

35+ Years of Partnership in Action

Thomas Mumley
Assistant Executive Officer
San Francisco Bay
Regional Water Quality Control Board



State of the Estuary Conference

March 12, 2024

ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF ENFORCEMENT

REPORT ON

POLLUTION AFFECTING
SHELLFISH HARVESTING
IN
SAN FRANCISCO BAY, CALIFORNIA

PARTIAL PRELIMINARY DRAFT

FEDERAL FIELD INVESTIGATIONS CENTER-DENVER
DENVER, COLORADO
AND
REGION IX, SAN FRANCISCO, CALIFORNIA

SEPTEMBER 1972

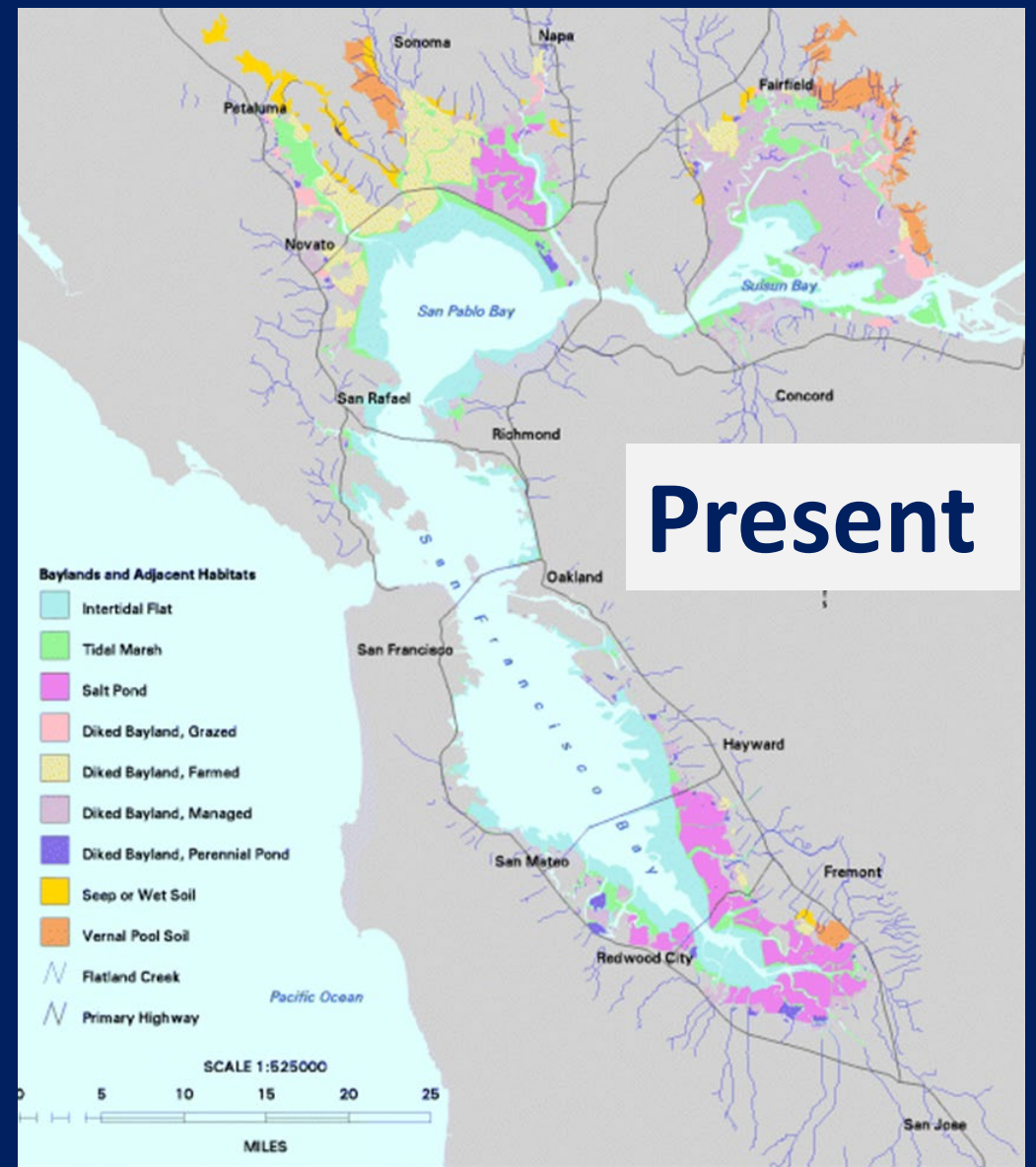
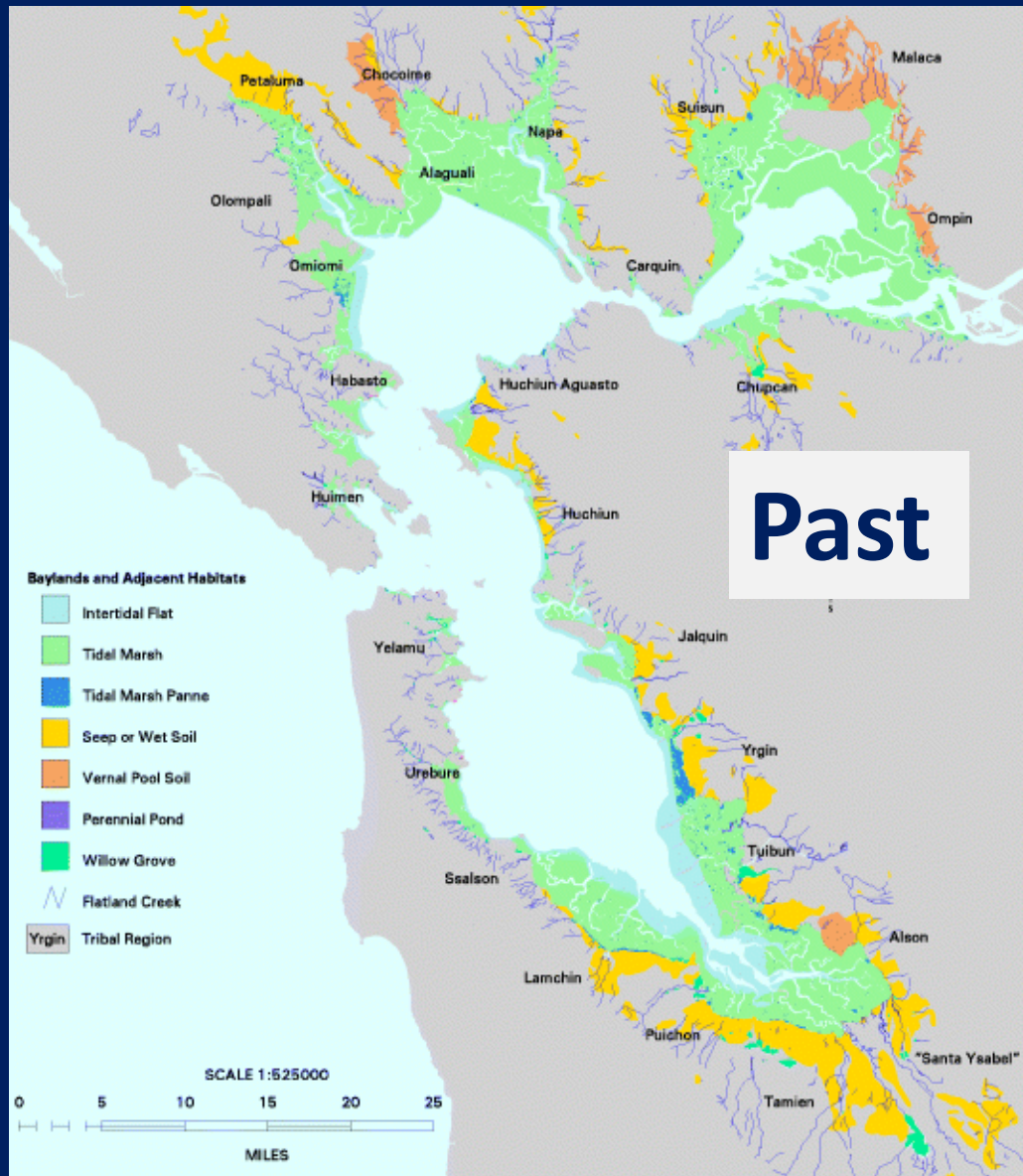


1941 Bay = “obnoxiously and notoriously foul and an affront to civic pride and common decency”

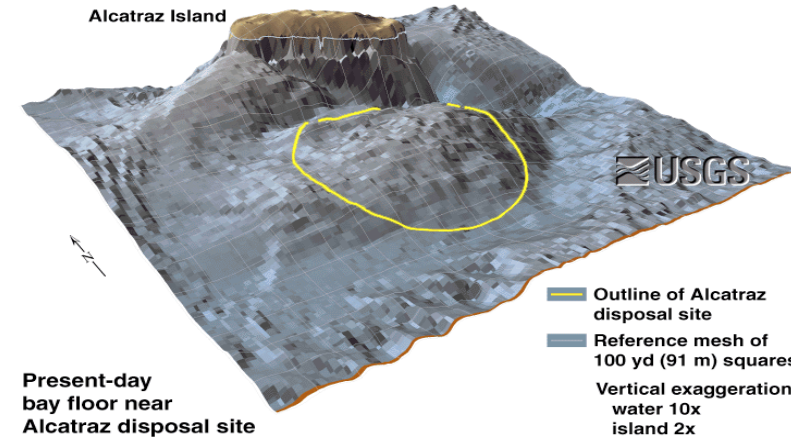
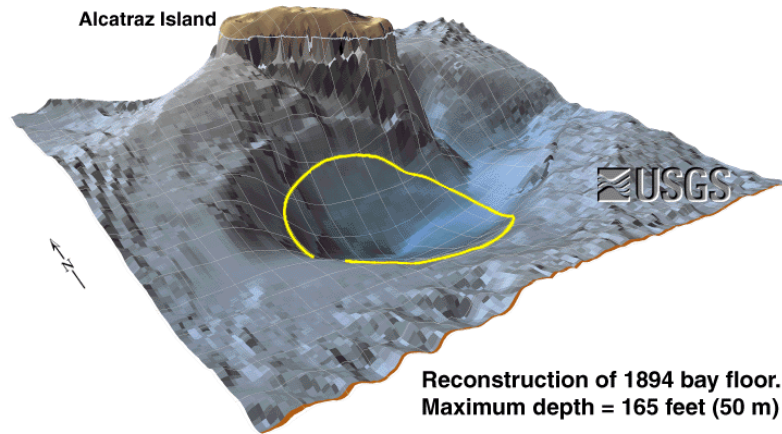
1972 EPA Report

- Thousands of dead fish most years
- Peak > 100,000 fish in 1965
- Due to oil waste, sewage, algal blooms and low dissolved oxygen

90% Loss of Bay Wetlands



Dredge Disposal Was Contentious



Severe Mounding at the Alcatraz Disposal Site Discovered 1982

Blockade of Fishing Boats Surrounding Dredge Barge – late 1980s



1986 Basin Plan Amendment

- 💧 Metals (copper) water quality objectives and effluent limits
- 💧 Urban runoff management
- 💧 Need for monitoring

Canyon between Managers and Scientists

Managers didn't know
what scientists knew



Scientists didn't know what
managers wanted to know



One Hundredth Congress of the United States of America

AT THE FIRST SESSION

Begun and held at the City of Washington on Tuesday, the sixth day of January,
one thousand nine hundred and eighty-seven

An Act

To amend the Federal Water Pollution Control Act to provide for the renewal of the quality of the Nation's waters, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE; TABLE OF CONTENTS; AMENDMENTS TO FEDERAL WATER POLLUTION CONTROL ACT; DEFINITION OF ADMINISTRATOR.

(a) SHORT TITLE.—This Act may be cited as the "Water Quality Act of 1987".

(b) TABLE OF CONTENTS.—

Sec. 1. Short title; table of contents; amendments to Federal Water Pollution Control Act; definition of Administrator.
Sec. 2. Limitation on payments.

TITLE I—AMENDMENTS TO TITLE I

Sec. 101. Authorizations of appropriations.
Sec. 102. Small flow clearinghouse.
Sec. 103. Chesapeake Bay.
Sec. 104. Great Lakes.
Sec. 105. Research on effects of pollutants.

TITLE II—CONSTRUCTION GRANTS AMENDMENTS

Sec. 201. Time limit on resolving certain disputes.
Sec. 202. Federal share.
Sec. 203. Agreement on eligible costs.
Sec. 204. Design/build projects.
Sec. 205. Grant conditions; user charges on low-income residential users.
Sec. 206. Allotment formula.
Sec. 207. Rural set aside.
Sec. 208. Innovative and alternative projects.
Sec. 209. Regional organization funding.
Sec. 210. Marine CSO's and estuaries.
Sec. 211. Authorization for construction grants.
Sec. 212. State water pollution control revolving funds.
Sec. 213. Improvement projects.
Sec. 214. Chicago tunnel and reservoir project.
Sec. 215. Ad valorem tax dedication.

TITLE III—STANDARDS AND ENFORCEMENTS

Sec. 301. Compliance dates.
Sec. 302. Modification for nonconventional pollutants.
Sec. 303. Discharges into marine waters.
Sec. 304. Filing deadline for treatment works modification.
Sec. 305. Innovative technology compliance deadlines for direct dischargers.
Sec. 306. Fundamentally different factors.
Sec. 307. Coal remining operations.
Sec. 308. Individual control strategies for toxic pollutants.
Sec. 309. Pretreatment standards.
Sec. 310. Inspection and entry.
Sec. 311. Marine sanitation devices.
Sec. 312. Criminal penalties.
Sec. 313. Civil penalties.
Sec. 314. Administrative penalties.
Sec. 315. Clean lakes.

* Correction Made to Section 306 as per S.Con.Res.10.

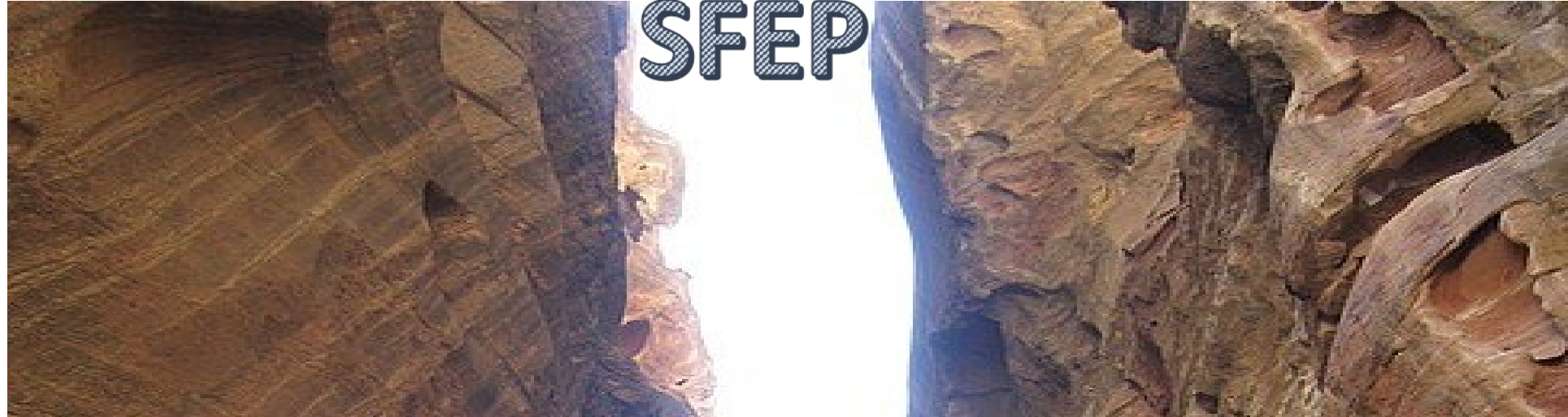
Water Quality Act of 1987

Section 319 – Nonpoint Sources of Pollution

Section 320 – National Estuary Program

Section 402 – Municipal and industrial
stormwater discharge permits

SFEP Brought Managers and Scientists Together



Management Committee Members

Local Government-Civic

Association of Bay Area Governments
City and County of San Francisco
City of Orinda
City of Pleasant Hill
City of Sacramento
City of Vacaville
League of Women Voters of the Bay
Marin County
San Mateo County

State Agencies

Central Valley Regional Water Quality Control Board
Coastal Conservancy
Department of Fish and Game
Department of Health Services
Department of Food and Agriculture
Department of Water Resources
San Francisco Bay Conservation and Development Commission
San Francisco Bay Regional Water Quality Control Board
State Water Resources Control Board

Federal Agencies

Army Corps of Engineers
Bureau of Reclamation
Environmental Protection Agency
Fish and Wildlife Service
National Marine Fisheries Service
Naval Facilities Engineering Command

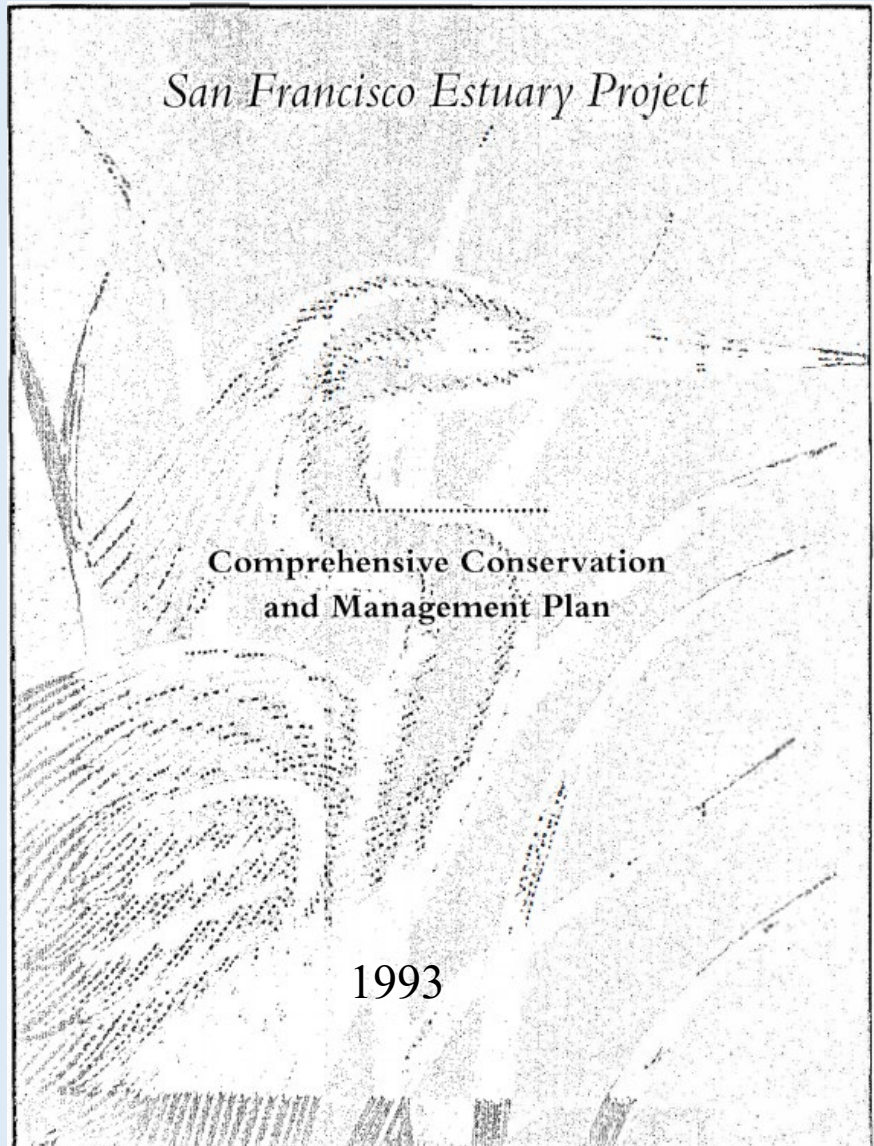
Business-Water-Discharger

Association of California Water Agencies
Bay Area Council
Bay Area Dischargers Association
Bay Area League of Industrial Associations
Bay Planning Coalition
Building Industry of Northern California
California Farm Bureau Federation
Sacramento Metropolitan Chamber of Commerce
Santa Clara Valley Water District

Environment-Conservation

California Striped Bass Association
California Waterfowl Association
Citizens Committee to Complete the Refuge
Citizens for a Better Environment
Marin Audubon Society
Pacific Coast Federation of Fishermen's Associations
Pacific Interclub Yachting Association
Recreational Boaters of California
Save San Francisco Bay Association
Sierra Club
Solano County Farmlands and Open Space Foundation
United Anglers of California





Program Areas

- 💧 Aquatic Resources *
- 💧 Wildlife
- 💧 Wetlands Management *
- 💧 Water Use
- 💧 Pollution Prevention and Reduction
- 💧 Dredging and Waterway Modification
- 💧 Land Use
- 💧 Public Involvement and Education
- 💧 Research and Monitoring

*** Minority Reports**

San Francisco Estuary Project

2007
Comprehensive Conservation and
Management Plan



Program Areas

- 💧 Aquatic Resources
- 💧 Wildlife
- 💧 Wetlands Management
- 💧 Water Use
- 💧 Pollution Prevention and Reduction
- 💧 Dredging and Waterway Modification
- 💧 Land Use **and Watershed Management**
- 💧 Public Involvement and Education
- 💧 Research and Monitoring

2010 and 2013 Strategic Plans

San Francisco Estuary Partnership Strategic Plan 2013–2018



Estuary climate change resilience



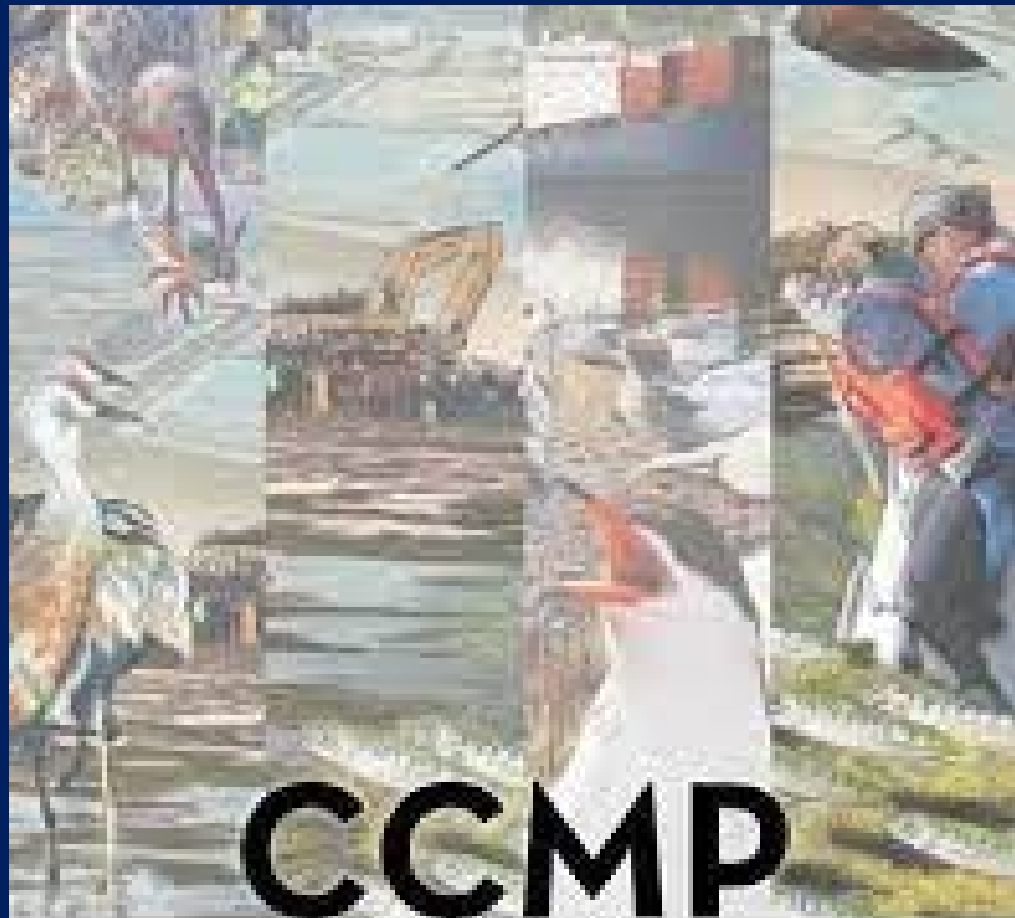
Integrated watershed stewardship



**Water quality improvements
and protections**



Champion for the Estuary



CCMP 2016

AKA Estuary Blueprint

VISION FOR 2010 - ACTION FOR 2016

SAN FRANCISCO ESTUARY PARTNERSHIP
OCTOBER 2016

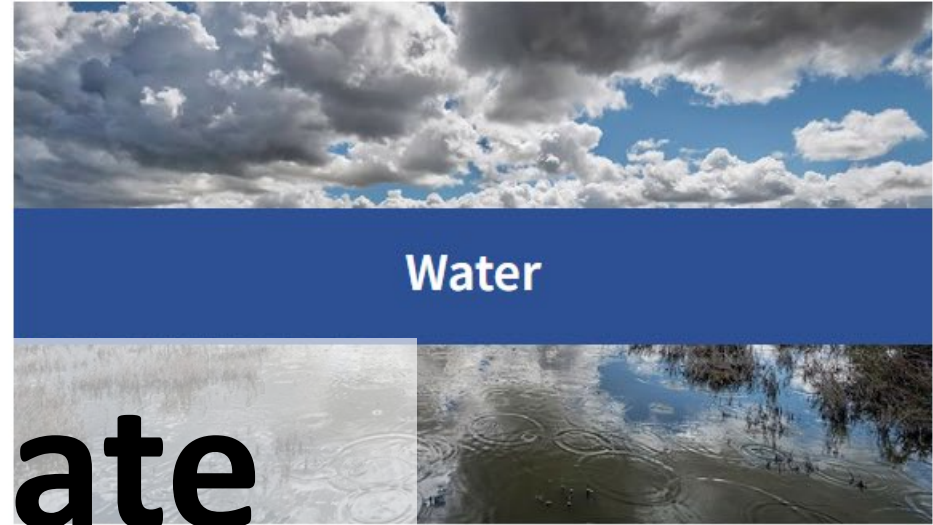


SAN
FRANCISCO
Estuary
Blueprint

2022



2016 and 2022 Estuary Blueprint Goals



Climate



Equity



Bay Restoration Regulatory Integration Team



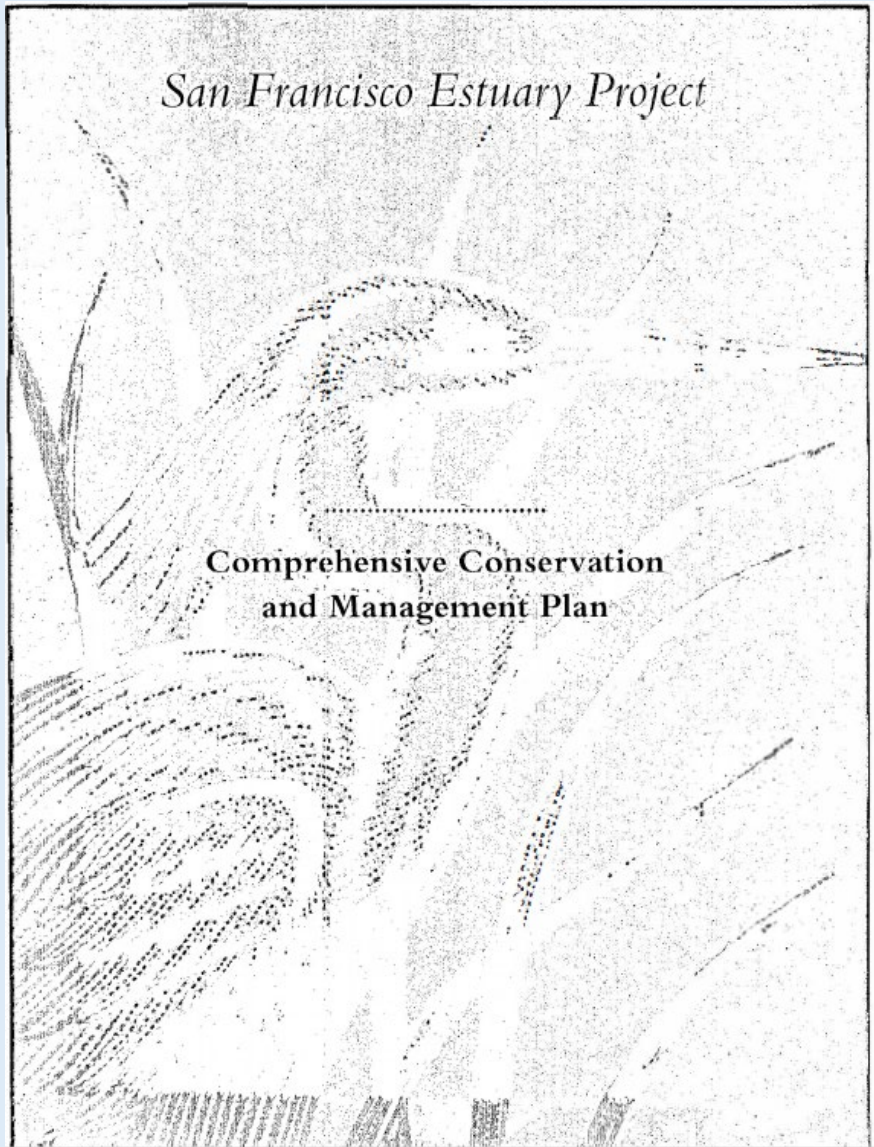
Report from
THE COMMUNITY COALITION FOR A
NAPA RIVER FLOOD MANAGEMENT PLAN

*The Napa River
is a living river,
flowing without end,
supporting all life in the
Napa River Valley.*

*Now, an unprecedented
Valleywide coalition of
community interests has come
together to create a plan that
protects and enhances the
long-term health of our
most vital resources.*

The Living River Strategy
A COMMUNITY-BASED PLAN FOR FLOOD PROTECTION AND WATERSHED MANAGEMENT





2003 CCMP Research and Monitoring Actions

RM-1.1 Establish SF Estuary Institute

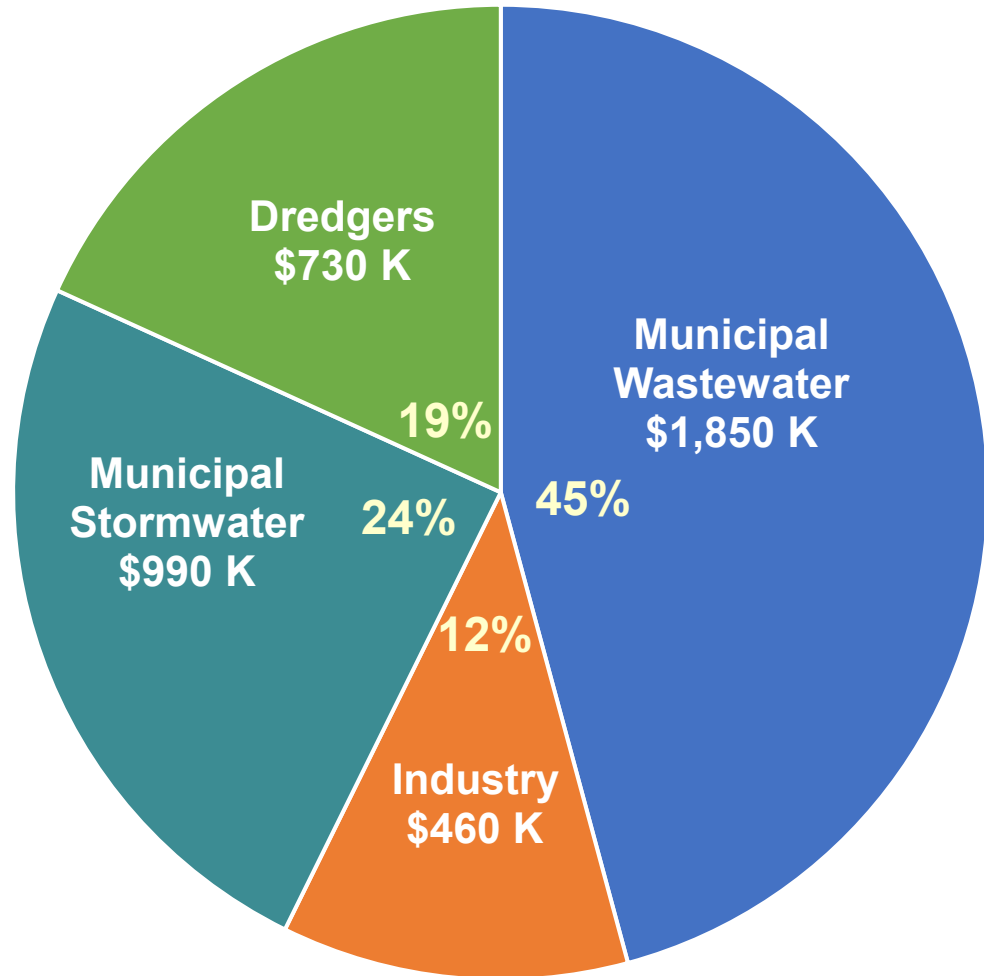
RM-2.1 Establish Regional Monitoring Program



RMP
REGIONAL MONITORING
PROGRAM FOR WATER QUALITY
IN SAN FRANCISCO BAY

sfei.org/rmp

SF Bay RMP Annual Funding

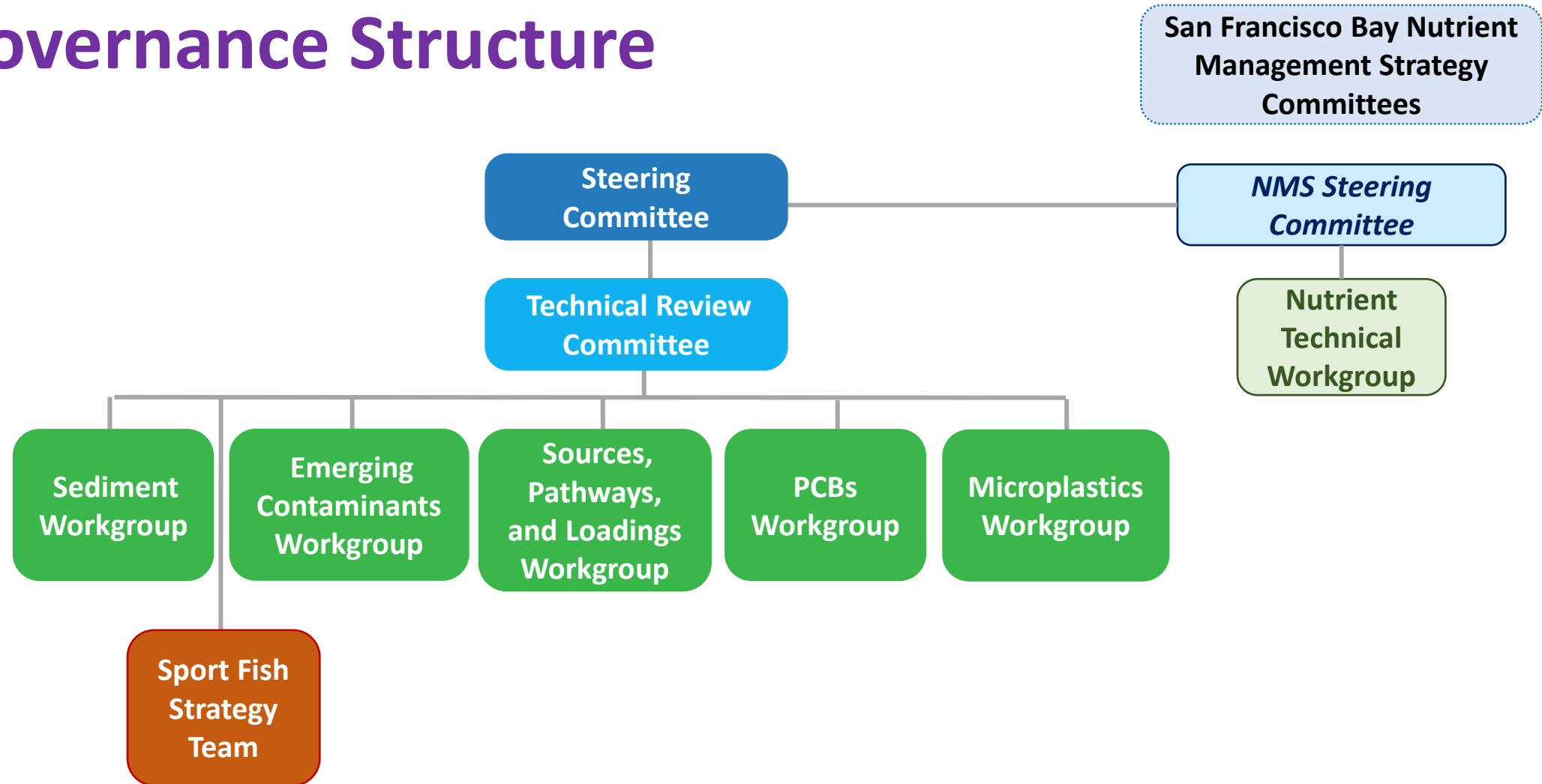


> 30 years

Start ~\$1 million/yr

Now ~\$4.5 million/yr

SF Bay Regional Monitoring Program Governance Structure

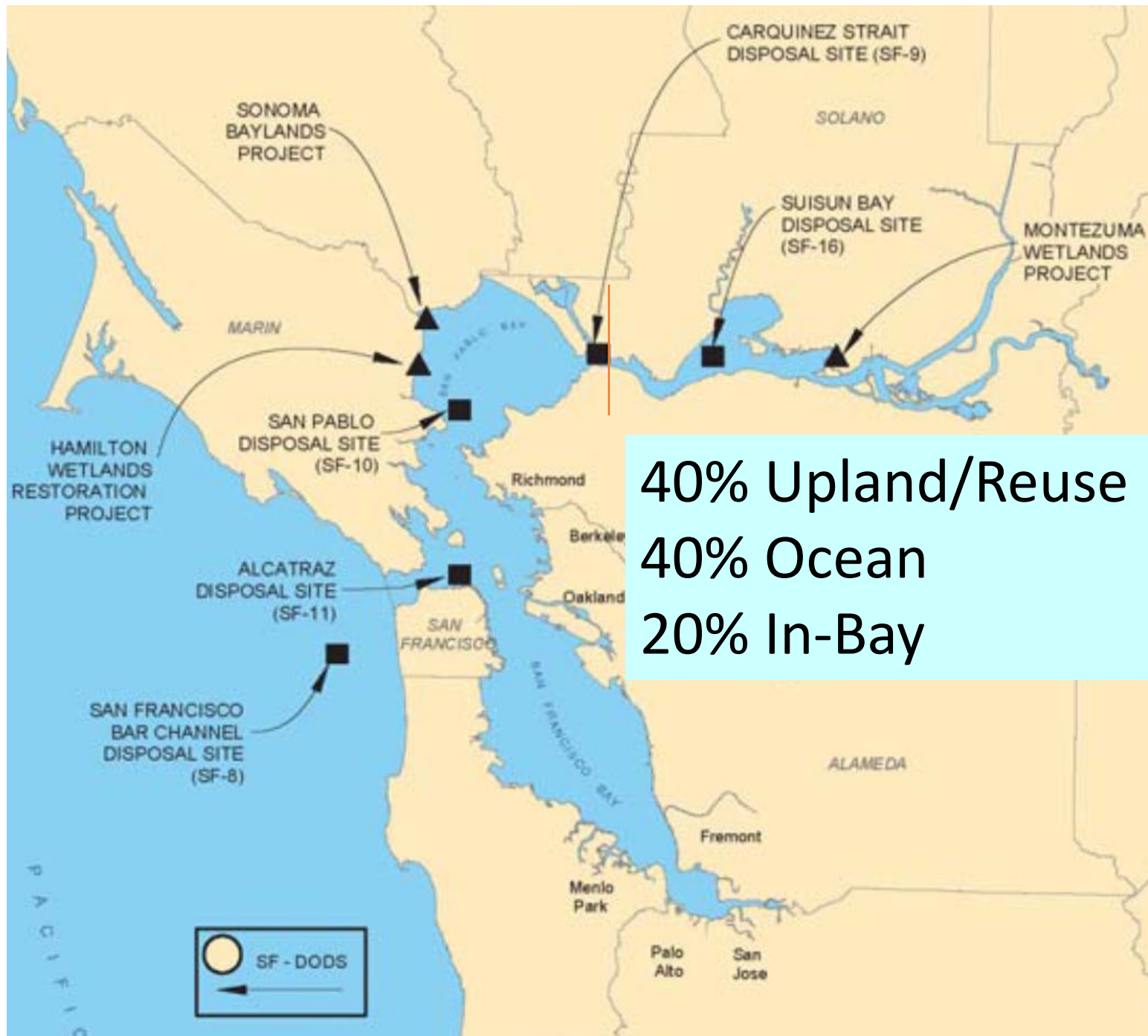


Long Term Management Strategy for Placement of Dredged Material



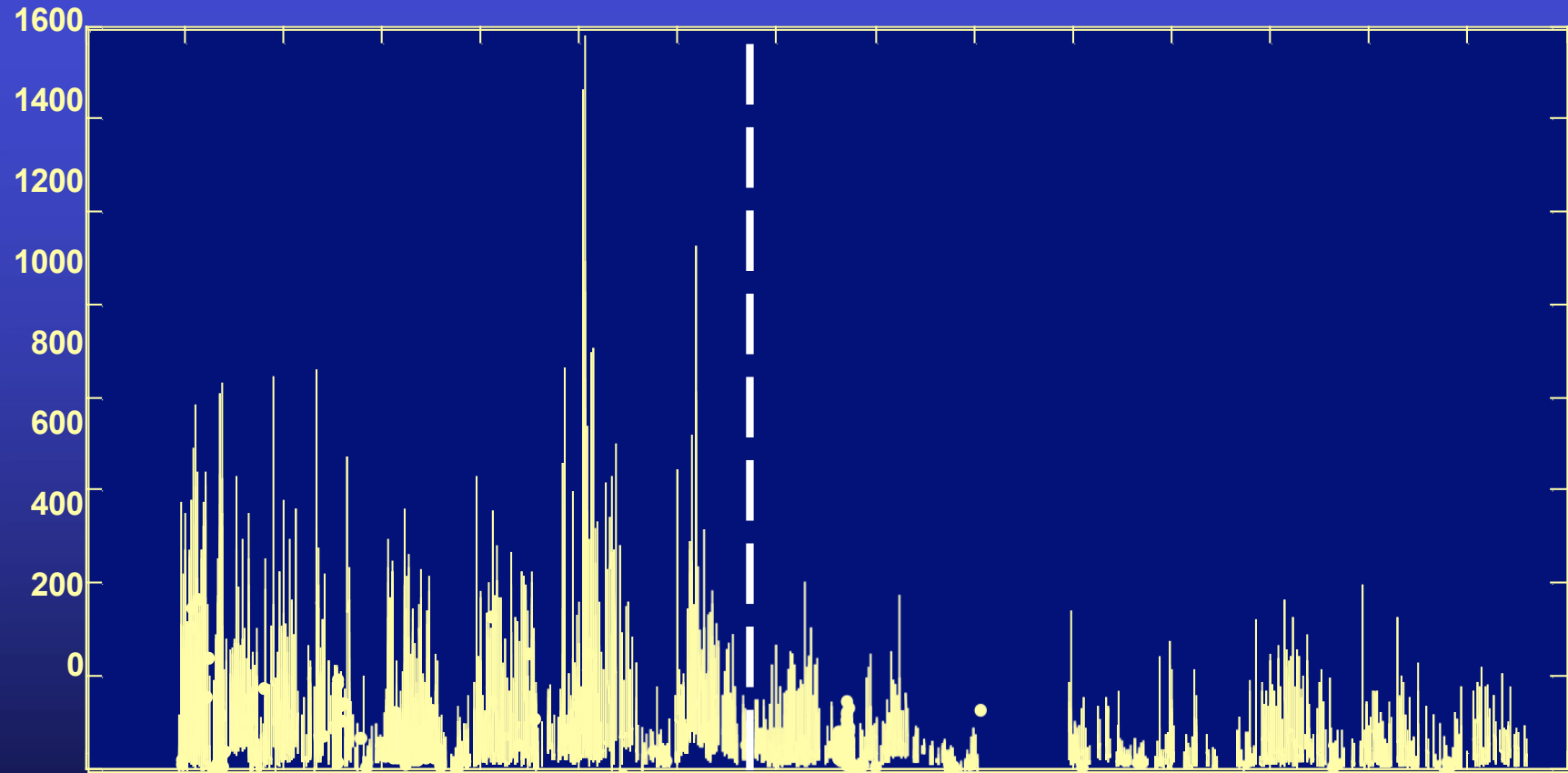
US Army Corps of Engineers®

Dredged Material Management Office



40% Upland/Reuse
40% Ocean
20% In-Bay

WY1999: 36% step decrease in Bay Suspended Sediment Concentration



Point San Pablo, mid-depth, USGS

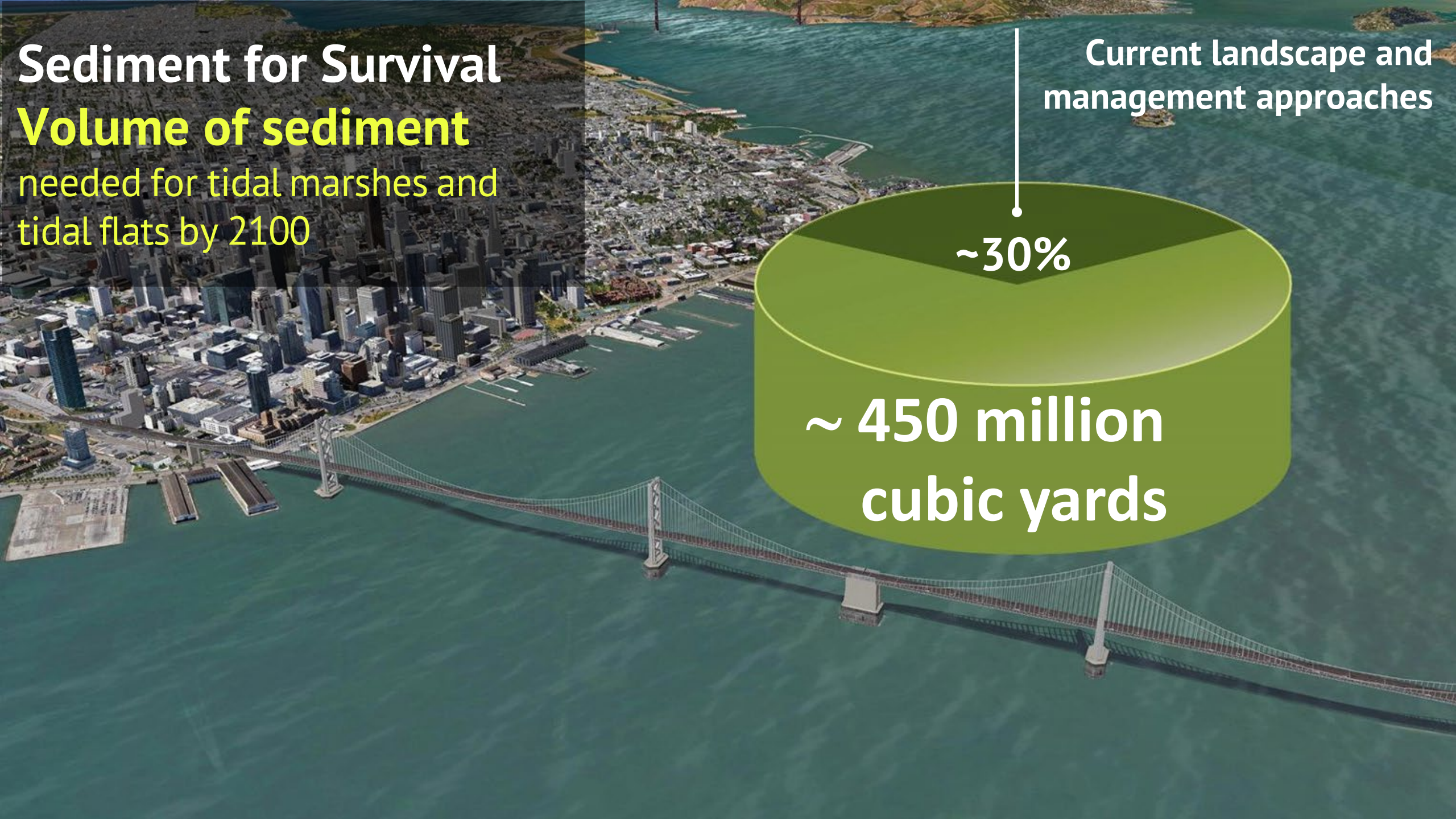
Sediment for Survival

Volume of sediment
needed for tidal marshes and
tidal flats by 2100

Current landscape and
management approaches

~30%

~ 450 million
cubic yards

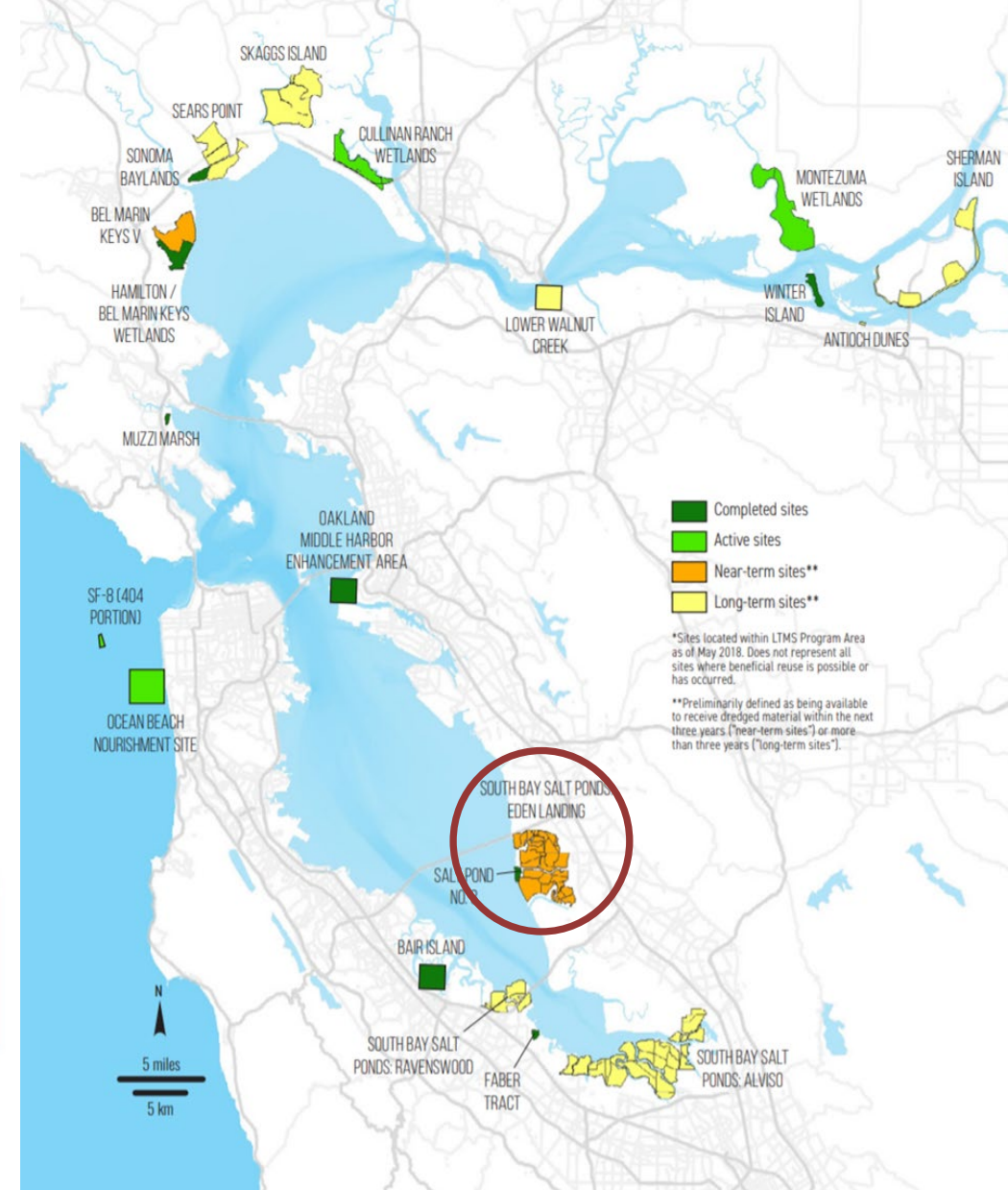
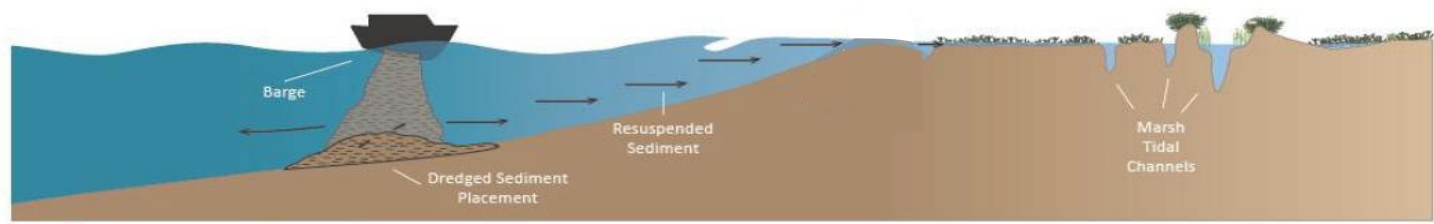


Beneficial Reuse Placement Sites

Strategic Placement Pilot

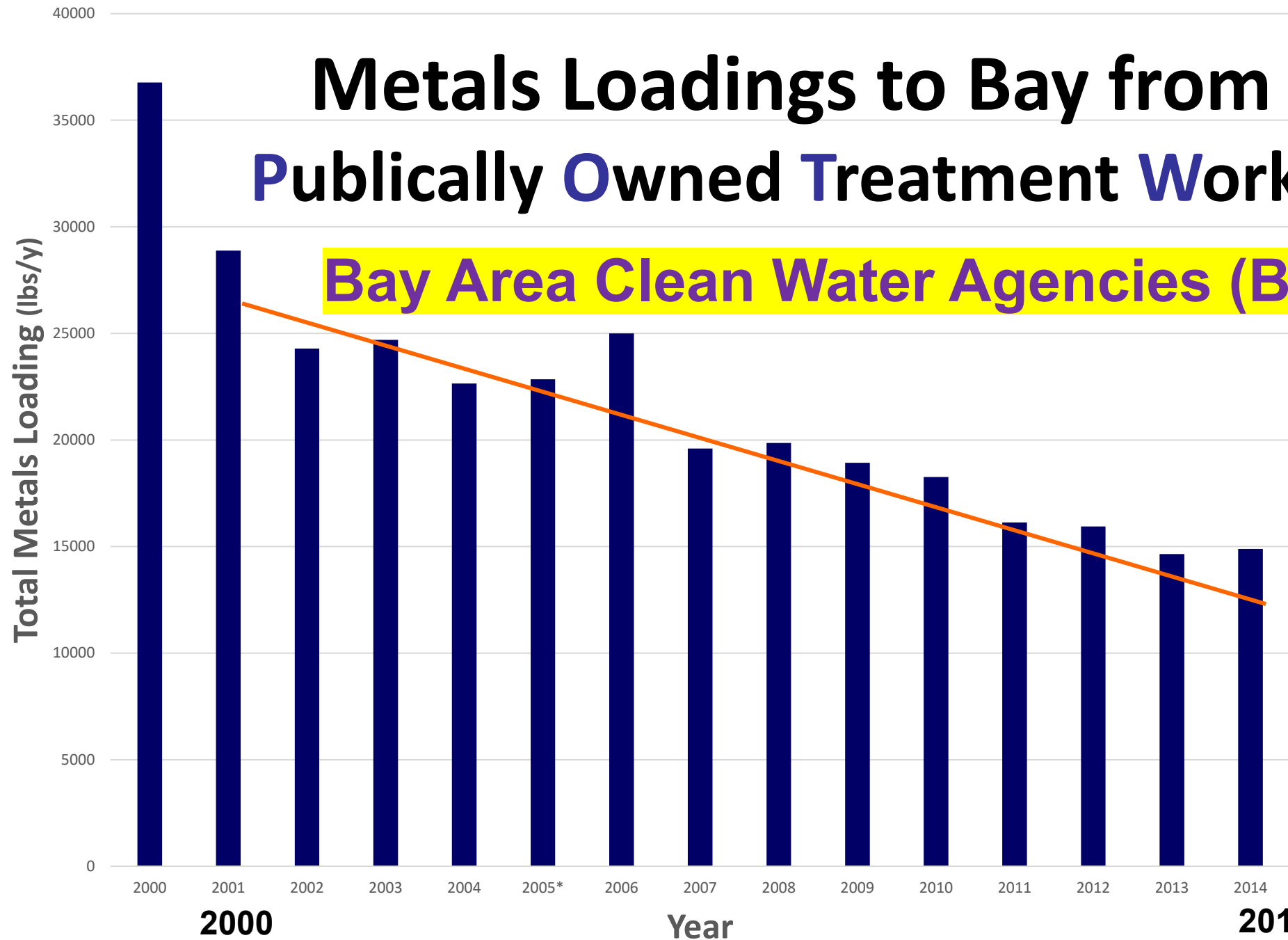
~100 thousand cubic yards near Whale's Tail Marsh at Eden Landing

Shallow-Water Placement



Metals Loadings to Bay from Publically Owned Treatment Works

Bay Area Clean Water Agencies (BACWA)



February 1993

ESTUARY

YOUR BAY-DELTA NEWS CLEARINGHOUSE

Santa Clara Confronts Urban Runoff

The South Bay's most urbanized county and the region's most impaired water body have one critical thing in common — polluted urban runoff. Santa Clara Valley municipalities took a big step forward in their six-year-long fight to reduce urban runoff pollution this December, when their cooperative nonpoint source pollution control program completed a 50-page source identification and control report. The report amounts to a national first in urban runoff and stormwater control, and identifies one of the biggest culprits as cars and transportation.

Urban runoff is one of the largest sources

other automotive sources. "We need to refine and validate all these numbers," notes the Regional Board's Tom Mumley, "before we can challenge the auto industry."

The new report also outlines a plan to reduce vehicle miles travelled, promote cleaner alternative fuels, and lower emission standards for particulates in diesel exhaust. The Program hopes to get help from other county and regional congestion management and air quality agencies in accomplishing these goals.

"It's exciting, but challenging because we're out there blazing the trail," says Keith Whitman of Santa Clara's nonpoint program.

Cities and flood control districts in other counties are now banding together and following in Santa Clara's footsteps — Alameda already has its permit, Contra Costa will soon get one, and San Mateo is just beginning the process. Taken together, these

Santa Clara Valley Urban Runoff Pollution Prevention Program Source Identification and Control Report

Copper from brake pads → Brake Pad Partnership

2010 Legislation (SB 346)



Copper < 5% < .5%
2021 2025

California Motor Vehicle Brake Friction Material Law







Municipal Regional Stormwater Permit

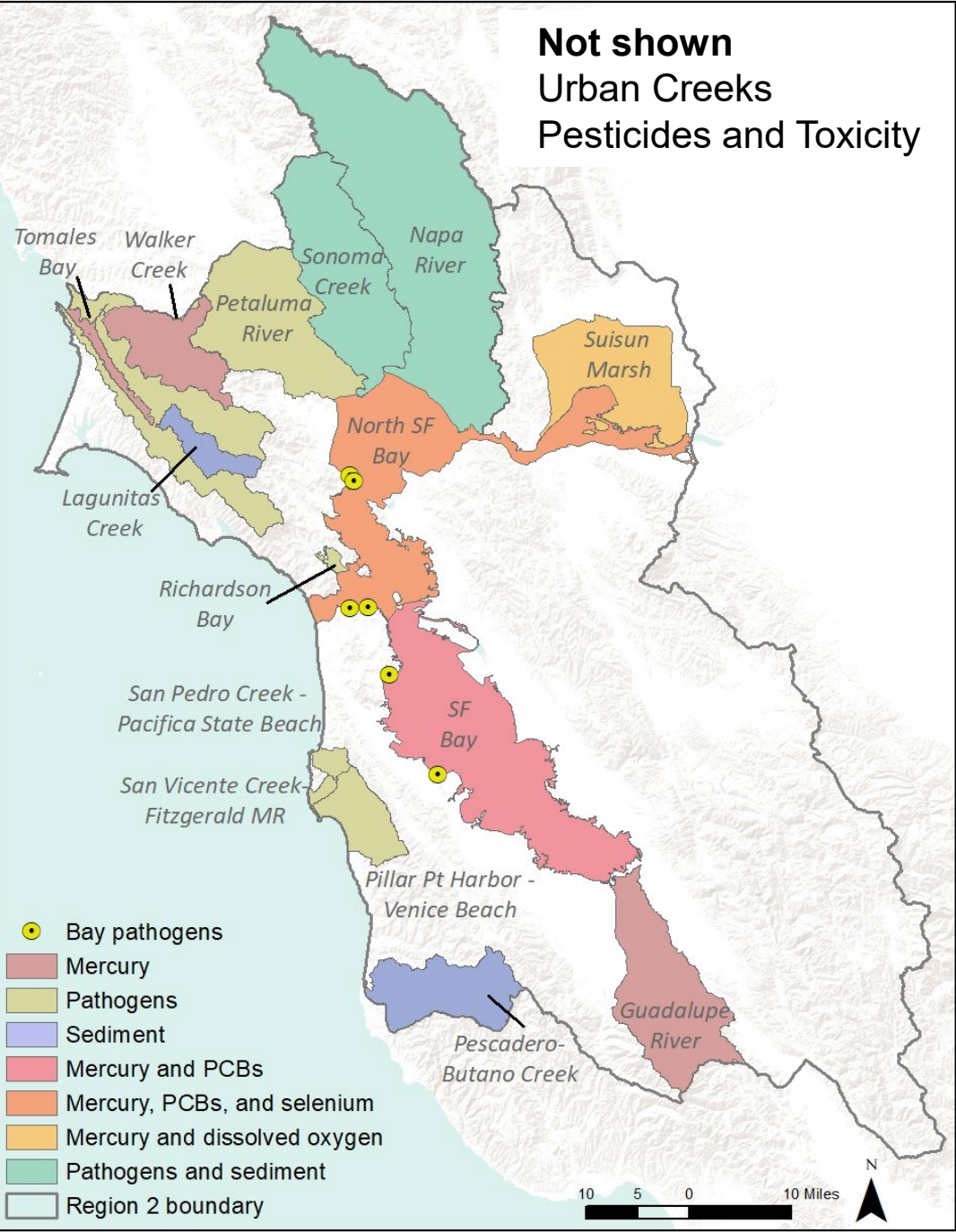
Treat runoff from development
projects > 5,000 ft²

To date > 5,000 projects
treat ~ 40 sq. miles

1,000 sq. miles of Bay Area is urban

SF Bay Region

Total Maximum Daily Loads



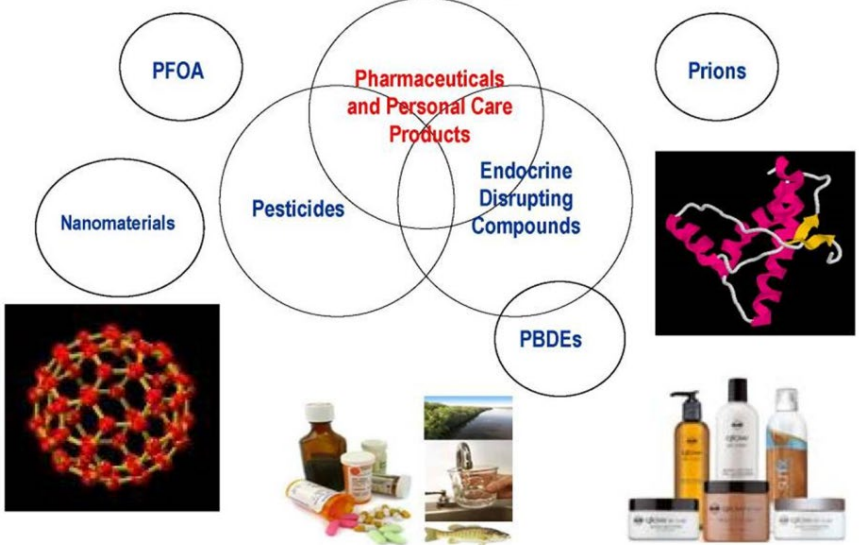
Central Valley Region TMDLs

- Delta Methylmercury
- Central Valley Pesticides
- San Joaquin River Selenium
- Grasslands Marshes Selenium
- San Joaquin River Salt and Boron

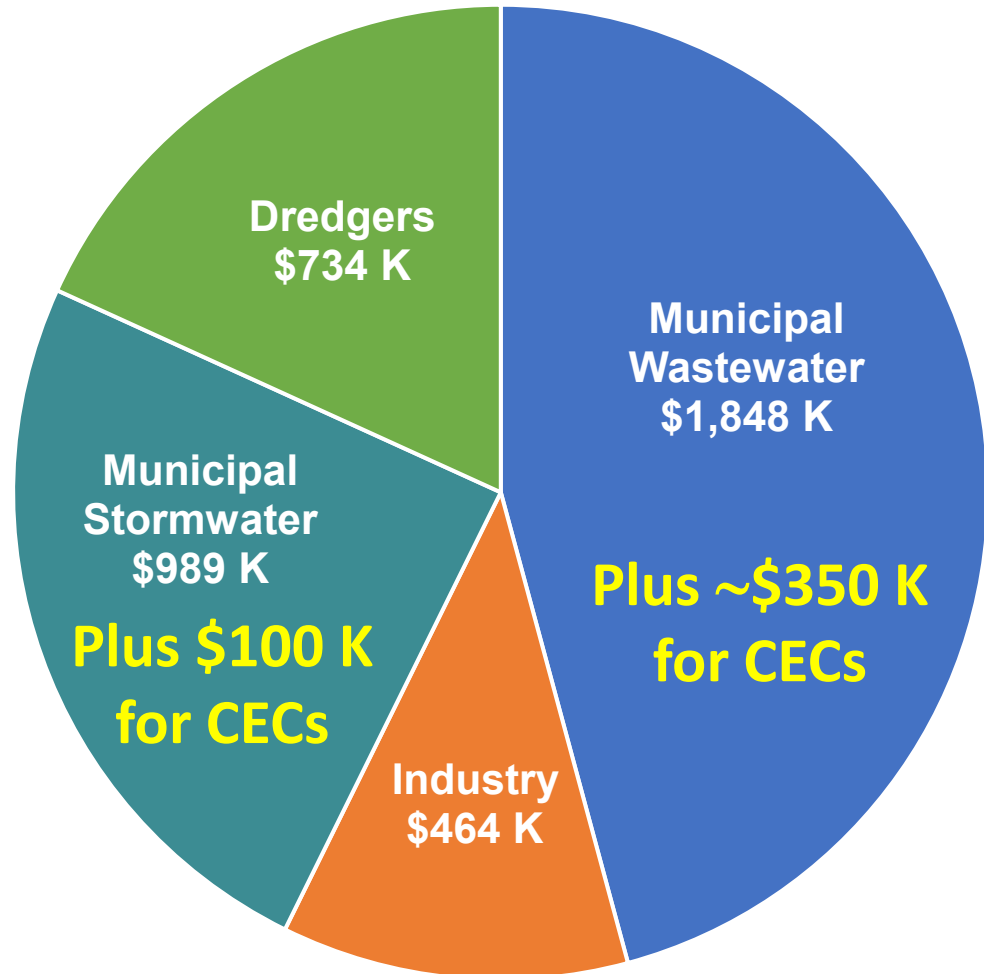
Current Pollutant Challenges



Contaminants of Emerging Concern in Water



SF Bay RMP Annual Funding



RMP > 30 years
now ~\$4.5 million/yr

CECs > 15 years
now ~\$800,000/yr

SF Bay Tiered Risk Emerging Contaminants

Very High Concern

None currently

High Concern

Organophosphate esters; Per- and Polyfluoroalkyl Substances (PFAS)

Moderate Concern

Ethoxylated surfactants; Bisphenols; Fipronil*; Imidacloprid*; Microplastics

Low Concern

PBDEs & HBCD; Pharmaceuticals; Personal care & cleaning products; Pyrethroids*

Possible Concern

Alternative flame retardants; Plastic additives; Quaternary ammonium compounds; Siloxanes; Polyhalogenated carbazoles; Ultraviolet stabilizing agents; Tire & roadway contaminants; many others

* High or Very High Concern in urban creeks

November 2012

San Francisco Bay Nutrient Management Strategy

San Francisco Bay Regional Water Quality Control Board

San Francisco Bay was Resilient to Nutrients

1. High Turbidity 

2. Strong Tidal Mixing 

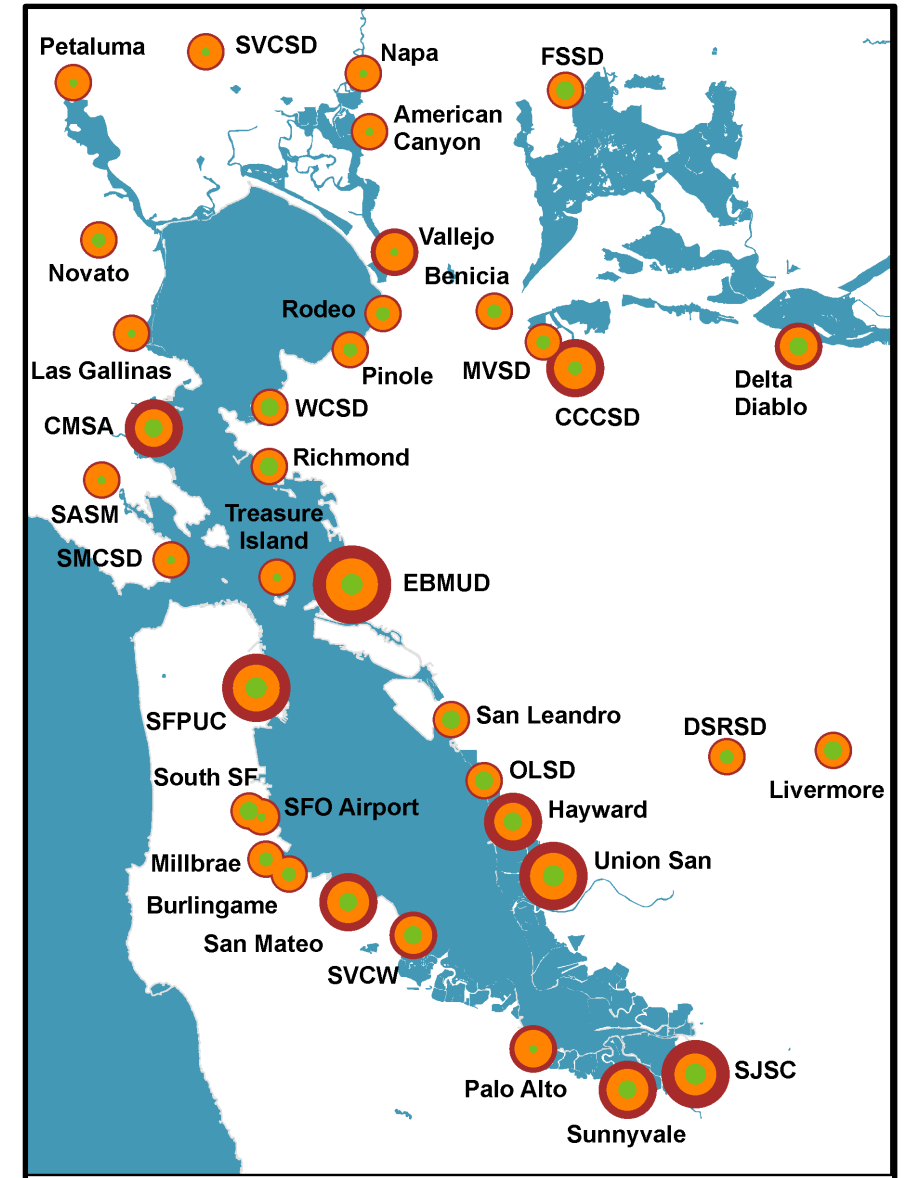
3. Filter-feeding clams 

But resilience has waned!

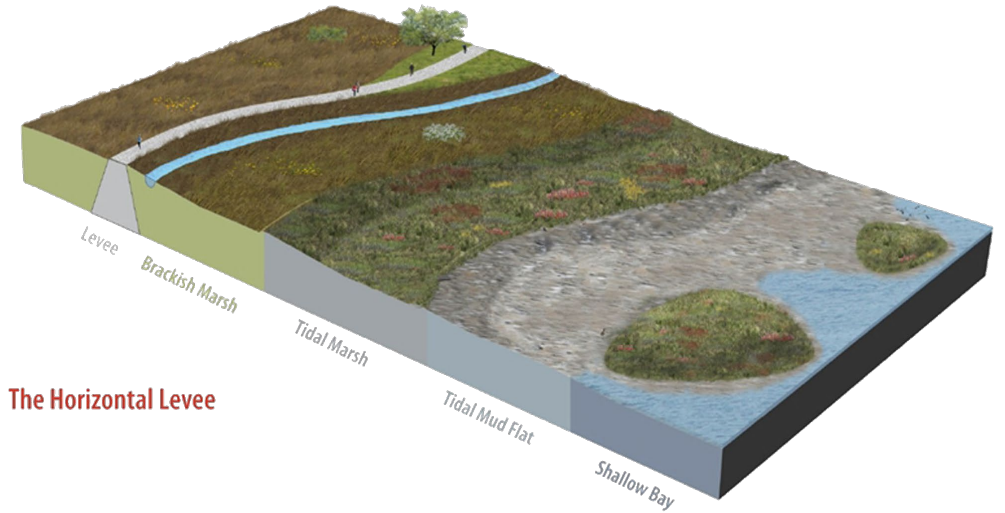
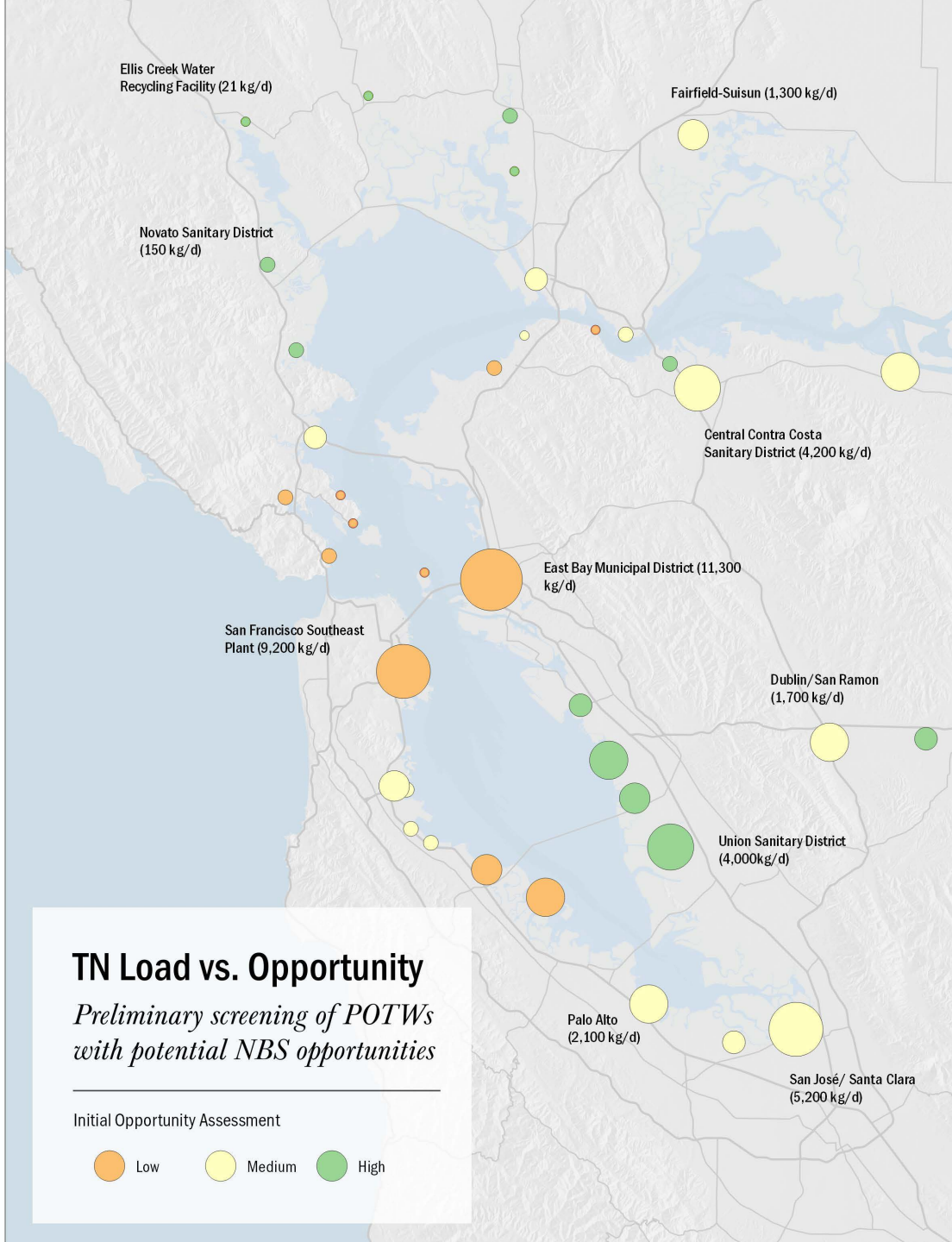
Nutrient Load Reduction Costs

2018 dollars

Strategy	Total Load Reduction	Estimated Capital Costs
Optimization	10%	\$200 M
Sidestream Treatment	20%	\$700 M
Upgrade Level 2 (15 mg N/L)	60%	\$9.0 B
Upgrade Level 3 (6 mg N/L)	80%	\$11.5 B



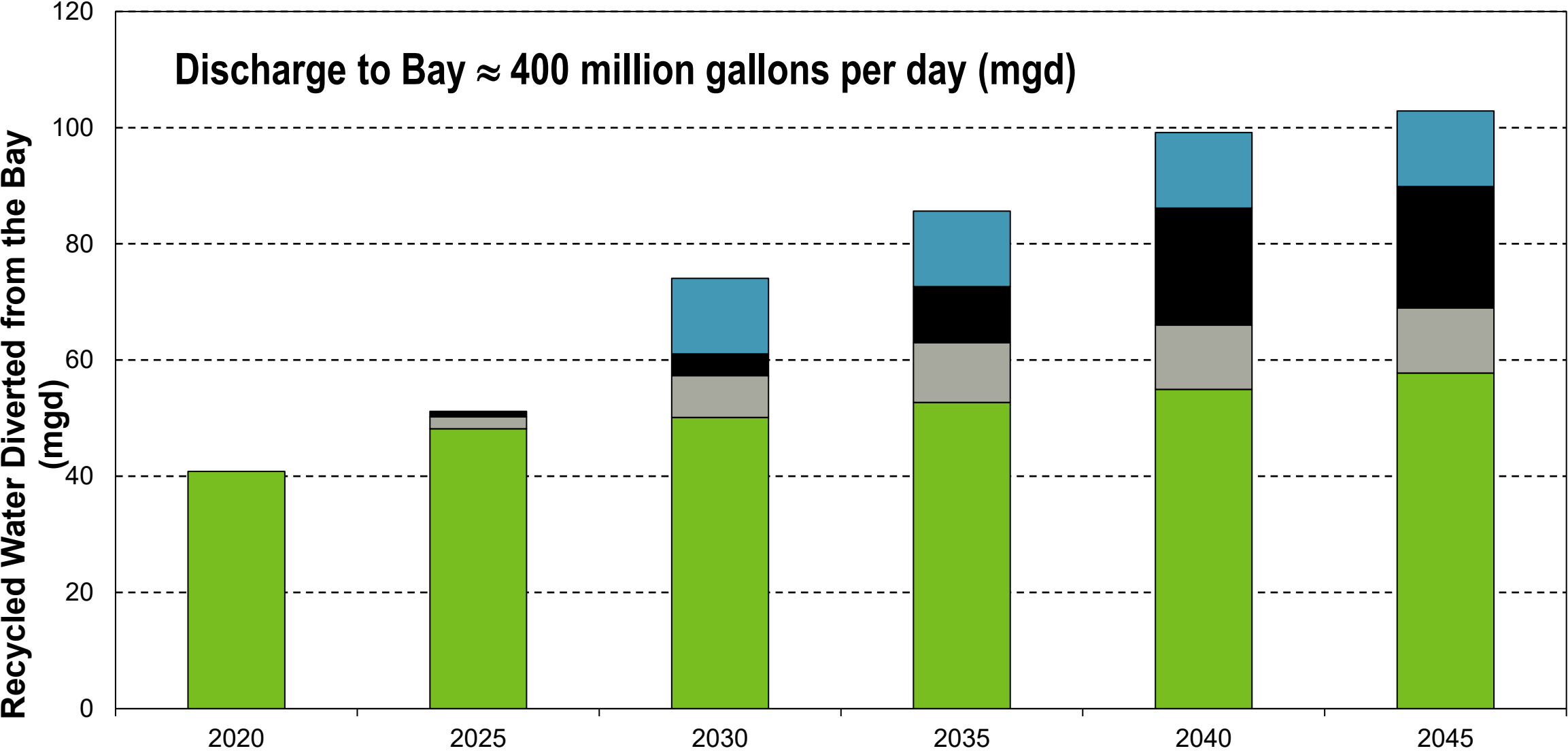
Nature-Based Solutions Screening Results



The Horizontal Levee



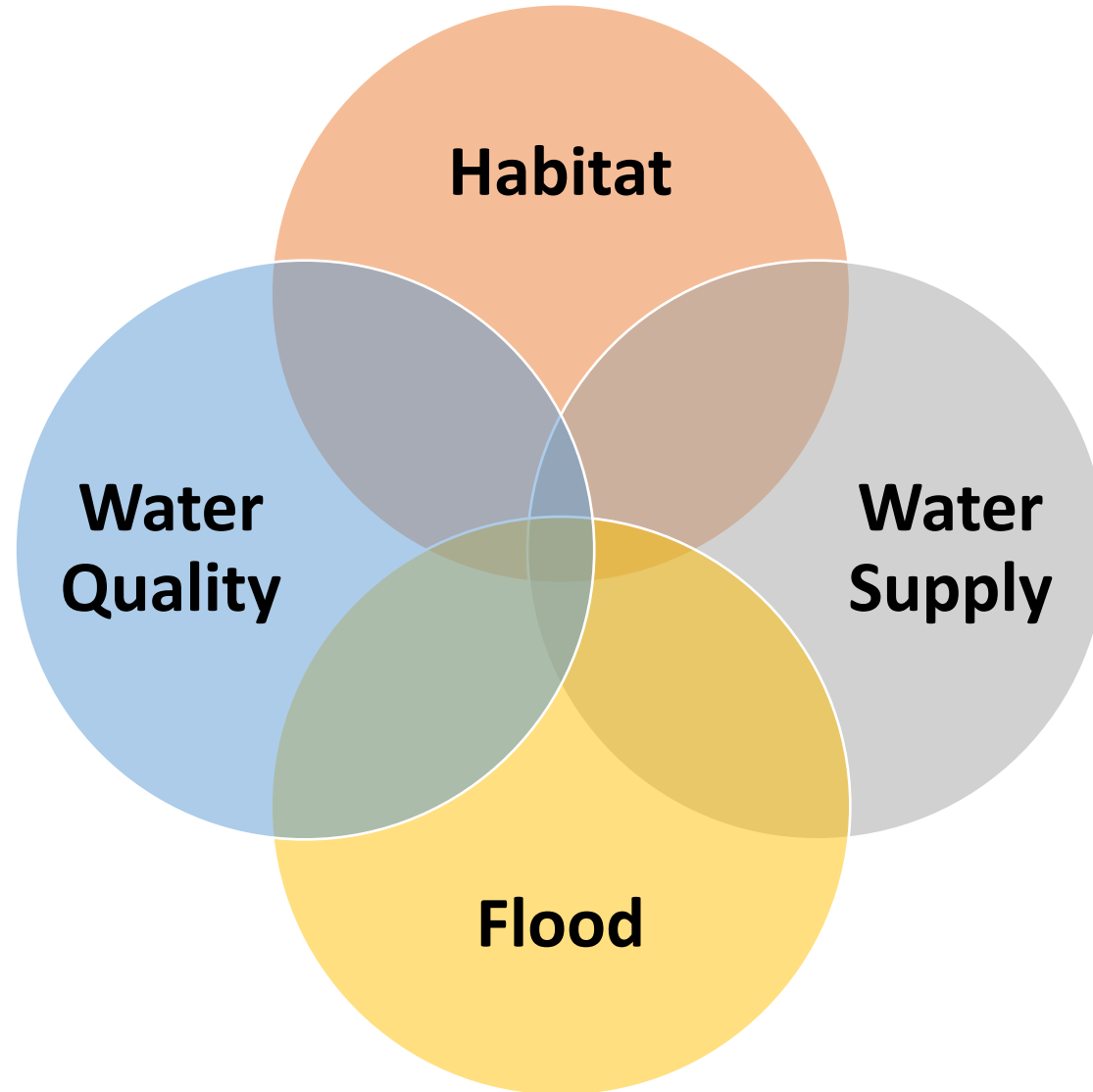
Projected Recycled Water Flows Diverted from the Bay



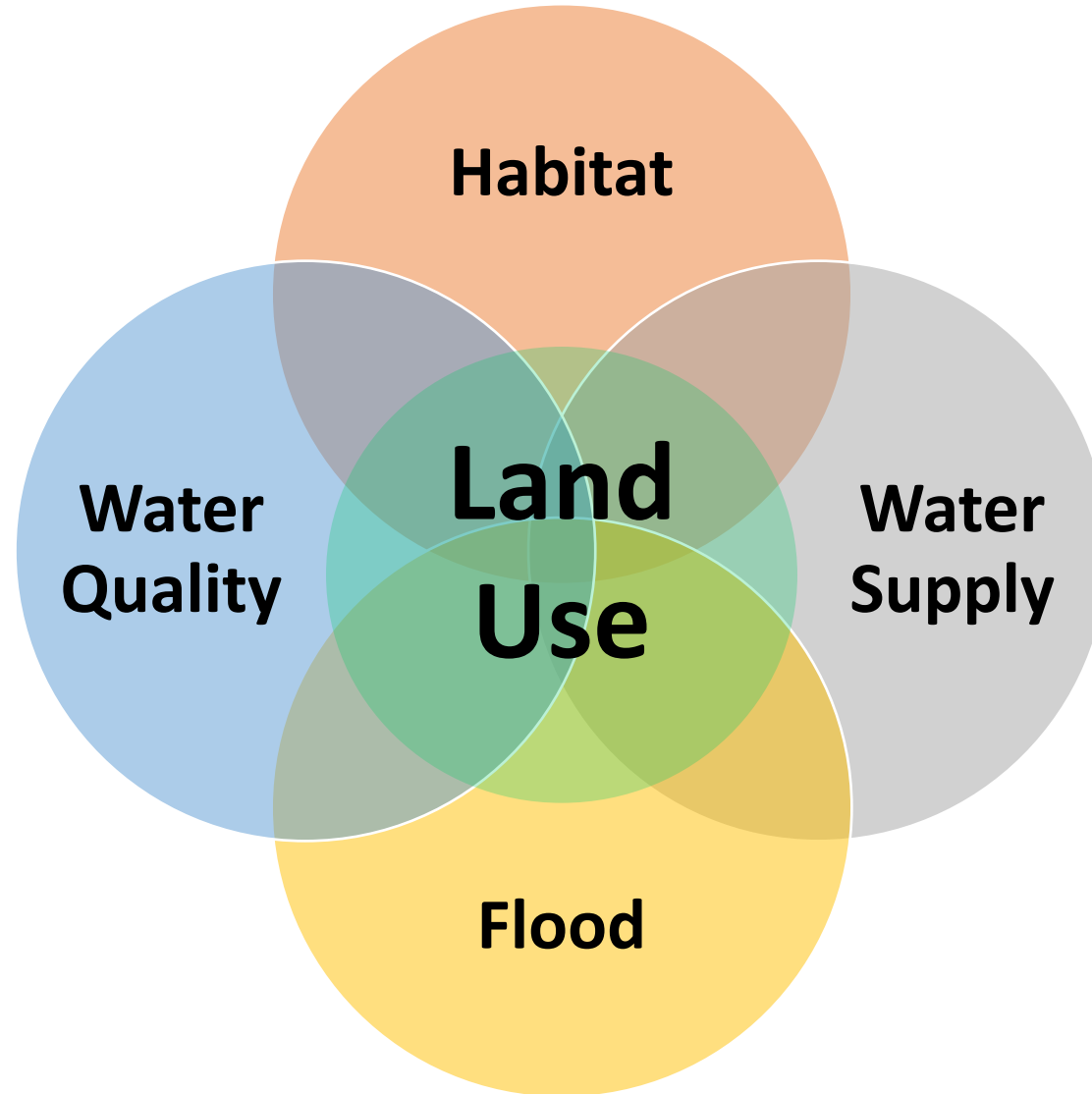
**BAY AREA
ONE WATER
NETWORK**

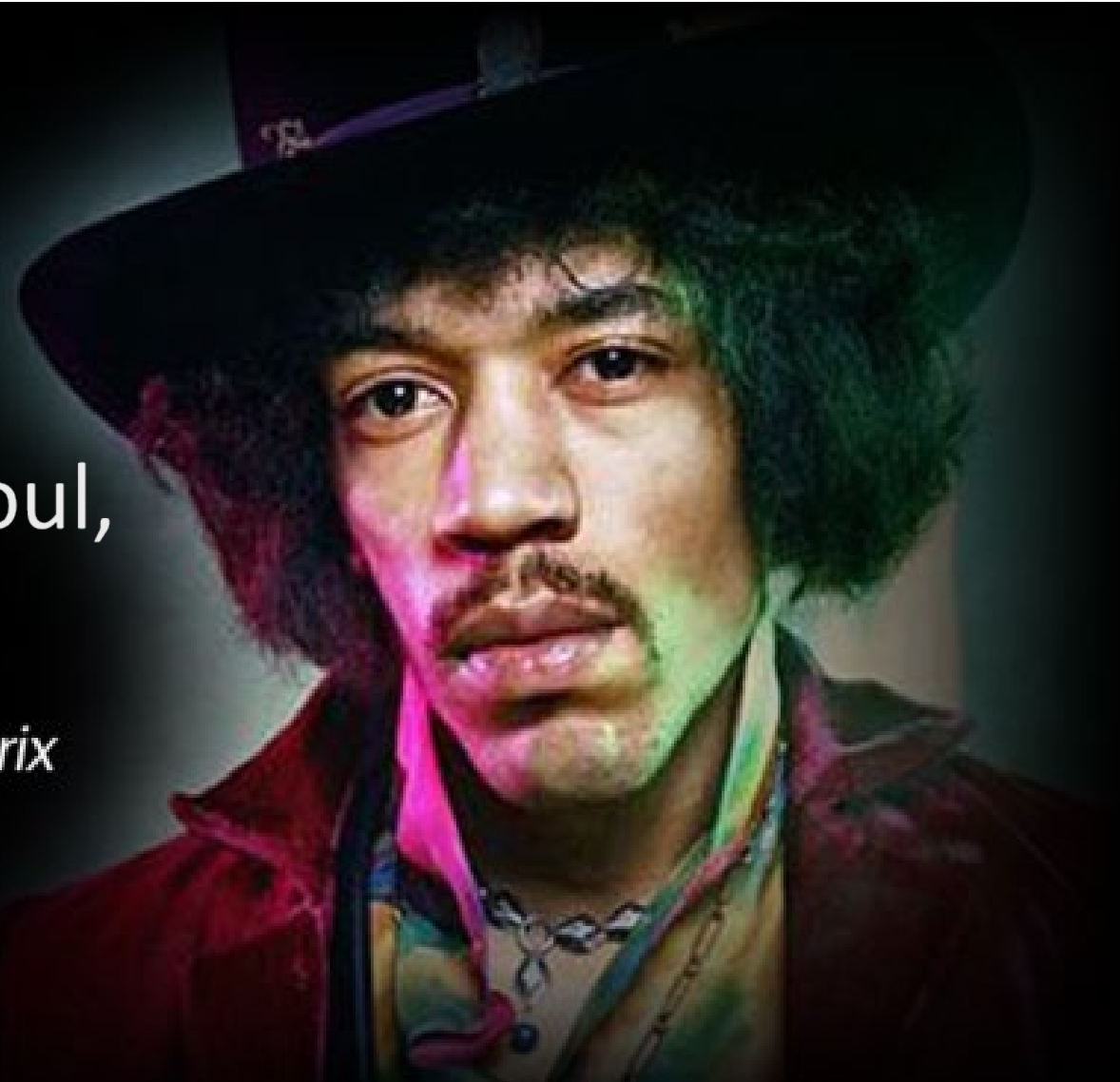


Integrated Resource Management



Integrated Resource Management





With the power of soul,
anything is possible

- *Jimi Hendrix*

Class Motto – NCCS Class of '71



Can we do it?



Yes we can together!