

DREDGING & BENEFICIAL REUSE IN THE SAN FRANCISCO BAY AREA

AN LTMS PERSPECTIVE

Briefing for the Bay Fill Policies Working Group,

**San Francisco Bay Conservation and
Development Commission**

March 17, 2016

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EPA Region 9

Dredging and Sediment Management Team



BRIEFING OVERVIEW

- ▶ **Dredging:** Needs, challenges, opportunities
 - ▶ **Key Federal Policies:** EPA's and USACE's Roles
 - ▶ **The LTMS Program:** Goals, Successes, Future
 - ▶ **Ocean Disposal:** A necessary waste?
 - ▶ **In-Bay Placement:** When would it be “beneficial”?
 - ▶ **So, what is Fill?:** Managing sediment as a resource
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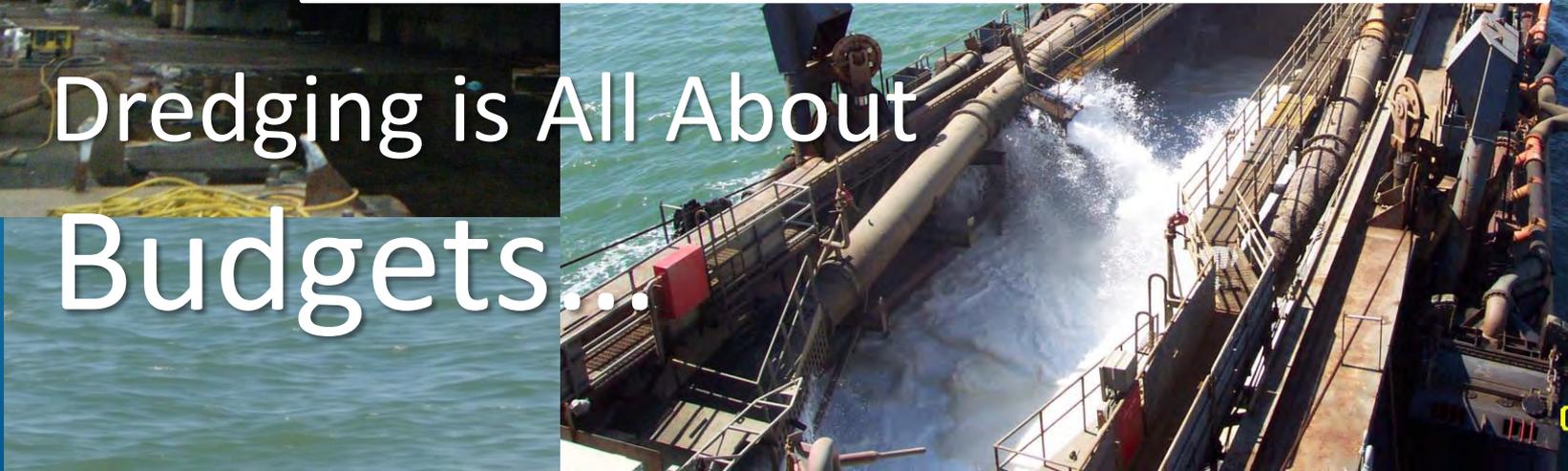
Dredging is All About Logistics...



Photos: Brian Ross, USEPA



And even more
importantly, WHOSE
budget!



Dredging is All About
Budgets...

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Environmental Policies Are Often Secondary



Dredging turbidity



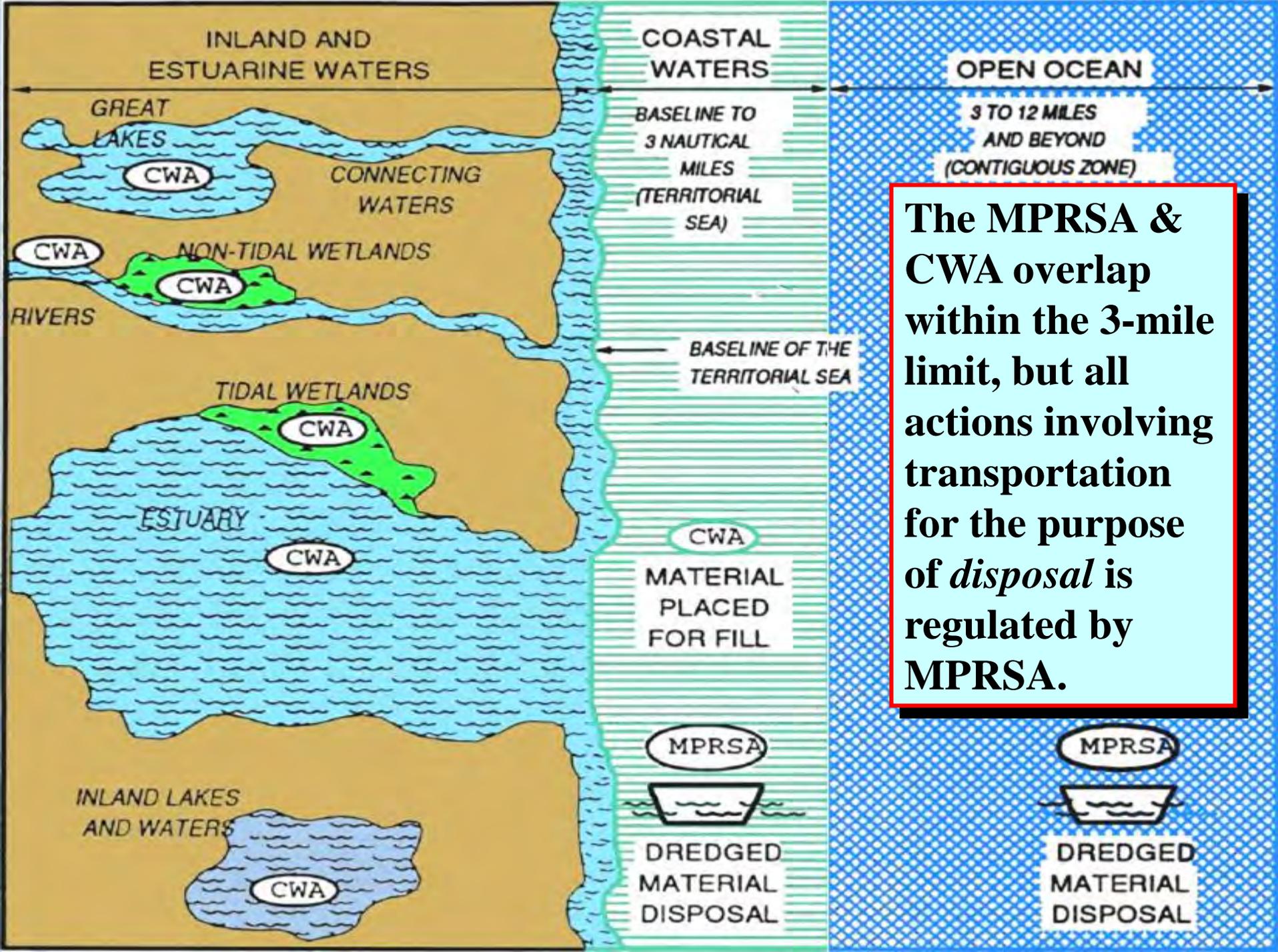
Entrainment



Disposal Turbidity

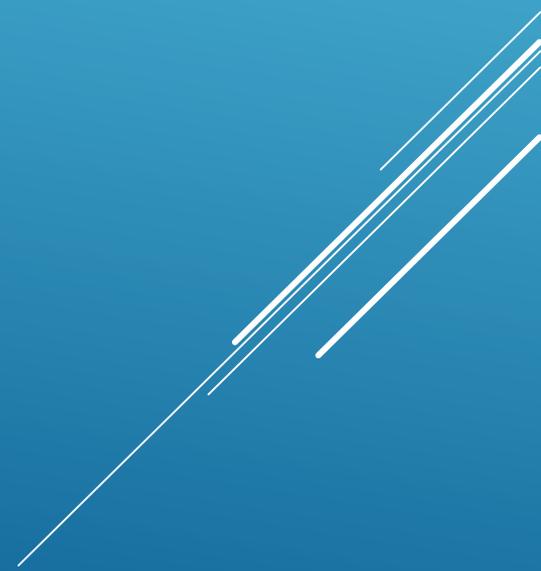
KEY FEDERAL ROLES

- ▶ **USACE Role:** Permitting Dredging
 - ▶ RHA 10 (Dredging), CWA 404 (Bay disposal), MPRSA 102 (Ocean)
 - ▶ Incl. consulting with resource agencies
- ▶ **USACE Role:** Conducting Dredging
 - ▶ No “permits” but must comply with standards
- ▶ **EPA Role:** CWA (404) Permit Guidelines
 - ▶ Weaker “teeth” on individual projects
- ▶ **EPA Role:** Ocean Disposal Sites
 - ▶ Strong “teeth”
 - ▶ EPA approval required for ocean disposal
 - ▶ Enforcement (penalty) authority



The MPRSA & CWA overlap within the 3-mile limit, but all actions involving transportation for the purpose of *disposal* is regulated by MPRSA.

The LTMS Program



Origin of the LTMS

The San Francisco Estuary Project's CCMP

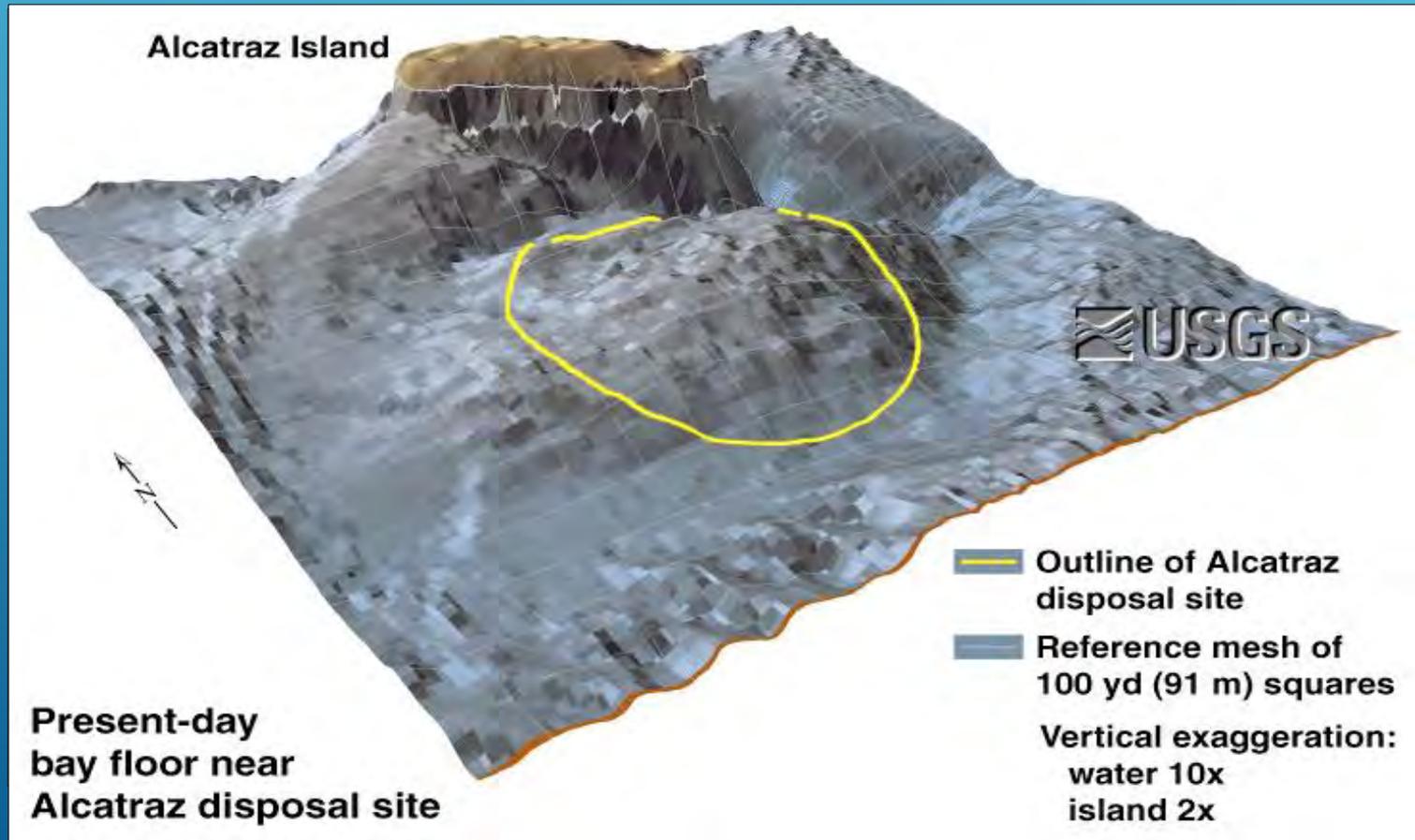
- ▶ Five Key Challenges Facing the Estuary:
 - ▶ Decline of biological resources (especially wetlands and related habitats)
 - ▶ Increased pollution
 - ▶ Freshwater diversions and altered flow regime
 - ▶ Intensified land use and population
 - ▶ **Dredging and waterway modification**
- ▶ **LTMS is implementing the CCMP for Dredging and Waterway Modification**

In the Days Before LTMS

- ▶ Almost all disposal in the Bay
 - ▶ Uncoordinated regulatory requirements
 - ▶ Unpredictable project approval process
 - ▶ Antiquated sediment testing program
 - ▶ Few alternatives to in-Bay disposal
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In the Days Before LTMS

Severe Mounding at the Alcatraz Disposal Site



In the Days Before LTMS

Public Objection to In-Bay Disposal - Blockade!

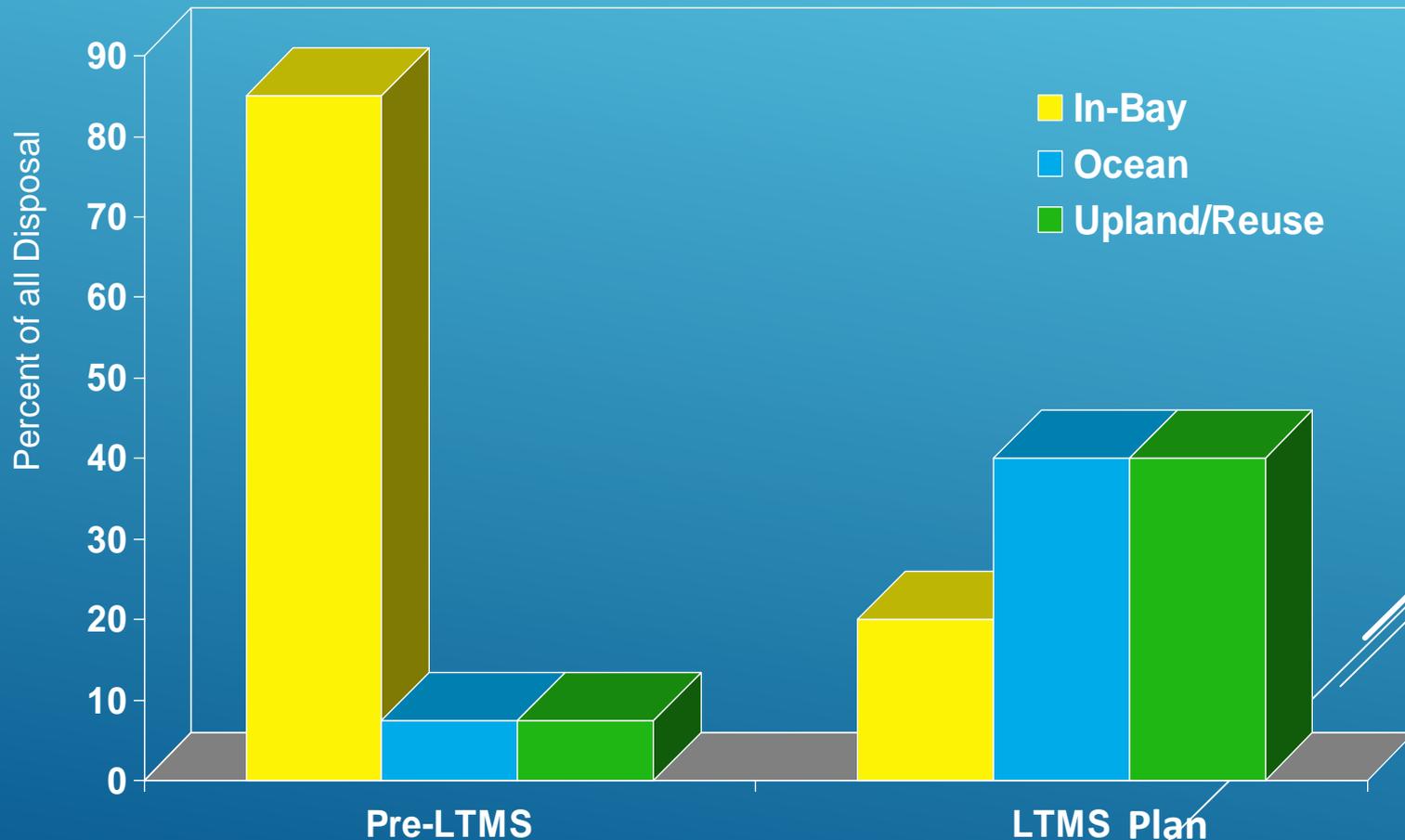


The LTMS Goals

- ▶ Maintain...those channels necessary for navigation...and eliminate unnecessary dredging
 - ▶ Conduct dredged material disposal in the most environmentally sound manner
 - ▶ Maximize use of dredged material as a resource
 - ▶ Establish a cooperative permitting framework
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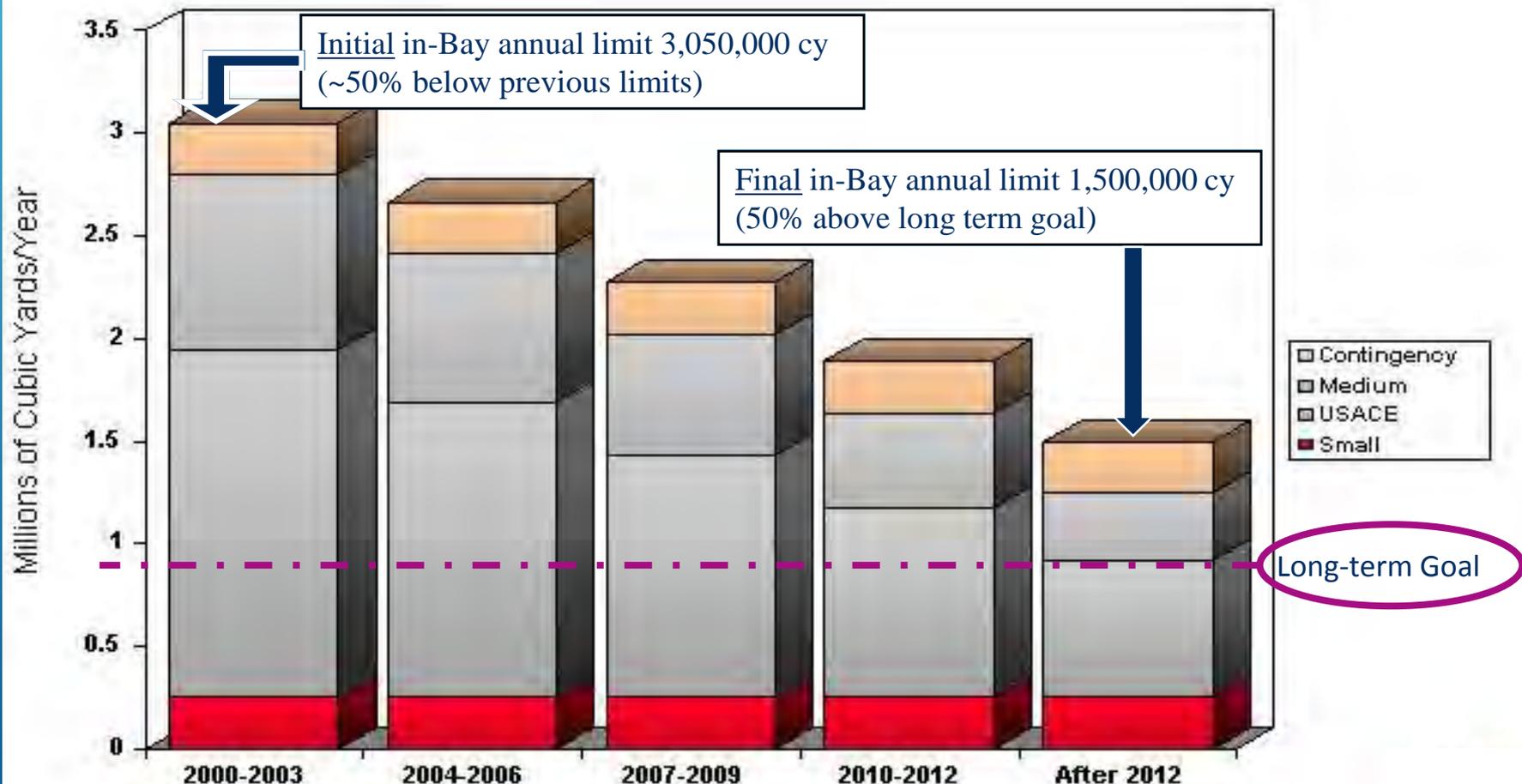
The LTMS Plan

Minimize In-Bay Disposal
Maximize Beneficial Reuse



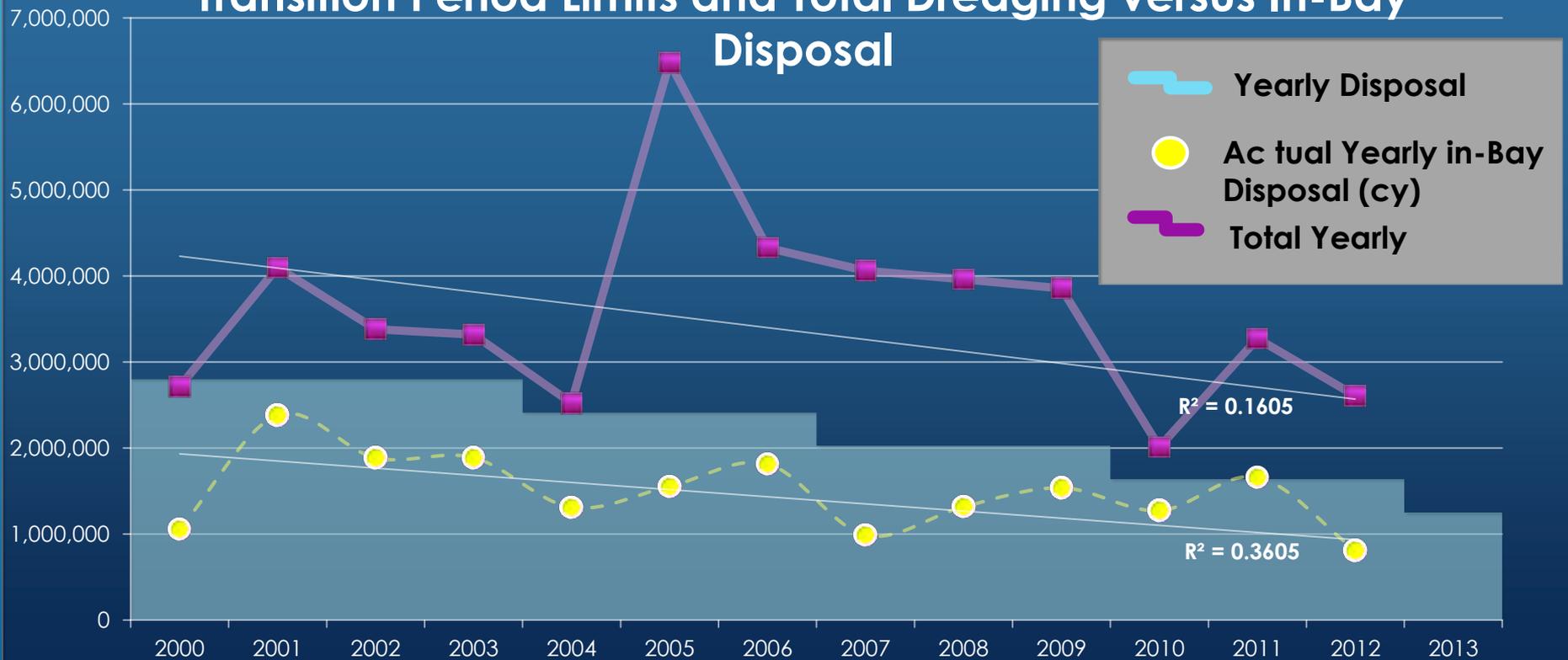
How To Get There

12-Year Transition Period Systematically Reduced In-Bay Disposal



The Dredging Community Has Met the LTMS Targets

Transition Period Limits and Total Dredging versus In-Bay Disposal



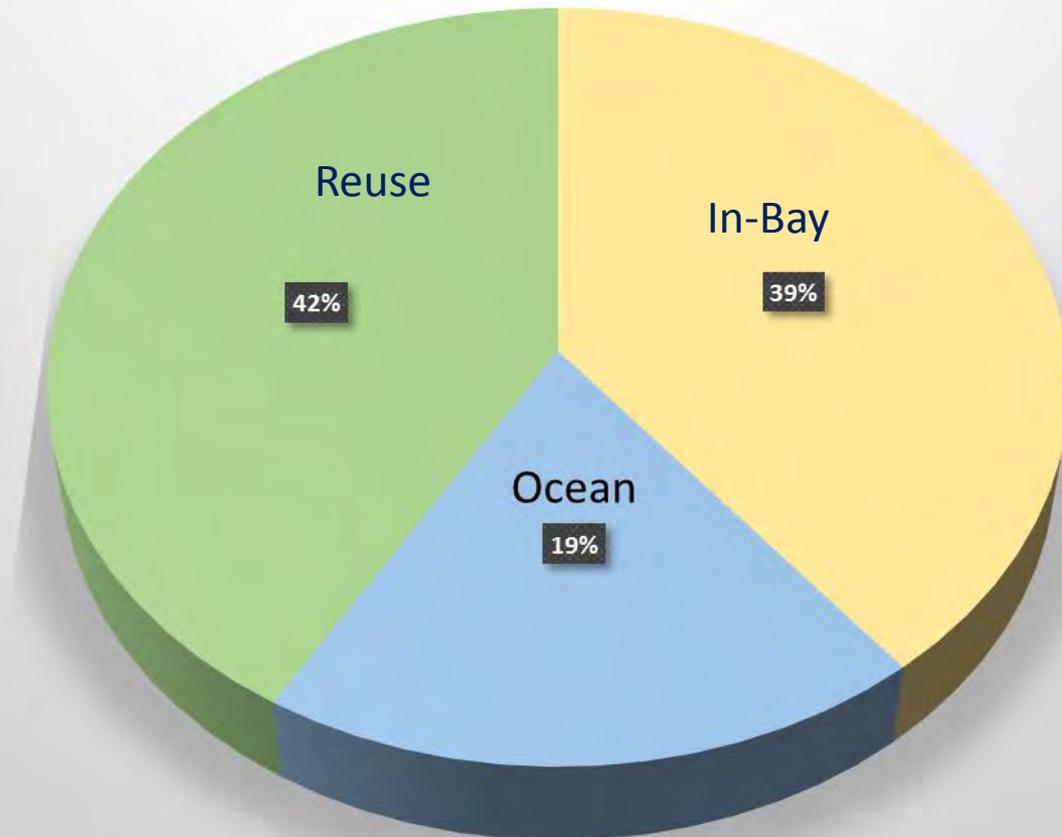
How Are We Doing Now?

3-Year Average In-Bay Disposal Did Not Exceed Limit

	In-Bay	Ocean	Reuse	Total Dredged
2013	987,268	1,632,515	553,066	3,172,849
2014	1,213,331	130,006	770,618	2,113,955
2015	1,257,044	621,072	1,327,787	3,205,903
3-yr Ave	1,152,548	794,531	883,824	2,830,902

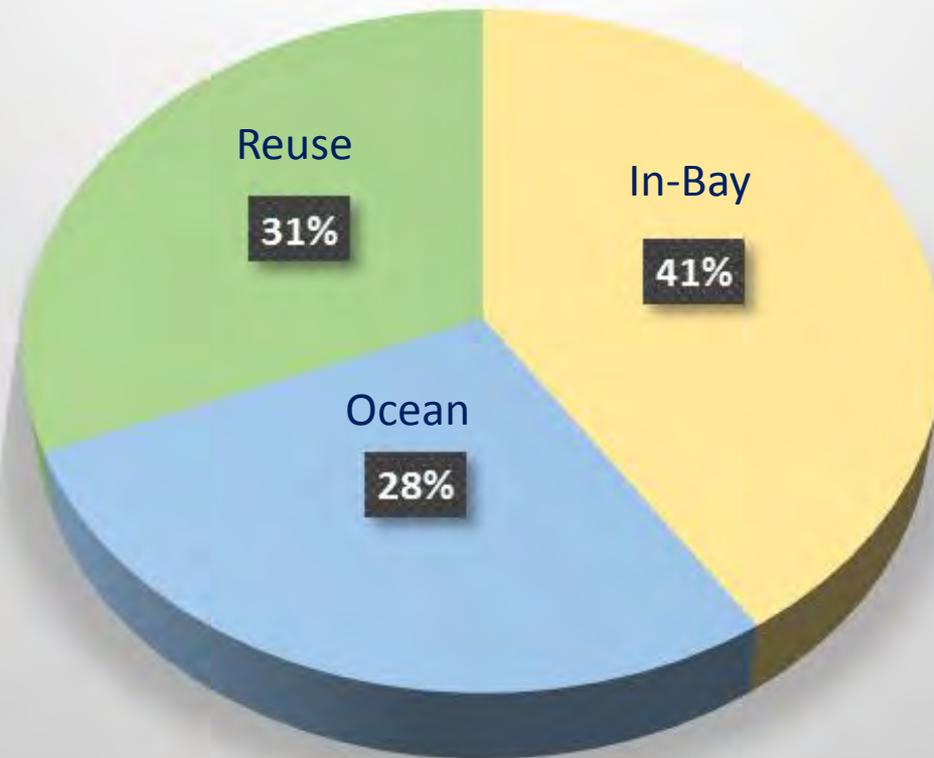
How Are We Doing Now?

2015 only



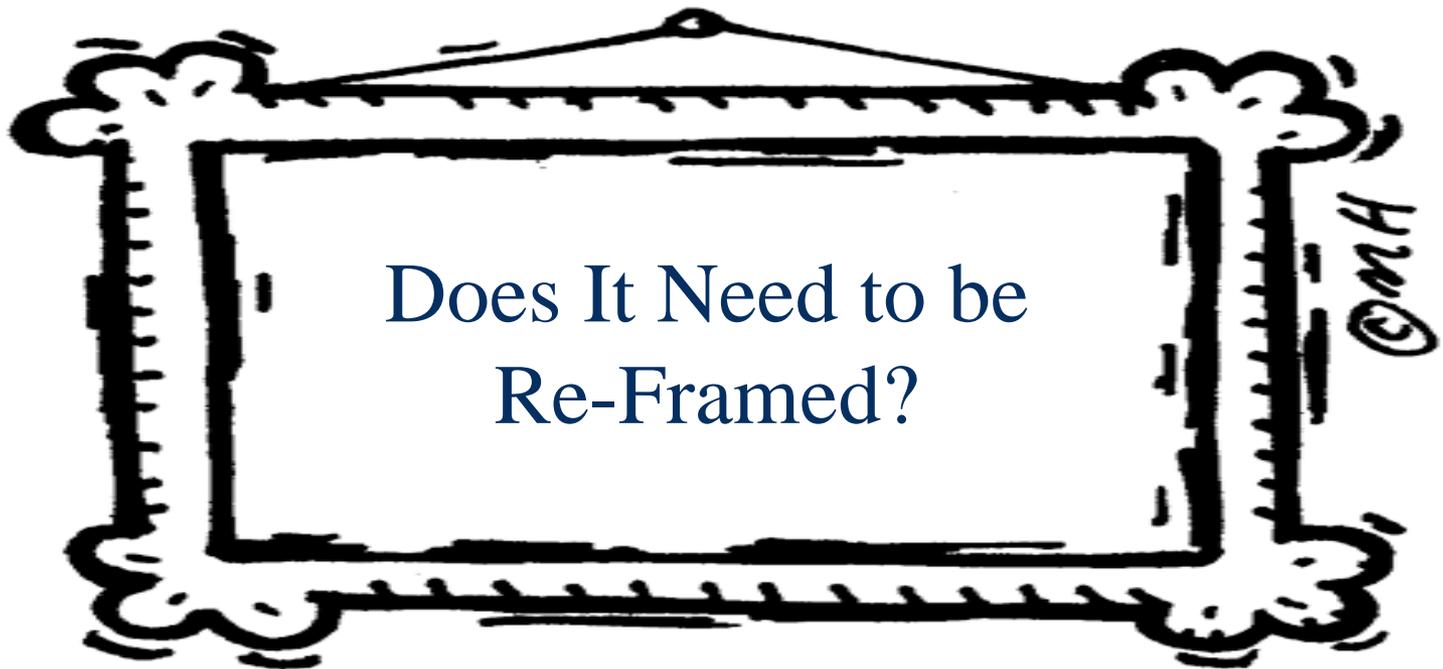
How Are We Doing Now?

3-Year Averages



The LTMS Program...

- ▶ Has minimized in-Bay disposal
- ▶ Emphasized large-scale tidal wetland projects
- ▶ Used ocean disposal for remaining dredged material without negative impacts
- ▶ BUT...



How Should LTMS Operate in this New World?

- ▶ RSM planning: coordinate sediment sources and needs beyond navigation dredging?
 - ▶ Sand miners
 - ▶ Flood control districts
 - ▶ Watershed management
 - ▶ Less reliance on mega-projects?
 - ▶ New kinds of Beneficial Reuse, including in-Bay?
 - ▶ New policies/laws to facilitate reuse?
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Ocean Disposal: A Necessary Waste?

- ▶ Removes some sediment from Bay circulation
 - ▶ But key to reducing in-Bay impacts early in LTMS
 - ▶ Due to Federal Standard, has encouraged MORE reuse
 - ▶ Will new HMTF formula help? Not alone...
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Unconfined In-Bay Placement: When is it Beneficial?

- ▶ What is in-Bay “disposal” and what is in-Bay “reuse”?
 - ▶ Diffuse, widespread benefit vs targeted immediate benefit
 - ▶ Enough room to manage 2-6 million cy in-Bay?
 - ▶ Impacts of in-Bay placement: net benefit not yet proven
 - ▶ Not enough dredged material to keep up with SLR
 - ▶ More in-Bay placement = less targeted placement
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LTMS 12-Year Review

Conclusions

- ▶ LTMS goals themselves still appropriate
 - ▶ New authorities haven't materialized - still needed
 - ▶ Federal budgets remain flat
 - ▶ Flexibility in implementation will be needed
 - ▶ Federal Standard a critical impediment
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What Is LTMS Doing Next?

Strategic Placement Framework

Goal: To determine whether and the extent to which “Strategic Placement” of dredged sediment in shallow or intertidal waters can become part of sediment management in San Francisco Bay.

- * Initiated in December 2015
- * LTMS funds thru USACE budget
- * SFEI & MWH contracted by USACE
- * Communication plan for outreach
- * Guided by key stakeholders



A special presentation sponsored by
SPN & ERDC



Thin-layer Salt Marsh Sediment Augmentation Pilot Project at Seal Beach NWR, Southern California.

By Kirk Gilligan, Seal Beach NWR Manager

The US Fish and Wildlife Service is applying a thin-layer of beneficially-reused dredged material over 10 acres of existing low salt marsh habitat on the Seal Beach National Wildlife Refuge. This pilot project is designed to document effectiveness of this strategy in combating sea level rise, while improving the quality of subsided Pacific cordgrass-dominated salt marsh habitat to support the federally endangered light-footed Ridgway's rail (formerly known as the light-footed clapper rail). Come learn about the first thin-layer placement project on the west coast, and the monitoring program that will document the efficacy of this restoration method.



Where: 1455 Market St., San Francisco
Lobby Conference Room

When: 12:00-1:00 p.m., March 3 2016

RSVP: elizabeth.o.murray@usace.army.mil



Toward Managing Sediment as a Resource

- ▶ What is “Fill”?
 - ▶ CWA: fill vs waste
 - ▶ BCDC: fill vs reuse
 - ▶ Sanctuary example
 - ▶ Is dredged material “different” from other fill sources?
 - ▶ Does it need different policies?
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