



# Nearshore Framework and Baseline Habitat Assessment

Long Point to Fort Erie Pilot Study

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# Annex 2 and Annex 7 Commitments

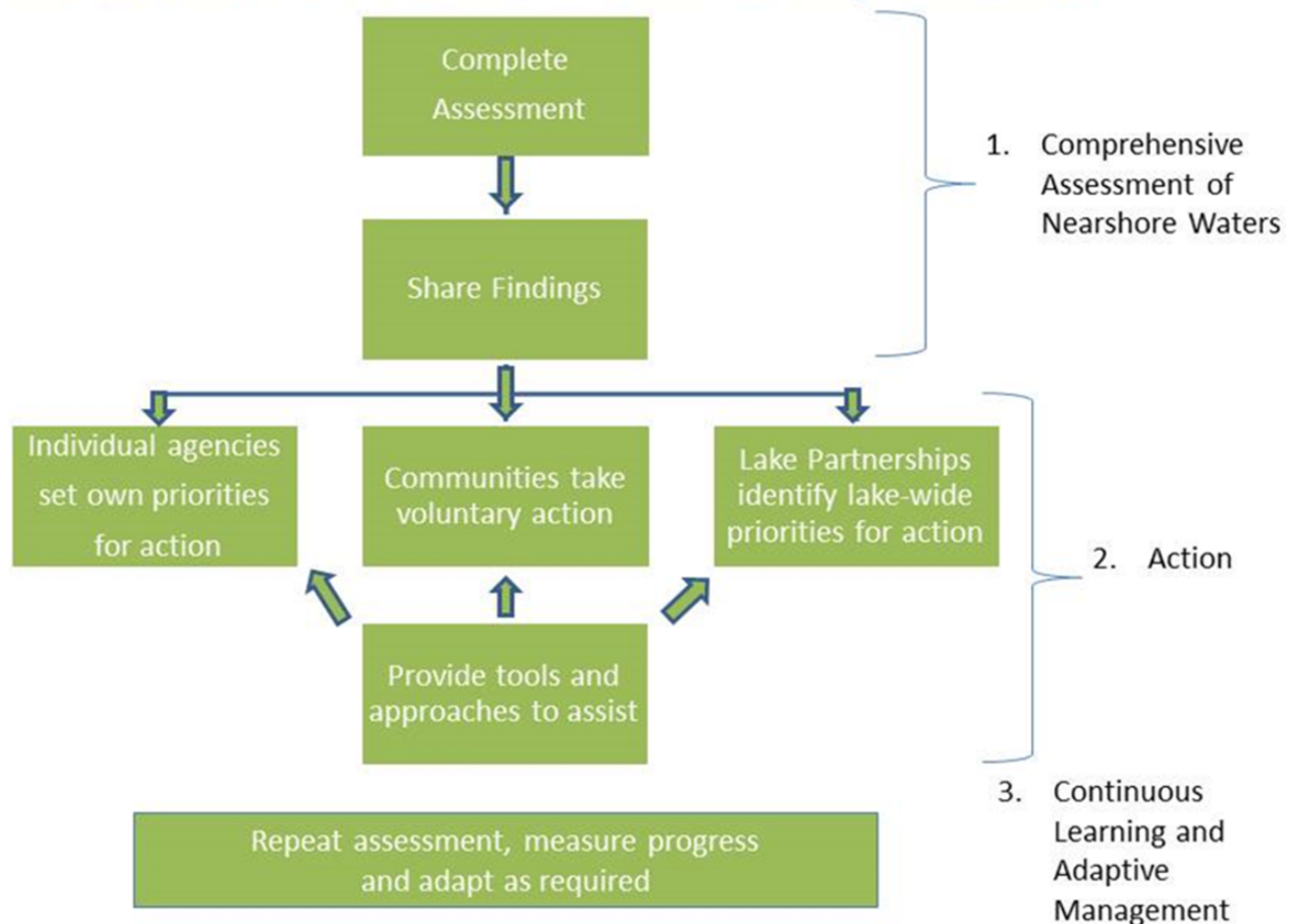
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- Nearshore Framework: Provide a comprehensive assessment of the Nearshore Waters in the Great Lakes
- Baseline Habitat Survey: Establish a baseline for the quantity and condition of Great Lakes habitat to evaluate the target of net habitat gain
- Repeat every five years



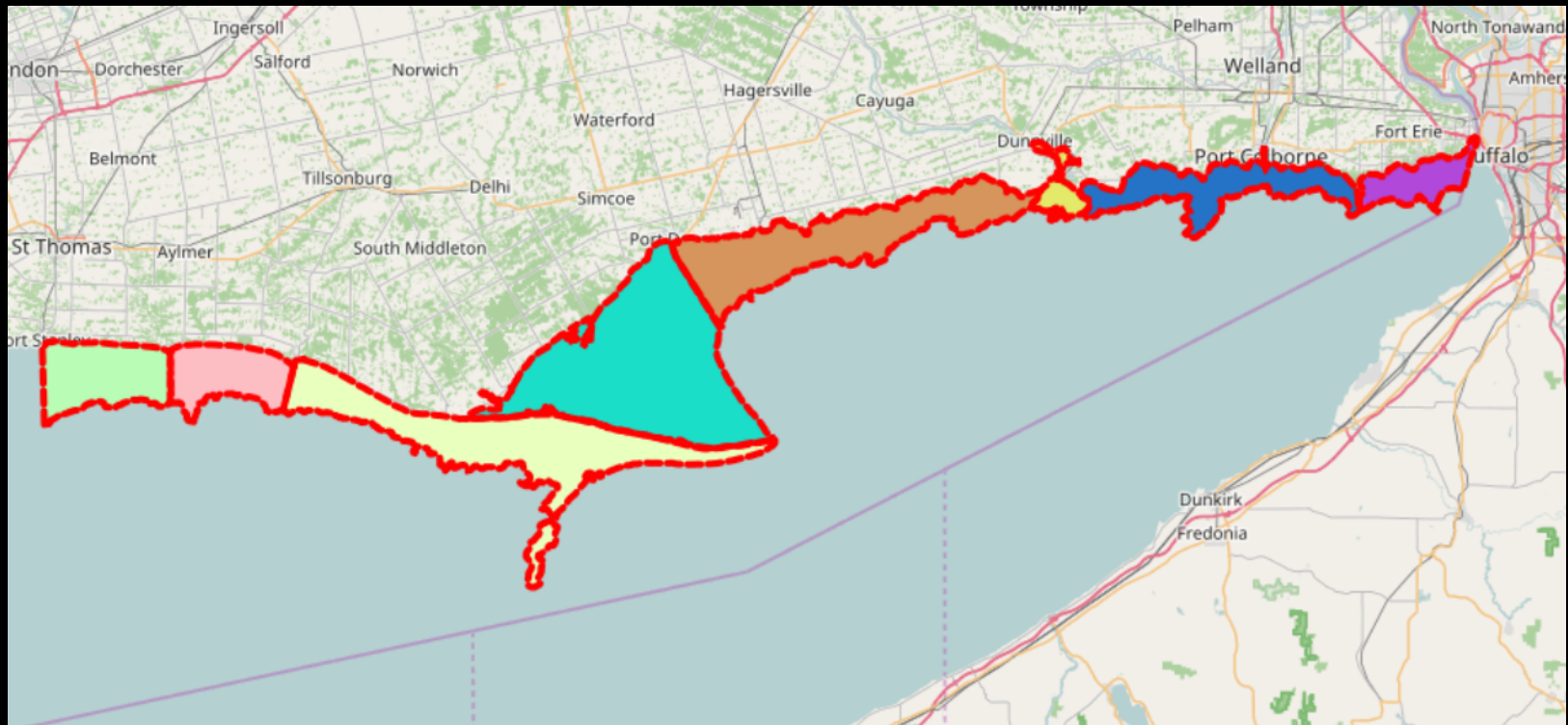


# Nearshore Framework Components



# Three Steps in the Assessment

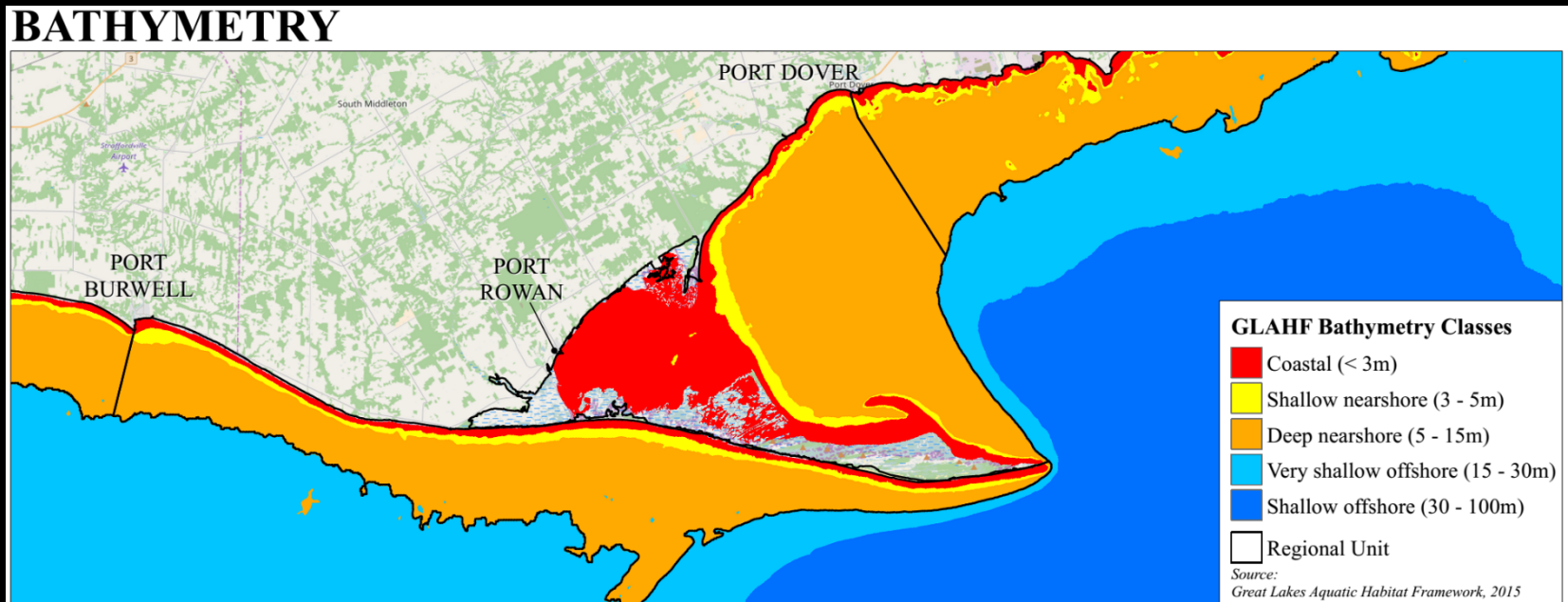
- Phase 1: Delineate and Classify Nearshore Habitat
- Phase 2: Assess Condition and Functionality
- Phase 3: Biological Confirmation of the Survey





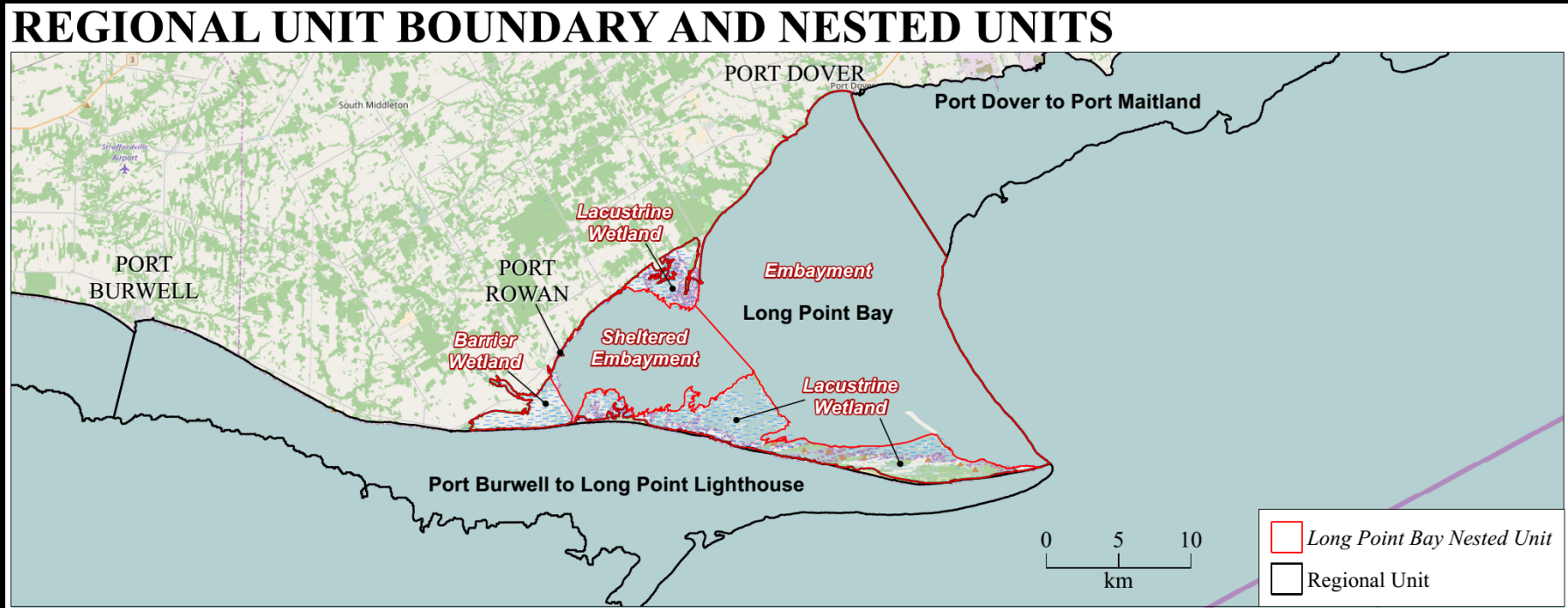
# Phase 1: Delineation of the Nearshore

- Physical Variables: depth, surficial substrate, river mouths, coastal geology and geomorphology, gradients in wave energy, and aquatic vegetation



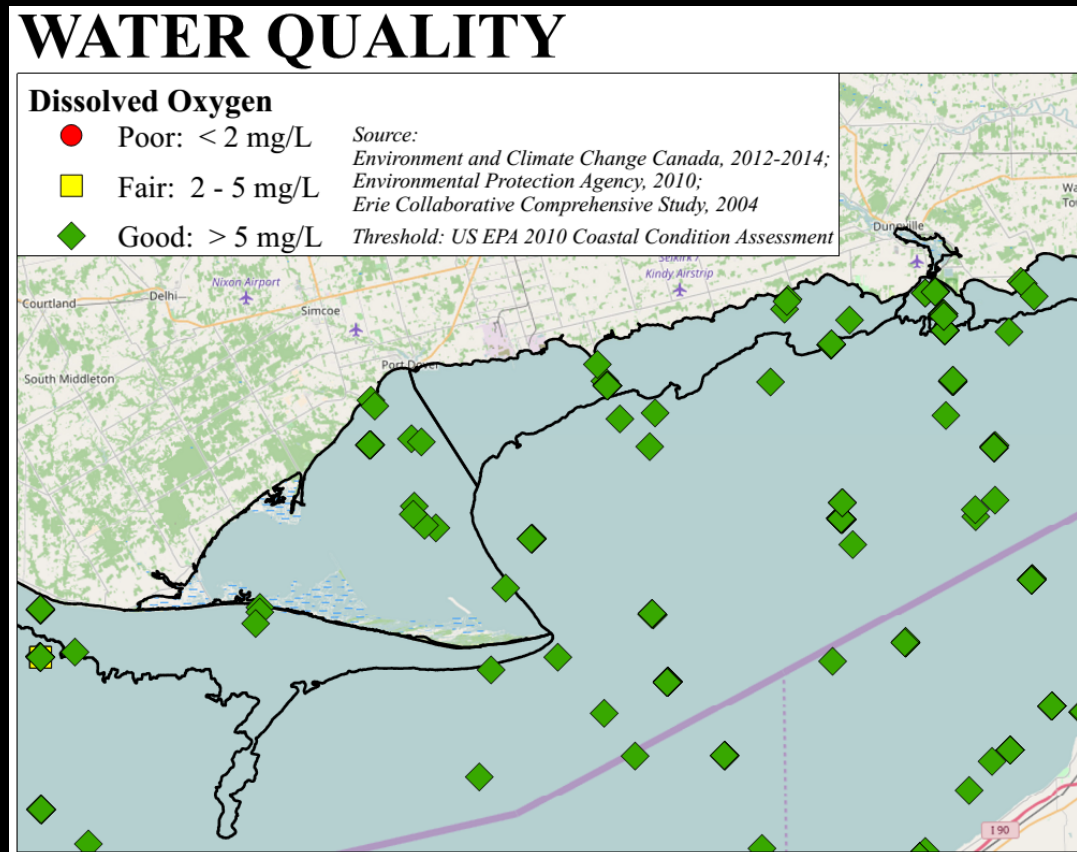
# Phase 1: Nested Units

- Detailed mapping of wetlands define nested units



# Phase 2: Condition Assessment

- Dynamic Variables: water quality, Chl a, benthic community, aquatic vegetation, water clarity, and beach postings



# Phase 2: Beach Postings

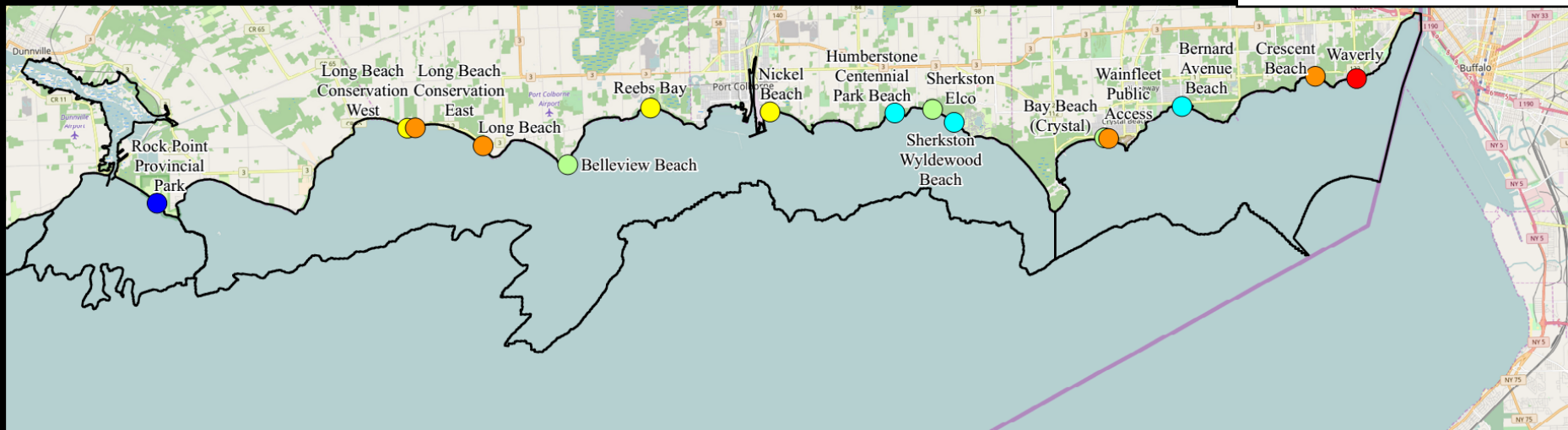
- July to August data, 2015 to 2016



## Percent Beach Posted

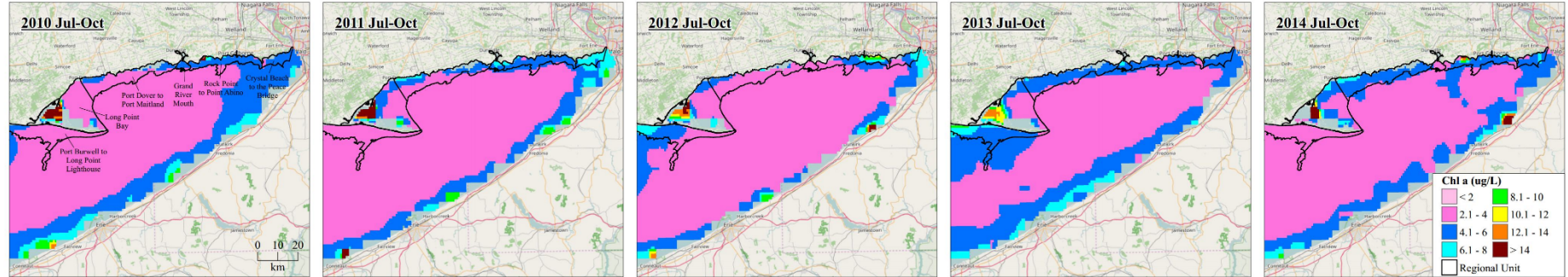
- < 5%
- 6% - 10%
- 11% - 20%
- 21% - 30%
- 31% - 40%
- 41% - 50%
- > 50%

Regional Unit

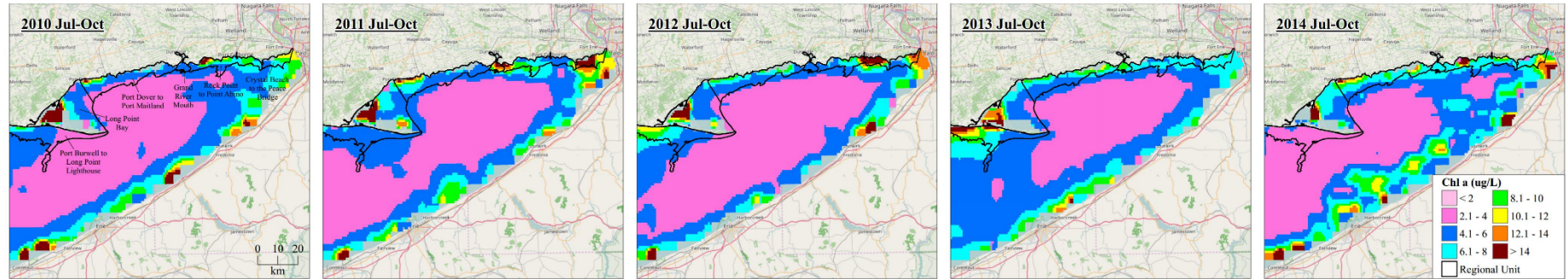




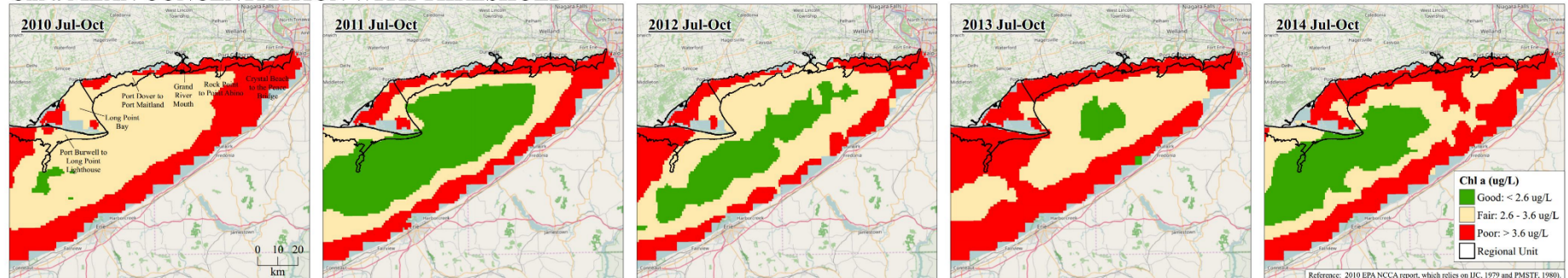
## Chl a MEAN CONCENTRATION



## Chl a MAX CONCENTRATION



## Chl a MEAN CONCENTRATION WITH THRESHOLD



Reference: 2010 EPA NCCA report, which relies on UC, 1979 and PMSTE, 1980.

LONG POINT TO  
FORT ERIE  
STUDY AREA

## Phase 2 - Condition Assessment

*Chlorophyll a Annual July to October Mean and Maximum Values from the MODIS Satellite*

MODIS satellite imagery was analyzed for Chl a by Michigan Tech Research Institute, 2010-2014.  
Additional MODIS analysis completed by Raint, 2016

Background Image: © OpenStreetMap contributors

Disclaimer: This map is preliminary and provided 'as is' by Zuzek Inc. without warranty of any kind, either expressed or implied. The intellectual property rights are owned by Environment and Climate Change Canada (ECCC).

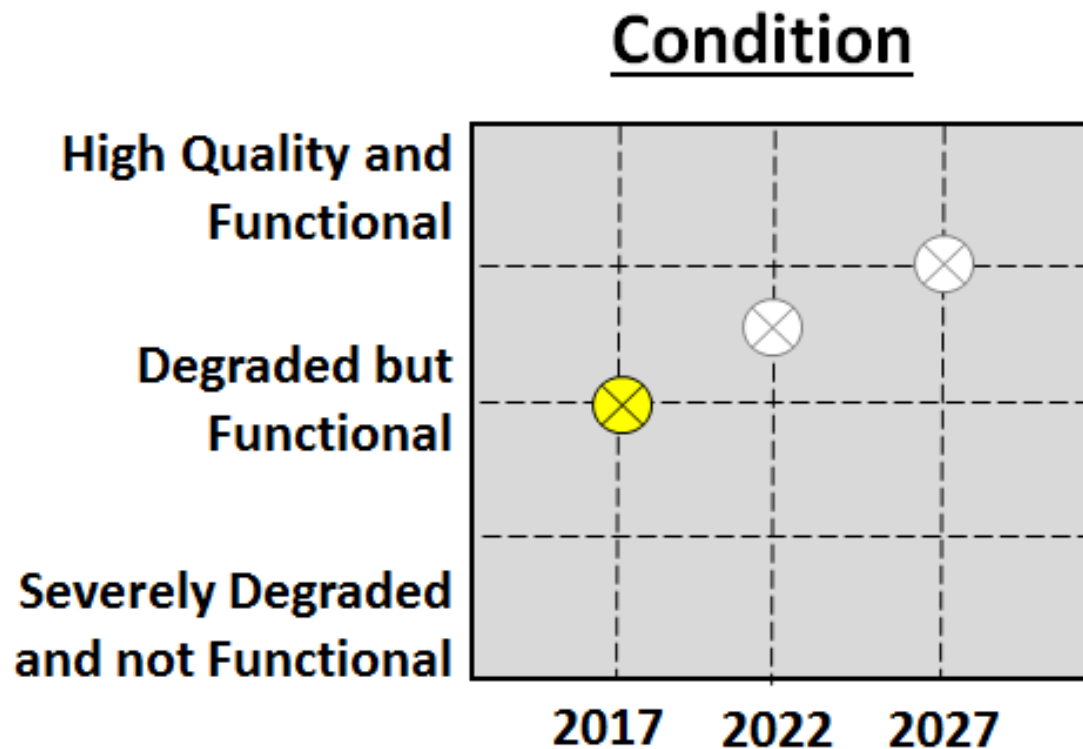


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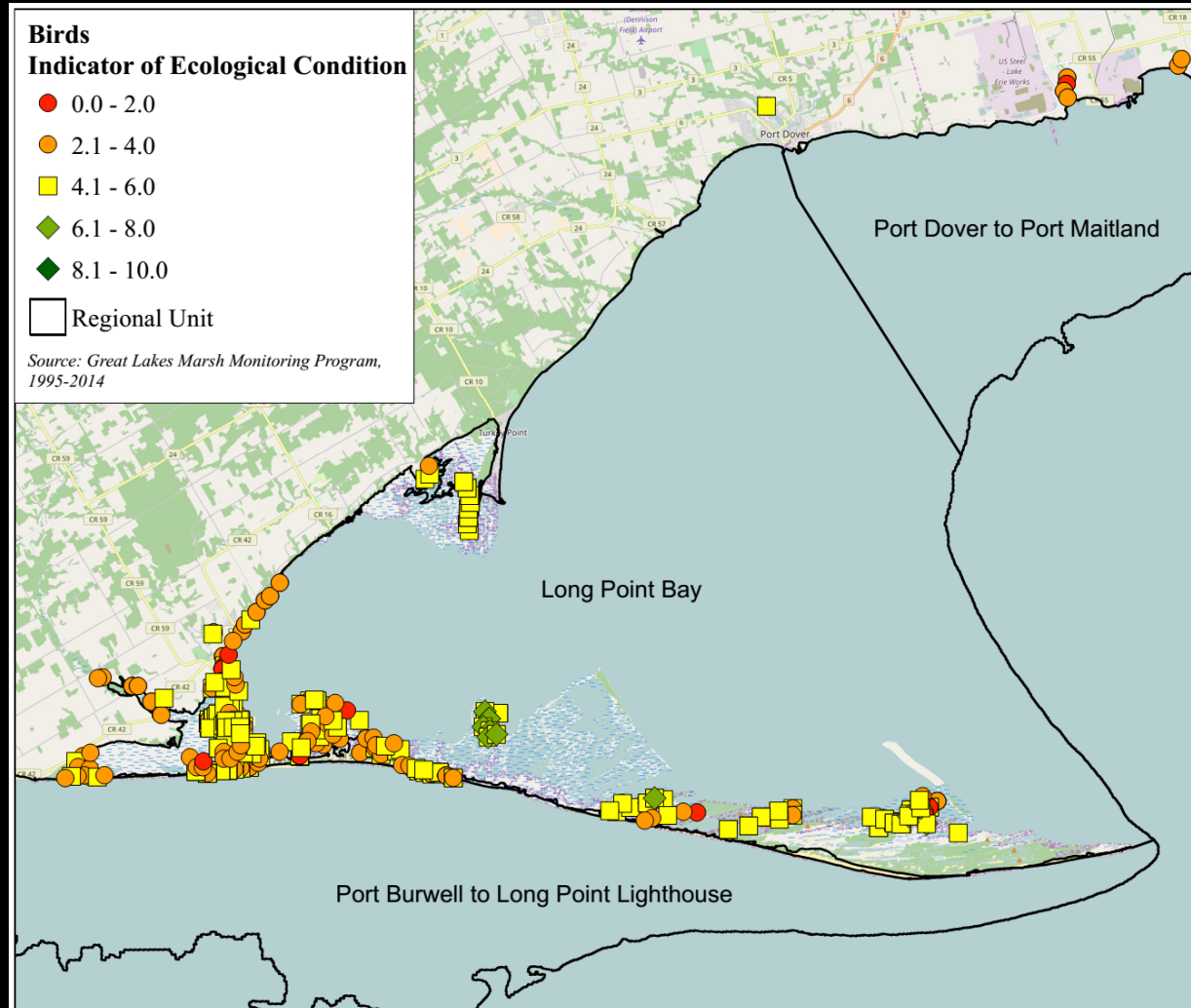


## Phase 2: Condition Summary

- Methodology under development ...




# Phase 3: Biota to Verify Results





# GeoNetwork Archive and Data Portal

 Nearshore Framework GeoNetwork


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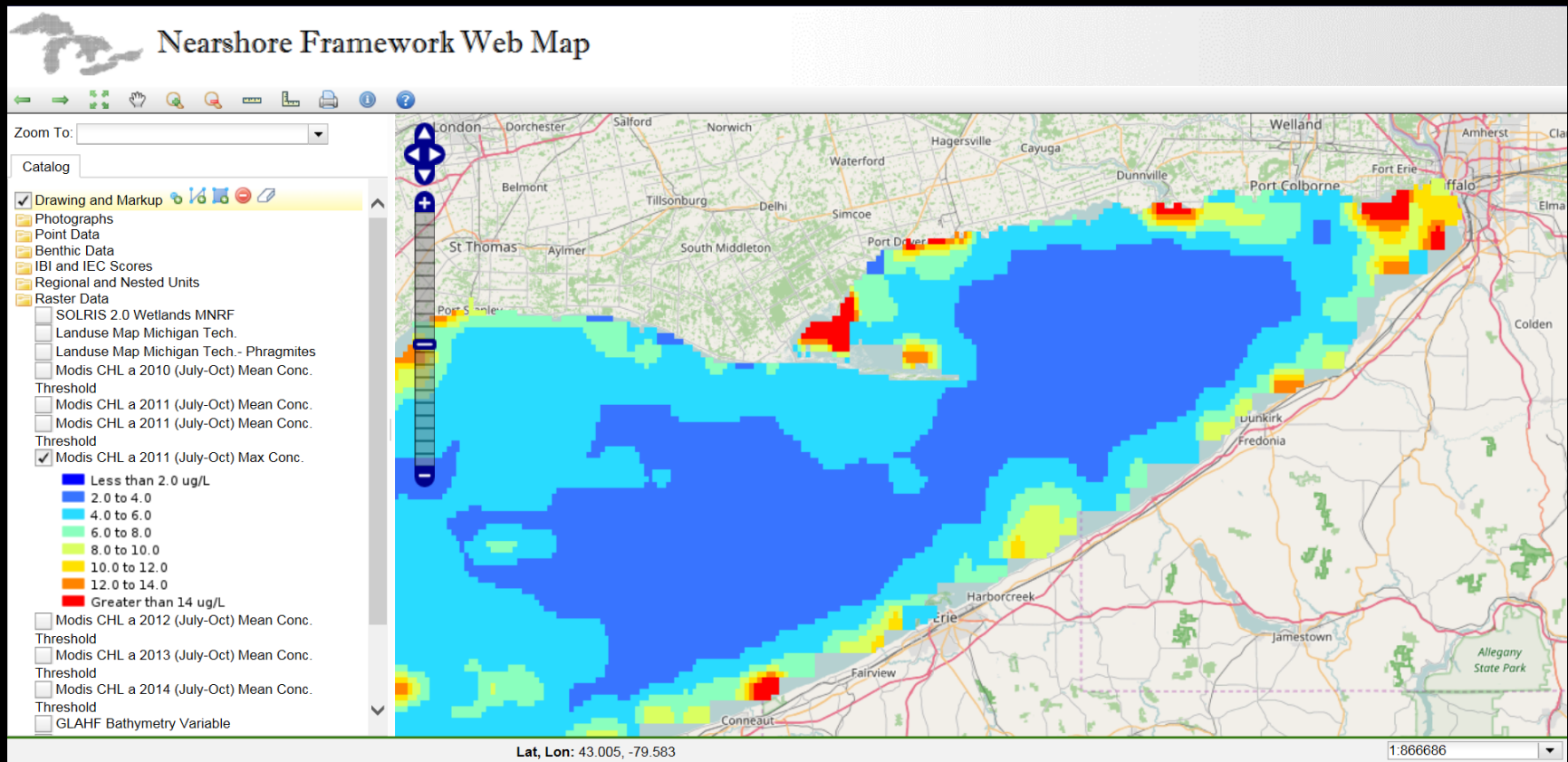


Great Lakes Surveillance for Lake Erie, 2012 to 2014  
*Dataset*





# Web Mapping Application in the Cloud





# Questions

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