

Initiate and Sustain Collaboration by Focusing on the Delivery of Information to the User

Jon B. Marshack, D.Env.

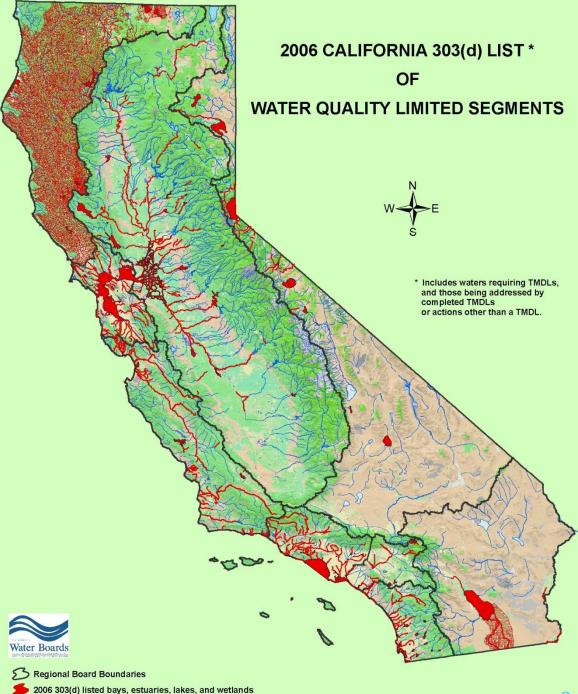
Monitoring Council
Coordinator

State Water Resources
Control Board

Everyone Needs Data

- 211,000 miles of rivers & streams
- 1.6 million acres lakes
- 1,100 miles of coastline
- 1.3 million acres of bays and estuaries
- 15 million acre-feet
 of groundwater
 extracted per year

The Water Quality & Ecosystem Information Problem



The Response – Senate Bill 1070

- Became state law in 2006
- Required formation of California Water Quality Monitoring Council
- Memorandum of Understanding between
 - California Environmental Protection Agency
 - California Natural Resources Agency
- By December 1, 2008:
 Monitoring Council recommendations
 - Maximize efficiency and effectiveness of existing water quality data collection and dissemination
 - Ensure collected data available to decision makers and public
- Comprehensive Monitoring Program Strategy for CA

Monitoring Council Members























The Monitoring Council's Solution

Don't get mired in technical details!

- Focus first on streamlined data access
 - Theme-based web portals
 - Directly address users' questions
 - Single global point of entry
- Theme-specific workgroups



Overarching Monitoring Council guidance

Theme-Specific Workgroups

Issue-experts represent key stakeholders

Monitoring Council

Develop web portal

Develop monitoring & assessment methods & data management procedures

Achieve standardization to meet users' needs

Coordinate monitoring programs

Role of the Monitoring Council

- Establish policies and guidelines
- Clearinghouse for standards, guidelines & collaboration
- Resolve key issues
- Provide support
- Improve visibility



My Water Quality website and portals illustrate Monitoring Council's vision

www.CaWaterQuality.net



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CALIFORNIA WATER QUALITY MONITORING COUNCIL

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Home

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.





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. [Future Portal]



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>>

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My Beach | Recent Conditions | Trends | Closures & Postings | Impaired Beaches | Improvements |

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Home ->> Safe To Swim

Is It Safe to Swim In Our Waters?







Beach water quality monitoring and strong pollution prevention measures are critical for protecting beach goers from waterborne diseases. Monitoring is performed by city and county health agencies, publicly owned sewage treatment plants, other dischargers, environmental groups and numerous citizen-monitoring groups.

View Monitoring and Assessment Information

- Click on a county or;
- ->> Select from the Show County Info menu.

QUESTIONS ANSWERED

- Can I swim at my beach, lake, or stream?
- How clean was my beach, lake, or stream during the past week or month?
- What are the long-term trends at my beach, lake, or stream?
- Which beaches, lakes, and streams are currently closed by county health agencies?
- -> Which beaches, lakes, and streams are listed by the State as impaired?
- Are the problems getting better?

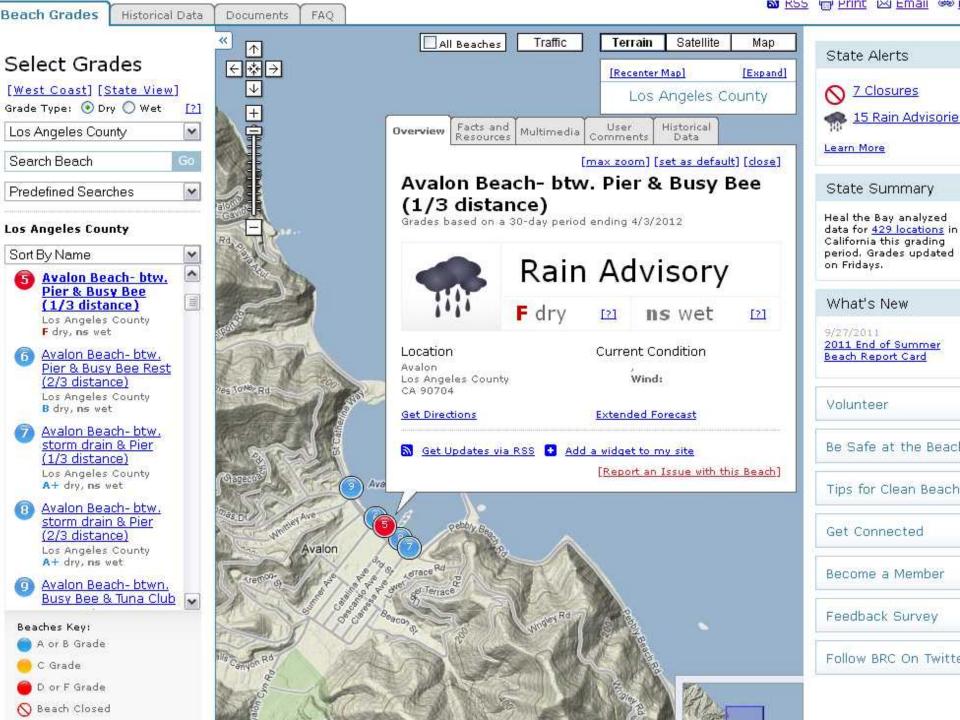
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My Beach | Recent Conditions | Trends | Closures & Postings | Impaired Beaches | Improvements |

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SAFE TO SWIM LINKS

- Pollution Sources & Health Risks
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- Regulatory Activities
- ->> Enforcement Actions
- Research
- Monitoring Programs, Data Sources & Reports

Home ->> Safe To Swim ->> Trends

What are the Long-Term Bacteria Trends at My Beach, Lake, or Stream?



Show county Santa Barbara Мар Guage Gaviota State Beach Station ID: WP0000079 34.470944 N 120.225389 W 1 + 不 Sample location: Gaviota State Beach county: Santa Barbara Sampling agency: Santa Barbara Environmental Health Department of Environmental Health 0 Lompoc Buellton National Las Cruo Montecito Vista Carpinte Barbara O Fecal coliform O Total coliform Enterococcus 10K Date: 9/27/10 Result: 591 18 Count 100 100ml 10

01/0301/0401/0501/0601/0701/0801/0901/1001/1101/12

Understanding trends allows decision makers to determine whether pollution sources are increasing in magnitude and/or frequency and the effectiveness of control measures.

View Trends in Bacterial Indicator Levels

The interactive map below provides sampling results for coastal beach monitoring locations over time. A few county health agencies provide creek and lake information along with ocean beach information. Otherwise, lake and stream information is currently unavailable electronically.

- To find bacterial sample results for a particular site, first select the county, then click on a site location. The results will appear to the right of the map. Results may take time to appear.
- Place your mouse cursor over a point on the chart to see the date and sample result for a particular sample event.

Horizontal lines on the charts represent bacterial water quality objectives specified in the 2005 California Ocean Plan.

- Red is the Single Sample Maximum objective. Sample points above this line represent violations of the objective.
- Blue is the 30-day Geometric Mean objective - the geometric mean of the five most recent samples from each site. Note: Individual sample results above this line do not necessarily represent violations.

National Beach Closures and Postings

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Comsumption Advisories | Recent Conditions | Data & Trends | Impaired Waters | Improvements |

County:

Woodland

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Home → Safe To Eat → Consumption Advisories

Can I Eat Fish or Shellfish Caught in My Lake, Stream, or Ocean Location?

Water Body:



Yuba		· ·
☑ Show county		
Durham (149)	Lake Ornville Strawberry	Map ▼
Oro	A State Recreation Area ville Oroville	↑
Biggs Soro	ville East Challenge-Brownsville Palermo	(e
Gridley (70)	J. January	目
	Coma Rica (49) Nevada	
Live O	Widwood Grass Valley	
Mendian Yuba City Ma	71.000.01	¥-
South Yuba City	Olivehurst Deale Arb (49)	Colfax
3		Foresthill eadow
ME XIV	North Auburn	Georgetown
20 /	Lincoln	Georgetom
	Rocklin	Star Se
(may	North Roseville Granite Bay	Placerville
~ \ \ \ \ \	Highlands Citrus Folsom	Diamond Springs

Heights

Cameron

Fish and Shellfish Consumption Advisories by Location

There are health benefits from eating fish and shellfish. But, some fish and shellfish may contain chemical or biotoxin contaminants that could pose health risks. When contaminant levels are unsafe, consumption advisories may recommend that people limit or avoid eating certain species of fish caught in certain places and at certain times.

California Sport Fish Consumption Advisories

For a number of California water bodies, the Cal/EPA office of Environmental Health Hazard Assessment (OEHHA) publishes consumption advisories for chemicals in noncommercial fish which you and your family or friends catch.

These advisories are shown on the map to the left.

- Click on a water body (shown in purple), or
- Select (or type) the county in the County box, then select the water body from the Water Body menu, or
- Select (or type) the water body name directly in the Water Body box
- Use the magnifier tool to zoom into an area of interest (more highlighted water bodies will appear).
- How does OEHHA develop fish consumption advisories and safe eating

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Can I Eat Fish or Shellfish Caught in My Lake, Stream, or Ocean Location?

Water Body:





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Fish Advice

- Department of Fish and Game Sport Fish Regulation Books
 Department of Public Health
- Fish Information
- ->> Sacramento-San Joaquin Delta Fish Mercury Project
- Southern California Fish Contamination Education Collaborative

LISTSERVS

- ->> OEHHA Listserv
- Biomonitoring Listserv
- ->> Fish Listserv
- Northern California Spill Alert
- ->> Prop. 65 Listserv
- Southern California Spill Alerts

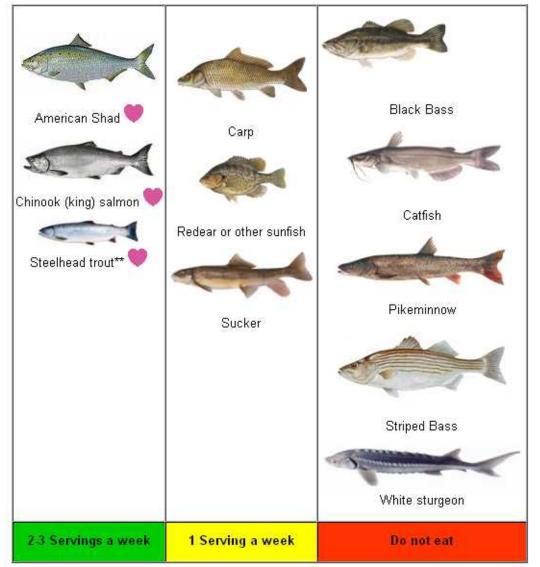
CONTACT OEHHA

- → Help!
- → Contact OEHHA Staff

SAFE EATING GUIDELINES FOR FISH FROM THE LOWER FEATHER RIVER (BUTTE, YUBA AND SUTTER COUNTIES) [08/11/06, UPDATED 03/18/09, UPDATED 02/15/12]

Safe Eating Guidelines for the Lower Feather River

Women 18 – 45 and Children 1 – 17 Years



"" HUW LU FUHUW

- » Women & Children
- Alternate Languages
 - ->> Pescado
- Chemicals in Fish
 - ->> DDTs
 - Dieldrin
 - Mercury
 - ->> PCBs
 - W 1.3
- Advisory Map
- Reports
 - -> Angler Survey
 - -> Fish Consumption
 - Advisory Tissue Levels
- Oil Spill Information
- → Links

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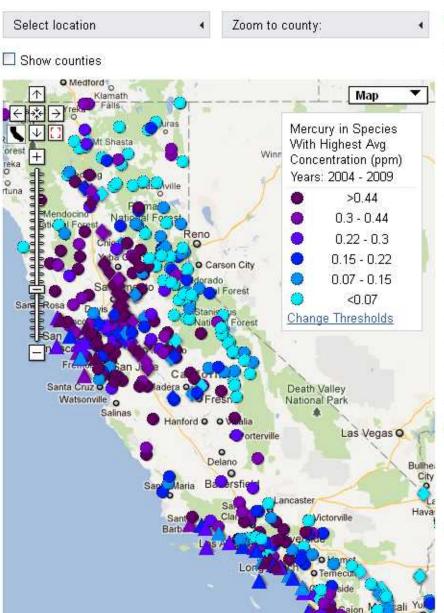
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What are the Levels and Long-Term Trends in My Lake, Stream, or Ocean Location?





Contaminant Data

This interactive map allows you to explore fish contaminant data for your fishing locations. Data are available from extensive monitoring by SWAMP of lakes and reservoirs in 2007 and 2008, from the coast in 2009, and from other studies. Data from 2007-2009 are shown by default. Map Instructions



More Information

- -> Monitoring programs and reports
- ->> Access Complete Datasets from CEDEN
- -» Assessment thresholds

This map shows data generated by:









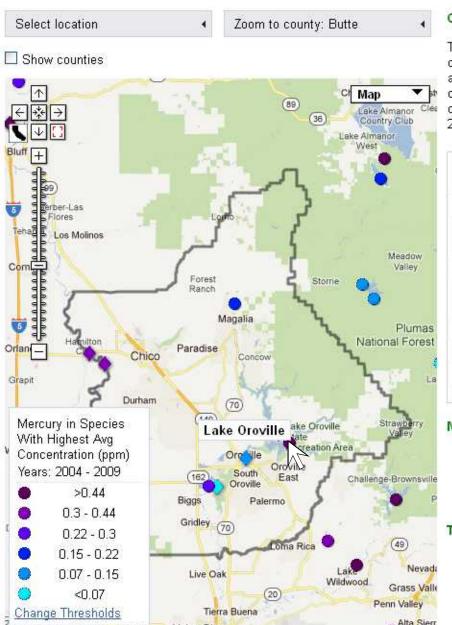
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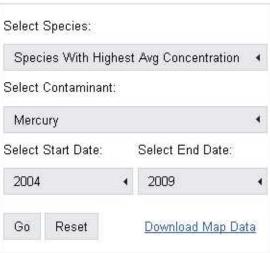
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This map shows data generated by:







0.07 - 0.15

< 0.07

Change Thresholds

Live Oak

Tierra Buena

(20)



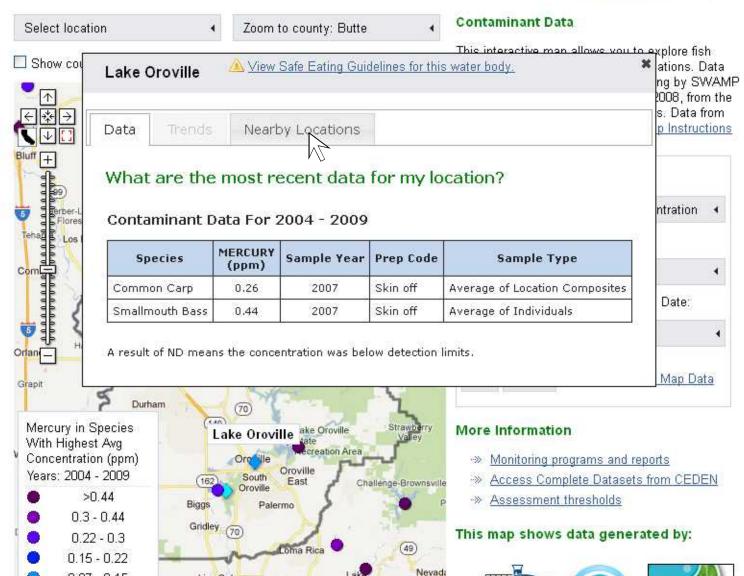
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Wildwood

Grass Valle

Alta Sierr

Penn Valley

Powered by



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What are the Levels and Long-Term Trends in My Lake, Stream, or Ocean Location?





How does my location compare to nearby water bodies?

Change Species Parameter

● Highest ○ Lowest

6

Orland

Grapit

Merc With Cond Years

Nearby Water Body	Distance (mi)	Species With Highest Average Concentration	MERCURY (ppm)	Sample Year	Prep Code
Feather River Hatchery	7	Steelhead Rainbow Trout	0.09	2006	Skin off
Feather River at Oroville Outlet	13	American Shad	0.05	2006	Skin off
Thermalito Afterbay	14	Common Carp	0.24	2007	Skin off
Collins Lake	16	Largemouth Bass	0.38	2008	Skin off
Bullards Bar Reservoir	18	Largemouth Bass	0.4	2008	Skin off
Harry L Englebright Lake	21	Sacramento Sucker	0.62	2008	Skin off
Paradise Lake	23	Largemouth Bass	0.16	2008	Skin off
Bucks Lake	26	Rainbow Trout	0.02	2008	Skin off
Little Grass Valley Reservoir	26	Rainbow Trout	0.02	2008	Skin off
Lower Bucks Lake	26	Kokanee	0.1	2007	Skin off

A result of ND means the concentration was below detection limits.







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Which Lakes, Streams, or Ocean Locations Are Listed By The State As Impaired?





This interactive map shows which of California's waters are listed as impaired for uses related to fish or shellfish consumption by humans and which pollutants are involved. Also shown are the Total Maximum Daily Load (TMDL) projects to reduce pollutants to acceptable levels.

View 2006 303(d) Listing and current TMDL Information:

- Click on a water body (shown in red), or
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- Click on the state outline tool to return to a statewide view

Impaired Water Bodies

Listing a water body as impaired in California is governed by the State Water Board's 303(d) Listing Policy Water Boards



The State and Regional Water Boards assess water quality data for California's waters every two years to determine if they contain pollutants at levels that exceed protective water quality criteria and standards. This biennial assessment is required under Section 303(d) of the federal Clean Water Act.

The map shows California waters that were placed on the State's most current (2006) 303(d) list and which pollutants they contain that adversely impact Office of Governor

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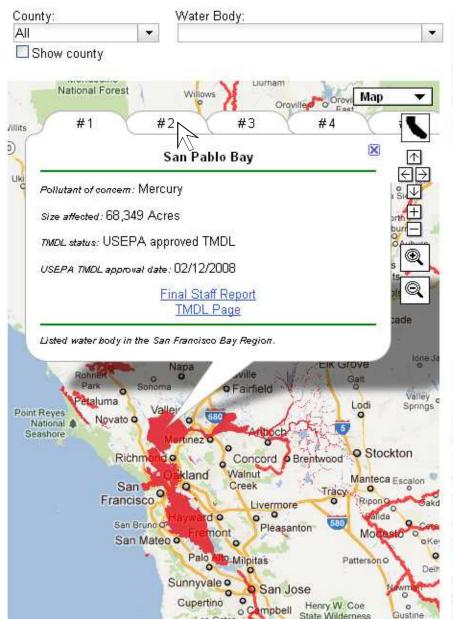
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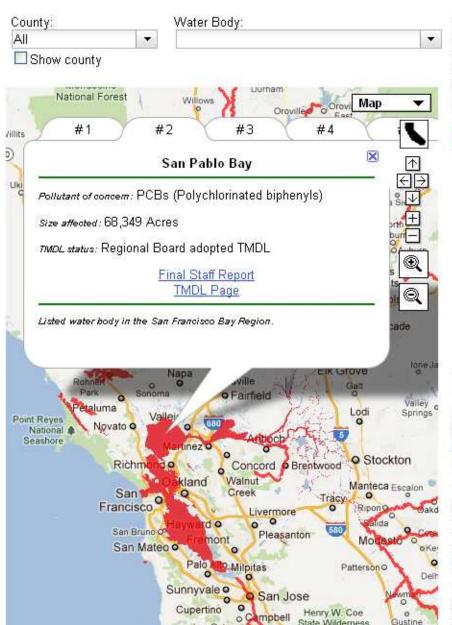
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Wetlands | Estuaries | Streams, Rivers & Lakes | Ocean

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Home → Aquatic Ecosystem Health



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AQUATIC HEALTH LINKS

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Are Our Aquatic Ecosystems Healthy?

California has many types of aquatic habitats. Follow the links below to learn more...



WETLANDS

Wetlands form along the shallow margins of deepwater ecosystems such as lakes. estuaries, and rivers. They also form in upland settings where groundwater or runoff makes the ground too wet for upland vegetation. More >>



ESTUARIES

Estuaries are unique habitats found where rivers and the ocean mix. They feature a diverse array of plants and animals adapted to life along this mixing zone. [Future Portal]



STREAMS, RIVERS & LAKES

California's streams and rivers flow through diverse habitats, from mountain canvons, valleys, deserts, estuaries and urban areas. Riparian woodlands develop along stream banks and floodplains, linking forest, chaparral, scrubland, grassland, and wetlands. California lakes, supporting deep water, wetlands, riparian woodlands, offer a quiet refuge for plants, animals and humans alike. [Future Portal]



OCEAN

California has 1,100 miles of shoreline and 220,000 square miles of state and federal oceanic habitat, featuring one of the world's most diverse marine ecosystems. [Future Portal]

California

Bay Area

Project List

Мар

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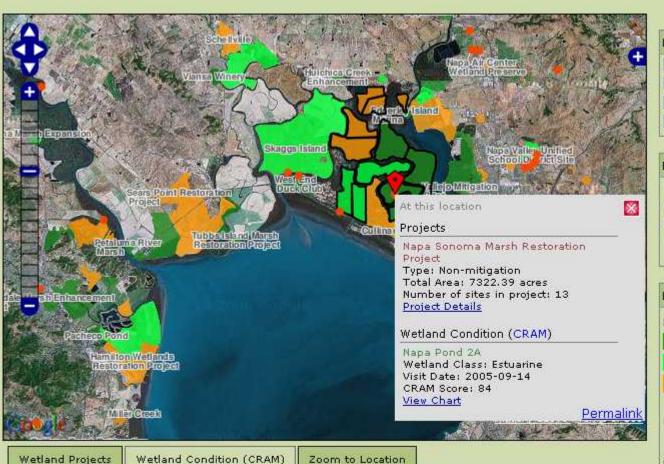
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California Wetlands Monitoring Workgroup

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Visit Date Overall Score **CRAM Site Hame** Wetland Class Riverine Non-confined Above Anderson Dam- Shell Crossing 2010-11-12 84 Above Coyote Lake Riverine Non-confined 2010-11-12 72 Adobe Creek at Petaluma Adobe State Park Riverine 2005-08-16 Riverine Confined Alamo Creek 2009-01-23 77 Alamo Creek Riverine Non-confined 2010-10-06 63 Alhambra Creek at Martinez AEC - Restored Riverine Unconfined 2007-11-18 49 Alhambra Creek - Refernce Riverine Unconfined 2007-11-29 43

Need help using this m

Layers

Wetland Projects

Condition (CRAM) Modern Habitats

Historical Habitats

Background

O Basic

USGS Topo Maps

Google Satellite

O Google Terrain

Legend

Projects

Construction complete Construction in-progra

Construction planned



Approximate boundar

Condition



CRAM Assessment

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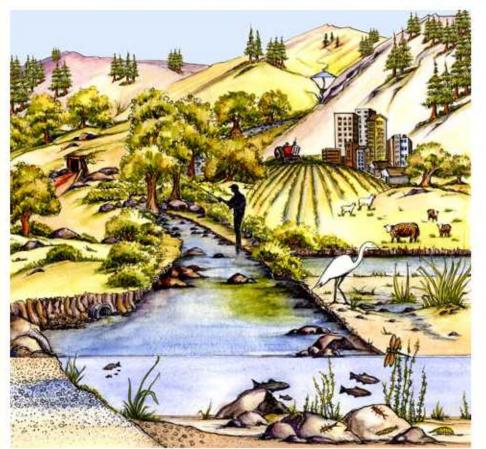
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- Monitoring Programs. Data Sources & Reports

California Streams, Rivers and Lakes



Urban | Agriculture | Other Uses | Fines & Sands| Gravels | Cobbles & Boulders | Riffles & Rapids | Buffer | Riparian Cover | Pools | Groundwater | Water Quality | Sediment Quality | Stream Gradient | Channel Stability | Channel Alteration | Algae | Bugs | Fish | Fish Contaminants

Also see: Hydrologic Connectivity | Hydrologic Sufficiency | Invasive Species | Sediment Balance



Healthy streams, rivers, and lakes provide safe drinking water, recreational opportunities, and important habitat for species ranging from the red-shouldered hawk to steelhead to crayfish and dragonflies. Maintaining healthy streams, rivers, and lakes can reduce the need for water treatment and water supply costs and make landscapes more resilient to climate change. To determine the health of a waterway and the flora and fauna that live there, investigators can use a combination of chemical, biological, and physical assessments. Among the characteristics that may be considered are habitat quality, aquatic life diversity, water chemistry, stream hydrology, the physical channel form, and sediment transport processes of the stream. Show I Hide Navigation Instructions.

QUESTIONS ANSWERED

- What is the extent of our stream and river resources?
- ->> What is the condition of our streams and rivers?
- ->> What is being done to make our waters healthier?

Initial



Portals



IS IT SAFE TO SWIM IN OUR WATERS?

Coastal beaches, bays & estuaries – July 2009



IS IT SAFE TO EAT FISH AND SHELLFISH?

Sport fish – December 2009



ARE OUR AQUATIC ECOSYSTEMS HEALTHY?

- Wetlands March 2010
- Streams & Rivers release soon
- Marine Rocky Intertidal under construction
- Estuaries workgroup formed



IS OUR WATER SAFE TO DRINK?

At the tap, groundwater, surface water – planned

California Water Quality Monitoring Council

Opportunities and Benefits

- Delivers answers to the public
 - Underscore important work of agencies involved
- Provides framework to motivate and guide improvement
 - Reveals data gaps, lack of assessment tools, poor data integration, and other problems hamper statewide assessment
- Allows broader assessments to be made through information sharing

Opportunities and Benefits (cont.)

- Automates annual reporting of governmental organizations
- Allows decision makers, legislators, and public understand how their dollars are spent
 - Beyond bean counting Are conditions getting better?
 - Big picture status and trends
 - Access to information to guide future expenditures
- Collaboration improves efficiency of monitoring and assessment programs
- Transparency builds credibility

California's Comprehensive Monitoring Program Strategy



www.waterboards.ca.gov/water_issues/ programs/monitoring_council