
Central Valley Regional Water Quality Control Board

12 February 2016

Mr. Parry Klassen
East San Joaquin Water Quality Coalition
1201 L Street
Modesto, CA 95354

Dr. Michael Johnson, Program Manager
East San Joaquin Water Quality Coalition
1480 Drew Ave. Suite #130
Davis, CA 95618

2014 and 2015 ANNUAL REPORT REVIEW – EAST SAN JOAQUIN WATER QUALITY COALITION

Thank you for the timely submittal of the East San Joaquin Water Quality Coalition (Coalition) 2014 and 2015 Annual Reports. Staff reviewed both Annual Reports for compliance with Monitoring and Reporting Program (MRP) Order No. R5-2012-0116-R3.

As noted in the attached memorandum and checklists, the Coalition complied with all MRP Order monitoring and reporting requirements in both Annual Reports.

However, based on the Coalition's summary of Farm Evaluation surveys received from members during 2013 and 2014, approximately 19% (680 members) and 27% (992 members), respectively, did not meet the requirement to submit a Farm Evaluation survey to the Coalition. The WDR Order requires compliance from 100% of the Coalition's members. The management practice information contained within each member survey is important because it allows the Coalition and Central Valley Water Board to evaluate the level of implementation in relation to status and trends in water quality. Therefore, beginning in spring 2016, Staff will be pursuing enforcement to bring all Coalition members into compliance with Order requirements. Fines will be imposed on Members that do not meet this requirement in a timely manner.

If you have any questions or comments regarding the review, or need any further information, please contact Yared Kebede at (916) 464-4828.

Sincerely,

Original signed by

Sue McConnell, Chief
Irrigated Lands Regulatory Program

Original signed by

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

Enclosures: Staff Review of East San Joaquin Water Quality Coalition 2014 and 2015 AMR
AMR Review Checklists

Central Valley Regional Water Quality Control Board

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

FROM: Yared Kebede
Environmental Scientist
monitoring and Implementation Unit
Irrigated Lands Regulatory Program

DATE: 1 February 2016

SUBJECT: 2014 and 2015 ANNUAL REPORTS REVIEW – EAST SAN JOAQUIN WATER
QUALITY COALITION

On 1 May 2014, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) received the East San Joaquin Water Quality Coalition (Coalition) 2014 Annual Report. The Annual Report covers the monitoring results from 1 January 2013 through 30 September 2013. The Management Plan Progress Report (MPPR) for the same period was included as part of the Annual Report. The Farm Evaluation Survey Addendum was received on 1 July 2014.

On 1 May 2015, the Central Valley Water Board received the Coalition's 2015 Annual Report for the 2014 water year (1 October 2013 through 30 September 2014). The MPPR and summary of Farm Evaluation surveys for the same period were included as part of the Annual Report. Staff's initial review identified calculation errors in the Farm Evaluation Summary. On 1 September, the Coalition submitted an amendment to the 2015 Annual Report to correct this error and clarify the compliance statistics in the updated summary (Pages 204 - 206, 2015 Annual Report). In this memorandum, staff presents combined comments for both of the Annual Reports.

Checklists derived directly from the MRP Order R5-2012-0116-R3 were used to assess whether the Coalition's monitoring and management plan activities during the periods covered by the reports meet the requirements (see attached checklists).

Overall, the Annual Reports comply with the terms and conditions of the MRP Order. The Coalition presents information and discusses compliance with water quality standards and summarizes management practices collected from Farm Evaluations. The Annual Report also evaluates the status of management plans for each Coalition zone and uses the collected water quality information to address the key programmatic questions.

The memorandum section numbers correspond to item numbers in the attached Annual Report Checklists.

Item 6. Monitoring Objectives and Design

The Coalition incorrectly referred to “Core Monitoring” (Page 22, 2014 Annual Report) which no longer applies in the Order. The Coalition corrected this error in the 2015 Annual Report.

The Coalition found an error in the Management Plan Monitoring (MPM) schedule approved on 13 February 2014. The MPM schedule for chlorpyrifos at Howard Lateral @ Hwy 140 was stated as June 2014. Howard Lateral @ Hwy 140 is a 7th priority site subwatershed and the MPM began in 2015 (Table IX-1, 2014 Annual Report).

The Coalition evaluated the exceedances that trigger a management plan from July to September 2014, and updated the monitoring schedule in Table VIII-2 of the Monitoring Plan Update (MPU) Addendum (Appendix VIII, 2015 Annual Report). The Coalition corrected errors in the MPU report approved for the 2015 water year; the metals table (Table 5) for Dry Creek @ Wellsford Rd has been updated to ‘no monitoring’ to reflect the correct verbiage for copper, lead and molybdenum. The metals table (Table 9) for Highline Canal @ Hwy 99 has been updated to ‘monitoring according to scheduled MPM’ to concur with the scheduled MPM.

Item 12. QA Evaluation

There were two instances of sample failure during each of the monitoring periods (2013 and 2014 water years), and failures were resolved by recollecting samples to confirm overall compliance with monthly monitoring requirements.

Hold time compliance occurred for 99.8% and 97% of all chemistry analyses performed during 2013 and the 2014 WY, respectively. The laboratories performed corrective actions to address QC samples not meeting data quality objective as described in the approved QAPP for QA/QC. The Coalition calculated the overall completeness and the proportions of QC samples within the acceptance criteria for each analyte, and field and lab data for completeness, accuracy and precision were met for more than 90% of the samples. All data reported in the Annual Reports are considered usable.

Item 18. Summary of Management Practice Information

The Coalition submitted an access database of individual data records used to develop a summary of management practices implemented during 2013 on a section level. The Order requires the management practice data including a quality assessment of the collected information identified by township. The Coalition correctly submitted an access database of the collected information in 2014 on a township level.

Overall, the summary of management practices from the 2013 and 2014 Farm Evaluations included information about the crops grown and acreage of each crop, on-farm management practices implemented and associated acreage, and information on active/abandoned wells on the farms.

The Coalition took corrective actions to ensure completeness of the returned surveys and verified the accuracy of the acreages provided by members, contacted members by phone, and sent reminder letters and follow-up notices in order to achieve 100% compliance. According to the 2014 Farm Evaluation, some of the parcels captured in the returned surveys could not be mapped because the member assigned the parcel to the incorrect county. Staff recommends that the Coalition should endeavor to correctly identify reported parcels which are assigned to the incorrect county.

Farm Evaluations in 2013 were required from around 91% of Coalition members, representing 95% of the total acreage in high vulnerability areas. However, the Coalition received completed surveys from 81% of the members expected to return surveys which covers 87% of the Coalition acreage. The Coalition incorrectly assigned an overall vulnerability of 'low vulnerability' to parcels within high vulnerability surface water and low vulnerability groundwater areas (Table 2 Farm Evaluation Addendum). In addition, 11% of the surveys not received from members in low vulnerability areas should not be required during the reporting period.

In addition to members in high vulnerability areas, the 2014 Farm Evaluation required reporting by members in low vulnerability areas with large farms (> 60 acres). Farm Evaluations were required from around 92% of Coalition members, representing 93% of the total acreage. The Coalition received completed surveys from around 73% of the members expected to return surveys, which covers 75 % of the Coalition acreage.

Item 20. Management Plan Progress Report Review

The Coalition reports on the status of management plan monitoring and TMDL compliance monitoring. The report also includes new management plans implemented, evaluation of management practices effectiveness, and TMDL constituents.

20.2.2 New management plans

As a result of exceedances observed from January to September 2013, seven new management plans are required. During the 2014 WY monitoring, 20 new management plans, including 3 reinstated management plans: pH at Prairie Flower Drain @ Crows Landing Rd, and SC and chlorpyrifos at Duck Sough @ Gurr Rd, are required. Lists of new management plans are presented in Table 75 (2014 Annual Report) and Table 63 (2015 Annual Report) of the reports. Per the MRP, the summary of exceedances for each constituent analyzed in the Coalition region is also given in the Executive Summary section of the Annual Reports.

Item 20.3.2. TMDL Monitoring

There were no detections of chlorpyrifos or diazinon in samples collected from the San Joaquin River at the three compliance points monitored by the Coalition during both monitoring periods.

One exceedance each of chlorpyrifos and diazinon occurred during the 2013 tributary monitoring at Dry Creek @ Wellsford Rd (0.14 µg/L chlorpyrifos) and Miles Creek @ Reilly Rd (0.18 µg/L diazinon). Dry Creek @ Wellsford Rd is a management plan site for chlorpyrifos, and Miles Creek @ Reilly Rd requires a new management plan for diazinon.

There were three exceedances of WQTLs for chlorpyrifos during the 2014 WY tributary monitoring at Dry Creek @ Wellsford Rd (0.016 µg/L), Duck Slough @ Gurr Rd (0.053 µg/L), and Lateral 2 ½ near Keyes Rd (0.16 µg/L). Dry Creek @ Wellsford Rd and Lateral 2 ½ near Keyes Rd are under chlorpyrifos management plans. As mentioned in section 20.2.2, a chlorpyrifos management plan was reinstated at Duck Sough @ Gurr Rd during the 2015 WY. Results and actions related to diazinon and chlorpyrifos TMDL monitoring are discussed in depth in the San Joaquin River Chlorpyrifos and Diazinon TMDL Annual Monitoring Report.

20.5.3. Management practice effectiveness

Members of the Coalition implemented management practices in 19 site subwatersheds from 2009 through March 2015 (Table 64, 2015 Annual Report). As a result of focused outreach, 70 members (47% of targeted growers) implemented new management practices representing

20,966 acres where additional management practices were implemented (Tables 65 and 66, 2015 Annual Report).

The management practices implemented after Coalition outreach include various practices for erosion and sediment management, pest and dormant spray management, and irrigation and storm runoff control. The most common management practices include spray of areas close to waterbodies when the wind is blowing away (11%), install device to control amount/timing of discharge to waterway (6%), reduce amount of water used in surface irrigation (5%) and shut off outside nozzles when spraying outer rows next to sensitive sites (4%).

Management practices implemented in Zone 2 were not able to eliminate all exceedances (Pages 122-127, 2014 Annual Report; pages 110-122, 2015 Annual Report). The presence of numerous dairies and shallow groundwater in these areas might have contributed to the continuing exceedances. Further discussion about these monitoring sites with the Regional Board will be initiated during a quarterly meeting. Overall management practices implemented by growers since the Coalition started implementing MPM in high priority subwatersheds indicated water quality improvements in the Coalition region (Pages 194-197, 2014 Annual Report; pages 187-192, 2015 Annual Report).

Item 22. Conclusion and Recommendation

The Annual Report provides a detailed analysis of water quality conditions between 2009 and 2013 (Pages 236-276, 2014 Annual Report), and between 2009 and 2014 (Pages 241-290, 2015 Annual Report). Overall, since the Coalition started focused outreach in 2009, the proportion of exceedances for metals, pesticides and toxicity were relatively small compared to field and physical parameters, nutrients and *E.coli* (Figure 1).

In general, *E.coli* remained a common problem in the Coalition region, and elevated levels of *E. coli* coincided with high nitrates and ammonia concentrations. The TIE analyses generally implicated non-polar organics/organophosphates as causes of toxicity in Zone 2, 3 and 5. The overall water quality problems associated with pesticides, nutrients and water column toxicity has decreased in Zone 1 and 6. Metals remained a problem in Zone 3, 4 and 6. Sediment toxicity persisted in Zone 2, 3 and 5.

The Annual Report concludes that implementation of management practices that were effective in eliminating pesticide exceedances were not effective in reducing exceedances of DO, SC, *E.coli*, ammonia/nitrates or pH. The Coalition made several recommendations regarding the identification and regulation of dairies within priority subwatersheds, and continued work on processes to address *E. coli* contamination, and impairments of water quality due to parameters for which the cause of exceedances are difficult to determine.

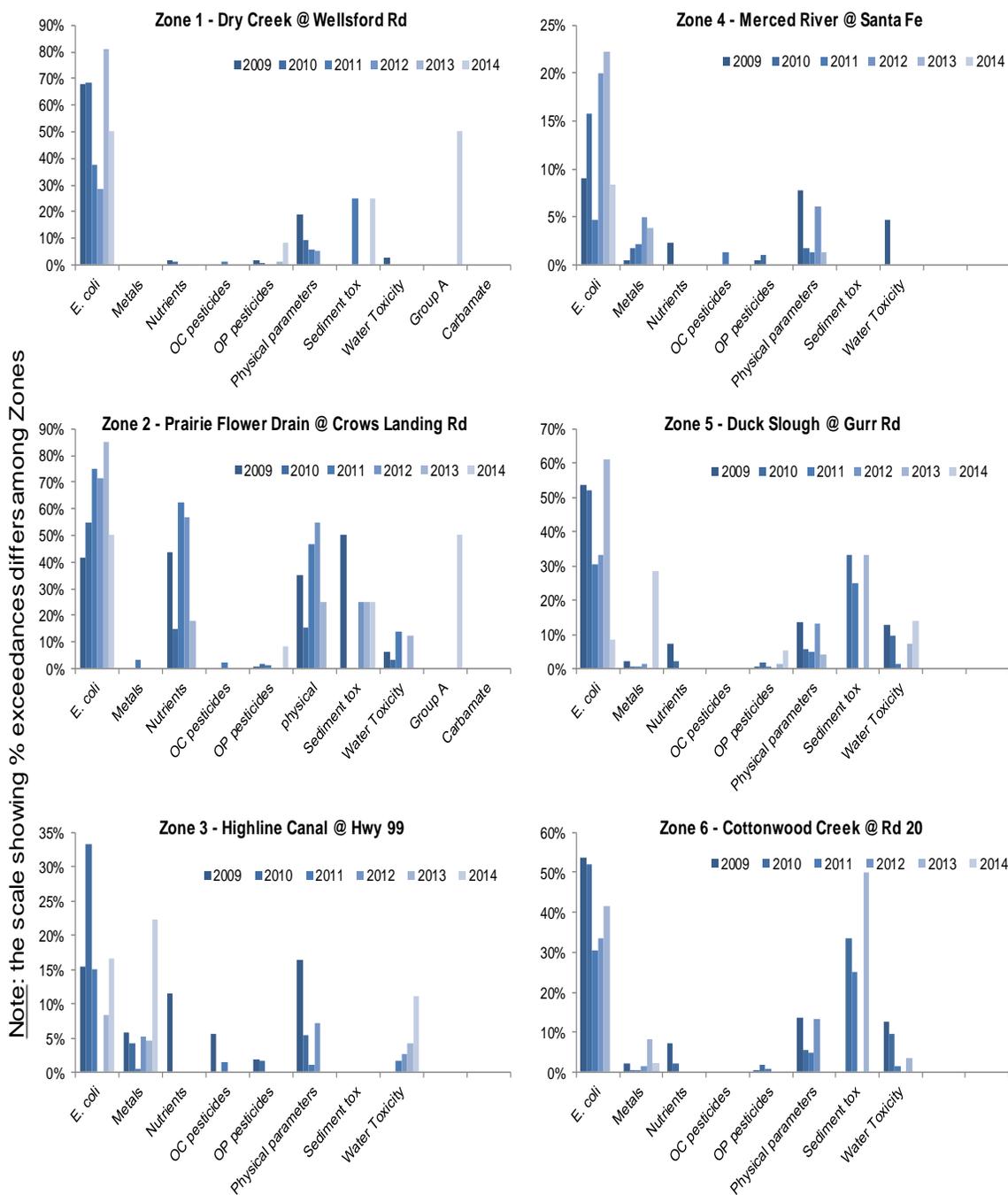


Figure 1. Proportion of exceedances of water quality objectives for select groups of constituents in samples collected from the Coalition region from 2009 through 2014. For a complete list of constituents in each group of constituents see 2015 Annual Report Table 33. The figure is based on the data summaries provided in the Coalition Annual Reports (2010-2015).

2014 Annual Report Review Checklist

Report Name: East San Joaquin Coalition Group 2014 Annual Report						Reviewer Name: Yared Kebede	
Submittal Date: 5/1/2014						Review Date: 03/23/2015	
Item No.	AMR Component Name	Review code:			Page # (Section #)	Comments	
		Item meets requirement	Incomplete item/ Not included	Not applicable			
		✓ Item meets requirement X Incomplete item / Not included NA Not applicable					
1	Signed Transmittal Letter						
1.1	Penalty of Perjury Statement	✓			NA		
1.2	Signature of Authorized Coalition Representative	✓			NA		
1.3	Dated	✓			NA		
1.4	Discussion of exceedances, and corrective actions taken or planned (or reference to previous correspondence)	✓			NA		
1.5	Submitted on time	✓			NA		
2	Title Page						
2.1	Report title	✓			Title page		
2.2	Date of the report	✓			Title page		
2.3	Monitoring date range covered by the report	✓			Title page		
2.4	Coalition Group name	✓			Title page		
3	Table of Contents						
3.1	List of sections/chapters, tables, figures, appendices/attachments with page numbers	✓			i-xi		
4	Executive Summary						
4.1	Summary of key results and activities	✓			1-7		
4.2	Brief summary of conclusions and recommendations	✓			7-8	Several recommendations for Central Valley Water Board involvement to determine if agricultural activities are source of exceedances. See Memo.	
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	✓			10-13; Figures 2-7	Figures 2-7 are maps of land use for each ESJWQC zone. Each figure also shows location of core monitoring sites.	
6	Monitoring Objectives and Design						
6.1	Brief description of monitoring objectives (references to section and page numbers in Monitoring Plan or QAPP, as appropriate)	✓			20-21; 24	Normal monitoring objectives stated on page 21. Management Plan objectives noted on page 24.	
6.2	Monitoring design aligns with Monitoring Plan, any deviations from Monitoring Plan or QAPP are described (references to section and page number in Monitoring Plan or QAPP, as appropriate)	✓			20-21; Table A (xv)	Table A notes the various Monitoring Plan and QAPP amendments.	
6.2.1	Assessment Monitoring: sites, parameters, schedule		✓		23; Tables 4, 7, 8	Assessment monitoring designed according to the 2008 Monitoring and Reporting Program Order.	
6.2.2	Special monitoring (Management Plan, TMDL, source identification): sites, parameters, schedule	✓			24-29; Tables 8, 10		

2014 Annual Report Review Checklist

Item No.	AMR Component Name	Item meets requirement	Incomplete item/ Not included	Not applicable	Page # (Section #)	Comments
7	Sampling Site Descriptions and Rainfall Records for the time period covered under the AMR					
7.1	Electronic copies of photos clearly labeled with CEDEN comparable station code and date	✓				Quarterly surface water monitoring data submittal includes electronic copies of site photos with CEDEN comparable station code and date.
7.2	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	✓			35-44; Table 11	Table 11 lists the land use acreage of site subwatershed monitored. Descriptions of site subwatersheds in pages 40 through 44.
7.3	Rainfall records in graphic or narrative form (in inches of precipitation)	✓			44-46; Figures 10-12	
8	Location Maps(s) of sampling sites, crops, and land uses					
8.1	Location maps show sampling sites/monitoring wells, crops, and land use with informative level of detail	✓			Figures 2-7; Appendix VIII	
	8.1.1 Datum identified on map (<u>must be</u> WGS 1984 or NAD 1983)	✓			Figures 2-9	All maps are developed using NAD 1983 coordinate system.
	8.1.2 Source and date of all data layers identified on map	✓			Figures 2-9; Appendix VIII	
8.2	Accompanying GIS shapefile or geodatabase of monitoring site and monitoring well information include the CEDEN comparable site code and name (surface water) and GPS coordinates (monitored sites only).	✓				CEDEN comparable site code and name with GPS coordinates submitted with the Annual Report.
8.3	A list or table indicates: site name, ID/well number, CEDEN site code (if applicable), and GPS coordinates (latitude and longitude in decimal degrees to at least five decimal places)	✓			Table 10	Site name, station code and GPS coordinates in Table 10.
9	Tabulated Results					
9.1	Data are in tabular form, clearly organized and readily discernible	✓			Appendix III, Tables III-1 - III-9	
9.2	Previously reported exceedances match exceedances identified in the AMR	✓			Tables 36 - 39	
9.3	All required constituents for each site have reported results	✓			Appendix III	Burnett Lateral @ 28 miles Rd results reported in the Annual Report. Removal of the location from the Coalition monitoring program was approved on 8 March 2013.
9.4	All necessary re-sampling completed and results reported	✓			50	Re-sampling conducted in compliance with monitoring requirements.
10	Data Discussion to Illustrate Compliance					
10.1	Results discussed in text agree with tabulated data	✓			50-51	
10.2	Discussion illustrates compliance with the WDRs, or if a required component was not met an explanation of missing data or a reason for non-compliance is included	✓			50-51	

2014 Annual Report Review Checklist

		Review code: ✓ Item meets requirement X Incomplete item / Not included NA Not applicable	Item meets requirement	Incomplete item/ Not included	Not applicable		
Item No.		AMR Component Name				Page # (Section #)	Comments
10.3		Results are compared to WDR requirements, water quality standards and trigger limits; toxicity results, TIE's and possible causes of toxicity are discussed	✓			50-51; 104-105; Table 12	Water quality triggers in Table 35; Table 12 describes sample details. Further discussion of results on pages 104-105.
11	Description of sampling and analytical methods used						
11.1		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	✓			Tables 13-15	
11.2		Description of analytical methods used	✓			Table 16	
12	Summary of Quality Assurance Evaluation results						
12.1		Acceptance criteria for all field and laboratory QA/QC measurements identified and in agreement with most recent approved QAPP; any adjustments to acceptance criteria documented and discussed	✓			66-103; Appendix IV	
12.2		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	✓			69-76; Tables 17-32	
12.3		QA/QC results that did not meet acceptance criteria identified in a table or narrative description that is prepared by the Coalition (not laboratories)	✓			66-77	
	12.3.1	Discussion of how the failed QA/QC results affect the validity of the reported data	✓			66-77	
	12.3.2	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	✓			77	Samples were re-extracted and reanalyzed outside of hold times as corrective action.
12.4		Both field and laboratory completeness are calculated and reported; overall Project completeness is determined	✓			66-69	
13	Flow Monitoring Method(s)						
13.1		The method used to obtain flow measurement at each monitoring site during each monitoring event is listed	✓			Tables 14-15	
14	Summary of Exceedance Reports submitted during the reporting period and related pesticide use information						
14.1		Summary of all Exceedance Reports submitted during the AMR period is included	✓			Table 36-39; Appendix I & II	
14.2		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	✓			117-118; Appendix V	All PUR required for pesticide and toxicity exceedances are listed in Appendix V. PUR data collected for reported exceedances is summarized in Table 42.

2014 Annual Report Review Checklist

Item No.	AMR Component Name	Item meets requirement	Incomplete item/ Not included	Not applicable	Page # (Section #)	Comments
15	Actions Taken to Address Water Quality Exceedances					
15.1	Discussion of actions taken to address water quality exceedances during the time frame of the AMR is included	✓			143-144; Table 52	
15.2	Updates or additional management practices implemented	✓			156-192	Focused outreach in high priority subwatersheds with recommended management practices.
16	Evaluation of Monitoring Data	✓				
16.1	Identification of spatial trends and patterns in surface and groundwater quality	✓			241-276	
16.1.1	Incorporation of pesticide use information, as needed, to assist in data evaluation.	✓			241-262	
16.2	Analyze monitoring data to determine if additional sampling locations are needed. Propose schedule for additional monitoring or source studies				NA	
17	Summary of Nitrogen Management Plan information					
17.1	Aggregate information from Nitrogen Management Plan Summary Reports to characterize the input, uptake, and loss of nitrogen fertilizer application by specific crops.				NA	Nitrogen Management Plan Summary Report from growers not due until 1 March 2015.
17.1.1	Include comparison of farms with same crops, similar soil conditions and similar practices.				NA	
17.1.2	Submittal of aggregate data in an electronic format, compatible with ArcGIS, identified to at least the township level.				NA	
17.2	Statistical summary of nitrogen consumption ratios by crop or other equivalent reporting units				NA	Nitrogen Management Plan Summary Report from growers not due until 1 March 2015.
17.2.1	Estimated crop nitrogen needs for different crop types and soil conditions in percentiles (10th, 25th, 50th, 75th and 90th) and any outliers.				NA	
17.3	Quality assessment of collected information by township.				NA	Nitrogen Management Plan Summary Report from growers not due until 1 March 2015.
17.4	Description of corrective actions for deficiencies in quality of data submitted, if identified.				NA	Nitrogen Management Plan Summary Report from growers not due until 1 March 2015.
18	Summary of Management Practice Information					
18.1	Aggregate and summarize information collected from Farm Evaluations.	✓			4-23	Farm Evaluation Addendum submitted 1 July 2014.
18.1.1	Include quality assessment of the collected information by township (e.g., missing data, potentially incorrect/inaccurate reporting).		✓		3; Tables 4-9; Figures 4-11	Data used to summarize management practices were not identified by township, but were identified by section.
18.1.2	Description of corrective actions regarding any deficiencies in data quality.	✓			3	
18.2	Provide individual data records used to develop summary in electronic format, compatible with ArcGIS to at least township level.	✓			Tables 4-9	Individual data records on section level were submitted in electronic format.

2014 Annual Report Review Checklist

		Review code: ✓ Item meets requirement X Incomplete item / Not included NA Not applicable	Item meets requirement	Incomplete item/ Not included	Not applicable		
Item No.		AMR Component Name				Page # (Section #)	Comments
18.3		Changes in patterns of implemented management practices				NA	First report on management practices in coalition area; changes should be noted in next summary of management practice information.
19		Summary of Mitigation Monitoring					
19.1		Identify measures implemented by Members or Coalition to mitigate effects of program as identified in CEQA mitigation measures				NA	No mitigation measures identified in the Annual Report or Addendum. Reporting required only if implemented.
19.2		Identify potential impact the mitigation measure addressed, the location of the mitigation measure (township range, section), and any steps taken to monitor the success of the measure.				NA	
20		Management Plan Progress Report					
20.1		Background	✓				
	20.1.1	Location map(s) and summary of management plans	✓			Various figures	
20.2		Update on exceedances	✓				
	20.2.1	Table tallying all exceedances for management plans	✓			Table 75; Appendices I & II	
	20.2.2	List of new management plans triggered since previous report	✓			214-215; Table 75; Appendix IX	
	20.2.3	Status update on new management plans	✓			214-215; Appendix IX	
20.3		Monitoring data collected during reporting period	✓				
	20.3.1	Summary and assessment of management plan monitoring	✓			207; Table 71	
	20.3.2	Summary and assessment of TMDL monitoring	✓			215-217	
20.4		Outreach, education and collaboration activities	✓				
	20.4.1	List of outreach activities and information supplied	✓			143-145; Appendix VII	
	20.4.2	List of collaborative efforts for outreach	✓			144	Collaboration with County Agricultural Commissioners, Pest Control Advisors and Pesticide Registrants.
20.5		Summary of management practices identified/implemented	✓				
	20.5.1	Baseline data	✓			Various figures, 156-197	Baseline data of management practices for member parcels with direct drainage potential.
	20.5.2	Degree of implemented practices	✓			Various figures, 156-192	Presented as percentage of acreage with newly implemented management practices in drain subwatershed
	20.5.3	Evaluation of management practice effectiveness	✓			194-197	
20.6		Performance Goal and Schedule Evaluation					
	20.6.1	Progress in meeting performance goals	✓			146-155	
	20.6.2	Sufficient timeframe to meet scheduled deadlines in Management Plan	✓			146-155	

2014 Annual Report Review Checklist

		Review code: ✓ Item meets requirement X Incomplete item / Not included NA Not applicable					
Item No.		AMR Component Name	Item meets requirement	Incomplete item/ Not included	Not applicable	Page # (Section #)	Comments
	20.7	Recommendations for changes to Management Plan	✓			214-215; Appendix IX	Appendix IX is a Monitoring Plan Update that has changed for 2015 WY to address the new management plan requirements from the 2014 WY monitoring.
21	Summary of Education & Outreach Activities						
	21.1	Location, dates, and reason for activities.	✓			143-145; Table 52	
	21.2	Summary of the content at each session.	✓			Table 52; Appendix VII	
22	Summary and Recommendations						
	22.1	Summary of the AMR results and conclusions	✓			286-287	
	22.2	Recommendations are appropriate and adequately detailed	✓			287	

2015 Annual Report Review Checklist

Report Name: East San Joaquin Water Quality Coalition 2015 Annual Report					Reviewer Name: Yared Kebede		
Submittal Date: 5/1/2015					Review Date: 9/3/2015		
Item No.	AMR Component Name	Review code: ✓ Item meets requirement X Incomplete item / Not included NA Not applicable	Item meets requirement	Incomplete item/ Not included	Not applicable	Page #	Comments
						(Section #)	
1	Signed Transmittal Letter						
1.1	Penalty of Perjury Statement		✓			NA	
1.2	Signature of Authorized Coalition Representative		✓			NA	
1.3	Dated		✓			NA	
1.4	Discussion of exceedances, and corrective actions taken or planned (or reference to previous correspondence)		✓			NA	
1.5	Submitted on time		✓			NA	
2	Title Page						
2.1	Report title		✓			Title page	
2.2	Date of the report		✓			Title page	
2.3	Monitoring date range covered by the report		✓			Title page	
2.4	Coalition Group name		✓			Title page	
3	Table of Contents						
3.1	List of sections/chapters, tables, figures, appendices/attachments with page numbers		✓			i-xi	
4	Executive Summary						
4.1	Summary of key results and activities		✓			1-6	
4.2	Brief summary of conclusions and recommendations		✓			6-8	Several recommendations for Central Valley Water Board involvement to determine if agricultural activities are source of exceedances. See Memo.
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		✓			10-13; Figures 2-7; Appendix VII	Land use maps for each zone are included in Figures 2-7. Each figure also shows location of core monitoring sites.
6	Monitoring Objectives and Design						
6.1	Brief description of monitoring objectives (references to section and page numbers in Monitoring Plan or QAPP, as appropriate)		✓			38; 40	Normal monitoring objectives stated on page 38. Management plan monitoring objectives noted on page 40.
6.2	Monitoring design aligns with Monitoring Plan, any deviations from Monitoring Plan or QAPP are described (references to section and page number in Monitoring Plan or QAPP, as appropriate)		✓			38-43; Table A (xviii)	Table A notes the various QAPP amendments.
6.2.1	Assessment Monitoring: sites, parameters, schedule		✓			38; Table 5	Surface water assesment monitoring is conducted at the Core sites.
6.2.2	Special monitoring (Management Plan, TMDL, source identification): sites, parameters, schedule		✓			40-43	

2015 Annual Report Review Checklist

Item No.	AMR Component Name	Review code: ✓ Item meets requirement X Incomplete item / Not included NA Not applicable			Page # (Section #)	Comments
		Item meets requirement	Incomplete item/ Not included	Not applicable		
7	Sampling Site Descriptions and Rainfall Records for the time period covered under the AMR					
7.1	Electronic copies of photos clearly labeled with CEDEN comparable station code and date	✓			52	Quarterly surface water monitoring data submittal includes electronic copies of site photos with CEDEN comparable station codes and dates.
7.2	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	✓			26-30; Table 4; Figures 8 & 9	Table 4 lists the land use acreage of site subwatershed monitored. Descriptions of site subwatersheds in pages 25 through 30.
7.3	Rainfall records in graphic or narrative form (in inches of precipitation)	✓			32-33; Figures 10-13	
8	Location Maps(s) of sampling sites, crops, and land uses					
8.1	Location maps show sampling sites/monitoring wells, crops, and land use with informative level of detail	✓			Figures 2-7; Appendix VII	Appendix VII contains land use maps for each subwatershed.
	8.1.1 Datum identified on map (<u>must be</u> WGS 1984 or NAD 1983)	✓			Figures 2-9; Appendix VII	All maps are developed using NAD 1983.
	8.1.2 Source and date of all data layers identified on map	✓			Figures 2-9; Appendix VII	All maps include required layer information.
8.2	Accompanying GIS shapefile or geodatabase of monitoring site and monitoring well information include the CEDEN comparable site code and name (surface water) and GPS coordinates (monitored sites only).	✓				CEDEN comparable site code and name with GPS coordinates are submitted with the Annual Report.
8.3	A list or table indicates: site name, ID/well number, CEDEN site code (if applicable), and GPS coordinates (latitude and longitude in decimal degrees to at least five decimal places)	✓			Table 3	Site name, station code and GPS coordinates in Table 3.
9	Tabulated Results					
9.1	Data are in tabular form, clearly organized and readily discernible	✓			Appendix III	Each sampling location, sampling date, sampling time, and type of monitoring is listed in Appendix III, Table III-1.
9.2	Previously reported exceedances match exceedances identified in the AMR	✓			107 - 135; Appendix II	High priority subwatershed exceedance tables are included in Appendix II.
9.3	All required constituents for each site have reported results	✓			Tables 40-46; Appendix III	
9.4	All necessary re-sampling completed and results reported	✓			44	There were two instances where samples were recollected due to laboratory issues.
10	Data Discussion to Illustrate Compliance					
10.1	Results discussed in text agree with tabulated data	✓			44; 50-51	
10.2	Discussion illustrates compliance with the WDRs, or if a required component was not met an explanation of missing data or a reason for non-compliance is included	✓			44; 50-51	
10.3	Results are compared to WDR requirements, water quality standards and trigger limits; toxicity results, TIE's and possible causes of toxicity are discussed	✓			44; 50-51; Table III-1	Water quality triggers in Table 33; Table III-1 in Appendix III describes sample details.

2015 Annual Report Review Checklist

Item No.	Review code: ✓ Item meets requirement X Incomplete item / Not included NA Not applicable		Item meets requirement	Incomplete item/ Not included	Not applicable	Page # (Section #)	Comments
	AMR Component Name						
11	Description of sampling and analytical methods used						
11.1		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	✓			Tables 8-10	
11.2		Description of analytical methods used	✓			Table 11	
12	Summary of Quality Assurance Evaluation results						
12.1		Acceptance criteria for all field and laboratory QA/QC measurements identified and in agreement with most recent approved QAPP; any adjustments to acceptance criteria documented and discussed	✓			54-93; Appendix IV	
12.2		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	✓			57-65; Tables 18-32	
12.3		QA/QC results that did not meet acceptance criteria identified in a table or narrative description that is prepared by the Coalition (not laboratories)	✓			54-65	
	12.3.1	Discussion of how the failed QA/QC results affect the validity of the reported data	✓			54-65	
	12.3.2	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	✓			65-66	Samples were re-extracted and reanalyzed outside of hold times to correct the acceptability of QC samples in the original batches.
12.4		Both field and laboratory completeness are calculated and reported; overall Project completeness is determined	✓			54-57	
13	Flow Monitoring Method(s)						
13.1		The method used to obtain flow measurement at each monitoring site during each monitoring event is listed	✓			Tables 9-10	
14	Summary of Exceedance Reports submitted during the reporting period and related pesticide use information						
14.1		Summary of all Exceedance Reports submitted during the AMR period is included	✓			107-135; Appendix I & II	Exceedance tally for each site subwatershed in Table 63.
14.2		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	✓			101; Appendix V	All PUR required for pesticide and toxicity exceedances are listed in Appendix V. PUR data collected for reported exceedances is summarized in Table 34.
15	Actions Taken to Address Water Quality Exceedances						
15.1		Discussion of actions taken to address water quality exceedances during the time frame of the AMR is included	✓			136-138; Table 47	
15.2		Updates or additional management practices implemented	✓			148-180	Focused outreach in high priority subwatersheds with recommended management practices.

2015 Annual Report Review Checklist

Item No.	AMR Component Name	Review code:	Item meets requirement	Incomplete item/ Not included	Not applicable	Page # (Section #)	Comments
		✓ Item meets requirement X Incomplete item / Not included NA Not applicable					
16	Evaluation of Monitoring Data		✓				
16.1	Identification of spatial trends and patterns in surface and groundwater quality		✓			246-290	
16.1.1	Incorporation of pesticide use information, as needed, to assist in data evaluation.		✓			246-275	
16.2	Analyze monitoring data to determine if additional sampling locations are needed. Propose schedule for additional monitoring or source studies				✓		
17	Summary of Nitrogen Management Plan information						
17.1	Aggregate information from Nitrogen Management Plan Summary Reports to characterize the input, uptake, and loss of nitrogen fertilizer application by specific crops.				✓		Nitrogen Management Plan summary report is due 1 March 2016.
17.1.1	Include comparison of farms with same crops, similar soil conditions and similar practices.				✓		
17.1.2	Submittal of aggregate data in an electronic format, compatible with ArcGIS, identified to at least the township level.				✓		
17.2	Statistical summary of nitrogen consumption ratios by crop or other equivalent reporting units				✓		Nitrogen Management Plan summary report is due 1 March 2016.
17.2.1	Estimated crop nitrogen needs for different crop types and soil conditions in percentiles (10th, 25th, 50th, 75th and 90th) and any outliers.				✓		
17.3	Quality assessment of collected information by township.				✓		Nitrogen Management Plan summary report is due 1 March 2016.
17.4	Description of corrective actions for deficiencies in quality of data submitted, if identified.				✓		Nitrogen Management Plan summary report is due 1 March 2016.
18	Summary of Management Practice Information						
18.1	Aggregate and summarize information collected from Farm Evaluations.		✓			202-223	
18.1.1	Include quality assessment of the collected information by township (e.g., missing data, potentially incorrect/inaccurate reporting).		✓			204-205; Tables 73-77; Figures 32; 34-42	
18.1.2	Description of corrective actions regarding any deficiencies in data quality.		✓			204	Data were reviewed to reduce error.
18.2	Provide individual data records used to develop summary in electronic format, compatible with ArcGIS to at least township level.		✓				An access database of individual data records on township level were submitted.
18.3	Changes in patterns of implemented management practices		✓			Various	Changes in patterns of implemented management practices between 2013 and 2014 WY were referenced.
19	Summary of Mitigation Monitoring						
19.1	Identify measures implemented by Members or Coalition to mitigate effects of program as identified in CEQA mitigation measures				✓		There were no mitigation measures implemented during the reporting period.
19.2	Identify potential impact the mitigation measure addressed, the location of the mitigation measure (township range, section), and any steps taken to monitor the success of the measure.				✓		

2015 Annual Report Review Checklist

Item No.	Review code: ✓ Item meets requirement X Incomplete item / Not included NA Not applicable		Item meets requirement	Incomplete item/ Not included	Not applicable	Page # (Section #)	Comments
	AMR Component Name						
20	Management Plan Progress Report						
	20.1	Background	✓				
	20.1.1	Location map(s) and summary of management plans	✓			Various figures	
	20.2	Update on exceedances	✓				
	20.2.1	Table tallying all exceedances for management plans	✓			Table 63, Appendices I & II	
	20.2.2	List of new management plans triggered since previous report	✓			184-185; Appendix VIII	Table 63 summarizes the exceedance tally based on monitoring during the 2014 WY.
	20.2.3	Status update on new management plans	✓			185, Appendix VIII	
	20.3	Monitoring data collected during reporting period	✓				
	20.3.1	Summary and assessment of management plan monitoring	✓			193-200	
	20.3.2	Summary and assessment of TMDL monitoring	✓			201	Examination of monitoring data for chlorpyrifos and diazinon TMDL in San Joaquin River.
	20.4	Outreach, education and collaboration activities	✓				
	20.4.1	List of outreach activities and information supplied	✓			136-138, Appendix VI	
	20.4.2	List of collaborative efforts for outreach	✓			138; Table 47	Collaboration with County Agricultural Commissioners, Pest Control Advisors and Pesticide Registrants.
	20.5	Summary of management practices identified/implemented	✓				
	20.5.1	Baseline data	✓			Various figures, 151-179	Baseline data of management practices for member parcels with direct drainage potential.
	20.5.2	Degree of implemented practices	✓			Various figures, 148-179	Presented as percentage of acreage with newly implemented management practices in drain subwatershed.
	20.5.3	Evaluation of management practice effectiveness	✓			187-192	
	20.6	Performance Goal and Schedule Evaluation	✓				
	20.6.1	Progress in meeting performance goals	✓			140-147	
	20.6.2	Sufficient timeframe to meet scheduled deadlines in Management Plan	✓			140-147	
	20.7	Recommendations for changes to Management Plan	✓			Appendix VIII	
21	Summary of Education & Outreach Activities						
	21.1	Location, dates, and reason for activities.	✓			136-138; Table 47	
	21.2	Summary of the content at each session.	✓			Table 47; Appendix VIII	
22	Summary and Recommendations						
	22.1	Summary of the AMR results and conclusions	✓			301-302	
	22.2	Recommendations are appropriate and adequately detailed	✓			302	