

Delta Regional Monitoring Program
Stakeholder Meeting Summary
12 August 2010

Objective

To inform stakeholders about the Interagency Ecological Program, the San Francisco Bay Regional Monitoring Program, the California Water Quality Monitoring Council's My Water Quality Portals and the use of the California Environmental Data Exchange Network (CEDEN)

Rationale

Some stakeholders have submitted comments questioning the decision to use the limited resources available for the Delta Regional Monitoring Program (RMP) for a second synthesis report. This meeting is offered to inform stakeholders about related efforts and present a related alternative. Stakeholders are encouraged to discuss the options at this meeting and/or provide written comments after the meeting.

Interagency Ecological Program for the San Francisco Estuary

Presenter: Anke Mueller-Solger, Delta Stewardship Council

Anke Mueller-Solger presented a history and origin of the Interagency Ecological Program (IEP), which began 40 years ago with a Memorandum of Agreement between state and federal agencies. The IEP grew to encompass additional agencies with a \$30 million budget. The current mission of the IEP is to provide information on the factors affecting ecological resources in the Sacramento – San Joaquin Estuary in order to allow for more efficient management of the estuary. The program currently focuses studies to try to answer big questions like:

- “What’s happening?”
- “What’s happened?”
- “Why is/did it happen?”
- “What might happen if...?”

The IEP connects science with management by providing information on the status and trends, processes, and forecasts while also developing long-term cooperation among agencies. As such, there is an opportunity for improving coordination and working closely with the RMP and the California Water Quality Monitoring Council.

The Bay RMP: Lessons Learned in Two Decades

Presenter: Rainier Hoenicke, San Francisco Estuary Institute

Rainier Hoenicke presented a brief history of what led to the origins of the San Francisco Bay Regional Monitoring Program (SF RMP) and the essential “ingredients” which ensured successful continuity of the program over time.

In the early 1990's, the National Research Council released a report entitled “Managing Troubled Waters: The Role of Marine Environmental Monitoring” which encouraged cooperation and development of environmental monitoring and assessment programs. At the same time, there was new research occurring within the San Francisco Bay Estuary focusing on toxic cleanup and monitoring contexts. These developments all formed the background that led to the development of the SF RMP.

In the development of the SF RMP, there were several people championing its development and success. The program was developed transparently with clearly articulated management and policy questions and maintained cost neutrality. The program also created forums to evaluate management alternatives and implemented external reviews to ensure relevance. This led to adaptations of the program over time which helped maintain its significance. One crucial aspect of the SF RMP is the interaction between science and management. The SF RMP, using credible science, helps to aid the regulation and implementation of programs managing the estuary.

Many of the lessons learned in developing the SF RMP are transferable to the developing Delta RMP. Developing a successful Delta RMP will require the key ingredients of one or more champions, cost neutrality, transparency, clearly articulated management and policy questions, forums for evaluating management alternatives based on new information, and external reviews of the program.

California Environmental Data Exchange Network

Presenter: Karen Larsen, State Water Resources Control Board

Karen Larsen provided an overview of the California Environmental Data Exchange Network (CEDEN), the CEDEN website, and then demonstrated the advanced query tool.

CEDEN is designed to facilitate integration and sharing of data collected by many different participants. CEDEN launched to the general public on 24 August 2010. Currently data must be submitted to Regional Data Centers (RDCs). The RDCs have developed applications to assist agencies, organizations, and groups submitting their data and improve comparability within the system. The CEDEN website provides links and information regarding the four RDCs and currently static project pages.

Through the advanced query tool, users can search for information based on the program, project, parameter group, specific parameter, matrix, and/or station. Over time, there are plans to develop CEDEN to be able to provide simple assessments while increasing the access and usability of data.

Maximizing the Effectiveness of Water Quality Data Collection & Dissemination

Presenter: Jon Marshack, State Water Resources Control Board

Many local, state, and federal agencies, regulated dischargers, and hundreds of water bond grant recipients spend millions of dollars each year collecting water quality data in California. The data must be turned into useable information to help decision makers and stakeholders understand the status and quality of our waters and aquatic ecosystems. California's current water quality information system lacks consistent monitoring objectives and methods to collect and assess the data. For example, differences in assessment strategies made it appear that North Coast Region waters are the most impaired, when they are actually some of the state's cleanest waters. Often it is not possible to integrate data from different studies. And there is no single user-friendly place to access the data.

In response, State Senate Bill 1070 was signed into law in 2006, requiring the California Environmental Protection Agency and the California Natural Resources Agency to establish the California Water Quality Monitoring Council. The legislation required that by December 1, 2008 the Monitoring Council (whose members represent state regulatory and resource management agencies, the regulated community, water supply interests, citizen monitoring

groups, the scientific community and the public) report its recommendations for maximizing the efficiency and effectiveness of existing water quality data collection and dissemination, and for ensuring that collected data are available for use by decision makers and the public.

Rather than focusing on technical details, such as methods consistency and standard data formats, the recommendations presented a new solution. The Monitoring Council believes that the best way to coordinate and enhance California's monitoring, assessment and reporting efforts is first to provide a platform for intuitive, streamlined access to water quality information that directly addresses users' questions. Theme-specific workgroups, staffed by issue experts representing key stakeholders and under the overarching guidance of the Monitoring Council, evaluate existing monitoring, assessment and reporting efforts and work to enhance those efforts so as to improve the delivery of water quality information to the user, in the form of theme-based internet portals. Each workgroup coordinates existing monitoring programs within their theme, developing monitoring and assessment methods and data management procedures according to performance measures defined by Monitoring Council. The goal is to achieve a level of standardization necessary to meet users' needs.

The Monitoring Council establishes common policies and guidelines for the workgroups and the monitoring programs they represent, and acts as a clearinghouse for standards, guidelines, and collaboration. Their *My Water Quality* website (www.CaWaterQuality.net) provides a single, global access point to a set of theme-based internet portals for water quality monitoring data and assessment information. The website is designed around intuitively clear questions that are readily understood by managers, the public, and scientists.

- Is our water safe to drink?
- Is it safe to swim in our waters?
- Is it safe to eat fish and shellfish from our waters?
- Are our aquatic ecosystems healthy?
- What stressors and processes affect our water quality?

Each question leads to a series of web pages that provide map-based access to summary assessment products and more detailed monitoring data that address more detailed questions. Links along the left-hand side of each page enable users to access technical information specific to each theme.

Our proposal to you today is that a California Estuaries Portal be developed by collaboration between the Delta Regional Monitoring Program, the San Francisco Bay Regional Monitoring Program, the Interagency Ecological Program and the Delta Stewardship Council. A California Estuaries Workgroup, formed from these organizations and others, would initially focus its efforts our largest and most important estuary, the San Francisco Bay-Delta. The workgroup would identify:

- Key assessment questions to drive portal navigation and underlying monitoring activities
- Data available from its members and other data that are needed to answer questions
- Redundancies, data gaps and inefficiencies in current monitoring framework
- Methods and tools to assess the data

The workgroup and its members would display their data and assessment products through the California Estuaries Portal, linked from the *My Water Quality* website. The benefits of an estuaries portal are numerous and include integrating data on biology, contaminants, and flow and making it available for multiple purposes and the ability to view the "big picture." The Monitoring Council strategy addresses issues already identified by Delta RMP and thereby provides a logical extension.

Questions and Comments Following Presentations

Are there data requirement for participants?

It is up to the workgroup issue experts to determine minimum requirements, questions, data availability, and how to combine and display the data. The Healthy Streams Workgroup has embraced SWAMP protocols. A Bay-Delta Estuaries portal would require more data standards as many element in the delta are not addressed by SWAMP standards (i.e. biota, flow, etc).

The Council is named the *Water Quality* Monitoring Council and is based on the Clean Water Act, where does the Endangered Species Act play in? Many people might feel like the name affects the aim and focus and does not consider broader interests.

The California legislation that mandated formation of the Monitoring Council is neither based on the Clean Water Act nor the Endangered Species Act. The legislation is focused on water quality and associated ecosystem health. SB1070 mandated establishment of the Council, with its current name. Many people now recognize that water quality is intricately and inherently linked with aquatic ecosystem health.

Is the data available through the portals data that is already readily available data or is it new data? What is the process for incorporating new data?

The intent it to get started with readily available data and to grow as the process continues. It is up to the workgroups, under Monitoring Council oversight, to prioritize and decide how to bring in additional data.

Comments ranged from excitement about the possibilities of connecting and linking several existing groups in a coordinated effort to concern over the possible data requirements. Stakeholders reiterated the need for strategic long-term monitoring stations that when coordinated provide a cohesive picture of the system.

Delta Regional Monitoring Program
Data Work Group Meeting Summary
12 August 20

Participants:

Adam Ballard	State Water Resources Control Board
Alisha Wenzel	Central Valley Regional Water Quality Control Board
Brock Berstein	Consultant
Cory Koger	United States Army Corp of Engineers
Eric Oppenheimer	Department of Water Resources
Erich Delmas	City of Tracy
Erin Foresman	Environmental Protection Agency
Frances Brewster	Santa Clara Valley Water District
Henry Buckwalter	Western Plant Health Association
Jason Lofton	Sacramento Regional County Sanitation District
Jim Atherstone	South San Joaquin Irrigation District
Jim Orlando	United State Geological Survey
Joe Domagalski	United States Geological Survey
Jon Marshack	State Water Resources Control Board and California Water Quality Monitoring Council
Karen Larsen	State Water Resources Control Board
Meghan Sullivan	Central Valley Regional Water Quality Control Board
Melissa Turner	MLJ LLC
Mike Johnson	MLJ LLC
Satpal Kalsi	United States Bureau of Reclamation
Stephanie Fong	Central Valley Regional Water Quality Control Board
Thomas Jabusch	Aquatic Science Center

Context:

This meeting continues the discussion started at the last stakeholder meeting – the monitoring and data management issues illustrated by the Contaminants Synthesis Report produced by Michael Johnson et al. The participants of the 12 May 2010 meeting identified three main issues that, if resolved, would improve the ability to conduct future regional-scale analyses and assessments. The participants agreed that these issues formed a logical starting point for the Delta RMP; they include:

- The need to measure simultaneously the ancillary parameters (e.g., total organic carbon) necessary for interpreting measurements of potentially toxic compounds
- The value of data transfer formats that would streamline the transfer of key data types among program participants
- The value of a tiered, or hierarchical, system of quality assurance requirements suited to the different types of data being collected by monitoring programs and the different management questions they address

This meeting was designed to work out a specific plan of action to begin addressing and resolving these issues.

Group Discussion:

The meeting began with a re-cap of the three main issues identified at the previous stakeholder meeting and a commitment to tackle these issues through the Delta RMP.

Ancillary Data

We began the discussion talking about ancillary data. For accurate and useful analyses, there are various contaminants that require ancillary measurements. For example, to understand data about copper, organic carbon measurements are required. Participants agreed that the issues associated with ancillary data could be worked out remotely through electronic communications. Delta RMP planning staff, in coordination with stakeholders, will compile a list of major contaminants of interest within the Delta and the ancillary data that is required for meaningful analyses. This information will be distributed in survey form to Delta RMP participants. The survey will establish the specific data quality objectives for each program that currently monitors within the Delta, the contaminants monitored, and the ancillary data that is collected. If the survey establishes a particular piece of ancillary data is not collected for a key contaminant, a field for explanation will be included. The Delta RMP Planning team and the Data Workgroup can then categorize programs needing changes and determine the best responses (permit changes, coordination, etc).

Data Transfer

After general agreement was reached for the approach to address ancillary data, discussion turned towards broader data management issues, specifically data transfer. There are currently several different databases and there is no easy way to get information from all of them for a comprehensive view. RMP participants agreed that some sort of clearinghouse is needed – a “one-stop shop” to gather all the information. CEDEN provides that sort of service for data housed at each of the four Regional Data Centers (RDCs). To date, CEDEN has focused on formats for upload and has not focused on cross-walks for exchanging data between different databases. However, there are plans to develop a bridge between CEDEN and WQX, the database of the Environmental Protection Agency (EPA). Currently, the United States Geological Survey (USGS) exchanges data with WQX. So, CEDEN could become an access point for USGS and EPA data in addition to that from the RDCs. There are issues with the comparability of data from different databases. Naming conventions are not even always transferable.

While the ultimate goal is to have one place to turn to for information – a clearinghouse, as opposed to instructions of how to compare data from so many different databases accessed from so many different places. Perhaps, the starting point is to determine the major data sources the RMP is interested in and prioritize where to start building cross-walks. From there, more discussion can take place about how best to create one clearinghouse. CEDEN is envisioned to be a clearinghouse for different types of data in the long run with the Water Quality Monitoring Council portals serving as the front-end for public access the data. CEDEN also will include data analysis tools, focused on agency and scientist users.

One of the biggest challenges will be resolving simple differences in standards and nomenclature across various databases. Most standards in various databases generally follow EPA protocols, but even then there are different formats for Station IDs, Field IDs and more. There are certain pieces within various databases that would make sense to standardize, specifically with the programs directed by the Water Boards, and develop clear cross-walks between other programs. Additionally, it will be important to be able to discern the differences in protocols (i.e. detection limits, reporting limits, etc.) It seems

like the data exchange will need to be built program by program and will require detailed documentation in order to clearly understand the different data. This leads to the question of tiered QA/QC and what standard of data is acceptable for use within the RMP.

Tiered QA/QC

The State Water Board has a requirement to make data available, even if it does not meet minimum standards. As such, there needs to be a way to flag data so users understand in what types of analyses it can and can not be used. On some level everything (methods, parameter names, QA/QC, DL, constituents, etc.) all need to be reviewed to establish a basic idea of what is happening and what should be happening. This led to some discussion about direct transfers of data from the labs themselves into databases. However, this also would require various methods to review and/or flag data prior to public consumption.

Within both the data transfer and the tiered QA/QC discussions, it became clear a pilot would be needed to determine the best use of CEDEN. Attention quickly focused on the NPDES permitted dischargers within the Delta due to their current use of the CIWQS database and the regulatory control of the Central Valley Regional Water Board. The Delta RMP Planning team, in coordination with SWAMP, will begin to work with permitted Delta dischargers in a pilot attempt at addressing the feasibility of data transfers and tiered QA/QC using the CEDEN database.

Outcomes and Next Steps:

The State Water Board, Region 5 and the Aquatic Science Center will begin gathering some background information about the dischargers in the Delta and their current workings with CIWQS. The priority will be to make a list of inconsistencies and to look at the data actually being collected and submitted (i.e. what QA/QC is actually collected/performed and why it is or isn't provided) for the permitted dischargers in the Delta. We will rely on the dischargers to tell us what they've been doing and how it has been working for them in relation to CIWQS and then move on to discussions about the use of CEDEN. After some initial reconnaissance, the Delta RMP planning team will return to the Data Work Group with what they've discovered, the fixes suggested, and request input from the group.