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## Central Valley Regional Water Quality Control Board

11 March 2016

Mr. Joseph McGahan  
Summers Engineering  
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### JUNE AND NOVEMBER 2015 SEMI-ANNUAL MONITORING REPORT REVIEW: WESTSIDE SAN JOAQUIN RIVER WATERSHED COALITION

Thank you for submitting the Westside San Joaquin River Watershed Coalition (Coalition) June 2015 and November 2015 Semi-Annual Monitoring Reports (SAMRs), which were received on 15 June 2015 and 30 November 2015, respectively. Staff has completed a review (enclosed with this letter) of the SAMRs for compliance with Monitoring and Reporting Program Order R5-2008-0831 and R5-2014-0002 (General Order). These SAMRs cover the monitoring period from September 2014 through August 2015.

The Coalition's SAMRs report on MRP Order requirements, Total Maximum Daily Load (TMDL) activities, Grassland Water District water quality monitoring, and Management Plan progress during the reporting period. Based upon staff's review noted in the attached memorandum and checklists, the SAMRs demonstrate that the Coalition complied with the terms and conditions of the MRP Order requirements, including the following:

- Discussion of data to clearly indicate compliance
- Meeting precision, accuracy, and completeness requirements
- Discussion of Management Practice implementation and reporting

If you have any questions or comments regarding this letter or the attached review memorandum, or need any further information, please contact Gurbinder Dhaliwal at [Gurbinder.Dhaliwal@waterboards.ca.gov](mailto:Gurbinder.Dhaliwal@waterboards.ca.gov) or (916) 464 4601.

*Original Signed By Sue McConnell*

Sue McConnell, Unit Chief  
Irrigated Lands Regulatory Program

*Original Signed By Susan Fregien*

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

Enclosure: Staff Review of Westside San Joaquin River Watershed Coalition 2015 SAMRs and Checklists

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## Central Valley Regional Water Quality Control Board

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

**FROM:** Gurbinder Dhaliwal  
Environmental Scientist  
Monitoring and Implementation Unit  
Irrigated Lands Regulatory Program

**DATE:** 11 March 2016

**SUBJECT:** JUNE AND NOVEMBER 2015 SEMI-ANNUAL MONITORING REPORT  
REVIEW: WESTSIDE SAN JOAQUIN RIVER WATERSHED COALITION

The Central Valley Regional Water Quality Control Board, (Central Valley Water Board) received the 15 June 2015 Non-Irrigation Season and 30 November 2015 Irrigation Season Semi-Annual Monitoring Reports (SAMRs) from the Westside San Joaquin River Coalition (Coalition). The SAMRs cover the monitoring period from September 2014 through February 2015 (Sampling Events 117 through 120, including Rain Events R16 and 17) and March 2015 through August 2015 (Sampling Events 121 through 126), respectively. The June 2015 SAMR was submitted to meet the requirements of Monitoring and Reporting Program (MRP) Order R5-2008-0831 while the November 2015 SAMR was submitted to meet the requirements of MRP Order R5-2014-0002, as the Coalition transitioned its reporting according to the 2014 Order.

The SAMRs also report on activities from the focused management plans (Focus Plan): Focus Plan I (Ingram and Hospital Creeks), Focus Plan II (Del Puerto Creek, Westley Wasteway, Orestimba Creek), Focus Plan III (Salt Slough) and Focus Plan IV (Blewett Drain, Marshall Road Drain). A summary of TMDL-requirements and water quality monitoring in Grassland Water District are also reported.

The review section numbers in this memorandum are the same as the section numbers used in the corresponding SAMR Checklists (see attached). Staff derived the checklist directly from the MRP Order(s) and it provides an itemized account of the compliance components. If the SAMR text necessitated staff comment, this memorandum provides a discussion. Generally, a discussion is not provided for those items that met the compliance components but they are addressed in the attached checklist. The following review is discussed in a chronological order starting with the newest SAMR:

## A. MRP ORDER REQUIREMENTS

### Item 10

The Coalition met sampling compliance by collecting the required number of samples at all discharge sites and three source water sites. There were no missing samples, although several dry sampling events were noted (June 2015 SAMR). Two events were noted as unsafe to sample (Events R16 and R17 at Westley Wasteway and Blewett Drain near highway 132). In November 2015 report, there were no missing samples and several dry sampling events were noted.

During the June 2015 SAMR reporting period, statistically significant aquatic toxicity occurred 6 times: 4 times to *Ceriodaphnia* (Event 120, R16 and R17) and twice to *Selenastrum* (R16 and R17). *Ceriodaphnia* toxicity was noted during Rain Event 16 at Hospital Creek at River Road. A TIE indicated DDE (0.014 µg/L) as the likely cause. Detection of chlorpyrifos (0.58 µg/L) in event 120 for Ingram Creek at River Road was indicated as a cause of the toxicity. For rain Event 17 at Hospital Creek at River Road and Newman Wasteway near Hills Ferry Road, TIEs implicated chlorpyrifos (0.37 µg/L), DDE (0.013 µg/L) and diazinon (0.96 µg/L) as the likely cause for toxicity, respectively. *Selenastrum* toxicity at Hospital Creek at River Road during event R16 (39% of control growth), triggered a TIE which indicated foreign species competing for nutrients. However, toxicity cannot be ruled out as the toxicant may have rapidly degraded between initial test and TIE. DDE (0.014 µg/L), diuron (0.84 µg/L), and pendimethalin (1.6 µg/L) were detected in the sample and could have contributed to the toxicity. For toxicity to *Selenastrum* at Salt Slough at Sand Dam during rain event R17 (64% of control growth), the result did not meet the threshold of <50% of control, resulting in no TIE. However, detection of diuron (8.3 µg/L) could have contributed to the toxicity. Statistically significant sediment toxicity was measured at 6 sites in the samples collected in September 2014. A follow up pesticide analysis were performed on 5 samples and details are reported in Table 10 of the SAMR.

In the reporting period covered by the November 2015 SAMR, there were no observations of *Selenastrum* and *Pimephales* toxicity. There was one *Ceriodaphnia* toxicity observed during the event 124 and the TIE indicated that a particulate associated contaminant and a dissolved nonpolar organic contaminant accounted for some of the toxicity, but the elevated conductivity (6465 µS/cm) in the sample may have caused the toxicity. Toxicity to *Hyalella azteca* was measured at seven sites, However, only four sites exhibited significant toxicity (<80% survival). Follow up pesticide analyses indicated bifenthrin, lambda-cyhalothrin, esfenvalerate, DDT, DDD, DDE and chlorpyrifos as the possible cause.

## B. MANAGEMENT PLAN ACTIVITIES

This section includes updates to the Management Plan activities for Focus Plan I (Ingram and Hospital Creeks), Focus Plan II (Del Puerto Creek, Westley Wasteway, Orestimba Creek), Focus Plan III (Salt Slough) and Focus Plan IV (Blewett Drain, Marshall Road Drain). The Coalition's SAMR reports summarized the performance goal status for all of the focused plans. In the November 2015 SAMR, there were no incomplete items noted except the timeframe to meet scheduled deadlines in Management Plan is not explicitly described. However, it is stated that the timeframes will be addressed through development of an approved Comprehensive Surface Water Quality Management Plan (SQMP) which is currently under review. There were a

few deficiencies noted in the June 2015 SAMR (See June 2015 Checklist). However, these deficiencies are addressed in the November 2015 SAMR as the reporting transitioned to the new order. Table 13 (June and November 2015 reports) shows additional Focus Plans but no anticipated start date is included. However, clear anticipated dates were stated in the June 2014 report. Coalition should not repeat the ambiguity in future monitoring reports. In order to implement any of the management plans, Coalition must submit a proposal for the Executive Officer's approval. To date, none of these plans are approved.

The Coalition also described the degree of implemented practices according to the individual performance goals for each of the focus plans. The Coalition provided the percent acres under the high efficiency irrigation systems (one of the performance goals). However, the data reported is carried over from 2014 SAMR. Staff recommends that the Coalition should avoid reporting the older data and provide only the recent data/advancements management plan progress report. Farm evaluation plan (FEP) data for the year 2015 is now available (reported with June 2015 SAMR) and can be used to update the existing baseline data.

The Coalition held ten and seventeen outreach meetings in the June 2015 SAMR period and November 2015 SAMR period, respectively. The Coalition also held individual meetings at various locations along with various grower visits.

### **C. BASIN PLAN - TMDL REQUIREMENTS**

The discussion of Sacramento and San Joaquin River Basin Plan TMDL requirements has been divided according to the appropriate TMDLs that the Coalition is required to implement, including Chlorpyrifos and Diazinon, Dissolved Oxygen, and Salt and Boron TMDLs.

#### **San Joaquin River Chlorpyrifos and Diazinon TMDL:**

As part of the monitoring design, the ESJWQC and Westside Coalitions split and coordinated the monitoring at the six SJR TMDL Basin Plan sites. The ESJWQC is responsible for monitoring at: (1) San Joaquin River (SJR) at the Airport Way Bridge near Vernalis, (2) SJR at the Maze Boulevard, and (3) SJR at Hills Ferry. The Westside is responsible for monitoring at: (4) SJR at Las Palmas Avenue near Patterson, (5) SJR at Highway 165 (Lander Ave) near Stevenson, and (6) SJR at Sack Dam. The Coalition provided a summary of TMDL monitoring results.

Based on the results, there were 0 detections of diazinon and 1 detection (13 January 2015) of chlorpyrifos at the San Joaquin River at PID Pumps (SJRPP) monitoring site (0.0067 µg/L) during the June 2015 SAMR reporting period at the Westside Coalition TMDL sites. However, the detected value was still less than the threshold for chlorpyrifos to be considered as an exceedance. In accordance with the TMDL program requirements, an annual monitoring report for chlorpyrifos and diazinon monitoring results, covering the period of October 2014 through September 2015, will be submitted in May 2016. The Westside Coalition has organized "one on one" grower meetings to increase awareness of the chlorpyrifos and diazinon TMDL issues as well as other water quality matters. During the November 2015 SAMR reporting period, there were 0 detections of diazinon and 2 detections (March 2015) of chlorpyrifos, 1 detection each at the Hospital Creek at River Road and Del Puerto Creek near Cox Road monitoring sites. None of these detections occurred within the San Joaquin River. In December 2014 and April 2015, the Coalition published a newsletter that included an article on the chlorpyrifos and diazinon

detections and exceedances. The newsletter was widely distributed to the Membership through direct mailings.

**D. Grassland Water District – Water Quality Monitoring in the Grassland RCD**

Under cooperative agreement with the Coalition, the Grassland Water District provides monitoring data for five monitoring stations of the Grassland Resource Conservation District. Summarized real-time water quality monitoring data for boron, selenium, EC, and TDS was provided covering the period of August 2014 through February 2015 (June 2015) and March 2015 through September 2015 (November 2015).

### Semi-Annual Report Review Checklist

Western San Joaquin River Watershed Coalition June 2015 Semi-Annual Monitoring Report						Reviewer Name: Gurbinder Dhaliwal	
Submittal Date: 06/15/2015						Review Date: 03/11/2016	
Item No.	Review code: ✓ Item meets requirement X Incomplete item / Not included NA Not applicable	SAMR Component Name	Item meets requirement	Incomplete item/ Not included	Not applicable	Page # (Section #)	Comments
<b>1</b>		<b>Signed Transmittal Letter</b>					
1.1		Penalty of Perjury Statement	✓			NA	Cover Letter
1.2		Signature of Authorized Coalition Representative	✓			NA	Cover Letter
1.3		Dated	✓			NA	Cover Letter
1.4		Discussion of exceedances, and corrective actions taken or planned (or reference to previous correspondence)	✓			NA	Cover Letter
1.5		Submitted on time	✓			NA	Cover Letter
<b>2</b>		<b>Title Page</b>					
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	September 2014 through February 2015
2.4		Coalition Group name	✓			Title page	
<b>3</b>		<b>Table of Contents</b>					
3.1		List of sections/chapters, tables, figures, appendices/attachments with page numbers	✓			i-ii	
<b>4</b>		<b>Executive Summary</b>					
4.1		Summary of key results and activities	✓			1-2	
4.2		Brief summary of conclusions and recommendations		✓			Conclusions and recommendations are not discussed in the executive summary. It is provided in section 11, pp 37.
<b>5</b>		<b>Description of the Coalition Group Geographical Area</b>					
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	✓			Section 4, pp-10	Figures 1: map of land use for the Coalition shows location of all the monitoring sites.
<b>6</b>		<b>Monitoring Objectives and Design</b>					
6.1		Brief description of monitoring objectives (references to section and page numbers in Monitoring Plan or QAPP, as appropriate)	✓			Section 2, pp 2	
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)	✓			Section 2	
	6.2.1	Assessment Monitoring: sites, parameters, schedule	✓				The monitoring period from September 2014 through February 2015 falls in the Assessment Monitoring Cycle.
	6.2.2	Special monitoring (Management Plan, TMDL, source identification): sites, parameters, schedule	✓				Assessment monitoring covers the special monitoring.

### Semi-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
	SAMR Component Name						
<b>7</b>	<b>Sampling Site Descriptions and Rainfall Records for the time period covered under the SAMR</b>						
7.1		Electronic copies of photos clearly labeled with CEDEN comparable station code and date	✓			App. E	Monitoring site photos should be submitted with every exceedance report (individual events) instead of just once at the end of the monitoring period.
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	✓			Section 4	
7.3		Rainfall records in graphic or narrative form (in inches of precipitation)	✓			Section 3, Table 5, pp 4	
<b>8</b>	<b>Location Maps(s) of sampling sites, crops, and land uses</b>						
8.1		Location maps show sampling sites/monitoring wells, crops, and land use with informative level of detail	✓			Figure 1	Figures 1: map of land use for the Coalition shows location of all the monitoring sites.
	8.1.1	Datum identified on map ( <u>must be</u> WGS 1984 or NAD 1983)	✓			Figure 1	Datum identified as NAD 1983.
	8.1.2	Source and date of all data layers identified on map	✓			Figure 1	Multiple sources have been used and clearly indicated
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).	✓			App. C	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)	✓			Section 4, Table 6, pp 13	Site name, station code and GPS coordinates are provided
<b>9</b>	<b>Tabulated Results</b>						
9.1		Data are in tabular form, clearly organized and readily discernible	✓			App. A	
9.2		Previously reported exceedances match exceedances identified in the SAMR	✓			App. A	
9.3		All required constituents for each site have reported results	✓			App. A	
9.4		All necessary re-sampling completed and results reported	✓			App. A	No re-sampling was required
<b>10</b>	<b>Data Discussion to Illustrate Compliance</b>						
10.1		Results discussed in text agree with tabulated data	✓			Section 8, 9, Att. 5	Coalition should be be sure attachments have the correct titles( e.g. Att. 6 is referred as exceedance tally while Att. 5 is exceedance tally, and Att. 6 is management plan activities.)
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	✓			Section 8, 9, Att.5	

### Semi-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
	SAMR Component Name						
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	✓			Section 8, 9, Table 9, pp 20, Att.2	Statistically significant aquatic toxicity occurred 6 times during the period of this report; once to <i>Ceriodaphnia</i> during Event 120 and 5 times during the rain events (R16 and R17) to <i>Selenastrum</i> and <i>Ceriodaphnia</i> . The observations of aquatic toxicity are detailed in Attachment 2. Statistically significant toxicity was measured at 6 sites (see memo).
<b>11</b>	<b>Description of sampling and analytical methods used</b>						
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	✓			Section 5-7, pp 17-19	
11.2		Description of analytical methods used	✓			Section 2, Table 4, pp 5	
<b>12</b>	<b>Summary of Quality Assurance Evaluation results</b>						
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	✓			Section 5, 6, pp 17-19	Meets the QAPP requirements. Coalition should consider the EDD feedback package and must apply the necessary corrections in the next EDD.
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	✓			Section 6, pp 17-18, App. D	
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)	✓			Section 6, pp 17-18	
	12.3.1	Discussion of how the failed QA/QC results affect the validity of the reported data	✓			Section 6, pp 17-18, App. D	Failures of QA/QC analyses performed by each lab do not affect data usability.
	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	✓			Section 6, pp 17-18	
12.4		Both field and laboratory completeness are calculated and reported; overall Project completeness is determined	✓			Section 6, pp 17-19	Coalition reported the field and laboratory completeness. As per the EDD feedback package following were the results of QA/QC team of the waterboard: For APPL: Batch completeness = 92.1%, Lab Accuracy Completeness = 99.2%, Lab Precision Completeness = 96.8%. For CalTest: Batch completeness = 98.5%, Lab Accuracy Completeness = 100%, Lab Precision Completeness = 99.8%. For PER: Batch completeness = 100%, Lab Accuracy Completeness = 100%.

### Semi-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
	SAMR Component Name						
<b>13</b>	<b>Flow Monitoring Method(s)</b>						
13.1		The method used to obtain flow measurement at each monitoring site during each monitoring event is listed	✓			Section 4, pp-10-13	
<b>14</b>	<b>Summary of Exceedance Reports submitted during the reporting period and related pesticide use information</b>						
14.1		Summary of all Exceedance Reports submitted during the SAMR period is included	✓			Section 8, Att. 2, 5	
14.2		Pesticide use data for all pesticide and toxicity exceedances occurring during the SAMR time period (unless under a Management Plan): all chemicals applied within the monitoring site subwatershed during the four weeks prior to the measured exceedance	✓			Section 8, Att. 2, 5	
<b>15</b>	<b>Actions Taken to Address Water Quality Exceedances</b>						
15.1		Discussion of actions taken to address water quality exceedances during the time frame of the SAMR is included	✓			Section 9, pp 26-37	
15.2		Updates or additional management practices implemented	✓			Section 9, pp 26-37	
<b>16</b>	<b>Evaluation of Monitoring Data</b>		✓				
16.1		Identification of spatial trends and patterns in surface and groundwater quality	✓			Section 8, 9, Att. 6, App. G	Not applicable to groundwater quality
	16.1.1	Incorporation of pesticide use information, as needed, to assist in data evaluation.	✓			Section 8, 9, Att. 6, App. G	
16.2		Analyze monitoring data to determine if additional sampling locations are needed. Propose schedule for additional monitoring or source studies			✓		
<b>17</b>	<b>Summary of Nitrogen Management Plan information</b>						
17.1		Aggregate information from Nitrogen Management Plan Summary Reports to characterize the input, uptake, and loss of nitrogen fertilizer application by specific crops.			✓		
	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			✓		
	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.			✓		

### Semi-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
	SAMR Component Name						
17.4		Description of corrective actions for deficiencies in quality of data submitted, if identified.			✓		
<b>18</b>	<b>Summary of Management Practice Information</b>						
18.1		Aggregate and summarize information collected from Farm Evaluations.	✓			App. G	
	18.1.1	Include quality assessment of the collected information by township (e.g., missing data, potentially incorrect/inaccurate reporting).	✓			App. G, pp 12	
	18.1.2	Description of corrective actions regarding any deficiencies in data quality.	✓			App. G, pp 14-15	
18.2		Provide individual data records used to develop summary in electronic format, compatible with ArcGIS to at least township level.	✓			App. G, pp 3	
18.3		Changes in patterns of implemented management practices	✓			App. G	
<b>19</b>	<b>Summary of Mitigation Monitoring</b>						
19.1		Identify measures implemented by Members or Coalition to mitigate effects of program as identified in CEQA mitigation measures			✓		
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.			✓		
<b>20</b>	<b>Management Plan Progress Report</b>						
20.1		Background	✓			Att.6	
	20.1.1	Title page	✓			Att. 6	
	20.1.2	Table of contents		✓			Included in the November 2015 SAMR as the reprting transitioned to the new order.
	20.1.3	Executive summary		✓			Included in the November 2015 SAMR as the reprting transitioned to the new order.
	20.1.4	Location map(s) and summary of management plans		✓		Various	Maps are updated for each focus plan area. However no management practice mapping is reported. It is corrected in the November 2015 SAMR along with the managemnt practice maps.
20.2		Update exceedance table in accordance with monitoring performed during SAMR period		✓			No exceedance table is provided in the attachment 6. However, this is corrected in the November 2015 SAMR as Table 3 in the Att. 6.
20.3		List of new management plans triggered since the previous SAMR	✓			pp 26-27	No new plans have been triggered since the previous SAMR.

### Semi-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
	SAMR Component Name						
20.4		Update of existing management plans and special projects		✓		Section 9, Table 13, pp 26-27	Three new anticipated focus plans are listed and no anticipated start date is decided for start of these plans. However, clear anticipated dates were stated in the June 2014 report. Coalition should not repeat the ambiguity in future SAMRs.
20.5	20.5.1	Summary and assessment of management plan monitoring	✓			Att. 6: pp 5-6, Table 3	Management plan data is discussed for each focus plan. There were 8 exceedances observed for chlorpyrifos and 1 for diazinon. Coalition is working aggressively to increase awareness and encourage growers to implement management practices to avoid future exceedances.
	20.5.2	Summary and assessment of TMDL monitoring	✓			Section 8, pp 26	see memo
20.6		Outreach, education and collaboration activities	✓				
	20.6.1	List of outreach activities and information supplied	✓			Section 9, Table 14, Att. 6- pp 8, Table 6	Oureach was conducted in the form of stakeholder meetings, individual grower meetings, observation drives and literature distribution through direct mailings.
	20.6.2	List of collaborative efforts for outreach	✓			Att. 6	Coalition continue to encourage the growers to work with PCAs and County Agricultural commisioners.
20.7		Summary of management practices identified/implemented	✓				
	20.7.1	Baseline data	✓			Att. 6: Table 1	Baseline data of management practices for member parcels in each focus plan area is provided.
	20.7.2	Degree of implemented practices	✓			Att. 6: Table 1 and 2	Presented as percentage of acreage with newly implemented management practices in each of the focus plan area.
	20.7.3	Evaluation of management practice effectiveness		✓			Management practice effectiveness is not evaluated for this SAMR. However, it is included in the November 2015 SAMR as the reporting transitioned to the new order.
20.8		Performance Goal and Schedule Evaluation	✓				
	20.8.1	Progress in meeting performance goals		✓		Att. 6: pp 1-2	Performance goals are explicitly defined but not evaluated for each of the focus plan individually in detail. However this is corrected in the November 2015 SAMR as reprting transitioned to the new order.
	20.8.2	Sufficient timeframe to meet scheduled deadlines in Management Plan			✓		Time frames are going to addressed through the comprehensive SQMP
20.9		Recommendations for changes to Management Plan		✓			No recommendations are made.
<b>21</b>	<b>Summary of Education &amp; Outreach Activities</b>						
21.1		Location, dates, and reason for activities.	✓			Section 9, Table 14, Att. 6- 17-18	
21.2		Summary of the content at each session.	✓			Section 9, Table 14, Att. 6- 17-19	

### Semi-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
		SAMR Component Name					
<b>22</b>	<b>Summary and Recommendations</b>						
	22.1	Summary of the SAMR results and conclusions	✓			37	
	22.2	Recommendations are appropriate and adequately detailed	✓			37	

## Semi-Annual Report Review Checklist

Western San Joaquin River Watershed Coalition November 2015 Semi-Annual Monitoring Report						Reviewer Name: Gurbinder Dhaliwal	
Submittal Date: 11/30/2015						Review Date: 03/11/2016	
Item No.	AMR Component Name	Item meets requirement	Incomplete item/ Not included	Not applicable	Page # (Section #)	Comments	
	<b>Review code:</b> ✓ Item meets requirement X Incomplete item / Not included NA Not applicable						
<b>1</b>	<b>Signed Transmittal Letter</b>						
1.1	Penalty of Perjury Statement	✓			NA	Cover Letter	
1.2	Signature of Authorized Coalition Representative	✓			NA	Cover Letter	
1.3	Dated	✓			NA	Cover Letter	
1.4	Discussion of exceedances, and corrective actions taken or planned (or reference to previous correspondence)	✓			NA	Cover Letter	
1.5	Submitted on time	✓			NA	Cover Letter	
<b>2</b>	<b>Title Page</b>						
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	March 2015 through August 2015	
2.4	Coalition Group name	✓			Title page		
<b>3</b>	<b>Table of Contents</b>						
3.1	List of sections/chapters, tables, figures, appendices/attachments with page numbers	✓			i-ii		
<b>4</b>	<b>Executive Summary</b>						
4.1	Summary of key results and activities	✓			1-2		
4.2	Brief summary of conclusions and recommendations		✓			Conclusions and recommendations are not discussed in the executive summary. It is provided in section 11, pp 36.	
<b>5</b>	<b>Description of the Coalition Group Geographical Area</b>						
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	✓			Section 4, pp-8	Figure 1: map of land use for the Coalition shows location of all the monitoring sites.	
<b>6</b>	<b>Monitoring Objectives and Design</b>						
6.1	Brief description of monitoring objectives (references to section and page numbers in Monitoring Plan or QAPP, as appropriate)	✓			Section 2, pp 2		
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)	✓					
6.2.1	Assessment Monitoring: sites, parameters, schedule	✓				The monitoring period from March 2015 through February 2017 falls in the Targeted Monitoring Cycle.	
6.2.2	Special monitoring (Management Plan, TMDL, source identification): sites, parameters, schedule	✓				Special monitoring is part of the targeted monitoring.	

### Semi-Annual Report Review Checklist

Item No.	AMR Component Name	Item meets requirement	Incomplete item/ Not included	Not applicable	Page # (Section #)	Comments
	<b>Review code:</b> ✓ Item meets requirement X Incomplete item / Not included NA Not applicable					
<b>7 Sampling Site Descriptions and Rainfall Records for the time period covered under the SAMR</b>						
7.1	Electronic copies of photos clearly labeled with CEDEN comparable station code and date	✓			App. C	Monitoring site photos should be submitted with every exceedance report (individual events) instead of just once at the end of the monitoring period.
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	✓			Section 4	
7.3	Rainfall records in graphic or narrative form (in inches of precipitation)	✓				
<b>8 Location Maps(s) of sampling sites, crops, and land uses</b>						
8.1	Location maps show sampling sites/monitoring wells, crops, and land use with informative level of detail	✓			Figure 1	Figure 1: map of land use for the Coalition shows location of all the monitoring sites.
	8.1.1 Datum identified on map ( <u>must be</u> WGS 1984 or NAD 1983)	✓			Figure 1	Datum identified as NAD 1983
	8.1.2 Source and date of all data layers identified on map	✓			Figure 1	Multiple sources have been used and clearly indicated
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).	✓			App. C	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)	✓			Section 4, Table 6	Site name, station code and GPS coordinates are provided
<b>9 Tabulated Results</b>						
9.1	Data are in tabular form, clearly organized and readily discernible	✓			App. A	
9.2	Previously reported exceedances match exceedances identified in the SAMR	✓			App. A	
9.3	All required constituents for each site have reported results	✓			App. A	
9.4	All necessary re-sampling completed and results reported	✓			App. A	
<b>10 Data Discussion to Illustrate Compliance</b>						
10.1	Results discussed in text agree with tabulated data	✓			Section 8, 9, Att. 6, App. G	
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	✓			Section 8, 9, Att. 6, App. G	

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	AMR Component Name						
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	✓			Section 8, 9, Table 9&10, App C	see memo
<b>11</b>	<b>Description of sampling and analytical methods used</b>						
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	✓			Section 6, pp 17-18	
11.2		Description of analytical methods used	✓			Section 2, Table 4	
<b>12</b>	<b>Summary of Quality Assurance Evaluation results</b>						
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	✓			Section 5, 6, pp 15-16	Meets the QAPP requirements. Coalition should consider the EDD feedback package and must apply the necessary corrections in the next EDD.
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	✓			Section 6, pp 15-16, App. D	
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)	✓			Section 6, pp 15-16, App. D	
	12.3.1	Discussion of how the failed QA/QC results affect the validity of the reported data	✓			Section 6, pp 15-16, App. D	Failures of QA/QC analyses performed by each lab do not affect data usability.
	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	✓			Section 6, pp 15-16, App. D	
12.4		Both field and laboratory completeness are calculated and reported; overall Project completeness is determined	✓			Section 6, pp 15-16	Coalition reported the field and laboratory completeness.
<b>13</b>	<b>Flow Monitoring Method(s)</b>						
13.1		The method used to obtain flow measurement at each monitoring site during each monitoring event is listed	✓			Section 4, pp-8-11	
<b>14</b>	<b>Summary of Exceedance Reports submitted during the reporting period and related pesticide use information</b>						
14.1		Summary of all Exceedance Reports submitted during the SAMR period is included	✓			Section 8, Att. 2, 5	

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		AMR Component Name					
14.2		Pesticide use data for all pesticide and toxicity exceedances occurring during the SAMR time period (unless under a Management Plan): all chemicals applied within the monitoring site subwatershed during the four weeks prior to the measured exceedance	✓			Section 8, Att. 2, 6	

### Semi-Annual Report Review Checklist

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	AMR Component Name						
<b>15</b>	<b>Actions Taken to Address Water Quality Exceedances</b>						
15.1		Discussion of actions taken to address water quality exceedances during the time frame of the SAMR is included	✓			Section 9, pp 24-35	
15.2		Updates or additional management practices implemented	✓			Section 9, pp 24-35	
<b>16</b>	<b>Evaluation of Monitoring Data</b>		✓				
16.1		Identification of spatial trends and patterns in surface and groundwater quality	✓			Section 8, 9, Att. 6, App. G	
	16.1.1	Incorporation of pesticide use information, as needed, to assist in data evaluation.	✓			Section 8, 9, Att. 6, App. G	
16.2		Analyze monitoring data to determine if additional sampling locations are needed. Propose schedule for additional monitoring or source studies			✓		
<b>17</b>	<b>Summary of Nitrogen Management Plan information</b>						
17.1		Aggregate information from Nitrogen Management Plan Summary Reports to characterize the input, uptake, and loss of nitrogen fertilizer application by specific crops.			✓		
	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			✓		
	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.			✓		
17.4		Description of corrective actions for deficiencies in quality of data submitted, if identified.			✓		
<b>18</b>	<b>Summary of Management Practice Information</b>						
18.1		Aggregate and summarize information collected from Farm Evaluations.			✓		submitted in the June SAMR
	18.1.1	Include quality assessment of the collected information by township (e.g., missing data, potentially incorrect/inaccurate reporting).			✓		submitted in the June SAMR
	18.1.2	Description of corrective actions regarding any deficiencies in data quality.			✓		submitted in the June SAMR
18.2		Provide individual data records used to develop summary in electronic format, compatible with ArcGIS to at least township level.			✓		submitted in the June SAMR
18.3		Changes in patterns of implemented management practices			✓		submitted in the June SAMR

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	AMR Component Name						
<b>19</b>	<b>Summary of Mitigation Monitoring</b>						
19.1		Identify measures implemented by Members or Coalition to mitigate effects of program as identified in CEQA mitigation measures			✓		
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.			✓		
<b>20</b>	<b>Management Plan Progress Report</b>						
20.1		Background					
	20.1.1	Title page	✓			Att. 6	
	20.1.2	Table of contents	✓			Att. 6-1	
	20.1.3	Executive summary	✓			Att. 6-2	
	20.1.4	Location map(s) and summary of management plans	✓			Various	Maps are provided for each focus plan area along with the managemnt practice maps.
20.2		Update exceedance table in accordance with monitoring performed during SAMR period	✓			Att. 6-3, Table 1	Coalition should provide a table containing all the exceedances observed during the SAMR monitoring as it relates to individual management plans
20.3		List of new management plans triggered since the previous SAMR	✓			Att. 6: 5	No new plans have been triggered since the previous SAMR
20.4		Update of existing management plans and special projects	✓			Section 9, Table 13, pp 25	Three new anticipated focus plans are listed but no anticipated start date is included. See Memo
20.5	20.5.1	Summary and assessment of management plan monitoring	✓			Att. 6: 12-17	Management plan data is discussed for each focus plan.
	20.5.2	Summary and assessment of TMDL monitoring	✓			Section 8, pp 23	See Memo
20.6		Outreach, education and collaboration activities	✓				
	20.6.1	List of outreach activities and information supplied	✓			Section 9, Table 14, Att. 6- pp17-19	Oureach was conducted in the form of stakeholder meetings, individual grower meetings and literature distribution through direct mailings.
	20.6.2	List of collaborative efforts for outreach	✓			Att. 6	Coalition continue to encourage the growers to work with PCAs and County Agricultural commisioners.
20.7		Summary of management practices identified/implemented	✓				
	20.7.1	Baseline data	✓			Att. 6: 5-12	Baseline data of management practices for member parcels in each focus plan area is provided.
	20.7.2	Degree of implemented practices	✓			Att. 6: 5-12	See Memo
	20.7.3	Evaluation of management practice effectiveness	✓			Att. 6: 19-20	
20.8		Performance Goal and Schedule Evaluation	✓				
	20.8.1	Progress in meeting performance goals	✓			Att. 6: 20-25	Performance goals are evaluated for each of the focus plan individually in detail.

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	AMR Component Name						
	20.8.2	Sufficient timeframe to meet scheduled deadlines in Management Plan			✓		Time frames are going to be addressed through the comprehensive SQMP
	20.9	Recommendations for changes to Management Plan	✓			Att. 6: 25	The Coalition recommends that once the SQMP is approved, that the changes outlined in the SQMP be adopted and implemented by the Coalition.
<b>21</b>	<b>Summary of Education &amp; Outreach Activities</b>						
	21.1	Location, dates, and reason for activities.	✓			Section 9, Table 14, Att. 6- pp17-18	
	21.2	Summary of the content at each session.	✓			Section 9, Table 14, Att. 6- pp17-19	
<b>22</b>	<b>Summary and Recommendations</b>						
	22.1	Summary of the SAMR results and conclusions	✓			36	
	22.2	Recommendations are appropriate and adequately detailed	✓			36	