

# ***US Army Corps of Engineers Central and Northern California Navigation Programs - Present State and Future Challenges.***

**Thursday, September 17<sup>th</sup>**

**LTC John C. Morrow**

**District Commander/Engineer  
San Francisco District**



®

**US Army Corps of Engineers**

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**San Francisco District**



# San Francisco District – Overview

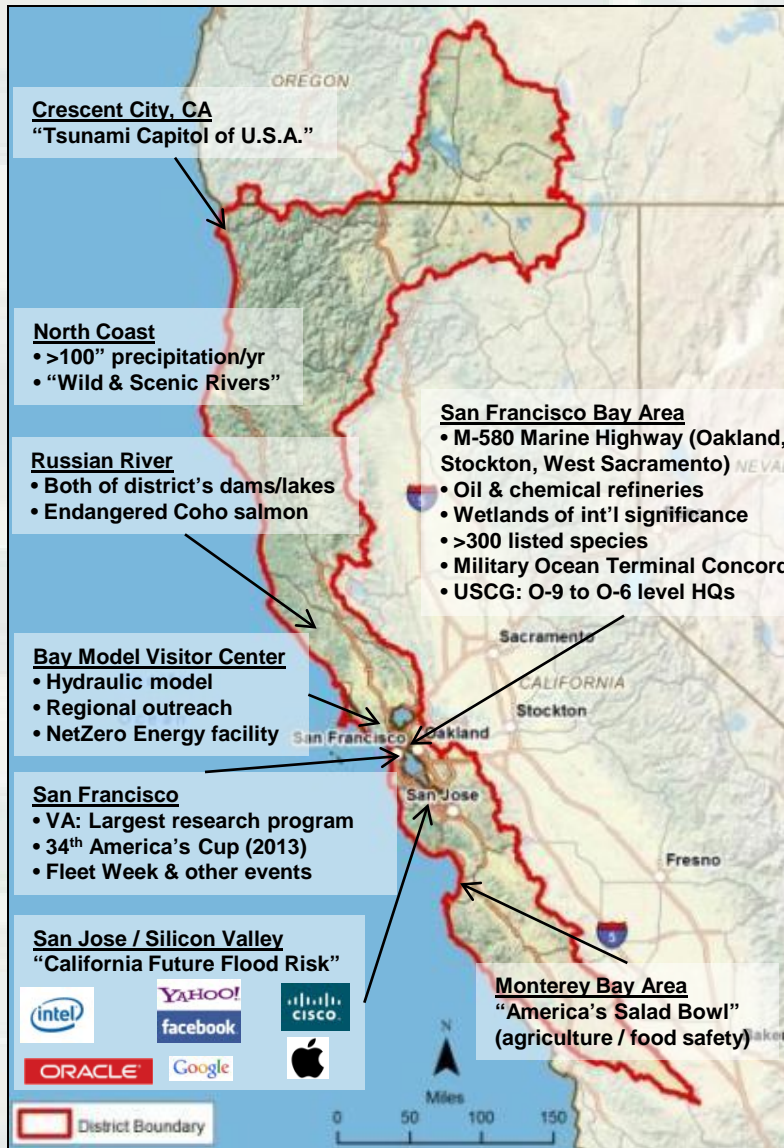
## Oldest USACE district on the Pacific Coast

- Providing Value to the Nation since 1866

## Strategically significant district

- **Navigation energizes the economy** – we support 22 Federal ship channels, SF Bay Area's \$70B annual maritime industry and \$585B GDP (22<sup>nd</sup> in world), and are the only government agency with debris removal mission in SF Bay (>1200 tons/yr)
- **Reducing disaster risk for 6.5 million people and economies of SF Bay Area, Silicon Valley, Sonoma, Napa, and Central Coast** – 99% chance of big earthquake in next 30 yrs (per USGS); additional risks of flooding, sea level rise, tsunamis, and wildfires
- **Largest wetlands restoration projects in California** – leading effort to beneficially reuse dredged material
- **District “owns” and is recovering the last viable population of an endangered species** - Coho salmon on Russian River (per 2008 NOAA-NMFS Biological Opinion); in 2012, recognized by NOAA as a “Habitat Blueprint for Success”
- **Large and influential U.S. Congressional delegation** – 4 Senators, 21 Representatives
- **Regulatory Actions for Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act**

**Diverse, talented workforce with a culture of teamwork and innovation!**

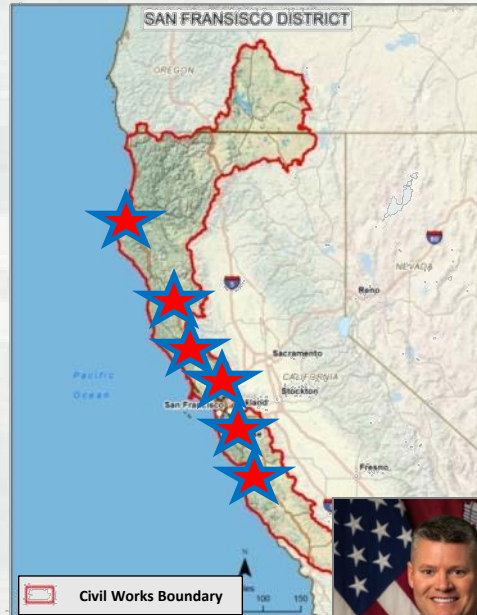


[www.sfn.usace.army.mil](http://www.sfn.usace.army.mil)

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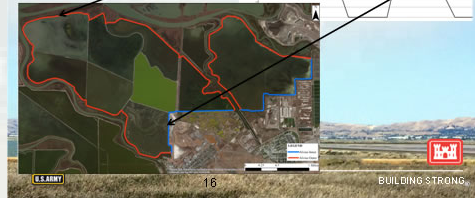
# San Francisco District



Corresponds to major locations and projects in the District.

## Flood Risk Management

- Dike-pond system for commercial salt production (c-19th century through 2000)
- Wildlife refuge since transfer of O&M in 2003
- Significant floodplain below MSL (3 ft NAVD88)



## California Navigation Channel Dredging



## New Renewable Energy Projects



## New VA Facilities



## Fish Recovery and Lake Operations



## Long-Term Outlook

- Dredging requirements are not decreasing as much as you would think
- Initiatives to increase the beneficial reuse of dredging material
- Ecosystem restoration projects are becoming more prevalent
- Further development of renewable energy sources on USACE properties (solar and low flow hydro-turbine generators)
- Increase in partnerships with other Federal Agencies (VA, DoE, GSA, NASA, etc.)
- Flood risk management requirements are not decreasing



## Command Team

Commander & District Engineer  
LTC John Morrow



Deputy District Engineer for  
Project Management  
Mr. Arijs Rakstins, PMP



# Navigation Mission

To provide safe, reliable, and efficient waterborne transportation systems (channels, harbors, and waterways) for the movement of commerce, national security needs and recreation.



# Partners in Navigation

- Non- Federal Sponsors
- Channel Users:
  - ▶ Ports
  - ▶ Shipping industry:  
Container, Oil, Bulk, RORO
  - ▶ Bar Pilots
  - ▶ Recreation
  - ▶ National Security
- Organizations:
  - ▶ Harbor Safety Committees
  - ▶ California Marine and  
Navigation Conference
  - ▶ Bay Planning Coalition
- Agencies:
  - ▶ USCG
  - ▶ USEPA
  - ▶ USFWS
  - ▶ NOAA-NMFS
  - ▶ Coastal Commission
  - ▶ Bay Conservation and  
Development Commission
  - ▶ Regional Water Quality Control  
Boards
  - ▶ California Department of Fish  
and Wildlife





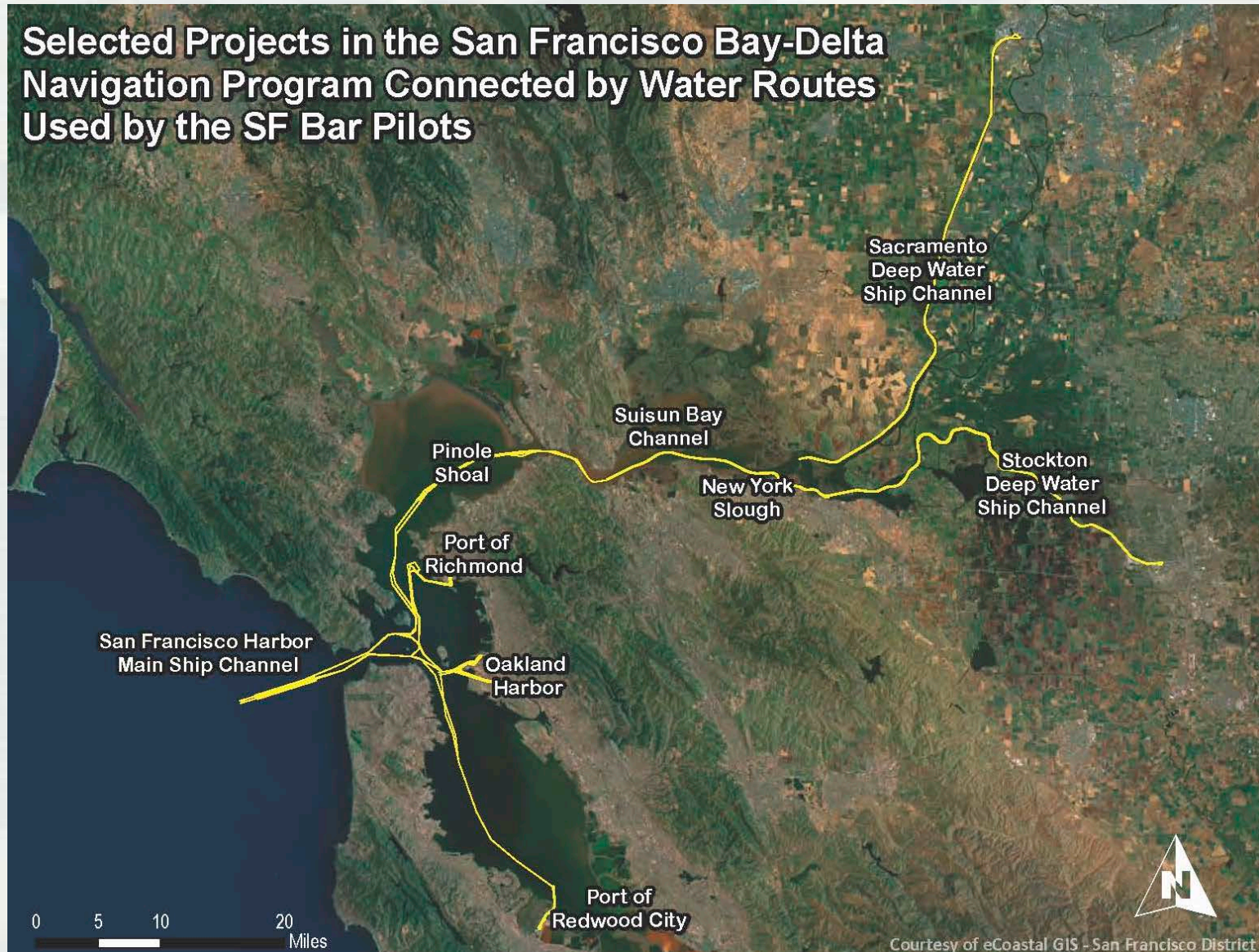
# FY16 Planned Maintenance





# The Maritime Highway

**Selected Projects in the San Francisco Bay-Delta  
Navigation Program Connected by Water Routes  
Used by the SF Bar Pilots**



# 2015 DREDGING PLAN

Project	2014			2015									2016			2015 Volume	Placement Site
	OCT FY15	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT FY16	NOV	DEC		
Humboldt Bar&Entrance						Regional Hopper Contract										~700kcy	HOODS
SF Main Ship Channel						Regional Hopper Contract										~350kcy	OBDS/ SF-17
Richmond Inner Harbor																165kcy	SFDODS & Upland
Richmond Outer Harbor																200kcy	SF-11
Pinole Shoal																47kcy	SF-10
Suisun Bay Channel																85kcy	SF-16
Oakland Harbor																635kcy	SFDODS & Upland
Redwood City Harbor I																~350kcy	SF-11
Redwood City Harbor II																250kcy	SFDODS or Upland
Sacramento River (-30')																~50kcy	Upland
San Joaquin River																~1mcy	Upland

Complete & Ongoing Contracts
  Government Hopper
  New Dredge Contract
  Environmental Window

\*\* Work Window Extension Required

Updated:14 Sept 2015



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# DRAFT 2016 DREDGING PLAN\*

Project	2015 OCT NOV DEC FY16			2016 JAN FEB MAR APR MAY JUN JUL AUG SEP									OCT NOV DEC FY17			Volume	Dredge Type	Placement Site	
Humboldt Bar&Entrance				♦ ♦				■	or	////							~750kcy	Hopper	HOODS
Noyo Harbor										♦ ♦	////						~35kcy	Pipeline	Upland
SF Main Ship Channel				♦ ♦						////							~300kcy	Hopper	OBDS/ SF-17
Richmond Inner Harbor	■			**					♦ ♦	////							~350kcy	Clamshell	SFDODS or Upland
Richmond Outer Harbor									■								~250kcy	Hopper (Essayons)	SF-11
Pinole Shoal									■								~150kcy	Hopper (Essayons)	SF-10
Suisun Bay Channel				♦ ♦											////		~175kcy	Hopper	SF-16
Oakland Harbor	■			**						♦ ♦	////						~600kcy	Clamshell	SFDODS or Upland
Redwood City Harbor	■		**					♦ ♦	////								250kcy	Clamshell	SF-11
Sacramento River (~30')												■					~50kcy	Pipeline	Upland
San Joaquin River													■				~1mcy	Pipeline	Upland
<div><div>■</div> Complete &amp; Ongoing Contracts</div> <div><div>■</div> Government Hopper</div> <div><div>////</div> New Dredge Contract</div> <div><div>■</div> Environmental Window</div> <div><div>♦</div> Bid Opening</div> <div><div>♦</div> Award</div>																			

\* Based on FY16 President's Budget, Dredge schedule subject to change

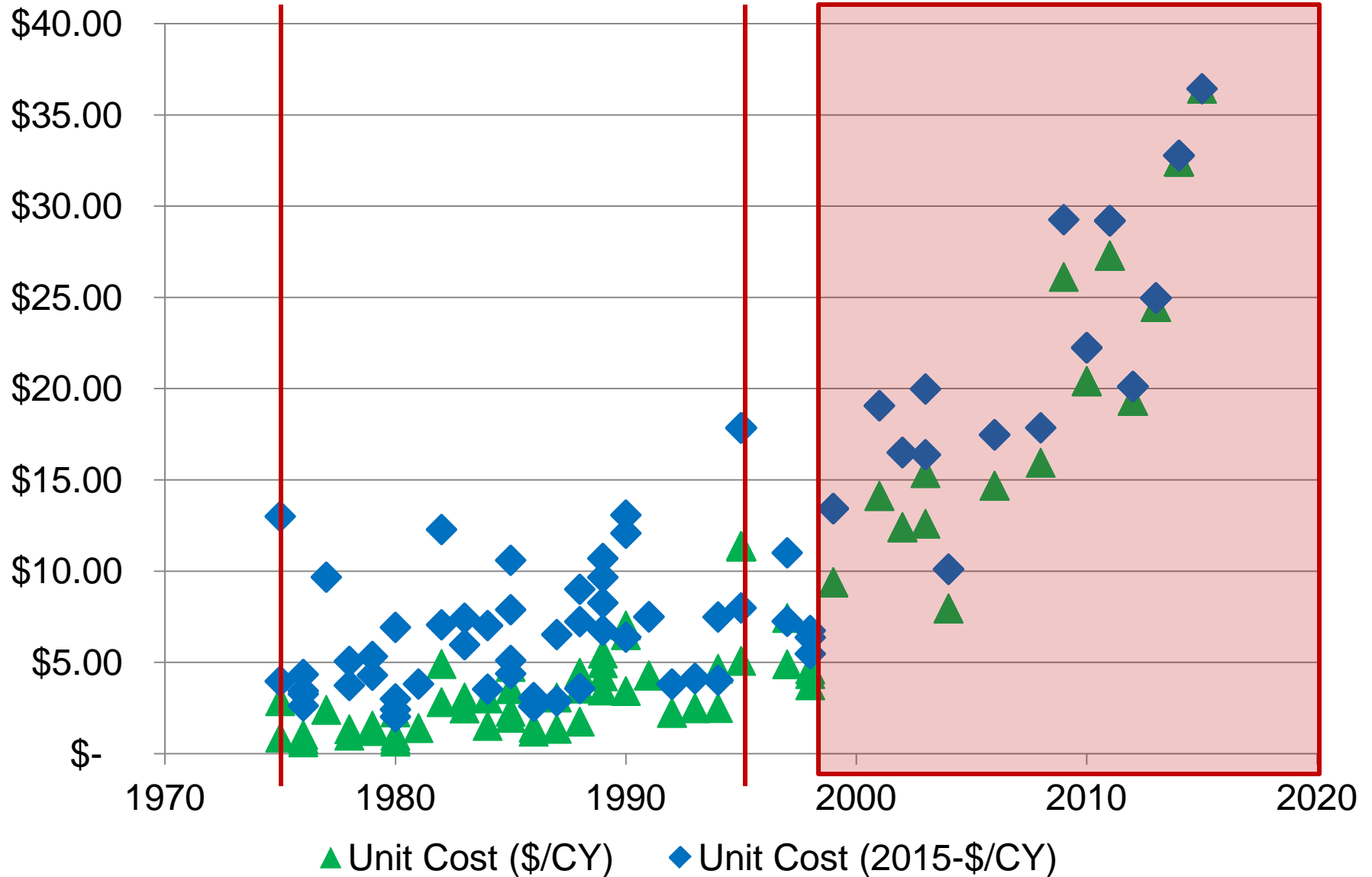
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\*\* Placement switch to upland /Beneficial Use outside of Environmental Windosd



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# Oakland Dredging Cost History





# “Morrow’s Thoughts” on the Present and Future

- “USACE Operating Environment”
- “California and Nationwide Environment”
- “The Regulatory Environment”
- “The Dredging Environment in Central and Northern California”

**WE CAN DO ALMOST ANYTHING, BUT  
WE CANNOT DO EVERYTHING!”**



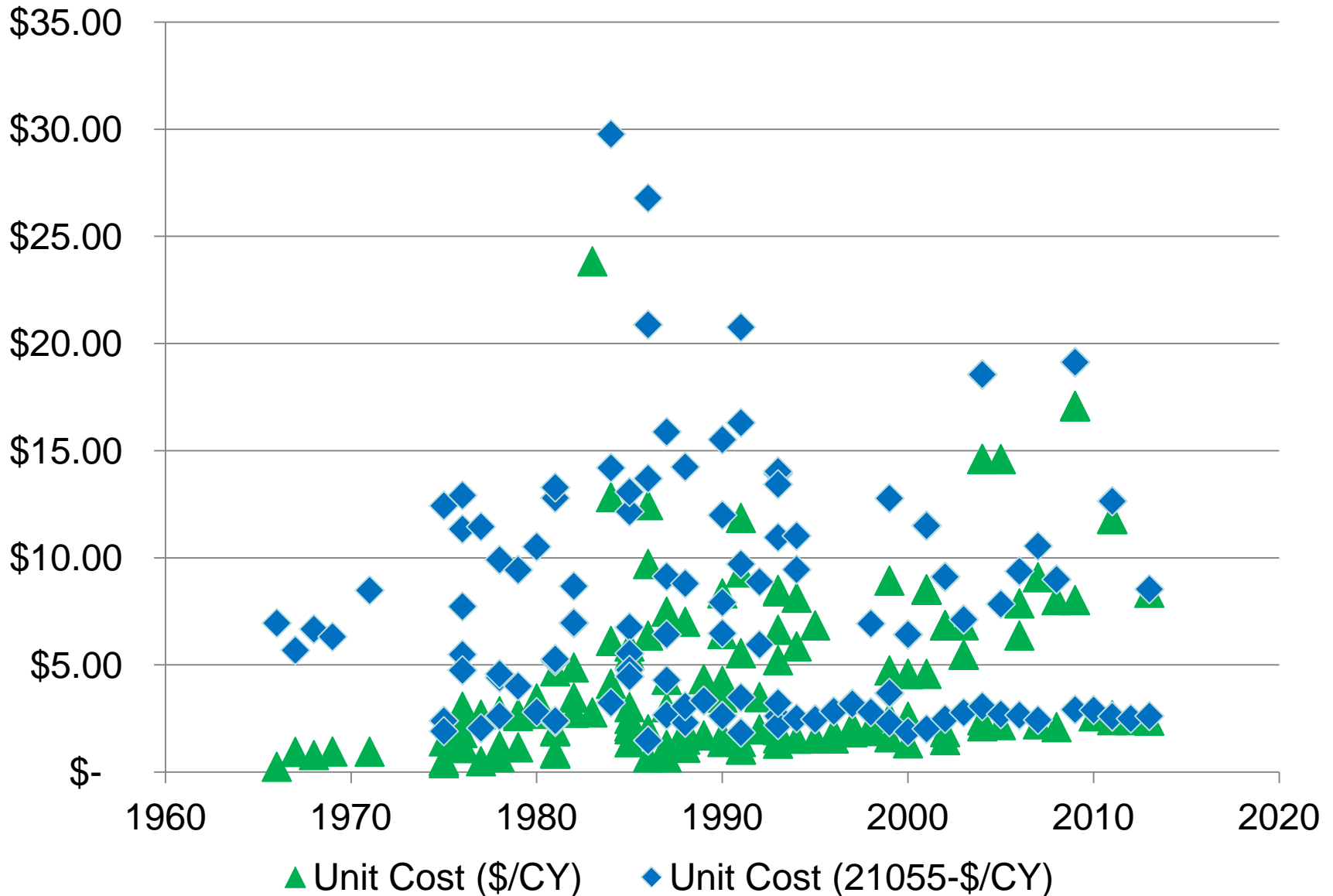
# Questions

*We the People*  
insure domestic Tranquillity, provide for the common  
and our Posterity, do ordain  
this Constitution

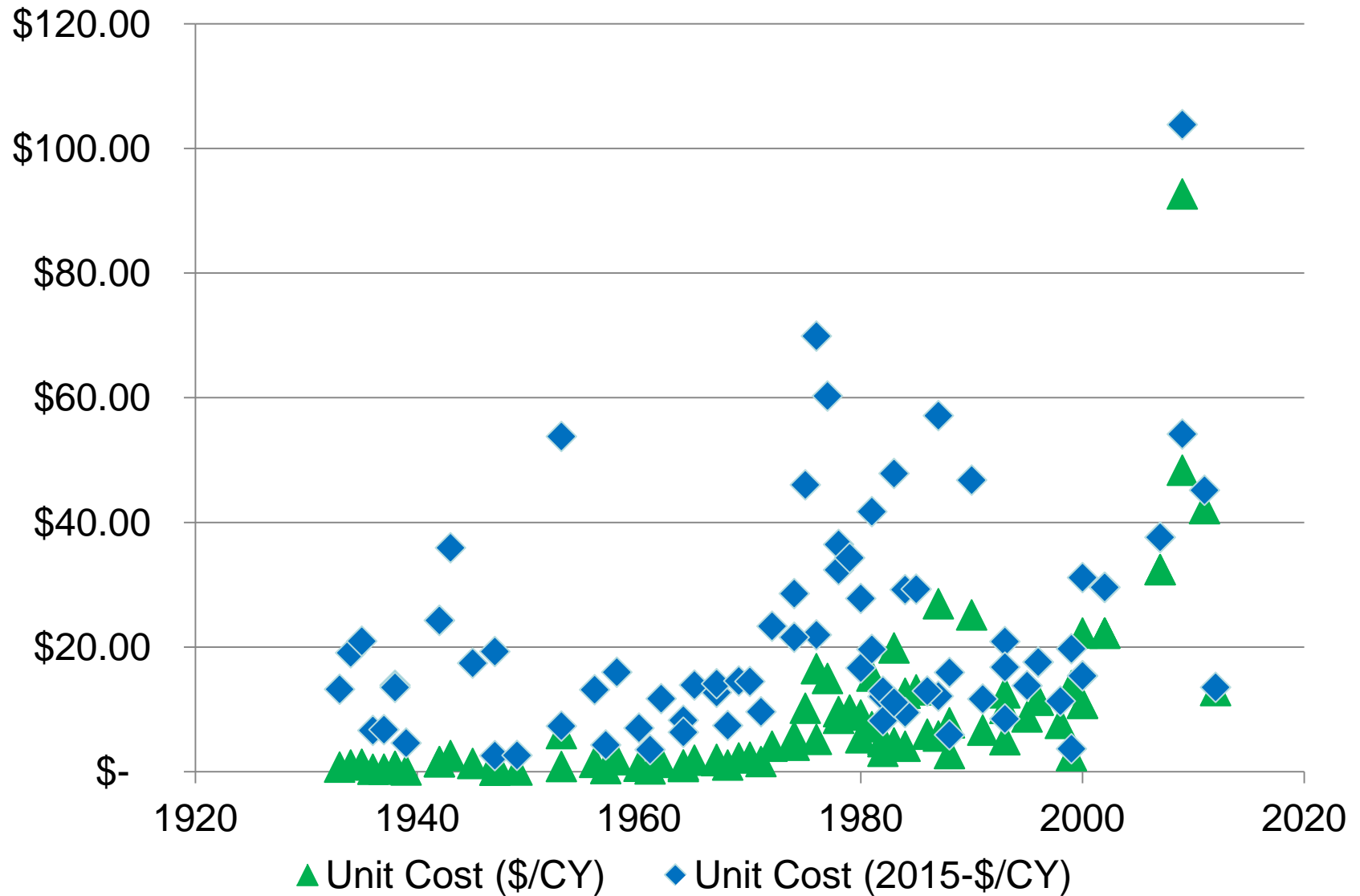




# Humboldt Dredging Cost History



# Coastal Dredging Cost History





# 2015-2017 Projected Dredging

Project	Maximum Dredge Volume (cy)				Placement	Dredge
	2015	2016	2017	3-yr total	Site	Type
<b>San Francisco Mainship Channel</b>	350,000	500,000	500,000	1,350,000	OBDS/SF-17 or SF-8	Hopper
<b>Oakland Harbor</b>	635,000	700,000	700,000	2,035,000	SF-DODS or Beneficial	Clamshell
<b>Richmond Outer Harbor</b>	200,000	250,000	250,000	700,000	SF-11 or SF-10	Hopper or Clamshell
<b>Richmond Inner Harbor</b>	165,000	400,000	400,000	965,000	SF-DODS or Beneficial	Clamshell
	Funding Limited					
<b>Pinole Shoal Channel</b>	47,000	200,000	200,000	447,000	SF-10 or SF-9	Hopper or Clamshell
	Low Shoaling					
<b>Suisun Bay Channel</b>	85,000	200,000	200,000	485,000	SF-16	Hopper or Clamshell
	Low Shoaling					
<b>Redwood City Harbor</b>	600,000	250,000	350,000	1,200,000	SF-11/SF-10 or out of Bay	Clamshell