Environmental Data Management Tools

John Oram, Cristina Grosso, Shira Bezalel, Todd Featherston, John Ross, Michael May, Patty Frontiera, Josh Collins, Meredith Williams, Kristen Cayce, Thomas Jabusch

San Francisco Estuary Institute

Goals of Information Management

→Provide easy access to reliable data

→Use similar protocols across projects

→Convey information in meaningful ways

Challenges to Data Sharing

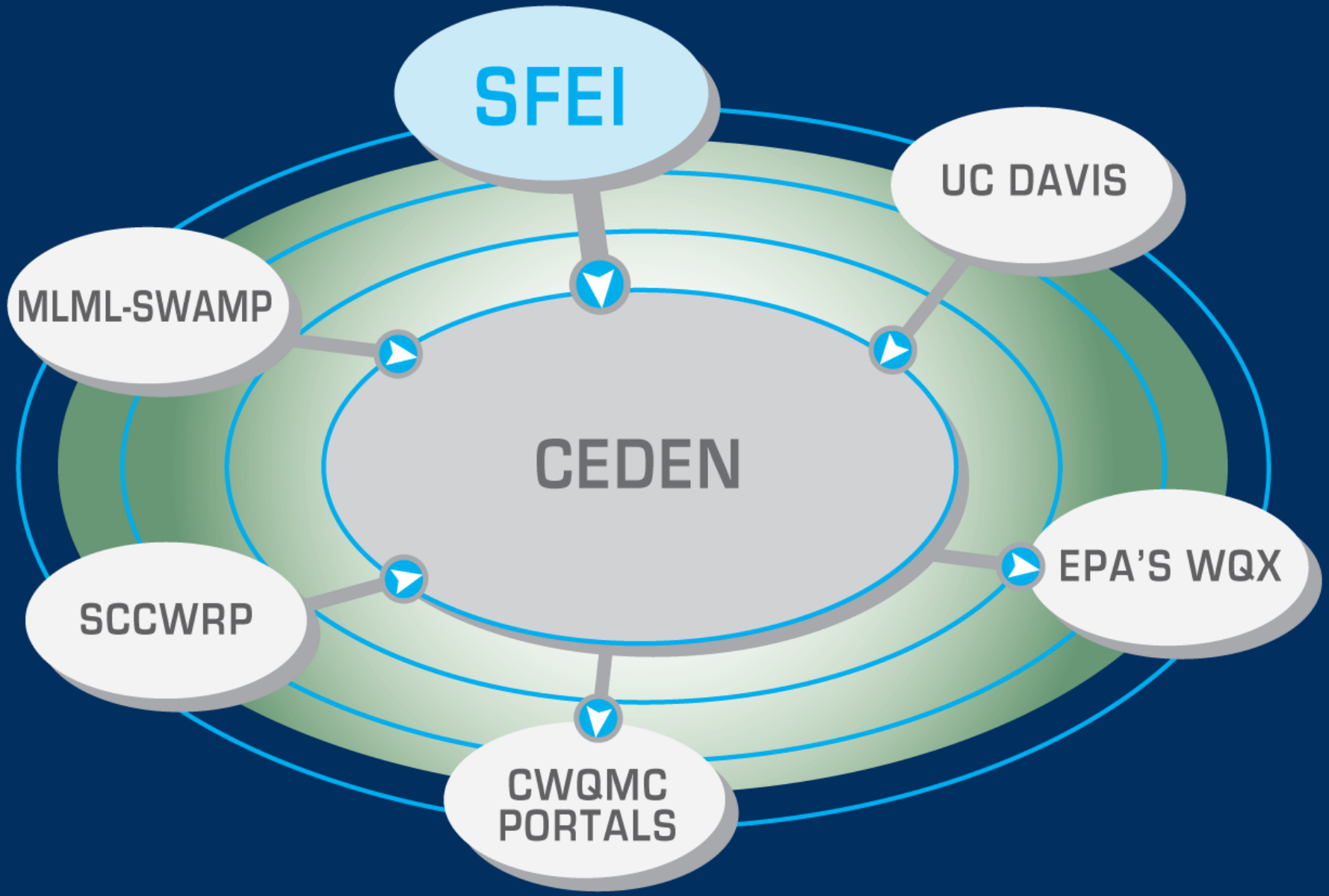
→Different data formats and QA procedures

→Time-consuming to compile data

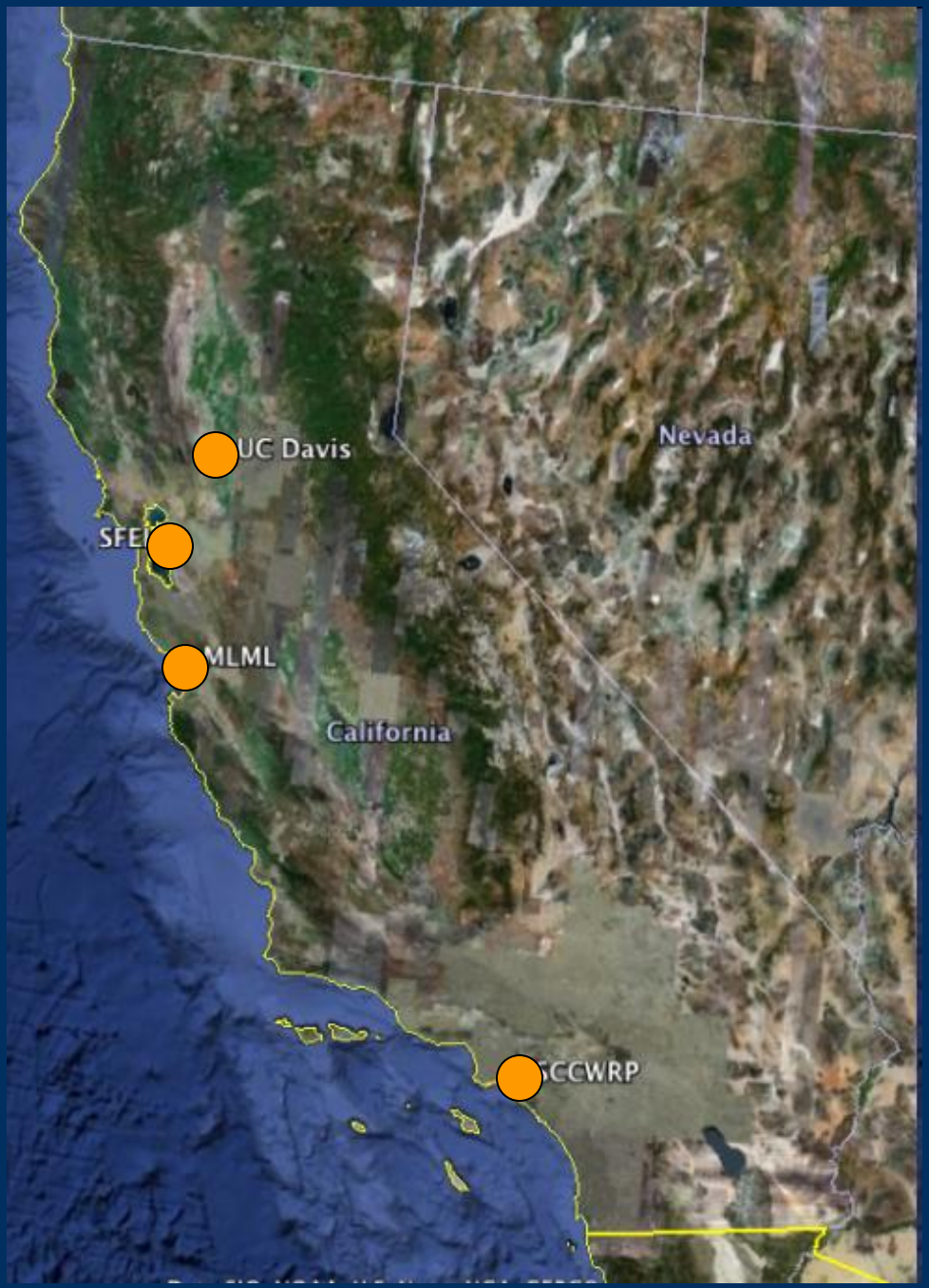
→Limited resources

→Tailoring content for different audiences

- Develop question and theme-based portals


SFEI
UC DAVIS
MLML-SWAMP
CEDEN
EPA'S WQX
SCCWRP
CWQMC
PORTALS

California Regional Data Centers



Regional Data Center Services

Upload	**Store**	**Exchange**
Access	**Coordinate**	**Integrate**

Tool Development

Data **upload**

↓

Standard data **storage**

↓

Data **visualization**

Regional Monitoring Program for Water Quality (RMP)

→**Guided by management questions**

→**Long-term monitoring program**

- **Status and Trends monitoring**
- collecting samples since 1993
- collects sediment, water, and tissue

Data Upload Tools

Water Form v1.0

Field Data Entry Form: Water

today filter | no filter | previous | next | new | save

Sampling Event Info

Station Code: BG20

Sample Date: 7/9/2008 (dd/mm/yyyy)

People

Data Entry: Amy Franz

Field Measurements: Jennifer Hunt

Samples: Amy Franz

Event Comments:

Field Measurements

Analyte:	Units:	Result:	Comments:
Oxygen, Dissolved	% saturation	88.1	
Temperature	°C	22.27	
Conductivity	mS/cm	1.495	
Salinity	ppt	0.77	
pH	pH	8.43	

Instrument: YSI556

Samples

Analyte:	Container:	Container ID:	Vol. Filtered:	Vol. Filt. Unit:	Filter No.	# of Filters:	Comments:
POC (filtered)	40 mL glass	RMP 08WC-1093	314	ml	3	1	Started with filter 12 but pump was put together wro
Chlorophyll/Phae	40 mL amber vials w	RMP 08WC-1099	1020	ml	NA	3	20 ml 90% methanol added
DOC (dissolved)	250 mL plastic	RMP 08WC-1094	314	ml	NA	1	250ml plastic bottle from CAS
				ml			

SAN FRANCISCO ESTUARY INSTITUTE

Region-wide Science for Ecosystem Management

SFEI Data Checker

Welcome to the SFEI Data Checker. Please complete Steps 1-5 to check your file.

After checking your file, you will be given an opportunity to submit your data.

1) SELECT A DATA CATEGORY:

Note: Only Chemistry is available at this time. (April 2010)

Chemistry

2) ENTER YOUR EMAIL ADDRESS:

shira@sfei.org

3) SELECT YOUR AGENCY:

ABCL	ABC Laboratories
ALPHA	Alpha Analytical, Inc.
ALWAL	A & L Western Agricultural Laboratories, Inc.
AMS	Applied Marine Sciences, Inc.
AMS-CA	Applied Marine Sciences, Inc. California
ANACON	ANACON, Inc.
APPL	Agriculture & Priority Pollutants Laboratories, Inc
AquaSci	AquaScience

4) ENTER YOUR EXCEL FILE TO UPLOAD (.XLS FORMAT ONLY):

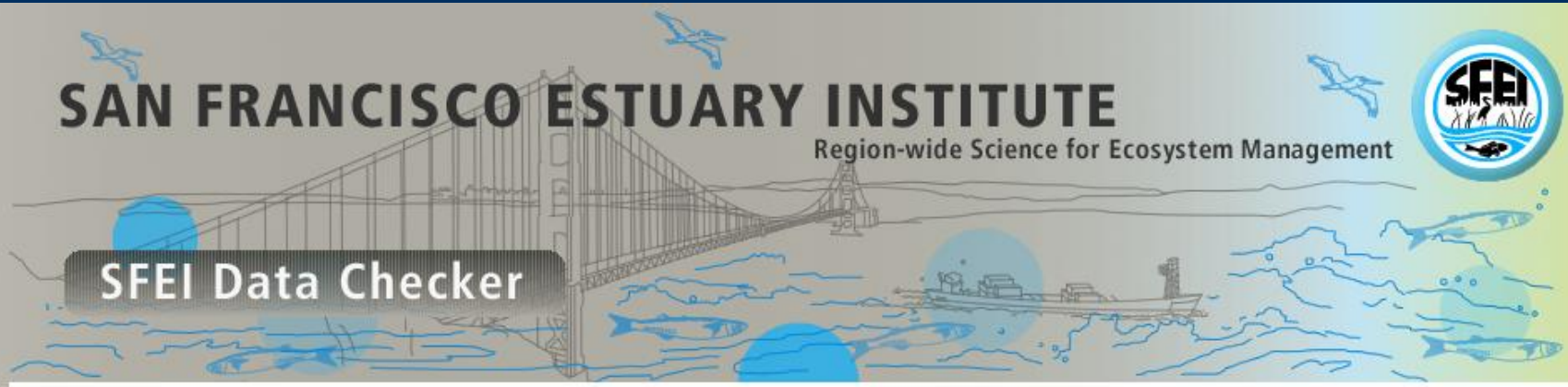
S:\Shira\DB_StagingArea\Copy L-622-09_SFEI 844_RMP_S_PYD-PYN_Mar 22_20 Browse...

5) CLICK BUTTON TO BEGIN CHECKING:

Check file...

Help | LookUp Lists

Please note that new error checks and functionality are routinely added.



Summary of Errors Found in Results Worksheet

The table below is a summary of errors found in your spreadsheet. Check your email for a detailed list of these errors attached in an Excel file.

Error	Error Count
Missing ResultQualCode, a required field.	214
Warning: MDL and RL are both NULL. This is only valid for some analytes (% survival, ancillary measurements).	33

If you would like to submit this spreadsheet to SFEI despite these errors, click the submit button to go to the submission screen.

Submit...

Help | LookUp Lists | Main Menu

Submit Data

Click on the blue Submit button to submit your spreadsheet to SFEI.

Add email addresses to be cc'd here (multiple email addresses should be separated with a comma):

CC: cristina@sfei.org

Type in an optional message to the SFEI Data Management Team here:

Comments:

Please add new Method

Code “AXYS 3205B”.

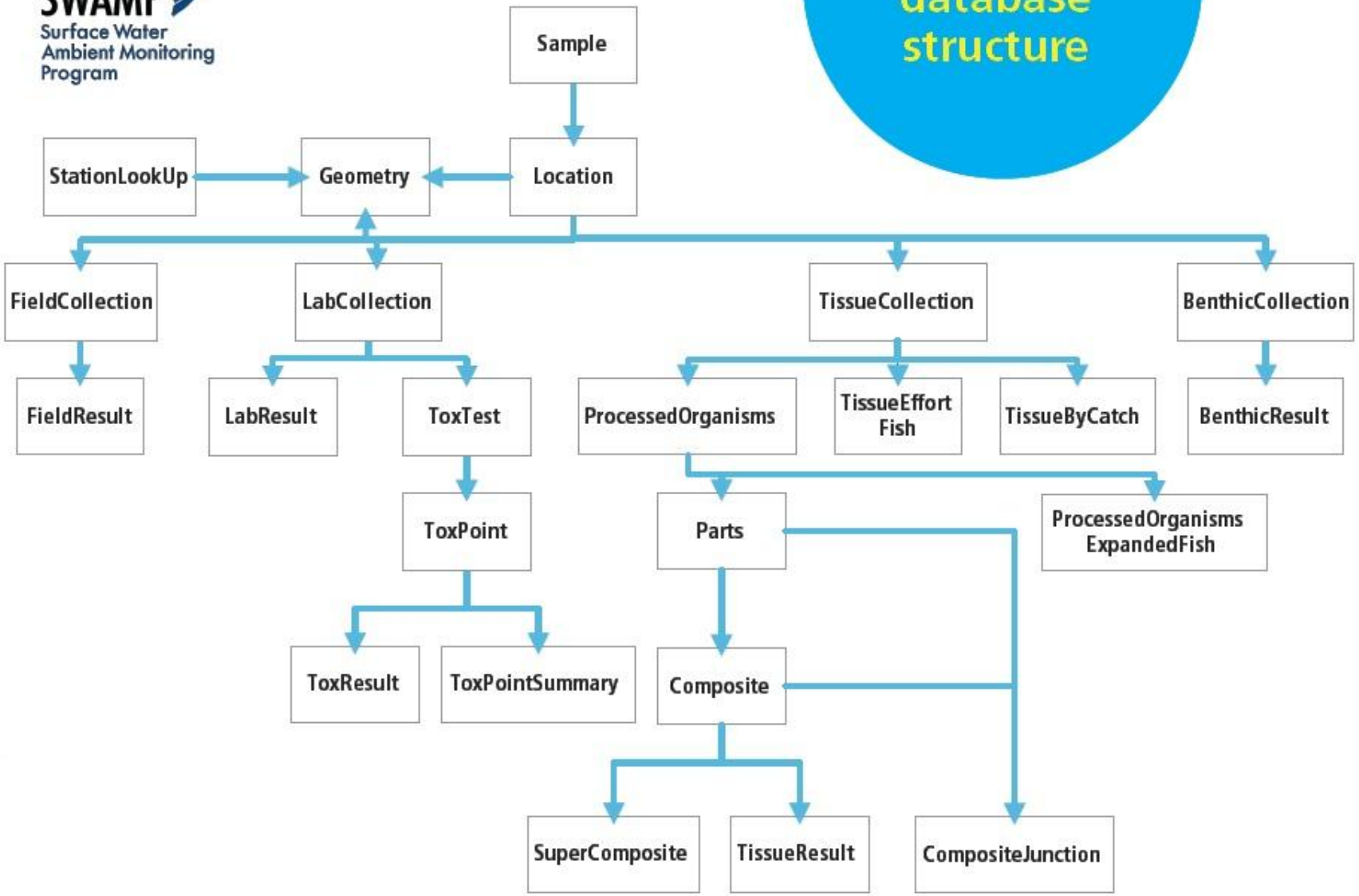
Submit

Back to Main Menu

Standard Data Storage

SWAMP
Surface Water Ambient Monitoring Program

SWAMP v.2.5 database structure



Data Visualization

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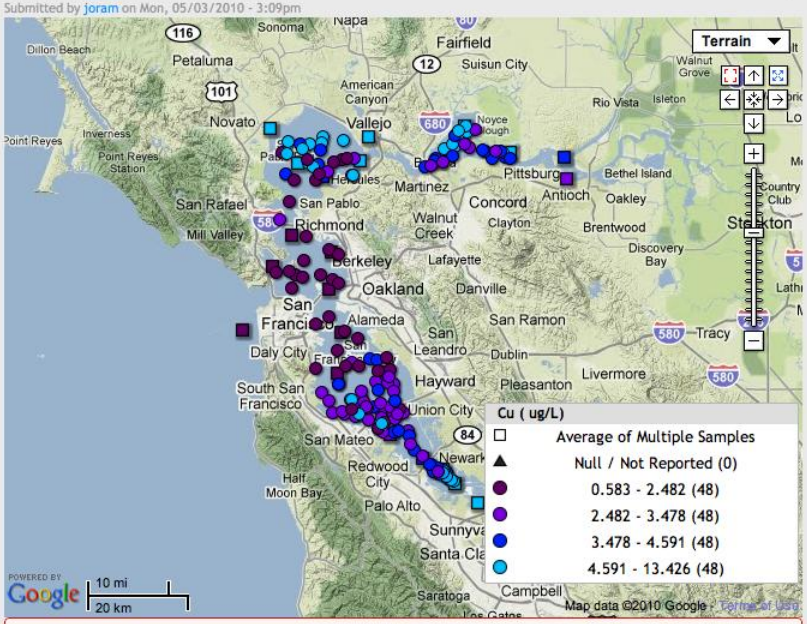
REGION-WIDE SCIENCE FOR ECOSYSTEM MANAGEMENT

WEB QUERY TOOL

View | Edit | Outline | Track

Submitted by joram on Mon, 05/03/2010 - 3:09pm



Display Notes:

- In 2007, two labs analyzed for copper using two different methods. While good agreement was obtained for most areas, South Bay results differed. All QA/QC met RMP objectives. No definitive cause was identified. 2008 samples did not show this discrepancy.
- In 2008, the RMP switched water trace metals labs from UCSC to BR. BR uses a new method, reductive precipitation, while UCSC extracted with a weak acid, which resulted in reporting near-total concentrations that approximate bioavailability to organisms.

515 reads

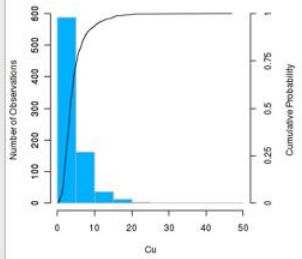
SEARCH

WQT USER INTERFACE

Search Parameters:

Test Material:
Water
Program/Project:
Regional Monitoring Program
Start Year:
1993
End Year:
2008
Matrix:
Total
Parameter Type:
Trace Elements
Parameter:
Cu

Distribution of Results



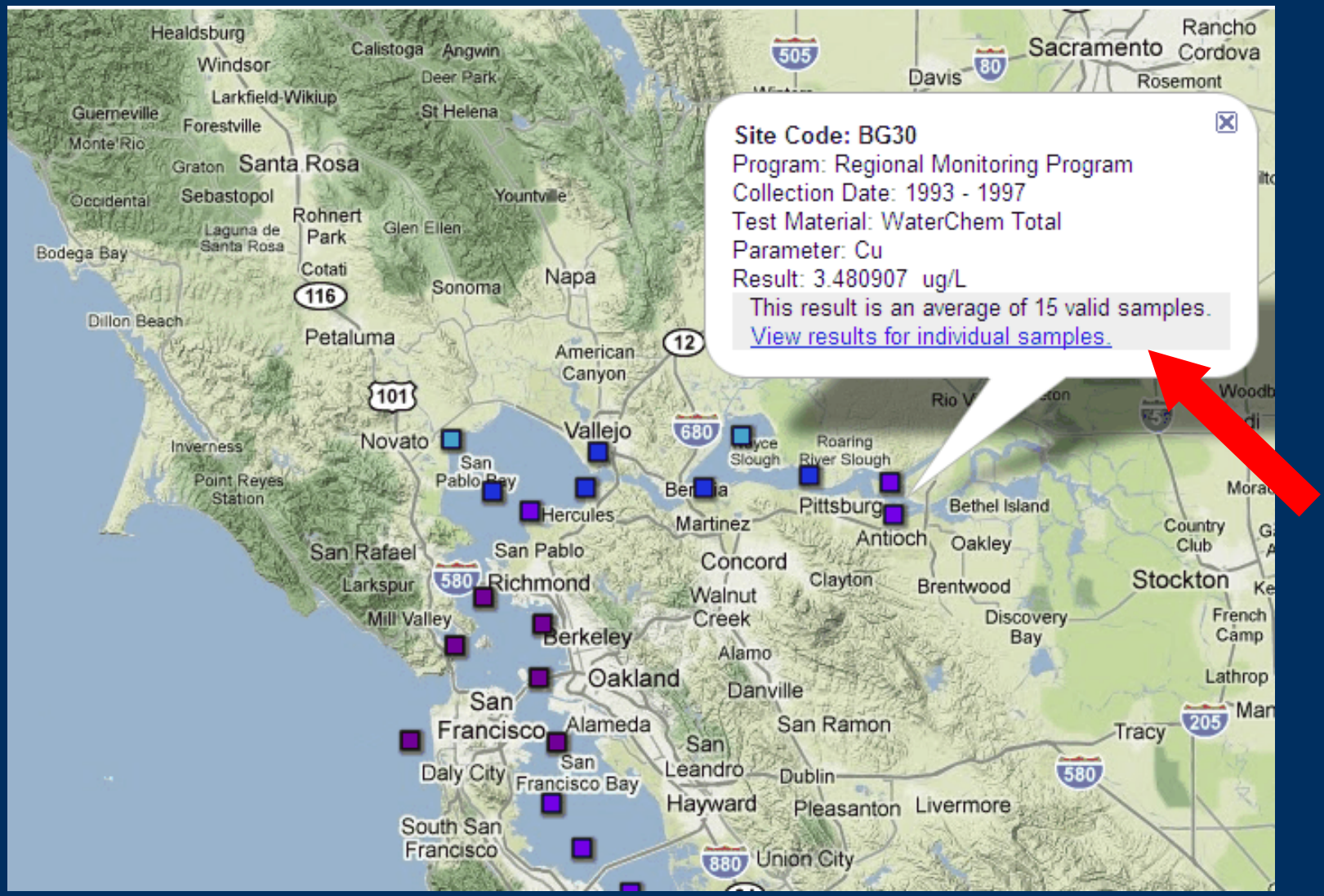
Click image to enlarge.

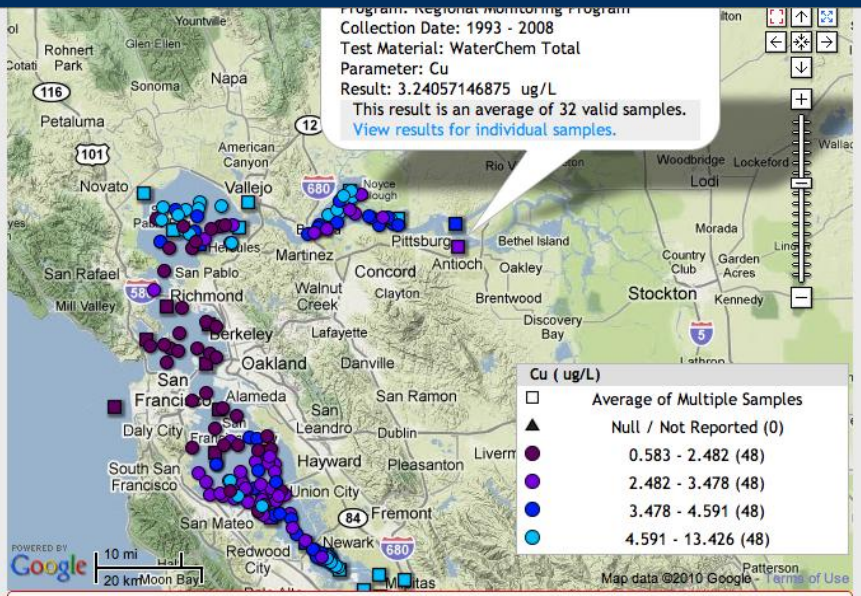
Download Data

Download Excel (All Qualifiers)
Download Excel (Primary Qualifiers)

Links

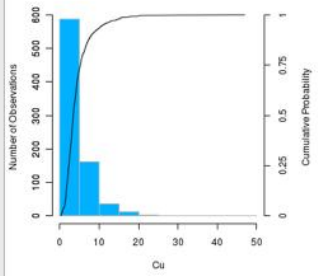
- RMP Home Page
- View sampling station maps


Site Code: BG30
Program: Regional Monitoring Program
Collection Date: 1993 - 1997
Test Material: WaterChem Total
Parameter: Cu
Result: 3.480907 ug/L
This result is an average of 15 valid samples.
View results for individual samples.
Healdsburg
Windsor
Calistoga
Angwin
Deer Park
Larkfield-Wikiup
St Helena
Guerneville
Forestville
Monte Rio
Graton
Santa Rosa
Occidental
Sebastopol
Yountville
Rohnert Park
Glen Ellen
Laguna de Santa Rosa
Bodega Bay
Cotati
Napa
Sonoma
116
Dillon Beach
Petaluma
American Canyon
12
101
Novato
Vallejo
680
Inverness
Point Reyes Station
San Pablo Bay
Hercules
Martinez
Pittsburg
Antioch
Bethel Island
Oakley
Roaring River Slough
San Rafael
San Pablo
Concord
Clayton
Brentwood
Stockton
Larkspur
580
Richmond
Walnut Creek
Discovery Bay
Mill Valley
Berkeley
Alamo
Oakland
Danville
Lathrop
San Francisco
Alameda
San Ramon
Tracy
205
Daly City
San Francisco Bay
San Leandro
Dublin
Hayward
Pleasanton
Livermore
South San Francisco
880
Union City
Sacramento
Rancho Cordova
Davis
80
505
Rosemont
Country Club
French Camp



Start Year: 1993
End Year: 2008
Matrix: Total
Parameter Type: Trace Elements
Parameter: Cu

Distribution of Results



Click image to enlarge.

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Download Excel (Primary Qualifiers)

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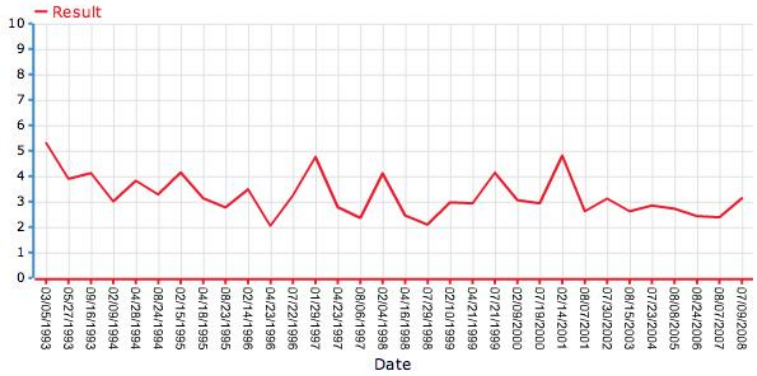
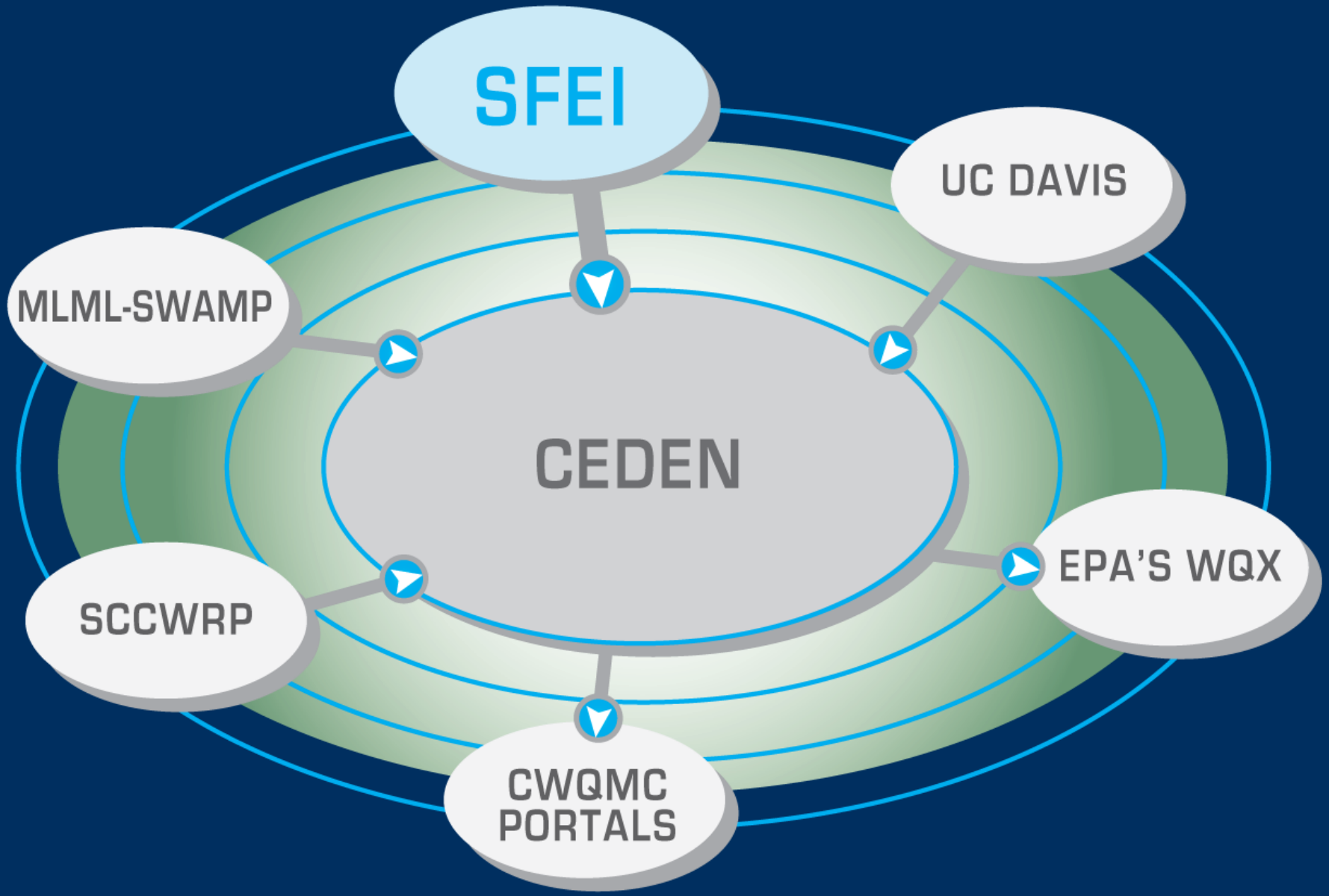
Individual Cu results for BG30 Close

Show/hide chart Show/hide table

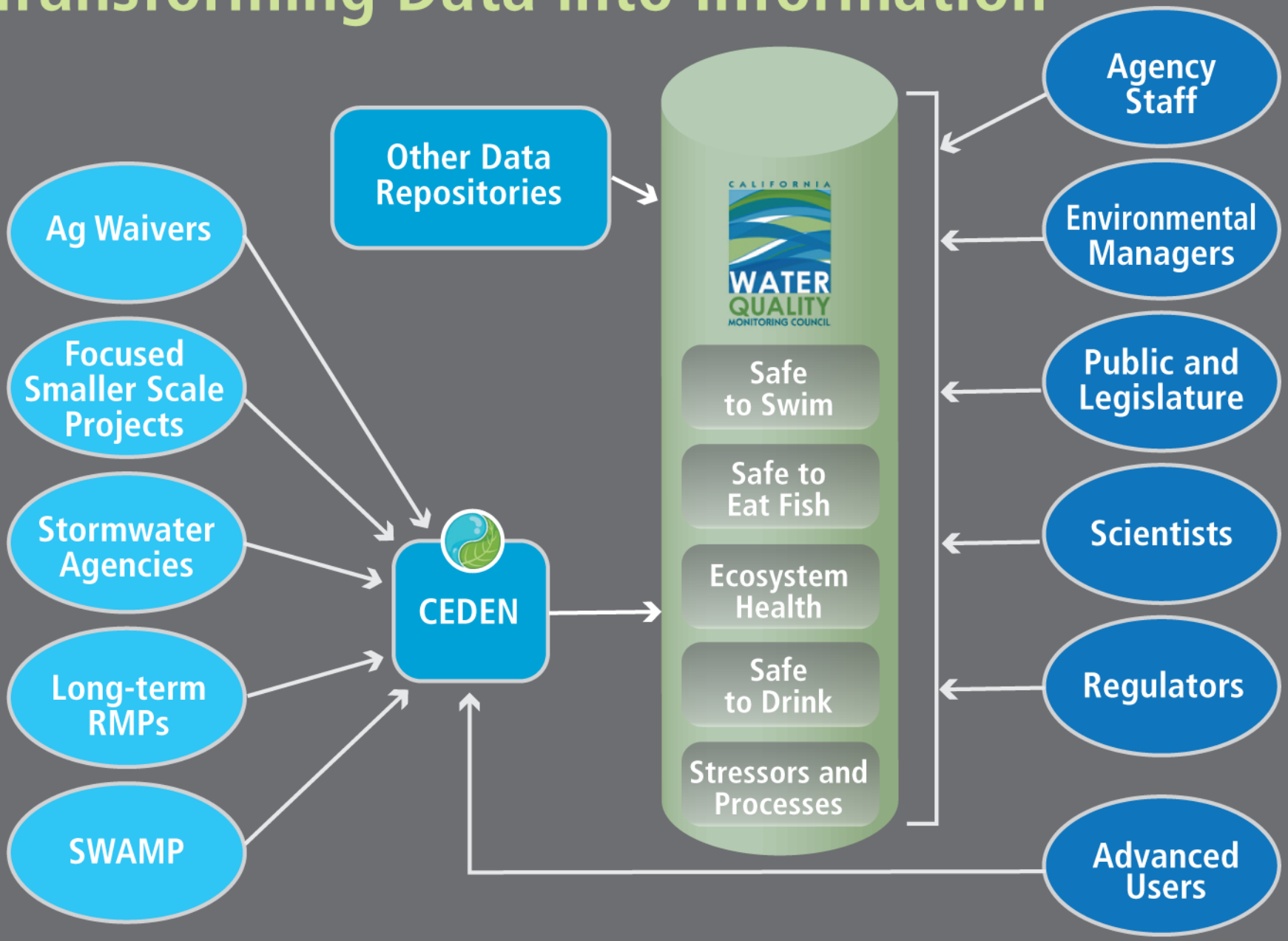


All non-rejected samples are used when determining averages. Non-detects are set to half the minimum detection level (MDL) for trace elements and zero for all other parameters.

CEDEN & The CWQMC


SFEI
UC DAVIS
MLML-SWAMP
CEDEN
EPA'S WQX
SCCWRP
CWQMC
PORTALS

Transforming Data into Information



Theme-based Portals

→Communicate to different audiences

→Provide logical access points to data

→Endow data with relevance in meaningful ways

State of California
ENVIRONMENTAL PROTECTION AGENCY
RESOURCES AGENCY
CALIFORNIA WATER QUALITY MONITORING COUNCIL

Skip to: Content | Footer | Accessibility

Search GO
California This Site

Home | Safe to Drink | Safe to Swim | Safe to Eat Fish | Ecosystem Health | Stressors & Processes | Contact Us

My Water Quality - hosted by the Surface Water Ambient Monitoring Program (SWAMP)

GOVERNOR SCHWARZENEGGER
Visit his Website

- Cal/EPA
- The Resources Agency
- About the California Water Quality Monitoring Council
- State & Regional Water Boards
  - Performance Report
- Web Portal Partners
- Monitoring & Assessment Programs, Data Sources & Reports
- Water Quality Standards, Plans and Policies
- Regulatory Activities
- Enforcement Actions
- Research

- About SWAMP
- SWAMP Tools

Welcome to My Water Quality

This web portal, supported by a wide variety of public and private organizations, presents California water quality monitoring data and assessment information that may be viewed across space and time. Initial web portal development concentrates on four theme areas, with web portals to be released one at a time. Click the Contact Us tab for more information.

The Monitoring Council seeks to provide multiple perspectives on water quality information and to highlight existing data gaps and inconsistencies in data collection and interpretation, thereby identifying areas for needed improvement in order to better address the public's questions. Questions and comments should be addressed through the Contact Us tab.

CALIFORNIA WATER QUALITY MONITORING COUNCIL

IS OUR WATER SAFE TO DRINK?

Safe drinking water depends on a variety of chemical and biological factors regulated by a number of local, state, and federal agencies. More>>

IS IT SAFE TO SWIM IN OUR WATERS?

Swimming safety of our waters is linked to the levels of pathogens that have the potential to cause disease. More >>

IS IT SAFE TO EAT FISH AND SHELLFISH FROM OUR WATERS?

Aquatic organisms are able to accumulate certain pollutants from the water in which they live, sometimes reaching levels that could harm consumers. More>>

ARE OUR AQUATIC ECOSYSTEMS HEALTHY?

The health of fish and other aquatic organisms and communities depends on the chemical, physical, and biological quality of the waters in which they live. More>>

WHAT STRESSORS AND PROCESSES AFFECT OUR WATER QUALITY?

Beneficial uses of our waters are affected by emerging contaminants, invasive species, trash, global warming, acidification, pollutant loads, and flow. More>>

www.waterboards.ca.gov/mywaterquality

CALIFORNIA WETLANDS

Search

California
- North Coast
- Bay Area
- Central Coast
- South Coast
- Central Valley
- Lahontan
- Colorado River Basin

Questions Answered

Background Info on Wetlands

About Wetlands Portal

Wetland Condition (CRAM)

Feedback

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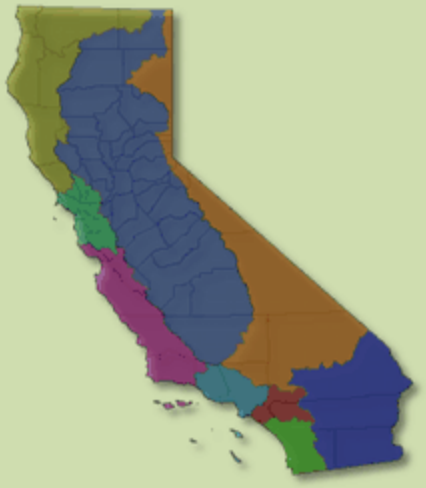
Water Quality Monitoring Council

California Wetlands Monitoring Workgroup

Contact Us

Welcome to the California Wetlands Portal



The purpose of the Wetlands Portal is to provide the public information on the quantity and quality of California wetlands.

Explore your wetlands

Select a region to view interactive maps monitoring information related to wetlands and wetland projects.

- North Coast
- San Francisco Bay Area
- Central Coast
- South Coast
- Central Valley
- Lahontan
- Colorado River Basin

Questions Answered

Click on a question below to view summary information based on available monitoring results.

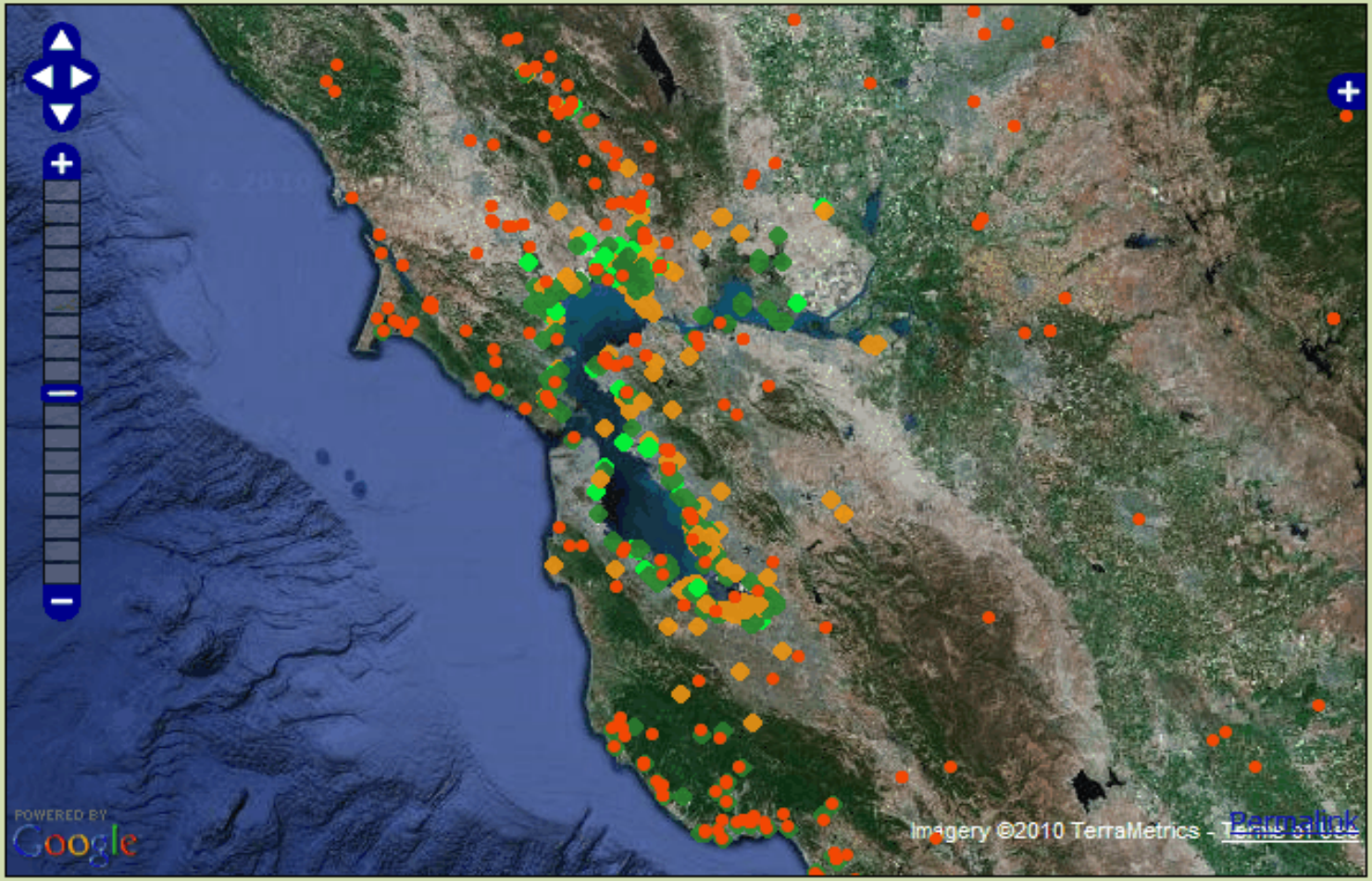
- Where are California's wetlands? Is there a wetland near me?
- How much wetland habitat does California have?
- How much wetland habitat has California lost?
- How healthy are California's wetlands?
- What is being done to improve California's wetlands?
- What is the status of wetland mapping in California?

Wetland Condition

The California Wetlands Portal reports on wetland condition on the CRAM website.

www.californiawetlands.net

Need help using this map?



Layers

- [x] Wetland Projects
- [x] 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

Condition

- 80 CRAM Assessment

Wetland Projects | Wetland Condition (CRAM) | Zoom to Location

CRAM Site Name	Wetland Class	Visit Date	Overall Score
Adobe Creek at Petaluma Adobe State Park	Riverine	2005-08	72
Alamo Creek	Riverine Confined	2009-01	77
Alhambra Creek at Martinez AEC - Restored	Riverine Unconfined	2007-11	49
Alhambra Creek - Refernce	Riverine Unconfined	2007-11	43
Alhambra Downtown - Reference	Riverine Unconfined	2007-11	39
Alhambra Dowtown - Restored	Riverine Unconfined	2007-11	44
American canyon	Riverine Confined	2006-10	58

California
Bay Area
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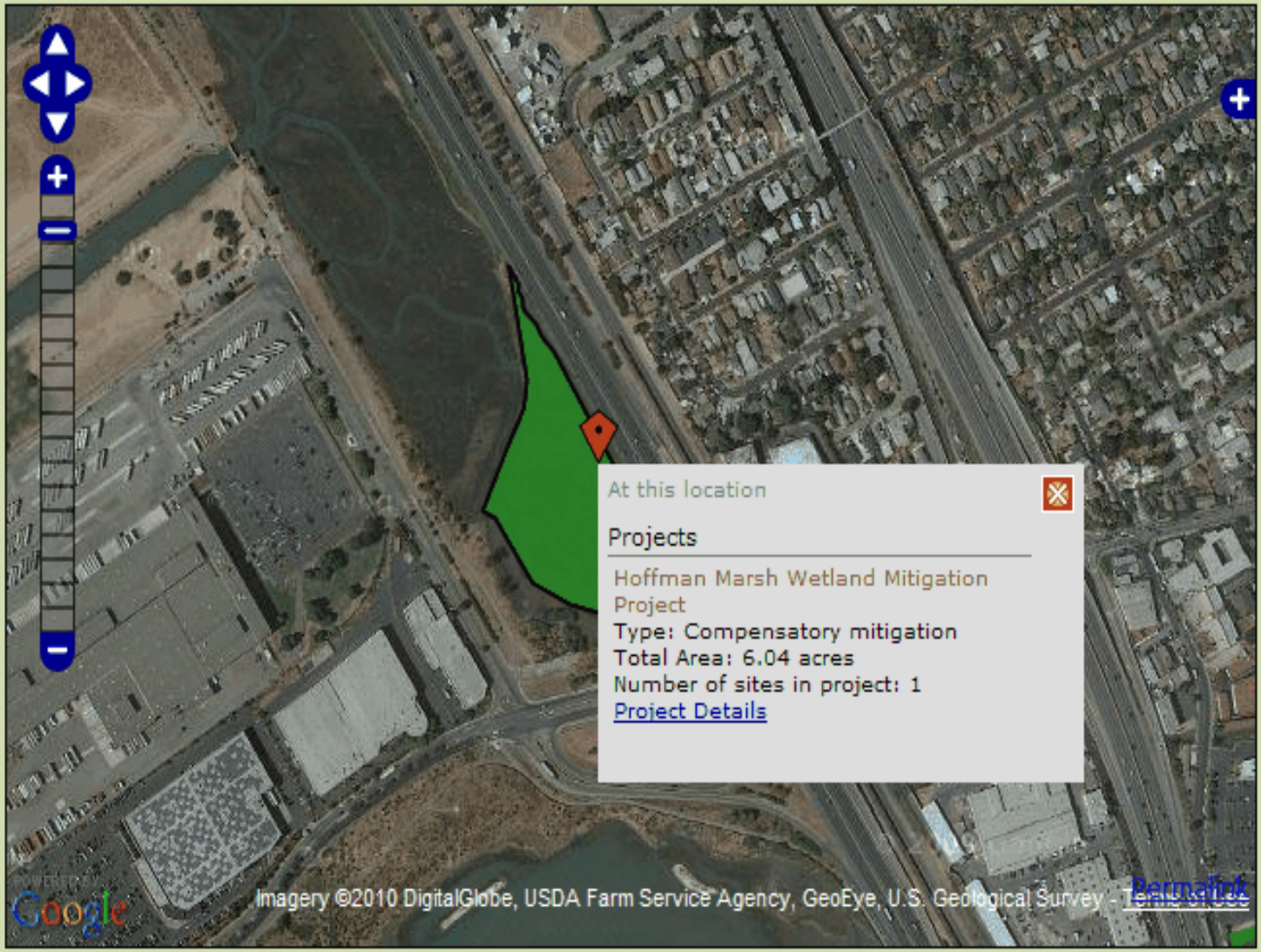
Bay Area Project List

Key: P plan/permit info C performance criteria M monitoring report prepared map photo other MAP locate on map

Project	Status	County	Total Acres
125 Fox Hollow Road Bank Repair - Bear Gulch Creek, Woodside	Construction planned	San Mateo	<0.1
12th Street Reconstruction Project MAP	Construction planned	Alameda	0.7
20 & 40 Hilton Court Slide Repair	Construction planned	Contra Costa	<0.1
Adobe Creek Upper Reach 5 Restoration Project P	Construction planned	Santa Clara	0.8
Albany Bulb Lagoon M MAP	Construction planned	Alameda	6.7
Albany Salt Marsh Expansion MAP	Construction planned	Alameda	3.6
Alhambra Highlands Mitigation	Construction planned	Contra Costa	1.7
Alhambra Valley Road Bank Repair	Construction planned	Contra Costa	<0.1
American Canyon Creek Restoration MAP	Construction planned	Napa	1.1
American Canyon Ecosystem Enhancement Project P MAP	Construction completed	Napa	610.0
Arroyo Seco Improvement Program	Construction planned	Alameda	10.6
Ashford Village	Construction planned	Solano	1.7
Azaya Ranch Vineyard Project - Phase I and II	Construction planned	Marin	3.7
Bahia Lagoon MAP	Construction completed	Marin	30.1
Bahia Wetland Restoration P MAP	Construction planned	Marin	674.3
Bailey Estates	Construction planned	Contra Costa	5.7
Bair Island Restoration Project P MAP	Construction in-progress	San Mateo	1,385.5
Bair Island SFO Mitigation MAP	Construction completed	San Mateo	220.2
Barron Creek at 1018 Los Robles Avenue P MAP	Construction planned	Santa Clara	<0.1



Need help using this map?

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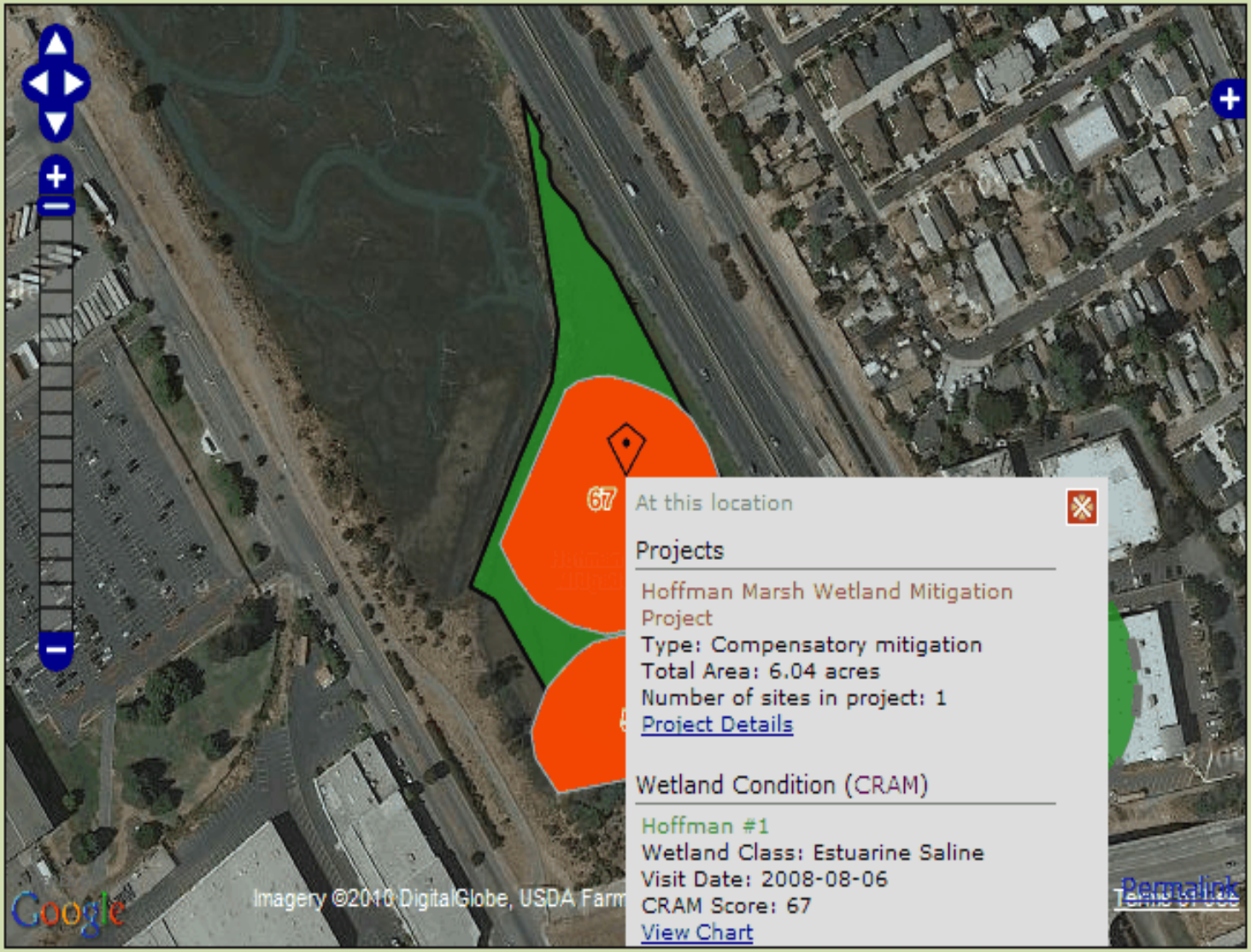
Wetland Projects | Wetland Condition (CRAM) | Zoom to Location

Project Locator...



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- 80 CRAM Assessment

Wetland Projects | Wetland Condition (CRAM) | Zoom to Location

Project Locator...

Hoffman Marsh Wetland Mitigation Project

Basic Info | **Files & Links**

Status	Construction completed	County	Contra Costa
Project Type	Compensatory mitigation	Location	37.9013° N -122.316° W MAP
Project Area	6.0 acres		

Project Identification ?

ID	Type
11-83	BCDC - Record Number
223280	USACE - File Number

Habitat Plan ?

Habitat	Activity	Acres	Source
Estuarine wetlands	Enhanced	6.0	Map

Related Habitat Impacts ?

Habitat	Acres Lost	Source
No Data		

Historical Habitats ?

Habitat	Acres
Estuarine wetlands	6.0

Sites ?

Name	Status	Acres
Highway 580 at Stege Creek mitigation	Construction completed	6.0

Events ?

Date	Type	Description
1982	Report	Restoration Plan issued
1983-10-26	Permit	BCDC record number issued
1985	Report	Monitoring Report issued
1985	Groundwork end	On-the-ground work completed
1996-08-21	Permit	USACE permit issued
2006-06	Project entered	Project entered into database

CALIFORNIA WETLANDS

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Where are California's wetlands?
Is there a wetland near me?

Quest

Clic

- How much wetland habitat does California have?
- How much wetland habitat has California lost?
- How healthy are California's wetlands?
- What is being done to improve California's wetlands?
- What is the status of wetland mapping in California?

Wetland Condition

The California Wetlands Portal reports on wetland condition on the CRAM website.

Where are California's wetlands? Is there a wetland near me?

Wetlands of many types can be found in all regions of California.
To see maps showing where the wetlands are near you:

- Click on a region on the map
- Select a region from the list

Select a region Go!

- Type in an address
(example: 123 Main St, Sacramento, Ca)

7770 Pardee Lane, Oakland Go!

Is your location of interest not showing any wetlands nearby? Not all of California's wetlands have been mapped. Click here for more information on the status of wetland mapping in California.

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- [ ] Wetland Projects
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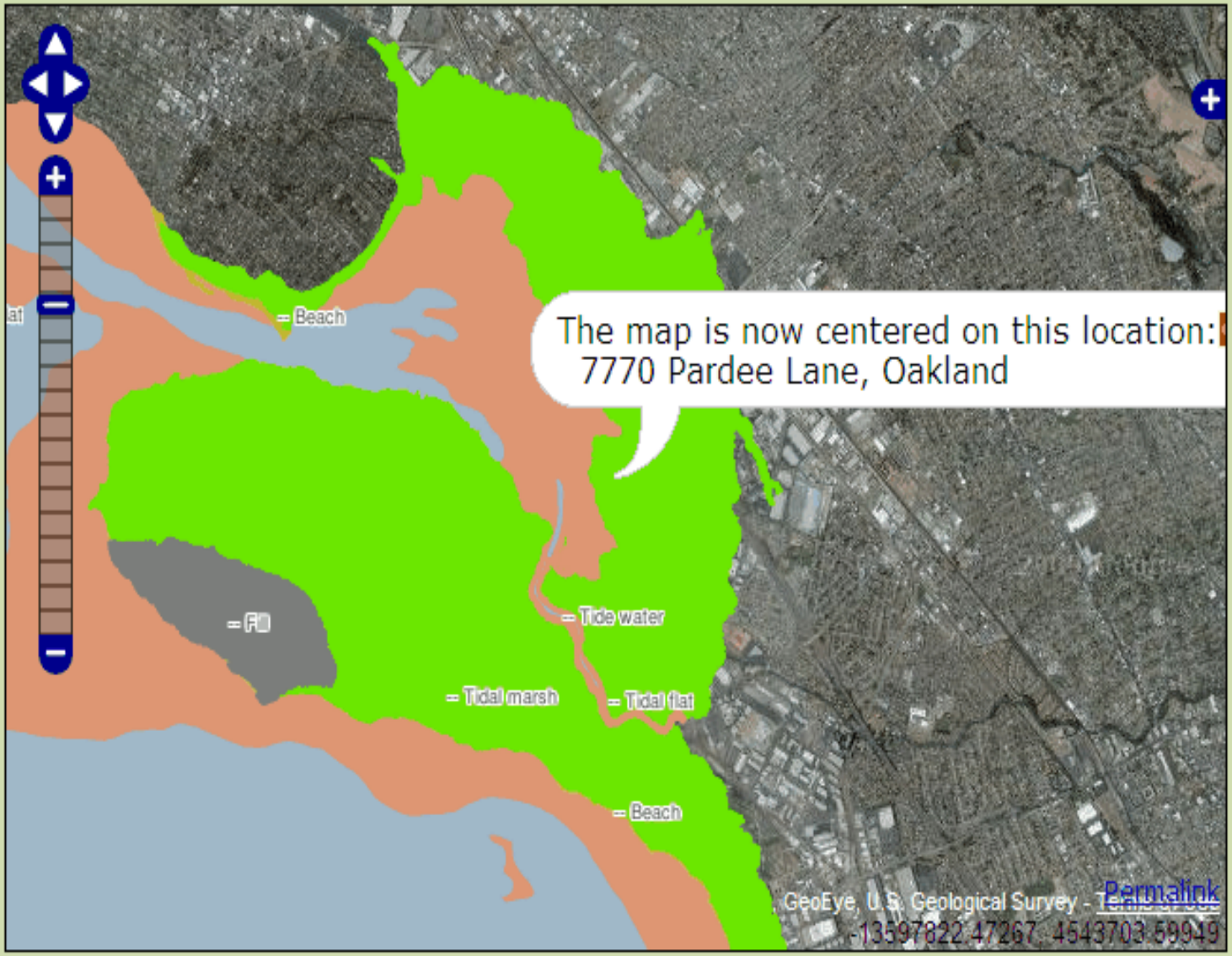
Approximate boundary

Wetland Projects | Wetland Condition (CRAM) | Zoom to Location

Project Locator...



Layers

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  - Transparency
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How much wetland habitat does California have?

Quest

Clic

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How much wetland habitat does California have?

Currently (January 2009), California has approximately 2.9 million acres of wetlands.

To see a graph of the distribution of wetland acres statewide or within a region:

- Click on a region in the map
- Select a region from the list

Select a region | Go!

- Select a region
- Statewide
- North Coast
- Bay Area
- Central Coast
- South Coast
- Central Valley
- Lahontan
- Colorado River

- e list to download January 2009 summary

Go!

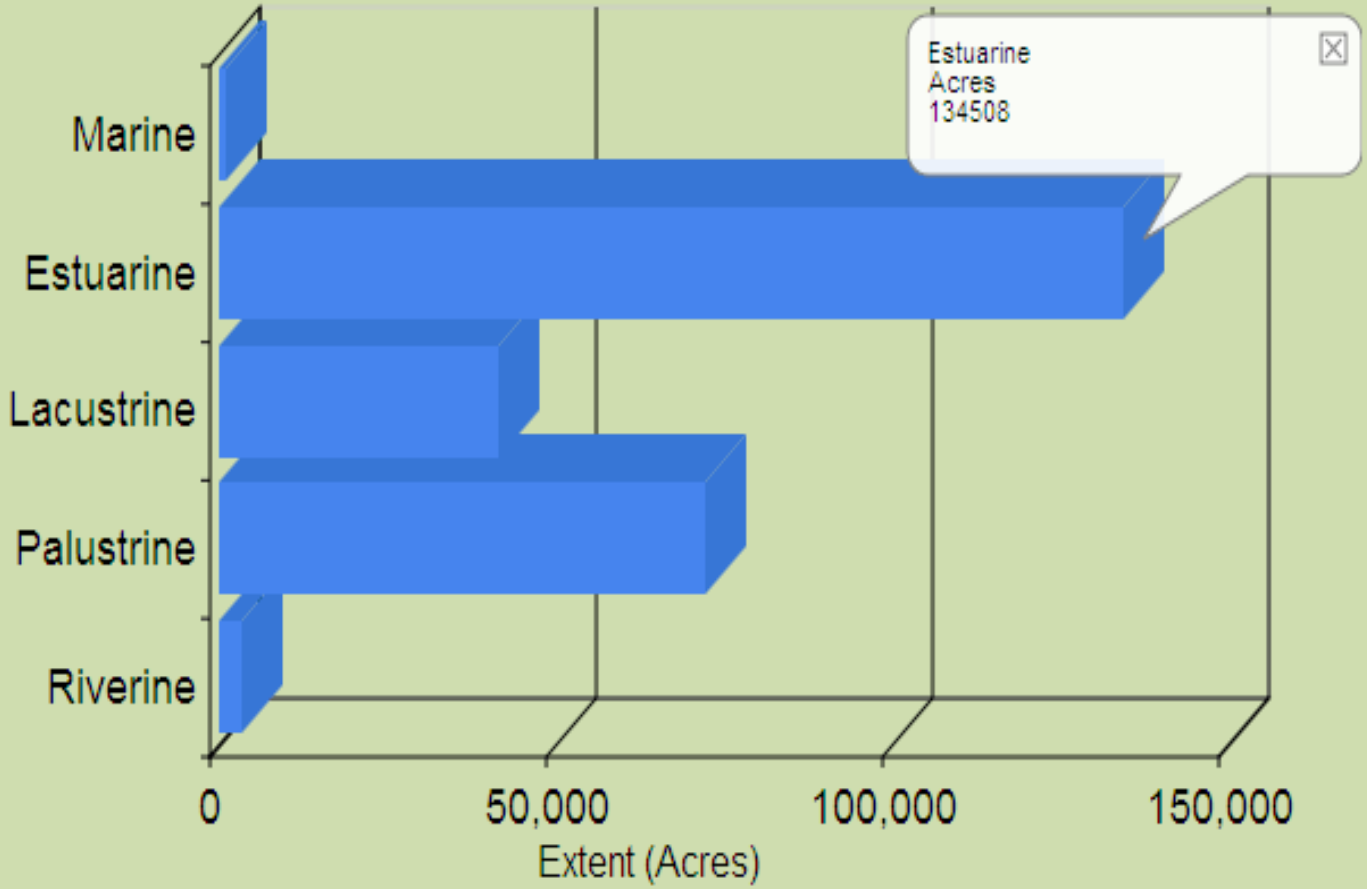
- ape files available from the National

Summary of Wetland Extent

San Francisco Bay Regional Water Quality Control Board

January 1, 2009

With 95% of it's geographic area mapped, the San Francisco RWQCB has approximately 252 thousand acres of wetlands. Fifty three percent of the total wetland area found in the estuarine class. Approximately 29% is found in the palustrine class (e.g. ponds, vernal pools, playas, wet meadows, slope wetlands). Another 16% are associated with lakes and reservoirs. Less than 1% are marine wetlands.



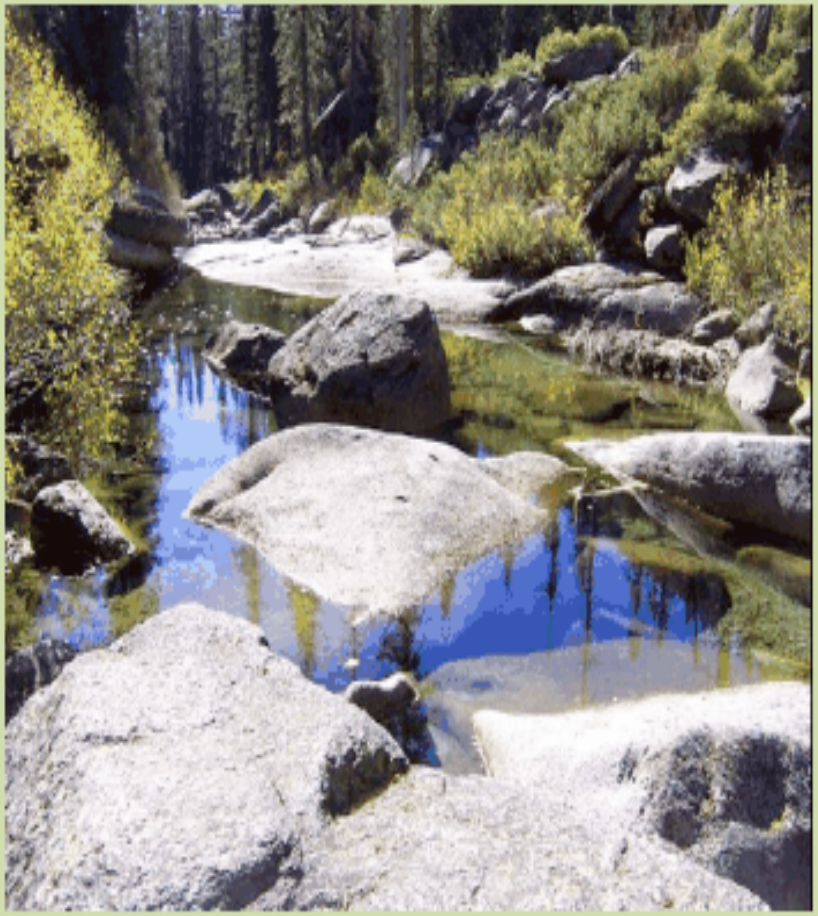
Get more information about the major types of wetlands within California:

- Estuarine Wetlands
- Riverine Wetlands
- Lake Wetlands (Lacustrine)
- Marine Wetlands
- Palustrine Wetlands
  - Depressional Wetlands
  - Playa Wetlands
  - Seep, Spring and Slope Wetlands
  - Vernal Pool Wetlands

Riverine Wetlands

Riverine wetlands get most of their water from the flow conveyed by a natural or artificial channel, such as a river, stream, canal, or ditch. They can form within any portion of a river system, including low terraces, floodplains, banks, and the river bed.

Photo: Santa Clara River, Ventura County (E. Stein, SCCWRP)



Tool Development Collaboration

Data upload

↓

Standard data storage

↓

Data visualization

↓

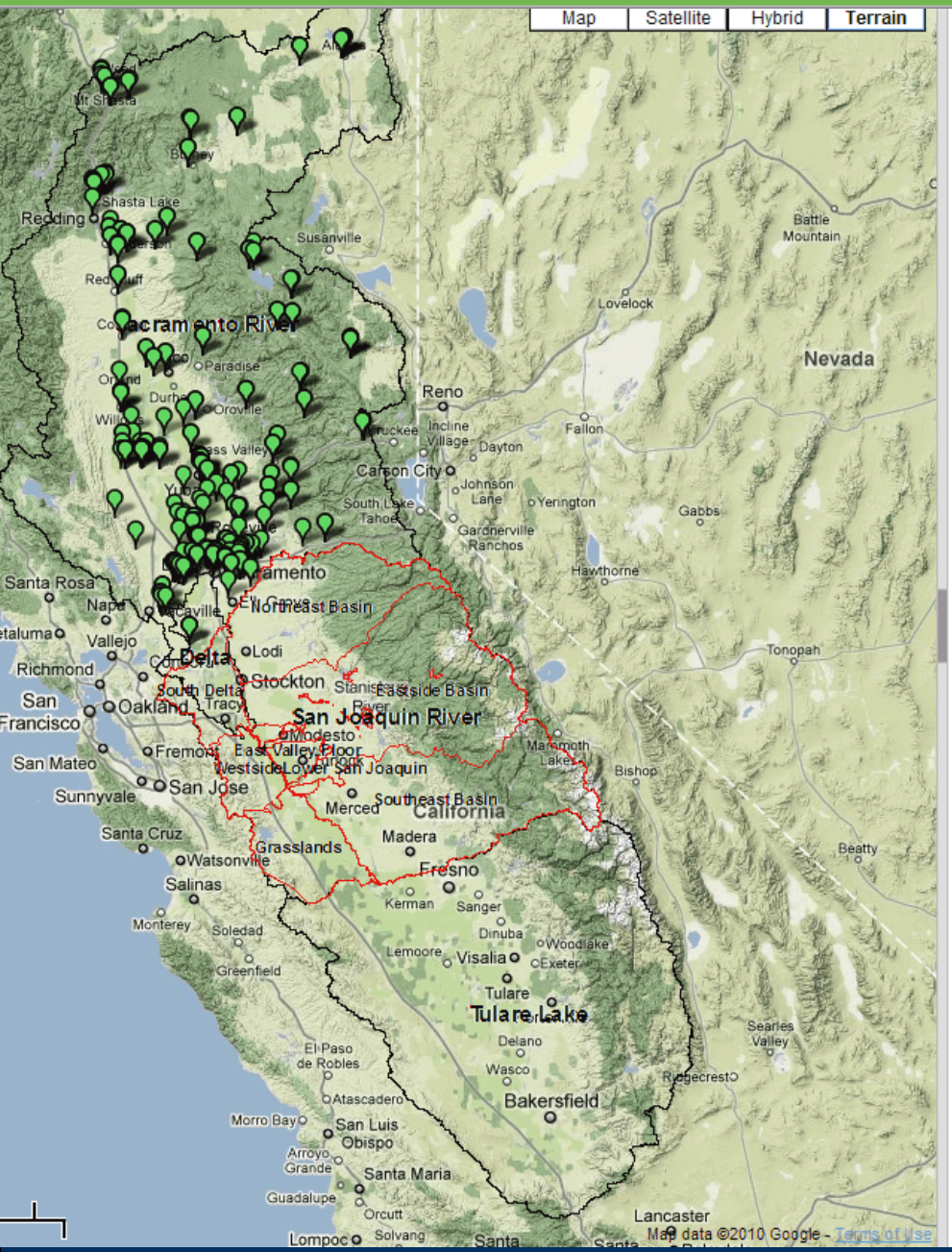
Answer management questions

More To Come …

- Bay Area Trash Tracker
- Marine Debris Tracking and Prediction
- Online 401
- Central Valley Monitoring Directory
- CWQMC Portals
  - Healthy Streams Portal
  - Safe-To-Eat Portal v2.0
- Dredged Material Portal ???

Main Directory

Central Valley Watershed Monitoring Directory



Programs | Agencies | Parameters | Sites | Help

Program	Lead Organization	No of sites (unmap all)	Basin	Bioassessment	Disinfection Byproducts	General Sediment Quality	General Water Quality
NPDES Self Monitoring Program	CVRWQCB Show Partners	177 (unmap)	Sacramento River	9 sites	41 sites		176 sites
Surface Water Ambient Monitoring Program (SWAMP)	CVRWQCB	13 (unmap)	Sacramento River			13 sites	
Municipal Water Quality Investigations	DWR	3 (unmap)	Sacramento River		2 sites		3 sites
Surface Water Ambient Monitoring Program	SWRCB	43 (unmap)	Sacramento River				43 sites
Irrigated Lands Regulatory Program	CVRWQCB Show Partners	19 (unmap)	Sacramento River			1 sites	15 sites
Central District - Surface Water Monitoring	DWR	19 (unmap)	Sacramento River				7 sites
National Water Quality Assessment Program	USGS	2 (unmap)	Sacramento River				2 sites

Download Excel | Scroll to top

Main Directory

Central Valley Watershed Monitoring Directory

Programs | Agencies | Parameters | Sites | Help

Show on Map | View Program | View Monitoring Plan

Basin Sacramento River Sub Basin Sacramento River
Watershed Upper Sacramento
Site Name Sacramento River, 100 ft below confluence of Little Castle Creek (west bank) Site Code RSW-001 493 Latitude 41.2475 Longitude -122.133333

Show monitored parameters

Show on Map | View Program | View Monitoring Plan

Basin Sacramento River Sub Basin Sacramento River
Watershed Upper Sacramento
Site Name Sacramento River 300 ft below EEF-001, adjacent to Pond 4 Site Code RSW-002 494 Latitude 41.255278 Longitude -122.126944

Show monitored parameters

Show on Map | View Program | View Monitoring Plan

Basin Sacramento River Sub Basin Sacramento River
Watershed Upper Sacramento
Site Name Sacramento River, adjacent to the northern most module of the train crew quarters Site Code R-1 495 Latitude 41.2125 Longitude -122.2675

Show monitored parameters

Show on Map | View Program | View Monitoring Plan

Basin Sacramento River Sub Basin Sacramento River
Watershed Upper Sacramento
Site Name Sacramento River, 500 ft DS from the point of discharger Site Code R-2 496 Latitude 41.208611 Longitude -122.27139

Show monitored parameters

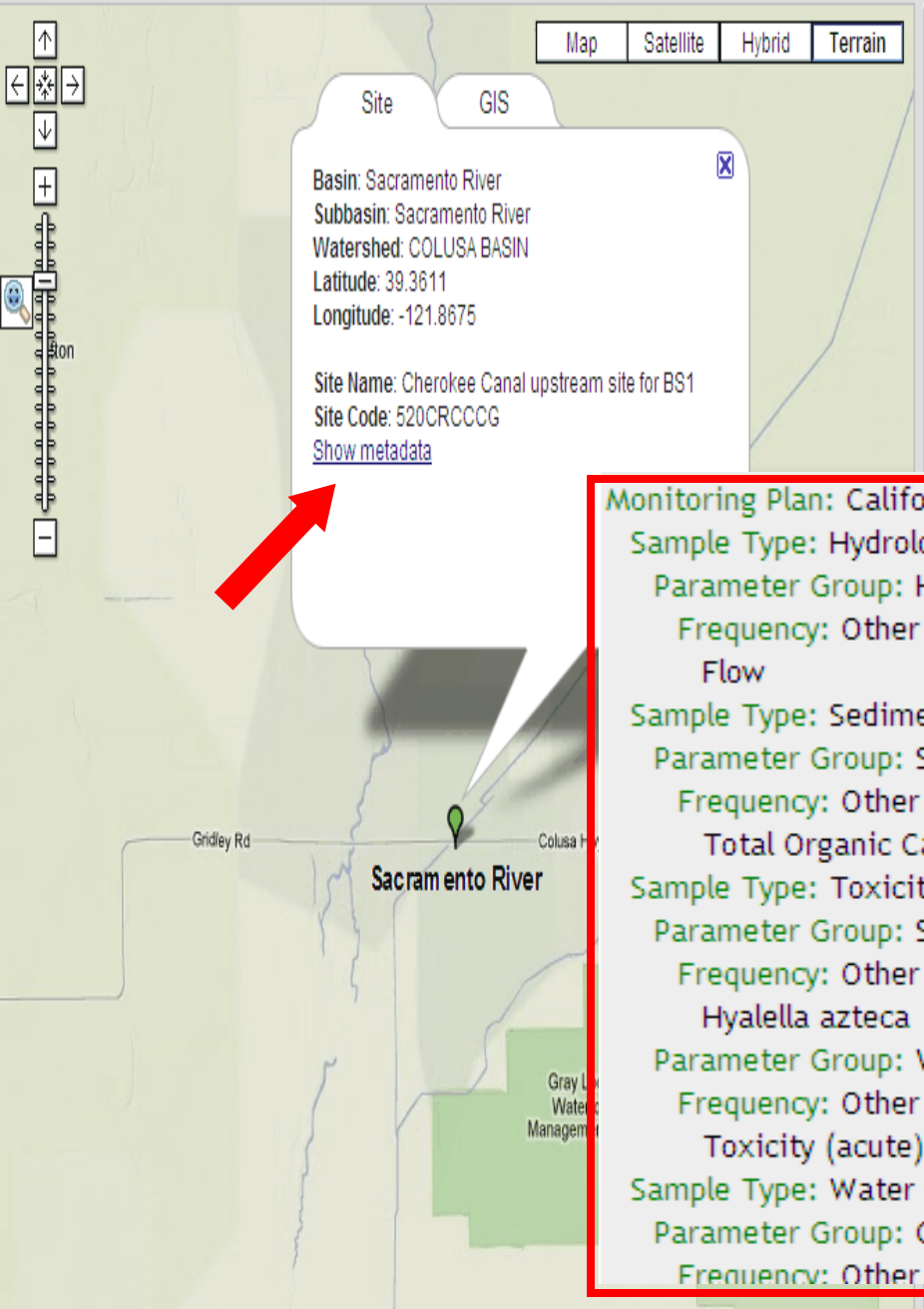
Show on Map | View Program | View Monitoring Plan

Basin Sacramento River Sub Basin Sacramento River
Watershed Upper Sacramento
Site Name Big Springs Creek, DS of Discharge 001 Site Code R-1 550 Latitude 41.306111 Longitude -122.32861

Show monitored parameters

Show on Map | View Program | View Monitoring Plan

Show all sites | Scroll to top



Programs | Agencies | Parameters | Sites | Help

Basin Sacramento River Sub Basin Sacramento River
Watershed COLUSA BASIN
Site Name Colusa Basin Drain above Knights Landing Site Code 520XCBDKL 1163 Latitude 38.81212 Longitude -121.72433

Show monitored parameters

Show on Map | View Program | View Monitoring Plan

Basin Sacramento River Sub Basin Sacramento River
Watershed COLUSA BASIN
Site Name Colusa Basin Drain #5 Site Code 520XCBDWR 1164 Latitude 39.18325 Longitude -122.05143

Monitoring Plan: California Rice Commission
- Sample Type: Hydrology
  - Parameter Group: Hydrology
    - Frequency: Other
      - Flow
- Sample Type: Sediment Quality
  - Parameter Group: Sediment Chemistry
    - Frequency: Other
      - Total Organic Carbon (TOC)
- Sample Type: Toxicity
  - Parameter Group: Sediment Toxicity
    - Frequency: Other
      - Hyalella azteca
  - Parameter Group: Water Toxicity
    - Frequency: Other
      - Toxicity (acute) - Ceriodaphnia, Toxicity (acute) - Fathead minnow, Toxicity (acute)
- Sample Type: Water Quality
  - Parameter Group: General Water Quality
    - Frequency: Other

Irrigated Lands Regulatory Program

Download Excel

Organization
Central Valley Regional Water Quality Control Board
Partners

Contact
Parry Klassen
559-288-8125
parryk@comcast.net

Start Date 2002-11-23 00:00:00

End Date None

Objectives -Assess the impacts of waste discharges from irrigated lands to surface water. -Determine degree of implementation of management practices to reduce discharge of specific wastes that impact water quality. -Determine the effectiveness of management practices and strategies to reduce discharges of wastes that impact water quality. -Determine concentration and load of waste in these discharges to surface waters. -Evaluate compliance with existing narrative and numeric water quality objectives to determine if additional implementation of management practices is necessary to improve and/or protect water quality.

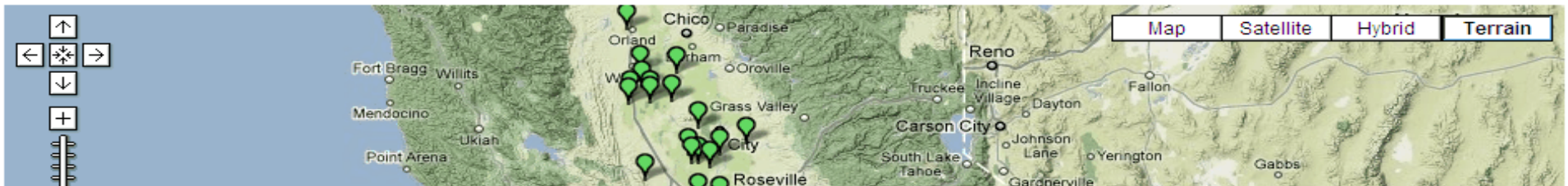
Annual Budget None

Basins & sub-basins monitored

- San Joaquin River (Southeast Basin, East Valley Floor, Eastside Basin, Northeast Basin, Westside, Grasslands, Lower San Joaquin River)
- Delta (South Delta, North Delta)
- Sacramento River (Sacramento River)

Monitoring Plans

- California Rice Commission
- East San Joaquin Water Quality Coalition
- Goose Lake Water Quality Coalition
- Merced Irrigation District
- Modesto Irrigation District
- Oakdale Irrigation District
- Sacramento Valley Water Quality Coalition
- San Joaquin County & Delta Water Quality Coalition
- South San Joaquin Irrigation District
- Turlock Irrigation District
- Westside Water Quality Coalition



Main Directory

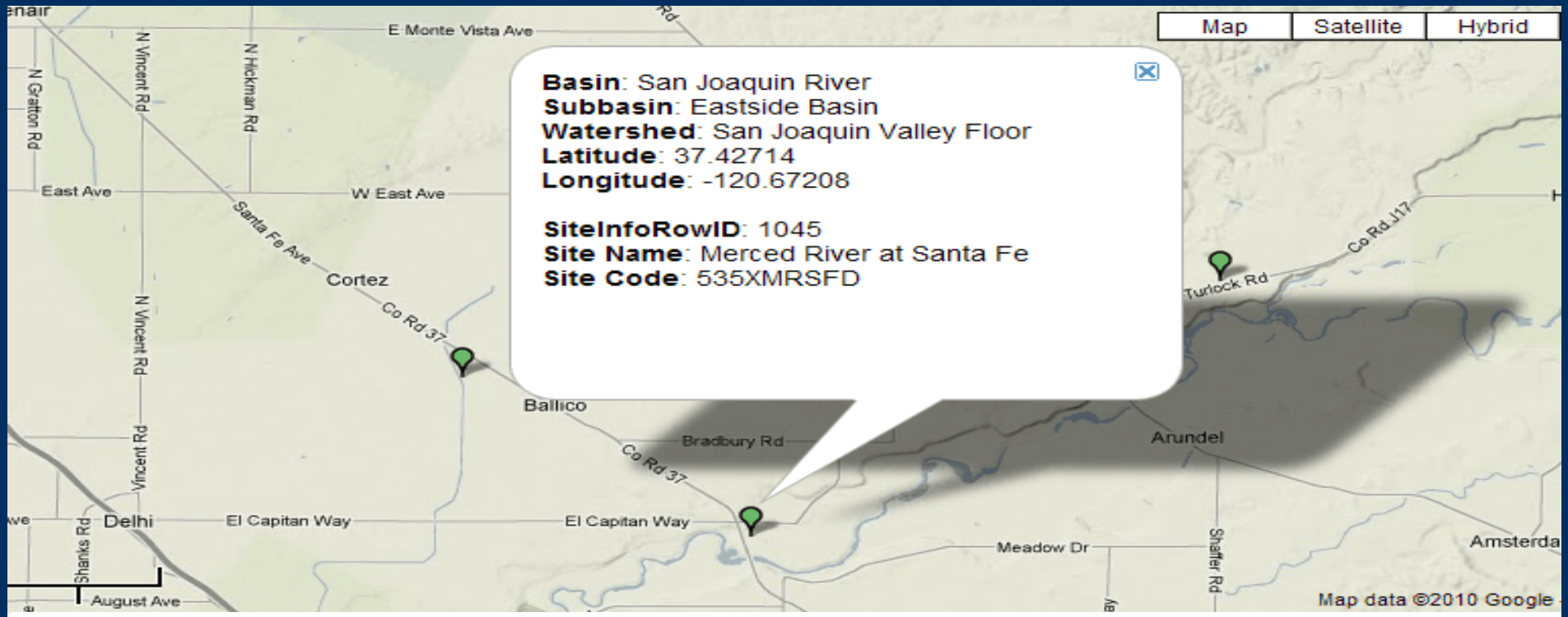
Central Valley Watershed Monitoring Directory

The following is a summary of information for the sites mapped.

Map	Site Name	Site Code	Latitude	Longitude
Map	Deadman Creek at Highway 59	535DMCAHF	37.19810	-120.48690
Map	Lateral 2 1/2 near Keyes Road	535LTHNKR	37.54780	-121.09274
Map	Deadman Creek at Gurr Road	535XDCAGR	37.19356	-120.56124
Map	Dry Creek at Wellsford Road	535XDCAWR	37.66017	-120.87432
Map	Duck Slough at Gurr Road	535XDSAGR	37.21423	-120.55958
Map	Highline Canal at Lombardy Avenue	535XHCHNN	37.45560	-120.72071
Map	Howard Lateral at Highway 140	535XHLAHO	37.30790	-120.78200
Map	Mootz Dr[illegible] at Langworth Road	535XMDALR	37.70582	-120.89303
Map	M[illegible]y Lateral at Highway 140	535XMLAHO	37.30945	-120.78759
Map	Merced River at Santa Fe	535XMRSFD	37.42714	-120.67208
Map	Peaslee Creek at Lake Road	535XPCALR	37.61769	-120.50733
Map	Prairie Flower Drain at Crows Landing Road	535XPFDCL	37.4422	-121.00236
Map	Rodden Creek at Rodden Road	535XRCARD	37.79042	-120.80790
Map	Yori Grove Drain at East Taylor Road	535YGDETR	37.53690	-120.98346
Map	Ash Slough at Avenue 21	545XASAAT	37.05450	-120.41580

Showing 1 to 15 of 97 entries

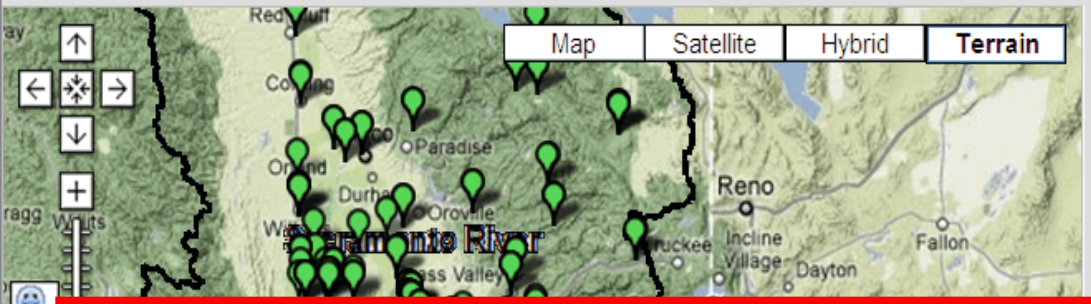
Search:



Group	Parameters	Frequency
Bioassessment	Benthic Macroinvertebrates	Semiannual
General Sediment Quality	Particle Size	Other
General Water Quality	Dissolved Oxygen (DO), Electrical Conductivity (EC), Hardness, Particle Size, pH, Temperature, Total Dissolved Solids (TDS), Total Suspended Solids (TSS), Turbidity	Bimonthly, Monthly, Other, continuous, Biannual, Continuous
Hydrology	Flow	Monthly, Other
Major Ions & Minerals	Boron, Bromide, Potassium	Monthly, Other
Metals & Trace Elements	Arsenic, Cadmium, Copper, Lead, Molybdenum, Nickel, Selenium, Zinc	Monthly, Other
Nutrients	Nitrate + Nitrite as N NO3-N + NO2-N, Orthophosphate PO4, Phosphorus, Soluble Orthophosphate PO4, Total Ammonia NH3, Total Kjeldahl Nitrogen (TKN), Unionized Ammonia NH3-N	Monthly, Other

Central Valley Watershed Monitoring Directory

Main Directory



Programs | Agencies | Parameters | Sites | Help

Lead Organization	Collaborative Partner (s)	Program	No of sites (unmap all)	Basin	Bioassessment	Disinfection Byproducts	General Sediment Quality	General Water Quality
CVRWQCB	City of Davis ...	NPDES Self Monitoring Program	177 (unmap)	Sacramento River	9 sites	41 sites		176 sites
	Central Valley Regional Water Quality Control Board	Surface Water Ambient Monitoring Program (SWAMP)	13 (unmap)	Sacramento River			13 sites	
	Sacramento Valley Water Quality Coalition ...	Irrigated Lands Regulatory Program	19 (unmap)	Sacramento River			1 sites	15 sites

Main Directory

Central Valley Watershed Monitoring Directory

Programs | Agencies | Parameters | Sites | Help

Analyte Group	Parameter	No of sites (map all)	Basin
Bioassessment	Benthic Macroinvertebrates	9 sites (map)	Sacramento River

Analyte Group	Parameter	No of sites (unmap all)	Basin
General Water Quality	Alkalinity	3 sites (map)	Sacramento River
	Dissolved Oxygen (DO)	184 sites (unmap)	Sacramento River
	Electrical Conductivity (EC)	101 sites (map)	Sacramento River
	Hardness	85 sites (map)	Sacramento River
	pH	203 sites (map)	Sacramento River
	Specific Conductance [EC @ 25 deg C]	89 sites (map)	Sacramento River
	Temperature	204 sites (map)	Sacramento River

Thank you

cristina@sfei.org