

New York State Office of Parks, Recreation and Historic Preservation  
Niagara River Area of Concern

# Habitat Restoration Projects

## Grand Island, New York

November 15, 2018



**Parks, Recreation  
and Historic  
Preservation**

**Department of  
Environmental  
Conservation**



# Welcome



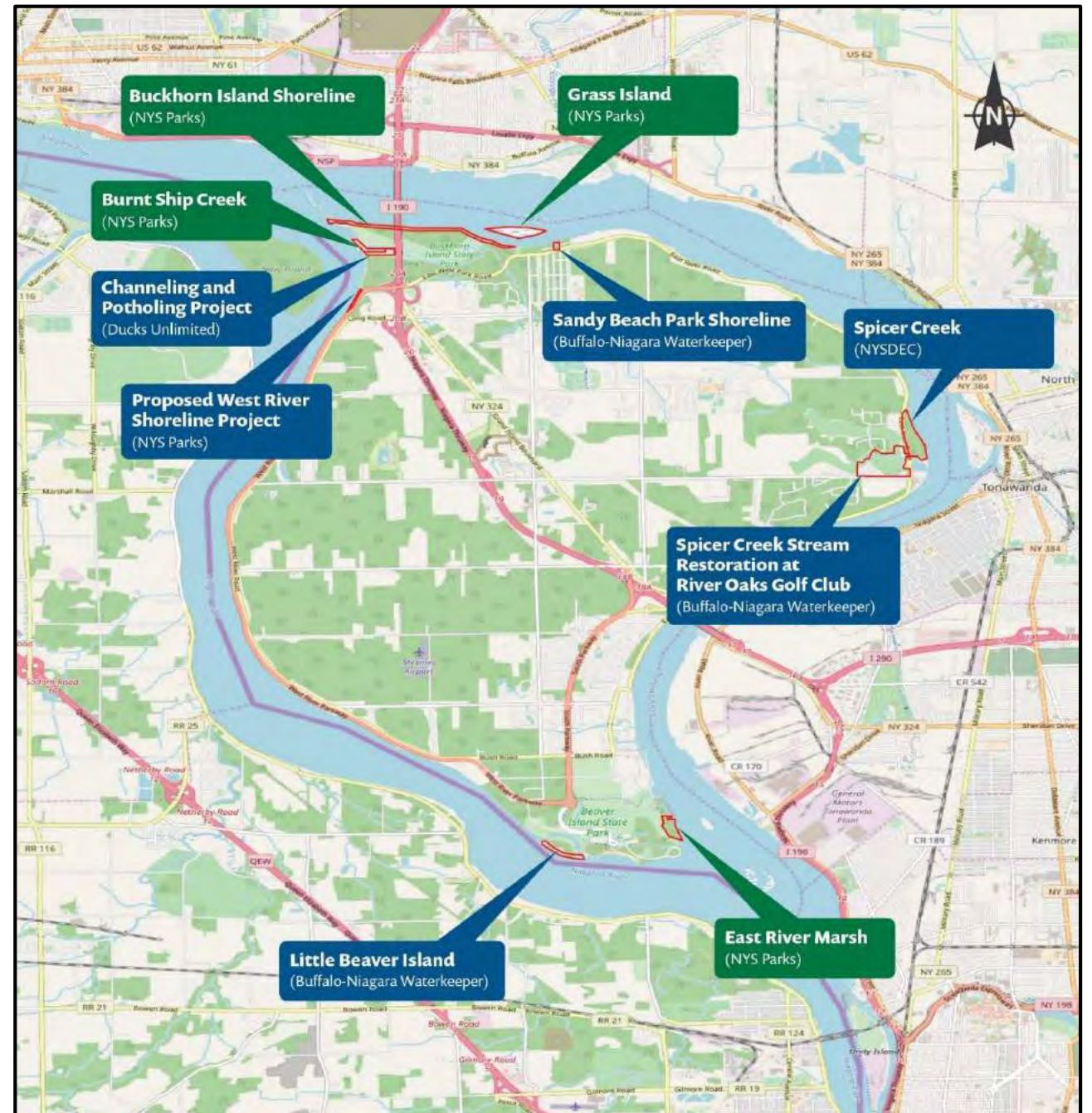
**Parks, Recreation  
and Historic  
Preservation**

Mark Mistretta,  
Director, Western District,  
NYS Parks



# Niagara River Habitat Restoration Projects

- Projects are part of a larger plan
- Multiple agencies / organizations are sponsoring complementary projects
- Today's presentation describes four projects sponsored by NYS Parks



# Background

---

- Niagara River Area of Concern (AOC)
- Remedial Action Plan (RAP)
- Beneficial Use Impairments (BUIs)
- Great Lakes Restoration Initiative (GLRI)
- Great Lakes Fishery and Ecosystem Restoration Program (GLFER)
- Parks Habitat Restoration Projects

# U.S. Niagara River Remedial Action Plan

**100+ Years of Pollution**



**30 Years of Focused Remediation**



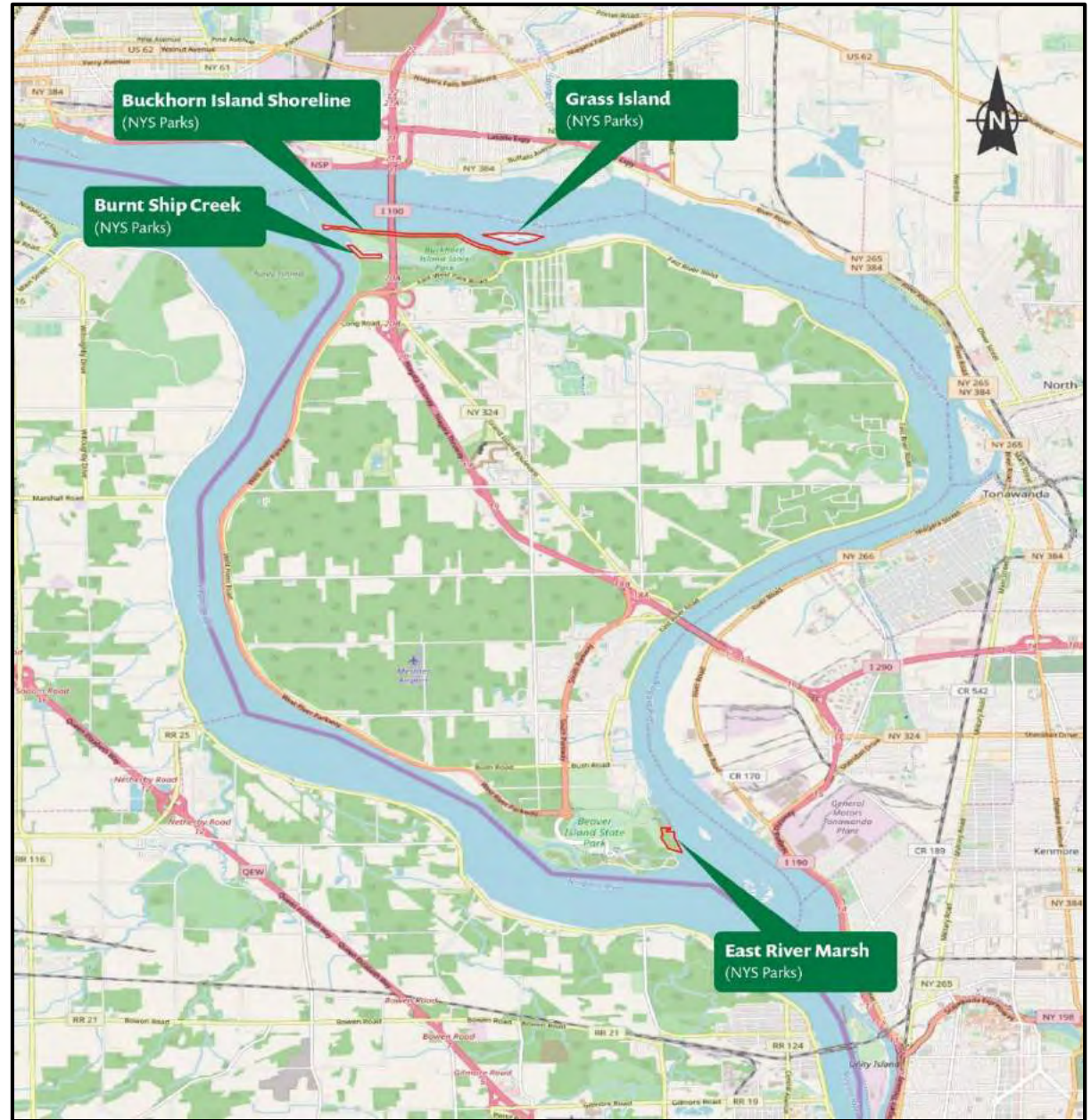
**?? Years of Restoration/Recovery**



# NYS Parks Niagara River Habitat Restoration Projects

Today's presentation provides an overview of the four projects sponsored by NYS Parks

- East River Marsh
- Burnt Ship Creek
- Buckhorn Island Shoreline
- Grass Island



# East River Marsh

Habitat Restoration Design

# East River Marsh Project Area

## Challenges

- Shoreline erosion from wind, waves and scour
- Loss of habitat
- Lack of wetlands along river's edge
- Few places for fish/aquatic animals to breed







# Concept Design for Nearshore Protection and Restoration – Reefs

- Protect shoreline, stabilize riverbanks, and reduce erosion
- Expand river wetland habitats
- Contribute to removal of Loss of Fish and Wildlife BUI



# East River Marsh Existing Barrier Reefs



# Concept Design for Nearshore Protection and Restoration – Inland Pond and Ferry Slip Modifications

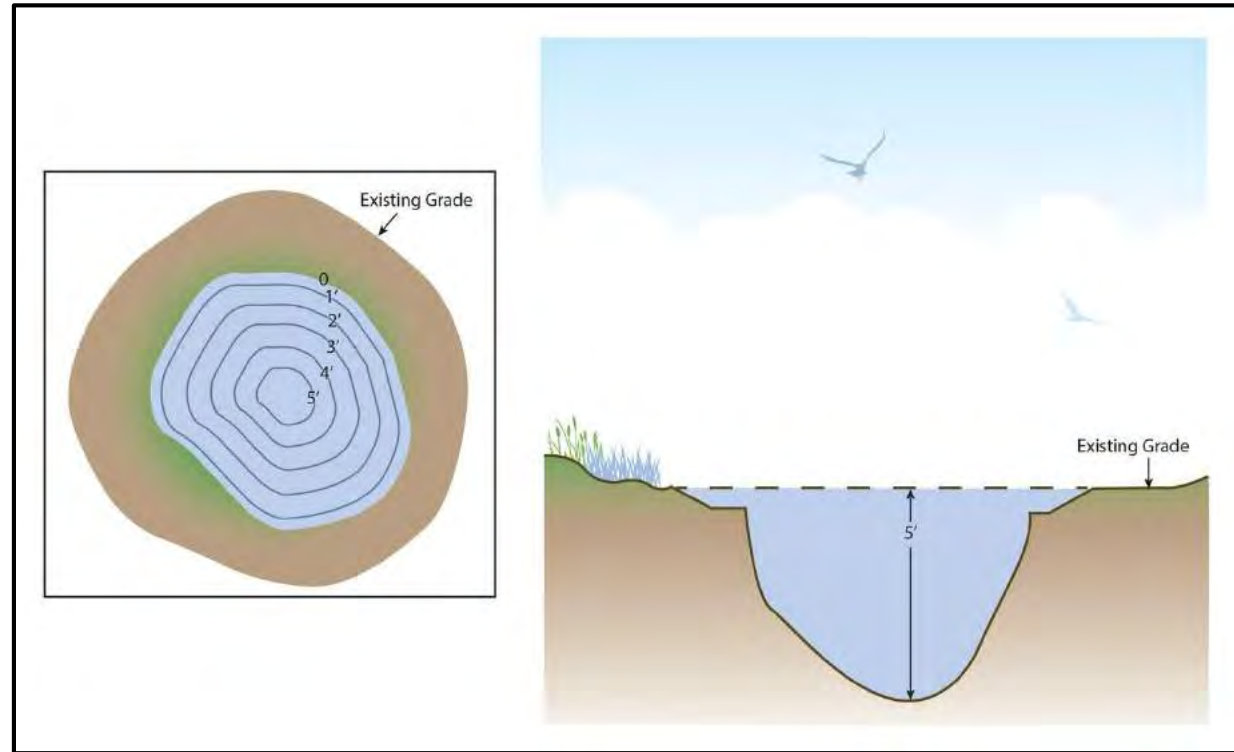
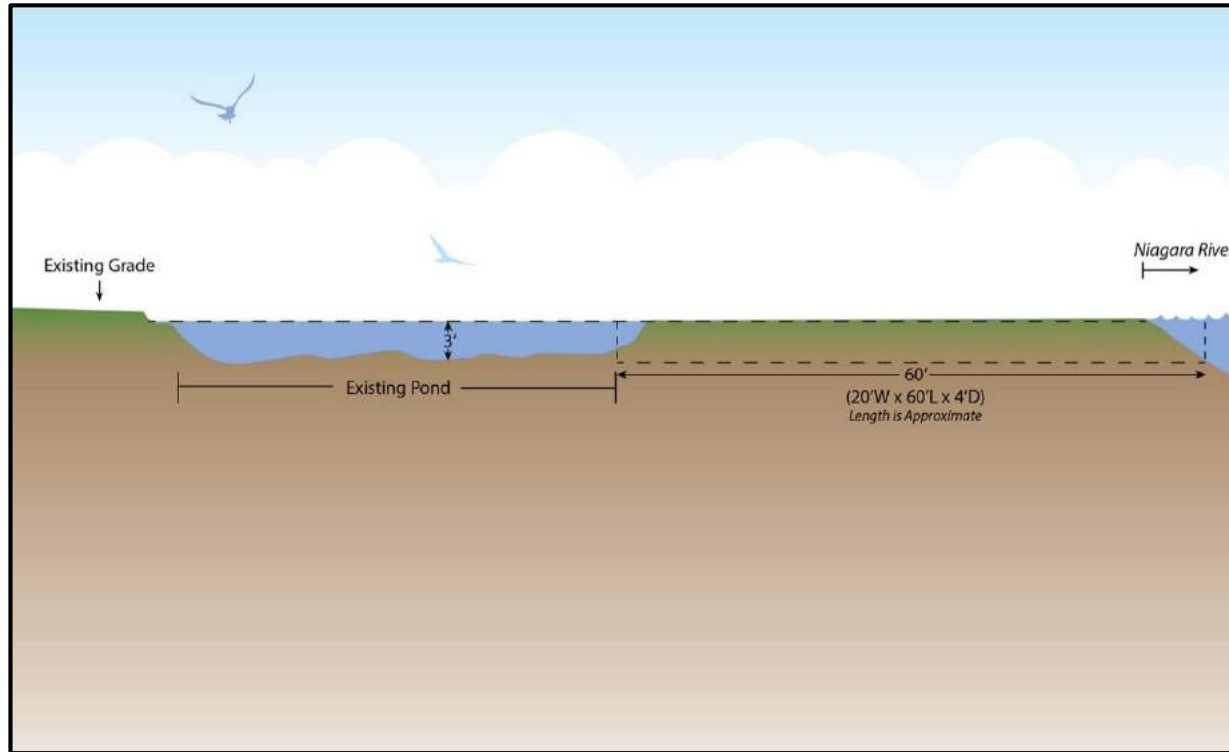
- Create off-river fish habitat
- Connectivity to riparian areas
- Protection from shoreline erosion



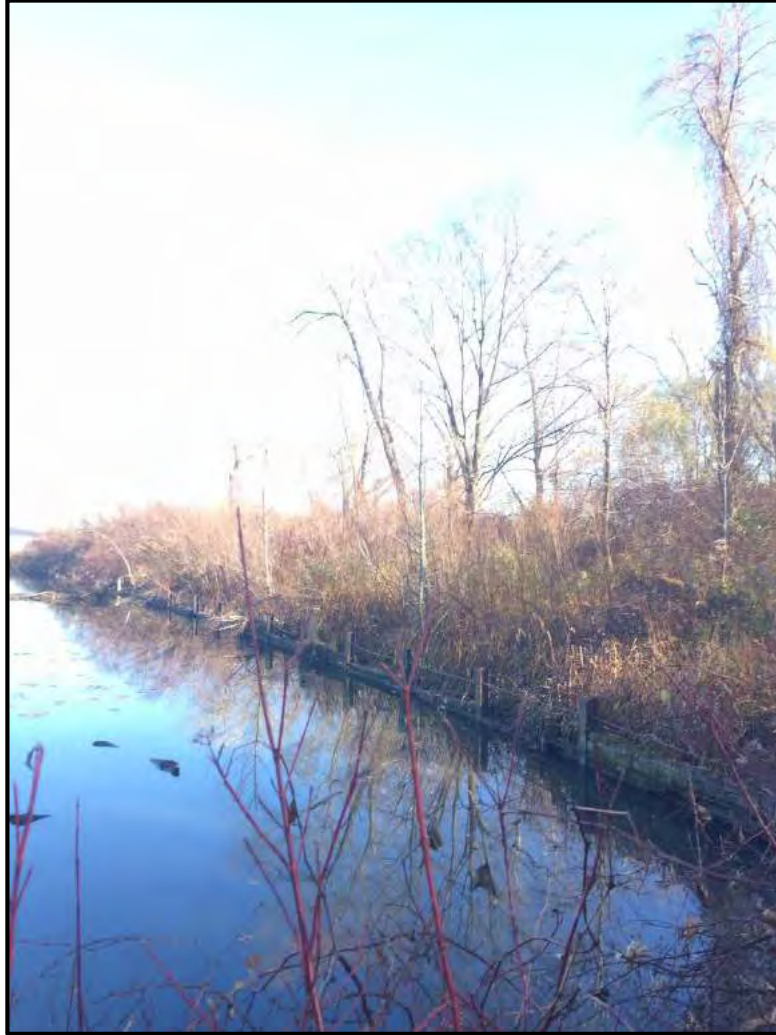
# Interior Pond/Wetland



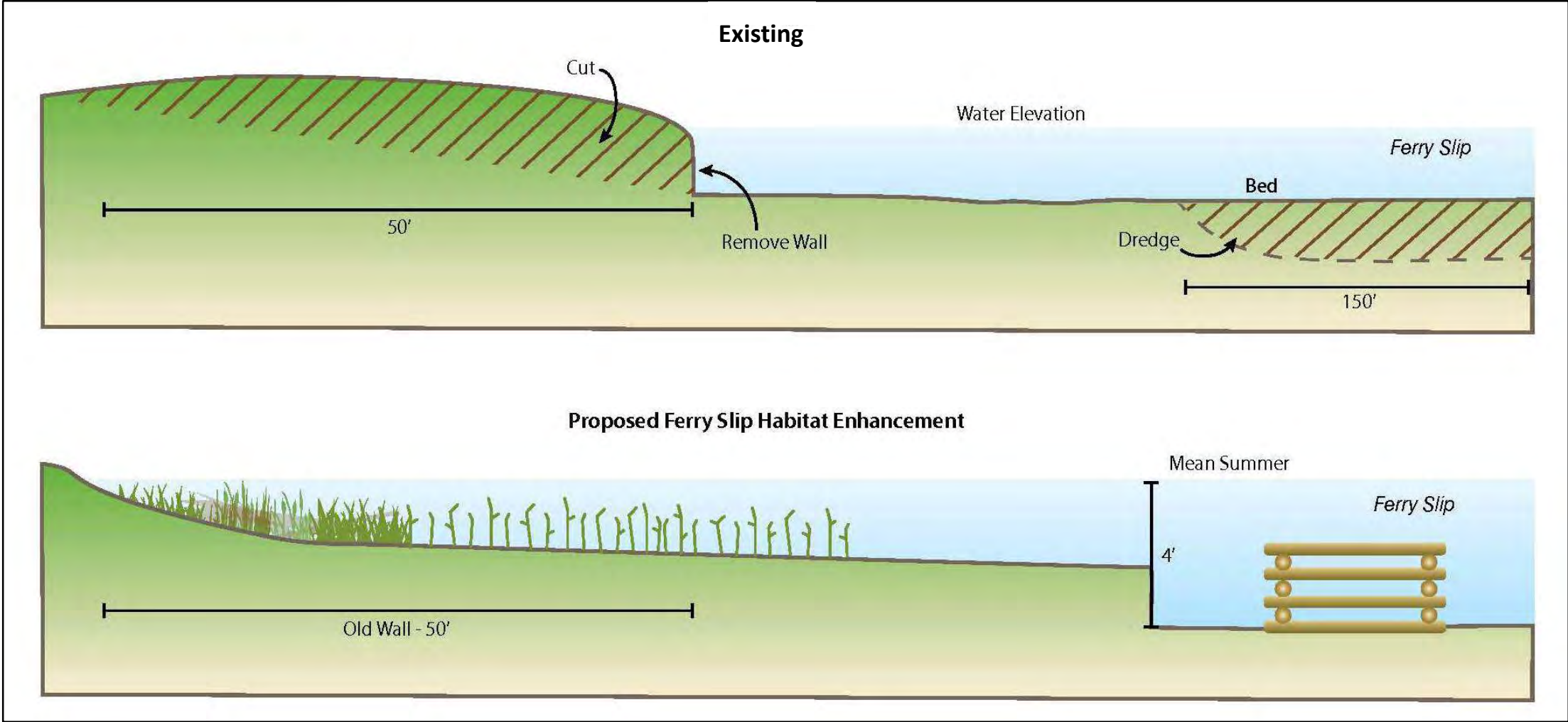
# Concept Design for Excavated Channel from River to Existing Pond/Wetland (lateral view)



# Former Ferry Slip



# Enhancement for Ferry Slip Area





# Porcupine Crib



# Burnt Ship Creek

Habitat Restoration Design

# Burnt Ship Creek Project Area

## Challenges

- Loss of former stream channel
- Restricted or absent aquatic and wildlife passage
- Reduced biodiversity and productivity



# Burnt Ship Creek Historic Photo Sequence

1951 – Pre- NYPA



2002



# Burnt Ship Creek Channel Occlusion - 2017



# Burnt Ship Creek Channel Occlusion





# Burnt Ship Creek Restoration and Enhancement Concepts

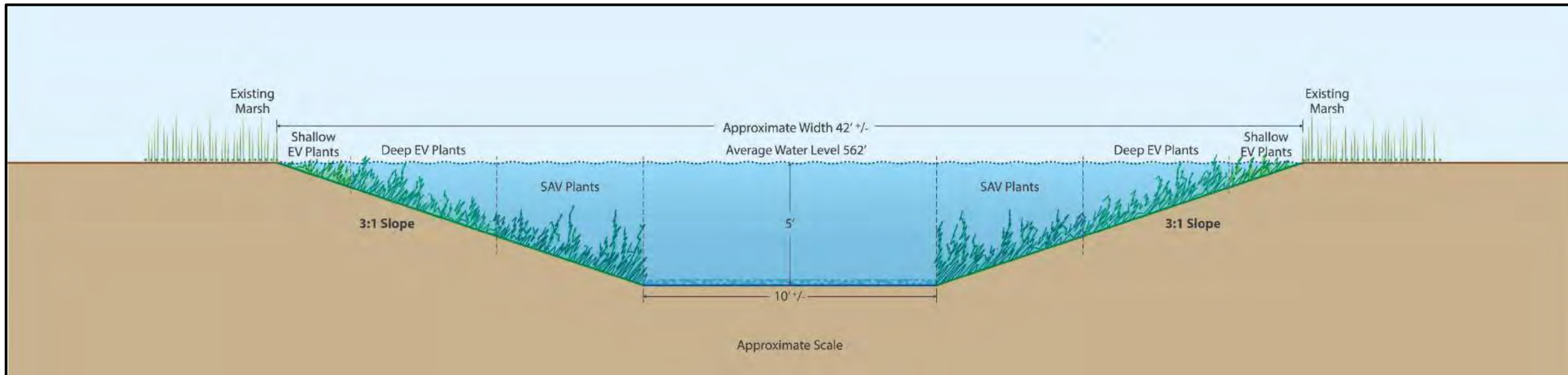
- ~ 900 ft. of Channel Dredging for Fish Passage
- Cove Habitat Enhancements
- Open Water Habitat Feature Enhancements





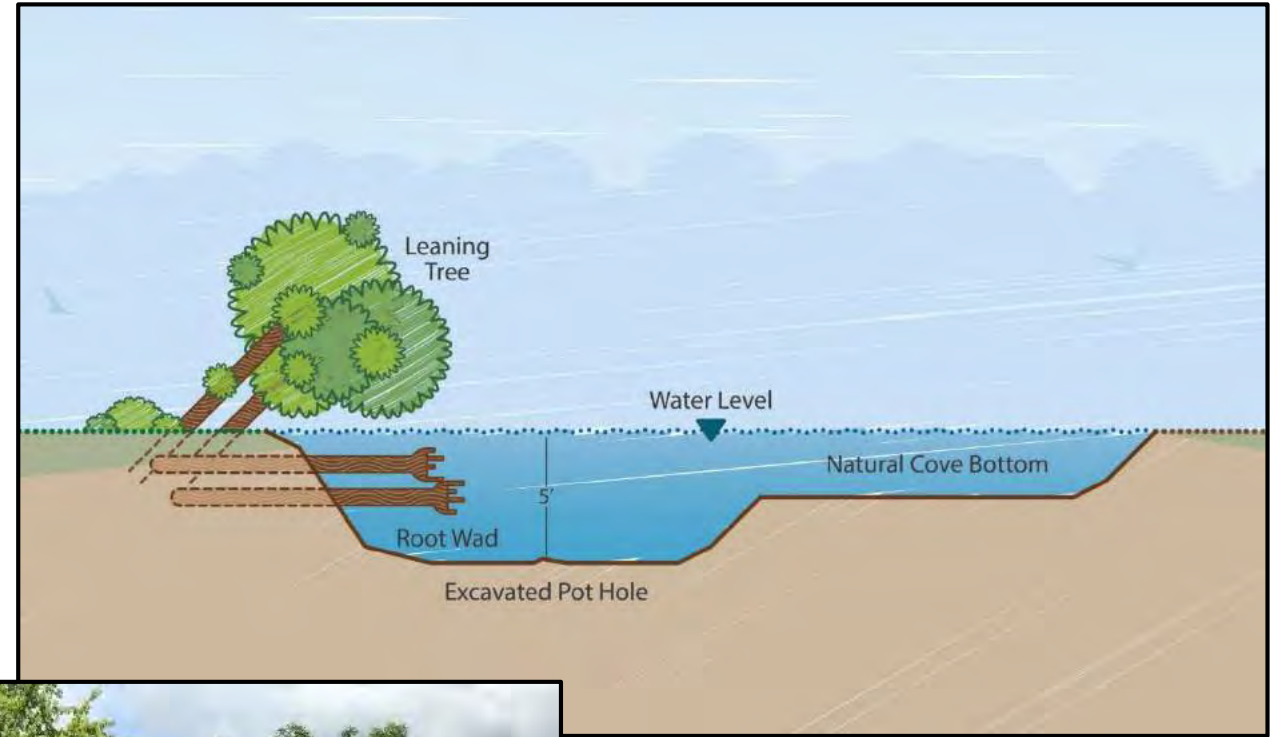
# Burnt Ship Creek Channel Concept Design

- 10+/- Channel Bottom Width
- 5 ft. Shallow Depth
- Sloped channel sides
- EV & SAV plantings



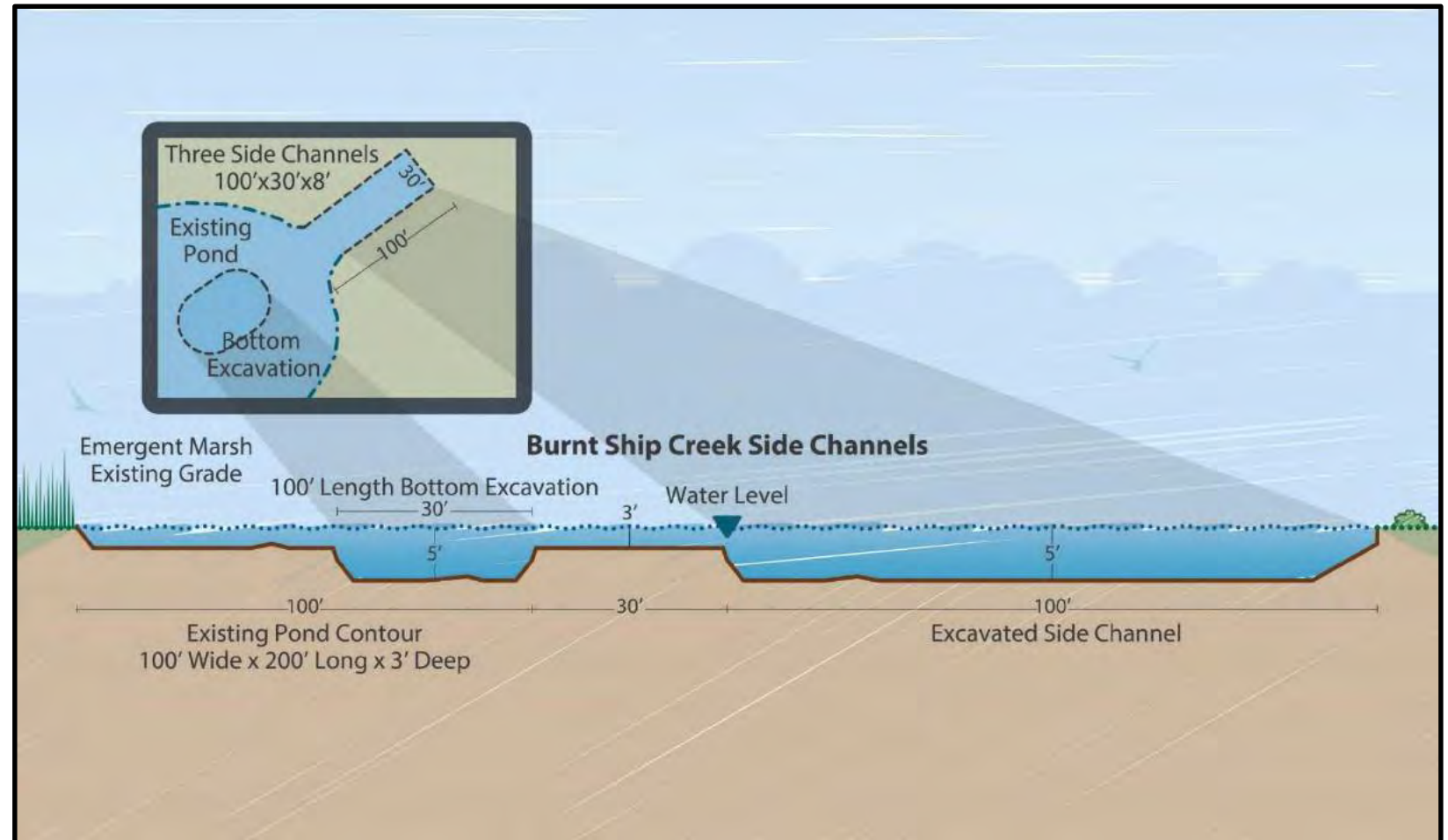
# Burnt Ship Creek Cove Habitat Enhancements

- Embedded Logs with Root Wads
- Emergent Marsh Habitat & Planting Zone
- Transition channel to newly excavated creek channel
- Deepening of selected areas
- Leaner trees for shade



# Other Burnt Ship Creek Habitat Enhancements

- Side Channels
- Pothole



# Buckhorn Island Shoreline

Habitat Restoration Design

# Buckhorn Island Shoreline Project Area

## Challenges

- Boats, high waves, and ice scour
- Loss of habitat for aquatic animals due to shoreline and riverbank erosion
- Lack of riparian wetlands



Grass Island



Park Hiking Trail

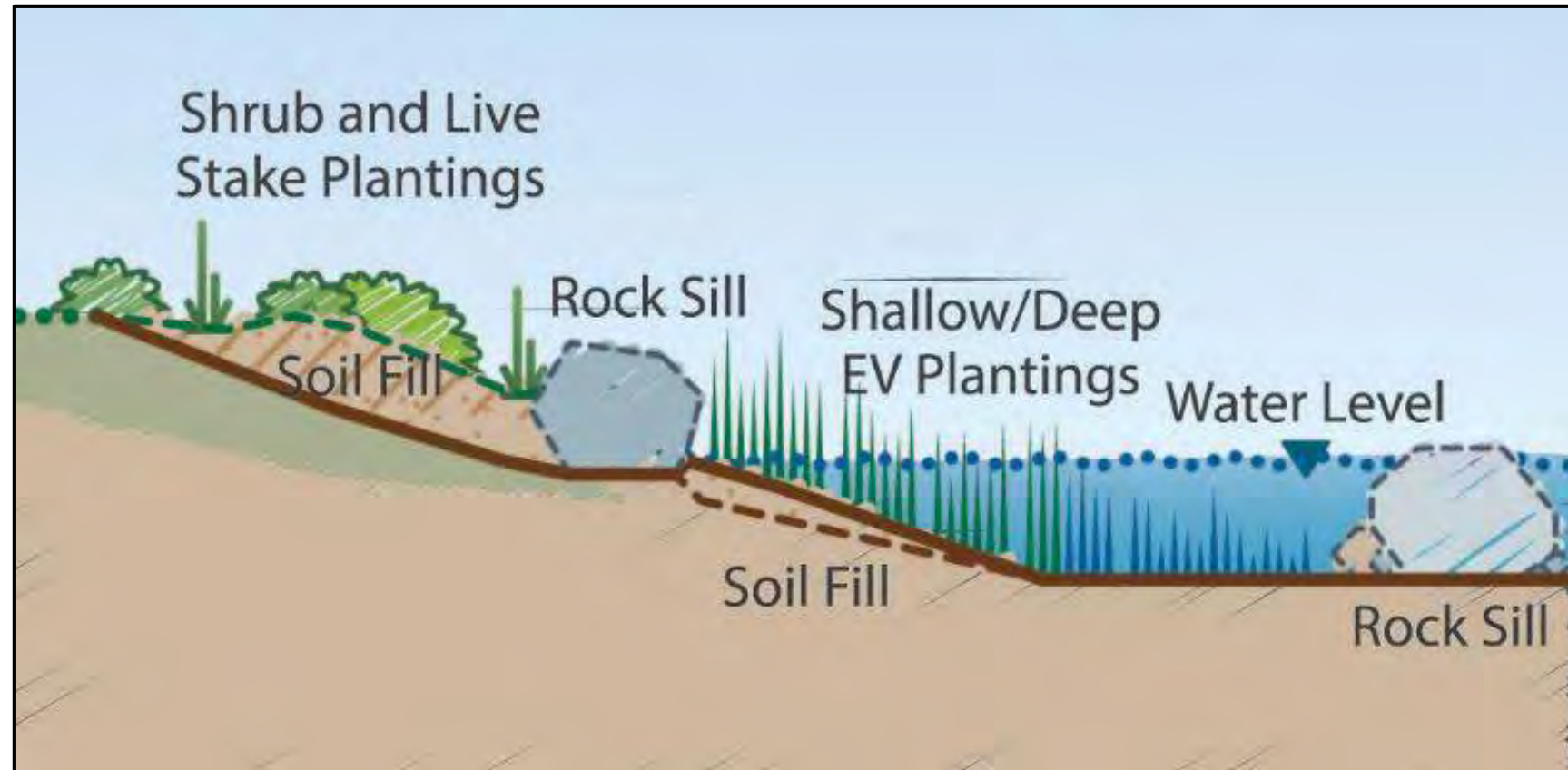


# Shoreline Erosion



# Restoration Concepts for Energy Dissipation, Stability and Habitat

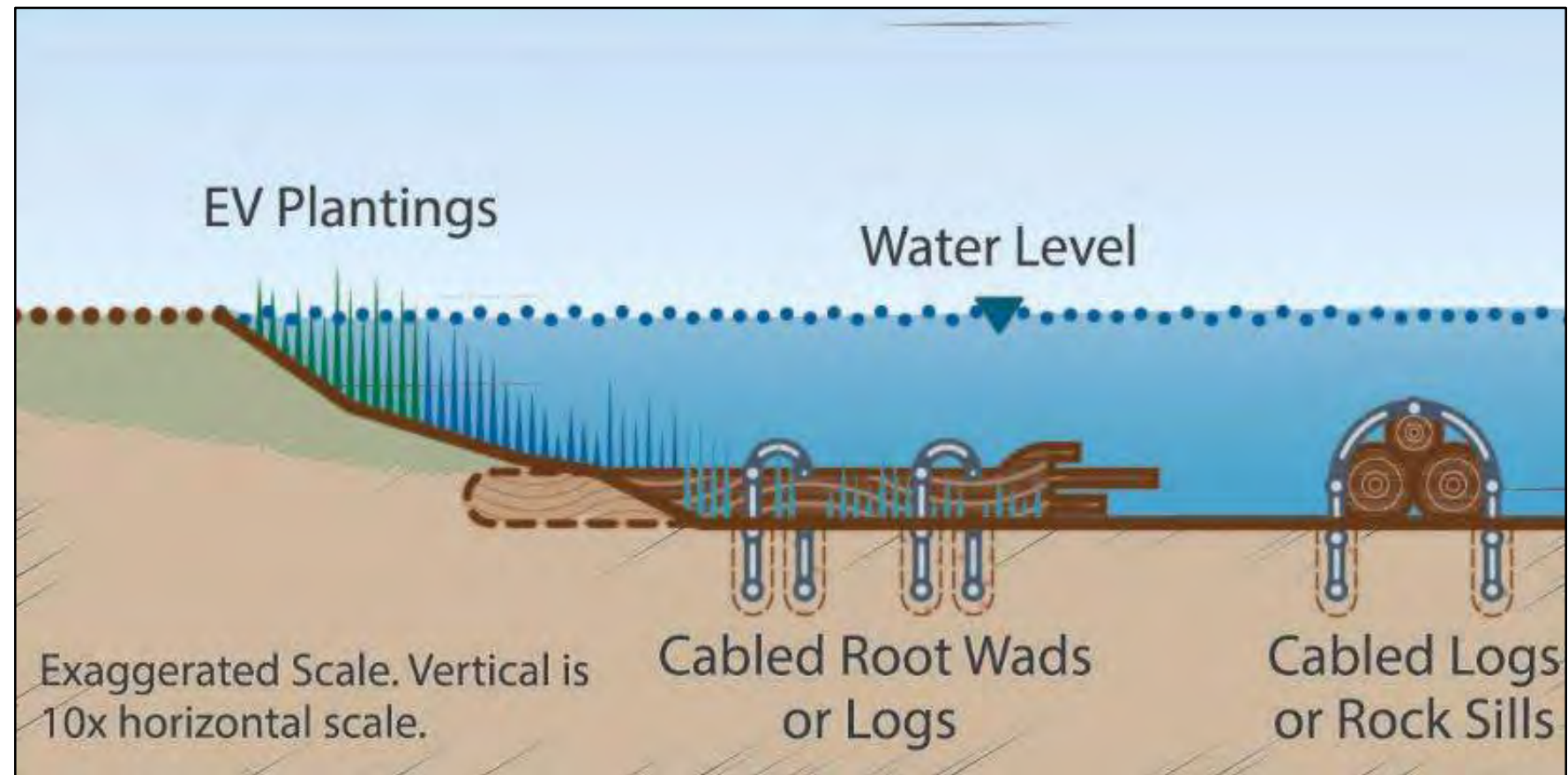
- Nearshore, Shoreline, Bank and Riparian Upland





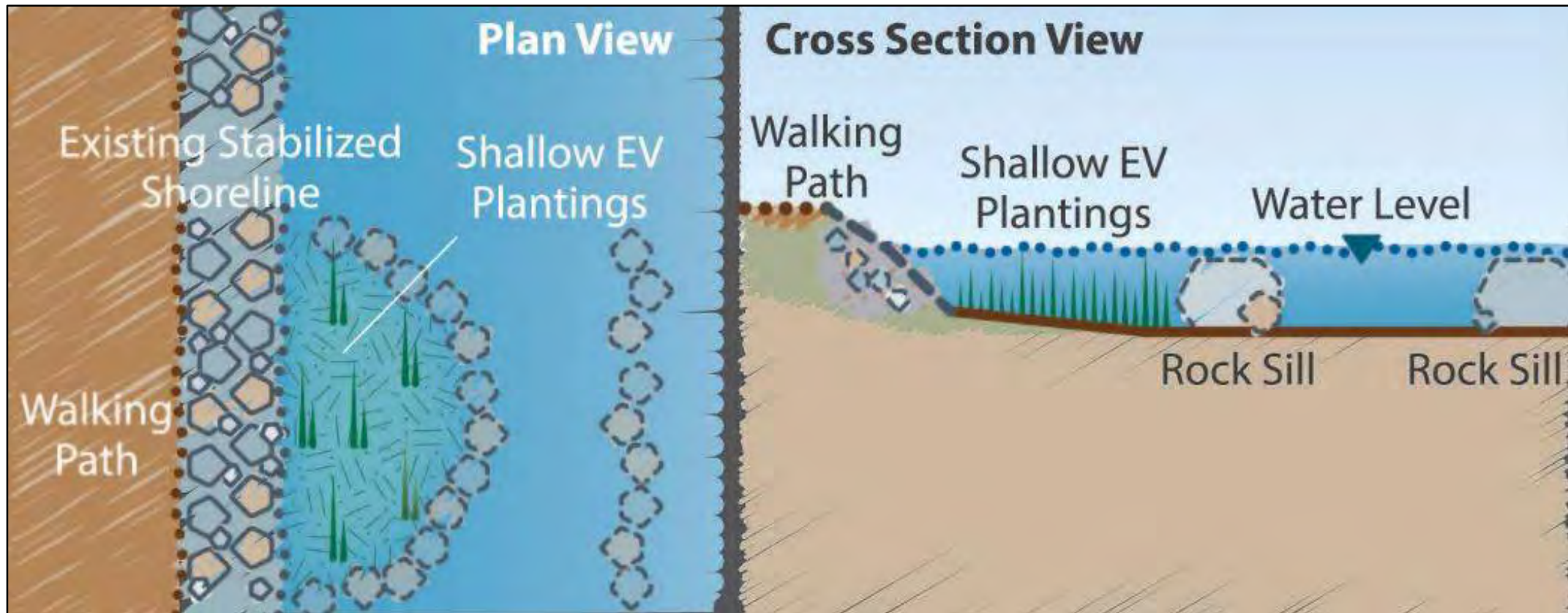
# Restoration Concepts for Energy Dissipation, Stability and Habitat

- Nearshore, Shoreline, Bank and Riparian Upland



# Restoration Concepts for Energy Dissipation, Stability and Habitat

- Nearshore, Shoreline, Bank and Riparian Upland



# Grass Island

Habitat Restoration Design

# Grass Island Project Area

## Challenges

- Habitat loss due to human and natural causes
- Loss of natural island structure



# Grass Island Area 1927



ERIC COUNTY NEW YORK  
OFFICE OF THE COUNTY ENGINEER  
GREATER MOTORWAY SYSTEM  
JUNE 17 1927

ERIC COUNTY NEW YORK  
OFFICE OF THE COUNTY ENGINEER  
GREATER MOTORWAY SYSTEM  
JUNE 17 1927

# Grass Island



1966



1978-Town of Grand Island Outfall Construction

# Grass Island Deterioration Over Time

2011



2017



# Human Interaction


**tripadvisor**

About Niagara Falls | Hotels | Vacation Rentals | Flights | Restaurants | **Things to do** | Cruises | ...

United States > New York (NY) > Niagara Falls > Niagara Falls - Things to Do > Grass Island

## "Awesome summer hangout!"

★★★★★ Review of Grass Island



**Grass Island**  
Niagara River by the North Grand Island Bridge, Niagara Falls, NY  
[Website](#) [Improve this listing](#)

**1 photo**

**Christopher J**  
Niagara Falls, New York  
7 likes

★★★★★ Reviewed May 28, 2016  
**Awesome summer hangout!**  
Need a boat to access, but is a great place to hang out, party, and enjoy summer on the upper Niagara River.  
[Ask Christopher J about Grass Island](#)

*This review is the subjective opinion of a TripAdvisor member and not of TripAdvisor LLC.*

**Reviews (10)** [Write a Review](#)

Traveler rating	Traveler type	Time of year	Language
<input type="checkbox"/> Excellent 4	<input type="checkbox"/> Families	<input type="checkbox"/> Mar-May	<input checked="" type="radio"/> All languages
<input type="checkbox"/> Very good 5	<input type="checkbox"/> Couples	<input type="checkbox"/> Jun-Aug	<input type="radio"/> English (9)

## Grass Island


1,548 like this

[Send Message](#)

**DESCRIPTION**  
For the love of the sunken island at the north side of the Niaga... [See More](#)

**CREATE NEW GROUPS**  
Groups make it easier than ever to share with friends, family and teammates. [Create Group](#)

**RECENT GROUP PHOTOS** [See All](#)



**5 boats out here still hanging onto summer...**

**RECENT ACTIVITY**

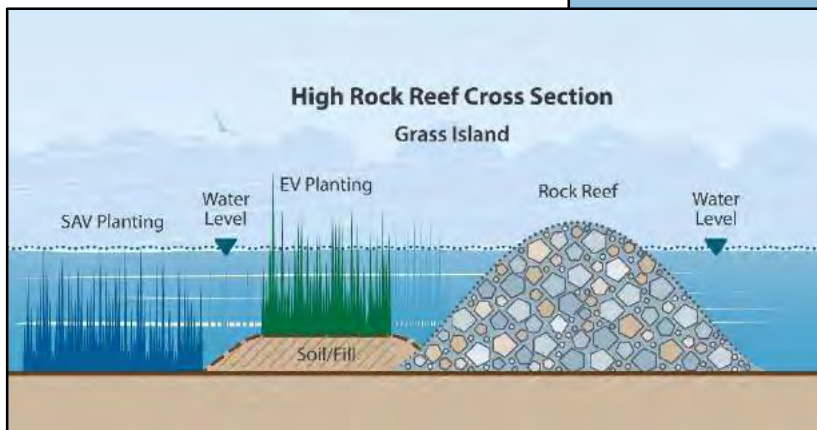
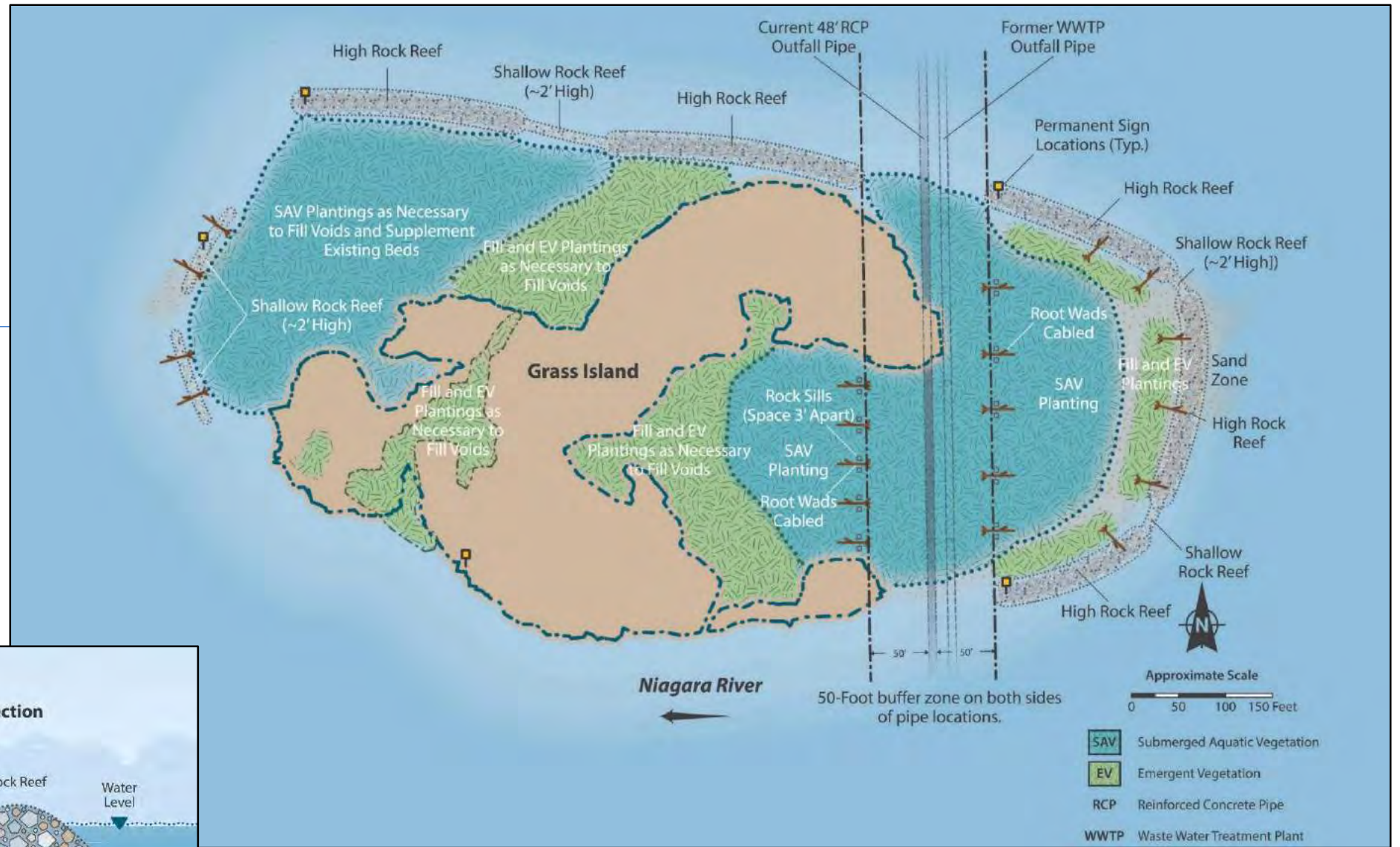
**Josh Karn**  
October 8 at 4:48 PM

[+ Join Group](#) [More](#) Join this group to post and comment.









# Restoration Concept



# What's Next?

Construction has begun and will continue through Summer 2020

Site Name	Fall 2018	Winter 2018/2019	Spring 2019	Summer 2019	Fall 2019	Winter 2019/2020	Spring 2020	Summer 2020	Fall 2020	Winter 2020/2021	Spring 2021	Summer 2021
East River Marsh	Construction Start			Construction End								
Burnt Ship Creek					Construction Start			Construction End				
Grass Island					Construction Start			Construction End				
Buckhorn Island Shoreline									Construction Start			Construction End

# What's Next?

---

- Join our mailing list
- Project team will engage with municipalities and other stakeholders throughout process
- Parks may distribute updates in various ways
  - ✉ E-mail
  - 🌐 Web site: <https://parks.ny.gov/parks/174/>
  - 📄 Press release

# Thank you

Project Contact

David Spiering

Niagara River Restoration Project Manager

716-773-3271 x230

[David.Spiering@parks.ny.gov](mailto:David.Spiering@parks.ny.gov)