



California Regional Water Quality Control Board Central Valley Region

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8 June 2011

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SAN JOAQUIN COUNTY AND DELTA WATER QUALITY COALITION ANNUAL MANAGEMENT PLAN UPDATE REPORT REVIEW

Thank you for the submittal of the San Joaquin County and Delta Water Quality Coalition (Coalition) Annual Management Plan Update Report (MPUR). Staff has completed a review memorandum of the MPUR for compliance with Monitoring and Reporting Program Order No. R5-2008-0005 (MRP Order) and the Sacramento and San Joaquin River Basin Plan for specific Total Maximum Daily Load (Basin Plan - TMDL) requirements.

The Coalition provided the required information for all components of the MPUR and Basin Plan -TMDL requirements. Based on the performance goals and measures described in the Management Plan, the Coalition has technically completed the 2008-2010 High Priority site subwatersheds. However, since Duck Creek chlorpyrifos exceedances do not appear to have been abated in 2010, the Coalition will be conducting an additional one year of monitoring during 2011.

Since the 2010 proposed management practices might not have been fully implemented until after the 2010 irrigation season, the Coalition may need to revise its Management Plan strategy if chlorpyrifos exceedances continue in the Duck Creek site subwatershed during 2011.

Staff identified three items in which the Coalition might improve the Annual MPUR reporting. These were discussed with the Coalition at the 3 May 2011 quarterly meeting.

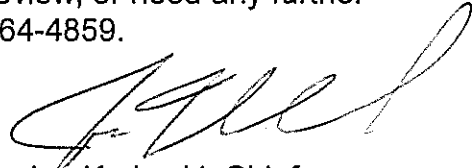
- Tabulate exceedance percentages (e.g. exceedances/tests x 100 = %)
- Compare exceedance percentages based on Zones and High Priority areas
- Annualize and chart exceedance percentages to show progress

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If you have any questions or comments regarding the review, or need any further information, please contact Chris Jimmerson at (916) 464-4859.



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Enclosures: 1 April 2011 Annual MPUR review memo
MPUR review checklist



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TO: Susan Fregien
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FROM: Chris Jimmerson
Environmental Scientist
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DATE: 10 May 2011

SIGNATURE: 

1 APRIL 2011 MANAGEMENT PLAN UPDATE REPORT - SAN JOAQUIN COUNTY AND DELTA WATER QUALITY COALITION

The California Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) received the San Joaquin County and Delta Water Quality Coalition (Coalition) Management Plan Update Report (MPUR) on 1 April 2011 for compliance with Monitoring and Reporting Program Order No. R5-2008-0005 (MRP Order). The MPUR is required per the MRP Order and the Management Plan approved by the Central Valley Water Board Executive Officer on 23 January 2009. The Central Valley Water Board staff has reviewed the MPUR to evaluate it for sufficient information regarding the achievement of the performance goals and required reporting components. This memorandum summarizes the review findings.

The review section item numbers are the same as those used in the attached MPUR Checklist. Staff derived the MPUR Checklist directly from the MRP Order, the Basin Plan - TMDL requirements, and the 22 October 2009 MPUR Guidance Document. Staff used the checklist to verify that the content presented in the MPUR met the minimum prescribed report requirements. If the minimum requirements were not met or items warranted further explanation, this memorandum provides a discussion. For those items that did require further discussion, these are briefly noted in the attached checklist.

A. MRP ORDER

A.I.4. Management practice performance goals with a schedule

According to the performance goal schedule status for High Priority site subwatershed Duck Creek at Highway 4, the Coalition completed the Management Plan and reporting requirements. Since additional management practices were implemented in 2010, the Coalition said it will continue monitoring for an additional year to obtain more water quality data at the first set of High Priority sites, and results will be reported in the 2012 MPUR.

The MPUR indicated that grower surveys recorded that new management practices have been implemented: 48% of the acres in the Duck Creek site subwatershed reduced pesticide use, 26% are using filter strips, 15% implemented irrigation management practices, and 11% of the acres installed drip irrigation. The Management Plan implementation for Duck Creek has two years of management plan monitoring data, and based on the pesticide use reports (PURs)

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and surveys, Chlorpyrifos use is on a decreasing trend in this subwatershed. Page 21 Appendix I indicates that the lowest use of Chlorpyrifos occurred in 2010. Staff analyzed the PUR and exceedance data and in 2008 growers applied approximately 1,240 pounds of active ingredient (chlorpyrifos). In 2008, 50% of the tests were exceedances (see Table A). In 2009, growers applied 5,600 pounds and 33% of the tests were exceedances. In 2010 growers applied 840 pounds of chlorpyrifos and 41% of the tests were exceedances. This suggests that reducing application amounts as a management practice may have little effect and the Coalition will need to focus on promoting additional management practices.

Table A. Chart A data.

Year	Chlorpyrifos, Total, ug/L Exceedances / Tests	Pounds Chlorpyrifos
2006	2/5	7,217
2007	3/9	2,876
2008	5/10	1,240
2009	3/9	5,593
2010	4/9	835

With the number of acres of alfalfa and walnuts in the area, the Coalition said it is focusing its outreach on alfalfa and walnut growers and prevention of aerial spray drift before the irrigation season. The Coalition held one "spray-safe" meeting in February 2010. The frequency of these meetings and other targeted outreach should increase if the Coalition believes its efforts should be focused on alfalfa and walnut crops and spray drift.

A.III.5 Are water quality conditions in waters getting better or worse through implementation of management practices?

Page 97 of the MPUR states, "Within the SJCDWQC region, there has been a reduction in the number of exceedances of chlorpyrifos (diazinon exceedances are almost nonexistent in the Coalition region) from 2008 to 2010." Relying on the trend in the number of exceedances to show water quality changes is not as accurate as showing the percentage of exceedances per tests. The Coalition should add the percentage of exceedances when reporting exceedances in tables and charts.

After a 29 April phone meeting with the Coalition, the Coalition revised pages 95 and 96 of the MPUR, to accurately tally the sediment toxicity counts for the 2008 and 2010 Management Plan sites. The second sentence of page 95 should read, "When compared to 2008 sediment results, the number of toxic samples remained the same in 2010 (8 toxic samples in 2008, 8 toxic samples in 2010)".

B.I. TMDL Chlorpyrifos/Diazinon

B.I.4 Determine the effectiveness of management practices and strategies to reduce off-site migration of diazinon and chlorpyrifos

The Coalition should summarize and compare the water quality results and therefore the potential effectiveness of the implemented TMDL management practices. The MPUR could

benefit by comparing the results in Zones 1-6 to each other and also compare the High Priority site-groups on an annualized basis.

The Management Plan is designed so that sites within the zone are representative of conditions within the entire zone. Therefore, it may be appropriate to combine/group the exceedance tallies and percentages for sites in each zone to summarize the water quality results. For example, the Coalition could choose Zone 2 to chart and tabulate chlorpyrifos/diazinon TMDL results because the first set of High Priority sites are within Zone 2, which are the site subwatersheds where the Coalition has had the most time to focus its efforts.

The High Priority groups of sites are those where the Coalition has prioritized and conducted focused Management Plan activities. Therefore, it may be appropriate to combine/group the exceedance tallies for each High Priority set to represent the effects of Management Plan efforts. For example, the Coalition could choose High Priority set 1 to chart and tabulate chlorpyrifos/diazinon TMDL results because the Coalition has technically completed the performance goal schedules and measures for this set.

SJCDWQC Management Plan Update Report
Review Checklist

Report Name: SJCDWQC Management Plan Update Report		Reviewer Name: Chris Jimmerson				
Submittal Date: 1 April 2011		Review Date: 4/8/11 -				
Item No.	Management Plan Component Description ⁽¹⁾	Review			Page No. (Section No.)	Comments
		Acceptable A	Unacceptable U	Incomplete I		
A. MRP Order						
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.	X			Apdx I (Source ID and Outreach), 19	Coalition used PUR, and relevant water quality data to assist with determining source of exceedances. As a result, Coalition targets certain crops and geographic areas. Not all sources have been determined.
2	Identification of management practices to be implemented to address the exceedances.	X			42,47,52,57, 61,65,70,74, 77,Apdx II,	Provides summary of mgt practices to be implemented for each HP site subwatershed. Surveys indicate reducing the use of the pesticide of concern and filter strips are the most common practices.
3	Management practice implementation schedule. Implementation may occur through another Water Board regulatory program designed to address the specific exceedances.	X			38 (Tbl 13), 39	Discussed in the Performance Goals schedules. Mgt practices will continue to be implemented through 2011.
4	Management practice performance goals with a schedule.	X			21, 22, 26-35	Information on implementation schedules was provided in the Perf. Goal and Sched. Section for the High Priority site-subwatersheds.
5	Waste-specific monitoring schedule.	X			23-25	Table 7 provides monitoring schedule for Mgt Plan monitoring.
6	A process and schedule for evaluating management practice effectiveness.	X			18, 26-35 (Perf Goals Sched's)	Information on implementation and evaluation schedules was provided in the Performance Goals and Schedules sections.
7	Identification of the participants and Coalition Group(s) that will implement the Management Plan.	X			27,31,34	Identified in the Performance Goals.
8	An identified routine schedule of reporting to the Regional Water Board.	X			4	Coalition submits annual MPUR 1 April, and holds quarterly meetings.
9	Signed Transmittal Letter.	X				
II. Prioritization Strategy						
1	Prioritization of the water quality problems was developed	X			6,19,20	Flow charts and text describe how each MgtPlan analyte is to be prioritized.
2	The prioritization may include considerations such as extent, magnitude and duration, or be based on a design that assumes that resolution of one type of contaminant (such as sedimentation) may help resolve other types of measured exceedances (such as pesticides, toxicity, DO and pH)	X			20	Part of the prioritization process includes coinciding sampling during months of past exceedances. TMDL monitoring is high priority. Field parameters are lower priority.
3	Management Plan reporting schedule	X			26 et seq	Coalition submits annual MPUR, quarterly reports. Performance Goals include schedule of when performance measures and outputs are to be completed.
4	Steps to identify appropriate management practices. Such steps involve conducting management practices workshops and/or developing a management practices worksheet questionnaire to determine the management practices being used in the identified areas.	X			37-41, 56-71, Apdx II	Mgt Practice surveys provided at outreach meetings. Members return surveys to document current mgt practices and identify additional mgt practices to be implemented. Coalition submits follow up surveys to document if mgt practices were implemented. Coalition prepared mgt practice workbooks for growers to use.
III. MRP Program Questions						
1	QUESTION No.1: Are conditions in waters of the State that receive discharges of wastes from irrigated lands within Coalition Group boundaries, as a result of activities within those boundaries, protective of beneficial uses?	X				Addressed in the 3/1/11AMR Table 44, pages 136,137. Provides description of monitoring sites, beneficial use, and if BU are impaired.
2	QUESTION No.2: What is the magnitude and extent of water quality problems in waters of the State that receive agricultural drainage or are affected by other irrigated agriculture activities within Coalition Group boundaries, as determined using monitoring	X			12, Apdx II	Exceedance tally in MPUR provides information on extent, Apdx II provides results providing information on magnitude. Additionally the tabulated results are reported in Appendix II of AMR.

SJCDWQC Management Plan Update Report
Review Checklist

Item No.	Management Plan Component Description ⁽¹⁾	Review			Page No. (Section No.)	Comments
		Acceptable A	Unacceptable U	Incomplete I		
3	QUESTION No.3: What are the contributing source(s) from irrigated agriculture to the water quality problems in waters of the State that receive agricultural drainage or are affected by other irrigated agriculture activities within Coalition Group boundary	X			94, 95, Apx 1	MPUR discusses potential contributing sources of sediment toxicity. PUR reviews and monitoring data were used to correlate sources by reviewing crop types and application timing. Walnuts and alfalfa tend to receive largest applications of chlorpyrifos, but do not mean the major exceedance source. Sources could be from smaller crop types.
4	QUESTION No.4: What are the management practices that are being implemented to reduce the impacts of irrigated agriculture on waters of the State within the Coalition Group boundaries and where are they being applied?	X			42, 44-78	According to the surveys collected from the growers the MPUR provides information on mgt practices categorized as: current, implemented during reporting period, to be implemented - for each of the High Priority areas. Reducing the use of pesticide is the most common practice implemented.
5	QUESTION No.5: Are water quality conditions in waters of the State within Coalition Group boundaries getting better or worse through implementation of management practices?	X			75, 78, 79, 82, 91	Some evidence reports water quality is not getting worse and Coalition currently speculates water quality is improving or will improve as the Coalition implements its strategy. Reported data (pg 82, chlorpyrifos) compares number of exceedances per year to show trend, but this would be better represented if reported as a percentage.
IV. ILRP MRP Component Description ⁽¹⁾						
1	Sampling sites that are compliance monitoring sites for TMDLs	X			83, 84, 85, 86, 98	The sampling sites are based within the legal Delta boundaries.
2	Implementing an applicable TMDL	X			84 et seq	TMDLs implemented: chlorpyrifos, diazinon, salt/boron, Dissolved oxygen.

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)

**SJCDWQC Management Plan Review
Chlorpyrifos/Diazinon TMDL Checklist**

Report Name: SJCDWQC Management Plan Update Report		Reviewer Name: Chris Jimmerson				
Submittal Date: 1 April 2011		Review Date: 4/8/11 -				
Item No.	Basin Plan Component Description ⁽¹⁾	Review Criteria			Page No. (Section No.)	Comments
		Acceptable A	Unacceptable U	Incomplete I		
	B.I. TMDL Chlorpyrifos/Diazinon					
1	Determine compliance with established water quality objectives and the loading capacity concentration applicable to diazinon and chlorpyrifos in the San Joaquin Delta.	X			85,86,91	Table 20 reports 13 chlorpyrifos 2010 WQTL exceedances. Table 22 reports 86% of samples grouped by the Zones for 2010 are compliant with TMDL. 2009 was 87% compliant.
2	Determine compliance with established load allocations for diazinon and chlorpyrifos in San Joaquin Delta.	X			86, 90	Table 21 reports compliance results relating to loading capacity. For 2010, compliance rates for the representative site for Zone 1, Zone 2, Zone 3, Zone 4, Zone 5 were 100%, 74%, 99%, 99%, 100% respectively. Zone 6 data not available because mgt plan monitoring not required.
3	Determine the degree of implementation of management practices to reduce off-site movement of diazinon and chlorpyrifos.	X			44-78	Provides percentage summaries of implemented mgt practices for each of the High Priority areas.
4	Determine the effectiveness of management practices and strategies to reduce off-site migration of diazinon and chlorpyrifos.	X			Apdx II	Submitted DPR Grant workbooks discussing pesticide mgt for alfalfa, tomato, walnut and wine grape crops. Workbooks discuss effectiveness of mgt practices.
5	Determine whether alternatives to diazinon and chlorpyrifos are causing surface water quality impacts.	X			92, 94	Alternatives are mostly pyrethroids which tend adsorb to particulates. The Coalition is informing growers that alternatives may cause other water quality problems.
6	Determine whether the discharge causes or contributes to a toxicity impairment due to additive or synergistic effects of multiple pollutants.	X			94,95	Additive or synergistic effects require the identification of all pollutants in the discharge, and the ILRP monitors only for a specific set. Therefore determining additive or synergistic effects lacks the data to make a determination.
7	Demonstrate that management practices are achieving the lowest pesticide levels technically and economically achievable.	X			97	If members are implementing mgt practices then it probably is economically feasible. If mgt practices are not being implemented then probably not feasible. A smry of mgt practices is presented on page 42.

Footnotes

- (1) Amendments to Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control of Diazinon and Chlorpyrifos Runoff Into the Lower San Joaquin River. Final Staff Report October 2005

SJCDWQC Management Plan Review
Salt/Boron TMDL Checklist

Report Name: SJCDWQC Management Plan Update Report		Reviewer Name: Chris Jimmerson				
Submittal Date: 1 April 2011		Review Date: 4/8/11 -				
Item No.	Basin Plan Component Description	Review Criteria			Page No. (Section No.)	Comments
		Acceptable A	Unacceptable U	Incomplete I		
	B.II. TMDL Salt/Boron					
	Salt/Boron TMDL Related Sections					
1	Salt/boron at Vernalls: 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 32.04).	X			97-98	Compliance is being achieved through participation of CV-SALTS and communicating to growers that are found within small portions of Stanislaus River and Northwest Side subareas.
	ILRP Guidance for Mgt Plan Update Report ⁽¹⁾					
2	⁽¹⁾ Lists or describes the affected TMDL sub areas.	X			97-98	Coalition lists the TMDL area as Stanislaus River to Delta Boundary. This section could benefit by also listing the Northwest Side, Stanislaus River sub-areas where TMDL is in effect within the Coalition boundary.
3	⁽¹⁾ Addresses stated Mgt Plan efforts to meet the TMDL.	X			97-98	Coalition is communicating with growers in these areas about the Basin Plan requirements.
4	⁽¹⁾ List the sampling site(s) used to implement the TMDL.	X			97-98	Walshall Slough at Woodward Ave is site used to implement TMDL.

Footnotes

(1) ILRP Guidance for Management Plan Update Report Items. Submitted to Coalition on 22 October 2009.

Report Name: SJCDWQC Management Plan Update Report		Reviewer Name: Chris Jimmerson				
Submittal Date: 1 April 2011		Review Date: 4/8/11 -				
Item No.	Basin Plan Component Description	Review Criteria			Page No. (Section No.)	Comments
		Acceptable A	Unacceptable U	Incomplete I		
	B.III. TMDL Dissolved Oxygen					
	Dissolved Oxygen TMDL Related Sections					
1	Determine compliance with established water quality objectives and the loading capacity applicable to dissolved oxygen in the Stockton Deep Water Ship Channel.	X			2-3, 98-99	Ag influenced tributaries to SJ River deep water ship channel are routinely monitored as described in the MRPP and Mgt Plan. DO is prioritized.
	(1) ILRP MRP Component Description					
2	⁽¹⁾ Lists or describes the affected TMDL sub areas.	X			2-3, 98-99	MPUR lists the subarea affected.
3	⁽¹⁾ Discusses how the Coalition's boundary influences the efforts to implement the DO TMDL.	X			2-3, 98-99	
4	⁽¹⁾ Addresses stated Mgt Plan efforts to meet the TMDL.	X			2-3, 98-99	Coalition participated in the five DO TMDL Working Group meetings.

(1) ILRP Guidance for Management Plan Update Report Items. Submitted to Coalition on 22 October 2009.