

Central Valley Regional Water Quality Control Board

21 September 2016

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REVIEW OF THE 2015 ANNUAL MONITORING REPORT FOR THE GRASSLAND BYPASS PROJECT ORDER R5-2015-0094

Thank you for submitting the 2015 Annual Monitoring Report (AMR) for the Grassland Bypass Project on 29 April 2016 (resubmitted on 15 August 2016) as required by Order R5-2015-0094 Waste Discharge Requirements for San Luis & Delta-Mendota Water Authority and United States Department of the Interior Bureau of Reclamation (Order). The AMR covers the reporting period from 1 August through 31 December 2015. This is the first year that annual reporting has been completed under the Order.

The Central Valley Water Board staff review of the AMR is in the attached memorandum and associated checklist. Staff reviewed the AMR to determine if all Order requirements were met and identified minor instances where the requirements of the Order were not met. Care should be taken to ensure that the Order's requirements are fully met in subsequent annual report submittals.

If you have any questions or comments regarding the review, please contact Ashley Peters at 916-464-4857 or Ashley.Peters@waterboards.ca.gov.

Original signed by

Sue McConnell
Program Manager
Irrigated Lands Regulatory Program

Original signed by

Susan Fregien
Senior Environmental Scientist
Irrigated Lands Regulatory Program

cc: Michael Jackson, US Bureau of Reclamation Fresno
Jason Peltier, San Luis & Delta-Mendota Water Authority

Enclosure

Central Valley Regional Water Quality Control Board

TO: Susan Fregien
Senior Environmental Scientist
IRRIGATED LANDS REGULATORY PROGRAM

FROM: Ashley Peters
Water Resource Control Engineer
IRRIGATED LANDS REGULATORY PROGRAM

DATE: 25 August 2016

SUBJECT: REVIEW OF THE GRASSLAND BYPASS PROJECT 2015 ANNUAL
MONITORING REPORT

On 29 April 2016, the Central Valley Water Board received the Grassland Bypass Project 2015 Annual Monitoring Report (AMR) from the San Luis & Delta-Mendota Water Authority and the United States Bureau of Reclamation (Dischargers) as required by the Monitoring and Reporting Program (MRP) for General Order R5-2015-0094 (Order). The AMR was resubmitted on 15 August 2016 in response to initial staff comments. The AMR covers the reporting period from 1 August 2015 through 31 December 2015. This is the first year that reporting has been completed under the Order since its adoption on 31 July 2015.

In this memorandum, staff provides a brief summary of the monitoring activities conducted by the Dischargers during the 2015 reporting period. A checklist (attached) was used to aid in staff review of the AMR. Staff derived the checklist from the Order and it provides an itemized account of the compliance components. Staff used the checklist to document that the reported information complies with the Order.

Staff identified only minor issues in the AMR that do not represent a substantial deviation from the Order's requirements, as noted in the AMR Checklist, and recommends that the AMR be approved.

2015 Program Summary

The Dischargers performed surface water sampling from August through December 2015 at four sites: B3, D, R, and N. The sampling schedule and constituents monitored were determined based on requirements listed in MRP Table 2. Monitoring at Site B3 commenced in late-October when periodic rainfall resulted in discharge through the San Luis Drain. No discharge through the drain occurred prior to October as a result of irrigation. Monitoring for each constituent was completed at the frequency specified in the MRP.

Salt (approximated by electrical conductivity [EC]), boron, molybdenum, and selenium are constituents that naturally occur in the soil within the Grassland Drainage Area. These minerals are dissolved into the subsurface drainage as water infiltrates into the soil, prior to being collected and discharged to the San Luis Drain. None of these constituents originate from

materials that are applied by farmers in the Grassland Drainage Area.

During the reporting period, exceedances were observed for EC, molybdenum, and boron. The exceedances for molybdenum and boron occurred at Site D and are summarized in Table 1. Exceedances for EC occurred at Sites D, N, and R during most of the weekly monitoring events, including periods when there was no discharge from San Luis Drain.

Table 1: Summary of Exceedances at Site D

Sample Date	Molybdenum ($\mu\text{g/L}$)	Boron ($\mu\text{g/L}$)
10/26/15	24	--
11/6/15	--	5,900
11/30/15	--	7,900
12/15/15	--	11,000
12/21/15	--	11,000
12/29/15	--	6,000
Trigger Limit	19	5,800

Notes:

-- = no exceedance

U = result determined to be an outlier at the time of data validation

$\mu\text{g/L}$ = micrograms per liter

More than two exceedances occurred during the reporting period for EC at Sites D, N, and R, and for boron at Site D. A surface water quality management plan is not required for these constituents because they are addressed by a Drainage Management Plan, as described in Section V.G of the Order. EC and boron are addressed by the Westside Regional Drainage Plan (2003), which was developed to address drainage production and discharge from the Grassland Drainage Area. Updates to the drainage plan were provided in the 2015 AMR.

Report Name: Grassland Bypass Project Annual Monitoring Report 2015						Reviewer Name: Ashley Peters			
Submittal Date: 4/29/2016 (Revised 8/15/2016)						Review Date: 8/25/2016			
Item No.	Review code:				Item meets requirement	Incomplete item/ Not	Not applicable	Page # (Section #)	Comments
	AMR Component Name								
1 Signed transmittal letter;									
1.1		Certification statement			✓			Letter	
1.2		Signature of authorized party			✓			Letter	
1.3		Dated			✓			Letter	
1.4		Submitted on time			✓			Letter	
2 Title page;									
2.1		Report title			✓			Cover	
2.2		Date of the report			✓			Cover	
2.3		Monitoring date range covered by the report			✓			Cover	
2.4		Coalition Group name			✓			Cover	
3 Table of contents;									
3.1		List of sections/chapters, tables, figures, appendices/attachments with page numbers			✓			i	
4 Executive Summary;									
4.1		Summary of key results and activities			✓			1	
4.2		Brief summary of conclusions and recommendations			✓			1	
5 Monitoring objectives and design;									
5.1		Brief description of monitoring objectives (references to section and page numbers in Monitoring Plan or QAPP, as appropriate)			✓			2-3	
5.2		Monitoring design aligns with Monitoring Plan, any deviations from Monitoring Plan or QAPP are described (references to section and page number in Monitoring Plan or QAPP, as appropriate)			✓			2-3	
	5.2.1	Assessment Monitoring: sites, parameters, schedule					✓		
	5.2.2	Special monitoring (Management Plan, TMDL, source identification): sites, parameters, schedule					✓		
6 Sampling site descriptions and rainfall records for the time period covered under the Monitoring Report;									
6.1		Electronic copies of photos clearly labeled with CEDEN comparable station code and date			✓			Appendix B	
6.2		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			✓			2, 4-5	

6.3		Rainfall records in graphic or narrative form (in inches of precipitation)	✓			5	
7 Location map(s) of sampling sites;							
7.1		Location maps showing the sampling stations within the project area must be updated and included	✓			6	Not all sampling locations are shown (i.e., Site B2).
	7.1.1	Datum identified on map (<u>must be</u> WGS 1984 or NAD 1983)	✓			6	
	7.1.2	Source and date of all data layers identified on map	✓			6	
7.2		Accompanying GIS shapefile or geodatabase of monitoring site and monitoring well information include the CEDEN comparable site code and name (surface water) and GPS coordinates (monitored sites only).	✓			Appendix C	Typo in latitude for Site H2.
7.3		A list or table indicates: site name, ID/well number, CEDEN site code (if applicable), and GPS coordinates (latitude and longitude in decimal degrees to at least five decimal places)	✓			2 (T. 3)	
8 Results of all analyses arranged in tabular for so that the required information is readily discernible;							
8.1		Data are in tabular form, clearly organized and readily discernible	✓			Att. 1	
8.2		Previously reported exceedances match exceedances identified in the AMR		✓			Exceedances not previously reported. This issue has been addressed in the 2016 monitoring season.
8.3		All required constituents for each site have reported results	✓			Att. 1	Several locations have analytes that were not sampled for at the beginning of the monitoring period and some sample events are missing (e.g., weekly sampling between 8/24 and 9/18 for Site D). Explanations for sample sites or constituents that were not monitored at the required frequency or event are provided in Att. 3.
8.4		All necessary re-sampling completed and results reported			✓		
9 Discussion of data relative to water quality objectives, limitations and water quality management plan milestones, where applicable;							
9.1		Results discussed in text agree with tabulated data		✓		7-15	T. 7b does not match tabulated results (Att. 1) for boron at Site R on 10/26.
9.2		Discussion illustrates compliance with the WDRs, or if a required component was not met an explanation of missing data or a reason for non-compliance is included	✓			7-15	See comment on Item 8.3

9.3		Results are compared to WDR requirements, water quality standards and trigger limits; toxicity results, TIE's and possible causes of toxicity are discussed	✓			7-15	
10 Sampling and analytical methods used;							
10.1		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	✓			3 (T. 4)	
10.2		Description of analytical methods used	✓			3 (T. 4)	
11 Summary of Quality Assurance Evaluation results (as identified in the most recent version of the approved QAPP for Precision, Accuracy							
11.1		Acceptance criteria for all field and laboratory QA/QC measurements identified and in agreement with most recent approved QAPP; any adjustments to acceptance criteria documented and discussed			✓		Acceptance criteria are provided in the AMR. The QAPP is still draft, so a comparison of the criteria is not appropriate at this time.
11.2		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	✓			Att. 3	
11.3		QA/QC results that did not meet acceptance criteria identified in a table or narrative description that is prepared by the Coalition (not laboratories)	✓			Att. 3	
	11.3.1	Discussion of how the failed QA/QC results affect the validity of the reported data	✓			Att. 3	
	11.3.2	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	✓			Att. 3	
11.4		Both field and laboratory completeness are calculated and reported; overall Project completeness is determined	✓			Att. 3	
12 Specification of the method(s) used to obtain estimated flow at each surface water monitoring site during each monitoring event;							
12.1		The method used to obtain flow measurement at each monitoring site during each monitoring event is listed	✓			4	
13 Summary of exceedances of water quality objectives/trigger limits occurring during the reporting period;							
13.1		Summary of all Exceedance Reports submitted during the AMR period is included	✓			16	
14 Any storm event monitoring performed during the reporting period;							
14.1		All stormwater discharges from the GDA into the wetlands water supply channels and the monitoring performed for the event are documented.	✓			5	
15 Actions taken to address water quality exceedances that have occurred, including but not limited to, revised or additional management pr							

15.1		Discussion of actions taken to address water quality exceedances during the time frame of the AMR is included	✓			16-19	
15.2		Updates or additional management practices implemented			✓		
16 Evaluation of monitoring data to identify spatial and temporal trends and patterns;							
16.1		Identification of spatial and temporal trends and patterns in surface water quality	✓			19-20	
	16.1.1	Incorporation of pesticide use information, as needed, to assist in data evaluation.			✓		
16.2		Analyze monitoring data to determine if additional sampling locations are needed. Propose schedule for additional monitoring or source studies	✓			7	
17 Status of implemented measures to meet water quality objectives and/or limits;							
17.1		Activities and measures implemented (control or treatment), as specified in the use agreement, for the year to meet water quality objectives and/or limits discussed.	✓			16-19	
17.2		Evaluates the effectiveness of the control or treatment measures implemented.	✓			16-19	
17.3		Includes a cost analysis of the control or treatment measures implemented.			✓		
17.4		Milestones set in the Drainage Management Plan are identified and status update provided.	✓			19	
18 Status of mitigation measures specified in 2009 Use Agreement;							
18.1		Update on the status of the mitigation measures that are specified in Section III.H and Appendix L of the 2009 Use Agreement is provided.	✓			20-21	
19 Conclusions and recommendations.							
19.1		Summary of the AMR results and conclusions	✓			21	
19.2		Recommendations are appropriate and adequately detailed	✓			21	