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## Central Valley Regional Water Quality Control Board

4 November 2015

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

### ***PARTIAL APPROVAL OF THE EAST SAN JOAQUIN WATER QUALITY COALITION'S SURFACE WATER QUALITY MANAGEMENT PLAN***

Thank you for your timely submittal of the East San Joaquin Water Quality Coalition (Coalition) Surface Water Quality Management Plan (SQMP), as required by the Waste Discharge Requirements General Order R5-2012-0116-R3. Based on the information provided in the revised SQMP and the attached staff memorandum, the updated SQMP includes a compliance schedule to address each constituent with irrigated agriculture as a known source. The SQMP also provides a timetable to conduct source identification studies for constituents with unknown sources of exceedances.

In the SQMP, the Coalition requested a change in the dissolved oxygen (DO) trigger limit from 7 mg/L to 5 mg/L in four waterbodies where the "COLD" water beneficial use was originally assumed to apply. Staff reviewed the DO water quality objectives in the Basin Plan, and concluded that the "WARM" water beneficial use is more appropriate. Therefore, I approve the use of the 5 mg/L DO trigger limit in Cottonwood Creek @ Rd 20, Ash Slough @ Ave 21, Berenda Slough along Ave 18 ½, and Dry Creek @ Rd 18.

In the SQMP, the Coalition also requested that the DO water quality trigger limit for 12 constructed agricultural conveyance/drainage structures either be removed or lowered to 5 mg/L. The Coalition correctly stated that beneficial uses should not be assigned to constructed agricultural conveyance structures by the tributary rule. The Central Valley Water Board's Basin Planning Unit is currently developing a procedure to verify that certain water bodies meet the criteria of a fully constructed agricultural conveyance and a process for determining what, if any, beneficial uses apply. Therefore, the Coalition's request to remove a trigger limit would need to be addressed as part of the anticipated basin planning process.

Since water quality trigger limits were developed in part to ensure the protection of beneficial uses in downstream water bodies, additional information is needed to evaluate lowering the DO trigger limit to 5 mg/L for the 12 conveyance/drainage structures, such as whether the WARM or COLD beneficial use applies downstream. Please work with staff to provide the necessary information to justify the reduction of the DO trigger. Upon submittal of the required information, staff will prepare a separate evaluation memo addressing this request.

The Coalition's SQMP also proposes to develop a workplan for an *E. coli* source identification study. In a February 2012 letter, I directed Central Valley Coalitions to develop a joint approach for *E. coli* management plans and still believe that a collaborative approach will result in more cost effective, consistent, and technically sound results. Therefore, the Coalition is not required to develop a source identification study workplan for *E.coli* until I approve a joint *E. coli* management plan approach for the Central Valley Coalitions.

Based on staff's comprehensive evaluation, the requirements of all other elements in the SQMP were satisfactorily met. I approve the Coalition's SQMP, with the exception of the two elements discussed above.

If you have any questions or comments regarding the review, or need any further information, please contact Yared Kebede at [yared.kebede@waterboards.ca.gov](mailto:yared.kebede@waterboards.ca.gov) or by phone at 916-464-4828.

Sincerely,

*Original signed by*

Pamela C. Creedon  
Executive Officer

Enclosures: Staff Review of Revised Surface Water Quality Management Plan  
Surface Water Quality Management Plan Review Checklist

Cc: Michael Johnson, MLJ-LLC, Davis

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## Central Valley Regional Water Quality Control Board

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

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

DATE: 23 October 2015

SUBJECT: REVIEW OF THE EAST SAN JOAQUIN WATER QUALITY COALITION'S  
SURFACE WATER QUALITY MANAGEMENT PLAN

The East San Joaquin Water Quality Coalition (Coalition) submitted the Surface Water Quality Management Plan (SQMP) on 1 May 2014 as required by the Monitoring and Reporting Program (MRP) Order R5-2012-0116-R3 (Order). Staff's initial review found that the updated SQMP did not address all Management Plan requirements in the Order. Staff and Coalition representatives held a meeting on 3 February 2015 to discuss the Management Plan components in need of clarification or revision. The Coalition resubmitted the revised SQMP on 10 March 2015 to conform to the requirements in the Order and the Monitoring and Reporting Program, Appendix MRP-1.

The Coalition's updated SQMP addresses management plans triggered by exceedances of a water quality objective (WQO) or trigger limit (WQTL) more than one time in a three year period, or one exceedance if the constituent is subject to a Total Maximum Daily Load. Staff reviewed the SQMP to determine compliance with requirements of MRP-1 (see SQMP checklist) and to evaluate the effectiveness of the Management Plan to meet Surface Water Limitations in provision III.A.1 of the Order. The main Management Plan components and staff recommendations are discussed below. The memorandum section titles and numbers correspond to item numbers in the attached SQMP Checklist.

### **Item A. Introduction and Background**

All elements of this component are included in the SQMP and meet the MRP Order requirements (see SQMP checklist).

**Item A.2. Water Quality Triggers** – Within the SQMP, the Coalition requested to change the dissolved oxygen (DO) trigger limit from 7 mg/L to 5 mg/L at Cottonwood Creek @ Rd 20, Ash Slough @ Ave 21, Berenda Slough along Ave 18 ½, and Dry Creek @ Rd 18. The SQMP provides justification that the 5 mg/L DO trigger limit is applicable to the four ephemeral water bodies in Madera County (Pages 20-21). Staff reviewed the DO classification criteria in the Basin Plan, and concluded that the "COLD" water beneficial use does not apply to the four water bodies. Staff also coordinated with Basin Planning and NPDES programs to make sure that the proposed changes are consistent with the WQO of the respective programs. Staff recommends approval of the 5 mg/L DO trigger limit.

The Coalition also requested that the DO water quality trigger limit for 12 constructed agricultural conveyance/drainage structures either be removed or lowered to 5 mg/L (SQMP, Table 7). The Coalition correctly stated that beneficial uses should not be assigned to constructed agricultural conveyance structures by the tributary rule. The Central Valley Water Board's Basin Planning Unit is currently developing a procedure to verify that certain water bodies meet the criteria of a fully constructed agricultural conveyance and a process for determining what, if any, beneficial uses apply. Therefore, the request to remove the trigger limit would need to be addressed in the upcoming basin planning process. Staff recommends that additional information be provided by the Coalition for staff to evaluate lowering the DO trigger limit. Staff suggests that the Coalition provide background information similar to that provided for the four water bodies discussed above.

#### **Item B. Physical Setting and Information**

All elements of this item were fully and adequately addressed.

**Item B.1.b, Constituent of Concerns** – The Management Plan for field measurements includes DO, pH and Specific Conductivity (SC). The Management Plan for Total Dissolved Solids (TDS) is no longer required under the Order, and will be converted to the Management Plan for SC. Table 4 in the SQMP lists the status of management plans for constituents in the Coalition region through September 2013. For constituents of concern with unknown agricultural sources, the Coalition proposes to first conduct a preliminary analysis (see Item G below) and review the results with Central Valley Water Board staff to determine whether development of a source identification study workplan is justified.

**Item B.1.c, Beneficial Uses** – The Coalition provides a summary of all beneficial uses (e.g. Agriculture, Aquatic Life, Municipal and Domestic Supply, Water Contact Recreation) assigned to the major waterbodies in the region (Table 11), as well as a listing of each monitoring site/waterbody that drain directly into the downstream waterbody (Table 12). For waterbodies that do not have listed beneficial uses, the Coalition uses the tributary rule to assign the designated beneficial uses.

#### **Item C. Management Plan Strategy**

The Coalition first developed a Management Plan in 2008 and prioritized site subwatersheds to meet water quality objectives within a time period considered feasible. However, the 2008 Management Plan did not contain anticipated or proposed dates to meet water quality objectives. The 2014 Management Plan strategy (see SQMP, Table 16) includes a compliance time schedule for each specific constituent with irrigated agriculture as a known source, per Section XII of the Order, and supersedes the prioritization process developed under the 2008 Management Plan.

Management Plans triggered after September 2013 will be amended to the SQMP on annual basis. The Coalition proposes to start new management plan activity for an identified water quality problem for which irrigated agriculture is clearly a potential source (e.g. pesticides) within 3 years and complete the management plan process within 5 years (SQMP, page 65). Staff concurs with the Coalition's Management Plan Strategy, and this approach allows the Coalition with enough time (5 years) to identify and implement management practices necessary to meet the receiving water limitations, evaluate compliance, and meet the 10 year deadline required by the Order. The Coalition should endeavor to achieve compliance by an earlier date or "...as short as practicable...". The revised Management Plan also contains a timetable for addressing constituents requiring source identification studies and workplans (SQMP, Table 18).

**Item C.2.c.i, Performance Goals** - The Coalition identified five measurable performance goals to meet the objectives of the Management Plan program and improve water quality in the Coalition

region (SQMP, pages 74-76). The proposed performance goals include: 1) identify potential sources of exceedances, 2) document currently implemented management practices, 3) hold grower meetings, 4) review the member's Farm Evaluation, and 5) perform evaluation of management practices. Under the updated SQMP, the Coalition will review the members' plans (Farm Evaluations, FE; and Nutrient Management Plans, NMPs; and Sediment and Erosion Control Plan, SECP) prior to contacting individual growers. The Management Plan Progress Report evaluates the performance goals and schedule including the progress in meeting performance goals.

The SQMP shows the Coalition's commitment to work with Pest Control Advisors, Agricultural Commissioners, and Registrants to follow up on exceedances and provide management practice information to their members. Table 14 identifies effective and feasible management practices. Staff believes this approach will facilitate the close cooperation between the Coalition and other stakeholders, and complies with the Order requirements. The Coalition's Management Plan Strategy also identifies the duties and responsibilities of individuals and groups implementing the SQMP in agreement with the MRP.

#### **Item D. Monitoring Methods**

As per the MRP, the Coalition will monitor surface water at Core sites and Management Plan sites based on a WY (October through September). The Monitoring Plan Update report submitted by the Coalition on 1 August of each year details the proposed surface water monitoring schedule for the upcoming WY, which includes Management Plan Monitoring (MPM).

In the Monitoring Plan Update, the Coalition designates MPM sites under the Special Project monitoring category to identify sources and evaluate the effectiveness of management practices in improving water quality. The frequency and timing of the MPM monitoring at Core sites and Represented sites depends on the Pesticide Use Report (PUR) data and months of past exceedances. Management Plans can be completed pursuant to the provisions contained in Appendix MRP-1, section III.

**Item D.2, Monitoring Design** - The Coalition proposes an effective method to identify contaminant sources (e.g. pesticides, toxicity), and recommend appropriate management practices. The Coalition is able to associate information recorded in the Coalition database, including water quality monitoring results, PUR data, and up-to-date information provided in the farm evaluation survey (crops grown, the acreage, and the exact location of the field) to identify members who applied the targeted chemical, method of application and currently implemented management practices, and recommend additional management practices to prevent future exceedances, as needed. Effective and feasible management practices that are proven to reduce the impacts of agricultural discharge on water quality are identified (SQMP Table 14).

**Item D.3, Management Practice** - The Coalition maintains a relational database of water quality monitoring results, exceedances, member information and management practices reported in the farm evaluation, and the PUR data to quantify the effectiveness of the Management Plan program. The Coalition conducts simple queries of water quality data and management practices (current, recommended and newly implemented management practices) to quantify whether the implemented management practices have improved water quality. Addition of new management practices reported in the farm evaluation survey each year to the database will enable the Coalition to evaluate changes in patterns of the implemented management practices. In addition, the Management Plan Progress Report includes details of current management practices, practices recommended by the Coalition and new practices implemented by members.

**Item E. Data Evaluation**

As described in Item D.3, the Coalition collects several types of data each year (e.g. water quality data, FEs survey, management practices, PUR data) to quantify the Management Plan program effectiveness in the long term. The Coalition clearly presented the results of management practice implementation by use of graphical and tabular presentation of data. Detailed presentation of such analysis is included in the Management Plan Progress Report.

**Item F. Records and Reporting**

All elements of this item were fully and adequately addressed. The SQMP will be updated annually in the Management Plan Progress Report submitted as a part of the Annual Report on May 1 of each year. On 1 August annually, the Coalition submits a Monitoring Plan Update report with the monitoring schedules and constituents for the upcoming WY.

**Item G. Source Identification Study**

Similar to the previous Management Plan, the primary method of source identification for constituents with a known agricultural source (e.g. pesticides) are by use of the PUR data and water quality monitoring data.

Per the MRP-1 Section I.G, the Coalition proposes to develop source identification studies and workplans for constituents with potential irrigated agriculture sources that need further evaluation (SQMP, Table 15). Some of the constituents are applied by irrigated agriculture (e.g. copper, zinc), some are mobilized by agricultural activities (e.g. arsenic, cadmium, lead), while others may be the result of a number of factors and conditions, including irrigated agriculture (pH, DO, SC, *E.coli*). Per Section XII of the Order, the revised SQMP includes a Compliance Time Schedule. Table 19 in the revised SQMP describes management practice identification, evaluation and outreach. The proposed source identification studies for DO, pH, SC, nutrients, *E.coli*, metals and legacy pesticide, including a proposed compliance schedule, are briefly discussed below:

**DO and pH:** The Coalition proposes to conduct a preliminary analysis to identify the contributing factors for DO and pH exceedances in the Coalition region (SQMP pages 47-48). According to the SQMP, the Coalition will use historical monitoring data, landscape and weather data (e.g. temperature and rainfall) from within the Coalition region and across the entire Central Valley to determine the relative contribution of agricultural sources and processes to DO and pH exceedances. The result of the preliminary analysis will be provided to the Regional Board within 90 days of the date of approval of the Coalition revised SQMP (SQMP, Table 18).

**SC:** Staff and Coalition representatives discussed a compliance schedule to address SC in the Coalition region during the 23<sup>rd</sup> Quarterly meeting. The Coalition is participating in CV-SALTS and the Lower San Joaquin River Real Time Monitoring Program. The outcome of these programs to adjust the trigger limits for protecting agricultural beneficial uses, and understanding of degradation of water quality by agricultural activities will dictate compliance schedules and overall management of salt.

**Nutrients:** The Coalition proposes to conduct preliminary analyses to identify the sources of exceedances of nutrients (ammonia and nitrate) in the Coalition region (SQMP pages 46-47). The Coalition proposes to investigate current monitoring data and determine whether a cost effective workplan can be developed. The Coalition will submit the results of the preliminary analyses 150 days after the approval of the SQMP.

***E.coli*:** In order to identify and characterize the potential agricultural sources of *E.coli* and identify appropriate management practices, the Coalition proposes to develop a workplan for an *E.coli* source

identification study 120 days after the approval of the SQMP. Because *E.coli* occurs widely and comes from a variety of sources, and many of the sources and management practices will be common throughout the Central Valley region, the Executive Officer issued a letter on 17 February 2012 requesting the East San Joaquin Water Quality Coalition, and 6 other Central Valley Coalitions to develop a joint approach to address *E.coli* Management Plans. The Executive Officer stated that a collaborative approach among the Coalitions will result in more cost effective, consistent, and technically sound results. Therefore, staff recommends not requiring development of a workplan until the Central Valley Water Board approves a joint approach among the Coalitions for addressing *E.coli* Management Plans.

**Metals:** The Coalition proposes to conduct preliminary analyses to identify the sources of exceedances of metals (copper, lead, molybdenum and arsenic). The Coalition proposes to study the background levels of metals and determine whether a feasible workplan can be developed. The Coalition will discuss the findings of the preliminary analyses with staff. The Coalition will submit the results of the preliminary analysis for arsenic, copper and molybdenum 120 days after the approval of the SQMP. The submittal date for the lead preliminary analysis will be 180 days after the approval of the SQMP.

**Legacy Pesticide:** DDE is the breakdown product of a legacy pesticide DDT which is no longer actively registered for use. The Coalition proposes to develop a workplan for DDE 180 days after the approval of the SQMP.

#### **Staff Recommendations**

Staff recommends a partial approval of the revised Surface Water Quality Management Plan. Items that should not be approved include:

1. Evaluation of the dissolved oxygen water quality trigger limit for 12 constructed agricultural conveyance structures.
2. The development of an *E.coli* Management Plan should be postponed until Central Valley Water Board approves a joint approach among the Coalition Groups.

All other elements of the SQMP are acceptable and meet Order requirements. The Coalition will also need to modify the Management Plan over time to ensure effectiveness of the Management Plan as new monitoring data, information collected in the FEs, and results from the preliminary analyses are obtained and evaluated.