BENEFICIAL USES OF DREDGED MATERIAL

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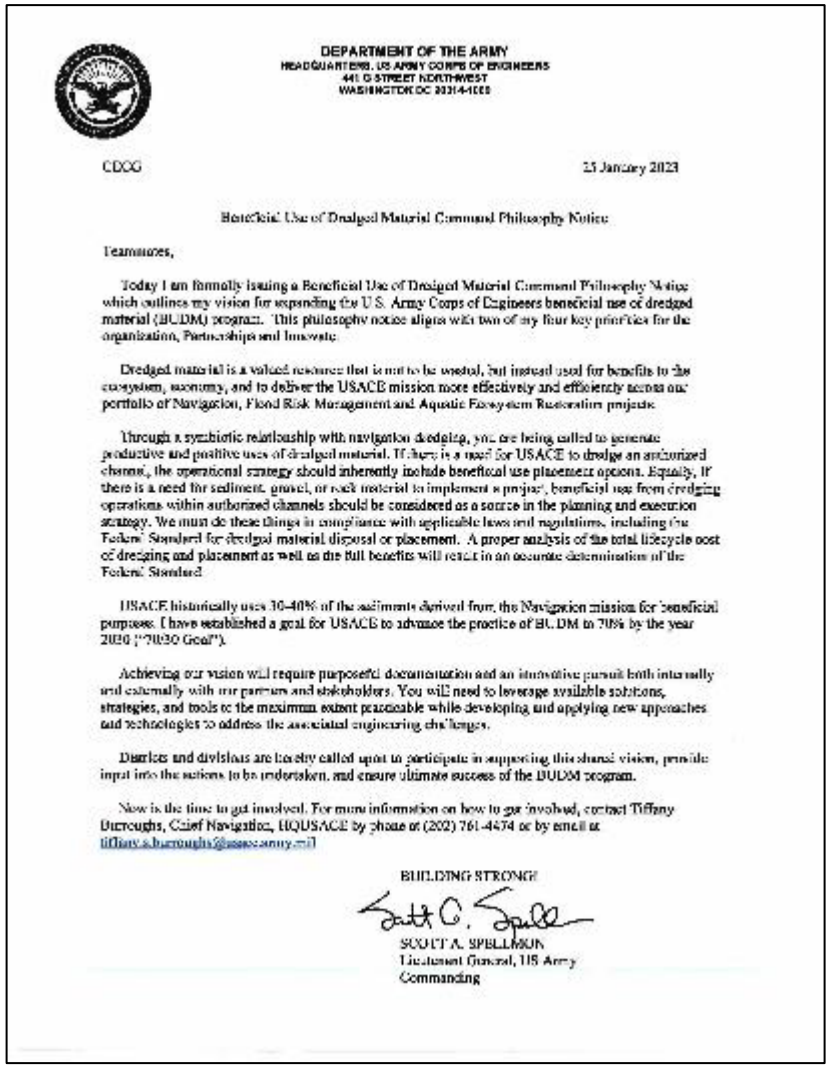
US Army Corps of Engineers®

OVERVIEW

- Chief of Engineers Memo
- WRDA'20, Section 125
  - Previous guidance
- Program development and management
- Project development

GENERAL SPELLMON'S BENEFICIAL USE COMMAND PHILOSOPHY NOTICE



DEPARTMENT OF THE ARMY
HEADQUARTERS, US ARMY CORPS OF ENGINEERS
441 G STREET NORTHWEST
WASHINGTON DC 20314-1000

CECG 25 January 2023

Beneficial Use of Dredged Material Command Philosophy Notice

Teammates,

Today I am formally issuing a Beneficial Use of Dredged Material Command Philosophy Notice which outlines my vision for expanding the U.S. Army Corps of Engineers beneficial use of dredged material (BUDM) program. This philosophy notice aligns with two of my four key priorities for the organization, Partnerships and Innovate.

Dredged material is a valued resource that is not to be wasted, but instead used for benefits to the ecosystem, economy, and to deliver the USACE mission more effectively and efficiently across our portfolio of Navigation, Flood Risk Management and Aquatic Ecosystem Restoration projects.

Through a symbiotic relationship with navigation dredging, you are being called to generate productive and positive uses of dredged material. If there is a need for USACE to dredge an authorized channel, the operational strategy should inherently include beneficial use placement options. Equally, if there is a need for sediment, gravel, or rock material to implement a project, beneficial use from dredging operations within authorized channels should be considered as a source in the planning and execution strategy. We must do these things in compliance with applicable laws and regulations, including the Federal Standard for dredged material disposal or placement. A proper analysis of the total lifecycle cost of dredging and placement as well as the full benefits will result in an accurate determination of the Federal Standard.

USACE historically uses 30-40% of the sediments derived from the Navigation mission for beneficial purposes. I have established a goal for USACE to advance the practice of BUDM to 70% by the year 2030 ("70/30 Goal").

Achieving our vision will require purposeful documentation and an innovative pursuit both internally and externally with our partners and stakeholders. You will need to leverage available solutions, strategies, and tools to the maximum extent practicable while developing and applying new approaches and technologies to address the associated engineering challenges.

Districts and divisions are hereby called upon to participate in supporting this shared vision, provide input into the actions to be undertaken, and ensure ultimate success of the BUDM program.

Now is the time to get involved. For more information on how to get involved, contact Tiffany Burroughs, Chief Navigation, HQUSACE by phone at (202) 761-4474 or by email at tiffany.a.burroughs@usace.army.mil

BUILDING STRONG!

SCOTT A. SPELLMON
Lieutenant General, US Army
Commanding

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U.S. Army Corps of Engineers

Beneficial Use of Dredged Material

Program Vision

Dredge Material is a valuable resource

- Increased dredging investments create beneficial use of dredge material management opportunities
- Benefits the ecosystem, economy, and can effectively and efficiently deliver the USACE mission.

There are opportunitites to expand beneficial use wihtin the Federal Standard

- Operational strategy should inherently include beneficial use placement options.
- If material is needed to implement a project, beneficial use from dredging operations should be considered as an option in the planning and execution strategy.

Partner collaboration is key to our success

- Innovative pursuit, both internally and externally, with partners and stakeholders will:
  - Maximize available solutions, strategies, and tools
  - Develop and apply new approaches and technologies

Chief of Engineers 70% Beneficial Use Practices by the year 2030 Target

National Policy for Beneficial Use of Dredged Material

Congressionally established by section 125 of WRDA 2020 in doing so, Congress has underscored the importance of the Beneficial Use of Dredged Mateiral Program

Dredged material is valued as a resource not to be wasted but used for benefits to the ecosystem, economy, and project delivery

Over the next 3-5 years, the Corps will expand the beneficial use of dredged material program. Achieving this vision will require all of us to be innovative and work alongside our partners, both internally and externally, to ensure we are finding the best use of sediments derived from our Navigation mission.

Address key obstacles to execution

Identify, develop, and share beneficial use practices

Collborate on innovative financing

Identify Key Contributors

Unify Enterprise Purpose

Foster Strong Partnerships

Deliver the Mission

28 APR 2022

WRDA'20 SECTION 125

SEC. 125. BENEFICIAL REUSE OF DREDGED MATERIAL; DREDGED MATERIAL MANAGEMENT PLANS

(a) NATIONAL POLICY ON THE BENEFICIAL REUSE OF DREDGED MATERIAL

– (1) IN GENERAL.—It is the policy of the United States for the Corps of Engineers to maximize the beneficial reuse, in an environmentally acceptable manner, of suitable dredged material obtained from the construction or operation and maintenance of water resources development projects.

(b) BENEFICIAL USE OF DREDGED MATERIAL

– (1) PILOT PROGRAM PROJECTS

(c) FIVE-YEAR REGIONAL DREDGED MATERIAL MANAGEMENT PLANS

PRIOR GUIDANCE

Planning Guidance Notebook (ER 1105-2-100): It is the policy of the Corps that all dredged material management studies include an assessment of potential beneficial uses for environmental purposes including fish and wildlife habitat creation, ecosystem restoration and enhancement and/or hurricane and storm damage reduction.

Dredging Regulation (33 CFR 337.9): Full consideration should be given to all practicable alternatives including upland, open water, beach nourishment, within banks disposal, ocean disposal, etc. Within existing policy, district engineers should also explore beneficial uses of dredged material, such as marsh establishment and dewatering techniques, in order to extend the useful life of existing disposal areas.

WRDA'20 SECTION 125(a)

- Authorizes the Corps to use construction or operation and maintenance funds when selecting a disposal method that is not the least cost option

- The Corps will evaluate and advance all opportunities to beneficially place dredged material during preparation or reevaluation of Dredged Material Management Plans (DMMP)

- The Corps will evaluate and advance all requests from a non-Federal interest to consider specific beneficial placement opportunities for the Federal project

- Placement of dredged material:
  - May include a single or periodic application and
  - Shall not require operation and maintenance

- Multiple placements may be considered for the same site over several years
  - Must be justified each time

WRDA'20 SECTION 125(a)

- The incremental costs of BU placement must be reasonable in relation to the benefits (environmental, hurricane and storm, or flood risk reduction)
  - Incremental costs are considered reasonable without detailed analysis when the Federal share of the placement does not exceed 25% of total Federal Standard Base Plan cost
- Aquatic ecosystem restoration (AER) or beach renourishment project funds may be used to fund the Federal costs in excess of the navigation project disposal costs when an authorized AER or beach renourishment project has capacity for the dredged material
- A Federal agency may request the placement of material on Federal land under their jurisdiction if they pay all costs for the placement that exceed the Base Plan

LETTER REPORTS

For projects without a DMMP, the Corps will evaluate and advance all requests from a non-Federal interest to consider specific beneficial placement opportunities for the project.

– The evaluation of such requests will be funded from O&M funds for the Federal navigation project.

– The evaluation of all Section 204(d) placement opportunities will be documented in a Letter Report to be approved by the District Commander

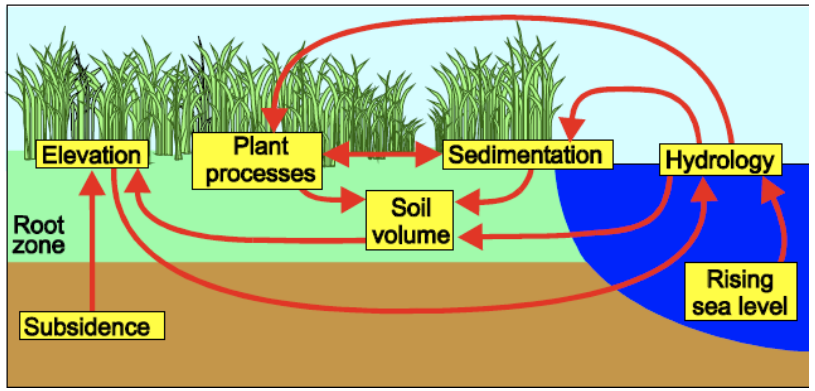
– The letter report will include documentation and evaluation of all beneficial use of dredged material opportunities and the reason the opportunity was selected or not

WRDA'20 SECTION 125 – COST SHARING

A non-Federal interest must agree to fund 35 percent of the incremental costs of a Section 204(d) placement that exceed the Federal standard base plan costs for dredging and disposal of the Federal navigation project.

Complete life cycle costs shall be used in calculating the Federal standard.

WHAT ARE WE GOING TO DO WITH ALL THIS STUFF?



BEACH NOURISHMENT

ISLAND CREATION/ENHANCEMENT

SALT MARSH RESTORATION/CREATION

Salt Marsh Creation at Sandy Point, West Haven, CT
~70 acres, ~ 840,000 cy of Dredged Material

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THIN LAYER PLACEMENT

DISPOSAL SITE CAPPING

Massachusetts Bay Industrial Waste Site Restoration:
Beneficial Use of Boston Harbor Dredged Material

INSPIRE ENVIRONMENTAL · AECOM · US Army Corps of Engineers · CR

Aaron Hopkins, Bailey Bond, Steven Wall and Alicia Grinnell, Kaitlin Sylvester, Ryan McCarthy, Christopher Wright

www.INSPIREenvironmental.com | Contact: Kaitlin@INSPIREenvironmental.com

Backgroundz

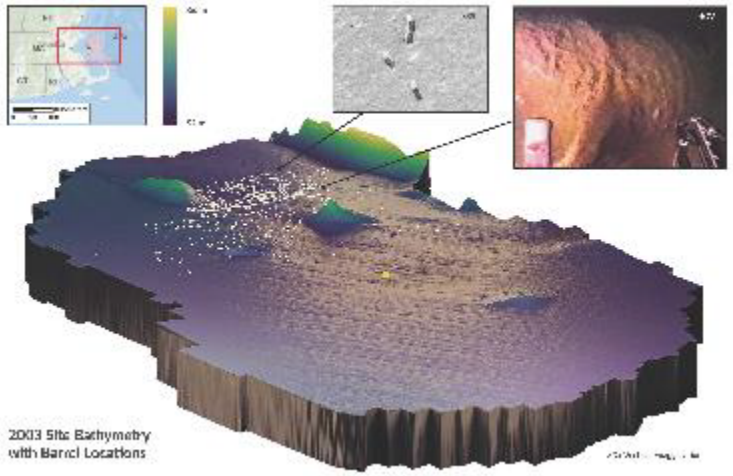
The Industrial Waste Site is a 3.5-km² wide area adjacent to USEPA designated Massachusetts Bay Disposal Site (MBDS). The site is located 30 km from Boston in about 90 meters of water.

From the 1940s until 1976 this location was an active disposal area for dredged material, construction debris, munitions, and hazardous waste - including low-level radioactive waste in drums and containers which were disposed of at this location from 1953 to 1959.

Multiple ~~documented~~ accounts of waste container retrieval by local fisherman have been documented over the years. Surveys of the IWS have not identified the release of hazardous materials or risk to human health or the environment but thousands of waste containers remain exposed on the seafloor.

Concerns over longevity of the containers, exposure to fishermen, and proximity to the adjacent Stellwagen Bank National Marine Sanctuary have prompted action in the form of burial to mitigate any environmental risks.

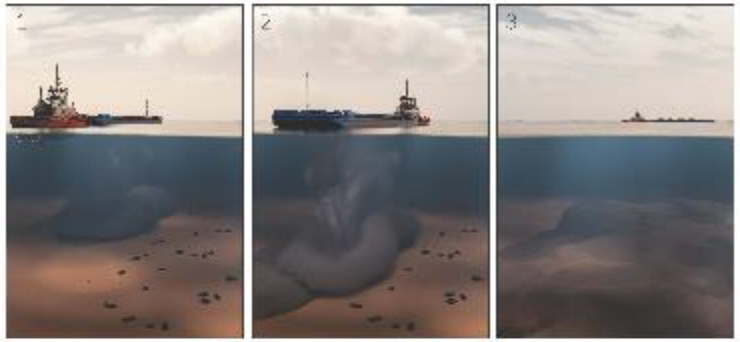
Saturday Evening Post article detailing radioactive waste disposal at the IWS.



2003 Site Bathymetry with Barrel Locations

Approach

- USACE New England District and USEPA Region 1 partnered to develop an approach to beneficially use dredged material from the planned Boston Harbor Navigation Improvement Project (BHNIP) to cover the exposed waste containers and restore the IWS.
- Demonstration project in 2008 and a pilot-scale project in 2017
- Sequential, directed placement of dredged material to build a cover layer over the site while minimizing direct impacts to exposed waste containers or potentially contaminated sediments.
- Informed USEPA Environmental Assessment and Federal Rule to expand adjacent MBDS boundaries to include the IWS and allow for placement of dredged material.



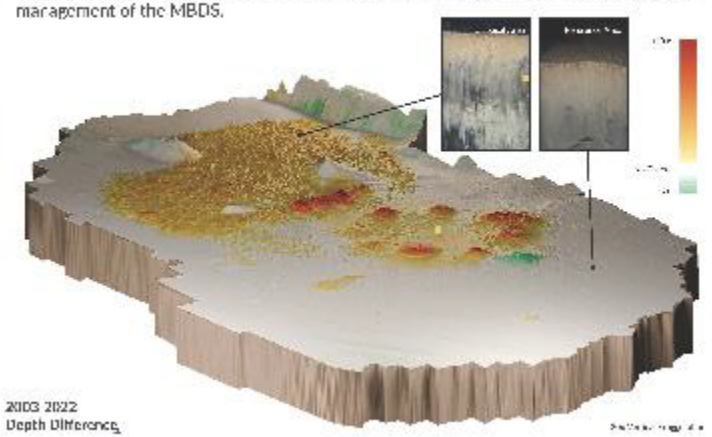
IWS Restoration

Between 2018 and 2020 the IWS received 8.8 million m3 of suitable dredged material from the BHNIP. Regular monitoring by USACE Disposal Area Monitoring System (DAMOS) Program including, multibeam bathymetry, side scan sonar, Autonomous Underwater Vehicle (AUV), and sediment sampling occurred to track placements and assess restoration progress.

Placements completed in November of 2020 with subsequent surveys by the DAMOS Program and USEPA in 2021 and 2022.

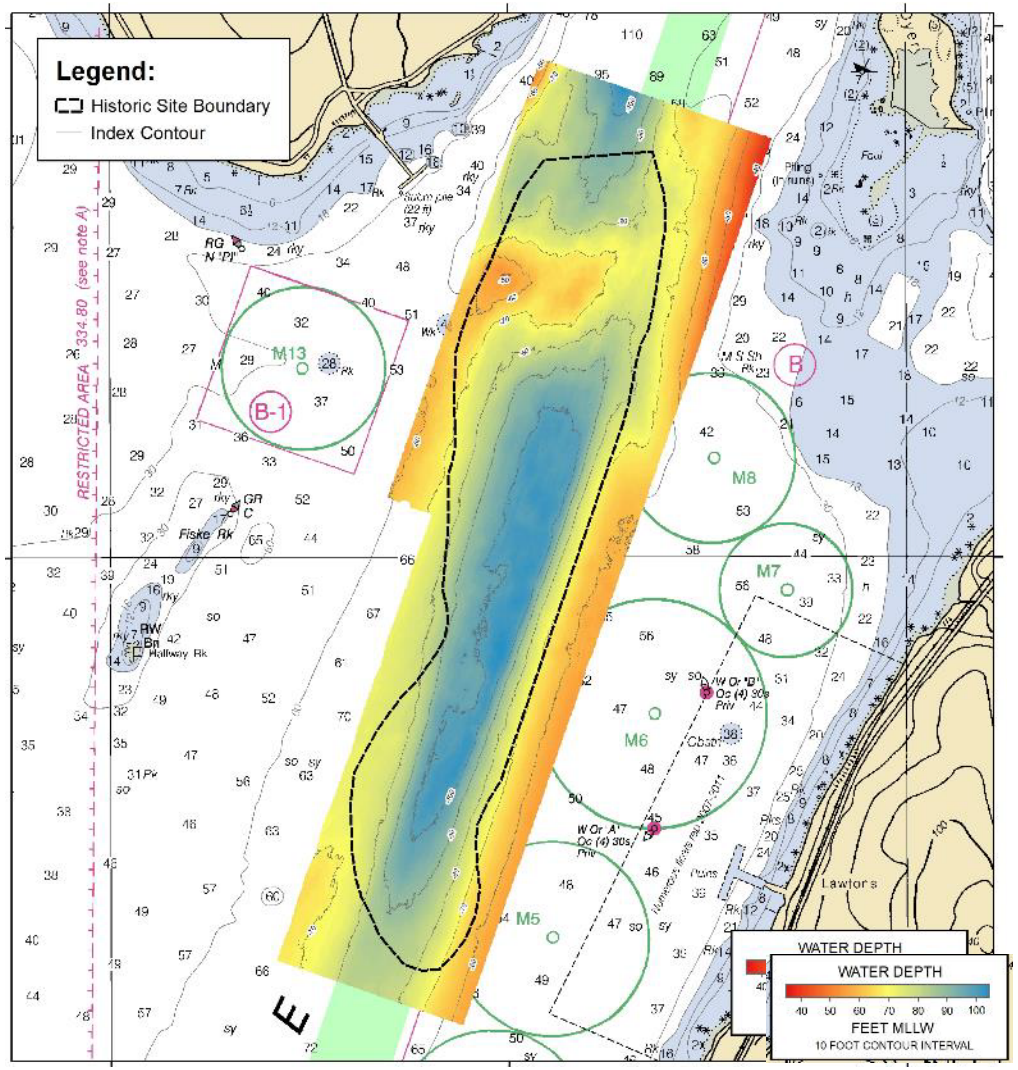
Results

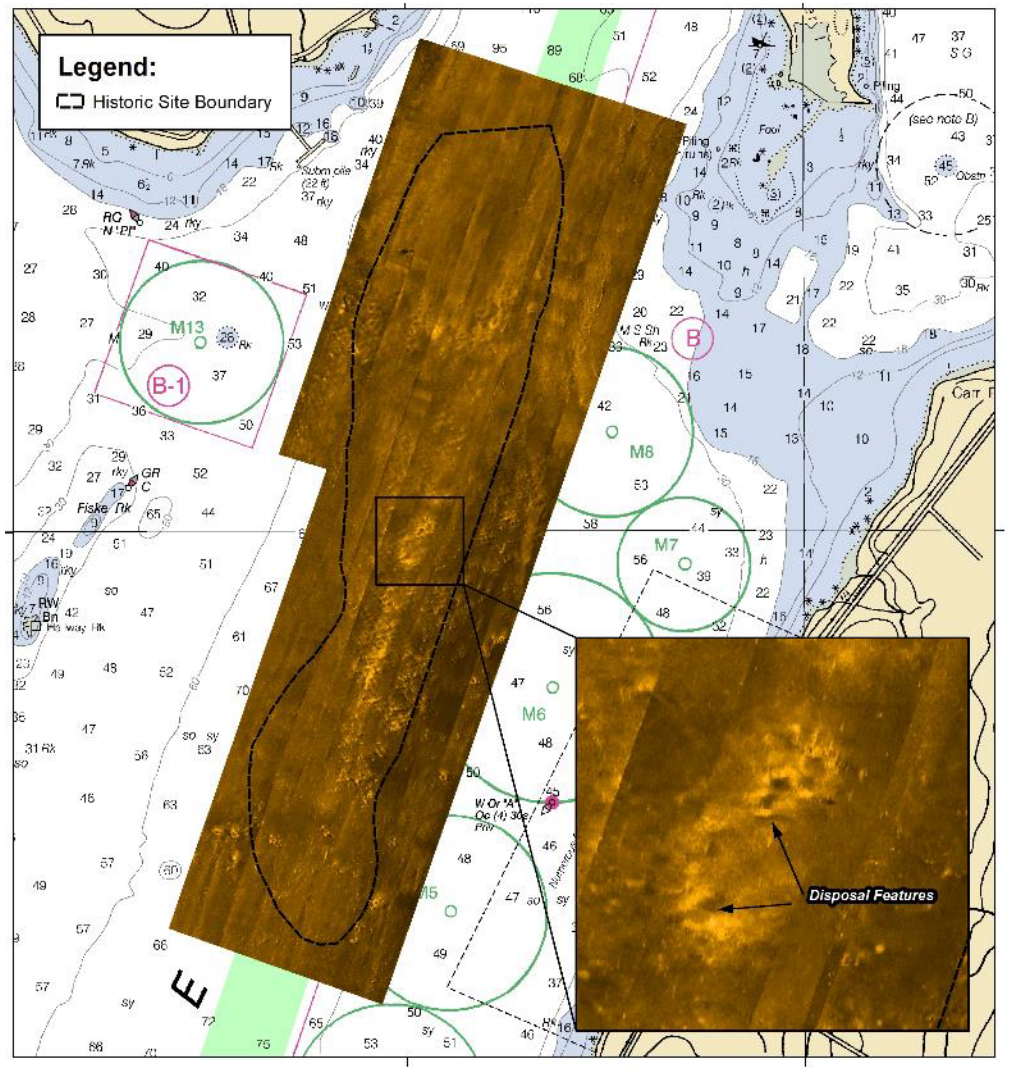
- Real-time tracking of disposal scow position and draft change confirmed the accurate release of dredged material at established targets and successfully avoided impacts to resource areas including hard bottom habitat and shipwrecks.
- Sequential bathymetric surveys allowed for modifications to the placement plan to maximize berm coverage and documented the construction of at least a one-meter-thick cover layer over the entire restoration area.
- Side scan sonar confirmed successful coverage of all identified waste barrels within the restoration area.
- Surficial sediment samples collected during and after placement activities did not detect elevated concentrations of any contaminants, including radionuclides, in the IWS cover material.
- Successful strategic placement of dredged material in an open water setting without incurring additional costs to a navigation dredging project and limiting disturbance to in-place contaminated sediments and waste containers while achieving adequate berm coverage for the restoration goals.
- Additional surveys, including sediment profile imaging to assess biological recovery, and a long-term monitoring program will continue at the IWS as part of the joint USACE/USEPA management of the MBDS.



2003-2022 Depth Difference

NARRAGANSETT BAY DISPOSAL SITE CAPPING





OTHER IDEAS

- Cobble sturgeon habitat
- Upland construction uses…

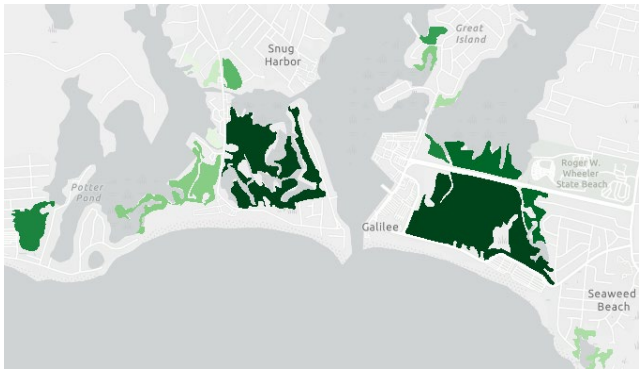
NEW ENGLAND DISTRICT ACTIONS

- Program-level meetings with Federal & State Partners
- Share program/project information with regional dredge teams and environmental partners (e.g., NROC, NEFP)
- DAMOS BU opportunities and expertise tracking
- Early consideration of BU and involvement of environmental agencies

FIVE-YEAR DREDGING PLAN WITH QUANTITIES

Project Name	Current Estimated Dredge Start Date	Note	Quantity Estimates Notes	Approximate Cubic Yards to Be Dredged	Approximate Cubic Yards of Rock
Great Salt Pond, RI O&M	30-May-2023	GOV Dredge	Estimate	40,000	NA
Scarborough River, ME O&M	06-Jul-2023	Maintenance Dredging	Survey Vol - Nov 22	44,548	NA
Chatham Stage Harbor, MA O&M	28-Jul-2023	GOV Dredge	Survey Vol - Jun 22	16,238	NA
Green Harbor, MA O&M	01-Aug-2023	Maintenance Dredging	Survey Vol - May 22	42,000	NA
Essex River, MA O&M	23-Aug-2023	Maintenance Dredging	Survey Vol - Aug 21	37,250	NA
Milford Harbor, CT O&M	28-Aug-2023	Maintenance Dredging	Estimate	TBD	NA

Approximate Cubic Yards of Sand	Approximate Cubic Yards of Silt (total)	Approximate Cubic Yards of Silt (clean)	Placement Site	Notes
40,000	NA	NA	Nearshore	
44,548	NA	NA	Nearshore	
16,238	NA	NA	Nearshore	
4,000	38,000	38,000	Nearshore and CCBDS	Sand/silt breakdown estimated
13,850	23,400	TBD	Nearshore and IOSN or MBDS	Sand/silt breakdown from civil
TBD	59,500	59,500	Nearshore and CLDS	Need a volume for sand in entrance



DAMOS BU OPPORTUNITIES TRACKING

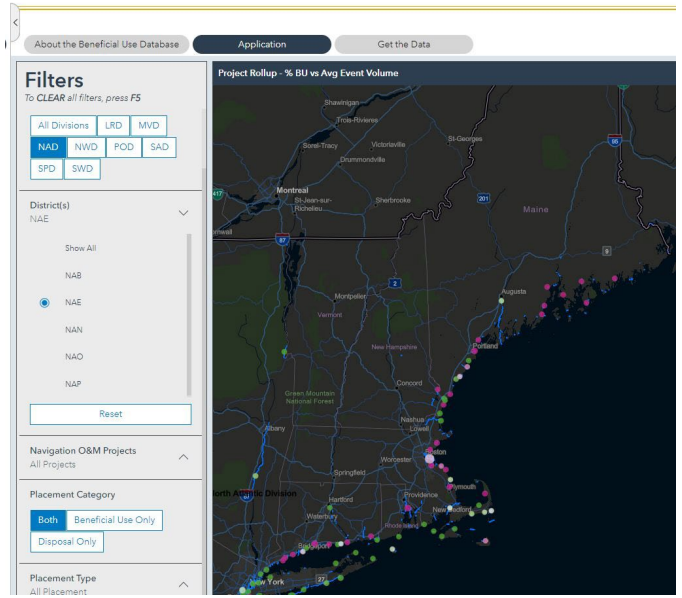
Catalogue potential source material from the NAE Navigation plan and NAE Regulatory permits

- Project location
- Material type, quantity, and characteristics
- Anticipated dredging schedule

Inventory potential beneficial use sites from federal agencies, state dredging coordinators, and stakeholders

- Project location
- Material needs
- Placement method
- Contact organization

Tools & Databases



Develop a database tool for project planning

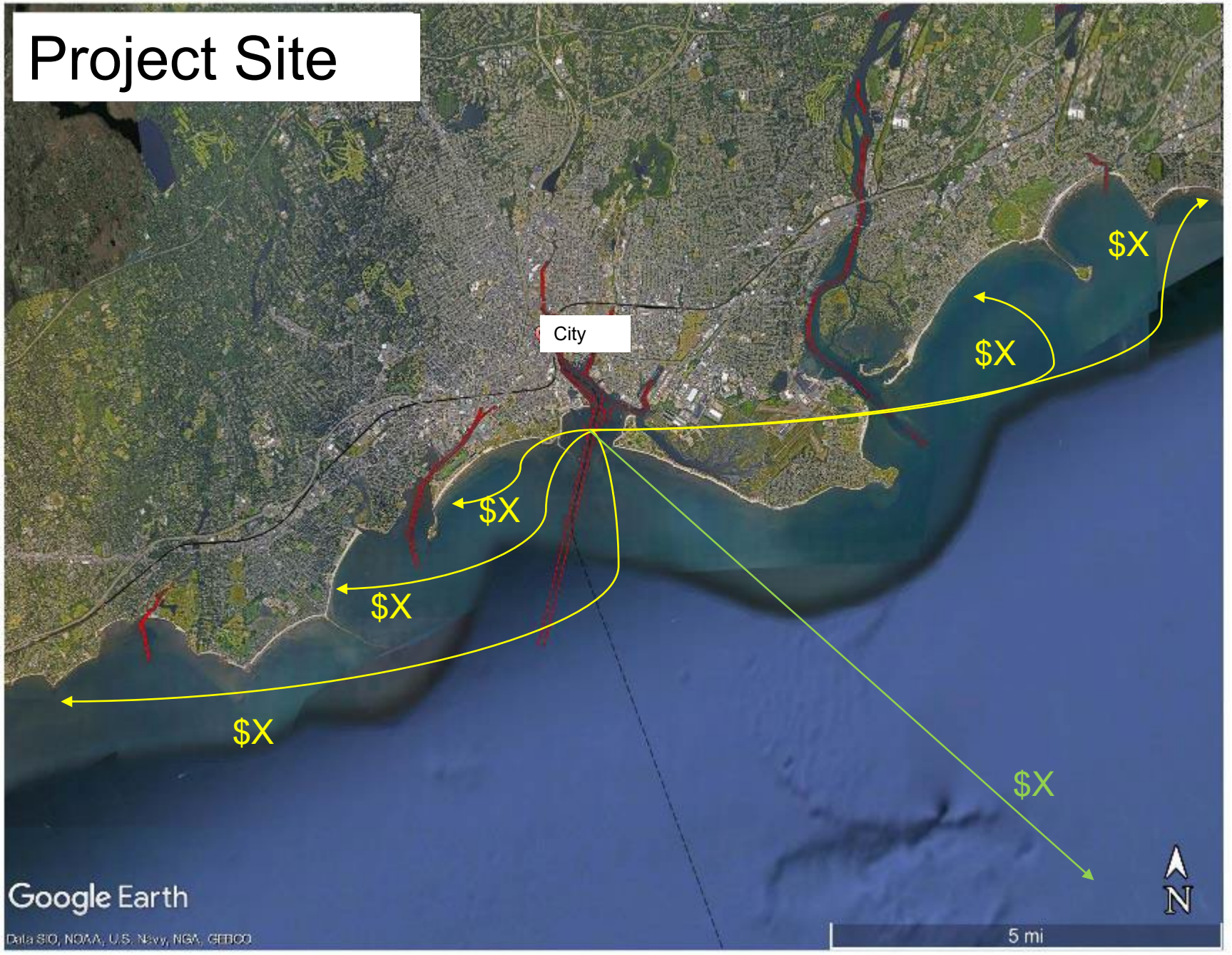
- Support alternatives analysis
- Match available material with needs
- Public access through DAMOS website?
- Map viewer interface?

EARLY STAKEHOLDER INVOLVEMENT

- Hold an early agency coordination meeting to describe dredged material and request suggestions
- Use the databases to identify opportunities
- Provide information to make it easy for agencies to plan
- Provide Section 204 information and assist agencies in identifying funding

Planning-Level ROM Costs

- Transportation – ocean disposal cost per mi $X/MI
- Transportation cost – nearshore/pump -off scow $X/MI
- Pump off Cost $X/cy
- Upland transportation costs - $X/MI



HOW TO START A PROJECT

HOW TO START A BENEFICIAL USE STUDY

Ask the project manager or environmental team member or someone you know in the Corps of Engineers

QUESTIONS/ DISCUSSION