

## California Water Quality Monitoring Council

### Data Management Workgroup Notes

May 3, 2017 — 1:00pm to 4:00pm

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



### IMPORTANT INFORMATION!

Conference WebEx information is provided on the last page of this agenda.

For security purposes, all visitors are required to sign in, receive a badge at the Visitor Center off the lobby upon entering the building. Valid picture identification may be required due to the security level. Please allow up to 15 minutes for this process. Individuals who require special accommodations are requested to contact the State Water Board's Office of Employee Assistance, at (916) 341-5881.

For information and resources concerning this meeting, we welcome you to visit the Data Management Workgroup collaboration site: <http://sfei.li/dmwg>

#### Attendees:

- Jon Marshack, Monitoring Council
- Tony Hale, San Francisco Estuary Institute
- Gary Darling, Department of Water Resources
- David Harris, Natural Resources Agency
- Jeff Kapellas, State Water Board
- Steve Steinberg, Southern California Coastal Water Research Project
- Jarma Bennett, State Water Board
- Ann Heggli, High Sierra Electronics
- Tad Slawewski, Limnotech
- Nicole Sears, Sacramento County Regional Sanitation District

<b>ITEM: #</b>	<b>1</b>	<b>Approx.Time:</b>
<b>Title of Topic:</b>	<b>Introductions, announcements, agenda review, and minutes approval</b>	5 mins
<b>Purpose:</b>	Decision: Share information and review materials.	
<b>Contact Person:</b>	Gary Darling Tony Hale	<a href="mailto:gary.darling@water.ca.gov">gary.darling@water.ca.gov</a> <a href="mailto:tonyh@sfei.org">tonyh@sfei.org</a> , (510) 746-7381

<b>ITEM: #</b>	<b>2</b>	<b>Approx.Time:</b>
<b>Title of Topic:</b>	<b>AB 1755 Updates and Developments</b>	55 mins
<b>Purpose:</b>	Information: The Steering Committee of the DMWG is seeking a role in advancing the mandate of AB 1755, The Open and Transparent Water Data Act. There are ways that the DMWG itself can help and advise. We will share	

	the emerging ideas.	
<b>Background:</b>	<p>In September 2016, the legislation AB 1755 passed into law. It mandates that DWR, in close consultation with the Monitoring Council among other entities, implement a data-sharing platform to promote sound decisions about water-related data – both water supply and water quality – throughout California.</p> <p>Since its September passage, the Act has been parsed by a number of the agencies named in the legislation, as well as organizations not named, each looking for a clear way to advance the spirit and letter of the Act.</p> <p>We will provide updates on some developments that have taken place recently regarding preliminary decisions for legal and technological implementation strategies.</p> <p>Many open questions remain, but swift progress is the mandate of the legislation and the goal of the agencies.</p>	
<b>Desired Outcome:</b>	Everyone should share the same understanding of the current state of the efforts in various quarters.	
<b>Attachment Link:</b>	<p>Assembly Bill No. 1755:  <a href="https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160A:B1755">https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160A:B1755</a></p>	
<b>Contact Person:</b>	Gary Darling	<a href="mailto:gary.darling@water.ca.gov">gary.darling@water.ca.gov</a>
<b>Notes:</b>	<p>AB1755 Updates / Developments</p> <p>Chris McCreedy: DWR Chief of Integrated Data and Analysis Branch and team lead for AB1755 team</p> <p>1/1/18 deadline: Produce strategic plan for implementation and produce report to legislature for protocols for data sharing, documentation and quality control. DWR has made a multi-agency BCP request (with SWRCB and DFW) for \$3.5MM/\$2.6MM to be shared between the agencies. DoF dropped to \$2.9/\$2.0. Number of PYs to support effort have been cut. DWR will have appropriation authority for the Water Data Administration Fund, which has no current funds, so will need to solicit contributions to the fund. A donors' conference may be used for this. Assembly SC 3 has voted to approve BCP as written.</p> <p>DWR AB1755 use cases: DWR hosted first data workshop 2/9/17 based on CA Water Plan recommendations. Who needs what data for what decisions in what form? Would like to have data driven decision-making and what kinds of data are necessary to make those decisions. Would provide a reasonable start to the demands for the new data system. Use cases discussed at first workshop:</p> <ul style="list-style-type: none"> <li>• Management of environmental flows for salmon</li> <li>• (SGMA) Groundwater recharge project planning</li> <li>• Financing groundwater recharge under Prop. 1</li> </ul> <p>Use cases for next workshop on 5/8/17:</p>	

- Groundwater basin water budgets
- Delta hydrographs
- Water transfers for ecosystem flows
- Wetland mitigation / restoration
- Headwater restoration capital investment

Additional use cases may be cultivated from other parties.

Next steps:

Take use cases from workshops and convert into technical/functional requirements document.

Possible meeting in San Diego to discuss and develop requirements

UC system has big-data infrastructure in place which can serve as a test-bed for the AB1755 effort. (UCB, UCSB, UC Merced, UCSC, San Diego Super Computer Center) Discussions going on now.

Tony Hale: If the use case based requirements are too detailed in spelling out the needs of the specific use cases, it could create a “walled garden” that meets the requirements well but in essentially restricts the spirit of the legislation, because the use cases themselves will not necessarily emphasize openness.

David Harris: By making sure that concepts of “adaptive management” and “iterative” are emphasized in the development of the RFP (April 2018).

Gary Darling: Breadth of use cases would make it difficult to be limiting. Also have to deal with issues of security.

Tad: Consider use of “Interoperable Data” rather than “Open Data” to deal with issues of data licensing and privacy.

How does workshop / use case timetable fit into the AB1755 report? Protocols document will by nature be a living, iterative document, and the protocols spelled out on 1/1/18 will likely be provisional. Will continue to be developed by time of system RFP (April 2018).

DH: Protocols can mean many things. Could be highly technical, but can also cover broader issues such as data governance and data sharing more generally.

TH: Now is good time for DMWG to start providing input to the AB1755 effort.

Gary Darling: Would be good for DMWG to engage the private sector for input as well.

Workshops were conceived in response to recommendations in the California Water Plan 2013, prior to AB1755 passage, but will help inform the AB1755 implementation, even if not directly come from it.

The DMWG agreed to provide input on protocol development. Anne Higgli, Tony Hale, and Gary Darling offered to provide input. David Harris maybe.

<b>ITEM: #</b>	<b>3</b>		<b>Approx.Time:</b>
<b>Title of Topic:</b>	<b>Flash Round! 5-minute updates on topics related to the workgroup</b>		30 mins
<b>Purpose:</b>	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.		
<b>Desired Outcome:</b>	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.		
<b>Contact Person:</b>	Tony Hale	<a href="mailto:tonyh@sfei.org">tonyh@sfei.org</a> , (510) 746-7381	
<b>Notes:</b>	<ul style="list-style-type: none"> <li>a. The DEDUCE project finding high priority Delta datasets that may not be easily accessible (legacy data, non-electronic form, etc.). Will be wrapping up soon, but could be a good case study for AB1755 on how to make previously unavailable data available. DMWG might be a good vehicle for this. The DEDUCE data will be added to CEDEN.</li> <li>b. Data Visualization Project (constructing EcoAtlas dashboard) will soon be wrapping up and results will be released on EcoAtlas in the coming months.</li> <li>c. Jon Marshack: May 23 next Monitoring Council meeting. Jon's last. Ray Hiemstra from Orange County Coastkeeper likely new member representing the Public. AB1755 update. Feature data rich regional websites. Human Right to Water website. Eric Stein will propose new workgroup for Environmental Flows. Afternoon will focus on Council's work to date and look ahead. Agenda will go out by 5/12.</li> <li>d. Data Federation: WQX (USEPA/USGS) has deficiencies for continuous data. New approach, called Interoperable Watershed Network, has been piloted to deal with continuous data through a federation of distributed servers with a centralized national data and metadata catalog. SFEI and SCCWRP have expressed interest in participating as a pilot partner. Will spin up their own databases and servers in a common format that will make the data available to be harvested on the network. May be available to demo by the next meeting. SCCWRP will be testing with marine data, but it could also be used for stream flow data. This example of a quick and inexpensive data federation example could be brought to the Data Management Steering Committee at their next meeting.</li> <li>e. SCCWRP setting up Open Data Portal for their data by the end of May. Will include SoCal Bight RMP data. Will also be available via Esri Open Data Portal.</li> <li>f. Data Science Symposium at the Water Board on June 29. 2nd Annual Symposium. Bev Anderson-Abbs is the lead on the effort. The</li> </ul>		

	announcement should have already been distributed to the DMWG email list. The agenda will be released soon.
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<b>ITEM: #</b>	<b>4</b>	<b>Approx.Time:</b>
<b>Title of Topic:</b>	<b>Steering Committee Meeting Review</b>	30 mins
<b>Purpose:</b>	Information: Review developments in the Steering Committee of the Data Management Workgroup	
<b>Background:</b>	<p>The Steering Committee met on April 14, 2017 with representation from several divisions of DWR, SWRCB, Delta Stewardship Council (Delta Science Program), and DFW. Each group demonstrated their support for continued discussion and planning to promote more effective data sharing.</p> <p>During the meeting, the group reviewed their charter, made decisions about its leadership structure, and discussed tasks for the DMWG. Among the potential workgroup products discussed were the following:</p> <ul style="list-style-type: none"> <li>• Advise on development of Open Data Handbook <ul style="list-style-type: none"> <li>○ Initial effort at the departmental level</li> <li>○ Merge with data management plan guidance</li> <li>○ Customize for Prop 1 grant agreements</li> </ul> </li> <li>• Contribute to Use Cases for AB 1755</li> <li>• Advise on ideas for Protocols per AB 1755</li> <li>• Develop data readiness assessment by state organization</li> <li>• Provide guidance for assessing and improving “data literacy”</li> </ul> <p>This agenda item will discuss these items and how they might influence the near-term direction of the DMWG.</p>	
<b>Desired Outcome:</b>	After this meeting, we should have an improved focus on how we might productively implement the guidance of the Steering Committee and how the expected relationship between the two committees might function now and in the future.	
<b>Contact Person:</b>	Tony Hale	<a href="mailto:tonyh@sfei.org">tonyh@sfei.org</a> , (510) 746-7381
<b>Notes:</b>	<p>Third SC meeting on 4/14. Decided on three co-chairs:</p> <ul style="list-style-type: none"> <li>• Chris McCready, DWR</li> <li>• Karen Miner, DFW</li> <li>• Greg Gearhart, SWRCB</li> </ul> <p>SC reviewed DMWG charter and suggested that the DMWG develop the following products:</p> <ul style="list-style-type: none"> <li>• Development of Data sharing protocols</li> </ul>	

	<ul style="list-style-type: none"> <li>• Open Data Handbook</li> <li>• Advise on use cases and protocols for AB1755</li> <li>• Data readiness assessments of state organizations</li> <li>• Guidance for data literacy</li> </ul> <p>SC suggested separate charters for SC and DMWG, to better outline the organizational hierarchy between Council/SC/DMWG and for SC to help populate the DMWG.</p>
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<b>ITEM: #</b>	<b>5</b>	<b>Approx.Time:</b>
<b>Title of Topic:</b>	<b>Data Management Plans / Open Data Handbook</b>	50 mins
<b>Purpose:</b>	Decision: Determine recommended next steps in a plan for implementing Data Management Plans (DMPs) and a template for an Open Data Handbook for California’s public environmental agencies.	
<b>Background:</b>	<p>Chief among the items for the DMWG to undertake, as identified by the Steering Committee, is to provide assistance in creating a plan for implementing Data Management Plans and an Open Data Handbook.</p> <p>In our earlier work, we created a Factsheet about DMPs that describe the next steps:  <a href="https://drive.google.com/open?id=0B50RAGKbBDBCSTIpSWNnajiYcFE">https://drive.google.com/open?id=0B50RAGKbBDBCSTIpSWNnajiYcFE</a></p> <p>We also produced a Factsheet on Open Data:  <a href="https://drive.google.com/open?id=0B50RAGKbBDBCY0N1WDMzdy1kUVF5cmVncEVhN0RSTmh4aEhJ">https://drive.google.com/open?id=0B50RAGKbBDBCY0N1WDMzdy1kUVF5cmVncEVhN0RSTmh4aEhJ</a></p> <p>(These Factsheets have since been published on the official DMWG site, but the editable versions are included here for your reference.)</p> <p>We can examine the steps expressed in these materials more closely and reconcile recent developments, such as the strides made by the DUWG, to our expected path.</p> <p>Greg Gearheart, co-chair of the DMWG Steering Committee, also recommends a close examination of the DMP templates produced by Boston University and USGS:  <a href="https://www.bu.edu/datamanagement/resources/templates/">https://www.bu.edu/datamanagement/resources/templates/</a>  <a href="https://www2.usgs.gov/datamanagement/plan/dmplans.php">https://www2.usgs.gov/datamanagement/plan/dmplans.php</a></p> <p>He also directs us to the California Health and Human Services Open Data Handbook (<a href="https://chhsdata.github.io/opendatahandbook/">https://chhsdata.github.io/opendatahandbook/</a>) as a concise and complementary example for our consideration.</p>	
<b>Desired Outcome:</b>	Recommendations for the implementation of the DMPs and Open Data	

	Handbook across multiple agencies	
<b>Contact Person:</b>	Tony Hale, SFEI	<a href="mailto:tonyh@sfei.org">tonyh@sfei.org</a>
<b>Notes:</b>	<p>Data Management Plans are documents outlining by whom and how data will be maintained in long term. The Open Data Handbook is new instrument for assisting and promoting Open Data in an agency context. See agenda for links to Open Data toolkit (world bank) and handbook (U of Chicago).</p> <p>Steering Committee considering what kinds of standard templates can be developed to assist agencies to adopt and develop DMPs. Need to develop common template so that researchers don't have to face multiple definitions or multiple forms. What would be process for setting up common template? Similar with Open Data Handbook. DMWG is in good position to help develop this.</p> <p>Steering Committee suggested starting at department level and once depts develop templates, can then move to the agency level.</p> <p>The Data Utilization Work Group of the Interagency Ecological Program is already developing a template and could provide a model for the template. DUWG is meeting at same time, so could not present at this meeting.</p> <p>Delta RMP is also developing one of their own. SFEI provided draft for them to model theirs, but opted to wait for the DUWG template to be developed.</p> <p>Steve Steinberg will consult with DUWG on their progress and assist with development of Data Management Plan and Open Data Handbook templates. Jarma Bennett, Tony Hale and Tad Slawewski will assist.</p>	

<b>ITEM: #</b>	<b>6</b>	<b>Approx.Time:</b>
<b>Title of Topic:</b>	<b>Subcommittee Factsheets and Appendices</b>	5 mins
<b>Purpose:</b>	Information: Briefly review drafts of Fact Sheets to receive any requested revisions	
<b>Background:</b>	<p>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:</p> <ol style="list-style-type: none"> <li>a. Data management plans</li> <li>b. Web services</li> <li>c. Data federation</li> </ol>	

	<p>d. Open Data</p> <p>The work generated a number of materials and drafts, with each culminating in a brief Fact Sheet:  <a href="https://drive.google.com/open?id=0B50RAGKbBDBCbkRidmxqLWo1REU">https://drive.google.com/open?id=0B50RAGKbBDBCbkRidmxqLWo1REU</a></p> <p>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.</p> <p>The Steering Committee has had an opportunity to review the Fact Sheets.</p>	
<b>Desired Outcome:</b>	We should incorporate any proposed revisions into the Fact Sheets.	
<b>Attachment Link:</b>	<p><a href="#">Delta Stewardship Council, Environmental Data Summit white paper, Enhancing the Vision for Managing California’s Environmental Information</a></p> <p>Fact Sheet drafts:  <a href="https://drive.google.com/open?id=0B50RAGKbBDBCbkRidmxqLWo1REU">https://drive.google.com/open?id=0B50RAGKbBDBCbkRidmxqLWo1REU</a></p>	
<b>Contact Person:</b>	Tony Hale	<a href="mailto:tonyh@sfei.org">tonyh@sfei.org</a> , (510) 746-7381
<b>Notes:</b>	<p>Jon reviewed the drafts, incorporated some basic revisions, and added them to the Data Management Workgroup webpage as PDFs.</p> <p>Steve S. had suggestion that fact sheets be made easier to find on My Water Quality, possibly highlighting them on the home page.</p>	

<b>ITEM: #</b>	<b>7</b>	<b>Approx.Time:</b>
<b>Title of Topic:</b>	<b>Next meeting and items to agendize</b>	5 minutes
<b>Purpose:</b>	Identify topics and responsibilities for inclusion in our next workgroup meeting.	
<b>Background:</b>	Previously the DMWG selected the 1 <sup>st</sup> Wednesday of odd months for its meeting time.	
<b>Desired Outcome:</b>	Agendize topics for next meeting as appropriate.	
<b>Contact Person:</b>	Tony Hale	<a href="mailto:tonyh@sfei.org">tonyh@sfei.org</a> , (510) 746-7381
	Gary Darling	<a href="mailto:gary.darling@water.ca.gov">gary.darling@water.ca.gov</a> , (916) 651-9207

<b>Notes:</b>	<b>Items:</b>  Updates on data sharing protocols and data management plan / open data handbook templates  SCCWRP demonstration project for Interoperable Watershed Network (federated continuous data) - update at Steering Committee, demo at DMWG
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Meeting information  
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**CONFERENCE DETAILS**

Conference Title: Data Management Workgroup

Date: Wednesday, May 3, 2017

Time: 1:00 PM Pacific

**WEB ACCESS**

Join as Attendee:

<https://stateofcaswrcbweb.centurylinkccc.com/CenturylinkWeb/DMWG>

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