

The Central Valley Monitoring Directory:

*A Web-based Tool to Aid
Monitoring Coordination*

May 2, 2012

Outline – On-line Directory

- Why?
- What and how?
- Next?



“... redundant monitoring activities can occur because of a lack of basic information relative to the scope of monitoring activities throughout the state. For example, there are 100 water quality monitoring efforts underway in the Central Valley alone, and coordination is minimal.”

(from CA Senate Bill 1070)

Goal

A tool that documents **CURRENT** surface water quality monitoring in order to:

- Facilitate more coordinated activities
- Better leverage shrinking resources

- **Basic Information Needed to Improve Coordination**
 - Who else is sampling what when where?
 - Where's the data/information available?
- **Easily updated and maintained**

What is it?

- Provides information on **CURRENT** monitoring programs
 - Objectives, duration, funding
 - Sampling sites, frequency, analytes, data availability
- Web-based, interactive map and database tool for searching and viewing of monitoring locations and program information
- Password-protected domains for program managers to enter and update information online

Beta Version

Central Valley Watershed MONITORING DIRECTORY

DISCLAIMER: THE SITE IS UNDER DEVELOPMENT AND THE MONITORING LISTED IS STILL BEING VALIDATED.

HOME

DIRECTORY

CONTACT

TUTORIAL

LOGIN

The Central Valley Monitoring Directory provides access to program and metadata information of current water quality monitoring efforts in the Central Valley watershed. The directory has been developed as a tool to help improve the coordination and integration of existing monitoring efforts. A database access tool allows searches of monitoring information with a modular search form and an interactive map viewer. Links to actual water quality data have been provided when available.

Features include:

- ▶ Monitoring program information (objectives, duration, funding) and metadata (sampling sites, frequency, parameters, data availability)
- ▶ A search form for customized searches
- ▶ An interactive map for GIS based searching and viewing of monitoring locations and program information



The CENTRAL VALLEY MONITORING DIRECTORY is maintained and was developed by the San Francisco State University (SFEI), with funding and participation from the Central Valley Regional Water Quality Control Board, the State Water Ambient Monitoring Program (SWAMP) and the Environmental Protection Agency (USEPA).



Main Directory

Basins All Delta San Joaquin River Tulare Lake Sacramento River



Map Satellite

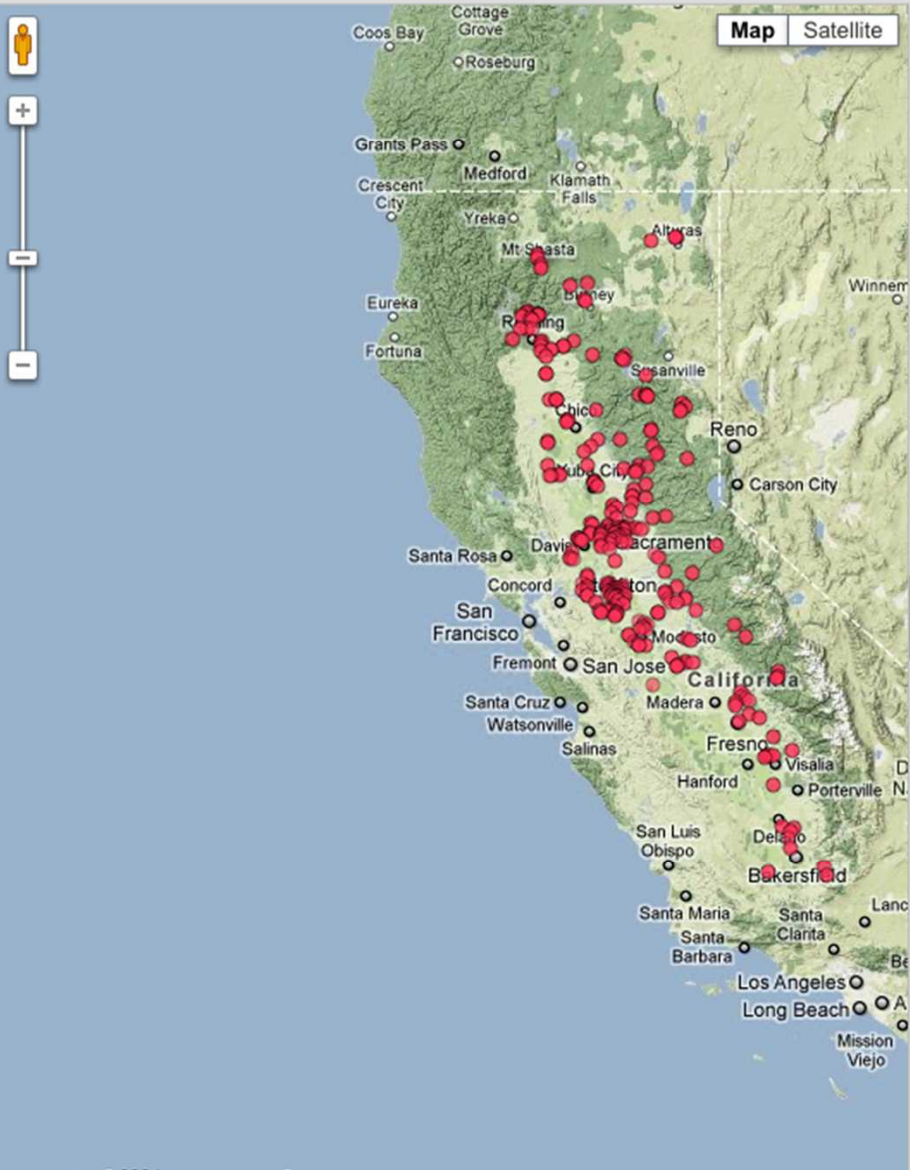
Programs Organizations Analytes Sites Help

<input checked="" type="checkbox"/>	Program	Lead Organization	No of sites	Basin	Bioa
<input checked="" type="checkbox"/>	<u>NPDES Self Monitoring Program</u>	CVRWQCB Show Partners	494	Delta, Sacramento River, San Joaquin River, Tulare Lake	19 s
<input checked="" type="checkbox"/>	<u>IEP Environmental Monitoring Program: Discrete Water Quality Sampling</u>	IEP	9	Delta	
<input checked="" type="checkbox"/>	<u>DWR Operations & Maintenance - State Water Project Water Quality</u>	DWR	8	Delta, Tulare Lake, San Joaquin River	

[Download Excel](#)

Main Directory

Basins All Delta San Joaquin River Tulare Lake Sacramento River

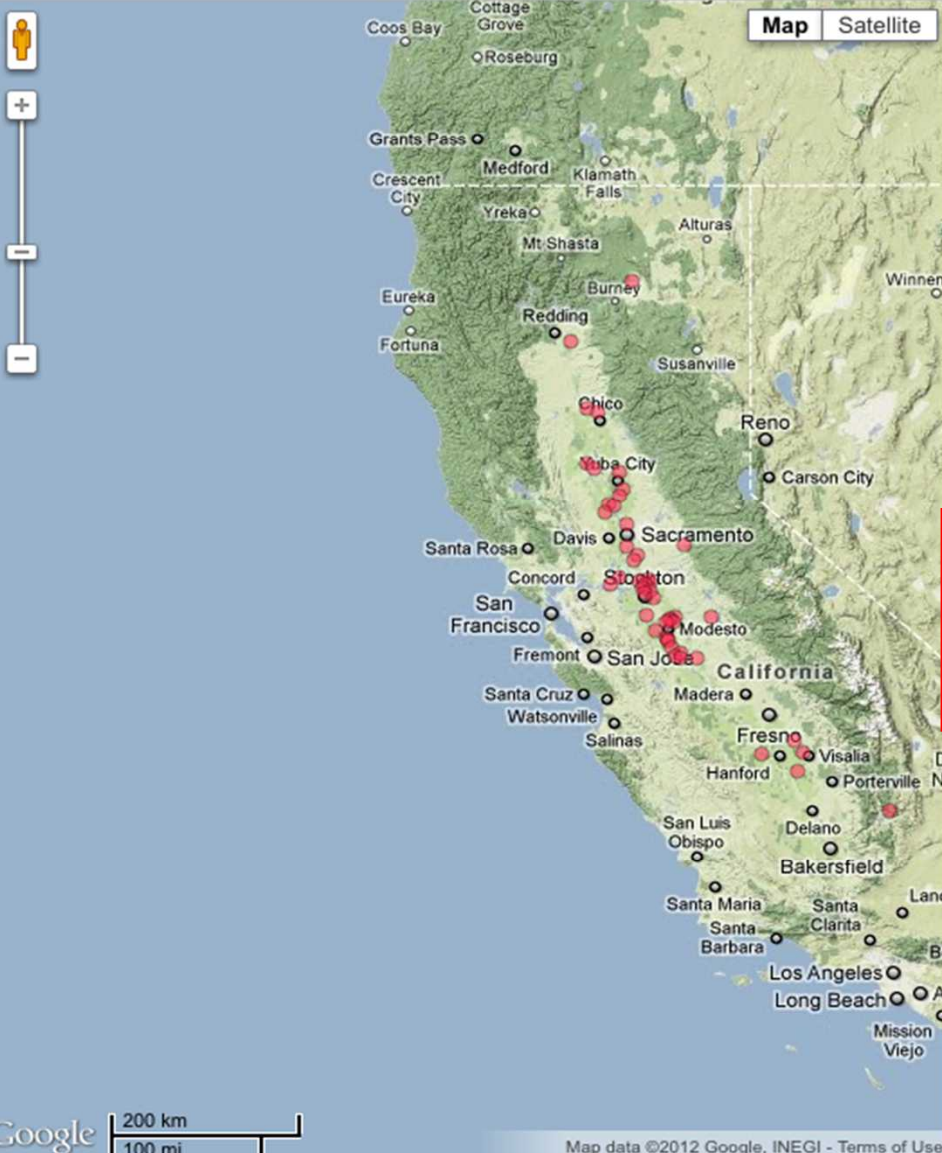


Programs Organizations Analytes Sites Help

<input type="checkbox"/>	Program	Lead Organization	No of sites	Basin	Bioassessment	Bulk Organics	Disinfection Byprod
<input checked="" type="checkbox"/>	NPDES Self Monitoring Program	CVRWQCB Show Partners	494	Delta, Sacramento River, San Joaquin River, Tulare Lake	19 sites	18 sites	100 sites
<input type="checkbox"/>	IEP Environmental Monitoring Program: Discrete Water Quality Sampling	IEP	9	Delta			
<input type="checkbox"/>	DWR Operations & Maintenance - State Water Project Water Quality Monitoring	DWR	8	Delta, Tulare Lake, San Joaquin River			
<input type="checkbox"/>	Source Water Monitoring	CCWD	4	Delta	3 sites		
<input type="checkbox"/>	Sacramento River Coordinated Monitoring Program	Sacramento RCSD	2	Delta			
<input type="checkbox"/>	DWR San Joaquin District - Surface Water Monitoring	DWR	39	San Joaquin River, Delta, Tulare Lake			

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Basins All Delta San Joaquin River Tulare Lake Sacramento River



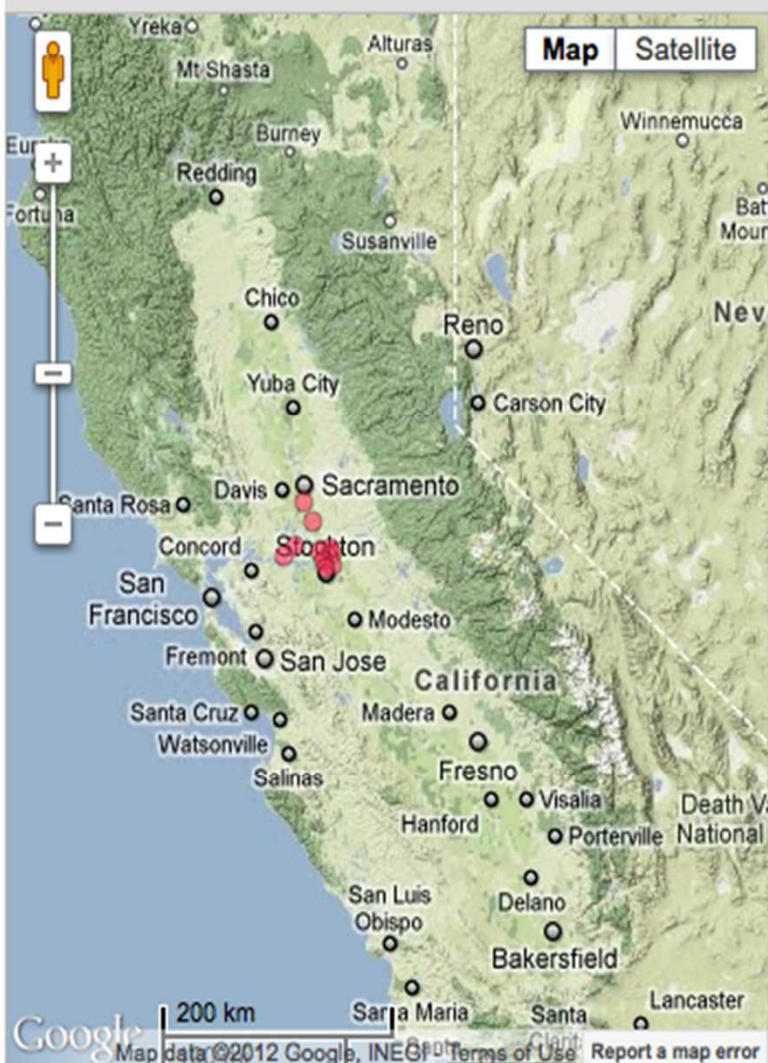
Programs	Organization	Analytes	Sites	Help
		Cyanazine, 2-chloro-4-isopropylamino-6**		
		cis-Propiconazole, Desulfinylfipronil amide, Fipronil sulfide, Fipronil sulfone, Desulfinylfipronil, Fipronil, Metalaxyl, Myclobutanil, Propargite, Tebuconazole, trans-Propiconazole**	<input type="checkbox"/>	2 sites Delta
Priority Pollutants	Priority Pollutants		<input type="checkbox"/>	171 sites Delta, Sacramento River, San Joaquin River, Tulare Lake
			<input type="checkbox"/>	3 sites Sacramento River, San Joaquin River
Sediment Chemistry	Pyrethroids		<input checked="" type="checkbox"/>	48 sites Delta, San Joaquin River, Sacramento River, Tulare Lake
		Biochemical Oxygen Demand (BOD5)**	<input type="checkbox"/>	11 sites Delta, San Joaquin River
		Deltamethrin**	<input type="checkbox"/>	7 sites Delta, San Joaquin River
		Esfenvalerate/Fenvalerate-1**	<input type="checkbox"/>	7 sites Delta, San Joaquin River
		Esfenvalerate/Fenvalerate-2**	<input type="checkbox"/>	7 sites Delta, San Joaquin River
		Lambda-cyhalothrin-1**	<input type="checkbox"/>	7 sites Delta, San Joaquin River

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Main Directory

Basins All Delta San Joaquin River Tulare Lake Sacramento River

Sub Basins All South Delta North Delta



Programs

Organizations

Analytes

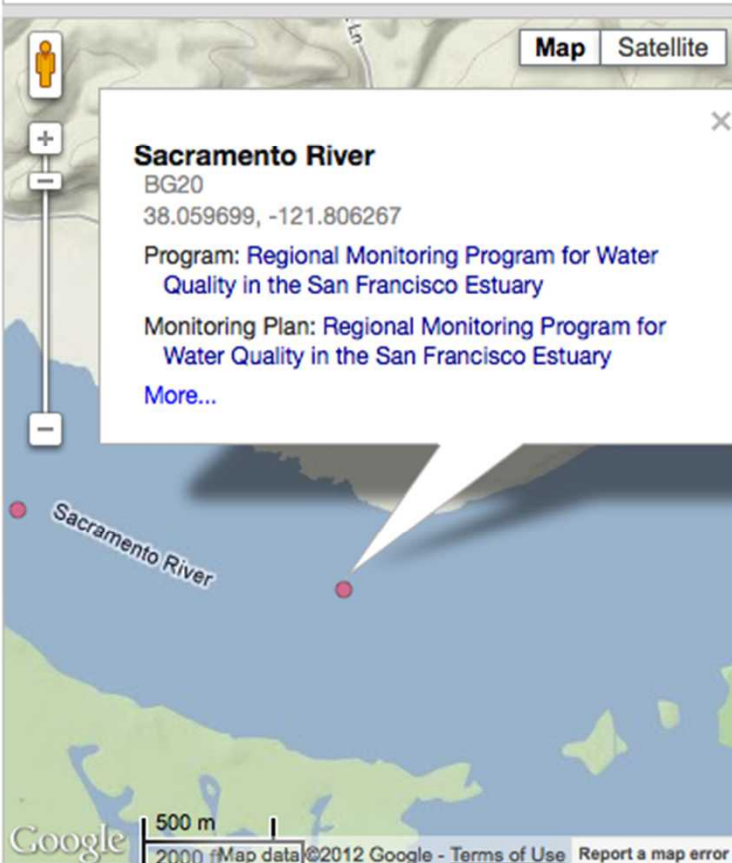
Sites

Help

	Triazine pesticides**	<input type="checkbox"/>	5 sites	Delta
	Pyrethroids	<input type="checkbox"/>	13 sites	Delta
	2-Chloro-2,6-diethylacetanilid, 2-Ethyl-6-methylaniline, 3,4-Dichloroaniline, 3,5-Dichloroaniline, 4-Chloro-2-methylphenol, Acetochlor, Alachlor, 2,6-Diethylaniline, Atrazine, Benfluralin, cis-Propiconazole, Cyanazine, Dacthal, 2-Chloro-4-isopropylamino-6**	<input type="checkbox"/>	1 sites	Delta
	cis-Propiconazole, Desulfinylfipronil amide, Fipronil sulfide, Fipronil sulfone, Desulfinylfipronil, Fipronil, Metalaxyl, Myclobutanil, Propargite, Tebuconazole, trans-Propiconazole**	<input type="checkbox"/>	2 sites	Delta
Priority Pollutants	Priority Pollutants	<input type="checkbox"/>	23 sites	Delta
Sediment	Pyrethroids	<input checked="" type="checkbox"/>	10 sites	Delta

[Download Excel](#)

Main Directory
Basins All Delta San Joaquin River Tulare Lake Sacramento River

Sub Basins All South Delta North Delta

Programs **Organizations** **Analytes** **Sites** **Help**

 Sacramento River at Freeport (1117050)
 Basin Delta Sub Basin North Delta Watershed Sacramento Delta Latitude 38.45556 Longitude -121.50194

[Show on Map](#) [View Program](#) [View Monitoring Plan](#)
[Show monitored parameters](#)
Vernalis (SJR)

Basin Delta Sub Basin South Delta Watershed San Joaquin Delta Latitude 37.6793 Longitude -121.2651

[Show on Map](#) [View Program](#) [View Monitoring Plan](#)
[Show monitored parameters](#)
Sacramento River (BG20)

Basin Delta Sub Basin North Delta Watershed Sacramento Delta Latitude 38.059699 Longitude -121.806267

[Show on Map](#) [View Program](#) [View Monitoring Plan](#)
[Show monitored parameters](#)
San Joaquin River (BG30)

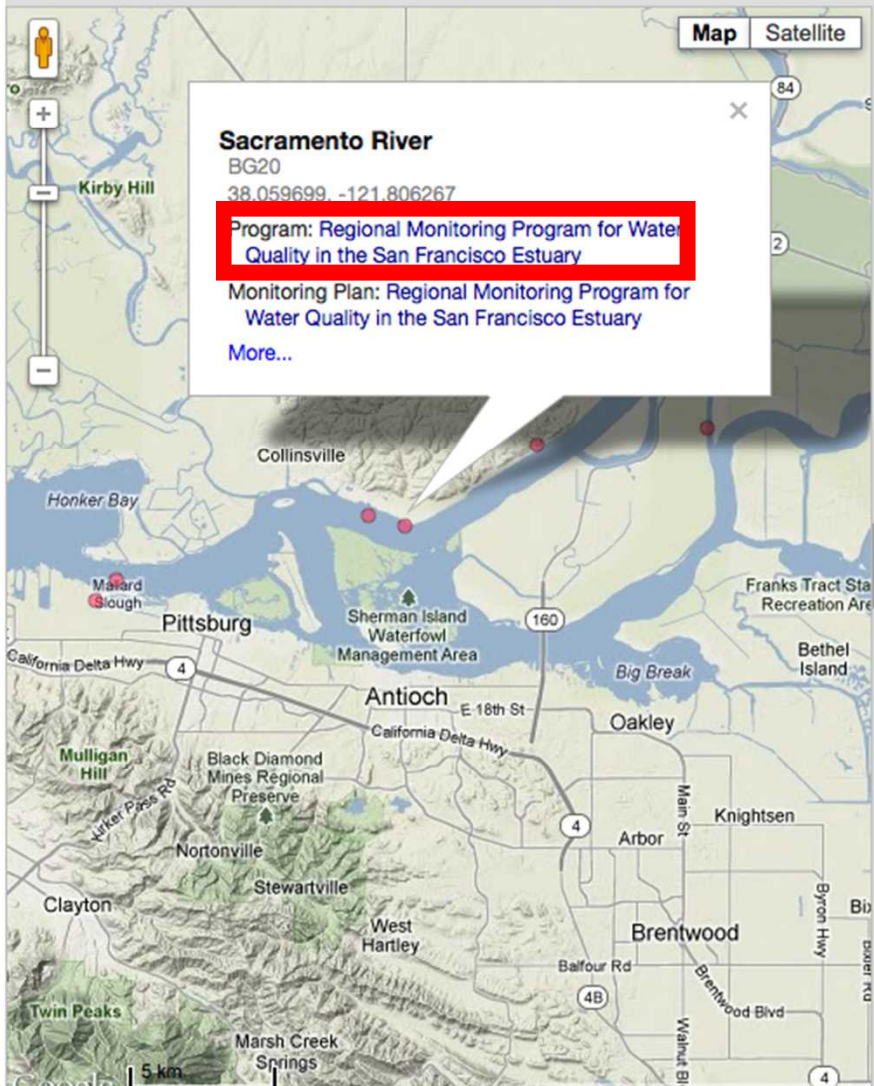
Basin Delta Sub Basin South Delta Watershed San Joaquin Delta Latitude 38.020541 Longitude -121.806267

[Show on Map](#) [View Program](#) [View Monitoring Plan](#)
[Show monitored parameters](#)
[Download Excel](#)

Main Directory

Basins All Delta San Joaquin River Tulare Lake Sacramento River

Sub Basins All South Delta North Delta



[Programs](#) [Organizations](#) [Analytes](#) [Sites](#) [Help](#)

Show monitored parameters

Sacramento River (BG20)

Basin Delta Sub Basin North Delta Watershed Sacramento Delta Latitude 38.059699 Longitude -121.806267

[Show on Map](#) [View Program](#) [View Monitoring Plan](#)

Hide monitored parameters

Analyte	Type	Frequency	Start Date
Aluminum	Sediment Quality	Annual	01-01-2007
Aluminum	Water Quality	Other	01-01-1993
Amphipod (% survival)	Toxicity	Annual	01-01-2007
Arsenic	Sediment Quality	Annual	01-01-1993
Arsenic	Water Quality	Annual	01-01-1993
Arsenic	Water Quality	Other	01-01-1993
Bivalve (% normal development)	Toxicity	Annual	01-01-1993
Cadmium	Sediment Quality	Annual	01-01-1993
Cadmium	Water Quality	Annual	01-01-1993
Cadmium	Water Quality	Other	01-01-1993
Chlorophyll a	Water Quality	Annual	01-01-1993
Cobalt	Water Quality	Annual	01-01-2000
Copper	Sediment Quality	Annual	01-01-1993
Copper	Water Quality	Annual	01-01-1993
Copper	Water Quality	Other	01-01-1993
Dissolved Organic Carbon (DOC)	Water Quality	Annual	01-01-1993
Dissolved Oxygen (DO)	Water Quality	Annual	01-01-1993
Electrical Conductivity (EC)	Water Quality	Annual	01-01-1993
General Sediment Quality - other	Sediment Quality	Annual	01-01-1994
General Water Quality - other	Water Quality	Annual	01-01-1993
Hardness	Water Quality	Annual	01-01-1994
Iron	Sediment Quality	Annual	01-01-1993
Iron	Water Quality	Annual	01-01-1993

[Download Excel](#) (highlighted in red)

Central Valley Monitoring Directory

Program Info

Regional Monitoring Program for Water Quality in the San Francisco Estuary

[Download Excel](#)

Organization

San Francisco Estuary
Institute

Program website

[view](#)

Start date 01/01/1993

End date None

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

Annual budget \$3M

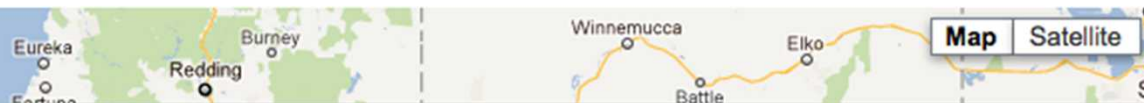
Basins & sub-basins monitored

- Delta (North Delta, South Delta)

Monitoring Plans

Name

[Monitoring Plan for Regional Monitoring Program for Water Quality in the San Francisco Estuary](#)





Sites Monitored

Name	Code	Latitude	Longitude	Map
Sacramento River	BG20	38.059699	-121.806267	locate
San Joaquin River	BG30	38.020541	-121.806267	locate

Showing 1 to 2 of 2 entries

Search:

Parameters Monitored

Group	Parameters	Frequency
Bioassessment	Pheophytin a	Annual
General Sediment Quality	General Sediment Quality - other, Particle Size, Solids Fraction	Annual
General Water Quality	Dissolved Oxygen (DO), Electrical Conductivity (EC), General Water Quality - other, Hardness, pH, Temperature, Total Suspended Solids (TSS)	Annual
Major Ions & Minerals	Major Ions & Minerals - other	Annual
Mercury	Mercury, Methylmercury	Annual, Other
Metals & Trace Elements	Aluminum, Arsenic, Cadmium, Cobalt, Copper, Iron, Lead, Manganese, Nickel, Selenium, Silver, Trace Elements - other, Zinc	Other, Annual

Metals & Trace Elements	Aluminum, Arsenic, Cadmium, Cobalt, Copper, Iron, Lead, Manganese, Nickel, Selenium, Silver, Trace Elements - other, Zinc	Other, Annual
New & Emerging Contaminants	PBDEs	Annual
Nutrients	Chlorophyll a , Phosphate as P PO4-P, Total Ammonia as Nitrogen NH3-N	Annual
Organic Carbon (OC)	Dissolved Organic Carbon (DOC)	Annual
Organic Contaminants	PAHs, PCBs	Annual
Pesticides	Organochlorine Pesticides, Organophosphates, Pesticides - other	Annual
Sediment Chemistry	Aluminum, Arsenic, Cadmium, Copper, Iron, Lead, Manganese, Mercury, Nickel, Organochlorine Pesticides, PAHs, PCBs, Sediment Chemistry - other, Sediment Organic Contaminants - other, Sediment Trace Element - other, Selenium, Silver, Total Organic Carbon (TOC), Zinc	Annual
Sediment Toxicity	Bivalve (% normal development)	Annual
Water Toxicity	Amphipod (% survival)	Annual

Showing 1 to 14 of 14 entries

Search:



Data Products Available

Item	Available Online	URL	Available by Request	Comment
Annual Report	Yes	http://www.sfei.org/rmp/rmp_docs.html	Yes	
Downloadable data	Yes	http://www.sfei.org/rmp/rmp_data_access.html	Yes	
Newsletter	Yes	http://www.sfei.org/rmp/rmp_news.htm	Yes	
Other	Yes	http://www.sfei.org/sfeireports.htm#RMP	Yes	Program reports
Synthesis Report	Yes	http://www.sfei.org/sfeireports.htm#RMP	Yes	

Beta Version

Central Valley *MONITORING DIRECTORY*

THE MONITORING DIRECTORY IS OPTIMIZED FOR USE WITH FIREFOX 8+ OR INTERNET EXPLORER 8+

Website survey

Please take a few minutes to provide your feedback on the utility and performance of this monitoring directory

The Central Valley Monitoring Directory provides access to program and metadata for current water quality monitoring efforts in the Central Valley watershed. The directory has been developed to help improve the coordination and integration of existing monitoring efforts. Monitoring information is accessed through an interactive map and forms. Links to actual water quality data (hosted elsewhere) have been provided when available.

Features include:



HOME

DIRECTORY

CONTACT

TUTORIAL

LOGIN

The CENTRAL VALLEY MONITORING DIRECTORY is maintained and was developed by the Aquatic Science Center (ASC), with funding and participation from the Central Valley Regional Water Quality Control Board Surface Water Ambient Monitoring Program (SWAMP) and the U.S. Environmental Protection Agency (USEPA).

Mozilla Firefox

Zimbra: Sent x http://dataentr...org/users/login x +

Back Forward Add To Wish List dataentry.centralvalleymonitoring.org/users/login

Most Visited Zimbra: Inbox stern.de Oakland, Califor... Central Valley W... Maps Aquatic Science ... S. F. Bay

Central Valley Monitoring Login

User ID sfei

Password

Login



Central Valley Monitoring Inventory - Data Entry

Program: [Regional Monitoring Program for Water Quality in the San Francisco Estuary](#)Plan: [Regional Monitoring Program for Water Quality in the San Francisco Estuary](#)

Monitoring Plan

Sites

Data Products

Contacts

Monitoring Plan Name

Regional Monitoring Program for Water Quality in the San Francisco Estuary

Plan Status

Active

Monitoring Objectives

None

URL

Start Date

End Date

Annual Budget

Funding Source

Permit ID

None

Organizations

[Return to Program](#)[Add Organization](#)[Add Site](#)[Add Data Product](#)[Add Contact](#)[Save Plan](#)

Technology

- Google Maps API v3
 - Markers, maps
- Cake PHP
 - Rapid development framework
 - Layout, forms, data entry authentication
- ArcGIS Server REST
 - Auto-populate basin and watershed fields in data entry
- SQL Server

Next:

- Evaluation of the feasibility to make the directory a statewide tool
- Evaluation of linking to California Environmental Data Exchange Network (CEDEN)
- Duplication-of-effort analysis feature
- Outreach to additional monitoring groups, particularly smaller ones



Todd Featherston
Cristina Grosso
Michael May
Meredith Williams



Anne Littlejohn
Calvin Yang

Comments or questions?

Email thomas@aquaticscience.org

