

# Central Coast Ambient Monitoring Program Data Integration and Healthy Watershed Assessments

Karen R. Worcester, California Central Coast Water Board

David M. Paradies, Central Coast Ambient Monitoring Program

# Data Repositories and Portals (some with mappers)

- CEDEN
- EPA Waters
- EPA WQX
- USGS NWIS
- NWQMC Water Quality Data Portal

**CEDEN**  
CALIFORNIA ENVIRONMENTAL DATA EXCHANGE NETWORK

HOW DO I? | contact us | site map | Google Custom Search | Search

**Find Data**

**Submit Data**

**About CEDEN**

**User Group**

**Procedures**

The California Environmental Data Exchange Network (CEDEN) is a central location to find and share information about California's water bodies, including streams, lakes, rivers, and the coastal ocean. Many groups in California monitor water quality, aquatic habitat, and wildlife health to ensure good stewardship of our ecological resources. CEDEN aggregates this data and makes it accessible to environmental managers and the public.

For more information, a two page [CEDEN Fact Sheet](#) and eight page [Information Document](#) are available for download.

**News & Highlights**

**Data Entry Template Changes**

New procedures have been established for making changes to the CEDEN Data Entry Templates. This process is currently being undertaken. See the [Data Entry Template Changes 2016 Page](#) for more information.

Visit the Water Quality Monitoring Council's [data interpretation web portal](#)

EPA United States Environmental Protection Agency

Learn the Issues | Science & Technology | Laws & Regulations | About EPA

Search EPA.gov

Contact Us | Share

## My WATERS Mapper

MyWATERS Mapper dynamically displays snapshots of EPA Office of Water program data. This version of MyWATERS Mapper depicts the status of NPDES permits for each State; summary information from the Clean Watershed Needs Survey; and water quality assessments. Future versions will include other Office of Water Program Snapshots. MyWATERS Mapper also contains water-related geographic themes such as 12-digit watersheds, the national stream network known as the National Hydrography Dataset, and other water-related map layers. MyWATERS Mapper enables you to create customized maps at national and local scales.

**EPA MyWATERS Mapper**

MyWATERS Mapper dynamically displays snapshots of EPA Office of Water program data. This version of MyWATERS Mapper depicts the status of NPDES permits for each State; summary information from the Clean Watershed Needs Survey; and water quality assessments. Future versions will include other Office of Water Program Snapshots. MyWATERS Mapper also contains water-related geographic themes such as 12-digit watersheds, the national stream network known as the National Hydrography Dataset, and other water-related map layers. MyWATERS Mapper enables you to create customized maps at national and local scales.

WATERS Website | Print Map | Share Map | Send Feedback

**Water Program Snapshots**

Click on a button below to view a state-wide snapshot.

**Pollutant Discharge Permit Status**

**Water Infrastructure Needs**

**Water Quality Assessment Information**

**Drinking Water Information**

**Water Impairments**

**Water Monitoring Data**

# Data Repositories with associated analytical tools

## EcoAtlas for wetlands and other data

**EcoAtlas** ABOUT CONTACT DATA PROJECT TRACKER REGIONS

Central Coast : [Map](#) | [Projects](#) | [Summaries](#)

Layers ▾ Legends ▾ Basemap ▾ Overlays ▾

- Habitat Projects
- Existing Aquatic Resources - CARI
- Historical Aquatic Resources
- Eelgrass Aquatic Resources
- Modern Delta Habitat Types
- CRAM
- CEDEN Sediment Toxicity
- CEDEN Water Toxicity

5 km  
2 mi  
Google

**GEOTRACKER GAMA**

SEARCH FOR WELLS

Wells With Results

Nitrate as NO<sub>3</sub> - (MCL = 45 MG/L)

All Years Go

97 WELLS FOUND (16.49% ABOVE COMPARISON CONCENTRATION)

\* Comparison concentration is 45 MG/L (MCL). Click [here](#) for more information

DATASETS

GIS LAYERS

DTW / GW ELEVATION

LOCAL INFORMATION

[MEASURE A DISTANCE](#) [VIEW GEOTRACKER MAP](#) [CONTACT US](#)

FOUND	MAX VALUE	
IGHLIGHT ON MAP	3420	<a href="#">[ZOOM IN ON LOCATION]</a>
IGHLIGHT ON MAP	3340	<a href="#">[ZOOM IN ON LOCATION]</a>
IGHLIGHT ON MAP	2600	<a href="#">[ZOOM IN ON LOCATION]</a>
IGHLIGHT ON MAP	1210	<a href="#">[ZOOM IN ON LOCATION]</a>
IGHLIGHT ON MAP	570	<a href="#">[ZOOM IN ON LOCATION]</a>

## Geotracker GAMA for groundwater data

# Data assessment and mapping

**CA.GOV** My Water Quality Search

**Are our streams & rivers healthy?**  
HEALTHY WATERSHEDS PARTNERSHIP OF THE CALIFORNIA WATER QUALITY MONITORING COUNCIL

Portals About Us Work Groups **Stream & River Links**

### How toxic is the water in our streams, rivers and lakes?

-- Select a Region Tyr ▾

**Water Toxicity**

- Non-toxic
- Some Toxicity
- Moderate Toxicity
- High Toxicity

To measure how well a water body supports aquatic life, we can perform a toxicity test. Water samples from a given water body are taken to the laboratory and test organisms are exposed to that water to see if they exhibit any adverse effects. Toxicity tests are especially useful in water quality monitoring because they show the overall effect on aquatic life of all of the chemicals found in the water sample. Toxicity tests can assess mortality, behavioral changes, reproductive status or physiological and biochemical changes. Follow-up tests called Toxicity Identification Evaluations are used in the laboratory to identify the probable cause of toxicity. In California, pesticides have been a common cause.

The assessment of toxicity displayed here is based on methods used to summarize nine years of toxicity testing data collected by the Surface Water Ambient Monitoring Program (SWAMP) and partner programs ([click here to view the report](#)). The process used to characterize the magnitude of toxicity at each site was designed to integrate results from multiple samples taken at a site and multiple tests conducted on the samples. Note that the assessment displayed here does not completely match the [SWAMP report](#) due to differences in statistical methods and additional data assessed in this portal.

#### Statewide Statistics - Condition of State's Waters

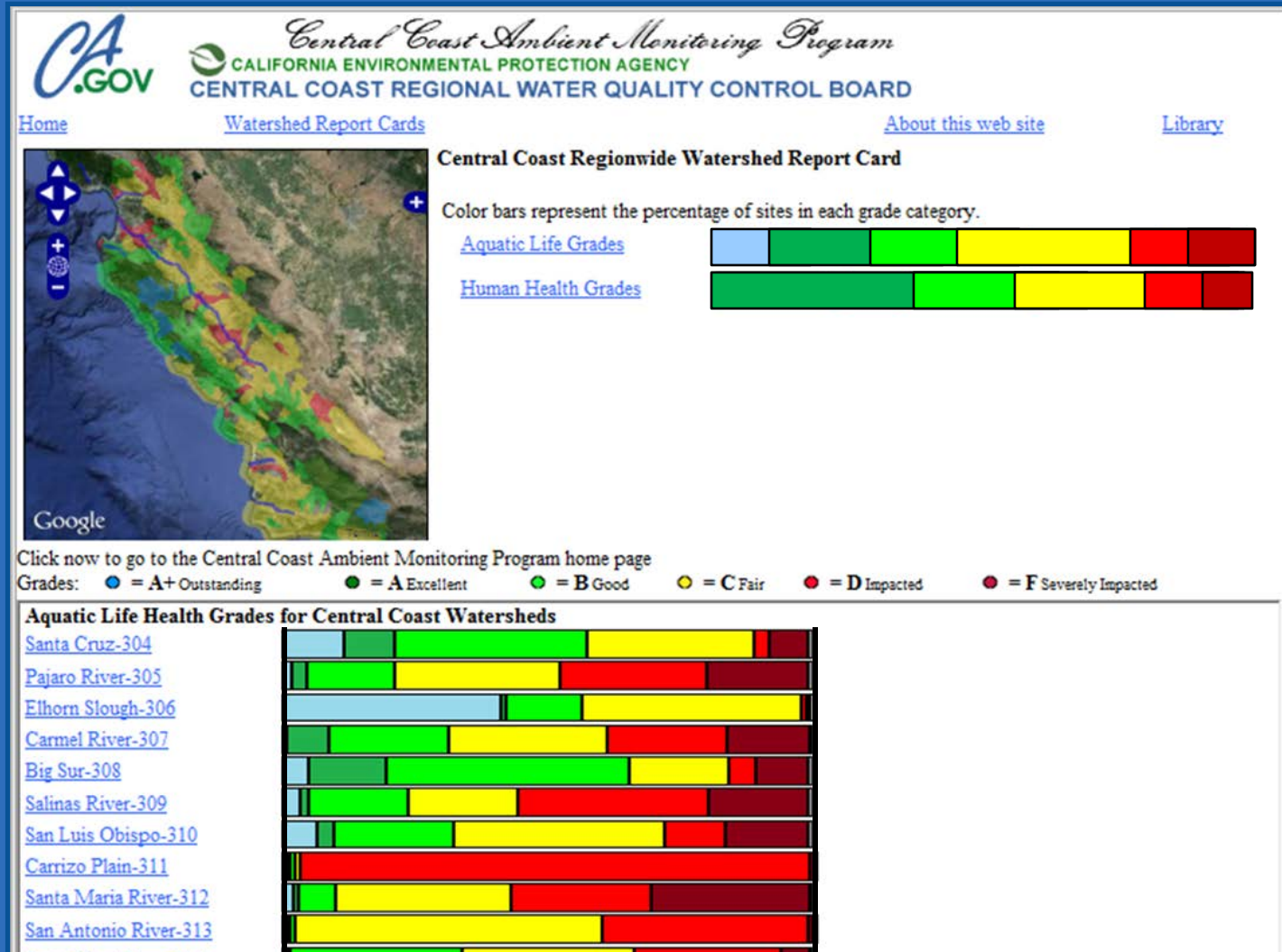
Toxicity Level	Percentage
Non-toxic	62%
Some toxicity	14%
Moderate toxicity	17%
High toxicity	7%

This map shows data generated by:

- SWAMP (Surface Water Ambient Monitoring Program)
- SFEI (San Francisco Estuary Institute)
- Powered by CEDEN

CWQMC “My Water Quality” Data Portal provides question driven assessments in map, graph and text format.

# Healthy Watersheds Web Report Card



(not yet publically available)

# Healthy Watersheds



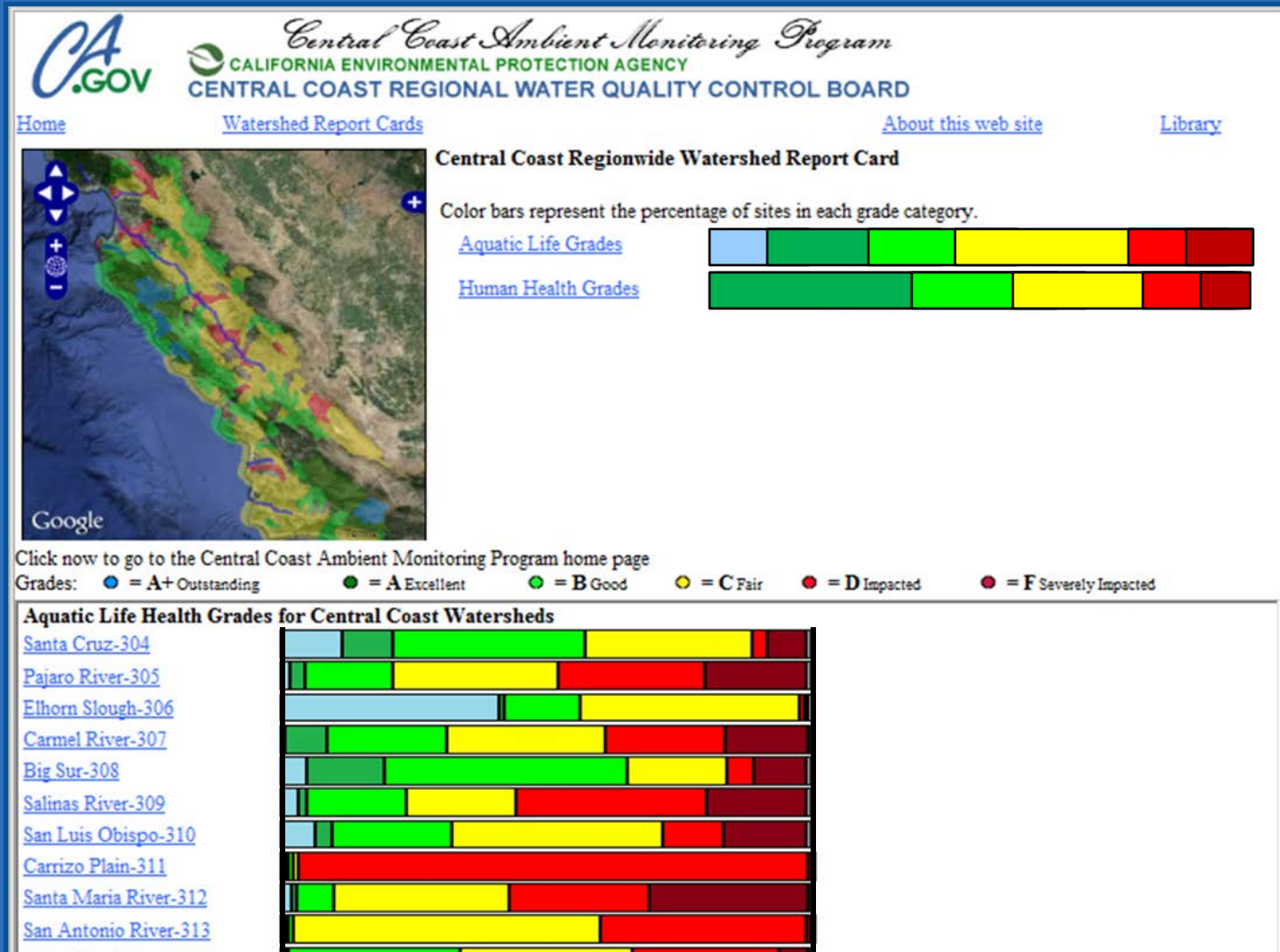
## By 2025:

**Healthy Aquatic Habitat** - 80% of aquatic habitat is healthy; remaining 20% exhibit positive trends in key parameters

**Proper Land Management** - 80% of land is managed to maintain proper watershed functions; remaining 20% exhibit positive trends in key parameters


**Clean Groundwater**- 80 percent of ground water is clean, and the remaining 20 percent will exhibit positive trends in key parameters

# Healthy Watersheds Web Report Card



(not yet publically available)


# Healthy Watersheds Web Report Card


 *Central Coast Ambient Monitoring Program*  
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY  
CENTRAL COAST REGIONAL WATER QUALITY CONTROL BOARD

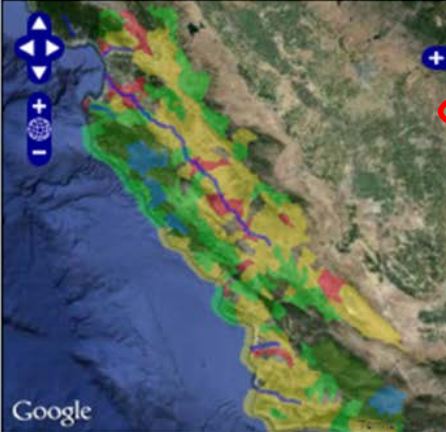
[Home](#)   [Watershed Report Cards](#)   [About this web site](#)   [Library](#)

**Central Coast Regionwide Watershed Report Card**

Color bars represent the percentage of sites in each grade category.

[Aquatic Life Grades](#)   

[Human Health Grades](#)   



Click now to go to the Central Coast Ambient Monitoring Program home page

Grades: ● = **A+** Outstanding   ● = **A** Excellent   ● = **B** Good   ● = **C** Fair   ● = **D** Impacted   ● = **F** Severely Impacted


**Aquatic Life Health Grades for Central Coast Watersheds**

Watershed	A+	A	B	C	D	F
<a href="#">Santa Cruz-304</a>	10%	10%	30%	30%	10%	10%
<a href="#">Pajaro River-305</a>	0%	10%	20%	30%	20%	10%
<a href="#">Elhorn Slough-306</a>	30%	10%	10%	30%	10%	0%
<a href="#">Carmel River-307</a>	0%	10%	20%	30%	20%	10%
<a href="#">Big Sur-308</a>	0%	10%	20%	30%	20%	10%
<a href="#">Salinas River-309</a>	0%	10%	20%	30%	20%	10%
<a href="#">San Luis Obispo-310</a>	10%	10%	20%	30%	10%	10%
<a href="#">Carrizo Plain-311</a>	0%	0%	0%	0%	80%	20%
<a href="#">Santa Maria River-312</a>	0%	10%	20%	30%	20%	10%
<a href="#">San Antonio River-313</a>	0%	0%	0%	30%	40%	30%

(not yet publically available)



# Healthy Watersheds Web Report Card

 *Central Coast Ambient Monitoring Program*  
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY  
CENTRAL COAST REGIONAL WATER QUALITY CONTROL BOARD


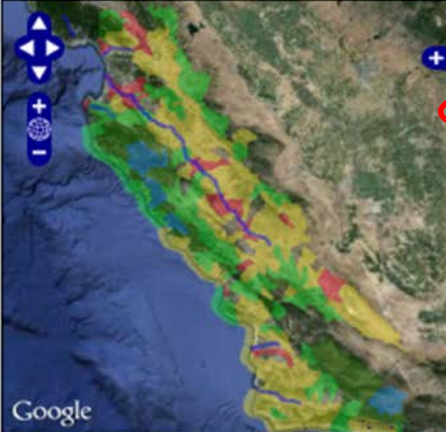
[Home](#)   [Watershed Report Cards](#)   [About this web site](#)   [Library](#)

**Central Coast Regionwide Watershed Report Card**

Color bars represent the percentage of sites in each grade category.

[Aquatic Life Grades](#)

[Human Health Grades](#)



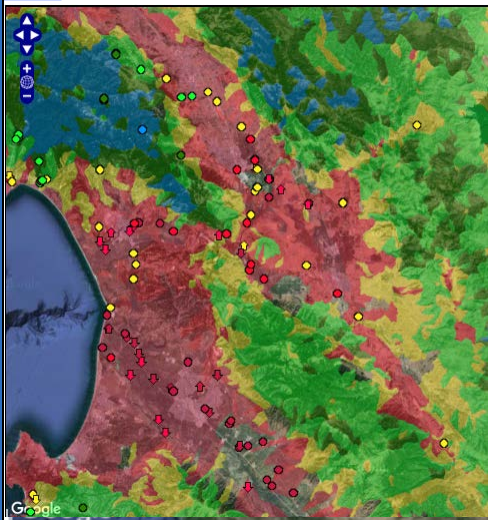
Click now to go to the Central Coast Ambient Monitoring Program home page

Grades: ● = A+ Outstanding   ● = A Excellent   ● = B Good   ● = C Fair   ● = D Impacted   ● = F Severely Impacted

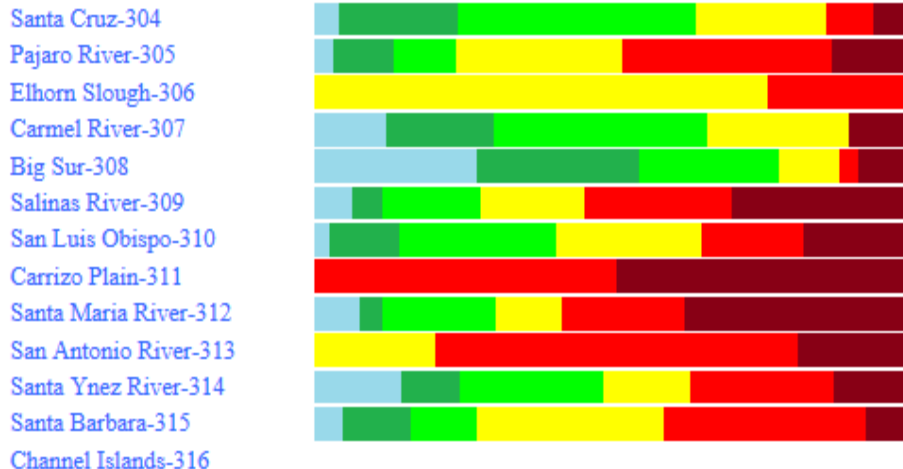
**Aquatic Life Health Grades for Central Coast Watersheds**

Watershed	A+ Outstanding	A Excellent	B Good	C Fair	D Impacted	F Severely Impacted
<a href="#">Pajaro River-305</a>	10%	10%	10%	20%	30%	20%
<a href="#">Elhorn Slough-306</a>	30%	10%	10%	20%	20%	10%
<a href="#">Carmel River-307</a>	5%	10%	10%	20%	30%	25%
<a href="#">Big Sur-308</a>	5%	10%	10%	20%	30%	20%
<a href="#">Salinas River-309</a>	5%	10%	10%	20%	30%	20%
<a href="#">San Luis Obispo-310</a>	10%	10%	10%	20%	30%	20%
<a href="#">Carrizo Plain-311</a>	5%	5%	5%	5%	30%	50%
<a href="#">Santa Maria River-312</a>	5%	10%	10%	20%	30%	20%
<a href="#">San Antonio River-313</a>	5%	10%	10%	20%	30%	20%

(not yet publically available)



### Aquatic Life Health Grades for Central Coast Watersheds



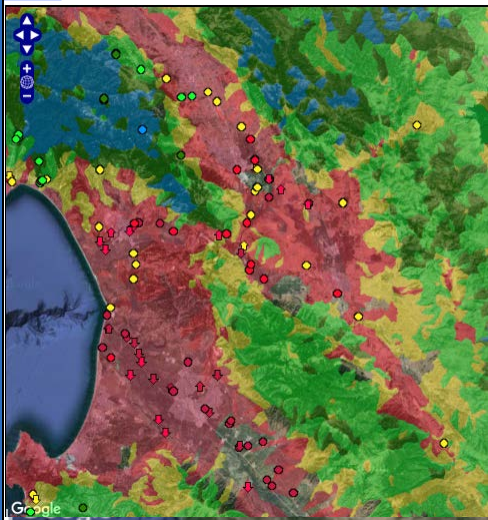
This map changes as you navigate this site (IT IS NOT YET FULLY CONNECTED TO THE DATA).

Grades: ● = **A+** Outstanding   ● = **A** Excellent   ● = **B** Good   ● = **C** Fair   ● = **D** Poor   ● = **F** Very Poor

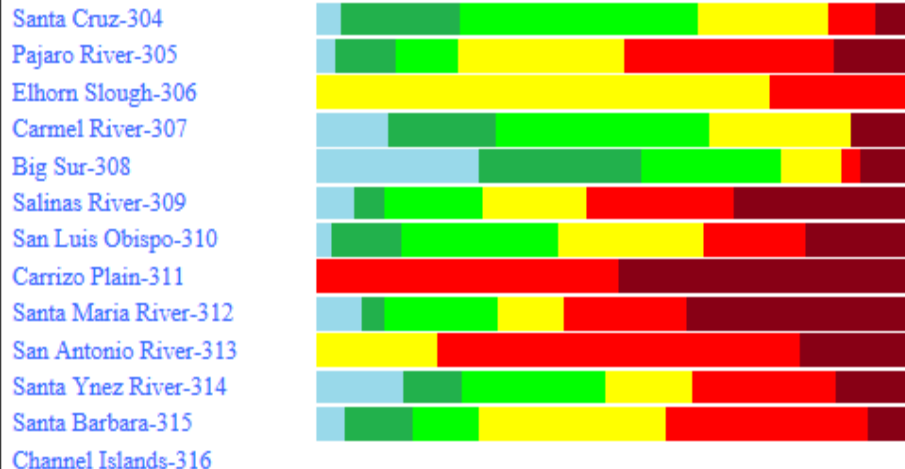
### Aquatic Life Grades in the Pajaro River Watershed

[Watersheds](#)

Waterbody	Aquatic Life Grade	Aquatic Life Score
<a href="#">Bodfish Creek</a>	A	94
<a href="#">Carnadero Creek</a>	C	67
<a href="#">Clear Creek (San Benito County)</a>	C	73
<a href="#">Corralitos Creek</a>	C	72
<a href="#">Furlong Creek</a>	C	72
<a href="#">Harkins Slough</a>	C	79
<a href="#">Laguna Creek</a>	B	85
<a href="#">Little Arthur Creek</a>	A	97
<a href="#">Llagas Creek</a>	B	82
<a href="#">Llagas Creek (above Chesbro Reservoir)</a>	B	88
<a href="#">Llagas Creek (below Chesbro Reservoir)</a>	D	58
<a href="#">Millers Canal</a>	D	54



### Aquatic Life Health Grades for Central Coast Watersheds



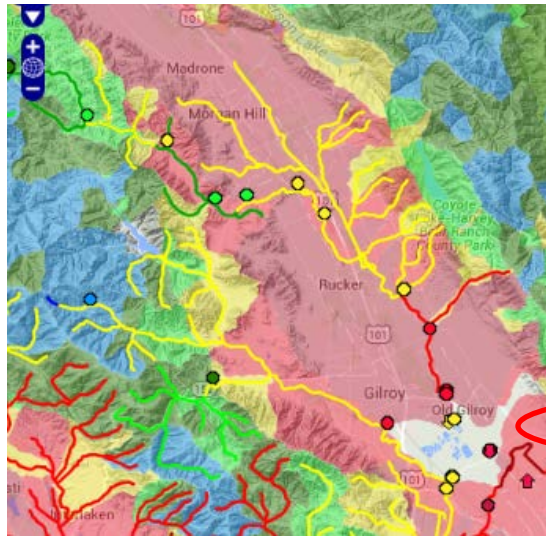
This map changes as you navigate this site (IT IS NOT YET FULLY CONNECTED TO THE DATA).

Grades: ● = **A+** Outstanding   ● = **A** Excellent   ● = **B** Good   ● = **C** Fair   ● = **D** Poor   ● = **F** Very Poor

### Aquatic Life Grades in the Pajaro River Watershed

[Watersheds](#)

Waterbody	Aquatic Life Grade	Aquatic Life Score
Bodfish Creek	A	94
Carnadero Creek	C	67
Clear Creek (San Benito County)	C	73
Corralitos Creek	C	72
Furlong Creek	C	72
Harkins Slough	C	79
Laguna Creek	B	85
Little Arthur Creek	A	97
Llagas Creek	B	82
Llagas Creek (above Chesbro Reservoir)	B	88
Llagas Creek (below Chesbro Reservoir)	D	58
Millers Canal	D	54



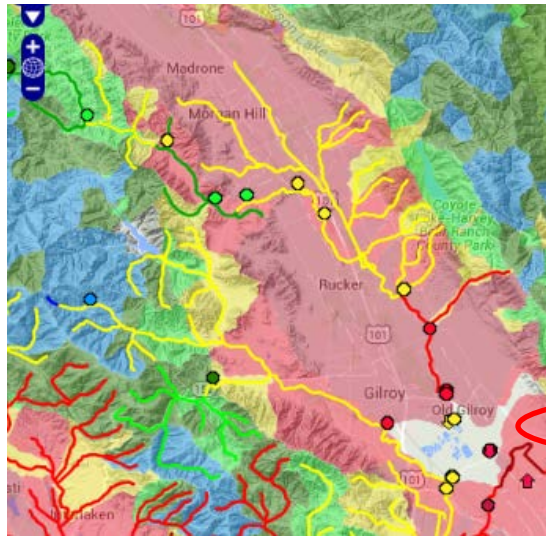
Beach Road Ditch	D	56
Bodfish Creek	A	94
Carnadero Creek	C	70
Clear Creek (San Benito County)	C	72
Corralitos Creek	B	88
Furlong Creek	D	63
Harkins Slough	C	74
Laguna Creek	B	84
Little Arthur Creek	A	97
Llagas Creek	B	85
Llagas Creek (above Chesbro Reservoir)	B	88
Llagas Creek (below Chesbro Reservoir)	D	57
Millers Canal	D	54
Pacheco Creek	C	72

Grades: ● = A+ Outstanding   ● = A Excellent   ● = B Good   ● = C Fair   ● = D Poor   ● = F Very Poor

### Aquatic Life Health Grades for Sites - Llagas Creek (below Chesbro Reservoir)

[Watersheds](#)   [Waterbodies](#)

Site	Site Name	Aquatic Life Grade	Aquatic Life Score
305CE0484	Llagas Creek Below Sycamore Avenue	B	85
305HOL	Llagas Creek at Holsclaw below Leavesley Rd.	D	52
305LEA	Llagas Creek at Leavesley Rd	D	55
305LGCABR	Llagas Creek @ Bloomfield Rd. above bridge	F	35
305LHB	Llagas Creek at Highway 152	D	45
305LLA	Llagas Creek at Bloomfield Avenue	D	58
305LUC	Llagas Creek at Luchessa Avenue-Southside Drive	C	66
305MON	Llagas Creek at Monterey Rd	C	66
305OAK	Llagas Creek at Oak Glen Avenue	B	80
305PS0061	Llagas Creek below E. San Martin Ave	C	71



Beach Road Ditch	D	56
Bodfish Creek	A	94
Carnadero Creek	C	70
Clear Creek (San Benito County)	C	72
Corralitos Creek	B	88
Furlong Creek	D	63
Harkins Slough	C	74
Laguna Creek	B	84
Little Arthur Creek	A	97
Llagas Creek	B	85
Llagas Creek (above Chesbro Reservoir)	B	88
Llagas Creek (below Chesbro Reservoir)	D	57
Millers Canal	D	54
Pacheco Creek	C	72

Grades: ● = A+ Outstanding   ● = A Excellent   ● = B Good   ● = C Fair   ● = D Poor   ● = F Very Poor

### Aquatic Life Health Grades for Sites - Llagas Creek (below Chesbro Reservoir)

Watersheds   Waterbodies

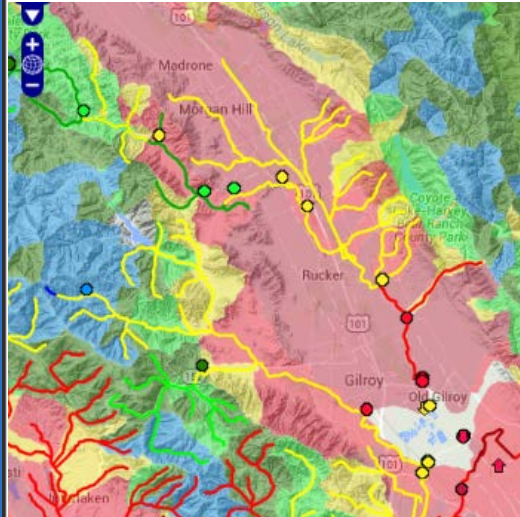
Site	Site Name	Aquatic Life Grade	Aquatic Life Score
305CE0484	Llagas Creek Below Sycamore Avenue	B	85
305HOL	Llagas Creek at Holsclaw below Leavesley Rd.	D	52
305LEA	Llagas Creek at Leavesley Rd	D	55
305LGCABR	Llagas Creek @ Bloomfield Rd. above bridge	F	35
305LNE	Llagas Creek at Highway 152	D	45
305LLA	Llagas Creek at Bloomfield Avenue	D	58
305LUC	Llagas Creek at Luchessa Avenue-Southside Drive	C	66
305MON	Llagas Creek at Monterey Rd	C	66
305OAK	Llagas Creek at Oak Glen Avenue	B	80
305PS0061	Llagas Creek below E. San Martin Ave	C	71



[Home](#)

[Watershed Report Cards](#)

[About this web site](#)



### Aquatic Life Grades in the Pajaro River Watershed

[Watersheds](#)

Waterbody	Aquatic Life Grade	Aquatic Life Score
<a href="#">Bodfish Creek</a>	A	94
<a href="#">Carnadero Creek</a>	C	67
<a href="#">Clear Creek (San Benito County)</a>	C	73
<a href="#">Corralitos Creek</a>	C	72
<a href="#">Furlong Creek</a>	C	72
<a href="#">Harkins Slough</a>	C	79
<a href="#">Laguna Creek</a>	B	85
<a href="#">Little Arthur Creek</a>	A	97
<a href="#">Llagas Creek</a>	B	82
<a href="#">Llagas Creek (above Chesbro Reservoir)</a>	B	88
<a href="#">Llagas Creek (below Chesbro Reservoir)</a>	D	58
<a href="#">Millers Canal</a>	D	54

Grades: ● = A+ Outstanding   ● = A Excellent   ● = B Good   ● = C Fair   ● = D Poor   ● = F Very Poor

### Llagas Creek at Bloomfield Avenue (305LLA)

[Watersheds](#)

[Waterbodies](#)

[Sites](#)

Aquatic Life	Conventional Analytes	Biostimulation	Biology	Toxicity	Metals	Organic Chemicals
D (61)	72	53			90	16
Human Health	Nitrogen Species	Salts	Pathogens	Metals	Organic Chemicals	
D (61)	25	53	30	100	100	



* Analyte	Units	Matrix	Min	Mean	Max	Samples	Grade	Score	Threshold
<a href="#">Water Temperature</a>	degrees c	water	9.4	16.4	20.1	162	C	79	18
<a href="#">Ammonia as N, Total</a>	mg/l	water	0.01	0.07	0.34	59	A	97	1.9
<a href="#">Nitrate, Nitrite as N</a>	mg/l	water	1.42	12.1	22	59	F	4	1
<a href="#">Orthophosphate as P</a>	mg/l	water	0.003	0.04	0.23	59	B	81	0.13
<a href="#">Suspended Solids, Total</a>	mg/l	water	3.2	16	64	52	C	78	30
<a href="#">Turbidity</a>	ntu	water	0	37.3	224	61	D	64	25

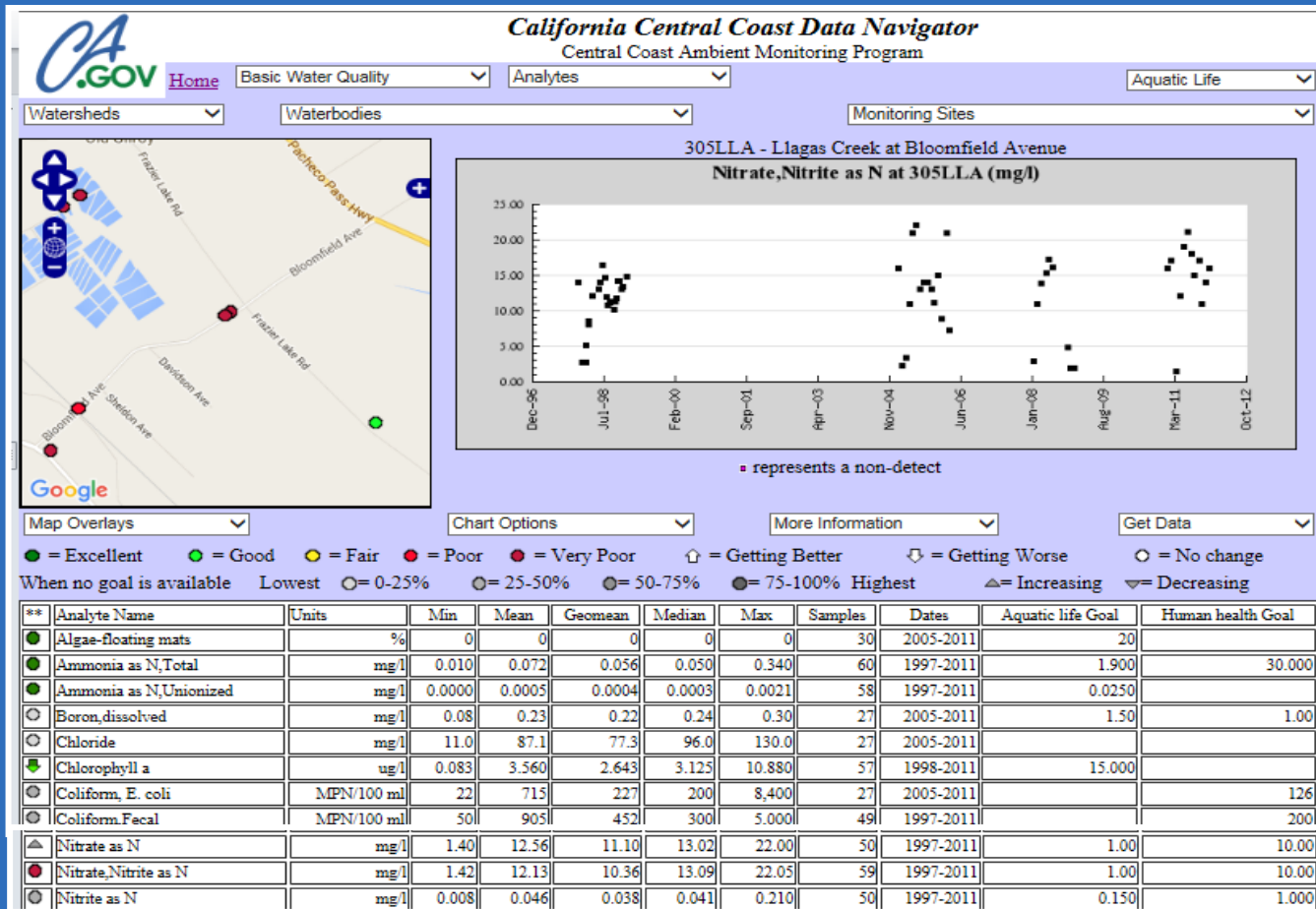
Grades: ● = A+ Outstanding   ● = A Excellent   ● = B Good   ● = C Fair   ● = D Poor   ● = F Very Poor

**Llagas Creek at Bloomfield Avenue (305LLA)**

[Watersheds](#)   [Waterbodies](#)   [Sites](#)

<b>Aquatic Life</b>	<a href="#">Conventional Analytes</a>	<a href="#">Biostimulation</a>	<a href="#">Biology</a>	<a href="#">Toxicity</a>	<a href="#">Metals</a>	<a href="#">Organic Chemicals</a>
<b>D (58)</b>	67	53			90	16
<b>Human Health</b>	<a href="#">Nitrogen Species</a>	<a href="#">Salts</a>	<a href="#">Pathogens</a>	<a href="#">Metals</a>	<a href="#">Organic Chemicals</a>	
<b>D (61)</b>	25	53	30	100	100	

“Report Card” provides index scores for different data types and access to individual analyte scores. It also provides wiki space for written assessments by staff.



Report Card connects to CCAMP Data Navigator to access data, maps, graphs, summary stats, trend analysis and other statistical tools





# California Central Coast Data Navigator

Central Coast Ambient Monitoring Program

[Home](#)

Basic Water Quality

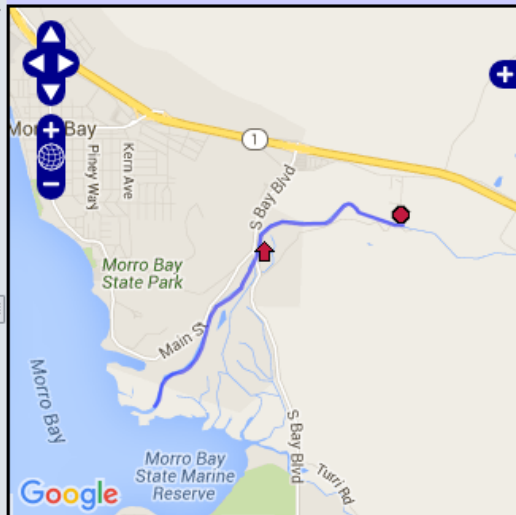
Analytes

Aquatic Life

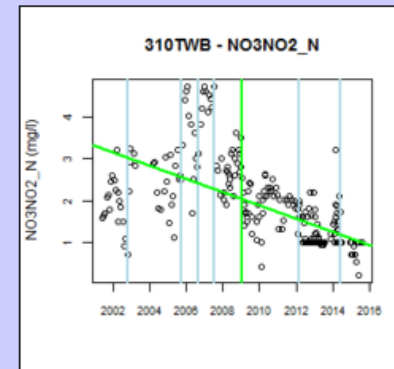
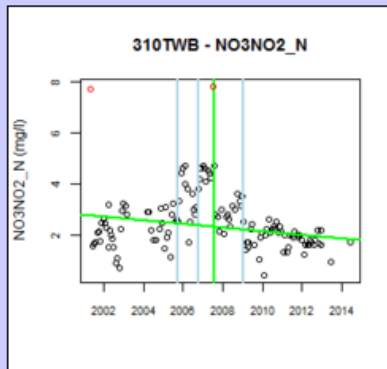
Watersheds

Waterbodies

Monitoring Sites



310TWB - Chorro Creek at South Bay Boulevard  
Nitrate, Nitrite as N



Map Overlays

Chart Options

More Information

[Get Data](#)

● = Excellent   
 ● = Good   
 ● = Fair   
 ● = Poor   
 ● = Very Poor   
 ↑ = Getting Better   
 ↓ = Getting Worse   
 ○ = No change

When no goal is available   
 Lowest   
 ○ = 0-25%   
 ○ = 25-50%   
 ○ = 50-75%   
 ● = 75-100% Highest   
 ▲ = Increasing   
 ▼ = Decreasing

* Analyte	Units	Change	Trend	Date of Change	Mean Before	Mean After	% Change	p-value
Ammonia as N, Total - instantaneous load (NH3_N_L)	mg/l	No change	Decreasing				0%	1
Ammonia as N, Total - modeled load per month (NH3_N_ML)	mg/l	Decreasing	Decreasing	Oct 18 2011	20.8	6.4	-69%	5.3E-5
Ammonia as N, Unionized (NH3U_N)	mg/l	Decreasing	Decreasing	Jul 28 2005	0.0025	0.0008	-68%	0.002128
Ammonia as N, Unionized - instantaneous load (NH3U_N_L)	mg/l	No change	Decreasing				0%	1
Aquatic Life Index (INDEX_AQUATIC_LIFE)	score	Decreasing	No trend		68.2	68	-0%	0
Basic water quality Index - Aquatic Life (INDEX_WQ_AQUATIC_LIFE)	score	Increasing	No trend		71.5	71.9	1%	0
Biostimulation Index (INDEX_BIOSTIM_RISK)	score	Decreasing	No trend		56.6	54.6	-4%	0
Boron, dissolved (BORON_DIS)	mg/l	Decreasing	Decreasing	Jul 16 2009	0.14	0.12	-14%	3.0E-6
Chloride (CHLORIDE)	mg/l	Decreasing	No trend	Jul 16 2009	88.5	96	8%	0.000409

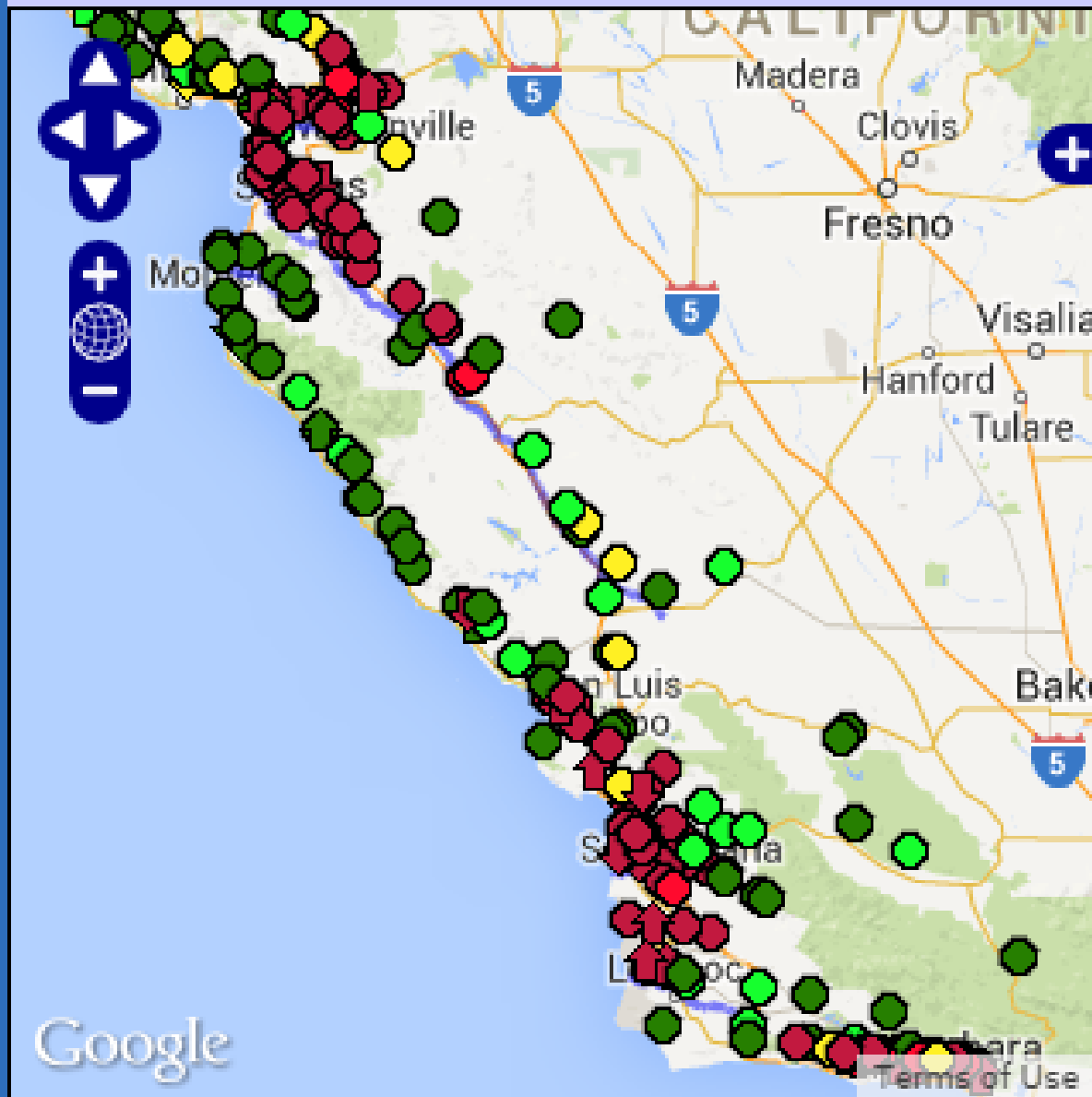
# Scoring Approach

- Adapted from Canadian Water Quality Index (CCME)
- Requires a threshold
- Magnitude and exceedance components
- Follows report card paradigm

<b>A+</b>	<b>Combined score over 95</b>		
<b>A</b>	<b>90</b>	<b>to</b>	<b>100</b>
<b>B</b>	<b>80</b>	<b>to</b>	<b>90</b>
<b>C</b>	<b>65</b>	<b>to</b>	<b>80</b>
<b>D</b>	<b>45</b>	<b>to</b>	<b>65</b>
<b>F</b>	<b>1</b>	<b>to</b>	<b>45</b>

**Outstanding (A+)**  
designation for “Blue  
Water Streams”  
that have an overall  
Index score of 95 or  
higher.

# Scoring at site/analyte level....



# Combining Measures into an Aquatic Life Index

## Sub-Indices

- Conventional Analytes
- Toxicity
- Biostimulatory Risk
- Metals
- Organic Chemicals
- Biology (bugs, algae)
- Habitat

# Integrating Site level data into a spatial assessment of whole watersheds

- Measured data overlaid on modeled data to adjust scoring
- Site scores (including change scores) are attributed to upstream reaches
- Land Use boundaries define spatial extent of scoring

Modeled data  
from California's  
Healthy  
Watersheds  
(CADMUS)  
Assessment

California Stream  
Health Index  
Includes physical,  
biological, and water  
quality layers

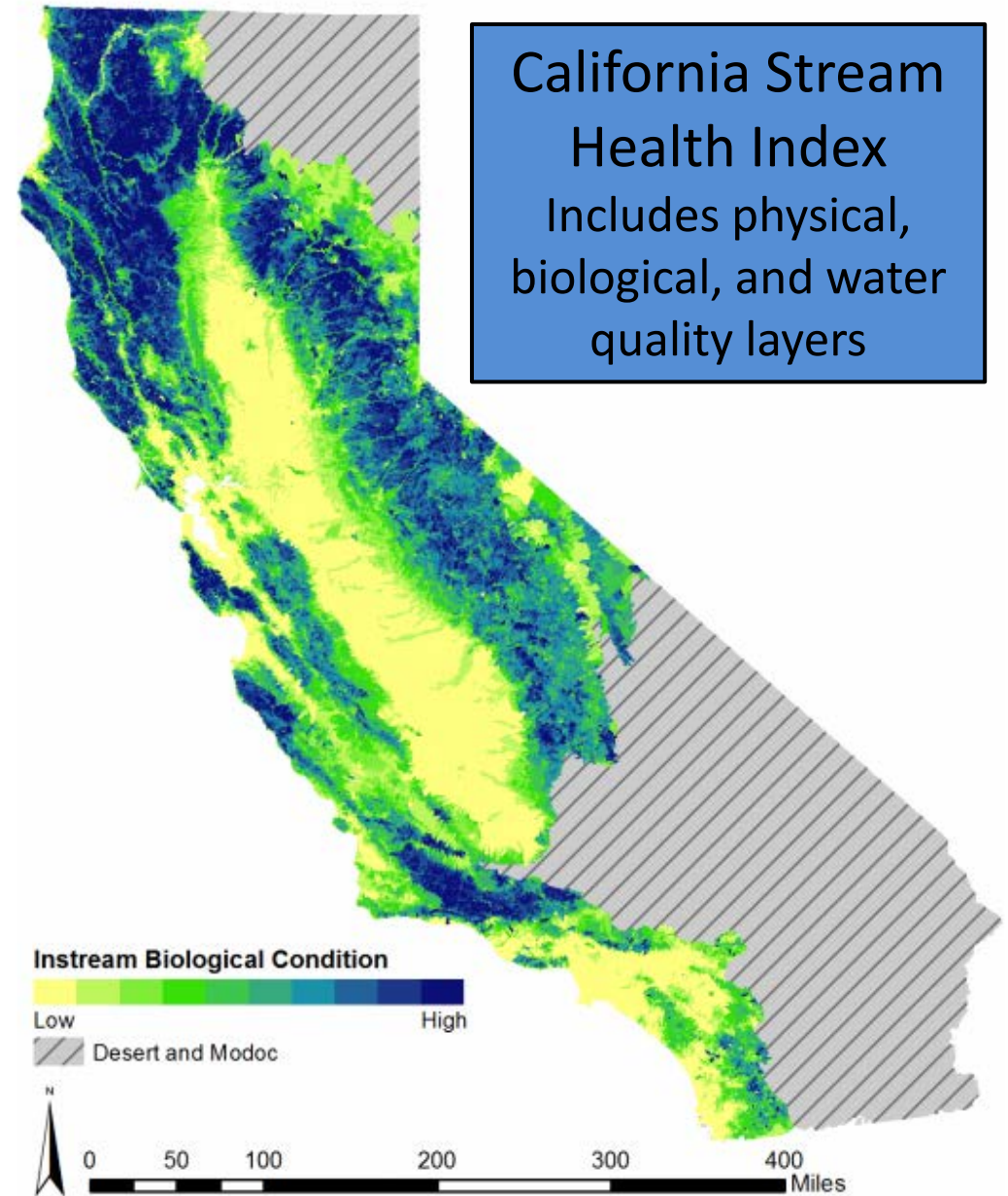
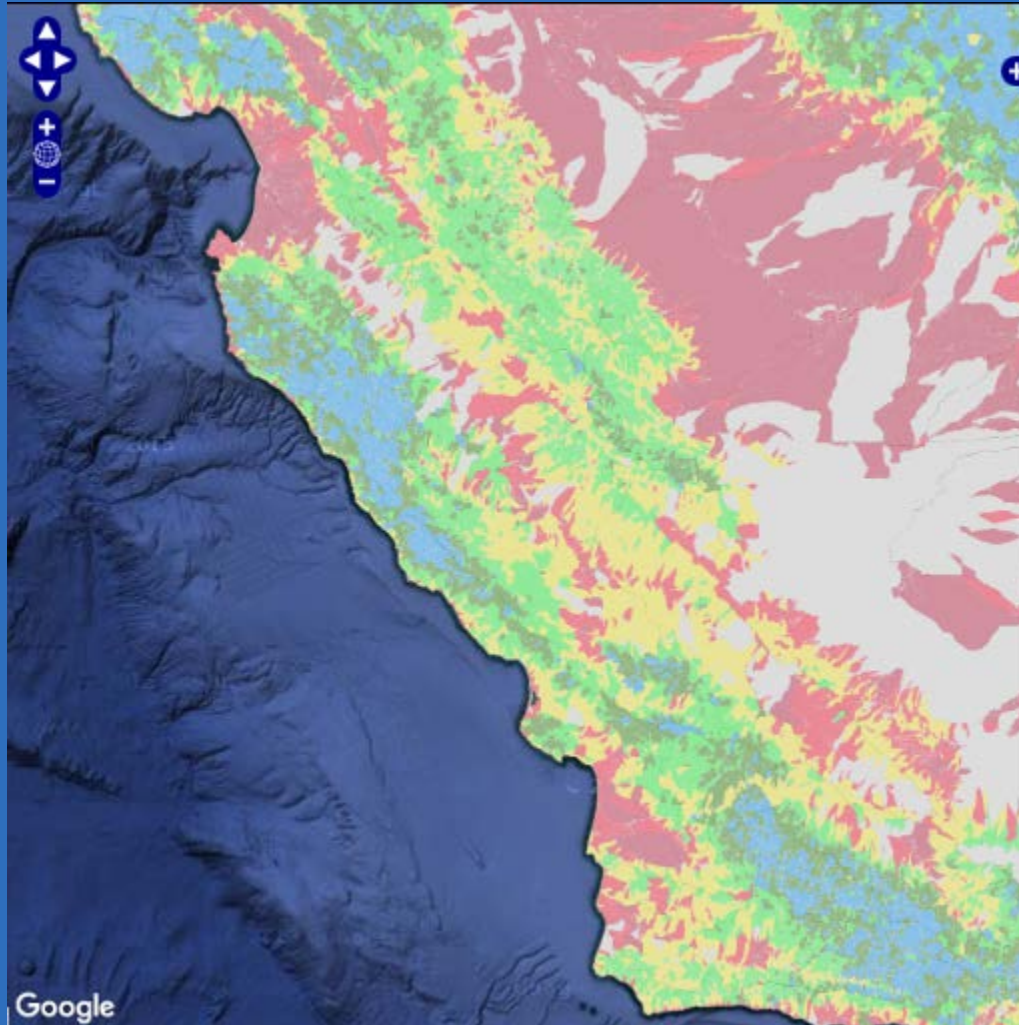
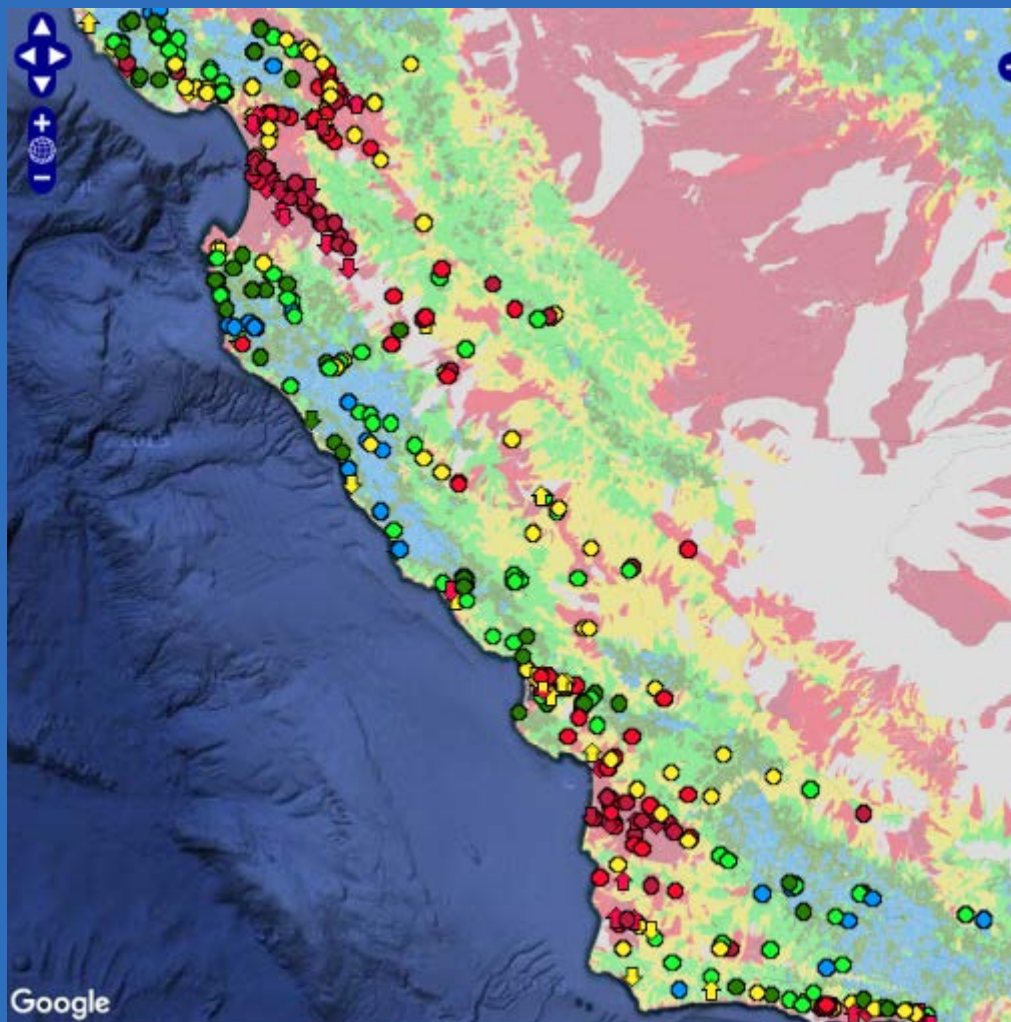


FIGURE 35. INSTREAM BIOLOGICAL CONDITION INDEX SCORES.

# CADMUS Stream Health Index in the Central Coast Region, using report card coloring paradigm

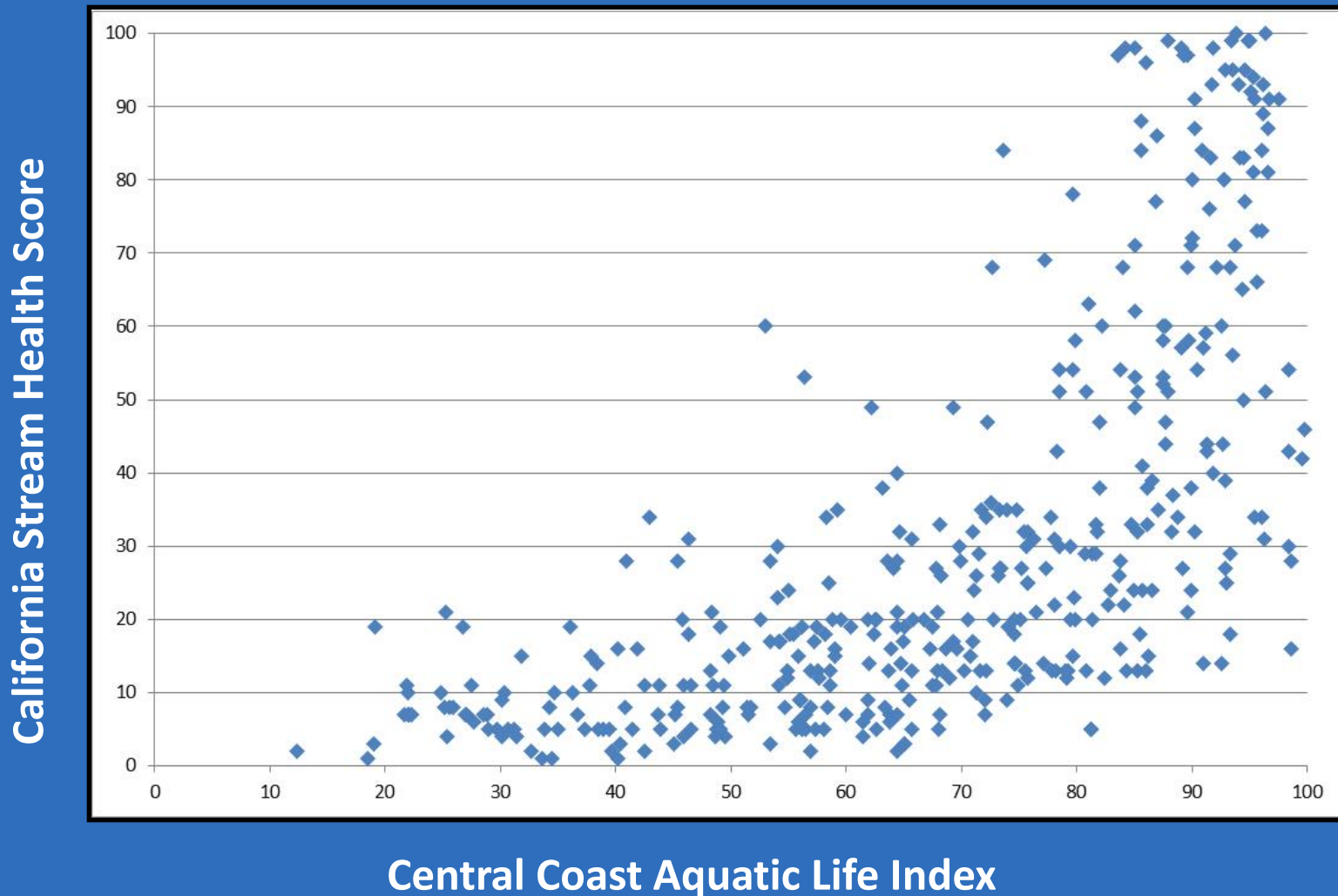


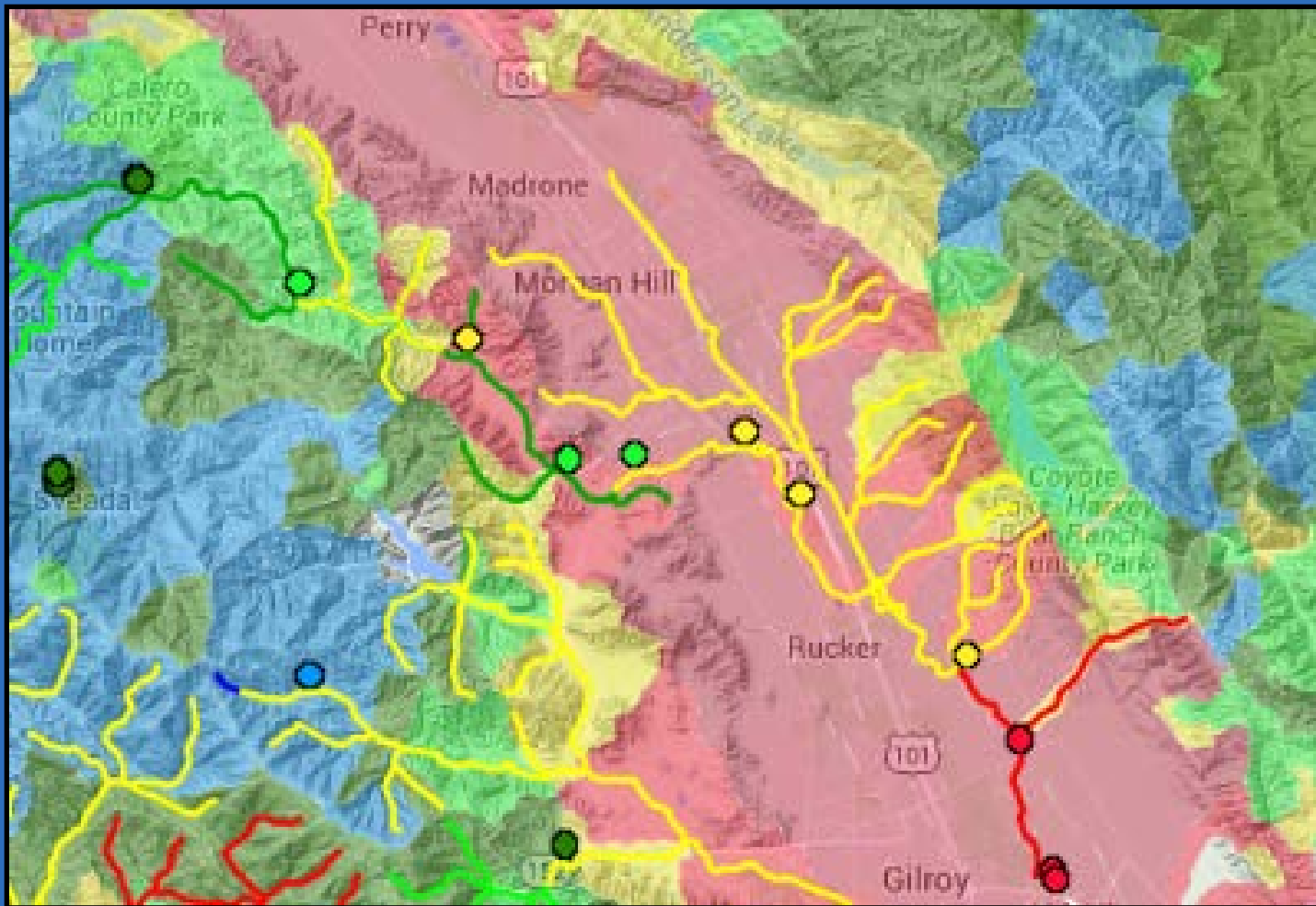
# Central Coast Aquatic Life Index scores and CADMUS Stream Health





# Modeled Stream Health vs. Central Coast Aquatic Life Index (from measured data)



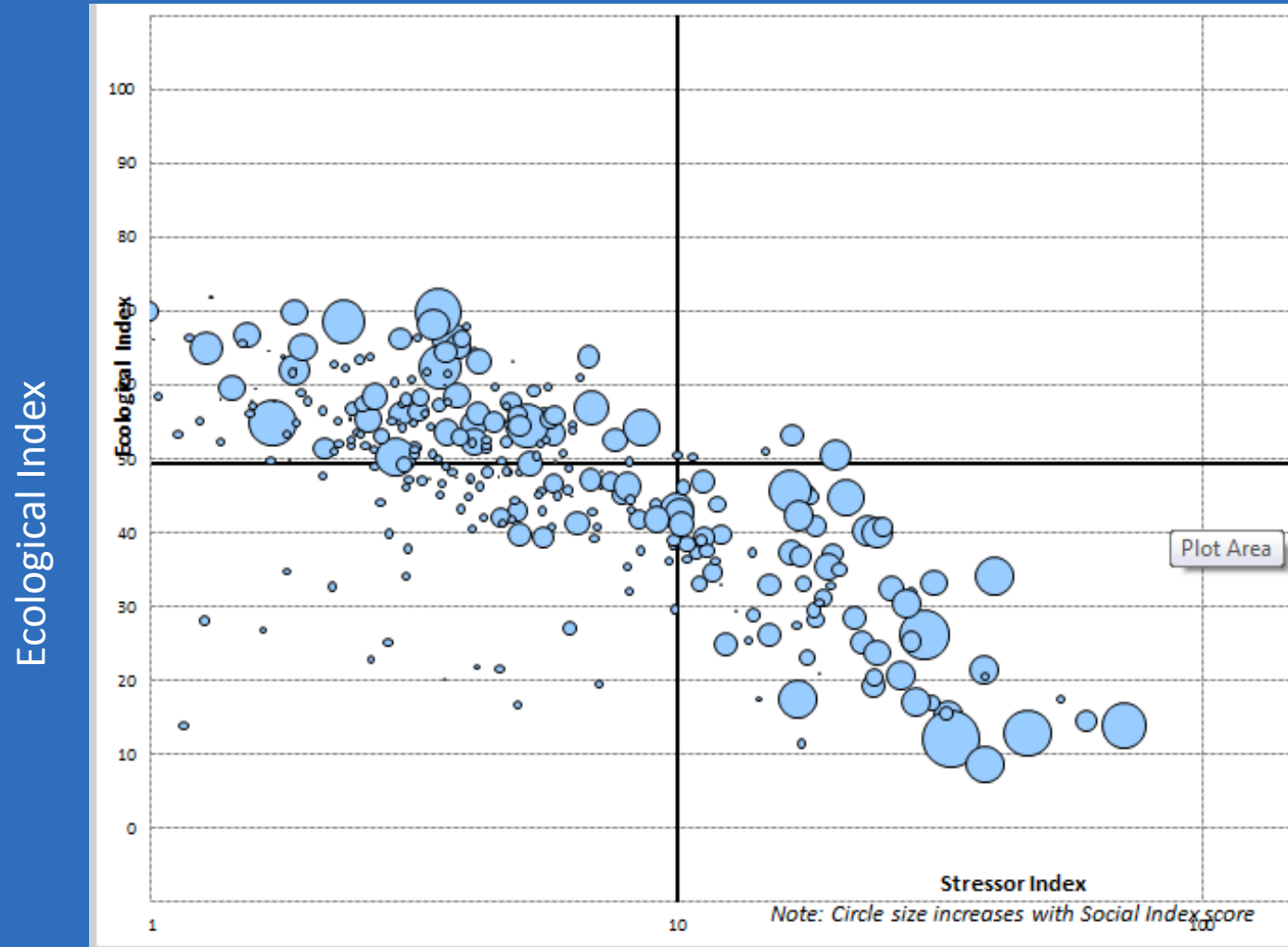


Site scores are modifying upstream reaches, overlaid on California HSP “Stream Health” data layer





Recovery Potential provides a way to assess ability to implement protection and/or recovery for streams and watersheds



Stressor Index

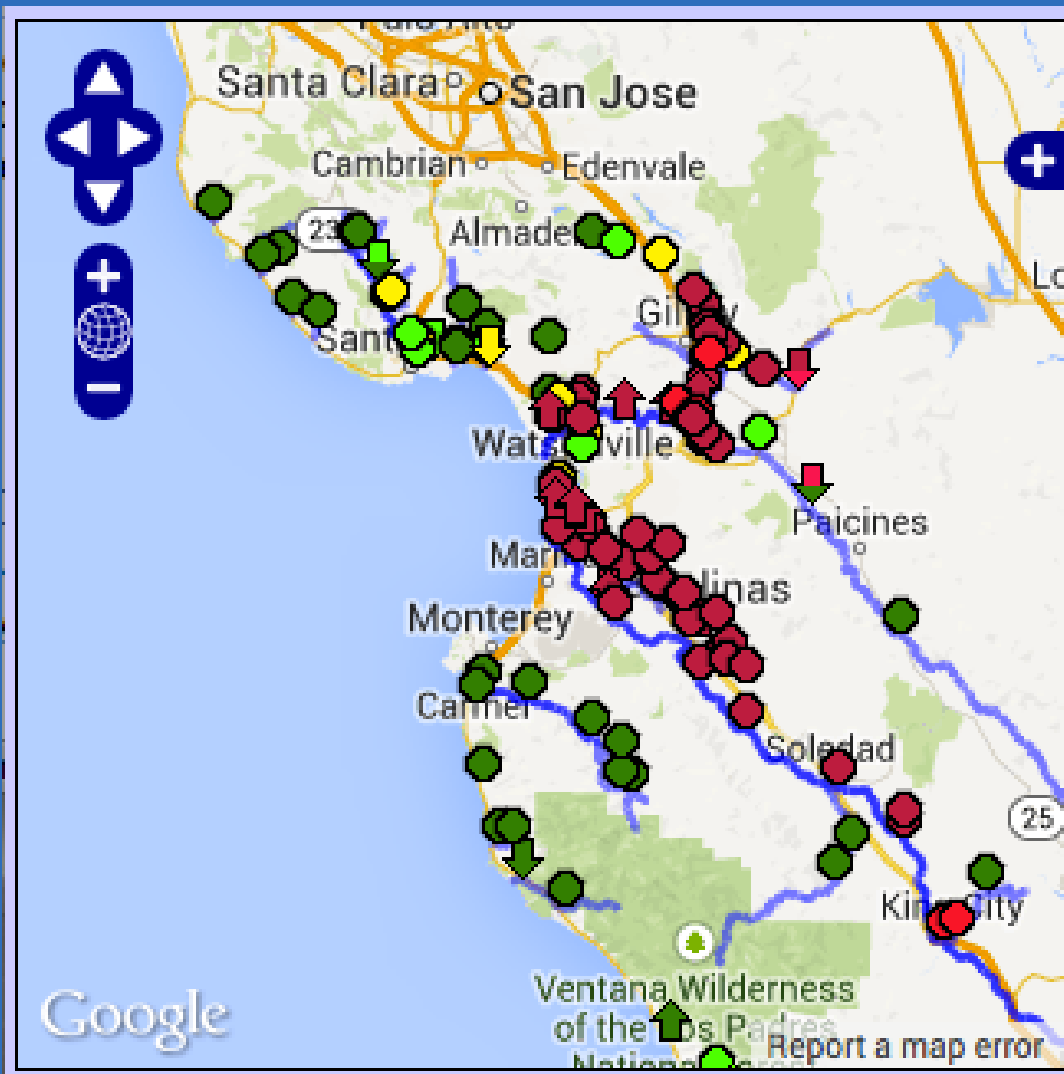
# To support the Open Data Initiative:

- Build tools with compatibility with other systems in mind
- Provide data transfer tools to move data into a standard format to facilitate tool development
- Focus on high priority applications in support of Water Board programs and decision-making (303(d), 305(b), enforcement, TMDL attainment, etc.). Design with the end in mind!

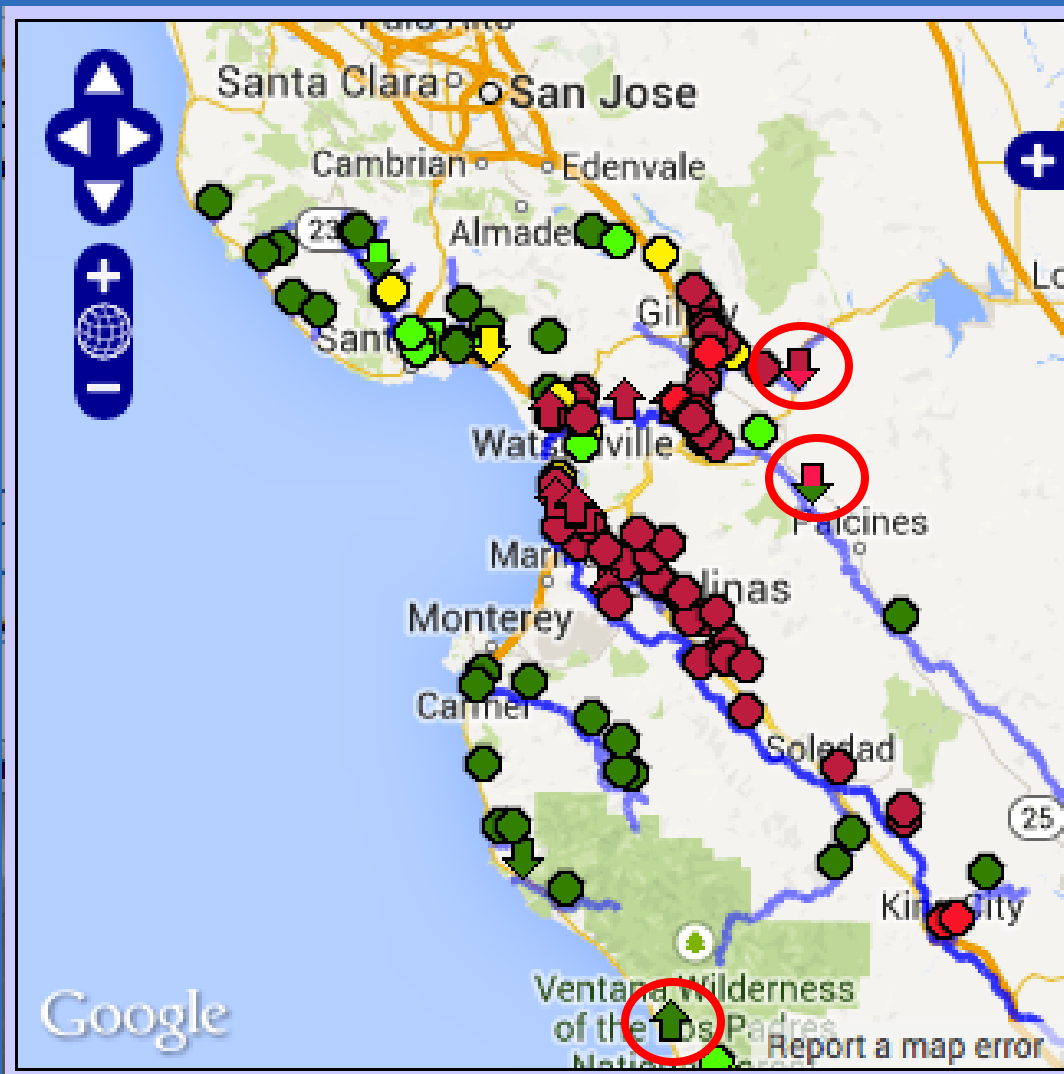






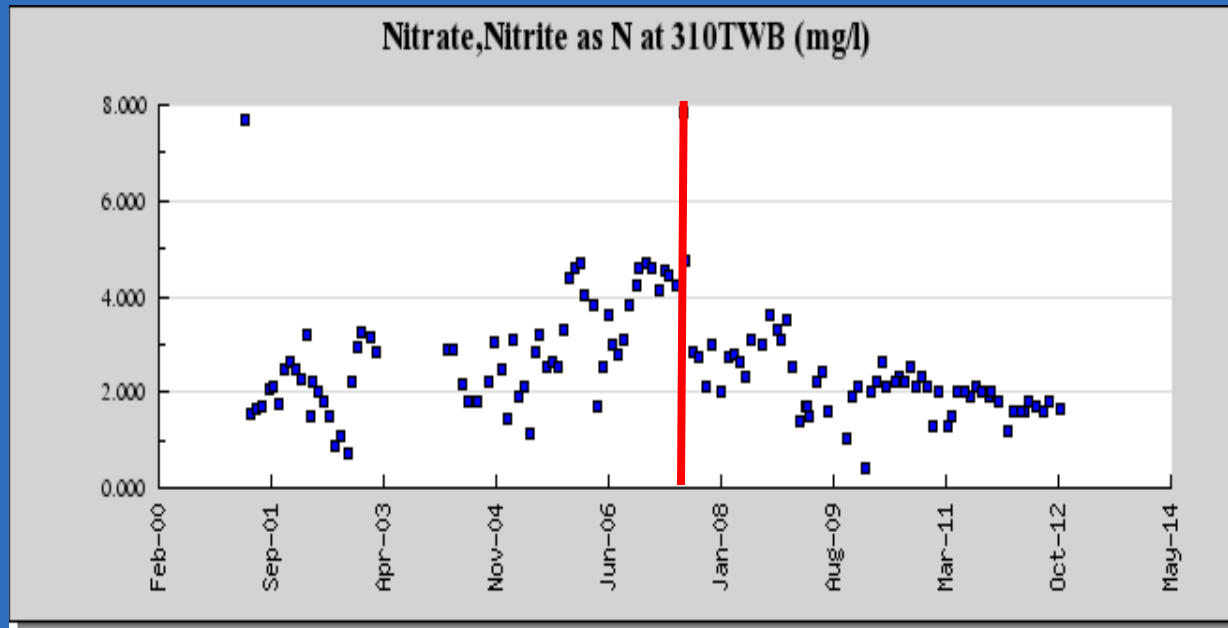


From our website: Nitrate in the Monterey Area



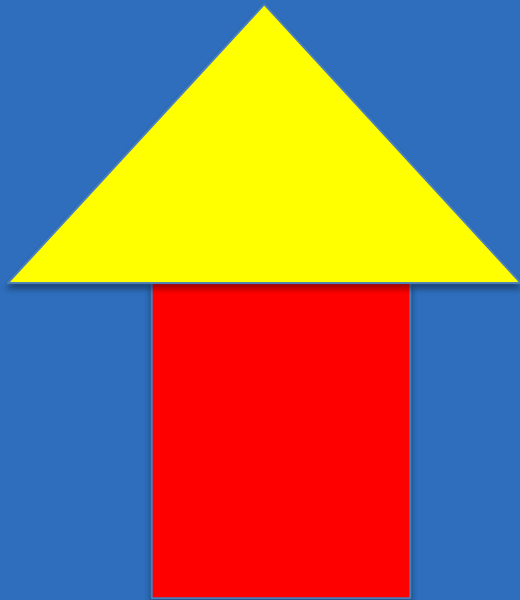
From our website: Nitrate in the Monterey Area  
(note arrow icons denoting change).

# Change Point Analysis defines probable change points in a time series of data



In this case, a treatment plant upgrade went online in May, 2007

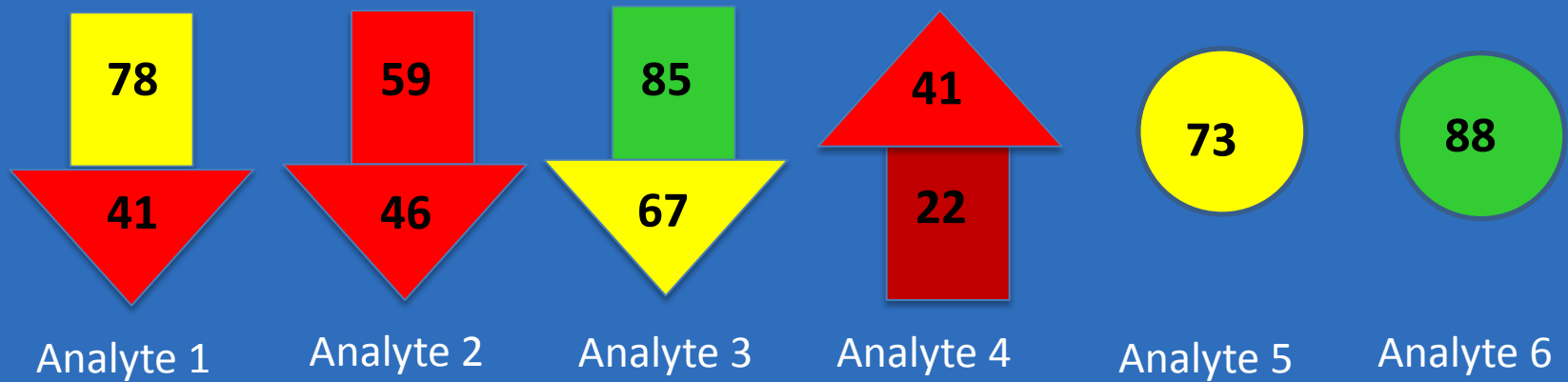
# Apply MEQ scoring to data on each side of Change Point to grade (color) two sections of arrow icon



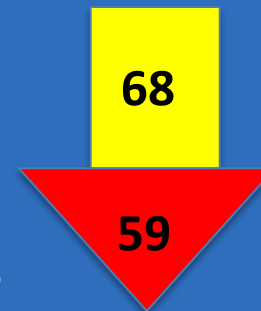
We have found Change Point Analysis to be more useful than traditional trend analysis and are relying on it as our primary change scoring approach.

# One Way to Aggregate Change Across Multiple Measures

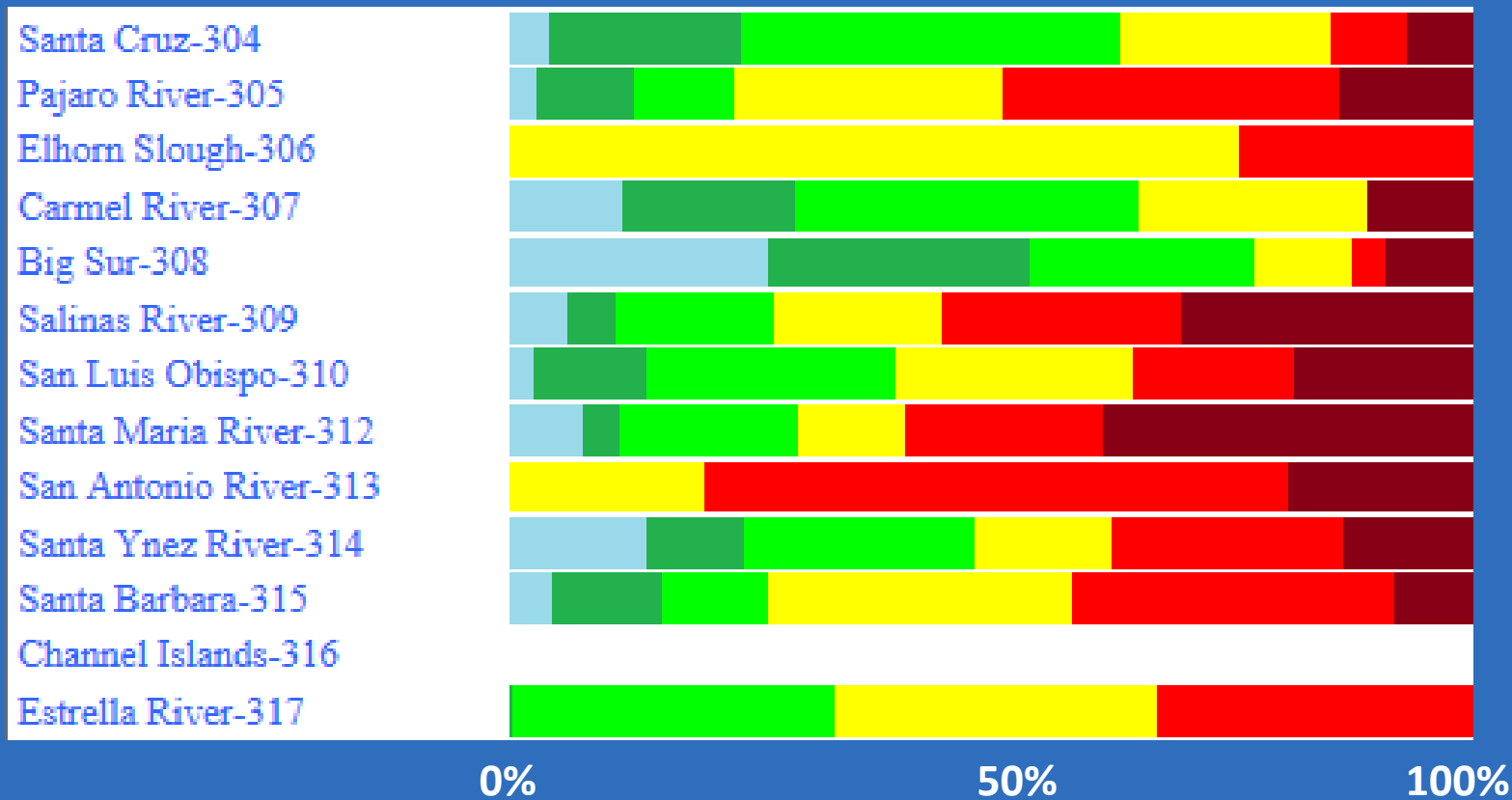
A	100 to 90	
B	90 to 80	
C	80 to 65	
D	65 to 40	
F	45 to 1	



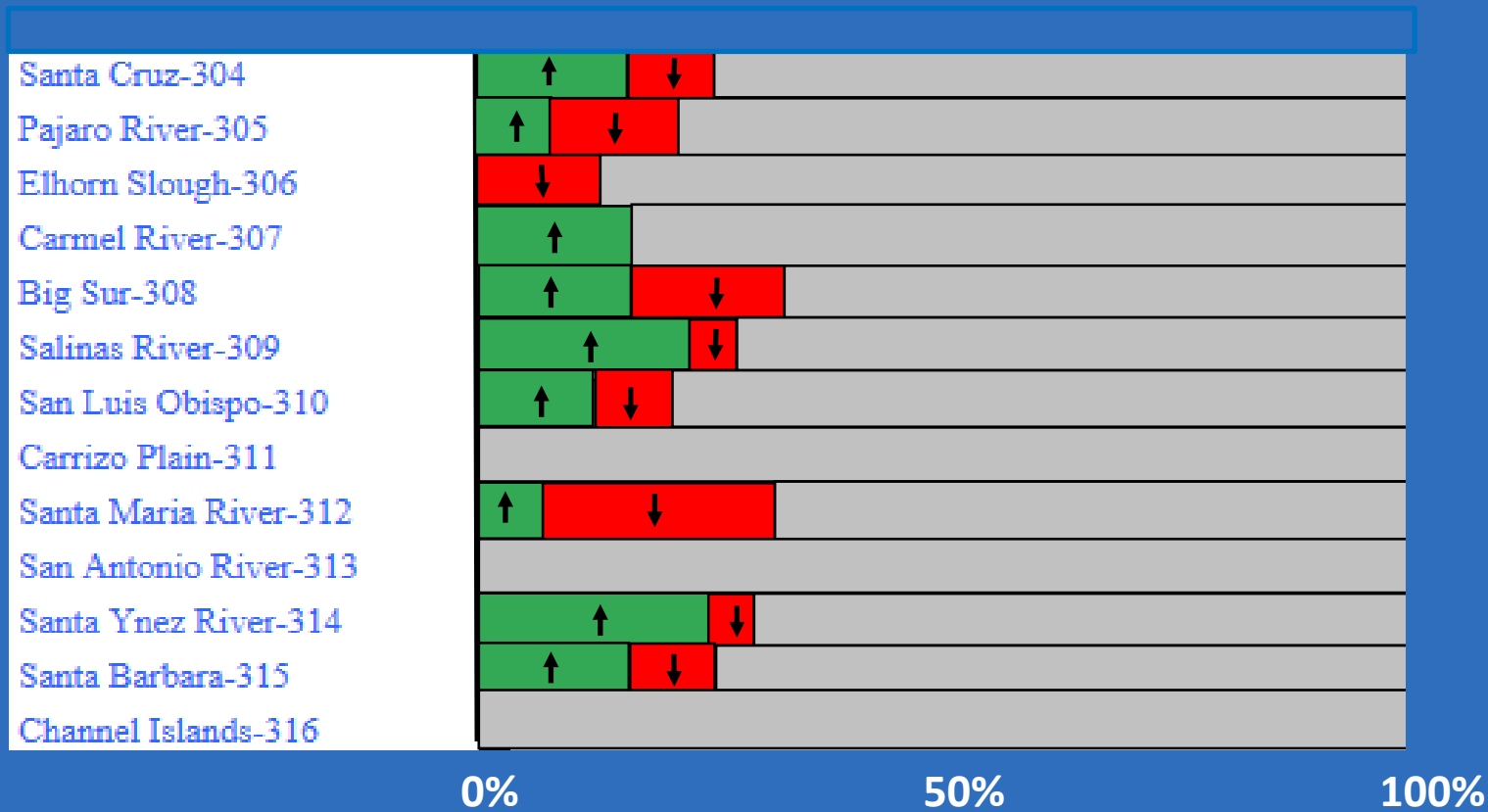
Before period: Mean  $(78 + 59 + 85 + 22 + 73 + 88) = 68$   
 After period: Mean  $(41 + 46 + 67 + 41 + 73 + 88) = 59$



**At the level of the index, the site is getting worse**



## Report Card Scores for Hydrologic Unit areas



**Percent of Hydrologic Unit areas showing improvement (green) or degradation (red) in health scores.**



# California Central Coast Data Navigator

## Central Coast Ambient Monitoring Program

[Home](#)

Basic Water Quality

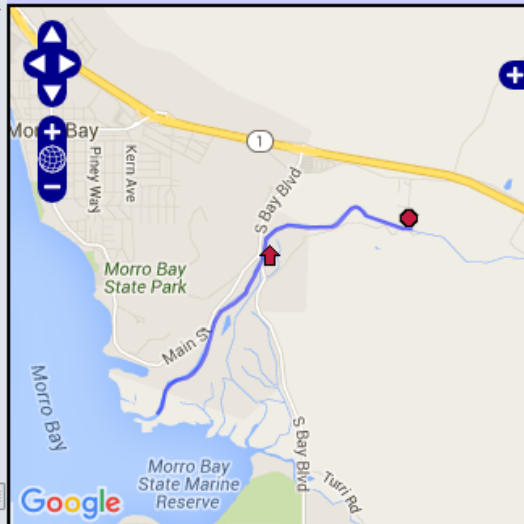
Analytes

Aquatic Life

Watersheds

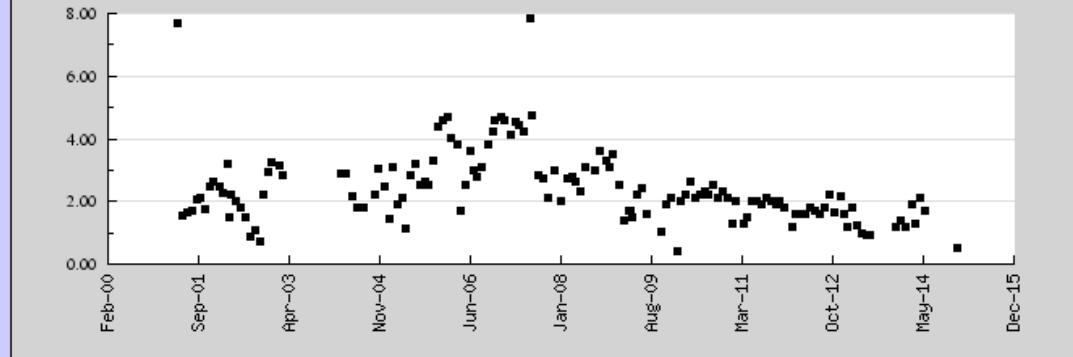
Waterbodies

Monitoring Sites



310TWB - Chorro Creek at South Bay Boulevard

Nitrate,Nitrite as N at 310TWB (mg/l)



■ represents a non-detect

Map Overlays

Chart Options

More Information

Get Data

● = Excellent

● = Good

● = Fair

● = Poor

● = Very Poor

↑ = Getting Better

↓ = Getting Worse

○ = No change

When no goal is available

Lowest

○ = 0-25%

○ = 25-50%

○ = 50-75%

○ = 75-100% Highest

△ = Increasing

▽ = Decreasing

**	Analyte Name	Units	Min	Mean	Geomean	Median	Max	Samples	Dates	Aquatic life Goal	Human health Goal
⊙	Algae-filamentous	%	0	22	15	5	100	25	2001-2004	50	
●	Algae-floating mats	%	0	0	3	0	10	107	2005-2015	20	
●	Ammonia as N,Total	mg/l	0.010	0.046	0.035	0.030	0.360	144	2001-2014	1.900	30.000
↑	Ammonia as N,Unionized	mg/l	0.0001	0.0015	0.0008	0.0007	0.0368	140	2001-2014	0.0250	
▽	Boron,dissolved	mg/l	0.01	0.13	0.12	0.11	0.26	133	2001-2014	1.50	1.00
▽	Chloride	mg/l	29.0	83.1	79.5	83.0	130.0	134	2001-2014		
↓	Chlorophyll a	ug/l	0.000	2.634	1.422	1.600	35.920	136	2001-2015	15.000	
○	Coliform, E. coli	MPN/100 ml	4	402	87	86	19,000	109	2005-2014		126
⊙	Coliform,Fecal	MPN/100 ml	8	664	142	155	50,000	140	2001-2014		200
⊙	Coliform,Total	mpn/100 ml	46	4,810	1,171	920	160,000	139	2001-2014		1,000
▽	Dissolved Solids,Total	mg/l	270.0	611.6	604.8	610.0	890.0	141	2001-2014		500.0



**AQUATIC LIFE GOAL: 80% of aquatic habitat is healthy; remaining 20% exhibit positive trends in key parameters**

**INTEGRATION OF:**

- I. Multiple data types into a report card assessment of “healthy aquatic habitat”
- III. Trends in analytes, indices and spatial areas
- II. Site level data and modeled data into a spatial assessment of whole watersheds