

Maximizing the Effectiveness of Water Quality Data Collection and Dissemination

Recommendations of the
California Water Quality Monitoring Council

December 1, 2008

I am here today to provide you with a status report on the California Water Quality Monitoring Council and the Council's initial recommendations to the Secretaries of the California Environmental Protection Agency and the Resources Agency.

Everyone Needs Data

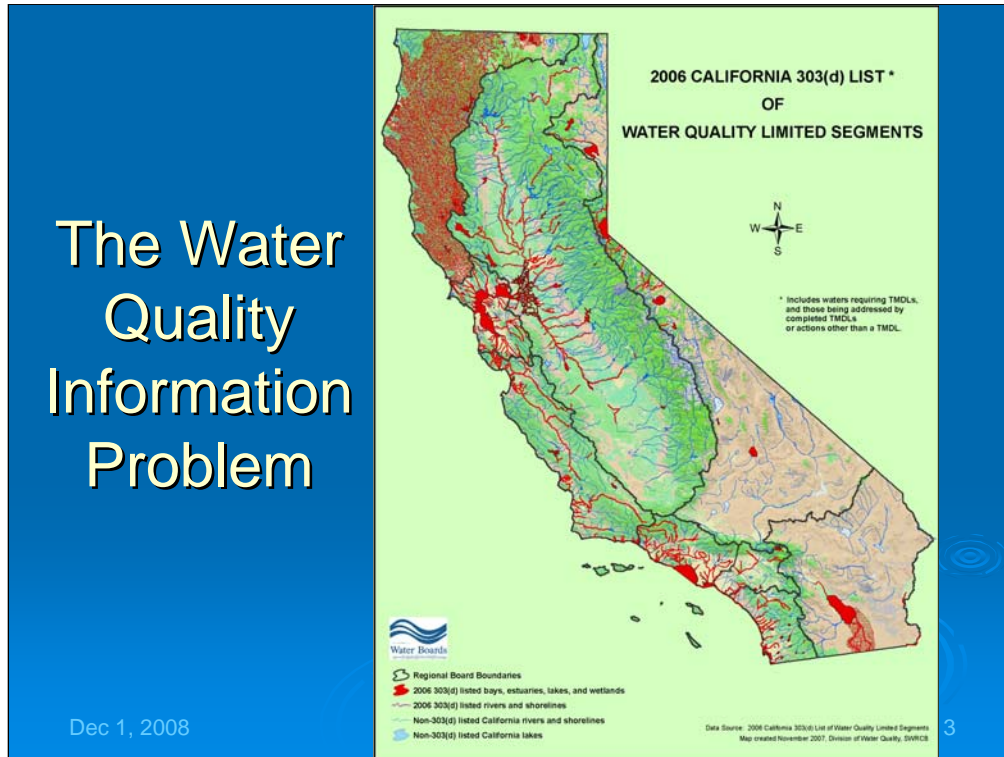
- 212,000 miles of rivers & streams
- 1.6 million acres lakes
- 1,340 miles of coastline
- >600,000 acres bays, harbors, estuaries
- 15 million acre-feet of groundwater extracted per year

Dec 1, 2008 California Water Quality Monitoring Council 2

Many agencies, regulated dischargers, and 100's of water bond grant recipients are spending millions of dollars each year to collect water quality data.

The data need to be turned into useable information to help decision makers and stakeholders understand

- The status of our waters and aquatic ecosystems,
- Public health and welfare issues related to water quality, and
- The effectiveness of agency programs to manage our water resources.



The Water Quality Information Problem

But California's water quality information system is defective

- There are inconsistent monitoring objectives and methods to collect and assess the data, as shown in this map of 2006 impaired waters listings.

Differences in assessment strategies makes it appear that North Coast Region waters are the most impaired, when they are actually some of the state's cleanest waters.

- Often it is not possible to integrate data from different studies.
- And there is no single user-friendly place to access the data

There is a tremendous **opportunity** for improvement.



In response, Senate Bill 1070 was signed into law in 2006.

SB 1070 required Cal/EPA and the Resources Agency to enter into a Memorandum of Understanding to establish the California Water Quality Monitoring Council. The MOU was signed in November 2007.

Members of the Monitoring Council are represented here, including

- Cal/EPA
- The Resources Agency,
- The Department of Public Health,
- Regulated stormwater and POTW interests,
- Irrigated agriculture,
- Citizen monitoring groups,
- The Public,
- The Scientific community, and
- Water purveyors.

SB 1070 requires that the Monitoring Council consult with U.S. EPA.

A representative of U.S. EPA, Region 9 attends all Monitoring Council meetings and is involved in the SB 1070 Work Group.

The legislation requires that on or before December 1, 2008 the Monitoring Council report its recommendations to Cal/EPA and the Resources Agency for maximizing the efficiency and effectiveness of existing water quality data collection and dissemination, and for ensuring that collected data are maintained and available for use by decision makers and the public.

The Monitoring Council's Solution

Don't get mired in technical details!

Focus first on streamlined data access

- ◆ Theme-based web portals
- ◆ Single global point of entry

Issue-specific workgroups

Overarching Monitoring Council guidance

Dec 1, 2008 California Water Quality Monitoring Council 5

On December 1, the Monitoring Council submitted their recommendations to the two agency secretaries.

Past improvement efforts focused mainly on technical details, such as

- Methods consistency,
- Standardizing data formats, and
- Developing large databases.

The Monitoring Council believes that the best way to coordinate and enhance California's monitoring, assessment and reporting efforts is **first** to provide a platform for intuitive, streamlined access to water quality information that directly addresses users' questions.

The Monitoring Council recommends that issue-specific workgroups, under the overarching guidance of the Monitoring Council, evaluate existing monitoring, assessment and reporting efforts and work to enhance those efforts to improve the delivery of water quality information to the user.

This will provide the structure and incentive to

- Coordinate disparate monitoring programs,
- Improve the technical infrastructure needed to support that coordination, and
- Will act to reduce conflicts and incompatibilities within the technical infrastructure.

Recommendations of the California Water Quality Monitoring Council

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

Home | Safe to Drink | Safe to Swim | Safe to Eat Fish | Ecologic Health | Stressors & Processes

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

GOVERNOR SCHWARZENEGGER
Visit his Website

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

» About SWAMP
» SWAMP Tools

SWAMP
Surface Water Ambient Monitoring Program

Skip to: [Content](#) | [Footer](#) | [Accessibility](#)

Search GO
 California This Site

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 from a variety of perspectives that may be viewed across space and time.

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 >>](#)

6

To illustrate this concept, the Monitoring Council is developing a website that will provide a single, global access point to a complete set of theme-based web portals for water quality monitoring data and assessment information.

The website is designed around intuitively clear questions that are readily understood by managers, the public, and scientists.

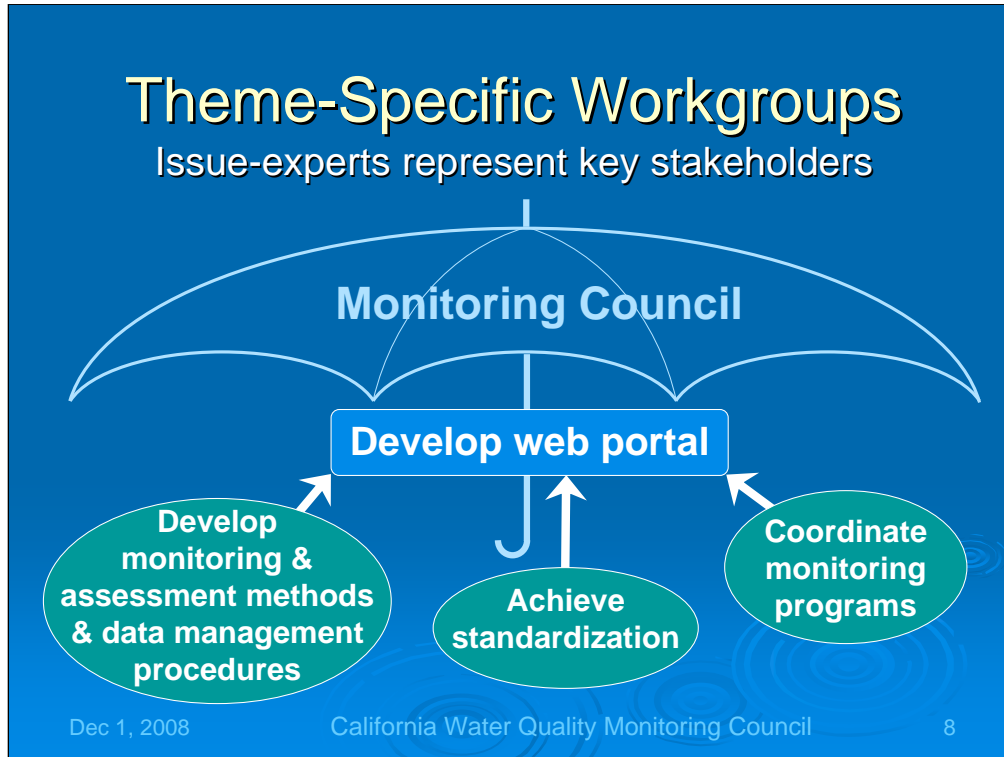
- Is our water safe to drink?
- Is it safe to swim in our waters?
- Is it safe to eat fish and shellfish from our waters?
- Are our aquatic ecosystems healthy?
- What stressors and processes affect our water quality?

A centralized website will provide access to and awareness of the variety of monitoring efforts being conducted and will legitimize the efforts of each theme-based workgroup.

The screenshot shows the website interface for the California Water Quality Monitoring Council. At the top, it identifies the State of California Environmental Protection Agency Resources Agency. A search bar is present with a 'GO' button. Below the search bar is a navigation menu with buttons for 'Home', 'Safe to Drink', 'Safe to Swim', 'Safe to Eat Fish', 'Ecologic Health', and 'Stressors & Processes'. A secondary menu includes 'My Beach Today', 'Recent Conditions', 'Trends', 'Closures & Postings', 'Impaired Beaches', and 'Improvements'. On the left, there is a sidebar for Governor Schwarzenegger and 'SAFE TO SWIM LINKS' such as 'Pollution Sources & Health Risks', 'Laws, Regulations & Standards', 'Regulatory Activities', 'Enforcement Actions', 'Research', 'Monitoring Programs, Data Sources & Reports', and 'Browse by Geography' (Local, County, State, National). The main content area features a map of California with a callout for Ventura County, providing links to 'Swim Today?', 'Recent Information', 'Long-Term Trends', 'Impaired Waters', and 'Improvements'. To the right of the map, there is a text block explaining beach water quality monitoring and a 'View Monitoring and Assessment Information' section with a 'Select County' dropdown menu. Below that is a 'QUESTIONS ANSWERED' section with a list of water quality questions.

Each question will lead to a series of web pages for each theme that provide map-based access to summary assessment products and more detailed monitoring data, as well as tools for downloading data and conducting ad hoc queries and analyses.

Links along the left-hand side of each page will enable users to access management, regulatory, and technical information specific to each theme.



- To achieve its solution, the Monitoring Council envisions a number of theme-specific workgroups. The green circular shapes at the bottom together represent the efforts of a workgroup. The workgroups are
- staffed by issue experts representing key stakeholders
 - that will develop a web portal devoted to their theme or sub-theme.
 - Each workgroup will develop underlying monitoring and assessment methods and data management procedures according to performance measures defined by Monitoring Council.
 - The workgroups will coordinate existing monitoring programs,
 - achieve standardization necessary to meet users' needs, and
 - will report periodically to Monitoring Council.

Role of the Monitoring Council

- Establish policies and guidelines
- Clearinghouse for standards, guidelines, and collaboration
- Complementary standardization approaches
 - Voluntary adoption
 - Permit requirements / grant agreements / contracts
 - Legislative solutions

Dec 1, 2008

California Water Quality Monitoring Council

9

The Monitoring Council will

- Establish common policies and guidelines for the workgroups and the monitoring programs they represent; and
- Act will as a clearinghouse for standards, guidelines, and collaboration.
- The Monitoring Council will pursue three complementary approaches toward achieving standardization

First, voluntary adoption in return for technical and programmatic assistance or because proposed standards provide clear benefits;

Second, request that agencies include requirements to implement the standards in permits, grant agreements and contracts; or

Third, legislative solutions.

Data Management

- Regional data centers
 - Distributed, but federated system
- Linked through data exchange networks to
- Centralized web portal access points

Dec 1, 2008

California Water Quality Monitoring Council

10

While theme-based web portals allow for a single global point of entry to water quality data, the Monitoring Council is aware that centralizing all data in one or a few locations is infeasible and that attempting to do so would be a recipe for failure.

The Monitoring Council therefore proposes identifying centralized access points through regional data centers and distributed networks such as the California Environmental Data Exchange Network (CEDEN) and cataloging monitoring metadata using systems such as the California Environmental Resources Evaluation System (CERES).

Opportunities for Action

-  **ARE OUR AQUATIC ECOSYSTEMS HEALTHY?**
 - Wetlands
-  **IS IT SAFE TO SWIM IN OUR WATERS?**
 - Coastal beaches, bays & estuaries
-  **IS IT SAFE TO EAT FISH AND SHELLFISH?**
 - Sportfish
-  **IS OUR WATER SAFE TO DRINK?**
 - Groundwater

Dec 1, 2008 California Water Quality Monitoring Council 11

Four sub-themes have been chosen for immediate action,

- based on Opportunities to build on existing efforts that have already made substantial progress.
- They include groups with which the Monitoring Council has already had interaction and have expressed interest in participating

First, Aquatic ecosystem health – Wetlands

- The Wetlands Monitoring Workgroup has stepped forward to become a subcommittee of Monitoring Council, and has asked for its assistance and direction
- Their WetlandTracker website will become the portal for their sub-theme

Second, Safe to swim – Coastal beaches, bays & estuaries

- The Beach Water Quality Workgroup currently coordinates monitoring efforts of the Water Boards, Department of Public Health, county health agencies, and coastal dischargers
- Heal the Bay's Beach Report Card website is featured in the Monitoring Council's initial web portal development efforts

Opportunities for Action

	ARE OUR AQUATIC ECOSYSTEMS HEALTHY? • Wetlands
	IS IT SAFE TO SWIM IN OUR WATERS? • Coastal beaches, bays & estuaries
	IS IT SAFE TO EAT FISH AND SHELLFISH? • Sportfish
	IS OUR WATER SAFE TO DRINK? • Groundwater

Dec 1, 2008 California Water Quality Monitoring Council 11

(Continued from prior slide)

Third, Safe to eat fish & shellfish – Sportfish

- The Bioaccumulation Oversight Group is a collaborative effort of the Surface Water Ambient Monitoring Program, the Office of Environmental Health Hazard Assessment, and others to support the development of fish consumption advisories for mercury, legacy pesticides, and other bioaccumulated pollutants

And fourth, Safe to drink – Groundwater

- The development of the GeoTracker GAMA website is bringing together a variety of groundwater monitoring efforts, including the Department of Public Health's drinking water program, US Geologic Survey, Water Board UST and contaminated sites, Department of Pesticide Regulation, Lawrence Livermore National Labs, and others.

These initial efforts will be used to demonstrate the feasibility and utility of the theme-based web portal approach and the institutional infrastructure of the Monitoring Council and workgroups.

To Agency Secretaries

- Endorse Monitoring Council's vision
- Empower Monitoring Council to guide
- Direct the boards, departments, and offices to support and participate
- Seek sufficient resources for sustainability

Dec 1, 2008

California Water Quality Monitoring Council

12

In its December 1 recommendations report, the Monitoring Council asked the Secretaries of Cal/EPA and Resources to

- Endorse the Monitoring Council's vision;
- Empower the Monitoring Council to guide its development toward a comprehensive integrated water quality monitoring program strategy;
- Direct the boards, conservancies, commissions, departments, and offices within the agencies to support and participate in the efforts of the Monitoring Council and the theme-based workgroups to implement the Council's vision; and
- Seek sufficient resources to ensure this effort's long-term sustainability, beyond that currently provided by the State Water Board.

On an annual basis, beginning in December 2009, the Monitoring Council will report back to the agency secretaries on progress made in implementing the Council's vision, and in a manner that supports Cal/EPA's conduct of a triennial audit of the effectiveness of the comprehensive monitoring program strategy, as called for in the legislation. The first of these annual reports will contain the Monitoring Council's recommendations for the development of the comprehensive monitoring program strategy for California.

Next Steps

Continued Monitoring Council efforts

- Work with identified workgroups
- Conduct outreach to other monitoring entities
 - Agencies
 - Non-government organizations
 - Regional monitoring programs
 - Citizen monitoring groups
- Coordinate formation of new workgroups

Dec 1, 2008 California Water Quality Monitoring Council 13

For these goals to be achieved, the Monitoring Council must continue its efforts, initially

- Working with already identified workgroups to implement the Monitoring Council's measures
- Conducting outreach to entities responsible for existing monitoring and assessment efforts, including
 - Local, regional, state and federal agencies
 - Non-governmental organizations
 - Regional monitoring programs, and
 - Citizen monitoring groups
- And coordinating the formation of stakeholder-based workgroups to support each theme or sub-theme

In the longer term, the Monitoring Council will develop recommendations for the full-range of issues necessary for California to achieve a comprehensive water quality monitoring program strategy from which the state is able to

- Develop an overall picture of the health of the state's waters,
- Establish priorities,
- Evaluate the effectiveness of programs & activities to protect and improve water quality,
- Report on its accomplishments, and
- Provided all of this information to its citizens.

**Maximizing the
Efficiency and Effectiveness of
Water Quality Data
Collection and Dissemination**
and Ensuring that Collected Data are Maintained
and Available for Use by Decision-makers and the Public

Recommendations of the
**California Water Quality
Monitoring Council**

submitted to
Linda S. Adams
Secretary for Environmental Protection
and
Mike Chrisman
Secretary for Resources

State of California
December 1, 2008

On the Web
at
[www.waterboards.
ca.gov/water_issues/
programs/
monitoring_council](http://www.waterboards.ca.gov/water_issues/programs/monitoring_council)

14

The full Monitoring Council recommendations report is available on the internet at the address shown on this slide.

I would be happy to answer your questions.