

Post-Sandy Dredging Activities in NJ Federal Channels and Placement Options

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of Engineers®



Description/Challenges

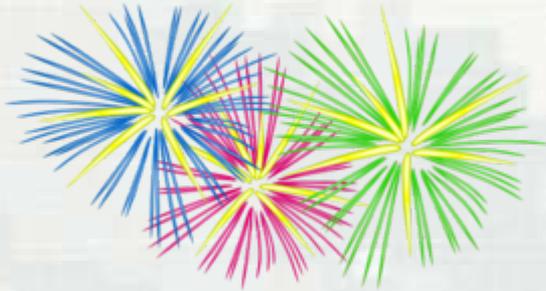
- Post-Sandy, Federal channels in inlets and waterways require dredging
- Regular O&M funds small amounts of dredging or none at all
- Post-Sandy funds have increased available funding and presented opportunities for action

Objectives

- Develop dredging strategies to better utilize Post-Sandy and future funds to
 - Reduce future dredging requirements
 - Cross business line approach
 - Improve environmental benefits



BLUF: NAP and ERDC are proposing alternatives for dredging placement options at multiple sites. The purpose is to use EWN and RSM concepts to develop short-term (post-Sandy) and long-term dredging strategies



WE ARE MOVING SEDIMENT!!!



Mantoloking - Lyman Street Breach NJIWW Dredging and Beach Placement



Hurricane Sandy caused breach in late Oct 2012 with material & debris in NJIWW

Govt Plant SNELL responded in Dec 2012

NJIWW Dredging at Tow Island w/ Placement on Long Beach Island Beachfill Template: August 2013



Absecon Inlet Channel & Beachfill

Collaborative Post-Sandy Effort between FRM and O&M



PDT Members

NAP

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Approach

- NAP assesses & meets with stakeholders (Dec 2012-present)
- NAP awards Lease of Plant Dredging Contract (Feb 2013)
- Program Managers visit & present to stakeholders (Mar 2013)
- ERDC Team site visit (Apr 2013)
- Developed presentation with conceptual strategies for sites
- NAP requested CHARTS followup (flown June 2013)
- Prioritized Barnegat /Oyster Creek dredging and began technical work for living shoreline project
 - NJ criteria of eroding shoreline and no issues with SAV
 - Used LIDAR and historical aerial photos to prove erosion of training dike
 - Preliminary design of marsh and protective structure
 - Dredging operations could be an issue



Barnegat In

View of Sedge Island from Barnegat Lighthouse; the island has breached



View of Island Beach from Barnegat Lighthouse



South Jetty at Barnegat Inlet; standing water to south of jetty



Barnegat Inlet



Overboard disposal area 26A&B

Exposed peat

Proposed dredging of Oyster Creek Channel (40K cu)

View of sand dike from the lighthouse

Exposed peat on island (sand dike)

Barnegat Inlet – Placement Strategy



Possible placement areas for Barnegat Inlet/Oyster Creek Channel

- Notes
1. Volumes ~80-100K
 2. Need capacity for federal and state channels

Date: 4/24/2013

NJIWW Critical Shoals (Markers 386 to 397) – Existing Conditions

Overboard site 98 B&C
Note different vegetation
type on '93 placement



Proposed dredging of NJIWW (75K cu)

NJIWW Critical Shoals (Markers 386 to 397) – Placement Strategy



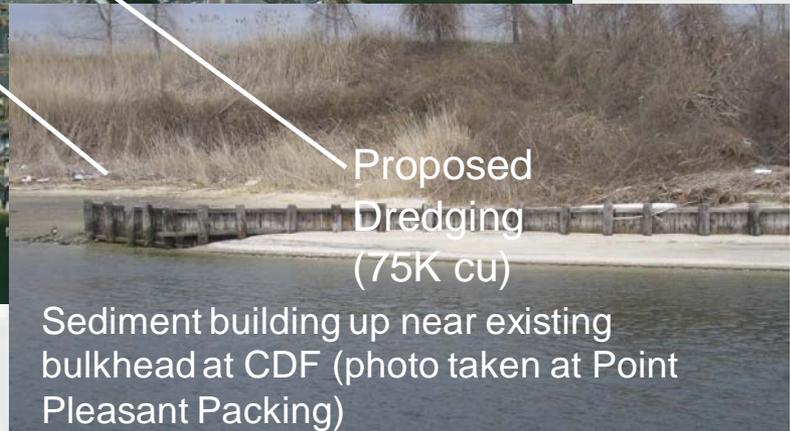
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Possible placement areas for NJIWW
 Markers 386 to 397 west of Avalon/Stone Harbor

- Notes
1. Volumes ~75K CY, mixed sediments
 2. Need clarification on current shellfish areas

Manasquan Inlet/Wills Hole Thorofare



Manasquan Inlet/Wills Hole Thorofare – Placement Strategy



Possible placement areas for Manasquan Inlet/Wills Hole Thorofare

- Notes
1. Volumes ~75K CY
 2. State wants additional CDF capacity

Deliverables

- Recommendations and files for design placement on Barnegat Inlet training dike (30 Sept)
- Presentation/webinar describing recommendations (early October)
- TN describing recommendations and short & long-term strategies for multiple sites (FY14)

Stakeholders

- State of New Jersey
 - Department of Transportation
 - Department of Environmental Protection (several agencies)
 - NJ State Parks
- US Coast Guard
- US Fish & Wildlife Service

Opportunities to Take Action

- Short-term
 - Continue dredged placement strategy for Manasquan & Avalon
 - Work across FRM, NAV, ER lines
- Long-term
 - Regional long-term placement strategy map
 - Quantify environmental habitat and coastal processes
 - Further define concept of “living shorelines” in NJ
 - Framework for dredging strategies for the Division

Leveraging/Collaborative Opportunities

- NAP Post Sandy + O&M/FRM Programs
- R&D Programs (RSM-EWN, DOER)
- CAP
- Post-Sandy RSM (strategic placement of dredged sediment for regular O&M and building coastal resilience following storms)