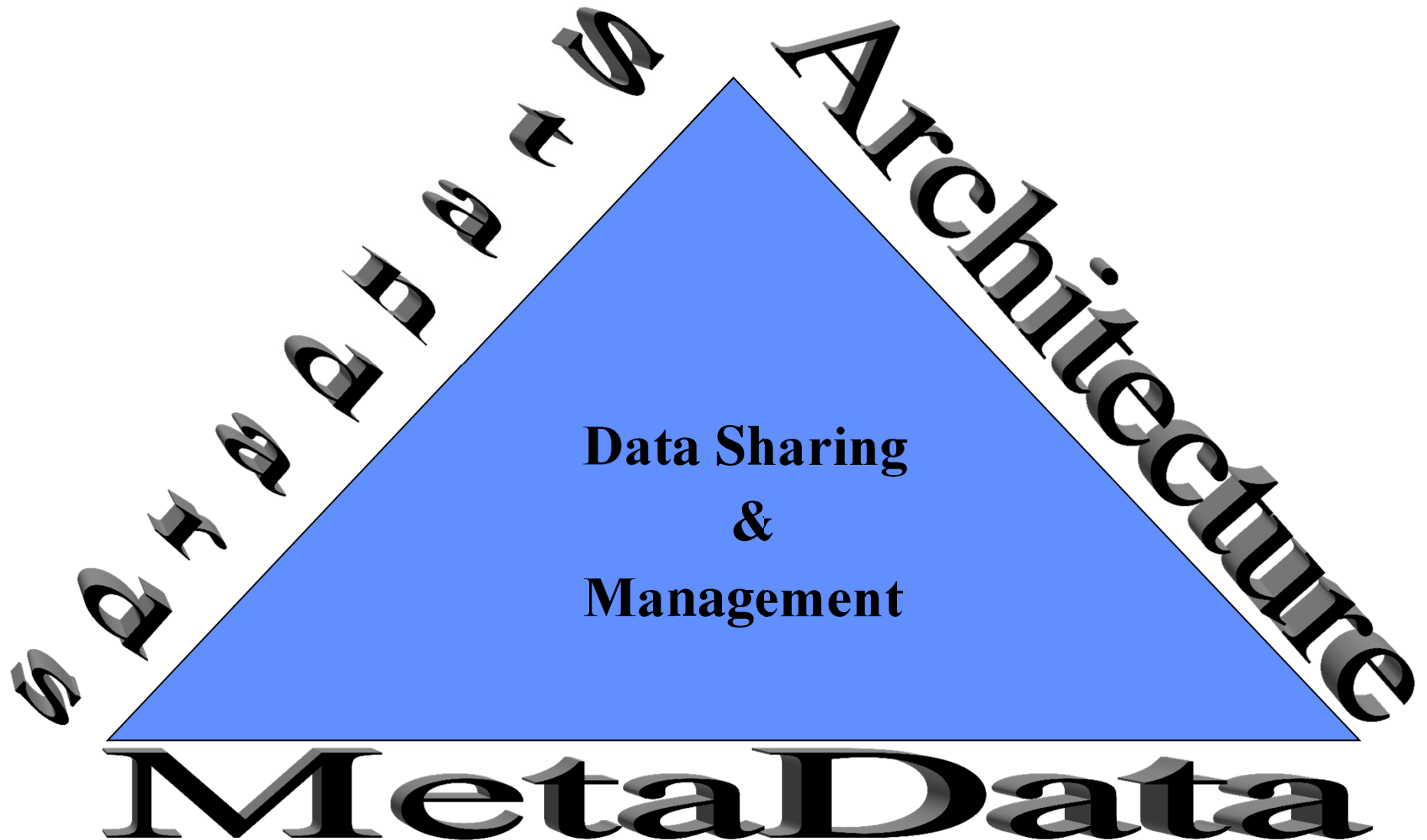


Background

- Within California many agencies, university groups, private entities and stakeholder entities collect large amounts of environmental data
- The many groups who collect monitoring data store them in different databases with inconsistent formats, Quality Assurance Quality Control (QA/QC), and data collection procedures.
- In many cases there is a great demand for this data to be available as a comprehensive, interoperable, and standardized data set by many different groups, decision makers.....
- CEDEN is a system designed to help provide environmental data as a compressively, interoperable and standardized data source

Principals of Data & Information Sharing Systems



Standards



- Make data Comparable
- Standards include:
 - Controlled Vocabularies
 - QAPPs
 - SWAMP Standards
 - SWAMP BA Standards
 - Minimum data elements
 - DETs
 - etc

Frequently Asked Questions:

What does it mean to be SWAMP-comparable?

It means that data meets the requirements of two key SWAMP documents:

- 1) [The Surface Water Ambient Monitoring Program Information Management Plan](#)
- 2) [The Surface Water Ambient Monitoring Program Quality Assurance Program Plan \(QAPrP\)*](#)

Projects funded by budget allocations for fiscal year (FY) 2008-2009 and later must follow the requirements of the 2008 [Surface Water Ambient Monitoring Program Quality Assurance Program Plan \(QAPrP\)](#). Projects already funded by pre-FY 2008-2009 budget allocations may continue to completion under the December 22, 2002 [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program](#) (QAMP). Projects sponsored by the State Water Resources Control Board's (State Board's) Division of Financial Assistance (DFA) are required to use either the QAMP or [QAPrP](#). However, the State Board strongly encourages the use of the 2008 [QAPrP](#) for all forthcoming projects.

Do I have to use specific methods for field sampling?

[Bioassessment](#) sampling must be conducted according to the standard operating procedure (SOP): [Collecting Benthic Macroinvertebrate Samples and Associated Physical and Chemical Data for Ambient Bioassessments in California](#). There are no other SWAMP-mandated field methods. However, all projects must meet the holding times specified in [QAPrP](#) Appendix B: [Sample Handling](#).

Additional technical information may be found in the California Department of Fish and Game - Marine Pollution Studies Laboratory (DEG-MPSL) SOP: [Conducting](#)

Metadata



- Documentation
 - What can this data be used for?
- Sampling protocols
- QA plans
- FGDC compliant monitoring program descriptions
- Laboratory analysis information

Geospatial Metadata — Federal Geographic Data Committee - Windows Internet Explorer

http://www.fgdc.gov/metadata

File Edit View Favorites Tools Help

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Geospatial Metadata — Federal Geographic Data Com...

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Standards >

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Framework >

Policy & Planning

Training

Grants

International

Geospatial LoB >

NGAC

IFTN

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Geospatial Metadata

log in

What are Metadata?

A **metadata** record is a file of information, usually presented as an XML document, which captures the basic characteristics of a data or information resource. It represents the *who, what, when, where, why* and how of the resource. Geospatial **metadata** commonly document geographic digital data such as Geographic Information System (GIS) files, geospatial databases, and earth imagery but can also be used to document geospatial resources including data catalogs, mapping applications, data models and related websites. **Metadata** records include core library catalog elements such as Title, Abstract, and Publication Data; geographic elements such as Geographic Extent and Projection Information; and database elements such as Attribute Label Definitions and Attribute Domain Values.

The **FGDC** is tasked by **Executive Orders** to develop procedures and assist in the implementation of a distributed discovery mechanism for national digital geospatial data. Geospatial **metadata** are critical to data discovery and serves as the fuel for both the [Geospatial One-Stop](#) data portal and the [NSDI Clearinghouse](#).

The current Federal standard for geospatial data is the [Content Standard for Digital Geospatial Metadata](#). However, efforts are underway to finalize a new national (ANSI) standard - [The North American Profile \(NAP\) of the ISO 19115: Geographic Information – Metadata](#). NSDI Stakeholders are encouraged to monitor this site for information about NAP implementation and resources.

- [The Business Case for Metadata](#)
- [Geospatial Metadata Standards, Profiles and Extensions](#)
- [Geospatial Metadata Tools](#)
- [Guidelines, Brochures and Other FGDC Geospatial Metadata Publications](#)

Done

start Novell WebAccess (K... Novell WebAccess - ... Geospatial Metadata ... - Windows Search Search Results Background5142009....

Internet 100%

8:12 AM Tuesday 11/8/2011

Search Desktop

State Water Resources Control Board - Windows Internet Explorer

http://www.swrcb.ca.gov/water_issues/programs/swamp/tools.shtml#methods

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State Water Resources Control Board

Methods and Standard Operating Procedures

In order to be SWAMP-comparable, bioassessment sampling (benthic macroinvertebrates and algae) must be conducted according to SWAMP's standard operating procedures (SOPs) (links provided below). There are no other SWAMP-mandated field methods. Additional resources regarding field methods are provided below for informational purposes.

Methods for Conducting Bioassessments in Freshwater Streams and Rivers

- [Collecting Benthic Macroinvertebrate Samples & Associated Physical and Chemical Data for Ambient Bioassessments in California - Standard Operating Procedures Manual](#) - February 2007
- [Collecting Stream Algae Samples and Associated Physical Habitat and Chemical Data for Ambient Bioassessments in California - Standard Operating Procedures Manual](#) - June 2010
- [SWAMP Stream Habitat Characterization Form](#) - June 2008
- [Taxonomic conventions for identifying benthic macroinvertebrates \(BMIs\)](#) - Southwest Association of Freshwater Invertebrate Taxonomists (SAFIT)

SWAMP Field Methods Course

- The SWAMP Field Methods Course (November 2005) is a narrated video that introduces the concepts used in SWAMP sample collection and field analysis. The course includes the following six modules: Reconnaissance, Water Quality Measurements, Flow Measurements, Water Sampling, Sediment Sampling, and Sample Handling and Shipping. Get [more information](#) on how to view this course online or to request a copy of the course on CD.

Standard Operating Procedures for Conducting Field Measurements

- [SOP for Conducting Field Measurements and Field Collections of Water and Bed Sediment Samples in the Surface Water Ambient Monitoring Program](#) - Marine Pollution Studies Laboratory - Department of Fish and Game (MPSL-DFG) - October 2007

California Rapid Assessment Method for Wetlands (CRAM)

- CRAM is a [standardized tool for assessing the condition of wetlands and riparian habitats](#).

Techniques for Preventing the Introduction and Spread of Aquatic Invasive Species

- [SWAMP's Aquatic Invasive Species Website](#)

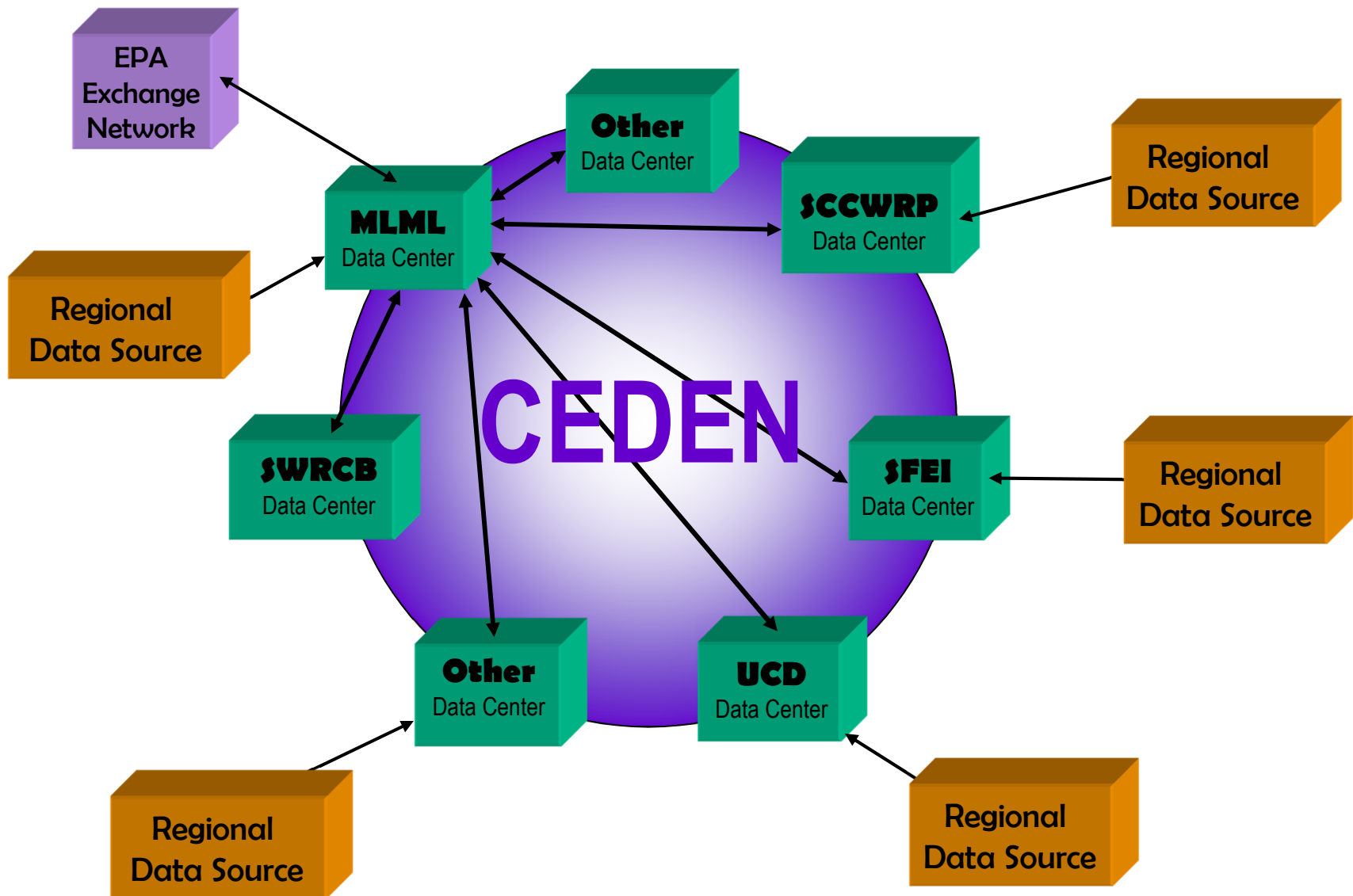
start Novell WebAccess... Novell WebAccess... Geospatial Metad... State Water Reso... - Windows Search Search Results Background51420... 8:18 AM Tuesday 11/8/2011

Architecture

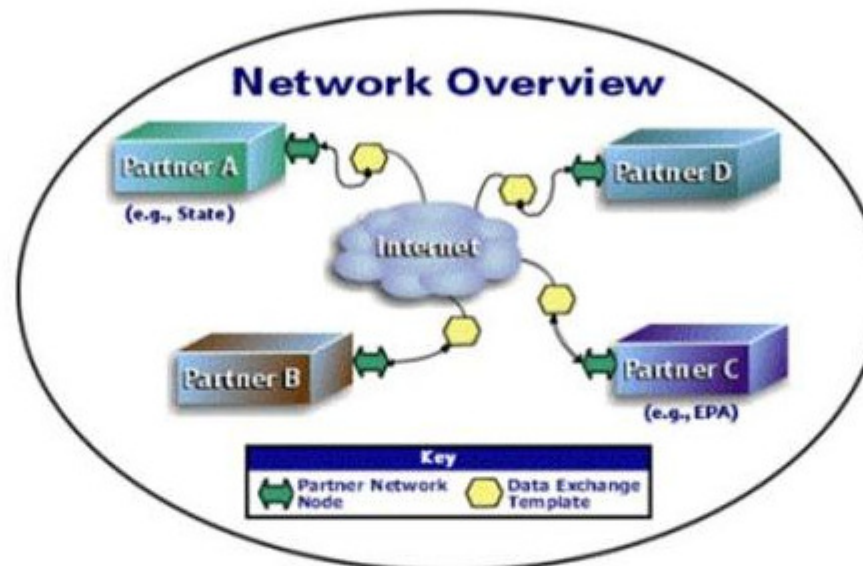


- Technologies for sharing data
- Many technologies for sharing data
 - Replication synchronization
 - Web services
 - Web data checkers
 - etc

CEDEN Network



How the Exchange Network Works



Using the Internet and standardized data formats, the Network **partners** (boxes) exchange information between **Nodes** (green arrows that talk both ways) via **data exchange templates** (yellow hexagon). A Node is a point of interaction between participants on the Exchange Network, and is a collection of specific data and policy components that are utilized to provide and receive information via the Exchange Network. EPA's Node on the Exchange Network is the [Central Exchange](#). Exchange Network partners agree to develop and use the data standards and schema through the data exchange templates to exchange information, ensuring improved data quality, and better integration across different sources, programs and databases, and increased availability of data.

Exchange Network Grant Program

The Exchange Network Grant Program provides funding to state, tribal, and territorial partners to encourage data integration efforts using the Exchange Network. The grant program supports the exchange of data and mentoring, planning and training activities related to the Exchange Network. The grant program also supports the standardization, exchange and integration of the geospatial information to address environmental, natural resource and related human health issues. The priorities of the grant program include:

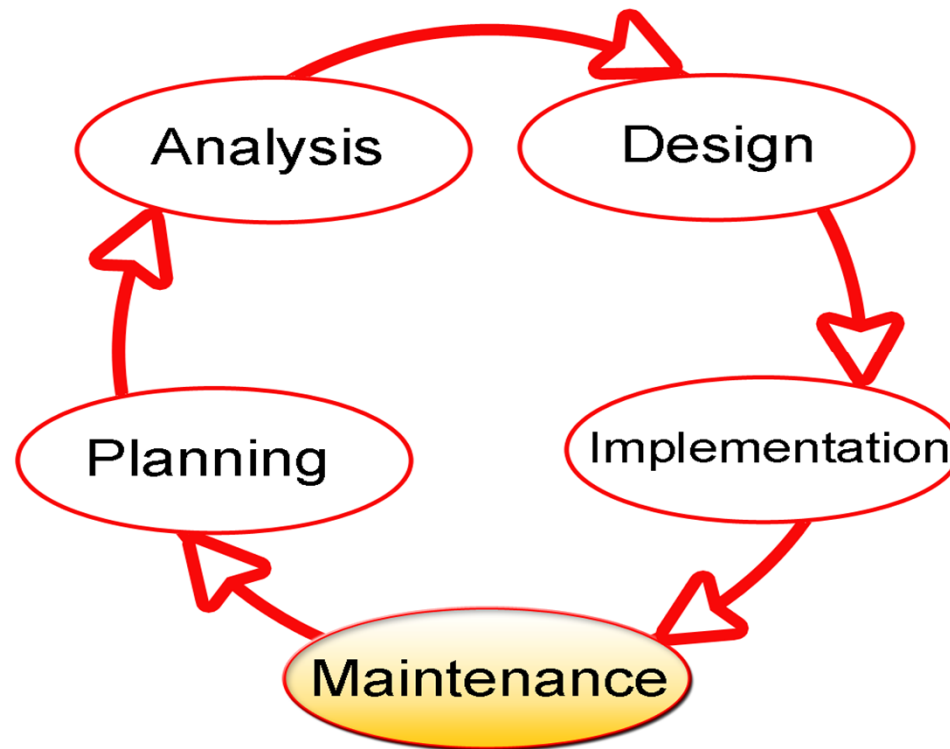
- Developing the Information Management/Information Technology (IM/IT) capabilities needed by participants in the Exchange Network.

Architecture

- What level of technical detail is needed to share data?
 - Allot
 - Each case needs to be considered independently to determine the best technological and institutional solutions to share data
 - NO Silver bullet
 - Process encounters mostly institutional issues
NOT technical

Background

- Follow Software
- Development
- Life Cycle
- SDLC



Current Activities

- Beach Watch

SOUTHERN CALIFORNIA COASTAL WATER RESEARCH PROJECT

Public Agency for Environmental Research

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Search

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Rapid Indicators

Microbial Source Tracking

Beach Water Quality
Monitoring

Epidemiology Studies

Research Areas > Beach Water Quality

Research Theme: Beach Water Quality

California's beach water quality monitoring program is the most comprehensive in the nation. By law, water quality at high-use beaches must be tested at least once per week between April and October. Some beaches are also tested multiple times per week throughout the year. When water-quality standards are exceeded, officials are required to take action to protect swimmers by either closing the beach or posting warning signs that notify the public of possible health risks from water contact. However, this system is flawed for two reasons. First, current bacteria-count methods require at least a 24-hour incubation to obtain results, preventing managers from taking action the day of exceedance. Second, the fecal-bacteria indicator prescribed by regulation may not be appropriate in California, as regulations were developed and validated at beaches where human sewage and associated pathogens are known sources of contamination. In contrast, fecal-indicator bacteria at California beaches generally come from non-point sources.

SCCWRP Research

Recognizing the deficiencies in current beach water quality monitoring regimens, SCCWRP has embarked on a program to develop, validate, and implement new indicators and measurement methods. The goal of this research is to provide beach managers with the tools and information needed to accurately assess health risks and notify the public of risks on the day of exceedance. To this end, SCCWRP is working with the top researchers in the field to:

Current Activities

- Making the balance of the CEDEN RDC data available.
- Addition of Benthic Data to CEDEN
 - Provide access to SWAMP BA data along with other Benthic data

CEDEN Data Queries - Windows Internet Explorer

http://www.ceden.biz/AdvancedQueryTool

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CEDEN Data Queries

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Map Satellite Terrain

CEDEN
CALIFORNIA ENVIRONMENTAL DATA EXCHANGE NETWORK

RESULT CATEGORY: ☒ Water Quality ☐ Toxicity ☐ Tissue ☐ Benthic

☐ Turn on automatic station mapping.

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

START OVER **MAP STATIONS** **HELP**

Programs **SELECT** Do not limit search by Programs

Projects **SELECT** Do not limit search by Projects

Parameter Groups **SELECT** Do not limit search by Parameter Groups

Parameters **SELECT** Do not limit search by Parameters

Matrixes **SELECT** Do not limit search by Matrixes

Stations **SELECT** Do not limit search by Stations

☐ Include stations that are missing lat/lngs

Draw Tool

start Novell WebAccess... CEDEN Data Quer... State Water Reso... Windows Search Search Results Background51420... Microsoft Security... 10:16 AM Tuesday 11/8/2011

CEDEN Data Queries - Windows Internet Explorer

http://ceden.biz/AdvancedQueryTool_Benthic?category=ben

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CEDEN
CALIFORNIA ENVIRONMENTAL DATA EXCHANGE NETWORK

Map Satellite Terrain

RESULT CATEGORY: ☐ Water Quality ☐ Toxicity ☐ Tissue ☒ Benthic

☐ Turn on automatic station mapping.

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

START OVER **MAP STATIONS** **HELP**

Programs **SELECT** Do not limit search by Programs

Projects **SELECT** Do not limit search by Projects

Species Groups **SELECT** Do not limit search by Species Groups

Species **SELECT** Do not limit search by Species

Stations **SELECT** Do not limit search by Stations

☐ Include stations that are missing lat/lngs

Available date range: Jun 05 2006 to Jun 24 2010

Draw Tool

start Novell WebAccess... CEDEN Data Quer... State Water Reso... Windows Search Search Results Background51420... Microsoft Security... 10:18 AM Tuesday 11/8/2011

CEDEN Data Queries - Windows Internet Explorer

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CEDEN Data Queries

map Satellite Terrain

RESULT CATEGORY: ☐ Water Quality ☐ Toxicity ☐ Tissue ☒ Benthic

☐ Turn on automatic station mapping.

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

START OVER **MAP STATIONS** **HELP**

Programs Do not limit search by Programs

Projects **DONE**

- RWB2 Reference Study Monitoring 2008
- RWB2 Urbanization Study 2008
- RWB4 Miscellaneous Ventura Coastal 2006
- RWB4 Miscellaneous Ventura Coastal BA 2006
- RWB9 Status Sampling 2007 and 2008
- Statewide Perennial Streams Assessment 2008
- Statewide Perennial Streams Assessment 2009
- Statewide Ref Condition Management Plan 2008
- Statewide Ref Condition Management Plan 2009
- Statewide Ref Condition Mgmt Plan Index Study 2009

Species Groups Do not limit search by Species Groups

Species Do not limit search by Species

Stations Do not limit search by Stations

☐ Include stations that are missing lat/lngs

Available date range: Jun-05-2006 to Jun-24-2010

Draw Tool

start Novell WebAccess... CEDEN Data Quer... State Water Reso... Windows Search Search Results Background51420... Microsoft Security... 10:25 AM Tuesday 11/8/2011

CEDEN Data Queries - Windows Internet Explorer

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CEDEN Data Queries

RESULT CATEGORY: ☒ Water Quality ☒ Toxicity ☒ Tissue ☒ Benthic

☐ Turn on automatic station mapping.

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

START OVER **MAP STATIONS** **HELP**

[Programs](#) Do not limit search by Programs

[Projects](#) **DONE**

- RWB2 Reference Study Monitoring 2008
- RWB2 Urbanization Study 2008
- RWB4 Miscellaneous Ventura Coastal 2006
- RWB4 Miscellaneous Ventura Coastal BA 2006
- RWB9 Status Sampling 2007 and 2008
- Statewide Perennial Streams Assessment 2008
- Statewide Perennial Streams Assessment 2009
- Statewide Ref Condition Management Plan 2008
- Statewide Ref Condition Management Plan 2009
- Statewide Ref Condition Mgmt Plan Index Study 2009

[Species Groups](#) Do not limit search by Species Groups

[Species](#) Do not limit search by Species

[Stations](#) Do not limit search by Stations

☐ Include stations that are missing lat/lngs

Available date range: Jun-05-2006 to Jun-24-2010

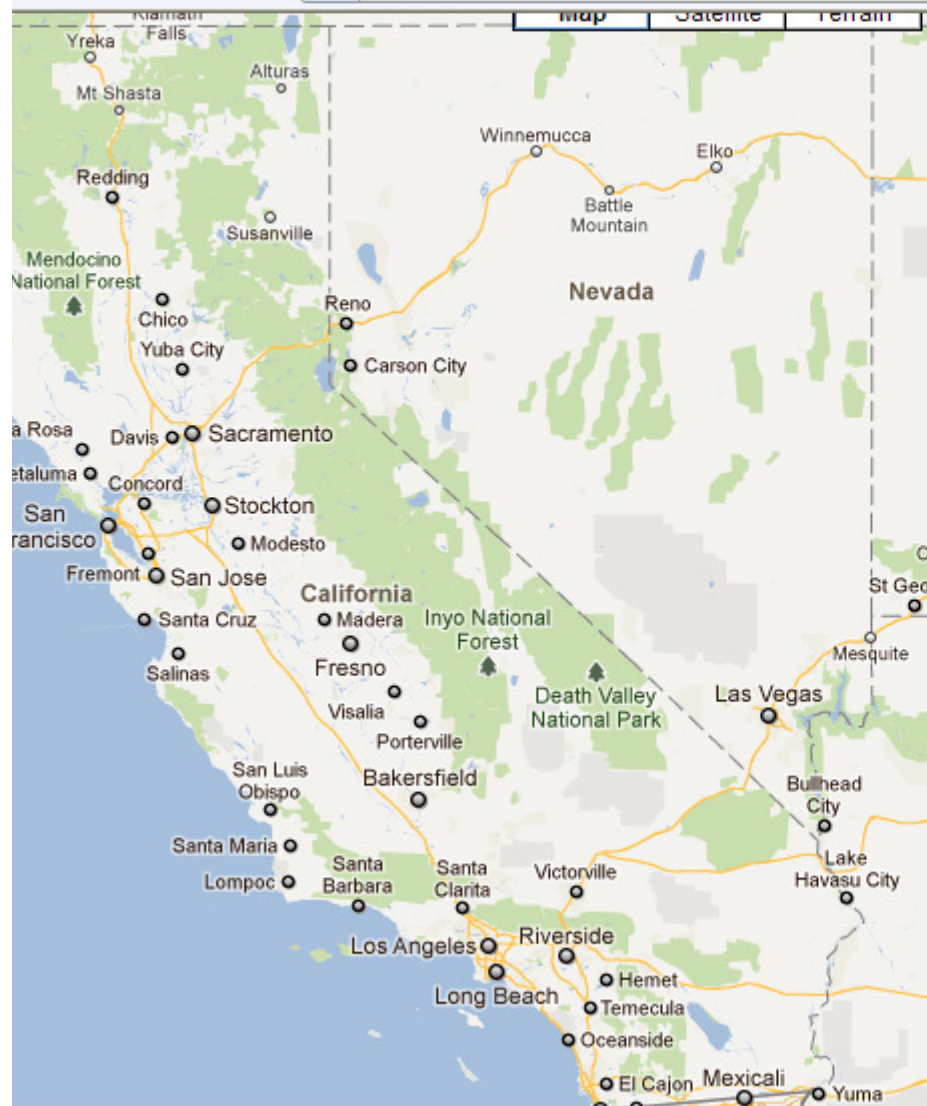
Draw Tool

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Tools Help

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Page ▾



RESULT CATEGORY:

- ☐ Water Quality ☐ Toxicity ☐ Tissue
☒ Benthic

☐ Turn on automatic station mapping. ?

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

START OVER

MAP STATIONS

HELP ?

Programs

SELECT

Do not limit search by Programs ?

Projects

SELECT

Statewide Perennial Streams Assessment 2008
 Statewide Ref Condition Management Plan 2009

Species Groups

SELECT

Do not limit search by Species Groups ?

Species

SELECT

Do not limit search by Species ?

Stations

SELECT

Do not limit search by Stations

☐ Include stations that are missing lat/lngs ?

Available date range: May-13-2008 to Oct-06-2009 ?

From: ?

[Show Controlled Vocabulary](#)

To: [Clear Dates]

RETRIEVE DATA

- ☒ All Rows
☐ First 1000 Records Only

Record Count: 6333

Download Format: excel



The screenshot displays the CEDEN Data Queries web application. The interface is split into two main sections: a map on the left and a search/filter panel on the right.

Map Section: The map shows the state of California with various cities and geographical features labeled. A "Draw Tool" icon is visible in the bottom left corner of the map area.

Search/Filter Panel: This panel contains several sections for refining the search results:

- RESULT CATEGORY:** Includes radio buttons for "Water Quality", "Toxicity", "Tissue", and "Benthic" (which is selected).
- Turn on automatic station mapping:** A checkbox that is currently unchecked.
- Click Map Stations at any time to show stations on the map:** A text instruction.
- Buttons:** "START OVER", "MAP STATIONS", and "HELP".
- Programs:** A dropdown menu showing "Do not limit search by Programs".
- Projects:** A dropdown menu showing "Statewide Perennial Streams Assessment 2008" and "Statewide Ref Condition Management Plan 2009".
- Species Groups:** A dropdown menu showing "Annelida", "Arthropoda", "Coelenterata", "Mollusca", "Nemertea", and "Platyhelminthes".
- Species:** A dropdown menu showing "Do not limit search by Species".
- Stations:** A dropdown menu showing "Do not limit search by Stations" and a checkbox for "Include stations that are missing lat/lngs".
- Available date range:** "May-13-2008 to Oct-06-2009".
- From/To:** Date selection fields with a "Show Controlled Vocabulary" link.
- [Clear Dates]:** A button to reset the date filters.

The bottom of the image shows the Windows taskbar with the Start button and several open applications, including "Novell WebAccess...", "CEDEN Data Quer...", "State Water Reso...", and "Microsoft Security...". The system clock shows the date as "Tuesday 11/8/2011".

CEDEN Data Queries - Windows Internet Explorer

http://ceden.biz/AdvancedQueryTool_Benthic?category=ben

File Edit View Favorites Tools Help

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CEDEN Data Queries

RESULT CATEGORY: ☒ Water Quality ☒ Toxicity ☒ Tissue ☒ Benthic

☐ Turn on automatic station mapping.

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

START OVER **MAP STATIONS** **HELP**

Programs **SELECT** Do not limit search by Programs

Projects **SELECT** Statewide Perennial Streams Assessment 2008
Statewide Ref Condition Management Plan 2009

Species Groups **SELECT** Arthropoda

Species **SELECT** Yphria californica
Zaitzevia
Zaitzevia parvula
Zapada
Zapada cinctipes
Zapada columbiana
Zapada frigida
Zapada oregonensis group
Zavrelimyia
Zavrelimyia/ Paramerina

Stations **SELECT** Do not limit search by Stations
☐ Include stations that are missing lat/lngs

Available date range: May-13-2008 to Oct-06-2009

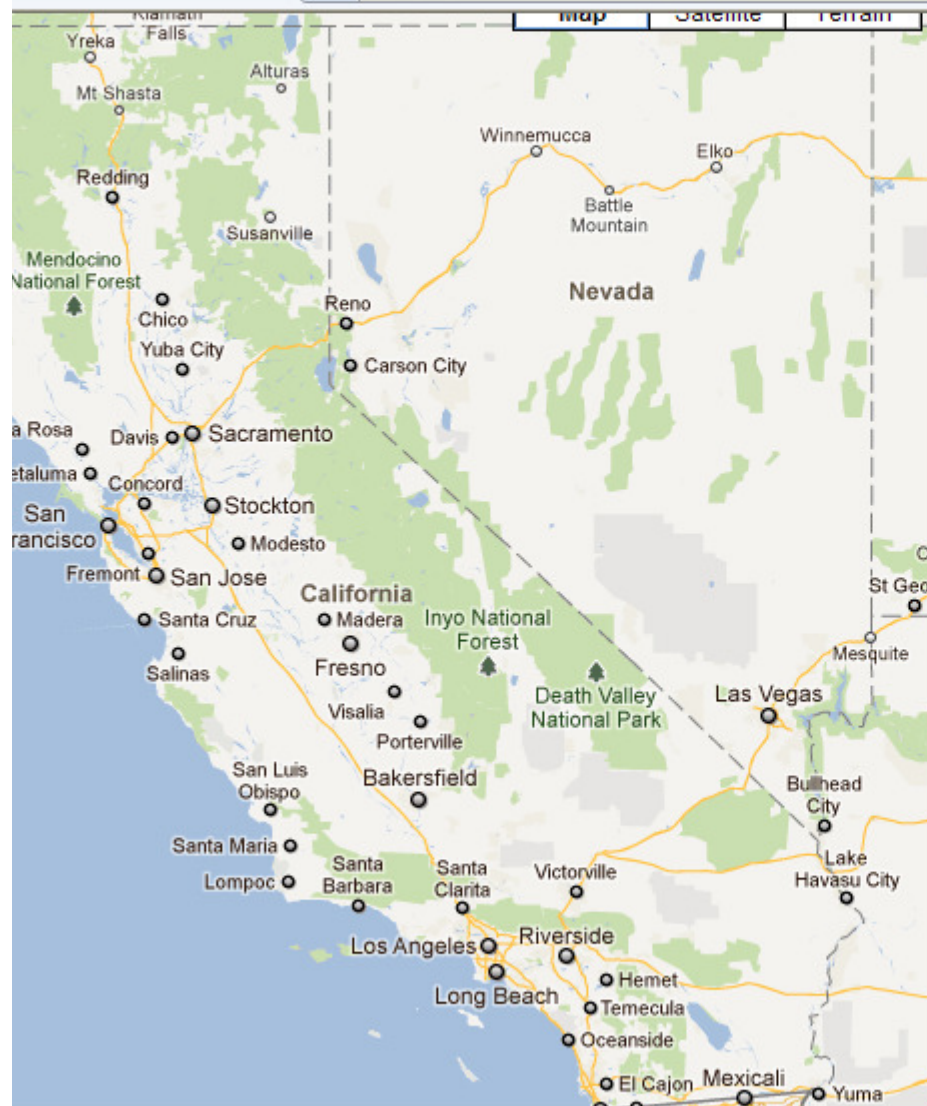
Draw Tool

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Tools Help

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Page ▾



RESULT CATEGORY:

- ☐ Water Quality ☐ Toxicity ☐ Tissue
☒ Benthic

☐ Turn on automatic station mapping. ?

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

START OVER

MAP STATIONS

HELP ?

[Programs](#)

Do not limit search by Programs ?

[Projects](#)

Statewide To select items, please use the [Select] button.
Statewide Ref Condition Management Plan 2009

[Species Groups](#)

Arthropoda ?

[Species](#)

DONE

Yphria californica
Zaitzevia
Zaitzevia parvula
Zapada
Zapada cinctipes
Zapada columbiana
Zapada frigida
Zapada oregonensis group
Zavrelimyia
Zavrelimyia/ Paramerina

[Stations](#)

Do not limit search by Stations

☐ Include stations that are missing lat/lngs ?

Available date range: May-13-2008 to Oct-06-2009 ?

CEDEN Data Queries - Windows Internet Explorer

http://ceden.biz/AdvancedQueryTool_Benthic?category=ben

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CEDEN Data Queries

RESULT CATEGORY: ☒ Water Quality ☒ Toxicity ☒ Tissue ☒ Benthic

☐ Turn on automatic station mapping.

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

START OVER **MAP STATIONS** **HELP**

Programs **SELECT** Do not limit search by Programs

Projects **SELECT** Statewide Perennial Streams Assessment 2008
Statewide Ref Condition Management Plan 2009

Species Groups **SELECT** Arthropoda

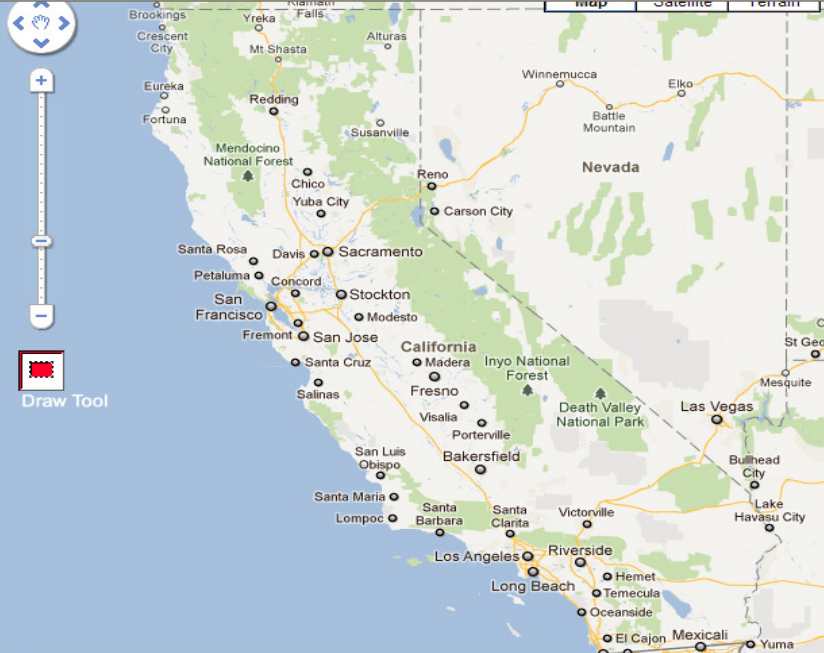
Species **SELECT** Yphria californica
Zaitzevia parvula
Zapada columbiana
Zapada frigida
Zavrelimyia
Zavrelimyia/ Paramerina

Stations **SELECT** Do not limit search by Stations
☐ Include stations that are missing lat/lngs

Available date range: May-13-2008 to Oct-06-2009

From: [Month] [Day] [Year] To: [Month] [Day] [Year] [Clear Dates]

Show Controlled Vocabulary



Draw Tool

Done

start Novell WebAccess... CEDEN Data Quer... State Water Reso... Windows Search Search Results Background51420... Microsoft Security... 10:31 AM Tuesday 11/8/2011

CEDEN Data Queries - Windows Internet Explorer

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CEDEN Data Queries

map Satellite Terrain

RESULT CATEGORY: ☒ Water Quality ☒ Toxicity ☒ Tissue ☒ Benthic

☐ Turn on automatic station mapping.

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

START OVER **MAP STATIONS** **HELP**

Programs **SELECT** Do not limit search by Programs

Projects **SELECT** Statewide Perennial Streams Assessment 2008
Statewide Ref Condition Management Plan 2009

Species Groups **SELECT** Arthropoda

Species **SELECT** Yphria californica
Zaitzevia parvula
Zapada columbiana
Zapada frigida
Zavrelimyia
Zavrelimyia/ Paramerina

Stations **SELECT** Ash Creek
Balm of Gilead Creek ~2mi above Eel R.
Big Carson Creek Tributary
Big Chico Creek ~1.6mi below Ponderosa Way
Black Butte River below Cold Creek
Butano State Park
Copper Butte Creek ~0.5mi above Eel River
Grider Creek

Draw Tool

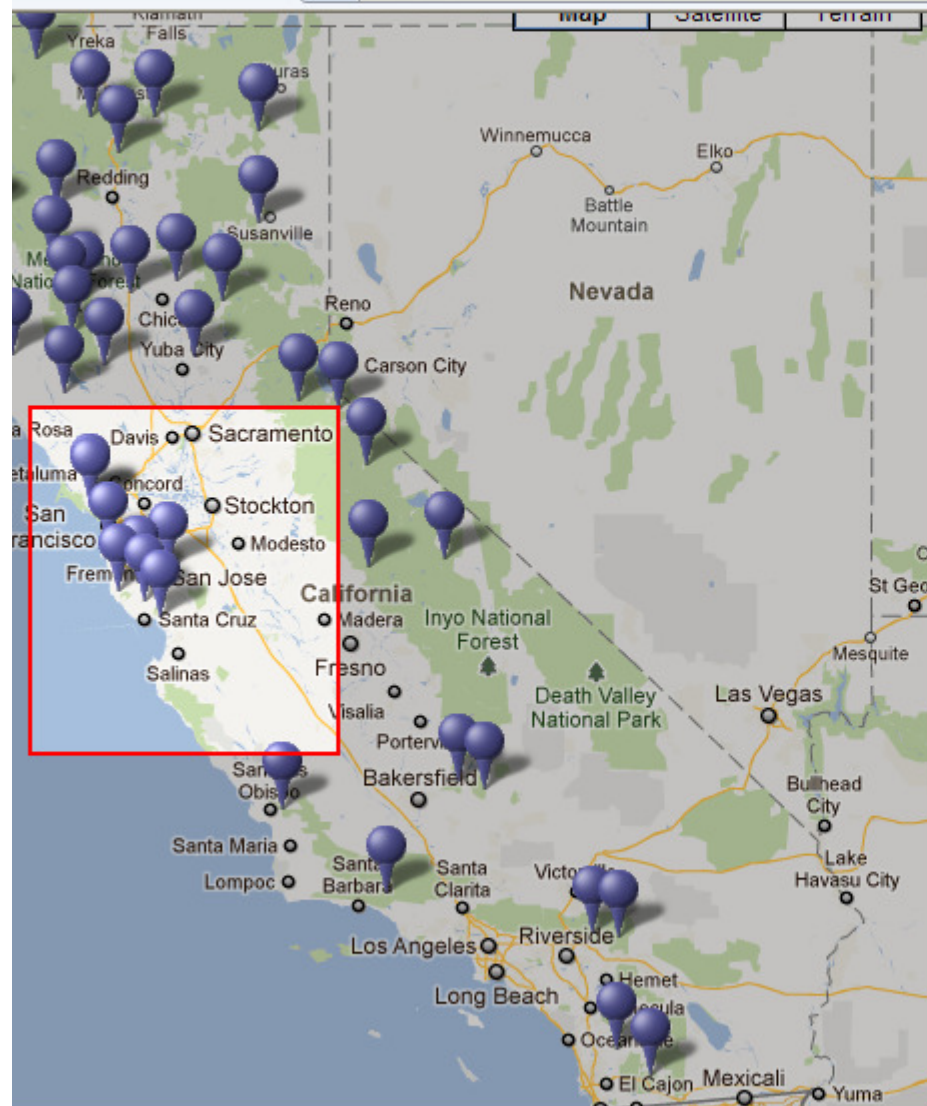
./AdvancedQueryTool

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Tools Help

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Page ▾



RESULT CATEGORY:

☐ Water Quality ☐ Toxicity ☐ Tissue
☒ Benthic

☐ Turn on automatic station mapping. ?

Click Map Stations after drawing selection box on the map.

START OVER

MAP STATIONS

HELP ?

[Programs](#)

SELECT

Do not limit search by Programs ?

[Projects](#)

SELECT

Statewide Perennial Streams Assessment 2008
 Statewide Ref Condition Management Plan 2009

[Species Groups](#)

SELECT

Arthropoda ?

[Species](#)

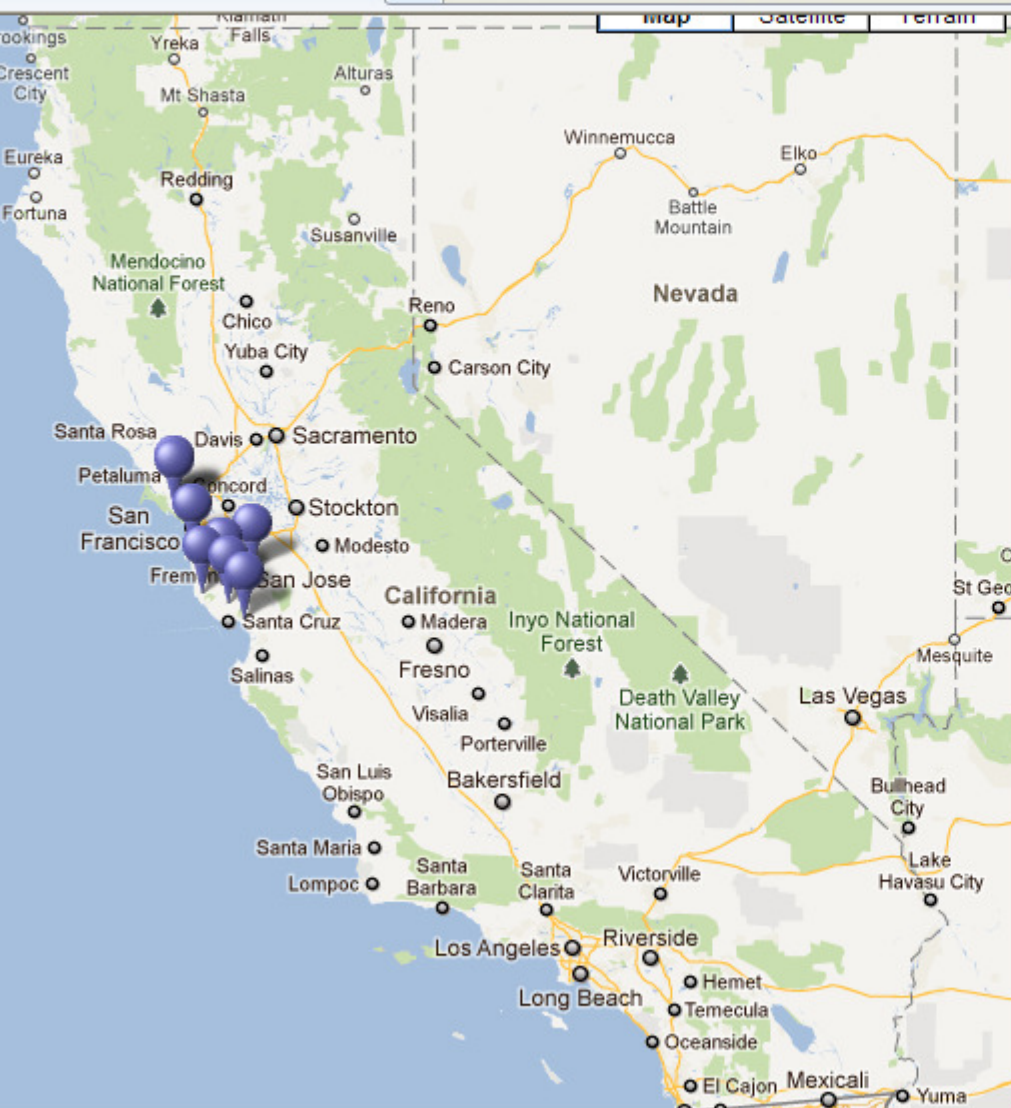
SELECT

Yphria californica
 Zaitzevia parvula
 Zapada columbiana
 Zapada frigida
 Zavrelimyia
 Zavrelimyia/ Paramerina ?

[Stations](#)

SELECT

Ash Creek
 Balm of Gilead Creek ~2mi above Eel R.
 Big Carson Creek Tributary
 Big Chico Creek ~1.6mi below Ponderosa Way
 Black Butte River below Cold Creek
 Butano State Park
 Copper Butte Creek ~0.5mi above Eel River
 Grider Creek



RESULT CATEGORY:

- ☐ Water Quality
- ☐ Toxicity
- ☐ Tissue
- ☒ Benthic

☐ Turn on automatic station mapping.

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

START OVER

MAP STATIONS

HELP

Programs

SELECT

Do not limit search by Programs

Projects

SELECT

Statewide Perennial Streams Assessment 2008
Statewide Ref Condition Management Plan 2009

Species Groups

SELECT

Arthropoda

Species

SELECT

Yphria californica
Zaitzevia parvula
Zapada columbiana
Zapada frigida
Zavrelimyia
Zavrelimyia/ Paramerina

Stations

SELECT

Big Carson Creek Tributary
Butano State Park
Little Carson
Lompico Creek
San Pedro Creek MF upstream footbridge
Upper Penitencia Creek Upper Alum Rock Park
Upper Stevens 1
Valencia Creek

CEDEN Data Queries - Windows Internet Explorer

http://ceden.biz/AdvancedQueryTool_Benthic?category=ben

File Edit View Favorites Tools Help

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CEDEN Data Queries

RESULT CATEGORY: ☒ Water Quality ☒ Toxicity ☒ Tissue ☒ Benthic

☐ Turn on automatic station mapping.

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

START OVER **MAP STATIONS** **HELP**

Programs **SELECT** Do not limit search by Programs

Projects **SELECT** Statewide Perennial Streams Assessment 2008
Statewide Ref Condition Management Plan 2009

Species Groups **SELECT** Arthropoda

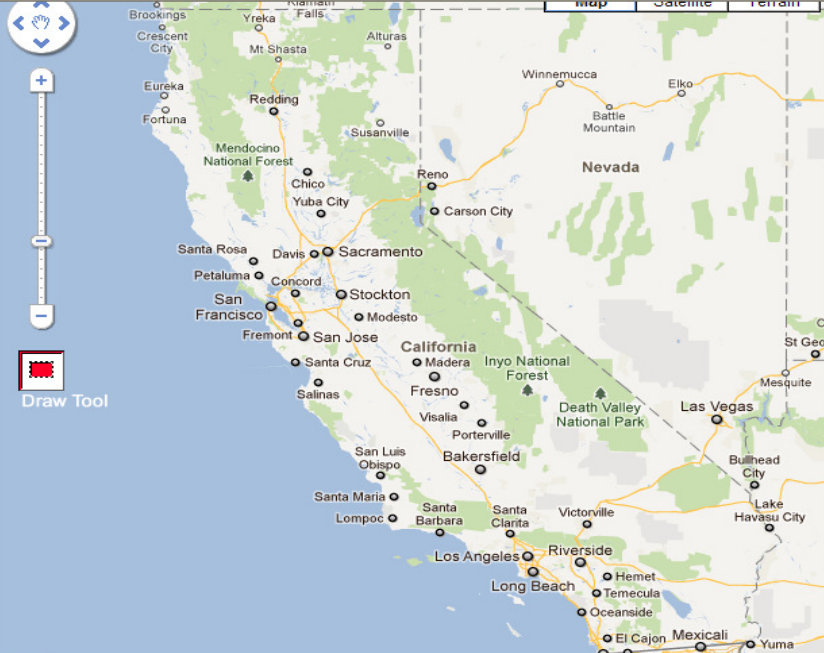
Species **SELECT** Yphria californica
Zaitzevia parvula
Zapada columbiana
Zapada frigida
Zavrelimyia
Zavrelimyia/ Paramerina

Stations **SELECT** Do not limit search by Stations
☐ Include stations that are missing lat/lngs

Available date range: May-13-2008 to Oct-06-2009

From: [Month] [Day] [Year] To: [Month] [Day] [Year] [Clear Dates]

Show Controlled Vocabulary



Draw Tool

Done

start Novell WebAccess... CEDEN Data Quer... State Water Reso... Windows Search Search Results Background51420... Microsoft Security... 10:31 AM Tuesday 11/8/2011

CEDEN

CALIFORNIA ENVIRONMENTAL DATA EXCHANGE NETWORK

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CEDEN Controlled Vocabulary

Choose which controlled vocabulary you want:

Agency ▾

Do you also want to include all optional metadata values?

☐ yes ☒ no

Choose the type of format you want:

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GET DATA

RESET



Microsoft Excel - ceden_data_20111108103910[1].xls

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A1 CEDEN: Data Retrieval

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	CEDEN:	Data Retrieval																	
2	Program	ParentProj	ProjectCoc	Project	StationNar	StationCoc	TargetLatit	TargetLong	Geometry	SampleDa	CollectionT	SamplingA	ProtocolCc	LocationCc	HydroModl	Hydromod	CollectionF	CollectionF	Personnel(Sa
3	Southern	(SWAMP	FRWB9_SN	So.Ca.Sto	Aliso Cree	901S0181	33.5642	-117.718	Point	5/7/2009	11:00	Aquatic Bi	SWAMP_X					1 BMI_Reach-WideBen	sai
4	Southern	(SWAMP	FRWB9_SN	So.Ca.Sto	Aliso Cree	901S0181	33.5642	-117.718	Point	5/7/2009	11:00	Aquatic Bi	SWAMP_X					1 BMI_Reach-WideBen	sai
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30	Southern	(SWAMP	FRWB9_SN	So.Ca.Sto	Aliso Cree	901S0270	33.5164	-117.741	Point	6/2/2010	10:28	Aquatic Bi	SWAMP_X					1 BMI_Reach-WideBenth	o
31	Southern	(SWAMP	FRWB9_SN	So.Ca.Sto	Aliso Cree	901S0270	33.5164	-117.741	Point	6/2/2010	10:28	Aquatic Bi	SWAMP_X					1 BMI_Reach-WideBenth	o
32	Southern	(SWAMP	FRWB9_SN	So.Ca.Sto	Aliso Cree	901S0270	33.5164	-117.741	Point	6/2/2010	10:28	Aquatic Bi	SWAMP_X					1 BMI_Reach-WideBenth	o
33	Southern	(SWAMP	FRWB9_SN	So.Ca.Sto	Aliso Cree	901S0270	33.5164	-117.741	Point	6/2/2010	10:28	Aquatic Bi	SWAMP_X					1 BMI_Reach-WideBenth	o

Ready

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Search Desktop

10:39 AM Tuesday 11/8/2011

Additional work on benthic

- Create data mart/star schema so CEDEN can run SWAMP apps for SWAMP comparable data.
- Need to verify controlled vocabulary
- Beta testing raw data query tool and receive feedback.
- Put into production.

Conclusion

- CEDEN stores a wide variety of **STANDARDIZED** and documented environmental data
 - CEDEN is an environmental data infrastructure/conveyance system; it can produce data for MANY decision support processes;
 - Data types can include ambient monitoring data about: fish, Bio-assessment, benthic, pesticides, nutrients, water quality, field monitoring, meteorological, hydrodynamic, habitat data, water quality data.....
 - Uses a variety of technologies.

Questions?

