
Central Valley Regional Water Quality Control Board

David De Groot
Tule Basin Water Quality Coalition
2904 W. Main Street
Visalia, CA 93291

29 October 2015

CONDITIONAL APPROVAL OF SEDIMENT DISCHARGE AND EROSION ASSESSMENT REPORT, TULE BASIN WATER QUALITY COALITION

Thank you for the 4 February 2015 submission of the Tule Basin Water Quality Coalition (Coalition) Sediment Discharge and Erosion Assessment Report (SDEAR) in accordance with the Waste Discharge Requirements General Order R5-2013-0120 (Order).

Based on Central Valley Water Board staff review, the SDEAR partially achieves the Order objective to identify Member parcels subject to sediment discharge which may impact surface water quality. I am conditionally approving the Coalition's SDEAR until issues identified in the enclosed memorandum are resolved.

By **1 March 2016** the Coalition must submit a revised SDEAR that expands the assessment to include all irrigated agricultural areas and surface waters meeting the definition in the Order, and provides justification for any excluded areas (e.g., areas further than 500 meters from a water body). By **1 March 2016** the Coalition also must provide a work plan and time schedule to address proximity to surface waters as a risk factor that increases the potential for discharge of sediment that may degrade surface water. Appropriate rationale must be provided for all evaluation criteria. Final approval will follow submittal of an acceptable revised SDEAR addressing proximity to surface waters.

In accordance with Section VII.C of the Order, Members with parcels within areas currently identified in the conditionally approved SDEAR are required to prepare and certify a Sediment and Erosion Control Plan using a template provided by the Executive Officer. Based on the date of this conditional approval, the deadline to complete and implement the Sediment and Erosion Control Plan is **29 October 2016** for Members with small farming operations, and **26 April 2016** for all other Members.

If you have any questions, please contact Eric Warren at (559) 445-5035 or by e-mail at eric.warren@waterboards.ca.gov.

Sincerely,

Original signed by Clay L. Rodgers for

Pamela C. Creedon
Executive Officer

cc: Sue McConnell, Central Valley Water Board, Rancho Cordova

Central Valley Regional Water Quality Control Board

TO: David Sholes, C.E.G. 1687
Senior Engineering Geologist
Irrigated Lands Regulatory Program

FROM: Eric Warren
Water Resource Control Engineer
Irrigated Lands Regulatory Program

DATE: 29 October 2015

**SUBJECT: SEDIMENT DISCHARGE AND EROSION ASSESSMENT REPORT REVIEW,
TULE BASIN WATER QUALITY COALITION**

On 4 February 2015 the Tule Basin Water Quality Coalition (Coalition) submitted a report entitled *Sediment Discharge and Erosion Assessment Report*. The Coalition is currently approved under Waste Discharge Requirements General Order R5-2013-0120 (Order) to serve as a third-party entity representing owners and operators of irrigated lands located within the Tulare Lake Basin Area. A Sediment Discharge and Erosion Assessment Report (SDEAR) is required of the Coalition to identify irrigated agricultural areas which are subject to erosion and have the potential to discharge sediment that may degrade surface waters. The report must also 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 (Order Attachment B, section VI).

Submittal

The evaluation in the SDEAR was limited to pre-defined assessment zones for sediment discharge and runoff, which included parcels within 500 meters of Deer Creek, Tule River, and White River. The Revised Universal Soil Loss Equation (RUSLE) method was used in conjunction with a geographic information system (GIS) to estimate the long-term average annual soil loss potential for irrigated lands within the assessment zones. The RUSLE model was developed to estimate annual sheet and rill erosion due to rainfall. As part of the Construction Storm Water Program, the California State Water Resources Control Board has produced geospatial datasets approximating the combined slope-length factors and soil erodability factors to be used in the RUSLE model. In addition, the U.S. Department of Agriculture (USDA) has evaluated historical rainfall and soil data to produce a map of estimated rainfall erosivity factors throughout the state. Using these datasets, the Coalition estimated the annual average soil loss for parcels within the assessment zones. An annual erosion potential of 15 tons/acre/year was used as a threshold to identify Member parcels which may need a Sediment and Erosion Control Plan. The threshold is based on a benchmark used in the State Water Resources Control Board Order 2009-0009-DWQ (General Permit for Storm Water Discharges Associated With Construction and Land Disturbance Activities) to identify construction project sediment risk to surface water.

Review of the shapefiles provided with the SDEAR shows that approximately 0.8% (about 7,450 acres) of the Coalition area is considered high risk based on the proposed assessment. Members with parcels in areas designated to be at risk for discharge of sediments to surface water are required to complete a Sediment and Erosion Control Plan; 2 of the Member parcels are within the area subject to the requirement.

Recommendations

In general, the Coalition's approach to identify Member parcels subject to sediment discharge due to rainfall which may impact surface water quality in an assessed water body is reasonable. However, several items were identified as incomplete, and staff recommends a conditional approval until the following issues are addressed:

Item 1 – Assessment Zones

The proposed assessment area was limited to parcels located within 500 meters of a perennial waterway, and downstream of Success Dam and Reservoir. Approximately 8.8% (424) of enrolled parcels within the Coalition area were included in the evaluation.

All exclusion criteria and steps should be justified, and if necessary modified to capture all parcels in irrigated agricultural areas that have the potential to discharge sediment that may degrade surface water quality:

- The SDEAR should provide rationale for limiting the assessment area to 500 meters of a perennial waterway, and include any evidence that parcels further away from waterbodies do not pose a risk for sediment discharge to surface waters. If acceptable justification cannot be provided, the assessment area should be expanded to evaluate all lands within agricultural areas that have potential to discharge sediment which may impact surface waters.
- Member parcels present upstream of Success Dam and Reservoir may have the potential to produce sediment discharges, and should be included in the assessment.
- The SDEAR should include a generalized assessment of parcels determined to be susceptible to erosion and sediment discharge which may impact surface waters, and should not be limited to parcels currently enrolled in the Coalition. While the Coalition is not responsible for non-Member parcels, additional lands may be enrolled in the future and become subject to the requirement to complete the Sediment and Erosion Control Plan.

Item 2 – Waters of the State

The SDEAR includes an evaluation of three perennial streams within the Coalition area (Deer Creek, Tule River, and White River). Section VI of the MRP states that the goal of the report is to determine which areas within the Tulare Lake Basin Area are subject to erosion and may discharge sediment that may degrade surface waters. Surface waters are defined in attachment E of the Order, and include natural streams, lakes, wetlands, creeks, constructed agricultural drains, agricultural dominated waterways, irrigation and flood control channels, or other non-stream tributaries. All surface waters meeting this definition should be included in the assessment report.

Item 3 – Assessment Methodology

Based on the benchmark for determining construction project sediment risk to surface water, the SDEAR proposes that parcels within the assessment zone with an estimated soil loss below 15 tons/acre/year loss not be required to prepare an erosion control plan. A sediment discharge potential threshold of 5 tons/acre/year, which is based on a Natural Resources Conservation Service benchmark to sustainably maintain soil for long-term agricultural productivity¹, has been used to delineate high risk areas in other parts of the Tulare Lake Basin Area. The NRCS benchmark provides a more conservative estimate of areas susceptible to erosion which may impact water quality, and is the preferred value for use in determining sediment risk for parcels within the Coalition area.

Further, the methodology proposed by the Coalition provides information regarding the relative potential soil loss due to precipitation events, but does not address the effect of irrigation practices on sediment discharge and erosion potential. The evaluation of factors other than rainfall is necessary to ensure the SDEAR accounts for all contributing sources of sediment discharge, and properly identifies the Member operations that are required to complete a Sediment and Erosion Control Plan. The most notable issue in the proposed assessment approach is that proximity to surface waters is not considered as a factor that increases the potential for discharge of sediments that may degrade surface water. All areas, including those estimated to have a potential for sediment erosion less than 5 tons/acre/year due to rainfall, should be evaluated for risk for sediment discharge based on the proximity to water bodies.

¹ USDA Natural Resources Conservation Service. 2010. From the Surface Down. An Introduction to Soil Surveys for Agronomic Use, Second Edition: http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053238.pdf