
Central Valley Regional Water Quality Control Board

31 May 2012

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**2012 ANNUAL MONITORING REPORT REVIEW - SAN JOAQUIN COUNTY AND
DELTA WATER QUALITY COALITION**

Thank you for submitting the San Joaquin County and Delta Water Quality Coalition (Coalition) Annual Monitoring Report (AMR) received on 1 March 2012. Staff has completed a review (enclosed with this letter) of the AMR for compliance with Monitoring and Reporting Program (MRP) Order No. R5-2008-0005.

Staff noted that the Coalition continues to comply with the majority of MRP Order reporting requirements, including the following:

- Discussion of data to clearly indicate compliance
- Meeting precision, accuracy, and completeness requirements
- Submitting field data sheets, laboratory reports, and chain of custody forms

Staff identified some minor omissions in the AMR requiring revisions in the next AMR. Please review the attached memorandum. The Coalition will need to submit its next AMR in accordance with the MRP by 1 March 2013, and ensure that it complies with the requirements.

If you have any questions or comments regarding the review, or need any further information, please contact Chris Jimmerson at (916) 464-4859.

Original signed by

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

Joe Karkoski, Chief
Irrigated Lands Regulatory Program

Enclosure: Staff Review of SJCDWQC AMR

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: 26 April 2012

SUBJECT: APRIL 2012 ANNUAL MONITORING REPORT REVIEW–SAN JOAQUIN
COUNTY AND DELTA WATER QUALITY COALITION

On 1 March 2012, the California Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) received the San Joaquin County and Delta Water Quality Coalition (Coalition) Annual Monitoring Report (AMR). The time period discussed in the AMR covers the period from January through December 2011.

In this memorandum, staff presents comments pursuant to Order No. R5-2008-0005, and the Coalition's August 2008 Monitoring and Reporting Program Plan (MRPP). Staff also reviewed the MRPP to determine monitoring compliance for the reporting period.

The review section titles below and section numbers in parenthesis are the same as the titles used in the AMR Checklist (see attached). Staff derived the checklist directly from the MRP Order and it provides an itemized account of the compliance components. Staff used the checklist to record that the content presented in the AMR met the minimum prescribed report requirements. This memorandum provides a discussion if the minimum requirements were not met or items warranted further explanation. Those items requiring further discussion are briefly noted in the attached checklist.

Staff revisited the 16 March 2011 AMR staff comment letter to verify that the Coalition considered the comments and recommendations in this AMR. Staff determined that the Coalition considered those comments and recommendations and incorporated them in this AMR.

AMR Component Name from Checklist

Item 6.2

According to the Monitoring and Reporting Program Plan, the Coalition is required to sample surface water during two storm events a year. A storm event is defined as at least 0.5 inch of

rain within a 24-hour period, which should produce sufficient volume to produce runoff. February, March, and October produced sufficient rain to meet the conditions of a qualified storm event. The other months of the year did not meet the conditions of a storm event. The Coalition collected samples during all twelve months including one of two storm sampling events. A February and March storm sampling event did not occur because the monthly sampling event had already been collected at least a week before the storm event. October was the only month in which a storm event was captured.

Item 9.5

The Coalition collected all necessary resamples and reported the results. Resamples were collected on 13 January, 26 July, 28 July, and 14 October. Resampling was required due to lab error, exceeding hold-time, and control specimen failure. The laboratories held internal meetings to refine their system to eliminate future errors. The quality assurance (QA) and quality control (QC) objectives were met for the resamples.

Item 12.1

Page 58 of the AMR provides the sampling procedures table describing the parameters and procedures for sample container, preservation, and holding time. For *E.coli*, the sample volume, container, initial preservation, and holding time (Table 13) should be revised in the next AMR to match MRP Attachment C, Appendix D, page 2. In addition, the sediment toxicity holding time should be revised to 14 days. On 26 April, the Coalition confirmed that its laboratory has not deviated from the MRP QAPP regarding *E.coli* analytical methods or sediment toxicity holding time. The Coalition indicated that it would revise Table 13 in the next AMR.

Item 13.1

Staff reviewed 20% of the Chain of Custody (COC) forms in Appendix I. Many COCs did not include the ice chest temperature at log-in. However, the temperature can be found on the first page of the lab reports.

Item 16.0-16.4

The Coalition obtained 100% completeness for all the environmental samples. The number of duplicates and field blanks were collected above the minimum 5% rate. All QA and QC analyses met acceptance criteria for the reporting period at a level greater than 90%. This is tabulated in the Table 1 below. If the lab QC results were outside of the acceptability criteria range, these sample results were flagged, as indicated in the Coalition's data appendix, and explained in the AMR text. The Coalition met the hold-times 98.1% of the time for all analytes.

Table 1: Quality Assurance and Quality Control Percent Acceptance

	Field Blank	Field Duplicate	Method Blank	Lab Control Spike	Lab Control Spike Duplicate	Matrix Spike	Matrix Spike Duplicate	Lab Duplicate	Surrogate Recovery
% Acceptance	99.86%	95.6%	100%	99.11%	98.63%	95.9%	97.2%	100%	97.96%

Item 19.2

The Coalition provided the most current pesticide use report (PUR) information for the exceedances observed during the reporting period. The PURs that are currently outstanding

include Contra Costa (June – December), San Joaquin (June – December), and Stanislaus (December) counties. The Coalition indicated that it will complete a 1 June 2012 addendum when the PUR information becomes available.

Item 20.1

The Coalition reported three malathion exceedances (0.1, 0.064J, 0.089J ug/L) at Bear Creek at North Alpine Road. According to the Basin Plan, malathion is under a discharge prohibition unless the grower is following Central Valley Water Board approved management practices. Growers in the Coalition's region do not have Central Valley Water Board approved management practices for malathion. The Coalition obtained available PURs for two of the three exceedances to determine potential sources. The PURs indicated that no reported applications were associated with the January exceedance. Approximately 100 pounds of malathion were aerially applied to cherry orchards in May and may have caused the May exceedance. PURs for the September exceedance are not currently available, but may be available for the 1 June addendum.

The malathion exceedances triggered a new Management Plan at Bear Creek at North Alpine Road that will be addressed as part of the 5th High Priority set of sites in 2013. The Coalition received Central Valley Water Board approval in February 2012 to advance the Management Plan High Priority schedule for Bear Creek to year 2013. The AMR indicated that malathion was applied to 822 acres of cherry orchards between 13 and 23 May 2011. The Coalition will conduct malathion Management Plan monitoring at Bear Creek in 2012.

The data indicate that pyrethroids are contributing to sediment toxicity. Almost half (10 of 21 samples) of the sediment toxicity tests reported in the AMR were toxic to *Hyalella azteca*. Chemistry analysis was performed on eight of the 10 samples resulting in detections of pyrethroids and chlorpyrifos in all eight samples. Some growers have changed from organophosphates to pyrethroids because they are thought to be not as mobile. The Coalition is continuing to focus on management practices that could reduce pyrethroid discharges.

Annual Monitoring Report Review Checklist

Report Name: San Joaquin County and Delta Water Coalition Annual Monitoring Report					Reviewer Name: Chris Jimmerson				
Submittal Date: 3/1/12					Review Date: 4/26/12				
Item No.			AMR Component Name	A Acceptable	U Unacceptable	I Incomplete	NA Not Applicable	Page # (Section #)	Comments
1 Signed Transmittal Letter									
1.1			Penalty of Perjury Statement	X					
1.2			Signature of Authorized Coalition Representative	X					
1.3			Dated	X					
1.4			Discussion of exceedances, and corrective actions taken or planned (or reference to previous correspondence)	X					
1.5			Submitted on time	X					
2 Title Page									
2.1			Report title	X					
2.2			Date of the report	X					
2.3			Monitoring date range covered by the report	X					
2.4			Coalition Group name	X					
3 Table of Contents									
3.1			List of sections/chapters, tables, figures, appendices/attachments with page numbers	X					
4 Executive Summary									
4.1			Summary of key results and activities	X				5-8	
4.2			Brief summary of conclusions and recommendations	X				8,9	Dairies may be cause of some pesticide exceedances in certain areas.
5 Description of the Coalition Group Geographical Area									
5.1			General description of relevant geographic features of the Coalition area, such as location and extent of area, major landforms, land uses, vegetation types, crop types, climate patterns, key waterways, and cities	X				10-19	Maps include datum source
6 Monitoring Objectives and Design									

Annual Monitoring Report Review Checklist

Item No.	AMR Component Name	A Acceptable	U Unacceptable	I Incomplete	NA Not Applicable	Page # (Section #)	Comments
6.1	Brief description of monitoring objectives (references to section and page numbers in MRP Plan or QAPP, as appropriate)	X				20-25	
6.2	Monitoring design aligns with MRP Plan, any deviations from MRP Plan or QAPP are described (references to section and page number in MRP Plan or QAPP, as appropriate)	X				26, 42-44	The Coalition provided explanation for conducting one of two storm runoff events. See memorandum.
6.2.1	Assessment Monitoring: sites, parameters, schedule	X				24-29	
6.2.2	Core Monitoring: sites, parameters, schedule	X				24-29	
6.2.3	Special monitoring (Management Plan, TMDL, source identification): sites, parameters, schedule	X				20-25	In addition to Management Plan monitoring, the Coalition is conducting monitoring under a DPR grant.
7	Sampling Site Descriptions and Rainfall Records for the time period covered under the AMR						
7.1	Sampling site name and description (e.g. geographic area, watershed, crop type and drainages that the site represents), or unique information about the site or surrounding area	X				36-42	
7.2	Rainfall records in graphic or narrative form (in inches of precipitation)	X				42-47	The Coalition provided explanation for conducting one of two storm runoff events.
8	Location Maps(s) of sampling sites, crops, and land uses						
8.1	Location maps show sampling sites, crops, and land use with informative level of detail	X				various pgs.	All maps satisfactorily include sufficient level of detail.
8.1.1	Datum identified on map (<u>must be</u> WGS 1984 or NAD 1983)	X				various pgs.	Satisfactorily responded from previous SAMR comment.
8.1.2	Source and date of all data layers identified on map	X				various pgs.	All maps include required layer information.
8.2	Accompanying list or table indicates: site name, ID number, ILRP station code number, and GPS coordinates (latitude and longitude in decimal degrees to at least five decimal places)	X				38	
9	Tabulated Results						
9.1	Data are in tabular form, clearly organized and readily discernible	X				Appendix II	
9.2	Tabulated results agree with the electronically submitted data	X				Appendix II	
9.3	Previously reported exceedances match exceedances identified in the AMR	X				105-111	Staff compared AMR exceedances to received exceedance reports.

Annual Monitoring Report Review Checklist

Item No.		AMR Component Name	A Acceptable	U Unacceptable	I Incomplete	NA Not Applicable	Page # (Section #)	Comments
9.4		All required constituents for each site have reported results	X				Appendix II	
9.5		All necessary re-sampling completed and results reported	X				27, 65, Appendix I	Resamples collected on 1/13, 7/26, 7/28, 10/14 (Pimephales, E.coli, E.coli, Hyalella, respectively). Failure due to lab error, exceeded hold time, specimen failure in control. See memorandum.
10	Data Discussion to Illustrate Compliance							
10.1		Results discussed in text agree with tabulated data	X				6-8, 113-120	
10.2		Discussion illustrates compliance with the Conditional Waiver, or if a required component was not met an explanation of missing data or a reason for non-compliance is included	X					
10.3		Results are compared to ILRP requirements, water quality standards and trigger limits; toxicity results, TIE's and possible causes of toxicity are discussed	X				105-133	1 Ceriodaphnia, 1 Selenastrum, 0 Pimephales, and 10 Hyalella exceedances observed. One TIE performed that was unable to determine toxicity.
11	Electronic data submitted in a SWAMP comparable format, either Option A or B							
11.1	A	<u>Option A. Spreadsheet format:</u> Lab data submitted electronically within the SWAMP comparable spreadsheets; Field data submitted electronically, or in paper copy on SWAMP comparable field sheets within AMR				NA		
	B	<u>Option B. SWAMP database format:</u> All field and lab data uploaded into a SWAMP comparable database (following the most current <i>Required Data Submission Format</i> document)	X				Dbase on CD	
11.2		Sample results and required QC results are included: field blanks, field duplicates, lab blanks, spikes (LCS, MS), duplicates (LCD, MSD, replicates), surrogates (for pesticide analyses)	X				63-97	Field blanks/duplicates comprised >5% of samples.
11.3		Toxicity analyses include: individual sample results, negative control summary results, replicate results, water quality measurements (pH, ammonia, temperature, SC, DO)	X				Dbase on CD	
11.4		Data not meeting project QA acceptance guidelines are flagged and include brief notes detailing the problem in the <i>Comments</i> field	X				Appendix II	Comment field included

Annual Monitoring Report Review Checklist

Item No.	AMR Component Name	A Acceptable	U Unacceptable	I Incomplete	NA Not Applicable	Page # (Section #)	Comments
12	Description of sampling and analytical methods used						
12.1	Description of sampling methods used (e.g. type of collection, collection containers, sample preservation, transportation, handling, field measurements), with references to SOP's if appropriate			X		58	Table 13 should be reconciled with the MRP Order and the Coalition's QAPP for next AMR. See memorandum.
12.2	Description of analytical methods used (references to SOP's and QAPP as appropriate); any deviations from the QAPP are described and explained	X				57-62	
13	Copies of chain-of-custody forms and sample receipt documentation						
13.1	Copies of all COCs are included, legible and completed accurately; any anomalies are noted/explained	X				Appendix I	Staff reviewed 20% of COCs. Many COCs do not have cooler temperature at log in. However, temperature is recorded on the first page of the lab report. See memorandum.
14	Field Data Sheets, Lab Reports, Lab Raw Data						
14.1	Copies of all field data sheets (attached/provided electronically on CD) are included, legible, contain the required elements in the ILRP template, and are completely filled	X				Appendix IX	
14.2	All analytical reports (attached/provided on CD) are included, complete, and signed by authorized laboratory representative	X				CD	Signature missing for APPL, methamidophos, EPA method 8321A.
	14.2.1 Sample results with units, RLs and MDLs	X				Appendix II	
	14.2.2 Sample preparation, extraction and analysis dates	X				CD	
	14.2.3 Results for all QC samples: field and laboratory blanks, lab control spikes, matrix spikes, field and laboratory duplicates, surrogate recoveries	X				Appendix III	
	14.2.4 Chemistry lab narrative describes all QC failures, analytical problems and anomalous occurrences.	X				CD, Lab Reports	
14.3	All toxicity lab reports (attached/provided on CD) are included, complete, and signed by authorized lab representative	X				CD, Lab Reports	
	14.3.1 All toxicity sample results included	X				CD, Lab Reports, Appendix II	

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Item No.		AMR Component Name	A Acceptable	U Unacceptable	I Incomplete	NA Not Applicable	Page # (Section #)	Comments
	14.3.2	Results for all QC samples: field duplicate, negative control, narrative summary of reference toxicant results	X				CD, Lab Reports, Appendix II	
	14.3.3	All raw data (including failed tests) and original bench sheets showing individual replicates	X				CD, Lab Reports	
	14.3.4	Toxicity lab narrative describes all QC failures, analytical problems and anomalous occurrences	X				CD, Lab Reports	Recollected sediment samples 10/14/11 due to control failure and re-ran chemistry tests due to exceeding hold time.
15	Associated laboratory and field quality control samples results							
	15.1	Chemical analyses include: field blank, field duplicate, lab blank, matrix spike and MSD, lab control spike and LCSD	X				Appendix III	
	15.2	Microbiological analyses include: field blank, field duplicate, negative control, positive control	X				Appendix III	
	15.3	Toxicity tests include: field duplicate, negative control, reference toxicant (narrative OK, raw data not required)	X				Appendix III	
16	Summary of Quality Assurance Evaluation results							
	16.1	Acceptance criteria for all field and laboratory QA/QC measurements identified and in agreement with ILRP requirements; any adjustments to acceptance criteria documented and discussed	X				63-97	Met acceptance criteria > 90% of the time. See memorandum.
	16.2	Summary of accuracy (lab control spike and matrix spike recovery) and precision (RPD for field duplicate, LCS/LCSD and MS/MSD pairs) included for all constituents and tests	X				63-97	See memorandum.
	16.3	QA/QC results that did not meet acceptance criteria identified in a table or narrative description that is prepared by the Coalition (not laboratories)	X				74-97	The QAQC results that did not meet acceptability criteria included samples that were non-detect. See memorandum.
	16.3.1	Discussion of how the failed QA/QC results affect the validity of the reported data	X				63-97	
	16.3.2	Corrective actions for QA/QC results that did not meet acceptance criteria are described, laboratory exception reports are included when samples are reanalyzed due to exceedance of the linear range	X				63-97	
	16.4	Both field and laboratory completeness are calculated and reported; overall Project completeness is determined	X				63-97	Achieved >90%
17	Flow Monitoring Method(s)							

Annual Monitoring Report Review Checklist

Item No.	AMR Component Name	A Acceptable	U Unacceptable	I Incomplete	NA Not Applicable	Page # (Section #)	Comments
17.1	The method used to obtain flow measurement at each monitoring site during each monitoring event is listed	X				59	
18	Monitoring Site Photos						
18.1	Photos are included for each monitoring site for every monitoring event, either electronically or in hard copy	X				Appendix VIII, CD	Available on CD
18.2	Each photo is clearly labeled with site ID and date	X				Appendix VIII, CD	
18.3	Photos are descriptive and useful	X				Appendix VIII, CD	
19	Summary of Exceedance Reports submitted during the reporting period and related pesticide use information						
19.1	Summary of all Exceedance Reports submitted during the AMR period is included	X				104	
19.2	Pesticide use data for all pesticide and toxicity exceedances occurring during the AMR time period (unless under a Management Plan): all chemicals applied within the monitoring site subwatershed during the four weeks prior to the measured exceedance	X				Appendix IV	The PUR data not available for the reporting period will be provided in a 6/1/12 addendum. See memorandum.
20	Actions Taken to Address Water Quality Exceedances						
20.1	Discussion of actions taken to address water quality exceedances during the time frame of the AMR is included	X					Malathion exceedances under a prohibition of discharge. See memorandum.
20.2	Updates or additional management practices implemented (Attachment A of the MRP Order, p. 4)	X				153	Table 49 documents newly implemented management practices.
21	Status update on preparation and implementation of all management plans and other special projects						
21.1	Brief update on status of all Management Plans and special projects that are in preparation or being implemented	X				143-145	
22	Conclusions and Recommendations						
22.1	Conclusions are supported by the data presented in the AMR	X				8,9,145-154	Coalition responded to the 5 programmatic questions.
22.3	Recommendations are appropriate and adequately detailed	X				154	