APPROVED

Author _____

Senior _____

5 August 2014

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NOVEMBER 2013 SEMI-ANNUAL MONITORING REPORT REVIEW– WESTSIDE SAN JOAQUIN RIVER WATERSHED COALITION

Thank you for submitting the Westside San Joaquin River Watershed Coalition (Coalition) Semi-Annual Monitoring Report (SAMR), which was received on 30 November 2013. Staff has completed a review (enclosed with this letter) of the SAMR for compliance with Monitoring and Reporting Program Order R5-2008-0831 (MRP Order).

The Coalition's SAMR reports 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 checklist, the SAMR demonstrates that the Coalition's SAMR complies with the terms and conditions of the Conditional Waiver and 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 Chris Jimmerson at (916) 464-4859.

Original signed by:

Joe Karkoski, Program Manager
Irrigated Lands Regulatory Program

Original signed by:

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

Enclosure: Staff Review of Westside San Joaquin River Watershed Coalition SAMR
Semi-Annual Monitoring Report Review Checklist

APPROVED

Author _____

Senior _____

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

FROM: Chris Jimmerson
Environmental Scientist
Monitoring and Implementation Unit
Irrigated Lands Regulatory Program

DATE: 24 April 2014

SUBJECT: NOVEMBER 2013 SEMI-ANNUAL MONITORING REPORT REVIEW– WESTSIDE SAN JOAQUIN RIVER WATERSHED COALITION

The California Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) received the 30 November 2013 Irrigation Season Semi-Annual Monitoring Report (SAMR) from the Westside San Joaquin River Coalition (Coalition). The SAMR covers the monitoring period from March through August 2013 (Sampling Events 100 through 105). The SAMR also reports on activities from the three focused management plans: Focused Management Plan I - Hospital and Ingram Creek, Focused Management Plan II - Westley Wasteway, Del Puerto Creek and Orestimba Creek, and Focused Management Plan III – Salt Slough. The SAMR was submitted to meet the requirements of Monitoring and Reporting Program Order R5-2008-0831 (MRP Order) and the associated Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands adopted by the Regional Board on 1 July 2006 (Order No. R5-2006-0053).

The review section numbers in this memorandum are the same as the section numbers used in the SAMR Checklist (see attached). Staff derived the checklist directly from the MRP Order 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.

A. MRP ORDER REQUIREMENTS

Item 9.2

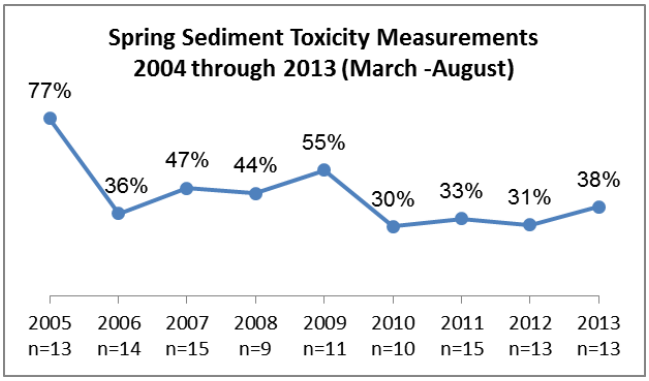
Page 32, Figure 5 shows the sediment toxicity average percent survival trend between 2004 and 2013 for the irrigation season (March through August) reporting period. The trend line is based on the average percent survival for all tested sites at each event. Figure 5 provides a very broad data interpretation that the percent survival has improved over time. However, using an average could obscure any improved or deteriorated percent survivals at the site level. For

example, the average of 50% and 50% is 50%. Alternatively the average of 100% and 0% is again 50%, but represents very different results from the two sites being averaged. Also, computing the average does not account for statistically significant events (exceedances) with a high percent survival. The data set has a number of events with a survival rate of greater than 80% that are still considered statistically significant. Conversely, a few events have less than 80% survival and are statistically not significant. Staff does not necessarily disagree that the percent survival has improved over time, but averaging all events could obscure situations where there is a large range in the data distribution among sites. More descriptive statistics would be helpful, such as the median, standard deviation, or percentile for each point on Figure 5.

Staff recommends that in the next SAMR, the Coalition could replace Figure 5 and consider describing how the overall number of sites have improved or deteriorated over time without averaging the results, but still using the same plotting technique as Figure 5. The Coalition might compare all the sites individually, then look at the percent survival trends and discuss how percent survival has improved over time at some sites, but not at others. This would provide a more informative evaluation.

On page 32, Figure 4 plots the number of sediment tests and exceedances. For program consistency and easier interpretation, the Figure should be based on the percent frequency of toxic events for the same time line. Staff recommends replacing the chart with percent toxicity exceedances. For example, staff prepared Figure 1 showing the percent exceedance for the same time period (March through August) indicating an overall improving trend after management plans were implemented in 2008, but the trend has remained stable over the last four years.

Figure 1: The percent exceedance of tests has improved after 2008 management plan implementation, but has remained stable over the last four years (n = number of tests).



Item 10

The Coalition met sampling compliance by collecting the required number of samples at all 21 sites and three source water sites. There did not appear to be any missing samples. Several dry sampling events were noted.

Aquatic toxicity was observed nine times (eight *Ceriodaphnia dubia*, one *Selenastrum capricornutum*) during the reporting period. The TIEs implicated that pesticides caused toxicity, while detections of chlorpyrifos, diazinon, and malathion were present. In addition, diuron and

Prowl (pendimethalin) were detected and implicated to be the cause of toxicity for *Selenastrum capricornutum*.

Sediment samples were collected in March, as scheduled. Sediment toxicity was observed at five sites. Chemistry sediment analysis indicated pyrethroids and chlorpyrifos present, indicating the possible cause.

Staff presents a simple comparison (Table 1) to show the changes in water quality since the last irrigation season reporting period. The exceedance data indicate that a decrease (green icons) in percent exceedances for pH, *E.coli,* DDE, diuron, *Pimephales promelas,* and *Selenastrum capricortium* was observed between the two reporting periods. Conversely, an increase (red icons) in percent exceedances for analytes EC, DO, TDS, arsenic, boron, selenium, carbaryl, methomyl, dimethoate, toxaphene, chlorpyrifos, diazinon, *Hyalella azteca,* and *Ceriodaphnia dubia* was observed.

Table 1: Comparing two Irrigation Season Reporting Periods.

Type	Constituent	(THEN) Exceedances / Tests 3/1/12 to 9/1/12	(NOW) Exceedances / Tests 3/1/13 to 9/1/13	Change in Pct. Exceedance From THEN to NOW
Field Data	pH	30/154	3/125	-17%
	EC	110/133	96/111	3%
	DO	13/133	17/124	4%
General Chemistry	E. Coli	37/106	26/98	-8%
	Ammonia as N	4/88	3/81	0%
	Total Dissolved Solids	86/106	86/99	6%
	Arsenic	9/146	7/39	12%
	Boron	22/64	29/57	17%
Pesticide	DDE(p,p')	20/71	15/63	-4%
	Diuron	5/106	4/96	-1%
	Malathion	4/130	4/122	0%
	Selenium	4/46	4/39	1%
	Carbaryl	0/53	1/45	2%
	Methomyl	0/53	1/45	2%
	Dimethoate	1/130	5/122	3%
	Toxaphene	0/71	2/63	3%
	Chlorpyrifos	7/129	11/122	4%
	Diazinon	0/129	8/122	7%
Toxicity	Pimephales promelas	1/18	0/18	-6%
	Selenastrum capricornutum	7/146	1/42	-3%
	Hyalella azteca	4/13	5/13	7%
	Ceriodaphnia dubia	2/106	8/94	7%

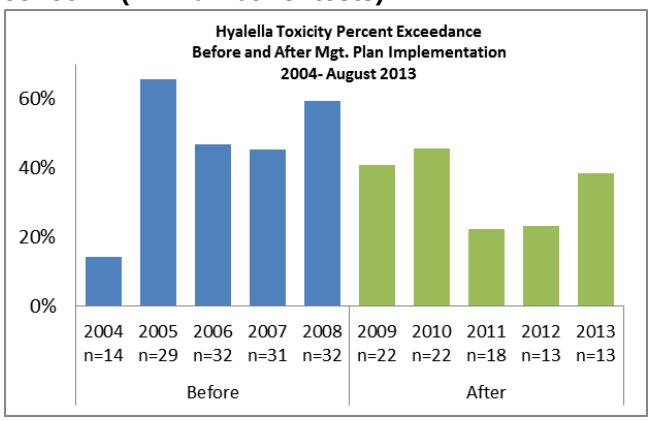
As part of the Coalition's management plan implementation, staff reviewed the SAMR for outreach activities concerning toxicity, malathion, pyrethroids, and chlorpyrifos. The SAMR indicated that the Coalition circulated surveys, conducted outreach meetings, sent informative mailers, and held workshops. A number of individual contacts were the direct result of exceedances and the mailers were a result of malathion detections, sediment discharges, and statistically significant toxicity. Topics discussed at the meetings include management practices to address those pesticides.

Item 16:
The laboratory QA/QC test results for samples collected during the reporting period met the acceptance criteria more than 90% of the time. Based on the evaluation of the results, the Coalition concluded none of the failures affected data usability.

Item 22:
According to the SAMR, five of 13 sediment toxicity tests showed significant toxicity to *Hyalella azteca.* Follow-up testing of sediment chemistry for these samples implicated chlorpyrifos and pyrethroids in sufficient quantity to cause toxicity. Consequently, efforts to curb sediment discharges should continue to be emphasized in the Coalition area. The Coalition provides funding sources for sediment discharge management that include tailwater return systems, drip systems, and sediment ponds.

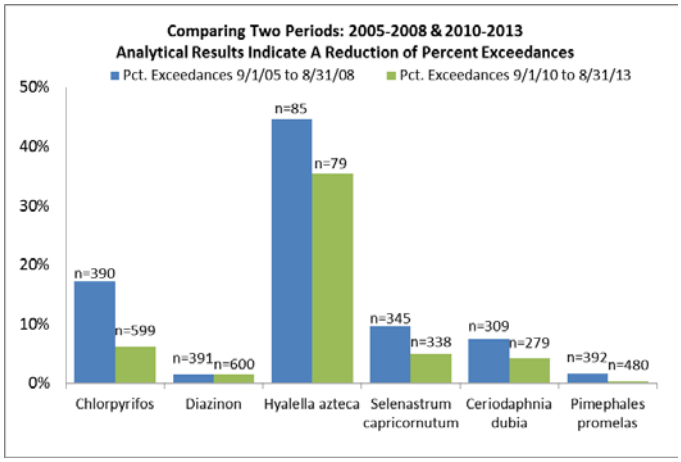
Staff compared the *Hyalella azteca* percent exceedances for each year before and after General/Focused Plan implementation (Figure 2). The percent exceedances are generally less after General/Focused Management Plans were first implemented in 2008. The data indicates that the frequency of sediment toxicity increased in 2013 from prior years 2012 and 2011 sediment sampling events. The toxicity identification evaluations indicated that pyrethroids and chlorpyrifos were the likely cause.

Figure 2: Comparing Sediment Toxicity Before and After Management Plan Implementation. Percent Exceedances are fewer after management plan implementation, but continue to be a concern. (n = number of tests)



Staff compared the percent exceedances for chlorpyrifos, diazinon, sediment toxicity, and water column toxicity during time frames 2005-2008 and 2010-2013. The results are presented in Figure 3. This is a good range for comparing water quality because a Management Plan is triggered if more than one exceedance occurs within a three year period. Overall, the analytical results for each parameter in Figure 3 indicate a reduction of percent exceedances (n= number of tests).

Figure 3: Comparing Analytes for Two Similar Periods



The data presented in Figure 3 indicate that the percent exceedances in the 2010-2013 period are fewer than in the 2005-2008 period. The frequency of *Hyalella azteca* exceedances continues to be high, but is trending downward. The causes of sediment toxicity tend to be from pyrethroid applications according to chemical analyses and supported by the pesticide use reports. The SAMR reports that the Coalition has taken steps to address exceedances, including grant funding. During the reporting period one new project was funded. Other activities have also taken place, including continuation of the Hospital and Ingram Creek subwatershed stakeholder group, 177 mailings, four grower meetings, individual meetings, PCA and pesticide vendor meetings, and 30 observation drives.

The frequency of chlorpyrifos and diazinon testing increased in the 2010-2013 period and showed a drop in the chlorpyrifos percent exceedances, while the percent exceedance for diazinon remained stable. Aquatic toxicity testing frequency was similar in both periods, while the frequency of toxic events was lower than in the previous period.

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 report summarized the performance goal status for all of the focused plans. According to staff's review, there were no incomplete items noted. Staff provided comments in the attached checklist for each Focus Plan. Although the approved performance goals and discussion for each Focus Plan are not explicitly itemized in the SAMR, the Coalition did summarize the status of each of the performance goals, including management plan implementation status for each of the management plans.

In November 2012, the Ingram/Hospital Creek stakeholder group was formed, focusing on discharge regulations and the role of the Coalition to facilitate decisions regarding management practices. Continuing meetings focus on water quality and sediment toxicity issues, outreach to other growers and outreach to agencies. The stakeholder group is facilitated by resource conservation districts and is comprised of irrigation districts and growers. Several stakeholder meetings were held during the reporting period discussing pesticide issues and potential management practices. The stakeholder group may broaden to other subwatersheds if this one is successful.

The Executive Officer approved Focus Plan IV in December 2013 after this SAMR reporting period. The 400 management practice surveys have been prepared and mailed to growers in the Blewett and Marshall Road Drain watershed. The results are in progress. According to the approved performance goals, surveys will be completed by September 2014 with results presented in the November SAMR.

The Coalition held thirteen outreach meetings and two individual meetings at various locations covering pesticide and toxicity issues where the Coalition provided management practice and grant funding information for all the management plan areas.

During the reporting period, there was not wide interest in sediment pond funding assistance. Only one request was submitted. However interest in implementing high efficiency irrigation

systems continues to increase. High efficiency irrigation acreage coverage increased by an estimated 11,000 acres within the Coalition area.

Item I.13, II.13, III.13
According to the Focused Plan Performance Goals, one of the Coalition's targets is to calibrate ground spray rigs and report the affected acreage in this SAMR. To date, growers have expressed little interest, but the Coalition believes this service is important for pesticide use management.

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 Stevinson, and (6) SJR at Sack Dam. The Coalition provided a summary of TMDL monitoring results. Based on the results, one exceedance of chlorpyrifos was observed at monitoring site the San Joaquin River at Las Palmas Ave. during the reporting period for the Westside Coalition TMDL sites. The source appears to have come from alfalfa fields. Additionally, diazinon and chlorpyrifos exceedances were observed in tributaries to the San Joaquin River. A San Joaquin River TMDL report will be submitted in May 2014.

San Joaquin River Dissolved Oxygen TMDL:
See attached checklist.

San Joaquin River at Vernalis Salt and Boron TMDL:
See attached checklist.

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 six monitoring stations that are located on one supply and five major drainages of the Grassland Resource Conservation District. Summarized boron, selenium, EC, and TDS real-time water quality monitoring data was provided covering the period March through August 2013. Although not required by the MRP, a descriptive summary should be provided to interpret the data and how the monitoring is or is not meeting the programs objectives.

The map presented on page 2 of Appendix F did not appear to display all of the monitoring sites. Freemont Canal and S-Lake appear to be absent from the map. Staff recommends in the next SAMR that the map be revised or provide additional maps to display all of the monitoring locations.

The real-time monitoring instruments at the Volta Wasteway supply monitoring site occasionally fouled and interfered with the readings. Corrective action measures were taken to free the instruments from fouling. All other sites reported reliable data.

Annual Monitoring Report Review Checklist

Report Name: Westside SJR SAMR 2012 Irrigation Season					Reviewer Name: Chris Jimmerson					
Submittal Date: 30 November 2013					Review Date: 4/6/14					
Item No.			SAMR Component Name	Acceptable	Unacceptable	Incomplete/ Not Included	Not Applicable	Page Number	Comments
1	**Signed Transmittal Letter**								
	1.1		Penalty of Perjury Statement	✓					
	1.2		Signature of Authorized Coalition Representative	✓					
	1.3		Dated	✓					
	1.4		Discussion of exceedances, and corrective actions taken or planned (or reference to previous correspondence)	✓				1	Discussed in the Executive Summary
	1.5		Submitted on time	✓					Received on 11/27/13
2	**Title Page**								
	2.1		Report title	✓					
	2.2		Date of the report	✓					
	2.3		Monitoring date range covered by the report	✓				1	March through August 2013
	2.4		Coalition Group name	✓					
3	**Table of Contents**								
	3.1		List of sections/chapters, tables, figures, appendices/attachments with page numbers	✓					
4	**Executive Summary**								
	4.1		Summary of key results and activities	✓				1, 2	
	4.2		Brief summary of conclusions and recommendations	✓					
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	✓				9-12	

Annual Monitoring Report Review Checklist

Item No.			SAMR Component Name	Acceptable	Unacceptable	Incomplete/ Not Included	Not Applicable	Page Number	Comments
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)	✓				2-4	
	6.2		Monitoring design aligns with MRP Plan, any deviations from MRP Plan or QAPP are described (references to section and page number in MRP Plan or QAPP, as appropriate)	✓					
		6.2.1	Assessment Monitoring: sites, parameters, schedule	✓				5	Core monitoring only required this reporting period.
		6.2.2	Core Monitoring: sites, parameters, schedule	✓				5	
		6.2.3	Special monitoring (Management Plan, TMDL, source identification): sites, parameters, schedule	✓				5	
7	**Sampling Site Descriptions and Rainfall Records for the time period covered under the SAMR**								
	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	✓					
	7.2		Rainfall records in graphic or narrative form (in inches of precipitation)	✓				7	
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	✓				14	Provided top 10 crops grown by county
		8.1.1	Datum identified on map (must be WGS 1984 or NAD 1983)	✓				Map	Monitoring sites projected WGS84
		8.1.2	Source and date of all data layers identified on map	✓				Map	
	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)	✓				12	
9	**Tabulated Results**								
	9.1		Data are in tabular form, clearly organized and readily discernible	✓				Appendix A	
	9.2		Tabulated results agree with the electronically submitted data	✓				31, Attachment 5	Compared submitted exceedance reports to the exceedance summary and figures. See memorandum concerning Figure 4 and 5 - percent survival trend.

Annual Monitoring Report Review Checklist

Item No.			SAMR Component Name	Acceptable	Unacceptable	Incomplete/ Not Included	Not Applicable	Page Number	Comments
	9.3		Previously reported exceedances match exceedances identified in the SAMR	✓				Attachment 5, Exceedance Smry	Compared submitted exceedance reports to the exceedance summary.
	9.4		All required constituents for each site have reported results	✓				Appendix A	No analytic results for dry sampling events.
	9.5		All necessary re-sampling completed and results reported	✓				Attachment 4	Resampling not needed. Follow-up sediment chemistry conducted on 3 samples due to toxicity.
10	**Data Discussion to Illustrate Compliance**								
	10.1		Results discussed in text agree with tabulated data	✓				18-24 Attachment 5	
	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	✓					
	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	✓				18-32 Attachment 5	See Item 9.2, 10 in memorandum concerning Figure 4 and 5.
11	**Electronic data submitted in a SWAMP comparable format, <u>either</u> Option A or B**								
	11.1	A	<u>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 SAMR</u>	✓					
		B	<u>Option B. SWAMP database format:</u> All field and lab data uploaded into a SWAMP comparable database (following the most current *Required Data Submission Format* document)				✓		
	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)	✓				2,16-18 Attachment 3	> 90% in compliance
	11.3		Toxicity analyses include: individual sample results, negative control summary results, replicate results, water quality measurements (pH, ammonia, temperature, SC, DO)	✓				Attachment 2 Appendix D	> 90% in compliance
	11.4		Data not meeting project QA acceptance guidelines are flagged and include brief notes detailing the problem in the *Comments* field	✓				Appendix D	> 90% in compliance

Annual Monitoring Report Review Checklist

Item No.			SAMR Component Name	Acceptable	Unacceptable	Incomplete/ Not Included	Not Applicable	Page Number	Comments
12	**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	✓				Appendix C 16,18	
	12.2		Description of analytical methods used (references to SOP's and QAPP as appropriate); any deviations from the QAPP are described and explained	✓				6, Appendix C	
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	✓				Appendix A	Broken E.coli bottle in transit noted for June event.
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 out	✓				Appendix C	
	14.2		All analytical reports (attached/provided on CD) are included, complete, and signed by authorized laboratory representative	✓				Appendix C	
		14.2.1	Sample results with units, RLs and MDLs	✓				Appendix C	
		14.2.2	Sample preparation, extraction and analysis dates	✓				Appendix C	
		14.2.3	Results for all QC samples: field and laboratory blanks, lab control spikes, matrix spikes, field and laboratory duplicates, surrogate recoveries	✓				Attachment 3	QC met requirements. Few calculated RPD was outside the range for pesticides and toxicity.
		14.2.4	Chemistry lab narrative describes all QC failures, analytical problems and anomalous occurrences.	✓				See lab reports. 16-18	
	14.3		All toxicity lab reports (attached/provided on CD) are included, complete, and signed by authorized lab representative	✓				Appendix C	
		14.3.1	All toxicity sample results included	✓				31-32, lab reports	
		14.3.2	Results for all QC samples: field duplicate, negative control, narrative summary of reference toxicant results	✓				Appendix D	

Annual Monitoring Report Review Checklist

Item No.			SAMR Component Name	Acceptable	Unacceptable	Incomplete/ Not Included	Not Applicable	Page Number	Comments
		14.3.3	All raw data (including failed tests) and original bench sheets showing individual replicates	✓				lab reports	
		14.3.4	Toxicity lab narrative describes all QC failures, analytical problems and anomalous occurrences	✓				Appendix D	Table A summarizes QC test results.
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	✓				Appendix D	The QC met minimum requirements. Greater than 90% met acceptance criteria.
	15.2		Microbiological analyses include: field blank, field duplicate, negative control, positive control	✓				lab reports	
	15.3		Toxicity tests include: field duplicate, negative control, reference toxicant (narrative OK, raw data not required)	✓				Appendix D, lab reports	
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	✓				16, 17, Appendix D	>90% met acceptance criteria.
	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	✓				16, 17, Appendix D	Summary provided in tables.
	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)	✓				16, 17, Appendix D	Coalition summarized results that met and did not meet lab acceptance criteria. Greater than 90% met compliance.
		16.3.1	Discussion of how the failed QA/QC results affect the validity of the reported data	✓				16, 17, Appendix D	Greater than 90% met compliance. According to the laboratories, failed results did not affect usability of the data.
		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	✓				Appendix D	No corrective action required.
	16.4		Both field and laboratory completeness are calculated and reported; overall Project completeness is determined	✓				Appendix D	100% completeness. Several sites not sampled due to dryness.

Annual Monitoring Report Review Checklist

Item No.			SAMR Component Name	Acceptable	Unacceptable	Incomplete/ Not Included	Not Applicable	Page Number	Comments
17	**Flow Monitoring Method(s)**								
	17.1		The method used to obtain flow measurement at each monitoring site during each monitoring event is listed	✓				Attachment 2, 6	Flow is calculated, reported by CDEC, or measured across the dam.
18	**Monitoring Site Photos**								
	18.1		Photos are included for each monitoring site for every monitoring event, either electronically or in hard copy	✓				Appendix E	
	18.2		Each photo is clearly labeled with site ID and date	✓				Appendix E	
	18.3		Photos are descriptive and useful	✓				Appendix E	
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 SAMR period is included	✓				18-25, Attachment 6	According to toxicity identification evaluations, Ceriodaphnia exceedances likely caused by chlorpyrifos, diazinon, or malathion. Selenastrum exceedances likely caused by diuron or Prowl (pendimethalin). Hyalella toxicity likely caused by pyrethroids.
	19.2		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	✓				Pesticide use report summary, Attachment 6, A6-7	Available PURs provided. Chlorpyrifos use for the period was up 381% (16,200 acres). Diazinon applied on 3,880 acres.
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 SAMR is included	✓				25-30, District Outreach Fliers	Provides outreach activities performed during reporting period. Mailed 177 letters to growers for chlorpyrifos and malathion exceedances. Other letters submitted to water districts.
	20.2		Updates or additional management practices implemented	✓				A6-2 through 9	Interest in funding assistance for sediment ponds has been low.
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	✓				A6-3	According to surveys, the percent of drip irrigation has increased in each Focus Plan watershed since the Management Plans began. In the six subwatersheds that are part of a Focus Plan the increase in acreage covered ranged from 2-42%. About 95% of available funds have been expended to date.
	21.2		Grassland Water District - Grassland RCD	✓				Appendix F	Monitoring sites appear to be missing from map. A data summary of results should be included. See memo.
22	**Conclusions and Recommendations**								
	22.1		Conclusions are supported by the data presented in the SAMR	✓				34	The monitoring results indicate improvements within the subwatersheds over the duration, but during this reporting period, some pesticides exhibited an increase in exceedance frequency.

Annual Monitoring Report Review Checklist

Item No.			SAMR Component Name	Acceptable	Unacceptable	Incomplete/ Not Included	Not Applicable	Page Number	Comments
	22.3		Recommendations are appropriate and adequately detailed	✓				34	

Westside Coalition Semi-Annual Monitoring Report (SAMR) Review Checklist

Report Name: Westside SJR SAMR 2012 Irrigation Submittal Date: 30 November 2013					Reviewer Name: Chris Jimmerson Review Date: 4/6/14	
		Review Criteria				
Item No.	Management Plan Check List Components	Acceptable	Unacceptable	Incomplete	Document(s) Page No. (Section No.)	Comments
	I. Westside Management Plan General Approach					
I.1	Continue a water quality monitoring program	x			Attachment 6	
I.2	Develop and implement Focused Watershed Management Plans	x			27, Attachment 6	Focused Plan I and II and III and IV underway. FP IV not approved until after the reporting period.
I.3	Compile Management Practices Inventory	x			27, Attachment 6	Table A6-1 reports a baseline of drip used for each subwatershed. Table A6-2 reports PAM usage by number of acres.
I.4	Develop subwatershed maps	x			27, Attachment 6, management practice maps	Completed for all three focused areas. Maps indicate prop 84 projects, implemented BMPs and sediment pond projects.
I.5	Determine regional pesticide application	x			14, 27, Attachment 6	Pesticide use report data is collected from the agricultural commissioners in the various counties occupied by the Westside Coalition. Most commonly applied pesticides are listed by county for the 2013 irrigation season.
I.6	Boron Dischargers into the Lower San Joaquin River (Basin Plan IV 32.00)	x			23,30	Agriculture does not apply boron. Boron is typically found in shallow groundwater and can be discharged from fields during runoff events in some subwatersheds.
I.7	Analyze results of E. coli study and map/inventory potential sources	x			23	In a letter dated 2/17/12, the Coalition was requested to participate in a group discussion to develop a joint workplan. The Coalition will participate in a technical committee to develop a plan.
I.8	Continue outreach and education efforts	x			28, Attachment 6, Table 14	Outreach meetings (members, PCAs) conducted throughout the year. Exceedances reported at meetings and mailers.
I.9	Analyze for correlation between low DO and other parameters	x			30	Reported in 2009
I.10	Continue participation in Salinity TMDL program	x			30	Coalition participating in CV-Salt.
I.11	Executive Summary	x			25-34	Narrative provides brief summaries.
	II. Westside Focused Watershed Management Plan I Ingram and Hospital Creeks [(2)]					
II.1	Source Identification - Identify parcels	x			Management Practice Maps	Parcel ID'd to show BMPs implemented
II.2	Development of survey document	x			A6-2 through A6-10	100% returned to Coalition
II.3	Completion of grower survey	x			A6-2 through A6-10	Completed in 2010
II.4	Finalize management practice survey findings, develop baseline MP inventory	x			A6-2 through A6-10	Table A6-1 reports acreage that have high efficiency irrigation systems. Table A6-2 reports PAM usage by number of acres. Table A6-5 summarizes management Practices surveyed.

Westside Coalition Semi-Annual Monitoring Report (SAMR) Review Checklist

Item No.	Management Plan Check List Components	Acceptable	Unacceptable	Incomplete	Document(s) Page No. (Section No.)	Comments
II.5	Determine effective MPs and develop next steps	x			A6-2 through A6-10	Long term MPs include: construct sediment basins, drip irrigation, reduce pesticide use, calibrate spray rigs, address overspray, increase buffer strips, implement more PAM use. Stakeholder process initiated in November 2012.
II.6	Detailed subwatershed maps	x			Management Practice Maps	Provided maps reporting areas where drip systems and tail water ponds are in use and Prop 84 projects.
II.7	Determination of pesticide use baseline	x			Pesticide Use Sumary Report. A6-5 through A6-7	Pesticide use baseline based on county/monitoring site/commodity. 31 pages of pesticide use summary provided.
II.8	Identification of management practices to be implemented	x			A6-2 through A6-10	Provides updates of BMPs implemented (i.e. sediment basin, PAM, drip, buffer zones)
II.9	Intensified outreach to growers	x			A6-2 through A6-10	Held outreach meetings and individual meetings. Mailed exceedance awareness notices to affected growers.
II.10	Approach to implement additional management practices	x			A6-2 through A6-10	Surveys, individual meeting, grants. Drip irrigation increased by 11,000 acres from last period.
II.11	Monitoring to determine management practice effectiveness	x			A6-4, Exceedance Tally	Listed for each subwatershed
II.12	E. coli watershed-specific field surveys to identify potential agricultural contributions	x			28	As per Central Valley Water Board 2/17/12 letter, the Coalition was requested to develop a joint workplan. Technical committee has not met recently and no new activity has been reported.
II.13	Develop specific performance goals and a schedule	x			A6-1,2	Performance goals listed for FPI-IV.
II.14	Surveillance-Level Monitoring	x			A6-2 through A6-10	
II.15	Constituent-specific monitoring	x			A6-2 through A6-10	
II.16	Develop grant program to assist with costs of installing and maintaining tailwater ponds	x			29, A6-2	One funded project reported during this reporting period. Approximately 95% of the pond grant funding has been distributed. Map is provided displaying completed projects.
II.17	Increase the number and use of tailwater ponds and tailwater return systems	x			A6-2	Maps provided of completed projects. During the reporting period grower interest has decreased.
II.18	Encourage conversion to drip/micro sprinkler irrigations systems	x			A6-2 through A6-10	See Table A6-1 of SAMR
II.19	Encourage usage of PAM on field crops	x			A6-4, A6-5	See Table A6-2 of SAMR. PAM usage will decrease and drip irrigation increases.
II.20	Create/distribute maps of areas that are sensitive to aerial overspray	x				Completed
II.21	Establish baseline and feasibility of increased size of buffer zones	x			A6-8	No new significant buffer zones noted
II.22	Process & schedule for evaluating management practice effectiveness	x			A6-2 through A6-10	See Performance Goals
	III. Westside Focused Watershed Management Plan II Westley Wasteway, Del Puerto Creek, Orestimba Creek					
III.1	Source Identification - Identify parcels	x			Management Practice Maps	Parcel ID'd in previous SAMRs
III.2	Development of survey document	x			Attachment 6	Surveys complete
III.3	Completion of grower survey	x			Attachment 6	Surveys complete

Westside Coalition Semi-Annual Monitoring Report (SAMR) Review Checklist

Item No.	Management Plan Check List Components	Acceptable	Unacceptable	Incomplete	Document(s) Page No. (Section No.)	Comments
III.4	Finalize management practice survey findings, develop baseline MP inventory	x			Attachment 6	Surveys complete
III.5	Determine effective MPs and develop next steps	x			A6-2 through A6-10	BMPs described in text
III.6	Detailed subwatershed maps	x			Management Practice Maps	Previously submitted
III.7	Determination of pesticide use baseline	x			A6-7	PURs indicate chlorpyrifos use is up during reporting period Coalition wide.
III.8	Identification of management practices to be implemented	x			A6-2 through A6-10	Provides updates of BMPs implemented (i.e. sediment basin, PAM, drip, buffer zones)
III.9	Intensified outreach to growers	x			A6-8, A6-9	Conducted five outreach meetings in Westley
III.10	Approach to implement additional management practices	x			A6-10	Grant funding available to growers.
III.11	Monitoring to determine management practice effectiveness	x			A6-6, Exceedance Tally	
III.12	E. coli watershed-specific field surveys to identify potential agricultural contributions	x			23,27	As per Central Valley Water Board 2/17/12 letter, the Coalition was requested to develop a joint workplan. Technical committee has not met recently and no new activity has been reported.
III.13	Develop specific performance goals and a schedule	x			A6-1	Performance goals development completed in 2011.
III.14	Constituent-specific monitoring	x			A6-2 through A6-10	
III.15	Process & schedule for evaluating management practice effectiveness	x			A6-2 through A6-10	See Performance Goals
	IV. Westside Focused Watershed Management Plan III Salt Slough					
IV.1	Source Identification - Identify parcels	x			A6-Mgt.Practice Maps	Completed
IV.2	Development of survey document	x			A6-2 through A6-10, Table A6-7	Completed
IV.3	Completion of grower survey	x			A6-2 through A6-10, Table A6-7	Completed
IV.4	Finalize management practice survey findings, develop baseline MP inventory	x			A6-2 through A6-10, Table A6-7	Surveys completed in June 2012.
IV.5	Determine effective MPs and develop next steps	x			A6-2 through A6-10	BMPs include: Construct sediment basins, drip irrigation, reduce pesticide use, calibrate spray rigs, address overspray, increase buffer strips, implement more PAM use.
IV.6	Detailed subwatershed maps	x			27	Previously submitted
IV.7	Determination of pesticide use baseline	x			A6-7	PURs indicate that the overall number of acres treated in the Salt Slough watershed have decreased due to pesticide application reduction.
IV.8	Identification of management practices to be implemented	x			A6-2 through A6-10	Provides updates of BMPs implemented (i.e. sediment basin, PAM, drip, buffer zones)
IV.9	Intensified outreach to growers	x				Submitted surveys to growers. Submitted urgent letter to growers concerning pesticide detections.
IV.10	Approach to implement additional management practices	x			A6-11	In addition to Coalition efforts, irrigation districts are in the process of planning regional projects for water return systems.
IV.11	Monitoring to determine management practice effectiveness	x			A6-6, Exceedance Tally	Pesticide exceedances observed in Salt Slough.

Westside Coalition Semi-Annual Monitoring Report (SAMR) Review Checklist

Item No.	Management Plan Check List Components	Acceptable	Unacceptable	Incomplete	Document(s) Page No. (Section No.)	Comments
IV.12	E. coli watershed-specific field surveys to identify potential agricultural contributions	x			23,27	As per Central Valley Water Board 2/17/12 letter, the Coalition was requested to develop a joint workplan. Technical committee has not met recently and no new activity has been reported.
IV.13	Develop specific performance goals and a schedule	x			A6-1, Table A6-7	Completed
IV.14	Constituent-specific monitoring	x			A6-2 through A6-10	
IV.15	Process & schedule for evaluating management practice effectiveness	x			A6-1, Table A6-7	See Performance Goals
	V. Westside Focused Watershed Management Plan IV Blewett Drain, Marshall Road Drain					
V.1	Source Identification - Identify parcels	x				FP IV approved after reporting period.
V.2	Development of survey document	x				Not required during reporting period. Provided Dec. 2013.
V.3	Completion of grower survey	x				Not required during reporting period. Provided Dec. 2013.
V.4	Finalize management practice survey findings, develop baseline MP inventory	x			A6-3	Surveys underway. 400 surveys sent out.
V.5	Determine effective MPs and develop next steps	x				Not required during reporting period.
V.6	Detailed subwatershed maps	x				Not required during reporting period. Provided Dec. 2013.
V.7	Identification of management practices to be implemented	x				Underway
V.8	Conduct outreach to growers	x				Surveys underway
V.9	Monitoring to determine management practice effectiveness	x			A6-6	Chlorpyrifos and diazinon exceedances observed. Several applications of pesticide reported.
V.10	Develop specific performance goals and a schedule	x				Not required during reporting period. Provided Dec. 2013.
V.11	Constituent-specific monitoring	x			A6-2 through A6-10	
V.12	Process & schedule for evaluating management practice effectiveness	x				Found in Performance goals. Not required during reporting period. Provided Dec. 2013.

Footnotes

(1) Monitoring and Reporting Program Order No. R5-2008-0831 for Westside San Joaquin River Watershed Coalition under the Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands Amended Order No. R5-2006-0053. Section II.D (Pages 22 - 24)

(2) Includes specific performance goals identified in the 31 January 2009 Management Practice Report, Performance Goals document

Westside Coalition Semi-Annual Monitoring Report (SAMR) Review Checklist

Report Name: Westside SJR SAMR 2012 Irrigation Season **Submittal Date: 30 November 2013**	**Reviewer Name: Chris Jimmerson** **Review Date: 4/6/14**

Item No.	I. Basin Plan Component Description (1) TMDL Chlorpyrifos/Diazinon Check List	Review Criteria: Acceptable	Unacceptable	Incomplete	Page No. (Section No.)	Comments
1	Determine compliance with established water quality objectives and the loading capacity applicable to diazinon and chlorpyrifos in the San Joaquin River.	X			24,25	The Coalition prepares a 1 May chlorpyrifos/diazinon Annual Monitoring Report each year. One chlorpyrifos exceedance on San Joaquin River observed in May 2013.
2	Determine compliance with established load allocations for diazinon and chlorpyrifos.	X			24,25	Load allocation exceeded in subareas (tributaries to SJR). To be discussed in May 2014 TMDL report.
3	Determine the degree of implementation of management practices to reduce off-site movement of diazinon and chlorpyrifos.	X				BMPs discussed in the SAMR, but not specifically for the TMDL. Specifics to be listed in the May chlorpyrifos/diazinon Annual Monitoring Report. 177 letters mailed and individual grower meetings held for the TMDL.
4	Determine the effectiveness of management practices and strategies to reduce off-site migration of diazinon and chlorpyrifos.	X				To be provided in the May report
5	Determine whether alternatives to diazinon and chlorpyrifos are causing surface water quality impacts.	X				Alternatives not required to be discussed in the SAMR. The Coalition will provide this information in the May report.
6	Determine whether the discharge causes or contributes to a toxicity impairment due to additive or synergistic effects of multiple pollutants.	X				To be provided in the May report
7	Demonstrate that management practices are achieving the lowest pesticide levels technically and economically achievable.	X				In general, growers implement additional non-structural practices, and structural management practices as the funding was available.

Footnotes

(1) Fourth Edition of the Water Quality Control Plan (Basin Plan) for the Sacramento River and San Joaquin River Basins (Diazinon and Chlorpyrifos Runoff in the San Joaquin River Basin, page V-4.00)

Westside Coalition Semi-Annual Monitoring Report (SAMR) Review Checklist

Report Name: Westside SJR SAMR 2012 Irrigation Submittal Date: 30 November 2013					Reviewer Name: Chris Jimmerson Review Date: 4/6/14	
		Review Criteria				
Item No.	I. Basin Plan Component Description (1)	Acceptable	Unacceptable	Incomplete	Page No. (Section No.)	Comments
	Dissolved Oxygen TMDL Related Sections Check List					
1	Determine compliance with established water quality objectives and the loading capacity applicable to dissolved oxygen in the San Joaquin River.	X			27, 30, Attachment 5, Exceedance Tally	Coalition provided DO data for sampling points that apply to the SJR in the data summaries
	II. ILRP MRP Component Description(2)					
2	Process to comply with Dissolved Oxygen TMDL - Status	X			27	A funding agreement was completed in April 2012 between the parties and a mechanism in place to fund short term operation of the Stockton Deepwater Ship Channel aerator until May 31, 2014.

Footnotes

(1) Fourth Edition of the Water Quality Control Plan (Basin Plan) for the Sacramento River and San Joaquin River Basins. Boron Dischargers into the Lower San Joaquin River (Basin Plan IV 32.00) Channel was adopted in 27 January 2005, and is in effect since 23 August 2006 by Resolution No. R5-2005-0005 into the Lower San Joaquin River. Final Staff Report October 2005

(2) Monitoring and Reporting Program Order No. R5-2008-0831 for Westside San Joaquin River Watershed Coalition under Executive Summary No. R5-2006-0053. Sections I.B and I.C (Pages 6 and 7)

Westside Coalition Semi-Annual Monitoring Report (SAMR) Review Checklist

Report Name: Westside Semi-Annual Management Plan **Submittal Date: 30 November 2013**				**Reviewer Name: Chris Jimmerson** **Review Date: 4/6/14**		
		Review Criteria				
Item No.	**I. Basin Plan Component Description (1)**	Acceptable	Unacceptable	Incomplete	**Page No. (Section No.)**	**Comments**
	Salt/Boron TMDL Related Sections Check List					
1	Salt/boron at Vernalis: Nonpoint source dischargers operating under waiver of waste discharge requirements must participate in a Regional Water Board approved real-time management program (Basin Plan IV 32.00 - IV 32.08).	X			30	The Regional Board and State Water Board are addressing the Basin Plan Salt and Boron requirements through the (1) Basin Plan Amendment for the San Joaquin River at Vernalis Salinity and Boron TMDL and (2) Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS).
	II. ILRP MRP Component Description (2)					
2	Process to comply Salt and Boron TMDL - Status	X			30	According to the SAMR, the Coalition is actively engaged in CVSALTS process and is an active member of the Central Valley Salinity Coalition that has been organized to facilitate the funding of the CVSALT effort. In addition the San Joaquin Valley Drainage Authority is providing contracting and contract administration services for the CVSALT effort. According to the SAMR, the Coalition has committed to substantial resources to help ensure that the CVSALT effort results in an effective and efficient salinity management program for the Central Valley.

Footnotes

(1) Fourth Edition of the Water Quality Control Plan (Basin Plan) for the Sacramento River and San Joaquin River Basins. Control Program for Salt and Boron Dischargers into the Lower San Joaquin River (Basin Plan IV 32.00)
and is in effect since 23 August 2006 by Resolution No. R5-2005-0005 into the Lower San Joaquin River. Final Staff Report October 2005

(2) Monitoring and Reporting Program Order No. R5-2008-0831 for Westside San Joaquin River Watershed Coalition under the Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands, Amended Order No. R5-2006-0053. Sections I.B and I.C (Pages 6 and 7)