



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

April 22, 2015  
1:00 PM – 4:00 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)  
Stephen McCord, TAC co-Chair (McCord Environmental, Inc.)  
Tessa Fojut, Regulatory – State (Central Valley Regional Water Quality Control Board)  
Tim Mussen, POTWs (Sacramento Regional CSD)  
Vyomini Upadhyay, POTWs (Sacramento Regional CSD)  
Mike Johnson, MLJ LLC (Agriculture)  
Karen Ashby, Stormwater – Phase II (Larry Walker Associates)

*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  
Rachel Kubiak, Western Plant Health Association  
Tim Vendlinski, USEPA Region 9  
Jim Orlando, USGS  
Cristina Grosso, SFEI-ASC  
Brant Jorgenson, Pacific EcoRisk  
Linda Dorn, Regional San  
Xin Deng, DPR  
Linda Deanovic, UC Davis APHL  
Dawit Tadesse, State Water Board

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



Adam Laputz, Central Valley Regional Water Board

*On phone:*

Jennifer Voorhees, UC Davis Granite Canyon-MPSL

Brian Anderson, UC Davis Granite Canyon-MPSL

Don Yee, SFEI-ASC

1.	<b>Welcome and Introductions</b>
2.	<p><b>Announcements from TAC Members</b></p> <p>Joe Domagalski will be part of a USGS Drought Impacts Committee. The committee is in the process of revamping the USGS Drought Impacts website. Information content will be from throughout the state, but with a focus on the Delta. The main idea is to provide an overview of river environmental conditions throughout the state, showing which ones are and aren't affected. The committee is soliciting ideas, so anyone with input on what types of data to display related to the Delta is welcome to communicate directly with Joe.</p> <p>Mike Johnson has replaced Claus Suverkropp's place as the TAC appointee for Agriculture.</p>
3.	<p><b>Approval of Agenda</b></p> <p>There were no comments on the agenda and summary of the previous meeting.</p>
4.	<p><b>Steering Committee Updates</b></p> <p>Stephen McCord provided an overview of SC decisions relevant to the TAC.</p> <p><u>Hyaella</u>: The Steering Committee decided that toxicity testing using <i>Hyaella</i> would not be included in the FY14/15 monitoring. The funding that would have been used for FY14/15 monitoring could be diverted to a SCCWRP (Southern California Coastal Water Research Project) interlaboratory comparability study. Linda Deanovic from AHPL advised that the lab would not need to be reimbursed for participation in the <i>Hyaella</i> interlab study. Other funding needs could come from Delta Hyaella sampling, and phenotype testing of the test organism.</p> <p><u>Mercury</u>: A decision about whether mercury monitoring should begin in fiscal year 15-16 (FY15-16) is coming up at the SC next meeting.</p> <p><u>TAC Process Improvements</u>: The SC requested certain process improvements for the TAC, noting that the Delta RMP overall is still streamlining its processes. One of the expected improvements is better tracking of TAC decisions and</p>



	<p>recommendations. Other requests for improvements include: a) TAC co-chairs more clearly articulate and document concerns that are raised in meetings (incl. role call on points of disagreement and developing a clear path to resolution), b) ASC provide more timely meeting notes, and c) SC members (esp. co-Chairs) attend TAC meetings to observe and help address non-technical issues.</p> <p><u>Recommendations:</u></p> <ul style="list-style-type: none"> <li>- Summarize past TAC meeting decisions by date, in a format similar to SC Record of Decisions spreadsheet and including document references and topic identifiers</li> </ul>
<p>5.</p>	<p><b>Check-in Items</b></p> <p><u>Pathogen study:</u> The study is underway. Beginning April 6-7, the Department of Water Resources (DWR) Municipal Water Quality Investigations (MWQI) program is collecting <u>ambient</u> samples on every first Monday and Tuesday of each month, over the course of a year. Monthly <u>intake</u> samples will be collected on different sample dates, depending on the individual sampling schedules of water agencies monitoring their intakes. Participants discussed the need and options for avoiding the ice build-up that was an issue with one of the first samples collected by MWQI during transition to the lab.</p> <p><u>USGS contracts</u> for nutrients and pesticides are undergoing internal review by USGS. According to Joe Domagalski, the contracts should be in place to conduct chemical analyses for the pesticide monitoring to start in June. AHPL will determine hardness as part of the water quality analyses required for toxicity testing; therefore, the USGS contract will not longer include analyses of calcium and magnesium. Participants suggested that Dissolved Organic Carbon (DOC) and Particulate Organic Carbon (POC) be added as analytes. Total suspended solids (TSS), will be acquired by filtration of samples.</p> <p><u>Interlab <i>Hyaella</i> study:</u> Thomas Jabusch provided an update and details about the interlab study organized by SCCWRP. There will be five participating labs. Round one of the study begins on May 27 and will entail an artificial rainwater sample, a nontoxic sample, and a copper-spiked toxic sample. The study will include testing of 2 marine and 2 freshwater species and each lab can chose how many of these to test. The two freshwater species are <i>Ceriodaphnia dubia</i> and <i>Hyaella azteca</i>. The proposed statistical test for the study is the Test of Significant Toxicity (TST). Results will be compared by evaluation against a grand mean and standard deviations. All</p>



	<p><i>Hyaella</i> cultures used will be sourced from the same supplier. Labs will follow the same protocol that specifies variables such as temperature and feeding amounts, but they will be choosing their own reference toxicant tests. Some participants suggested that using the same reference toxicant test would level differences among labs. There was some discussion about whether and how the Delta RMP could ensure the interlab study would meet program objectives and whether to provide additional study ideas to SCCWRP. Linda Deanovic advised that any additional input to the study (evaluation of round 1 and planning of round 2) would need to be provided before July 9. Thus, any additional study ideas would need to be developed well before July 9. Tim Vendlinski pointed out that while the study participants may be receptive to suggestions, there shouldn't be any expectation that any changes recommended by the RMP would be implemented. He and Adam Laputz also advised that from the SC perspective, the idea to “push the hold button” was founded in the expectation that useful information to advise the monitoring design could be learned by waiting for SCCWRP’s interlab study. However, decisions aren’t entirely tied to the outcomes of the study and a potential mismatch of expectations should not serve as a rationale for further delaying the implementation of <i>Hyaella</i> testing. As in previous meetings, there was discussion about how the information obtained by testing <i>Hyaella</i> will be used. Discussion participants agreed in this context that there are two separate issues to address, ecological relevance and interlab comparability. The interlab study is expected to provide insights in some of the unexplained variability in water toxicity testing results with <i>Hyaella</i> among different labs. Additional general guidance is needed from the TAC on interpreting the ecological relevance of results from toxicity testing. There was general agreement that being able to resolve these issues would be a boon to all participants and that evaluations performed by the Delta RMP would help inform the Regional Board’s use of toxicity information.</p> <p><u>Recommendations:</u>  <i>Hyaella</i> discussion</p> <ul style="list-style-type: none"> <li>- Consider adding phenotype testing, supplying Delta environmental samples for 2<sup>nd</sup> round of testing</li> </ul>
<p><b>6.</b></p>	<p><b>TIE Subcommittee</b></p> <p>There will be a limited budget to conduct TIEs. The main responsibility of the TIE subcommittee will be to rapidly decide case-by-case whether and how to allocate resources to conduct TIEs for samples exceeding the proposed threshold (&gt;50% any target endpoint). Cam Irvine and Stephanie Fong presented a revised TIE decision</p>

flowchart and responded to questions by the group. The purpose of the flowchart is to set the decisions factors. As a rule of thumb, TIEs could be initiated within 96-hrs of the beginning of testing if a threshold in any given test is exceeded. Salinity is an important factor affecting toxicity test results in the Delta. Specific conductance will be measured and recorded by USGS and provided to AHPL to inform the toxicity testing. Initial treatments for the pesticide-focused TIEs would include EDTA (identifies metals), solid-phase extraction column (identifies non-polar organics, organic-metal chelates, and some surfactants), PBO (synergizes pyrethroids; blocks organophosphates), carboxyl esterase addition (confirms pyrethroids), and baseline (confirms toxicity is persistent).

Another part of the discussion dealt with confirming the TIE subcommittee. The main charge of the TIE subcommittee would be to make quick decisions for allocating resources about whether to initiate a TIE when a sample exceeds the toxicity threshold proposed in the monitoring design (>50% of any endpoint). The TAC discussed and confirmed the following appointees: Stephanie Fong, Cam Irvine, and Bryn Phillips (UCD Granite Canyon Lab). Brian Anderson from Granite Canyon would be Bryn's alternate. However, there was some disagreement over the committee's composition and the rationale behind it (Karen Ashby and Mike Johnson recommended that another TAC member be added to the group that has direct experience with stormwater and irrigated lands TIE monitoring). Some TAC members were concerned about representativeness of the proposed subcommittees. Other noted that appointees would need to have direct experience with TIEs and that the subcommittee should not include a large number of members to ensure it can be easily coordinated and quickly convened when needed. In order to resolve the raised issues, the TIE Subcommittee will be fully confirmed at the next TAC meeting. The TAC will also review the revised TIE flowchart before agreeing to and finalizing it.

Recommendations:

- TIE Subcommittee: Stephanie Fong, Cameron Irvine (alternate: Tony Pirondini), Bryn Phillips (alternate: Brian Anderson, both UDC Granite Canyon Lab)
- Responsibilities: Decide to conduct TIEs, report back to the TAC
- Thomas Jabusch will coordinate the TIE Subcommittee
- Linda Deanovic (AHPL) will generate a treatment template to clearly describe the TIE treatments to be performed

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7.	<p><b>Monitoring Design Updates</b></p> <p><u>Sampling event triggers:</u> Joe Domagalski and Jim Orlando presented a draft table of sampling event triggers. Budget and logistic constraints will not permit the field crew to access all sites simultaneously at the onset of an event. TAC recommendations are summarized below. In general, the objective is to be consistent with criteria used in other programs but not overly restrictive. The general goal for wet events is to capture a rise in the hydrograph. A general goal for all samples is to capture receding tides. A minimum of two weeks between events is needed to avoid toxicity testing workflow issues.</p> <p><u>Quality Assurance Program Plan (QAPP) /data management:</u> Thomas Jabusch presented a brief overview of the draft QAPP. SFEI-ASC's Quality Assurance (QA) officer was on the phone to answer questions and address comments. Mike Johnson commented that method blanks that contain as much as 30% of the lowest reported sample concentration would be compromising quality standards. Instead, method blanks should only be acceptable if they contain analyte concentrations less than 10% of the lowest reported sample concentration. Don responded that rigor of the threshold would depend on the purpose and importance of a sample and whether and what types of decisions are going to be made based on a sample. In the Bay RMP, data are qualified if blanks contain less than 30% of the lowest reported sample concentration but are above the detection limit, rather than not having as many data to report due to sample concentrations near the detection limit. He suggested that Delta RMP data needs and typical concentrations encountered could be more specifically recognized in the QAPP.</p> <p>Cristina Grosso summarized the proposed data management flow scheme. As proposed, it would take approximately a year until data would be made available to the public. Cristina qualified that the turnaround and release would largely depend on reporting needs. Adam Laputz commented that a one-year gap between data collection and reporting would be too long. Cristina replied that it would be possible to release data earlier, especially if data can be processed upon reporting by the lab. All were in agreement that data shouldn't be released to the public until they went through the full QA/QC process. However, preliminary data would be shared with those in the RMP as needed. For example, the TIE Subcommittee could get field sampling sheets from the pesticide sampling team, as well as preliminary</p>



	<p>chemical analytical results. There was discussion of the QA review frequency, which is still to be decided.</p> <p><u>Recommendations:</u></p> <p>Refined sampling events</p> <ul style="list-style-type: none"> <li>- 3 dry events (March, May, and August)</li> <li>- 2<sup>nd</sup> storm at least 2 weeks after first</li> </ul> <p>Sampling triggers</p> <ul style="list-style-type: none"> <li>- The rule-of-thumb target is a projected 25% increase in the hydrograph</li> <li>- Wait a minimum two weeks between sampling events.</li> <li>- No October 1 restraint for the first storm event</li> <li>- Change definition of late March event from “snowmelt” to other definition such as “increase in the hydrograph”, “early spring” or “start of irrigation season”</li> <li>- Sampling will be as “grabs” due to limited funds, but sampling conditions such as visible spatial variability should be documented</li> </ul> <p>QAPP</p> <ul style="list-style-type: none"> <li>- No need to submit RMP’s QAPP to the SWAMP QA Officer, as RMP needs to be comparable not compliant</li> </ul> <p>Data review by TAC</p> <ul style="list-style-type: none"> <li>- Stephanie Fong will set up a password-protected workspace for provisional data on the CA Estuaries Workgroup portal. SFEI-ASC will make provisional data files available by posting them to the TAC website, from where they can be viewed and downloaded by TAC members and transferred to the Estuaries portal workspace. It was suggested to also post a matrix on the TAC website to indicate the status of each dataset.</li> </ul>
<p><b>8.</b></p>	<p><b>Wrap-up</b></p> <p>The next TAC meeting will be on May 27 at Regional San.</p>
<p><b>9.</b></p>	<p><b>Action items:</b></p> <p>TAC Process Improvements</p> <ul style="list-style-type: none"> <li>- Thomas Jabusch and Stephen McCord will develop a full chronology of TAC decisions in a tracking table (by May 22).</li> </ul> <p>Interlab <i>Hyaella</i> study</p> <ul style="list-style-type: none"> <li>- Thomas will distribute the SCCWRP study objectives and SOP to the TAC (by May 22).</li> <li>- Thomas and Stephen will compare and contrast interlab study objectives</li> </ul>

	<p>to Delta RMP's interests/concerns re <i>Hyaella</i> (esp. issue of environmental relevance, by May 22).</p> <p>TIEs</p> <ul style="list-style-type: none"> <li>- The question was raised whether TIEs should never be pursued if toxicity &gt;50% threshold is observed and pesticides are not a likely cause. Overall, there was consensus that this wouldn't be a question for the TAC to decide. Therefore, Stephen will articulate a question to the SC whether TIE's should, if funds allow, track down non-pesticide causes of toxicity, if pesticide-caused toxicity is not confirmed (by May 22).</li> <li>- Cam Irvine and Thomas will draft a document to accompany the flow chart, including communications protocols and additional insight on decision process (by May 22).</li> </ul> <p>Pesticide Sampling</p> <ul style="list-style-type: none"> <li>- Joe Domagalski and Jim Orlando will clean up the triggers table per discussion, based on edits to be provided by Stephen, and provide it to Thomas to be included in QAPP (by May 22).</li> <li>- Jim will add "alert" levels for USGS to alert AHPL of a possible sampling event (by May 22).</li> <li>- Jim and Joe will add a field to the field log to document sampling conditions, as a tool to improving event triggers based on experience (by May 22).</li> <li>- Thomas will provide a "clean" draft final monitoring design and FY15-16 workplan to the TAC for review (by May 23).</li> <li>- ASC will rename "snowmelt" event (by May 22)</li> </ul> <p>QAPP</p> <ul style="list-style-type: none"> <li>- TAC members will review the draft QAPP by May 1, or notify Thomas of any delays – <i>Complete</i>.</li> <li>- Cristina Grosso will identify points in the data flow chart when TAC members can access data and clarify the frequency of QA review for monthly sampling events. The final flow chart will be included in the QAPP (by May 23).</li> </ul> <p>Data Review</p> <ul style="list-style-type: none"> <li>- Stephanie Fong will coordinate with ASC to make provisional data available on the CA Estuaries Workgroup portal (by May 22).</li> </ul>
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