

Delta Regional Monitoring Program (RMP) Technical Advisory Committee (TAC) Meeting

**Tuesday, June 24, 2014
12:30 PM – 3:30 PM
Sacramento Regional County Sanitation District Building
Sunset Maple Room
10060 Goethe Road, Sacramento, CA 95827**

Summary

Attendees:

TAC (and/or Alternate) members present¹:

Stephanie Fong, Water Supply (State and Federal Contractors Water Agency)

Brian Laursen, Stormwater – Phase I (Larry Walker Associates)

Meghan Sullivan, Regulatory – State (Central Valley Regional Water Board)

Joe Domagalski, TAC co-Chair (U.S. Geological Survey)

Vyomini Upadhyay, POTWs (Sacramento Regional CSD)

Claus Suverkropp, Agriculture (Larry Walker Associates)

Stephen McCord, TAC co-Chair (McCord Environmental, Inc.)

Shaun Philippart, Coordinated Monitoring (CA DWR)

By phone:

Karen Ashby, Stormwater – Phase II (Larry Walker Associates)

Others present:

Jay Davis, SFEI-ASC

Tim Mussen, Sacramento Regional CSD

Tessa Fojut, Central Valley Regional Water Board

By phone:

Gerardo Dominguez, San Joaquin County

1.	Introductions A quorum was established.
2.	Announcements from Committee Members There were no announcements.
3.	Steering Committee Updates – Meghan Sullivan

¹ Name, Representing Category (Affiliation)

	<p>In an effort to provide improved communication and awareness between the TAC and the Steering Committee, regular updates will be provided to each committee about relevant discussions.</p> <p>The last Steering Committee meeting was held on Monday, May 19th and included an update from the TAC Co-Chairs on the progress of the TAC and the subgroups. The Steering Committee indicated they would like to see a clearer link between the original RMP Management Questions, the assessment questions and the proposed designs. Specific data products that answer the questions should be identified. The main expectation for the initial TAC Co-Chairs is to ensure the TAC remains on task to develop the monitoring design. The SC also supported participation in the Bay Delta Science Conference via a poster at minimum (a poster abstract was submitted by ASC). Funding and criteria for participation will be the main topics at the SC meeting on July 14.</p>
<p>4.</p>	<p>Approval of Agenda and Meeting Notes– <i>Stephen McCord</i></p> <p>The main goal of the meeting included updates on subgroups and progress towards draft monitoring designs. Another meeting goal is to begin discussing how to consolidate the constituent-specific designs and how to prepare a recommendation for the Steering Committee. Desired outcomes included suggestions and recommendations to the subgroups to refine designs and identification of consistencies within/across designs.</p>
<p>5.</p>	<p>Monitoring Designs – Subgroup Updates <i>Mercury (Stephen McCord, Jay Davis):</i></p> <p>The mercury subgroup revised the initial assessment questions to include the status and trends related to total mercury and sediment rather than just focusing on methylmercury. The subgroup would also like to support the mercury cycling submodel being developed for DSM2. According to those involved with the model there are some very specific data gaps that are lacking (i.e., sediment grain size and organic carbon concentrations) which could be collected by the RMP. The recommended monitoring design prioritizes sport fish, then water, sediment, and finally prey fish. There are key questions that need to be resolved about how best to monitor the water given the Delta’s high spatial and temporal variability. Additionally, the mercury subgroup noted that monitoring nutrients would help to interpret the mercury data. A strawman monitoring design has been distributed but not yet reviewed by the subgroup. The strawman includes nine fish monitoring sites distributed throughout the Delta but including all major inflow and outflow areas. Further discussion is needed regarding the inclusion of a site in the Yolo Bybass in the design. Overall, the subgroup felt that a higher frequency of</p>

monitoring at fewer sites would better characterize the water. But the proposed design could be scaled up or down based on input from the TAC and the desires/budget of the SC.

Nutrients (Joe Domagalski):

The nutrient subgroup met for the fourth time just prior to the TAC meeting and generally agreed that a synthesis of existing data from existing stations is preferred to significant status & trends nutrient monitoring at this time. The group feels it is important to coordinate and leverage the IEP data analysis (SFEI-ASC) that is currently underway and to integrate with the Region 5 nutrient study plan. These efforts should be integrated into a phased development approach for nutrient monitoring. That said, the proposed approach would focus initially on analysis and synthesis of existing information, including the refinement of the spatial and temporal resolution sampling needs and identifying and prioritizing data gaps. The subgroup did not edit the assessment questions but refined them to ensure useful answers. The synthesis of existing data would address questions related to:

1. Status and trends of concentrations and loads
2. Chlorophyll-*a* levels and correlation to nutrient concentrations
3. Algal species composition, as affected by nutrients
4. Macrophyte distribution, as affected by nutrients

The data synthesis would also look to extract information from existing literature on external loads and sources, look at N/P ratios, forms of N, seasonal spatial / temporal patterns in chlorophyll-*a*, and adequacy/redundancy of station networks. The subgroup also found that a high frequency and spatial resolution is needed, consistent with the rates of changing biologic/hydrologic conditions. As such, the existing continuous sensor network is a useful resource but may require additional sites. More sampling would likely be targeted during high flows (not necessarily storm events).

Pesticides (Stephanie Fong): The pesticides subgroup identified the need to approach the monitoring design for pesticides in concert with those for mercury and nutrients. The subgroup found it difficult to recommend a monitoring design without any sense of budget constraints. The subgroup continues to focus on toxicity as a tool to track groups of pesticides based on information gleaned from risk and use reports, which will also support a monitoring design focused on key sites, times and analytes. The subgroup recommends a weight-of-evidence approach using TIEs on toxic samples (including sub-lethal endpoints). Biomarkers

for various triggers have been discussed, but further budget information is needed to refine the details. Some sites would include chemical analyses directly and the Hood and Vernalis sites would be useful for in/ex-situ toxicity monitoring. There would be significant labor costs associated with the in/ex-situ sites. The toxicity testing is proposed as a screening tool to be used before more specific analyses. The subgroup has been discussing the various methods and will recommend specific approaches for various classes of pesticides. A flow chart and matrix for the process of when/where to do more analyses is in development and would be useful to increase the confidence in the toxicity approach. The TAC discussed concerns with specific methodologies and the repeatability/comparability amongst different labs. The group has identified key monitoring sites, which overlap well with sites proposed by the NPDES permittees. Remaining design issues include: follow-up test triggers, monitoring frequency (related to available budget), and the flexibility that may be afforded with other collaborators.

Pathogens (Brian Laursen): The driver for this effort is a Basin Plan requirement for understanding conditions at the intakes in relation to agricultural and urban runoff sources. The assessment questions reflect this and as a result of the coordination with the LT2 drinking water intake sampling study, some of the assessment questions will depend on the results of the initial sampling. The monitoring would result in data products such as tables summarizing the conditions and the changes in conditions (bin levels, infectivity, etc.) as well as visual representations of observed spatial changes. The overall approach would coordinate with the LT2 sampling and begin in April 2015. MWQI has volunteered to do the ambient sampling (of *Giardia* and *Cryptosporidium* and ancillary parameters such as organic carbon) at a subset of their routine monitoring sites (~12 sites) for the first year. The initial data would need to be assessed to develop more focused sampling and specific special studies in the second year of the study. The intent is to be able to capture specific types of sources (agricultural versus urban runoff). Water agencies would collect and analyze samples at their own intakes. The initial plan is that the RMP would pay only additional analytical costs to MWQI. The subgroup is continuing to develop and refine a work plan with the coordination details, sampling plan, and a cost proposal to present to the TAC. The subgroup has questions related to quantifying costs, particularly labor as well as program and data management.

	<p>Outcomes:</p> <p>Overall, the designs need to be further refined and consistent products (design table, etc.) should be delivered to ASC to compile for discussion at the next TAC.</p>
6.	<p>Pulling It Together</p> <p>The subgroup updates ran longer than anticipated, but the discussion did lend itself to the eventual task of pulling everything together. The design summary tables were created to help provide a consistent format and more directly tie the assessment questions back to the management questions and necessary data products, which the SC has stressed. The details in the table (targets, costs, sites, etc.) will be important to pull everything together. Through the program development, the TAC can schedule various activities (for example nutrient synthesis prior to nutrient monitoring or the LT2 study at the drinking water intakes). ASC will compile the tables and produce maps, charts, and other materials to assist the TAC in determining potential coordination and overlap between the priority constituents and develop a monitoring program to recommend to the SC. The TAC will want to develop a preferred alternative but have available modular options with specific reasoning for the SC to consider. It was suggested that TAC members (especially subgroup leads) be present and available to answer questions at the SC meeting when the recommended approaches are presented.</p> <p>The updates from the subgroups and meeting discussion did result in some consistent messages:</p> <ul style="list-style-type: none"> - Key index sites generally overlap among the constituents and those sites identified by the permittees. - In general, more sampling events were preferred over more sites. - Temporal complexities may complicate efforts to combine constituents, but where possible multiple constituents can and should be collected together - Consider opportunities for phasing implementation - Recognize that even if the RMP is not physically monitoring a constituent (like nutrients), resources will still be needed for the synthesis and assessment - Monitoring designs should support available simulation models
7.	<p>Review Monitoring Design Development Schedule <i>Stephen McCord</i></p> <p>An updated and revised schedule consists of:</p> <ul style="list-style-type: none"> • Update to the SC on July 14th • Draft Monitoring Design (design & costs tables): July • ID coordination efficiencies related to implementing design: August

	<ul style="list-style-type: none"> • Final Monitoring Design: Sept.? • Peer review of monitoring design: Timing TBD <p>At this point, hoping to begin monitoring by early 2015. But the development schedule will be revisited at the next TAC meeting in August when there is a better idea of funding available for the program.</p>
<p>8.</p>	<p>Wrap-up– <i>Stephen McCord</i></p> <p>The next meeting will be held sometime in August, but a subgroup lead conference call will be held mid- to end-July.</p>
<p>9.</p>	<p>Action items:</p> <ol style="list-style-type: none"> 9.1. Consolidate and standardize constituent monitoring designs in tabular format, including near-term plan, and prepare other related materials (executive summary with recommendations and alternatives for SC review, gantt charts, overlay maps, etc.) (Thomas, by early August) 9.2. Develop ambient monitoring needs of permittees to be incorporated into monitoring design 9.3. Seek out dates and location for next meeting (Stephen, by mid-July) 9.4. Subgroups leads planning call regarding consolidating plans and developing recommendations (subgroup leads, by mid-July) 9.5. Distribute the language to be included in the revised permits (Meghan, by mid-July)