



# Where Do We Put This Stuff?



## *Figuring Out New Sediment Disposal Options for the Los Angeles Region*

Presented by  
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CMANC  
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# Southern California Sediment Management

- Unique set of challenges from a unique environment
  - Highly urbanized
  - Heavily protected marine environment
  - Low contaminant standards
  - Global trade impacts







- Economic pressure to improve port infrastructure and remain competitive
- Capital programs to accommodate larger vessels
- Maintenance for navigational safety
- Pressure to clean up contaminated sediments

# New Challenges

- Sediment TMDLs
- Fish tissue linkage
- Z-layer confirmation
- Ultra-low detection limits
- Emerging contaminants of concern



## Los Angeles Regional Contaminated Sediments Task Force:

### Long-Term Management Strategy



California Coastal Commission

Los Angeles Regional Water Quality Control Board

U.S. Environmental Protection Agency, Region 9

U.S. Army Corps of Engineers, Los Angeles District

Los Angeles County Department of Beaches and Harbors

Southern California Coastal Water Research Project

California Department of Fish & Game

NOAA Fisheries

Port of Los Angeles

Port of Long Beach

City of Long Beach

Heal the Bay

# Contaminated Sediments Task Force: Long-term Sediment Management Plan

- Consensus that 100% beneficial reuse of contaminated sediments is a reasonable long-term goal
- Aquatic disposal of either clean or contaminated sediments are considered only as a last resort, after attempts have been made to beneficially reuse or treat the material

# Regional Management Alternatives: Clean Sediment

Management Type	Clean Sediment
<i>Beneficial Use</i>	Port fill Shallow water habitat Beach nourishment Capping material
<i>Temporary Storage</i>	Upland CDF Aquatic CDF
<i>Treatment</i>	Amendment for fines
<i>Disposal</i>	Ocean

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	<b>Beach nourishment</b>
	Capping material
<i>Temporary Storage</i>	Upland CDF Aquatic CDF
<i>Treatment</i>	Amendment for fines
<i>Disposal</i>	Ocean

Grain size

Example:  
North  
Entrance of  
MdR to  
Dockweiler/  
Redondo  
Beach

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<i>Temporary Storage</i>	Upland CDF - \$\$\$, space, mgmt Aquatic CDF – Pier 400, WASSS	
<i>Treatment</i>	Amendment for fines	Increases volume, not marketable
<i>Disposal</i>	Ocean	Discouraged

# Temporary Storage



# Regional Management Alternatives: Contaminated Sediments

Management Type	Contaminated Sediments
<i>Beneficial Use</i>	Bottom layers of Port fill Landfill daily cover CAD: ecosystem restoration Bottom layers of SWH
<i>Temporary Storage</i>	Upland CDF
<i>Treatment</i>	Cement stabilization Sediment blending Sand separation
<i>Disposal</i>	Upland CDF CAD Upland landfill



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Salt leachate  
and demand  
limited locally

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Liability,  
regulatory  
boundaries,  
variable waste  
stream

# Regional Management Alternatives: Contaminated Sediments

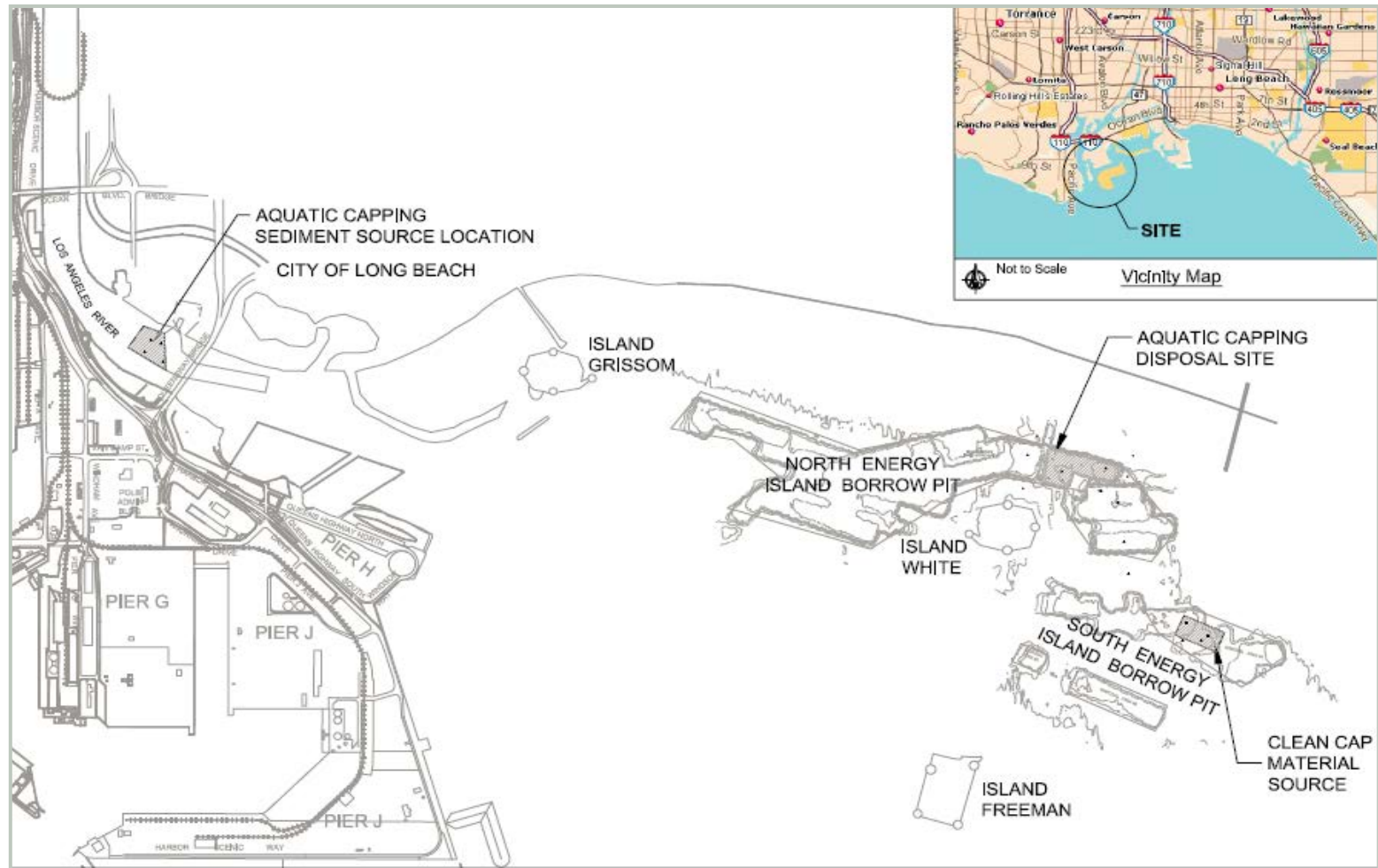
Management Type	Contaminated Sediments	
<i>Beneficial Use</i>	Bottom layers of Port fill	Salt leachate and demand limited locally
	Landfill daily cover	
	CAD: ecosystem restoration	
	Bottom layers of SWH	
<i>Temporary Storage</i>	Upland CDF	Liability, regulatory boundaries, variable waste stream
<i>Treatment</i>	Cement stabilization	
	Sediment blending	
	Sand separation	
<i>Disposal</i>	Upland CDF	\$\$\$\$, transport, salt leachate limited locally
	CAD	
	Upland landfill	

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	Sediment blending	
	Sand separation	
<i>Disposal</i>	Upland CDF- \$\$\$, space, mgmt	\$\$\$, transport, salt leachate limited locally
	CAD – Need agency support	
	Upland landfill	



# Confined Aquatic Disposal: Ecosystem Restoration



# Confined Aquatic Disposal

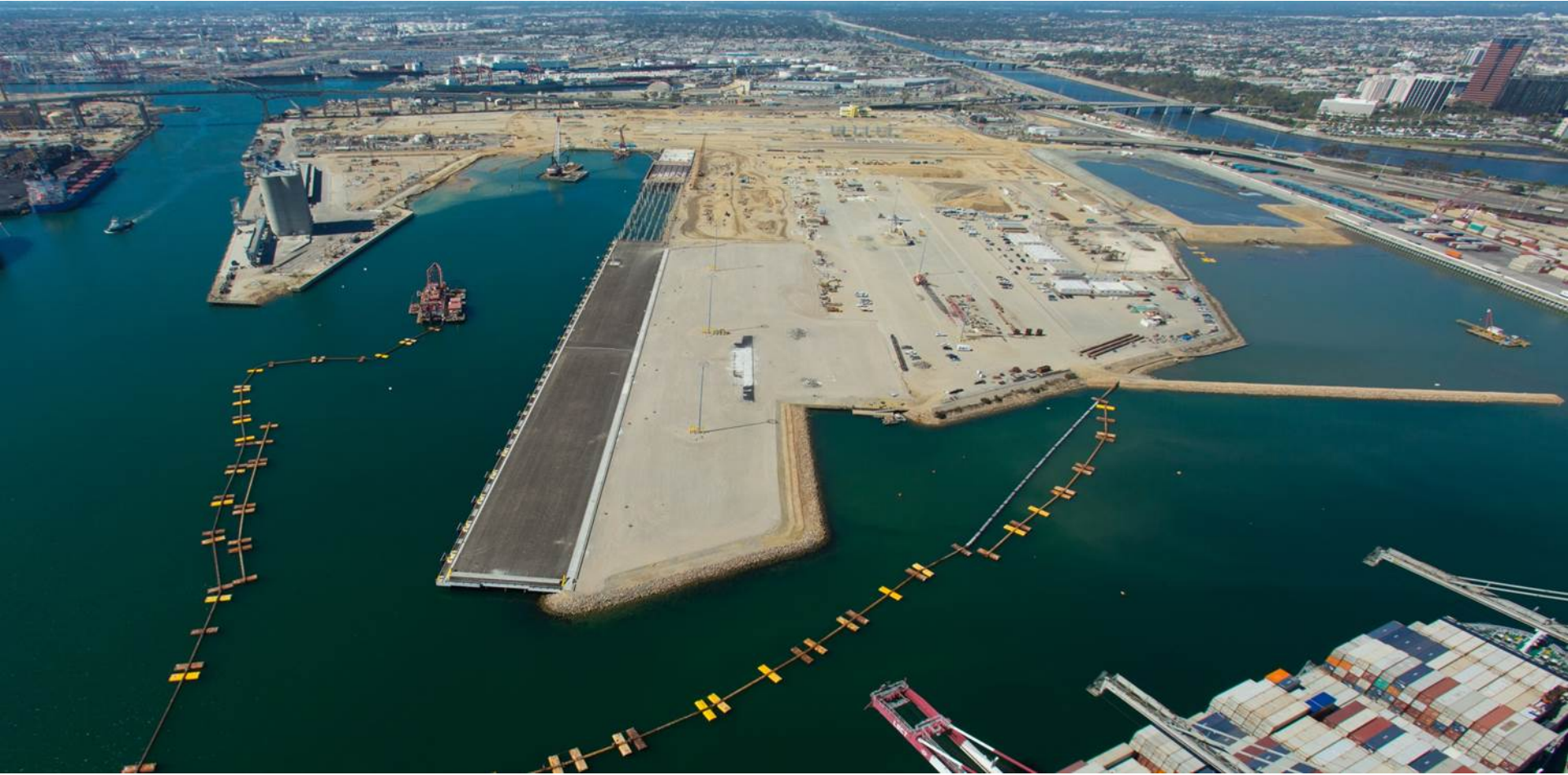


Sediment Management

# Re-engaging the CSTF



# Regional Need for Confined Disposal



Port of Long Beach received requests to place 4.5 million cy from region



# Last 15 years of Sediment Management in LA



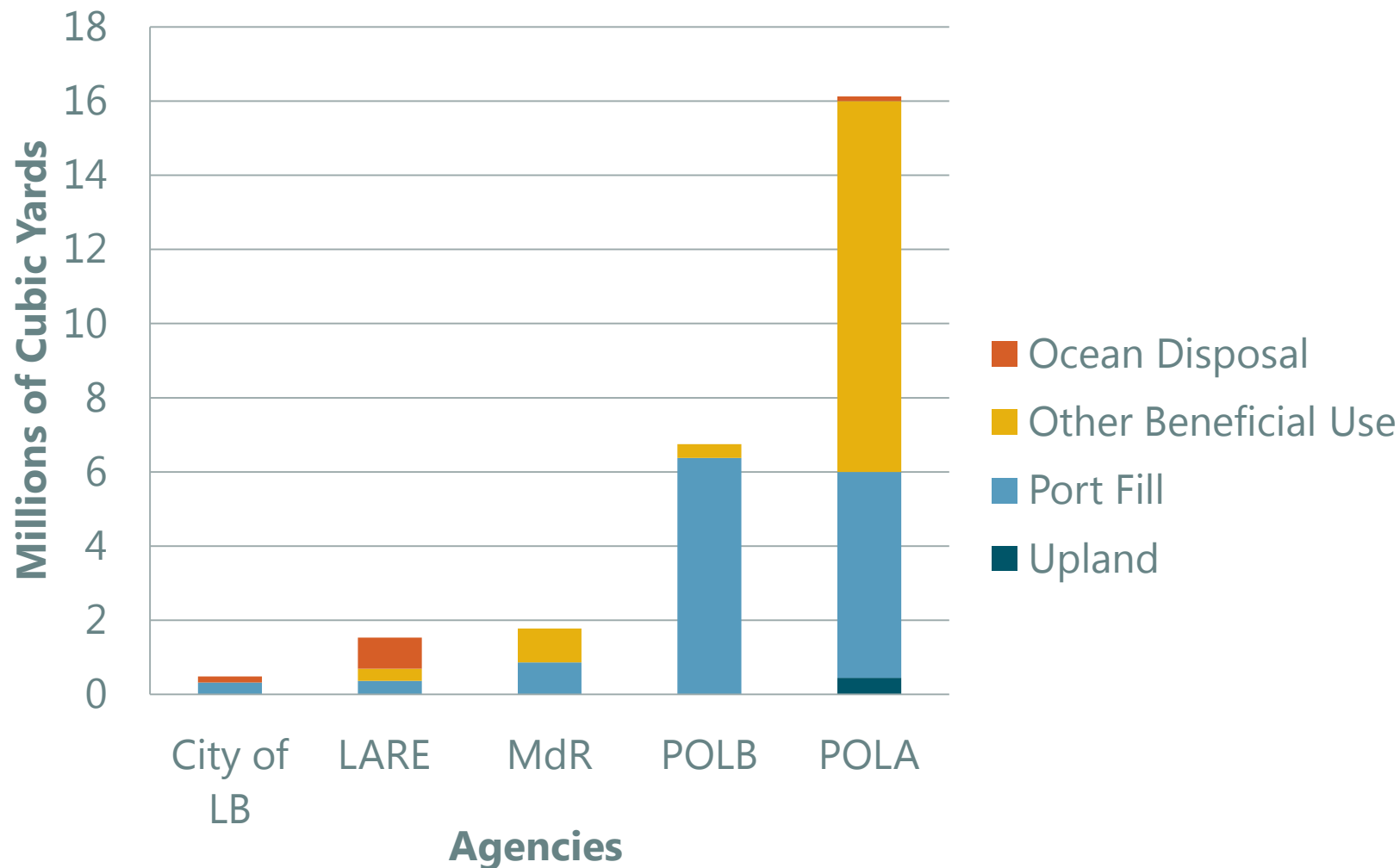
- Focused on projects greater than 50,000 cy
- Personal communications, permit reviews, and CSTF summaries

# Survey Participants

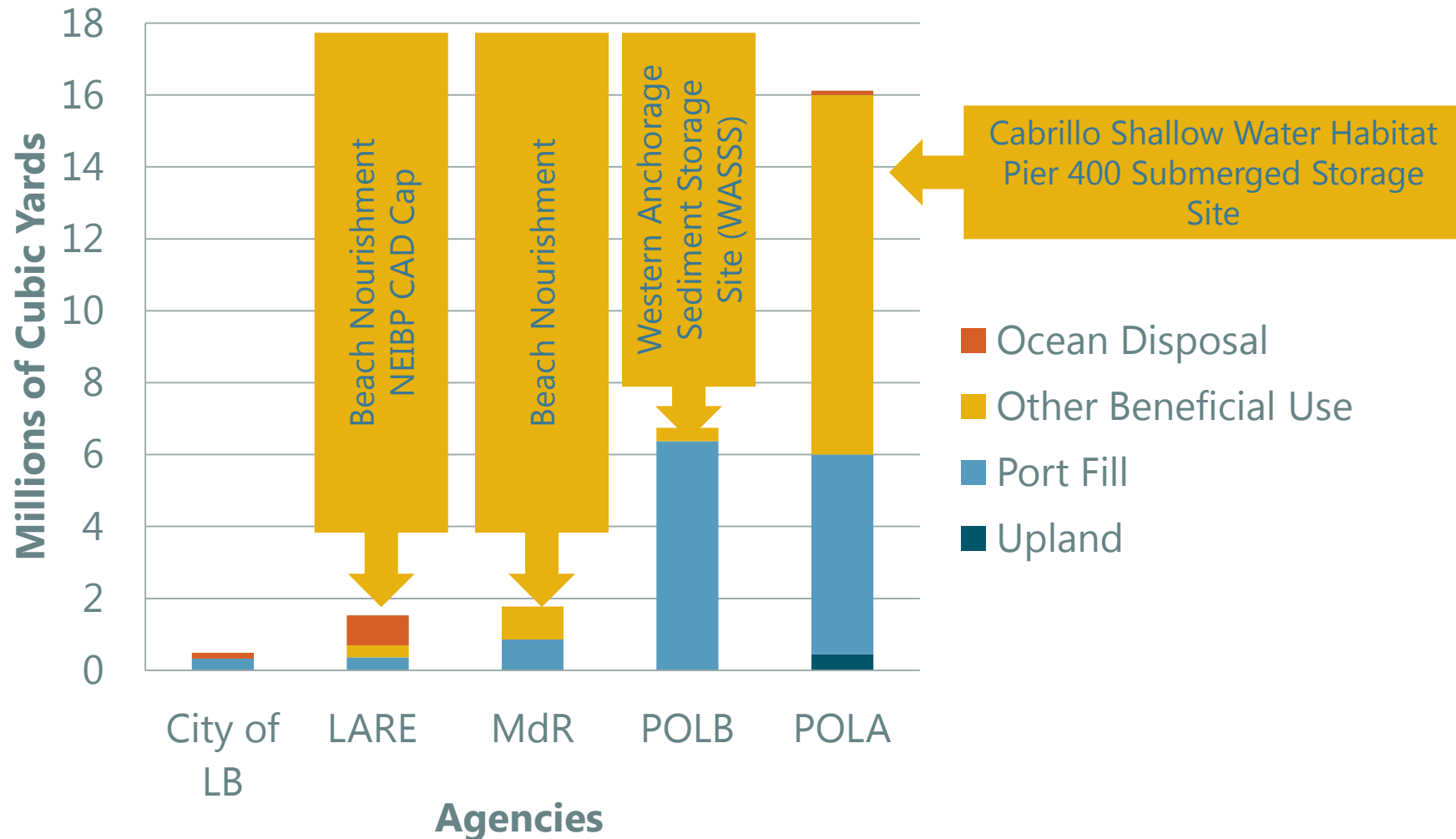
- Agencies in Los Angeles
  - Port of Long Beach
  - Port of Los Angeles
  - Los Angeles County Beaches and Harbor
  - City of Long Beach
- Federal Program – USACE
  - LA River Estuary
  - MdR Entrance Channel
  - Ports federal channels



# Dredge Disposal in Los Angeles Region 2000 to 2015



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# Sediment Management Summary: Contaminated and Clean

- 26,500,000 cy dredged
- 95% beneficially reused
- 4% ocean disposal
- 1% upland disposal





- 99% of regional contaminated sediments waits for port fills
- No large fills are permitted or planned at this time



# Greater Challenges for Managing Sediment

- Limited options for sediment management
  - Resistance to ocean disposal
  - Salt content, transportation, and costs limit landfill disposal
  - Limited options to manage contaminated sediments (no planned fills)
- Regulatory pressure to improve sediment quality
- Regulatory pressure for Ports to provide sediment management solutions for region

# Long-term Management Solutions

- Maintain ocean disposal site as a viable sediment management option
- Preserve capacity for contaminated sediments in fills
- Promote designation of shallow water habitat areas
- Align CAD development with restoration opportunities to give the financial means and regulatory acceptance for long-term management planning



## Questions

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- Port of Long Beach
- USACE – LA District