

SAN FRANCISCO DISTRICT HIGHLIGHTS

CMANC SPRING MEETING 2022

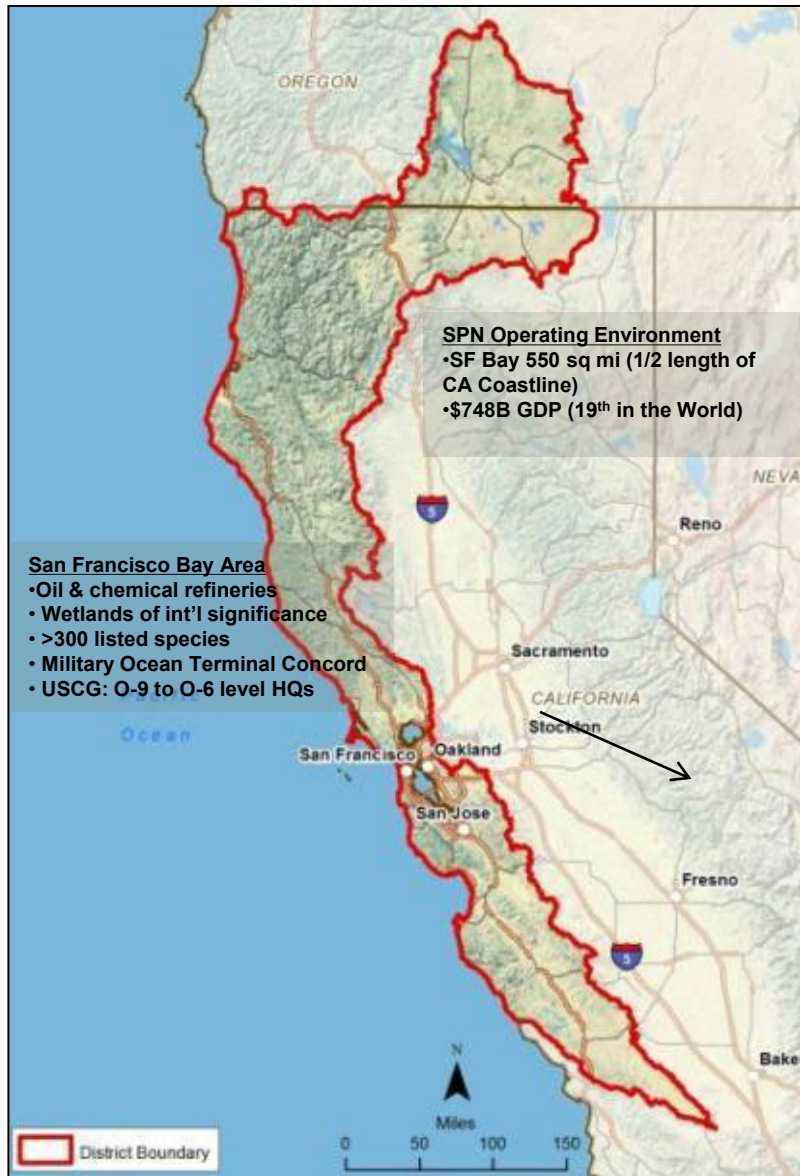
LTC Kevin Arnett
District Engineer
19 May 2022



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SPN OPERATING ENVIRONMENT



- **Political** – Large and influential delegation (21 Districts)
- **Dredging:** Our navigation projects energize the economy, supporting the SF Bay Area's \$75B+ annual maritime industry
- **Military:** MOTCO – Strategic Military Port
- **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 change, tsunamis, and wildfires
- **Ecosystem:** South San Francisco Bay Shoreline construction project is the largest wetlands restoration project this side of the Mississippi
- **Regulatory:** Annually issue 350 nationwide, 200 Regional General Permits, 18 Standard permits, and 30 Letters of Permission
- **Veterans Affairs:** Large scale construction projects for the VA



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SAN FRANCISCO DISTRICT MISSION

Mission

Deliver safe and innovative navigation, flood risk, ecosystem restoration, and government facilities solutions and support for the Nation.

Civil Works

Need authorization AND appropriation in 3 primary business lines--navigation, flood risk reduction, ecosystem restoration

- Planning Studies
- Construction Projects
- O&M for Lake Sonoma, Lake Mendocino and Federally authorized channels
- Regulatory
- Emergency Management

Military Construction

- MOTCO dredging
- Solar array at Moffett Field

Interagency and International Services

- Veterans Administration
- Lawrence Livermore Labs
- EPA
- National Park Service-Golden Gate National Recreation Area



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NAVIGATION BUSINESS LINE

→ MISSION

- To provide safe, reliable, efficient, and environmentally sustainable waterborne transportation systems for movement of commerce, national security needs, and recreation.

→ Program Objectives

- Maintain inland waterways and coastal channels, with emphasis on those with a high or moderate level of commercial use; and
- Support investment that would provide a high return to the Nation.

→ SPN Navigation Program

- Averages 14 projects and \$75 million per year
- And our debris mission

Innovate holistic approaches to aligning Civil Works projects with ecosystem benefits, such as **Engineering with Nature®**. The Corps will develop methods to *use dredged sediment* and other materials to restore habitat while reducing the risks to life and property from hazards like floods.



Engineering with Nature: SPN becomes 5th national proving ground

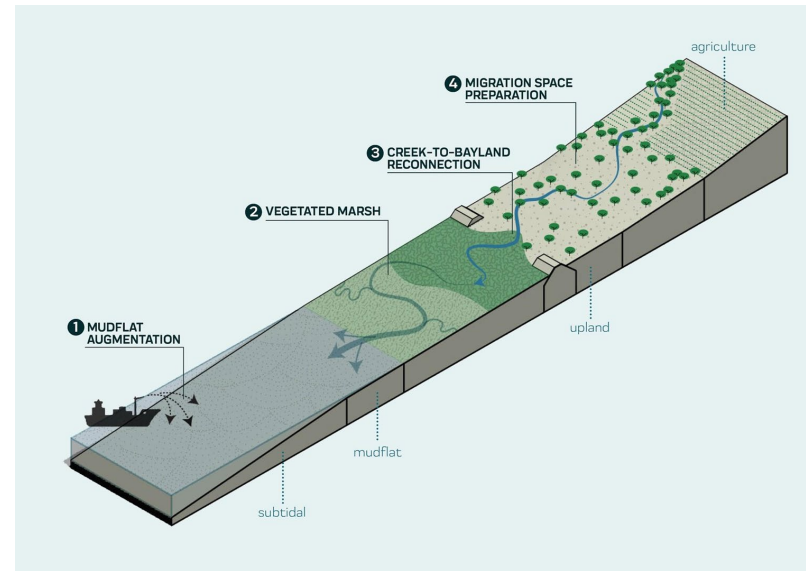
What is Engineering with Nature?

The intentional alignment of natural and engineering processes to efficiently and sustainably deliver economic, environmental and social benefits through collaboration

Key Elements

- Science and Engineering that produce efficiencies
- Using natural processes to maximum benefit
- Increase and diversity infrastructure value
- Science-based collaboration with stakeholders and partners

The goal: Integration of nature-based features into project alternatives, evaluating cost savings, and long-term benefits



Why San Francisco District?

- National scale: Provisions in WRDA that call out the need to consider and implement nature-based solutions
- Regional scale: Cost of doing business, demand from stakeholders → need for multi-benefit solutions
- EWN solutions are cost effective and adaptable: In a changing landscape, we need appropriate, sound and innovative projects
- This District can deliver these solutions!
- Opportunity to develop suite of tools suitable for west coast estuaries, coastlines, and river systems, building on successes (Dry Creek, Sears Point, Hamilton)

Next steps and the way forward

- Discussions, briefings, listening sessions
- Socialize across SPN and public
- Internal workshop(s)
- Stakeholder assessment, outreach to key external partners
- External stakeholder working
- Integrate EWN into Corps processes and principles

Contact

- Julie Beagle, Environmental Team Lead
- Tessa Beach, Environmental Sections Branch Chief
- Jessica Ludy (SPN), Juliette Hayes (SPD)



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CONNECTING WORK AND PUSHING FORWARD

Building from existing knowledge of flux of sediment between shallows and mudflats and marshes

Science Framework and Modeling

- Research Framework by SFEI + Stantec
- Hydrodynamic simulation models by MacWilliams in South Bay and Corte Madera
- ERDC/USACE modeling and pilots
- Barnegat Inlet, New Jersey Back Bays
- RDMMP (SFEI, USACE)

Field studies

- Marsh Sediment in Translation (MSIT)
 - Studies at China Camp (NERR, USGS)
- Bay Sediment RMP
 - Studies at Whales tale (sediment transport across mudflats and onto marshes) (Lacy and Thorne, USGS) 2021
- Final report for sea-level rise response modeling for San Francisco Bay estuary tidal marshes (USGS)
 - 12 sites around Bay

Possible Actions

- Strategic placement
 - 1122 Strategic Shallow Water Placement pilot
 - Regional approach to strategic placement

Monitoring/AM

- 1122 Project specific monitoring
- Regional monitoring (WRMP)



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SECTION 1122 OF WRDA 2016

BENEFICIAL USE OF DREDGED MATERIAL PILOT PROGRAM

- Section 1122 of WRDA of 2016 requires USACE to establish a pilot program to carry out 10 projects for the beneficial use of dredged material
- Proposal by State Coastal Conservancy with BCDC requested funds for both direct and strategic placement
- Working group drafted a framework to recommend ways to assess impacts, site suitability, logistics, monitoring (SFEI)
- SF District was funded to do strategic shallow water placement pilot project to test new innovative method

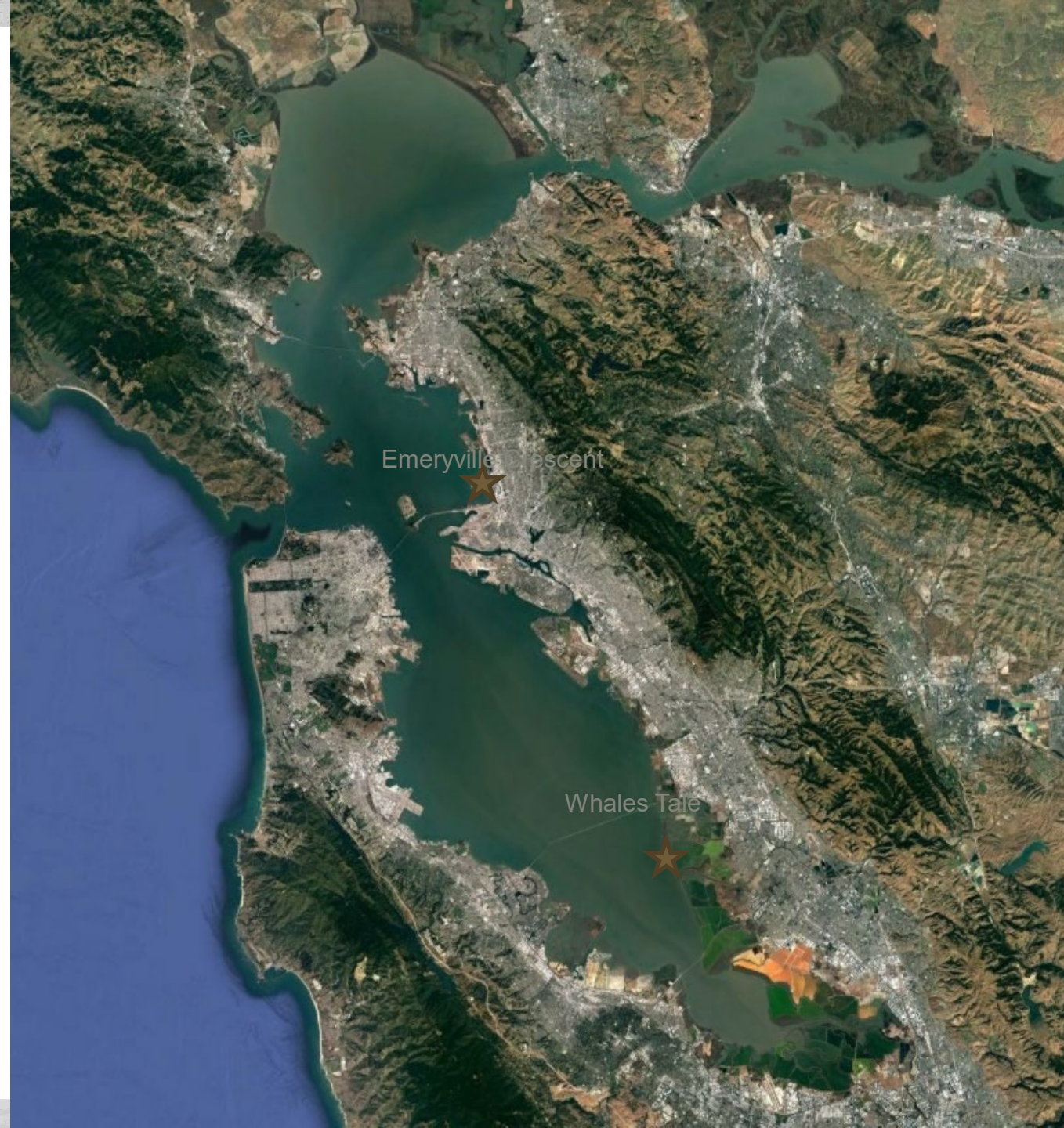


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ONGOING STEPS

- **Final site screening** ★
 - Considering criteria
 - Input from stakeholders
 - Modeling using UnTRIM-SWAN-SediMorph to simulate existing conditions, and placement alternatives
- **Environmental documentation and compliance, monitoring**
 - Preparing an Environmental Assessment Working with the Waterboard as the CEQA lead
 - Developing monitoring plan for pre, during and post placement
- **Public Outreach**
 - Citizen science



THE SF BAY REGIONAL DREDGE MATERIAL MANAGEMENT PLAN (RDMMP)

- Comprehensive approach
- Focus on addressing dredge material placement issues.
- Improve environmental compliance based upon best available science to inform environmental restrictions/limitations
- Started with updated Preliminary Assessments to validate continued economic justification and ensure a 20-yr placement capacity




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SPN BUILDING INTERNAL CAPACITY TO DELIVER EQUITABLY

- 'Bridging the Equity Gap' Webinar series
- Lunch & Learns; Presentations on EJ at CPCX, IWR
- On-call EJ support to PDTs as requested
- Sharing resources through EJ library
- Convening monthly EJ Lunch Hour
- Consistent w/ ASA(CW) March 2022 EJ Implementation Memo





**Bridging the Equity Gap:
Flood Resilience for the Whole Community**

***Exercises in Risk Communication:
Including Socially Vulnerable Populations***



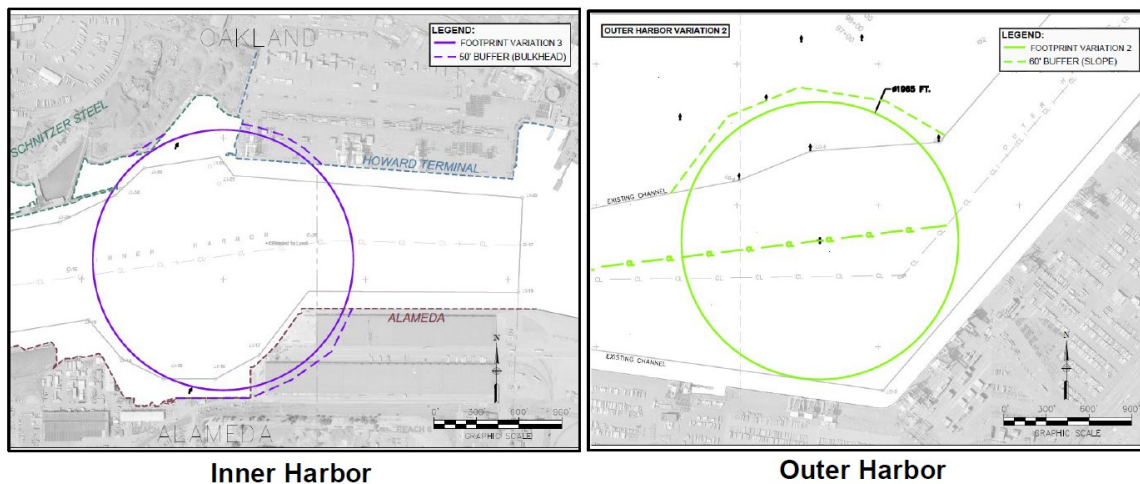
Dr. Nnenia Campbell
Deputy Director, Bill Anderson Fund
Research Associate, Natural Hazards Center

  September 21, 2021

OAKLAND HARBOR TURNING BASINS GENERAL INVESTIGATIONS PLANNING STUDY

	NED Plan		TSP / CBP
	D-0 – INNER AND OUTER HARBOR	D-1 – INNER AND OUTER HARBOR (WITH BENEFICIAL USE)	D-2 - INNER AND OUTER HARBOR (WITH BENEFICIAL USE & ELECTRIC DREDGES)
OTHER SOCIAL EFFECTS AS COMPARED TO NED		Additional acres of wetland restored	Additional acres of wetland restored Reduced air quality-related health impacts in an already disproportionately impacted West Oakland community

JAN 2021 ASA(CW) Memo directed consideration of comprehensive benefits



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CLOSING THOUGHTS

- The Federal Standard still applies
- San Francisco Bay lacks a significant cost-share partner to pay for the beneficial use increment
- Limited placement locations (but 1122 Pilot may help)
- Agency policies make change hard
- Sea-level rise and changing climate will result in a different environment
- Time to think differently—Water Board Oakland proposal



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