



The Future of Wetland Protection & Stewardship in Michigan

Patrick Doran, The Nature Conservancy

Protecting Nature, Preserving Life

Our Mission:

Conserve the lands and waters on which all life depends.

Our Vision:

A world where the diversity of life thrives, and people act to conserve nature for its own sake and its ability to fulfill our needs and enrich our lives.



Where We Work in Michigan



Healthy Waters
Thriving Coasts
Resilient Forests

Science and Policy

TOTAL Land Protected
377,764 Acres



There's just not enough...

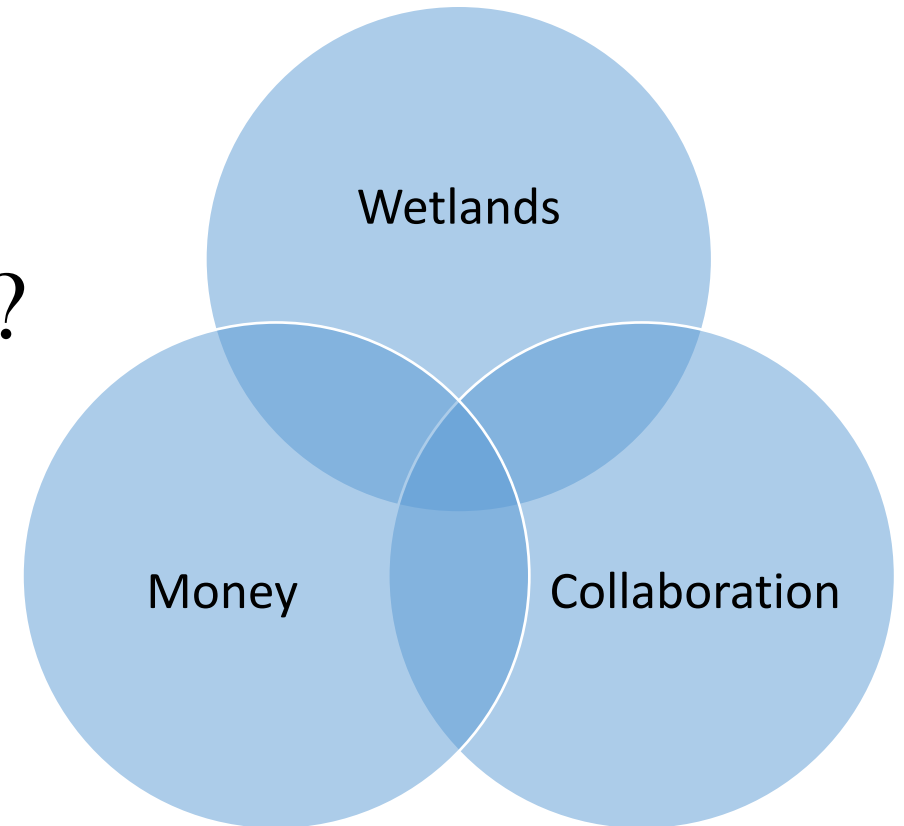
Wetlands – where, what and
how much?

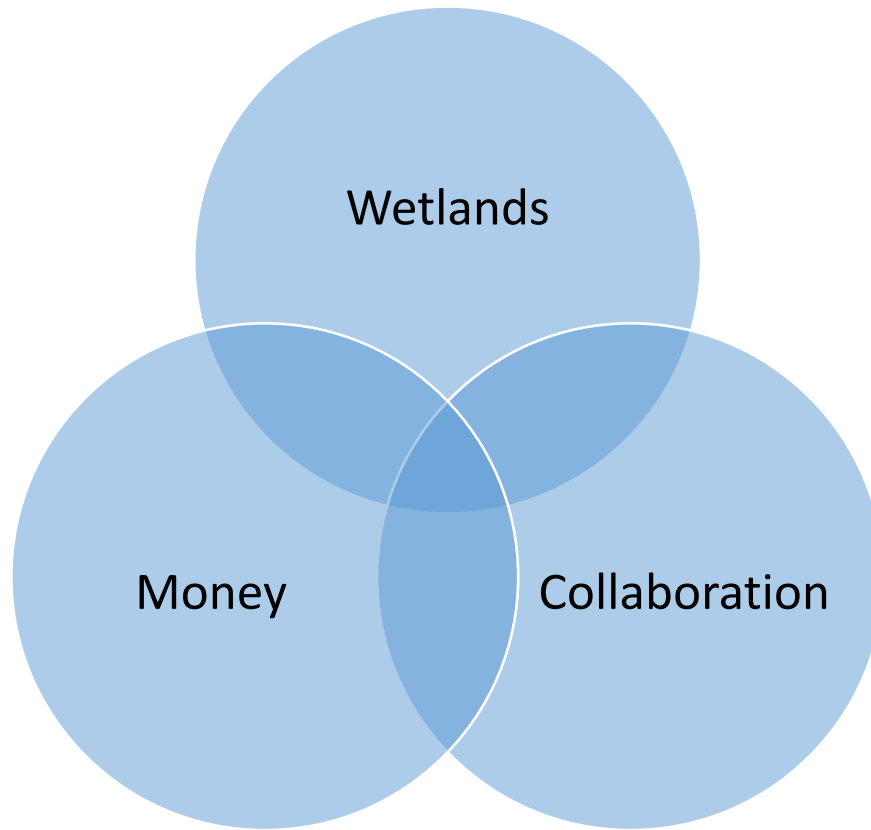
Focus – who and how to collaborate?

Money – how to finance?

How do we expand...Our ideas?

Our conversations? The community?



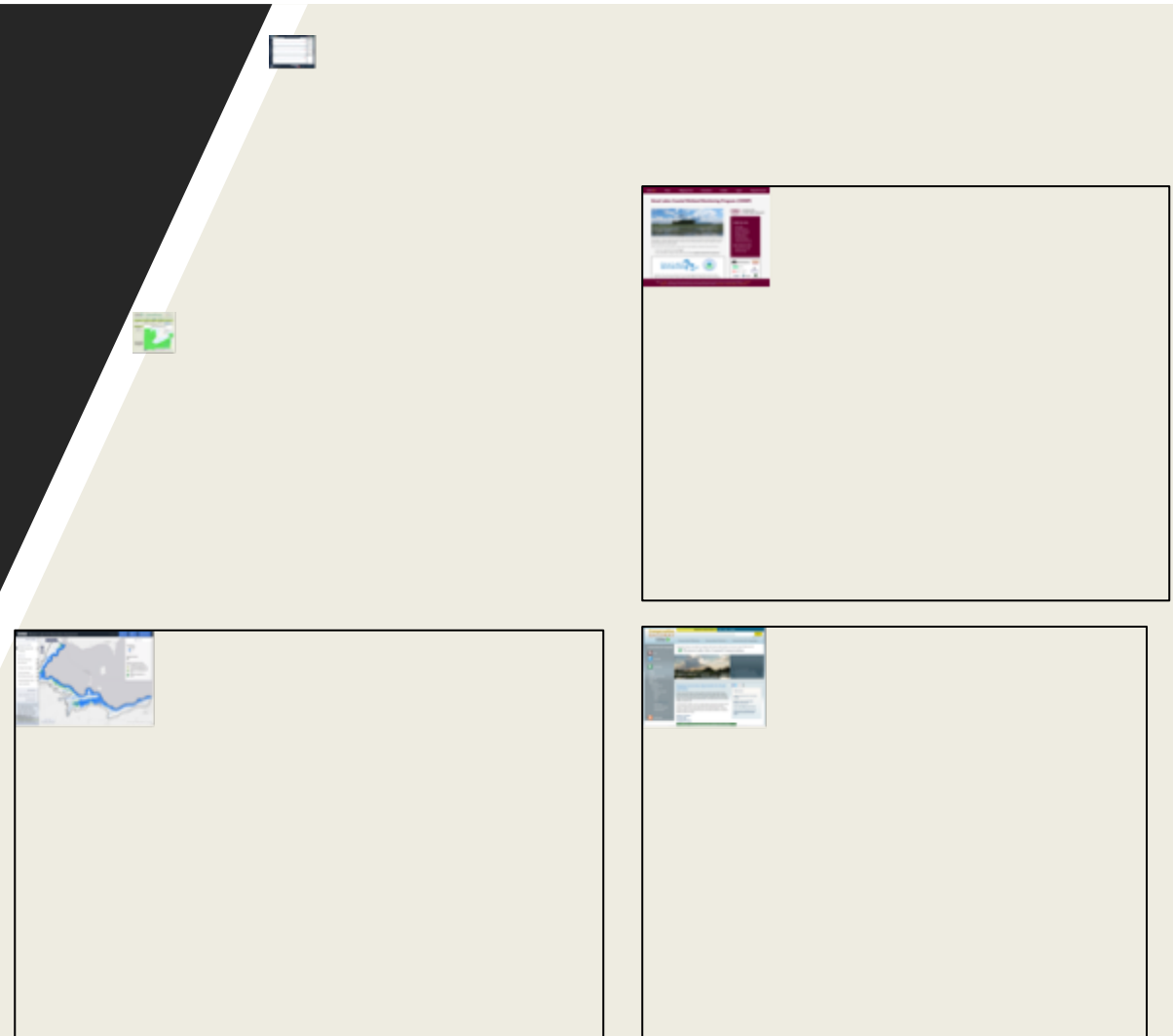


Case Study #1 – Data and Tools

The availability of tools and mapping applications is exploding

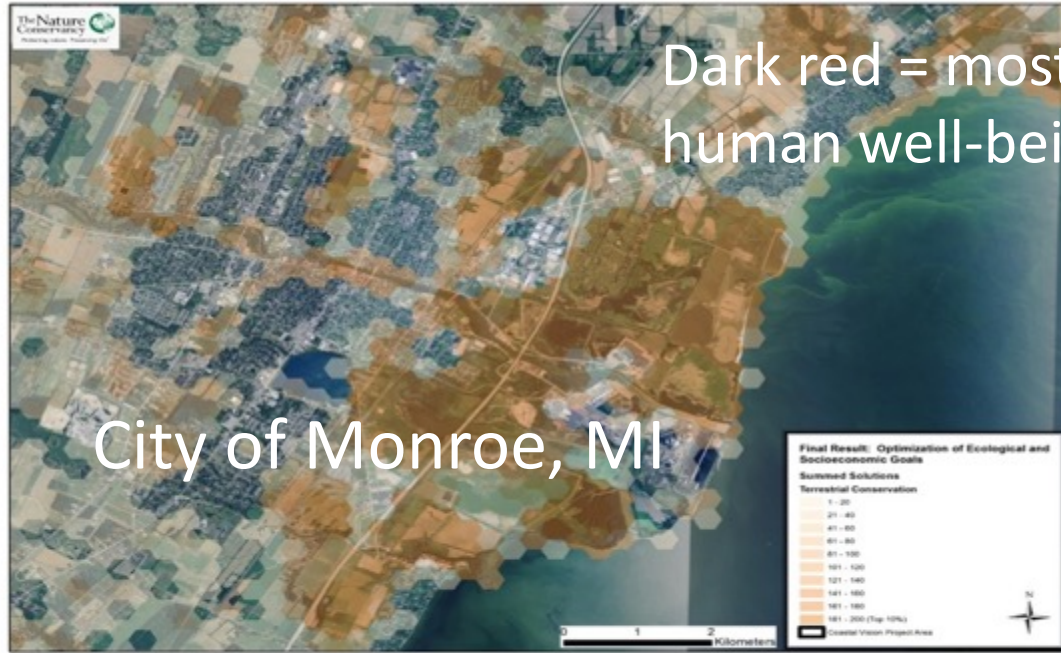
Existing tools for western Lake Erie:

1. Great Lakes Coastal Wetland Decision Support Tool
(www.greatlakeswetlands.org)
2. The Western Lake Erie Restoration Assessment
(glcwra.wim.usgs.gov/wlera/).
3. The Western Lake Erie Coastal Conservation Visioning
(nature.org/wlecoastal).



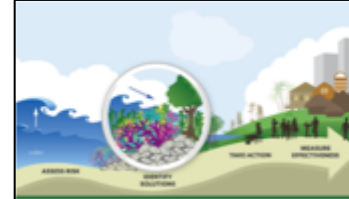
Western Lake Erie Coastal Conservation Visioning

Regional Conservation



Ecological & Socioeconomic Goals and Goals

CoastalResilience.org



Building Wetlands for Climate Change Coastal Wetlands Prevented \$625M in Property Damage During Hurricane Sandy

BY MATT MILLER

JANUARY 30, 2013 | [Follow Matt](#)

BY SIDDHARTH NARAYAN, MIKE BECK

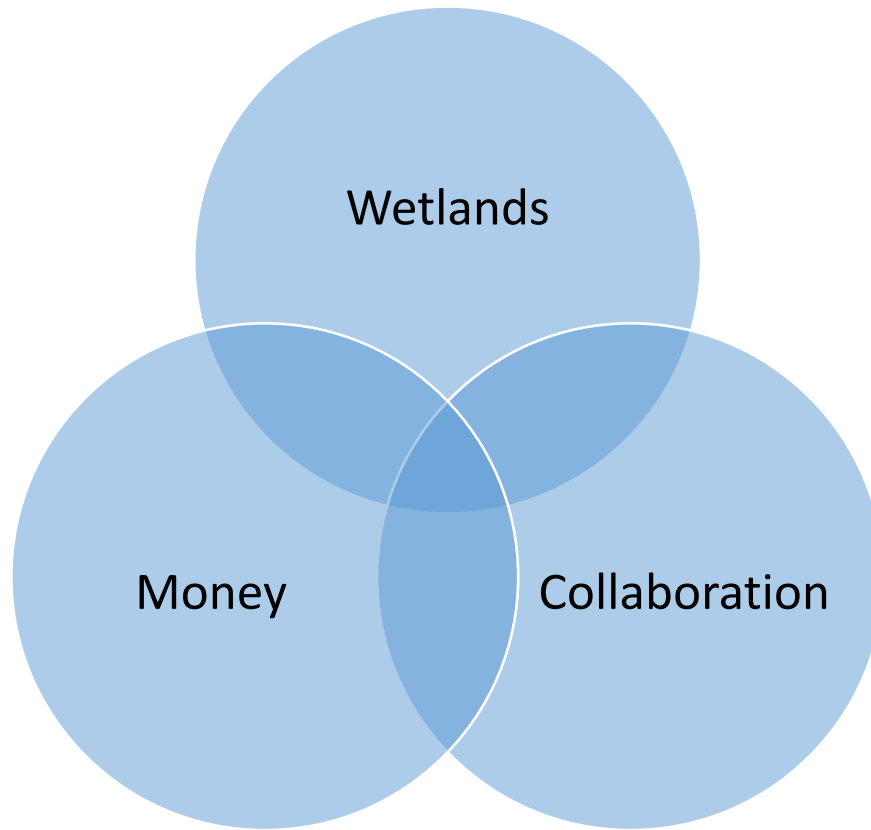
AUGUST 31, 2017 | [Follow](#)



Wetlands on TNC's Franklin Demonstration Farm in c



Nov 11, 2012 aerials of coastal destruction caused by Hurricane Sandy storm surge along the New Jersey Shore. © Bridget Besaw



Case Study #2 – Emerging Ideas

Dynamic Conservation

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RESEARCH ARTICLE | CONSERVATION ECOLOGY



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Dynamic conservation for migratory species

Mark D. Reynolds^{1,*}, Brian L. Sullivan², Eric Hallstein¹, Sandra Matsumoto¹, Steve Kelling², Matthew Merrifield¹, Daniel Fink², Alison Johnston^{2,†}, Wesley Elliott³, Leslie Martin⁴, John A. Ellsworth³, Catherine Hickey³, Nathan McColl¹ and Scott A. Morrison¹

¹The Nature Conservancy, 2001

²Cornell Lab of Ornithology, 115

³Point Blue Conservation Sci

⁴University of Melbourne, Pa

↵*Corresponding author. Em

↵† Present address: Conser

↵‡ Present address: Nichola

- Hide authors and affiliations

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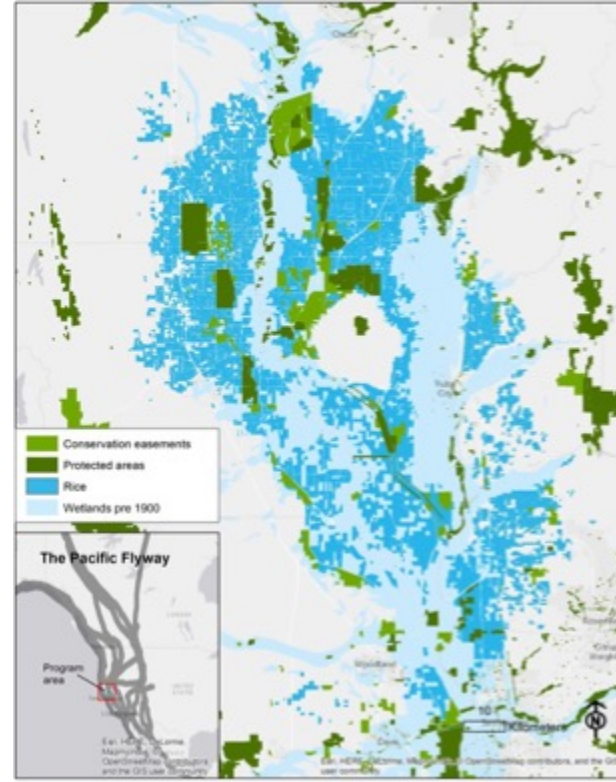


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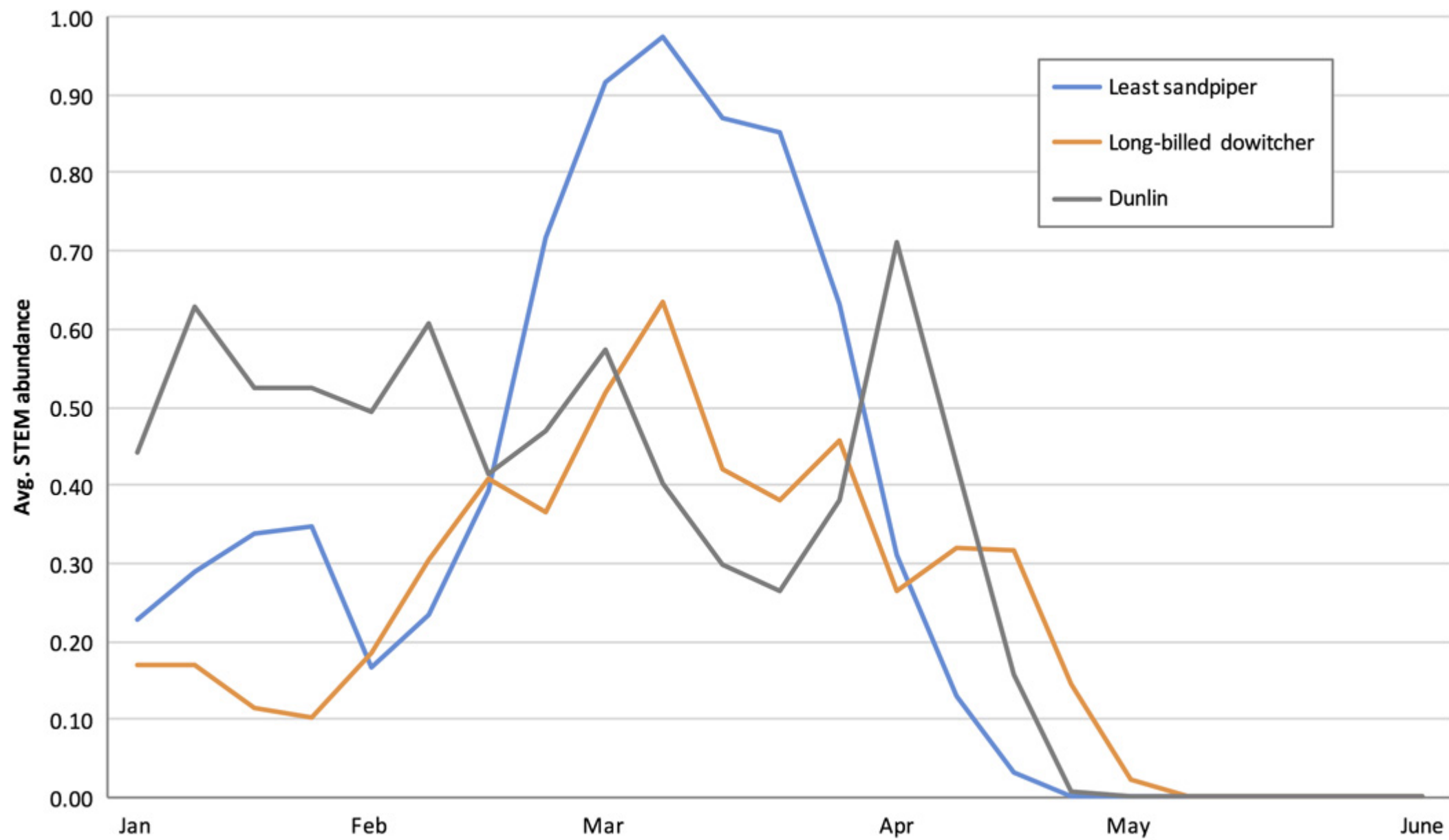
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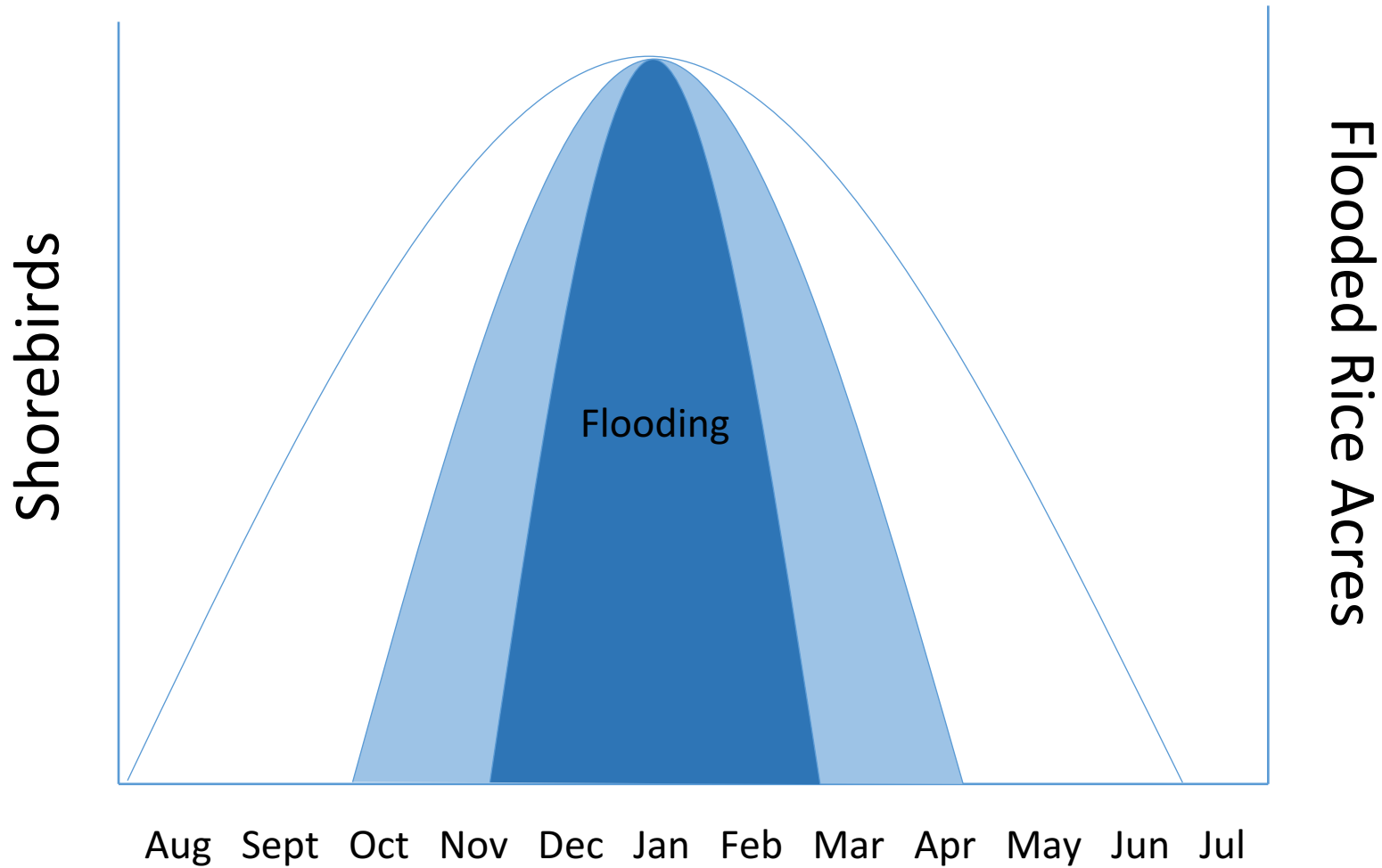
Peer Reviewed
← see details

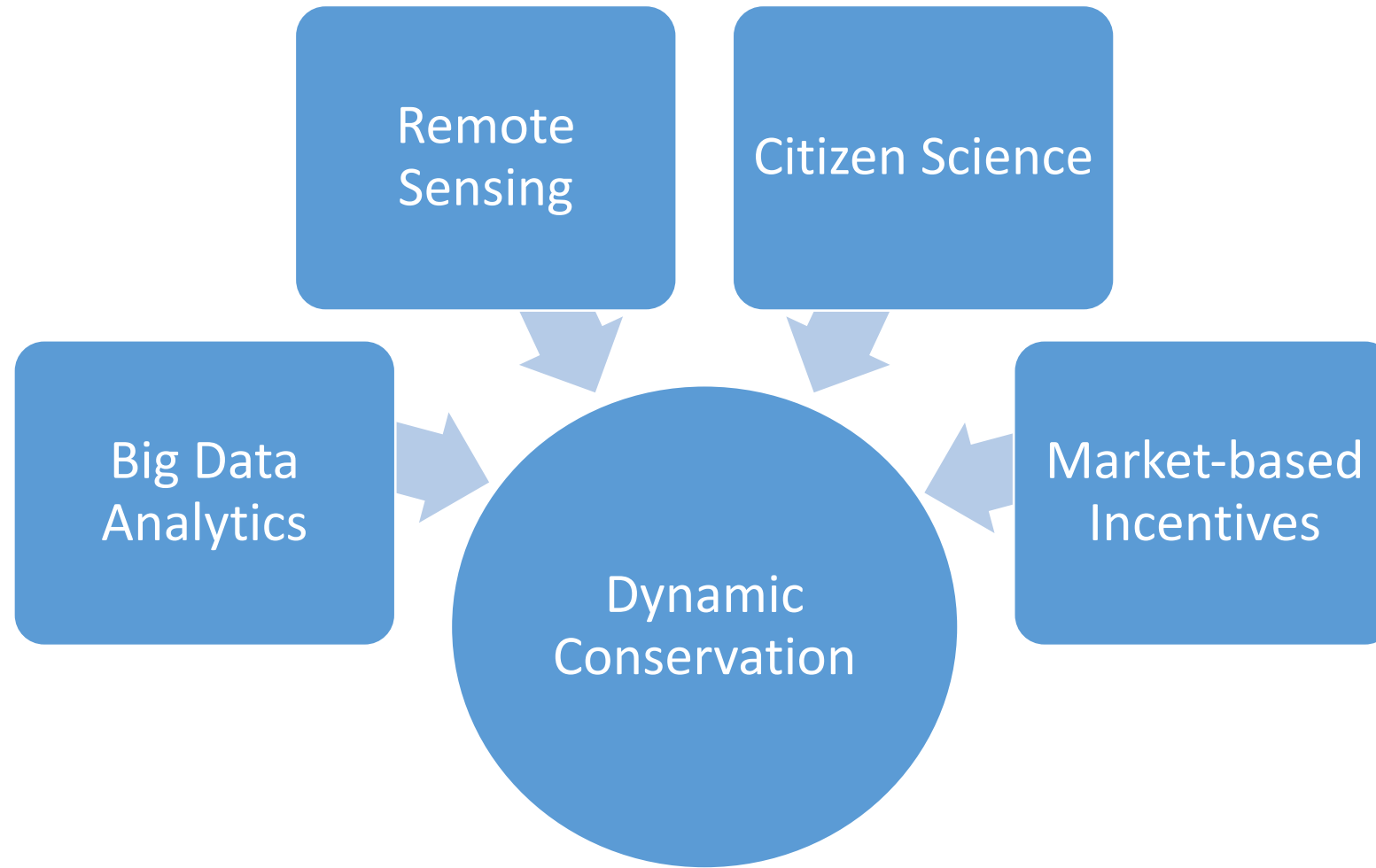






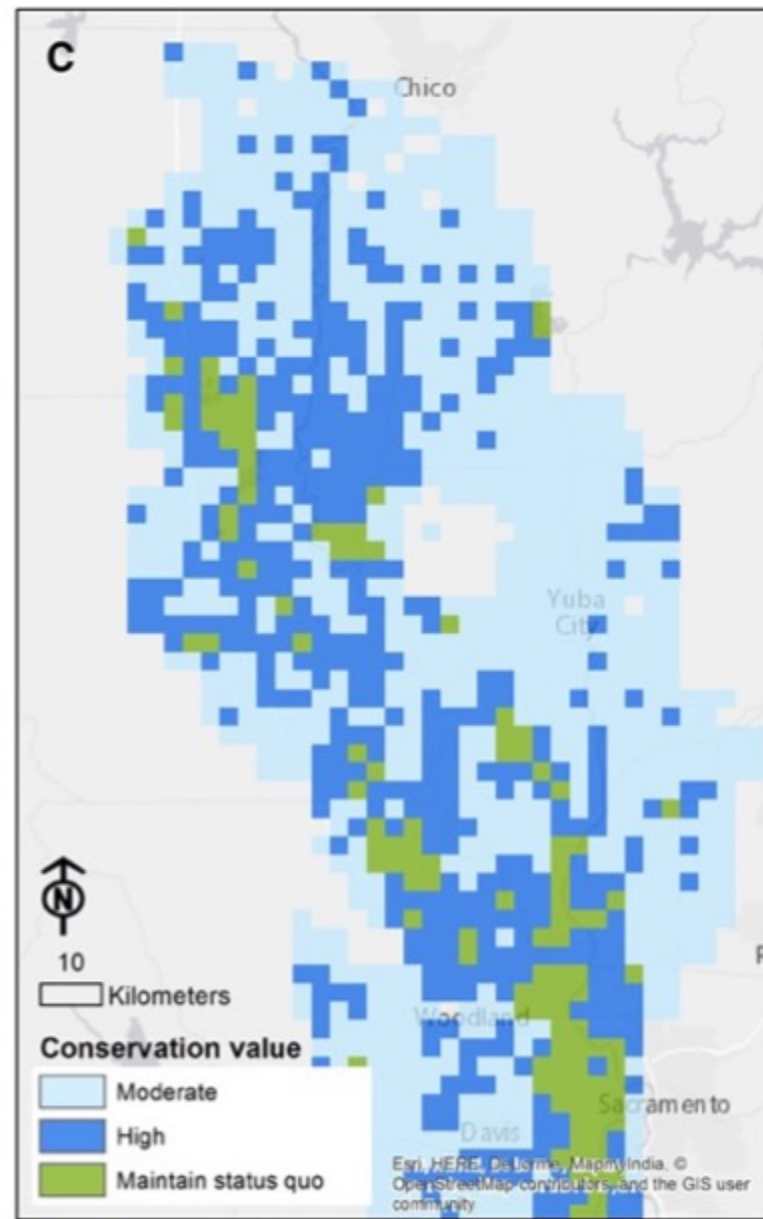
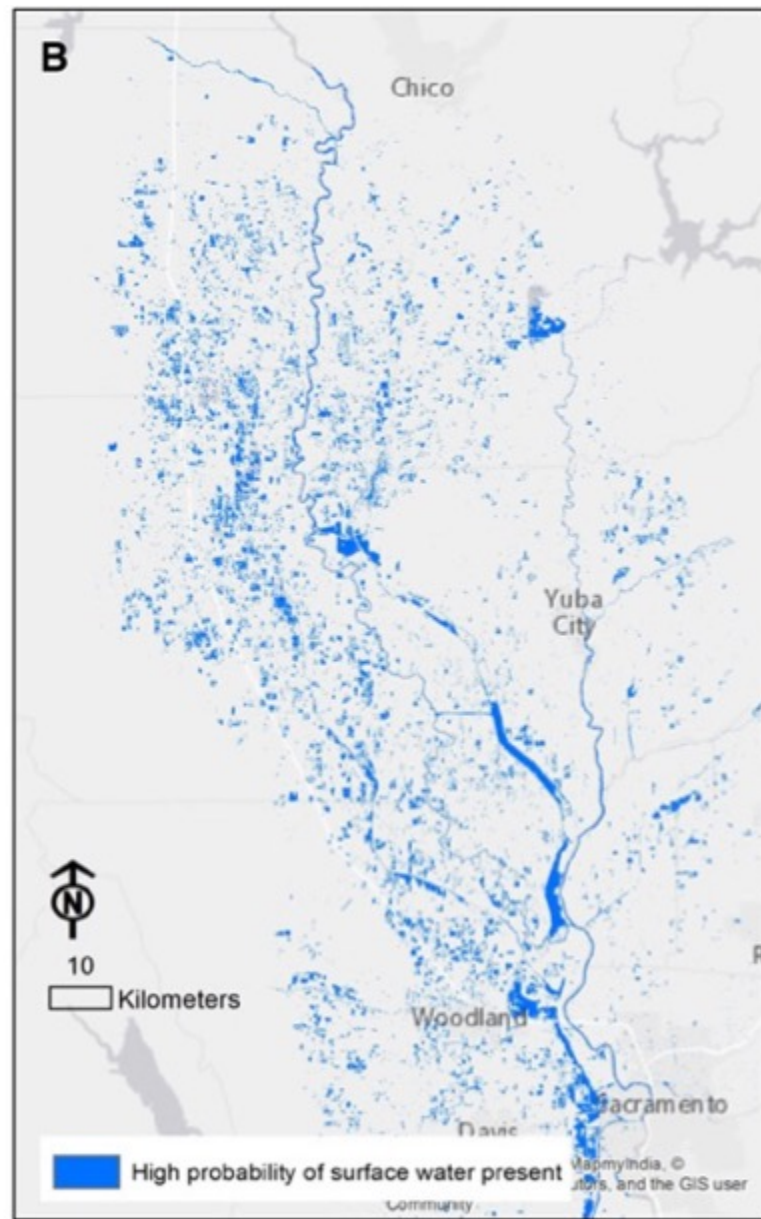
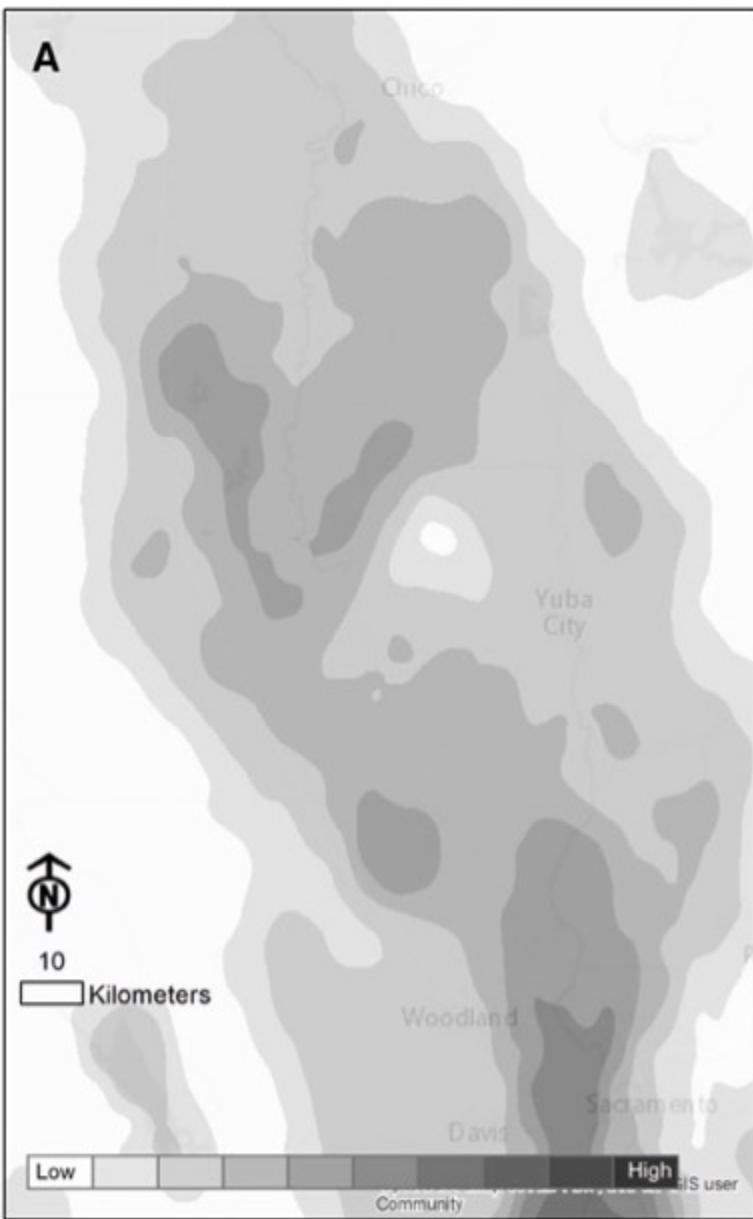
Need to extend seasonal habitat





Adapt to annual conditions and climate change
Bolster and complement protected areas

Mainstream and increase participation
Increase pace and scale of conservation



Habitat Auctions

August	September	October	November	December	January	February	March
Bidding & Contracting	Fall practices					Spring practices	
	2 weeks					2 weeks	
	2 weeks					4 weeks	
	2 weeks					6 weeks	
	2 weeks					8 weeks	



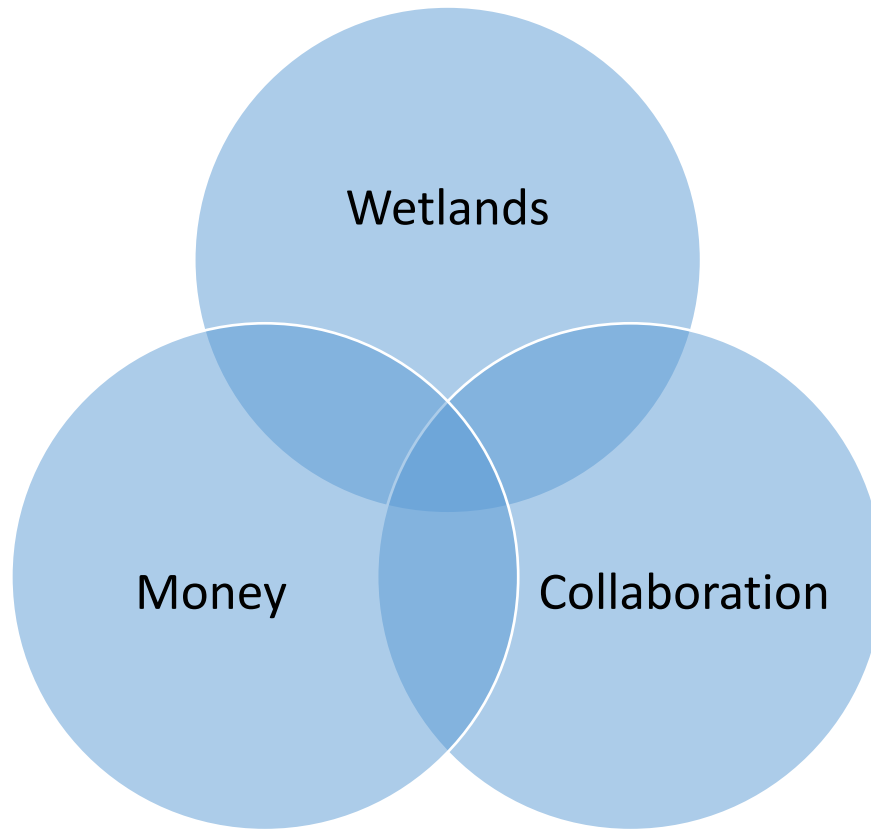
Table 1 Spring 2014 habitat auction participation.

View this table: [View popup](#) | [Collapse inline](#)

	<i>n</i> farmers	<i>n</i> bids*	Total (km ²)	Average (km ² per bid)
4-Week	30	37	31.5	0.85
6-Week	11	12	12.6	1.05
8-Week	6	6	5.8	0.97
Total	37*	55	49.9	0.91

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	<i>n</i>	Average relative cost per bid	SD	Coefficient of variation
Bids	55	100.00	67.41	67.41
Bids accepted	44	80.12	22.21	27.72
Bids rejected	11	331.74	554.96	167.29



Case Study #3 - Collaboration



A PARTNERSHIP BETWEEN



A call for collaboration

- In 2013, the Great Lakes and St. Lawrence Governors and Premiers called for more comprehensive management for our invaluable water resources
- The Nature Conservancy and The Great Lakes Commission answered that call with Blue Accounting: setting collaborative goals and tracking progress to support effective decision-making



A Framework for Efficiency

Blue Accounting is an initiative supported by an online platform that fosters collaboration among resource managers and enhances the decision environment for leaders.



Process

1. Collaboratively set goals and metrics.
2. Synthesize data and track progress.
3. Deliver information that informs decision-makers and supports resource managers.
4. Adapt management strategies.



In Action: Coastal Wetlands



- Supporting the Upper Midwest and Great Lakes Landscape Conservation Cooperative, Coastal Conservation Working Group
- **Purpose:** Streamlining data and information sharing, facilitating collaborative goal setting, and enabling tracking of progress for state, federal and private stakeholders



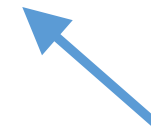
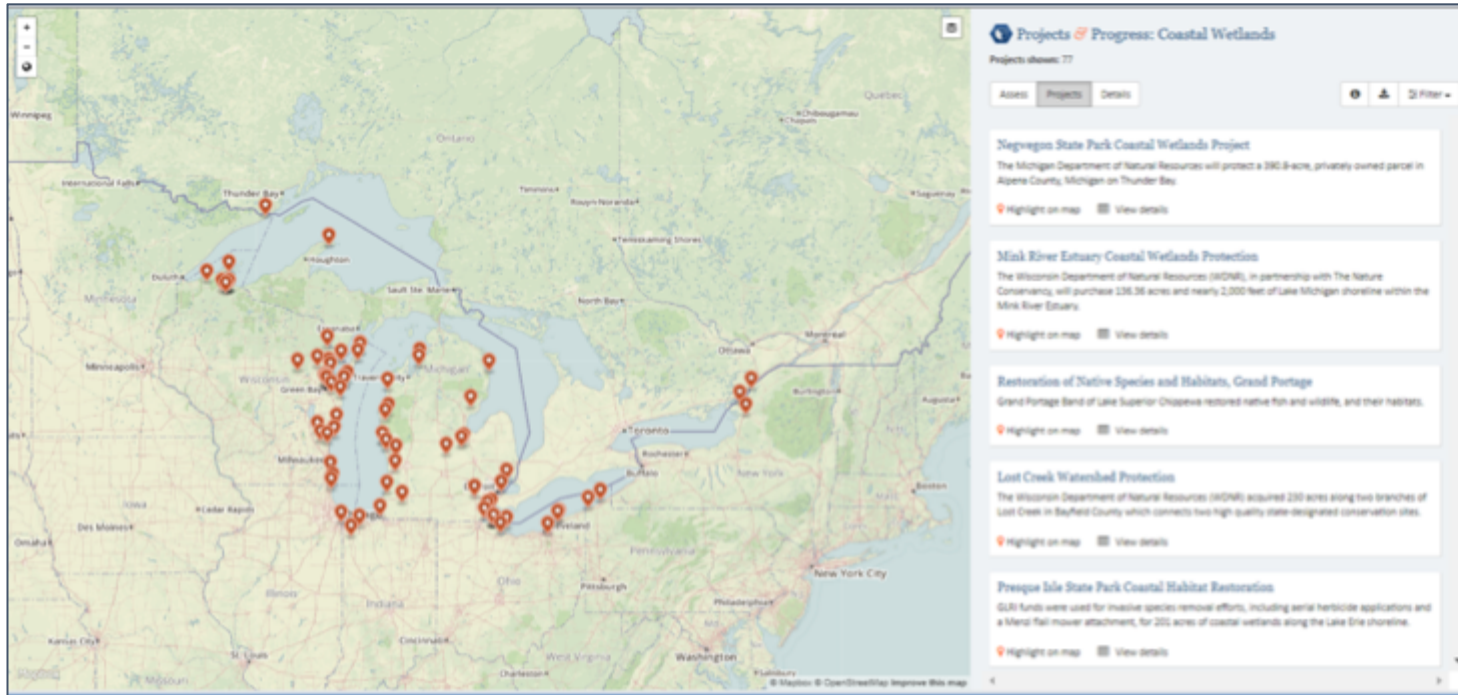
Coastal Wetlands

GOAL - *Protect and restore coastal wetlands in the Great Lakes region.*

- Over 50% of original Great Lakes coastal wetlands have been lost, and about 535,000 acres remain in varying conditions from high quality to greatly degraded.
- The Great Lakes Restoration Initiative has a goal of 60,000 acres restored and protected by 2019 across the Great Lakes basin.
- Biodiversity Conservation Strategies for Lake Erie and Michigan each set a goal to increase the acres of coastal wetlands by 10%, compared to 2011 acreage.
- Similar strategies for the other Great Lakes specify a need to improve coastal wetland condition through restoration.




Coastal Wetlands Investments



Coastal Wetlands Investments

Invasive Species Management in Western Lake Erie

Status: Completed |  [Highlight on map](#)

Project type: Enhancement

Proposed start date: 2013 | End date:

The Winous Point Marsh Conservancy augmented an existing invasive species control program in Lake Erie coastal marshes.

Overview

The Winous Point Marsh Conservancy, in cooperation with the partnership forming the Lake Erie Cooperative Weed Management Area, augmented an existing invasive species control program in Lake Erie coastal marshes. This program was directed at management of invasive plant species in coastal Lake Erie marshes to further conservation objectives for these critical habitats. Project outcomes included the management of invasive phragmites, implementation of an experimental flowering rush control program on 50 acres, and continued monitoring and experimental site regeneration along the treated areas.

Measures of Success

- **Acres of coastal wetlands enhanced:** 50

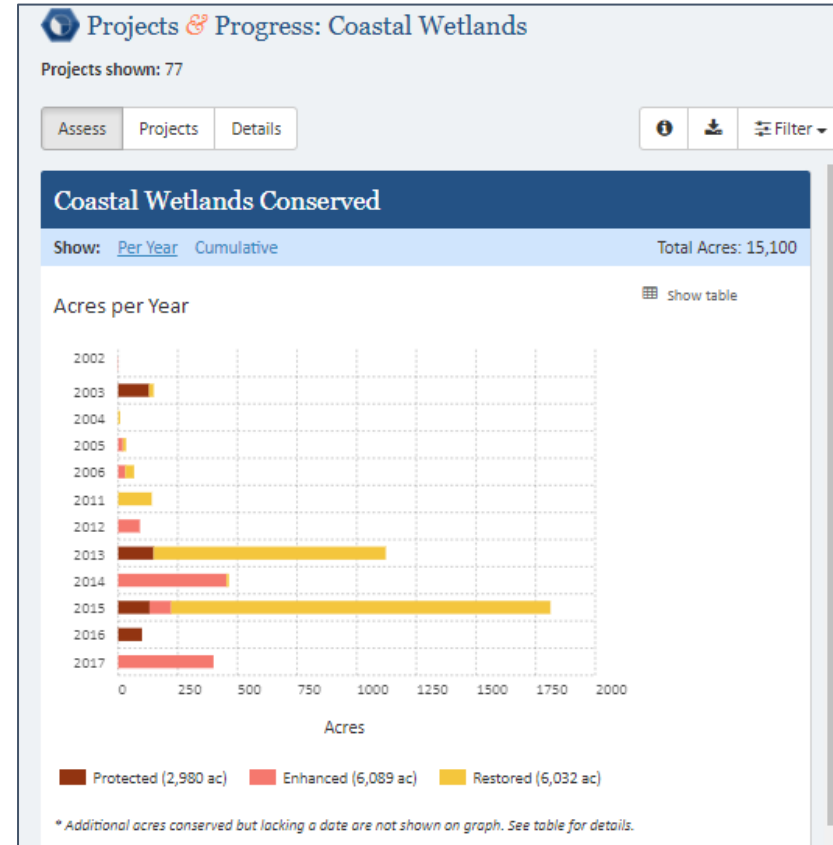
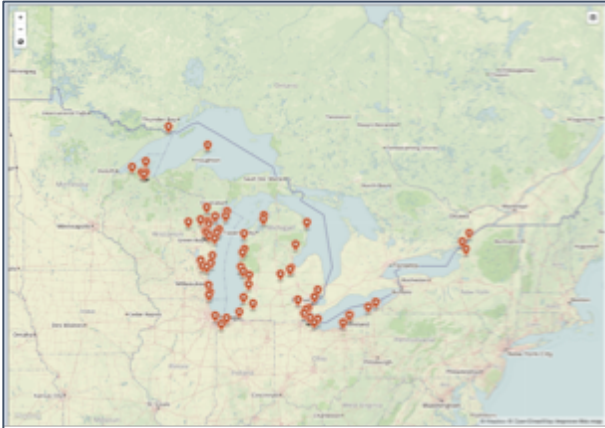
Collaboration & Funding

- **Lead organization:** Winous Point Marsh Conservancy
- **Total funding Amount:** \$53,151.00
- **Funding sources:** Sustain Our Great Lakes
- **Funding initiatives:**

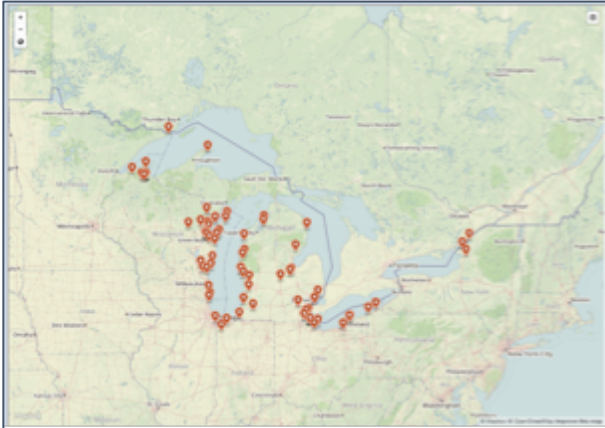


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Coastal Wetlands Results



Coastal Wetlands Results



Wetlands Biological Integrity

Within map extent: Avg IBI: 2.7 Coastal Wetlands: 2756

Acres within each class



Vegetation IBIs measure the health of a coastal wetland based on plant assemblages.

Show table

Class	# Wetlands	Avg Size (ac)	Total Acres	Avg IBI Score
N/A	2306	157	362251	0
Very Low	116	400	46392	1.5
Low	156	380	59230	2.4
Medium	101	317	32052	3.4
High	77	433	33314	4.5
Total	2756	193	533240	

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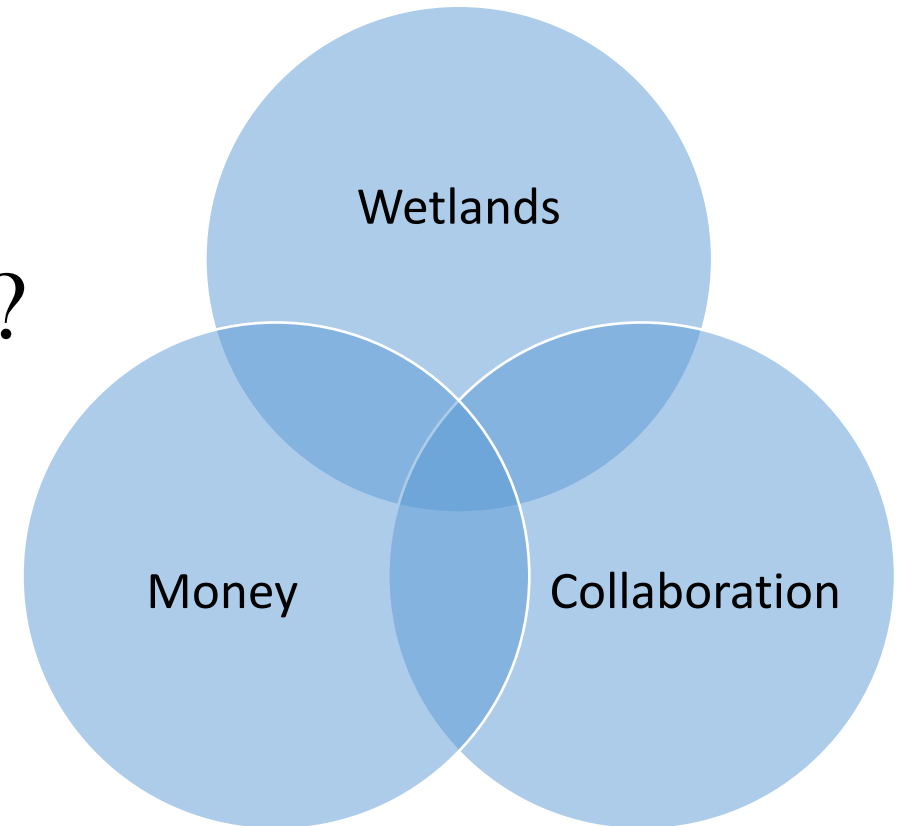
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Thank You & Keep in Touch!

Patrick Doran, Ph.D.

Associate State Director

pdoran@tnc.org

@pjdgreatlakes



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The Nature Conservancy

Michigan Field Office

101 E. Grand River Ave.

Lansing, MI 48906

Bottomlands **Restoration**

Location A

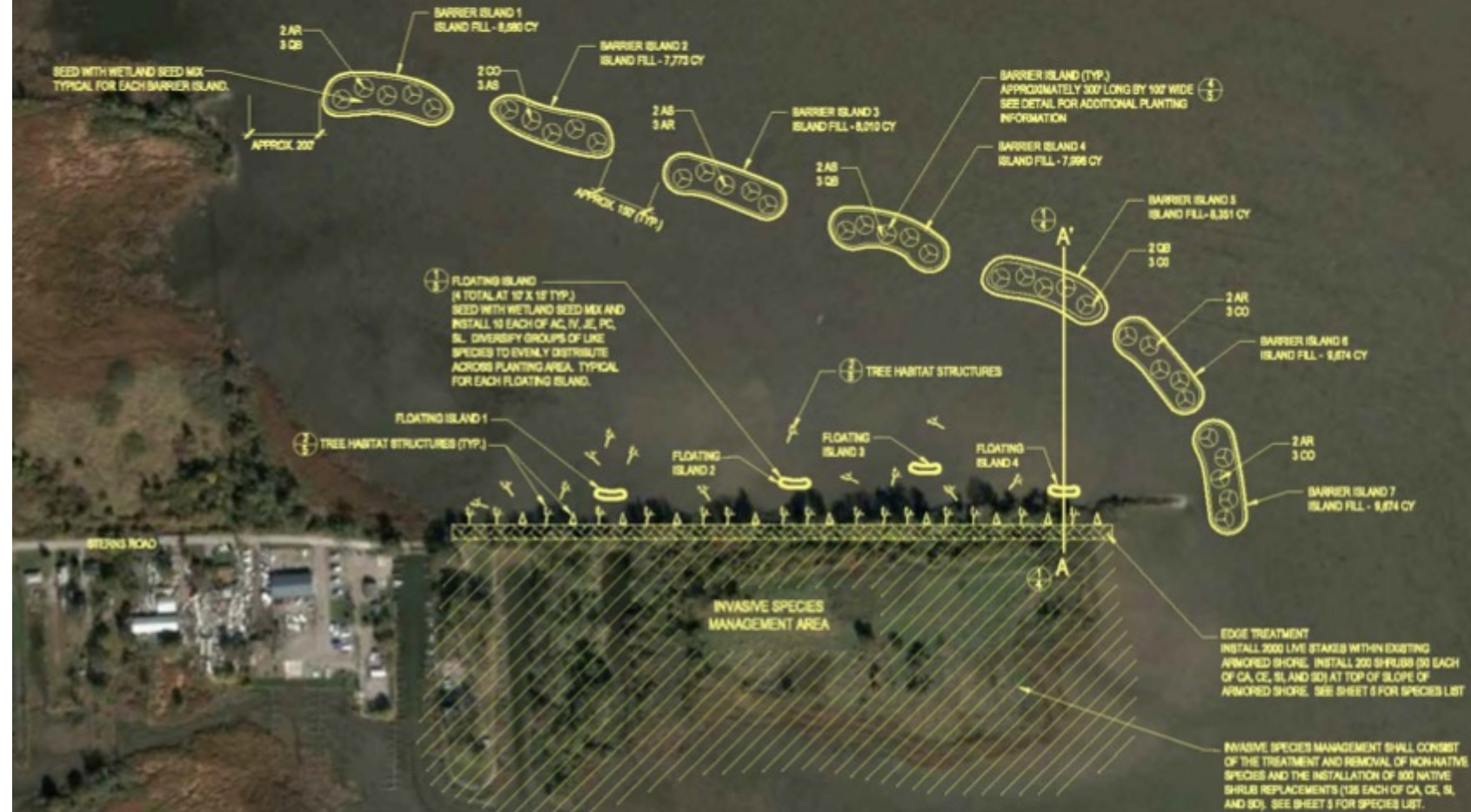
- reduce sediment transport
- improve water quality
- ❖ Sediment traps
- ❖ Islands

Location B

- establish emergent and submerged vegetation
- ❖ islands
- ❖ plantings



NOTE: ASSUMED EXISTING CONDITIONS FOR BARRIER ISLANDS -
DEPTH OF WATER 1' BASED ON NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA
RECREATIONAL CHART 14846, WEST END OF LAKE ERIE (LAST CORRECTION DECEMBER 1, 2010).



NOTE: ASSUMED EXISTING CONDITIONS AT PENINSULA RESTORATION -
DEPTH OF WATER 1' BASED ON NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)
RECREATIONAL CHART 14846, WEST END OF LAKE ERIE (LAST CORRECTION DECEMBER 1, 2010).

