



EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Central Valley Regional Water Quality Control Board

1 July 2013

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

Dr. Michael Johnson, Program Manager
East San Joaquin Water Quality Coalition
632 Cantrill Drive
Davis, CA 95618

REVIEW OF EAST SAN JOAQUIN WATER QUALITY COALITION 2013 ANNUAL MANAGEMENT PLAN UPDATE REPORT

Thank you for submitting the East San Joaquin Water Quality Coalition (Coalition) Annual Management Plan Update Report (MPUR), which was received on 1 April 2013. Central Valley Regional Water Quality Control Board staff reviewed the MPUR for compliance with Monitoring and Reporting Program (MRP) Order No. R5-2008-0005, and the Sacramento and San Joaquin River Basin Plan for specific Total Maximum Daily Load requirements.

As noted in the enclosed memorandum and checklist, staff determined that the Coalition's MPUR demonstrates compliance with the terms and conditions of the MRP Order, and meets or exceeds all reporting requirements. The MPUR provides comprehensive information regarding achievement of the performance goals outlined in the Coalition's Management Plan, and evaluates management practice effectiveness to achieve compliance with applicable water quality standards. As such, the MPUR compliments and further informs the answers to the Program questions that are addressed in the Coalition's 1 March 2013 Annual Monitoring Report. Monitoring results are assessed for exceedances and water quality improvements, detailed status updates on constituents and subwatersheds requiring a management plan are included, and actions taken to address TMDL requirements are summarized. Monitoring results indicate a trend of water quality improvements in the high priority subwatersheds, suggesting that grower education and implemented management practices are effective.

If you have any questions or comments regarding the review, or need any further information, please contact Jelena Hartman at jhartman@waterboards.ca.gov or by phone at 916-464-4628.

Original signed by

Joe Karkoski, Program Manager
Irrigated Lands Regulatory Program

Original signed by

Susan Fregien, Unit Supervisor
Monitoring and Implementation Unit
Irrigated Lands Regulatory Program

Enclosure: Staff Review of East San Joaquin Water Quality Coalition 1 April 2013 MPUR

Central Valley Regional Water Quality Control Board

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

FROM: Jelena Hartman
Environmental Scientist
MONITORING AND IMPLEMENTATION UNIT
IRRIGATED LANDS REGULATORY PROGRAM

DATE: 1 July 2013

SUBJECT: 1 APRIL 2013 ANNUAL MANAGEMENT PLAN UPDATE REPORT REVIEW –
EAST SAN JOAQUIN WATER QUALITY COALITION

On 1 April 2013, the California Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) received the East San Joaquin Water Quality Coalition (Coalition) 2012 Annual Management Plan Update Report (MPUR). The MPUR summarizes the Coalition's management plan efforts and monitoring results from 1 January through 31 December 2012. The MPUR was reviewed to determine compliance with reporting and monitoring requirements pursuant to the Monitoring and Reporting Program (MRP) Order No. R5-2008-0005 (section II.D, pages 24-25), the Sacramento and San Joaquin River Basin Plan (Basin Plan) for parameters with Total Maximum Daily Load (TMDL) requirements, and the Coalition's 2008 Management Plan.

Overall, the Coalition's 2013 MPUR demonstrates compliance with the terms and conditions of the MRP Order, and meets or exceeds all reporting requirements. Monitoring results are assessed for exceedances and water quality improvements, detailed status updates on constituents and subwatersheds requiring a management plan are included, and actions taken to address TMDL requirements are summarized. An itemized account of the MPUR components and reporting requirements based on the provisions in the MRP Order and Basin Plan is provided in the attached checklist. Additional comments on components that warranted further discussion are in the following sections; the memorandum section numbers correspond to item numbers in the attached checklist.

Monitoring in 2012 was temporarily reduced: select constituents were removed from assessment monitoring and, with the exception of Bear Creek @ Kibby Road, core and management plan monitoring were suspended from April through December 2012. Based on the 2012 monitoring results, six constituents in the Levee Drain @ Carpenter Rd (DO, EC, TDS, ammonia, nitrate, *E. coli*), and one constituent in the Deadman Creek @ Gurr Rd subwatershed (pH) require new management plans. Deadman Creek @ Gurr Rd is one of the fourth priority subwatersheds for which implementation of the focused management plan approach started in 2012. The Levee Drain subwatershed is scheduled for focused approach from 2016 through 2018. The Coalition's approach for addressing the water quality problems recognizes that sourcing of

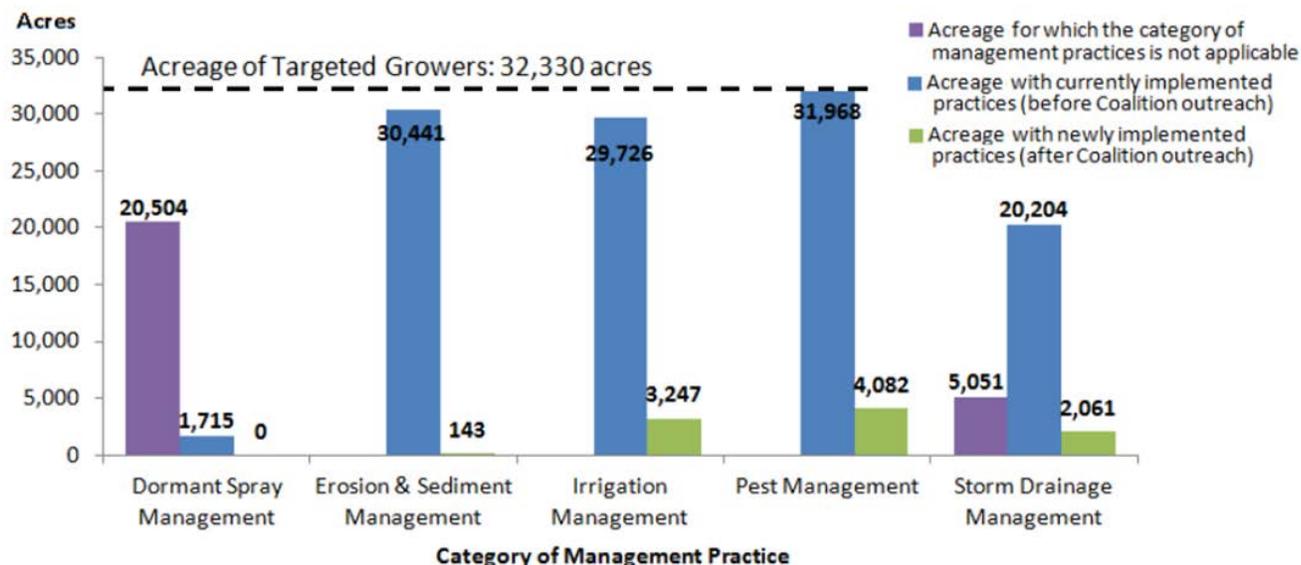
physical parameters and pathogen indicator bacteria exceedances is difficult and often inconclusive, and management plans prioritize constituents for which sourcing is possible, and for which management practices are available.

Item I.1. Identification of irrigated agriculture source

Staff recommends that results of any TIE should be considered when sourcing exceedances and identifying growers for targeted outreach in the cases where water column or sediment toxicity are under a management plan. For instance, *C. dubia* toxicity in the Highline Canal @ Lombardy Road subwatershed during January 2008 sampling implicated pyrethroids as a potential source of toxicity. Two other TIE in samples collected in September 2006 and March 2007 at the same site indicated toxicity was lost in the baseline evaluation suggesting that semivolatile and/or compounds with a short half-life were the cause of toxicity; pyrethroids are easily lost from water samples (adsorption to container walls, decomposition). While a widespread use of pyrethroids was reported in the period preceding the exceedance (p. 110 in 2008 SAMR), a PUR evaluation could give additional information about crops, time and place of applications that could be used when designing the focused management approach. It is possible that the analysis might yield similar results to the conducted evaluation that is presented in the MPUR; including the pyrethroids in the analysis would be an additional piece of evidence or may provide for a more refined list of potential sources/members to contact.

Item I.6. A process and schedule for evaluating management practice effectiveness

Additional management practices were implemented by 45 growers following Coalition outreach in the first, second and third high priority subwatersheds. The management practices implemented after the Coalition outreach include various practices for erosion and sediment management, pest management, and irrigation and storm runoff control. The MPUR summarizes both current and newly implemented management practices on targeted acreage (a copy of MPUR Figure 30 is included below).



MPUR Figure 30. Targeted acreage of categories of current and newly implemented management practices in the first, second and third priority site subwatersheds. Targeted acreage associated with a grower is displayed if one or more practice(s) are implemented per category. Several practices serve multiple purposes and fall into more than one category, but practices are counted only once with their primary category.

The MPUR summarizes the 2012 monitoring results in the high priority subwatersheds, and provides an overview of all exceedances in the Coalition region since 2004. The frequency of exceedances for the high priority management plan constituents in the first, second and third high priority subwatersheds indicate a trend of water quality improvement (MPUR Figure 33). Monitoring results suggest that the Coalition outreach and implemented management practices have been effective in addressing identified water quality problems. Additionally, there are Coalition-wide decreases in the proportion of exceedances suggesting that the general Coalition outreach, grower awareness and a shift to more efficient practices are leading to an improvement in water quality (Figure A).

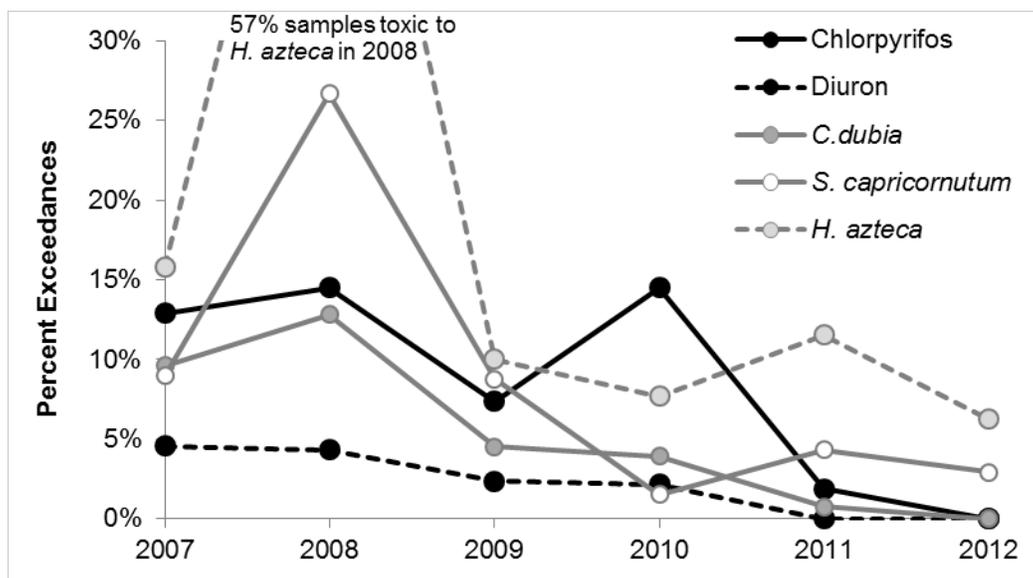


Figure A. Percent exceedances of chlorpyrifos, diuron, aquatic toxicity to *C. dubia* and *S. capricornutum*, and sediment toxicity to *H. azteca* in the Coalition area summarized by year.

Item I.7. Identification of the participants that will implement the Management Plan

Since 2008, the Coalition contacted over 250 growers as a part of the focused outreach in the high priority subwatersheds (Table B). In the process of determining which members should be targeted for focused outreach, the Coalition identifies all parcels with direct drainage within the high priority subwatersheds. Only member growers with parcels identified to have a potential for direct drainage and have applied constituents of concern were targeted for outreach. Sometimes targeted growers represent only a portion of parcels with direct drainage.

In the nineteen subwatersheds that were or are in the high priority for management plan implementation, the member growers represent only a fraction of area with direct drainage potential, ranging from 8% to 53% of acreage with the direct drainage potential (Table B). Not providing outreach and not having participation of growers who farm almost half or more of all acres with potential for direct drainage makes addressing water quality problems on the subwatershed level more difficult.

Some parcels with the potential for direct drainage have coverage through a different permit (e.g. dairies), while others may require but do not have regulatory coverage. The outreach to growers due to implementation of the Waste Discharge Requirements should address some of the issues as more parcels obtain the required regulatory coverage. If enforcement and/or

assistance with outreach are critical for outcome of a management plan, the Coalition should coordinate information with the Central Valley Water Board regarding non-member parcels with direct drainage potential in high priority subwatersheds.

Table B. The number of targeted members with parcels identified to have direct drainage potential, area represented by targeted growers, total area with the direct drainage potential, the percentage of the total area with the direct drainage potential, and the total irrigated acres in the site subwatershed.

Priority Group	Site Subwatershed Name	Number of targeted growers	Area represented by targeted growers (acres)	Area with direct drainage potential (acres)	% targeted area versus total direct drainage	Total irrigated area (acres)
First (2008-2010)	Dry Creek @ Wellsford Rd	25	6,392	*	27%	23,794
	Duck Slough @ Hwy 99	24	4,016	*	38%	10,695
	Prairie Flower Drain @ Crows Landing	11	865	*	24%	3,611
Second (2010-2012)	Bear Creek @ Kibby Rd	14	1,292	4,179	31%	7,784
	Cottonwood Creek @ Rd 20	25	5,768	12,940	45%	36,906
	Duck Slough @ Gurr Rd	6	2,656	5,761	46%	20,414
	Highline Canal @ Hwy 99	10	368	1,106	33%	35,476
Third (2011-2013)	Berenda Slough along Ave 18 1/2	19	4,103	10,742	38%	24,452
	Dry Creek @ Rd 18	17	4,710	8,914	53%	20,779
	Lateral 2 1/2 near Keyes Rd	25	1,826	3,905	47%	31,810
	Livingston Drain @ Robin Ave	11	335	1,430	23%	11,670
Fourth (2012-2014)	Black Rascal Creek @ Yosemite Ave	1	301	1,844	16%	997
	Deadman Creek @ Gurr Rd	2	240	2,909	8%	40,418
	Deadman Creek @ Hwy 59	8	3,414	11,501	30%	37,400
	Hilmar Drain @ Central Ave	3	455	1,160	39%	1,686
Fifth (2013-2015)	Hatch Drain @ Tuolumne Rd	1	36	275	13%	244
	Highline Canal @ Lombardy Rd	22	4,348	9,228	47%	30,704
	Merced River @ Santa Fe	13	4,197	12,172	34%	34,931
	Miles Creek @ Reilly	14	2,191	8,603	25%	10,183

* Area with direct drainage potential in the first priority subwatersheds was not reported. The proportion of targeted area was calculated and reported relative to the total irrigated area in a subwatershed.

Annual Management Plan Update Report Review Checklist

Report Name: ESJWQC 2013 Annual Management Plan Update Report			
Submittal Date: 1 April 2013		Reviewer Name and Review Date: Jelena Hartman, 17 May 2013	
Item No.	MPUR Item Name	Page Number	Comments
I. Management Plan Components⁽¹⁾			
1	Identification of irrigated agriculture source -- general practice or specific location -- that may be the cause of the water quality problem, or a study design to determine the source.	21, Appendix I	<p>The Coalition relies on the established process for identification of general practices or specific location that may be the cause of the water quality impairments. Detailed identification of agriculture source that may be the cause of exceedances is discussed for the 2012-2014 and 2013-2015 priority subwatersheds; sourcing in subwatersheds that became priority before 2012 was described in previous MPUR's.</p> <p>See staff memorandum for additional comments.</p>
2	Identification of management practices to be implemented to address the exceedances.	49-50, 50-90	<p>Management practices that could be implemented to address water quality problems have been identified and discussed previously. During the general and focused outreach, the Coalition representatives recommend implementation of management practices tailored to specific water quality exceedances and current management practices. Not all targeted participants may have additional management practices recommended for implementation, as growers are implementing management practices designed to address water quality impairments even before the Coalition's focused outreach in the site subwatersheds (e.g. MPUR, Figure 30).</p>
3	Management practice implementation schedule.		<p>In general, the on-farm management practice implementation is based on growers' schedule and availability of funds. The Coalition follows up with members in the high priority subwatersheds that had additional management practices recommended to find out what practices were implemented and/or reasons for potentially not implementing the recommended practices.</p>
4	Management practice performance goals with a schedule.	29-42	<p>The collective performance objective on the subwatershed level is the improvement of water quality and attainment of water quality objectives.</p> <p>The Coalition has developed performance goals and measures with respect to grower outreach and documentation of management practice implementation in the high priority subwatersheds. The performance goals and measures are tracked and reported in the MPUR and during the quarterly management plan update meetings. Overall, the Coalition has been meeting the set management plan milestones, and has communicated any delays or problems in a timely manner.</p>
5	Waste-specific monitoring schedule.	21-22, 25-29 Appendix I	<p>Based on the prioritization of exceedances (MPUR, Figure 4), in 2012 the Coalition conducted Management Plan Monitoring (MPM) for copper, lead, chlorpyrifos, diazinon, diuron, water column toxicity to <i>Ceriodaphnia dubia</i>, <i>Pimephales promelas</i> and <i>Selenastrum capricornutum</i>, and sediment toxicity to <i>Hyalella azteca</i> (MPUR, Table 3). Waste-specific schedule and monitoring results are tabulated for each high priority subwatershed in the MPUR Appendices.</p> <p>In 2013, the Coalition has been conducting management plan monitoring at 19 high priority subwatersheds (1st through 5th priority). Constituents scheduled for MPM include copper, lead, chlorpyrifos, diazinon, dimethoate, diuron, and water column and sediment toxicity; the waste-specific schedule is presented in Table 7 in the MPUR.</p>
6	A process and schedule for evaluating management practice effectiveness.	10-20, 91-103	<p>Evaluation of management practice effectiveness is an established process and has been described previously. The results of focused outreach (management practice follow-up surveys) and monitoring results provide the Coalition with data to evaluate the effectiveness of management practices.</p>
7	Identification of the participants and Coalition Group(s) that will implement the Management Plan.	Appendix I	<p>Identification of participants for focused outreach is an established process and has been described in previous MPUR. Mapping, PUR data, field visits, grower surveys, and monitoring data allow identifying parcels with potential for direct drainage and potential for spray drift to reach waterways in each subwatershed. The effort is then focused on members who have the potential to affect water quality. Figures 20-22 and 26 show areas within the subwatersheds where focused outreach was initiated in 2012 (fourth priority).</p> <p>See staff memorandum for additional comments.</p>
8	An identified routine schedule of reporting to the Regional Water Board.	43	<p>The Coalition submits exceedance reports following each sampling event, participates in Management Plan Quarterly Status meetings, and submits annual MPUR each year.</p>
9	Signed Transmittal Letter.	included	

Annual Management Plan Update Report Review Checklist

Item No.	MPUR Item Name	Page Number	Comments
II. Management Plan Reporting requirements⁽¹⁾			
1	Achievement of performance goals in high priority subwatersheds	29-48	The MPUR demonstrates that the Coalition is successfully meeting the general management goal for the priority subwatersheds, and provides an update on all performance goals (PG) and specific performance measures at the first five sets of the high priority site subwatersheds. Table 15 shows an itemized account of the Coalition outreach in the high priority subwatersheds since 2009. The Coalition regularly discusses Management Plan activities and strategy with the Central Valley Water Board staff (PG 5).
	1.1 First (2008-2010) and second (2010-2012) priority	30-33, 50-53	All tasks associated with approved performance measures were completed on time and reported previously. The Coalition has scheduled management plan monitoring during months of previous exceedances in 2013.
	1.2 Third priority (2011-2013)	34-36, 54-69	Follow-up with growers who received recommendation for additional management practices was conducted in 2012, and analysis of newly implemented management practices (PG 3) and an evaluation of management practice effectiveness (PG 4) are reported in the MPUR combined with the first and second priority subwatersheds. The Coalition will continue management plan monitoring in 2013.
	1.3 Fourth priority (2012-2014)	37-39, 70-90	Initial contact with targeted growers was completed in 2012 (PG 1). The Coalition documented current management practices, and recommended implementation of additional management practices (PG 2). Follow up with growers on the newly implemented practices is in progress (surveys were received from 9 out of 14 growers), and the analysis of available information on management practices is included in the MPUR.
	1.4 Fifth priority (2013-2015)	40-42	The Coalition completed initial contact with all targeted growers (PG 1), and is conducting individual meetings to document current management practices and recommend additional practices where applicable (PG 2). Follow up contacts are planned for late 2013/early 2014. The ratio of represented acreage in the Highline Canal @ Lombardy Rd calculated in Table 12 should be 47%.
2	Stages when evaluations will occur to determine the effectiveness of the management practice implementation	Figure 2, 91-102	The Coalition has defined the stage and process for evaluating the effectiveness of the management practices. The requirement is addressed by the Performance Goal 4 in each set of high priority subwatersheds. One or more years of water quality data are available for evaluation of the effectiveness of the newly implemented management practices in the eleven site subwatersheds (first, second, and third priority).
3	Information whether Management Plan strategies need to be revised		The essential steps in the Coalition's Management Plan strategy include outreach to growers, inventory of management practices already in place and implemented as a result of outreach, and evaluation of the effectiveness of the additional management practices. Monitoring data thus far indicate that the Coalition's approach is effective. At this time, increased grower enrollment and participation of existing and new members may be more critical for the outcome of management plans than strategy revisions (see item I.7 and staff memorandum).
III. Update on actions to address TMDL requirements⁽²⁾			
1	Chlorpyrifos and diazinon TMDL (Basin Plan IV 36.02 - IV 36.03, V-4.00).	107-108	In 2012, there was compliance with the load capacity in the San Joaquin River, and the Load Allocations for non-point sources in the ESJ region. Complete results are reported in 2013 TMDL Annual Monitoring Report submitted on 1 May 2013. NB: the Load Allocations are assigned to <u>five</u> subareas, the MPUR lists an erroneous number.
2	Salt and boron TMDL (Basin Plan IV 32.00 - IV 32.07).	108-110	The Coalition representatives participate in the CV-SALTS process, and monitoring for salt, nitrate and boron is conducted in all Coalition zones. The salinity issues are discussed with growers at outreach meetings.
3	Dissolved oxygen TMDL (Basin Plan IV 37.01 - IV 37.03).	111-113	During monthly monitoring of tributaries in 2012, the water quality objective for dissolved oxygen was exceeded in three subwatersheds. The management plan process, discussions of water quality concerns during grower outreach in high priority subwatersheds, and regular and management plan monitoring include dissolved oxygen. The Coalition representatives have been involved and will continue to participate in the Dissolved Oxygen TMDL Technical Working Group Meetings.
Footnotes			
(1) Monitoring and Reporting Program Order No. R5-2008-0005 for Coalition Groups under the Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands Amended Order No. R5-2006-0053. Section II.D (Pages 24 and 25)			
(2) "Guidance for Management Plan Update Report Items" submitted by Staff to ESJWQC on 10/23/2009 as per request of the ESJWQC to provide clarification on the minimum set of items that the Coalition needs to include in the Annual Management Plan Update Report (Annual MPUR) to comply with the requirements in Board Order No. R5-2008-0005.			