

**California Water Quality Monitoring Council**  
**Data Management Workgroup Meeting Notes**

**November 22, 2011—10:15 AM to 3:00 PM**

Training Room 1, East/West – First Floor  
 Joe Serna Jr. Cal/EPA Headquarters Building  
 1001 I Street, Sacramento, CA



**Attendees** (in person or on WebEx):

Leo Anguiano, SWRCB Michael Dangermond, Esri Shawna Dark, CSU Northridge, Center for Geographic Studies Bill Ehorn, DWR Mark Emmerson, CDPH Cristina Grosso, SFEI Tony Hale, CA Ocean Science Trust, MPA Monitoring Enterprise David Harris, California Natural Resources Agency Quinn Hart, UC Davis, CERES	Jeff Kapellas, SWRCB Kevin Long, SWRCB Tom Lupo, CDFG Jon Marshack, Monitoring Council David Osti, 34 North Jodi Pontureri, SWRCB Greg Smith, DWR Steve Steinberg, SCCWRP Meredith Williams, SFEI Peter Williams, IBM Adam Wolfe, CDFG
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<b>ITEM:</b>	<b>1</b>	
<b>Title of Topic:</b>	<b>Introductions &amp; Announcements</b>	
<b>Contact Person:</b>	Steve Steinberg	steves@sccwrp.org, (714) 755-3260

<b>ITEM:</b>	<b>2</b>	
<b>Title of Topic:</b>	<b>Data Management Technologies and Approaches - IBM</b>	
<b>Purpose:</b>	Information	
<b>Contact Person:</b>	Peter Williams	peter.r.williams@us.ibm.com, (925) 648 7975
<b>Attachments:</b>	<ul style="list-style-type: none"> <li>• <a href="#">Data Integration Approaches and Technologies</a> - presentation by Peter Williams</li> <li>• <a href="#">Toward an Integrative Software Infrastructure for Water Management in the Smarter Planet</a> - referenced paper by Barbara Eckman, <i>et al</i></li> </ul>	
<b>Notes:</b>	<ul style="list-style-type: none"> <li>• Stage data integration based on the need to respond to questions</li> <li>• Prioritize based on value of answers</li> <li>• Distributed data federation is potentially more powerful than data warehouse approach, though potentially more complex</li> <li>• Append unstructured data, such as photos and newspaper articles, to increase search potential</li> </ul>	

	<ul style="list-style-type: none"> <li>• Think of water quality as a product brand. What factors impact the quality of the brand?</li> <li>• Model integration allows more predictive querying and more rapid responses</li> </ul>
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<b>ITEM:</b>	<b>3</b>	
<b>Title of Topic:</b>	<b>Data Management Technologies and Approaches - Lawrence Berkeley National Lab</b>	
<b>Purpose:</b>	Information	
<b>Contact Person:</b>	Keith Jackson	KRJackson@lbl.gov, 510-486-4401
<b>Notes:</b>	Item postponed to a later meeting	

<b>ITEM:</b>	<b>4</b>	
<b>Title of Topic:</b>	<b>MPA Monitoring Enterprise – An Ocean Data Perspective</b>	
<b>Purpose:</b>	Information	
<b>Contact Person:</b>	Tony Hale	tony.hale@calost.org, (510) 251-8330
<b>Attachment:</b>	<a href="#">Evolving MPA Monitoring: Technology Solutions to Inform Decisions</a> - presentation by Tony Hale	
<b>Notes:</b>	<ul style="list-style-type: none"> <li>• The scale of ocean monitoring differs from other water quality monitoring</li> <li>• Pursuant to the Marine Life Protection Act, Marine Protected Areas (MPAs) collect data over a five year period before reporting out. The Central Coast MPA will be assessed first.</li> <li>• OceanSpaces.org <ul style="list-style-type: none"> <li>○ Objective is to connect science with policy and management, to develop expert judgments on the data</li> <li>○ Develop new on-line community of decision makers, fishermen, scientists, etc. beginning with scientists and organizational partners</li> <li>○ Interests / places / users / organizations</li> <li>○ Dashboard may be customized by the user</li> <li>○ Allow organizations to offer specialized filtering of information to viewers</li> <li>○ Users may subscribe to different content</li> <li>○ Will McClintock's team at UC Santa Barbara developing visualization tools</li> </ul> </li> </ul>	

	<ul style="list-style-type: none"> <li>○ Upload data tool plus meta-data standards</li> <li>○ Expect alpha-testing with a few selected partners in near future</li> <li>○ Allow users to help guide development</li> <li>○ May be able to integrate question-driven content to create Ocean Health portal appended to OceanSpaces.org</li> </ul>
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<b>ITEM:</b>	<b>5</b>	
<b>Title of Topic:</b>	<b>SFEI – Portal Development and Data Management</b>	
<b>Purpose:</b>	Present examples of current portal development and data management approaches and/or issues that affect their progress.	
<b>Background:</b>	SFEI has been integral to the development of the Wetland portal (currently available) and is leading development of the Streams portal.	
<b>Contact Person:</b>	Cristina Grosso	cristina@sfei.org, (510) 746-7371
<b>Attachment:</b>	<a href="#">SFEI's Portal Development and Data Management</a> - presentation by Cristina Grosso	
<b>Notes:</b>	<ul style="list-style-type: none"> <li>• Automate processing where possible</li> <li>• Difficulty standardizing on location names</li> <li>• Move WetlandTracker toward Aquatic Atlas that would support multiple data hosting platforms</li> <li>• Currently funded through grants. Stable funding source needed.</li> <li>• Map viewers of data have difficulty displaying data from the same lat/long</li> <li>• Kriging and interpolation – How to differentiate between measured values and modeled ones? Different uncertainties exist. How can this be communicated through maps?</li> </ul>	

<b>ITEM:</b>	<b>6</b>	
<b>Title of Topic:</b>	<b>Data Management Needs of the Theme Based Workgroups</b>	
<b>Purpose:</b>	Each workgroup was asked to provide feedback regarding data management needs and how the DMWG can help support their work. A summary of these responses will be presented for discussion.	
<b>Desired Outcome:</b>	Identify opportunities for the DMWG to support the needs and objectives of the theme-based workgroups as we develop our strategy going forward.	
<b>Contact Person:</b>	Jon Marshack	jmarshack@waterboards.ca.gov, (916) 341-5514

<b>Attachments:</b>	<p>Theme-Specific Workgroup Data Issues:</p> <ul style="list-style-type: none"> <li>• <a href="#">Wetland Monitoring Workgroup</a></li> <li>• <a href="#">Bioaccumulation Oversight Group</a></li> <li>• <a href="#">Safe to Swim Workgroup</a></li> </ul>
<b>Notes:</b>	<p>See the above input from theme-specific workgroups.</p> <ul style="list-style-type: none"> <li>• National Hydrography Dataset (NHD) <ul style="list-style-type: none"> <li>○ Department of Water Resources sees no problem with taking stewardship of California's portion of NHD. Level of effort and funding are issues that need to be resolved.</li> <li>○ Esri is working to be more cartographic – “hydro base map” based on NHD+ with added tools for searching and data aggregation</li> <li>○ Need to capture changes and refinements made by local and regional stewards and make them generally available.</li> </ul> </li> <li>• Data Access – Data Management Workgroup may need to weigh in <ul style="list-style-type: none"> <li>○ Department of Fish &amp; Game policy on public data availability being reviewed/revised. Data on permits to collect organisms must go into DFG database – see BIOS website.</li> <li>○ Department of Water Resources grant data must go into a “statewide database” which is not currently specified in grant agreements</li> <li>○ Water Board require grant data to be entered into CEDEN</li> <li>○ Intellectual property rights dispute may lead to contract moratorium – University of California disagrees with state agencies</li> </ul> </li> <li>• Smart phone apps – Suggested teaming with high schools and universities to develop through competition – advertise data availability</li> <li>• May need common data management systems behind multiple portals</li> </ul>
<b>Decisions:</b>	<ol style="list-style-type: none"> <li>1) Three topics needing resolution and decisions by Monitoring Council: <ol style="list-style-type: none"> <li>a) Linkages between databases (e.g. between CEDEN and CIWQS)</li> <li>b) Minimum format standards needed for data submittal</li> <li>c) Standardized mapping protocols</li> </ol> </li> <li>2) Questions for all theme-specific workgroups <ol style="list-style-type: none"> <li>a) What specific data elements are needed in each desired data set? <ul style="list-style-type: none"> <li>– elements/sets common to multiple portals will receive higher priority for integration</li> </ul> </li> <li>b) What tools are currently being used or are needed? <ul style="list-style-type: none"> <li>– share with others</li> </ul> </li> <li>c) What current data elements of which data sets are currently integrated in each portal?</li> </ol> </li> </ol>

<b>ITEM:</b>	<b>7</b>	
<b>Title of Topic:</b>	<b>Workgroup Strategy</b>	
<b>Purpose:</b>	Begin to develop an understanding of the charge to this workgroup as a basis for developing a charter and work plan at our next meeting.	
<b>Contact Person:</b>	Steve Steinberg Jon Marshack	steves@sccwrp.org, (714) 755-3260 jmarshack@waterboards.ca.gov, (916) 341-5514
<b>Attachments:</b>	<ul style="list-style-type: none"> <li>• <a href="#">Data Management Workgroup Strategy: Our Charge from the Monitoring Council</a> - presentation by Steve Steinberg</li> <li>• <a href="#">Monitoring Council Comprehensive Monitoring Program Strategy Excerpt</a> See Section 2.2.5 "Improved data management" beginning on page 26 of the Monitoring Council's comprehensive monitoring program strategy report. Data Management subsections also are found on pages 40 and 41</li> </ul>	
<b>Notes:</b>	<ul style="list-style-type: none"> <li>• Standardized data attribution needed for downloaded and displayed data</li> <li>• Can newly generated data be fed into existing systems instead of creating new databases?</li> <li>• CEDEN is a hybrid between a data warehouse and a federated system</li> <li>• It is important to document what has been done to aid development of a rational system of data design tools</li> </ul>	

<b>ITEM:</b>	<b>8</b>	
<b>Title of Topic:</b>	<b>Meeting Wrap-Up</b>	
<b>Purpose:</b>	<ol style="list-style-type: none"> <li>1) Summarize meeting</li> <li>2) Review action items</li> <li>3) Develop agenda items for next meeting</li> </ol>	
<b>Contact Person:</b>	Steve Steinberg	steves@sccwrp.org, (714) 755-3260
<b>Notes:</b>	<ul style="list-style-type: none"> <li>• Leveraging federated data sources is a realistic solution for meeting the needs of the workgroup portals</li> <li>• Specific data requirements and sources required by the workgroups need to be clearly articulated. DMWG will then assess data sources and technology options for data management/data exchange.</li> <li>• Need for a means to track and communicate data lineage and metadata with data provided to portals</li> <li>• There is need for a common and centrally managed hydrologic base map</li> <li>• Next meeting: begin to articulate a strategy.</li> </ul>	