



LONG POINT  
BIOSPHERE  
— REGION —



# North Shore Resilience Coastal Resilience Action Plan Working Group Meeting #1



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Pete Zuzek, MES, CFM, P.Geo.

# Biosphere Land Acknowledgement

We acknowledge that we are living, working, playing and stewarding on the traditional treaty lands of the Mississaugas of the Credit First Nations. In particular, we would like to acknowledge the neutral, Anishinaabe and Haudenosaunee peoples.

Long before today, there have been First Nations peoples who have been the stewards of this place, meeting in circles such as ours with the focus on living a meaningful, truthful and cooperative life. We recognize and deeply appreciate their contribution in shaping and strengthening this community.

We are committed in a real way to shining a light on the promise and the challenge of Truth and Reconciliation.

# Agenda

- Review and Approve Agenda
- Introductions from Working Group Members
  - Members not present
  - Other members
- Review of Governance (Funding, Purpose and Activities, Working Group Terms of Reference, PAC, TAC, Website, High Level Review of Workplan)
- LUNCH
- Progress on the Workplan
- Other Business
- Next Meeting and Adjourn

# INTRODUCTIONS FROM WORKING GROUP MEMBERS



# Working Group Members

Working Group Members		
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# GOVERNANCE

# Coastal Resilience Action Plan: Port Glasgow to Long Point

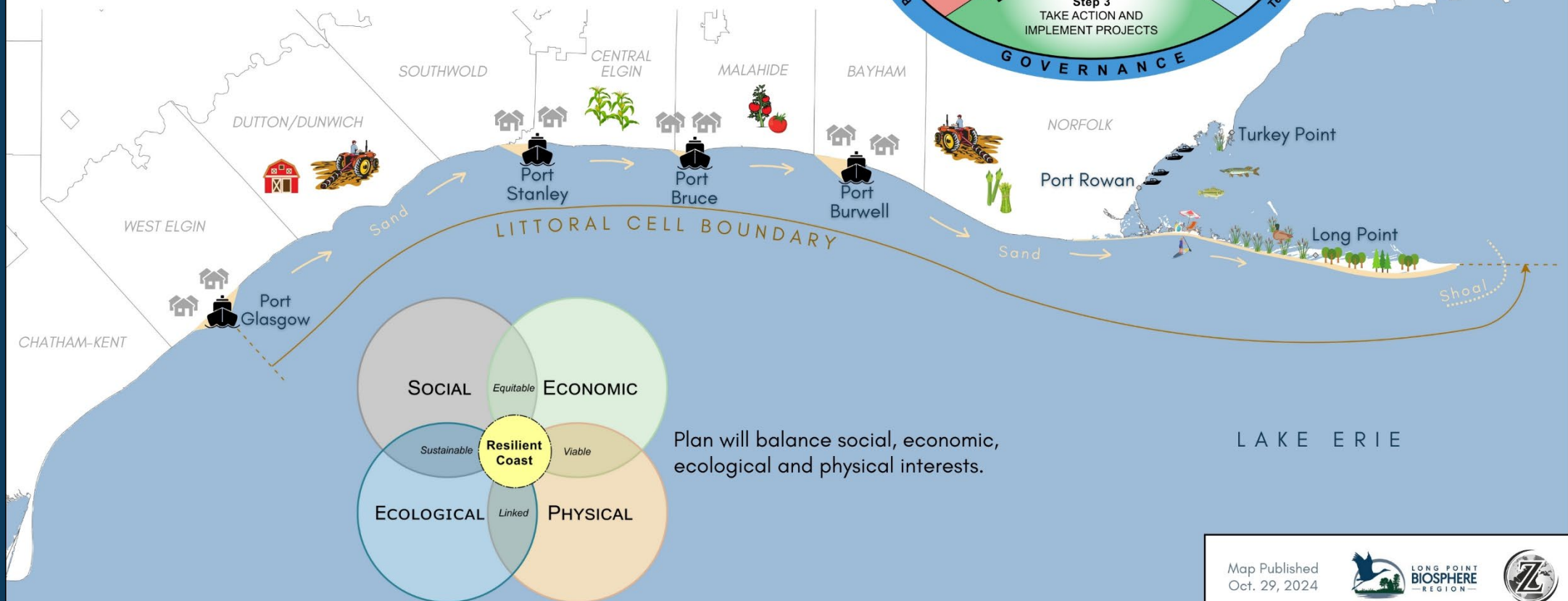
## Problem Statement:

Resilience to natural hazards, such as coastal storms, is low throughout the littoral cell. Ecosystems and built assets are vulnerable to flooding and erosion. Climate Change is making hazards more extreme and frequent, which will lead to more habitat loss and greater economic damages in the future.

## Goals:

- 1) Develop scientific knowledge on the movement of sand in the littoral cell.
- 2) Complete dune restoration with native plants and willing partners.
- 3) Co-develop a Coastal Resilience Action Plan with community and stakeholders.

## Approach:



# Goal and Objectives

- **GOAL**

- Develop and implement a coastal resilience action plan to restore natural sediment transport and coastal processes between Port Glasgow and Long Point in Lake Erie to increase resilience to coastal hazards and climate change

- **OBJECTIVES**

- Engage stakeholders to increase awareness of the benefits of restoring coastal processes and embracing nature-based solutions
- Restoration of 300 m of foredunes through plantings between Port Glasgow and Long Point in Lake Erie
- Collect physical data and develop a sediment budget and transport model to determine how and where sand and gravel move in the nearshore of the coast between Port Glasgow and Long Point, and inform coastal management
- Development of a Coastal Resilience Action Plan

# Funding

- **Application:** \$2.8M, received \$0.9M
- **Local Support:** In-kind (\$135k) and Cash (Norfolk \$100k, Bayham \$20k, Southwold \$15k)
- **Scope:**
  - Part time project management
  - Community engagement and workshops
  - Facilitator for the Public Advisory Committee
  - Independent review through Technical Advisory Committee
  - Coastal baseline (social, economic, ecological, physical)
  - Sediment characterization
  - Numerical modeling of sediment transport rates, harbour bypassing rates, and depositional sinks to complete a sediment budget
  - Beachgrass surveys, local beachgrass nurseries, and foredune restoration



# Governance

- **Working Group:** Municipal Government, Conservation Authorities, ENGOs, Province and Federal Government
- **Public Advisory Committee:** Experienced members of the public representing diverse geographies, user groups and stakeholders
- **Technical Advisory Committee:** Technical experts such as engineers, botanists, physical scientists who will provide peer review of the technical work



# Public Advisory Committee

- 8 to 10 members, Terms of Reference
- Selection process to have equal representation across the littoral cell, plus First Nations participation if they desire
- Prefer one representative from each participating Municipality, maximum two

# Technical Advisory Committee

- Dr. Ryan Mulligan, Coastal Engineer from Queens University has accepted
- Dr. Chris Houser, Coastal Geomorphologist, University of Waterloo
- Member from the Public Advisory Committee (citizen scientist)
- Other potential candidates:
  - Ecologist
  - Botanist
  - First Nation member (Traditional Ecological Knowledge)



# PROGRESS ON THE WORKPLAN

# Progress on Website and Logo

- Domain registered:  
[www.northshoreresilience.ca](http://www.northshoreresilience.ca)
- Content under development  
(still password protected)
- Need a logo artist (Pelee  
example below)



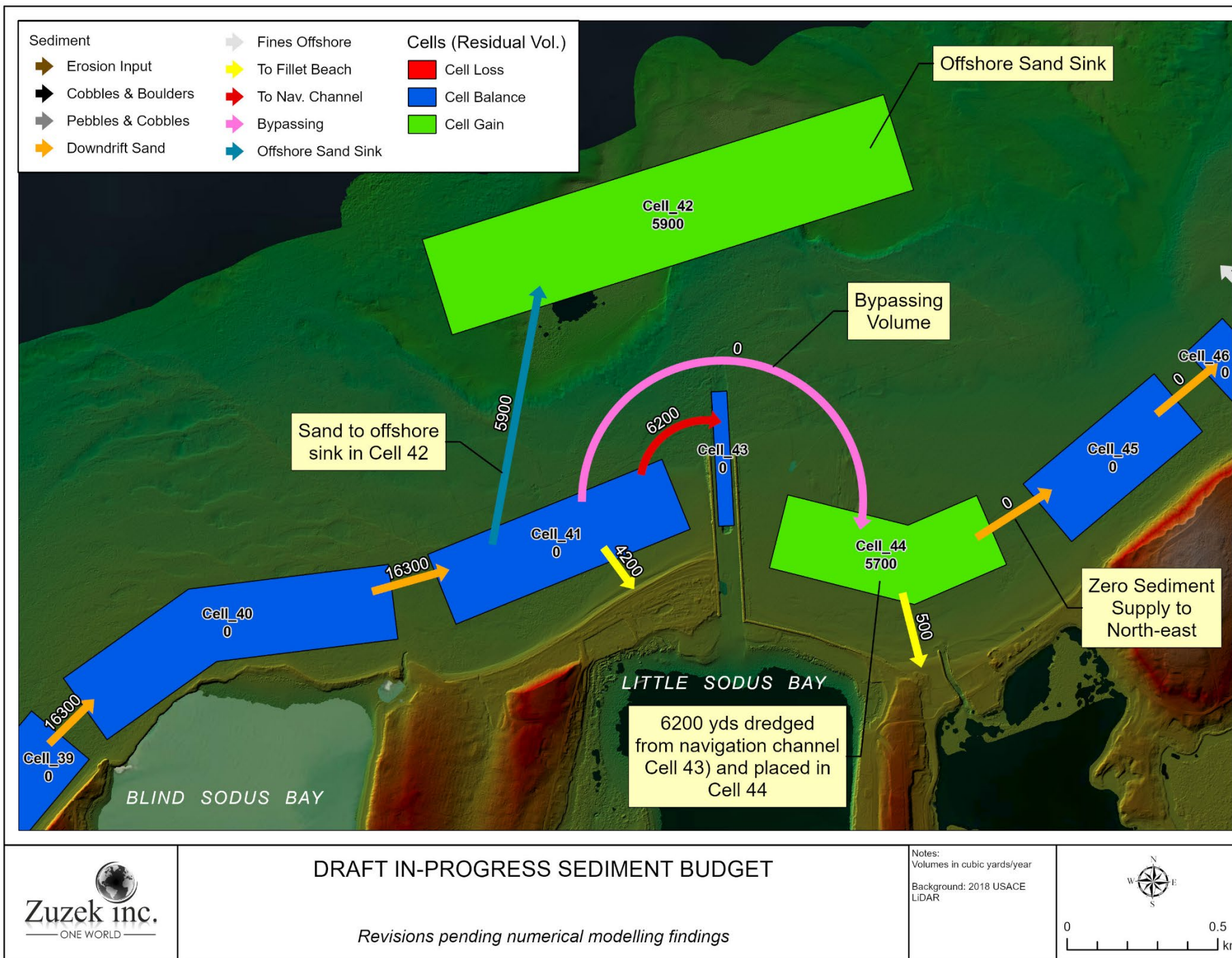
# July Sediment Sampling

- Preliminary sediment samples to characterize grain size





# Example of GIS Sediment Budget







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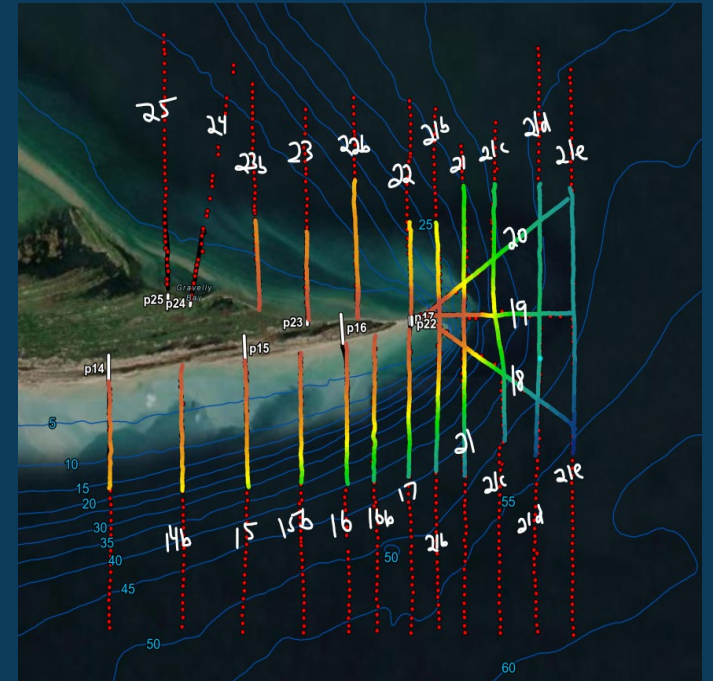
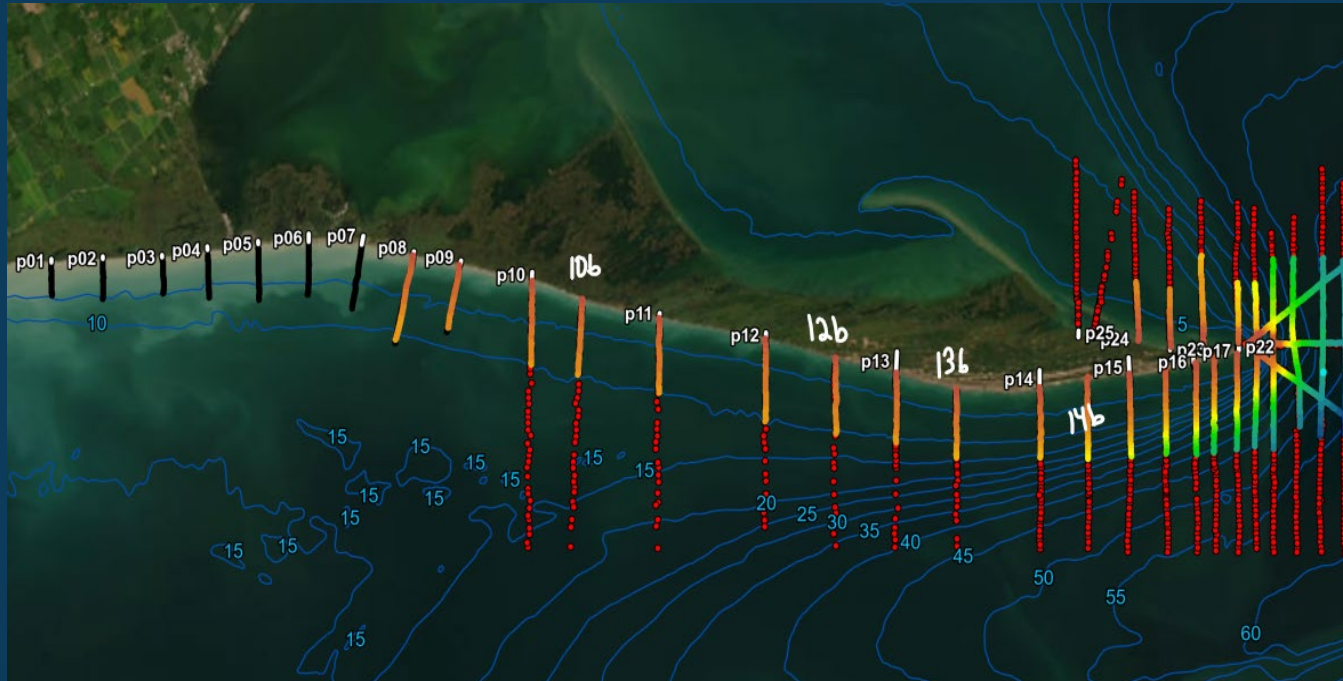
# Bluff Erosion





# Bathymetric Surveying

- Bathymetric Surveying to collect depths and sonar imaging



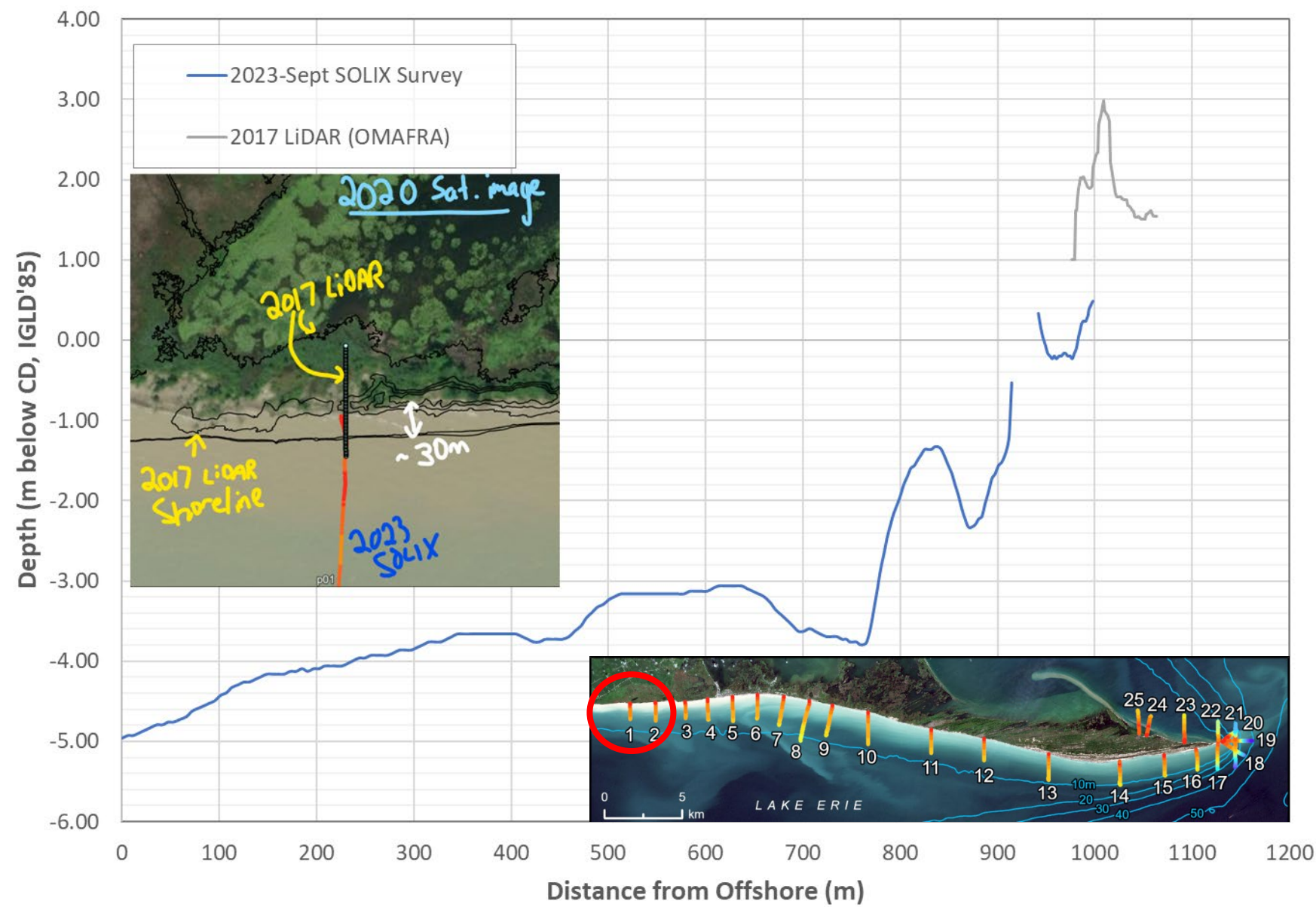
# Profile 1

## Hahn

## Unit,

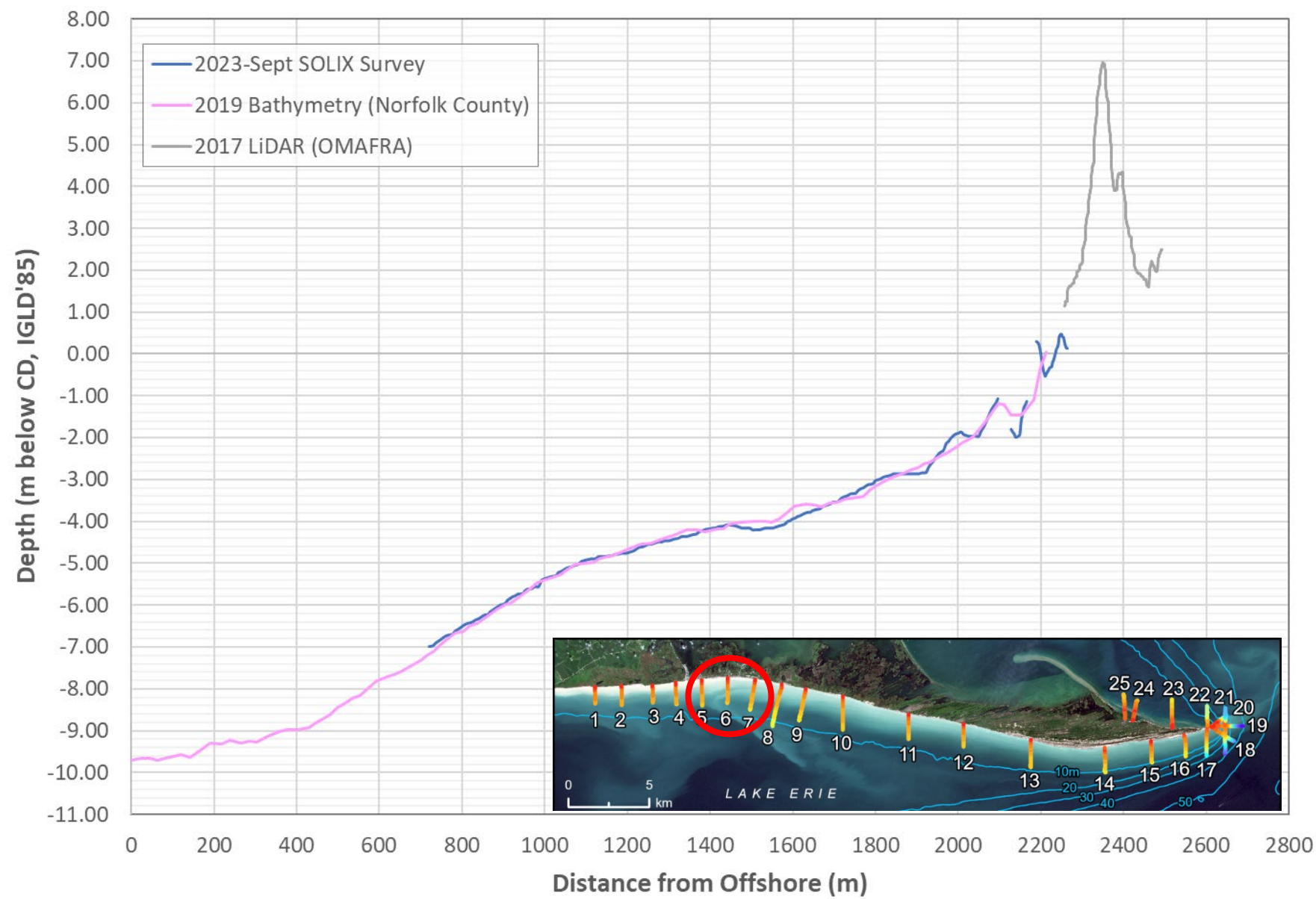
## NWA

Profile p01



# Profile 6 Woods- tock Ave.

Profile p06



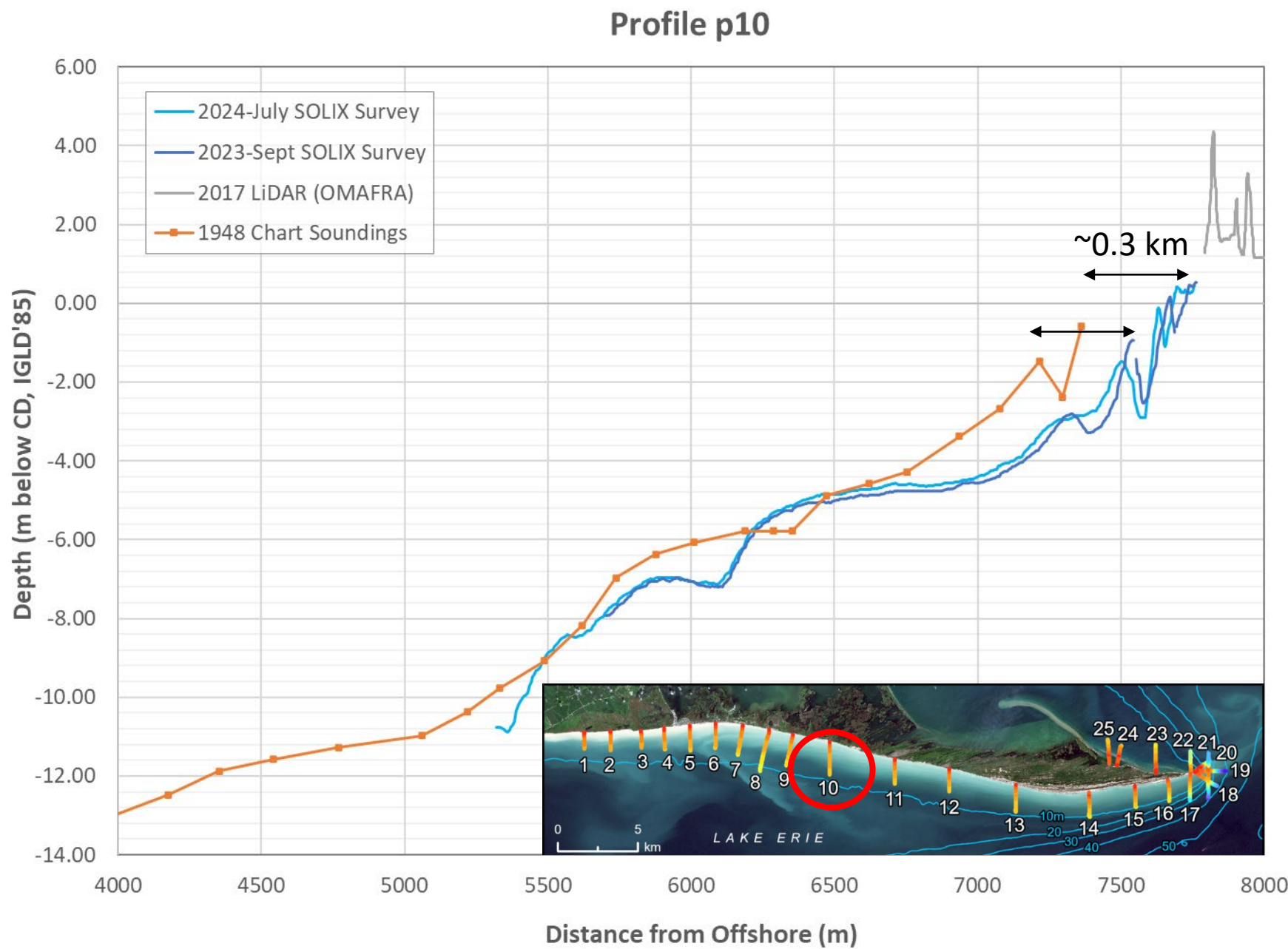


# Erosion in the Former Depositional Zone



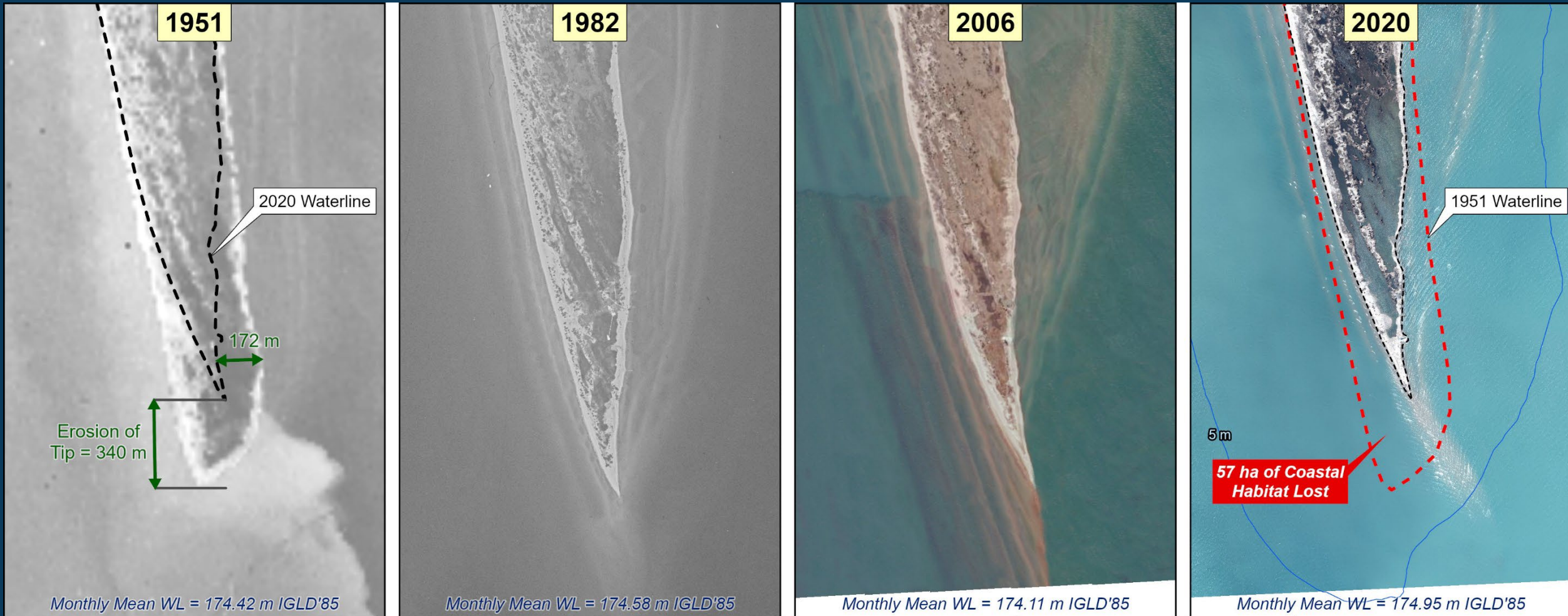
# Profile 10

## Long Point Company





# Erosion at the Tip of Long Point

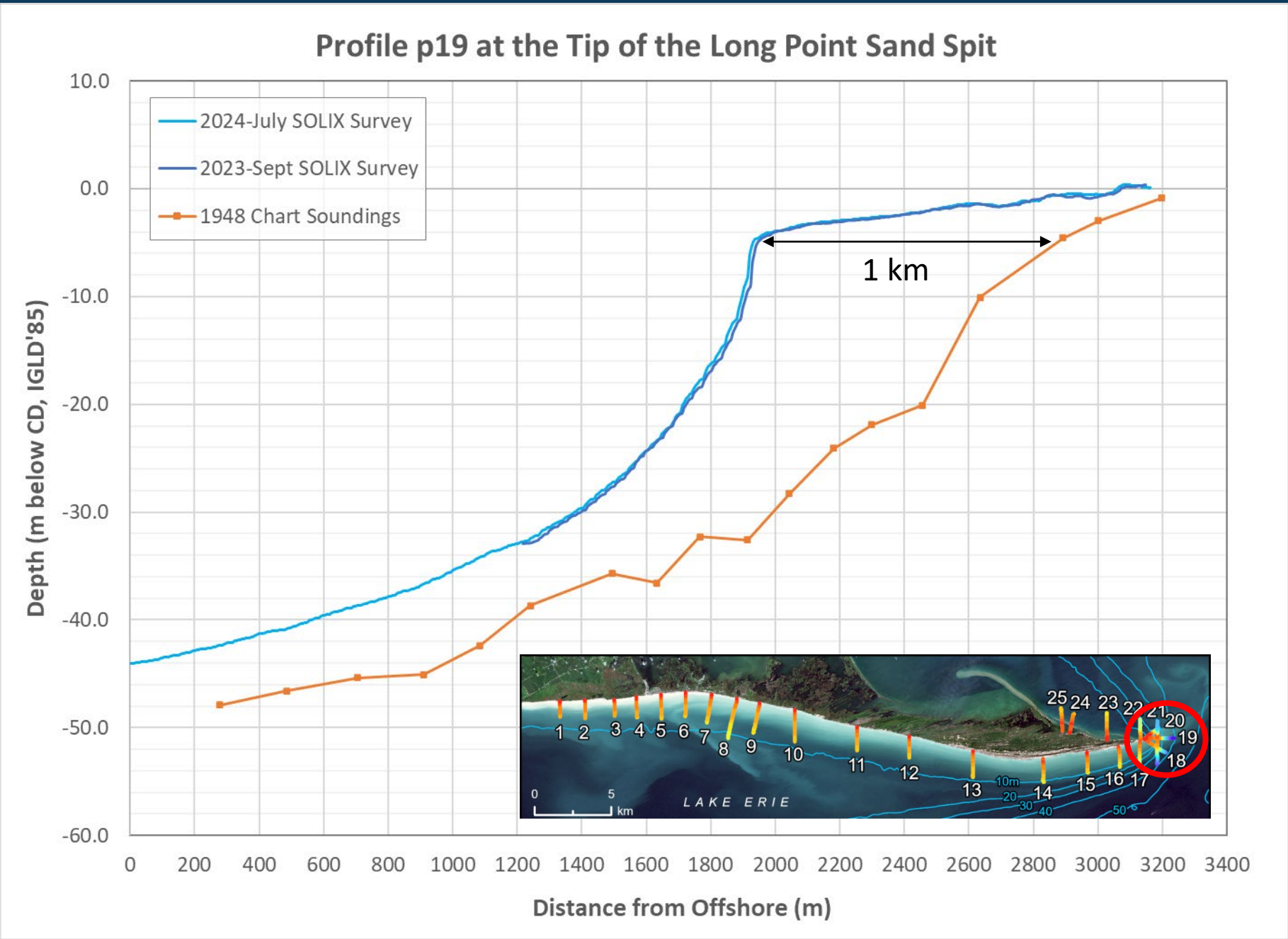


Evolution of the Tip at Long Point 1951 to 2020

Sources:  
1951 air photo obtained from National Air Photo Library.  
1982 satellite image obtained from USGS.  
2006 SWOOP air photo obtained from Ontario GeoHub.  
2020 air photo provided by CWS.



# Profile 19 Tip of Sand Spit







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# Beaches at Port Glasgow & Beaches and Dunes at Port Stanley





# Characterize Foredune Communities

- Top, non-native beachgrass in the provincial park
- Great Lakes genotype in the Long Point NWA (bottom)

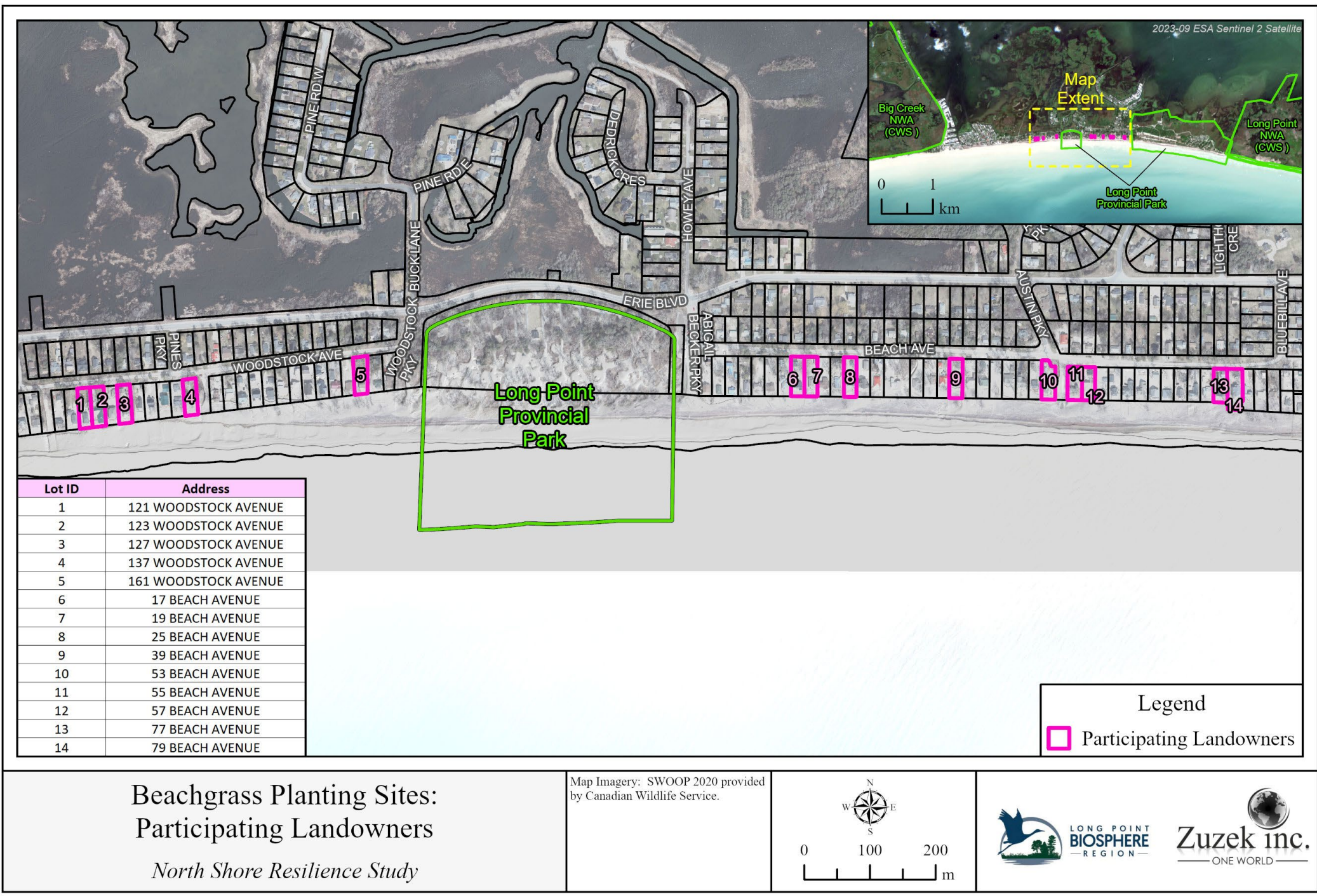






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# Fall 2024 Dune Planting







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# 121-127 Woodstock







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# 121-127 Woodstock





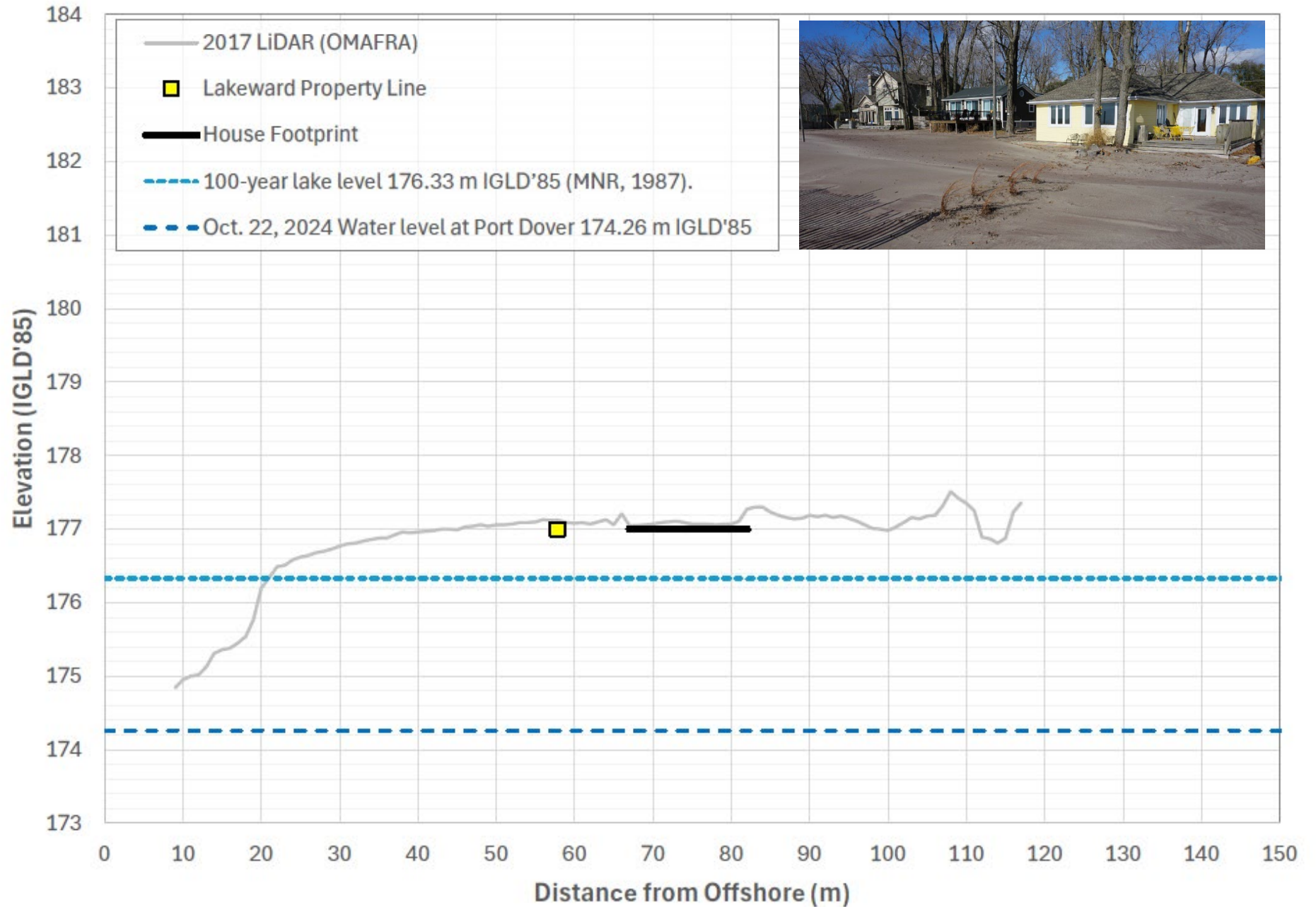
# Beachgrass from Long Point NWA





# 53 Beach Avenue

## 53 Beach Ave



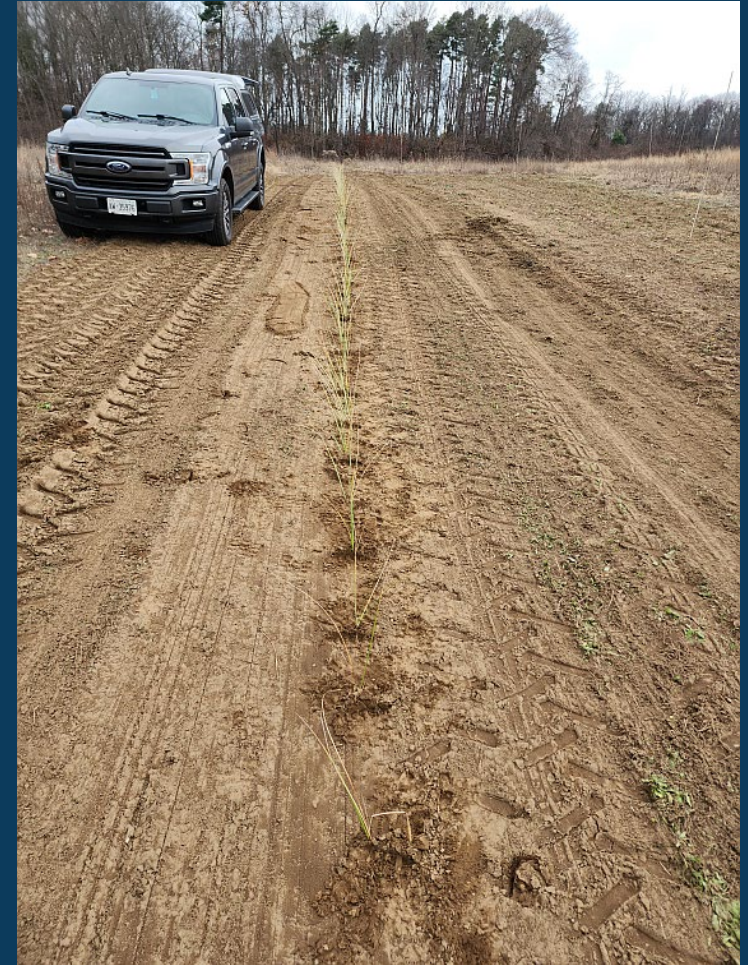


# In-situ Nursery at 153 Beach (n=62)





# Inland Nursery at Prairie Song (n=60)





# Coastal Tour with Working Group

## October 25, 2024



- Started in Port Glasgow and ended at the Thoroughfare Unit, Long Point



# OTHER BUSINESS

# NEXT MEETING AND ADJOURN



Thank you!



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**Zuzek inc.**  
— ONE WORLD —