CALIFORNIA WATER QUALITY MONITORING COUNCIL

Data Management Steering Committee Meeting Notes

Friday, September 9, 2016 – 2:00 AM to 3:30 PM

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

Invited Steering Committee Members in attendance or (on the phone):

Campbell Ingram, Delta Conservancy
Ilya Zaslavsky, University of California San Diego
Greg Gearheart, State Water Resources Control Board
(Zachary Townsend, California Government Operations Agency)
Dorothy Takahashi, Delta Stewardship Council
Fraser Shilling, University of California Davis
(Dennis Grossman, Strategic Growth Council)
Harry Spanglet, Department of Water Resources

Others in attendance or (on the phone):
Tony Hale, San Francisco Estuary Institute
Kris Jones, Water Quality Monitoring Council, Department of Water Resources
(Priscilla Jiang, Department of Water Resources)
Christina McCready, Department of Water Resources
Steven Springhorn, Department of Water Resources
Rainer Hoenicke, Delta Science Program
George Isaac, Delta Science Program

ITEM:	1	
Title of Topic:	**INTRODUCTIONS, ANNOUNCEMENTS, AND AGENDA REVIEW**	
Purpose:	1) Introductions (in the room and on the phone) 2) Review agenda for today's meeting	
Desired Outcome:	a) Preview what was covered and overall meeting expectations b) Adjust today's agenda, as needed	
Contact Person:	Tony Hale	tonyh@sfei.org; 510-599-9492
Notes:	No adjustments were made to the agenda.	

ITEM:	2
Title of Topic:	**DATA MANAGEMENT WORKGROUP BACKGROUND**
Purpose:	To provide an overview of the background and goals of the Monitoring Council's Data Management Workgroup (DMWG).

Desired Outcome:	Information and comment

Attachment Link:	
	
	                  Steering Cmmte
	                 Presentation Sep 09
	a) Agenda and Presentation
	
	b) Data Summit White Paper -- *Enhancing the Vision for Managing California's Environmental Information*

Contact Person:	Tony Hale	tonyh@sfei.org; 510-599-9492
Notes:	Tony Hale (SFEI) provided a brief presentation covering the background and goals of the Monitoring Council's Data Management Workgroup (DMWG). He described how the DMWG's purpose has been to: 1) serve as a coordinating and information resource for other workgroups of the Monitoring Council; 2) advance data and information sharing among resource agencies; and 3) coordinate information technology-related efforts and opportunities. He then provided background which lead to the formation of a Steering Committee for data management. Tony indicated that Environmental Data Summit convened in June 2014 to spearhead greater data sharing, which then lead to the development the Data Summit White Paper, *Enhancing the Vision for Managing California's Environmental Information* (published in September 2015). Tony described how the Monitoring Council had endorsed the Vision Document (November 2014) and more recently endorsed the formation of a steering Committee for the Data Management Workgroup to facilitate the implementation of the white paper's recommendations.

ITEM:	3
Title of Topic:	**STEERING COMMITTEE'S INITIAL GOALS**
Purpose:	To provide an overview of the proposed goals for the Steering Committee for Data Management.
Desired Outcome:	Information and comment
Background:	The Monitoring Council's Data Management Workgroup (DMWG) meets regularly to coordinate information technology-related efforts among agencies and departments, offer guidance and information to other Council workgroups, and advance information sharing regarding water quality data and technology opportunities. During its most recent meetings, the DMWG has been tackling the recommendations published in the Delta Stewardship Council's white paper, Enhancing the Vision for Managing California's Environmental Information and has formed subcommittees designed to develop informational products that further illustrate the concepts mentioned in the white paper. The resulting presentations, memos, and FAQ sheets will be of use to inform state agency decision makers of key concepts such as "data federation," "data management plans," and "web services." At the DMWG's January 5 meeting the workgroup sought additional guidance for its efforts through the formation of a steering committee composed of high-level

	decision makers with a stake in their agency's participation in information management initiatives. The group believed that such a steering committee could help to optimize the labor of the DMWG and assist in the implementation of the recommendations in the white paper.
Attachment Link:	Data Summit White Paper -- *Enhancing the Vision for Managing California's Environmental Information*
Contact Persons:	Tony Hale	tonyh@sfei.org; 510-599-9492
Notes:	Tony Hale (SFEI) shared his presentation regarding the goals of the Steering Committee. He spoke of the goals in both the short and long term. Specifically, he proposed that the groups initial goals might be to first establish common understanding of key concepts. He also suggested that the group could share their own goals and project updates, and to try and align efforts, where possible. Looking to the long term goals, Tony proposed that the Steering Committee could develop an implementation plan for the recommendations in the white paper. He also suggested that the Steering Committee could serve as a guide for the Data Management Workgroup and that these groups could together promote optimization of data sharing among state agencies.

Greg Gearheart (State Water Resources Control Board) suggested that the group should view the Delta Stewardship Council's white paper as a living document and a starting point, as the recommendations will likely soon be out of date. Rainer Hoenicke (Delta Science Program) added that the initial intent of the white paper was that the recommendations should be regularly updated. He proposed that the Steering Committee could help to keep the recommendations up to date, continue to identify barriers, and strategize how this committee and Data Management Workgroup could work to overcome obstacles. The Attendees generally agreed with this approach. Fraser Shilling (UC Davis) asked if the Monitoring Council was flexible regarding the goals of the Steering Committee. Kris Jones (California Water Quality Monitoring Council) indicated that the recommendations in the Data Summit White Paper provided a good starting point for the committee's initial goals; however, he added that the Council would likely be open to the recommendations of this group regarding how they move forward. Ilya Zaslavsky (University of California San Diego) suggested that a possible initial goal could be to assess the current information exchange standards that exist and to determine whether the communication pieces speak the same language; he suggested that identifying common principles could be a useful place to start. |

ITEM:	**4**
Title of Topic:	**COMMITTEE MEMBER INTRODUCTION AND BACKGROUND**
Purpose:	Attendees will provide background regarding their respective efforts and provide recommendations regarding the future direction of the Steering Committee.
Desired Outcome:	Information and comment
Contact Person:	Tony Hale	tonyh@sfei.org; 510-599-9492
Notes:	Ilya Zaslavsky (UC San Diego) mentioned that his group has been involved in data sharing efforts for a number of years. Specifically they have been involved

in developing schema for how to manage water data and other time series information. They have developed strategies for how to publish and share data and information, as well as standards for data sharing. Ilya added that they are also pursuing efforts to support data across the geosciences. One of the challenges that they have encountered is communication and coordination among various groups.

Campbell Ingram (Delta Conservancy) indicated that his organization was interested in making data and information accessible for relevant Delta efforts. He indicated that their goal has been to try and make data available—for example, bringing data together for the various restoration efforts occurring within the Delta. He added that there were a number of efforts the Delta Conservancy is leading relating to data access and data sharing, including the DEDUCE and Delta HUB efforts; he indicated that these were efforts to bring together data and develop a real time planning and management platform to evaluate the effectiveness of restoration efforts. He added that the Delta Conservancy hopes to develop these tools to better inform restoration efforts within the Delta.

Frasier Shilling (UC Davis) introduced himself, and briefly indicated that he was involved in EPA funded effort to develop a water quality portal, which would bring data together to inform users of the condition of their waters. Harry Spanglet (Department of Water Resources) then introduced himself, indicating that he was leading an effort within the Division of Environmental Services to develop a centralized database to house the Division's data. He added that the database will be a federated system. Dorothy Takahashi (Delta Stewardship Council) and Rainer Hoenicke (Delta Science Program) then provided their introduction. Rainer indicated that the Delta Science Program was working to break through existing data barriers and to allow data to be combined for analysis and synthesis. He added that the Delta Stewardship Council serves as a coordinating entity, and can help bridge efforts between the Natural Resources Agency and the California Environmental Protection Agency. Rainer added that the Delta Stewardship Council can also bring these high level issues to the Directors of various agencies, through efforts such as the Delta Plan Interagency Implementation Committee (DPIIC). George Isaac (Delta Science Program) then introduced himself, and mentioned his involvement in the Environmental Data Summit and white paper.

Greg Gearheart (State Water Resources Control Board) indicated that he was leading an effort to develop an open data platform at the State Board, in collaboration with the California Government Operations Agency. Christina McCready (Department of Water Resources) then introduced herself, and mentioned her involvement with the Water Plan Information Exchange (Water PIE). She also indicated that she was involved in an effort to develop decision support tools for those implementing the Integrated Regional Water Management (IRWM) plan. Steven Springhorn mentioned he was participating for Rich Jurisich (Department of Water Resources), and indicated that their group was focused on efforts relating to the Sustainable Groundwater Management (SGM) Program and developing a data platform to accommodate relevant data from local agencies and stakeholders.

Kris Jones (California Water Quality Monitoring Council) then introduced himself, and provided some background regarding the Monitoring Council's interest in forming the Steering Committee. He mentioned that the Council was tasked in

legislation (Senate Bill 1070, Statutes of 2006) with developing a comprehensive monitoring program strategy for California to improve the effectiveness of California's water quality and associated ecosystem monitoring, but also to ensure that the resulting data and information are made available to decision makers and the public via the internet. He mentioned that one of the goals of the Data Management Workgroup has been to advance data and information sharing among resource agencies; unfortunately, participation amongst agency partners has been somewhat limited, and typically these individuals have been at the staff level. He added that to effectively coordinate data management and data sharing efforts amongst agencies, high level involvement is really essential. Kris indicated that there is a growing interest in bringing data together from various departments/agencies for broad scale assessment (e.g., the adaptive management of projects associated with EcoRestore). From an interagency context, he emphasized that there is no other entity that seeks to coordinate and support data management efforts. He added that the Steering Committee for Data Management provides a unique opportunity for agency partners to come together to address these issues.

Zachary Townsend (California Government Operations Agency) introduced himself over the phone. In his new position as Chief Data Officer, he indicated that his goals moving forward include developing 1) open data platforms; 2) data sharing strategies; 3) performance measures for data management; and 4) intergovernmental data standards. Dennis Grossman (Strategic Growth Council) indicated that his group is currently focusing on helping to advance and coordinate planning activities across multiple agencies in California, focusing on urban development and other natural resources issues. He added that they are currently trying to work through data sharing issues, and was happy that we are moving these efforts forward.

ITEM:	5
Title of Topic:	**REVIEW WHITE PAPER RECOMMENDATIONS**
Purpose:	To review the recommendations in the white paper and discuss options for how the Steering Committee could help in the implementation of these recommendations.
Desired Outcome:	Information and comment
Background:	The Delta Science Program held a Data Summit on June 5-6, 2014. The Delta Science Plan included an action to hold a Data Summit. The plan committed the Science Program to "Host a data summit to explore and identify needed improvements to cyber-infrastructure, data management capacity, and mechanisms to facilitate active data sharing, data mining, and analysis. Information generated in the Summit will inform the Science Action Agenda, support innovations in data integration and management, and develop paths for enhancing and sustaining current initiatives."
	The Environmental Data Summit brought together leaders from academia, government agencies, non-profit organizations, and the private sector representing California's varied interests in the effective management of environmental data. This Data Summit White Paper, *Enhancing the Vision for Managing California's Environmental Information*, was intended to be consistent with and support national trends, enhance California's existing initiatives and lay

	the foundation for creating the capacity to facilitate access to data and metadata across organizational boundaries and develop shared web services. The final draft for the document was published in September 2015.
Attachment Link:	 **Steering Cmmte Presentation Sep 09** a) Steering Committee Agenda and Presentation b) Data Summit White Paper -- *Enhancing the Vision for Managing California's Environmental Information*
Contact Person:	Tony Hale tonyh@sfei.org; 510-599-9492
Notes:	Tony Hale provided a brief overview of the white paper's recommendations, which included: - Establish forms of **data governance** oversight - Develop a **data federation strategy** with a specific, time-bound roadmap. This effort must complement the work of the data standards implementation. - Develop a **business case** and adopt a funding strategy in service of a sustainable business model, optimizing cost-benefit for the public good. - Embrace **data of differing quality, resolution, and sources**, provided that these attributes are documented according to standards. - The State should devise a strategy for cultivating a common set of **visualization tools**. - Adopt **open-source software** experimentally where appropriate. - Adopt a policy or standard to govern **data management plans.** - Investigate opportunities for **supercomputer, cloud computing, and massive distributed computing projects**. Following his presentation, Tony asked whether the list is still current, and whether there is anything to add. Greg Gearheart indicated that he thought that the recommendations are still valid, but added that he thought that the list of recommendations should be revisited occasionally to ensure its relevance. Tony emphasized that the recommendations should be viewed as a starting point, and that these recommendations can be amended by the group, adding that they were not set in stone.

ITEM:	**6**
Title of Topic:	**NEXT STEPS**
Purpose:	Plan for next meeting
Attachments:	a) Fact Sheet—*Data Management Plans* b) Fact Sheet—*Web Services* c) Fact Sheet—*Data Federation* Fact Sheet Federation v4 20160 Fact Sheet Data Management Plans Fact Sheet Web Services v6.docx

Contact Person:	Tony Hale	tonyh@sfei.org; 510-599-9492
Notes:	Tony Hale indicated that the next meeting date will likely be in November, and will be sending out a doodle poll to determine the date. Tony added that he would like to get feedback regarding how to prioritize the white paper's recommendations and will distribute a survey to gather that information. He added that there was not enough time during the meeting to discuss the documents developed by the Data Management Workgroup, focusing on data management plans, web services, and data federation; he asked the steering committee for feedback on these documents to relay to the Data Management Workgroup. Lastly, Tony mentioned that the goals of the Data Management Workgroup should be revisited, and requested for help to modify the workgroup's charter. Greg Gearheart volunteered to participate in this effort.	
Action Items:	a) Tony Hale will poll the steering committee members to determine the next meeting date. b) Tony Hale will distribute a survey to assess how to prioritize the White Paper's recommendations. c) Tony Hale and Greg Gearheart will work on developing an updated charter for the Data management Workgroup.	

October 6, 2016