# Dredging the Approaches, Beneath and Around a Historical Working Boathouse and Small Boat Harbor at the California Maritime Academy

## *The Perils of Eelgrass!*

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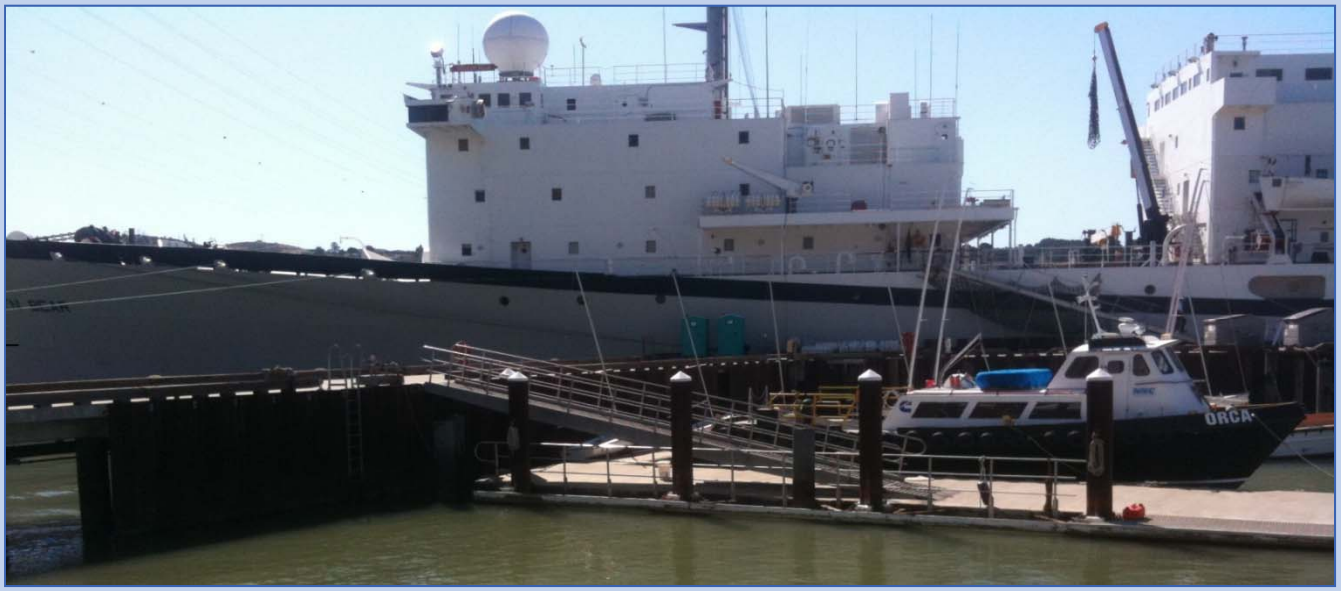
**Weston Solutions, Inc.**




WEDA Pacific Chapter Annual Meeting
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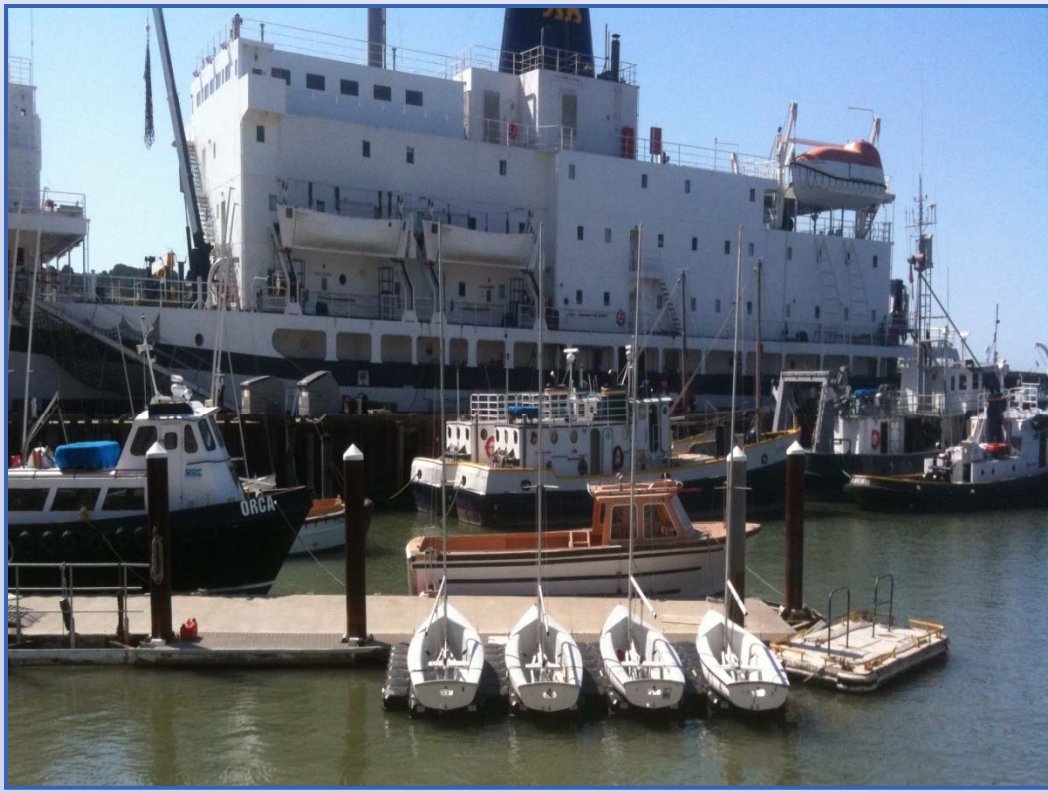
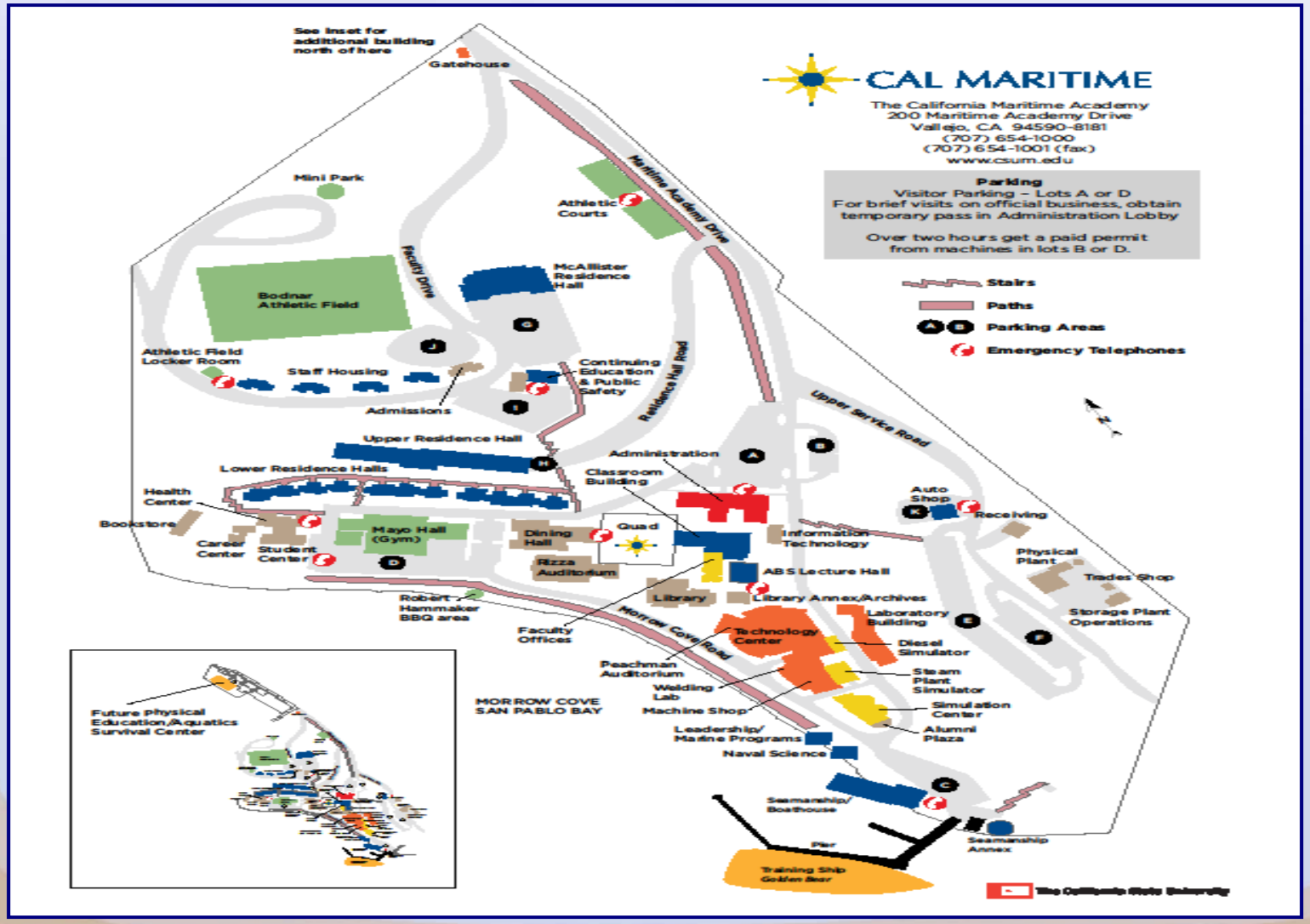
# Overview

- Introduction
- Scope of Work
- Project Role
- Challenges
- Lessons Learned



# Project Location



# California Maritime Academy

# Project Description

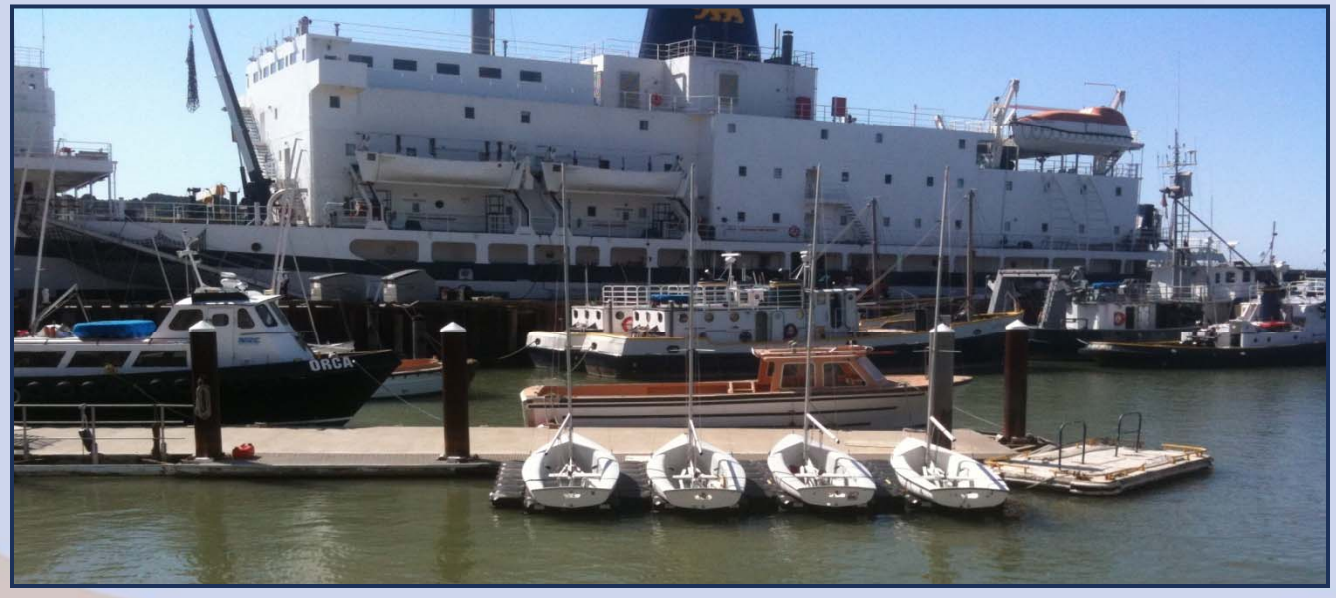
- Dredge 11K cubic yards (cys) of material suitable for unconfined aquatic disposal (SUAD)
- Dredge 2K cys of material unsuitable for unconfined aquatic disposal (NUAD)
  - Transport to re-handling facility,
  - Dewatering, and
  - Haul to local landfill for daily cover
- Protection of both existing and transplanted eelgrass beds
- Remote turbidity monitoring required for both contaminated sediments and eelgrass protection

# Key Project Management Features

- Integrated construction management
- Environmental compliance
- Regulatory Approvals / Reports

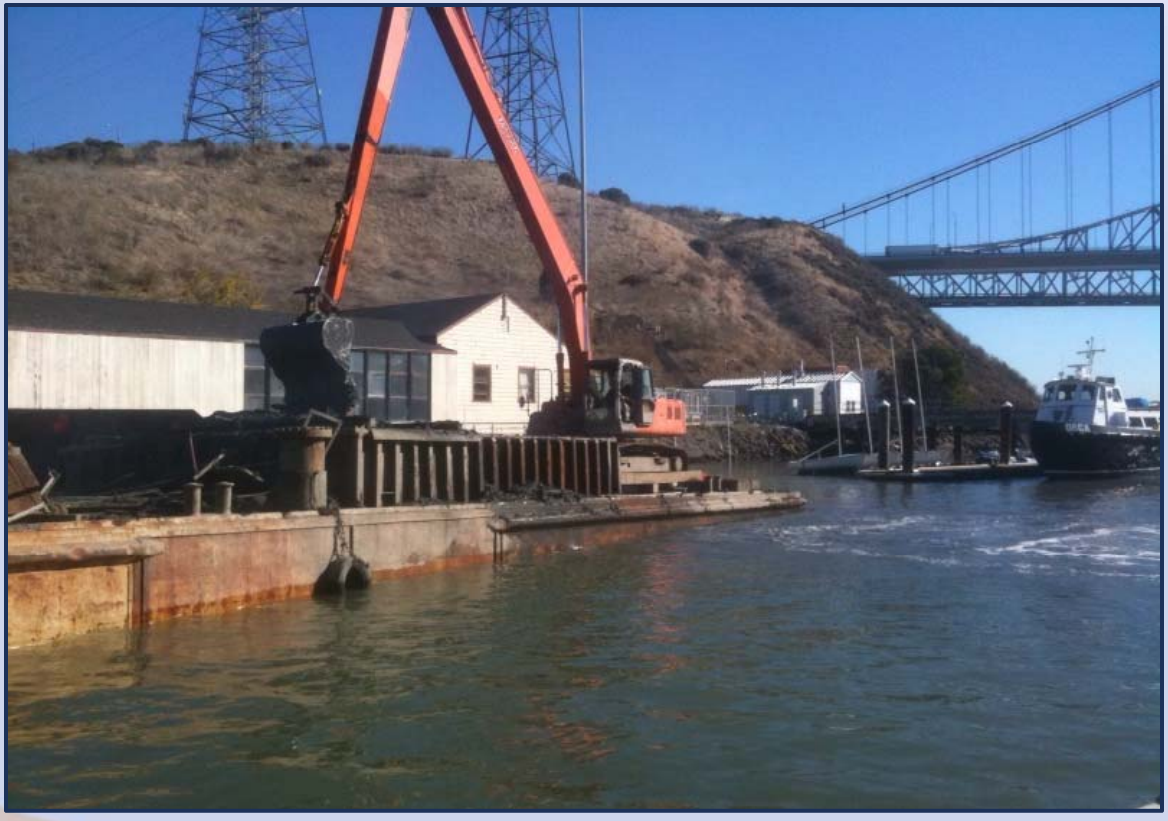
# Site Specific Project Challenges

- Dredging in a confined area
- Dredging below a historical boathouse
- Dredging during ongoing academic classes and operations taking place in the dredging area



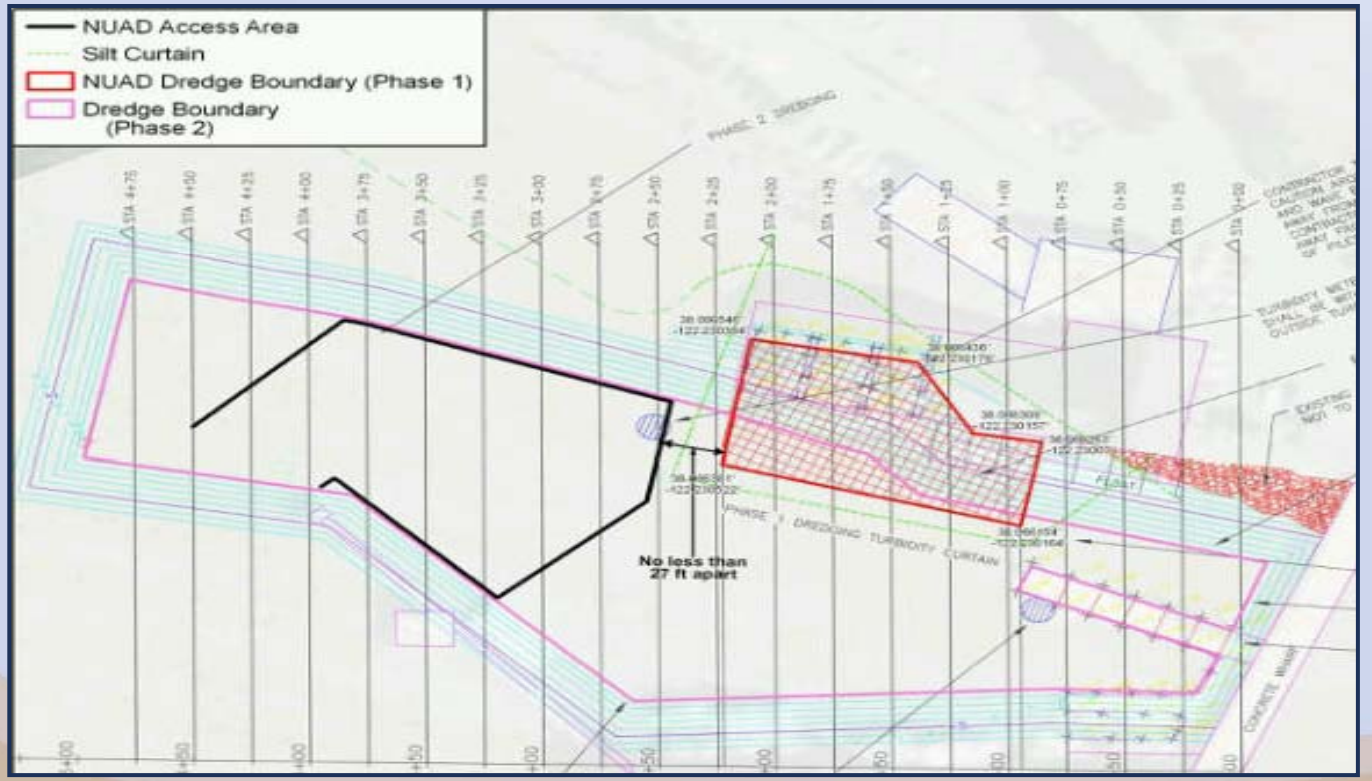
# Additional Site Specific Project Challenge

- Unexpected sub-aquatic obstructions



# Regulatory (i.e. fun) Challenges

- Sequencing to comply with Water Quality Certification requirements for NUAD material
- Silt curtain management



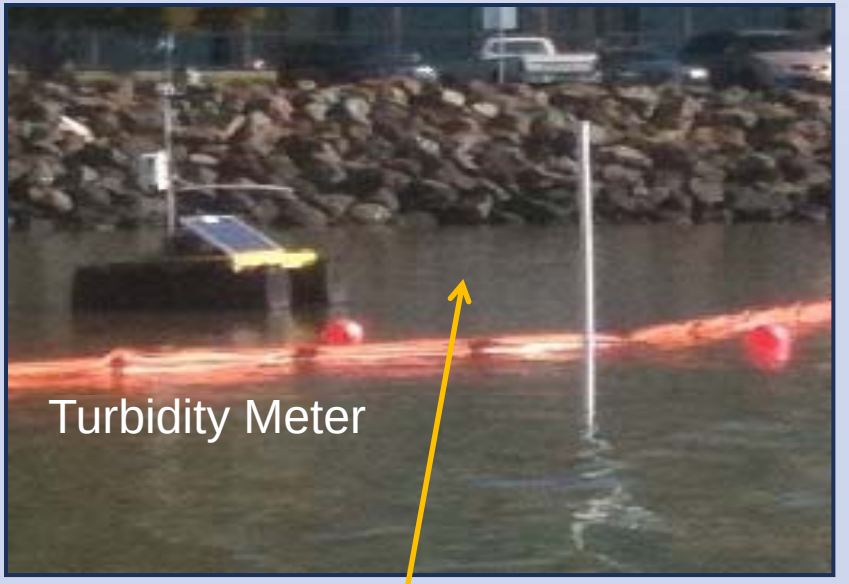

WU1

WU2

# More Regulatory Challenges

- Minimization of turbidity necessary to avoid work stoppage
- Compliance with two different turbidity criteria to protect against both contaminant mobilization and eel grass protection

NUAD Material Confinement




Eel Grass Bed Protection

# Even More Regulatory Challenges

- Completion within environmental window required 24-hour dredging in a *really* confined area
- Guess where cadets sleep when they are not in class?

# Management of NUAD Material

- Transport to re-handling area 25 miles away from dredge site

# Management of NUAD Material

- Dewatering operations

# Management of NUAD Material

- Trucking to a Landfill for Daily Fill & Cover

# Lessons Learned

- Comprehensive preconstruction conference
  - Ensures contractor understanding of unique environmental constraints
  - Agreement on operations and reporting schedule
- Request variances early
- Logistics Details
  - Staging
  - Parking
  - Fueling, etc

# Lessons Learned (cont'd)

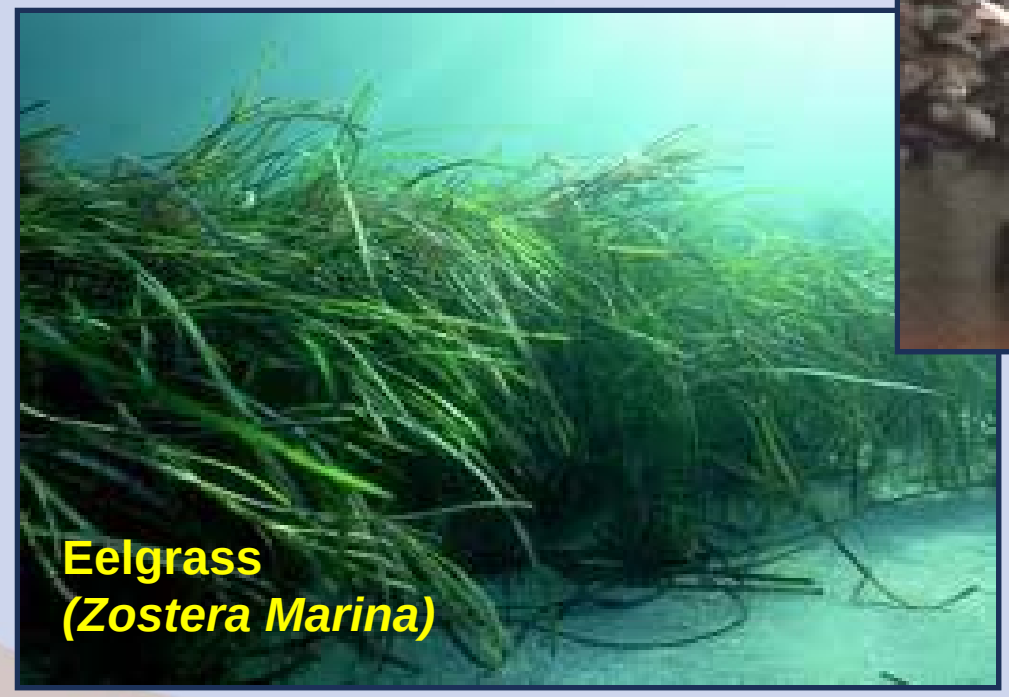
- Properly sized / configured equipment

# Lessons Learned (cont'd)

- Plan for inclement weather

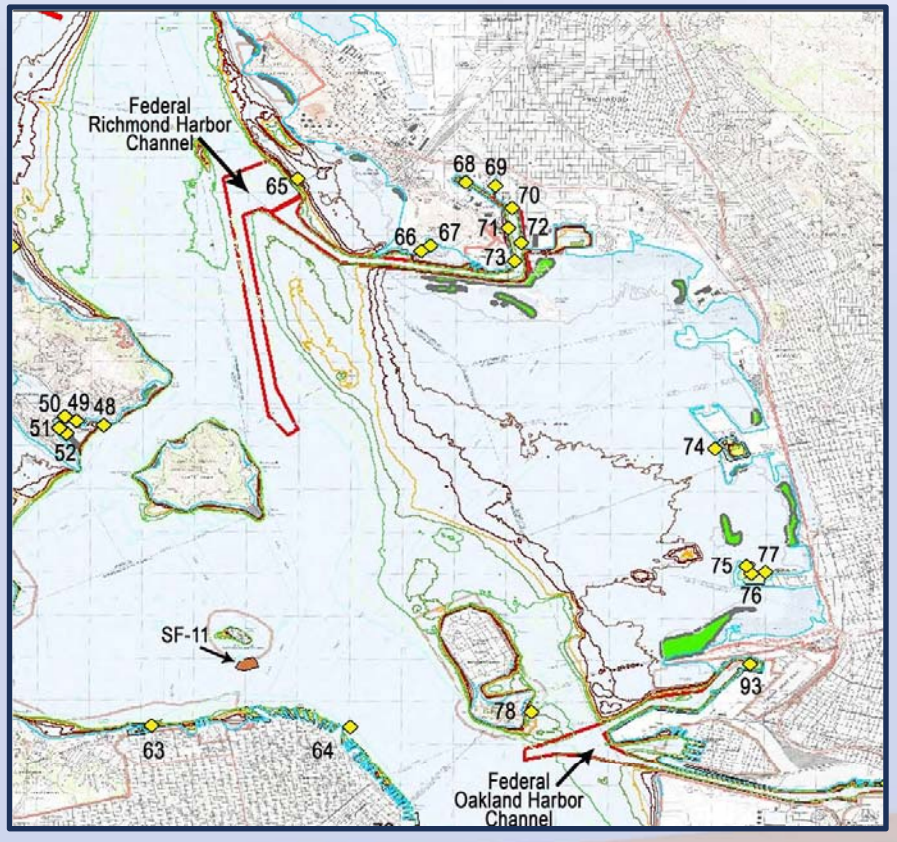
# Lessons Learned (cont'd)

- Raw monitoring data analysis
- Real-time turbidity telemetry
- Detailed Communications Plan



# Significance for Future Projects

- Essential Fish Habitat (EFH) conservation measures - eel grass
  - Mitigation plans (w/in 45m)
  - BMPs (w/in 250m)
- NUAD Classifications
  - Low EFH thresholds
  - Low TMDL thresholds
  - Bay eroding to legacy contamination layers



# Questions?