



California Regional Water Quality Control Board

Central Valley Region

Robert Schneider, Chair



Arnold Schwarzenegger
Governor

Secretary for
Environmental
Protection

Sacramento Main Office
11020 Sun Center Drive #200, Rancho Cordova, California 95670-6114
Phone (916) 464-3291 • FAX (916) 464-4645
<http://www.waterboards.ca.gov/centralvalley>

TO: Margie Lopez-Read
Senior Environmental Scientist

FROM: Melissa Morris
Environmental Scientist

SIGNATURE: _____

DATE: 15 Aug 2005

SUBJECT: RESPONSE TO REVIEW OF ANNUAL MONITORING REPORT – SAN JOAQUIN COUNTY & DELTA WATER QUALITY COALITION

Staff Review

On 1 April 2005, the Regional Water Quality Control Board (Water Board) received the Annual Monitoring Report (AMR) for the San Joaquin County & Delta Water Quality Coalition (Coalition). This report was submitted by the Coalition to meet the conditions of Resolution R5-2003-0105 and the associated Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands (Waiver) adopted by the Water Board.

Water Board staff has performed a review of the AMR to evaluate the document for the required reporting conditions detailed in Resolution R5-2003-0105, the conditions set forth in the Coalition's Monitoring and Reporting Program Plan (MRP Plan) and Quality Assurance Project Plan (QAPP), and to assess the quality of the data generated and the conclusions and recommendations presented. The review has been broken into three major categories: 1) a discussion of administrative aspects; 2) a discussion of analytical aspects, and 3) a discussion of waiver compliance.

Administrative Aspects

The Coalition's AMR was submitted on time, under appropriate cover letter and included the major components required by Resolution R5-2003-0105. Sampling was performed at the six sites in two sampling events and the samples collected were analyzed for the required constituents. Sampling sites were identified and justified through detailed descriptions and future sites were outlined as well. Data was tabulated in an easy to read format and highly organized to detail each event and included corresponding laboratory and field quality control measures. Overall the structure and format of the report was highly functional and met expectations. A few administrative deficiencies were noted.

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Item 1: All sampling results from the 2004/05 storm season were not included within this report. A report should be submitted as soon as possible summarizing the results of the of the 2004/05 storm event sampling. This report should meet the required formats for reporting within the Waiver.

Item 2: The submission of raw data sheets for all analysis is required. Specifically, raw data for *E.coli* analyses and toxicity bench sheets that contain daily data for temperature, DO, pH, conductivity, and organism counts, were missing from the submittal. Sets of pesticide analyses raw data were received on 23 May 2005.

Item 3: Within the tabulated QC results, staff recommends the addition of an “expected value” column within the table. This column would store such information as the chemical spike concentration for the laboratory control spikes (LCS), matrix spikes (MS), and the result of the original analysis for sample duplicates, LCS duplicates, and MS duplicates. The presence of the information within the table will aid the Coalition and staff in directly calculating the relative percent difference (%RPD) and percent recovery (%REC).

Item 4: Communication reports need to be promptly sent to the Water Board when toxicity is detected or water quality objective exceeded. Communication reports need to be submitted for exceedances of all water quality parameters, including pH, DO, coliform, pesticides and other parameters that have associated Basin Plan objectives. Within the 2004 Irrigation Season there were two instances when a communication report should have been submitted: 24 August 2004 (*E. Coli* 500 MPN/100mL) and 23 September 2004 (*Hyallemella*, reduced growth) at the Lone Tree Creek @ Jack Tone Road monitoring location. Staff has recognized a improvement to the timeliness of communication report submittal and inclusion of pesticide water quality exceedances since the 1 April 2005 AMR.

Analytical Aspects

Chemical analyses of samples collected for the AMR were run in accordance with the methods prescribed in Resolution No. R5-2003-0105 with the results presented in the required tabulated format. The review of the analytical results presented in the AMR had been broken down into the following categories where water quality exceedances have occurred: physical parameters; toxicity testing; pesticide testing; and quality control findings.

Item 5: Analytical parameters are within accepted limits with the following exception.

Date	In a Comm Report ?	Discussed In AMR?	Location	Analyte	Result	MDL (Method Detection Limit)	Water Quality Goal/Objective	Source of WQG/O
08/24/04	No	Yes	Lone Tree Creek @ Jack Tone Road	<i>E. Coli</i>	500 MPN/100mL	2 MPN/100mL	126 MPN/100ml	Ambient Water Quality Criteria for Bacteria for Waters Designated for Contact Recreation. USEPA

Item 6: Toxicity tests are within accepted limits with the following exceptions.

Date	In a Comm Report?	Location	Species	Result	TIE Conducted	TIE Conclusion	Site Re-sampled
24-Aug-04	Yes	Mokelumne River @ Bruella Road	<i>Selanastrum</i>	Reduced Growth	NA	NA	No
24-Aug-04	Yes	Mokelumne River @ Bruella Road	<i>Ceriodaphnia</i>	5% Survival	YES	Inconclusive	YES
24-Aug-04	Yes	Little Johns Creek @ Jack Tone Rd	<i>Selanastrum</i>	Reduced Growth	NA	NA	No
23-Sep-04	No	Lone Tree Creek @ Jack Tone Rd	<i>Hyalloella</i>	Reduced Growth	NA	NA	No

Item 7: Pesticide sampling results did not detect the organophosphorus or pyrethroid pesticides tested for, at or above detection limits. It was noted that some method detection levels used for the 2004 Irrigation Season pesticide analysis were inappropriate to measure exceedances of the water Quality Objectives for each possible contaminant. Specifically, detection limits were well above the fresh water aquatic life protection water quality goal for diazinon (0.05 ug/L) and chlorpyrifos (0.014 ug/L). Water Board Staff recognizes that the coalition has made a statement in regards to improvements and reductions within the method detection levels have been noted. Per the letter addressed to the coalition on 1 April 2005, these items are included as those that must be addressed formally through a QAPP amendment and reviewed by staff before the final approval of the WER, MRP, and QAPP can be considered.

Item 8: Table B-6C on page 35 and Table B-6d on page 36 of the Coalition's QAPP quality control requirements for organophosphorus or pyrethroid pesticide analysis indicates that field blanks and field duplicates will be conducted a frequency of one per event. It was noted that field duplicates and field blanks were performed within the first sampling event but missing from the secondary event. These tables also indicate that matrix spikes, matrix spike duplicates, laboratory spikes, and laboratory spike duplicates will occur at a frequency of one per batch. It was noted that laboratory spike duplicates were missing from the pesticide analysis.

Table B-7 on page 37 of the Coalition's QAPP quality control requirements for *E.coli* bacterial analysis indicates that field blanks, method blanks, lab duplicates, and negative and positive controls will be conducted. Water Board staff recognizes that a field blank and duplicate were conducted within the first event, however all other indications of QC samples and analyses for *E.coli* are absent from the report.

Water Board staff has also identified that percent recovery ranges stated within the raw and tabulated laboratory results do not match those outlined for the coalition within the Table B-6C on page 35 and Table B-6d on page 36. Surrogate recoveries for Pyrethroid analyses including the chemical TCmX routinely fell below the Coalition's recovery limit of 65-135% and DECA recovery also fell out of range on a few occasions. It is recognized that the statement was made by the coalition within the executive summary that "Goals for the laboratory analysis include improvement on surrogate recoveries and upper and lower recovery percentages in the matrix spike".

Waiver Compliance

Certain aspects of the Waiver program may not have been completely addressed in the Watershed Evaluation, Coalition QAPP and MRPP, and subsequently, were not included in the AMR. In a letter from the Water Board dated 1 April 2005, additional information and/or actions were required to be

undertaken in order to fully comply with the Waiver program and begin review of submittals before the final approval of the WER, MRP, and QAPP can be considered. These actions included the modification of the Coalitions QAPP to include appropriate method detection levels and increase the recovery ranges for specific constituents. At this time the Water Board has not received a formalized QAPP amendment and recommends that one be submitted in a timely fashion.

In addition to the requirements set forth in the letter dated 1 April 2005, it is staff's position that additional information and/or actions should be undertaken at this time in order to fully comply with the Waiver program. These actions include: increasing the number of sampling points; the timeliness of sampling; and actions taken to address water quality impacts.

Item 9: Monitoring and Reporting Program, Order No. R5-2003-0105 (pages 8 and 10) states that the number of monitoring sites shall be based on acreages and watershed characteristics sufficient to allow for the calculation of load discharged for every waste parameter. Additionally, all major drainages must be part of baseline monitoring. At least 20% of the intermediate drainages must be monitored during the first year and the second 20% the second year, etc.

Item 10: The timeliness and frequency of sampling set forth in the Waiver program is once a month during the irrigation season and twice during the storm season. Additionally, when toxicity is discovered, re-sampling is to be performed and samples are to be collected upstream to identify the source. For the 2004 Irrigation Season monitoring events took place in July, August, and September, not fully representing the entire Irrigation Season. Because Storm event sampling results have not yet been submitted, it is not clear whether this requirement has been met by the coalition. The coalition should begin monitoring events at the beginning and continue through the irrigation season. Additionally, staff recommends that additional sites upstream of Mokelumne River @ Bruella Road should be selected and monitored to investigate the possible sources of toxicity at this site.

Item 11: The Water Board adopted Resolution No. R5-2005-0833 on 15 August 2005 that updated and replaced the Monitoring and Reporting Program for Coalition Groups. This MRP Plan requires that when monitoring results indicate that water quality objectives are exceeded in the surface waters of the Coalition Group area, the Coalition Group shall submit a series of reports including and Exceedance Report, Communication Report, and Evaluation Report. The details concerning the timelines and requirements for content of each report can be reviewed starting on page 12 of Resolution No. R5-2005-0833.

MM:mm