

My Water Quality Web Portal Data Infrastructure and Challenges

Jeff Kapellas

GIS/Web Unit

Office of Information Management and Analysis

State Water Resources Control Board

jkapellas@waterboards.ca.gov

(916) 324-9685

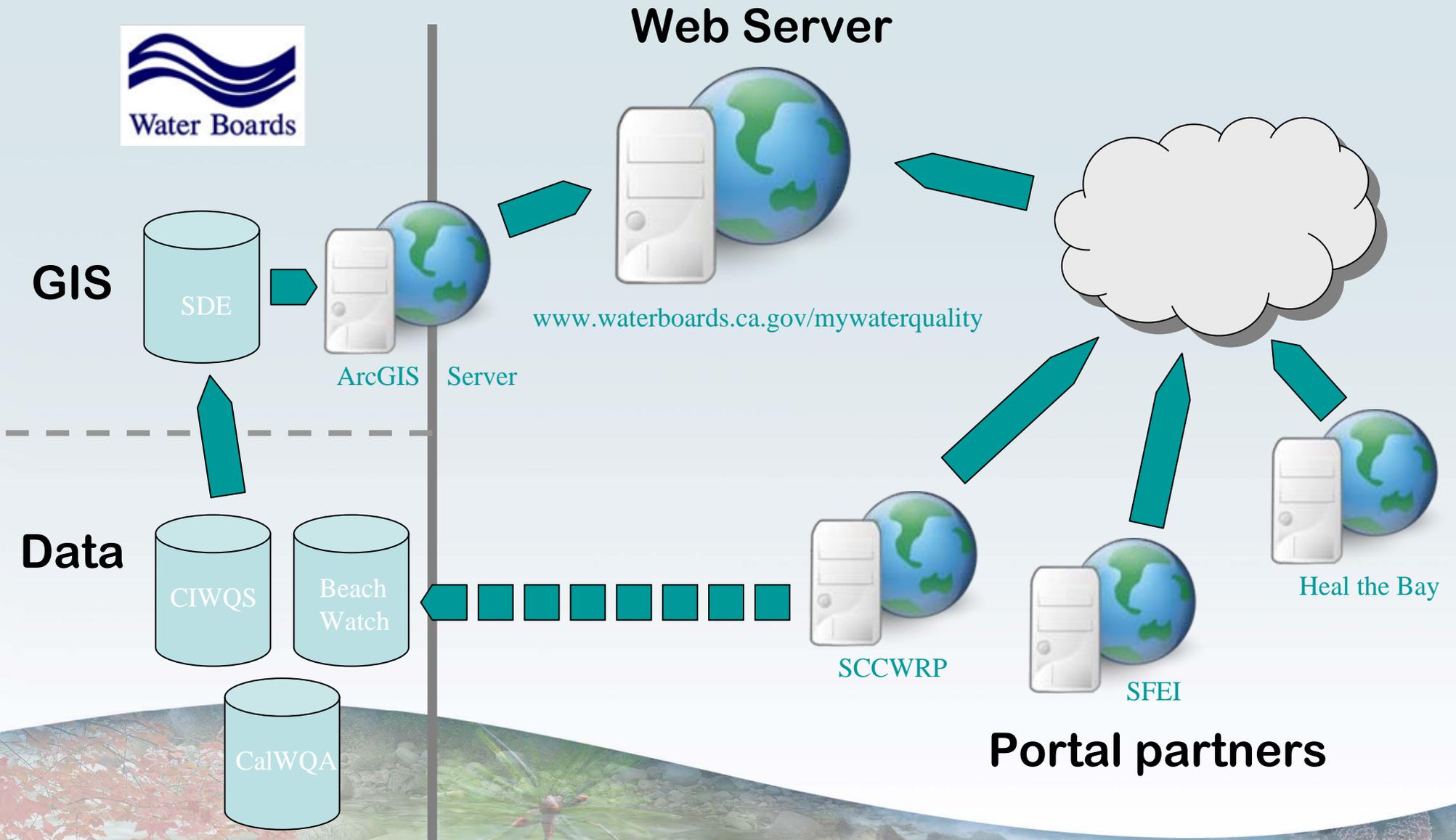


Standards and Goals in Portal Development

- Simplicity and intuitiveness
 - Question-based approach
- Utilize a common look-and-feel when possible
- Utilize existing web/server resources
 - Including code base
- Ease of maintenance

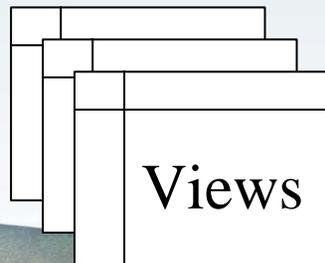
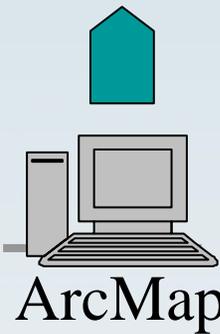
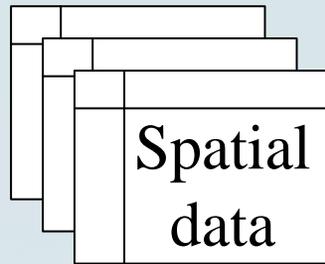
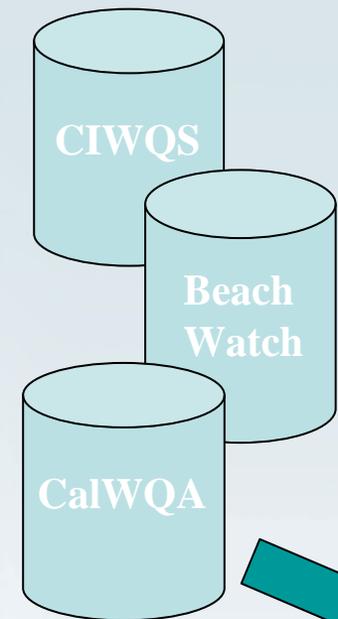


Infrastructure – Servers

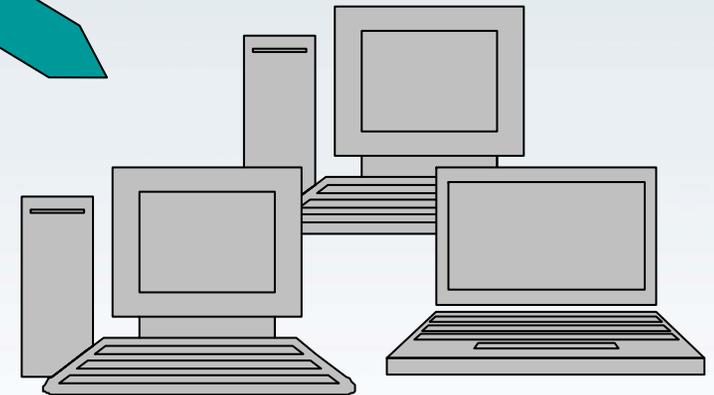


Infrastructure – GIS

Water Board databases



Business tables



Design pattern – Basic



```
Source of: http://www.waterboards.ca.gov/mywaterquality/safe_to_swim/improvements/clean_beach_initiative.shtml - Mozilla Firefox
```

```
File Edit View Help
```

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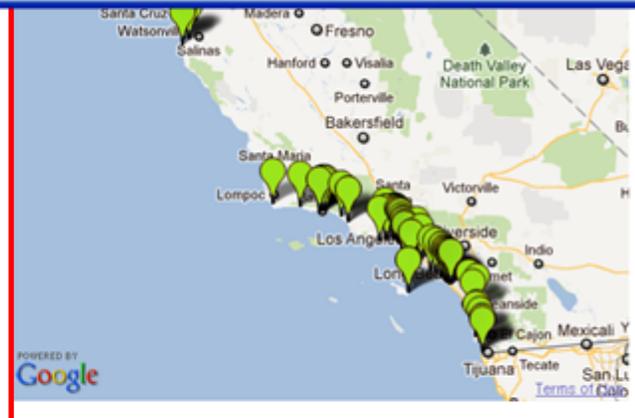
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<script type="text/javascript">
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```
document.getElementById("mapcontent").src = "http://maps.waterboards.ca.gov/webmap/wqmc/wqmc_cbi_iframe.html" + location.search;
```

```
</script> </td>
```



- Versión Español:
 - [sin subtítulos](#)
 - [con subtítulos](#)
- Statewide Evaluation of Best Management Practices
 - [Improving water quality through California's Clean Beach Initiative: an assessment of 17 projects](#), John H. Dorsey, *Environmental Monitoring and Assessment*, June 3, 2009
 - © Springer Science + Business Media B.V. 2009
 - With kind permission from Springer Science+Business Media
- [More on the Clean Beaches Initiative](#)



Design pattern – Basic

Zoom to project: -- Select Project --

Zoom to county: Select County -- Show county

Map

Monterey Bay National Marine Sanctuary

Project: Divert Urban Runoff
Water Board funding: \$1,500,000
Fund source / project no(s): Prop. 40 / 71

Contact(s):
Jennifer Toney, (916) 341-5646
jtoney@waterboards.ca.gov

Angela Schroeter, (805) 542-4644
aschroeter@waterboards.ca.gov

[View Project Report](#)

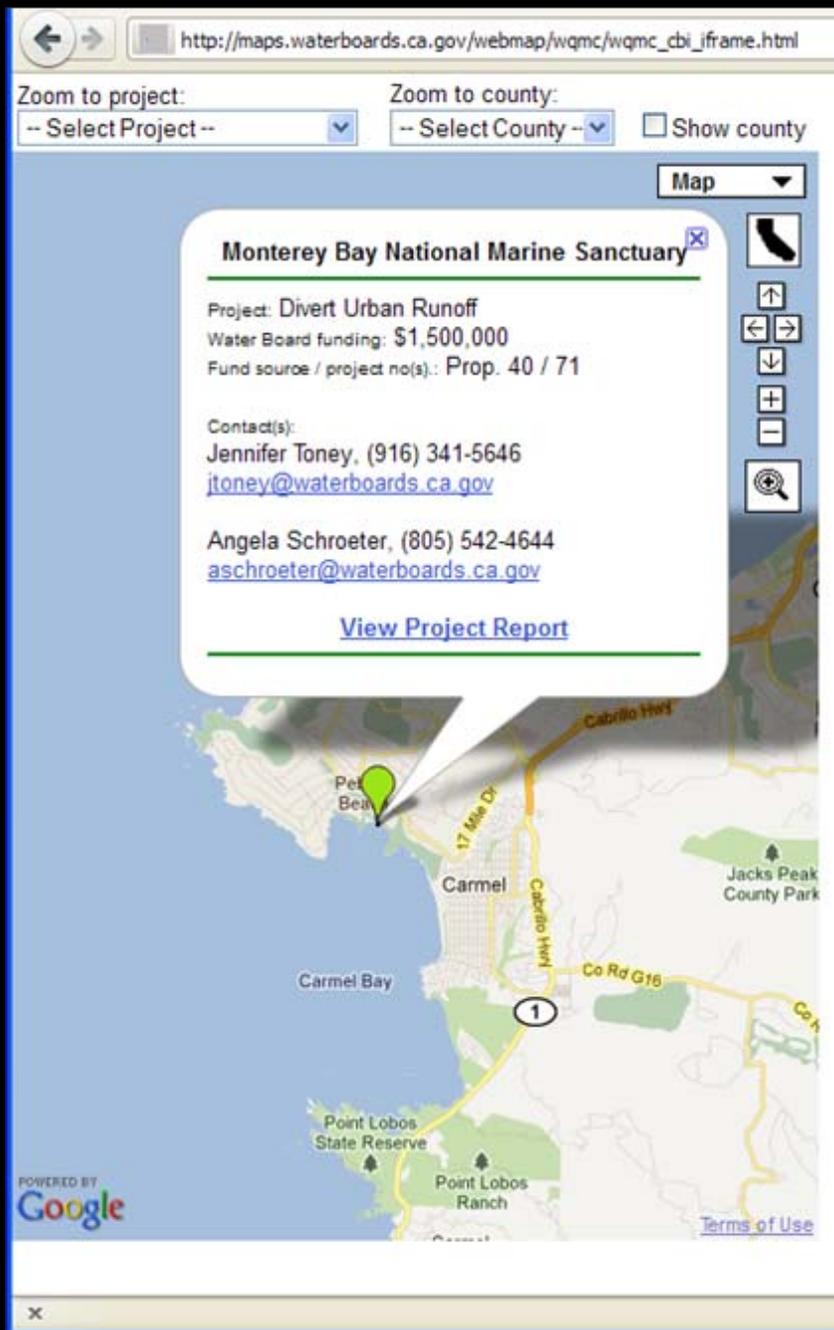
Standard Google API widgets

Optional Google widget: DragZoom.js

Custom widget: Zoom2State.js

Standardized ESRI code: CountyOverlay.js RBOverlay.js

Map data: JSON / JSONP

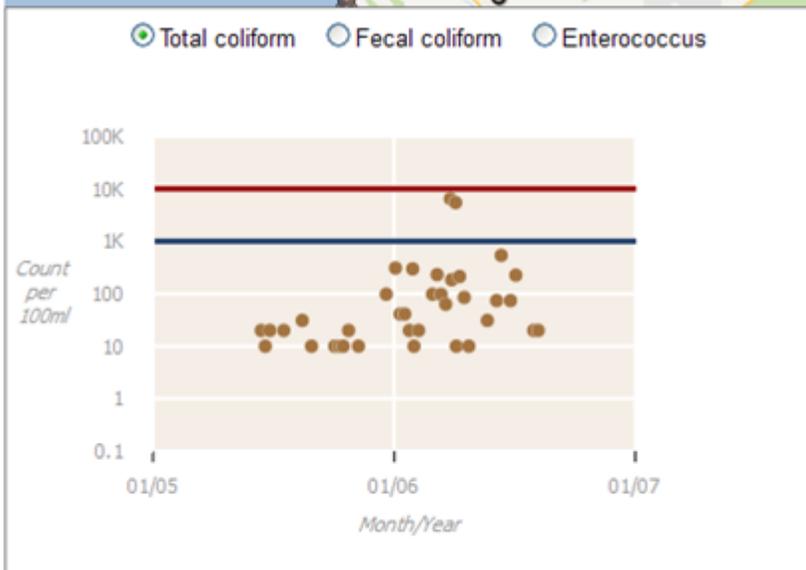
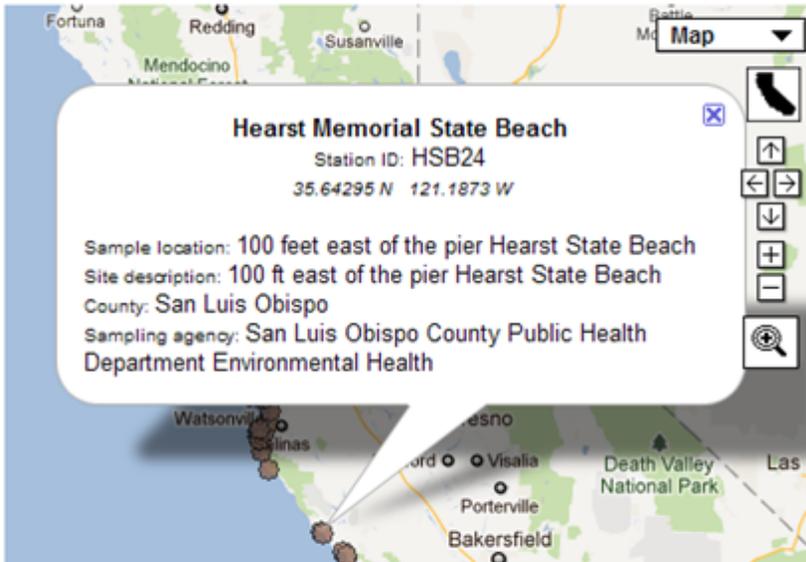


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√cbi_projects√docs√summaries
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"CONTACT1": "Hoa Ly",
"EMAIL1": "hly@waterboards.ca.gov",
"PHONE1": "(916) 341-5720",
"CONTACT2": "Angela Schroeter",
"EMAIL2": "aschroeter@waterboards.ca.gov",
"PHONE2": "(805) 542-4644"}]
},
...]
```



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

All Show county





Home → Safe To Eat → Data And Trends

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



- [Cal/EPA](#)
- [Natural Resources Agency](#)
- [About the California Water Quality Monitoring Council](#)

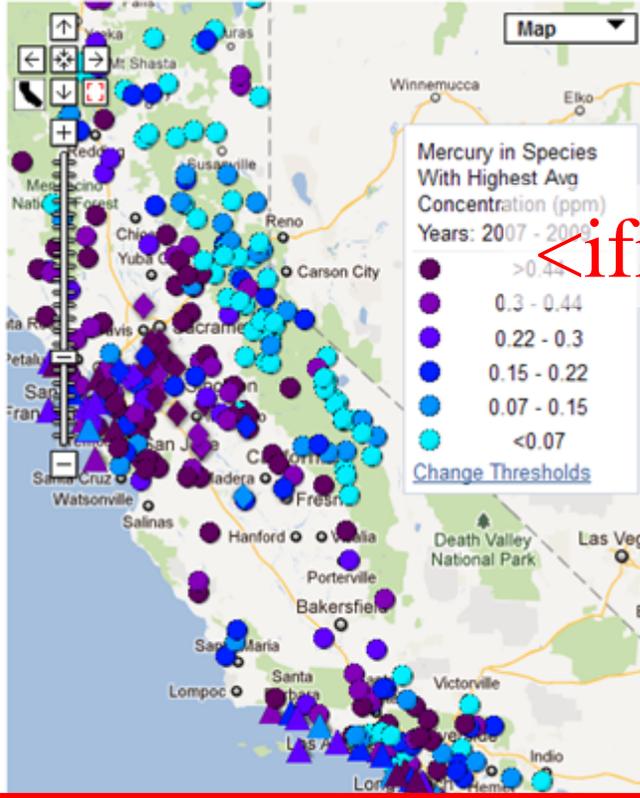
SAFE TO EAT FISH LINKS

- [Pollution Sources & Health Risks](#)
- [Laws, Regulations, Standards & Guidelines](#)
- [Assessment Thresholds](#)
- [Regulatory Activities](#)
- [Enforcement Actions](#)
- [Research](#)
- [Monitoring Programs, Data Sources & Reports](#)
- [Statewide Perspective](#)
- [National Perspective](#)

Select location from list.

Zoom to county:

Show counties



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.

- Select parameters of interest from the menus below and click on the "Go" button. The map will display average concentrations for the selected water bodies.
- To view data for all species at your water body, trends, or comparisons with nearby water bodies, click on a map location or select a water body from the menu above the map.
- Enter your own threshold or modify thresholds displayed on the map by clicking the [Change Thresholds](#) link in the map legend.
- The map shows general representations of sampling locations, not the precise locations where fish were caught.
- Circles indicate lake and reservoir sampling locations. Triangles indicate coast sampling locations. Diamonds indicate river and stream sampling locations.

Select Species:

Species With Highest Avg Concentration

Select Contaminant:

Mercury

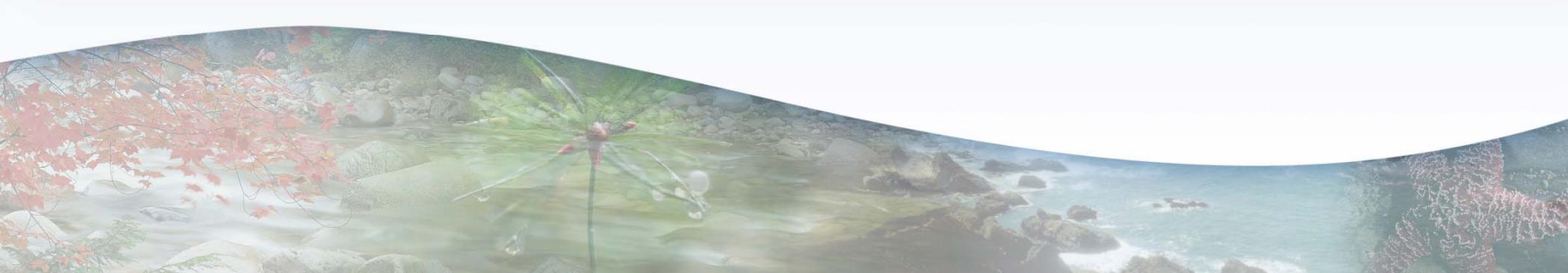
Select Start Date:

2007

<iframe>

Why ESRI? Why not FOSS?

- Leveraging existing resources
 - ArcGIS Server: eWRIMS Water Rights application
 - ArcSDE database: SWRCB enterprise database (Oracle)
 - Existing web architecture / process
- Long-term maintenance and support
- Performance considerations



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

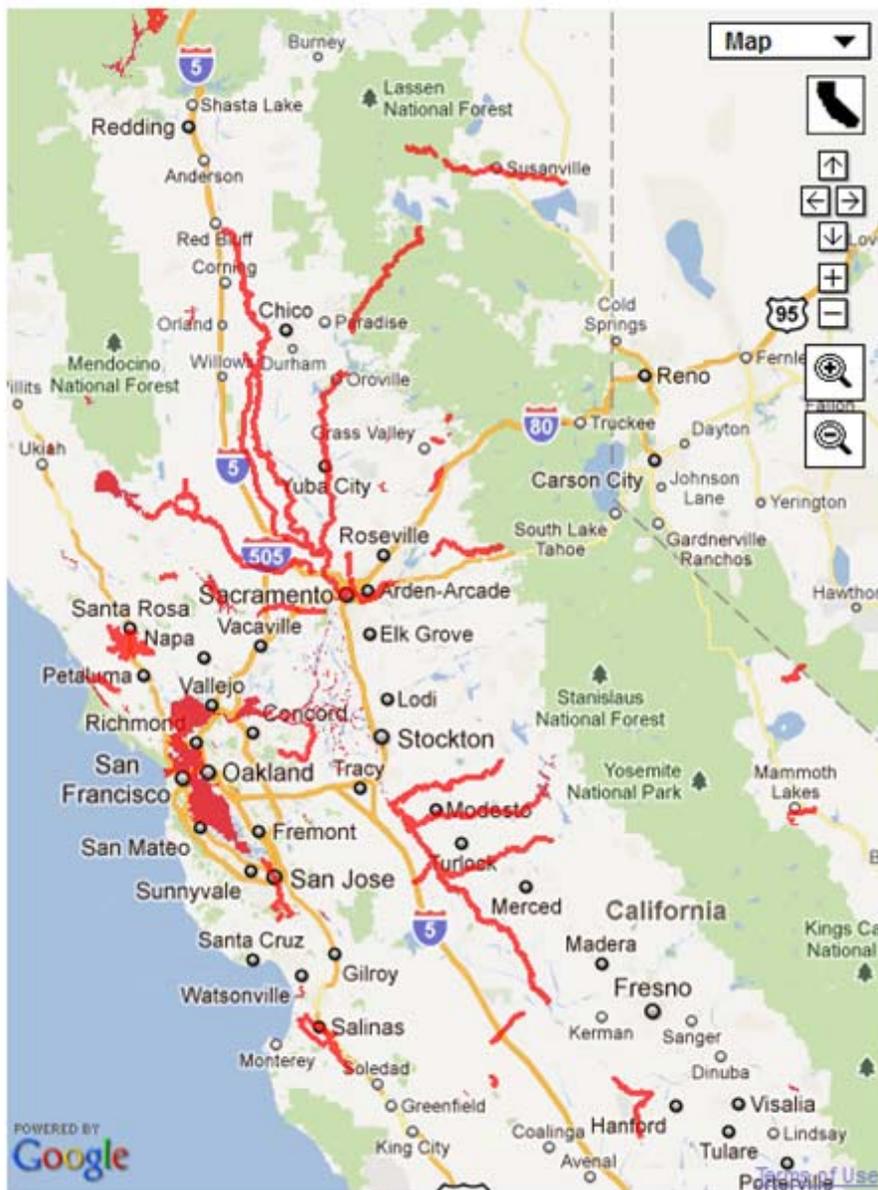


County:

All

Water Body:

Show county



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
- 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)
- 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](#).



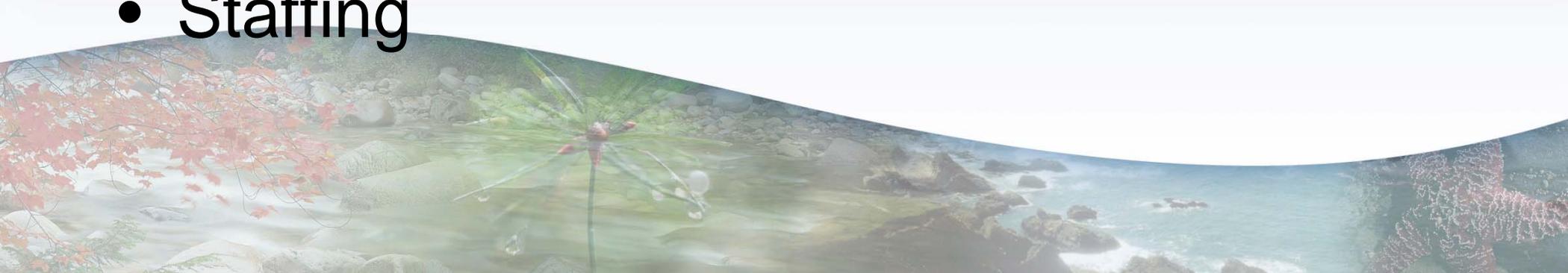
The State and Regional Water Boards assess water quality data for California's waters every two years to determine if they contain pollutants at levels that exceed protective water quality criteria and standards. This biennial assessment is required under Section 303(d) of the [federal Clean Water Act](#).

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 fish and/or shellfish consumption related uses as they relate to human exposure to pollutants.

- [What thresholds are used to list a water body as "impaired"?](#)
- [View entire California 2006 303\(d\) List.](#)

Continuing Challenges

- HTTP cross-domain security restrictions
- Iframe quirks
- Data access
- Data updates
- Technological challenges
 - Deprecation issues
 - Licensing issues
- Staffing



?





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