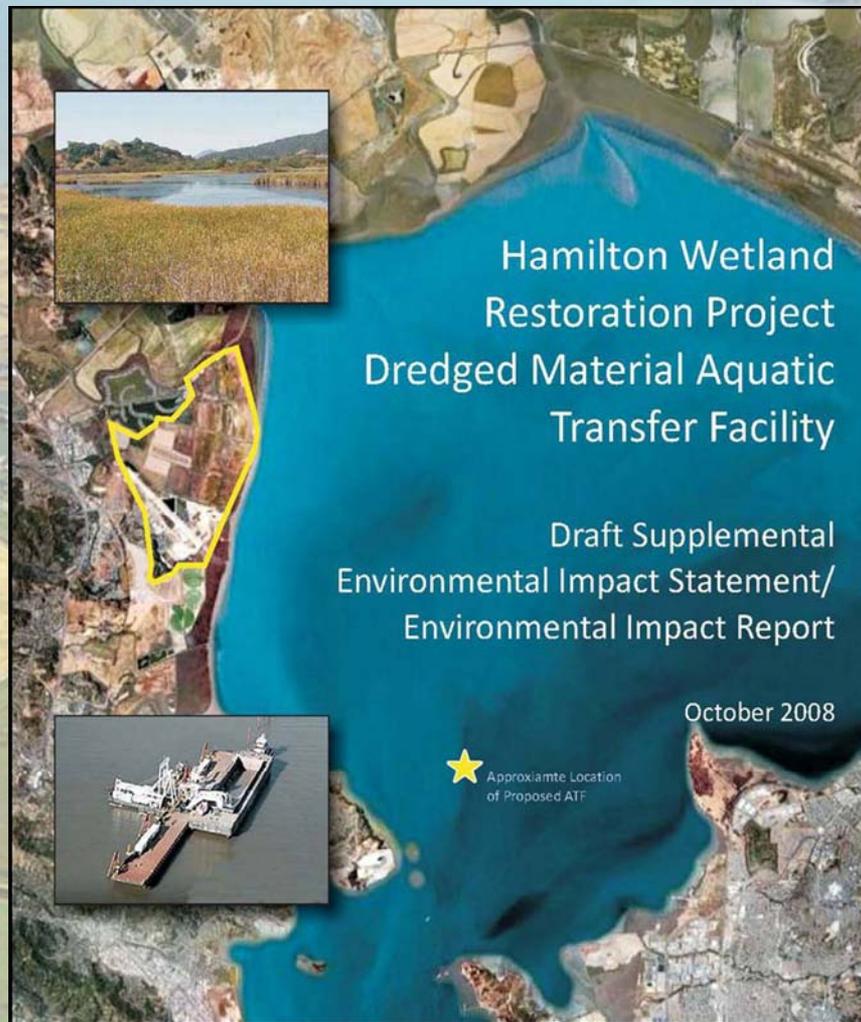


# Hamilton Wetland Restoration Project Dredged Material Aquatic Transfer Facility (ATF) Draft Supplemental Environmental Impact Statement/Report Public Meeting – November 12, 2008



US Army Corps  
of Engineers  
San Francisco District



Coastal  
Conservancy

***Welcome!***

**Lt. Colonel Laurence Farrell  
U.S. Army Corps of Engineers  
San Francisco District**

**Tom Gandesbery  
California Coastal Conservancy**



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of Engineers  
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# ***Agenda***

- **Welcome and Introductions.**
- **Overview of the Long-Term Management Strategy for the Placement of Dredged Material in San Francisco Bay (LTMS) and Relation to Project.**
- **Project Alternatives.**
- **Summary of the Draft SEIS / EIR Findings.**
- **Public Comments.**
- **Closing Remarks.**



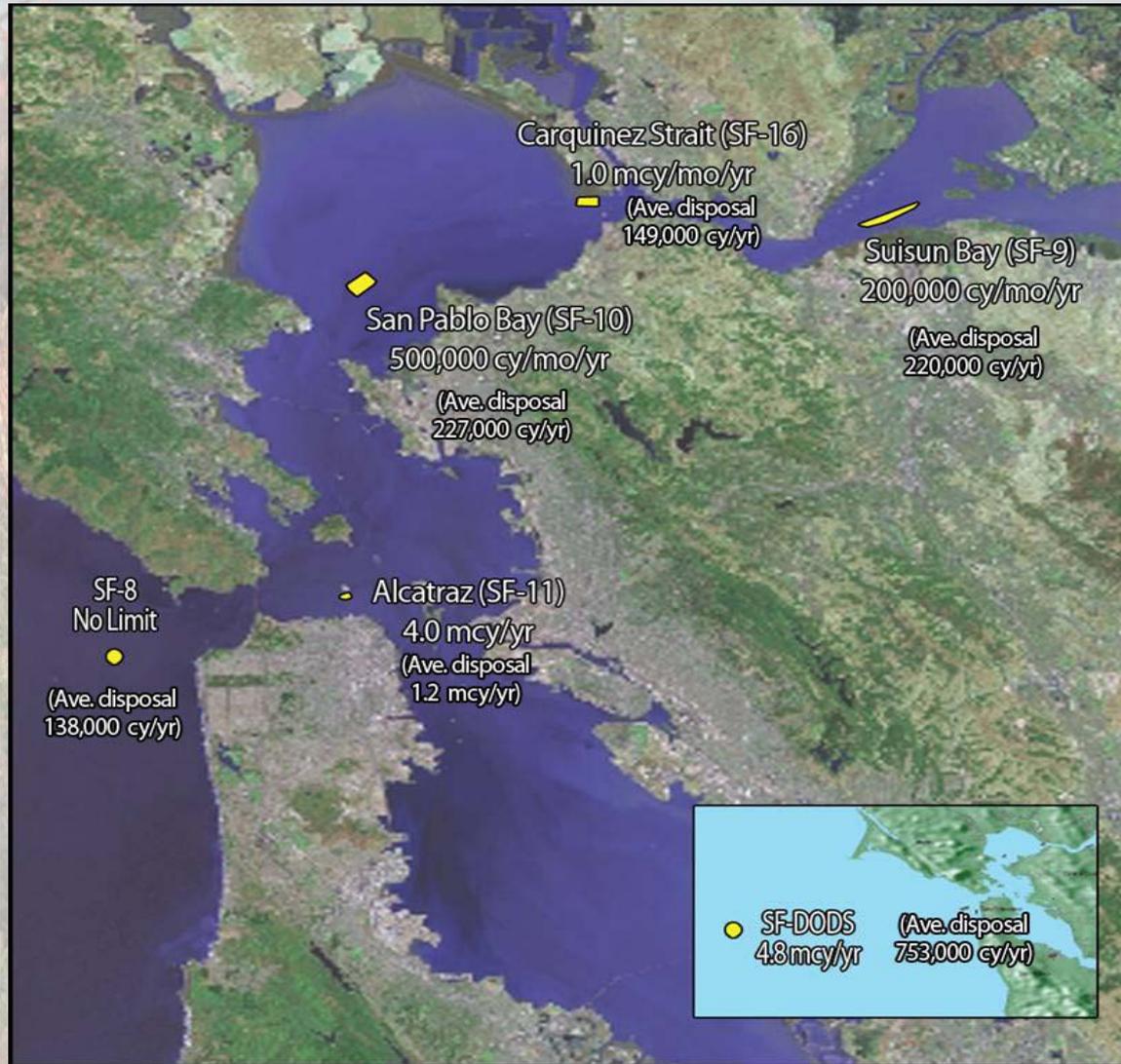


# ***San Francisco Bay LTMS***

- **Approximately 3 - 4 million cubic yards of sediment dredged annually from San Francisco Bay Area.**
- **Between 25 - 45 projects dredged each year.**
- **Clean sediment is disposed at four dispersive in-bay sites, one depositional ocean site or beneficially used at wetland restoration and levee rehabilitation sites.**
- **Contaminated sediment is disposed appropriately at upland sites.**



# San Francisco Bay Area Aquatic Disposal Sites and Disposal Limits





# *The Days Before the San Francisco Bay LTMS...*



# ***In-Bay Dredged Material Disposal Impacts***

- **Increased suspended sediment loads.**
- **Decreased water quality.**
- **Burial of benthic organisms.**
- **Impacts to aquatic species and fisheries.**
- **Potential navigation hazard (Alcatraz).**



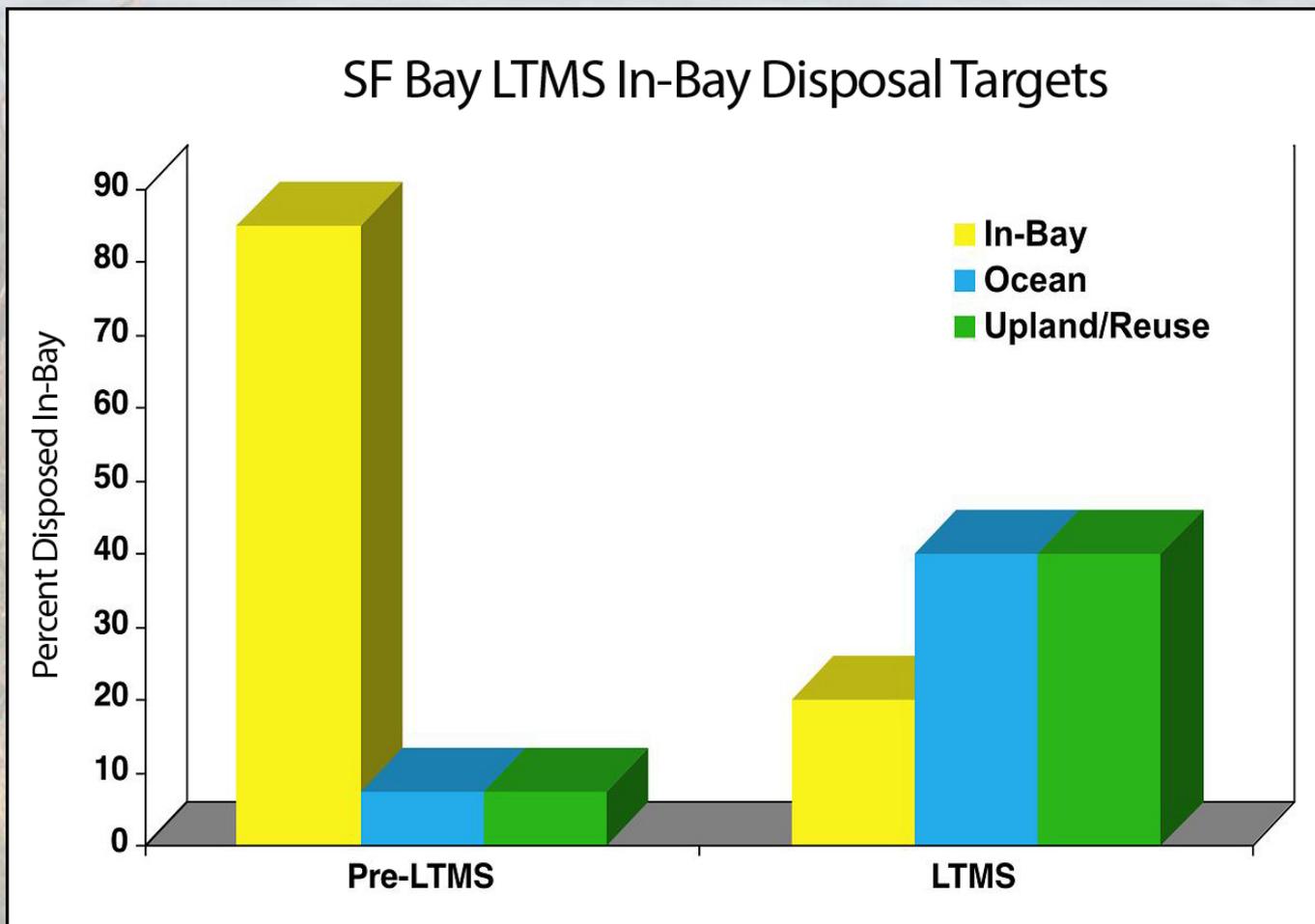
# ***San Francisco Bay***

## ***LTMS Goals***

- **Maintain navigation in San Francisco Bay in an economically sound manner and eliminate unnecessary dredging.**
- **Conduct dredged material disposal in the most environmentally sound manner.**
- **Maximize the use of dredged material as a resource.**
- **Maintain a cooperative permitting framework for dredging and disposal.**

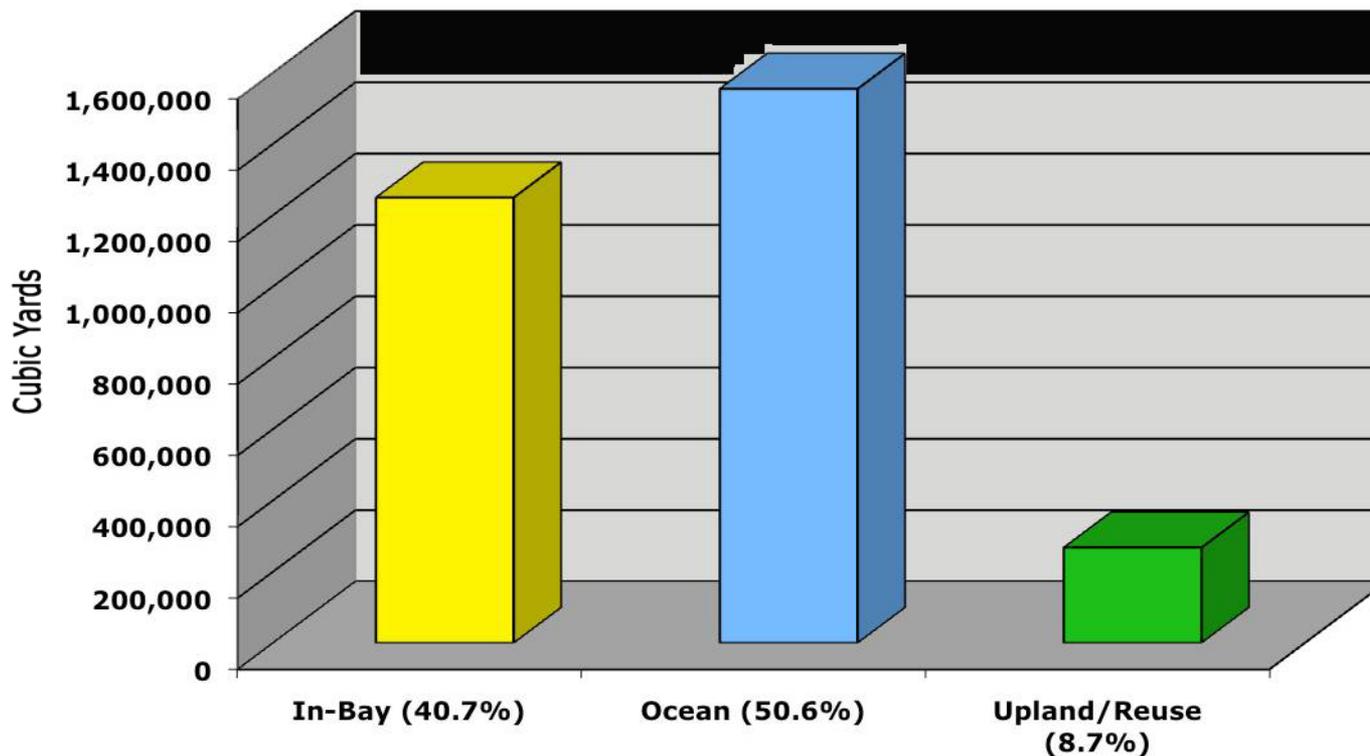


# *The San Francisco Bay LTMS 40/40/20 Plan*



# 2007 Status of the LTMS Target

Dredged Material Placement in the San Francisco Bay Area in 2007  
(3,071,353 cubic yards dredged)



\* This represents maintenance dredging projects only and does not include material from the Oakland Harbor -50 Foot Navigation Improvement Project



# *Hamilton Wetland Restoration Project (HWRP) Location*



# ***Hamilton Wetland Restoration Project***

**The purpose of the HWRP is to restore nearly 2,600 acres of deeply subsided baylands to tidal and seasonal wetlands with adjacent transitional upland habitat by beneficially using sediment dredged from San Francisco Bay Area navigation projects.**

- Beneficially uses 24.4 million cubic yards of clean dredged material to raise site elevation.**
- Authorized means of transferring dredged material to the site is via a hydraulic offloader over approximately 18 years.**

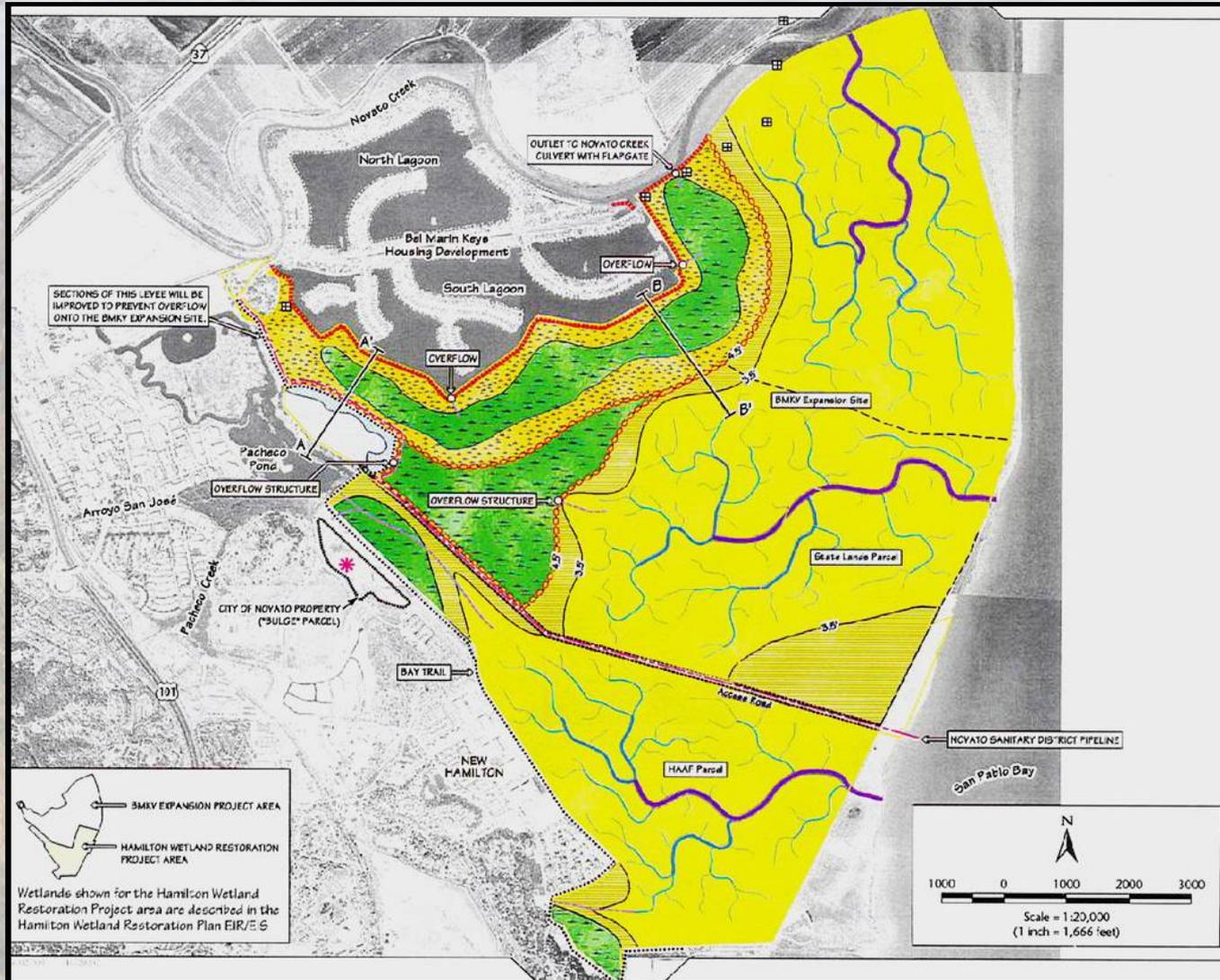


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# Current Conceptual Site Design



# ***Hamilton Wetland Restoration Project Habitat Benefits***

- **Provides habitat for threatened and endangered species.**
- **Provides habitat for wintering shorebirds and waterfowl.**
- **Provides transitional habitat for fish and wildlife.**
- **Improves San Francisco Bay water quality.**
- **Reduces the effects of in-bay disposal of dredged sediments.**
- **Mitigates for the historic loss of wetlands in the San Francisco Bay area.**



# ***Hamilton Wetland Restoration Project Human Benefits***

- **Buffers against sea level rise.**
- **Reduces the risk of flooding.**
- **Provides public access to San Francisco Bay.**
- **Meets the Baylands Wetlands Habitat Goals and the goals of the LTMS.**



# ***Using Dredged Sediment to Restore Wetlands***



- **Dredged sediment is hydraulically slurried with bay water (20% dredged material / 80% bay water).**
- **The slurry is pumped to the restoration site via a submerged pipeline.**
- **Dredged sediment is placed on the site to raise site elevations.**



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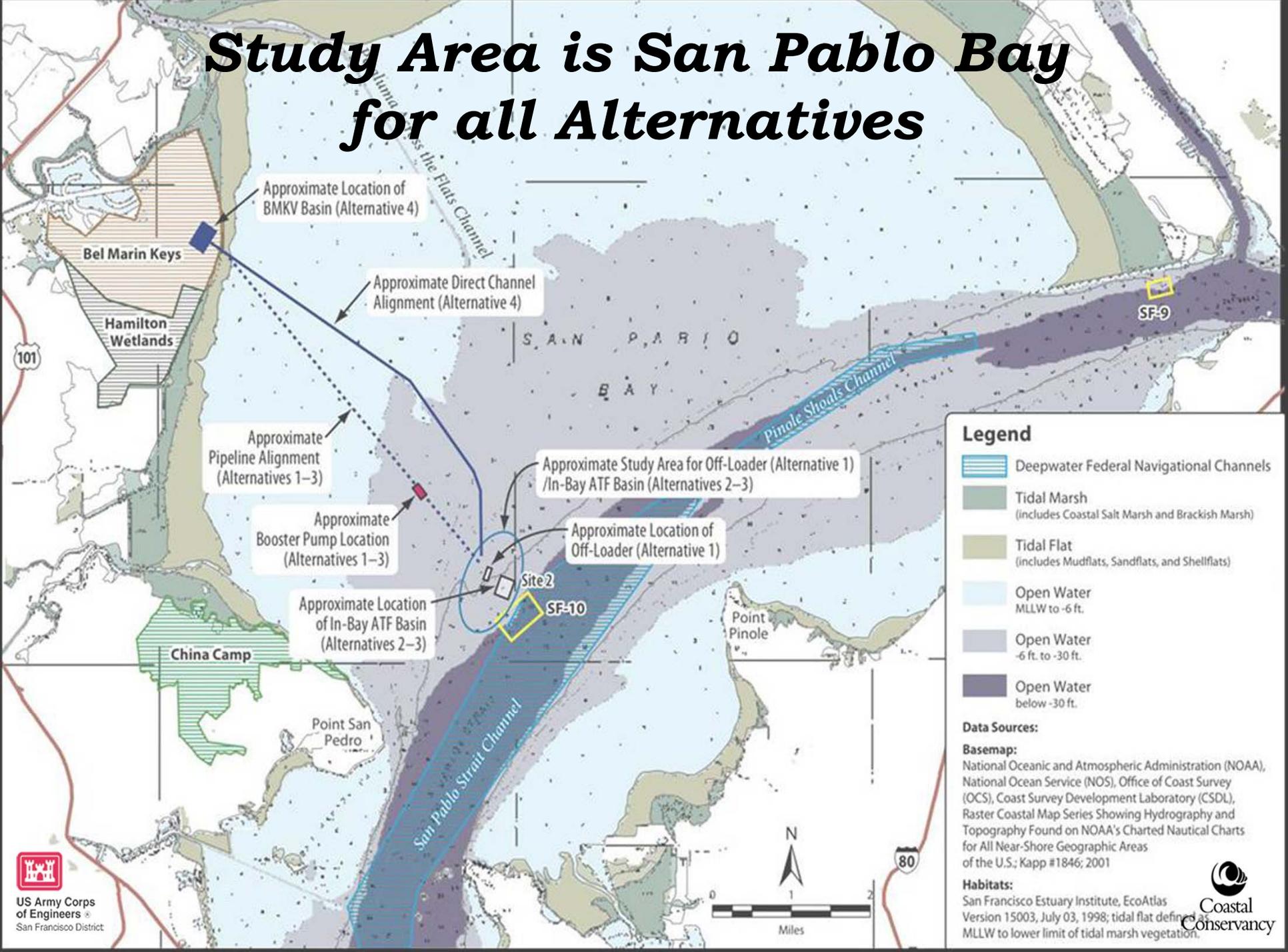
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# ***HWRP Dredged Material Transfer Alternatives Analyzed in the Draft SEIS/EIR***

- **Alternative 1: Authorized Dredged Material Hydraulic Offloader  
(No Action Alternative)**
- **Alternative 2: Unconfined Aquatic Transfer Facility (ATF)  
(Preferred Alternative)**
- **Alternative 3: Confined Aquatic Transfer Facility**
- **Alternative 4: Direct Channel to Bel Marin Keys Unit V (BMKV)  
Basin**



# Study Area is San Pablo Bay for all Alternatives



**Legend**

- Deepwater Federal Navigational Channels
- Tidal Marsh (includes Coastal Salt Marsh and Brackish Marsh)
- Tidal Flat (includes Mudflats, Sandflats, and Shellflats)
- Open Water MLLW to -6 ft.
- Open Water -6 ft. to -30 ft.
- Open Water below -30 ft.

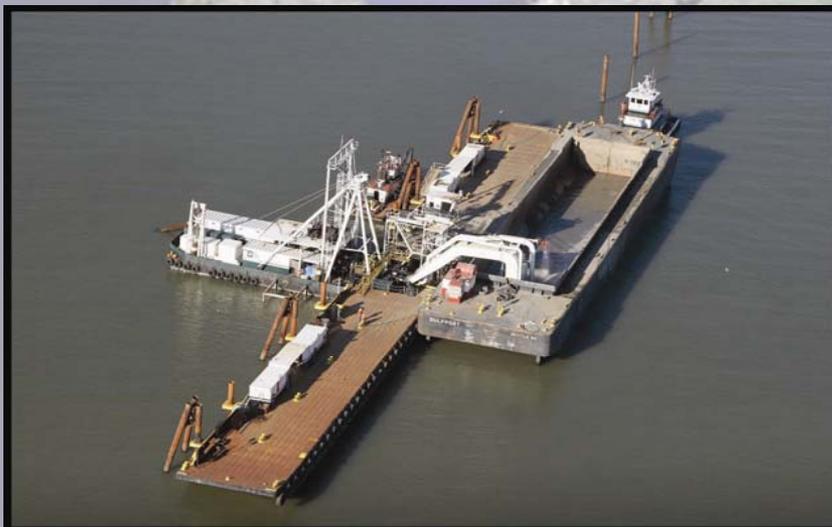
**Data Sources:**

**Basemap:**  
 National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Office of Coast Survey (OCS), Coast Survey Development Laboratory (CSDL), Raster Coastal Map Series Showing Hydrography and Topography Found on NOAA's Charted Nautical Charts for All Near-Shore Geographic Areas of the U.S.; Kapp #1846; 2001

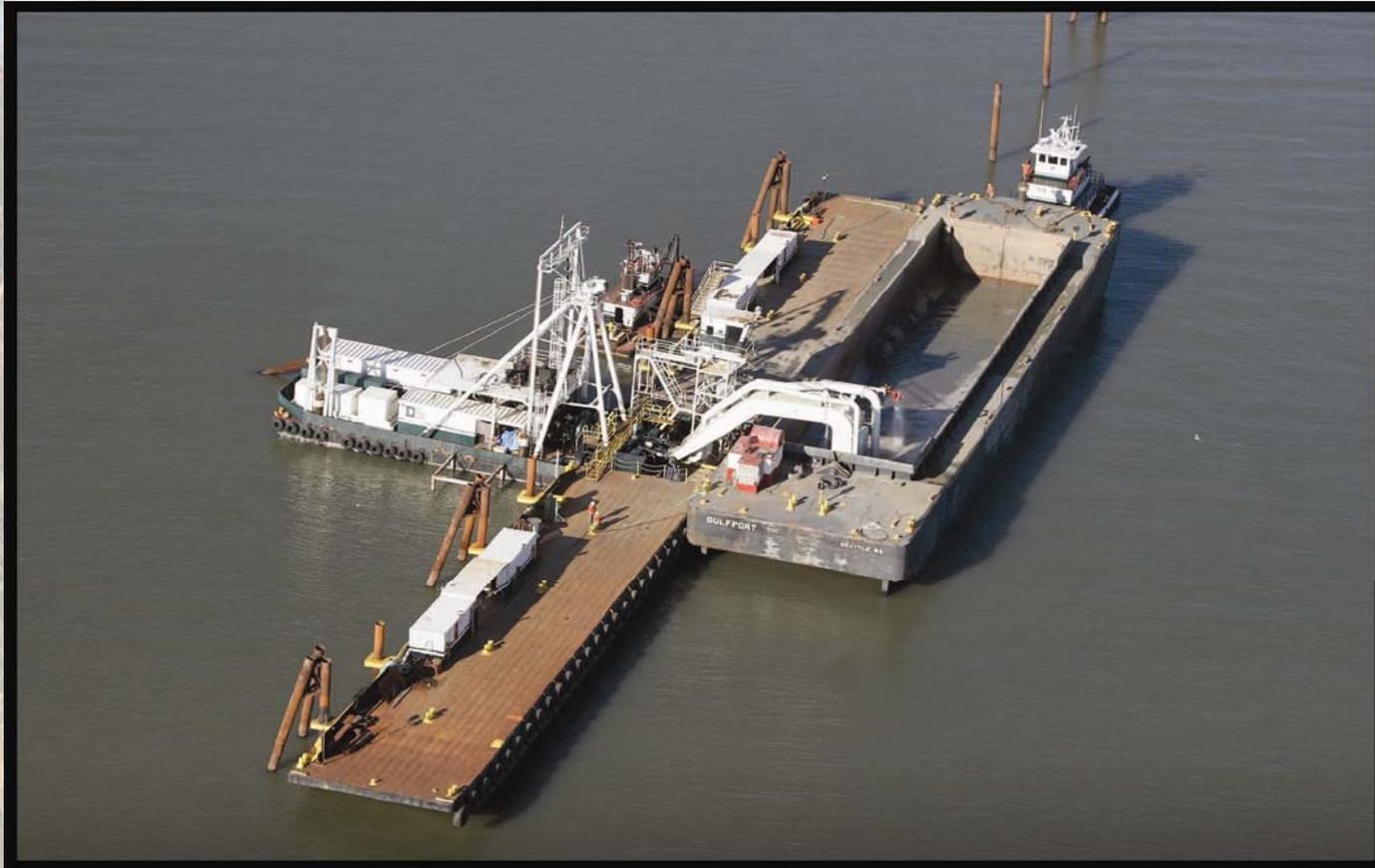
**Habitats:**  
 San Francisco Estuary Institute, EcoAtlas Version 15003, July 03, 1998; tidal flat defined as MLLW to lower limit of tidal marsh vegetation.

# ***Alternative 1: Dredged Material Offloader (No Action)***

- **Small footprint (~2.3 acres of floating fill).**
- **Can accept large and medium scows (not small scows or hopper dredges).**
- **1.2 million cubic yards annual beneficial use capacity.**
- **~18 years to restore HWRP.**



# ***A Hydraulic Offloader Works Well With a Single Dredging Project***



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# *With Multiple Dredging Projects, an Offloader Causes a Bottleneck*



# ***Potential Issues with a Hydraulic Offloader***

- **Can only unload one scow at a time in 3 – 6 hours.**
- **Would not capture the maximum volume of sediment dredged from San Francisco Bay navigation projects.**
- **Can only unload scows; hopper dredges cannot access the offloader.**
- **Takes approximately 18 years to complete restoration of the wetlands.**
- **Any mechanical failure would affect dredging projects, disposal of dredged material and restoration of the wetlands.**
- **Could push dredging projects outside of the environmental work windows (June 1 – November 30).**
- **Expensive total cost estimate of \$302 - \$447 million.**



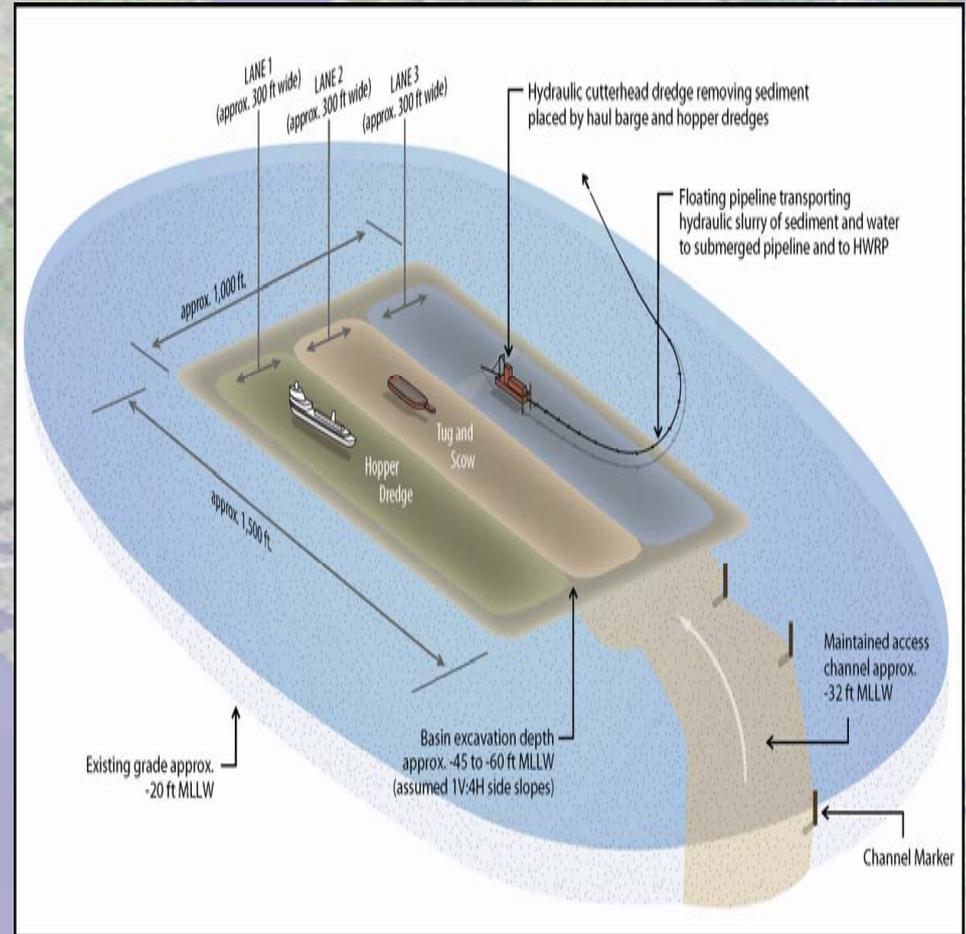
## ***Alternative 2: Unconfined ATF (Preferred Alternative)***

- **A dredged material transfer basin (ATF) in San Pablo Bay near the existing San Pablo Bay Disposal Site (SF-10).**
- **Dredge sediment is temporarily placed in the ATF basin for subsequent beneficial use at the HWRP sites.**
- **A hydraulic cutterhead dredge slurries the dredged sediment with bay water.**
- **The sediment is then pumped to the restoration sites via a submerged pipeline.**
- **Approximately 10 years to restore wetlands at the HWRP sites.**



## ***Alternative 2: Unconfined ATF (Preferred Alternative)***

- ~58 acre ATF basin, 17 acre access channel and 2.2 acre pipeline footprint (77 acres total).
- Accepts all dredge vessels, including large scows and hopper dredges.
- Can stockpile dredged sediment for future beneficial use at HWRP.
- 2.2 million cubic yard full capacity.
- 4.0 million cubic yards operational capacity.



**Alternative 1:  
Offloader  
(No Action)**

**Alternative 2:  
Unconfined ATF  
(Preferred Alternative)**

**Acreage**

**2.2 acres**

**60 - 77 acres**

**Transfer Capacity  
(ave./max.)**

**1.2 / 1.5  
mcy**

**1.6 / 3.6  
mcy**

**Ability to Stockpile  
Sediment**

**No**

**Yes**

**Duration of Wetland  
Restoration Construction**

**18 years**

**10 years**

**Energy Consumption to  
Transfer Sediment**

**High**

**Medium**

**Beneficial Use of  
Dredged Material**

**Minimized**

**Maximized**

**Causes Bottleneck**

**Yes**

**No**

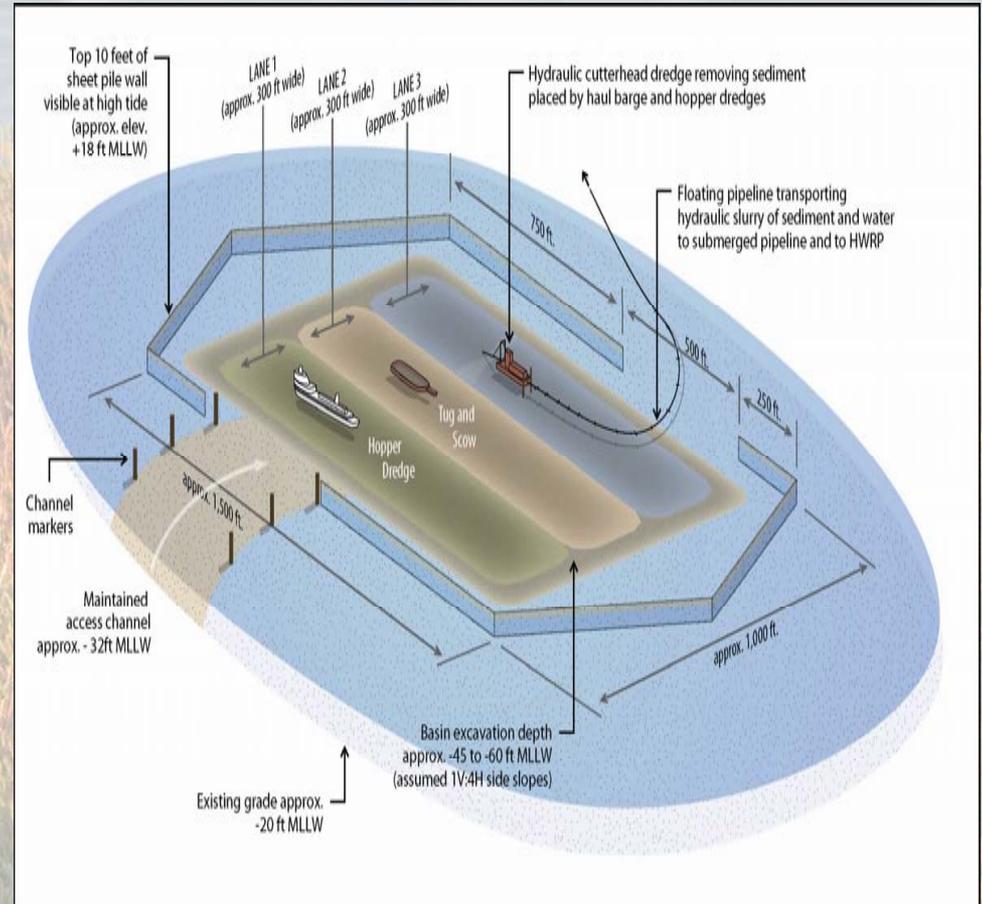
**Estimated Cost**

**\$302 - \$447 M**

**\$119M**

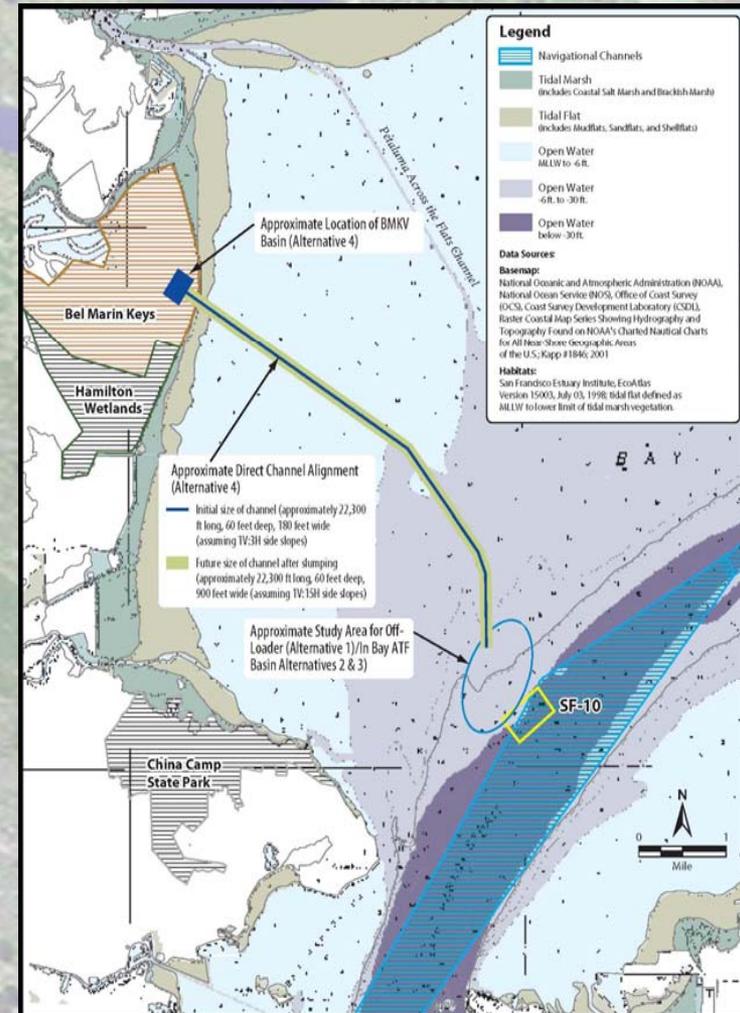
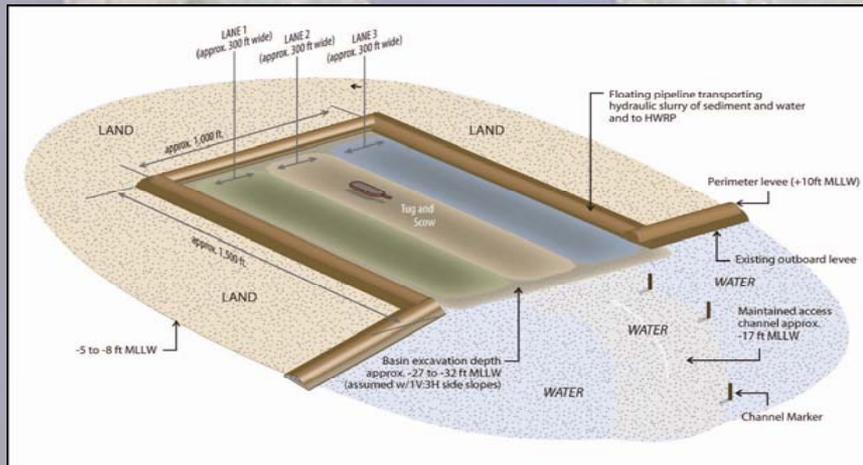
## Alternative 3: Confined ATF

- ~58 acre ATF basin, 17 acre access channel and 2.2 acre pipeline footprint (77 acres total).
- Requires construction of a confining wall visible 10 feet above the water surface during low tide.
- Accepts all dredge vessels, including large scows and hopper dredges.
- Can stockpile dredged sediment for future beneficial use at HWRP.
- 2.2 million cubic yard full capacity.
- 4.0 million cubic yards operational capacity.



# Alternative 4: Direct Channel to BMKV Basin

- Access channel excavated from approximate location of SF-10 to an upland basin at the BMKV site.
- 183 - 303 acre footprint, depending on side-slope slumping of access channel.
- Accepts only small and medium scows, no hopper dredges.
- Can stockpile dredged sediment.
- 1.7 million cubic yard capacity.
- ~9 years to complete restoration of the wetlands.

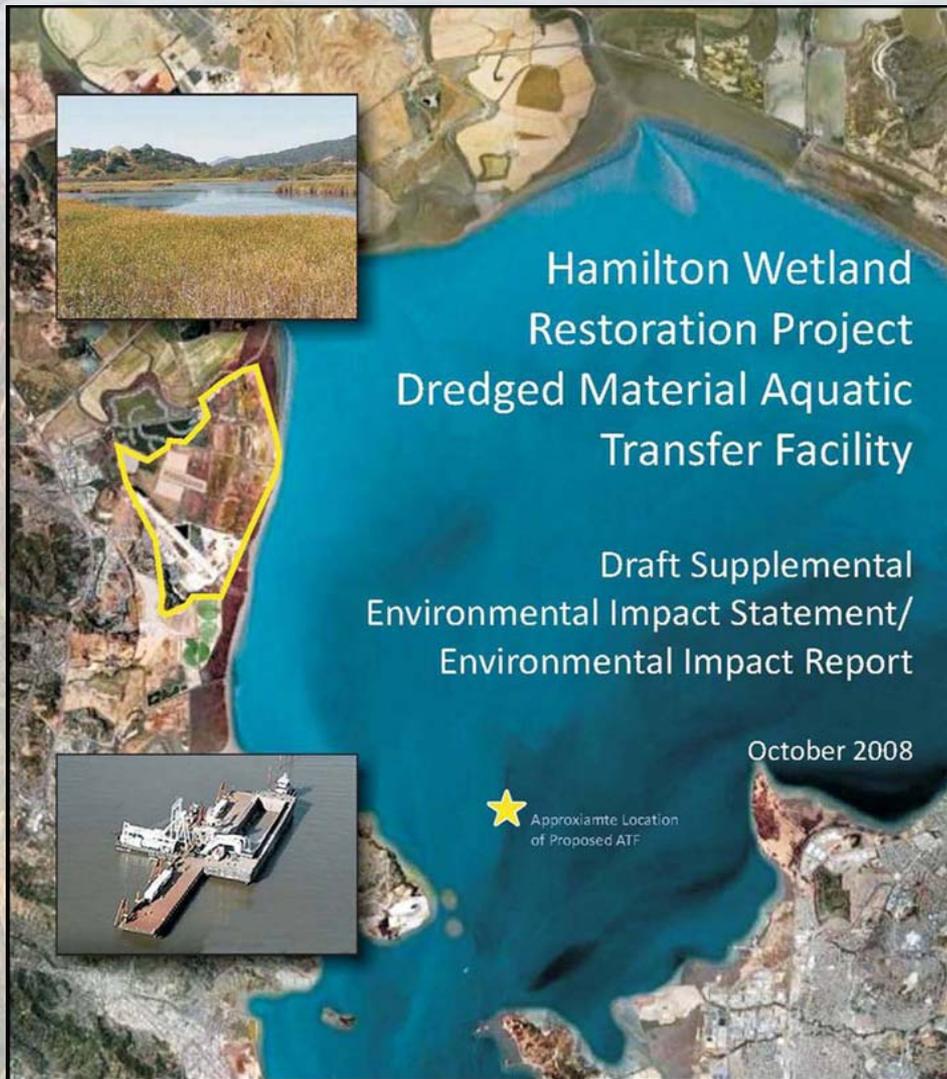


# ***Alternatives Screened Out***

- **Novato Creek Channel to Bel Marin Keys V Basin.**
- **Partially confined aquatic transfer facility.**
- **Truck or rail transportation of dredged sediment.**



# Summary of Draft SEIS/EIR Findings



**Hamilton Wetland  
Restoration Project  
Aquatic Transfer Facility  
Draft Supplemental  
EIS/EIR available at:**

**[www.hamiltonwetlands.org](http://www.hamiltonwetlands.org)**



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# ***Technical Studies Conducted for the HWRP ATF Project***

- **A History of Deposition, Erosion and Mercury-Contaminated Hydraulic Mining Debris in the Region of the Proposed San Pablo Bay Aquatic Transfer Facility**  
(Bruce Jaffe and Theresa Fregoso, USGS)
- **Sediment Transport in San Pablo Bay**  
(David Schoelhammer, Neil Ganju and Gregory Shellenbarger, USGS)
- **Hydrodynamic Modeling Aquatic Transfer Facility**  
(Michael McWilliams and Ralph Cheng, USGS)
- **Sediment Transport Modeling**  
(Craig Jones, Sea Engineering, Inc.)
- **Preliminary Short-Term Fate (STFATE) Modeling**  
(USACE Engineering and Research Development Center)



# ***Subjects Addressed in the Draft SEIS/R***

- **Geology and Seismicity**
- **Circulation and Sedimentation**
- **Water and Sediment Quality**
- **Marine and Terrestrial Biology**
- **Environmental Justice, Population and Housing**
- **Cultural Resources**
- **Land Use**
- **Recreation and Commercial Fishing**
- **Petroleum and Hazardous Materials**
- **Transportation and Marine Navigation**
- **Air Quality**
- **Noise**
- **Aesthetics**
- **Greenhouse Gas Emissions and Climate Change**
- **Cumulative Impacts**



# ***Water and Sediment Quality Impacts***

- **Technical studies demonstrate minimal loss of suspended sediment when released into the unconfined aquatic transfer facility.**
- **The ATF would be located in a non-dispersive area resulting in less sediment being resuspended in the water column.**
- **Use of the ATF would limit in-bay disposal at other dispersive in-bay disposal sites.**
- **Only suitable material will be beneficially used at HWRP.**
- **The ATF results in significantly less process water being placed at HWRP.**



# ***Air Quality Impacts***

- **Reducing construction of HWRP by 8 years would substantially reduce the emissions of criteria pollutants (NO<sub>x</sub>, PM, CO) in the air basin.**
- **Alternatives 2, 3, 4 would emit less greenhouse gases than Alternative 1.**
- **Early establishment of HWRP would ultimately contribute to lowered greenhouse gas emissions.**

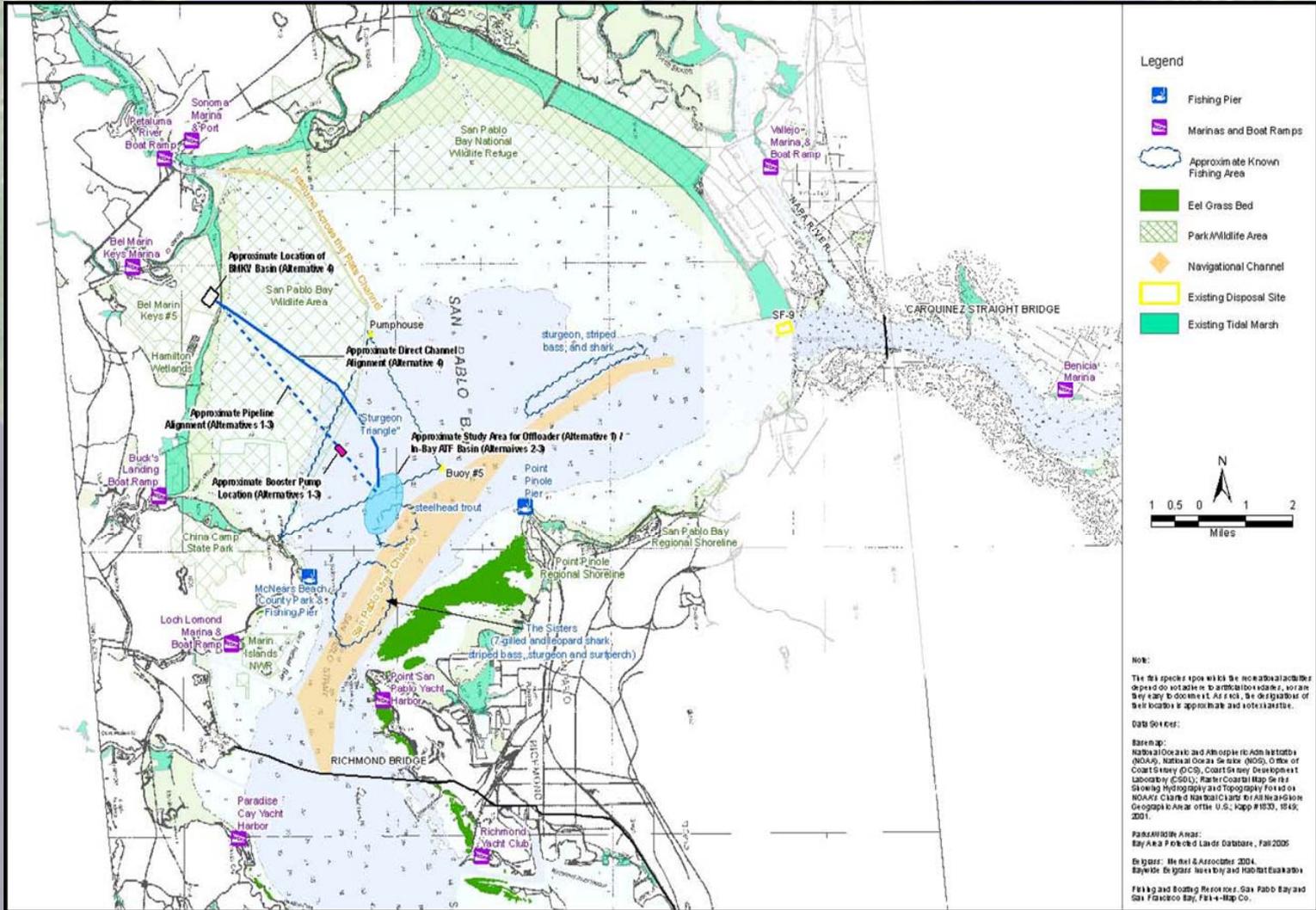


# ***Fish and Wildlife Impacts***

- **Wetland habitat established in about half the time, compared to use of the offloader.**
- **Reduced suspended sediment impacts on aquatic species.**
- **Protects sensitive aquatic species by keeping dredging within environmental work windows.**
- **Potential adverse impacts on green sturgeon due to placement of dredged material in the ATF and subsequent removal.**



# Recreational Fisheries Impacts



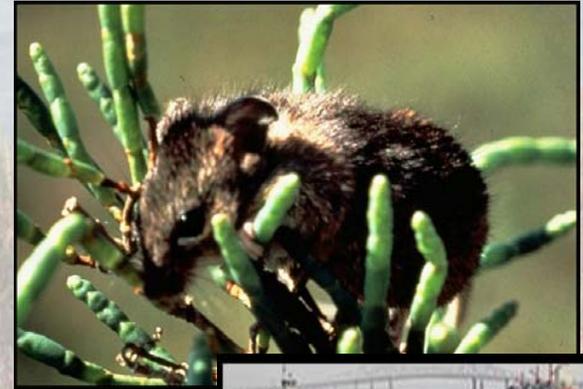
# ***Comparison of Alternative Impacts***

	<b>Alternative 1: Offloader (No Action)</b>	<b>Alternative 2/3: Unconfined and Confined ATF</b>	<b>Alternative 4: Direct Channel to BMKV Basin</b>
<b>Timing to Complete Restoration</b>	<b>18 years</b>	<b>10 years</b>	<b>9 years</b>
<b>Subtidal Habitat Impacted</b>	<b>2.2 acres</b>	<b>60 / 77 acres</b>	<b>123 – 243 acres</b>
<b>Initial / Maintenance Dredged Required</b>	<b>None Required</b>	<b>1.8 / 0.40 mcy</b>	<b>3.8 /0.44 mcy</b>
<b>NOx / Greenhouse Gases Emitted</b>	<b>1,800 tons / 184,000 tons</b>	<b>1,100 tons / 122,000 tons</b>	<b>1,000 tons / 132,000 tons</b>
<b>Navigation Hazard</b>	<b>Minimal</b>	<b>2 – Minimal / 3 – Significant</b>	<b>Minimal</b>
<b>Community Disruption</b>	<b>Offshore facilities</b>	<b>Offshore facilities</b>	<b>Onshore facility</b>
<b>Water Quality</b>	<b>400,000 cy of sediment resuspended / year</b>	<b>Placement in a non-dispersive site</b>	<b>Placement in a non-dispersive site</b>
<b>Cost</b>	<b>\$302 - \$447 M</b>	<b>Alt. 2 - \$119 M / Alt. 3 \$132 M</b>	<b>\$232M</b>

# ***Environmentally Preferred Alternative***

## ***Alternative 2: Unconfined ATF***

- **Wetlands restored faster (10 vs. 18 years), vs. Alt. 1.**
- **Maximizes annual beneficial use of dredged material.**
- **Uses significantly less process water, vs. Alt. 1.**
- **Lowest total air quality/GHG emissions.**
- **Reduces the impacts of in-bay disposal, vs. Alt. 1**
- **Less circulation and navigation impacts, vs. Alt. 3.**
- **Substantially less community and sensitive aquatic habitat disruption, vs. Alt. 4.**



# ***National Environmental Policy Act (NEPA) & California Environmental Quality Act (CEQA) Next Steps***

**Public Meeting**

**Comment Period**

**Response to Comments**

**Final SEIS/EIR**

**Record of Decision**

**ATF Construction**

**Tonight!**

**Oct. 17 – Dec. 22**

**1<sup>st</sup> Quarter 2009**

**2<sup>nd</sup> Quarter 2009**

**2<sup>nd</sup>/3<sup>rd</sup> Quarter 2009**

**2010**



# ***Public Questions and Comments***

**The Draft SEIS/EIR is available at:  
[www.hamiltonwetlands.org](http://www.hamiltonwetlands.org)**

**Please provide comment to:  
United States Army Corps of Engineers at:  
[spnetpa@usace.army.mil](mailto:spnetpa@usace.army.mil)  
or  
California Coastal Conservancy at:  
[tgandesbery@scc.ca.gov](mailto:tgandesbery@scc.ca.gov)**



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