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## Central Valley Regional Water Quality Control Board

Casey Creamer  
Kings River Watershed Coalition Authority  
P.O. Box 8259  
Fresno, CA 93747

6 October 2015

### **CONDITIONAL APPROVAL OF SEDIMENT DISCHARGE AND EROSION ASSESSMENT REPORT, KINGS RIVER WATERSHED COALITION AUTHORITY**

Thank you for the 20 November 2014 submission of the Kings River Watershed Coalition Authority's (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 **8 February 2016** the Coalition must submit a revised SDEAR that expands the assessment to the entire Coalition area, regardless of parcel membership status, and evaluates all surface waters meeting the definition in Attachment E of the Order. By **8 February 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, growers 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 for growers with large farming operations within areas identified in the SDEAR to complete and implement the Sediment and Erosion Control Plan is **3 April 2016**.

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

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## 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:** 6 October 2015

**SUBJECT: SEDIMENT DISCHARGE AND EROSION ASSESSMENT REPORT REVIEW,  
KINGS RIVER WATERSHED COALITION AUTHORITY**

On 20 November 2014 the Kings River Watershed Coalition Authority (Coalition) submitted a report entitled *Sediment 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 or report) 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 SDEAR utilized the Revised Universal Soil Loss Equation (RUSLE) model in conjunction with a geographic information system (GIS) to estimate the long-term average annual soil loss potential for irrigated lands within the Coalition area. 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) 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 member parcels. An annual erosion potential of 5 tons/acre/year was used as a preliminary threshold to identify member parcels which may need a Sediment and Erosion Control Plan. The threshold is based on a benchmark used by the Natural Resources Conservation Service to sustainably maintain soil for long-term agricultural use.<sup>1</sup> The RUSLE modeling results were further refined using Coalition-defined criteria.

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<sup>1</sup> 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](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053238.pdf)

Review of the shapefile provided with the SDEAR shows that approximately 46% (about 1.26 million acres) of the Coalition area is considered high risk based on the proposed assessment. Growers 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; about 1.1% 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 Methodology**

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 which 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.

### **Item 2 – Evaluation Criteria**

The SDEAR includes steps to further refine the RUSLE modeling results and exclude parcels based on Coalition-defined criteria. Parcels further than 500 meters from an active hydrologic feature were excluded regardless of the potential erosion values estimated by the RUSLE model. The resulting area was further limited to only Coalition member parcels. A "Self-Assessment" classification was assigned to any parcels "touching" the 500-meter buffer, and aerial photography was used to exclude parcels not actively farmed in 2012. Lastly, areas downhill from waterbodies, or with known barriers to surface runoff (such as levees), were excluded from the final risk determination.

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

- The report should provide rationale for selecting the 500-meter buffer, along with any evidence that parcels further away from waterbodies do not pose a risk for sediment discharge to surface waters.
- While some growers may have obtained irrigated lands regulatory coverage for parcels that are not actively farmed,<sup>2</sup> owners or operators of these parcels may wish to irrigate in

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<sup>2</sup> Non-irrigated operations are not subject to the Order requirements.

the future. Parcels should not be removed from the assessment based on the 2012 (or another year's) irrigation-status.

- The area determined to be susceptible to erosion and sediment discharge should be a generalized assessment of the area, and not be limited to parcels with coverage for irrigated lands. 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 Erosion and Control Plan.

### **Item 3 – Waters of the State**

The SDEAR includes an evaluation of “active” hydrologic features, but does not define the term or provide a reference to the dataset used to identify them. Based on the provided figures, many of the surface waters within the Coalition area were not considered in the assessment. 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 further defined in Attachment E of the Order, which includes 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.