



Illinois Coastal Program

Illinois Shoreline Management Challenges and Strategies

Western Dredging Association
June 5, 2019
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What is the Problem?



Too much sand

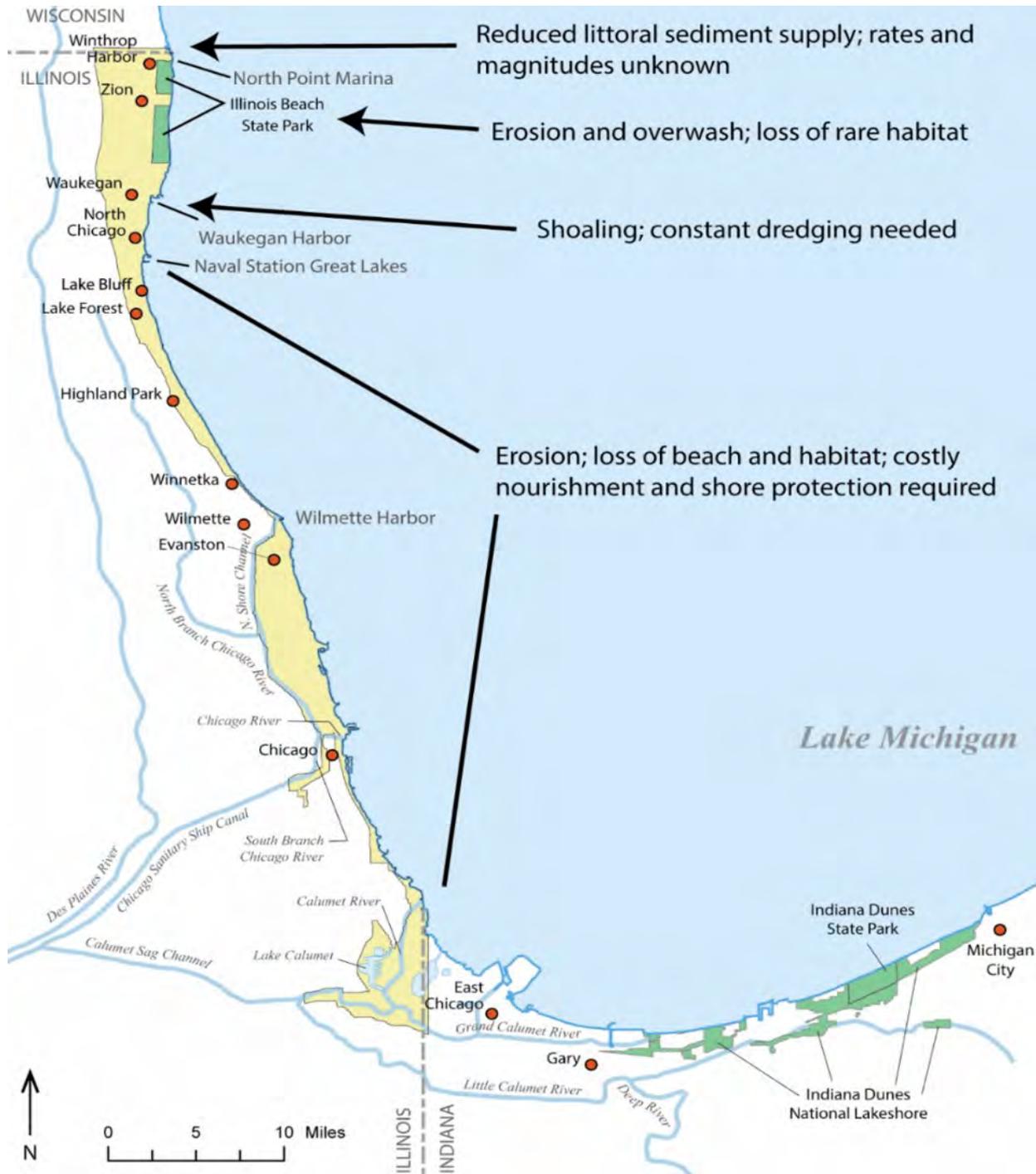


Not enough sand

Illinois Coastal Challenges

1. Highly modified shoreline and numerous legacy structures
2. Changing littoral processes and hydrodynamics
3. Incomplete understanding of shoreline change over time and what is driving it.
4. Coastal communities manage coastal erosion and excess sand deposition (accretion) individually, though they are all part of a regional system.





Reduced littoral sediment supply; rates and magnitudes unknown

Erosion and overwash; loss of rare habitat

Shoaling; constant dredging needed

Erosion; loss of beach and habitat; costly nourishment and shore protection required

Lake Michigan



ILLINOIS
INDIANA

Illinois Beach State Park



Sand was placed in North Unit in 2009.
Red line indicates 2015-2016 shoreline

Proposed Strategy

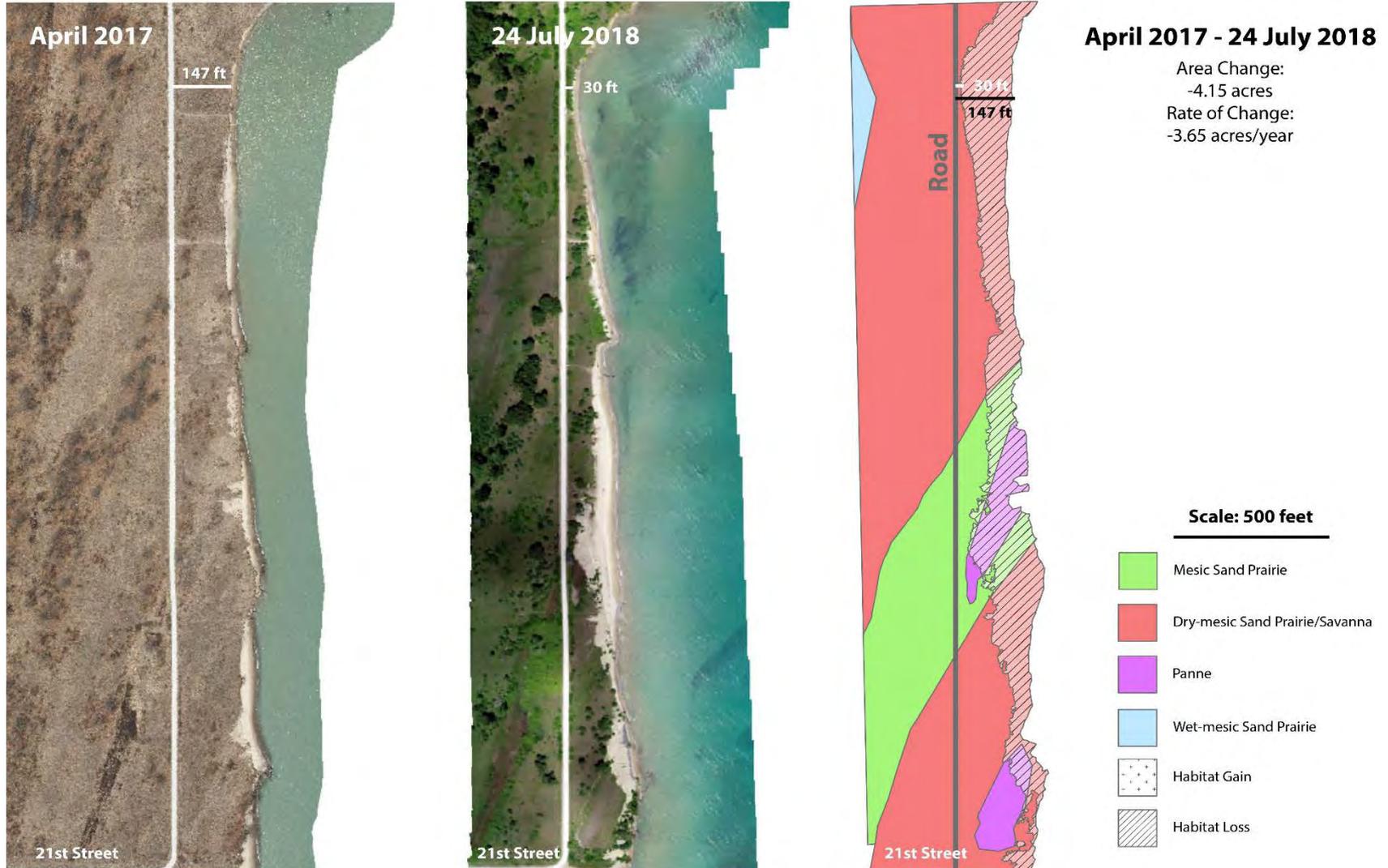
Preferred design developed through engineering contract for IL Dept of Natural Resources



Shoreline Erosion from 2013-2015

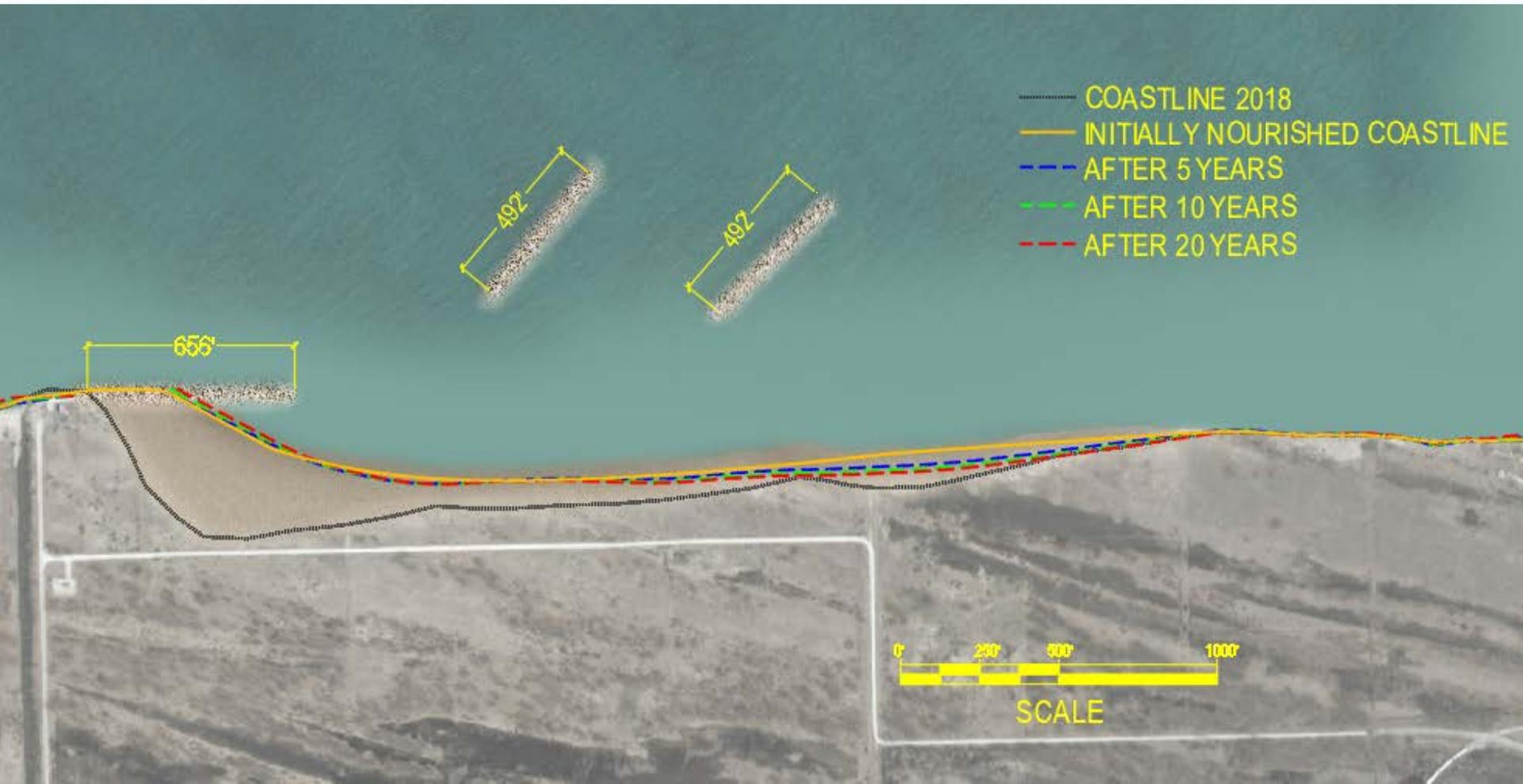


Illinois Beach 2017-2018



Proposed Strategy

Good News: New Illinois Capital Bill includes some funding for this!
But, also pursuing an emergency project to prevent complete loss of road



NOAA-GLRI: Sustainable solutions for habitat loss at IL Beach SP

- GOALS:
 - quantify what is being lost, why;
 - Develop resources to guide prioritization of shore protection
 - Develop and implement pilot project for shore protection
- Habitat loss/vulnerability mapping at IBSP
- Measure/characterize carbon loss from eroding wetlands
- Storm response characterization- how much erosion occurs from a specific type of storm



HEALTHY PORT FUTURES



Great Lakes
Protection Fund

Project Team:

Sean Burkholder - University of Pennsylvania

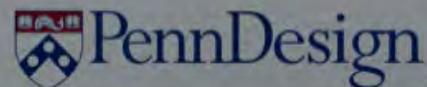
Brian Davis - Cornell University

Kimberly Hill - University of Minnesota

Matthew J. Lewis - Michigan Aerospace

Jeffery Schaeffer - USGS

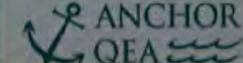
Walter Dinicola - Anchor QEA



ST. ANTHONY
FALLS LABORATORY

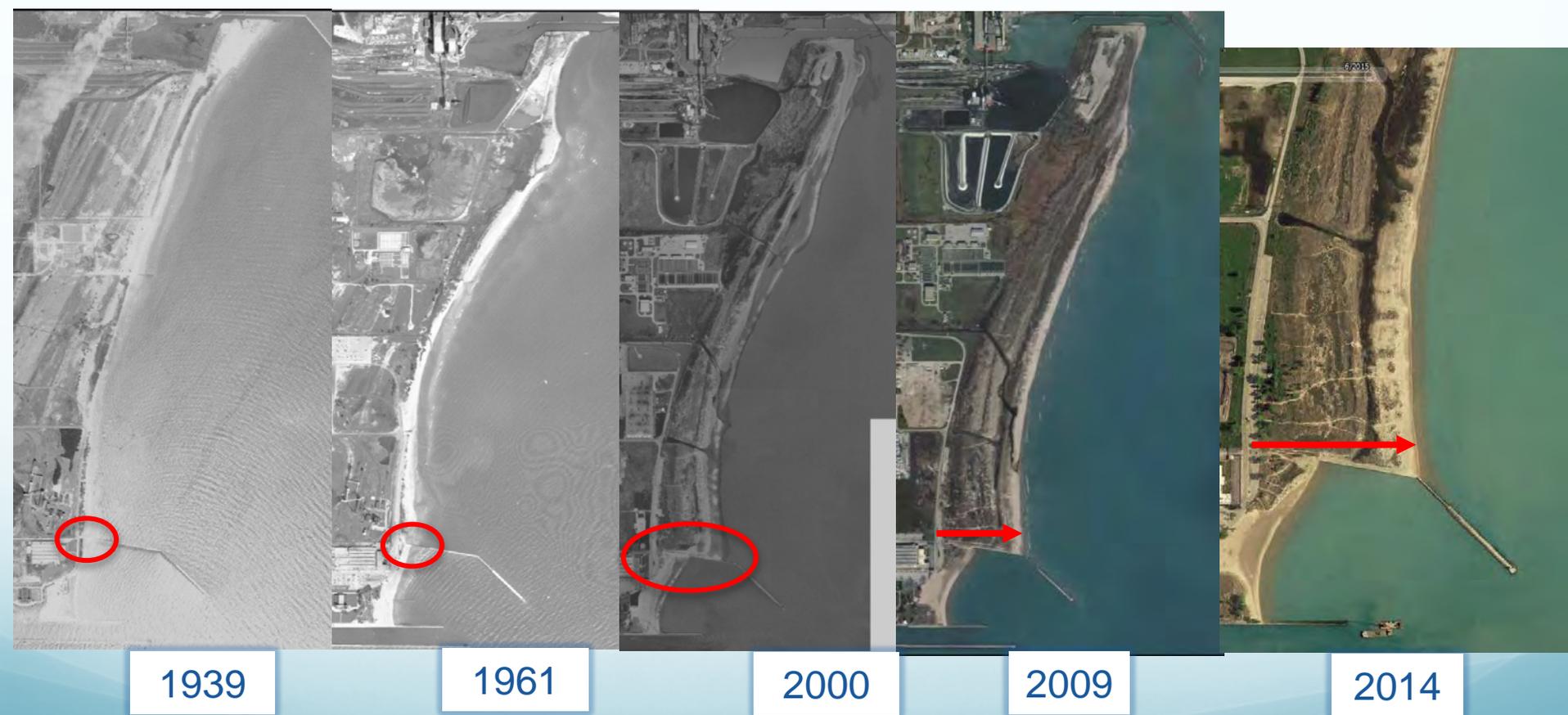


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WAUKEGAN HARBOR

Shore accretion from harbor structure trapping



Waukegan Municipal Beach:
loss of sand, pooling, unhealthy beach conditions



Long-Term Shoreline Management Goal:

To develop a sustainable, cost-effective, regional sand management system or set of strategies to ensure the health, safety and uses of our coast and shoreline.



Summary and Questions

- The solution can seem simple...but its NOT
- Understanding the shoreline dynamics is critical
- Creative strategies are needed
- Partnerships and collaboration are crucial

Discussion Questions:

1. How can onshore placement of sand be cost effective?
2. How can communities and landowners work together to reduce costs of dredging and beneficial use?
3. How can regulatory challenges be addressed while protecting environmental and human health?
4. What do you see as the biggest challenge to sustainable shoreline management, and how do we fix it?