CALIFORNIA WATER QUALITY MONITORING COUNCIL
Data Management Workgroup Meeting Notes
September 16, 2011, 10:00 AM to 3:00 PM
Cal/EPA Building, 1001 I Street, Sacramento, CA
Conference Room 550

Attendees *(in person and on the phone):*

Leo Anguiano	State Water Resources Control Board	languiano@waterboards.ca.gov
John Borkovich	State Water Resources Control Board	jborkovich@waterboards.ca.gov
Paul Collins	Ca Dept of Pubic Health	paul.collins@cdph.ca.gov
Aaron Cuthbertson	Ca Dept of Water Resources	acuthber@water.ca.gov
Mark Emmerson	Ca Dept of Public Health	memmerso@cdph.ca.gov
Michael Gardner	Ca Dept of Water Resources	mgardner@water.ca.gov
Scott Gregory	California Technology Agency	scott.gregory@state.ca.gov
Amanda Griesbach	Heal the Bay	agriesbach@healthebay.org
Cristina Grosso	San Francisco Estuary Institute	cristina@sfei.org
Catalina Guillen	Ca Dept of Water Resources	cguillen@water.ca.gov
Tony Hale	MPA Monitoring Enterprise	tony.hale@calost.org
David Harris	Natural Resources Agency	davis.harris@resources.ca.gov
Lisa Hazard	So Ca Coastal Ocean Observing System	lhazard@ucsd.edu
Keith Jackson	Laurence Berkeley Nat'l Laboratory	krjackson@lbl.gov
Jeff Kapellas	State Water Resources Control Board	jkapellas@waterboards.ca.gov
Krista Kamer	CSU, COAST	kkamer@sfsu.edu
Tom Lupo	Dept of Fish & Game	tlupo@dfg.ca.gov
Jon Marshack	State Water Resources Control Board	jmarshack@waterboards.ca.gov
David Osti	34 North	david@34north.com
Piotr Puszkiewicz	Microsoft	piotrp@microsoft.com
Dale Robinson	San Francisco State University	dhr@sfsu.edu
Armand Ruby	Ca Water Quality Monitoring Council	armand@armandrubyconsulting.com
Greg Smith	Ca Dept of Water Resources	gregs@water.ca.gov
Steve Steinberg	So Ca Coastal Water Research Project	steves@sccwrp.org
Shem Stygar	Ca Dept of Water Resources	sstygar@water.ca.gov
Dawit Tadesse	State Water Resources Control Board	dtadesse@waterboards.ca.gov
Meredith Williams	San Francisco Estuary Institute	Meredith@sfei.org
Peter Williams	IBM	peter.r.williams@us.ibm.com

ITEM:	1
Title of Topic:	**INTRODUCTIONS & ANNOUNCEMENTS**
Contact Person:	Steve Steinberg	steves@sccwrp.org, (714) 755-3260

ITEM:	2
Title of Topic:	**SB1070 AND MONITORING COUNCIL OVERVIEW**
Purpose:	Provide background for the workgroup and its mission in relation to the Water Quality Monitoring Council and its theme-specific workgroups

Attachments:	[Maximizing the Effectiveness of Water Quality Data Collection & Dissemination](#) – presentation by Jon Marshack
Contact Person:	Jon Marshack jmarshack@waterboards.ca.gov, (916) 341-5876
Discussion:	• Having smart phone apps for water quality information was raised and there was a consensus that it is an important tool for citizens to access and upload information. At present, there is an app called Creek Watch for users to upload trash and flow information about their local creeks. • Mobile websites were mentioned as an alternative to apps that do not require separate development for individual smart phone platforms. Mobile websites are designed for viewing on smart phones to have easy access to website information. The California Technology Agency has provided state agencies with templates to create mobile websites. Department of Fish and Game (DFG) has a mobile website for fishing, showing recreational facilities, stocking locations, etc. and it is receiving a lot of hits. It was suggested to have this DFG mobile website link to a mobile website version of the Safe to Eat Fish & Shellfish portal. A mobile website version of the Safe to Swim website would also be useful. • There was a consensus among the Workgroup on the importance of tracking the use and usability of the CWQMC web portals. • The question based portal approach that CWQMC applied in its website and portals has been recognized as important and should be a model to other agencies. Questions that need to be addressed provides the reason to bring data together. • The portals need to have data download capabilities in comma separated values format. • Does the Monitoring Council have any liability for information presented on the Safe to Swim or other portals? There is no liability because the information in the portal only presents information that is related to the question, such as whether there is any violation of the water quality standard. The Monitoring Council portal does not make a recommendation that a person to swim or not to swim in a particular location.

ITEM:	**3**
Title of Topic:	**CALIFORNIA TECHNOLOGY AGENCY PERSPECTIVE**
Purpose:	Provide a working context for the data management workgroup.
Background:	The California Technology Agency is the recognized central IT organization for the state, responsible for approval and oversight of all state information technology projects
Attachments:	[GIS in California: Spatial Data Infrastructure Discussion](#) – presentation by Scott Gregory
Contact Person:	Scott Gregory scott.gregory@state.ca.gov, (916) 403-9630

Discussion:	• The California Technology Agency (CTA) has a statutory obligation to work towards the consolidation of information technologies of State agencies.
	• CTA is in process of identifying Agencies that could be stewards for natural resources databases. Currently, the CTA is discussing stewardship for National Hydrography Dataset (NHD) with the Department of Water Resources (DWR). A California Mapping Coordinating Committee meets monthly and would be a good venue to discuss policy and standards for standardized base GIS content, such as the California Aquatic Resource Inventory (CARI) proposed by the San Francisco Estuary Institute.
	• The importance of developing an application programming interface (API) for water quality data, including metadata, was emphasized. CTA has funding and infrastructure available and can provide a platform to develop an API for interested agencies.
	• LisaHazard said that the Southern California Coastal Ocean Observing System (SCCOOS) has an API for offshore data that can be embedded in any design and is freely available for all to use.
	• Data licensing was raised in the context of data integration. Data need to retain source attribution (authoritative content). Scott Gregory stated that the need to license data is determined in case by case basis.
	o As possible solution, it was suggested that data authority should be carried all the way from origination to destination for accountability.
	o It was suggested that legislation may be needed.
	o The portals address this by displaying the logos of the organizations from which the data originated. However, the link with the source is lost when the data are downloaded or when data from multiple sources is combined in a website.
	o Authority issue often delays the release of data, making web content less timely.
	• Managing metadata requires more effort than managing actual data.
	• Does real time data need special management as compared with static sample data?

ITEM:	4
Title of Topic:	CURRENT MONITORING COUNCIL PORTAL ARCHITECTURE
Purpose:	Provide the Workgroup with a sense of how development of portals has progressed thus far and important issues that have been raised
Desired Outcome:	Identify existing data management issues and opportunities for improving data management and integration
Background:	Three portals have been made available to the public: • Is it Safe to Swim in our waters?

	• Is it Safe to Eat fish and shellfish from our waters? • Are our Wetland ecosystems healthy?
Attachments:	• My Water Quality website – access to portals – www.CaWaterQuality.net • My Water Quality Web Portal Data Infrastructure and Challenges - presentation by Jeff Kapellas
Contact Person:	Jeff Kapellas jkapellas@waterboards.ca.gov, (916) 324-9685
Discussion:	• There is a 24-hour delay between data change and the ability to serve new or altered data to the web via replicated "views." • The importance of using free open-source software (FOSS) was raised.

ITEM:	5
Title of Topic:	UPDATES ON CURRENT DATA MANAGEMENT PROJECTS
Purpose:	Brief updates from agencies to present current and planned data management systems and opportunities for interaction
Desired Outcome:	Identify common data management issues and opportunities/strategies to improve data management and integration
Attachments	• An Overview of CEDEN – presentation by Steve Steinberg • Biogeographic Information and Observation System (BIOS) – presentation by Tom Lupo
Discussion:	***Water Boards, California Environmental Data Exchange Network (CEDEN) – Steve Steinberg*** • www.ceden.org • CEDEN sends data to USEPA's Water Quality Exchange (WQX) through a Cal/EPA node ***Department of Fish and Game, Biogeographic Information and Observation System (BIOS) – Tom Lupo*** • www.bios.dfg.ca.gov • Develop map products, for vegetation, restoration, species distribution, including rare and endangered species. No water quality information. • DFG changed its role from data repository to data sharing • BIOS clients are professionals as opposed to public • BIOS has over 600 data sets • Other organizations use BIOS to sore data – US Fish & Wildlife Service, US Geologic Survey • CalFish.org created through MOU between state, federal, NGOs mainly to show coastal salmonids in the inland environment. Views BIOS data.

- DFG is steward for vegetation and biological resources data layers. DFG would prefer DWR take stewardship for aquatic atlas.

- Jeff Kapellas observed that publishing data as a service makes it hard to track use and by whom.

- Tony Hale indicated that it is important to differentiate between technology standards and scientific data standards. Jon Marshack indicated that the former will be addressed by the Data Management Workgroup, while the latter will be addressed by the theme-specific workgroups.

California Environmental Resources Evaluation System (CERES) – David Harris

- www.ceres.ca.gov

- Focus to support decision makers in conservation and emergencies e.g. fire

- Five systems with common back-end and pointers to other data

  o Natural hazards, emergency response data

  o CalAtlas – geospatial library for CTA, tiered architecture.

  o Emergency Data Exchange: supports emergency operations through a consortium of agencies

  o Shared data center

  o Strategic Growth Council (www.sgc.ca.gov) four agency secretaries, focus on coordinated policy on sustainability. Funding acquired to develop data library – sustainability indicators

- David recommends keeping a defined focus for Monitoring Council efforts.

- Peter Williams recommended that structured questions be used to determine which data to mine.

Department of Water Resources (DWR) – Greg Smith

- DWR is willing to be a steward for NHD but cost is an issue and this is not part of their perceived mission. Would need budget change proposal approved to pursue (next cycle?).

- Greg chairs the GIS group for DWR.

- There are about 250 datasets within the agency, some could be replicated or shared internally/externally.

- DWR statewide data program includes:

  o Hydrologic

  o Ground water

  o Surface water

  o Climate

  o Water quality

- DWR has a database called Water Data Library for public use.

	• Data management issues they encounter include:
	
	   o Hard to identify who has what data within the agency
	
	   o Those programs that rely on data, do not necessarily pay for the data to be mainteined. Therefore, very hard to sustain.
	
	• DWR envisions a new Water Planning Information Exchange (Water PIE), a browser enabled GIS tool designed to connect to and bring data together from various sources (utilities, cities, counties, state agencies. This is being designed to serve the California Water Plan development. Expect prototype by late 2012 or early 2013.
	
	GeoTracker GAMA Groundwater Information System – John Borkovich
	
	• Has 7 data sets including CDPH drinking water, site cleanups by Regional Water Boards, Domestic Well Investigation Project, DWR, DPR, and USGS, and LLNL through a database warehouse approach
	
	• Data are manually uploaded (e.g., from CDs from data suppliers)
	
	• There are about 200 different chemicals in the database with information
	
	• Recently added water level data and well logs for site cleanup monitoring wells.
	
	California Department of Public Health (CDPH), Drinking Water Division – Paul Collins
	
	• Water quality database for public water systems - over 25 million records
	
	• Electronic data submittal coming soon
	
	• Through UC Davis, Information System for the Environment (ICE) plan to develop drinking water portal to provide monitoring data to public.
	
	• Regulatory database, tracks addresses, violations, etc.
	
	• Development of infrastructure
	
	• Specialist portal source water assessment program. Assess the source water vulnerability and GPS source location
	
	• Electronic annual reporting system – want to add consumer confidence report (CCR) – display through drinking water portal in future?
	
	   o Large water systems annual report. Contact list
	
	• Public water system boundary project (UCD, ICE) – searchable; public will be able to find their water source from a map-based interface.

ITEM:	6
Title of Topic:	MEETING WRAP-UP
Purpose:	1) Summarize meeting. 2) Review action items. 3) Develop agenda items for next meeting.

Contact Person:	Steve Steinberg	steves@sccwrp.org, (714) 755-3260
Discussion & Action Items:	- Common themes: - Spatial data emphasis - Pulling together data – integration - Data quality – minimum data elements need to be required - Serving data to the public from a variety of systems - Need information specific tools/technologies for data integration and visualization to share between agencies – library of tools needed? - The next meeting will be in a month and half time period. - California Water Quality Monitoring Council (CWQMC) staff, Jon Marshack will collect specific needs for data management from all Council's thematic workgroups and present them in the next Workgroup meeting. What are the problems in data management? What datasets should be a priority for access? Where are the data gaps? What data restrictions currently exist? - There was a consensus that developing specific tools and Application Programming Interface (API) are important for accessing data. - IBM research office in San Jose could help in researching tools for integrating data and research proposal may be needed. - The Workgroup recognized that some data are legislatively restricted and could be an issue for integration e.g. domestic well information - Real time Ocean water quality data management fits into the Council's ocean-focused workgroups. - Coming up with standards and having users apply standards have been problematic. The preferred way would have been to be standard "free". However, it is important to differentiate between technology standard and scientific standard. We cannot waive scientific standards and scientific standards should be met but we can produce standard "free" technologies.	

September 29, 2011