

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

**March 12, 2015**

**8:30 PM – 12:30 PM**

**Sacramento Regional County Sanitation District Building**

**Sunset Maple Room**

**10060 Goethe Road, Sacramento, CA 95827**

### **Summary**

#### **Attendees:**

*TAC (and/or Alternate) members present<sup>1</sup>:*

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

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

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

Claus Suverkropp, Agriculture (Larry Walker Associates)

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

Tessa Fojut, Regulatory – State (Central Valley Regional Water Quality Control Board)

Debra Denton, Regulatory – Federal (U.S. EPA Region 9)

Tim Mussen, POTWs (Sacramento Regional CSD)

Vyomini Upadhyay, POTWs (Sacramento Regional CSD)

*By phone:*

Tony Pirondini, POTWs (City of Vacaville)

*Others present:*

Patrick Morris, Central Valley Regional Water Board

Thomas Jabusch, SFEI-ASC

Hope McCaslin Taylor, LWA

Selina Cole, Central Valley Regional Water Board

Cam Irvine, CH2M Hill

Jay Davis, SFEI-ASC

Rachel Kubiak, Western Plant Health Association

Vyomini Upadhyay, Sacramento Regional CSD

Lisa Thompson, Sacramento Regional CSD

*On phone:*

Gail Cho, DFW WPCL

Martice Vasquez, DFW WPCL

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<sup>1</sup> Name, Representing Category (Affiliation)

Gerardo Dominguez, San Joaquin County  
 Bruce Houdesheldt, Sacramento Valley Water Quality Coalition  
 Brain Bergamaschi, USGS

1.	<b>Welcome and Introductions</b>
2.	<b>Announcements from TAC Members</b> None
3.	<b>Approval of Agenda</b>
4.	<p><b>Steering Committee Updates</b></p> <p>Stephen summarized the key messages from the SC to the TAC as 1) don't get involved in Steering Committee (SC) decisions, 2) dissolve subcommittees and form a Toxicity Identification Evaluation (TIE) subcommittee, 3) address <i>Hyalella</i> concerns, and 4) compare the list of USGS analytes with the interests of various participating groups (i.e. regulatory drivers). Thomas Jabusch noted that ASC is in the process of applying revisions to the monitoring design in May to correspond with the workplan revisions for next year. There is not enough time to do all the requested work before the next SC meeting and TAC input is needed on some revisions. Not all comments would be addressed in the monitoring design itself. For example, the Quality Assurance Program Plan (QAPP) will address data management in more detail and an extended “communications plan” (due in June) will deal with interpreting data. Thomas also pointed out that ASC does not have sufficient funds to begin pesticide monitoring in April. Most likely, there will be funding to start pesticide monitoring in May. Although the pesticides monitoring design is being implemented in full for the remainder of FY14-15, the higher than anticipated costs and lower than expected available funding will likely necessitate a reduction in what can be implemented of the full recommended design. The continuation of Stephen McCord and Joe Domagalski’s appointments as TAC co-Chairs will be decided at the March 27 SC meeting.</p>
5.	<p><b>Review Pesticides Design</b></p> <p>According to Stephen McCord, the purpose of the discussion was to a) address specific SC interests (mostly related to <i>Hyalella</i> testing), b) review available SOPs, and c) review the list of analytes in the USGS pesticides scans. SC requests to the TAC are mostly related to <i>Hyalella</i> testing and include a) to specify the phenotypes to be used, b) outline how to interpret results, and c) recommended future studies.</p> <p><u><i>Hyalella</i> testing and the related SOPs:</u> These topics triggered a vigorous discussion.</p>

The discussion resulted in some provisional recommendations (see below). TAC members disagreed over the absence and necessity of specific standard protocols for QAQC (specific phenotype to be used in the tests, reference toxicant SOP).

There was also some discussion on options for cutting back on the monitoring design to match the budget, either by scheduling fewer events or visiting fewer sites.

Interpretation of *Hyaella* testing results: Stephanie Fong commented that it would not be up to the TAC to decide how to interpret the results and that the same logic would apply to all species: once TIEs would indicate potential toxicants, there would still be further work. She further noted that the TAC is represented by interest groups not technical ability.

Pesticide list of analytes: challenges in deciding on the constituent list include the sheer number of pesticides used in the Central Valley (~500) and the fact that the Irrigated Land Regulatory Program (ILRP) as one of the potential key partners will be changing their priorities in the fall.

Joe Domagalski compared the USGS analyte list with the output of California Department of Pesticide Registration (DPR)'s model output. Some of the compounds on the DPR list such as glyphosate are not detected or seldom detected at Freeport and Vernalis. Some compounds with a high Pesticide Use Risk (PUR) ranking are difficult to detect because they have very short half-lives. An example is abamectin. Joe advised the TAC to agree to the current list as a being good enough to start with. Additional analytes could be added in the future but not now. USGS would be adding new analytes at their own cost because it needs to stay relevant to stay in business and needs to find ways for doing it. Participants agreed that the list of analytes would ideally be the same across programs, but there are still uncertainties, for example, about the future list of analytes used by the ILRP. Claus explained that ILRP is working on their prioritization by following the PUR closely.

The USGS list of analytes also includes degradates. Stephanie Fong noted that she would like to see additional degradates added. Joe clarified that additional degradates couldn't be added by May.

Bruce Houdesheldt (SC alternate, Agriculture) noted that priorities are different in

	<p>upstream watersheds north, east, and south of the Delta. Stephen McCord responded that the TAC is looking at all geographic areas that are relevant, i.e. have a hydrologic connection to the Delta. This includes most of the Central Valley watershed but not areas that are closed basins such as Goose Lake.</p> <p><u>Recommendations:</u></p> <p><i>Hyaella</i> discussion</p> <ul style="list-style-type: none"> <li>- Provide SOPs or excerpts to SC</li> <li>- TAC initial suggestions for future studies:             <ul style="list-style-type: none"> <li>• Compare Aquatic Health Program Laboratory (AHPL)’s reference toxicity control chart to California data (Debra Denton can provide)</li> </ul> </li> <li>- Build upon matrix suggested by Michael L Johnson LLC to address SC request for outlining results</li> <li>- Delta RMP needs consistency in procedures</li> </ul> <p>Pesticides analyses:</p> <ul style="list-style-type: none"> <li>- Start with the current USGS scan list of pesticides (and degradates)</li> <li>- Base decisions of additional chemicals on:             <ul style="list-style-type: none"> <li>• DPR’s pesticide use trend analysis</li> <li>• Trends in monitoring data</li> <li>• ILRP advisory group document as reference for degradates</li> <li>• Inclusion in future ILRP monitoring requirements</li> <li>• Future TIE insight</li> </ul> </li> <li>- USGS to work on “easy adds” (e.g. those analyzed at USGS National lab or with other developed method)</li> <li>- Include ILRP priorities after Aug. 2015</li> </ul> <p>Pesticides design (general)</p> <ul style="list-style-type: none"> <li>- Conduct a peer review of the study design and report, after completing the first year of monitoring</li> </ul>
<p>6.</p>	<p><b>TIE Subcommittee</b></p> <p>Stephen McCord described the purpose of this agenda item as to 1) describe roles and tasks of the TIE subcommittee, 2) designate subcommittee members, and 3) preview a draft decision flow chart. Thomas Jabusch explained that pesticide-focused TIEs are proposed for samples with &gt;50% of the measured endpoint. The main charge of the TIE subcommittee is to make rapid decisions to conduct TIEs. The key consideration for the decision should be how a sample fits into the bigger picture. Additional proposed tasks of the subcommittee are to finalize the TIE</p>

	<p>flowchart and decide which TIE manipulations are appropriate. Tim Mussen said he would be interested in participating in discussions about what TIEs would be done but would want to let experts decide when TIEs would be done.</p> <p><u>Recommendations:</u></p> <ul style="list-style-type: none"> <li>- Convene larger initial pesticide subcommittee to finalize the TIE flowchart, which includes potential TIE manipulations. Subsequently, a TIE subcommittee would be composed of experts with “hands on” experience in TIEs.</li> <li>- The initial committee would consist of the pesticide subcommittee, with Tim Mussen replacing Vyomini. It will also include the lab representative and either Bryn Phillips or Brian Anderson from the UC Davis Granite Canyon lab (if they are available). This larger design group will not be involved in the TIE decision-making process.</li> <li>- The smaller subgroup for rapid decisions will need to consist of people who have done TIEs. It will include Stephanie Fong, Cam Irvine, and either Bryn Phillips or Brian Anderson from the UC Davis Granite Canyon lab (if they are available and accept).</li> </ul>
<p><b>7.</b></p>	<p><b>Nutrients Data Synthesis Workplan</b></p> <p>The purpose of this agenda item was to review the overall outline of a proposed Nutrient Data Synthesis, focusing on high-frequency data synthesis component. Thomas Jabusch requested input on a) the general concept for the four reports, and b) the details of the Sensor Data Synthesis. Thomas introduced the overall concept of preparing 4 coordinated reports: 1) Synthesis of Sensor Data (March 2016), 2) Spatial and temporal trends in nutrients- and nutrient-associated parameters (“Synthesis of discrete ambient water quality data”, March 2016), 3) Mass balance and major processes (“Loadings report”, March 2016), and 4) Regional monitoring plan for assessing ambient baseline conditions (June 2016). Report #4 would be a potential vehicle for a design to broadly characterize ambient baseline conditions (general water quality).</p> <p>Brian Bergamaschi joined by phone to provide an overview of the high-frequency data synthesis outline. The first report, led by USGS, will be an RMP product, subject to peer review but still less review than would a USGS report. The proposed RMP funding for the report (FY 14-15 and FY 15-16 combined) is \$70K. In addition, USGS will provide a match and the total budget for the report will be about \$90K.</p>

	<p>There was some discussion about the process for the regional monitoring plan development and the resulting product that required several clarifications but no fundamental changes to the planned approach. For example, the proposed review of nutrients will be necessary to inform the conceptual model of the modeling workgroup for the Delta Nutrient Science Plan. Overall, the group supported the general concept for the four reports and the outline of the Sensor Data Synthesis.</p> <p><u>Recommendations:</u></p> <ul style="list-style-type: none"> <li>- Consider alternative of recommending monitoring under conclusions of reports 1-3, and including the “plan” in the monitoring design.</li> <li>- Design each individual report to facilitate the comparison of conclusions</li> <li>- Allocate afternoon time after upcoming TAC meetings for TAC input to Nutrient Synthesis</li> </ul>
<p>8.</p>	<p><b>Pathogens Workplan</b></p> <p>The purpose of this agenda item was to outline roles and responsibilities for implementing the pathogen study and review the sampling SOPs. ASC’s role as the contract manager for the laboratories implies some communication with samplers. ASC and the Drinking Water Policy Work Group (DWPWG) will receive the lab results for <i>Giardia</i> and <i>Cryptosporidium</i> at ambient monitoring sites. Decisions about Year 2 monitoring need to be made in the near future to plan for special studies. The only remaining uncertainty for Year 1 are the data reporting requirements for compliance with the Basin Plan, with regards to intake monitoring. At this point, the DWPWG will have to compile both ambient and intake monitoring data. Data reporting requirements will depend to a degree on the study outcomes. Brian Laursen further stated that MWQI would be available for pesticides monitoring. There were no significant comments from the TAC.</p> <p><u>Recommendations:</u></p> <ul style="list-style-type: none"> <li>- Regularly report back to the TAC on study progress and results</li> </ul>
<p>9.</p>	<p><b>State of the Estuary Report: Water Quality Chapter</b></p> <p>Jay Davis presented a brief overview of the material going into the draft water quality chapter of the State of the Estuary report (SOTER) 2015, with the goal to get feedback on the key messages about water quality in the Delta. Jay advised that the most important aspect of SOTER would be to get the public level messaging right and that now would be the best time to provide a review. Lisa Thompson commented that a really important concept to understand is the recurring pattern of replacing chemicals that are found to be harmful with something that is equally</p>

	<p>harmful. Claus Suverkropp noted that the proposed pesticide use chart might not necessarily be representative, because it suggests an increase in the use in Current Use Pesticides but not necessarily a change in use patterns. Debra Denton mentioned that the summary table, where the responses are “none detected or no problems” needs caveats such as appropriate use of sampling size, appropriate detection levels or indicator species were utilized in the monitoring design.</p> <p><u>Recommendations:</u></p> <ul style="list-style-type: none"> <li>- On percentages of toxicity for the Bay and the Delta as a whole, must say where and what sampling was done.</li> </ul>
<p><b>10.</b></p>	<p><b>Wrap-up</b></p> <p>Stephen McCord summarized the message points to the SC as a TAC to do-list of issues to address (on behalf of the SC)</p> <ul style="list-style-type: none"> <li>- Know what <i>Hyaella</i> phenotype the RMP is using or have some sense of sensitivity, potential follow-up with Don Weston</li> <li>- Implication of different phenotypes</li> <li>- How will the <i>Hyaella</i> results be used to inform future monitoring</li> </ul> <p>There was discussion whether participating in an interlab comparison for toxicity testing would be useful. Debra Denton suggested that an interlab comparison would add a lot of unnecessary effort. Instead, the TAC could ask AHPL about how their standard data fall within the California summary results.</p> <p>Claus Suverkropp commented that he had reservations about including <i>Hyaella</i> in routine monitoring and that the TAC didn't necessarily provide clear answers to the SC's questions. One of the issues would be that the <i>Hyaella</i> water column test involves whole water exposure to organisms that live on the sediment-water interface. The exposure would not be representative of exposure in a natural habitat. The other issue would be that it wouldn't be immediately obvious how the results would translate to an effect in the Delta ecosystem. He suggested more discussion about the relevance of any toxicity detection, e.g. whether <i>Hyaella</i> is found in the stomachs of fish.</p> <p>Upcoming meetings:</p> <ul style="list-style-type: none"> <li>- April             <ul style="list-style-type: none"> <li>• QAPP</li> <li>• TIE subcommittee update</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>- May/June             <ul style="list-style-type: none"> <li>• Adaptive management per initial experience</li> <li>• Review draft FY15-16 Workplan</li> <li>• Review draft Communications Plan</li> </ul> </li> </ul> <p><u>Recommendations:</u></p> <ul style="list-style-type: none"> <li>- Close loop on genotype/clade/phenotype for <i>Hyaella</i> strain used by AHPL, if not known</li> <li>- Further develop prototype matrix by MLJ to guide data analysis</li> <li>- Look at laboratory SOP for reference toxicant</li> <li>- Future special study on pyrethroid as a reference chemical</li> </ul>
<p><b>11.</b></p>	<p><b>Action items:</b></p> <p>Pesticides</p> <ul style="list-style-type: none"> <li>- Distribute ILRP advisory group document (Tessa Fojut)</li> <li>- Send list of ILRP priorities to TAC, when it becomes available (Tessa)</li> </ul> <p>TIE Subcommittee</p> <ul style="list-style-type: none"> <li>- Corral group for an initial meeting to work on the TIE decision flowchart and recommended manipulations, then scale down the effort to the smaller subgroup that makes rapid decision about TIEs (Thomas)</li> </ul> <p>SOTER 2015</p> <ul style="list-style-type: none"> <li>- Jay Davis to post figures and tables file - done</li> <li>- TAC to review draft report (public and technical appendices) and email track changes to Jay by 3/20, or negotiate with Jay</li> </ul>