

The Port of New York & New Jersey

Sediment Management Challenges and Solutions for NY/NJ Harbor Deepening Program

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Presentation Overview

1. Harbor Deepening Project
2. Sediment Management Challenges
 - Environmental
 - Business
3. Sediment Management Solutions
 - Involve Stakeholders
 - Increase Processing Capabilities
 - Increase Permitted Placement Sites.
 - Beneficial Reuse
 - Wetlands Mitigation & Restoration
 - HARS Remediation
 - Brownfield Remediation
 - Artificial Fishing Reefs
4. Lessons Learned



NY & NJ Harbor Deepening Project Overview



Average Annual Net Federal Benefits: \$1.008 Billion (\$2.76 Million per *day*)

Cost Share: Approx. 54% Fed, 46% Non-Fed

Non-Federal Sponsors

Port Authority of New York & New Jersey

New Jersey Department of Transportation Office of Maritime Resources

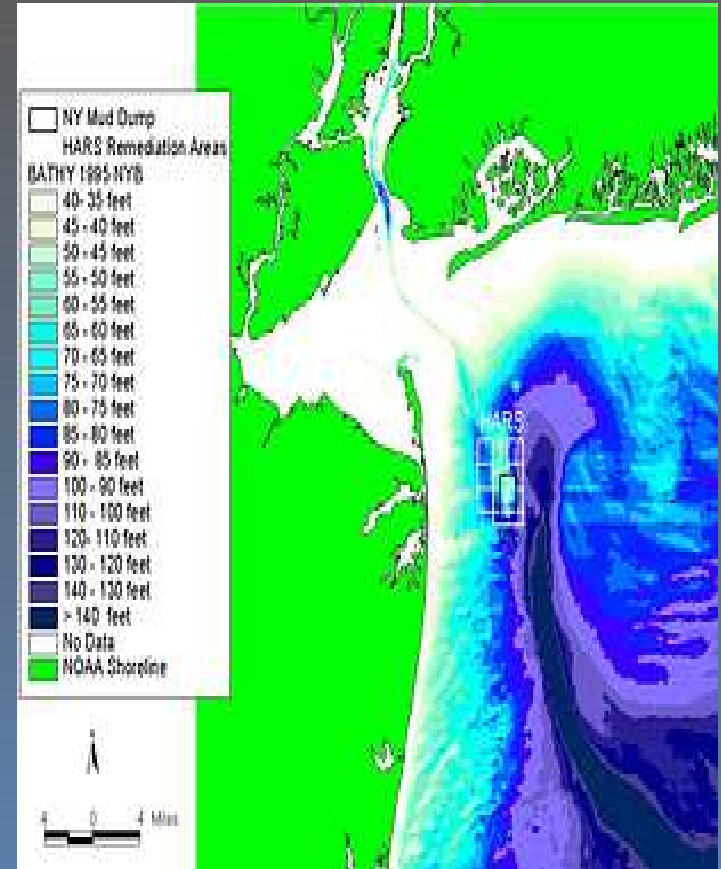
The 50' Harbor Deepening Project

- Collaboration with US Corps of Engineers
- Total Cost: \$2.3 B (\$1.1 B from PANYNJ)
- Project to be completed by summer of 2016



Sediment Management Challenges-Environmental

- Ocean Disposal, Mud Dump Operating since Mid-1800s
Dredged Material placed from 1914 to 1997 is
115 Million Cubic Yards
- Establishment of HARS
September 1997, EPA terminated Mud Dump and Established HARS.
40 Million Cubic Yards
- Chemical & Biological Testing requirements



Sediment Management Challenges- Business

- Disposal Cost, After Sep. 1997.
From \$5/CY @ Mud Dump
To \$100-\$150/CY Upland.

	<u>HARS</u>	<u>Non-HARS</u>	<u>Rock</u>
Deepening Projects to 50 Feet:	33 MCY	12 MCY	8 MCY
Cost per CY For Disposal	\$7-\$10	\$100-\$150	\$10-\$12
Total Cost	\$231M-\$330M	\$1.2 B-\$1.8B	\$80M-\$96M

Total Cost not including dredging cost ranges from \$1.5B to \$2.3B



Sediment Management Challenges- Business Cont.

- Insufficient Processing Capacity
- Shortage of Placement Sites – In water and upland.
- High Cost of Processing and Placement



Sediment Management Solutions

1. Involve Stakeholders:

- DM Task Force- PA, Corps, EPA, NJDEP, NYSDEC, NYCEDC.
- DM Management Integrated Work Group-Environmental & Community
 - Bi-State Dredging Fund
 - CARP
 - NY Academy of Science, Industrial Ecology.



Sediment Management Solutions

2. Increase Processing Capabilities:

- Add a third processing either on land or in-barge

3. Increase Permitted Placement Sites:

- Air Rights Brownfields/Landfills.
- Two New Confined Disposal Facilities.
- Eastern Pennsylvania Coal Mines



Sediment Management Solutions

Beneficial Reuse: Wetlands Mitigation & Restoration



Sediment Management Solutions

Beneficial Reuse: Wetlands Mitigation & Restoration



Sediment Management Solutions

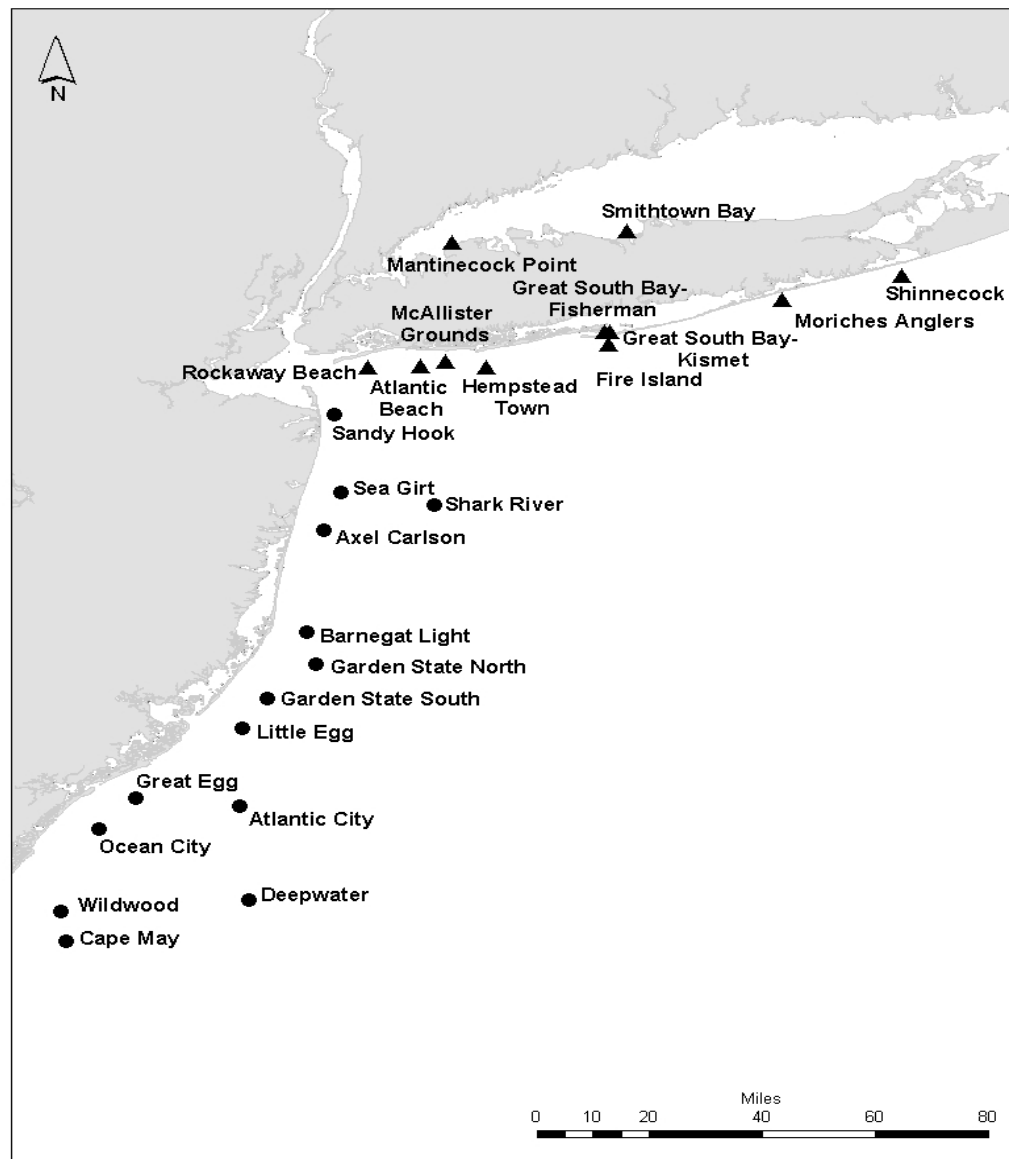
Beneficial Reuse: Wetlands Mitigation & Restoration



Sediment Management Solutions

Beneficial Reuse

Artificial Fishing Reefs



Lessons Learned

1. Collaborative Effort
2. Engage Stakeholders
3. Use Creative Solutions
4. Secure enough Funding
5. Team Work, Team Work and Team Work



The Port on the Internet

- Port Authority website: <http://www.panynj.gov>
- PONYNJ website: <http://www.panynj.gov/port>
- Port Authority Blog, *Portfolio*:
<http://portfolio.panynj.gov>
- PONYNJ Industry Stakeholder Communications:
<http://breakingwaves3.wpengine.com>
- Port Authority Newsletters:
<http://www.panynj.gov/about/newsletters.html>
- PONYNJ Twitter page: <https://twitter.com/portnynj>
- CPP: www.councilonportperformance.com