

## Central Valley Regional Water Quality Control Board

6 December 2016

David Guy  
Sacramento Valley Water Quality Coalition  
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Sacramento, CA 95814

### **APPROVAL OF THE SACRAMENTO VALLEY WATER QUALITY COALITION SURFACE WATER QUALITY MANAGEMENT PLAN: CHLORPYRIFOS IN PINE CREEK**

Thank you for your 2 November 2016 submittal of the revised Sacramento Valley Water Quality Coalition Surface Water Quality Management Plan: Chlorpyrifos in Pine Creek (SQMP). This revision was submitted in response to staff comments on the draft SQMP provided to the Coalition on 23 February and 25 August 2016. The SQMP was reviewed to determine compliance with requirements pursuant to section VIII.I of Waste Discharge Requirements General Order R5-2014-0030-R1 (Order) and Appendix MRP-1 of Attachment B (Monitoring and Reporting Program) to the Order. The SQMP is a site-specific management plan that will be included as an addendum to the Coalition's Comprehensive Surface Water Quality Management Plan.

The information provided in the SQMP and the attached staff memorandum support the conclusion that the management plan approach meets the requirements of the Order and can be expected to result in the reduction of chlorpyrifos concentrations to below the trigger limit as quickly as possible within the timeframe permitted by the Order. Therefore, I am approving the SQMP for chlorpyrifos in Pine Creek.

If you have any questions regarding this letter, please contact Ashley Peters at 916-464-4857 or [Ashley.Peters@waterboards.ca.gov](mailto:Ashley.Peters@waterboards.ca.gov) or Lynn Coster at 530-224-2437 or [Lynn.Coster@waterboards.ca.gov](mailto:Lynn.Coster@waterboards.ca.gov).



Pamela C. Creedon  
Executive Officer

cc: Bruce Houdesheldt, Northern California Water Association  
Michael Trouchon, Larry Walker Associates

Enclosure: Review of the Sacramento Valley Water Quality Coalition Surface Water  
Quality Management Plan: Chlorpyrifos in Pine Creek

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## Central Valley Regional Water Quality Control Board

TO: Susan Fregien  
Senior Environmental Scientist  
**IRRIGATED LANDS REGULATORY PROGRAM**

FROM: Ashley Peters, P.E.  
Water Resource Control Engineer  
**IRRIGATED LANDS REGULATORY PROGRAM**

DATE: 18 November 2016

SUBJECT: REVIEW OF THE SACRAMENTO VALLEY WATER QUALITY COALITION  
SURFACE WATER QUALITY MANAGEMENT PLAN: CHLORPYRIFOS IN  
PINE CREEK

On 2 November 2016, Central Valley Water Board staff received the Sacramento Valley Water Quality Coalition (Coalition) Surface Water Quality Management Plan: Chlorpyrifos in Pine Creek (SQMP). This revision was submitted in response to staff comments on the draft SQMP provided to the Coalition on 23 February and 25 August 2016. The SQMP was reviewed to determine compliance with requirements pursuant to section VIII.I of Waste Discharge Requirements General Order R5-2014-0030-R1 (Order) and Appendix MRP-1 of Attachment B (Monitoring and Reporting Program) to the Order.

The SQMP is a site-specific management plan that will be included as an addendum in the annual update of the Comprehensive Surface Water Quality Management Plan (CSQMP). The CSQMP contains an overarching strategy for developing management plans and an addendum of all site-specific management plans.

Staff recommends the SQMP for approval because it meets the terms and conditions of the Order. A summary of the SQMP approach and staff recommendations are provided below. A checklist documenting that the requirements of the Order have been met is included as Attachment 1.

### **Summary of Approach**

The SQMP identifies the process for documenting management practice implementation, and provides performance goals and a schedule for addressing agricultural causes of chlorpyrifos exceedances observed during monitoring of Pine Creek at Highway 32. Pine Creek monitoring is representative of the Little Chico Creek, Big Chico Creek, and Dicus Slough drainages.

The SQMP approach includes two actions, to:

1. Maintain a high degree of implementation of the pesticide application practices and cultural practices for the management of sediment and erosion currently employed in the drainage; and
2. Coordinate with the Butte County Agricultural Commissioner's officer to provide additional education to growers and applicators about application requirements and recommended practices for reducing or preventing off-site discharges of chlorpyrifos.

Coalition Members in the Pine Creek represented drainages will receive education on the appropriate techniques and conditions for application of chlorpyrifos based on the recent designation of chlorpyrifos as a California-restricted material. Restrictions associated with this designation limit purchase and application of chlorpyrifos to those who hold a restricted materials permit and require the submittal of a Notice of Intent 24 hours prior to chlorpyrifos application. These permit restrictions ensure that those legally obtaining and applying chlorpyrifos have received information on proper application from the Butte County Agricultural Commissioner's office. The Coalition anticipates that growers will also increase implementation of end of row shutoff when spraying, use of drift control mechanisms, and general drift minimization to comply with the restricted materials permit.

The SQMP approach includes six (6) performance goals to ensure growers are taking steps to reduce impacts from chlorpyrifos. These performance goals are:

1. Chlorpyrifos applied by entity receiving pesticide use permit information from Butte County Agricultural Commissioner's office (100% of operators and permittees receive pesticide use permit conditions every year).
2. Increased education and awareness of end of row shutoff when spraying (100% attendance and/or receipt of outreach materials by growers every year).
3. Increased education and awareness of mechanisms to control drift (100% attendance and/or receipt of outreach materials by growers every year).
4. Increased education and awareness of drift minimization (100% attendance and/or receipt of outreach materials by growers every year).
5. Increased implementation of effective management practices by growers applying chlorpyrifos (100% of growers who apply chlorpyrifos will implement practices within three [3] years of SQMP submittal).
6. Reduction of chlorpyrifos concentrations in Pine Creek at Highway 32 to below trigger limit (100% compliance with trigger limit within three [3] years of SQMP submittal).

In addition to providing performance goals, the Coalition included a schedule for the implementation of the SQMP that would meet the Order's requirement that chlorpyrifos is reduced to below the trigger limit within 10 years of submittal of the management plan. The schedule provided reflects a pace that is anticipated to result in compliance within three (3) years and a request for completion of the management plan by October 2019.

Management Plan monitoring data, Farm Evaluation Survey results, and Butte County Agricultural Commissioner and Subwatershed records of outreach and education will be used to evaluate the effectiveness of actions taken by growers and applicators in the Pine Creek represented drainages.

Monitoring for chlorpyrifos in Pine Creek at Highway 32 is scheduled to occur six (6) times in 2017 during the months of April through September. Monitoring is scheduled to occur during the times of the year when previous exceedances occurred and when chlorpyrifos use and the risk of discharge is estimated to be highest. Three (3) years of no exceedances must be demonstrated before completion of the management plan can be considered for approval.

### **Staff Recommendation**

Staff recommends approval of the SQMP for chlorpyrifos in Pine Creek. The elements of the SQMP are acceptable and meet Order requirements. The Coalition may need to update the SQMP over time based on new information and progress in achieving compliance with the Order's receiving water limitations.

Attachment 1 - SVWQC SQMP: Chlorpyrifos in Pine Creek		Reviewer Name: Ashley Peters					
Submittal Date: 2 November 2016		Review Date: 18 November 2016					
Item No.	Management Plan Component	Acceptable	Unacceptable	Incomplete/Not Included	Not Applicable	Page Number	Comments
<b>A Introduction and Background</b>							
1	Discussion of the COCs that are the subject of the plan.	✓				1-2	
2	Water quality triggers requiring the management plan.	✓				2-3	
3	Boundaries covered by management plan (narrative and map), including how the boundaries were delineated.	✓				3, 6	Figure 1.
<b>B Physical Setting and Information</b>							
1	Physical conditions that affect surface water and existing data are discussed.	✓				3-11	
	a Land use maps identify crops in the SQMP watershed (ArcGIS shapefiles).	✓				Fig. 2	Table 2.
	b Potential irrigated agricultural sources of the COC(s) are identified; if sources unknown, a study is proposed (see part G).	✓				1, 4-5	A study was completed prior to preparation of the chlorpyrifos management plan.
	c Designated beneficial uses are listed.	✓				3-5	Table 3.
	d A baseline inventory and location of existing management	✓				8-10	Table 4.
	e Water quality data for the COCs are summarized and discussed.	✓				10-11	Table 5.
2	Watershed areas and associated COC are described.	✓				3-7	
3	For each water body that is representative of other water bodies, represented areas are identified.	✓				3, 6	Figure 1.
<b>C Management Plan Strategy</b>							
1	Management plan approach and strategy for implementation are described.				✓		Not applicable for a single constituent/area.
	a Discussion of the prioritization process and proposed schedule if multiple constituents of concern (COCs) are included.				✓		
	b Prioritization of multiple management plan areas is listed (or continue to utilize the priority in the approved Management Plan Strategy).				✓		
	c Prioritization of COCs and areas are consistent with the Time Schedule for Compliance (WDR section XII).				✓		
2	The plan includes actions and tasks to:						
	a Achieve compliance with the Order's receiving water limitations.	✓				14-18	
	i Measureable performance goals aligned with the management plan strategy are established (performance goals include specific targets and identify the expected progress).	✓				14,16-18	Table 6.
	b Educate Members (sources, prevention, protection, and remediation efforts that can maintain and improve water quality).	✓				14-15	Table 6.
	i Outreach to growers, method for disseminating information on relevant management practices to be implemented, description on how the effectiveness of the outreach efforts will be evaluated	✓				14-15,18	Table 6, 7.
	c Identify, validate, and implement management practices to reduce loading of COC's.	✓				19	See also Table 6.
	i Management practices that are technically and economically feasible, and are proven to be effective are identified, or a timeline to identify new management practices to meet the receiving water limitations is estimated.	✓				7-8,19	See also Table 6.
	ii Practices that growers will implement, along with a schedule and milestones are outlined.	✓				19	See also Table 6.
3	Duties and responsibilities of the individuals/groups implementing SQMP are identified.	✓				20-21	
	a Key individuals involved in major aspects of the project (e.g., project lead, data manager, sample collection lead, lead for stakeholder involvement, quality assurance manager) are identified.	✓				20-21	
	b Each individual's responsibilities are discussed.	✓				20-21	
	c An organizational chart with identified lines of authority is included.	✓				21	Figure 4.
	d Entities or agencies that will be contacted to obtain data and assistance are identified.	✓				20-21	
<b>D Monitoring Methods</b>							
1	The location(s) of the sites and schedule (including frequencies) for	✓				21-22	
2	Monitoring system designed to measure effectiveness at achieving the	✓				21-22	

Item No.	Management Plan Component	Acceptable	Unacceptable	Incomplete/Not Included	Not Applicable	Page Number	Comments
3	Proposed strategy capable of determining whether management practice changes made in response to the management plan are effective and can comply with the terms of the Order.	✓				21-22	Monitoring scheduled for (6) events: Apr-Sep Previous exceedances in: Jan, Apr, May, Jun, Jul, Aug, Sep, Oct
4	Surface water monitoring data are submitted electronically.	✓				22	
<b>E Data Evaluation</b>							
1	Methods to evaluate monitoring data and to evaluate the effectiveness of the implemented management practices are described.	✓				22-23	
a	Methods to analyze data (graphical, statistics, modeling, index	✓				22-23	
b	Information necessary to quantify program effectiveness is identified.	✓				22-23	
c	The process for tracking implementation of management practices is described, including the type and how the information will be collected from growers, and how the information will be verified and reported.	✓				22-23	Collected via Farm Evaluation.
d	The approach for determining the effectiveness of the management practices is described (e.g. field studies of management practices at representative sites and modeling or assessment to associate the degree of management practice implementation to changes in water quality).	✓				22-23	
<b>F Records and Reporting</b>							
1	Schedule for Management Plan Status Reports that summarize the progress in implementing management plans follows the WDR requirements.	✓				23	
<b>G Source Identification Study Requirements* (optional; see part B)</b>							
1	At the minimum the following components are included:				✓		A study was completed prior to preparation of the chlorpyrifos management plan.
a	An evaluation of the types of practices, commodities, and locations that may be a source.				✓		
b	Continued monitoring at the management plan site/area and increased monitoring, if appropriate.				✓		
c	An assessment of the potential pathways through which waste discharges can occur.				✓		
d	A schedule for conducting the study.				✓		
2	An approach to approximate the contribution of irrigated agriculture is proposed. At the minimum, the feasibility of field studies is evaluated, and option a or b is selected.				✓		
a	Field studies are proposed: a reasonable number and variety of field study sites that are representative of the particular commodity or management practice being evaluated are identified.				✓		
b	Field studies are not proposed: a demonstration is included of how the alternative source identification method will produce information that will enable the determination of contributions from irrigated agricultural operations to the water quality problem.				✓		
* Should the third-party conduct a Source Identification Study to comply with this Order, the third-party must first receive approval from the Executive Officer. Once approved, the third party may proceed with its study.							
<b>H Addendum of Specific Management Plans</b>							
1	Short label / title is created for each specific management plan.				✓		Not applicable for a single constituent/area.
2	Addendum for each specific management plan (management plan that has already been prepared) is included.				✓		
a	Measurable performance goals are established. Specific targets that identify the expected progress towards meeting a desired outcome are described.				✓		
b	Schedule for implementation of identified management practices is included.				✓		
c	Management practice milestones are outlined.				✓		
3	Table of specific management plan addendums is included.				✓		
4	Timeline for submitting management plans that need development is reported.				✓		