

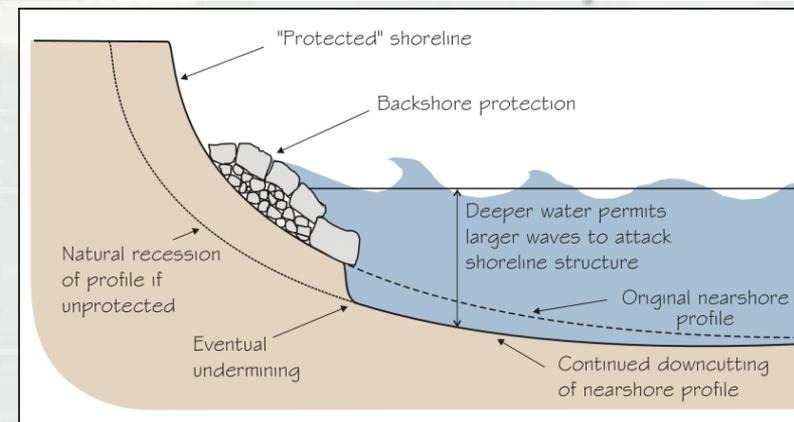
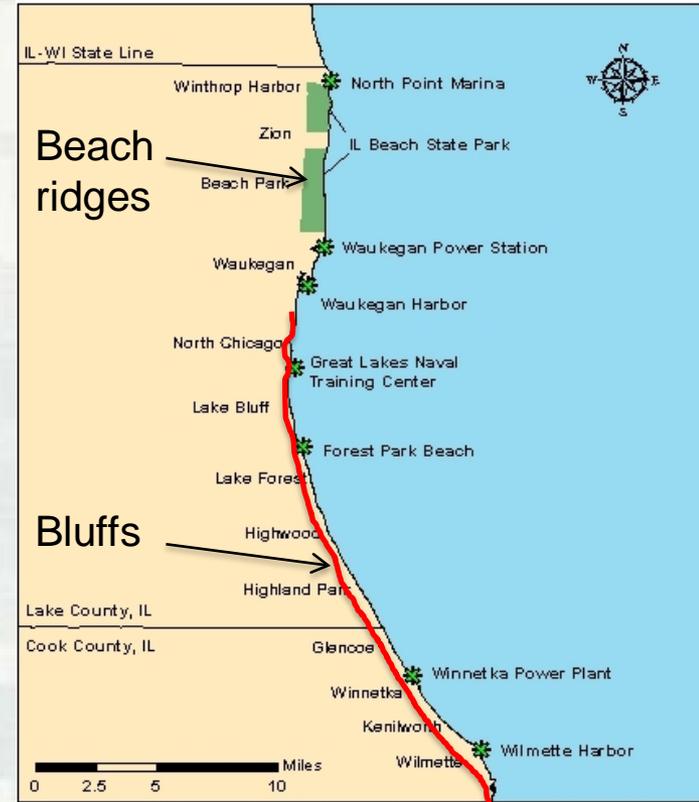
FY14 RSM-EWN IPR – Illinois North Shore

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Ashley E. Frey (CHL)

BLUF: The newly established Illinois Coastal Zone Management (CZM) program is working to develop a comprehensive plan for shoreline management. The development of a regional sediment budget would support the CZM program and provide a valuable tool for Federal, state, and local decision makers.

Description/Challenges

- Coastal management shared by Federal Gov., State of IL, local municipalities, and private landowners.
- 12 communities as well as significant infrastructure
- In-lake structures created significant littoral barriers.
- Barriers trap large volumes of sediment, leaving major sections of coast sand-depleted and vulnerable to erosion via bluff recession and lakebed downcutting.
- Most of 32-mile reach exhibits sediment-starved conditions.
- No comprehensive quantitative analysis of the littoral processes occurring within the North Shore
- Some sediment may have contaminants.
- Waukegan Harbor (deep-draft) experienced increased shoaling in last 5 years.



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Chicago District, Illinois North Shore

Accomplishments/Lessons Learned

Completed field inspection - June 2014

Recovering historic plots and reports from USACE archives, started digitizing – July 2014

Observed:

- More dredging is ongoing at marinas and power stations than previously known
- Major sand being removed from littoral system at Waukegan Power Plant
- Sediment does enter the system at WI-IL border



IL Beach State park, June 2014



Waukegan Generating Station

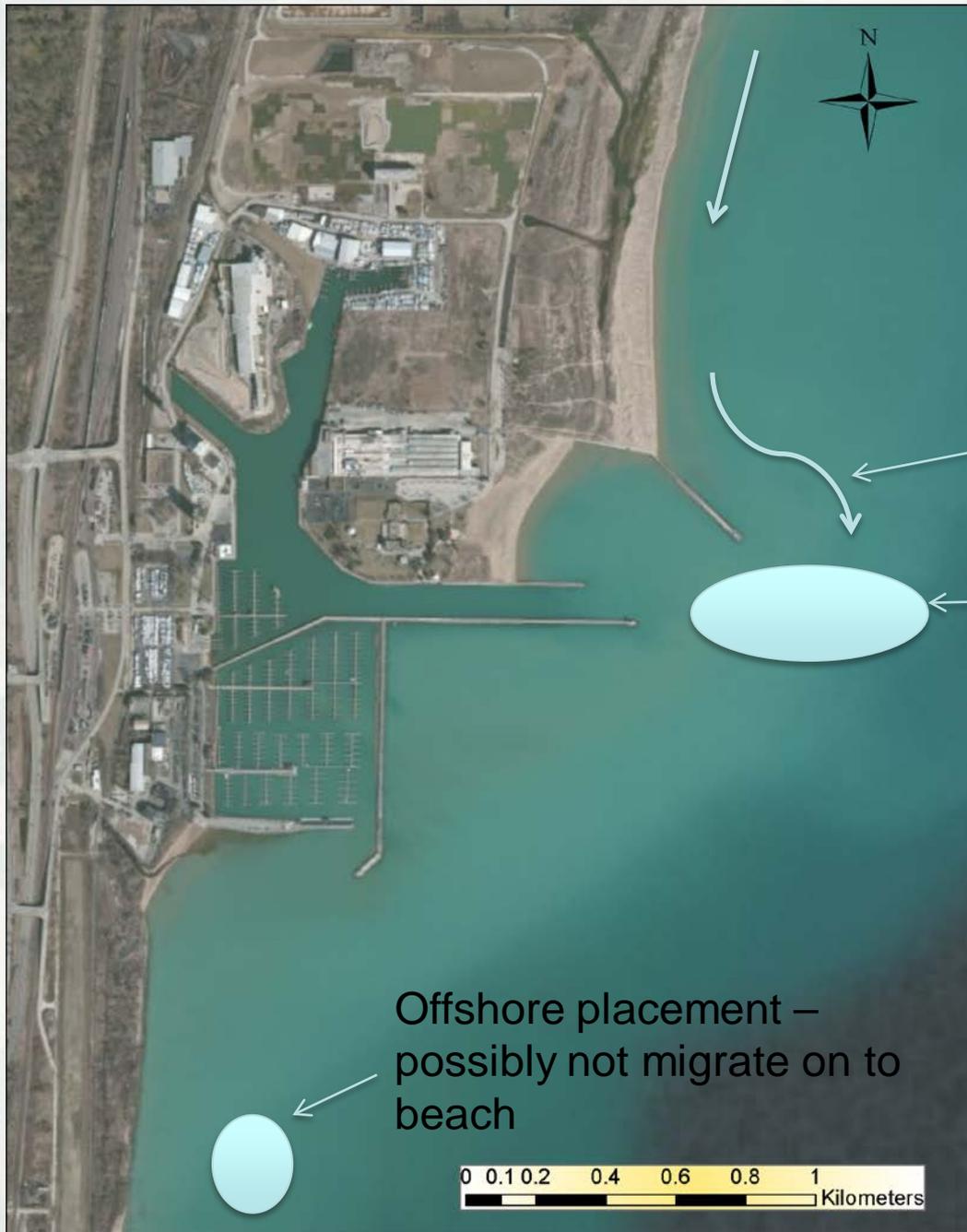
Bypassing, N. Point Marina



Vol. of sand mountain \approx 630,000 yd³



Waukegan Harbor



Littoral Transport

Increased Nav. Channel Shoaling

Offshore placement – possibly not migrate on to beach

0 0.1 0.2 0.4 0.6 0.8 1 Kilometers



Waukegan Harbor

Waukegan N. jetty
Nov. 1946

PROPERTY
SPASSING
N MOTORS
MARINE & MFG CO

Approx 2014 sand line



Waukegan Beach – N. fillet
Nov. 1946



June 2014



Waukegan Beach – N. fillet
June 2014



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Chicago District, Illinois North Shore

District PDT Members

David Bucaro, Planning
Joel Dohm, Planning
Joel Schmidt, Hydraulic Engineering

ERDC Principal Investigators

Andy Morang, Coastal Hydraulics Laboratory
Ashley Frey, Coastal Hydraulics Laboratory

Active Partners

Diane Tecic, Illinois DNR, Coastal Program Manager
Dan Injerd, Illinois DNR, Chief Lake Michigan Section
Bob Baur, Illinois Geological Survey

Stakeholders and Partners

State of Illinois Coastal Zone Management Program
and Dept. of Natural Resources
Waukegan Port District
US Navy
Municipalities: Zion, Waukegan, North Chicago, Lake
Bluff, Lake Forest, Highwood, Highland Park,
Glencoe, Winnetka, Kenilworth, Wilmette

Leveraging/Collaborative Opportunities

Other USACE efforts:

(GI) Illinois Shoreline Erosion, Interim IV
(CG) IBSP 204, Waukegan 107,
Rosewood Park, Zion, Fort Sheridan
(O&M) Continued Maintenance of
Waukegan Harbor

Other Federal efforts:

Maintenance of Naval Station Great
Lakes by US Navy

Illinois DNR:

State of Illinois Coastal Zone
Management (CZM) program; provide
significant technical assistance
Regulatory management and coordination
over Illinois Shoreline
Management and planning of Illinois
Beach State Park

Locally-led Efforts:

Maintenance of shoreline structures,
beaches, parks and harbors

