
Central Valley Regional Water Quality Control Board

25 November 2015

Joseph C. McGahan
Watershed Coordinator
Westside San Joaquin River Watershed Coalition
PO Box 2157
Los Banos, CA 93635

CONDITIONAL APPROVAL OF WESTSIDE SAN JOAQUIN RIVER WATERSHED COALITION'S SEDIMENT DISCHARGE AND EROSION ASSESSMENT REPORT

Thank you for submitting the 16 March 2015 Westside San Joaquin River Watershed Coalition's (Coalition) Sediment Discharge and Erosion Assessment Report (SDEAR), as required by the Waste Discharge Requirements General Order R5-2014-0002 (Order).

Based on the attached staff review, the SDEAR partially achieves the Order objective to identify Member parcels subject to sediment discharge which may impact surface water quality. The SDEAR uses a modeling approach that relies on topography, soil properties, and rainfall to assess the potential for erosion. A complementary approach based on the observed total suspended solids concentrations and sediment toxicity is used to identify additional areas prone to erosion and discharge of sediments. However, proximity to surface waters was not considered in SDEAR.

I am conditionally approving the Coalition's SDEAR until the issues identified in the enclosed memorandum are resolved. By **25 March 2016**, the Coalition must submit a work plan with a timeline to address proximity to surface waters as a risk factor that increases the potential for discharge of sediments that may degrade surface water.

Growers with parcels within areas currently identified in the SDEAR (as conditionally approved) to have the potential for erosion and sediment discharge are required to prepare and certify a Sediment Erosion and Control Plan (SECP) using an approved template. Based on the date of this conditional approval, the deadline to complete and implement SECP is 23 November 2016 for members with small farming operations, and 23 May 2016 for all other members.

If you have any questions or comments regarding this letter, please contact Gurbinder Dhaliwal at Gurbinder.Dhaliwal@waterboards.ca.gov or by phone at 916-464-4601.

Sincerely,

Original Signed By

Pamela C. Creedon
Executive Officer

Central Valley Regional Water Quality Control Board

TO: Sue McConnell, P.E.
Program Manager
Irrigated Lands Regulatory Program

Adam Laputz, P.E.
Assistant Executive Officer
Central Valley Water Board

FROM: Gurbinder Dhaliwal
Environmental Scientist
Irrigated Lands Regulatory Program

DATE: 24 November 2015

SUBJECT: REVIEW OF WESTERN SAN JOAQUIN RIVER WATERSHED COALITION'S
SEDIMENT DISCHARGE AND EROSION ASSESSMENT REPORT

On 16 March 2015, the Western San Joaquin River Watershed Coalition (Coalition) submitted the Sediment and Erosion Assessment Report (SDEAR or report), as required by Order No. R5-2014-0002 Waste Discharge Requirements General Order for Growers within the Western San Joaquin River Watershed that are Members of the Third-Party Group (General Order, Section VIII.E). The Coalition submitted a minor revision of the SDEAR on 18 March 2015.

The General Order requires that the SDEAR determine which irrigated agricultural areas within the Western San Joaquin River Watershed are subject to erosion and may discharge sediment that may degrade surface waters. The objective of the report is to determine which member operations are within such areas, and need to develop a Sediment and Erosion Control Plan (SECP). The report must be developed to achieve the above goal and objective and must at a minimum, provide a description of the sediment and erosion areas as a series of ArcGIS shapefiles with a discussion of the methodologies utilized to develop the report (Attachment B, section VII.C). Members in identified areas will be required to prepare and implement a Sediment and Erosion Control Plan (section IV.B.7 of the General Order), that details water quality management practices to be implemented to reduce or eliminate sediment in storm water and irrigation water discharges.

The Coalition's SDEAR relies on modeling and on the total suspended solids (TSS) and sediment toxicity monitoring results. Overall, the analysis of monitoring results along with the modeling output provides for a well thought-out evaluation of areas subject to erosion and sediment discharge in the Coalition area. However, gaps in the scope of the analysis remain, and staff recommends a conditional approval of the 16 March 2015 SDEAR. Detailed discussion is below.

RUSLE Model. The Revised Universal Soil Loss Equation (RUSLE) equation is a widely accepted and well documented method to estimate soil erosion potential. The RUSLE model

uses readily available data for the values used in the equation such as rainfall erosivity, soil erodibility, slope, and slope length.

In the Coalition's SDEAR, the soil loss estimated by the RUSLE model is compared to a soil loss threshold of 5 tons/acre/year. This value was specified by the National Resource Conservation Service (NRCS) as a standard for sustainable farming, yields with a soil loss exceeding 5 tons per acre per year cannot sustain long-term farming¹. Parcels with estimated soil loss below the threshold were considered low vulnerability while areas with soil loss above 5 tons/acre/year are considered high vulnerability. The model predicts very few agricultural areas with the potential for soil loss exceeding 5 tons/acre/year. One high vulnerability area east of the Interstate 5 was identified near Stevinson, east of the San Joaquin River. Growers with parcels in the areas designated as "high vulnerability" are required to complete a SECP.

The RUSLE model does not take into account proximity of farming operations to surface waters. Additionally, the modeling results typically reflect erosion and potential for sediment discharge due to rainfall. The RUSLE model does not directly indicate which areas might be susceptible to erosion due to irrigation as irrigation runoff and tailwater discharges are not accounted for in the model. An approach to evaluate areas in close proximity to surface water for the potential for erosion and discharge of sediment is necessary in order to comprehensively assess the entire Coalition area and consider the potential for sediment discharge due to irrigation.

Staff recommends that an additional evaluation of areas in close proximity to surface waters is conducted to ensure that potential erosion and sediment discharge due to irrigation are considered.

Monitoring Results. A complimentary approach relying on the monitoring results since January 2012 was used to identify areas susceptible to erosion and sediment discharge. Subwatersheds represented by monitoring sites with TSS concentrations exceeding 300 mg/L in more than 20% of samples were considered to have potential for sediment discharge. The 300 mg/L TSS concentration has been specified by the West Stanislaus Resource Conservation Service and the NRCS² as an achievable target for the West Stanislaus Hydrologic Unit Area and is not a Water Quality Objective according to the General Order. Based on the 5 August 2015 communication with the Coalition, the 20% rate of samples above the 300 mg/L threshold was selected as a cutoff that captured areas with sediment toxicity problems but was not too conservative as to include areas with no sediment-related issues. Additionally, *Hyaella azteca* survival rate of less than 80% occurring more than once since January 2012 was considered significant, and subwatersheds were designated "high vulnerability" regardless of the TSS concentrations. Under the General Order, more than one exceedance in a three-year period for the same constituent at a monitoring location requires development of a management plan (section VIII.H).

Based on the selected criteria for the TSS monitoring results, five subwatersheds were identified as susceptible to sediment discharge: Hospital Creek, Ingram Creek, Marshall Road Drain, Orestimba Creek, and Poso Slough. Two additional subwatersheds – Blewett Drain and

¹ United States Department of Agriculture. Soil Erosion by Water: A Guide to Conservation Planning with the Revised Universal Soil Loss Equation. January 1997.

² United States Department of Agriculture. West Stanislaus Sediment Reduction Plan. February 1992.

Westley Wasteway were designated based on the sediment toxicity results. With the exception of Marshall Road Drain, all of the above subwatersheds identified based on the monitoring data are under a management plan for sediment toxicity.