

Improving Information Dissemination: “Cool New Tools for Accessing RMP Data”

John J. Oram
San Francisco Estuary Institute

BAY AREA WETLAND TRACKER

Bay Area

Home Project list Map

California

Bay Area

Project list

Map

Summaries

About

Wetland condition (CRAM)

Search

Bay Area Wetland Information

The Wetland Tracker provides wetland scientists, managers, and the public information about the wetlands of selected regions of California. The Bay Area is one of [several regions](#) covered.

Current wetland project coverage for the Bay Area region includes:

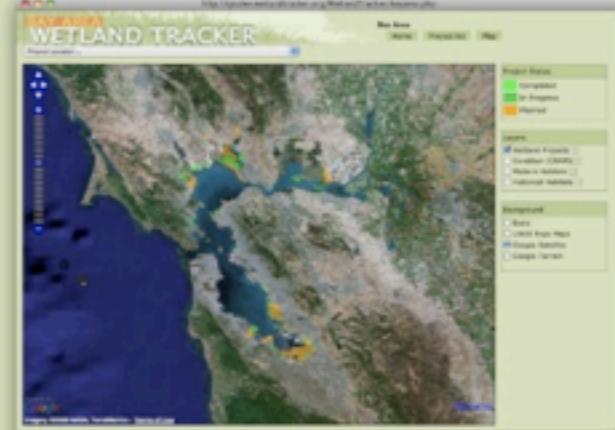
- Tidal and formerly tidal regions downstream of the Delta
- The Napa River watershed
- Projects permitted by the Water Board since October 2006

• View a list of Bay Area [wetland projects](#)

• See Bay Area projects on an [interactive map](#)

• View [summaries](#) of Bay Area wetland restoration activity

Also: view a California map of [wetland condition assessments](#) (CRAM)



Register **CRAM PRACTITIONER-LEVEL TRAINING SESSION**
[Register Here](#)



BAY AREA

WETLAND TRACKER

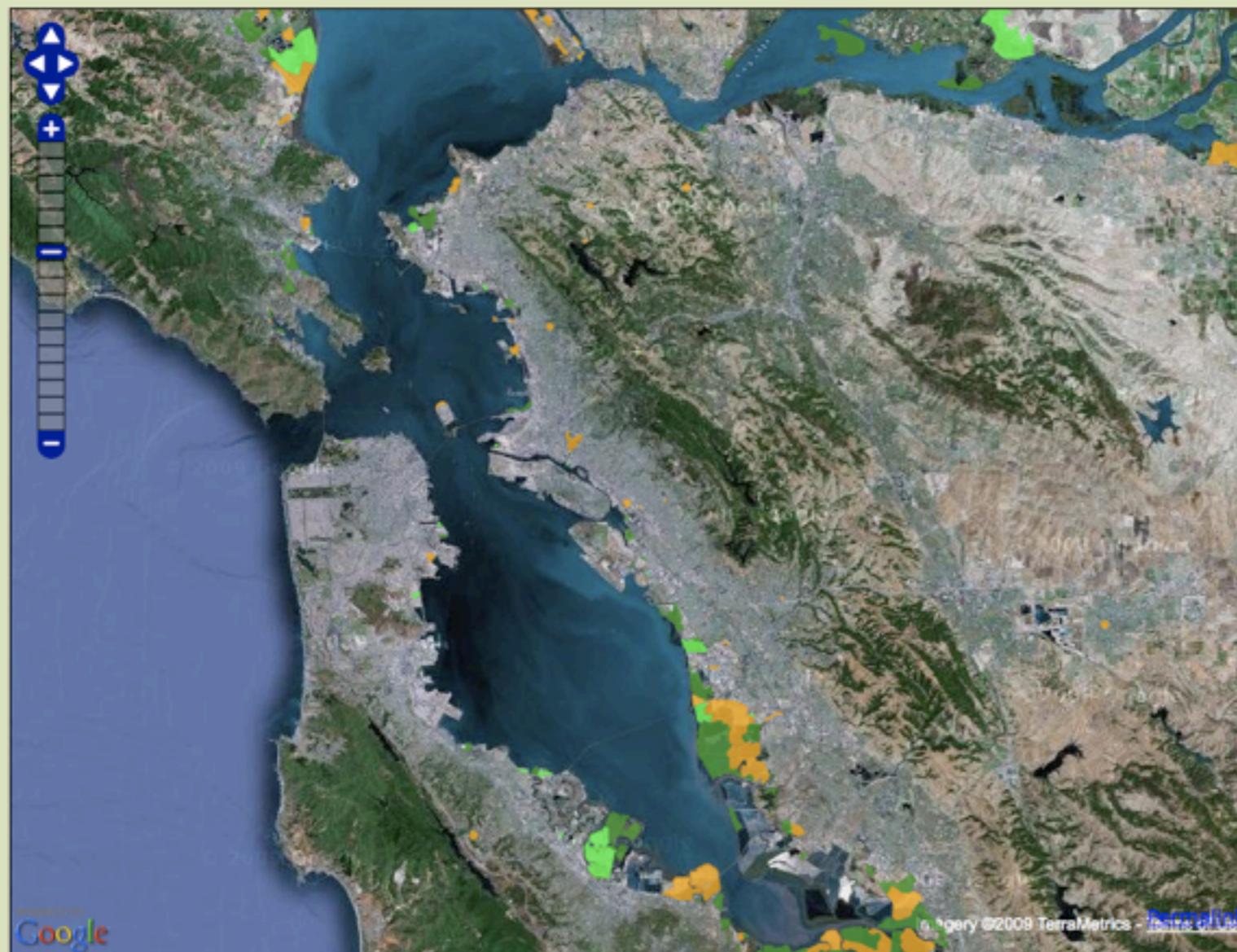
Project Locator...

Bay Area

Home

Project list

Map



Layers

- Wetland Projects
- Condition (CRAM)
- Modern Habitats
- Historical Habitats

Background

- Basic
- USGS Topo Maps
- Google Satellite
- Google Terrain

Legend

Projects

- Construction completed
- Construction in-progress
- Construction planned

Approximate boundary

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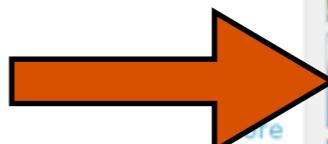
[HOME](#) [PROGRAMS](#) [PROJECTS](#) [DATA](#) [DOCUMENTS and REPORTS](#) [MEETINGS and EVENTS](#) [BLOG](#) [ABOUT US](#)[Home](#) :: [Environmental Informatics](#) :: [Links](#)

Links

[View](#) [What links here](#) [Edit](#) [Outline](#) [Track](#)

Dataspora - Data Evolution

- [Color: The Cinderella of dataviz](#)
- [People who love scatter plots & connecting dots](#)
- [How Google and Facebook are using R](#)
- [Is Big Data at a tipping point?](#)



Navigation

- [What is Environmental Informatics?](#)
- [Projects](#)
- [Links](#)

Spotlight

The spotlight banner features three main sections: 1) A green header with the text "WETLAND TRACKER". 2) A blue middle section with the text "WEB QUERY TOOL" and a "NEW!" badge. 3) A blue footer section with the text "RMP Annual Monitoring Results".

Data Wrangling - Machine Learning, Data Mining, and More

- [Updated List of Datasets & Video Lectures](#)
- [Search map: interactive visualization of search query clusters](#)
- [Conversation with Eric Siegel on Predictive Analytics World](#)

[more](#)

Data Analysis and Visualization

- [Swivel](#)
- [Many Eyes](#)
- [The R Project for Statistical Computing](#)
- [R Graph Gallery](#)

[« Projects](#)[up](#)[» Add child page](#) | [Printer-friendly version](#) | 28 readsUser: [joram](#)

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WEB QUERY TOOL

[FEEDBACK](#) →

RMP **FMP**

Map [Summary Statistics](#) [Distribution Frequencies](#) [Plots](#) [Downloads](#)

● Test Material
Sediment
Water

● Start Collection Year

● End Collection Year

● Parameter Type

● Analyte

Map controls: Up, Down, Left, Right, Zoom In, Zoom Out.

Map view: California and Nevada. Labeled cities include Eureka, Redding, Sacramento, Stockton, San Francisco, Oakland, Modesto, San Jose, Fresno, Las Vegas, Winnemucca, Elko, and Long Beach. A small inset map shows the location of the main map area.

Map scale: 100 mi / 200 km.

Map data ©2009 Google - [Terms of Use](#)

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WEB QUERY TOOL

[FEEDBACK](#) →

RMP FMP

● Test Material
Sediment Water

● Start Collection Year

● End Collection Year

● Parameter Type

● Analyte



System Specs:
Linux (Ubuntu)
Apache
MySQL & MS SQL
PHP & R

POWERED BY
Google



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WEB QUERY TOOL

[FEEDBACK](#)

RMP **FMP**

● Test Material
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Water

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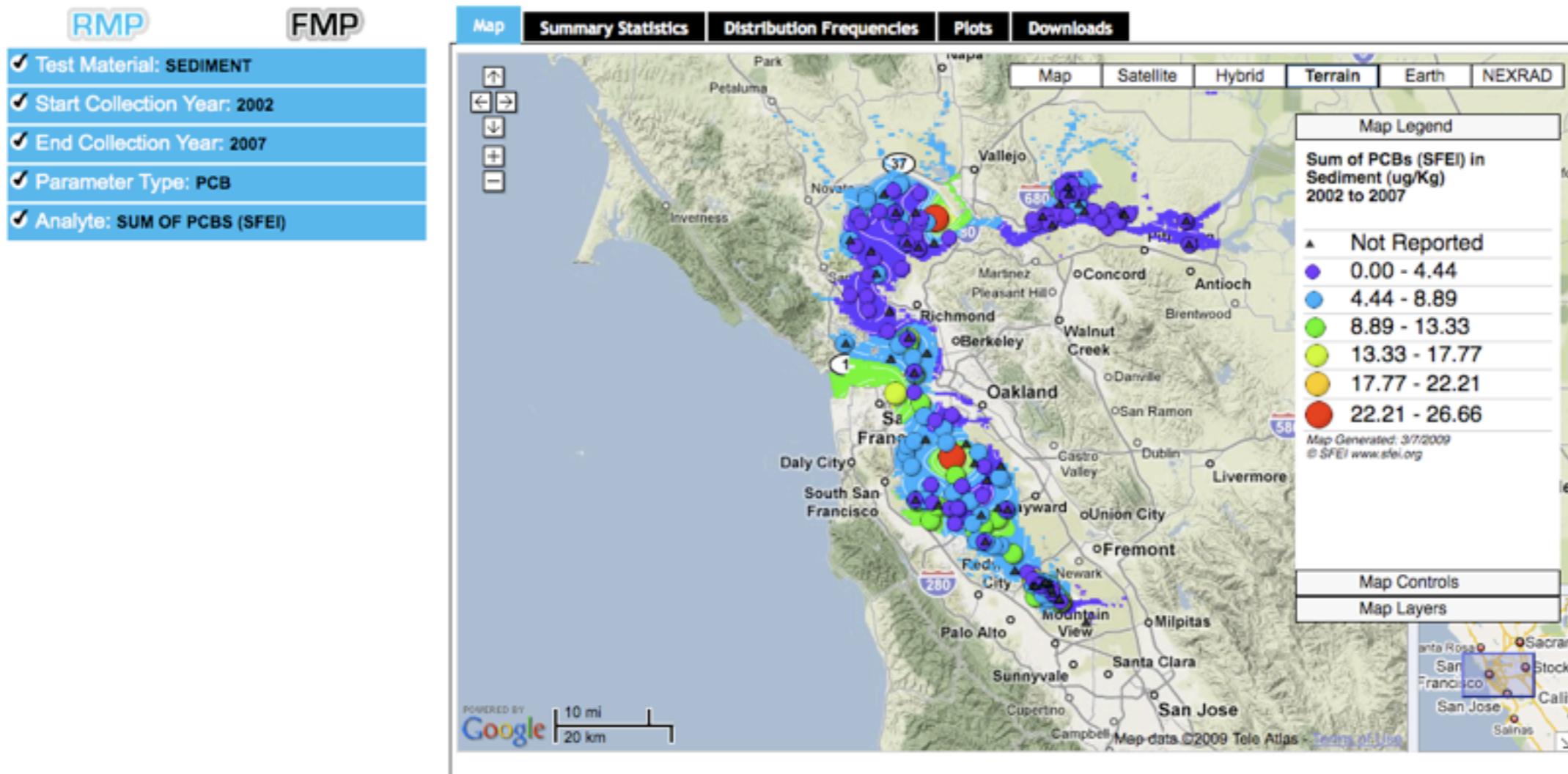
Map Summary Statistics Distribution Frequencies Plots Downloads

Map Satellite Hybrid Terrain Earth NEXRAD

POWERED BY
Google

100 mi
200 km

Map data ©2009 Google. All Rights Reserved. Terms of Use

**SAN FRANCISCO ESTUARY INSTITUTE
WEB QUERY TOOL**[FEEDBACK](#)

**SAN FRANCISCO ESTUARY INSTITUTE
WEB QUERY TOOL**[FEEDBACK](#)**RMP****FMP** **Test Material: SEDIMENT** **Start Collection Year: 2002** **End Collection Year: 2007** **Parameter Type: PCB** **Analyte: SUM OF PCBS (SFEI)****Map****Summary Statistics****Distribution Frequencies****Plots****Downloads****Sum of PCBs (SFEI) in Sediment (ug/Kg)
2002 to 2007**

Region	Frame Area (sq km)	Mean	Upper Confidence	Lower Confidence	Standard Deviation	N	Min Value	Max Value
San Francisco Bay	896.433	5.73	6.48	4.98	4.55	160	0.00	26.66
Central Bay	396.442	6.95	8.38	5.52	4.98	32	0.59	26.66
Lower South Bay	7.842	7.45	8.80	6.10	4.05	32	2.13	15.07
San Pablo Bay	226.821	4.21	5.57	2.86	4.31	32	0.55	25.13
South Bay	185.171	6.51	7.34	5.67	3.01	32	2.23	12.60
Suisun Bay	80.357	2.02	2.66	1.39	2.27	32	0.00	10.37

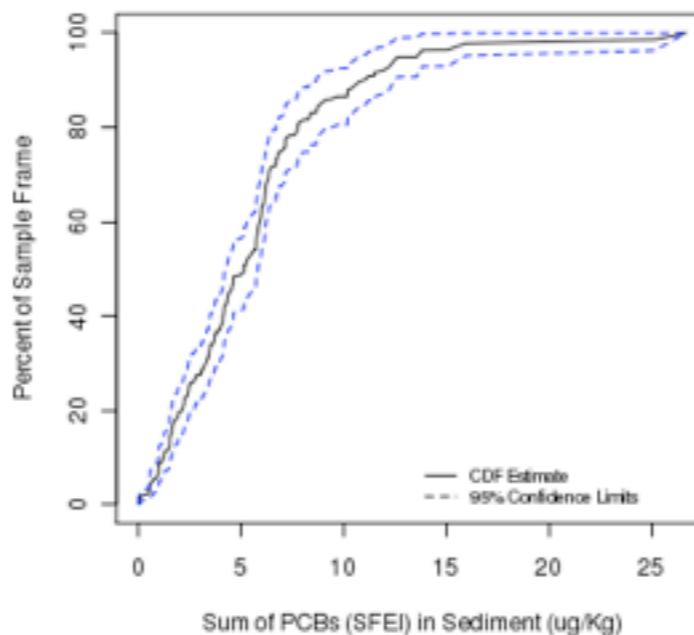
The data used for this analysis are from a probabilistic survey design. These results therefore represent spatially unbiased estimates. More information is available [here](#).

**SAN FRANCISCO ESTUARY INSTITUTE
WEB QUERY TOOL**[FEEDBACK](#) →**RMP****FMP**

- Test Material: SEDIMENT
- Start Collection Year: 2002
- End Collection Year: 2007
- Parameter Type: PCB
- Analyte: SUM OF PCBs (SFEI)

[Map](#) [Summary Statistics](#) **Distribution Frequencies** [Plots](#) [Downloads](#)Sum of PCBs (SFEI) in Sediment (ug/Kg)
2002 to 2007 San Francisco Bay

San Francisco Bay



Percentile	Value	Upper Confidence	Lower Confidence
99	25.55	26.66	15.24
95	13.58	25.75	11.18
75	6.98	8.35	6.21
50	5.15	5.82	4.24
25	2.46	3.37	1.94

- Central Bay
- Lower South Bay
- San Pablo Bay
- South Bay
- Suisun Bay

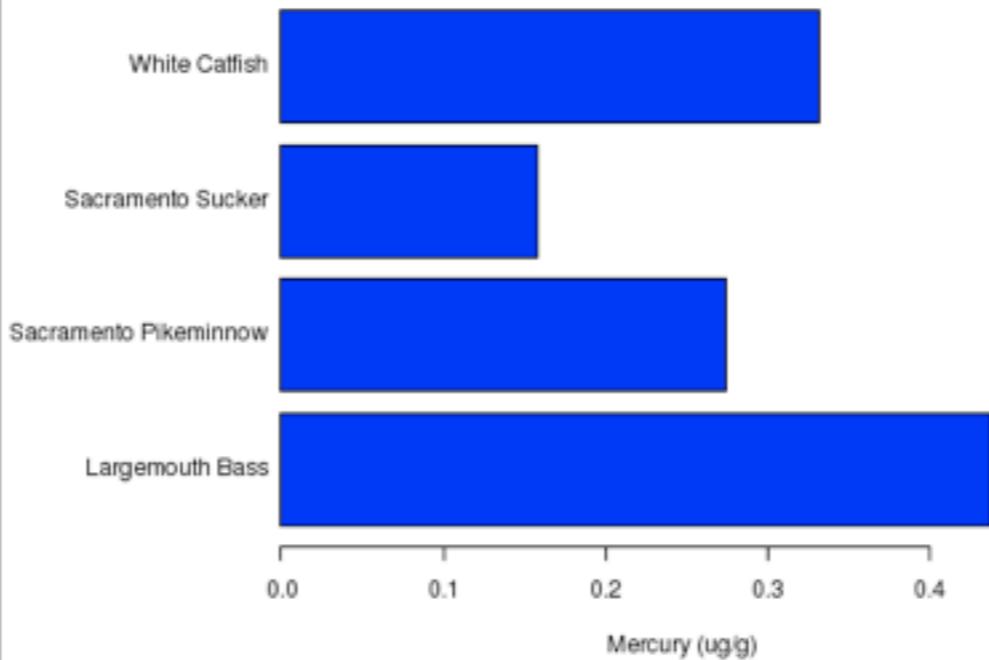
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WEB QUERY TOOL

[FEEDBACK](#)**RMP****FMP**

- Species Type: FISH
- Start Collection Year: 2005
- End Collection Year: 2007
- Species: LARGEMOUTH BASS
- Tissue Type: FIL
- Analyte: MERCURY

[Map](#) [Summary Statistics](#) [Distribution Frequencies](#) **Plots** [Downloads](#)

Average FIL Mercury by Species at American River at Discovery Park
(2005 - 2007)



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WEB QUERY TOOL

FEEDBACK →

RMP

FMP

- Test Material: SEDIMENT
- Start Collection Year: 2002
- End Collection Year: 2007
- Parameter Type: PCB
- Analyte: SUM OF PCBS (SFEI)

Map Summary Statistics Distribution Frequencies Plots Downloads

RMP, Sediment, 2002-2007 PCB

[Download Excel \(All Qualifiers\)](#) [Download Excel \(Primary Qualifiers\)](#)

 [Download Map to Google Earth](#) (RMP, Sum of PCBs (SFEI), Sediment, 2002-2007)

Web Query Tool [eis.sfei.org/wqt]

Towards an Environmental Data Portal

BAY AREA WETLAND TRACKER

Bay Area

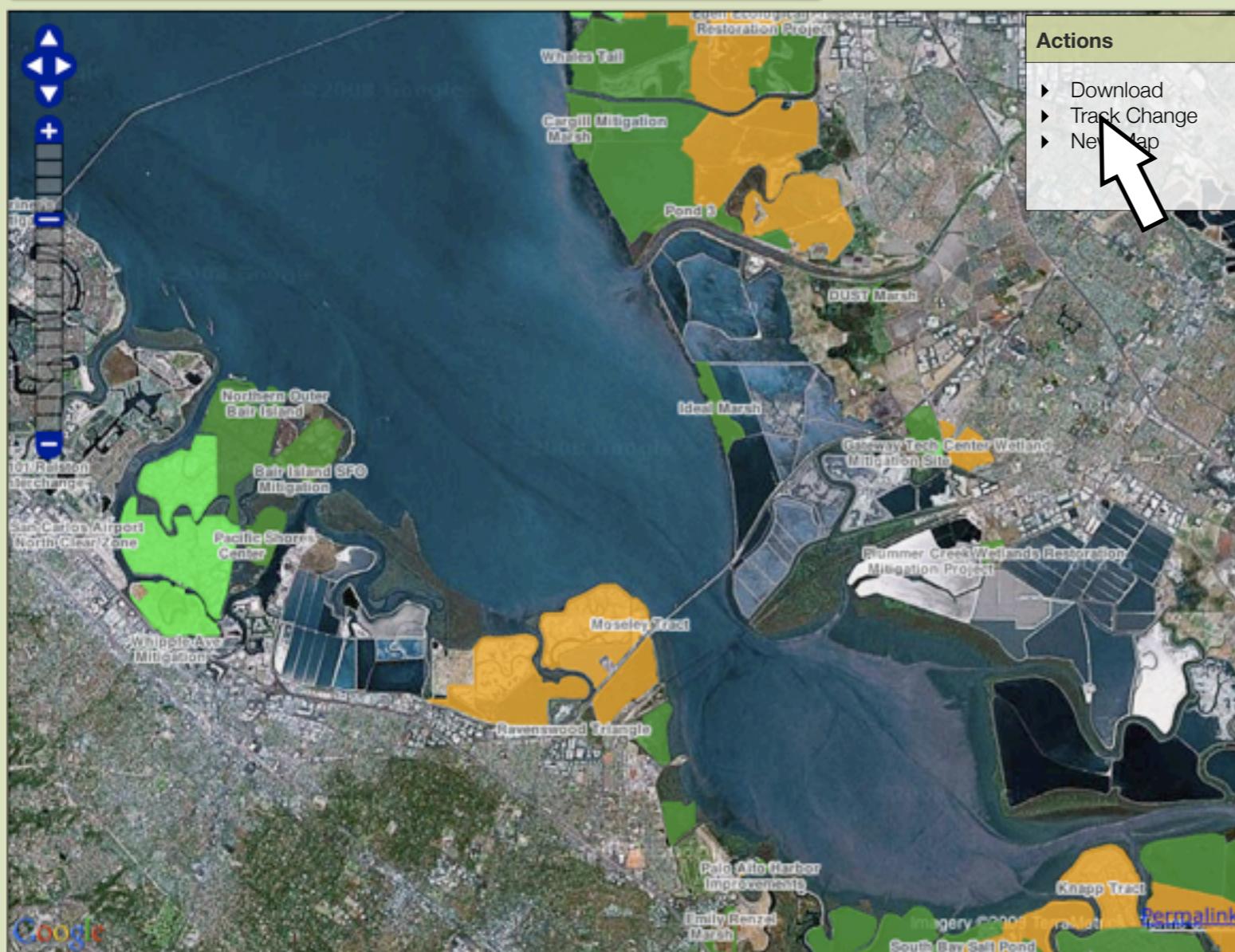
Home

Project list

Map

Search

Project Locator...



Actions

- ▶ Download
- ▶ Track Change
- ▶ New Map

Layers

- Wetland Projects
- Condition (CRAM)
- Modern Habitats
- Historical Habitats

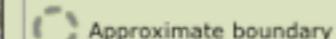
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Welcome, John

- ▶ **Profile**
 - Messages
 - Account Info
 - Preferences
- ▶ **Favorites**
- ▶ Recent Searches
- ▶ News
- ▶ Popular Content
- ▶ Help
- ▶ Search

Related Information

- ▶ **Level 1 Data**
 - Habitats
- ▶ **Level 2 Data**
 - CRAM Assesments
- ▶ **Level 3 Data**
 - Biosentinel Species
 - Vegetation Surveys
 - Mercury in sediment
 - Methylmercury in water
 - PCBs in Sediment
 - PCBs in nearby tributaries
 - More ->
- ▶ **Documents**
 - PCBs TMDL
 - Mercury TMDL
 - More ->
- ▶ **In the News**
 - Levee breach
 - Sewage Spill
 - Wetlands Restored
 - More ->

Save

BAY AREA WETLAND TRACKER

Bay Area

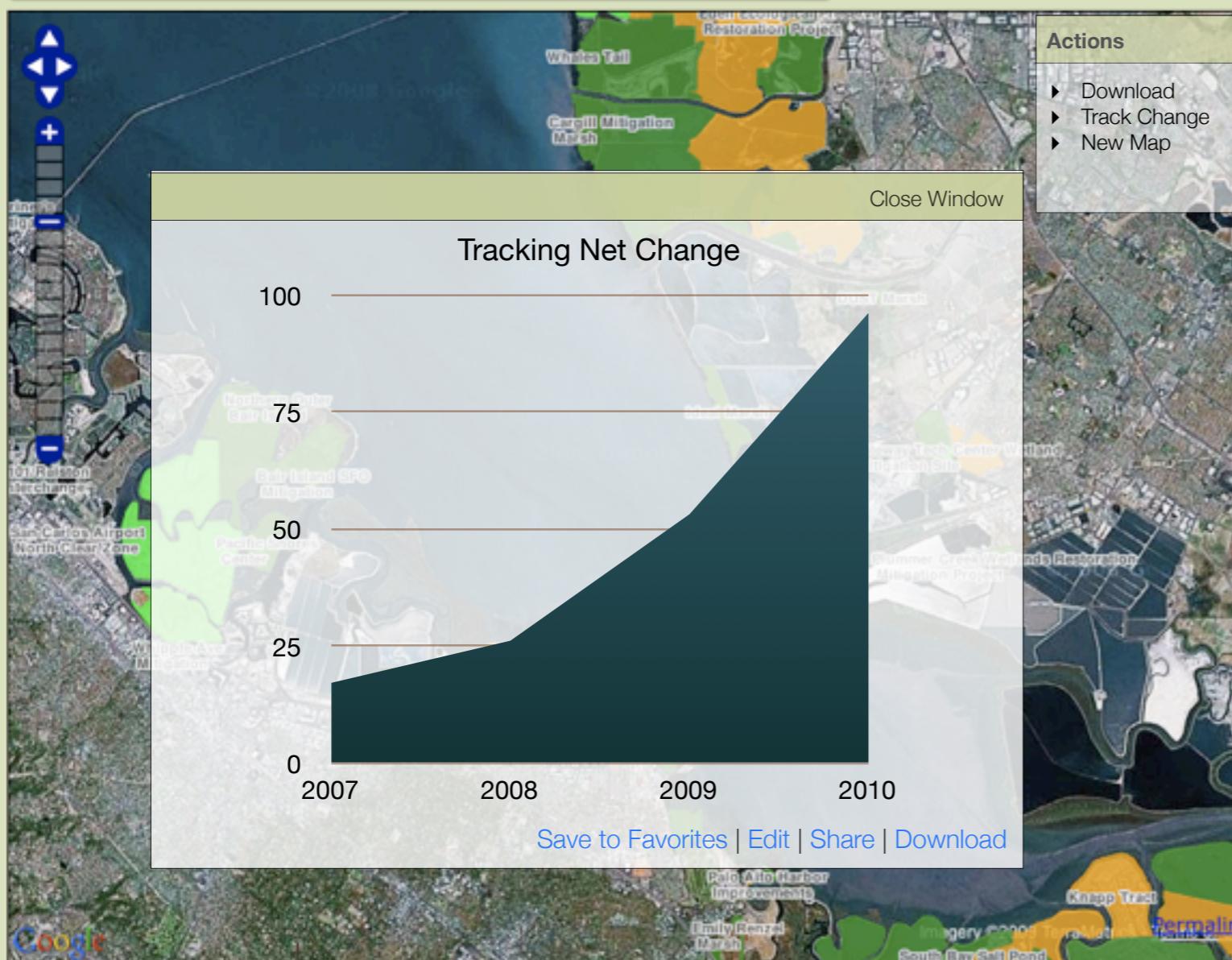
Home

Project list

Map

Search

Project Locator...



Save

Welcome, John

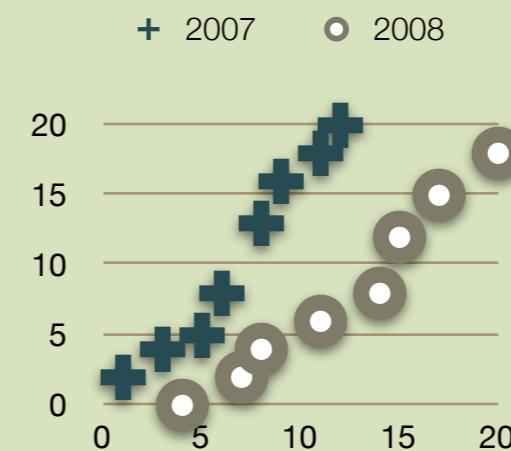
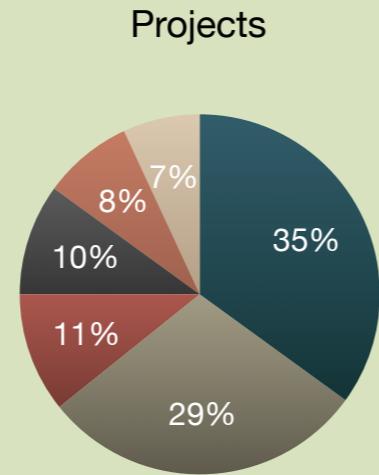
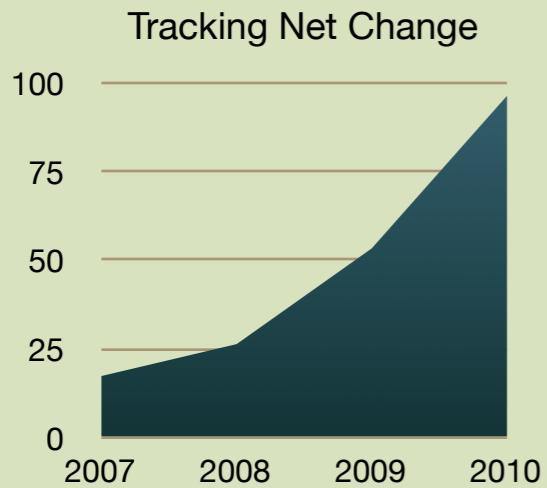
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- Favorites
- Recent Searches
- News
- Popular Content
- Help
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 - More ->
- Documents
 - PCBs TMDL
 - Mercury TMDL
 - More ->
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 - Levee breach
 - Sewage Spill
 - Wetlands Restored
 - More ->

Favorites

Visualizations



Reports

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- ▶ **Profile**
 - Messages
 - Account Info
 - Preferences
- ▶ **Favorites**
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- ▶ **News**
- ▶ **Popular Content**
- ▶ **Help**
- ▶ **Search**

Project Locator...

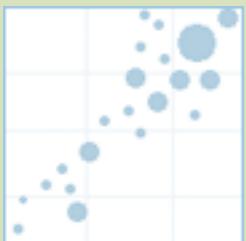
Data Exploration

Parameter: Sum of PCBs in Sediment

Years: 2002-2007

Source: [Regional Monitoring Program](#)

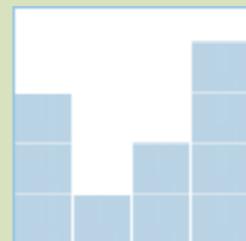
Common Visualizations



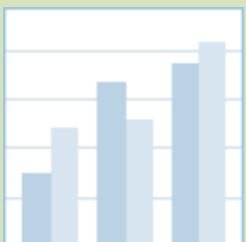
Scatterplot



Line Graph



Histogram



Bar Chart



Map

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- ▶ **Profile**
 - Messages
 - Account Info
 - Preferences
- ▶ **Favorites**
- ▶ **Recent Searches**
- ▶ **News**
- ▶ **Popular Content**
- ▶ **Help**
- ▶ **Search**

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- ▶ **Level 1 Data**
 - Habitats
- ▶ **Level 2 Data**
 - CRAM Assesments
- ▶ **Level 3 Data**
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[Project Locator...](#)

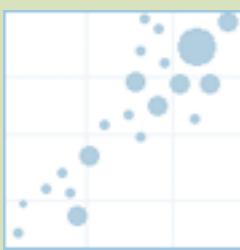
Data Exploration

Parameter: Sum of PCBs

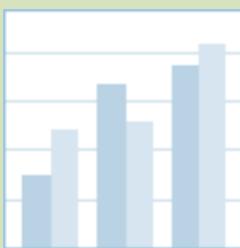
Years: 2002-2007

Source: Regional

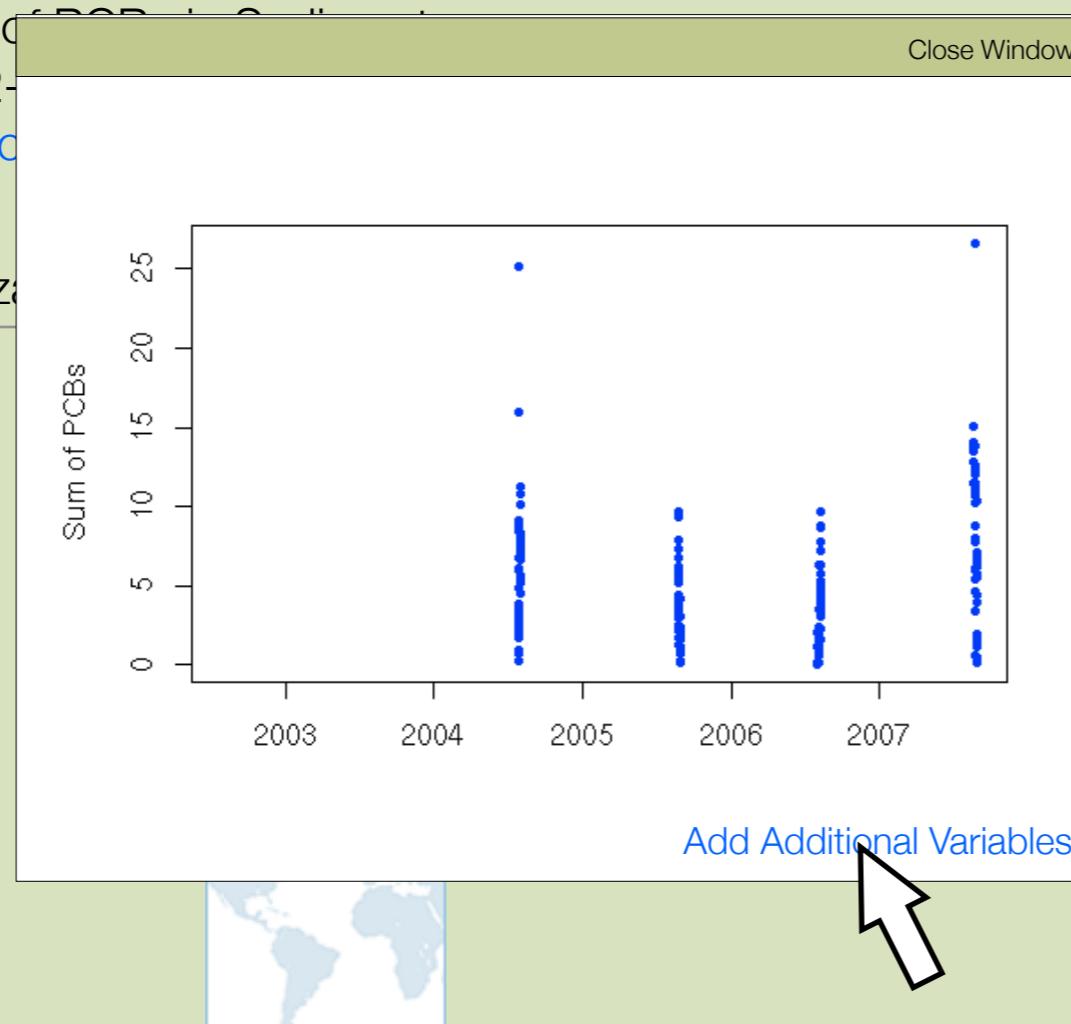
Common Visualizations



Scatterplot



Bar Chart



Map

Welcome, John

- ▶ **Profile**
 - Messages
 - Account Info
 - Preferences
- ▶ **Favorites**
- ▶ Recent Searches
- ▶ News
- ▶ Popular Content
- ▶ Help
- ▶ Search

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Project Locator...

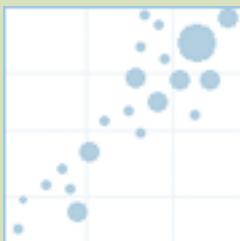
Data Exploration

Parameter: Sum of Depth

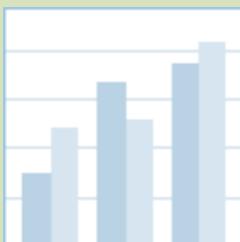
Years: 2002

Source: Regional

Common Visualizations



Scatterplot



Bar Chart

Close Window

Variable

- Total Organic Carbon [Add](#)
- Percent Fines [Add](#)
- Water Depth [Add](#)



Map

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- ▶ **Profile**
 - Messages
 - Account Info
 - Preferences
- ▶ **Favorites**
- ▶ Recent Searches
- ▶ News
- ▶ Popular Content
- ▶ Help
- ▶ Search

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 - Habitats
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- ▶ **Level 3 Data**
 - Biosentinel Species
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 - Methylmercury in water
 - PCBs in Sediment
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 - PCBs TMDL
 - Mercury TMDL
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 - Levee breach
 - Sewage Spill
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 - More ->

[Project Locator...](#)

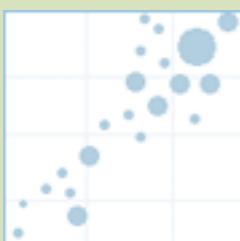
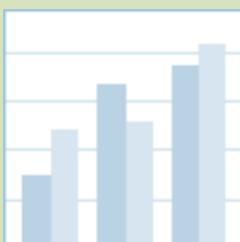
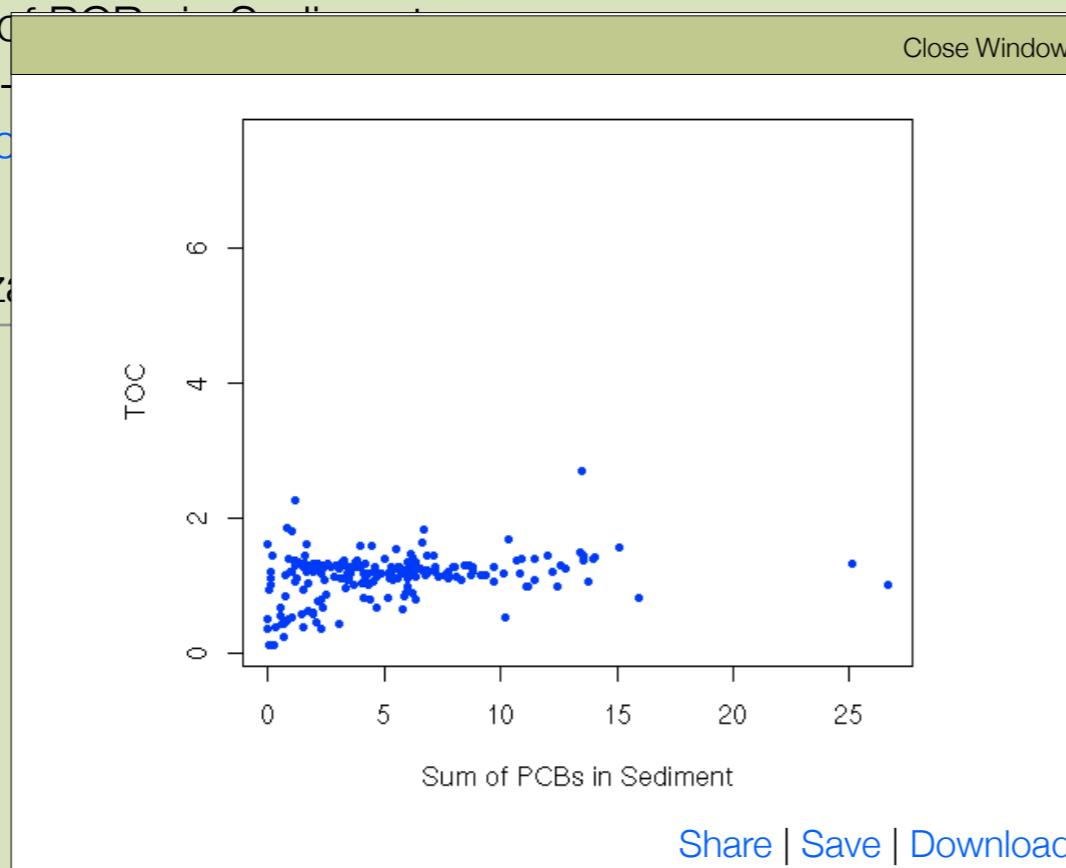
Data Exploration

Parameter: Sum of PCBs in Sediment

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Source: Regional

Common Visualizations


[Scatterplot](#)

[Bar Chart](#)

[Map](#)


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- ▶ **Profile**
 - Messages
 - Account Info
 - Preferences
- ▶ **Favorites**
- ▶ **Recent Searches**
- ▶ **News**
- ▶ **Popular Content**
- ▶ **Help**
- ▶ **Search**

Related Information

- ▶ **Level 1 Data**
 - Habitats
- ▶ **Level 2 Data**
 - CRAM Assesments
- ▶ **Level 3 Data**
 - Biosentinel Species
 - Vegetation Surveys
 - Mercury in sediment
 - Methylmercury in water
 - PCBs in Sediment
 - PCBs in nearby tributaries
 - More ->
- ▶ **Documents**
 - PCBs TMDL
 - Mercury TMDL
 - More ->
- ▶ **In the News**
 - Levee breach
 - Sewage Spill
 - Wetlands Restored
 - More ->

BAY AREA WETLAND TRACKER

Bay Area

Home

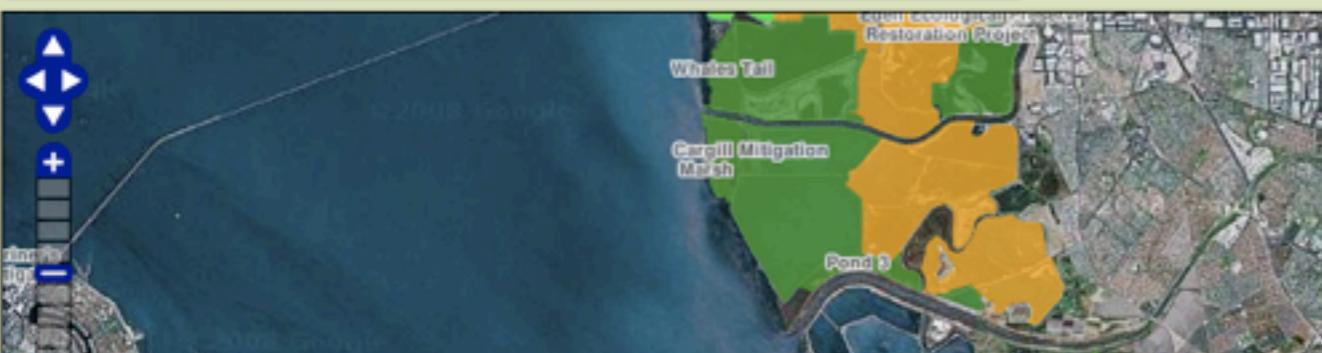
Project list

Map

Mercury

Search

Project Locator...



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- ▶ **Profile**
 - Messages
 - Account Info
 - Preferences
- ▶ **Favorites**
 - ▶ Recent Searches
 - ▶ News
 - ▶ Popular Content

Expand your search with:

[Trace Metal](#)

[Wetland Projects](#)

[Condition \(CRAM\)](#)

[Historical Habitats](#)

[CRAV Assessments](#)

[Biosentinel Species](#)

[Vegetation Surveys](#)

[Mercury in sediment](#)

[Methylmercury in water](#)

[PCBs in Sediment](#)

[PCBs in nearby tributaries](#)

[More ->](#)

</

In Summary ...

Transformed an existing information **access** tool into an **exploration** tool with three key features:

1. Users can find information they know they want
2. Users are exposed to information they didn't know existed
3. Users are allowed to interact with the information