



# **RATTRAY MARSH RESTORATION**

Background and Project History

# RATTRAY MARSH CONTEXT AND VALUES



- Only shoreline property managed by CVC
- Key model site for Lake Ontario Integrated Shoreline Strategy to protect and restore natural features and functions including:
  - Clean air and water, biological resources, education and recreation

## RATTRAY MARSH FACTS

- Rare coastal wetland and only baymouth bar type between Burlington and Oshawa.
- Natural shingle beach vs 80% Mississauga hardened shoreline. Such cobble beaches only 6% of Lake Ontario shoreline.
- Rare Carolinian life zone species moderated by lake influence and as a resource for climate change adaptation.

## RATTRAY MARSH FACTS

- 212 native plants, 219 bird species, 37 butterflies/moths and 25 mammals including 7 bat species.
- Endangered or Species at Risk include Butternut, Least Bittern plus 45 other birds and Milk Snake. Snapping Turtle hibernation areas radio tracked.
- Monitoring reports available for water quality, benthic invertebrates, fish, birds and wetland plants.
- Archeological evidence of First Nations including net stones.

# HISTORIC CONDITIONS



1954

# CURRENT CONDITIONS



2006

## **CHRONOLOGY – 2005 to 2008**

- CVC assesses situation and concludes aquatic conditions are in very poor health. Draft background document and restoration alternatives completed by CVC
- Meeting with Mayor encourages CVC to come up with plan to address infilling of marsh. City commits to stabilizing excessive erosion on Sheridan Creek.
- Sheridan Creek Watershed Plan initiated to address other watershed level impacts and restoration actions to restore the marsh

## CHRONOLOGY – 2005 to 2008

- Rattray studies suggested most sediment originated from historical agriculture and construction phase of urbanization. Low water levels and encroachment of cattails and terrestrial vegetation threaten loss of open water habitat.
- Carp exclosures reveal open water being maintained by carp impacts.



## CHRONOLOGY - 2009-2010

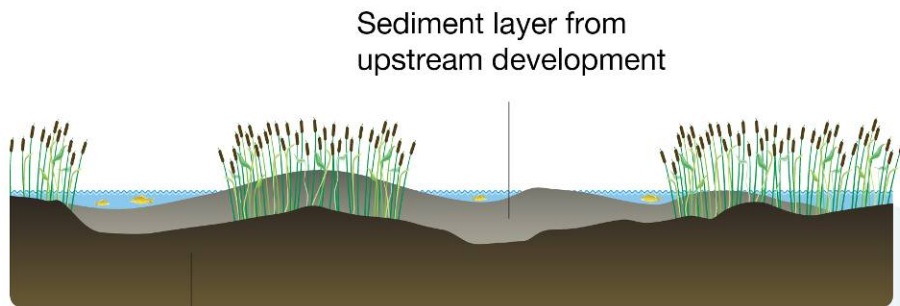
- Formal Environmental Assessment conducted by consultant for CVC
- Concept plan to dredge mineral sediments overlaying the original organic substrates that supported a more diverse and productive aquatic and wetland community
- Carp control would also be an integral part of the restoration
- Extensive communications plan including Steering Committee, Rattray Marsh Protection Association (RMPA), City, Region, MNR, Ratepayers and public meetings.

## CHRONOLOGY - 2011-2012

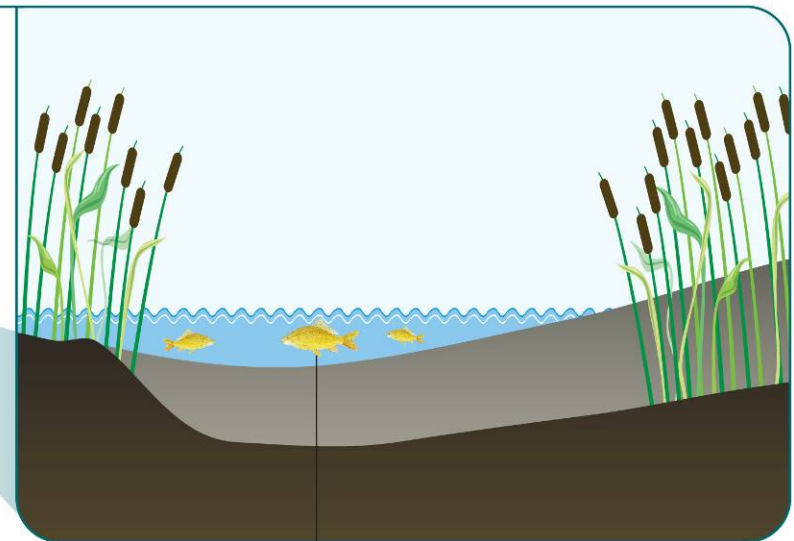
- After the Rattray EA was approved, consultants were hired do a detailed site plan for approval agencies.
- Temporary access road will be built into the marsh for heavy equipment access for dredging. The road will be removed and area restored.
- Negotiated with Region of Peel to install the first part of road and staging area for heavy equipment as part of decommissioning water main.
- Public Meeting update November ?? 2013 and committed to annual public meetings given ongoing interest and support.

# RESTORATION

## BEFORE



Sediment layer from  
upstream development

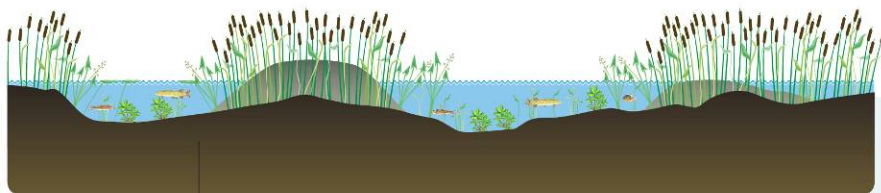


Organic peat layer that once supported  
a diverse plant and fish population

Non-native carp have uprooted much  
of the underwater plant life as they feed  
in the soft sediment layer of the marsh

# RESTORATION

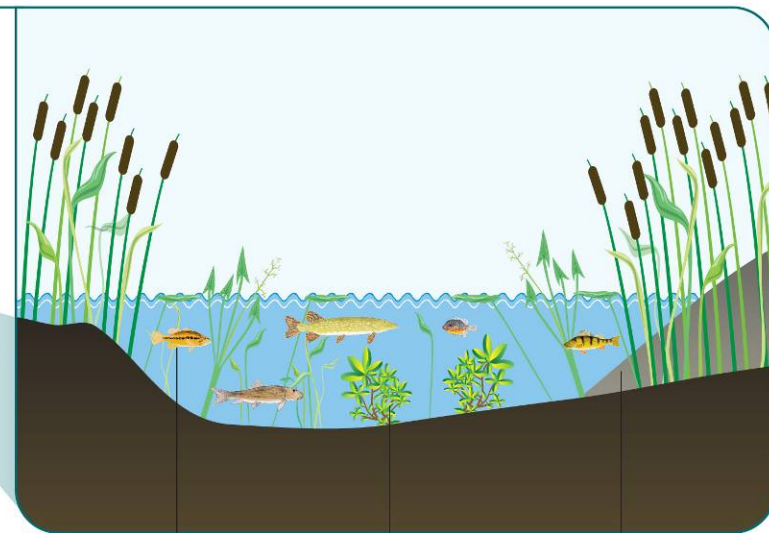
## AFTER



Organic peat layer is now exposed, supporting a diverse plant population

Non-native carp have been excluded from the marsh using a combination of traps and barriers

A diverse fish population now thrives in the marsh. Native species such as Northern Pike, Large Mouth Bass, White Sucker, Pumpkin Seed and Perch now call the marsh home.



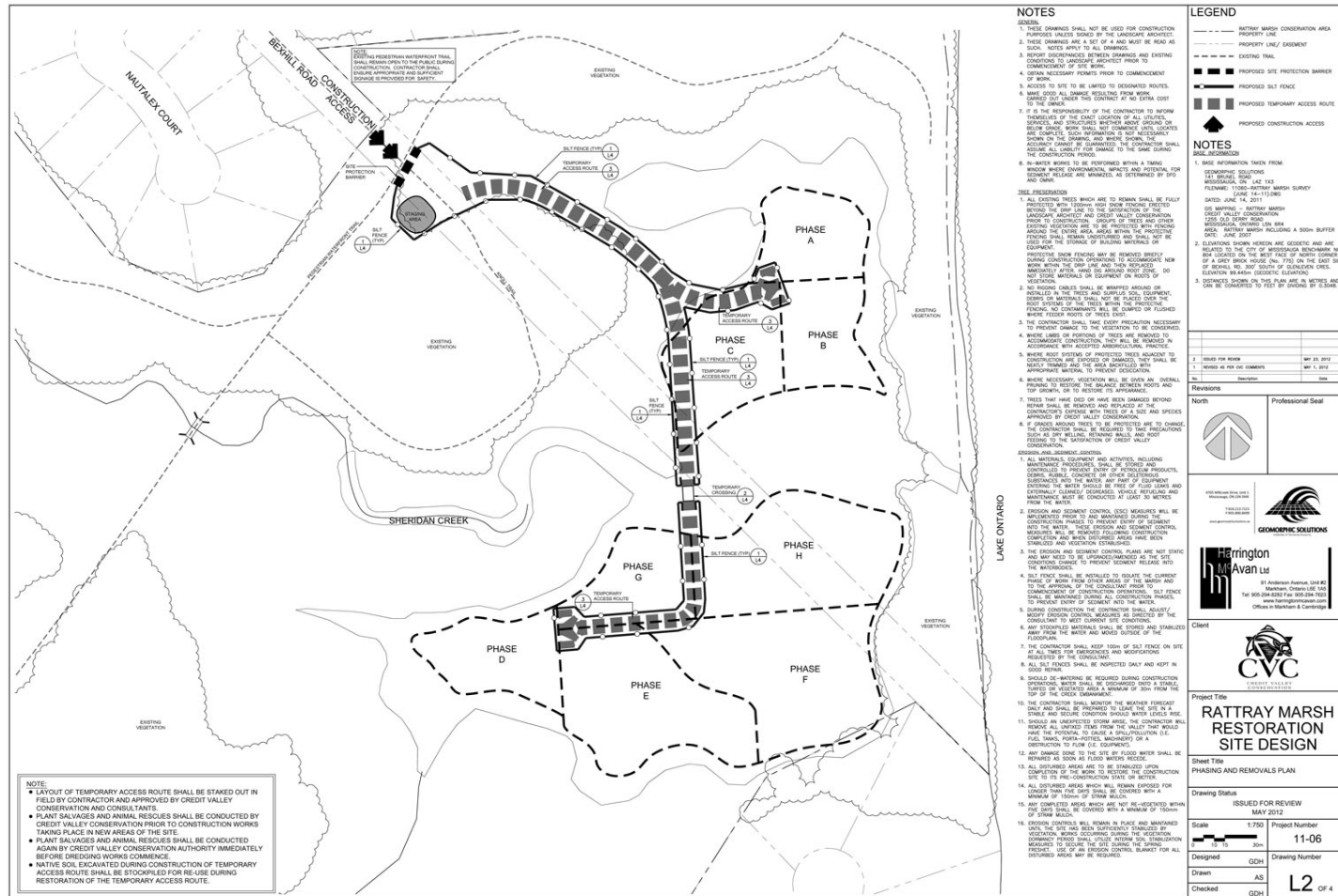
Submergent plants and lily pads take root, adding to the marsh's biodiversity

Sediment layer is left undisturbed in areas with extensive cattail growth, leaving plant and animal life unaffected

# Approved Concept Plan



**Credit Valley Conservation**



## CHRONOLOGY - 2013

- Wetland Nursery set up to supply restoration plantingd.
- In partnership with RMPA \$20K from provincial Great Lakes Guardian Community Fund to install traps that removed the first 200 carp.
- Exclusion fencing completed prior to anticipated first phase of dredging in winter of 2014.
- Secured additional \$50K from DFO Recreational Fisheries fund with help from local MP Stella Ambrose.
- Seeking additional funding from Province. Base funds available from Region of Peel and CVC.
- Site Plan details for 2014...