17 October 2018

Mr. Donald Ikemiya
Kaweah Basin Water Quality Association
Post Office Box 2840
Visalia, CA 93279

APPROVAL OF THE KAWEAH BASIN WATER QUALITY ASSOCIATION SURFACE WATER PESTICIDE MONITORING PLAN FOR OCTOBER 2018- SEPTEMBER 2019

Thank you submitting the 2018-19 Pesticide Monitoring Plan (Plan) for the Kaweah Basin Water Quality Association (Coalition). The proposed pesticides and schedule for surface water monitoring at three monitoring sites were identified based on guidance provided in the 29 November 2016 Pesticide Evaluation Protocol (PEP), as required by section III.B.2. of the Monitoring and Reporting Program (MRP) Attachment B to Order R5-2013-0120 *Waste Discharge Requirements General Order for Growers within the Tulare Lake Basin Area that are Members of a Third-party Group* (Order). Staff reviewed the Plan for completeness and consistency with the MRP and PEP.

Staff determined that when considering the pesticide data sets used, the 2018-19 Plan meets MRP requirements. Pesticides were identified using the approved PEP. 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.

Water Board and Coalition staff are currently working towards approval of the Monitoring and Reporting Program Plan (MRPP) for the Coalition. The MRPP will include revised sub-watershed delineations that include all agricultural land within the Coalition region. While staff could not determine whether the pesticide data for all irrigated agricultural land with potential to drain to the St. John's River monitoring site was included in the 2018-19 pesticide monitoring analysis, the new sub-watershed delineations aren't yet completed and thus couldn't be used this year. I expect that an approved MRPP will address this issue before the 2019-2020 pesticide monitoring plan is due by 1 August 2019.

Based on the attached staff review memo, I approve the Plan for pesticide monitoring to be completed from 1 October 2018 through 30 September 2019. If you have any questions or comments, please contact Dana Kulesza at (916) 464-4847 or Dana.Kulesza@waterboards.ca.gov.

Sincerely,

Original signed by

Patrick Pulupa
Executive Officer

Enclosure: Staff Review of the 2018-2019 Pesticide Monitoring Plan

TO: Susan Fregien
Senior Environmental Scientist
Irrigated Lands Regulatory Program

FROM: Dana Kulesza
Engineering Geologist
Irrigated Lands Regulatory Program

DATE: 14 September 2018

SUBJECT: REVIEW OF THE KAWEAH BASIN WATER QUALITY ASSOCIATION SURFACE WATER PESTICIDE MONITORING PLAN FOR 2018-19

The Central Valley Water Board received a Pesticide Monitoring Plan (Plan) for the Kaweah Basin Water Quality Association (Coalition) on 1 August 2018. The Plan identifies the constituents and schedule for pesticide monitoring in surface water for 1 October 2018 through 30 September 2019.

Staff reviewed the Plan to determine compliance with requirements pursuant to section III.B.2. of the Monitoring and Reporting Program (MRP) Attachment B to Order R5-2013-0120 Waste Discharge Requirements General Order for Growers within the Tulare Lake Basin Area that are Members of a Third-party Group (Order), as well as the Pesticide Evaluation Protocol, issued by the Executive Officer on 29 November 2016. Staff review comments, questions, and recommendations are provided below, as is a summary of the pesticide monitoring constituents and schedule.

Monitoring Sites, Parameters, and Schedule

The Coalition has planned pesticide monitoring at three of its ten monitoring sites for the 2019 water year - in Lewis Creek (site code LC), Upper Cameron Creek (CC1), and St. John's River (SP1). Coalition monitoring sites are monitored on a 3-year rotating schedule and staggered to capture variable climate patterns.

The Coalition used their self-developed GIS shapefiles of each monitoring site watershed boundary to determine the list of square-mile sections of land (land sections) that are within each watershed boundary. This list should contain all land sections with irrigated agriculture that can drain to the monitoring site. Using the site-specific land section list created in GIS, they queried agricultural pesticide use data from the California Department of Pesticide Regulation's Pesticide Information Portal (CalPIP).

The pesticides to be monitored were determined using the last three years of available Pesticide Use Report (PUR) data obtained from CalPIP for select land sections in the three watersheds to be monitored (2014-2016). Pesticides not included on the Pesticide Evaluation Protocol list within these watersheds were removed from consideration. Degradates were then added to the list of pesticides under consideration and pesticides with the same toxicant in water were grouped for evaluation of the aquatic life risk ratios.

Pesticides were excluded from monitoring based on factors including environmental fate and transport properties such as high volatility, calculation of an aquatic life risk ratio of less than 50 or human health risk ratio of less than 10, and no commercially available analytical methods. No exclusions were made based on historical monitoring results, which are limited.

Of the 376 pesticides on the Executive Officer list provided with the Pesticide Evaluation Protocol, 27 were identified for monitoring in Lewis Creek, 13 in Upper Cameron Creek, and 26 in St. John's River. The constituents and schedules for monitoring are presented in Tables 1 through 3.

STAFF REVIEW COMMENTS

1. The Coalition's spreadsheets incorrectly state that Simazine does not have an MCL. The California Primary MCL is 4.0 mg/L. The error does not affect the monitoring outcomes for these evaluations, but future evaluations should correct this information. This comment was also provided last year.

2. The Coalition sent additional information twice in response to staff's questions regarding sub-watershed delineations used for the pesticide data queries. The information was helpful in clarifying the Coalition's process used to determine drainage patterns to monitoring sites. The information also helped identify the need to ensure that the Monitoring and Reporting Program Plan (MRPP) sub-watershed delineations include all irrigated agricultural land. Water Board and Coalition staff are currently working towards Executive Officer approval of the Coalition's MRPP, and this information gap will be addressed.

3. Staff could not determine whether all the appropriate land sections were included in the pesticide data query for the St. John's River monitoring site. This determination will be possible once the Coalition creates watershed boundaries that include all irrigated acres, and provides accompanying information describing how the drainage watersheds were delineated. However, based on the current sub-watershed delineation used by the Coalition for this monitoring site, the correct data set was used in the PEP analysis.

STAFF RECOMMENDATIONS

The Plan successfully executed the steps outlined in the Pesticide Evaluation Protocol and complies with the requirements of the Order and MRP. Staff recommends approval of the Plan for the Kaweah Basin Water Quality Association for pesticide monitoring required from 1 October 2018 through 30 September 2019. Staff recommends that the MRPP include sub-watershed boundaries that include all irrigated agriculture within the Coalition boundary, and that these boundaries be used for next year's pesticide monitoring plan.

Table 1. Upper Cameron Creek Pesticide Monitoring, October 2018-September 2019

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total
COPPER	X		X	X						X	X	X	**6**
PENDIMETHALIN					X								**1**
PYRIDABEN					X								**1**
BIFENTHRIN				X		X	X		X				**4**
CHLORPYRIFOS			X		X	X	X	X	X				**6**
CYFLUTHRIN	X	X		X	X	X							**5**
CYPERMETHRIN		X	X		X	X			X			X	**6**
LAMBDA-CYHALOTHRIN			X	X	X	X							**4**
MALATHION				X	X		X		X				**4**
OXYFLUORFEN	X	X								X	X		**4**
PARAQUAT DICHLORIDE								X	X				**2**
ESFENVALERATE						X							**1**
FENPROPATHRIN				X	X								**2**
Total	**3**	**3**	**4**	**6**	**8**	**6**	**3**	**2**	**5**	**2**	**2**	**2**	**46**

Table 2. Lewis Creek Pesticide Monitoring, October 2018-September 2019

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total
ACETAMIPRID										X			1
COPPER	X	X	X	X		X	X	X	X	X	X	X	11
IMIDACLOPRID				X	X	X	X	X	X				6
PENDIMETHALIN	X	X	X	X							X	X	6
PYRACLOSTROBIN				X									1
PYRIDABEN		X	X	X	X								4
BIFENTHRIN			X	X	X	X	X	X	X		X		8
CARBARYL					X	X	X	X	X	X			6
CHLORPYRIFOS	X	X	X	X	X	X	X	X	X	X	X	X	12
CLOTHIANIDIN							X	X	X	X			4
CYFLUTHRIN	X	X	X	X	X	X	X	X	X	X	X	X	12
CYPERMETHRIN	X	X	X	X	X	X	X	X	X	X	X	X	12
DIMETHOATE		X		X	X	X	X	X	X				7
LAMBDA-CYHALOTHRIN	X	X	X	X	X	X	X	X					8
MALATHION		X		X	X	X	X	X	X				7
OXYFLUORFEN	X	X	X			X	X			X	X	X	8
PARAQUAT DICHLORIDE	X		X	X	X	X	X	X	X		X	X	10
PERMETHRIN				X	X			X	X				4
ESFENVALERATE	X	X		X	X	X	X						6
FLUMIOXAZIN	X	X	X									X	4
ORYZALIN		X											1
SIMAZINE	X	X	X							X	X	X	6
FENPROPATHRIN	X			X	X	X	X	X	X				7
DIURON	X	X	X							X	X	X	6
CHLOROPICRIN		X					X					X	3
METHIOCARB							X						1
DIAZINON		X											1
Total	**13**	**17**	**13**	**16**	**14**	**14**	**17**	**14**	**13**	**10**	**10**	**11**	**162**

Table 3. St. John's River Pesticide Monitoring, October 2018-September 2019

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total
COPPER	X	X	X	X	X	X	X	X	X	X	X	X	12
IMIDACLOPRID					X	X	X	X	X				5
PENDIMETHALIN	X	X									X	X	4
PYRIDABEN		X	X	X						X			4
BIFENTHRIN	X	X	X	X	X	X	X	X	X	X	X	X	12
CARBARYL					X	X	X	X					4
CHLORPYRIFOS		X	X	X	X	X	X	X	X	X	X	X	11
CLOTHIANIDIN								X		X			2
CYFLUTHRIN	X	X	X	X	X	X	X	X	X	X	X	X	12
CYPERMETHRIN	X	X	X	X	X	X		X	X	X	X	X	11
DICHLORVOS			X										1
DIMETHOATE					X			X					2
LAMBDA-CYHALOTHRIN	X	X		X			X	X	X	X			7
MALATHION	X	X	X	X	X	X	X	X	X	X	X	X	12
OXYFLUORFEN	X	X	X		X	X	X	X	X	X	X	X	11
PARAQUAT DICHLORIDE			X	X	X	X	X	X	X	X			8
PERMETHRIN						X							1
TRIFLURALIN						X							1
ESFENVALERATE	X	X			X	X	X						5
FLUMIOXAZIN											X		1
SIMAZINE		X									X	X	3
FENPROPATHRIN			X	X	X				X				4
DIURON		X									X	X	3
METHIOCARB			X	X	X								3
ETHALFLURALIN						X							1
PRODIAMINE						X							1
Total	**9**	**13**	**12**	**11**	**14**	**15**	**11**	**13**	**11**	**11**	**11**	**10**	**141**