Delta Regional Monitoring Program (RMP)

Technical Advisory Committee (TAC) Meeting

November 16, 2015
9:30 AM – 12:30 PM
Sacramento Regional County Sanitation District Building
10060 Goethe Road, Sacramento, CA 95827

Summary

Attendees:
TAC (and/or Alternate) members present[1]*:*
Stephanie Fong, Water Supply (State and Federal Contractors Water Agency)
Brian Laurenson, Stormwater – Phase I (Larry Walker Associates)
Stephen McCord, TAC co-Chair (McCord Environmental, Inc.)
Mike Johnson, Agriculture (MLJ LLC)
Vyomini Upadhyay, POTWs (Regional San)
Tim Mussen, POTWs (Regional San)
Debra Denton, Regulatory – Federal (U.S. EPA Region 9)
Tony Pirondini, POTWs (City of Vacaville)

By phone:
Joe Domagalski, TAC co-Chair (U.S. Geological Survey)
Karen Ashby, Stormwater – Phase II (Larry Walker Associates)
Erwin Van Nieuwenhuyse, Coordinated Monitoring (Reclamation)

Others present:
Patrick Morris, Central Valley Regional Water Board
Thomas Jabusch, SFEI-ASC
Selina Cole, Central Valley Regional Water Board
Cam Irvine, CH2M Hill
Rachel Kubiak, Western Plant Health Association
Linda Deanovic, UC Davis APHL
Phil Trowbridge, SFEI-ASC
Linda Dorn, Regional San, co-Chair of Steering Committee
Stephen Louie, CDFW

On phone:
Stephen Clark, Pacific EcoRisk

[1] *Name, Representing Category (Affiliation)*

1.	**Introductions and Agenda** Cam Irvine requested to add an item to the agenda to discuss the addition of a summary table of relevant toxicity thresholds for pesticides to the TIE guidance document. The item was tentatively added, provided there was time available.
2.	**Approve Meeting Summary from September 23, 2015** Debra Denton requested an edit to page 6 of the meeting summary. Regarding the discussion of the Communications Plan, she commented that an important point made by Linda Dorn should be added as context for the recommendation to delete the appended flowchart "Interaction between RMP and Regional Water Board in data evaluation and follow-up" from the draft Delta RMP Communications Plan. The point made by Linda was that POTWs and Pamela Creedon developed the flowchart, independently of the Delta RMP decision-making process. It was because of this fact that the TAC recommended that the flowchart be removed from the Communications Plan. The meeting summary was approved with the requested addition. The group requested capturing the "why" for decisions in the meeting summaries as much as possible.
3.	**SC Updates** Stephen McCord reported that the Steering Committee added a second seat for agriculture and is considering other additions. The composition of the TAC could change to match the new composition of the SC. The SC also established a Finance Subcommittee to review budgets and look for cost savings, and a Revenue Subcommittee to identify new sources of funding for the Program, especially grants. *Hyalella.* Stephen Clark provided an update on the status of the stormwater toxicity testing interlab comparison led by SCCWRP. The first round of interlab comparisons has been completed, with each participating lab using its own SOP for the *Hyalella* test. Based on review of the initial results and interlab variability, participants agreed to develop a standardized protocol and are seeking recommendations from USEPA-Duluth. At this point in time, no results have been released and a draft report is expected in summer 2016. *Expert panel review.* The Delta Science Program (DSP) has agreed to facilitate a review of the Monitoring Design as an in-kind contribution. DSP lead staff need a written charge for the review in order for getting official approval from the Lead Scientist. Therefore, Phil Trowbridge is planning to convene an *ad hoc* planning

subcommittee with the following composition:

- SC co-chairs (Adam Laputz and Linda Dorn)
- TAC co-chairs (Stephen McCord and Joe Domagalski)
- Representative from Regulatory Agencies (already covered by SC co-chair)
- Representative from Coordinated Monitoring (Gregg Erickson)
- Representative from POTWs (already covered by SC co-chair)
- Representative from Stormwater (TBD)
- Representative from Agriculture (TBD)
- Representative from Water Supply (Val Connor)
- Representative from the Delta Science Program (Sam Harader)

Debra Denton suggested having someone with expertise in monitoring design and statistical power analysis as part of the panel. The TAC supported the process of the planning subcommittee drafting the panel's charge, with subsequent input from the full TAC.

Participants discussed the timeline for the panel's review. There were concerns that the review should be started sooner rather than later because it may take a long time to complete (relative to FY16/17 planning needs) and, at the same time, some participants made the point that it would also be important not to rush the planning process so that everybody who wants can participate. Phil concluded that he would continue to push the process along but not too fast to prevent participants from providing input.

Also ongoing is an overall review of water quality monitoring in the Delta by the Independent Science Board. This higher-level review will provide feedback on the Delta RMP's niche, how it fits with the other water quality monitoring programs, and whether there is overlap. The workplan of that review, circulated previously to the TAC, has a strong emphasis on the RMP.

Multi-Year Planning. A major part of the December 18 meeting will be dedicated to multi-year planning. The meeting will be the beginning of the budget planning process for FY16/17. Therefore, now is an important time for thinking about the priorities and activities over the next year and beyond. ASC staff will develop the FY16/17 budget by April and will need the priorities from the SC to develop a budget that meets priorities. Phil noted that it is inefficient to develop detailed workplans and budgets for activities that the SC may subsequently not consider

	priorities. <u>Recommendations:</u> - Convene expert panel soon enough to inform FY16/17 planning but allow enough time for the process to be inclusive. To expedite the process, ASC will develop a strawman charge for the expert panel that the planning subcommittee can react to. - Clarify the review process (e.g., review documents, convene a meeting, report findings) - Distinguish in the charge between questions related to the overall monitoring design and the annual work plan.
4.	**Review Outline for Nutrients Synthesis Workgroup** The FY15/16 budget includes $50K for a nutrients synthesis. Phil Trowbridge discussed a proposal to use $15K to convene a nutrients synthesis workgroup in early 2016 to determine the highest-priority monitoring tasks for initial monitoring in FY16/17 and retain the remaining funds until fall 2016 to convene an expert panel for developing a longer-term plan. Participants discussed the proposed two-step approach in relation to the anticipated release dates of supporting white papers and synthesis reports. The TAC agreed with the overall approach and target dates. Participants also discussed the composition of the workgroup for early 2016. The proposed workgroup would include the members of the TAC nutrients subcommittee, ASC staff, and the white paper authors. The proposed expert panel for fall 2016 would consist of local experts. <u>Recommendations:</u> - Overall agreement that the process for developing the nutrients monitoring plan is appropriate. - The schedule needs to be relaxed to allow time to digest reports and to not overload participants. - Phytoplankton expertise needed for the fall 2016 expert panel needs to be defined based on the priorities of the Delta RMP.
5.	**Discussion: Are adjustments to monitoring design needed for FY16/17** Four potential adjustments were discussed: 1. Edit to pesticide assessment question #2 2. Additional CUPs to consider for inclusion in target analyte list 3. Sampling site representativeness at Buckley Cove 4. Design changes and/or additional follow-up studies for pathogens

1. Edit to pesticide assessment question #2:
"What are the spatial/temporal distributions of concentrations of currently used pesticides identified as likely causes of observed toxicity or with the highest risk potential?"

The edit was reconfirmed. Mike Johnson and Cam Irvine commented that risk would eventually need to be more specifically defined.

2. Additional CUPs to consider for inclusion in target analyte list. The TAC discussed the need and feasibility of adding several additional analytes, including Naled, dichlorvos, glyphosate, nonylphenol, 2,4-D and 2,4,5-T, AMPA, and FDOM (fluorescent dissolved organic matter). These compounds have been suggested for various reasons, and represent several pesticide classes, as well as surfactants (nonylphenol) and surrogates (FDOM). Mike Johnson suggested ranking the analytes in term of priority (high-medium-low, based on risk potential, regardless of costs) and then providing a recommendation to the SC. Karen Ashby commented that an equally fair question would be to ask if there are analytes that should be removed from the list. She also commented that there is not enough information yet for a decision. Stephanie Fong suggested thinking more broadly about being sure to monitor for the pesticides used by Vector Control and Boating and Waterways. Stephen reminded the TAC that the RMP should also aim to support the irrigated ag permit monitoring. There was some concern and questions about adding chemicals that were not pesticides (e.g., nonylphenol and FDOM) to the target analyte list. Several people commented that it is important to know which analytes can be added easily and cheaply versus others, which would require custom methods. Phil Trowbridge commented that November is the appropriate point in the annual planning cycle to review the list, but agreed that it may be too soon to make a decision in this first year of implementation. TAC members agreed to revisit the process of deciding which pesticides to monitor after FY15/16, considering risk potential, permit requirements, costs, and other factors.

3. Sampling site representativeness at Buckley Cove. The group discussed options for addressing questions about the representativeness of shoreline sampling at Buckley Cove. The site is strongly tidally influenced, can be stratified vertically, and has many factors that could influence lateral homogeneity and overall representativeness of monthly shoreline grab samples. Stephen McCord presented

the following options to consider:

1) Carry on, visually observe, note in reports
2) Sample and compare duplicates
   a) River center boat sample at IEP sampling point (not cross-sectional) and cross-section field readings
   b) Upstream at Rough and Ready Island or Garwood Bridge
3) Commission hydraulic model analysis

The TAC recognized that the objective of sampling at this station is to characterize loads of pesticides into the Delta from the entire watershed (including urban Stockton), not to identify local effects. Debra Denton responded that local effects are still important. Karen Ashby commented that visual observation would provide insufficient context for the data evaluation. Stephen advised that there are some cost implications to consider, with Option 1 being the least expensive and Option 3 being the most expensive. Option 2a would require sending an extra team by boat. There was some discussion whether boat sampling as part of Option 2a could be accomplished as an in-kind contribution by other agencies that are already out in boats in the Delta. Thomas Jabusch advised that the need for clean hands/dirty hands procedures due to the copper analyses would add a complication to asking other agencies to simply pick up samples. Mike Johnson commented that there would need to be some clarity about what to do about the data coming out of sampling and comparing duplicates (Option 2).

4. Design changes and/or additional follow-up studies for pathogens. The pathogen subcommittee will bring a proposal to the TAC by March 2016.

<u>Recommendations:</u>

- Edit to pesticide assessment question #2: What are the spatial/temporal distributions of concentrations of currently used pesticides identified as likely causes of observed toxicity <u>or with the highest risk potential</u>?
- Develop a process for prioritizing CUP target analytes after FY15/16.
- Consider inclusion of relevant vector controls in CUP target analytes and consider the cost vs. benefits in decision about whether or not they should be included.
- Add a Monitoring Contingency line item to future budgets that would allow adaptive management of the different monitoring elements in the middle of the sampling season.

	- Revisit Buckley Cove site representativeness as part of monitoring design updates for FY17/18.
6.	**Inter-laboratory Comparison** Tony Pirondini clarified the objectives and proposed timing of a request for an inter-lab comparison for the CUP analyses that he had initiated. He stated that an inter-lab comparison should be done at some future point, when the approach may transition from scans to a shorter list of constituents of interest that might eventually become regulated. At that point, the regulated community would need to be able to access standardized methods used by commercial labs and produce comparable results. His experience has been that such comparisons of method details inform all labs. Tony Pirondini and Stephen McCord drafted a memo summarizing the issues and study objectives, which could be resurrected when appropriate. The option to take advantage of a Cache Slough study funded by SFCWA for an inter-lab study was considered but rejected because there would be minimal overlap between the samples collected by SFCWA and the Delta RMP. <u>Recommendations:</u> - Comparability of analytical methods used by the RMP and those used by the regulated community needs to be ensured at some point. However, it would be too early for an inter-lab study in FY16/17, because the program is still in ”scanning mode” and has not yet narrowed its focus to a list of analytes of particular interest. In the interim, the RMP should eventually (1) review the results of USGS’ recent inter-lab study for sediment pyrethroids and the upcoming neonicotinoids study, (2) compare RMP data to concurrent pesticides monitoring results by others, and (3) track internal lab QA results.
7.	**Monitoring Updates** Linda Deanovic from UC Davis AHPL provided an update on the toxicity testing. Survival issues with *C. dubia* have been resolved. She reported that toxicity testing is proceeding as planned and that there are no ongoing QA issues. She also summarized initial results. Overall, few samples have shown toxicity. She reported some toxicity for the reproductive endpoint for *Ceriodaphnia* at Sacramento River at Hood, San Joaquin River at Buckley Cove, and Ulatis Creek. She further reported the occurrence of pathogen-related toxicity (PRT) in fathead minnow (*P. promelas*) tests for two samples from Mokelumne River at New Hope Road and one sample

	from San Joaquin River at Vernalis. She explained that water from the Mokelumne River has much lower EC than the other sites. The group discussed the protocol for PRT follow-up testing, modifications to the testing at the Mokelumne River site, and questions about the testing protocols and culture maintenance. Recommendations: - Glass beakers should be used at all times to prevent sorption of pesticides to plastic or Teflon. - Note all method changes during the year (e.g., when glass jars were used, when Teflon jars were used) in the annual report that will be prepared by AHPL. - For Mokelumne River samples, use the increased replicates (same number of fish, more beakers) recommended in the USEPA manual for chronic toxicity testing (USEPA 2002) to reduce pathogen interference - In future presentations, add standard error bars to the summary graphs.
8.	**Wrap-up** Stephen McCord summarized the outcomes (recommendations) and action items. There was some discussion about the level of nuance to be captured in the meeting summaries. There seems to be agreement that they should strike a balance between being concise and providing the full rationale behind the outcomes of the meeting, but not necessarily about what that balance might be. The next meeting is planned for March. Agenda items could include: - FY16/17 workplan - Nutrients Subgroup update - Design changes and/or additional follow-up studies for pathogens - External peer review of the Monitoring Design - Process for updating the pesticide list of analytes - Table of effects thresholds for the TIE manipulations
10.	**Action items:** November 16 meeting summary - Thomas Jabusch: add point made by Linda Dorn as context for recommendation to delete the appended flowchart "Interaction between RMP and Regional Water Board in data evaluation and follow-up" from the draft Delta RMP Communications Plan. The point made by Linda Dorn was that POTWs and Pamela Creedon developed the flowchart, independently of the Delta RMP decision-making process – *Done.* Expert Panel Review - Phil Trowbridge: draft strawman for the charge of the expert panel and

	distribute to the planning subcommittee (by November 20, 2015). - Phil: convene planning subcommittee in the week after Thanksgiving (by December 4, 2015). - Phil: present draft charge for the expert panel to the SC (by December 18, 2015). Outline for Nutrient Synthesis Workgroup - Phil: Bring outline to the SC and clarify that the proposed target date will be adjusted as needed to allow sufficient time for the development process (by December 18, 2015). CUP Target Analytes - Thomas: Plan a future discussion with the TAC to outline the process for updating the target analyte list and defining how risk should be considered (by April 1, 2015). Buckley Cove - Stephen McCord: distribute W. Fleenor's paper to the TAC (by November 20, 2015).

Parking Lot

- Benchmarks for pesticides