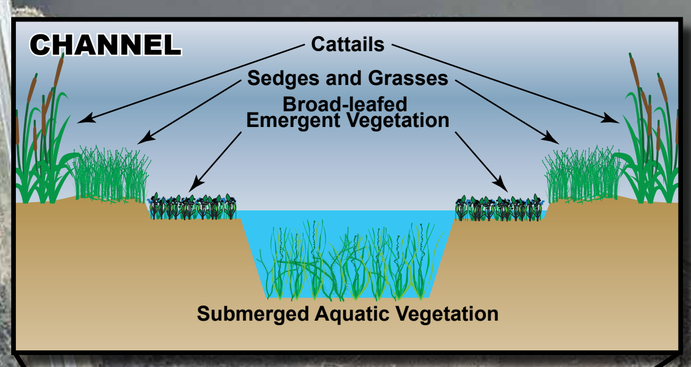
Over 100 acres of coastal wetlands have been eroded from Braddock Bay since the loss of the spits of land that extended partially across the bay mouth in the early 1900s. In addition, extensive emergent wetlands have become dominated by the aggressive cattail species (Typha angustifolia and Typha x glauca). These alterations have substantially reduced the suitability of Braddock Bay habitat for many fish and wildlife species such as the state endangered black tern (Chlidonias niger) and the northern pike (Esox lucius). The goal of this project is to protect and restore the suitability of Braddock Bay for these and many other fish and wildlife species.

WHAT'S THE SOLUTION?

Protect Braddock Bay wetlands from wave driven erosion by restoring a portion of the historic barrier beach. Improve the suitability of existing habitat for fish and wildlife, and expand the area of emergent and submerged wetlands within the bay. These objectives will be achieved using several methods as described below.

SAND BORROW AREA

NAVIGATION CHANNEL



NEW EMERGENT MARSH

BARRIER BEACH:

Restores a portion of the historic barrier beach at the mouth of Braddock Bay using a mix of hard and soft solutions. Consists of a continuous breakwater with several headland rubblemound breakwaters. The area between these structures will be filled with sand to create beach habitat.

- Reduces erosion of emergent marsh by 55%, thereby preventing the loss of approximately 27 acres over the next 50 years
- Lower wave energy in the Braddock Bay promotes expansion and diversification of aquatic vegetation beds that are important habitat for fish and aquatic organisms
- Creation of beach habitat will be beneficial to shorebirds
- Restores historic littoral sediment processes, thereby reducing volume of littoral sediments that enter and become trapped within the bay

NEW EMERGENT MARSH:

A 3–acreemergent wetland will be created by filling a shallow portion of the bay with sandy sediments to bring it up to an elevation that will support a diverse emergent marsh community. This new emergent marsh will replace emergent wetlands that historically occupied the same location, but have since eroded.

- Replaces approximately 3 acres of emergent marsh that have been eroded by wave energy
- Increases the diversity of wetland habitats within Braddock Bay
- Creates spawning and nursery habitat for fish
- Creates nesting and stopover habitat for waterfowl and migratory birds

CHANNELS AND POTHOLES:

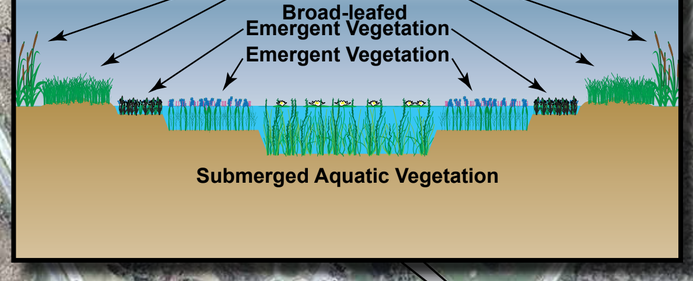
Approximately 6.7 acres of potholes and 11,723 linear feet of channels will be excavated in the cattail dominated emergent marsh to improve wetland habitat.

- Alters hydrology and surface elevation in existing marsh to improve plant diversity.
- Increases the diversity of wetland habitats within Braddock Bay.
- Creates spawning and nursery habitat for fish such as the northern pike.
- Creates nesting and stopover habitat for waterfowl and migratory birds including the state endangered black tern.
- Overall improves the habitat suitability of Braddock Bay wetlands for many species of fish and wildlife such as the American mink and muskrat.

Legend

- New Pothole
- Island within Pothole
- Treatment Areas
- New Channel
- Existing Channel
- New Habitat Mound
- New Emergent Wetland
- Trolley Line Relocation
- New Stone Breakwater
- Access Route

0 500' 1000'



CATTAIL TREATMENT AREAS:

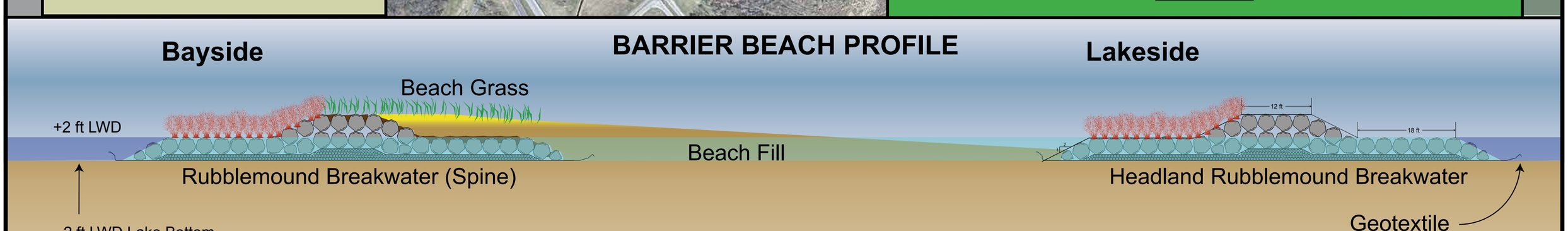
Mechanical and chemical methods will be implemented to reduce the density of invasive cattail species and increase native species richness between proposed channels and potholes and existing remnant sedge grass meadow.

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

For more information go to:

http://www.bit.ly/BraddockBay

BARRIER BEACH PROFILE



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BRADDOCK BAY ECOSYSTEM RESTORATION

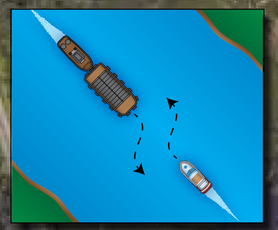
Braddock Bay is undergoing a restoration project that involves dredging portions of the bay, and the construction of a barrier beach.

While barges and machinery are in the bay, watercraft may experience some minor inconveniences and will need to exercise caution.

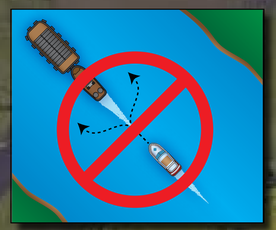
Wear a personal flotation device (PFD) and high visibility clothing

Avoid walking on the marsh, this may damage valuable habitat and presents a drowning hazard

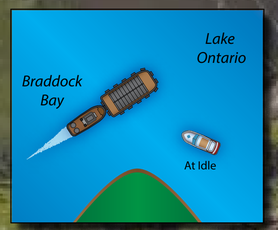
Stay at least 100 feet away from any construction equipment, barges, and tugs



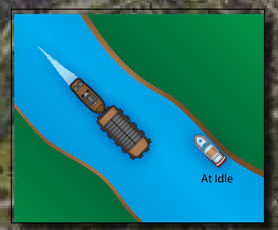
Stay to the right of moving barges and tugs



Do not pass moving barges or tugs



Watercraft going into the bay must yield to watercraft going toward Lake Ontario



If barges or tugs need room, move to the side of the navigation channel and stop motion

THIS IS A PUBLIC HUNTING AREA. PLEASE BE AWARE OF HUNTING WINDOWS.

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