7 October 2016

Mr. Parry Klassen, Executive Director
East San Joaquin Water Quality Coalition
1201 L Street
Modesto, CA 95354

APPROVAL OF THE 2017 WATER YEAR MONITORING PLAN UPDATE – EAST SAN JOAQUIN WATER QUALITY COALITION

Thank you for the timely submittal of the Monitoring Plan Update (MPU) for the 2017 water year within the East San Joaquin Water Quality Coalition (Coalition) Area. Staff reviewed the proposed monitoring plan for compliance with the Monitoring and Reporting Program (MRP) R5-2012-0116-R3 (Order).

Staff determined that the Coalition's proposed schedule includes monitoring of constituents during application periods, or the time when constituents of concern affected water quality in the past, and that the proposed monitoring plan complies with the MRP requirements (see attachment). Pesticides will continue to be monitored as described in the Coalition's 2008 approved Monitoring and Reporting Program Plan until the process for identifying pesticides that require monitoring (MRP, Section III.C.3) has been completed. Overall, the proposed monitoring schedule is consistent with the requirements of the Order, and I approve the 2017 water year Monitoring Plan Update. However, the proposed field sampling protocols for shallow and non-contiguous waterbodies will be evaluated in a separate process.

I also approve removal of the *Hyalella azteca* management plan from the Prairie Flower Drain @ Crows Landing Rd management plan monitoring schedule based on the current Surface Water Ambient Monitoring Program protocol for evaluating toxicity data and justification provided in the MPU.

If you have any questions or comments regarding this approval letter, please contact Yared Kebede by phone at (916) 464-4828 or by email at yared.kebede@waterboards.ca.gov.

Sincerely,

Original signed by

Pamela C. Creedon
Executive Officer

Enclosure: Staff Review of Monitoring Plan Update

TO: Susan Fregien
Senior Environmental Scientist
Monitoring and Implementation Unit
Irrigated Lands Regulatory Program

FROM: Yared Kebede
Environmental Scientist
Monitoring and Implementation Unit
Irrigated Lands Regulatory Program

DATE: 7 October 2016

SUBJECT: EAST SAN JOAQUIN WATER QUALITY COALITION'S MONITORING PLAN UPDATE FOR 2017 WATER YEAR

The Central Valley Regional Water Quality Control Board (Central Valley Water Board) received a Monitoring Plan Update (MPU) report from the East San Joaquin Water Quality Coalition (Coalition) on 1 August 2016, as required by the Monitoring and Reporting Program (MRP) R5-2012-0116-R3 (Order). The MPU report provides the proposed surface water monitoring schedule for the 2017 water year (1 October 2016 through 30 September 2017). Staff and Coalition representatives held a meeting on 6 September to discuss staff's comments on the MPU. On 15 September, the Coalition submitted a revised MPU with clarifications and corrections; the Coalition also submitted an updated monitoring schedule on 7 October, including ammonia and nitrate monitoring at Represented sites that have not been previously characterized for these constituents.

Staff and the Coalition held another meeting on 14 September to discuss the field sampling protocol for shallow and non-contiguous water bodies submitted in Appendix I of the MPU (low flow, no flow and dry site sample collection protocol). Staff informed the Coalition that the proposed sampling protocol will be addressed separately from the MPU. The Coalition agreed to submit a separate QAPP amendment form requesting an update of the field sampling protocol.

Staff reviewed the 2017 water year (WY) MPU to determine compliance with requirements pursuant to the MRP Order. Overall, the proposed monitoring plan meets the requirements of the Order, and staff recommends approval of the Coalition's 2017 WY MPU, excluding the proposed field sampling protocols. A summary of the main elements of the proposed monitoring plan is below.

Monitoring Sites, Parameters, Schedule and Frequency

The monitoring design for the 2017 WY includes six Core sites (one Core site for each of the six zones in the Coalition region), 22 Represented sites, and two of the three sites established for diazinon and chlorpyrifos Total Maximum Daily Load (TMDL) compliance on the San Joaquin River. The Delta Regional Monitoring Program (RMP) monitors these constituents at the third

site (Vernalis) and provides data to the Coalition. As required by the MRP Order, the Coalition identified a specific set of monitoring parameters for each site that is scheduled to be monitored (see MPU, Tables 2 and 3), selected appropriate monitoring periods and included a discussion of the rationale to support the proposed schedule. The Coalition will also schedule sampling events to capture at least two storm runoff events per year.

Delta RMP Monitoring
On 29 September 2015, the Executive Officer approved the Coalition's participation with the Delta RMP. The Coalition proposes to suspend monitoring during November at Dry Creek @ Rd 18 in order to support Delta RMP monitoring in the 2017 WY (MPU Table 1). This proposed monitoring shift does not interfere with Management Plan Monitoring (MPM). The Coalition will utilize the ongoing MPM at Dry Creek @ Rd 18 to demonstrate compliance with the Order and will facilitate collection of monitoring data under the Delta RMP. Staff recommends approval of the proposed changes.

1. Core Site Monitoring
The Coalition scheduled the second year of monitoring at the designated Core sites (MPU Table 7) for the 2017 WY as required by the Order. These Core sites will be monitored monthly for all constituents, with the exception of metals, glyphosate, paraquat, and sediment toxicity.
When a water quality objective or a trigger limit is exceeded at the monitored Core site, the parameter associated with the exceedance will be monitored for a third consecutive year, unless the site is under a management plan.

Pesticides: Until the process for selecting pesticides to be monitored is completed and issued by the Executive Officer, the Coalition will monitor currently registered pesticides in MPU Table 8. Pesticide monitoring is proposed to be monthly, with the exception of glyphosate and paraquat, which will be monitored during one storm and one irrigation event.

Metals: As required in the MRP, an evaluation of each metal at each site provides justification for a decision whether monitoring is needed. The evaluation (MPU Figure 3) considers previous monitoring data, 303(d) status, monitoring history (adequate characterization and exceedances), management plan status, Toxicity Identification Evaluation (TIE) results, pesticide application history and acres treated. Staff reviewed the Coalition's decision process and proposed monitoring schedule and concurs with the metals monitoring decision.

Aquatic and Sediment Toxicity: The Coalition surface water monitoring includes monthly monitoring of water column toxicity to three test species (*Ceriodaphnia dubia*, *Pimephales promelas* and *Selenastrum capricornutum*). As per the MRP, the Coalition will conduct TIEs to identify the potential sources of toxicity (e.g. metals, pesticides, ammonia, etc.) when percent survival or growth is 50% or less compared to the control. The Coalition will also monitor sediment toxicity to *Hyalella azteca* twice a year at each Core site (once each during irrigation and storm runoff events). Additional sediment chemistry analyses for chlorpyrifos, piperonyl butoxide and pyrethroids will be conducted on sediment samples when survival of *H. azteca* is less than 80% compared to the control and statistically different.

2. Represented Site Monitoring
The proposed monitoring at the Represented sites (MPU pages 39-105) is based on: a) the management plans for high-priority constituents (applied pesticides, metals and toxicity) already in place at each Represented site, and b) exceedances of the trigger limit for a constituent at the representative Core site that are evaluated and deemed to also pose a threat to water quality at the Represented site.

a) The evaluation of MPM took into account previous monitoring results and pesticide use reports (MPU Figures 11 - 39) for the high-priority constituents in Represented subwatersheds. The evidence considered in the evaluation of MPM is documented for pesticides and applied metals, and the MPU contains a justification for the proposed monitoring schedule.

b) To evaluate the potential for similar risks or threats to water quality at the Represented sites when an exceedance of a water quality trigger limit was observed at a Core site, the Coalition considered pesticide use information (including pounds of Active ingredients and trends in use through time), previous monitoring results, and acres treated.

Similar to the 2016 WY monitoring, the Coalition proposes to define an appropriate monitoring strategy as part of a source identification workplan at the Represented sites for constituents with potential irrigated agricultural sources that need further evaluation (ammonia, nitrate, arsenic, lead and molybdenum, *E.coli*, and DDE). The only exception is copper monitoring which is proposed to be evaluated based on an exceedance at the Core site, or an increase in copper use in the site subwatersheds.

Staff conducted a detailed review of the evaluations and justifications for monitoring decisions, and identified Represented sites that have not been previously characterized for nutrients. As such, staff recommends monitoring of ammonia (January) and nitrate (October, November, February, March, May, June, July) at Lateral 6 and 7 @ Central Ave, Lower Stevinson @ Faith Home Rd and Unnamed Drain @ Hogin Rd during months of past exceedances at the Core site (Lateral 5 ½ @ South Blaker Rd). On 7 October, the Coalition submitted an updated monitoring schedule including nutrient monitoring for the identified sites/months.

Staff concurs with the rationale and monitoring decisions provided in the MPU for all other constituents.

3. Management Plan Monitoring

The Coalition followed an evaluation process (MPU Figure 1) for high priority constituents to conduct focused outreach and water quality monitoring in site subwatersheds that will reach the compliance deadline within three years. Staff concurs that the Coalition's Management Plan Strategy will allow the Coalition to identify and implement management practices necessary to meet the receiving water limitations, evaluate compliance, and meet the 10-year deadline (or sooner), as required by the Order.

The Coalition has submitted preliminary analyses for constituents with potential irrigated agriculture sources that need further evaluation. The Coalition's preliminary analyses which evaluate the sources of field parameters (DO, pH), metals (copper, molybdenum, and arsenic), nutrients (ammonia, nitrate) and the legacy pesticide DDE, are currently under staff review. Staff supports the proposal to monitor these constituents as part of an approved source identification study.

On 7 March 2016, the Executive Officer approved the Coalition's request to amend the 2016 MPU and remove sediment toxicity results which are no longer considered toxic under the current Surface Water Ambient Monitoring Program (SWAMP) protocol. Based on this protocol, the Coalition has determined there has not been two sediment toxicity events within a three year period at Prairie Flower Drain @ Crows Landing Rd. Staff recommends removal of MPM for *Hyalella azteca* at the Prairie Flower Drain @ Crows Landing Rd.

TMDL Monitoring
The Coalition will utilize the Delta RMP data from Vernalis for chlorpyrifos and diazinon TMDL compliance in the 2017 WY. The Coalition will continue monitoring the two remaining compliance sites, i.e., San Joaquin River at Hills Ferry Rd and San Joaquin River at the Maze Blvd Bridge, as proposed in the MPU. To assess compliance with the load allocations, monthly monitoring of TMDL constituents will occur at six Core sites; chlorpyrifos will also be monitored at nine Represented sites. Monitoring requirements for the remaining adopted TMDLs (San Joaquin River Deep Water Ship Channel dissolved oxygen and San Joaquin River salt, boron, selenium) will continue to be conducted at the Core and Represented monitoring sites.

STAFF RECOMMENDATIONS

- Staff will address the proposed sample collection protocol in separate correspondence. In the meantime, the Coalition should continue collecting samples as approved in its Quality Assurance Project Plan.

- Staff agrees that suspension of the November monitoring at Dry Creek @ Rd 18 does not interfere with MPM, and the ongoing MPM at Dry Creek @ Rd 18 is sufficient to demonstrate compliance with the Order.

- Ammonia (January) and nitrate (October, November, February, March, May, June, July) monitoring should take place at Lateral 6 and 7 @ Central Ave, Lower Stevinson @ Faith Home Rd and Unnamed Drain @ Hogin Rd in the 2017 WY.

- The Coalition's request to remove the *Hyalella azteca* management plan from the Prairie Flower Drain @ Crows Landing Rd management plan and MPM schedule is consistent with the current SWAMP recommendation for evaluating toxicity data.