



California Water Quality Monitoring Council



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2011 PROGRESS REPORT AND RECOMMENDATIONS OF THE CALIFORNIA WATER QUALITY MONITORING COUNCIL

Dear Agency Secretaries:

In 2011, the California Water Quality Monitoring Council made significant strides implementing our *Comprehensive Monitoring Program Strategy for California* to improve the efficiency and effectiveness of our State's water quality and associated ecosystem monitoring, assessment, and reporting. But more could be accomplished with your assistance.

On November 26, 2007, the Secretaries of Cal/EPA and the Natural Resources Agency signed a Memorandum of Understanding (MOU) establishing the California Water Quality Monitoring Council (Monitoring Council) as required by California Senate Bill 1070 (Kehoe, 2006). Pursuant to this legislation, the Monitoring Council on December 1, 2008 sent to the Agency Secretaries its initial recommendations for maximizing the efficiency and effectiveness of existing water quality and associated ecosystem data collection and dissemination and for ensuring that collected data are maintained and available for use by decision makers and the public via the internet. As mandated by SB 1070 and the MOU, and based on two years of experience implementing those initial recommendations, the Monitoring Council developed and sent to the Agency Secretaries on December 28, 2011 our recommended *Comprehensive Monitoring Program Strategy for California* to guide the Monitoring Council's activities into the future. This letter summarizes our progress implementing that strategy over the past calendar year and presents additional recommendations for your consideration based on this experience.

The Monitoring Council's Philosophy Is Gaining Support

The Monitoring Council's Comprehensive Monitoring Program Strategy is being highlighted as a model for collaboration and data reporting. In its Water in the

California Environmental Protection and Natural Resources Agencies

West Working Paper 2, *Measuring Performance of Water Systems in California*, Stanford University's Woods Institute for the Environment and The Bill Lane Center for the American West cite the Monitoring Council's question-driven *My Water Quality* web portals (www.CaWaterQuality.net) as "clearly on the right track in terms of presenting data to the public on topics they care about..." Peter Williams, Chief Technology Officer for IBM's Big Green Innovations incubator, whose role is to create environmentally focused businesses for IBM, cites the following reasons "why *My Water Quality* gets it right":

- Uses questions as the expression of business need for data
- Uses questions to identify data that matters and prioritize data sets to work with
- Uses questions as "integration points" for multiple data sources, providing a focus for collaboration and allowing value to be derived faster
- Avoids GADWITS - the "Great Amorphous Data Warehouse In The Sky"
- Enables "purpose-driven" data federation

In their just released report, *Turning Data into Information: Making Better Use of California's Ocean Observing Capabilities*, prepared for the California Ocean Protection Council, authors Brock Bernstein, Earle Buckley, Holly Price, and Leslie Rosenfeld state that implementing their recommendations to improve the capacity of our ocean observing systems to address California's strategic information needs

"will require that agencies more systematically base their data gathering and assessment procedures on fundamental management questions and decisions, rather than on more narrowly defined agency tasks that miss the forest for the trees. A useful model of this approach is provided by the California Water Quality Monitoring Council, a joint effort of the Natural Resources Agency, CalEPA, and the Department of Public Health. The Council has established a structured process for identifying priority information needs and then creating workgroups drawn from multiple agencies and user groups to ensure that all the elements of an observing system (e.g., data gathering, data analysis, data management, information products, reporting and data visualization tools) are properly coordinated to effectively meet management information needs."

Clearly, the Monitoring Council's comprehensive strategy is working to improve the efficiency and effectiveness of California's water quality and associated ecosystem monitoring, assessment, and reporting efforts. Progress during 2011 is highlighted below, including the formation of three new workgroups:

- A new collaboration between the Department of Public Health, the Water Boards, the Department of Water Resources, and others formed a new workgroup to address the question "Is our water safe to drink?" by creating of a new *My Water Quality* web portal.
- With the blessing of the Interagency Ecological Program coordinators, the California Estuary Monitoring Workgroup has been formed to coordinate estuary monitoring and assessment and to develop a California Estuaries Portal, initially focusing on the health of the San Francisco Bay-Delta estuary.
- The Data Management Workgroup is beginning to address common issues of data management and data sharing between agencies and organizations as well as the web development and GIS capabilities necessary to make water quality and ecosystem information available in a useful and readily understandable manner.

The Department of Water Resources has asked that the Monitoring Council's Data Management Workgroup address key interagency data sharing needs that will be critical to the development of the 2013 Update of the California Water Plan.

Your Endorsement Is Needed

Making progress has been difficult given the current fiscal climate and considering that the legislature made no special appropriation of resources to implement SB 1070. Coordinating water quality and related ecosystem monitoring, assessment and reporting among a variety of state, federal, and local agencies and non-governmental organizations will enhance the value of existing data and will enable government to provide answers to key environmental health and resource management questions that were heretofore unaddressed. However, convincing agency staff to spend additional time to initiate and sustain collaboration is difficult at a time when each agency is faced with large and ever increasing workloads and decreasing staff and contracting resources. If the Monitoring Council is to be successful in reshaping the nature of California's water quality and ecosystem monitoring, assessment, and reporting to meet the information needs of decision makers and the public, your direct involvement is essential. The Monitoring Council respectfully requests that you take the following actions:

- 1) Formally encourage the boards, commissions, conservancies, departments, and offices within each of your agencies to (a) implement the Monitoring Council's recommended *Comprehensive Monitoring Program Strategy for California*, (b) be actively engaged with the Monitoring Council and its workgroups, and (c) utilize the tools – e.g., assessment methods, quality assurance and data management procedures, and training – developed by these workgroups. The text of a proposed letter to your organizational directors is enclosed for this purpose, highlighting the advantages of question-driven information sharing, coordination and collaboration.
- 2) Encourage additional collaboration in water quality and related ecosystem monitoring, assessment, and reporting with organizations outside of Cal/EPA and the Natural Resources Agency, such as the participation of the Department of Public Health in the workgroup addressing the question “Is our water safe to drink?”, mentioned above.
- 3) Endorse state stewardship of the National Hydrography Dataset (NHD) and the National Wetland Inventory (NWI) by the Department of Water Resources and the Department of Fish and Game, respectively, and encourage that these be coordinated with each other and with established local stewardship and refinement efforts. The Monitoring Council's Data Management Workgroup could facilitate such coordination.

For monitoring data and assessment information to be successfully shared across organizational lines, a common base map of California's water resources is essential. Maintained at the national level by the U.S. Geological Survey, NHD is a standardized digital vector dataset of lakes, ponds, streams, rivers, canals, dams, and stream gages that is used by geographic information systems (GIS) in general mapping applications and in the analysis of surface-water systems. Maintained at the national level by the U.S. Fish & Wildlife Service, NWI is a standardized digital geospatial representation of the extent of the Nation's wetlands and deep water habitats that is used by Federal, State, and local agencies, academic institutions, and private industry for management, research, policy development, education, and planning activities. Both NHD and NWI are refined through more exhaustive investigation and ground-truthing studies by state and local governmental and academic organizations. It is important that the refinements to both systems be captured at the state level and made available to other investigators. These data are crucial to answering such questions as whether California is experiencing net loss of wetland habitat over time. The Department of Water Resources is currently developing information on the cost and workload associated with NHD stewardship for water resources within California. Through the efforts of the Monitoring

Council's California Wetland Monitoring Workgroup (CWMW), the Department of Fish and Game has agreed to manage the State's wetland and other aquatic resource maps¹ (i.e., to become the NWI steward for California).

- 4) Encourage the California Ocean Protection Council to adjust their draft *Five-Year Strategic Plan (2012–2017)* and planned internet-based coastal and marine information “geo portal” to be integrated and consistent with the Monitoring Council's *Comprehensive Monitoring Program Strategy* and the *My Water Quality* web portals.

According to the recently written report for the OPC, *Turning Data into Information: Making Better Use of California's Ocean Observing Capabilities* that was mentioned above, California lacks overall goal-setting and coordination functions for defining ocean observing (monitoring and assessment) needs and promoting the use of ocean data in agency decision making. The report went on to cite the Monitoring Council's California Wetland Monitoring Workgroup as a model for improved ocean observing coordination.

The Monitoring Council has approached the OPC and the Ocean Science Trust (OST) about creating and overseeing a formal inter-organizational workgroup focused on ocean monitoring, assessment, and reporting that would parallel those created for other areas (e.g., wetlands, fish and shellfish consumption safety). As outlined in the Monitoring Council's comments on the first public review draft of the OPC's *Strategic Action Plan*, the Monitoring Council has identified the need for a California Ocean Portal and an underlying workgroup devoted to the health of California coastal and ocean ecosystems. There is an obvious nexus between the Ocean Protection Council's mandate to coordinate the collection and sharing of scientific data related to ocean and coastal resources and those of the Water Quality Monitoring Council. One of OPC's key goals is improving the use of scientific and geospatial information in ocean and coastal resource decision making, as defined by AB 2125 (Ruskin, 2010). For these reasons, the Monitoring Council's *Comprehensive Strategy* identifies the OPC as the most appropriate organization to initiate and lead the ocean ecosystem portal and workgroup effort. The affiliated Ocean Science Trust and their Marine Protected Area (MPA) Monitoring Enterprise would also play a key role.

While a revised draft OPC *Five-Year Strategic Plan* mentions engagement with the Monitoring Council in a couple of places, implementation of the Monitoring Council's *Comprehensive Strategy* is absent from the document.

- 5) Take advantage of upcoming events, such as the 40th anniversary of the Clean Water Act (October 2012), to raise awareness around clean water by highlighting the *My Water Quality* web portals and the coordination efforts of the Monitoring Council and its workgroups. With limited available resources to devote to publicity, the Monitoring Council's initiatives could greatly benefit from your involvement. The more individuals and organizations become aware of our workgroups and web portals, the more easily their needs can be addressed and their assistance obtained in our efforts to coordinate water quality and associated ecosystem monitoring, assessment, and reporting.

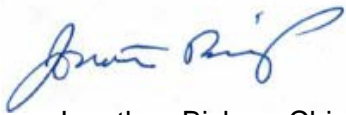
We look forward to working with you and the organizations within your agencies to continually enhance the monitoring and assessment of California's water resources and aquatic

¹ Department of Fish and Game and State Water Resources Control Board, *Five Year Coordinated Work Plan for Wetlands Conservation Program Development* (April 11, 2011)

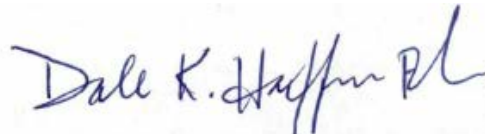
ecosystems and the reporting of this important information to decision makers and the public via the internet.

Highlights of 2011 progress by the Monitoring Council and its workgroups implementing our recommended *Comprehensive Monitoring Program Strategy for California* is presented on the following pages. The *Strategy* document and additional information on the Monitoring Council may be found on the web at http://www.mywaterquality.ca.gov/monitoring_council/.

Sincerely,



Jonathan Bishop, Chief Deputy Director
State Water Resources Control Board
Monitoring Council Co-Chair
Representing Cal/EPA



Dale Hoffman-Floerke, Deputy Director
Department of Water Resources
Monitoring Council Co-Chair
Representing the Natural Resources Agency

Enclosures (2)

cc: Members of the California Water Quality Monitoring Council
Senator Christine Kehoe, State Capitol
Senator Elaine Alquist, State Capitol

CALIFORNIA WATER QUALITY MONITORING COUNCIL

2011 ANNUAL PROGRESS REPORT



With the completion of our recommended *Comprehensive Monitoring Program Strategy for California*, our *Governance* document, and our *Guidelines for Workgroups and the Development of "My Water Quality" Theme-Based Internet Portals* in December 2010, the Monitoring Council shifted its major focus in 2011 from strategy development to implementation. The Monitoring Council's collaborative inter-organizational workgroups are positioned at the forefront of this implementation effort. During the past year, the Monitoring Council and its workgroups made substantial progress toward our goals. The following is a summary of our accomplishments.

Progress by Theme-Specific Workgroups and Internet Portals

- With the agreement of the Interagency Ecological Program Coordinators, the **California Estuary Monitoring Workgroup** has been formed to coordinate estuary monitoring and assessment and to develop a **California Estuaries Portal**, initially focusing on the health of the San Francisco Bay-Delta estuary. The State and Federal Contractors Water Agency and The Bay Institute have agreed to jointly facilitate the workgroup, while the Contractors have agreed to fund initial portal development with direction from the workgroup. An initial product of this effort is proposed to be a dynamic web-based replacement for the Department of Water Resources' annual Delta monitoring and State Water Project operational compliance report mandated by State Water Board Water Rights Decision 1641. This *My Water Quality* portal will eventually be used to integrate reporting of San Francisco Bay and Sacramento-San Joaquin Delta regional monitoring efforts and could be used to track Delta Performance Measures, once they have been developed.
- A new **Safe to Drink Workgroup** has been formed by staff of the Department of Public Health, the Water Boards, the Department of Water Resources, and Environment Now. This new workgroup will address the question "**Is our water safe to drink?**" by creating a new *My Water Quality* web portal. At the first workgroup meeting, Department of Public Health staff presented a proposal to develop this new portal by highlighting each agency's role in bringing safe drinking water to the user, including water supply reliability, source water quality assessment and protection, water treatment, and finished water quality testing. Discussions have begun to find a collaborative industry organization to co-host the portal. The Association of California Water Agencies (ACWA), the Water Education Foundation (WEF), the American Water Works Association (AWWA), or the Sacramento Area Regional Water Authority are being considered. Their involvement is intended to add a water supply industry perspective on these important issues and to utilize their web design and outreach expertise. A potential funding mechanism involves a Supplemental Environmental Project, tied to one or more Cal/EPA enforcement actions.
- The **Healthy Streams Partnership** incorporates a number of statewide initiatives to collaboratively assess and maintain the health of California's streams and rivers.

Building on monitoring and assessment work performed by the Water Boards' Surface Water Ambient Monitoring Program (SWAMP), the workgroup made significant progress in 2011 developing the new *My Water Quality* portal "**Are our stream and river ecosystems healthy?**", which is expected to be released to the public in 2012.

A mock-up of the portal was approved in June 2011. The portal builds on the two recently released reports:

- *Ecological Condition Assessments of California's Perennial Wadeable Streams (2000 through 2007)*. This report presents a novel use of probability surveys to assess the condition of streams draining agricultural, urban, and forested landscapes.
- *Toxicity in California Waters*. Toxicity testing has been used to assess effluent and surface water quality in California since the mid-1980s. When combined with chemical analyses and other water quality measures, results of toxicity tests provide information regarding the capacity of water bodies to support aquatic life beneficial uses. This report summarizes the findings of monitoring conducted between 2001 and 2010 and demonstrates that pesticides are a primary cause of surface water toxicity in California.
- Preliminary discussions have begun to develop a new workgroup to address ocean ecosystem health monitoring and assessment and reporting through a new *My Water Quality* portal devoted to the theme "**Are our coastal and ocean ecosystems healthy?**" While the Ocean Protection Council was identified in the Monitoring Council's *Comprehensive Strategy* as the most appropriate organization to lead this effort, OPC Executive Director Amber Mace advised that the Marine Protected Area (MPA) Monitoring Enterprise of the Ocean Science Trust may be a better fit. Because the first MPAs to be assessed are on California's Central Coast, this area may become the initial focus of the new portal, providing a nexus of water quality and ecosystem health information generated by a variety of Central Coast monitoring efforts.
- The **Multi Agency Rocky Intertidal Network** (MARINe) made substantial progress in 2011 developing a new *My Water Quality* portal "**Are our tide pool ecosystems healthy?**", obtaining Monitoring Council approval. MARINe also developed their 5-year report to the federal Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE), which for the first time is in the form of a website that includes species abundance data and trends, biodiversity plots, and other information on each of the monitoring stations in MARINe's network, which stretches from Alaska to Baja California. The new *My Water Quality* portal will draw on the 5-year report to display tidepool health information along California's coast, implementing the Monitoring Council's portal development guidelines.
- While the 2010 *State of the State Wetlands* report concluded that it was not possible to determine the extent and condition of California's wetlands, the **California Wetland Monitoring Workgroup** (CWMW) will ensure that these questions can be answered in the future. Over the past year, CWMW transitioned from planning to implementation, becoming the forum for statewide coordination of wetland and riparian monitoring and assessment. Following development of the Wetland and Riparian Area Monitoring Program (WRAMP) and its endorsement by the Monitoring Council in 2010, the CWMW worked with several large infrastructure projects on initial WRAMP implementation. Over the past year, elements of WRAMP have been implemented in the following programs:

- Santa Clara Valley Water District's watershed assessment and stewardship programs
- Central Valley Flood Protection Program (Department of Water Resources)
- High Speed Rail
- Willits Bypass (Caltrans)
- California Energy Commission solar array projects.

These projects will serve as case studies for WRAMP implementation and will help build institutional capacity among both regulated entities and regulators for program implementation. The CWMW also continued to coordinate ongoing development of new and updated monitoring and assessment tools, including further refinements to and new modules for the California Rapid Assessment Method (CRAM). Numerous training courses in the use of the CRAM were also conducted, through the efforts of Moss Landing Marine Laboratories and the Water Board's Training Academy. The U.S. Army Corps of Engineers in California have begun programmatic implementation of CRAM for regulatory project assessment and mitigation monitoring. CWMW supported U.S. EPA's National Wetland Condition Assessment by coordinating the sampling of its California sites, and the workgroup initiated development of a wetland status and trends program using funds provide by U.S. EPA. The workgroup also completed Phase 1 development of a regionally-based network of reference wetlands for California. A substantial challenge for CWMW continues to be allocating support agency staff time for coordination activities. Also, as WRAMP is further implemented, data management capacity and coordination with the California Environmental Data Exchange Network (CEDEN) will need to be directly addressed.

- The **Bioaccumulation Oversight Group** (BOG) began development of a strategy for coordinated monitoring, assessment, and communication of information on the bioaccumulation of contaminants including mercury, legacy pesticides, and PCBs in aquatic ecosystems in California. The new strategy will broaden the focus of this workgroup to incorporate both human health and ecosystem impact assessments, as well as the needs of additional agency partners and the general public. Released in 2011, the BOG report, *Contaminants in Sport Fish from the California Coast, 2009*, represents a major step forward in understanding the extent of chemical contamination in sport fish on the California coast. Monitoring in 2009 had focused on areas near Los Angeles and San Francisco, including San Francisco Bay. Data from this report was incorporated into the *My Water Quality* portal "**Is it safe to eat fish and shellfish from our waters?**" Additional information was added to the portal advising the public on exposure reduction programs and how citizens can get involved in monitoring and stewardship programs. In 2011, the BOG also completed the collection of sport fish in a one-year screening survey of bioaccumulation in California's rivers and streams. Data from that monitoring effort will be made available in 2013.

The chart at the top of the following page shows the relationship between the theme-specific workgroups and the *My Water Quality* internet portals.

Additional Inter-organizational Coordination

- The **California Wetland Monitoring Workgroup** (CWMW) is serving as an inter-agency review body for technical memoranda produced for the State Water Boards' developing Wetland and Riparian Area Protection Policy. CWMW currently coordinates

Monitoring Council's Theme-Specific Workgroups and My Water Quality Portals

WATER BODY TYPE	T H E M E S				
	Are Our Aquatic Ecosystems Healthy?	Is it Safe to Swim in Our Waters?	Is It Safe to Eat Fish and Shellfish from Our Waters?	Is Our Water Safe to Drink?	What Stressors and Processes Affect Our Waters?
Streams	SWRCB, SWAMP Healthy Streams Partnership		SWRCB, SWAMP Bioaccumulation Oversight Group	Safe to Drink Workgroup	 All Workgroups
Rivers					
Lakes					
Estuaries	Estuary Monitoring Workgroup	Safe to Swim & Beach Water Quality Workgroups		N/A	
Ocean Waters	MPA Monitoring Enterprise, OPC, CCLEAN, CCAMP				
Wetlands	Wetland Monitoring Workgroup	N/A		N/A	
Groundwater	N/A	N/A	N/A	Safe to Drink Workgroup	

[Note: Striped cells indicate areas of future expansion.]

the wetland monitoring and assessment activities of twenty-three state, federal, and local agencies and non-governmental organizations.

- The CWMW orchestrated the development of a *Five Year Coordinated Work Plan for Wetlands Conservation Program Development* signed by the Department of Fish and Game and State Water Resources Control Board and submitted to U.S. EPA. This document is a key qualification that will enhance California's competitiveness for future federal wetland program funding.
- The **Bioaccumulation Oversight Group's** (BOG) first year sport fish contaminant survey and report (discussed above) was a joint effort of the Water Boards' Surface Water Ambient Monitoring Program (SWAMP), the Regional Monitoring Program (RMP) for San Francisco Bay, and the Southern California Bight RMP. The unprecedented coordination among these three programs resulted in considerable benefits to each partner, and resulted in a very thorough assessment of contaminants in coastal sport fish from the regions sampled in 2009. The study has provided information that will be valuable in prioritizing areas in need of further study, support development of consumption guidelines and cleanup plans, and provide information the public can use to be better informed about the degree of contamination of their favorite fishing spots. Updated safe eating guidelines for San Francisco Bay, based largely on the SWAMP/RMP monitoring data, were released by the Office of Environmental Health Hazard Assessment (OEHHA) in 2011.
- The BOG began planning a joint project with U.S. Geological Survey and U.S. Fish and Wildlife Service to evaluate food chain mercury bioaccumulation and risks to birds.

- The Healthy Streams Partnership began a new collaboration with the **U.S. EPA's Healthy Streams Initiative**, accepting EPA-funded contractor support for portal development that integrates a number of data types to identify California's healthy watersheds. This integrated assessment is envisioned to be added to the *My Water Quality* portal "**Are our stream and river ecosystems healthy?**" in a future version.
- In June, the Monitoring Council provided comment to the **Delta Stewardship Council** on its draft *Delta Plan*, calling for increased coordination using the tools provided through the Monitoring Council's *Comprehensive Strategy* and its theme-specific workgroups. In October, the Monitoring Council provided information to the Delta Stewardship Council's **Independent Science Board** on the Monitoring Council's efforts to coordinate water quality monitoring, assessment and reporting for estuaries and wetlands, including those in the Sacramento-San Joaquin Delta.
- The Monitoring Council provided comments to the **Ocean Protection Council** on its draft Strategic Action Plan, identifying overlapping goals and offering a collaborative relationship between the two councils. The Monitoring Council believes that the Ocean Protection Council could benefit from incorporating aspects of the Monitoring Council's *Comprehensive Monitoring Program Strategy for California*, specifically its theme-specific workgroup collaboration model and question-based data integration and web portal focus. Unfortunately, these concepts were not incorporated into the latest draft of OPC's Strategic Plan.
- In 2011, the Monitoring Council's **California Water Quality Monitoring Collaboration Network** (Network) continued offering its popular webinar series, sharing technical information and support tools for monitoring, assessment and reporting to promote collaboration with and between citizen and regional monitoring efforts. A total of eleven webinars were hosted, all available for online viewing at http://www.mywaterquality.ca.gov/monitoring_council/collaboration_network/index.shtml#webinar. Two of these web-based seminars were co-sponsored by the National Water Quality Monitoring Council and one with the Delta Stewardship Council. By collaborating with these groups the Network was able to expand its audience, promote awareness of the Monitoring Council and bring topics of significance to California's water quality monitors. The Network also entered the social media scene with creation of the group *California Water Quality Monitoring Professional Network* on LinkedIn, a business-related social networking site with over 120 million registered users, furthering communication among California's water quality monitors.

Data Management

- Under the direction of the Monitoring Council, the **Data Management Workgroup** was formed to address coordination issues that are common to all of the theme-specific workgroups in the areas of data management, data sharing between agencies and other organizations, web development, and geospatial information systems. In its first two meetings, membership included state agencies (Department of Water Resources, Department of Fish and Game, Department of Public Health, Water Boards, California Technology Agency, Natural Resources Agency), non-governmental organizations (Ocean Science Trust, Heal the Bay, San Francisco Estuary Institute, Southern California Coastal Water Research Project), academic research labs (Cal State University's Council on Ocean Affairs, Science and Technology, Lawrence Berkeley National Laboratory), and private industry (IBM, Microsoft, Esri, 34 North) and the Southern California Ocean Observing System. The Data Management Workgroup has

asked each of the theme-specific workgroups to identify their high priority data sets to which they need access, existing data access restrictions, and other data, web and GIS issues needing resolution. Next steps include development of a workgroup strategy and a prioritization of those issues.

- Fish contaminant data displayed in the *My Water Quality* portal “**Is it safe to eat fish and shellfish from our waters?**” is now provided by the **California Environmental Data Exchange Network** (CEDEN; www.ceden.org). Other portals will switch their data feeds to come from CEDEN in the near future. CEDEN is soon to become the definition of “readily available data” for periodic evaluations of the quality of California’s waters and listing of impaired waters by the Water Boards pursuant to the Clean Water Act.
- A new **Beach Watch Database** was launched in 2011, hosted by the Southern California Coastal Water Research Project (SCCWRP). This new system features a more user-friendly and efficient platform for coastal county health agencies that are required to perform beach monitoring pursuant to AB 411 (Statutes of 1997) to upload and manage their data. The new database incorporates many user requested features to encourage more frequent data entry and will directly upload beach data to U.S. EPA on a more frequent basis than the once per year requirement. This new database feeds its data directly into the CEDEN from which the data is displayed to the public via the *My Water Quality* portal “**Is it safe to swim in our waters?**” CEDEN already includes bacterial indicator data collected from California’s freshwater lakes, reservoirs, streams, and rivers, allowing the portal to begin displaying swimming safety information for these inland waters in the near future. Additional portal enhancements have been prioritized by the **Safe to Swim Workgroup**.

New Monitoring Council Members

- At the end of 2010, Gary Yamamoto retired as Chief of the Division of Drinking Water and Environmental Management, the Monitoring Council Member representing the California Department of Public Health. The new CDPH Division Chief, Leah Godsey Walker, replaced Mr. Yamamoto as a Monitoring Council Member in early 2011.
- Dr. Steven Steinberg, Co-Director of the Klamath Watershed Institute at Humboldt State University, represented citizen monitoring groups on the Monitoring Council since the Council’s inception in 2008. At the end of May 2011, Dr. Steinberg ended his service with the Institute and left the Monitoring Council to become the Project Manager for the California Environmental Data Exchange Network (CEDEN). In June, John Norton of the Sierra Streams Institute joined the Monitoring Council replacing Dr. Steinberg.
- In early August, Linda Sheehan stepped down from her position as Executive Director of the California Coastkeeper Alliance to start a new environmental nonprofit. At the same time, she relinquished her position on the Monitoring Council. Sara Aminzadeh, Interim Executive Director of the California Coastkeeper Alliance was appointed to the vacant position. Sara had been Linda Sheehan’s Alternate on the Monitoring Council.

Additional information on the California Water Quality Monitoring Council, its Comprehensive Strategy, and its workgroups may be found on the internet at http://www.mywaterquality.ca.gov/monitoring_council/. The *My Water Quality* web portals are available through the global access point, www.CaWaterQuality.net.

INCREASED COORDINATION CRITICAL TO THE SUCCESS OF WATER RESOURCE MONITORING, ASSESSMENT, AND REPORTING

Successful management of our aquatic resources will require increased coordination between governmental and non-governmental agencies and organizations that monitor and assess the health of our aquatic resources, including improved access to the data and the assessment information that results from these efforts. Fortunately, you will not need to initiate this coordination. An existing organization, the California Water Quality Monitoring Council, has been mandated to address these deficiencies by the legislature, the California Environmental Protection Agency, and the California Natural Resources Agency. The Monitoring Council's solution to improve water quality and associated ecosystem monitoring, assessment, and reporting, contained in their *Comprehensive Monitoring Program Strategy for California*, is already being implemented to address a number of key water quality and ecosystem related management questions. I encourage your programs to become partners in these efforts.

Multiple pieces of legislation enacted in recent years recognize the existing lack of coordination between organizations that monitor, assess, and report on water quality and the health of our aquatic ecosystems. Differences in monitoring objectives, data collection methods, assessment strategies, and data management make it difficult or impossible to bring these data together so as to develop a clear picture of the condition of our aquatic resources, related public health and welfare issues, and the effectiveness of agency programs to manage our aquatic resources. The success of our regulatory and resource and management programs depends on addressing these deficiencies.

Many state, federal and local agencies, regulated entities, and water bond grant recipients spend millions of dollars each year monitoring, assessing and reporting on water quality and the condition of aquatic ecosystems. While some coordination efforts currently exist, there is no overall structure to coordinate all of these activities nor is there a universally agreed upon way to integrate the data and information gained from these activities into coherent assessments of the condition of our aquatic resources. At present, the specific mandates of each agency and organization result in inconsistent monitoring objectives and methods to collect, assess, and manage the data, making it difficult to integrate data from different studies and sources. What is more, there is no single user-friendly place to access the data.

SB 1070 (Kehoe, 2006) calls on both governmental and non-governmental organizations that monitor water quality and associated ecosystem health to collaborate in their monitoring and assessment activities and to make the resulting information available to decision-makers and the public via the internet. Pursuant to this legislation, the California Environmental Protection and Natural Resources Agencies entered into a Memorandum of Understanding in 2007 establishing the California Water Quality Monitoring Council and tasking that organization with developing a strategy to address the problems cited in the legislation. The Monitoring Council's approach, as outlined in their December 2010 *Comprehensive Monitoring Program Strategy for California*, focuses first on providing a platform for intuitive, streamlined access to water quality and ecosystem health information that directly addresses users' questions. This approach includes a number of key features:

- A decentralized organizational structure of theme-specific, inter-organizational workgroups that operate within common policies and guidelines defined by the Monitoring Council to develop a complete set of theme-based internet portals;
- A single, global point of access to monitoring data and assessment information – the *My Water Quality* website (www.CaWaterQuality.net);

- A set of monitoring program performance measures that each issue-specific workgroup will use to design, evaluate, coordinate, and enhance monitoring, assessment, and reporting efforts;
- Coordination of monitoring and assessment methods that achieves an appropriate balance between statewide consistency and regional flexibility; and
- Decentralized data management practices that maintain data as close as possible to its source to ensure continued high quality, while providing data exchange mechanisms that allow increased access and the aggregation of data from multiple sources.

To date, a number of theme-specific workgroups and portals have been created, focusing on the themes of swimming safety, safety of eating fish and shellfish, and wetland ecosystem health. Additional workgroups have formed or are planned to address the themes of ocean ecosystem health, drinking water safety, and the health of California's streams and estuaries. Their successes to date clearly demonstrate that the Monitoring Council's vision is, indeed, correct.

As an example, the California Wetland Monitoring Workgroup has been aggressively working to standardize wetland mapping and assessment methods among twenty-five local, state and federal agencies and non-governmental organizations. Their strategy, *Tenets of a State Wetland and Riparian Area Monitoring Program*, was endorsed by the Monitoring Council last year. Included in their strategy are standard tools for mapping wetland extent, rapid methods for assessing the condition of wetlands (California Rapid Assessment Method or CRAM), and the Wetland Tracker data management system to record information on the extent and condition of wetlands as well as wetland restoration projects. Their California Wetland Portal (www.CaliforniaWetlands.net) makes all of this information available to agency decision makers and the public via the internet.

Recently, a Data Management Workgroup has been formed to address issues common to all of the theme-specific workgroups in the areas of data management, data sharing between agencies and organizations, geospatial information, and web development.

There are numerous benefits to your organization from becoming involved with the Monitoring Council and its workgroups:

- Deliver answers to the public about our water quality and aquatic ecosystems in a manner that is easy to understand
- Highlight and help to prioritize efforts to improve monitoring and assessment programs by revealing where data gaps, ineffective monitoring designs, lack of assessment tools, poor data integration, and other problems hamper statewide assessment and effective decision making
- Provide the opportunity to highlight the important work of the agencies and organizations involved
- Permit broader-based assessments than were previously possible
- Automate your programs' annual reporting efforts by focusing on meaningful environmental outcomes
- Lower your costs through improved coordination of monitoring and assessment, reduced duplication of efforts, and easier access to data and assessment information

As demonstrated by the Monitoring Council and its theme-specific workgroups, greater efficiency and effectiveness can be achieved through integration of existing programs and coordination efforts. I encourage your programs to become actively engaged in the efforts of the Monitoring Council's workgroups, to utilize the tools developed by these workgroups (e.g., monitoring and assessment methods, quality assurance, data management, and training), and to incorporate the Monitoring Council's approach to improved monitoring, assessment, and reporting into your strategic plans.

Additional information on the Monitoring Council, its workgroups, and the *Comprehensive Monitoring Program Strategy for California* is available online at the *My Water Quality* website (www.CaWaterQuality.net) by clicking on the left side link "About the California Water Quality Monitoring Council." To discuss these issues further, please contact Jonathan Bishop, Monitoring Council Co-Chair representing Cal/EPA, at (916) 341-5820 or jsbishop@waterboards.ca.gov or Dale Hoffman-Floerke, Monitoring Council Co-Chair representing the Natural Resources Agency, at (916) 653-8045 or dalehf@water.ca.gov. To schedule a briefing on the Monitoring Council, its workgroups and its comprehensive strategy, please contact Dr. Jon Marshack, Monitoring Council Coordinator, at (916) 341-5514 or jmarshack@waterboards.ca.gov.