

GRAYS HARBOR NAVIGATION IMPROVEMENT PROJECT

**Public Information Meeting
Aberdeen, Washington**

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US Army Corps of Engineers
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Outline

- Project Authority
- Project Overview
- Dredging and Dredged Material Placement
- Economic Analysis
- Environmental Analysis
- Q&A



Project Authority

The Grays Harbor Navigation Channel Project, including maintenance of the Federal Navigation Channel and South Jetty, North Jetty, Point Chehalis Revetment and Groins is authorized principally by:

- River and Harbor Act of June 3rd, 1896 (29 Stat. 202, Ch. 314),
- River and Harbor Act of August 30th, 1935 (49 Stat. 409, Ch. 831, House Document 53, 73rd Congress, 1st Session),
- as further amended, among others, by the Water Resources Development Act of November 17th, 1986 (Public Law 99-662).



Project Overview

- **1982 – Feasibility Report and Environmental Impact Statement (EIS)** completed for channel improvement below -30 feet mean lower low water (MLLW)
- **1986 - Congress authorized Navigation Improvement Project** from -46 feet MLLW (Outer Harbor) to -38 feet MLLW (Inner Harbor)
- **1989 - Corps completes General Design Memorandum:** recommended deepening to full depth in Outer Harbor and to -36 feet MLLW in Inner Harbor
- **1989 – Corps Completes Supplemental Environmental Impact Statement (SEIS)**
- 1990-1991 - Phase I deepening completed



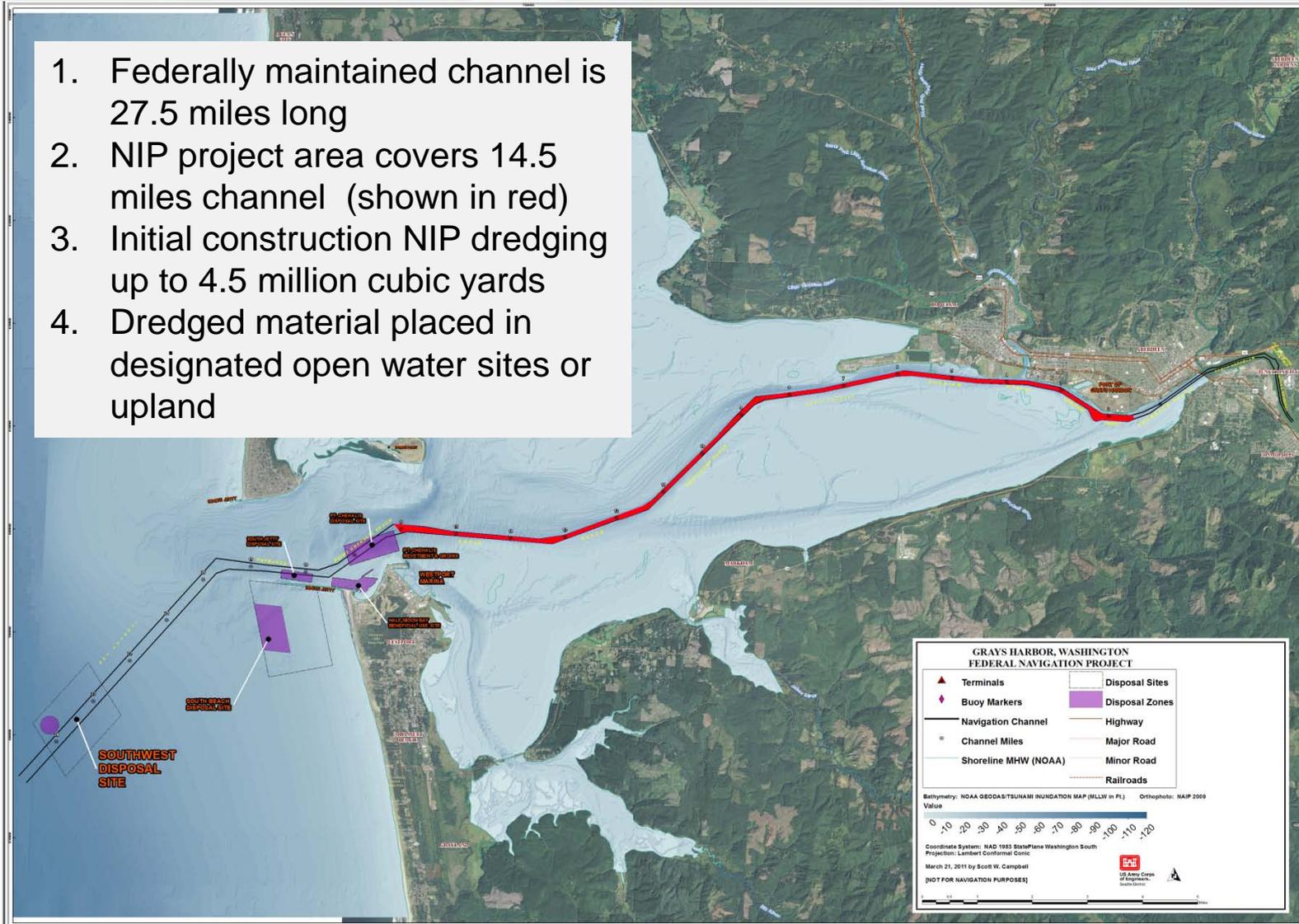
Project Overview

- **2009 - Reconnaissance 905(b) Analysis and Report:** Documented Federal interest in continuing evaluation of implementing the authorized depth of Inner Harbor to -38 feet MLLW
- **2012-2014 - Limited Reevaluation Report:** Will document analysis of current economic benefits and costs associated with depths of -37 and -38 feet MLLW
- **2012-2014 – Supplemental EIS (SEIS):** Will document the scope and purpose of the project, alternatives considered, and environmental impacts of those alternatives.



Project Overview

1. Federally maintained channel is 27.5 miles long
2. NIP project area covers 14.5 miles channel (shown in red)
3. Initial construction NIP dredging up to 4.5 million cubic yards
4. Dredged material placed in designated open water sites or upland

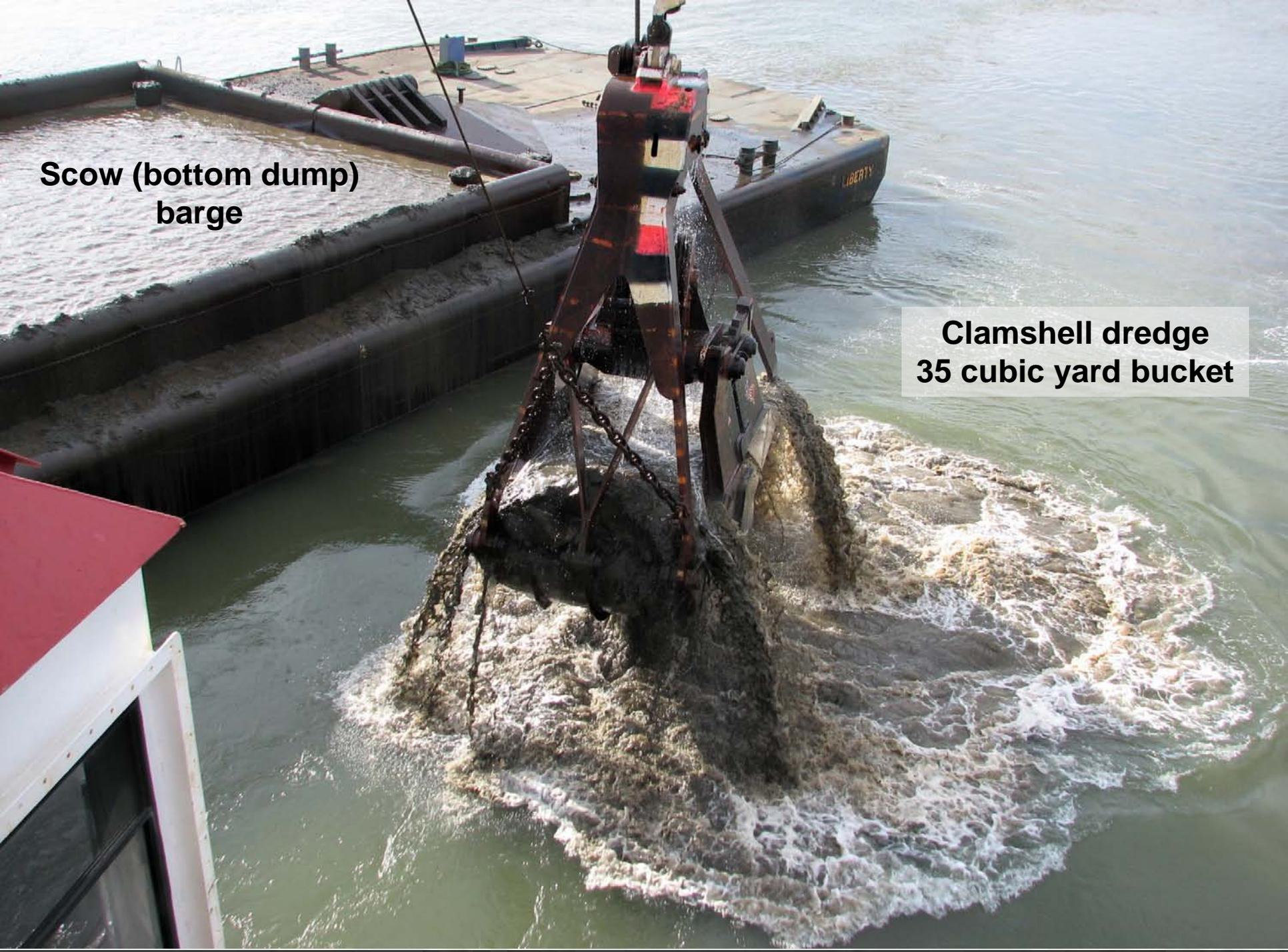


Dredging Definition

Dredge Definition:

- 1. Any of various machines equipped with scooping or suction devices and used to **deepen harbors and waterways** and in **underwater mining**.
- 2. Nautical: A boat or barge equipped with a dredge.





**Scow (bottom dump)
barge**

**Clamshell dredge
35 cubic yard bucket**

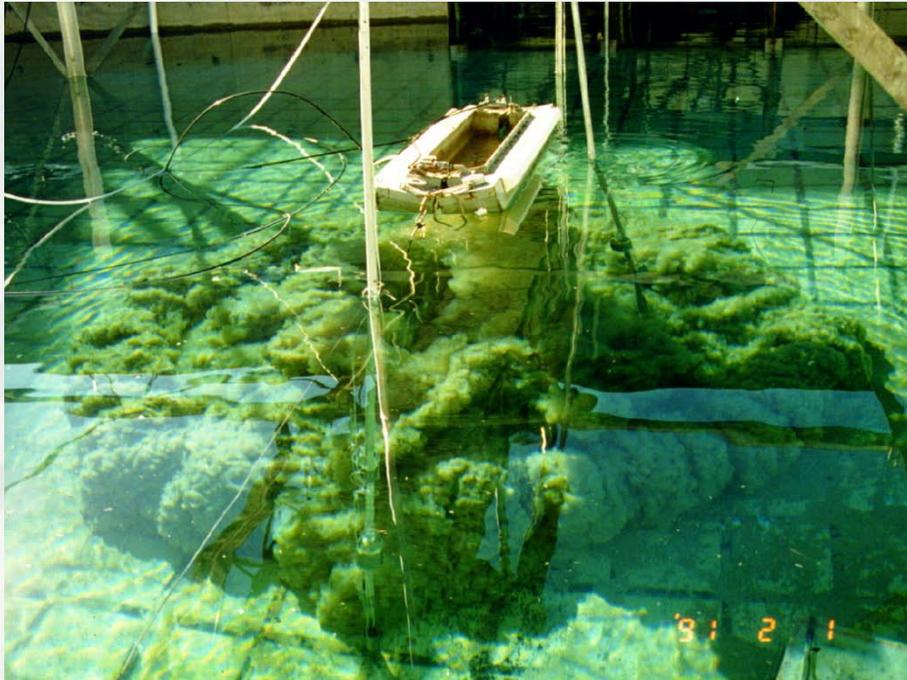


**Suction head
and drag arm**

Hopper Dredge

Dredged Material Placement

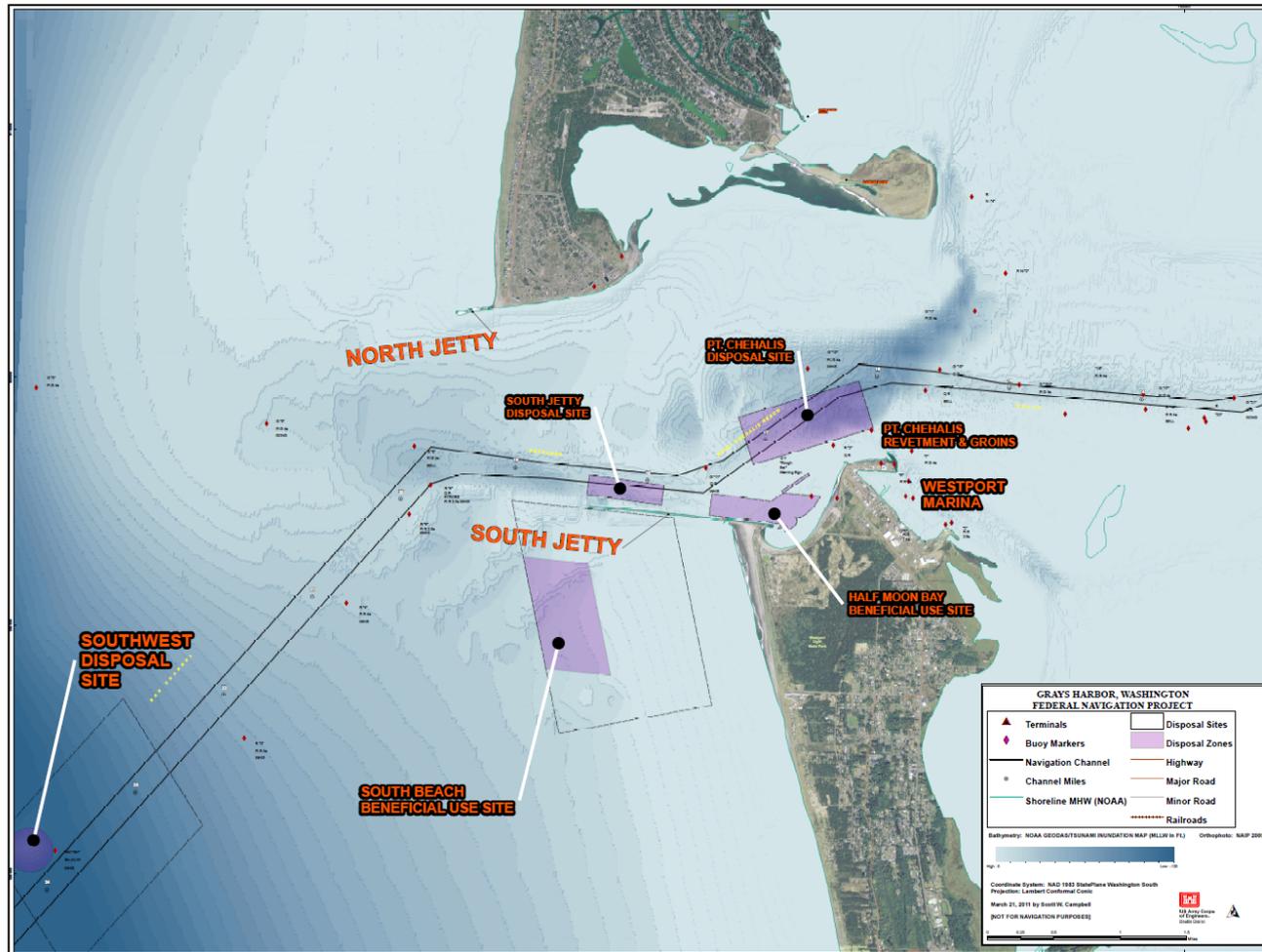
Open water placement via barge



Upland placement via hydraulic pipeline



Existing Open Water DM Placement Areas



Economic Analysis

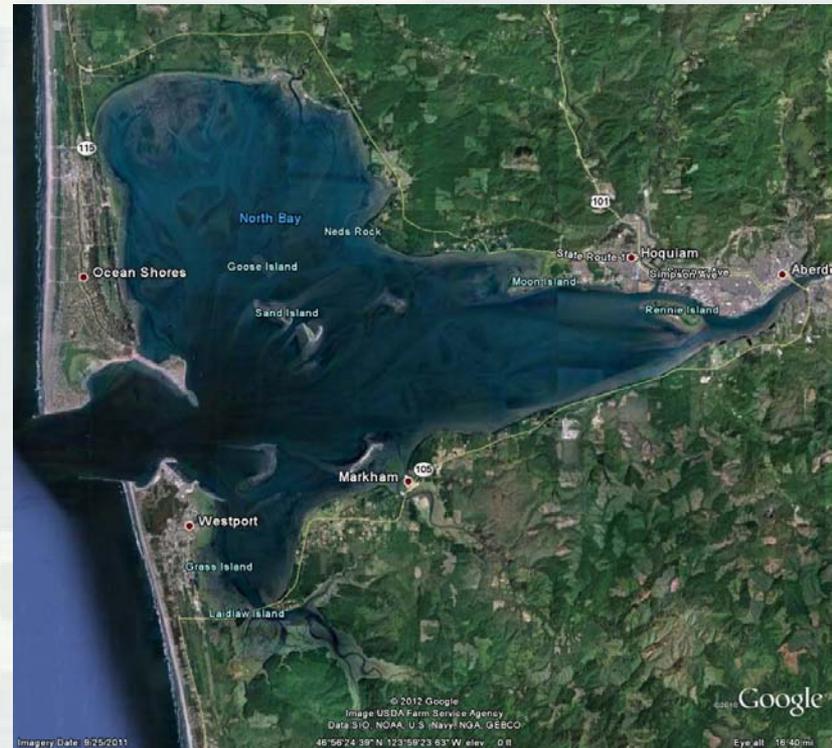
- *“The **role** of the U. S. Army Corps of Engineers with respect to navigation is to provide safe, reliable, and efficient waterborne transportation systems (channels, harbors, and waterways) for movement of commerce, national security needs, and recreation. The Corps accomplishes this mission through a combination of capital improvements and the operation and maintenance of existing projects.” -ER 1105-2-100, Planning Guidance Notebook*



Economic Analysis

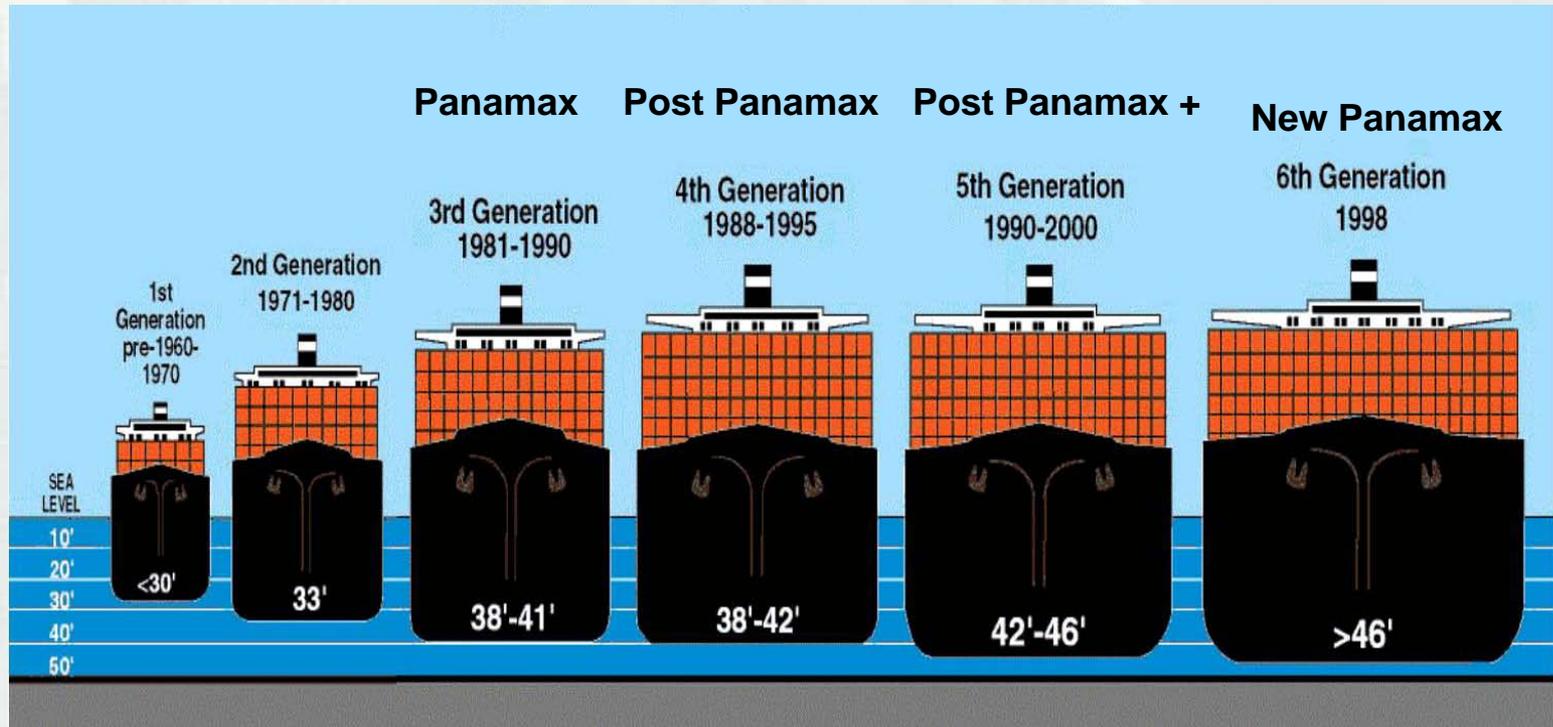
Symptoms of Problems:

- Physical Condition
- Traffic Delays
- Light Loading
- Lightering
- Safety Issues



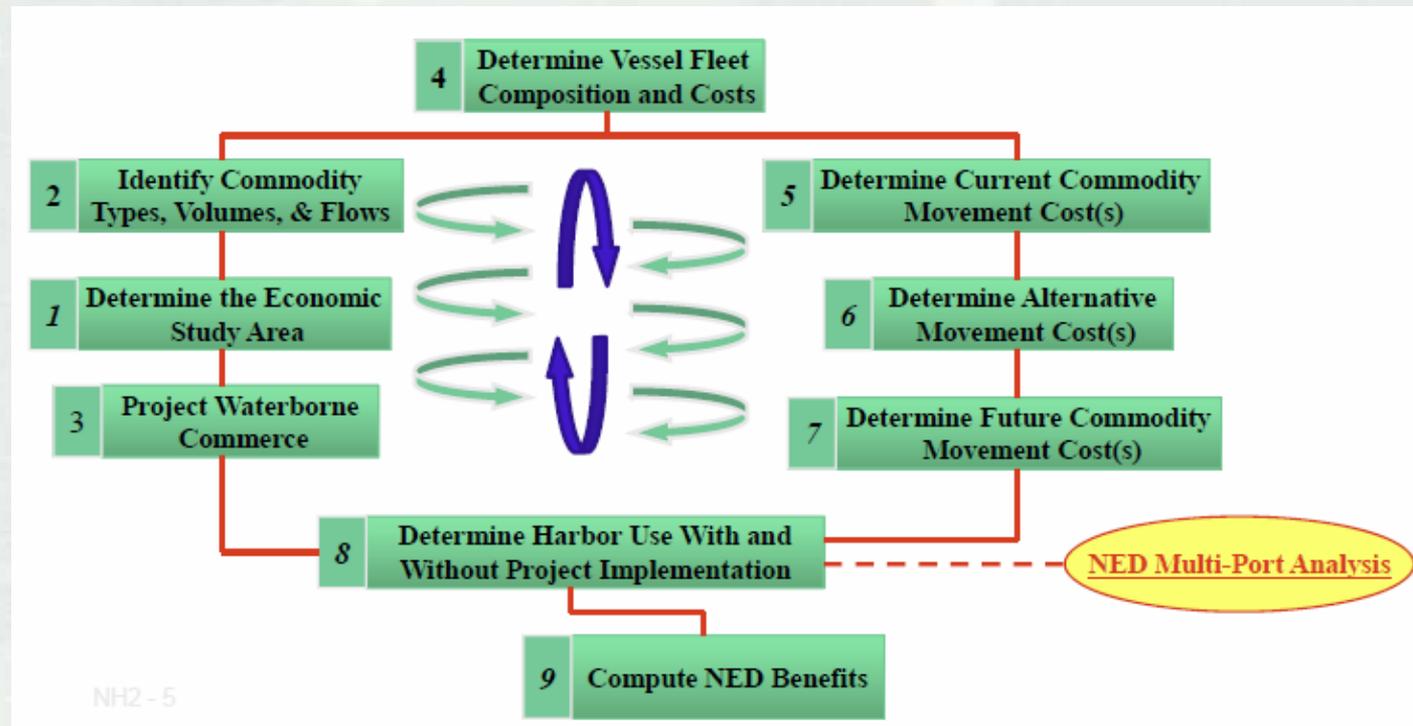
Economic Analysis

The need for deeper channels: The Evolution of Ships



Economic Analysis

National Economic Development (NED) Benefits Procedures Deep-Draft Navigation Manual 9 Step Evaluation Process:



Economic Analysis

Information Gathering:

- Types
 - ▶ Inventory
 - ▶ Forecast
- Uses
 - ▶ Defines relevant conditions in planning area under various scenarios
 - Historic (support rapid & sustained growth)
 - Existing
 - Base year
 - Most likely future with a project
 - ▶ Identify constraints



Economic Analysis

Existing Annual Transportation Costs:

- Ship operating costs
- Origin-to-destination costs
 - ▶ Transit costs
 - ▶ Delay costs
- Landside/Port costs



Economic Analysis

Port Characteristics:

- Terminals
- Berthing Depths
- Terminal Capacities
- Port Institutions
- Master Plan
- Data source - Port Series & Customs Data



Economic Analysis

Characteristics for Commodities Affected by Delays/Capacity:

- Population
- Commodity movement
- Alternative mode information
- Trading patterns



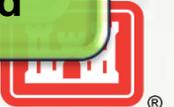
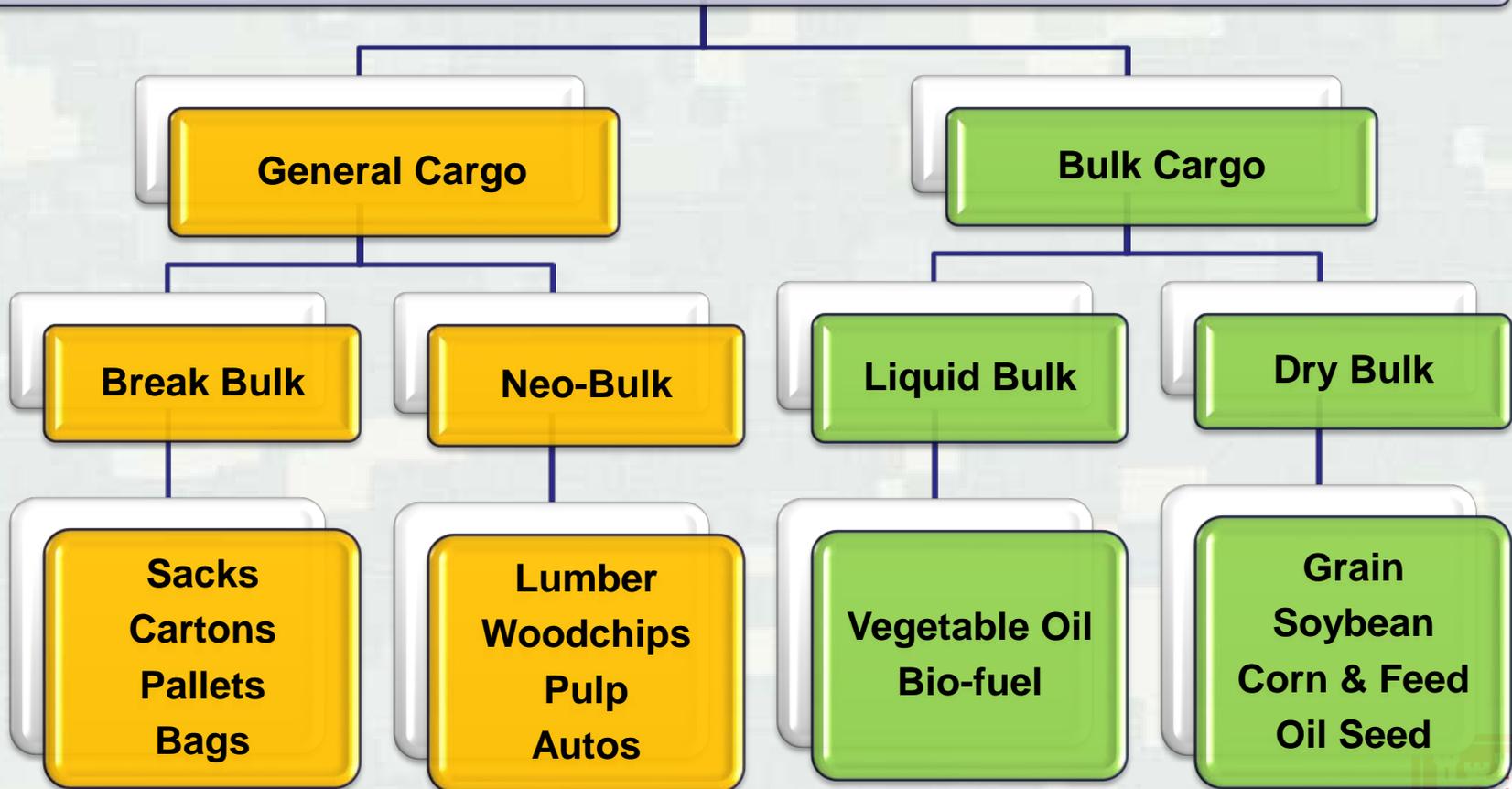
Economic Analysis

Cargo:



Economic Analysis

Functional Classification of Maritime Cargo in Grays Harbor



Economic Analysis

Vessel Information:

- Port vessel fleet
- Vessel size data
- Vessel operating drafts
 - ▶ limited by general navigation features
 - ▶ design versus operating
- Vessel operating costs
- Vessel capacity utilization
- Vessel itinerary
- Light loading analysis



Economic Analysis

Data Inputs:

- Vessel Calls/Characteristics
- Commodity/Cargo Handling Volumes
- Origin/Destination



Economic Analysis

National Economic Development Costs:

- Construction costs (Combined Federal and non-Federal Costs)
 - ▶ General Navigation Facilities
 - Project features – tide gauges, jetties, etc.
 - Dredging and disposal
 - Real estate-upland disposal site
 - Mitigation
 - ▶ Local Service Facilities
- Operation and maintenance costs
- Interest during construction

- Associated costs



Economic Analysis

NED Benefits – Savings in Transportation Unit Costs:

- Cost Reduction Benefit (same origin-destination and same mode).
 - ▶ Reductions in costs incurred from trip delays
 - ▶ Increased loads in existing ships
 - ▶ Reduction in costs because larger or longer tows
 - ▶ Reduction in costs because of using larger ships
- Change in mode benefits
- Shift of origin-destination benefits



Economic Analysis

Other NED/NER Benefits (Include, but not limited to):

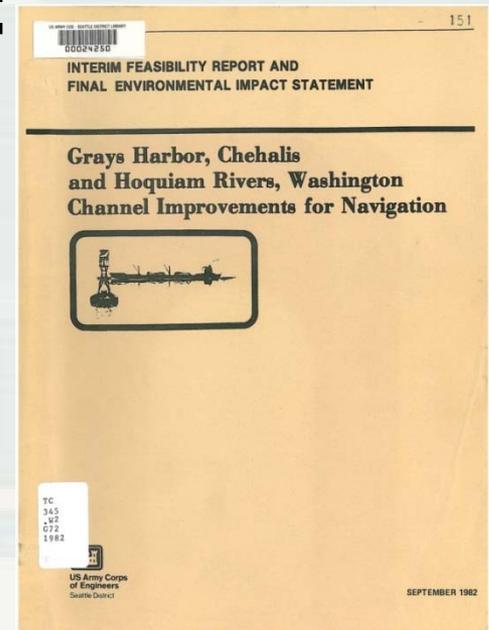
- Recreation
- Location or land enhancement by filling with dredged material (however, there is no Federal investment in a Corps project that is intentionally or effectively a land development project and projects generally should not use land enhancement as a large incidental benefit)
- Utilization of unemployed or underemployed labor in various markets
- National environmental restoration (NER) benefits, which are generally not monetized but appear in the form of additional acres, habitat units, fish counts, or biodiversity indices



Environmental Analysis

1982 Environmental Impact Statement (EIS) and Feasibility Report:

► This initial study established the need for, and environmental impacts of, improving the safety and efficiency of deep draft water in Grays Harbor



Environmental Analysis

1982 analysis included:

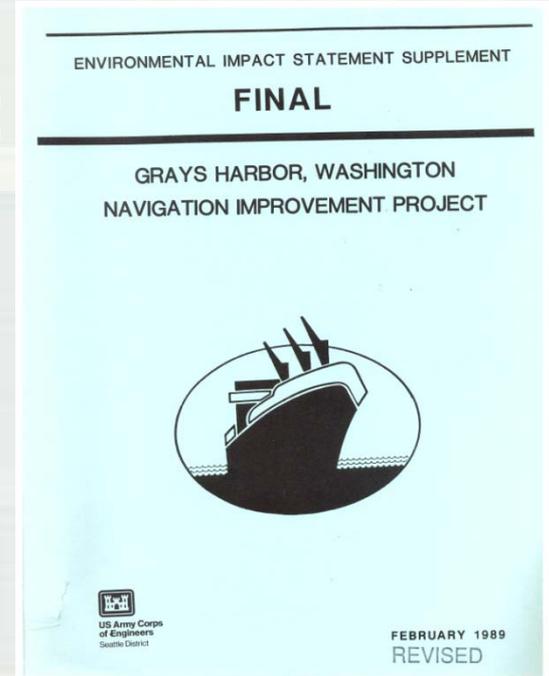
- 24.3 miles of channel improvement (-30 ft to -38 ft)
 - Replacement of Union Pacific Railroad bridge
 - Mitigation of 4 acres of lost shallow water fish habitat
 - Mitigation through dredge modification to avoid crab mortalities from dredging
- 1982 analysis concluded that further study was warranted for crab mitigation, sediment management, and disposal site locations



Environmental Analysis

1989 Supplemental EIS (SEIS):

- Project reduced in scope and environmental impacts
- Presented new information on:
 - ▶ Crab ecology & mitigation strategy
 - ▶ Ecological considerations of ocean disposal areas
 - ▶ Evaluation of sediments
 - ▶ Native American concerns



Environmental Analysis

1989 SEIS project scope cont.:

- Proposed 23.5 miles vs. 24.3 miles, two turning basins vs. four
- 11.3M cy of dredge material vs. 17.1M in 1982
- Modification of UPRR bridge from swing to lift
- Mitigation for loss of 2 acres of sub-tidal salmon habitat by creation of 4 acres plus 18 acres of buffer zone (Junction City area)
- Placement of oyster shell to mitigate for losses to harvestable Dungeness crabs



Environmental Analysis

New Supplemental Environmental Impact Statement (SEIS):

- Supplement 1982 and 1989 documents
- Focus on comparative evaluation and environmental impacts of the selected alternatives



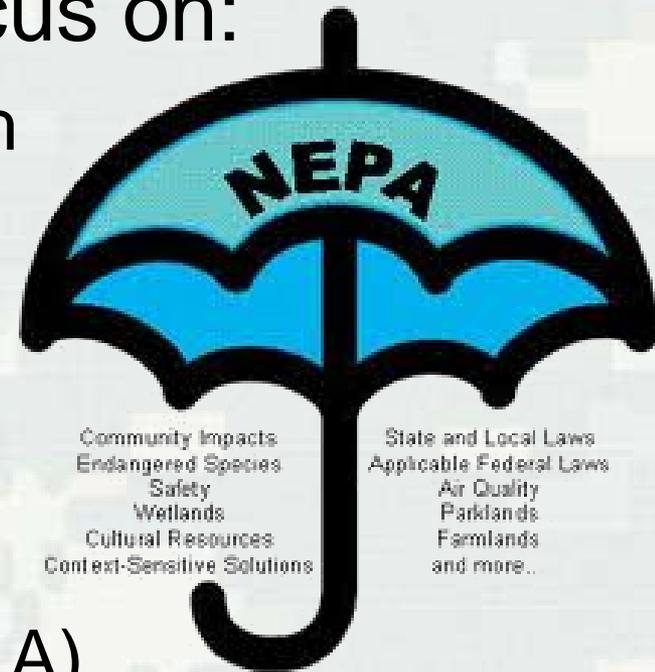
SEIS Alternatives

- **Alternative 1:** No Action, continue maintenance of -36 ft MLLW
- **Alternative 2:** Deepen existing channel within some or all reaches to a depth greater than -36 ft MLLW and less than or equal to -37 ft MLLW
- **Alternative 3:** Deepen existing channel within some or all reaches to a depth greater than -37 ft MLLW and less than or equal to -38 ft MLLW (fully authorized depth)



Environmental Analysis

- The new analysis will incorporate new and updated information and focus on:
 - ▶ Dungeness crab and shellfish impacts
 - ▶ Dredged material disposal
 - ▶ Evaluation of sediments to be dredged
 - ▶ Native American issues (U & A)
 - ▶ Endangered species impacts



Environmental Analysis

- Opportunities for public input and comment throughout the NEPA process
- The draft SEIS is planned for release in summer 2013
- Another public forum is planned for late summer 2013



Biological Analysis

- In addition to NEPA, a separate Biological Assessment, in consultation with resources agencies, will address any project related impacts to Endangered Species Act (ESA) listed species





Biological Analysis

Listed Species in Grays Harbor area:

- ▶ Coastal/Puget Sound bull trout, lower Columbia River Chinook salmon, upper Willamette River Chinook salmon, Columbia River chum salmon, eulachon, southern green surgeon, western snowy plover, marbled murrelet, eastern stellar sea lion, southern resident killer whale, humpback whale, and leatherback sea turtle



Project Schedule

Feasibility Phase

	2012	2013				2014			
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Public Information Meeting 1	◆								
Draft SEIS	■								
Draft SEIS Public Review				■					
Public Meeting 2				◆					
Final SEIS, and Record of Decision						■			
Draft Limited Reevaluation Report	■								
Project Approval						■			

Design and Implementation Phase (Dependant on Funding)

	2014				2015				2016			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Design and Contracting		■										
Construction								■				



Questions?

- Written comments/questions may be submitted to:
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Seattle District, Civil Works Branch
P.O. Box 3755, Seattle, WA 98124-3755
joshua.l.jackson@usace.army.mil
- For more information on the project visit:
www.nws.usace.army.mil

