
Central Valley Regional Water Quality Control Board

17 September

Mr. Michael Wackman
San Joaquin & Delta Water Quality Coalition
3294 Ad Art Road
Stockton CA 95215

APPROVAL OF THE 2019 WATER YEAR MONITORING PLAN UPDATE – SAN JOAQUIN COUNTY AND DELTA WATER QUALITY COALITION

Thank you for timely submittal of the 1 August 2018 San Joaquin County and Delta Water Quality Coalition's (Coalition) Monitoring Plan Update (MPU), as required by the Monitoring and Reporting Program (MRP) of Waste Discharge Requirements General Order R5-2014-0029-R1. The MPU includes a monitoring frequency and schedule for Core, Represented, TMDLs, Delta Regional Monitoring Program, and management plan monitoring for each specific constituent.

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 were identified using the approved pesticide evaluation protocol as required in MRP, Section III.C.3. The proposed monitoring schedule is consistent with the requirements of the Order, and I approve the 2019 water year Monitoring Plan Update. Note that trigger limits for previously untested pesticides will be developed by the Central Valley Water Board staff through a process involving coordination with the Department of Pesticide Regulation and Stakeholder input.

Based on the attached staff memorandum, I approve the Coalition's Monitoring Plan for the 2019 water year. Please review the attached staff memo. Any proposed changes to the MPU must be approved by the Executive Officer prior to implementation.

If you have questions regarding this letter, please contact Chris Jimmerson at (916) 464-4859 or by email at Chris.Jimmerson@waterboards.ca.gov.

Sincerely,

Original signed by:

Patrick Pulupa
Executive Officer

Enclosure: Staff Review of MPU

Central Valley Regional Water Quality Control Board

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

FROM: Chris Jimmerson
Environmental Scientist
Monitoring and Implementation Unit
Irrigated Lands Regulatory Program

DATE: 22 August 2018

SUBJECT: MONITORING PLAN UPDATE FOR 2019 WATER YEAR – SAN JOAQUIN COUNTY AND DELTA WATER QUALITY COALITION

As required by Order R5-2014-0029-R1 Monitoring and Reporting Program (MRP), the Central Valley Regional Water Quality Control Board (Central Valley Water Board) received a Monitoring Plan Update from the San Joaquin County and Delta Water Quality Coalition (Coalition) on 1 August 2018. The Monitoring Plan Update (MPU) report provides the proposed surface water monitoring schedule for the period 1 October 2018 through 30 September 2019; the 2019 water year. The Coalition will submit an addendum on 15 January 2019 to address monitoring results from June through September 2018 that were not available.

Based on the Order requirements, the Monitoring Plan Update shall identify the appropriate monitoring periods and frequency for all parameters that require testing at each site that is scheduled to be monitored. This includes a discussion of the rationale to support the proposed schedule. Staff reviewed the MPU to determine compliance with requirements pursuant to the Monitoring and Reporting Program.

The Coalition approached the very complex assessment of monitoring sites and parameters in a systematic and logical way by providing flow charts and discussion facilitating the decision-making process. An overview of the main elements of the proposed monitoring plan is presented below. Staff recommends approval of the Coalition's MPU.

Monitoring Sites, Parameters, Schedule and Frequency

The monitoring design for the 2019 water year includes six Core sites for seven zones in the Coalition region (one Core site represents zones 5 and 6), 19 Represented sites, and four sites established for diazinon and chlorpyrifos Total Maximum Daily Load compliance in the Delta. The MRP requires that the Coalition apply the pesticide evaluation process to obtain a specific set of pesticides for each site scheduled to be monitored, select appropriate monitoring periods, and include a discussion of the rationale to support the proposed schedule.

The Coalition rotated five of the six Core sites to new Core sites this Water year. Per the Order, at a minimum, surface water monitoring within each zone shall be conducted at one of the designated Core sites for two consecutive years, followed by two years of monitoring at the second Core monitoring site.

The MPU's monitoring schedule is an Excel workbook providing the Zone, site, analyte, and monitoring month. Staff evaluated the schedule for inconsistencies between the worksheets and the Coalition's previously submitted monitoring data and schedules. In August, staff reconciled the inconsistencies by contacting the Coalition.

The Coalition will need to evaluate monitoring results through September 2018 along with other applicable criteria to complete the 2019 water year monitoring schedule. The Coalition plans to include an addendum by 15 January 2019. The addendum will be based on results from June through September 2018 that were not available at the time the MPU was prepared. Staff agrees that a January addendum will be appropriate.

1. Core Site Monitoring

Surface water assessment monitoring will be conducted at Core sites per Attachment B, section III.A.1 of the Order. Monitoring includes nutrients, field and general physical parameters, metals, pesticides, and water and sediment toxicity, meeting the requirements in the Order. The MPU's Attachment A lists the monthly monitoring schedule in the water year, including the Delta Regional Monitoring Program (RMP) trades to support the RMP.

Delta Regional Monitoring Program Trades

On 5 September, the Coalition provided a separate Delta RMP proposal to support the MPU's Delta RMP section. The Coalition evaluated monitoring data for *C. dubia* and *P. promelas* to determine possible monitoring trades to the Delta RMP. Per last year's Delta RMP approval, the Coalition considered 1) sufficient monitoring history – at least 20 sample events and 2) no toxic exceedances within the past five years. The Coalition proposes to trade *C. dubia* and *P. promelas* Core monitoring and contribute the cost to the Delta RMP from the following sites.

The Coalition proposes to trade *C. dubia* Core monitoring at the following sites (number analyses removed):

- Duck Creek @ Hwy. 4 (10 analyses)
- Mokelumne River @ Bruella Rd. (9 analyses)
- Walthall Slough @ Woodward Ave (9 analyses)

The Coalition proposes to trade *P. promelas* Core monitoring at the following sites (number analyses removed):

- Duck Creek @ Hwy. 4 (11 analyses)
- Mokelumne River @ Bruella Rd. (7 analyses)
- Terminous Tract Drain @ Hwy. 12 (7 analyses)
- Roberts Island @ Whiskey Slough Pump (7 analyses)
- Walthall Slough @ Woodward Ave (9 analyses)

Staff conducted a thorough review of the Delta RMP trade and concurs with the proposed reductions in toxicity monitoring. Because this trade cannot continue indefinitely due to future *C. dubia* and *P. promelas* monitoring data needs, the Coalition will need to eventually resume toxicity monitoring and provide a new Delta RMP proposal to include new analytes or events. For example, the Coalition should resume *P. promelas* monitoring for the 2020 WY at Duck Creek @ Hwy. 4 because recent sampling events have been sparse, pesticides that could cause *P. promelas* toxicity are applied in the watershed, and the 2020 WY is the last of the two

consecutive years to assess for water quality risks or threats on this Core site. Staff reviewed the *P. promelas* toxicity exceedance records and observed that no *P. promelas* exceedances have been observed at Duck Creek during 56 monitoring events. Staff concurs with the proposed Delta RMP trades.

Pesticides

The Coalition evaluated and identified pesticides requiring surface water monitoring in accordance with the 22 November 2016 Pesticide Evaluation.

Consistent with the pesticide evaluation, 31 pesticides will be monitored. No new analytes were added to the monitoring schedule and 26 analytes (Table 1) were discontinued from the previous monitoring year for the following reasons: the aquatic life ratio was less than 50 (19 pesticides), no analytical method (1 pesticide), half-life is less than 1 day (1 pesticide), and no applications (4 pesticides). The Coalition documented the reason for removal from the monitoring schedule in the MPU's Attachment B.

Since a large portion of the scheduled pesticides do not have water quality triggers, the Central Valley Water Board will develop trigger limits per the Order:

“Trigger limits will be developed by the Central Valley Water Board staff through a process involving coordination with the Department of Pesticide Regulation (for pesticides) and stakeholder input. The trigger limits will be designed to implement narrative Basin Plan objectives and to protect applicable beneficial uses. The Executive Officer will make a final determination as to the appropriate trigger limits.”

Although water quality trigger limits may not be available yet, the Coalition will need to monitor all of the pesticides in the schedule and report results in its Annual Report.

Table 1

Pesticides discontinued from the previous water year as a result of the evaluation

2,4-D Acids & Salts	Flumioxazin	Prodiamine	Thiamethoxam
Atrazine	Iprodione	Propiconazole	Triflumizole
Azoxystrobin	Isoxaben	Pyrethrins	
Boscalid	Lambda-Cyhalothrin	Resmethrin	
Bromacil	Methiocarb	Rimsulfuron	
Cyprodinil	Metribuzin	Sethoxydim	
Dioxin	Norflurazon	Tau-Fluvalinate	
Endosulfan	Oryzalin	Tebuconazole	

Staff conducted a thorough review of implementation of the Pesticide Evaluation Protocol steps and concurs with proposed pesticides monitoring.

Metals: To identify the metals monitoring frequency and schedule, the Coalition followed an evaluation process shown in Figure 4 of the MPU, which considers previous monitoring results, pesticide use information, geologic conditions, and Basin Plan requirements satisfying the Order's requirements. Staff reviewed the Coalition's decision process and concurs with their metals monitoring plan.

Aquatic and Sediment Toxicity: The Coalition's surface water monitoring includes monthly water column toxicity monitoring on two test species (*C. dubia* and *S. capricornutum*). Some *P. Promelas* and *C. dubia* monitoring is traded to support the approved Delta RMP. The Coalition also proposes to sample sediment toxicity to *Hyalella azteca* twice a year, once during the

irrigation (March – October) and storm season (March – April) according to MRP section III.4.b. Additional sediment chemistry analyses for chlorpyrifos, piperonyl butoxide and pyrethroids will be conducted on sediment samples as needed.

Staff confirmed with the Coalition that the proposed monitoring schedule, per the Order, should include Littlejohns Creek (*Hyalella*) represented monitoring for a second year based on a previous Core *Hyalella* exceedance. The Coalition has revised its monitoring schedule to include the additional *Hyalella* monitoring.

2. Represented Site Monitoring

MRP Attachment B, Section III.C states, “...*monitoring periods shall be determined utilizing previous monitoring results, knowledge of agricultural use patterns (if applicable), pesticide use trends, chemical characteristics, and other applicable criteria.*” The proposed represented monitoring schedule complies with this section based on: a) previous water quality trigger limit exceedances, b) analyzing pesticide use, and c) scheduling monitoring events when management plans are already in place at the representative Core site.

This will be the first year of two consecutive years that the Core sites are rotated into the monitoring schedule. The Coalition will revise monitoring, as needed, at the Represented sites according to Attachment B, section III.A.2 of the Order. The Order requires monitoring at Represented sites when there is potential risk to water quality. When an exceedance occurs at an associated Core site, risk will be evaluated by reviewing pesticide use for water quality impairments at Represented sites.

3. Management Plan Monitoring

Staff confirmed with the Coalition that pages 9 and 10 of the MPU erroneously list Lone Tree Creek (*P. promelas*, pH), Union Island Drain (*C. daphnia*), and Roberts Island (*C. daphnia*) in a management plan. These were approved for completion on 9 February 2018. The Coalition revised the monitoring schedule. Staff concurs with the revised management plan monitoring schedule.

4. TMDL Monitoring

To ensure compliance with the Diazinon and Chlorpyrifos Total Maximum Daily Load (TMDL) requirements, the Coalition will monitor four sites that represent the Delta Waterways (Table 2) and sites outside and nearest to the Delta to assess compliance with the load allocation.

Table 2. TMDL diazinon and chlorpyrifos waterbody areas with the represented location name.

TMDL Waterbody Areas	Location Name
San Joaquin River (Stanislaus River to Delta Boundary)	Walthall Slough at Woodward Ave.
Delta Waterways (Stockton Ship Channel)	San Joaquin River at West Neugerbauer Rd.
Delta Waterways (export area, southern and western portions)	Old River at the west end of Clifton Court Rd.
Delta Waterways (central and eastern portions), Mosher Slough and Five Mile Slough	Light House Restaurant at West Brannon Island Rd.

Chlorpyrifos and diazinon samples will be collected once during the winter storm season (January or February or March) rain event, and monthly from May through August when applications are highest.

Agriculture has been identified as a contributing source to low dissolved oxygen in the Stockton Deep Water Ship Channel. The Coalition will review DO monitoring results in the Stockton Deep Water Ship Channel gathered from the California Data Exchange Center, Rough and Ready Island station, and from within its tributaries to assess compliance with the DO water quality objectives required in the TMDL.

5. 303(d) Constituents

The MRP requires monitoring of 303(d) listed constituents if irrigated agriculture is a contributing source and if monitoring is requested by the Executive Officer. The Executive Officer is not requesting additional 303(d) monitoring beyond the current schedule of 303(d) constituents found in the Core and Representative monitoring.

STAFF SUMMARY

- A MPU addendum will be submitted by 15 January 2019 to address monitoring results from July through September 2016 that were not available at the time the MPU was prepared. Those results may require revisions to the monitoring schedule, as part of the pesticide evaluation.
- Staff reconciled the monitoring schedule inconsistencies with the Coalition prior to this memo.
- The Coalition proposed acceptable *C. dubia* and *P. promelas* monitoring trades to support the Delta Regional Monitoring Program, in accordance with the 2017 approval. The Coalition should resume *P. promelas* monitoring at Duck Creek @Hwy 4 in the 2020 WY.
- The Central Valley Water Board will develop trigger limits in coordination with the Department of Pesticide Regulation and input from stakeholders for those pesticides without a water quality trigger limit.