To assist the Monitoring Council in its audit, the CWMW has organized its summaries, self-evaluations, and specific needs according to the Council's six performance measures.

1. Strategy, objectives, design

Overview

The **objectives** of the CWMW, found in the mission statement in the CWMW Charter, are to improve the monitoring and assessment of wetlands and riparian areas by developing a comprehensive wetland monitoring plan for California and by increasing coordination and cooperation among local, state, and federal agencies, tribes, and non-governmental organizations to implement the plan. The **strategy** is to build monitoring tools for collecting and delivering essential data and information to environmental planners, managers and regulators that will meet their common scientific and technological support needs, and to help implement those tools through existing programs at all levels of government. By **design**, the CWMW involves representatives from many of these programs including federal partners who have key responsibilities in terms of wetland management or regulation.

Self-evaluation

Rating: Medium

The CWMW has been well organized and focused on development of assessment tools with less emphasis on tool implementation.

Specific Needs

The CWMW needs to revisit its charter to ensure it supports the transition of the workgroup from its focus on the development of the WRAMP framework and technical tools to their implementation through existing programs. This will highlight the need for more implementation partners, including but not necessarily limited to the Lake and Streambed Alteration Program, and the major infrastructure planning and development projects of DWR and Caltrans.

2. Indicators and methods

Overview

The CWMW has developed a framework for comprehensive wetland and riparian monitoring and assessment called the Wetland and Riparian Area Monitoring Plan (WRAMP). This document lays out a framework for organizing relevant science and technology to efficiently inform public decisions and programs that most directly affect these resources. The CWMW helps to coordinate collaborative efforts among these programs and to build tools to meet these information needs. The Council has endorsed the tenets of WRAMP. The WRAMP toolset includes the following.

- *California Aquatic Resource Inventory* (CARI). This is a set of standard operating procedures developed by an inter-agency state-federal team for mapping and classifying state waters as needed to support local implementation of state and federal wetland policies and programs. CARI is designed to answer the basic question: Where are the wetlands and streams?

- *Wetland Status and Trends Assessment Plan* (Wetlands S&T). This is a statewide and regional cost-effective sampling plan to track net changes in wetland extent and diversity statewide using CARI. The S&T Plan is designed to answer the question: What are the relative effects of nature and people on the statewide distribution, abundance, and diversity of wetlands, streams, and riparian areas?

- *California Rapid Assessment Method* (CRAM) for wetlands, streams, and riparian areas. CRAM is a scientifically defensible method to evaluate the overall condition of wetlands and streams based on standardized visual indicators. CRAM is designed to answer the question: What is the general health of wetlands, and streams?

- *Online 401.* This is a web-based tool designed for the 401 Program of the State Water Board to enable online applications for 401 Certifications and for tracking their status. Online 401 could potentially be applied to other environmental regulatory programs affecting wetlands, streams, and riparian areas.

- *California EcoAtlas.* The EcoAtlas is a free online service for accessing, visualizing, and summarizing information about the distribution, abundance, diversity, location, and condition California wetlands, streams, and riparian areas. The Landscape Profile Tool of EcoAtlas enables users to summarize existing information into standardized reports for any user-defined area of the State.

Self-evaluation
Rating: High

The CWMW has done very well in developing fundamentally useful technical tools intended to meet the essential needs of many agencies for standardized and meaningful tracking and evaluation of projects and programs. Future work will focus on demonstrating the efficacy of those tools in meeting program needs.

Specific Needs
The CWMW will continue to need funding to further develop and refine the WRAMP toolset, based on the input of its user communities. As it moves forward with implementation, the CWMW will need to further focus on key implementing agencies and will need to develop metrics of its own performance.

3. Data management

Overview
CWMW remains focused on data management to support CARI, CRAM, and EcoAtlas. The databases for these tools are presently managed at the SF Bay Area Regional Data Center of the California Environmental Data Exchange Network (CEDEN). CRAM is supported by a dedicated database, "eCRAM," that enables qualified CRAM users to manage their CRAM data. EcoAtlas uses web services to share information with other systems, including eCRAM, and to deliver data to the Wetlands Portal. All data in these databases are delivered to CEDEN and are readily available to the public online.

Self-evaluation
Rating: High

The CWMW has done very well in developing databases to support the WRAMP Toolset and EcoAtlas as an information delivery system for these databases and others. These are fundamentally useful tools that can help meet the essential needs of many agencies for standardized and meaningful tracking and evaluation of projects and programs. However, EcoAtlas is wetlands-centric at this time and should strategically expand in content with other kinds of data needed to serve key agencies.

Specific Needs
The CWMW needs to foster stronger partnerships with WRAMP implementing agencies to encourage their use of EcoAtlas as a data and information delivery system that does not necessarily replace any existing databases but greatly increases their value. Regional environmental communities of the Delta and Tahoe Basin are focus areas for future use of EcoAtlas. In the near future, EcoAtlas should incorporate wildlife habitat information to support NCCP planning and compliance monitoring.

4. Consistency of assessment endpoints

Overview
The CWMW assesses its progress based on membership, attendance, degree of collaboration in WRAMP tool development, and breadth of use of WRAMP tools among agencies. The CWMW established clear goals and objectives that are articulated in its Charter. The CWMW is also refining its target endpoints and focusing itself on strategic opportunities as they emerge.

Self-evaluation
Rating: Medium

CWMW has made progress toward developing WRAMP, and will be actively working towards WRAMP implementation. See the list of CWMW accomplishments in part 6 below.

Specific Needs
As it moves forward with implementation, the CWMW will need to develop metrics of its own performance for reporting to the Council and to other interests.

5. Reporting

Overview
The CWMW posts the minutes of its quarterly meetings online, and continues to present its products to numerous scientific and other forums, including to the Council, as part of its outreach activities. The CWMW has collaboratively developed the Wetland Portal to enable anyone interested in wetlands, streams, and riparian areas to access current information about their distribution, abundance, specific locations, conditions, and supporting government programs and organizations. The newly launched Landscape Profile Tool of EcoAtlas will allow anyone to develop their own custom reports about these resources for any area of the state. CWMW also provided input on the State of the State's Wetlands Report produced by the Natural Resources Agency. The Status & Trends (S&T) Project under development could yield statewide information on wetland status that will help improve future reporting on the State's wetlands.

Self-evaluation
Rating: Medium

The CWMW has struggled to maintain its website. Minutes of meetings and the roster of members tend not to be up-to-date. There is a lack of understanding about the purpose and activities of the CWMW among the staff of participating agencies.

Specific Needs
The CWMW needs further resources for clerical support, and its members need to increase their efforts to brief the staff of their programs and related programs about CWMW activities.

6. Program sustainability

Overview
With continuing support by the Council, broad participation among responsible agencies, and by leveraging funds from mainly federal sources, the CWMW has enjoyed success during 2011-13. The trajectory is toward broader use of WRAMP tools to improve wetland protection statewide, with better public access to essential scientific data and information. The State Water Board is investigating a new 401 Water Quality Certification monitoring surcharge fee that would help support implementation of some elements of WRAMP.

2011-13 CWMW Highlights

The CWMW has focused on coordinating wetland assessment efforts statewide and transferring WRAMP tools to state and local agencies for use in their programs for wetland and stream planning, management, and regulation. CWMW accomplishments during the last three years include the following.

- Provided statewide coordination of wetland and riparian assessment

- Established the "L2 Committee" to guide CRAM development, implementation and training

- Served as the inter-agency clearinghouse for the Technical Advisory Team (TAT) of the State Water Board's Wetland Protection Policy

- Provided input on the Five Year Coordinated Work Plan for Wetland Conservation Program Development. The 2014 update will include two new agencies: Delta Conservancy and Coastal Conservancy along with State Water Board and DFW. The Plan allows for agency collaboration on wetland program development projects funded by EPA. It also provides CWMW an opportunity to help shape future strategies for the wetland conservation program. The CWMW reviews the Plan before submission to EPA.

- Established a statewide network of 95 wetland reference sites that anchor ongoing CRAM development and training

- Launched the "My Water Quality Portal" for Wetlands and other "Are our Ecosystems Healthy" Portals

- Published the SOP for CA Aquatic Resource Inventory (CARI)

- Published the Wetlands extent Status and Trends Assessment Plan (S&T Plan)

- Updated the CRAM Manual, eCRAM database, and Trainee curriculum

- Trained 740 new CRAM practitioners

- Calibrated three new CRAM modules, validated one, and initiated validation studies for the other two.

- Upgraded EcoAtlas with new "Landscape Profile Tool"

- Developed "401-Online" pilot, with state approval pending for this 401 certification application and certification tracking system

- Assisted with WRAMP-based watershed assessments for Coyote Creek and Guadalupe River (Santa Clara Valley Water District), Upper Truckee River (Lahontan Water Board, Tahoe Regional Planning Agency, Tahoe Conservancy), and Santa Rosa Plain (North Coast Water Board).

- Advised on the application of CRAM and other assessment tools to High Speed Rail EA (HSRA), Delta Conveyance EA (DWR), Willits Bypass Project (CalTrans), solar array projects (California Energy Commission), Perennial Stream Assessment Program (SWAMP)

- Obtained endorsement of CRAM by SWAMP

- Developed draft "Performance Curves" for predicting restoration project progress for streams and tidal wetlands

- Advised State Water Board on staffing needs for improving compliance monitoring

- Continued development of WRAMP tools. Projects funded in 2013:
  - Validate CRAM modules
  - Use EcoAtlas to track projects for Central Valley JV, Bay Area JV, and Delta Conservancy
  - Develop common compliance monitoring framework based on WRAMP for NCCP/HCP-401/404

Self-evaluation
Rating: Medium

CWMW has enjoyed participation from state and federal agencies, as well as JPA's and other scientific entities. As a result, the CWMW has been successful in improving interagency coordination of wetland monitoring and in developing new field and online tools for conducting wetland assessments. The CWMW continues to transition along its planned trajectory from WRAMP tool development to implementation of the toolset. Implementation will require different kinds of coordination and different sources of funding, which will present new challenges. The following are areas that the CWMW has identified as needing improvement.

Specific Needs
The CWMW has made very significant progress in developing the WRAMP toolset but implementation has been less successful due to incomplete coordination with state programs most responsible for wetland management.

- *Identify Implementation Funding.* While CWMW partners have been able secure funding from a variety of sources, technical tool development has largely been funded by Federal programs, chiefly the State and Tribal Wetland Program Development Grants of USEPA, with important contributions by SWAMP and past State bond measures. The expectation by federal partners is that the State will assume more responsibility for implementation. This will require a greater commitment by State programs to use, and not just help develop, WRAMP tools. These tools will be useful to line staff in multiple state and federal programs representing multiple agencies. While the consistent use of these tools among agencies is essential to coordinate and standardize the agencies' activities, as desired by the Council, the maintenance of these tools for multi-agency use and the training of staff in different programs are not within the mission of any one participating agency. As a result, dedicated staff support and funding through multiple partners will be necessary to ensure its long-term success. An overall inter-agency implementation "business model" should be developed. Staff from the State Water Resources Control Board has prepared a long-term implementation strategy and funding options that can serve as the foundation of this business model.

- *Coordination with other Workgroups.* Considerable overlap in data needs exists between CWMW and the stream and estuaries workgroups. If EcoAtlas is to be of most use to agency staff and the public, relevant data from other workgroups should be imported. The inclusion of CRAM into the SWAMP Perennial Stream Assessment (PSA) Program, and the recent agreement between the DFW's Natural Community Conservation Program (NCCP) and the State Water Board's 401 Program to coordinate compliance monitoring at the landscape scale are leading efforts in the right direction. It would be similarly very helpful for the DFW Lake and Streambed Alteration Program, (LSA) to adapt the "401 Online" tool and EcoAtlas for permit application and tracking, and to use CRAM for overall project assessment.

- *Level 1 Committee.* CWMW has yet to establish a "Level 1 Committee" to coordinate aquatic resource mapping, as has been done for CRAM with the "Level 2 Committee." With development of the Status and Trends Plan, CARI, and EcoAtlas, it is becoming increasingly important for the CWMW participating agencies to coordinate their mapping efforts.

- *Program Participation.* Improved coordination across programs is needed. Many participating agencies manage programs that will need to be involved in WRAMP tool implementation if it is to be successful. Agencies and Programs that should be targeted for increased participation in CWMW include: LSA, Aquatic Bioassessment Lab, Resource Assessment Program and Biogeographic Data Branch of DFW; CCC; SCC; DWR; and the State Board Division of Water Rights.

Attachment 1 - List of Agencies Participating in the CWMW

State Agencies	***Federal Agencies***

California Coastal Commission   National Marine Fisheries Service

California Department of Fish and Wildlife   Natural Resources Conservation Service

California Department of Parks and Recreation U.S. Army Corps of Engineers

California Department of Water Resources   U.S. Environmental Protection Agency

California Natural Resources Agency   U.S. Fish and Wildlife Service

California State Lands Commission

Delta Conservancy

Lahontan Regional Water Board   ***Other Agencies and Entities***

Central Coast Regional Water Board   Moss Landing Marine Laboratories

Central Valley Regional Water Board   SF Estuary Institute and Aquatic Science Center

Los Angeles Regional Water Board   Southern California Coastal Water Research Project

San Diego Regional Water Quality Control Board

San Francisco Bay Regional Water Board

Santa Ana Regional Water Quality Control Board

State Water Resources Control Board

California Department of Transportation

NOTE: Many additional agencies, universities, and private consultants and non-governmental organizations – too numerous to list - provide input to CWMW through their participation in WRAMP tool development including demonstration projects.