

Searsport Harbor Searsport Maine Proposed Navigation Improvement Project

**Pre-Water Quality Certification Application
Public Information Meeting
Belfast, Maine**

**US Army Corps of Engineers, New England District
and
Maine DOT, Maine Port Authority**



8 April 2014



Information

US Army Corps of Engineers (USACE)
Draft Feasibility Report & Environmental
Assessment:

<http://www.nae.usace.army.mil/Missions/ProjectsTopics/Searsport.aspx>

MEDEP e-mail:

Channeldredge.dep@maine.gov



Background

- Congress requested USACE to study navigation improvements at Searsport Harbor
- Maine Department of Transportation is the Study Sponsor
- The USACE role is to assist States to provide reliable and efficient waterborne transportation systems (channels, harbors and waterways) for the movement of commerce



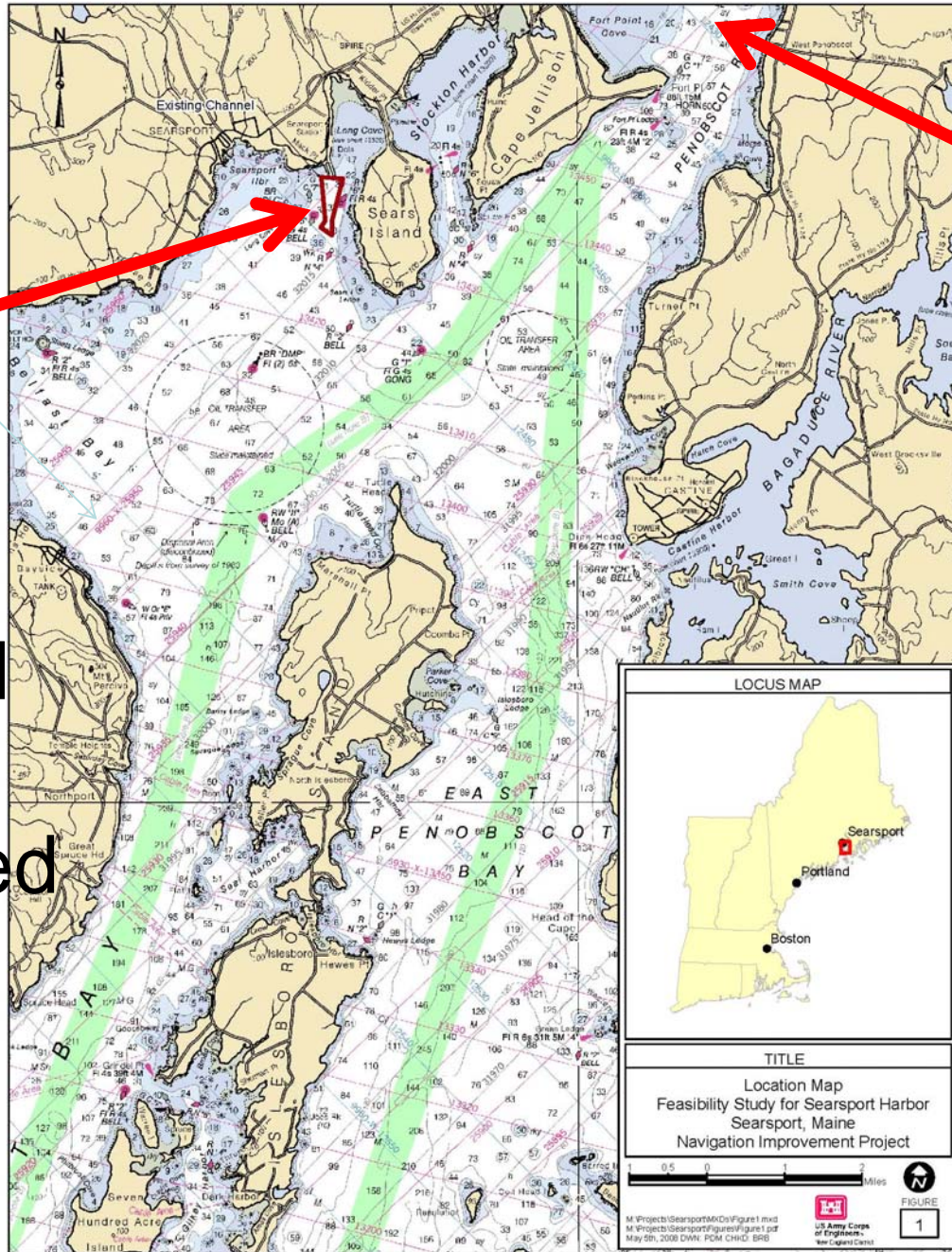
In Project Feasibility Phase:

- Draft Report & Environmental Assessment April 2013
- File for Water Quality Certification (WQC) Spring 2014

Project approval and authorization required prior to Project Design and Construction Phase



Existing
Federal
Navigation
Project
Authorized
in 1962
Constructed
in 1964



Penobscot
River



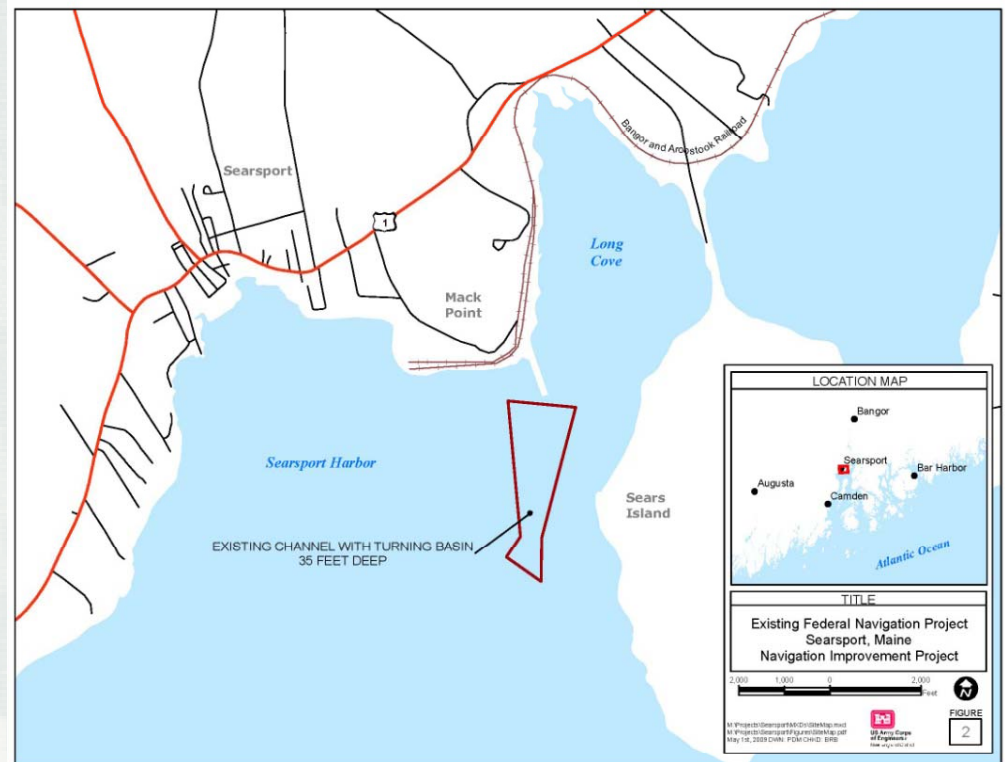
BUILDING STRONG®

Federal Navigation Project

1964 project constructed with
~465,000 cubic yards (cy)
dredged material disposed
in upper Penobscot Bay

Navigation Features:

- 3500 foot long channel in front of piers
- -35 feet mean lower low water (MLLW), authorized depth
- 1500 foot wide turning basin



Mack Point



Facilities at
Mack Point

Port established in 1903
New State Cargo pier built in 2003 to
replace the old railroad pier



Commodities

- Liquid Pier receives liquid products: petroleum and petroleum products
- Cargo Pier receives bulk commodities: chemicals, salt, gypsum, clay, machinery



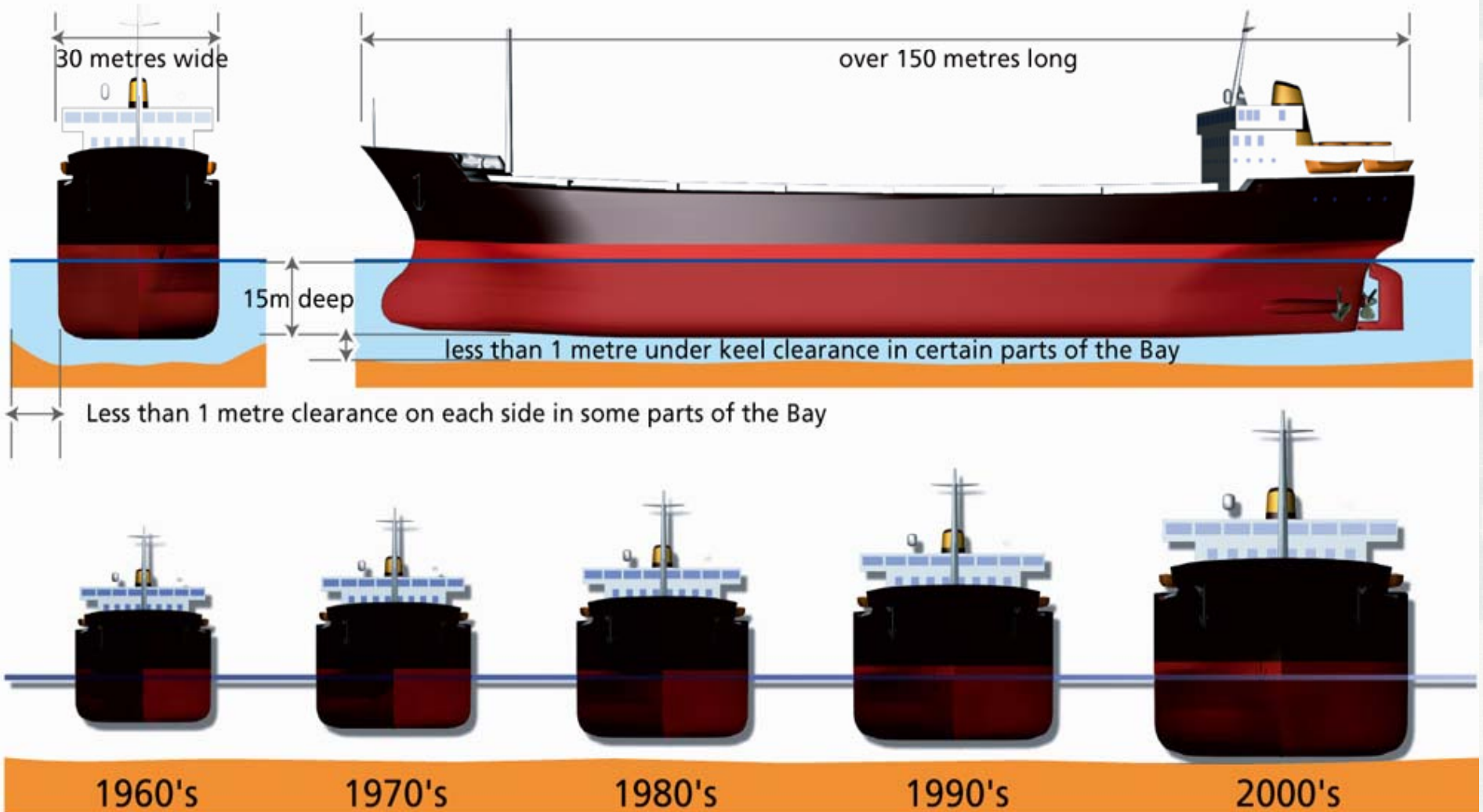
Why Additional Depth Needed

Since 1960s.....

- Double Hulls: improved safety, but deeper drafts
- Greater safety margin for “Under-Keel Clearance” 10% of draft
- Ships have gotten bigger.....



Relative Size of Deep-Sea Ships Over the last Forty Years

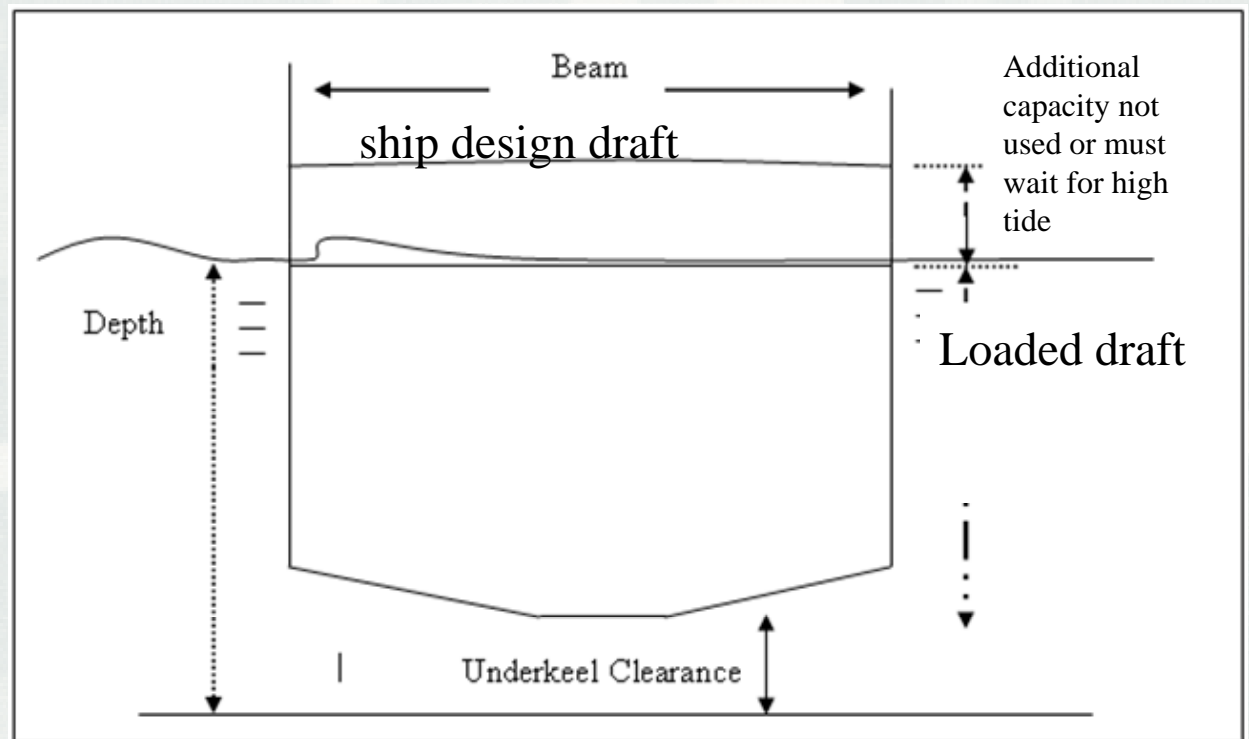


NAVIGATION

The authorized channel depth of -35 feet MLLW results in navigation inefficiencies at the port

Deeper draft ships need to light load or wait for the tide

Deeper channel increases safety by decreasing risk of grounding



Example Ship Diagram



Project Objective

Objective is to decrease navigation inefficiencies for ships calling on the port at Mack Point

Federal interest in a navigation project is established based on reduced cost of commodity transport. Deeper channel depth will allow ships to load deeper and use larger vessels achieving economies of scale



Project Benefits

- Benefits Based on Transportation Cost Savings, Termed National Economic Development Benefits (NED)

-----lower per ton transportation cost

- Net NED benefits is metric used by Corps across nation to evaluate navigation improvement projects
- Economic analysis considers 50 year project life



Feasibility Study

Looked at without and with project conditions:

Considered a range of improvements:

-37 to -42 feet MLLW

Recommended proposed improvement depth:

-40 feet MLLW



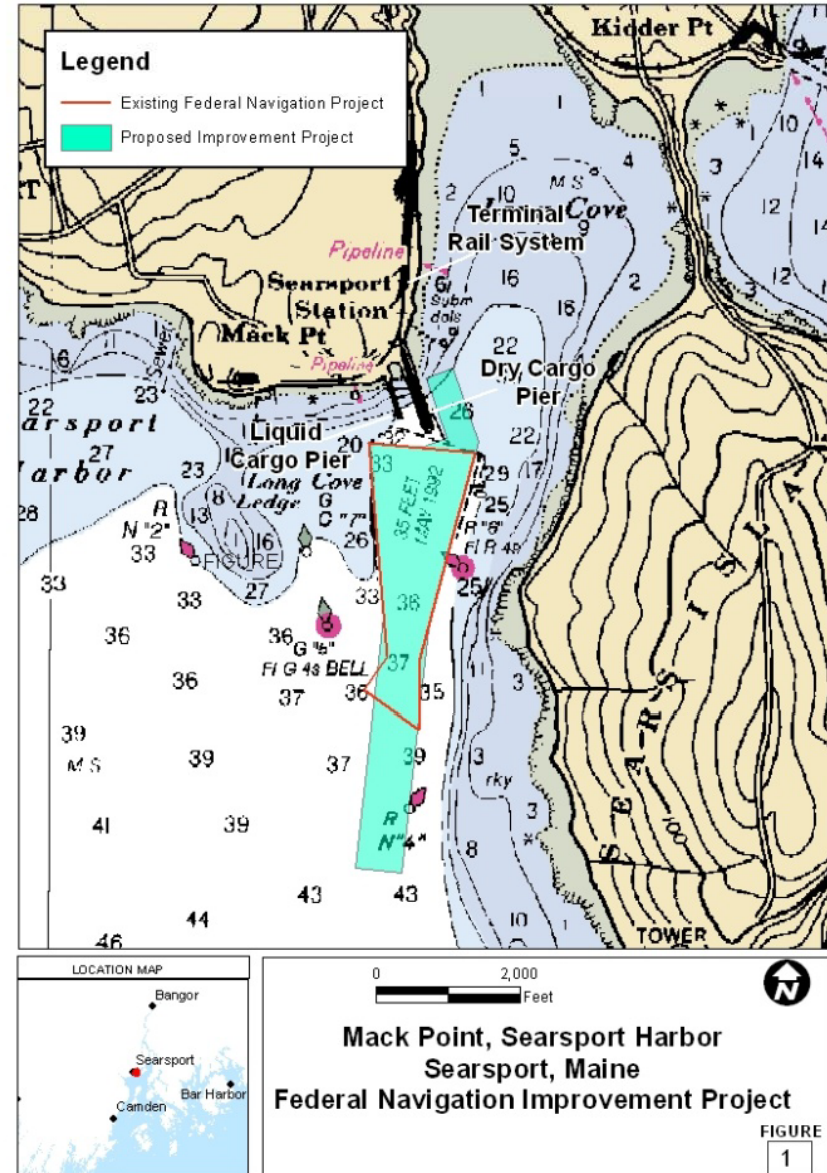
Proposed Improvement Project

Deepen channel and turning basin to -40 feet MLLW

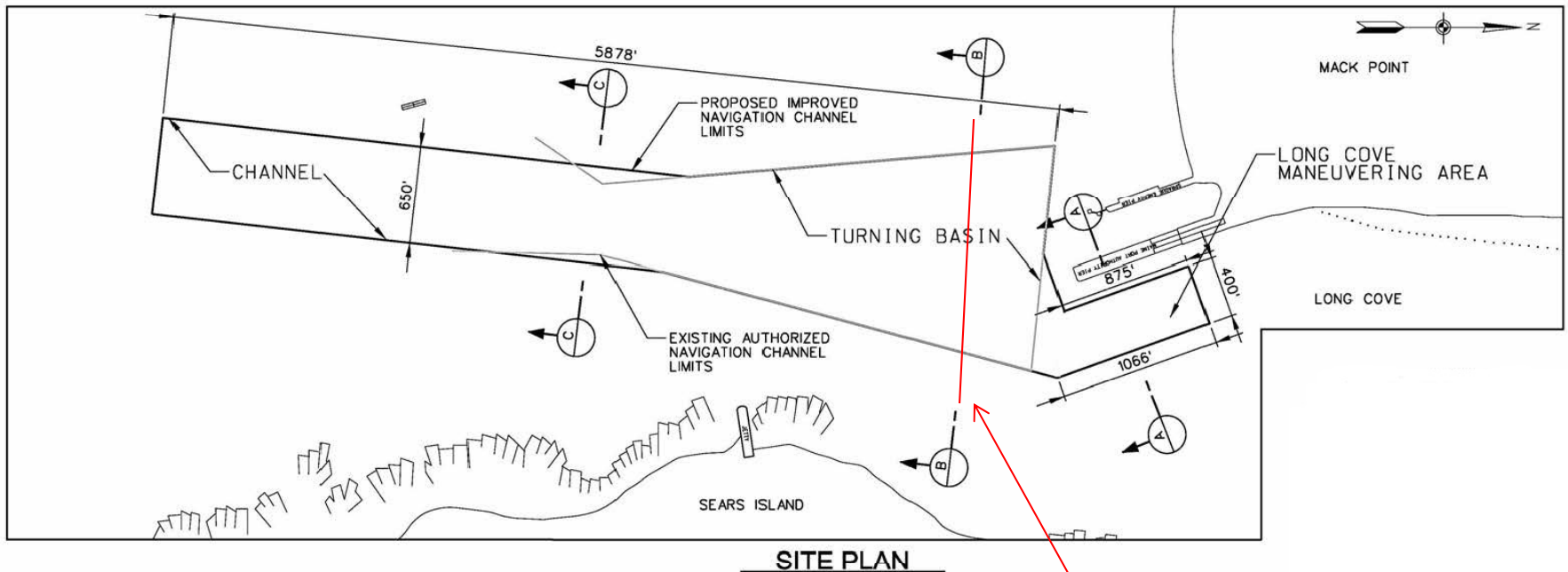
Entrance channel widened from 500 feet at the narrowest point to 650 feet

Maneuvering area adjacent to east berth of cargo pier about 875 feet on the west side and 1,066 feet on the east side and a width of 400 feet

892,000 cy of improvement material and 37,100 cy of maintenance material



Plan View of Proposed Project

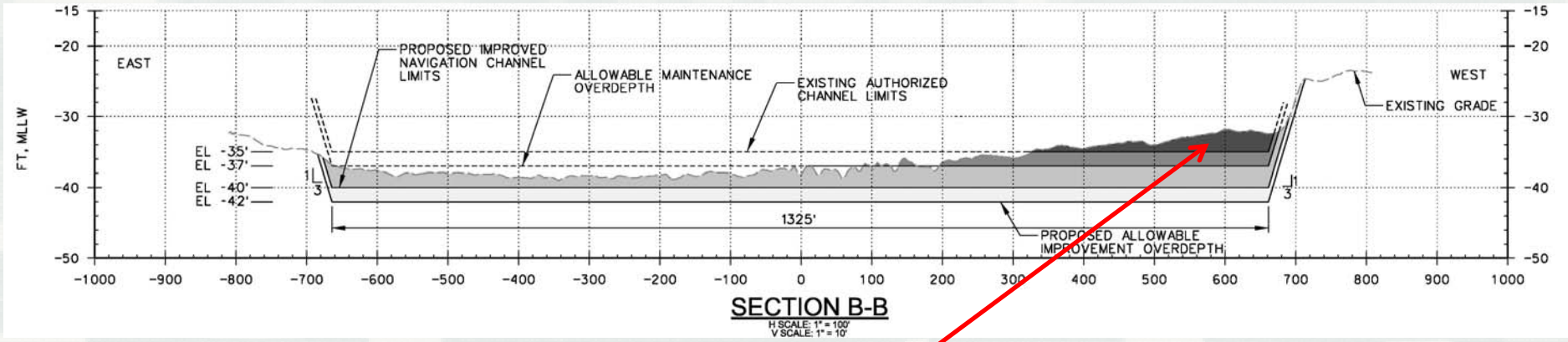






Cross-Section
in next slide



Turning Basin Cross-Section

Showing thickness of material to be removed

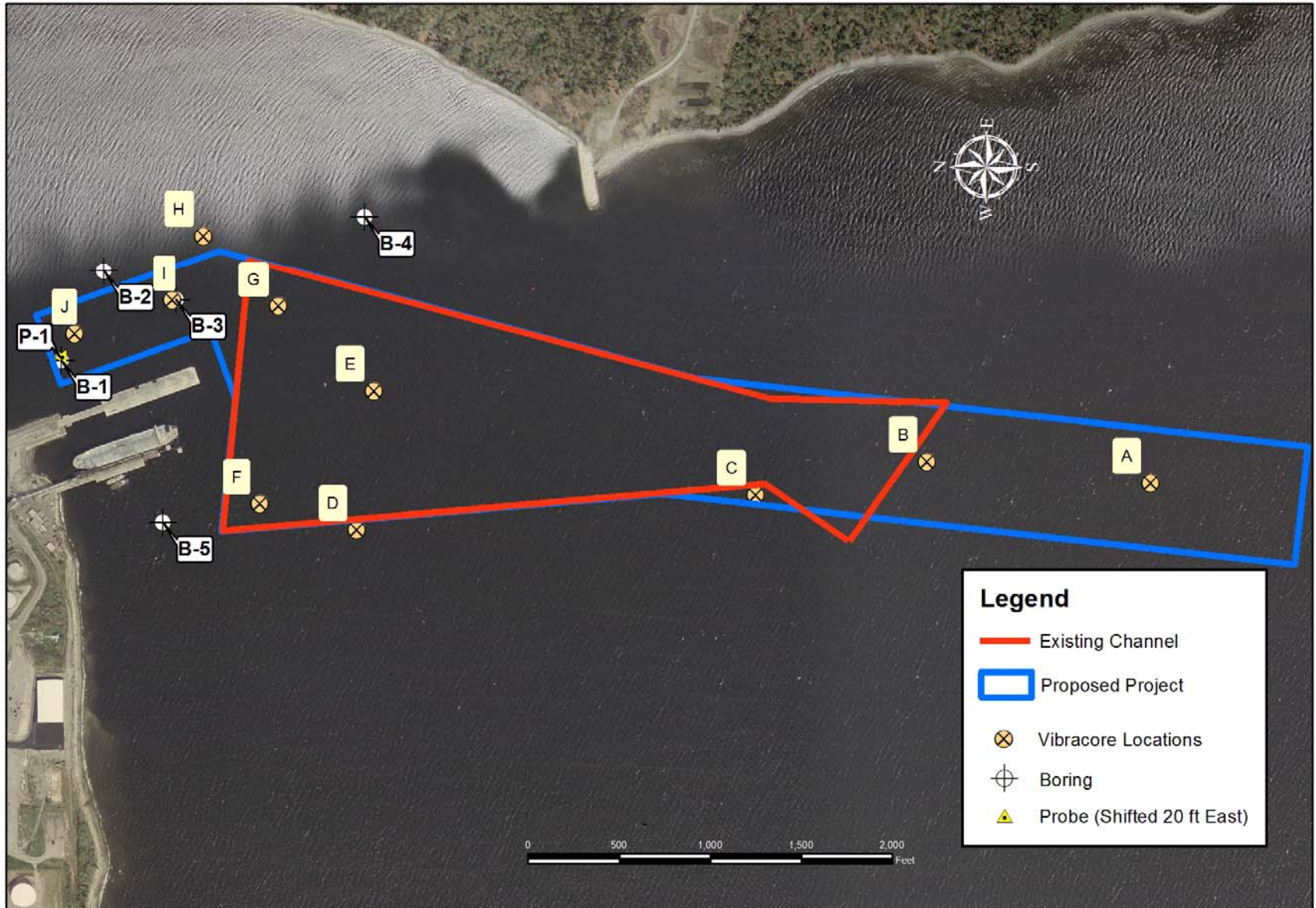


LEGEND:	
	MAINTENANCE DREDGING
	ALLOWABLE MAINTENANCE OVERDEPTH
	PROPOSED IMPROVEMENT DREDGING
	PROPOSED ALLOWABLE IMPROVEMENT OVERDEPTH

Sediment and Geotechnical Characterization

- Included 10 vibracores for sediment physical and chemical analysis (Battelle Report)
- 5 borings plus one probe – Logs (Feasibility Report -Geotechnical Appendix)
- Marine geophysical investigation - side scan sonar, magnetometer, and sub bottom profiles - for archaeological and geological data (Ocean Surveys Inc. and Public Archaeological Laboratory)





Mercury (Hg) Results Battelle Report

Project Area, 4 composites

total mercury: 42 ppb to 129 ppb

Penobscot Disposal Site, 3 grabs:

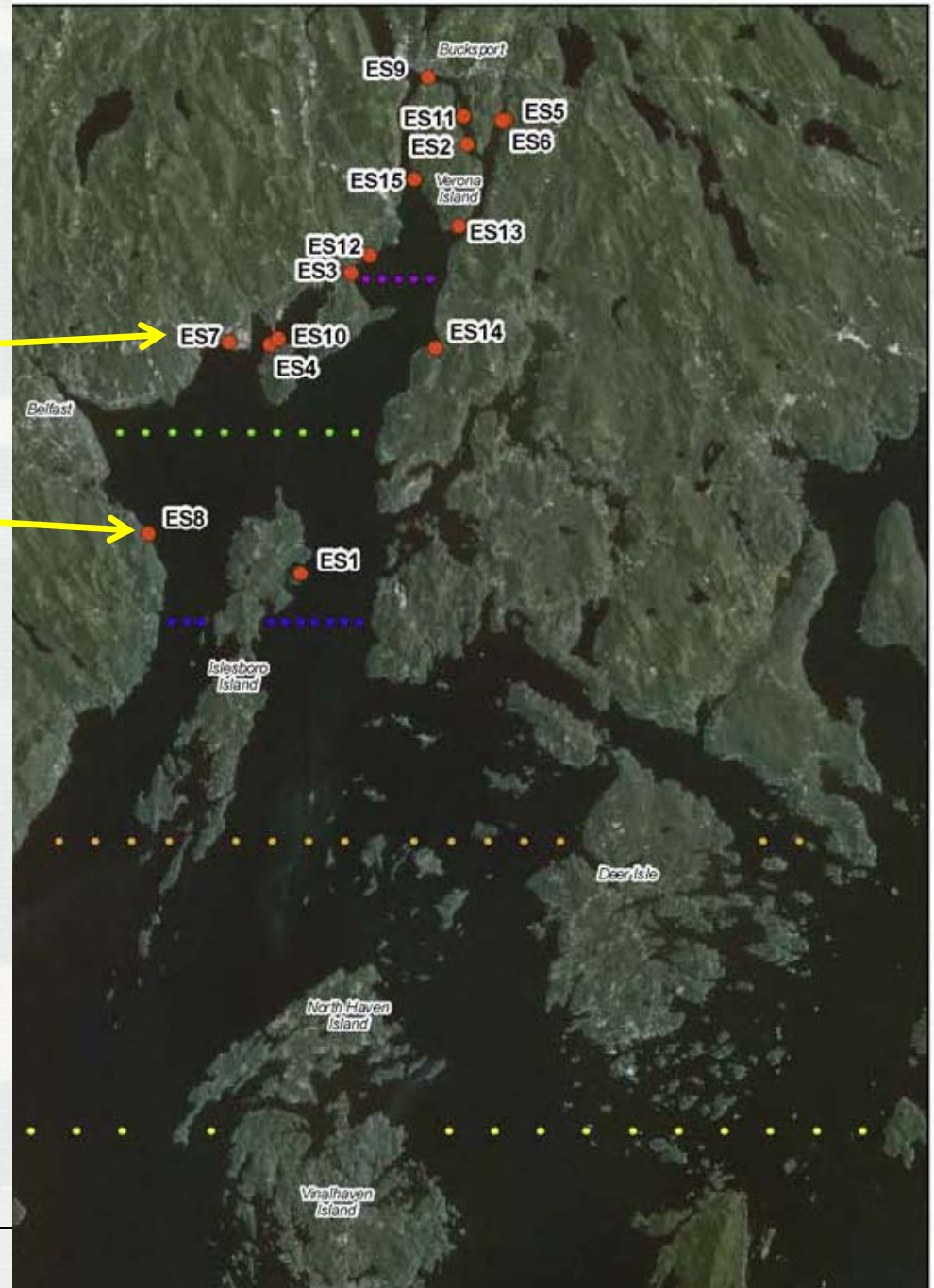
total mercury: average =145 ppb



Estuary Aquatic Sampling Stations 2006-07 From Penobscot River Study

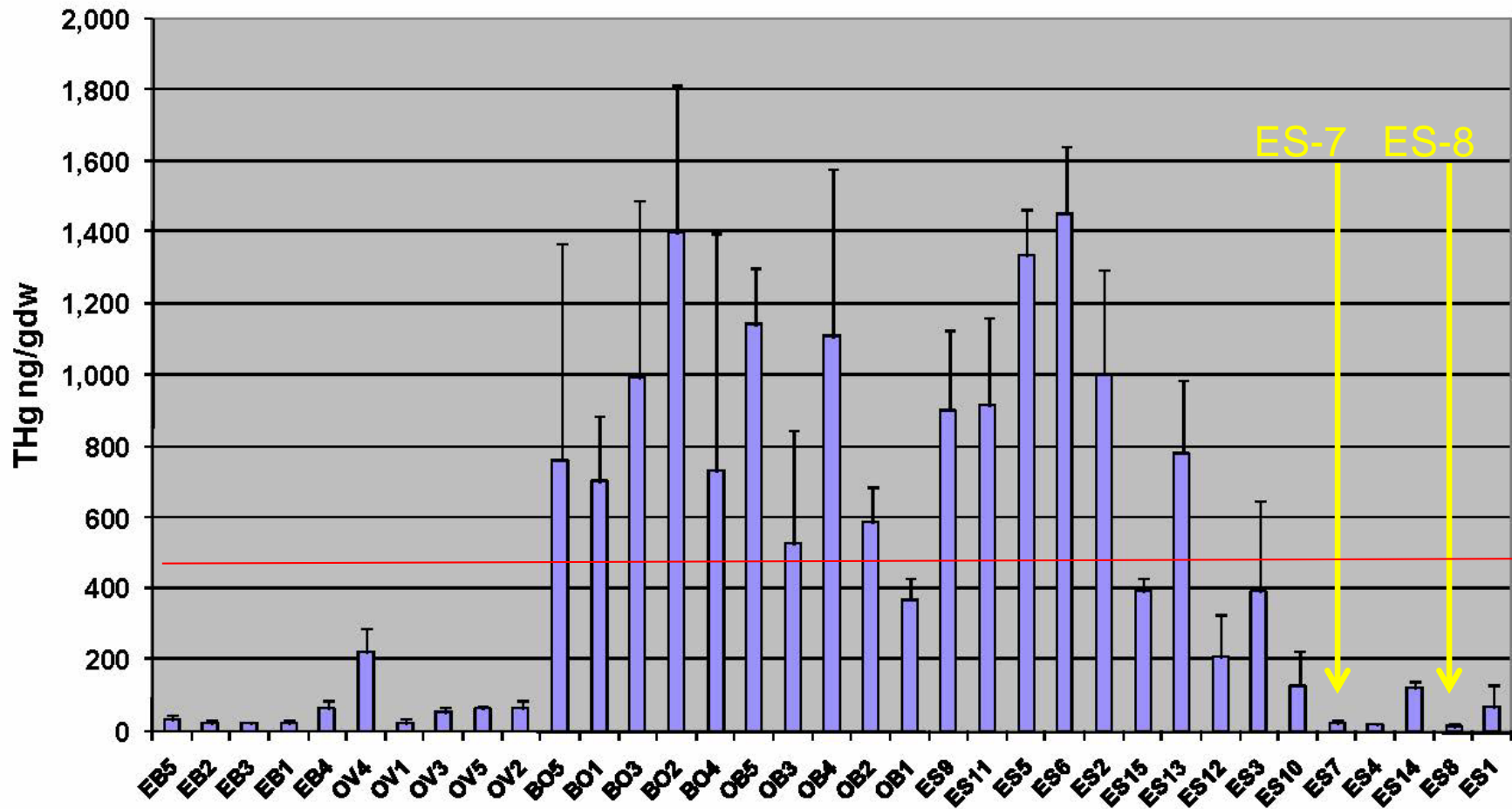
ES7 adjacent to port

ES8 west of proposed
disposal site



Source: Figure 6 from Phase I
Penobscot River Mercury Study, 2008

Total Mercury in Penobscot River and Estuary Averaged from Four Sampling Rounds

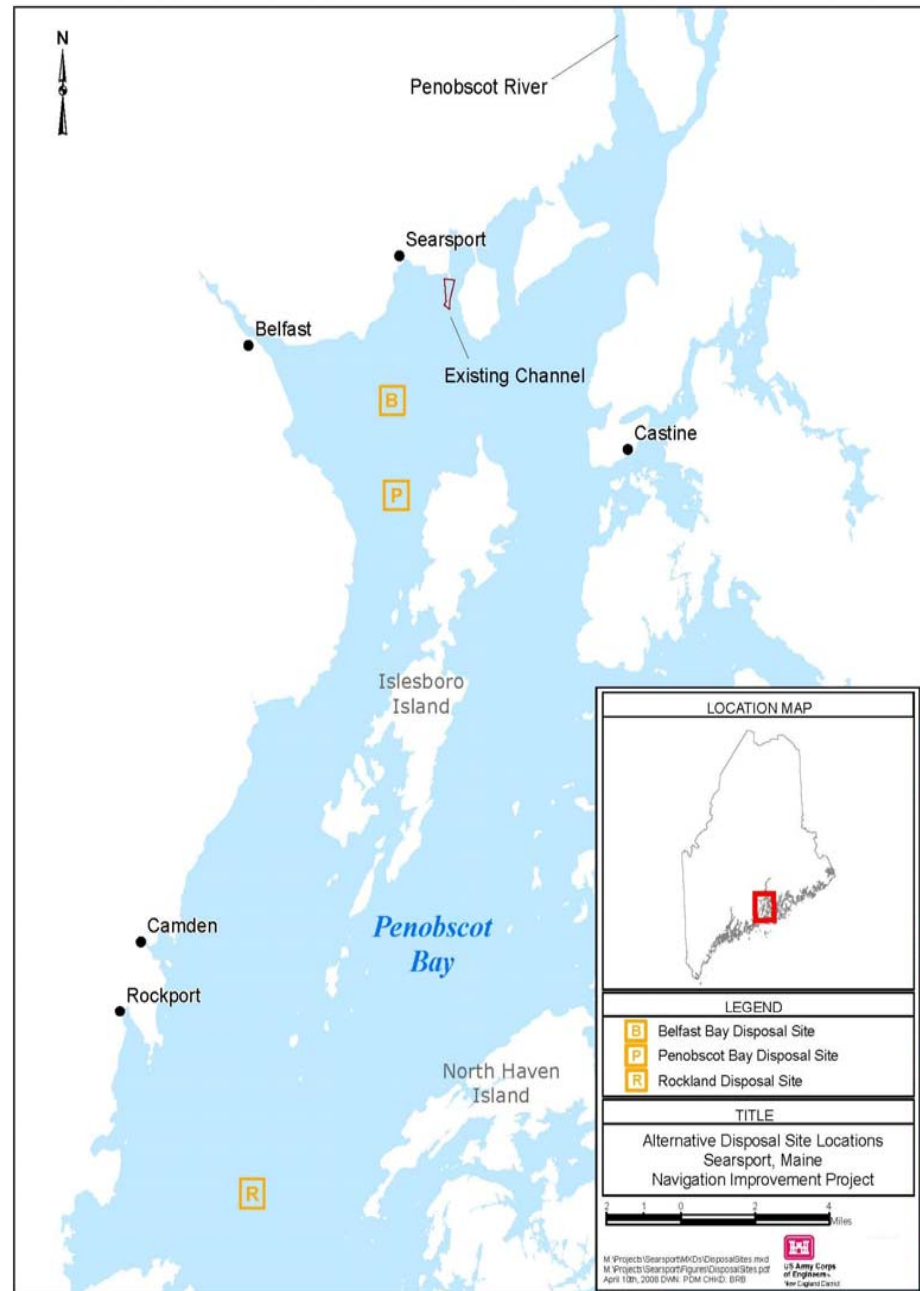


Stations (from north to south)

Source: Figure 20 from Phase I Penobscot River Mercury Study, 2008



Project material tested and determined to be suitable for open water disposal at these three sites



Agency Environmental Coordination

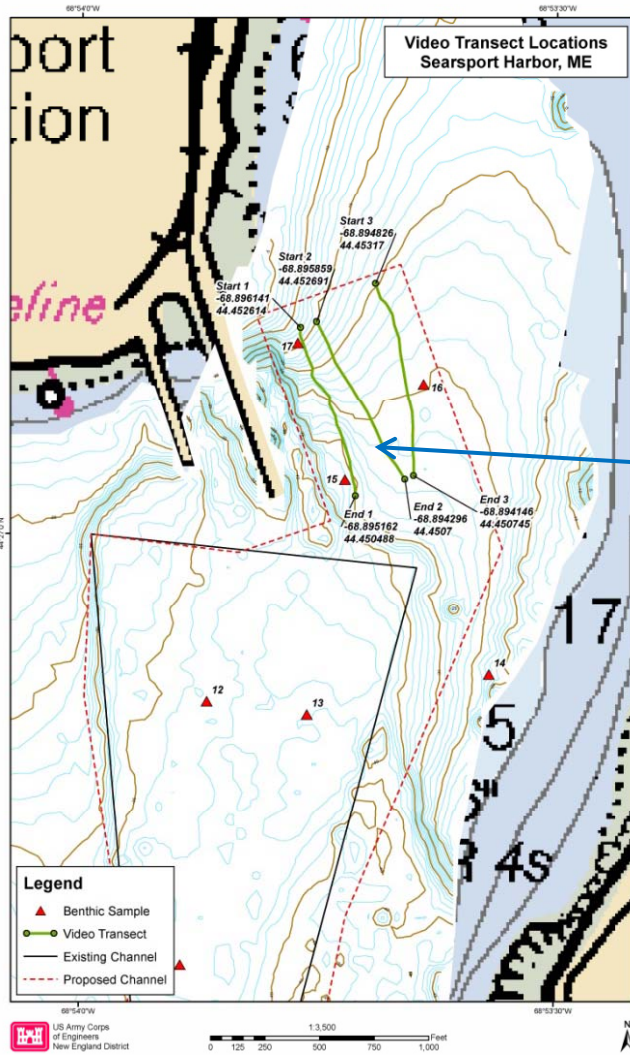
- National Marine Fisheries Service
- US Fish & Wildlife Service
- EPA
- Maine Resource Agencies
- Maine Historic Preservation Office



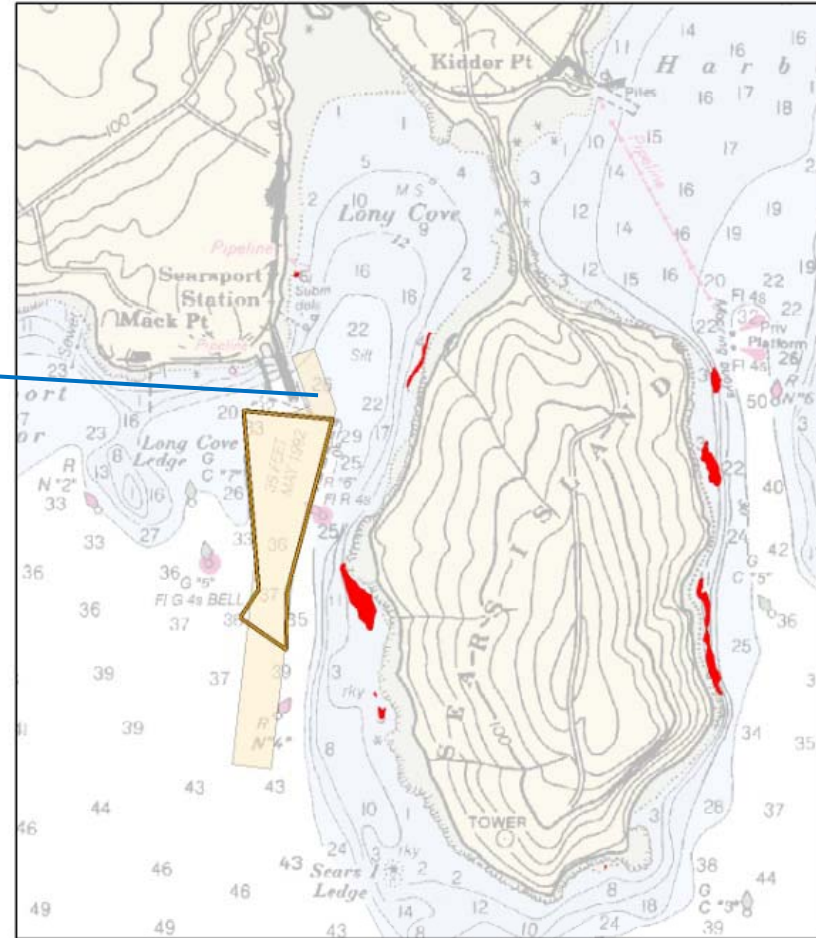
Protection of Environmental Resources

- Construction Window – November 8 to April 9 to avoid impacts to Atlantic Salmon and other natural resources in Penobscot Bay
- Long Cove to be dredged first in Fall to avoid impact to winter flounder spawning and eels
- No scow overflow
- Targeted dredged material disposal





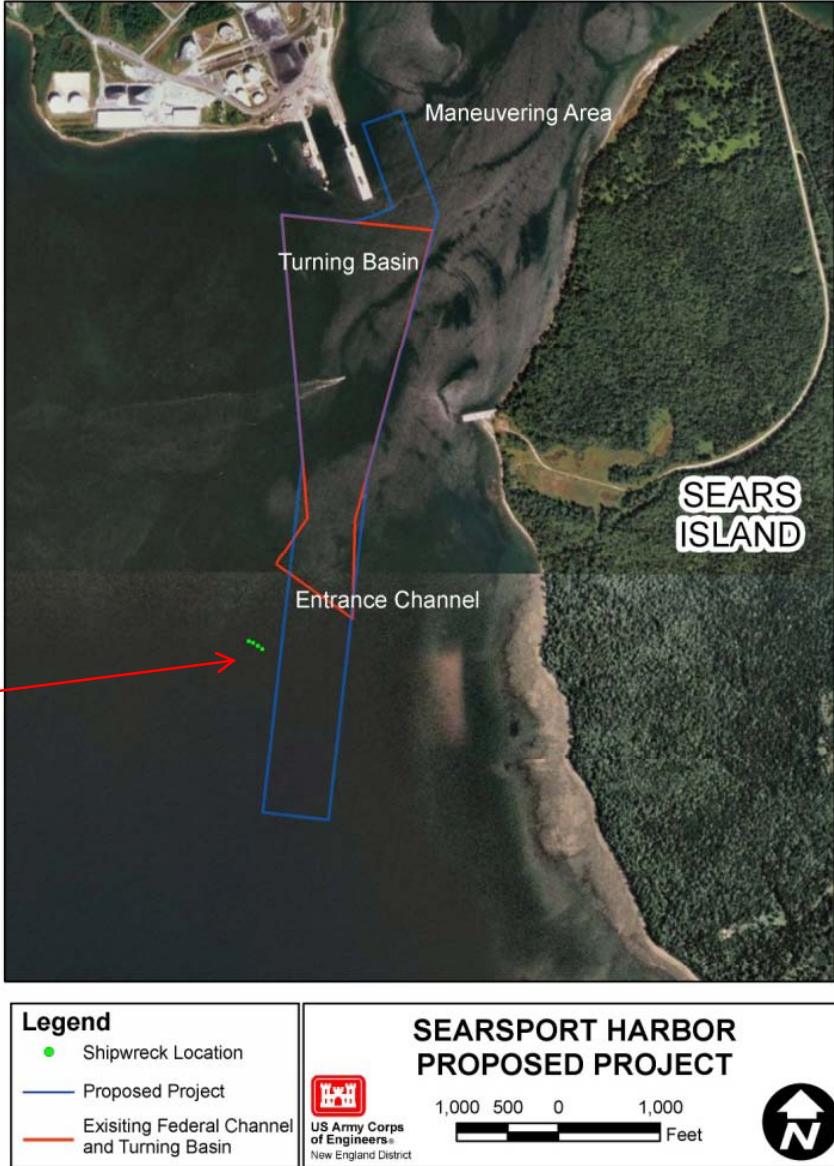
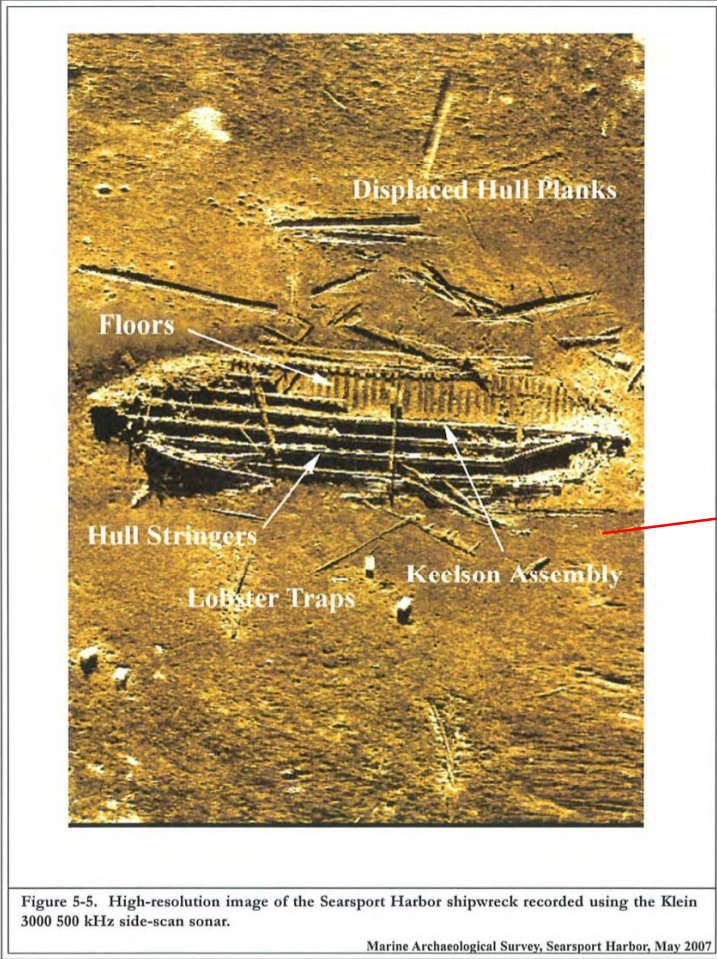
Eelgrass survey



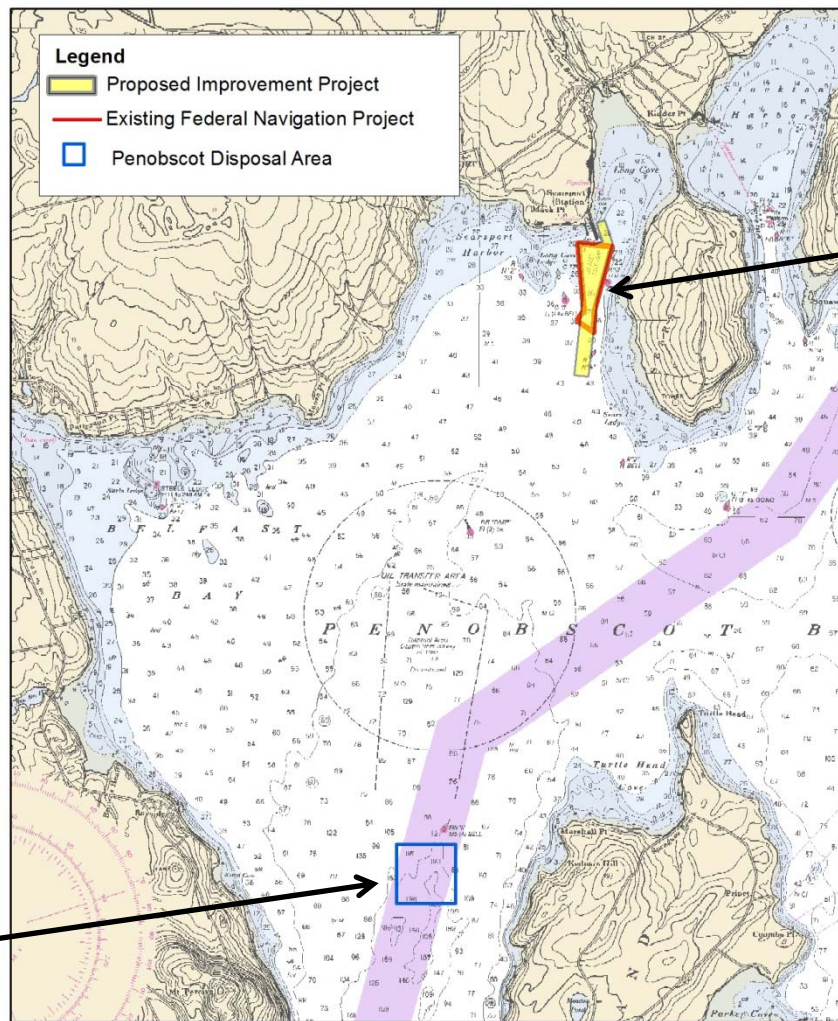
Mack Point, Searsport Harbor
Searsport, Maine
Federal Navigation Improvement Project

FIGURE 2

Cullen No. 18 lost May 1938



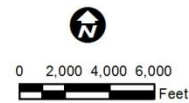
Archeological Survey, Archival Research



Project Area

Disposal Area

Mack Point, Searsport Harbor
 Searsport, Maine
 Proposed
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End of First Presentation

