San Francisco Bay
Long Term Management Strategy

12-Year Review Process

Costs and Contracting Meeting

September 11, 2012

12-Year Review Process Overview

Includes four stakeholder meetings:

- ☑ First meeting: LTMS to date
- ☑ Second meeting: Beneficial reuse
- ☐ Third meeting: Costs and contracting
- ☐ Fourth meeting: Policy and strategy

Meeting Purpose

- Share relevant information on costs and contracting
- Identify opportunities for the dredging community to reduce costs and improve contracting processes

USACE's VE Study Purpose and Need

- Evaluate current USACE contracting strategies and practices to invite greater competition
- Identify opportunities for advanced maintenance, knockdowns, etc.
- Maximize the use of upland sites where appropriate and cost effective to meet LTMS goals and environmental considerations

Constraints and Drivers Considered

- Environmental constraints & regulations
  - Environmental work windows, essential fish habitat, and sediment testing
- Environmental goals
  - Maximize beneficial reuse, reduce in-Bay placement to <40% through 2012 and 20% after 2012
- Federal budget and other uncertainties
- Contracting restrictions and award timing

VE Study Recommendations Relevant to All Projects

- Have permits in-hand prior to contracting, and include them in the solicitation package
- Include an array of placement sites in permits and contracts
- Develop multi-year permits
- Consolidate similar projects for contracts

VE Study Recommendations Relevant to All Projects

- Develop a separate beneficial reuse contract
- Begin dredging as soon as the environmental work window opens
- Dredge more volume, less frequently (i.e., dredge the whole project in one episode vs. multiple small episodes)
- Use knockdowns or advanced maintenance dredging where appropriate

Questions?

Booster pumps for hydraulic off-loading of dredged material at the Hamilton Wetland Restoration Project

Implementing Contracting Efficiencies

- More dredge for your dollar!
- Determine dredging needs early
- Pre-solicitation coordination with the dredging industry
- Dredged material management planning
  - Site availability
  - Site capacities
  - Access issues
  - Distance

Implementing Contracting Efficiencies (Continued)

- Availability, feasibility, and practicability of alternatives
- Access and distance
- Match site capacity with dredge volumes
- Other issues (handling/re-handling, monitoring, disposition, etc.)

Desired Outcomes of Contracting Efficiencies

- Reduce mobilization/demobilization costs
- Economies of scale
- Dredged material delivery consistency (quality and quantity)
- Understand equipment limitations
- More dredge for your dollar!

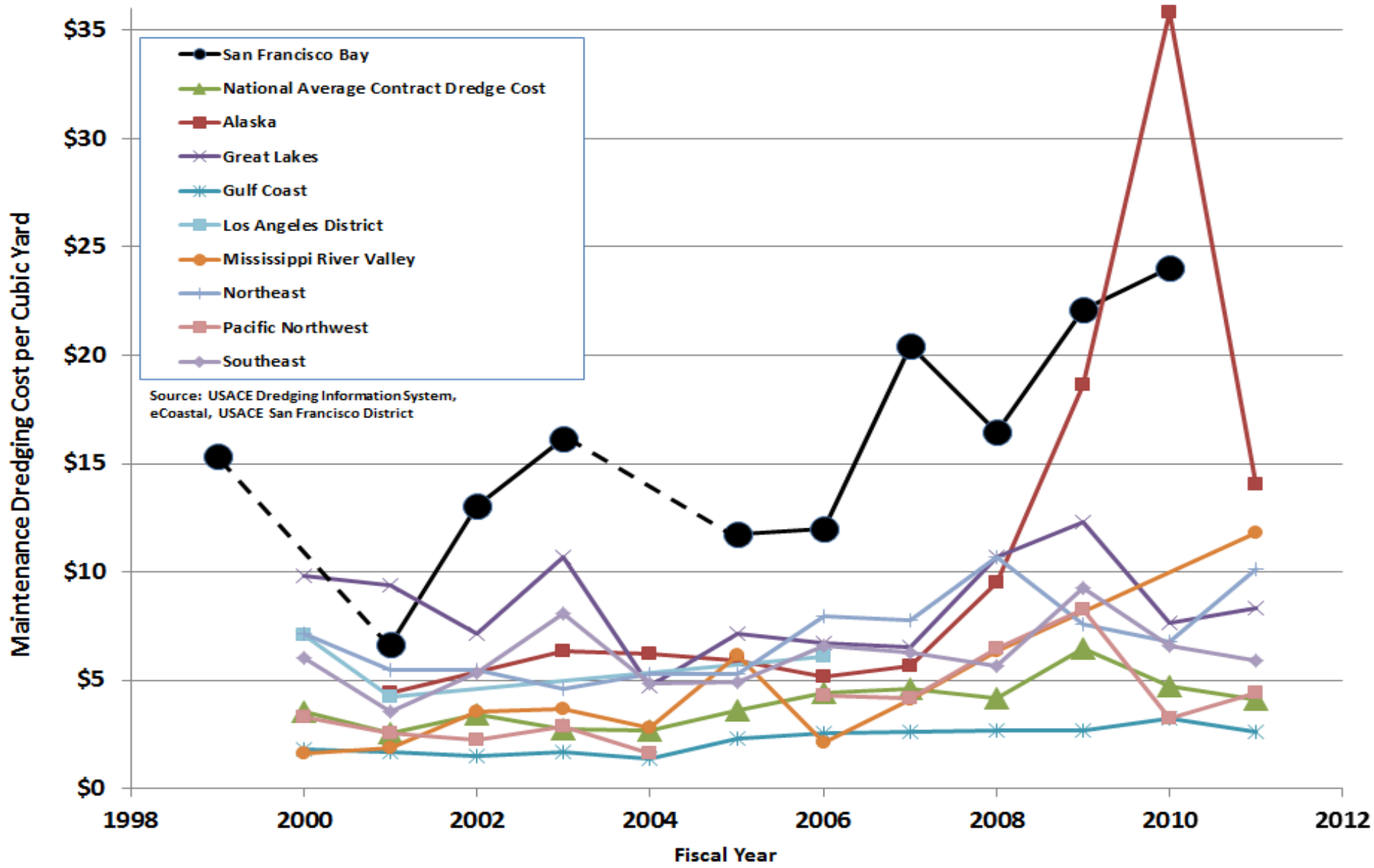
Discussion

Liberty Off-loader at Montezuma Wetlands Restoration Project

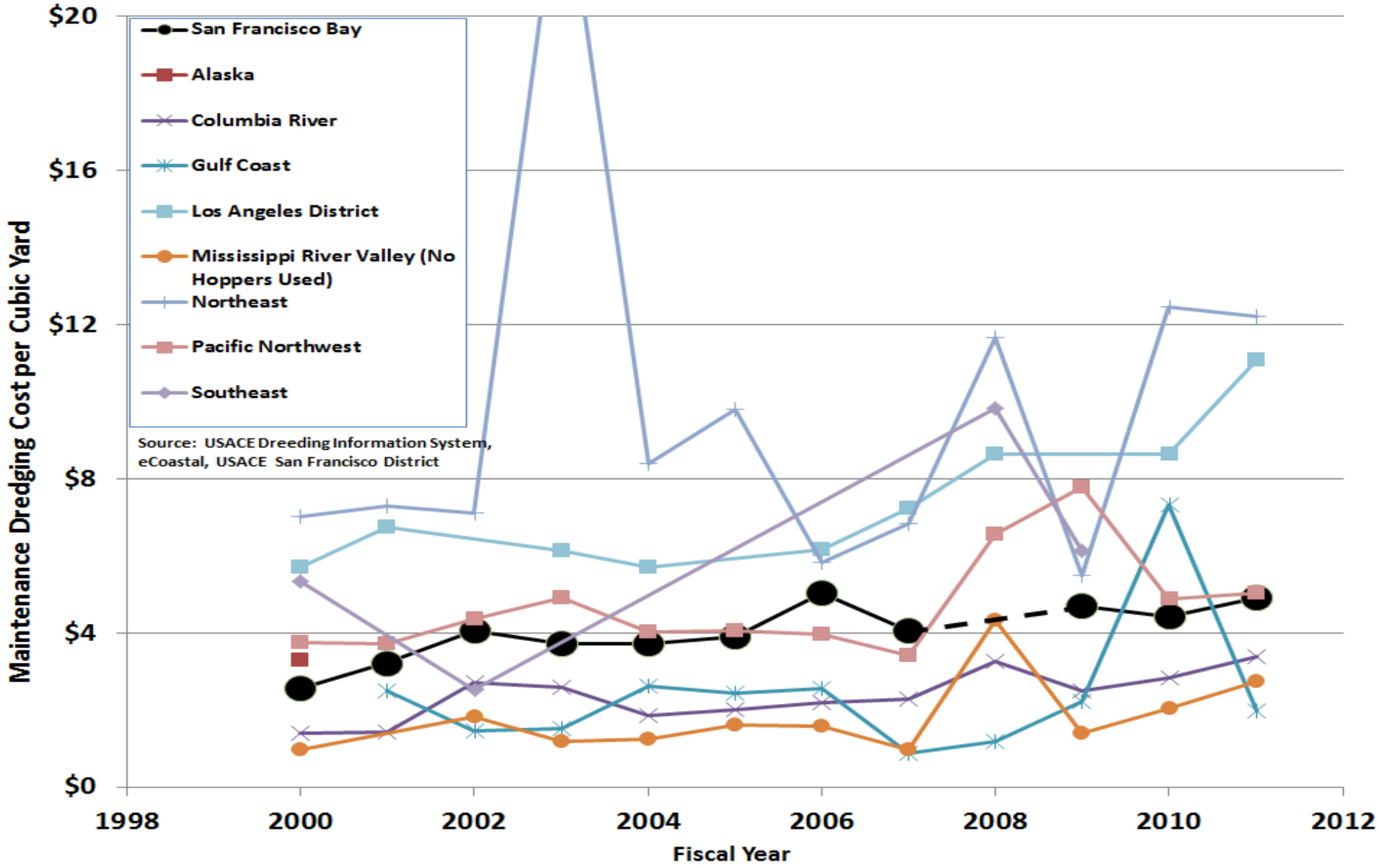
Regional Dredging Cost Comparison

View from USACE's Essayons, a trailing suction hopper dredge in the San Francisco Bay

USACE-Contract Dredging Costs: San Francisco Bay vs. Other Regions



Government Hopper Dredging Costs: San Francisco Bay vs. Other Regions



Hamilton Wetlands Restoration Project

Component	Cost	Cost/CY	Percentage
Site Construction			
Design and PED	$34.9 m	$6.20	14.7
Construction Management	$3.3 m	$0.59	1.4
LERRDs and Relocation	$2.6 m	$0.46	1.1
Site Shaping, Culverts, and Nursery	$26.7 m	$4.74	11.2
Planting, Surveys, and Monitoring	$2.0 m	$0.36	0.8
Other	$1.3 m	$0.23	0.5
Off-loading/Placement Increment (HWRP Share)	$24.9 m	$4.42	10.5
Dredging/Off-loading (Paid by 50-Foot Project and USACE O&M Projects)			
50-Ft Project (3.46 mcy)	$99.3 m	$28.70	41.7
Oakland Harbor O&M (1.02 mcy)	$23.2 m	$22.75	9.7
Richmond Harbor O&M (0.75 mcy)	$12.4 m	$16.53	5.2
Pinole + RWC O&M (0.40 mcy)	$7.6 m	$19.00	3.2
Total Cost to Construct HWRP	**$238.2 m**	**$42.31**	**100**

* Table does not include 0.34 mcy of non-USACE project material placed at HWRP

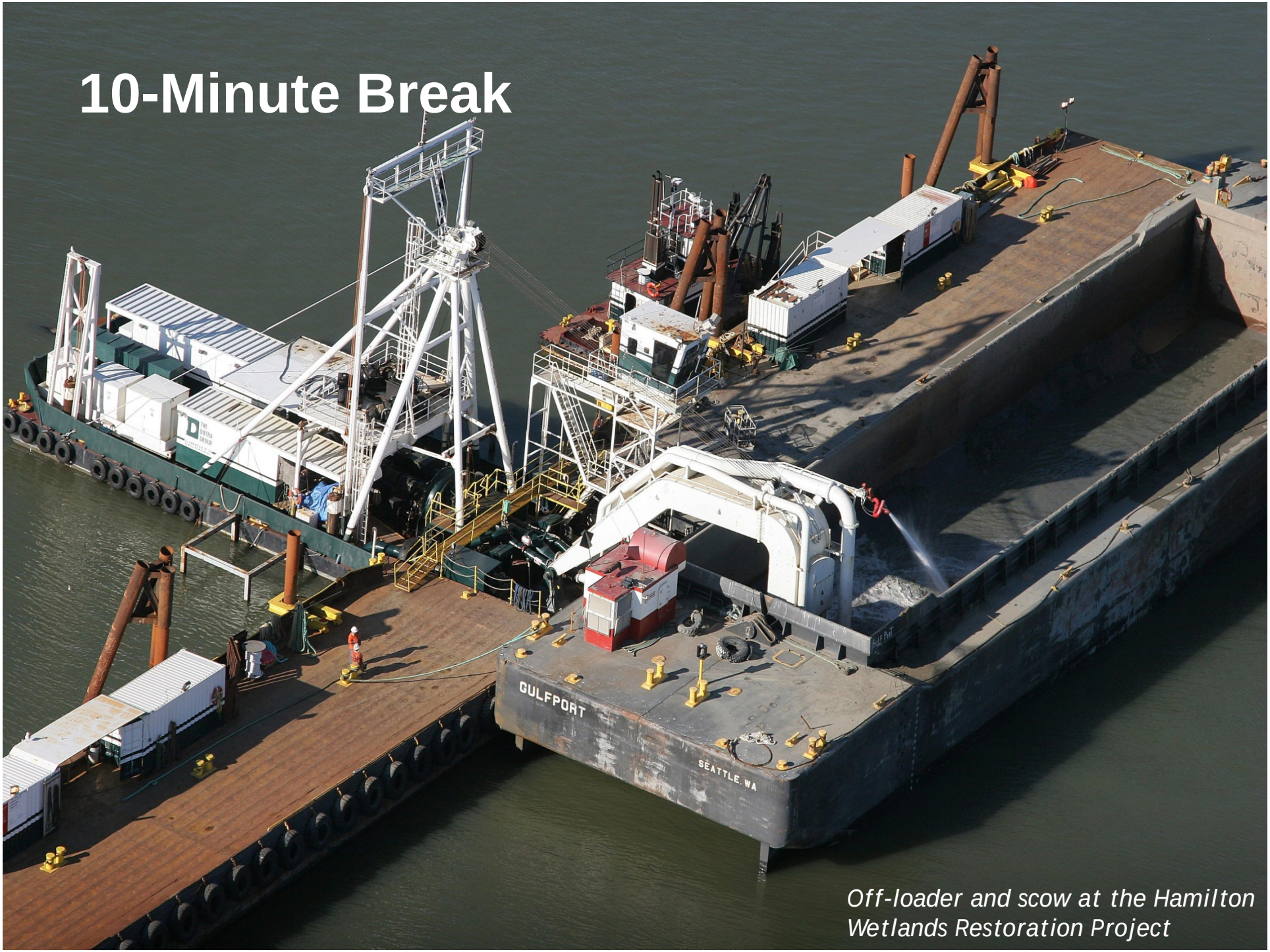
- Overall dredging and placement cost: $29.73/cy
- Overall project cost: $42.31/cy

Middle Harbor Enhancement Area

Component	Cost	Cost/CY	Percentage
Design	$3.2 m	$0.55	4.8
S&A and E&D	$6.6 m	$1.14	9.9
Site Prep	$9.6 m	$1.66	14.4
Dredging and Placement	$33.1 m	$5.70	49.5
Initial Grading	$4.8 m	$0.82	7.1
Final Site Work	$9.5 m	$1.64	14.3
Total Cost to Construct MHEA	**$66.8 m**	**$11.52**	**100**

- Overall dredging and placement cost: $5.70/cy
- Overall project cost: $11.52/cy

10-Minute Break



Off-loader and scow at the Hamilton Wetlands Restoration Project

Stakeholder Perspectives on Costs and Contracting

Dredged material placement at the Hamilton Wetlands Restoration Project

Discussion

Dredging at the Port of Oakland for placement at the Hamilton Wetlands Restoration Project

Next Steps

- Next stakeholder meeting: November 20
  - Topic: Policy and strategy
  - Read-ahead materials provided in advance
- Finalize 12-Year Review Report — early 2013

Booster pumps on the off-loader at the Hamilton Wetland Restoration Project

12-Year Review Process Summary Report

Will include:

- Read-ahead materials
- Issues raised by stakeholders
- Additional analysis
- Recommendations for the future

Thank You!

Montezuma Wetlands Restoration Project

Valero Refining Company Dredging Costs

Permittee	Valero Refining Company
Typical Dredging Frequency	4 to 5 times per year
Typical Dredging Method	Clamshell and knock-down
Typical Volume Dredged	10,000-20,000 cy per event
Disposal/Placement Site(s)	MWRP, HWRP, Winter Island, SF-9, SF-11, SF-DODS
Pre-Construction	Approximately $80,000 for Tier III sediment testing every three years
Mobilization/ Demobilization	Included in dredging price
Dredging (Includes dredging, transport, tipping fees, and mobilization/demobilization)	$13/cy - $27/cy plus stand-by/demurrage ($0-$100,000 per event)
Placement	Included in dredging price
Internal costs	Report preparation (including surveys, volume calculations, pre- and post- dredge event reports to DMMO, dredge operation plan): $10,000 per event
Overall Costs	• One 15,000 cy event: $200,000-$500,000 • Annually (4 events/60,000 cy): $820,000-$1,600,000
Reported Cost “Driver(s)”	• Distance to SF-DODS and double-handling costs for upland sites • Out-of-Bay disposal increases duration of dredge event
What would you change?	• No turbidity study requirement for knockdowns • Need more out-of-Bay options • Consider in-Bay placement of clean sediment at dispersive locations as “beneficial reuse” relative to sediment deficit issues
Other comments?	• DMMO permit process has improved significantly • High cost of out-of-Bay placement is not justified in situations where in-Bay placement indicates no measurable negative environmental effects

City of Martinez Dredging Costs

Permittee	City of Martinez
Typical Dredging Frequency	3 to 4 years
Typical Dredging Method	Hydraulic suction dredge
Typical Volume Dredged	22,000-25,000 cy
Disposal/Placement Site(s)	City-owned upland disposal pond
Pre-Construction	Permitting and design: $235,000; pre- and post-dredge surveys: $15,000
Mobilization/ Demobilization	$75,000
Dredging and Placement	$175,000 (contract cost: $8/cy; total project cost: $22/cy)
Overall Costs	Total project budget: $500,000
Reported Cost "Driver(s)"	Permitting, testing and mitigation fees have become prohibitively expensive and permits take a long time to process
What would you change?	Since the work falls under a Nationwide permit from USACE and it seems the agencies want to promote upland disposal, the City would like to see the permits issued "over-the counter" without extensive studies each episode.
Other comments?	• The City has performed regular maintenance dredging utilizing our upland disposal ponds since the marina was constructed in the early 1960s. • Permit conditions have been very similar, with frequently only the date and dredge amounts changing. • A very limited number of dredging contractors bid our projects. • Maintenance of the disposal ponds between dredging episodes has become an issue because of the possibility habitat developing. • Finding a home (disposal site) for the dredged sediment from the settling ponds continues to be an issue.