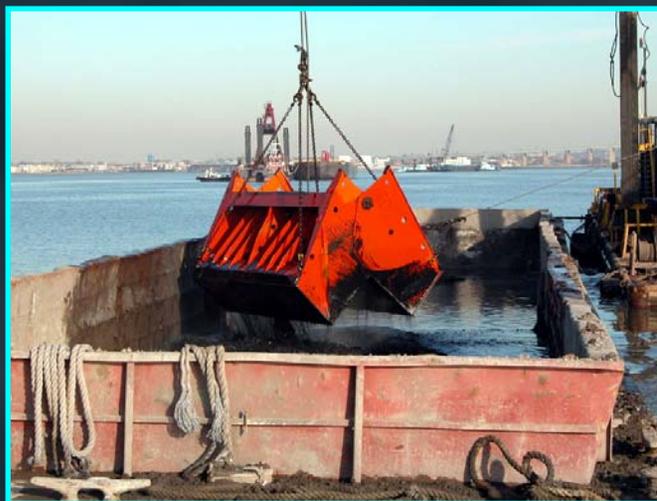
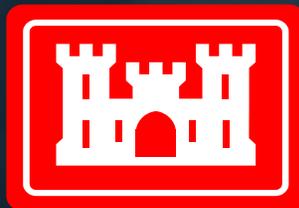


Hudson-Raritan Estuary Restoration : Challenges and Opportunities

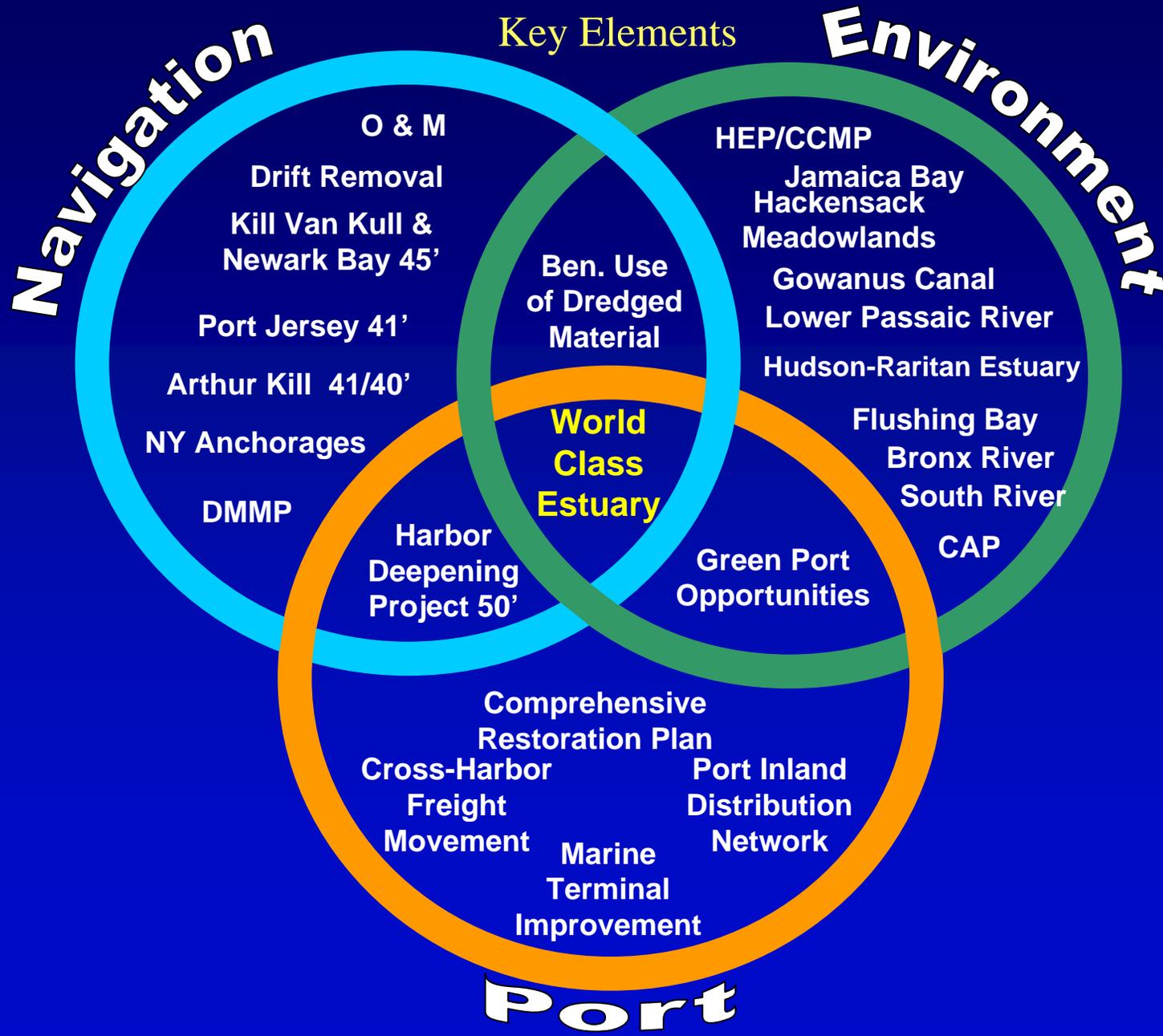


**World Waterfronts Series:
Urban Center
March 16, 2006**



William F. Slezak,
Chief, Harbor Programs
Branch

A Vision for the NY & NJ Harbor Estuary





Dredged Material Management Plan

US Army Corps
of Engineers
New York District



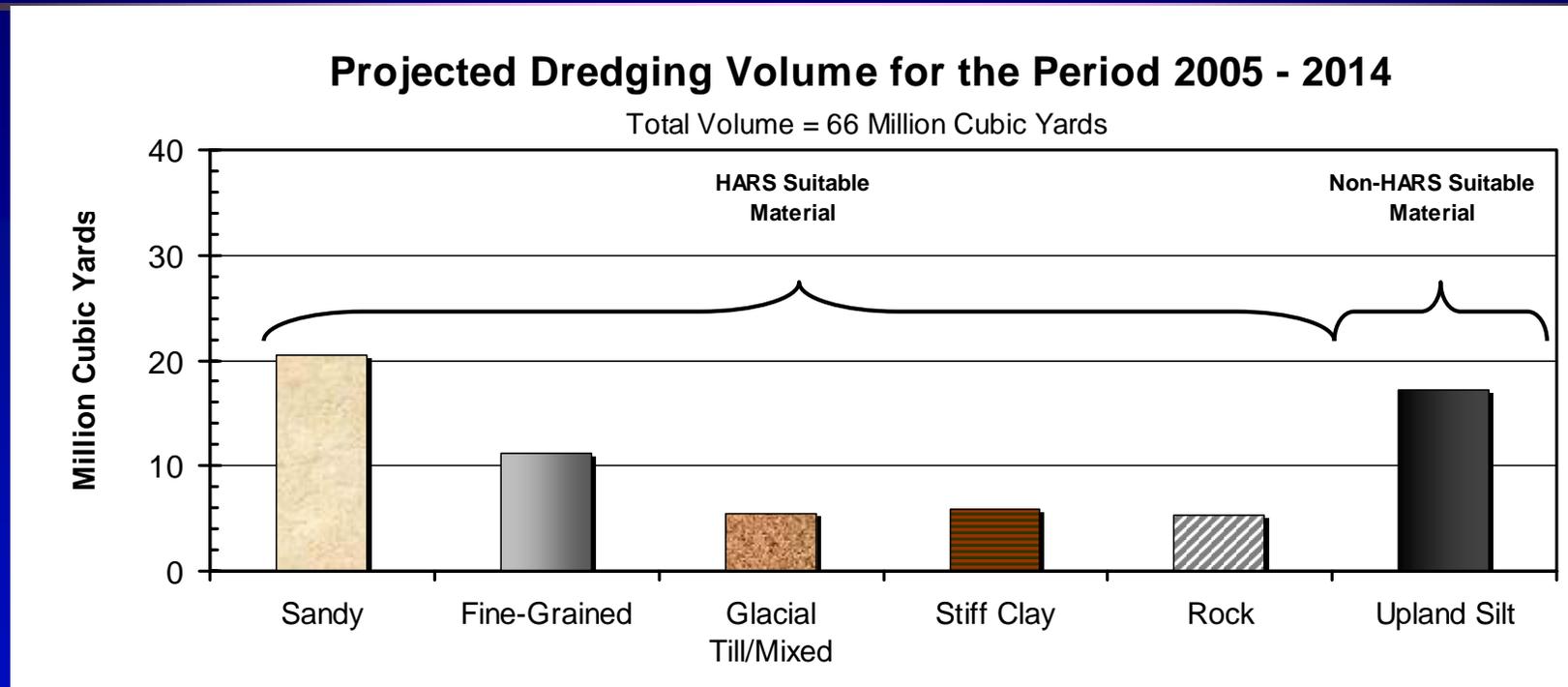
DMMP (1999 and 2005)

- Summarized sources, types and volumes of material needing to be dredged
- Identified existing and potential placement sites and capacity
- Reiterated goal to maximize beneficial use of dredged material



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Projected Volume of Dredged Material by Type



- Majority of short-term material is suitable for ocean placement at HARS
- Material unsuitable for HARS is used for upland beneficial use after being processed to stabilize/solidify material



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Typical Uses of Three General Types of Dredged Material in Port of NY & NJ

- **Rock Material** (deepening projects only):
 - ◆ Create fishing reefs
- **HARS Suitable Material:**
 - ◆ Beach nourishment (sand only)
 - ◆ Construction aggregate/fill (sand only)
 - ◆ Wetlands and sub-aquatic habitat creation (restricted to certain types of material)
 - ◆ Remainder used to remediate the HARS
- **Material Unsuitable for the HARS:**
 - ◆ Processed to remediate regional landfills and brownfields
 - ◆ Processed to reclaim PA coal mines (large-scale capacity)
 - ◆ Contained aquatic disposal when upland placement not possible

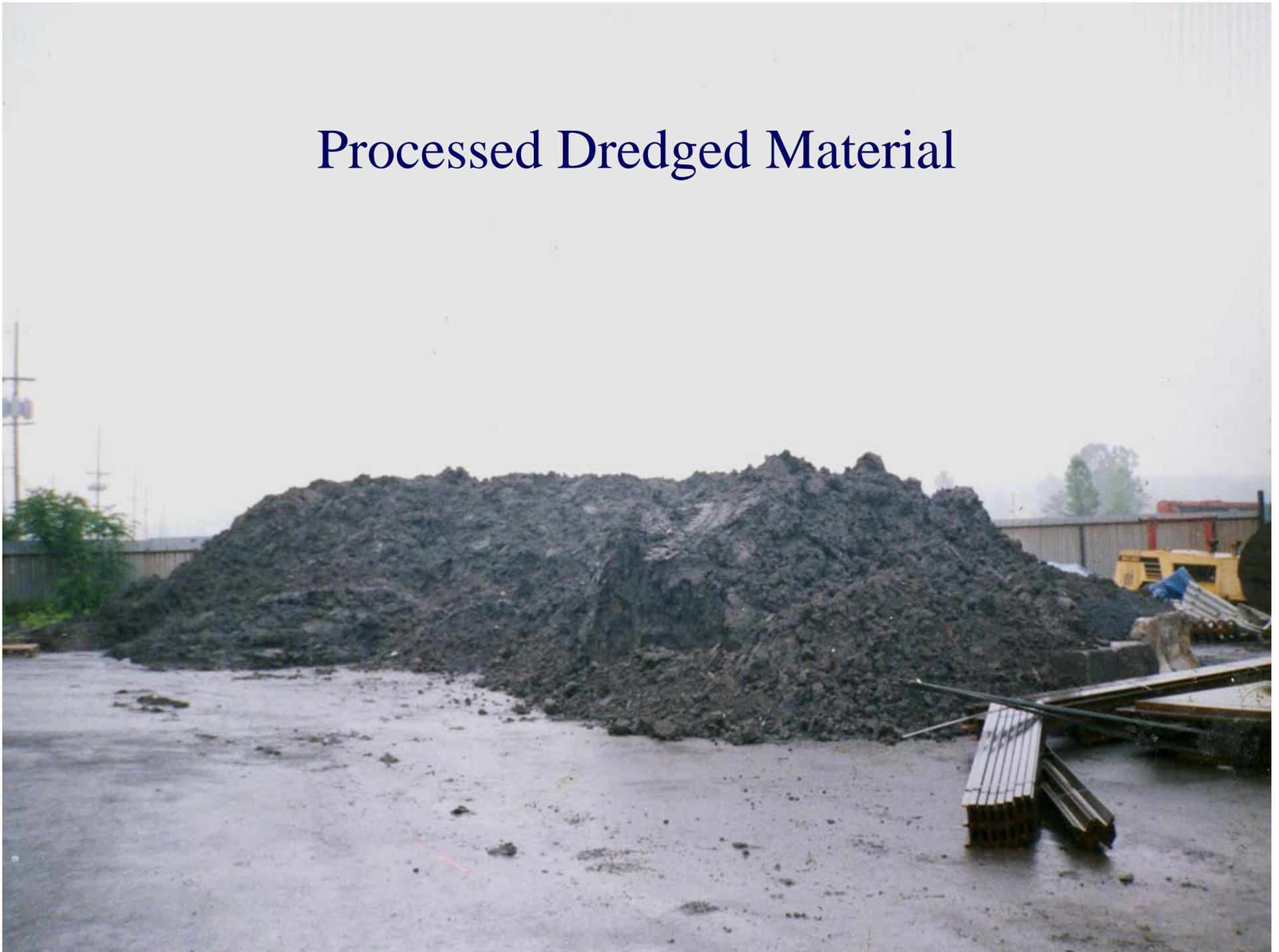


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Non-HARS Dredged Material Solidification/Stabilization Processing



Processed Dredged Material





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Dredged Material Management Plan

Proven Placement Sites for PDM

Capping Landfills & Brownfields in Port Region



Pennsylvania Coal Mine Reclamation





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Environmental Restoration: Hudson-Raritan Estuary Feasibility Study

- Broad Authority to evaluate restoration opportunities within Port District
- Comprehensive Restoration Improvement Plan (CRIP)
 - ◆ Management Plan for restoring lost habitat on a watershed basis
 - ◆ Will recommend future restoration actions, including non-Corps initiatives
- Individual Site Feasibility Studies
- Sponsor: The Port Authority of NY & NJ)





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Hudson Raritan Estuary (HRE) Study Area



Hackensack River,
Passaic River
Newark Bay

Arthur Kill

Raritan River

Lower Bay

Lower Hudson

Harlem River,
East River and
Western LI
Sound

Upper Bay

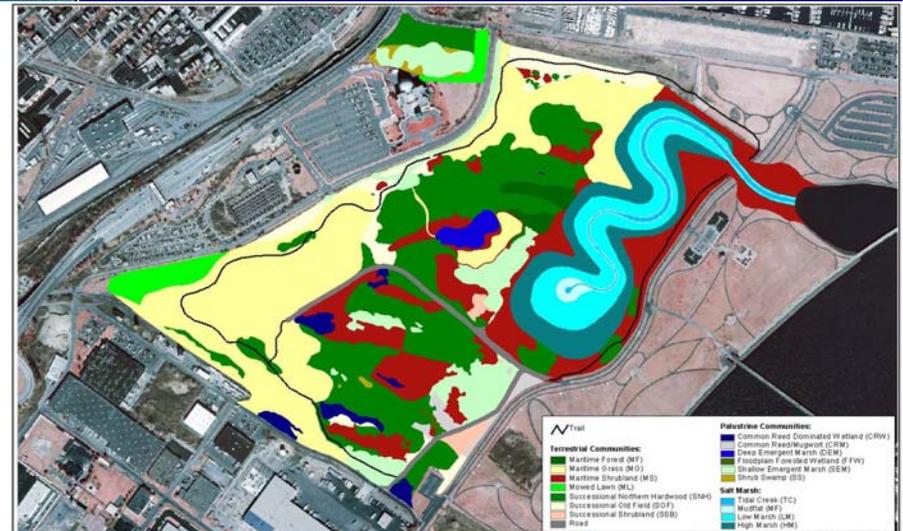
Jamaica Bay

Figure 1:
HRE Study Area



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HRE-Liberty State Park (Environmental Restoration Feasibility Study)



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**LIBERTY STATE PARK
MAXIMUM HABITAT PLAN**

Scale: 0 1000 2000 Feet

Figure #

HUDSON - RARITAN ESTUARY
ECOSYSTEM RESTORATION PROJECT
LIBERTY STATE PARK

SCALE
1" = 1000'

Note: This map was prepared by Stephen J. Anderson, Cartographer, USACE, NY District, Planning Division, 4 Feb. 2002.

Sponsor: NJ Dept of Environmental Protection



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HRE-Lower Passaic River (Environmental Restoration Feasibility Study)



- ◆ **Joint EPA-USACE-NJDOT study to remediate Superfund site and restore degraded ecosystem**



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HRE- Hackensack Meadowlands (Environmental Restoration Feasibility Study)



- ◆ **Sponsor: New Jersey Meadowlands Commission**
- ◆ **Study will develop a comprehensive environmental restoration plan for the Hackensack Meadowlands.**



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HRE -Gowanus Canal (Environmental Restoration Feasibility Study)



- ◆ **Sponsor: New York City Department of Environmental Protection**
- ◆ **Study will develop a restoration plan for the highly degraded urban river.**



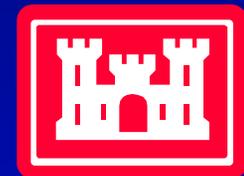
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Partnerships

Unique agency partnerships have interfaced to address challenging environmental, navigation, social and engineering issues allowing projects to move forward on schedule and within budget

- **USACE**

THE PORT AUTHORITY OF NY & NJ 



- *The Port Authority Of New York and New Jersey*

- **USEPA**



- **NMFS**

- **USCG**



- *State of New York (ESDC, NYSDEC, NYSDOS)*



- *State of New Jersey (DOT-OMR, NJDEP)*

- *City of New York (EDC, DEP)*





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Summary and Path Forward

- Comprehensive Restoration Plan (CRP)
 - ◆ Stakeholder involvement in identifying the key Target Ecosystems Characteristics that comprise a “World Class Harbor Estuary”
 - ◆ Stakeholder ownership of the Comprehensive Restoration Plan

- Utilize Harbor Deepening Project to achieve ecosystem objectives:
 - ◆ Beneficial uses of dredged material
 - ◆ Regional sediment management .
 - ◆ Dredged material management including Innovative technology

- Adequate funding for ongoing and new restoration studies and projects

- Seek authorizations to implement restoration projects

- KEY TO EFFECTIVENESS:
 - ◆ CLEAR AND CONSISTENT MESSAGE WITH REGARD TO RESTORATION GOALS AND OBJECTIVES



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Questions?

Harbor Programs Branch

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- ◆ Visit Us at <http://www.nan.usace.army.mil/harbor/index.htm>