

# RSM FY12 IPR

## Portland District

### MCR Nearshore Placement/Adaptive Management

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Manager

USACE Portland District

August 29, 2012

Portland, OR



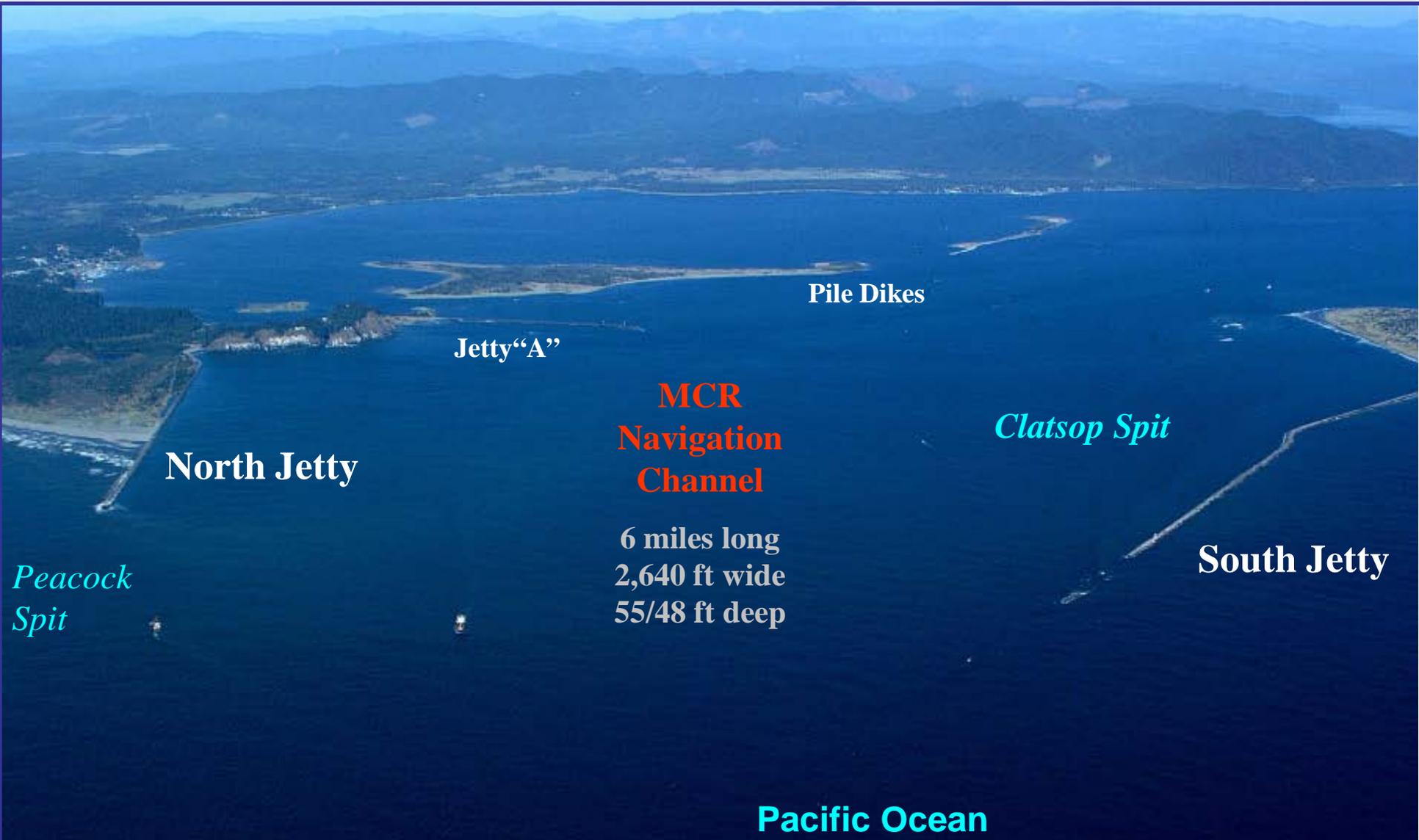
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# Mouth of the Columbia River

“CONSTRUCTED” 1885-1917



Pile Dikes

Jetty "A"

North Jetty

**MCR  
Navigation  
Channel**

*Clatsop Spit*

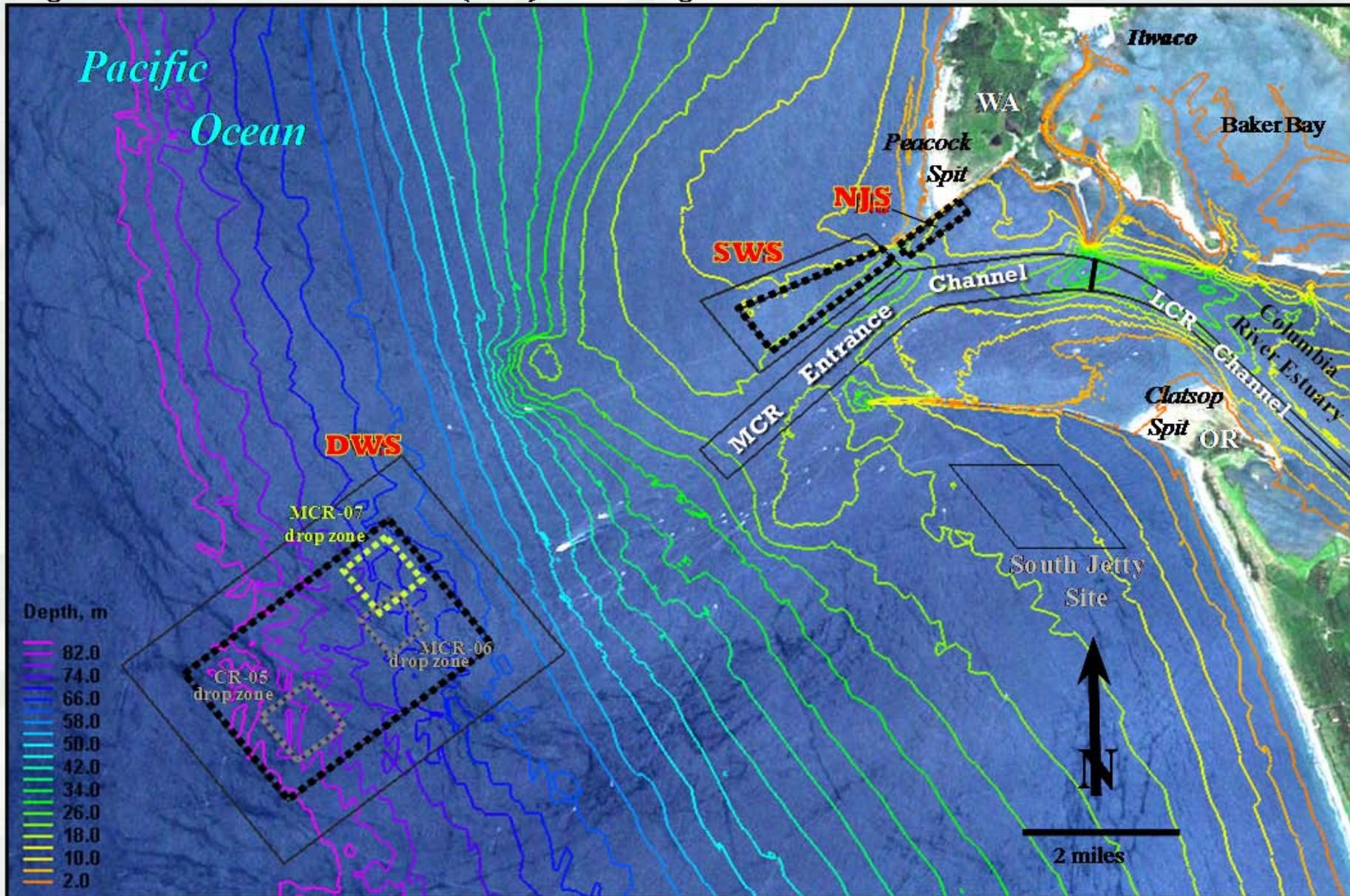
South Jetty

*Peacock  
Spit*

6 miles long  
2,640 ft wide  
55/48 ft deep

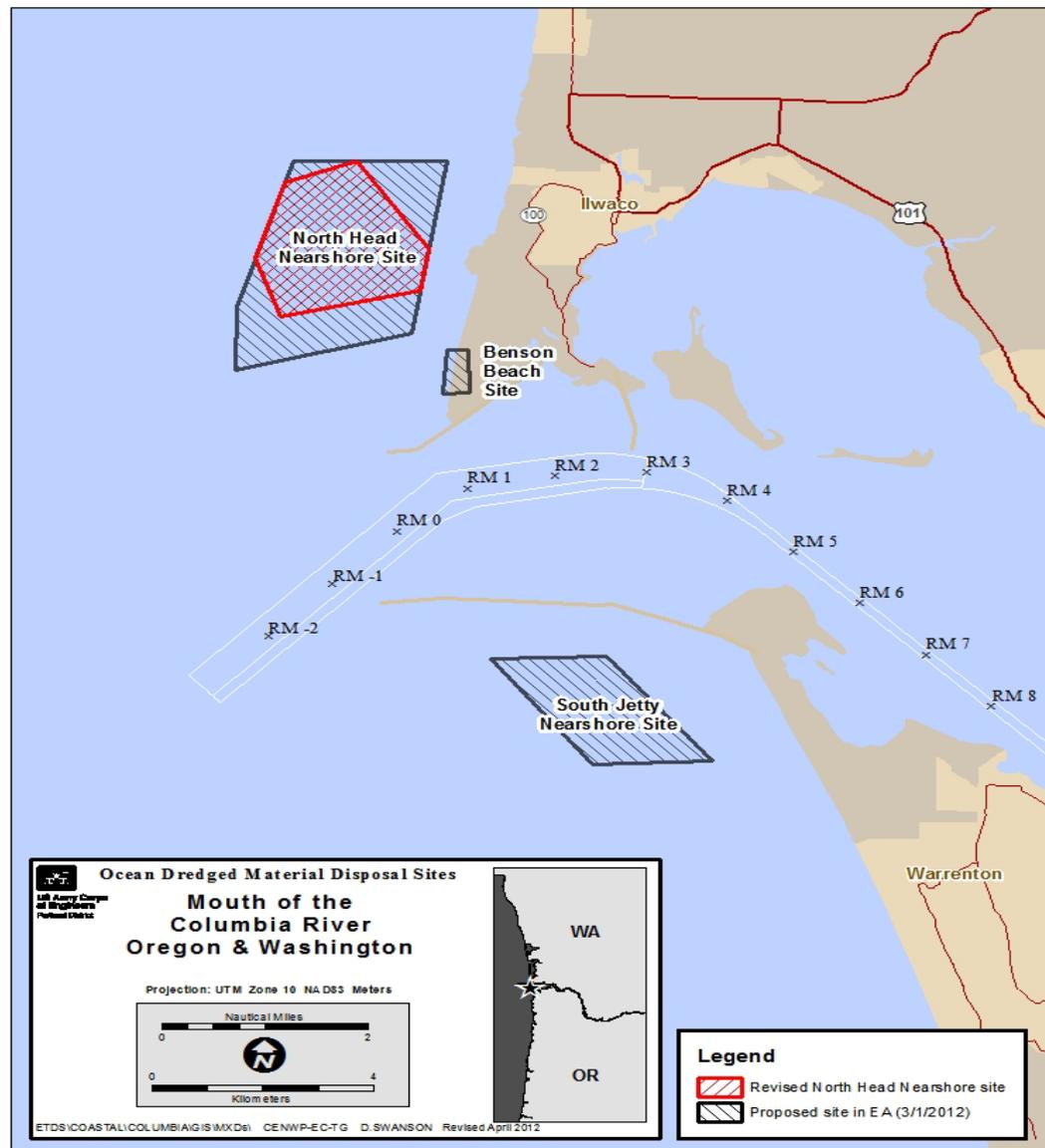
Pacific Ocean

**Figure 1. Mouth of the Columbia River (MCR) – 2011 Dredged Material Placement Sites.**



**DWS: Deep Water Site, 102 MPRSA**      **SWS: Shallow Water Site, 102 MPRSA**      **NJS: North Jetty Site, 404 CWA**  
**MCR-07-DWS: sub-region within DWS, first used in 2007,**  
**to be used as DWS drop zone for 2011 dredging season.**      **MPRSA: Marine Protection, Research & Surveillance Act**  
**CWA: Clean Water Act**      **BUILDING STRONG®**

# Proposed Network of Nearshore Sites



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**BLUF:** Use of the SJS reduces dredging costs, keeps material in the littoral cell, protects the south jetty root, and increases habitat opportunities for local benthic communities.

## Description/Challenge

- Protecting a public investment (South Jetty)
- Beneficial Use of dredged material by keeping it in the littoral cell.
- Prevent “wasting” sediment to the DWS

## Goals/Issues to Address

Implementing the Portland District RSM plan through placement in the South Jetty Nearshore Site.

Keep sediment in the littoral cell

Protect South Jetty Root

Lower Maintenance Dredging Costs/Cycle Time

Increased Habitat Opportunities for Benthics



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## District PDT Members

Rod Moritz, Coastal Engineer  
Wendy Briner, Sediment Quality  
Mike Ott, Chief Waterways Maintenance  
Jarod Norton, MCR/RSM Project Manager

## Leveraging/Collaborative Opportunities

funding, data, tools, models, etc

with Other Projects, Programs, Partners, etc

WDFW, vessel time

ODCC, funds for crab tags and EPA diver travel

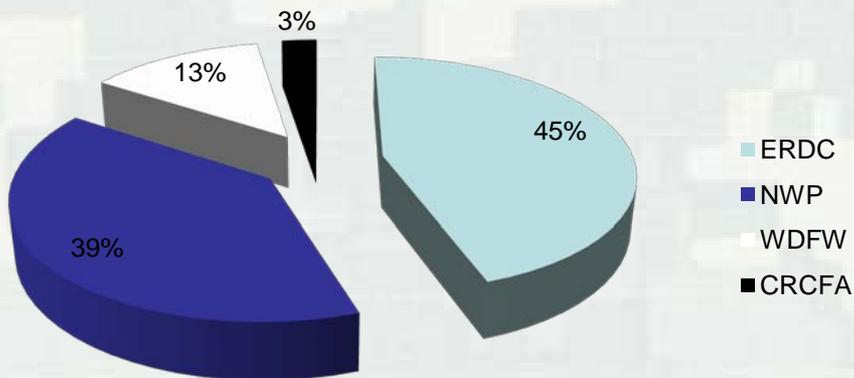
## Stakeholders and Partners

Jonathan Freedman, EPA,  
Steve Greenwood, Oregon Governor's Office  
Brian Lynn, WA Dept. of Ecology  
Dale Beasley, CRCFA  
Mike Donnellan, OR Dept. of Fish and Wildlife  
Dan Ayers, WA Dept. of Fish and Wildlife  
Jim Neva, Port of Ilwaco  
Peter Huhtala, Clatsop County  
Numerous Fed, State, Local, Gov, Academia, etc...

## Milestones/Deliverables

Benthic Sled, 9/1/12, 85%completed  
Field Monitoring, 9/30/12, 0%completed  
Analyze Data, 1/30/13, 0%completed  
Draft Report to USACE, 3/30/13, 0%  
Final Report, 5/31/13, 0%

## RSM Nearshore Resources



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## Approach

### Benthic Surveys

Design, construct, and test a benthic video sled to enable quantification of macrofaunal abundances and distributions.

Conduct benthic surveys at control and dredge material deposition sites spanning the operations period.

Analysis will include extracting organism abundance data from digital video logs and testing for significance in a BACI statistical design.

### Crab Mortality and Motility

- Deploy acoustic receiver moorings at control and impact sites.
- Catch, tag, release and monitor crab movements during and after dredge material deposition events.
- Analysis of crab positions.

### Models, Tools, Databases, etc Used

Sediment Profile Imaging Photography (SPI)

Multi-beam survey data

Acoustic telemetry will be used to evaluate survival of Dungeness crabs

Benthic video sled to assess the presence of benthic species

### Benefits to O&M, FRM, Environmental

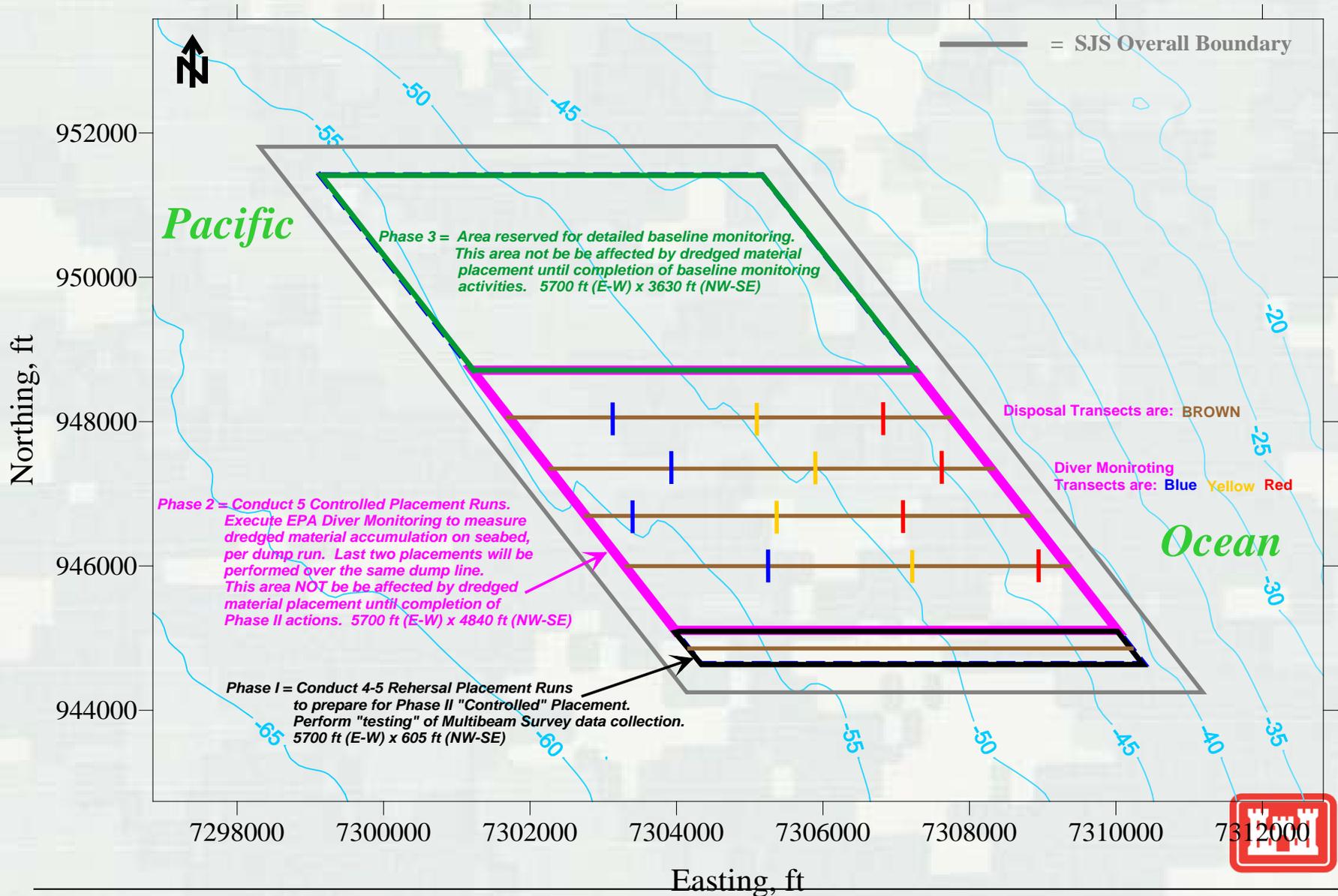
- Keep sediment in the littoral cell
- Slowing the erosion of Clatsop Spit
  - Maintain Jetty Foundation/Root
- Reduced costs to the dredging program
- Increased habitat opportunities
- Spreading disposal between a network of sites
- Reducing the likelihood of mounding in the SWS





# MCR South Jetty Site - SJS (CWA 404)

## Layout For Phased Implementation of Initial Site Utilization & Monitoring Plane



coordinates are SPCS Oregon, north, ft NAD83  
elevations are in ft, below MLLW, data = 2005-2007

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## Opportunities to take action:

move/optimize sediment  
Improve efficiencies

- Placement of additional material in future years.
- Monitoring the placement of material and how it moves through the site.
- Relationship between upcoming jetty work and placement in the site.

## Volume of Sediment Moved

300,000 CY planned in 2012  
300,000-500,000 CY annually

## Accomplishments

- Stakeholder Support
- Pooling of resources
- Clearances/Permitting Completed
  - Regulatory Framework
- Implementation of a decade of coordination

...

## Lessons Learned

- Environmental clearances
- Contracting v MIPR
- Building trust among stakeholders for new, lost cost monitoring
- Proactive Media Coordination



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