California Water Quality Monitoring Council

Data Management Workgroup Meeting Notes

November 2, 2016 — 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, and minutes approval**
Purpose:	Decision: Share information and review materials.
Attachment Links:	• July 6, 2016 Workgroup Meeting Notes • September 7, 2016 Workgroup Meeting Notes • Data Management Workgroup collaboration site
Contact Person:	Gary Darling gary.darling@water.ca.gov, (916) 651-9207 Tony Hale tonyh@sfei.org, (510) 746-7381

Notes:	Attendees:
	  In Person:
	    • Jarma Bennett (SWRCB)
	    • Gary Darling (DWR)
	    • Tony Hale (SFEI)
	    • Jon Marshack (CA WQ Monitoring Council)
	    • Dave Osti (34 North)
	
	  On the Phone:
	    • Selina Cole (Central Valley RWQCB)
	    • Justin Grewal (Orange County Pub. Wks.)
	    • Amanda Iaali (Orange County Pub. Wks.)
	    • Brian Jordan (Tetra Tech)
	    • Dawn Koepke (McHugh, Koepke & Assoc.)
	    • Mitchell Lewiston (E&J Gallo)
	    • Ron Matuszek (City of Simi Valley)
	    • Devin Rocco (E&J Gallo)
	    • Nicole Sears (Sac County Regional San.)
	    • Grant Sharp (Orange County Pub. Wks.)
	    • Tad Slawecki (LimnoTech)
	    • Hildie Spautz (Dept. of Fish and Wildlife)
	    • Lori Sprague (USGS)
	
	The minutes for the July and September meetings were approved.

ITEM: #	2
Title of Topic:	**Planning for AB 1755**
Purpose:	Decision: We would like to decide how the DMWG itself sees its role in helping to fulfill the mandate of AB 1755, The Open and Transparent Water Data Act, with respect to advising on the implementation of the platform.

Background:	In September 2016, the legislation AB 1755 passed into law. It mandates that DWR, in consultation with the Monitoring Council, State Water Board, and Department of Fish and Wildlife, implement a data-sharing platform to promote sound decisions about water-related data – including water supply, water quality, and ecological – throughout California. From the Legislative Council's Digest of the bill:
	"This bill would enact the Open and Transparent Water Data Act. The act would require the department, in consultation with the California Water Quality Monitoring Council, the state board, and the Department of Fish and Wildlife, in accordance with a specified schedule, to create, operate, and maintain a statewide integrated water data platform that, among other things, would integrate existing water and ecological data information from multiple databases and provide data on completed water transfers and exchanges.
	"The act would require the department, in consultation with the California Water Quality Monitoring Council, the state board, and the Department of Fish and Wildlife, to develop protocols for data sharing, documentation, quality control, public access, and promotion of open-source platforms and decision support tools related to water data and to submit to the Legislature a report on those protocols. The act would require a recipient of state funds through a grant or contract for research or a project relating to the improvement of water or ecological data to adhere to those protocols or be ineligible for state funding."
	There are many open questions regarding the ways by which DWR would actively consult with the other entities named in the legislation. However, one way would be to utilize the convened representatives on the DMWG Steering Committee to empower the DMWG itself – this body – to accomplish some of the legwork involved in addressing technical questions, establishing implementation priorities, and/or facilitating the deliberations about key deliverables such as data interchange protocols.
Desired Outcome:	Identify what resources we currently have at our disposal to aid in the effort. What deficiencies – of information, labor, materials – would we need to fill before we could meaningfully contribute to the effort? What conflicts would we likely encounter as we conduct our work in service of this mandate?
Attachment Link:	Assembly Bill 1755, Chaptered September 23, 2016
Contact Person:	Tony Hale	tonyh@sfei.org, (510) 746-7381
Notes:	There are many moving parts and parties to AB 1755 and the path forward to complete the first deliverable – protocols for data sharing, documentation, quality control, public access, and promotion of open-source platforms and decision support tools – by January 2018 is unclear. Jon Marshack suggested that the Data Management Workgroup and Steering Committee could help by beginning to develop recommended protocols as soon as possible, prior to potential AB 1755 implementation funding appearing in the budget for FY 2017-18.
	Workgroup members would like to see the work put into existing data systems preserved, if not enhanced, not scrapped in attempts to make one system to handle off the pertinent data. Adding web services to existing systems or

	creating a data federation between existing systems are potential options. The California Open Data Portal run by the Government Operations Agency at www.data.ca.gov is one potential platform for sharing data sets. Gary Darling said that DWR cannot begin to explore potential platform architecture until funding for implementation is provided (i.e., July 1, 2017).
	The Department of Water Resources is challenged by not knowing all of the use cases that will need to be covered by the data to be made available through the platform. As a named consultant in 1755, the Monitoring Council, through its Data Management Workgroup and Steering Committee, could help to define objectives and use cases in its area of expertise, water quality and ecosystem health.
	Dave Osti recommended that options for the open data platform not foreclose existing opportuntites for using water data based on existing strucures, i.e., don't create a single proprietary system. He suggested using a survey of end users as a way to define use cases. Questions could include such things as: What data do you want? How do you need to consume it?

ITEM: #	3
Title of Topic:	**Steering Committee Meeting Review**
Purpose:	Information: Review steering committee meeting notes and share any questions about the progress of the committee and its direction
Background:	The Steering Committee met on Sept 9, 2016 with representation from several divisions of DWR, SWRCB, Delta Stewardship Council (Delta Science Program), the Delta Conservancy, and GovOps. Each group demonstrated their support for continued discussion and planning to promote more effective data sharing.
	The attached notes relate the meeting in some detail, noting the steps for follow-up. The next meeting for the Steering committee will be announced soon.
Desired Outcome:	After this meeting, we should have an improved focus on how we might productively interact with the assembled Steering Committee in light of the changed outlook derived from AB 1755.
Attachment Links:	• Delta Stewardship Council, Environmental Data Summit white paper, *Enhancing the Vision for Managing California's Environmental Information*
	• September 9, 2017 draft Data Management Steering Committee meeting notes: [W] Steering_Committtee_DMWG_notes_201
Contact Person:	Tony Hale	tonyh@sfei.org, (510) 746-7381

Notes:	Tony reviewed the first Data Management Steering Committee meeting. He is in the process of scheduling the second one and hopes to hold it on December 9.
	Chris McCready of DWR indicated that passage of AB 1755 could clarify the role of the Steering Committee.

ITEM: #	**4**
Title of Topic:	**Presentation from Lori Sprague, scientist with USGS, on the forthcoming article "Challenges of Using Multi-Source Water-Quality Data in the United States"**
Purpose:	Information exchange with federal partners regarding the application and valuation of data standards
Background:	Lori Spague of USGS has jointly authored a paper with others from USGS and US EPA which will soon appear in the journal *Water Research*. She will share with us highlights from the article. (It cannot yet be distributed, but is forthcoming.)
	Abstract: Combining water-quality data from multiple sources can help counterbalance diminishing resources for stream monitoring in the United States and lead to important regional and national insights that would not otherwise be possible. Individual monitoring organizations understand their own data very well, but problems can arise when their data are combined with data from other organizations that have used different methods for reporting the same common metadata elements. In this study, we surveyed more than 25 million nutrient records collected by 488 organizations in the United States since 1899 to identify major inconsistencies in metadata elements that limit the utility of multi-source data. Nearly 15 million of these records had missing or ambiguous information for one or more key metadata elements, including (in decreasing order of records affected) sample fraction, chemical form, units, precise numerical value, parameter name, and remark codes. As a result, metadata harmonization to make use of these multi-source data will be time consuming, expensive, and inexact. Different data users may make different assumptions about the same ambiguous data, potentially resulting in different conclusions about important environmental issues. The value of these ambiguous data is estimated at $US16 billion, a substantial collective investment by water-resource organizations in the United States. These data could be preserved for uses beyond their original intent by developing and implementing standardized metadata practices for future and legacy water-quality data throughout the United States. .
Desired Outcome:	Learn how our efforts to apply data standards in the domain of California's water resources might dovetail with national efforts to quantify and value such work.

Contact Person:	Lori Sprague, USGS	lsprague@usgs.gov
Notes:	Lori's presentation highlighted the need for more universal best management practices and minimum data elements to enhance greater use of water data. Her presentation will be made available to the Data Management Workgroup once the related USGS paper is released by, hopefully in December.	

ITEM: #	5
Title of Topic:	**Subcommittee Factsheets and Appendices**
Purpose:	Information: Review final drafts of Fact Sheets before they are delivered to the Steering Committee
Background:	For the past year, three Data Management Workgroup subcommittees have been preparing informational products designed to fill information gaps left by the "Vision Document" that is seeking to advance data sharing by and among the state agencies. Those subcommittees were charged with defining and describing the value of the following instruments/technologies: a. Data management plans b. Web services c. Data federation d. Open Data The work generated a number of materials and drafts, with each culminating in a brief Fact Sheet: https://drive.google.com/open?id=0B50RAGKbBDBCbkRidmxqLWo1REU During this year, these concepts have been presented to the Interagency Ecological Program's Data Utilization Workgroup, California Estuaries Monitoring Workgroup, the Delta Stewardship Council, and the California Water Quality Monitoring Council who each expressed considerable interest in fostering further advancement of the concepts. The Steering Committee has had an opportunity to review the Fact Sheets, with the exception of the Open Data Fact Sheet.
Desired Outcome:	After this meeting, we should ideally have three or four products that are presentable to a broad audience. We will distribute any revisions to the Steering Committee. Each subcommittee will have 5 minutes to present its updates, questions, and any other material.

Attachment Link:	[Delta Stewardship Council, Environmental Data Summit white paper, *Enhancing the Vision for Managing California's Environmental Information*](#)
Contact Person:	Tony Hale tonyh@sfei.org, (510) 746-7381
Notes:	A new fact sheet on Open Data was drafted shortly before the meeting and is available at https://drive.google.com/drive/folders/0B50RAGKbBDBCbk RidmxqLWo1REU. Provide comments to Tony. A glossary of common data related definitions was also produced and is available there. The group discussed that there are levels or degrees of "openness," not just open or closed. Openness can be tied to use cases; examples should be cited. Legal openness is different than technical openness. Tony wondered how the group felt about having systems or agencies being assigned a letter grade describing its openness.

ITEM: #	6
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:	The White House Council for Environmental Quality, the Water Boards, and several other state agencies are collaborating to sponsor a California Water Data Challenge (http://waterchallenge.data.ca.gov/). The Challenge focusses on the California Water Action Plan. Submissions must be received by December 5, 2016. Dave Osti announced that the Sac River Watershed Portal is being released initially to stakeholders for comment before it is finalized for public release.

ITEM: #	7
Title of Topic:	**Next meeting and items to agendize**
Purpose:	Identify topics and responsibilities for inclusion in our next workgroup meeting.
Background:	Previously the DMWG selected the 1st Wednesday of odd months for its meeting time.

Desired Outcome:	Agendize topics for next meeting as appropriate.	
Contact Persons:	Tony Hale	tonyh@sfei.org, (510) 746-7381
	Gary Darling	gary.darling@water.ca.gov , (916) 651-9207
Notes:	As the next meeting is scheduled to be the first week in January, the group will consider moving the meeting. Items to discuss: • Use cases for AB 1755 • Interoperability protocols	