California Water Quality Monitoring Council

Data Management Workgroup

2012 Progress Report

(2/7/2013)

Purpose of the DMWG

The DMWG provides expertise to establish the overall approach to make use of and integrate existing data management systems into a distributed system of databases, catalogs, and assessment and mapping tools to enable users to access data, metadata, and assessment products from a single entry point, or web portal. In support of the Council's Comprehensive Strategy, key responsibilities of the DMWG include.

- Assist Monitoring Council workgroups identifying methodologies for assessing data needs and quality.
- Assess and recommend best practices for development of structured data formats and data management strategies complying with appropriate national and state guidelines.
- Identify data that cuts across multiple themes and opportunities to coordinate and share these data among workgroups.
- Assess and recommend IT tools and standards facilitating development of portals meeting Monitoring Council web development guidelines.
- Serve as a resource to assist other workgroups to evaluate technologies in the areas of data management, web applications and geospatial information management.
- Serve as a resource to workgroups for communicating, and where necessary, translating into clear, non-technical language recommendations regarding data management in support of individual workgroup's efforts.

Overall Assessment of Success of the DMWG

During its initial eighteen months, the DMWG has focused on establishing itself as a workgroup. We have successfully developed a charter to guide the workgroup's structure and function. The workgroup spent much of the first year developing a common understanding of technologies and data used in existing portals and an overview of technologies available to support existing and new workgroup portals into the future.

Our primary challenges in the coming year will be to identify emerging data and technology needs of the workgroups and to assist them in coordination of efforts around common interests. Two specific examples will be the development of a common thematic map layer for water resources as well as the selection and implementation of mapping technologies behind the existing and newly developing portals.

Workgroup formation and process

During the summer of 2011 a list of potential workgroup members was developed, representing data management experts from agencies, industry, academic and non-profit sectors. Invitations were initially sent to 29 individuals representing 15 organizations. The initial meeting of the DMWG was held in August 2011. Over the next several meetings the membership focused on several key objectives including: Developing a common understanding of current and developing data management systems; establishing workgroup structure and schedule; and establishing subcommittees to focus on specific tasks.

The first three meetings of the workgroup (September 2011, November 2011 and January 2012) included a series of presentations to provide the membership with an overview of various data management systems and approaches. The following four meetings (April, June, August and December 2012) focused on developing the workgroup charter and collection of baseline information about the data and technology behind each of the existing and/or developing Monitoring Council Portals. Additionally a joint meeting between the DMWG and the three Ecosystem Health workgroups (Wetlands, Estuaries, and Streams Rivers and Lakes) was held in November 2012 to explore the value of developing a common GIS layer for aquatic resources to be shared by each of the workgroups and to establish effective channels of communication between workgroups.

The DMWG accomplished the following key items since its inception:

- Developed and adopted a workgroup charter;
- Established two subcommittees: (1) Portals/Tools and (2) Data Standards;
- Established a process to inventory and assess data and technologies in use by existing and forthcoming theme specific workgroups;
- Held a joint meeting between the DMWG and the three Ecosystem Health workgroups.

Recommendations to the Council

- All existing and future theme specific workgroups should maintain a designated data liaison that also participates in meetings of the DMWG. The data liaison will ensure a consistent two-way exchange of information between workgroups.
- The common GIS layer for aquatic resources being developed should be shared with other workgroups to determine its utility for other portals requiring a similar GIS layer. The theme specific workgroups, in cooperation with the DMWG should work to update or modify the common layer to serve the needs of multiple workgroups.
- The DMWG notes that barriers to sharing of data, particularly outside of State agencies remains a source of trepidation in some cases. Specific concerns include potential for: misunderstanding of data quality and appropriate use; legal liability; extra workload associated with preparing data for use by non-experts or in portals; and lack of required expertise (e.g. preparation of data for web access, establishment of web services, etc.). These concerns may be addressed in part through the development model language regarding data use constraints, metadata and data documentation standards. The DMWG recommends the Council shepherd a process to develop model language, in consultation with the theme specific workgroups, accounting for specific issues or limitations of data sharing and use relevant to their needs.

Attachment 1 - List of Organizations Participating in the DMWG in 2012

State Agencies
• California Department of Fish and Game • California Department of Public Health • California Department of Water Resources • California Natural Resources Agency • California State Water Resources Control Board (SWRCB) • California Technology Agency • Central Valley Regional Water Quality Control Board
Public/Private Organizations
• California Ocean Science Trust (OST), MPA Monitoring Enterprise • Klamath Basin Monitoring Program
Research and Academic Organizations
• California State University (CSU), Council on Ocean Affairs, Science and Technology (COAST) • California State University, Northridge (CSUN), Center for Geographic Studies • Humboldt State University • Lawrence Berkeley National Laboratory • San Francisco Estuary Institute (SFEI) / Aquatic Science Center (ASC) • San Francisco State University • Southern California Coastal Ocean Observing System (SCCOOS) • Southern California Coastal Water Research Project (SCCWRP)
Non-Governmental Organizations (NGOs)
• Council for Watershed Health • Ecolayers • Heal the Bay
Private Industry and Consultants
• 34 North • Esri • IBM • Microsoft • RimuDB