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## Central Valley Regional Water Quality Control Board

3 July 2012

David Guy, President  
Northern California Water Association  
Sacramento Valley Water Quality Coalition  
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Sacramento, CA 95814

### **SACRAMENTO VALLEY WATER QUALITY COALITION 2012 ANNUAL MANAGEMENT PLAN PROGRESS REPORT REVIEW**

Thank you for submitting the Sacramento Valley Water Quality Coalition (Coalition) Annual Management Plan Progress Report (MPPR), received on 6 April 2012. Staff has completed a review (a memorandum and checklist are included with this letter) of the MPPR for compliance with Monitoring and Reporting Program Order R5-2009-0875 (MRP Order) and the Sacramento and San Joaquin River Basin Plan for specific Total Maximum Daily Load (TMDL) requirements.

The Coalition provided the information needed to meet the basic Management Plan reporting requirements. The MPPR section reporting on chlorpyrifos and diazinon TMDL compliance is a broad summary of the program and a full report is expected from the Coalition by 29 June 2012. The following necessary improvements are noted in the enclosed staff memorandum and should be addressed in next year's MPPR:

- Some Management Plan elements are missing from Table 1 which should contain all of the current Management Plan water body-constituent combinations.
- The MPPR should summarize the relevant monitoring data in a single table, including the number of samples, number of detections, and number of exceedances for pesticides; and the number of samples with significant toxicity and total number of samples tested for toxicity,
- When other reports and communications are referred to in the MPPR, more detailed references and summaries should be provided. (See Item B.4)

If you have any questions regarding this letter, please contact Mark Cady at 916-464-4654, or by email at [mcady@waterboards.ca.gov](mailto:mcady@waterboards.ca.gov).

*Original Signed by*

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Ben Letton, RWQCB

Enclosures

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## Central Valley Regional Water Quality Control Board

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

**FROM:** Mark Cady  
Environmental Scientist  
**IRRIGATED LANDS REGULATORY PROGRAM**

**DATE:** 22 June 2012

**SUBJECT: REVIEW OF SACRAMENTO VALLEY WATER QUALITY COALITION 2011 ANNUAL MANAGEMENT PLAN PROGRESS REPORT**

On 6 April 2012, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) received the 2011 Annual Management Plan Progress Report (MPPR), submitted by the Sacramento Valley Water Quality Coalition (Coalition). This is the third annual MPPR required pursuant to the Monitoring and Reporting Program Order No. R5-2009-0875 (MRP Order) and the Management Plan approved by the Water Board Executive Officer on 2 February 2009.

This memorandum reports the results of Central Valley Water Board staff review of this MPPR. The section titles and item numbers of this review are the same as those used in the MPPR Checklist (see attached). Staff derived the MPPR Checklist from the MRP Order and the reporting description on page 13 of the Coalition Management Plan, approved 2 February 2009. This checklist was used to verify that the MPPR content met the minimum prescribed report requirements. Staff's review is organized into four sections: MRP Order requirements, Management Plan components, TMDL compliance reporting, and proposed Management Plan changes. Additional comments are provided in the MPPR Checklist (attachment), while some items that require more detailed explanation are included below.

### A. MRP Order Requirements

#### Item 1. Source Identification.

Source identification efforts and results were reported in the Source Evaluation Reports (SERs) submitted on 14 September 2011 and are summarized and updated in this MPPR. The SERs were reviewed by Central Valley Water Board staff and a review memorandum and cover letter were sent to the Coalition on 11 April 2012. The updates include acknowledgement of additional *Ceriodaphnia* toxicity exceedances on Cache Creek and the Lower Snake River. The other SER updates reflect 2011 monitoring year results that were free of exceedances for *Hyaella* toxicity in the Cosumnes River and Stony Creek, and *Selenastrum* toxicity in Butte Slough.

**Items 2, 3, 4 and 6.** Identification of management practices to be implemented, implementation schedule, performance goals, and evaluation of management practice effectiveness are addressed in the Management Practice Implementation and Performance Goals reports submitted by the Coalition on 12 October 2011. These documents are under review.

## **B. Management Plan Report Components**

Table 1 of this report is a convenient summary of current management plan waterbodies and constituents. However, some elements are missing including *Ceriodaphnia* toxicity and chlorpyrifos on the Lower Snake River, malathion on Gilsizer Slough, malathion on Willow Slough, and *Hyalella* toxicity on Stony Creek.

### **Items 4.0–4.8. Results of Monitoring.**

Each of the parameter categories is adequately reviewed in the report text, though the report would be improved if all non-detections, detections and exceedances from management plan monitoring were summarized in a single table.

Additionally, references to previous communications should be more substantive. For example, on page 12 the text states that shallow groundwater was implicated as the cause of elevated selenium in Willow Slough. Adding detailed results to support or illustrate the major findings will make statements like this complete and able to stand alone.

There are four reported instances of *Ceriodaphnia* toxicity detected in Management Plan monitoring. In each of those exceedances the toxicity was determined to be transient, i.e. the follow-up tests of the Toxicity Identification Evaluations (TIEs) did not show any toxicity in the samples. This pattern of unknown, transient toxicity is typical throughout the Coalition's monitoring program and must be better understood. The review memorandum for 2011 Coalition Source Evaluation Reports, (sent to the Coalition 11 April 2012, after the 4 April 2012 submission of this MPPR), states that "staff recommends that the Coalition develop a revised Management Plan strategy that will conclusively show whether or not agriculture is a source of toxicity, including revised TIE procedures or manipulations that reduce the uncertainty associated the current protocols." This recommendation is relevant to the *Ceriodaphnia* toxicity exceedances reported here.

A few comments in the report text appear to rule out pyrethroids as the cause of toxicity because the addition of PBO during TIE manipulations did not increase toxicity. However, in each case the toxicity was gone from the whole sample at the time of TIE, the TIE results must be compared with the TIE run, not compared to results from previous runs (e.g. pages 9 and 10).

Similarly, rapid degradation of the toxicity signal does not necessarily rule out OP pesticides. While commonly applied OP pesticides do not degrade rapidly, they very quickly partition to particulate matter and are removed from the water column (so a sample with lots of solids or plankton can quickly lose its toxicity).

### **Item 5.0, Results of Source Evaluations.**

As previously noted, the Coalition submitted Source Evaluation Reports for eight constituent-waterway combinations on 14 September 2011.

The update to the *Ceriodaphnia* toxicity in Cache Creek source evaluation presents no new information or analysis beyond acknowledgement of the additional exceedance. The Coalition speculates that cyanobacteria in Clear Lake may be a source of toxicity, but does not present any data to support this argument. Staff suggests that the Coalition test the cyanobacteria-bloom-induced toxicity hypothesis with a simple study of toxicity at the Clear Lake outfall above irrigated agriculture, or a coupling of toxicity testing with analysis for cyanobacterial toxins.

The updates to the *Hyalella* toxicity source evaluations conclude with recommendations that the Management Plans for these two site-constituent combinations be considered complete. However, both sites appear to have been tested for *Hyalella* toxicity only three times each since the Management Plans were triggered. Staff will not recommend that these Management Plans be deemed completed at this time.

**Item 6.0, Outreach Documentation.**

Documentation of Coalition outreach activities was adequately covered in the 2011 Annual Monitoring Report and the summary table of all Coalition outreach is included again in this MPPR (Appendix A).

**Item 7.0.**

The summary of completed baseline management practices inventories, evaluation of progress toward completion of management plan elements, and proposed goals for additional implementation are reported in the Performance Goals reports that are currently under review, though much of that information should be included in the MPPR.

**Item 8.0.**

Recommendations for Management Plan monitoring are covered by the Coalition's approved 2012 monitoring schedule and are included in Appendix B of the MPPR. Table 3 of the MPPR lists recommendations for Management Plan monitoring modifications, including several requests to end Management Plans. These requests must be made individually with a letter detailing the relevant information and signed by the authorized Coalition lead (David Guy). The requirements for this process were reviewed by staff and Coalition representatives at a meeting on 6 June 2012.

**Item 9.0.**

Although the list of report topics on page two of the MPPR includes 'Status of Management Plan Tasks,' there is no section where this is explicitly addressed. A status review of specific tasks should be a central focus of this report. Status of individual Management Plan elements is summarized in Table 1, pages 3-6. On pages 31-33 of this MPPR ("Summary: Evaluation of Progress,") the Coalition restates the MRP Order requirements, names other reports that address these requirements and describes in very general terms the processes under way to fulfill Management Plan requirements. Some of the relevant information that appears in the Performance Goals reports is more appropriate to the MPPR, such as detailed reviews of specific Coalition outreach to growers to support the goals of the Management Plan.

**Item 10.0.**

Proposed goals for additional implementation should be addressed in the Performance Goals reports, however goals should also be summarized in the MPPR. There are no proposed goals for additional implementation in this MPPR.

**Item 11 and 12.**

Updates to the list of required Management Plan elements are included in Section D of this memorandum. The results of pesticide application reviews are included in the submitted and reviewed 2011 SERs.

**C. TMDL Compliance Reporting.**

The MPPR briefly reports on the two TMDLs affecting agriculture in the Sacramento River Watershed: one for chlorpyrifos and diazinon in the Sacramento and Feather Rivers and the Delta, and another for nutrients in Clear Lake. The Coalition will be submitting a more complete report on the chlorpyrifos and diazinon TMDL by 29 June 2012.

**D. Proposed Management Plan Changes.**

The MPPR presents four new Management Plans triggered in 2011. Scheduled activities and deliverables are listed in Table 6 of the report. The report also mentions a number of Management Plan categories (e.g. legacy pesticides) that are currently on hold until they are addressed in the new WDR and MRP Orders which are scheduled for adoption by the Water Board in June 2013.

SVWQC Management Plan Progress Report  
Review Checklist

Report Name: SVWQC Management Plan Report			Reviewer Name: Mark Cady			
Submittal Date: 6 April 2012			Review Date: 22 June 2012			
Item No.	Management Plan Component Description	Acceptable	Unacceptable	Incomplete	Page No. (Section No.)	Comments
		A	U	I		
<b>A. MRP Order Requirements</b>						
1	Identification of irrigated agriculture source -- general practice or specific location -- that may be the cause of the water quality problem, or a study design to determine the source.	X			Pgs. 12-19 and Source Evaluation Reports:	The Coalition submitted source evaluation reports for 8 Management Plans on 10/12/11: 4 for toxicity, 3 for registered pesticides and one for nutrients. These reports were reviewed by Water Board Staff and a response was sent to the Coalition on 16 April 2012.
2	Identification of management practices to be implemented to address the exceedances.	X			Performance Goals Documents	The Coalition submitted 6 Management Practices Implementation and Performance Goals Documents on 18 October 2011. These documents are under review.
3	Management practice implementation schedule. Implementation may occur through another Water Board regulatory program designed to address the specific exceedances.	X			Performance Goals Documents	Staff comments will be included in the review of the Performance Goals documents.
4	Management practice performance goals with a schedule.	X			Performance Goals Documents	Staff comments will be included in the review of the Performance Goals documents.
5	Waste-specific monitoring schedule.	X			See 2012 Monitoring Schedule	A monitoring schedule was submitted for all Coalition monitoring, including Management Plan Monitoring, on 21 November 2011. This schedule was approved on 5 December 2011.
6	A process and schedule for evaluating management practice effectiveness.	X			Performance Goals Documents	Staff comments will be included in the review of the Performance Goals documents.
7	Identification of the participants and Coalition Group(s) that will implement the Management Plan.	X			Table 6, pgs. 25-28	
8	An identified routine schedule of reporting to the Regional Water Board.	X				

SVWQC Management Plan Progress Report  
Review Checklist

Item No.	Management Plan Component Description	Acceptable	Unacceptable	Incomplete	Page No. (Section No.)	Comments
		A	U	I		
	<b>B. Management Plan Report Components</b>					
1.0	Signed Transmittal letter	X				
2.0	Title Page	X				
3.0	Table of Contents	X			Pgs. ii-iii	
4.0	Results of monitoring	X				
4.1	Registered Pesticides	X			Pgs. 7-8	
4.2	Toxicity	X			Pgs. 8-11	
4.3	Legacy Pesticides	X			Pg. 11	
4.4	Pathogen indicators	X			Pg. 11	
4.5	Trace Metals	X			Pgs. 11-12	
4.6	Salinity	X			Pg. 12	
4.7	DO and pH	X			Pg. 13	
4.8	Nutrients	X			Pg. 14	
5.0	Results of Source Evaluations	X			Pgs. 12-19	
6.0	Outreach Documentation	X			Pg. 20, Appx. A	
7.0	Summary of completed baseline management practices inventories	X				Some of these results are included in the Performance Goals Documents, some in the Survey Results reports submitted 23 December 2011
8.0	Recommendations for Management Plan monitoring	X			Appendix B	
9.0	Evaluation of progress toward completion of management plan elements.	X			Pgs. 3-6, Pgs. 31-33	Some of the progress has been reported in the Performance Goals documents, though these items are more appropriately reported in the MPPR. Summarized in Table 1, pgs. 3-6.
10.0	Proposed Goals for additional implementation	X			Performance Goals Documents	
11.0	Updates to the list of required management plans	X			Pgs. 23-28	

SVWQC Management Plan Progress Report  
Review Checklist

Item No.	Management Plan Component Description	Acceptable	Unacceptable	Incomplete	Page No. (Section No.)	Comments
		A	U	I		
12.0	Results of pesticide application reviews	X			Source Evaluation Reports	
	<b>C. TMDL Compliance Reporting</b>			X	Pgs. 29-31	See body of review memorandum
	<b>D. Proposed Management Plan Changes</b>	X			Pgs. 23-28	