
Central Valley Regional Water Quality Control Board

5 August 2024

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SURFACE WATER MONITORING PLAN REVIEW, TULE BASIN WATER QUALITY COALITION

On 21 February 2024, the Tule Basin Water Quality Coalition (Coalition) submitted a proposed Surface Water Monitoring Plan in accordance with the Monitoring and Reporting Program for Waste Discharge Requirements General Order R5-2013-0120-09. Central Valley Water Board staff have conducted a review of the proposed plan, which is documented in the enclosed memorandum.

Based on review, the proposed SWMP is insufficiently designed to address whether discharges from irrigated lands within the Coalition area are meeting the Surface Water Limitations of the Order. Priority issues identified by staff include 1) the need for adequate justification for the selection of the proposed monitoring sites and 2) the need to directly monitor or identify appropriate representative monitoring sites for all surface waters potentially receiving agricultural waste discharges.

Additional information regarding these and other issues identified by staff can be found in the enclosed memorandum. By **5 November 2024**, please submit a revised Surface Water Monitoring Plan addressing the comments and recommendations provided by staff.

If you have any questions regarding this letter or the enclosed memorandum, please contact Christine Johnson at (559) 445-6051 or christine.johnson@waterboards.ca.gov.



For Patrick Pulupa
Executive Officer

Enclosure: Staff Review of the Tule Basin Water Quality Coalition's Proposed Surface Water Monitoring Plan

MARK BRADFORD, CHAIR | PATRICK PULUPA, ESQ., EXECUTIVE OFFICER

Central Valley Regional Water Quality Control Board

TO: Eric Warren, PE
Senior Water Resource Control Engineer
IRRIGATED LANDS REGULATORY PROGRAM

FROM: Christine Johnson
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IRRIGATED LANDS REGULATORY PROGRAM

DATE: 5 August 2024

**SUBJECT: STAFF REVIEW OF THE TULE BASIN WATER QUALITY COALITION'S
PROPOSED SURFACE WATER MONITORING PLAN**

On 21 February 2024, the Tule Basin Water Quality Coalition (TBWQC, or Coalition) submitted a proposed Surface Water Monitoring Plan (SWMP) in accordance with the Monitoring and Reporting Program (MRP) for the Waste Discharge requirements General Order R5-2013-0120-09 (Order). The Coalition is currently approved to serve as a Third-Party entity to represent owners and operators of irrigated lands located within the Tule subbasin region of the Tulare Lake Basin Area. Preparation and implementation of a SWMP is required to describe irrigated agriculture's impacts on surface water quality and determine whether existing or newly implemented management practices comply with the Surface Water Limitations of the Order. This memorandum provides a summary of the Coalition's proposed SWMP and comments regarding unsatisfied and missing elements required by the MRP.

SURFACE WATER MONITORING PLAN – SUMMARY

Background

The TBWQC boundary encompasses three natural watersheds: Tule River Basin, Deer Creek Basin, and White River Basin. The upper watershed of the Tule River consists of the South Branch, Middle Branch, and North Branch, which each flow into Lake Success. Flows below Lake Success travel through the Tule River and its bifurcating branches toward its terminus at Tulare Lake or are diverted through irrigation district facilities for their use. Flows within the Deer Creek and White River watersheds similarly originate in the Sierra Nevada but continue unrestricted to the valley floor, where the water typically infiltrates, evaporates, or is diverted for irrigation district use.

Proposed Monitoring Sites

The TBWQC's proposed surface water quality monitoring network is composed of seven Core monitoring stations selected to examine surface water characteristics within the three watersheds and evaluate water quality trends over time. All monitoring conducted by the Coalition would adhere to established quality assurance and quality control (QAQC) standards and protocols as described in the SWMP.

Core Monitoring Sites

Core monitoring sites are intended to be characteristic of the key crop types, topography, and hydrology within the Coalition's boundary. The following are the seven Core monitoring sites proposed in the TBWQC SWMP:

1. Porter Slough at Road 192 – Porterville, CA
2. Tule River at Road 144 (North Fork) – Woodville, CA
3. Tule River at Road 92 – Tipton, CA
4. Deer Creek at Road 248 – Terra Bella, CA
5. Deer Creek at Road 176 – Pixley, CA
6. Deer Creek at Road 120 – Pixley, CA
7. White River at Road 208 – Ducor, CA

Assessment Monitoring Sites

Beginning with the 2025 water year, SWMP proposes to establish one or two new Assessment Monitoring sites to assess the effectiveness of grower management practices and provide supporting data for the Core monitoring sites. After a year of assessment monitoring, the sites may be considered for inclusion in the monitoring network as a Core monitoring site. Specific details regarding the potential locations of the site(s) were not provided.

Ephemeral and Special Project Monitoring Sites

The SWMP did not propose the use of Ephemeral or Special Project monitoring sites.

Proposed Monitoring Constituents

Core Monitoring Constituents

Table 3-3 and 3-4 of the SWMP identify Core monitoring constituents to be evaluated at each proposed site. These include field parameters, general chemistry, metals, pathogen indicators, organic compounds, pesticides, and aquatic toxicity. In addition, the SWMP notes that specific pesticides will be identified and monitored in accordance with the established Pesticide Evaluation Protocol (PEP) for the Irrigated Lands

Regulatory Program. Sediment samples would be collected semi-annually, once between August 15th and October 15th, and once between March 1st and April 30th.

Assessment Monitoring Constituents

Table 3-5 of the SWMP identifies Assessment Monitoring Pesticide Constituents to be evaluated on a cyclical triennial schedule for all seven Core monitoring sites.

Assessment monitoring constituents would include all constituents from Core monitoring with the addition of Assessment pesticides.

Proposed Monitoring Schedule

Section 3.1 of the SWMP identifies the monitoring program schedule. Core monitoring sites are used to track trends in water conditions over time and proposed to be monitored monthly. Monitoring is scheduled to be conducted between the 12th and the 18th of each month but may occur outside of this window depending on site conditions. On a rotating three-year schedule, Core monitoring sites would undergo assessment monitoring to evaluate a broader list of water quality constituents. In addition, sediment toxicity monitoring would be conducted semi-annually, once between August 15th and October 15th and once between March 1st and April 30th during each year of either Core or Assessment monitoring.

STAFF COMMENTS/RECOMMENDATIONS

Item 1: Provide a Discussion of the Scientific Rationale Used for the Monitoring Site Selection.

The SWMP states that “Each site was selected to capture surface water characteristics within a specific watershed. Each of the seven monitoring stations provide long-term trend monitoring of surface water within the TBWQC boundary.”

Section III.A. of the Order’s Monitoring and Reporting Program requires that the SWMP “*Provide a discussion of the scientific rationale used for the monitoring site selection process (e.g., based on historical and/or on-going monitoring, lack of monitoring data, drainage size, crop types and distribution, topography and land use).*” and “*Discuss the specific conditions/rationale used for the selection of each proposed monitoring site and include the proposed site’s location.*”

The Coalition should address historical and/or on-going data monitoring, lack of monitoring data, and the overarching scientific rationale used to support the selection of each proposed site (e.g., key crop types, soils, topography, continuity with past monitoring efforts, etc.).

Item 2: Revise and Clarify Monitoring Site GPS Coordinates.

Water Board staff noted several discrepancies in the location information provided throughout the SWMP. For example, the latitude and longitude provided for Tule River at Road 144 (North Fork) is not representative of the monitoring site sampling location, and Table 2-1 of the SWMP is inconsistent with Figure 2. Per MRP requirements, “*GPS coordinates must be provided as latitude and longitude in the decimal degree coordinate system (at a minimum of five decimal places).*” Water Board staff recommend revising the longitude and latitude coordinates to reflect the requirements listed in the MRP.

Item 3: Monitoring of All Waters of the State within the Coalition’s Boundaries that May be Impacted by Irrigated Agricultural Operations

The SWMP states “After a one-year monitoring period, an AM site may be added to the dedicated Core monitoring network for trend monitoring if analysis determines that the AM site is sufficient Representative monitoring location for a watershed within the boundary.” Section III.A. of the General Order’s MRP requires that, “*Monitoring sites shall be established in a manner to evaluate the effects of irrigated agricultural waste discharges to all surface water bodies within the Third-Party coverage area receiving such wastes.*” The SWMP as written does not propose monitoring of all surface water bodies within the Coalition area potentially receiving agricultural waste or identify representative monitoring sites in lieu of direct monitoring for specific waterways.

Additionally, if a representative monitoring approach is being used the MRP Section III.A.5 states that the SWMP must, “*...specify which areas, crop types, waterways, or watershed areas are to be represented by the monitored sites and provide a technically sound justification for the representative nature of the monitoring locations including: similarities in hydrology, crop types, pesticide use, and other factors that affect the discharge of wastes from irrigated lands to surface waters.*”

The SWMP requirements contained in the General Order cannot be satisfied until the Coalition monitors all surface waters potentially receiving agricultural discharges or identifies appropriate Representative sites for the non-monitored water bodies. The currently proposed concept for temporary establishment of Assessment monitoring sites to gather sufficient data to determine the representativeness of certain waterbodies appears to be viable. However, specific details regarding the location of the proposed sites were not included. The Coalition should revise the SWMP to identify the proposed sites, associated monitoring schedule(s), and constituents to be monitored.

The SWMP designates White River at Road 208 – Ducor, CA as a Core monitoring station. The SWMP states that, “The natural flow of White River typically occurs during the rainy season and between April and July when snow melts in the upper watershed”. This description fits the definition of an ephemeral stream, and the proposed site should be designated as such. Staff recommend revising the SWMP to change the site

designation and follow an ephemeral monitoring regime as described in the MRP (i.e., monitor for the full suite of parameters whenever sufficient water is present).

Item 4: Monitoring Parameters

The SWMP states that “Based on Pesticide Evaluation Protocols discussed in Section 3.1.1, prior to each water year, an individual pesticide monitoring schedule is generated for each dedicated monitoring station based on which pesticides are at risk of impacting each station due to irrigated agriculture within the sub-watershed. A complete list of Core pesticides is provided in Table 3-5.” As stated in Section III.B.2 of the MRP, “*The Executive Officer will provide the Third-Party with a list of pesticides that require monitoring in areas where they are applied and have the potential to impair water quality.*”

The SWMP is inconsistent regarding the pesticides to be monitored and how they are identified. Section 3.1.5 appears to imply that there are separate lists of “Core” and “Assessment” monitoring pesticides. To clarify, whether for a dedicated Assessment Monitoring Site, Ephemeral site, or a Core Monitoring Site undergoing its triennial assessment monitoring period, all pesticides to be monitored are determined through the Pesticide Evaluation Protocol (PEP) issued by the Executive Officer. The SWMP should be updated to clarify this process, or potentially replace the tables with an acknowledgement that the Coalition will be following the PEP. The Coalition should also indicate their intention of submitting the annual list of proposed pesticides/monitoring schedules for each site no later than 60 days prior to the beginning of the water year.

The SWMP states that, “Long-term trend monitoring consists of field parameters, general chemistry standard metals, pathogen indicators, organic compounds, aquatic toxicity (Table 3-3) and pesticides (Table 3-4).” The Core monitoring constituents listed in Table 3-3 include the analytical method that is being used, but do not provide any additional information (e.g., method detection and reporting limits, matrix, units, etc.). Water Board Staff recommends adding additional information for clarity.

Item 5: Identify Monitoring Schedule and Frequency

The SWMP states that the Coalition intends to collect surface water samples from “contiguous streams where flow is deeper than 6 inches or adequate height exists to fill sample bottles (Table 3-6).” Flowing water is not a requirement for the collection of water quality samples or specified by the General Order. The SWMP should be revised to include the collection of a water quality sample whenever sufficient water is present without sacrificing sample integrity. Should unique circumstances arise which the Coalition believes may compromise the integrity of the sample or its representativeness, please reach out to staff directly on a case-by-case basis to confirm the need for sampling.

Item 6: Include the requirements provided in Section VIII of the MRP (QAPP)

A Quality Assurance Project Plan (QAPP) is a requirement of the MRP per Section VIII. The MRP states that, "*The Third-Party must develop and/or maintain a QAPP that includes watershed and site-specific information, project organization and responsibilities, and the quality assurance components in the QAPP Guidelines.*" The Coalition did not mention or include a plan for a QAPP. The Coalition will need to develop and submit a Quality Assurance Project Plan and the SWMP should include an anticipated submittal date. Guidelines and criteria for a Quality Assurance Project Plan are detailed in Section VIII of the MRP.