

FY15 RSM-EWN Workshop

Coastal Strategic Placement Challenges

Discussion Session:
CAP 204 for Nearshore Placement -
HQUSACE Challenge

Illinois Beach State Park 204
David Bucaro, LRC



Discussion Outline

- Illinois Beach State Park Background
- Summary of CAP 204 Study / NER Plan
- HQUSACE Policy Decision
- Next Steps



Background

- Illinois Beach State Park began in 1948
 - ▶ single largest tract of undeveloped coastal habitat on the Illinois shoreline; 6.5 mi shoreline / 4,160 acres
 - ▶ contains the only remaining natural coastal dune and wetland habitat in the entire state
 - ▶ provides habitat to hundreds of flora and fauna species including 3 federally-listed species and 6 state-listed species
 - ▶ located in a sand-starved littoral reach of Lake Michigan
 - ▶ experiences continual erosion of sandy beach habitat which is critical for the Piping plover as well as numerous migratory bird species.



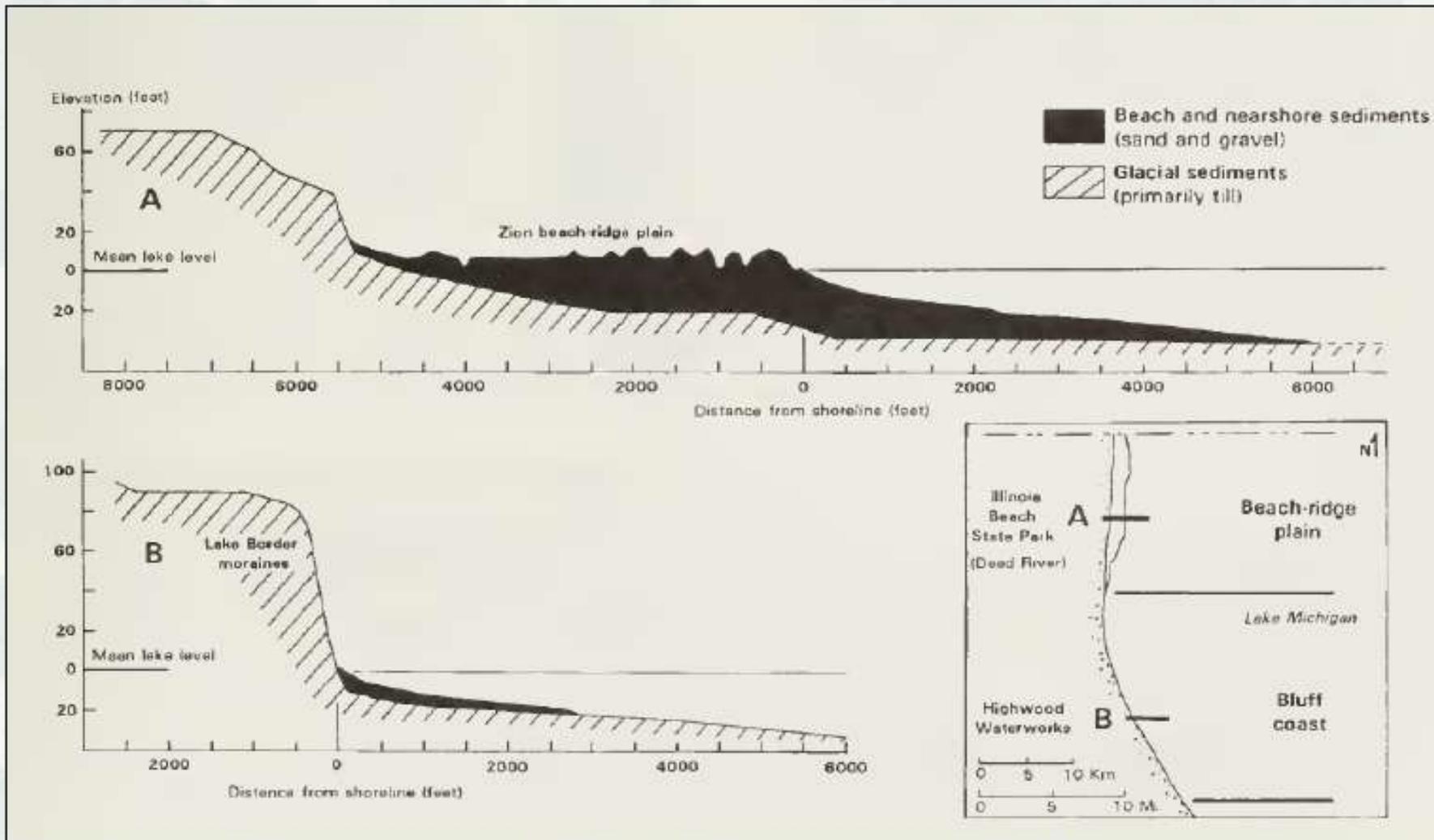
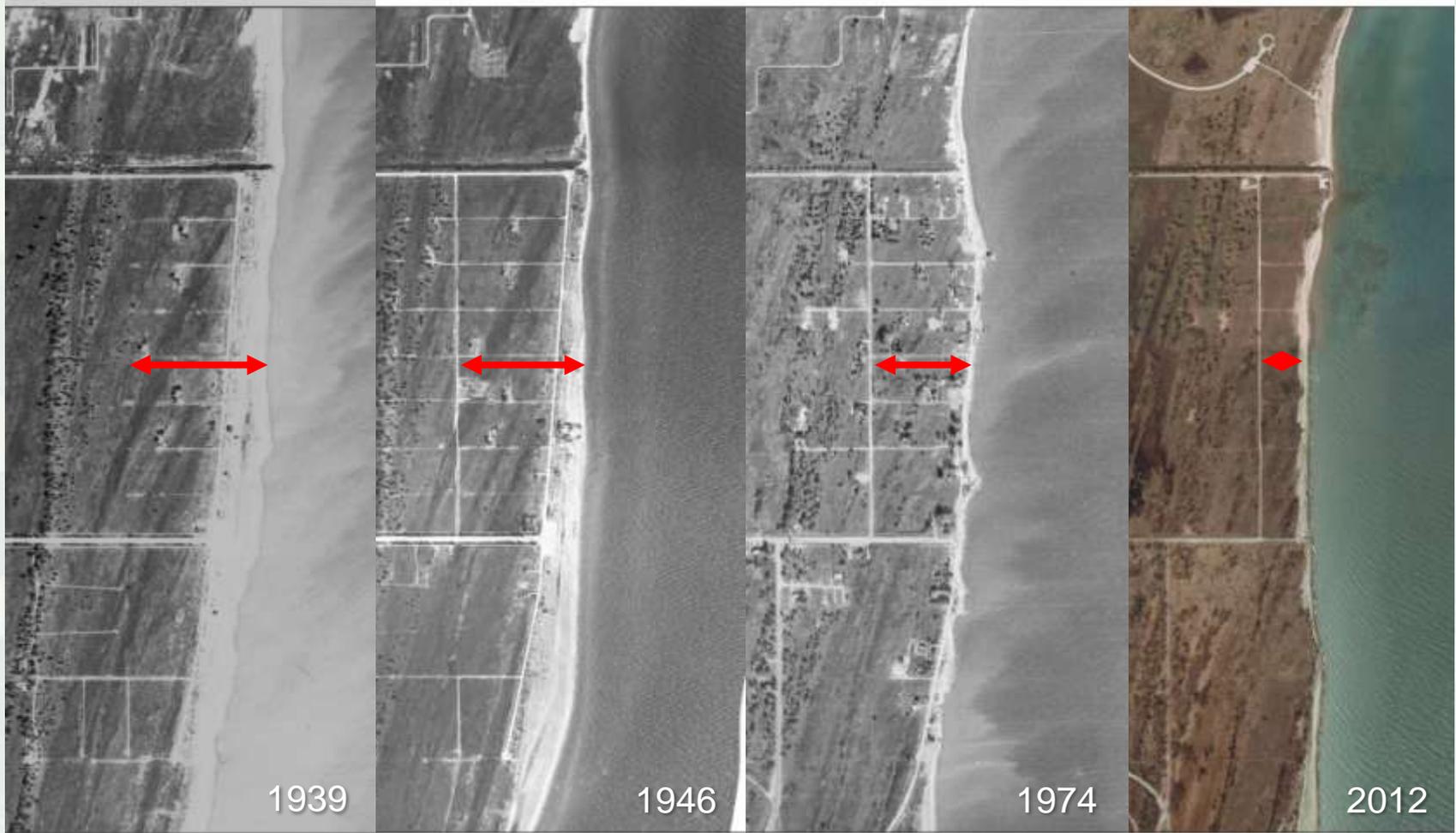


Figure 9 Nearshore profiles of the Zion beach-ridge plain at Illinois Beach State Park and the bluff coast at Highwood, Illinois (From Chrzastowski and Trask 1995).



Shore Erosion



~125,000 cy/yr of erosion or roughly 12M cy over the past century



June 2014



November 2014



Halloween Storm 2014



November 2014



Figure 11 Shoreline conditions at IBSP following the remnants of Hurricane Sandy



State's Efforts to Combat Erosion

- Adjacent feeder beach
 - ▶ Trucked in from an upland source
 - ▶ Dredged material from North Point Marina
- Nearshore placement
 - ▶ Pays USACE incremental cost to transport dredged material from Waukegan Harbor 8 miles north to IBSP
 - ▶ Relatively cheap: ~\$1/cy



Feeder Beach

1.8M cy between 1989-1997 primarily from construction of North Point Marina – most of that has not moved due to armoring a parking lot that built upon it.



Only about 10,000 cy per year since 1998 from the maintenance of North Point Marina



Nearshore Placement



Since 1999, 487,200 cy of material was placed over a total of 10 dredging events. Over that same time period, 179,355 cy of material (27%) that was dredged was not placed at IBSP due to lack of sufficient state funds or timeliness of executing agreement with USACE. In several instances, the state only had enough funds available to place some of the material being dredged and two times funds were unavailable at all.

CAP 204 Study

- Initiated in 2011; DFI approval July 2011
- GLRI funds provided in 2013 to conduct feasibility
- DPR Approved by MSC March 2014
 - ▶ <http://www.lrc.usace.army.mil/Missions/CivilWorksProjects/IllinoisBeachStatePark.aspx>
- No model PPA exists for 204 projects
 - ▶ Requires ASA(CW) approval
 - ▶ MSC submitted to HQ August 2014
 - ▶ Conf call with HQ (Smith/Rasgus) December 2014
- HQ provides PPA Policy Decision February 2015
 - ▶ “not an appropriate use of Section 204 authority”



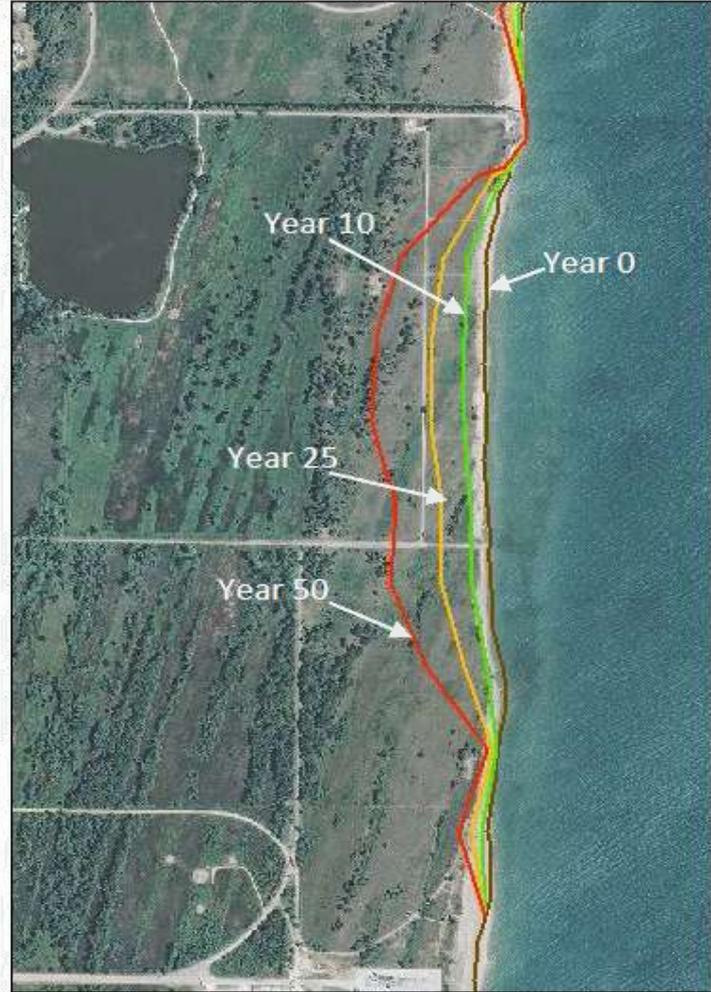
Study Objectives

- Nourish the shoreline to reduce the erosion of beach and dune habitat
- Repair the littoral processes to preserve the quality and abundance of lacustrine, beach, and dune habitats
- Increase quantity and improve quality of habitat for hundreds of migratory and resident birds including T&E species





Forecasted shoreline for upper reach of North Unit



Forecasted shoreline for lower reach of North Unit



Figure 12 Forecasted without project shoreline erosion



Alternatives Considered

- 3 plans evaluated
 - ▶ No Action
 - ▶ Littoral Nearshore Placement
 - ▶ Direct Beach Placement
- 10 dredging events / 25 year POA

Table 8 Planning level measure cost estimate

Measure	Unit Price	Annual Quantity (cubic yards)	Annual Cost	Total Quantity (cubic yards)	Total Cost
Littoral Nearshore Placement	\$1.00	80,000	\$80,000	800,000	\$800,000
Direct Beach Placement	\$22.60	80,000	\$1,808,000	800,000	\$18,080,000

* Measures would be implemented over 10 years and include a 25% contingency

* Costs represent the incremental cost above and beyond the Base Plan.

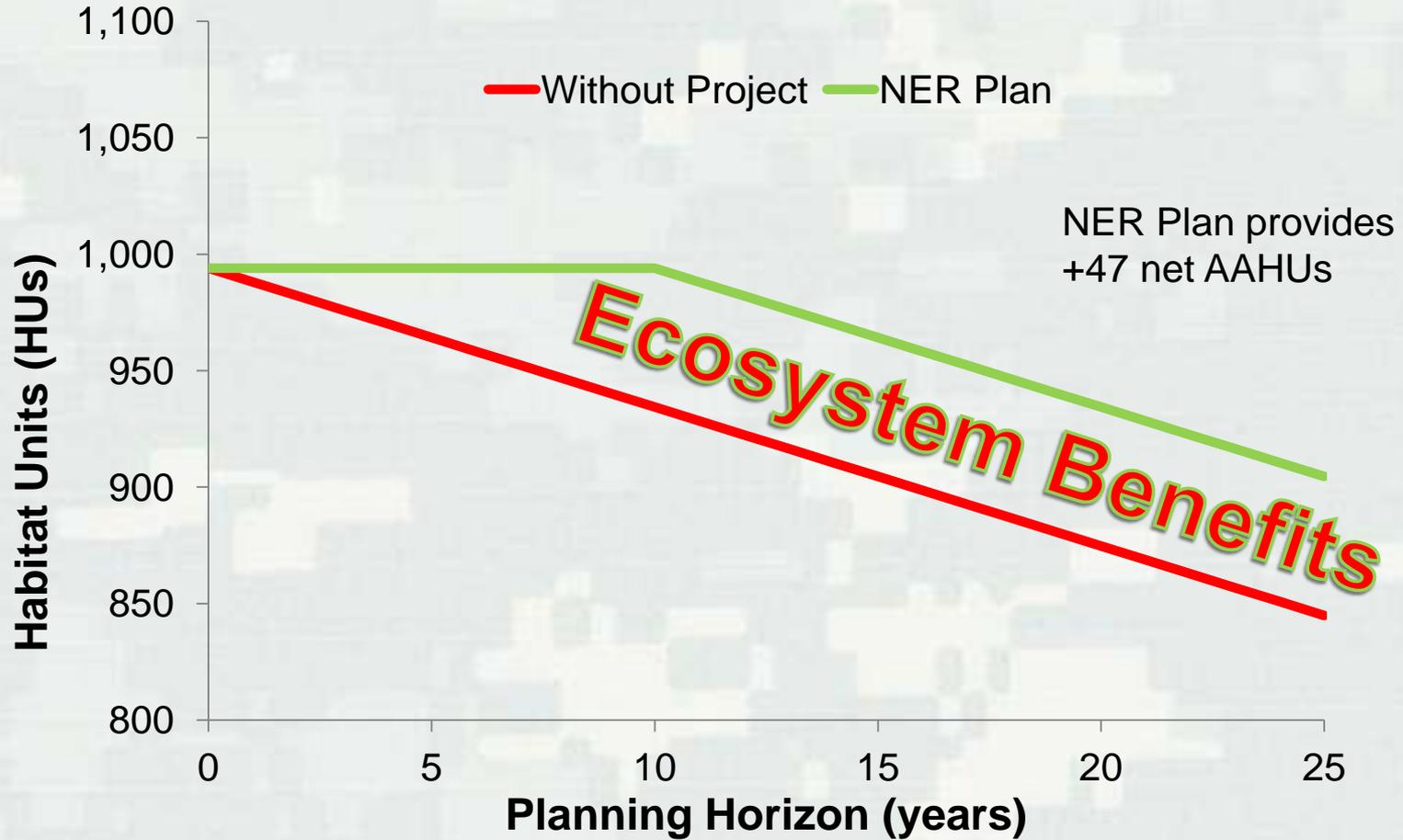
NER Plan

Annual placement of ~80,000 cy of material mechanically dredged from Waukegan Harbor approach channel and placed in the nearshore area of IBSP North Unit by split hull barge. Periodic monitoring to better understand effectiveness of placement method.



Figure 17 NER/ Preferred Plan for IBSP Section 204

NER Plan Output



Total Project Costs

Table 14 Total project cost (above and beyond the Base Plan)

Feature	Cost ₁	Contingency	Total
Feasibility ₂	\$125,000	-	\$125,000
Construction ₃	\$691,000	\$165,000	\$856,000
LERRDs Value	-	-	-
Planning, Engineering & Design ₄	\$48,000	\$10,000	\$58,000
Construction Management ₅	\$76,000	\$13,000	\$88,000
Total Project Cost	\$940,000	\$188,000	\$1,127,000

1. All costs input from the Certified TPCA by the Walla Walla Cost Engineering MCX on 9 August 2013.
2. Feasibility is a 100% Federal responsibility
3. Construction includes both sand placement (\$811,000) and bathymetric survey monitoring (\$45,000)
4. Include project management (2%), engineering & design (2%), contracting (1%), and engineering during construction (2%)
5. Includes construction management (10%)



HQ Policy Decision



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS
441 G STREET, NW
WASHINGTON, D.C. 20314-1000

FEB 25 2015

CECW-LRD

MEMORANDUM THRU COMMANDER, GREAT LAKES AND OHIO RIVER DIVISION
(CELRD-PDM-M, ATTN: MS. BOCCIERI)

FOR COMMANDER CHICAGO DISTRICT (ATTN: CELRC-PM-PM MR. KANNABY)

SUBJECT: Illinois Beach State Park, Section 204 WRDA of 1992, as amended, Beneficial Use of Dredged Material, Project Partnership Agreement (PPA) Policy Decision

1. References:

- a. Implementation Guidance for Section 2037 of WRDA 2007, which amended Section 204, dated 8 April 2008.
- b. Planning Guidance Notebook, ER 1105-2-100, dated 22 April 2000.
- c. Memorandum, CELRD-PD-G, 29 August 2014, Subject: Illinois Beach State Park, Lake County, Illinois, CAP Section 204, Beneficial Use of Dredged Material, Project Partnership Agreement (PPA), Request for Approval.
- d. Memorandum, CELRC-PM-PM, 7 July 2014, Subject: Illinois Beach State Park, CAP Section 204 Beneficial Use of Dredged Material, Project Partnership Agreement (PPA) Package, District Transmittal Memorandum (Request for Approval).
- e. Implementation Guidance for Sections 1015 and 1023 of the Water Resources Development Act of 2014 (WRRDA 2014), Contributed Funds, dated 11 February 2015.

2. Based on review of documentation submitted in support of the subject PPA, it has been determined that the proposed project as formulated is not an appropriate use of the Section 204 authority. Consequently, processing of the subject PPA will not be completed.

3. Per reference 1.a., plan formulation and policy considerations for beneficial use projects will be the same as other continuing authorities projects or specifically authorized projects, although it is recognized the identification of the NER or NED plan will necessarily be constrained by the sediment available from operation or maintenance of a Federal water resources project. The proposed project would be constructed over 10 dredging cycles with no O&M commitment from the non-federal sponsor to maintain the project as constructed in accordance with existing policy. Further, documentation included with the draft PPA indicates that material would be placed on the beach for ecosystem benefits only when the non-Federal sponsor has the funds to pay the cost. Consequently, the proposed project is not sustainable and the benefits are only temporary.

CECW-LRD

SUBJECT: Illinois Beach State Park, Section 204 WRDA of 1992, as amended, Beneficial Use of Dredged Material, Project Partnership Agreement (PPA) Policy Decision

4. The proposed project is more appropriately considered a beneficial alternative dredged material disposal method for O&M of a federal navigation project where non-federal interests pay the increased cost above the base plan. In accordance with paragraph 7 of reference 1 c, beneficial disposal of dredged material that has a cost that is greater than the base plan is considered "additional work" for which the non-federal sponsor is required to pay the incremental cost. Further, an MOA may be executed for such work and consideration will be given to executing an MOA to cover an extended period of time to accomplish such "additional work."

5. Please direct questions to Mr. Jay Warren, LRD RIT Planner, at (202) 761-4589.


THEODORE A. BROWN, P.E.
Chief, Planning and Policy Division
Directorate of Civil Works

HQ Policy Issue 1 - Suitability of Nearshore Placement for Ecosystem Restoration

- “policy considerations for beneficial use projects will be the same as other projects, although it is recognized NER or NED plan will be constrained by sediment available from O&M of Federal project”
- “proposed project would be constructed over 10 dredging cycles with no O&M commitment from the non-federal sponsor to maintain the project as constructed in accordance with existing policy”
- *Isn't beach nourishment by nature a temporary measure to forestall erosion of the shoreline in a dynamic environment? We don't require sponsors to do O&M to ensure sand stays in place...*



HQ Policy Issue 2 – Sustainability of Ecosystem Restoration Benefits

- “documentation included with the draft PPA indicates that material would be placed for ecosystem benefits only when the non-Federal sponsor has the funds to pay the cost”
- “consequently, the proposed project is not sustainable and benefits are only temporary”
- *Project is both dependent on availability of O&M funds for dredging and 204 funds. Frankly there is more risk of the project not being implemented as planned due to lack of Federal funds than sponsor funds. Included PPA language was intended as a means for the sponsor to budget for the project due to these uncertainties.*



HQ Recommendation – Classify project as “additional work” and have sponsor pay for it

- “proposed project is more appropriately considered a beneficial alternative dredged material disposal method where non-federal interests pay the increased cost above the base plan”
- “an MOA may be executed for such work and consideration will be given to executing an MOA to cover an extended period of time to accomplish such additional work”
- *So this project doesn't provide any benefits that are in the federal interest and worthy of cost sharing?*



Next Steps – so now what?

- District drafted a “reclama” memo and discussed with MSC and HQ
 - ▶ Conf call with HQ (Rasgus/Gallihugh) March 2015
- District reached out to several experts within USACE for interpretation
 - ▶ All have been perplexed by HQ’s policy decision
- We’d like support from RSM-NC, ERDC, PCXs and others in addressing their concerns
 - ▶ science-based arguments (case studies or new data)
 - ▶ specific ideas for reformulating the project
 - ▶ other thoughts?

