
Central Valley Regional Water Quality Control Board

18 June 2014

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SACRAMENTO VALLEY WATER QUALITY COALITION 2012 AND 2013 ANNUAL MONITORING REPORT REVIEW

Thank you for submitting the Sacramento Valley Water Quality Coalition (Coalition) 2012 Annual Monitoring Report (AMR), received on 1 March 2013, and the 2013 AMR received on 3 March 2014. Staff has completed a review (enclosed with this letter) of both AMRs for compliance with Monitoring and Reporting Program (MRP) Order No. R5-2009-0875.

The attached review memorandum indicates that some of the data submitted for the Coalition's AMR is incomplete. The data submitted in Appendix C of each of the reports were not corrected using the feedback packages provided by the Data Management Team. This should be rectified in future AMRs, starting with the 2015 report.

Each AMR is also missing data from two Management Plan monitoring sites: Fall River at Fall River Ranch Bridge and Pit River at Canby Bridge. The 2014 Monitoring Plan must be amended to show that monitoring will be conducted during the remaining 2014 monitoring events for these sites.

The staff memorandum also identifies the following omissions in the 2012 and 2013 AMRs:

1. Each Appendix C is missing total organic carbon, total suspended solids and turbidity data from sites monitored cooperatively with the California Rice Commission. These data, if available, should be provided. If the data are not available, corrective actions must be identified to ensure complete testing and reporting for required parameters at these monitoring sites.
2. An explanation must be provided for the discrepancy in metals data reported in the text and in tabular form in the 2012 AMR and identified on page four of the staff memorandum.

This missing data and explanation must be provided to the water board as addenda to the two AMRs reviewed here. **The AMR Addenda and amended 2014 Monitoring Plan are due by COB on 11 July 2014.**

The Coalition should submit its next AMR in accordance with MRP Order R5-2014-0300 by 1 May 2015. If you have any questions or comments regarding the review, or need any further information, please contact Susan Fregien at (916) 464-4813.

Original signed by

Joe Karkoski, Chief
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Susan Fregien, Senior Environmental Scientist
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Enclosure: Staff Review Memorandum for SVWQC 2012 and 2013 AMRs

cc: Bruce Houldesheldt, NCWA
Claus Suverkropp, LWA

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: 16 June 2014

SUBJECT: 2012 AND 2013 ANNUAL MONITORING REPORTS – SACRAMENTO VALLEY
WATER QUALITY COALITION

On 1 March 2013, the California Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) received the Sacramento Valley Water Quality Coalition (Coalition) 2012 Annual Monitoring Report (AMR12). The Coalition submitted a supplemental memorandum with several attachments on 15 July 2013. AMR12 covers the period October 2011 through September 2012.

On 3 March 2014, the Central Valley Water Board received the Coalition's 2013 Annual Monitoring Report (AMR13), covering the period October 2012 through September 2013. This memorandum presents comments pursuant to the Monitoring and Reporting Program Order R5-2009-0875 (MRP Order) as applicable to both of these reports.

The review section titles and numbers below are the same as those used in the AMR checklist (see attached). Because the two AMRs are similar, a single checklist was prepared covering both of the reports. The checklist was derived from the MRP Order, Part IV, Section B on pages 19-23. Staff used the checklist to provide an itemized evaluation of the compliance elements. If the minimum requirements were not met or omissions were noted, this memorandum provides a discussion. No discussion is provided for those items that met the compliance standards.

Checklist Items:

9. Tabulated results. The monitoring results are presented in spreadsheets derived directly from the quarterly electronic data deliverable (EDD) (AMR Appendix C) and in tables of detections and exceedances of water quality trigger limits (AMR12 and AMR13, Tables 21 - 25).

The Coalition intends to utilize data collected by cooperating agencies, the Surface Water Ambient Monitoring Program (SWAMP) and California Rice Commission (CRC). However, the data are not provided. It is reasonable to omit this data in the quarterly data submissions that are ultimately loaded into CEDEN, since, as with the Coalition's data, the SWAMP and CRC data will also be loaded into CEDEN and multiple entries of the same data is to be avoided.

However, AMRs should include tabulated results of all data that can be obtained to comply with the MRP Order.

In 2012, the Coalition requested a modification to the MRP Order permitting the use of SWAMP data collected by the Department of Water Resources at two core monitoring sites: the Pit River at Pittville and the Middle Fork Feather River above Grizzly Creek, when available. On 13 April 2012, the Executive Officer signed a revision of the MRP Order permitting the use of the SWAMP data to fulfill 2012 Core monitoring requirements for May, August and November for these two sites. The Coalition would still be responsible for monitoring in June and July (these data are included in AMR Appendix C). In the letter responding to the request, the Executive Officer stated that Central Valley Water Board staff would provide the Coalition with the field data sheets and results from SWAMP monitoring at the two sites when the data are available. When these data sheets and results have been provided, the Coalition should update its data records.

Two additional sites, Fall River at Fall River Ranch Bridge and Pit River at Canby Bridge, which are Management Plan Monitoring Sites, were incorrectly included in the Coalition's Monitoring Plans as sites for which SWAMP monitoring data could be used. These should have been monitored by the Coalition for the respective Management Plans, and are currently listed in the 2014 Monitoring Plan as being cooperatively monitored. The Coalition should adjust the 2014 Monitoring Plan to indicate it will conduct the required monitoring.

The Coalition also coordinates with CRC to collect samples at shared monitoring sites. It appears that CRC does not order tests for total suspended solids (TSS) or turbidity, which are required in the Coalition's monitoring plan. Data for those parameters, in addition to total organic carbon, from the CRC sites were not submitted with the AMR. The Coalition should identify corrective actions to ensure collection of the required parameters.

AMRs should review and include all data used by the coalition to demonstrate compliance with the MRP Order. Staff summarized the missing data in Table 1. Where available, the Coalition should submit this data in AMR addenda (one for each report) and demonstrate that this data has been included in the Coalition's review and analysis.

Table 1. SVWQC data collection assigned to a the California Rice Commission (CRC)

Subwatershed	Monitoring Site	Planned Monitoring Dates	Parameter	Notes
Colusa-Glenn	COLDR	May 2012 Apr-Aug 2013	Total Organic Carbon	Available in CRC EDD
Colusa-Glenn	COLDR	Apr-Aug 2013	Total Suspended Solids	Turbidity and TSS not in CRC EDD
Colusa-Glenn	COLDR	Apr-Aug 2013	Turbidity	
Colusa-Glenn	SSLNK	Apr-Aug 2013	Total Organic Carbon	Available in CRC EDD
Colusa-Glenn	SSLNK	Apr-Aug 2013	Total Suspended Solids	Turbidity and TSS not in CRC dataset
Colusa-Glenn	SSLNK	Apr-Aug 2013	Turbidity	

Toxicity results are presented from the quarterly EDDs in 11 and 4 different spreadsheets in AMR12 and AMR13, respectively. Toxicity results should be presented in a single spreadsheet

in future reports to make the review process more efficient and the data results more discernible.

Under the Trace Metals heading on page 69, AMR12 states that “monitoring included both unfiltered metals (total arsenic, boron, copper, lead, molybdenum, and selenium) and filtered metals (dissolved copper and lead),” though the tabulated data does not contain entries for lead (dissolved or total), or selenium. Lead was not scheduled for monitoring in 2012, but Selenium was scheduled to be monitored on Willow Slough in Yolo County January through April, 2012. An explanation for these discrepancies should be provided in the addenda.

In AMR 13, Table 22 lists the pesticides detected in 2013 monitoring. Under the “Trigger Limits” column, the acute values for chlorpyrifos and diazinon are incorrectly listed as the trigger limits from the QAPP. The chronic values are the correct threshold to determine exceedances and should be listed as such in this table. The determination and reporting of exceedances were not affected.

10. Data Discussion

In the description of Toxicity Identification Evaluation (TIE) procedures, the narrative reads as if TIEs had been performed during the reporting period, though no TIEs were required, and no TIEs were conducted.

11. Electronic Data Submitted in a SWAMP Comparable Format.

The Coalition submitted quarterly electronic data deliverables (EDDs) through the 2012 and 2013 monitoring years. These were reviewed and evaluated by the ILRP Data Management Team. Staff commends the continued efforts of the coalition for their timely responses to data processing and loading issues.

The tabulated data provided in Appendix C of each of the AMRs are the same as the quarterly data submitted during the monitoring year, so they do not include the corrections made by the Data Management Team prior to loading into CEDEN, and do not include any field measurements (e.g. dissolved oxygen, pH, electrical conductivity). The data should be corrected based on the feedback packages provided to the Coalition each quarter from the ILRP Data Management Team. Since the data is not corrected, it is difficult to review and verify the accuracy of quality assurance information presented in AMR tables 8 through 16. Using the data provided, staff was not able to reproduce the results presented in these tables and has noted that some of the tables contain typographic and/or calculation errors. Also there are no descriptions of the quality assurance results for toxicity data. For example, Pacific Eco Risk tested the toxicity of two samples from monitoring event 91 to *Ceriodaphnia dubia*. The controls for both of these samples failed to meet test acceptability criteria (survival <90%, QAPP, section B.5.4). Since the field samples showed greater than 90% survival and the program completeness standard for this test has been met, no re-test is required, but this and similar QA-flagged data should be reported in the body of the AMR.

20. Actions Taken to Address Water Quality Exceedances

Staff appreciates the inclusion of outreach tables in Appendix F showing the events, the monitoring issues being addressed, and data regarding the audience being targeted and being reached.

Appendix F also includes copies of the outreach materials and presentations that were used for these events and mailings. Some of these materials and the associated outreach efforts are clearly innovative and thoughtfully produced. Some of those outreach materials and activities could be highlighted in the AMR narrative to clearly document the most successful efforts being undertaken by the Coalition and the Subwatershed Groups. For example, the Shasta-Tehama Watershed Education Coalition, the subwatershed group for those two counties, produced an information brochure in Spanish. In the AMR, a case study could be presented describing the local knowledge and expertise that determined the need for, and followed through with the production and distribution of the brochure. The case study might include a description of the outcomes achieved by the brochure, such as better recruitment and participation of Spanish language-speaking Coalition Members.

Staff also suggests that measurements of outreach effectiveness might demonstrate the strength of the Coalition's outreach approach. Appendix F includes survey forms used by the Colusa-Glenn Subwatershed Program before and after Management Plan meetings. The results of these surveys are not presented in the AMR or the 2013 Management Plan Progress report. Inclusion of this information, within a description of the overall outreach strategy, would provide support to SVWQC claims of successful outcomes.

2012-2013 Annual Monitoring Report Review Checklist

Report Name: Sacramento Valley 2012 and 2013 Annual Monitoring Report									
Submittal Dates: AMR12: 1 March 2013; AMR13: 3 March 2014*									
*AMR12 refers to the 2012 AMR; AMR13 refers to the 2013 AMR. Unless otherwise noted, page numbers are the same in both reports.									
Item No.			AMR Component Name	A Acceptable	U Unacceptable	NI Not Included or Incomplete	NA Not Applicable	Page # (Section #)	Comments
1	Signed Transmittal Letter								
	1.1		Penalty of Perjury Statement	X				Cover ltr	
	1.2		Signature of Authorized Coalition Representative	X				Cover ltr	
	1.3		Dated	X				Cover ltr	
	1.4		Discussion of exceedances, and corrective actions taken or planned (or reference to previous correspondence)	X					Included in the body of the report
	1.5		Submitted on time	X					
2	Title Page								
	2.1		Report title	X				Title page	
	2.2		Date of the report	X				Title page	1 March 2013, 3 March 2014
	2.3		Monitoring date range covered by the report	X					Not on Title page, included as footer in report
	2.4		Coalition Group name	X				Title page	
3	Table of Contents								
	3.1		List of sections/chapters, tables, figures, appendices/attachments with page numbers	X				i - iv	
4	Executive Summary								
	4.1		Summary of key results and activities	X				v - vii	
	4.2		Brief summary of conclusions and recommendations	X				vii - viii	

2012-2013 Annual Monitoring Report Review Checklist

Item No.	AMR Component Name	A Acceptable	U Unacceptable	NI Not Included or Incomplete	NA Not Applicable	Page # (Section #)	Comments
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				3	
6	Monitoring Objectives and Design						
6.1	Brief description of monitoring objectives (references to section and page numbers in MRP Plan or QAPP, as appropriate)	X				4	
6.2	Monitoring design aligns with MRP Order, any deviations from MRP Order or QAPP are described (references to section and page number in MRP Order or QAPP, as appropriate)	X				4	
	6.2.1	Assessment Monitoring: sites, parameters, schedule	X			4 - 9, 26-27	Lists sampling sites and briefly describes them
	6.2.2	Special Project monitoring (Management Plan, TMDL, source identification): sites, parameters, schedule	X			6 - 9, 26-27	
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				p.10-16 Appendix E	
7.2	Rainfall records in graphic or narrative form (in inches of precipitation)	X				Figures 2a - 2e	Pages 44 - 58
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				Appendix E	
	8.1.1	Datum identified on map (<u>must be</u> WGS 1984 or NAD 1983)	X			Appendix E	Identified in a separate index file
	8.1.2	Source and date of all data layers identified on map	X			Appendix E	Identified in a separate data source file
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				Appendix E	p. 7-8, and identified in a separate index file.

2012-2013 Annual Monitoring Report Review Checklist

Item No.	AMR Component Name	A Acceptable	U Unacceptable	NI Not Included or Incomplete	NA Not Applicable	Page # (Section #)	Comments
9	Tabulated Results						
9.1	Data are in tabular form, clearly organized and readily discernible	X					Toxicity data is provided in multiple spreadsheets, but would be more useable if compiled in a single spreadsheet.
9.2	Tabulated results agree with the electronically submitted data			X			Tabulated results should have been corrected per Data Management Team feedback packages.
9.3	Previously reported exceedances match exceedances identified in the AMR	X					AMR12: Supplemental memo, 15 July 2013
9.4	All required constituents for each site have reported results			X			Data collected by CRC and SWAMP under cooperative agreements are not presented or discussed. See Memo.
9.5	All necessary re-sampling completed and results reported	X					No re-sampling required
10	Data Discussion to Illustrate Compliance						
10.1	Results discussed in text agree with tabulated data	X				p. 59-72	
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					AMR12: See Memo text regarding trace metals.
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					

2012-2013 Annual Monitoring Report Review Checklist

Item No.	AMR Component Name		A Acceptable	U Unacceptable	NI Not Included or Incomplete	NA Not Applicable	Page # (Section #)	Comments
11	Electronic data submitted in a SWAMP comparable format, <u>either</u> Option A or B							
11.1	A	Option A. Spreadsheet format: Lab data submitted electronically within the SWAMP comparable spreadsheets; Field data submitted electronically, or in paper copy on SWAMP comparable field sheets within AMR	X				Appendix C	
	B	Option B. SWAMP database format: All field and lab data uploaded into a SWAMP comparable database (following the most current <i>Required Data Submission Format</i> document)				X		
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		App. C, AMR12: p. 35-40, AMR13: p. 37-40	Complete review of QC results not possible because of uncorrected data supplied
11.3		Toxicity analyses include: individual sample results, negative control summary results, replicate results, water quality measurements (pH, ammonia, temperature, SC, DO)	X					
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			Does not include flagging by the ILRP Data Management Team
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				p.17-19	
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				p.20-25	
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 B	

2012-2013 Annual Monitoring Report Review Checklist

Item No.	AMR Component Name		A Acceptable	U Unacceptable	NI Not Included or Incomplete	NA Not Applicable	Page # (Section #)	Comments
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 B	
14.2		All analytical reports (attached/provided on CD) are included, complete, and signed by authorized laboratory representative	X					
	14.2.1	Sample results with units, RLs and MDLs	X					
	14.2.2	Sample preparation, extraction and analysis dates	X					
	14.2.3	Results for all QC samples: field and laboratory blanks, lab control spikes, matrix spikes, field and laboratory duplicates, surrogate recoveries	X					
	14.2.4	Chemistry lab narrative describes all QC failures, analytical problems and anomalous occurrences.	X					
14.3		All toxicity lab reports (attached/provided on CD) are included, complete, and signed by authorized lab representative	X					
	14.3.1	All toxicity sample results included	X					
	14.3.2	Results for all QC samples: field duplicate, negative control, narrative summary of reference toxicant results	X					
	14.3.3	All raw data (including failed tests) and original bench sheets showing individual replicates	X					
	14.3.4	Toxicity lab narrative describes all QC failures, analytical problems and anomalous occurrences			X			One Ceriodaphnia control failure is not reported
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					
15.2		Microbiological analyses include: field blank, field duplicate, negative control, positive control	X					
15.3		Toxicity tests include: field duplicate, negative control, reference toxicant (narrative OK, raw data not required)	X					

2012-2013 Annual Monitoring Report Review Checklist

Item No.	AMR Component Name	A Acceptable	U Unacceptable	NI Not Included or Incomplete	NA Not Applicable	Page # (Section #)	Comments
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					
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				Pgs 29-30	
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			Does not include QA/QC identified by the ILRP Data Management Team
	16.3.1 Discussion of how the failed QA/QC results affect the validity of the reported data	X					
	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					
16.4	Both field and laboratory completeness are calculated and reported; overall Project completeness is determined	X					
17	Flow Monitoring Method(s)						
17.1	The method used to obtain flow measurement at each monitoring site during each monitoring event is listed	X				p.17 references QAPP	
18	Monitoring Site Photos						
18.1	Photos are included for each monitoring site for every monitoring event, either electronically or in hard copy	X					
18.2	Each photo is clearly labeled with site ID and date	X				Appendix A	The locations and dates for each photo are in the filenames.
18.3	Photos are descriptive and useful	X					

2012-2013 Annual Monitoring Report Review Checklist

Item No.	AMR Component Name	A Acceptable	U Unacceptable	NI Not Included or Incomplete	NA Not Applicable	Page # (Section #)	Comments
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				AMR12: p. 59-75 AMR13: p.59-72	AMR12: Supplemental memo, 15 July 2013
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					
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				Appendix F	
20.2	Updates or additional management practices implemented	X					
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				AMR12: p. 76; AMR13: p. 73-74	
22	Conclusions and Recommendations						
22.1	Conclusions are supported by the data presented in the AMR	X				AMR12: p.78-79; AMR13 p. 75-76	
22.3	Recommendations are appropriate and adequately detailed	X					No recommendations are made