The Value of Regional Monitoring: Lessons Learned from the RMP

Meg Sedlak, Jay Davis,
Meredith Williams and Rainer Hoenicke

Water Quality Monitoring Council
August 29th, 2012

What caused the coordination to occur?

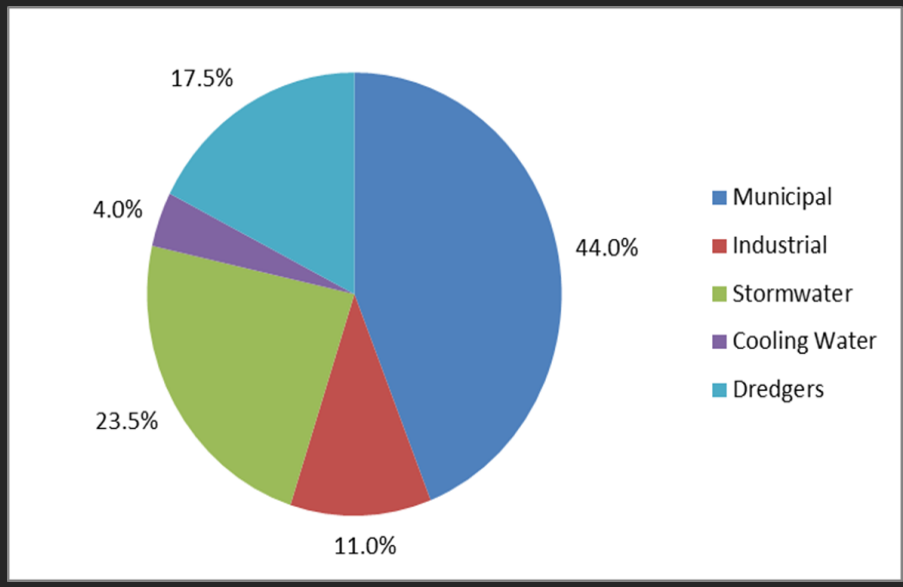
- Lack of data
- Strong Regional Board leadership

Why has it been successful?

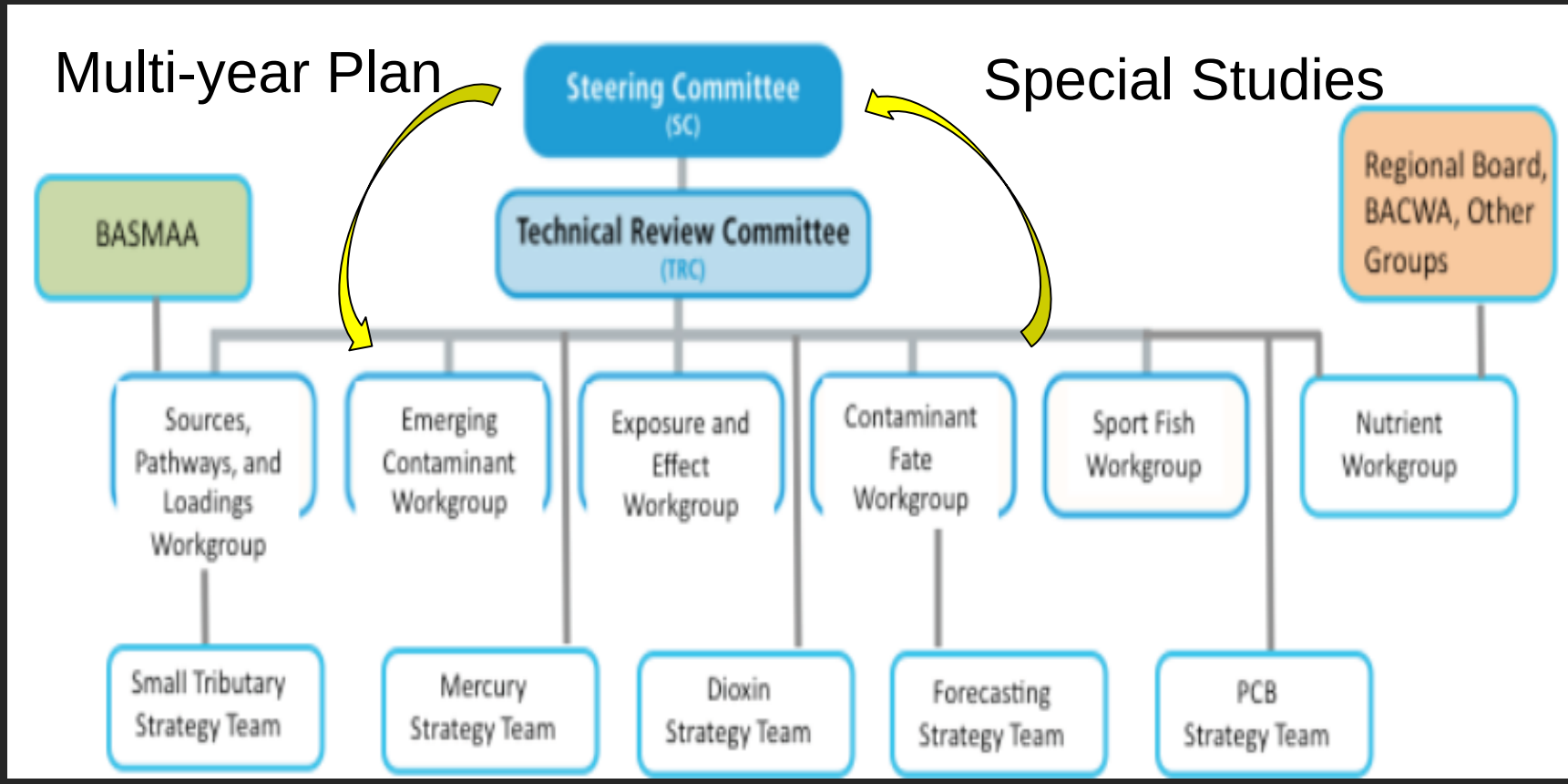
- **Governance**
- Clear Objectives
- High Quality Data
- High Quality Reporting Mechanisms
- Ability to Adapt

Governance

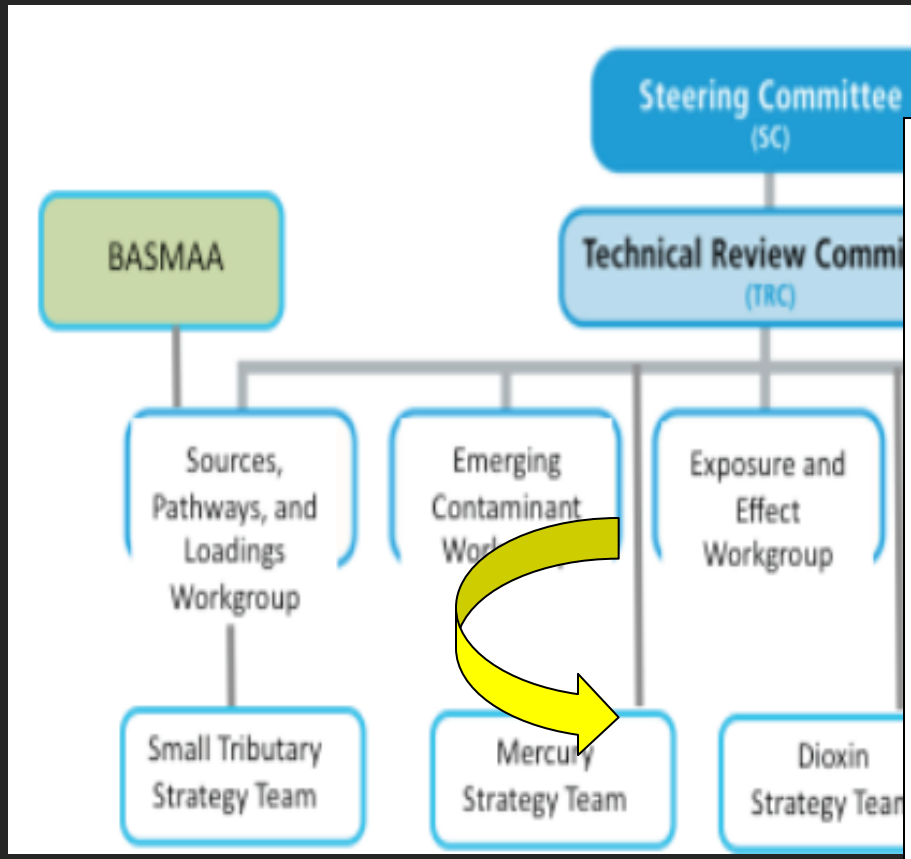
- Stable funding
  - $3.2 million
- Consensus-based
  - Representation from each sector
  - Quarterly meetings (Technical/ Steering)
- External peer review
  - Nationally recognized scientific advisory panels



RMP Structure



Rigorous External Review



Dr. Michael Fry, USFWS
Dr. Harry Ohlendorf, CH2MHill
Dr. Dan Schlenk, UC-Riverside
Dr. Steve Weisberg, SCCWRP
Dr. Don Weston, UC-Berkeley

Why has it been successful?

- Governance
- **Clear Objectives**
  - **Clear mission, core questions, and design**
- High Quality Data
- High Quality Reporting Mechanisms
- Ability to Adapt

RMP Mission

Collect data and communicate information about water quality in the San Francisco Estuary to support management decisions

Management Questions

- MQ1: Are chemical concentrations in the Estuary potentially at levels of concern and are associated impacts likely?
- MQ2: What are concentrations and masses of contaminants in the Estuary and its segments?
- MQ3: What are sources, pathways, loading, and processes leading to contaminant related impacts in the Estuary?
- MQ4: Have the concentrations, masses, and associated impacts of contaminants in the Estuary increased or decreased?
- MQ5: What are the projected concentrations, masses and associated impacts of contaminants in the Estuary?

How does the RMP answer MQs?

Status & Trends Monitoring (1993 -)

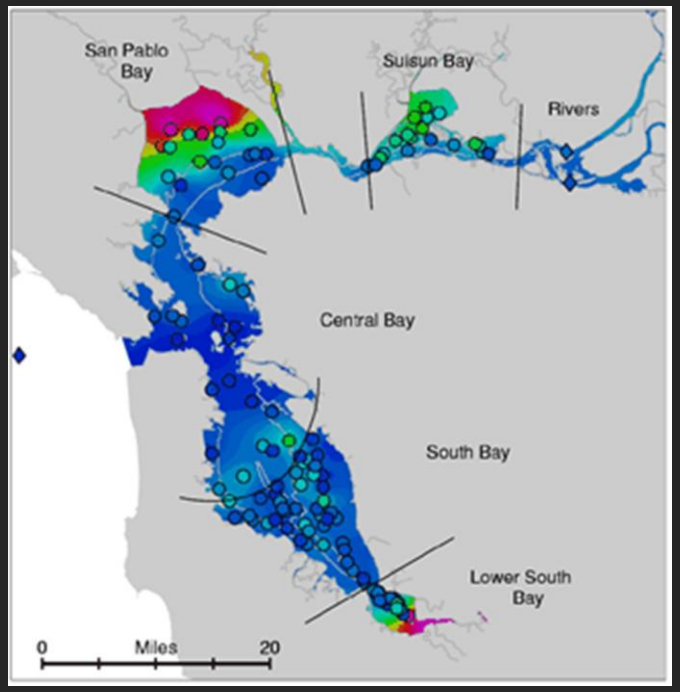
- Sediment and water (biennial)
- Bivalves (biennial)
- Bird eggs (triennial)
- Sport fish (quintennial)

Special Studies (change annually)

- Provide framework for adaptive management
- Responsive to changing needs

Has the coordination resulted in tools that would benefit coordination efforts by others?

- CD3
  - Kriging maps
  - Summary stats
- CEDEN
  - On-line data submittals
  - Development of portal pages



How are the data being managed and made available?

Data Management: Maintenance

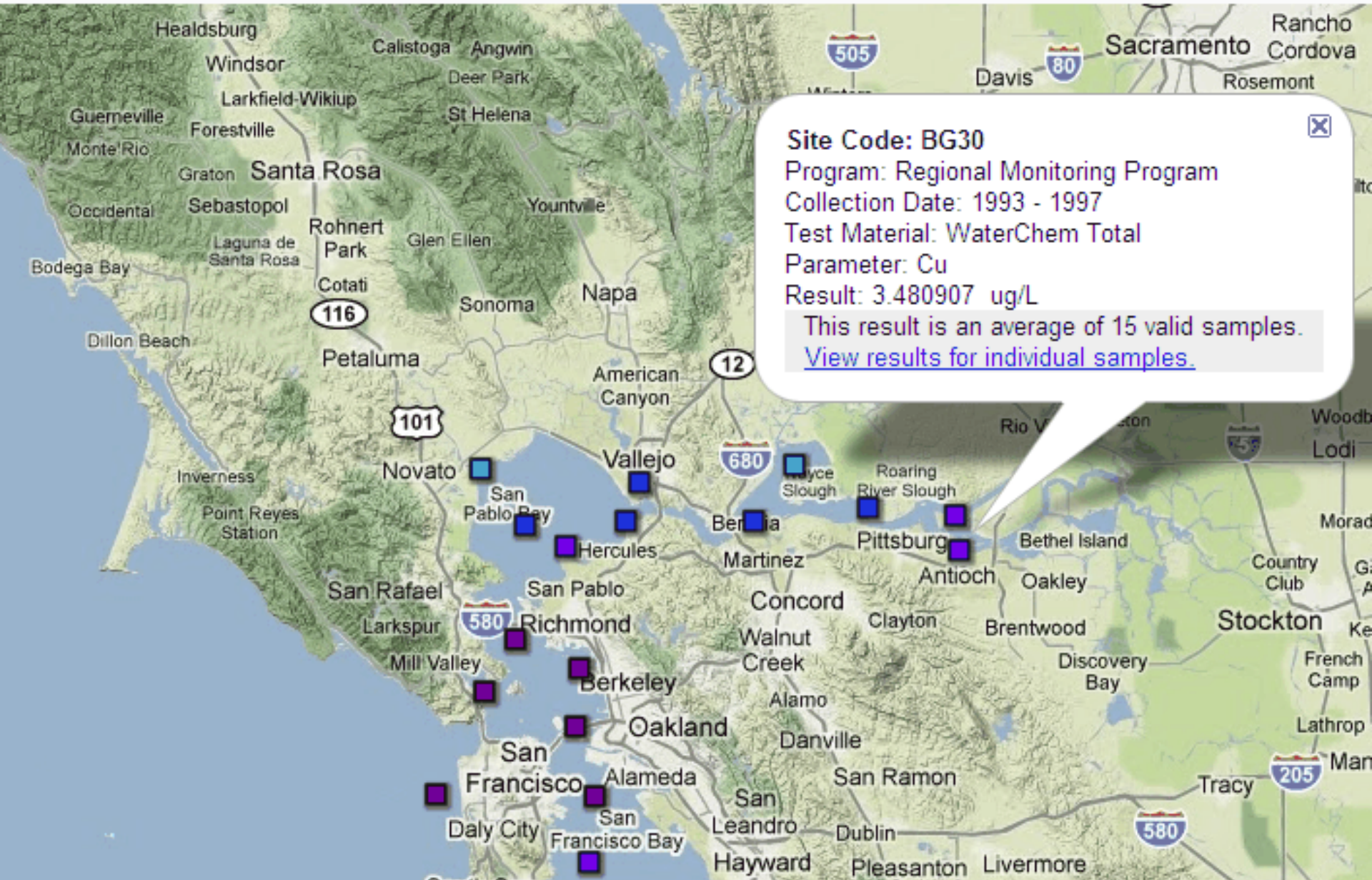
>888,000 Data results in RMP database

>6,000 Archived samples

>600 Pages of documentation

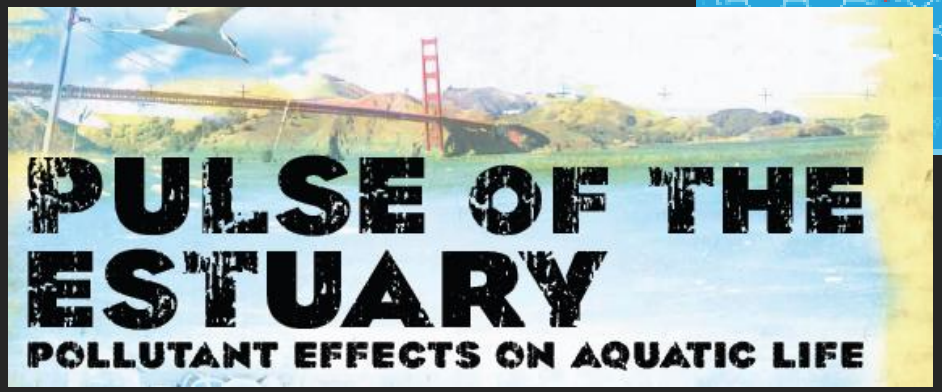
CD3 Contaminant Data Display & Download

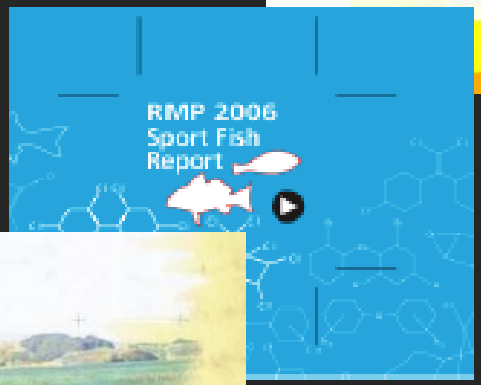
water sediment bivalves sport fish



Reporting

- Pulse
- Annual Meeting
  - October 9th 2012
- Technical reports
- Journal articles
- Workshops

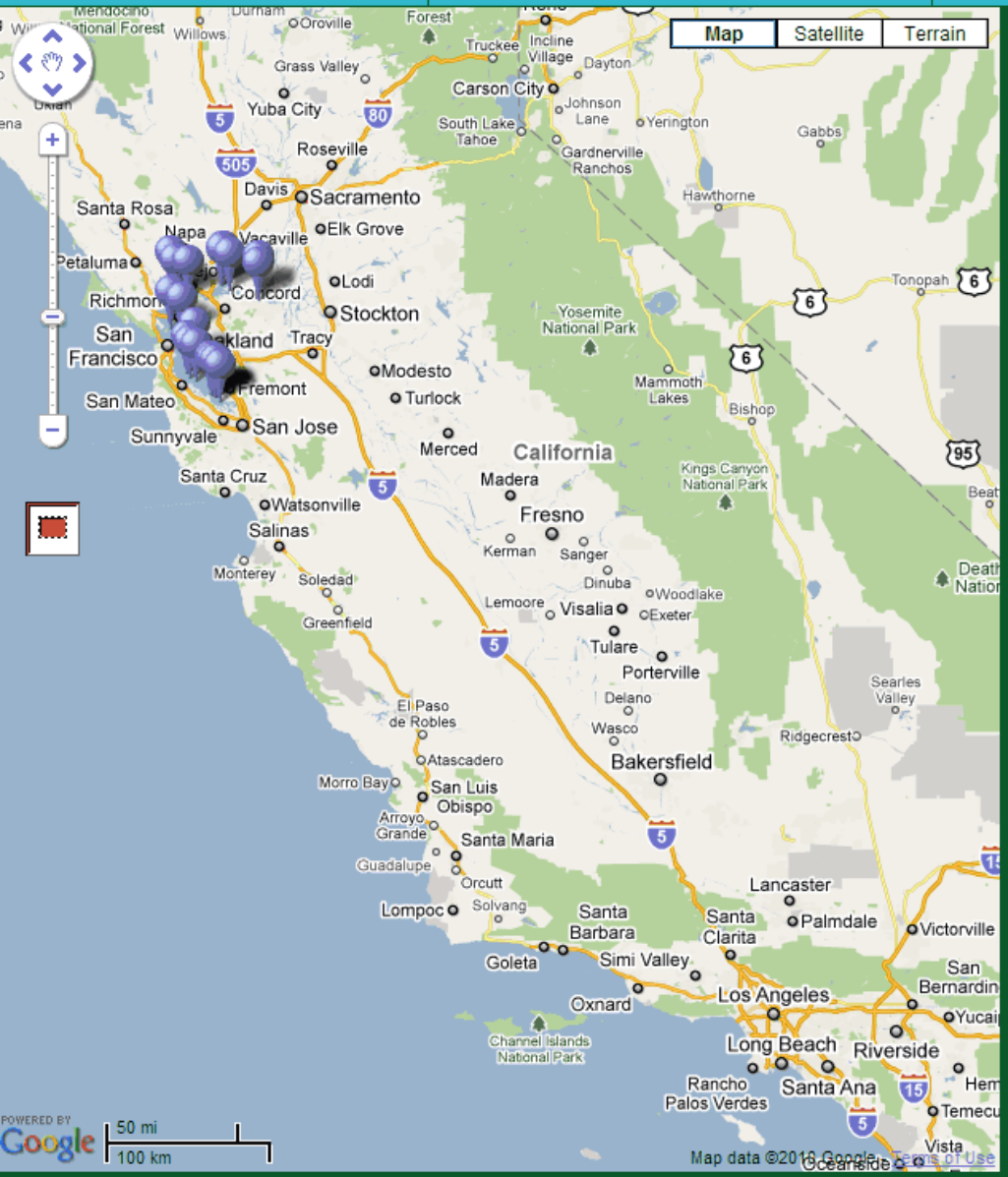




CEDEN

CALIFORNIA ENVIRONMENTAL DATA EXCHANGE NETWORK

Home | About Us | Submit Data | Access Data



RESULT CATEGORY: (•) Water Quality ( ) Toxicity ( ) Field Data

[ ] Turn off automatic mapping of stations.

Click **Map Stations** at any time to show stations on the map

MAP STATIONS | MAP COUNTIES | MAP HUC-8

SHOW QA | SHOW STATIONLU | HELP

START OVER

Programs	[Select]	SFEI
Projects	[Select]	2007 RMP Status & Trends
Parameter Groups	[Select]	pcbs
Parameters	[Select]	PCB 033, Total
Stations	[Select]	Central Bay (CB021W) Central Bay (CB022W) Central Bay (CB023W) Dumbarton Bridge (BA30) Lower South Bay (LSB027W) Lower South Bay (LSB028W) Lower South Bay (LSB029W) Lower South Bay (LSB030W) Lower South Bay (LSB032W) Sacramento River (BG20)

[ ] Include stations that are missing lat/lngs

Available date range: **Aug-07-2007 to Aug-16-2007**

From: [ ] [ ] [ ]

To: [ ] [ ] [ ]

RETRIEVE DATA

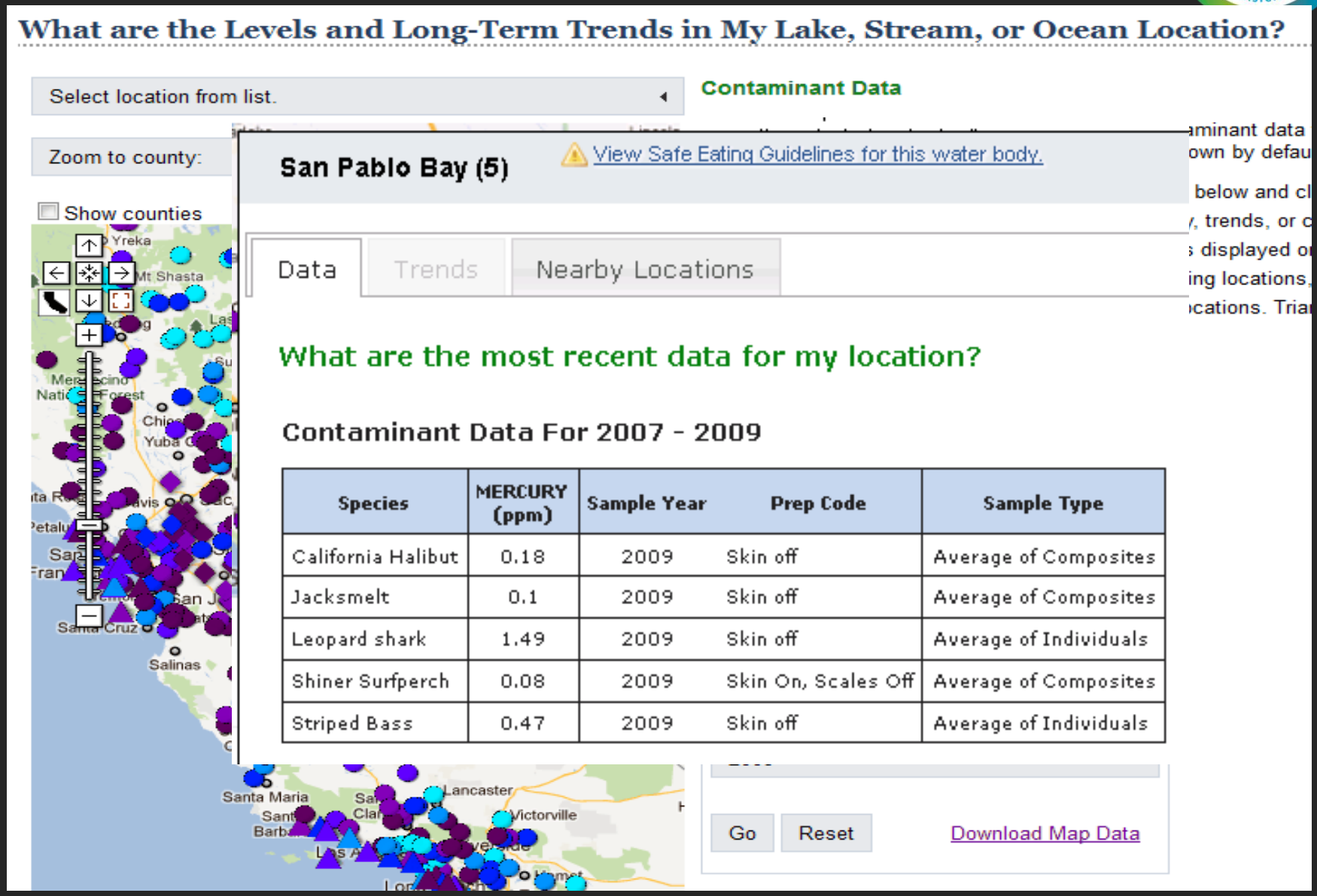
[ ] Non-QA Data Only

[ ] First 1000 Records Only

Record Count:

Download Format: excel

Safe To Eat Portal



What are measures of success?

- Informing management decisions
  - Cu SSO
  - Banning of some BDE formulations
  - Validation of regulatory thresholds
- Answering MQs

What are measures of success?

- Recognized as a source of high quality scientific information
  - Publishing in the lead scientific journals
    - 2011 Top ten best paper in ES&T
    - Requests for presentations, & interviews

Why has it been successful?

- Governance
- Clear Objectives
- High Quality Data
- High Quality Reporting Mechanisms
- **Ability to Adapt / Sustainability**

Program Sustainability

- Are we providing timely and relevant information?
  - Multi-year Plan
  - Periodically revising program elements
  - Continual focus on priority information needs

Program Sustainability

- 2002 changed from fixed to randomized design
- Increased focus on biota
- Reduced S&T monitoring
- Increased special studies
- Added in new workgroups
  - Nutrients
  - Emerging contaminants

What do we need from the Monitoring Council?

- Promote state-wide monitoring that provides a valuable context for understanding the Bay

Questions?

Coordination among many partners

- Government agencies: USGS – Menlo Park, Sacramento, Santa Cruz, Western Ecological Research Center; USEPA; USACE; San Francisco Estuary Partnership, etc.

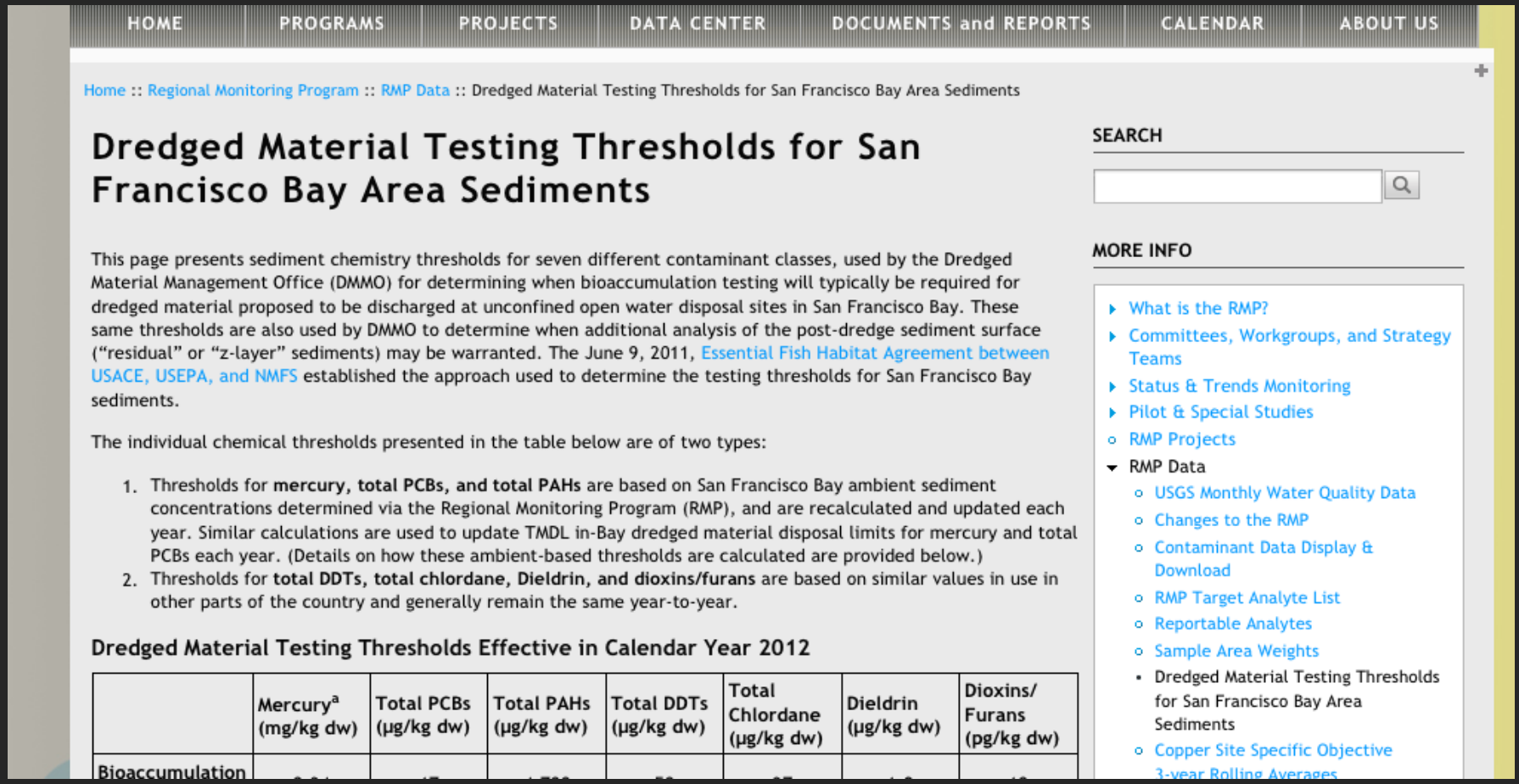
- Regional Monitoring Programs: IEP / CDFG

- Academia: Stanford, UC- Berkeley, SF State, UC-Davis, UC-Santa Cruz
- NGOs – Baykeeper

Data Management

- Data verification- Did we get what we expected?
  - Completeness and correctness
- Data validation- Is what we got good?
  1. QC samples
  2. Consistency checks
  3. Marginal and suspect data flagged

Calculating Ambient Sediment Concentrations



HOME | PROGRAMS | PROJECTS | DATA CENTER | DOCUMENTS and REPORTS | CALENDAR | ABOUT US

Home :: Regional Monitoring Program :: RMP Data :: Dredged Material Testing Thresholds for San Francisco Bay Area Sediments

Dredged Material Testing Thresholds for San Francisco Bay Area Sediments

This page presents sediment chemistry thresholds for seven different contaminant classes, used by the Dredged Material Management Office (DMMO) for determining when bioaccumulation testing will typically be required for dredged material proposed to be discharged at unconfined open water disposal sites in San Francisco Bay. These same thresholds are also used by DMMO to determine when additional analysis of the post-dredge sediment surface ("residual" or "z-layer" sediments) may be warranted. The June 9, 2011, Essential Fish Habitat Agreement between USACE, USEPA, and NMFS established the approach used to determine the testing thresholds for San Francisco Bay sediments.

The individual chemical thresholds presented in the table below are of two types:

1. Thresholds for **mercury, total PCBs, and total PAHs** are based on San Francisco Bay ambient sediment concentrations determined via the Regional Monitoring Program (RMP), and are recalculated and updated each year. Similar calculations are used to update TMDL in-Bay dredged material disposal limits for mercury and total PCBs each year. (Details on how these ambient-based thresholds are calculated are provided below.)
2. Thresholds for **total DDTs, total chlordane, Dieldrin, and dioxins/furans** are based on similar values in use in other parts of the country and generally remain the same year-to-year.

Dredged Material Testing Thresholds Effective in Calendar Year 2012

	Mercury[a] (mg/kg dw)	Total PCBs (µg/kg dw)	Total PAHs (µg/kg dw)	Total DDTs (µg/kg dw)	Total Chlordane (µg/kg dw)	Dieldrin (µg/kg dw)	Dioxins/ Furans (pg/kg dw)
Bioaccumulation							

SEARCH

MORE INFO

- What is the RMP?
- Committees, Workgroups, and Strategy Teams
- Status & Trends Monitoring
- Pilot & Special Studies
- RMP Projects
- RMP Data
  - USGS Monthly Water Quality Data
  - Changes to the RMP
  - Contaminant Data Display & Download
  - RMP Target Analyte List
  - Reportable Analytes
  - Sample Area Weights
  - Dredged Material Testing Thresholds for San Francisco Bay Area Sediments
  - Copper Site Specific Objective 3-year Rolling Averages