

DMMP Development: Sustainable Dredged Material Management in San Francisco Bay



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SAME Water Conference
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Overview

- Dredged Material Management (DMM) relationship with Regional Sediment Management (RSM)
- DMMP Description, Objectives, and Benefits
- Issues unique to the Regional San Francisco Bay DMMP



Recipe for Sustainable Sediment Management

Dredged Material Management
+ Beneficial Use of Sediments
+ Regional Sediment Management
+ Other Sustainability Elements
= Sustainable Sediment Management



DMM Historic Challenges

- Lack of funding for dredging and beneficial use projects
- Limited federal cost-sharing available
- Many users often competing for limited placement capacity
- Complex dredging & placement needs
- Channels deepening to accommodate deeper draft ships
- Environmental regulations
 - Sensitive habitat
 - Air quality
 - TMDLs
 - Contaminants



What is a USACE DMMP?

- Mandated by USACE Engineering Reg (ER) 1105-2-100 for federal navigation projects where there may be insufficient placement capacity for next 20 years.
- A planning document that ensures O&M dredging activities are environmentally acceptable, use sound engineering, and are economically justified.
- Addresses a full range of placement alternatives, leading to the selection of a final plan that ensures sufficient capacity for the next 20 years.



What is a USACE DMMP?

- DMMP Addresses:
 - Dredging needs
 - Disposal & placement site capabilities
 - Environmental compliance requirements
 - Potential for beneficial usage of dredged materials
 - Indicators of continued economic justification
 - Regional Sediment Management
- Normally 100% federally-funded
- Contains an integrated NEPA document
- Justifies follow-on, site-specific Feaibility Studies



Benefits of a DMMP

- Predictability
 - Schedule
 - Budget
- Budget Optimization
- Regulatory buy-in
 - EIS process allows agency “co-ownership”
 - Mutual environmental goals



DMMP Objectives

- Guiding Principals
 - Regional approach
 - Sediment as a resource
 - Economic sustainability
 - Consider climate change



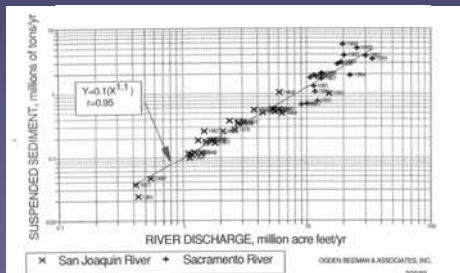
DMMP Objectives

- Determine Sediment Budget
 - Identify dredging requirements
 - Identify existing site capacity
- Key Factors
 - Sediment transport
 - Dredged material characteristics
 - Potential new work
 - Biological resources
 - Equipment availability



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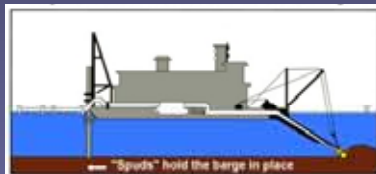
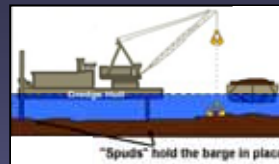


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 - Dredged material characteristics
 - Potential new work
 - **Biological resources**
 - Equipment availability



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- Key Factors
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 - Potential new work
 - Biological resources
 - **Equipment availability**



DMMP Objectives

- Address capacity debt
 - Identify potential beneficial use projects
 - Identify potential beneficial use products/markets
 - Develop ranking criteria to prioritize disposal/placement options
 - Establish stakeholder group to review criteria and contribute to subsequent prioritization

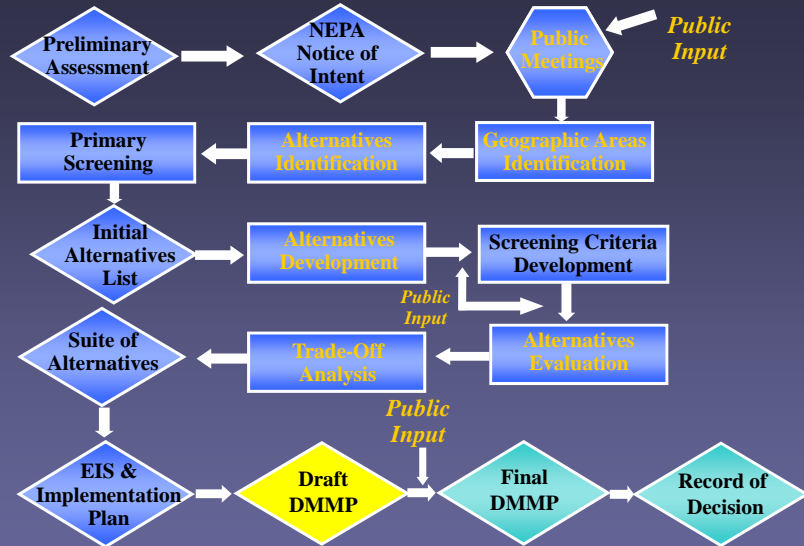


DMMP Objectives

- Thorough evaluation of alternatives & trade-off analysis
 - Environmental benefit
 - Capacity
 - Cost
 - Regulatory acceptability
 - Technical risk
- Develop and maintain a public outreach campaign
- Active management/monitoring is essential to optimize capacity at existing sites



DMMP Study Flow Chart



Challenges to DMM in SF Bay

- Long Term Management Strategy
- Work windows
- Equipment
- TMDLs
- No rehandling facility
- No CDFs
- Sediment transport
- Other regulatory issues

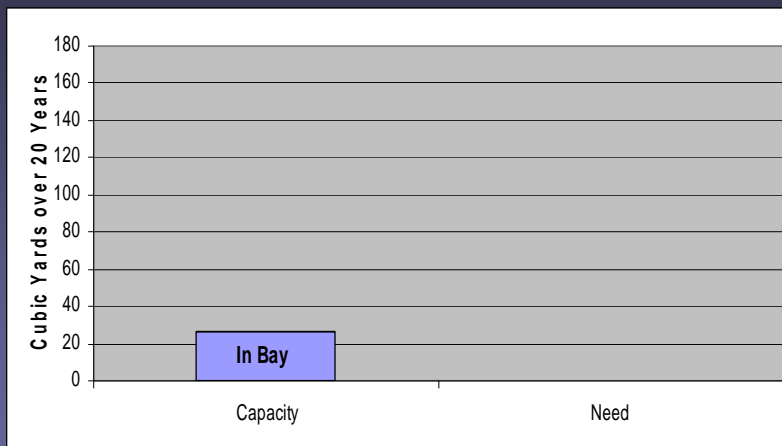


SF Bay DMMP Approach

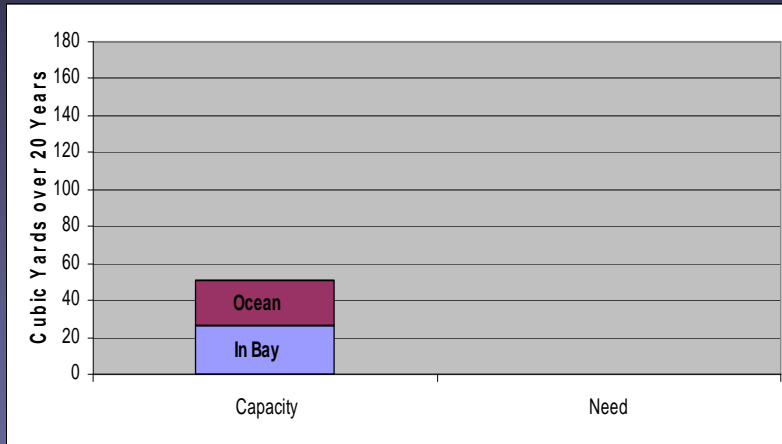
- Phase I
 - Historical background
 - Shoaling trends
 - Engage LTMS managers
- Phase II
 - Baseline conditions
 - Cost/Benefit analysis
 - Projected need vs. capacity



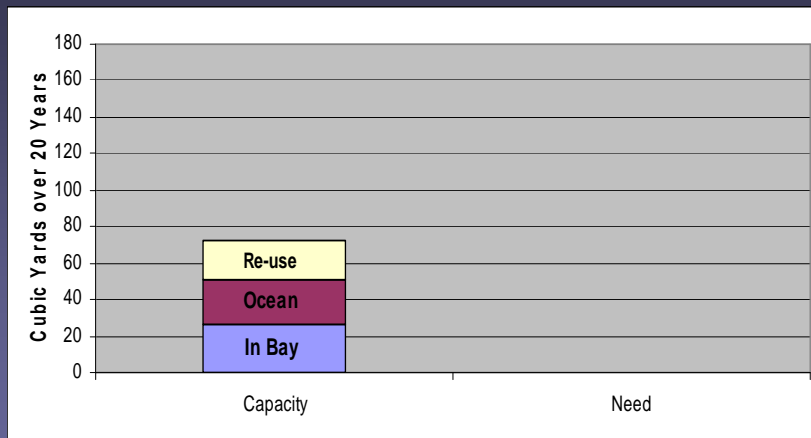
SF Bay DMMP Approach



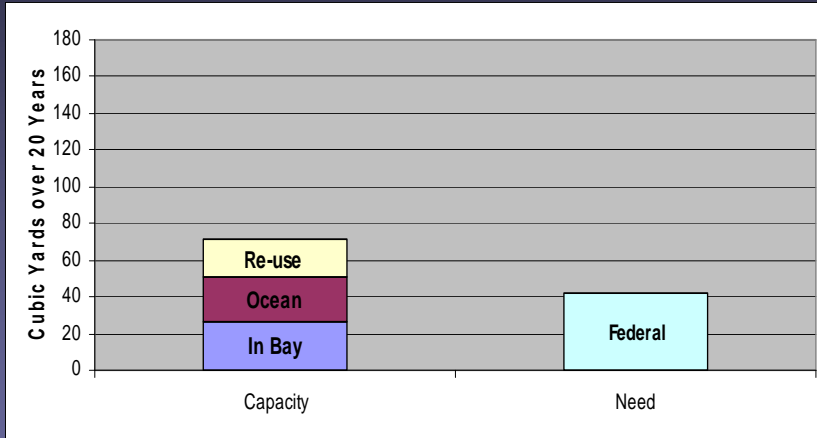
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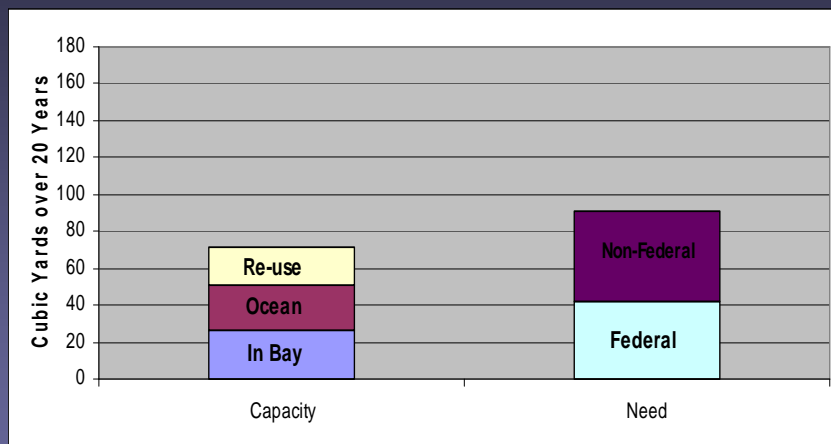
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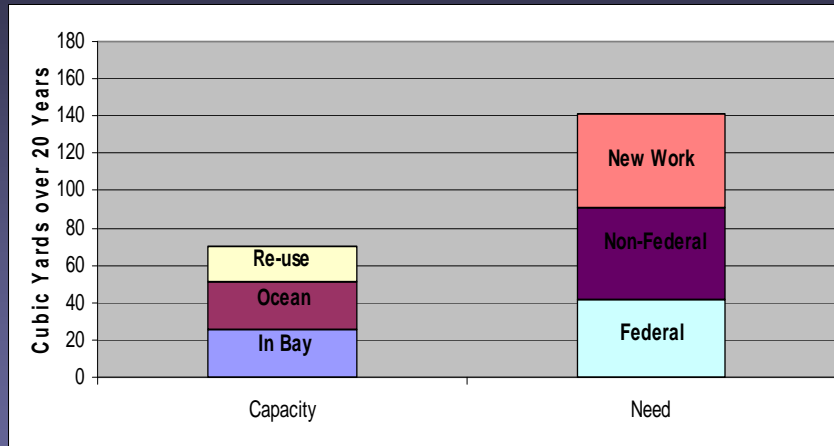
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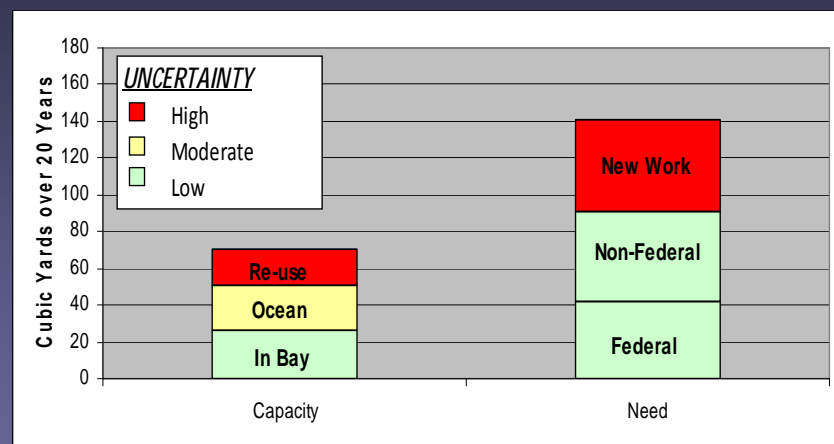
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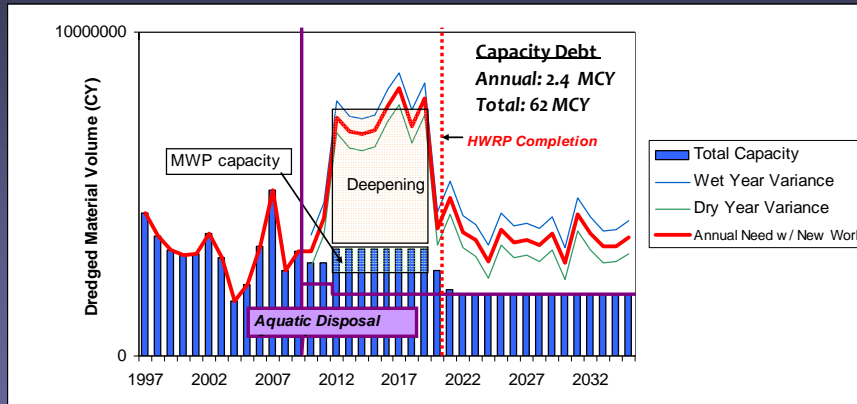


SF Bay DMMP Approach



SF Bay DMMP Approach

- No Action Scenario



SF Bay DMMP Approach

- Phase III
 - Stakeholder involvement
 - Alternatives assessment
 - Identification of potential sites
 - Development of criteria
 - Screening
 - Ranking
- Phase IV
 - Public involvement
 - EIS/Implementation Plan
 - Draft/Final DMMP
 - ROD



SUMMARY

A DMMP is a valuable tool for a region's plan for the sustainable management of dredged material. Maintaining a watershed focus, applying sediment management principles, and prioritizing beneficial use will ensure a cost effective, environmentally sound approach that can easily respond to the changing needs of the region in the future.

