

California Water Quality Monitoring Council
Data Management Workgroup Meeting Notes
August 5, 2015 — 1:00pm to 4:00pm

Conference Room 240
 Joe Serna Jr. Cal/EPA Headquarters Building
 1001 I Street, Sacramento, CA



ITEM: #	1
Title of Topic:	Introductions, announcements & agenda review
Contact Person:	Gary Darling gary.darling@water.ca.gov Tony Hale tonyh@sfei.org , (510) 746-7381
Attendees:	<p><u>In person:</u> Jarma Bennett, State Water Board Tony Hale, San Francisco Estuary Institute-Aquatic Science Center George Isaac, Delta Stewardship Council, Science Program Kris Jones, Water Quality Monitoring Council & Dept. of Water Resources Jon Marshack, Water Quality Monitoring Council & State Water Board Hildie Spautz, Department of Fish and Wildlife</p> <p><u>On the phone:</u> Patrick Atwater, ARGO Labs Avery Blackwell, Geosyntec Selina Cole, Central Valley Regional Water Board Mike Fuller, Department of Conservation Amy Gardner, AECOM Justin Grewal, Orange County Public Works Todd Granicher, California State University-Sacramento Maiko Kasuya, City of San Diego Jim Kreft, US Geological Survey Jeremy McHugh, US Geological Survey Dave Osti, 34 North Nicole Sears, Sacramento Regional County Sanitation District Tad Slawecki, LimnoTech Vyomini Upadhyay, Sacramento Regional County Sanitation District Cody Wilgus, Grad Student at Bren School of Env Science & Mgmt. Yuen Yap, Stetson Engineers</p>

ITEM: #	2
Title of Topic:	Proposal: New Subcommittees
Purpose:	Proposed Subcommittees on: (1) White Paper Topics; (2) Data Standards/Best Practices
Desired Outcome:	Seek approval for the drafting of memos or brief white papers that might help to define, illuminate, and explore topics of critical importance. These writing efforts would strategically complement the recommendations found within the

	<p>upcoming Environmental Data Summit white paper, soon to be published by the Delta Stewardship Council. They would range in purpose from providing general background information – such as concept definitions, vendors to consult, opportunities to explore – to serving as formal position papers that could represent the collective will of the Data Management Workgroup.</p> <p>Proposed topics would include:</p> <ol style="list-style-type: none"> Data management plans Data federation Web services Data standards Data visualization <p>The target audience would be our fellow workgroups and the governmental agencies and non-governmental organizations that they represent.</p>
Attachment Link:	<p>Delta Stewardship Council, draft Environmental Data Summit white paper, Enhancing the Vision for Managing California's Environmental Information</p>
Contact Person:	<p>Tony Hale tonyh@sfei.org, (510) 746-7381</p>
Notes:	<p>The intent is to develop details to help managers understand the options for implementing Data Summit white paper recommendations, to help bridge the gap between IT and scientists, and to develop a roadmap to get things done. Flexibility of outputs/deliverables was stressed – templates, presentations, issue papers. Experts could be brought in to help on specific issues. Interactive engagement with other Monitoring Council workgroups encouraged. Initial audience would be Monitoring Council workgroups. Ultimate audience would be broader, including agency managers.</p> <p>Patrick Atwater mentioned that there would be a Water Data Summit in Irvine Ranch on Tuesday (Aug 11). Scope will be water usage and demand management. Sharing customer data across local utilities is a sensitive issue, especially as it relates to data processing and transformation prior to exchange and how data could be anonymized. Gary Darling had expressed interest in this topic, earlier.</p> <p>SFEI-ASC is developing a communications plan for the Delta RMP</p>
Decisions:	<p>Subcommittee volunteers:</p> <ol style="list-style-type: none"> Data management plans – Tony Hale, Steve Steinberg, Selina Cole, Vyomini Upadhyay Data federation – Tad Slawecki and Tony Hale; Dave and Amye Osti as reviewers; Salina Cole and Vyomini Upadhyay also interested Web services – Jarma Bennett, Cristina Grosso, Jeff Kapellas (?), Gary Darling (?) Data standards – Tony will help document standards used through the workgroup survey. <p>Volunteers for the data standards and data visualization subcommittees will be considered at a later date.</p>
Action Items:	<ul style="list-style-type: none"> George Isaac will send near-final draft of white paper to Patrick Atwater.

	<ul style="list-style-type: none"> Patrick will share what comes out of Water Data Summit in Irvine Ranch. Tony will ask Jeff Kapellas and Gary Darling about joining the web services subcommittee. Subcommittees should begin to develop their initial products in about two months.
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ITEM: #	3	
Title of Topic:	James Kreft – Water Quality Exchange (WQX)	
Purpose:	Informational: Introduction to Water Quality Exchange & STORET	
Desired Outcome:	<p>James Kreft will share with us the features, purpose, and future outlook for the Water Quality Exchange (WQX) framework.</p> <p>WQX is a framework that makes it easier for States, Tribes, and others to submit and share water quality monitoring data over the Internet. Varied organizations can now submit data directly to the publicly-accessible STORET Data Warehouse using the WQX framework. The STORET (short for STorage and RETrieval) Data Warehouse is a repository for water quality, biological, and physical data and is used by state environmental agencies, EPA and other federal agencies, universities, private citizens, and many others.</p> <p>The California Environmental Data Exchange Network (CEDEN) currently has an EPA-funded grant to connect its data to WQX. This would greatly expand the potential audience for CEDEN data.</p> <p>James will help the DMWG to explore the requirements and opportunities for data repository integration into WQX for CEDEN and other California databases.</p>	
Contact Person:	tonyh@sfei.org	tonyh@sfei.org , (510) 746-7381
Attachment Link:	Jim Kreft's presentation	
Notes:	<p>The Water Quality portal (www.waterqualitydata.us) is an initiative of the National Water Quality Monitoring Council that provides data from a number of federal water quality data systems in a common format. Using the WQX interchange standard, the portal initially served data from the U.S. Geological Survey's National Water Information System (NWIS) and USEPA's STORET. More recently, data from the U.S. Department of Agriculture, Agricultural Research Service's STEWARDS database have been added to the combined portal. Extract-Transform-Load (ETL) process are used to bring data from source databases to the portal, rebuilding NWIS data nightly and STORET data twice per week. USGS' Biodata System has also been added. National Park Service data are brought in through STORET. Discussions have begun with the U.S. Forest Service about accessing their water quality data.</p> <p>A web services client drives the portal. The portal serves a number of data types, including physical, chemical, and biological data. Habitat data, water quality metrics and indices will be added next fiscal year. The portal is served through a responsive design, allowing users on tablets, smart phones, and</p>	

	<p>computers to access its services.</p> <p>Jim demonstrated a number of the Water Quality Portal's features. Data can be selected within a hydrologic unit code (HUC), for a site, from a data source, and for a specific data type, parameter, or project. Sites that have data matching a user's query are first shown on a map. Data can then be downloaded. A RESTlike Query service presents a URL that can be imbedded into a user's program or data visualization tool to reproduce a user's query on the fly at a future time. New data management tools (clients) are being developed using the R and Python programming language. Extensive documentation and metadata descriptions are available on the website. The mapping tool is built on open-source standards.</p> <p>WQX represents a good model for data federation. If a particular kind of data is not currently able to be handled but there is interest in adding it, USGS and USEPA are willing to add it to their workplan. However, WQX is not well suited to handle continuous data, such as produced by water quality sondes/probes. A committee of the National Water Quality Monitoring Council is addressing standards for continuous data, as well as QA/QC issues.</p>
Action Items:	Ask Dwane Young or Charles Kovatch to attend the next Data Management workgroup meeting to discuss STORET.

ITEM: #	4
Title of Topic:	Flash Round! 5-minute updates on topics related to the workgroup
Purpose:	Informational: What is happening in the community? Examples might include progress updates on portal development efforts, potential connections to related projects, upcoming presentations and conferences, and new innovations we should assess.
Desired Outcome:	Information and planning: This item allows for anyone to contribute news about developments that haven't been covered earlier in the meeting. We are looking for news related to water quality, ecosystem health, and data management. Please confine your update to 5 minutes.
Contact Person:	Tony Hale tonyh@sfei.org , (510) 746-7381
Notes:	<p>Estuary Portal – A new portal mockup has been created with easier navigation, management tools, dashboards, and better navigation. It will be presented to the Monitoring Council on August 27. If approved, this mockup could allow other workgroups and portals to share tools and further collaborative efforts, especially within the ecosystem health theme.</p> <p>Monitoring Council Meeting – August 27 at the Cal/EPA Headquarters Building</p> <p>CEDEN-WQX Connection – Jarma Bennett discussed this new effort to create a connection between CEDEN to WQX and to develop web services for the portals and an expanded query tool.</p> <p>DWR, Division of Environmental Services – Developing a roadmap to web services, new database and data exchange, organizing data from IEP Tidal</p>

	<p>Wetlands fish project, habitat restoration and others.</p> <p>DEDUCE Project – SFEI collaborating with the Delta Conservancy to pull together additional Delta nutrients and toxic contaminants data sets that are not otherwise readily available and adding them to CEDEN.</p> <p>Delta Juvenile Fish Monitoring Program data – 34 North is working with Matt Dekar of the U.S. Fish and Wildlife Service to bring beach seine and trawl data into a dashboard through web services, as part of the Estuary Portal.</p> <p>Department of Fish and Wildlife, Prop. 1 solicitation – Need for submittal of data to standard locations and looking for statewide repository solutions.</p>
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ITEM: #	5	
Title of Topic:	Deprecation Doomsday? – Google Mapping Services	
Purpose:	Decision: With the deprecation of Google Earth, Google Earth API, Google Maps Engine API, how will our Portals cope? Are they ready to adapt to alternatives or are some using legacy software?	
Background:	<p>In 2011, the Data Management Workgroup advised our kindred workgroups to navigate the perils of a Google API change. Now, the portals face a much broader and pressing problem. Google is deprecating a series of mapping tools. This leaves the future uncertain for many of Google’s tools.</p> <p>Are the Portals prepared for this change? As they adapt, should we offer guidance toward something specific? For instance, there is a range of alternatives, including CartoDB, ESRI, OpenLayers, Mapbox, etc. Should we recommend one over another?</p> <p>Can we also regard this as an opportunity to educate the workgroups on the benefits of “storymaps” and other integrative technologies?</p>	
Desired Outcome:	Determine the course of action and scope of response for the DWMG’s advisory role on this matter.	
Contact Person:	Steve Steinberg Tony Hale	steves@sfei.org , (714) 755-3260 tonyh@sfei.org , (510) 746-7381
Notes:	<p>The Data Management Workgroup earlier developed advice on dealing with the deprecation of an earlier Google Maps API, urging the use of open layers and other open source solutions. Google Earth’s days may be numbered. Alternatives exist, some through cloud-based resources. Tools based on these APIs will no longer work after deprecation dates. 34 North’s Bay-Delta Live and portals for the Estuary Workgroup and San Joaquin River Watershed and SFEI’s EcoAtlas use OpenLayers 2 and are experimenting with OpenLayers 3. Most of the portals use non-Google APIs. There is reluctance among state agencies to use open source software, citing less control and less packaged support.</p> <p>Steve Steinberg may have more to say at a later workgroup meeting.</p>	

ITEM: #	6	
Title of Topic:	Next meeting and agenda items	
Purpose:	Identify topics and responsibilities for inclusion in our next workgroup meeting.	
Background:	Previously the DMWG selected the 1 st Wednesday of even months for its meeting time. However, our next meeting conflicts with a major event. Therefore, we will discuss the upcoming schedule.	
Desired Outcome:	Agendize topics for next meeting as appropriate.	
Contact Person:	Tony Hale Gary Darling	tonyh@sfei.org , (510) 746-7381 gary.darling@water.ca.gov , (916) 651-9207
Notes:	October 7 is the next DMWG meeting date.	
Decisions:	<p>Potential topics:</p> <ul style="list-style-type: none"> a. WQX behind the Water Quality Portal (Charles Kovatch, Dwane Young) b. SWAMP data management (Melissa Morris) c. Subcommittee report-outs and draft deliverables <p>Selection of (a) or (b) will depend on availability.</p>	

September 15, 2015