



24 June 2024

Mr. Patrick Pulupa, Executive Officer
 Central Valley Regional Water Quality Control Board
 1685 E Street
 Fresno, CA 93706-2007

RE: CWDC Surface Water Quality Management Plan Exemption Request

Dear Mr. Pulupa:

The Cawelo Water District Coalition (**CWDC or Coalition**) submitted a Surface Water Monitoring Plan (**SWMP**) on October 22, 2014. The Central Valley Regional Water Quality Control Board (**CVRWQCB**) responded to the submittal in a letter dated December 29, 2014, in which revisions to the SWMP were requested. CWDC submitted a revised version of the SWMP on May 31, 2019 followed by an additional revision submitted July 30, 2019. This version was approved by the CVRWQCB on September 25, 2019.

During the 2023 water year (WY), atmospheric rivers swept across most of the West Coast from October 2022 through April 2023. These atmospheric rivers resulted in intense rainstorms and increased the risk of flooding throughout the Central Valley in California. During the 2023 calendar year (CY), CWDC was able to obtain a total of ten samples between sites. An overview of sampling events is summarized below in Table 1.

Table 1. Sampling Overview for the Months Sampled During the 2023 CY

Site	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
HWY 65	X	X	X	X	X	-	-	-	-	-	-	-
Zerker Rd	-	X	-	-	X	-	-	-	-	-	-	-
HWY 99	X	-	X	X	-	-	-	-	-	-	-	-

* "X" indicates when a sampling event took place

* Hwy 99 and Zerker Rd count as one site

Per General Order R5-2013-0120-09, Waste Discharge Requirements for Growers within the Tulare Lake Basin Area that are Members of a Third-Party Group (**General Order**), a Third-Party Group and its members are required to prepare and implement a Surface Water Quality Management Plan (**SQMP**) if more than one exceedance of the same water quality constituent at the same surface water monitoring location occurs within a three-year period. During the 2023 CY, water quality monitoring at sampling sites HWY 65 and HWY 99/Zerker Rd resulted in two exceedances of pH within a three-year period and water



quality monitoring at HWY 65 resulted in two exceedances of E. coli within a three-year period. Surface water sampling analysis results can be found in Table 2.

Table 2. Results for E. coli and pH from sampling events during the 2023 CY

Date	pH (pH units)		E. coli (MPN/ 100 ml)	
	HWY 65	HWY 99/ Zerker Rd	HWY 65	HWY 99/ Zerker Rd
1/12/2023	-	-	33	130
1/23/2023	6.21	6.08	23	49
2/28/2023	7.19	7.43	540	240
3/28/2023	5.94	6.02	130	110
4/24/2023	7.16	6.62	540	540
5/23/2023	7.64	7.11	240	240

*Trigger Limit pH 6.5- 8.3 and E. coli 320 MPN/ 100mL

This exemption request is being submitted to discuss water quality issues that have triggered management plans at sites being monitored by the CWDC. CWDC believes irrigated agriculture is not the cause of exceedances and that there are and have been various non-agricultural sources prior to the Coalition monitoring sites. The Coalition is submitting a request for an exemption in developing a SQMP for the associated constituents (pH and E. coli). CWDC is willing to actively participate in a work group developed to manage these issues that continue to occur through the Central Valley with other contributors. In addition, CWDC will continue on-going monitoring and analyses for constituents as per the approved SWMP to obtain data and evaluate the water quality trends. CWDC will notify growers of the water quality issues in the region and encourage them to utilize best management practices to minimize any potential impact.

As described in the SWMP, the Highway 65 monitoring site is located where Poso Creek enters the CWDC primary coverage area. The purpose of this monitoring site is to sample water entering the coalition area with irrigated agriculture as the primary land use to provide background water quality information. No irrigated agriculture has been identified east of the monitoring site. High concentrations of constituents that have triggered a management plan could indicate other land use inputs further upstream that may not include irrigated agriculture.

pH

For the 2023 CY the first exceedances for pH were observed at both the HWY 65 and HWY 99/ Zerker Rd monitoring sites during the January 2023 sampling event. The second exceedance occurred in March 2023 for both sites, triggering a management plan. Figures 1 and 2 outline the trends in pH for the Coalition at both sites since the 2016 CY. Historically, results have remained mostly between pH ranges 7 and 8, but significantly drop during the 2023 CY when extreme rain events occurred which the Coalition had not previously experienced. The 2023 CY saw a significant drop in pH, lower than ever historically observed. These acidic conditions are likely attributed to the high level in precipitation, excessive runoff, and high flow conditions which at times over topped banks and created flood conditions.

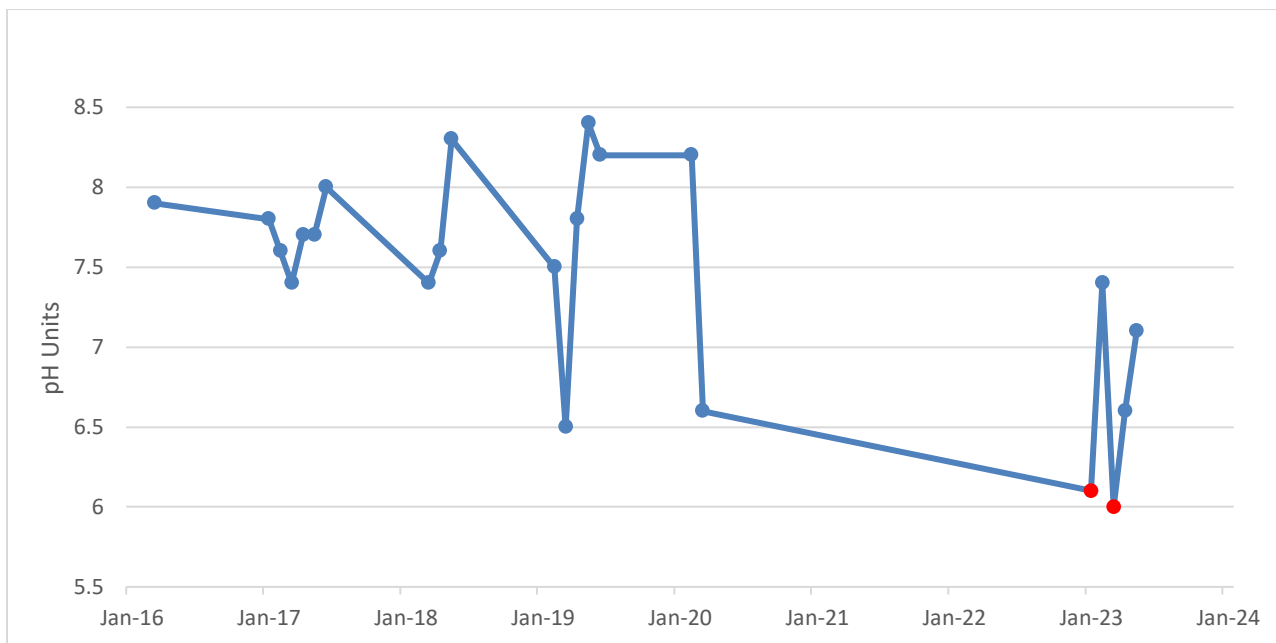


Figure 1. Trends in pH for HWY 99/Zerker Rd from 2016 - 2023 CY for CWDC



Figure 2. Trends in pH for HWY 65 from 2016- 2023 CY for CWDC

Acidic pH conditions in natural waterways have been known to arise from point and non-point source contributions of chemical contaminants, biological activity, geologic processes, temporal variability, mining waste, and other anthropogenic activities (USEPA, 2023). There is always a possibility that irrigated agriculture can impact water pH values via fertilizer, pesticide runoff, or erosion. However, there have been no exceedances of nutrient, metal, pesticide, or toxicity trigger limits that suggest agricultural impacts. Furthermore, there is no irrigated agriculture upstream of the Highway 65 monitoring site to potentially contribute to the exceedance at the HWY 65 monitoring site. There is currently insufficient evidence available to identify irrigated agriculture as a potential contributor to the pH exceedances. Data collected and outlined in Table 2 show the lack of variation in pH values between sites for a given sampling event as it goes through land used for agriculture. The lack in variation indicates that irrigated agriculture may not be the main contributor to exceedances determined for each site, considering these exceedances are determined at the HWY 65 location which is where Poso Creek enters areas used for agriculture. Currently, there is also insufficient evidence available to directly identify other non-agricultural potential contributors to the pH exceedances. For example, the 2020 Improvement District No. 4 Consumer Confidence Report published by the Kern County Water Agency states that the “Major Source of Contamination” for pH is “Naturally Occurring.” Further, river systems experience diurnal fluctuations in pH (between 0.5 and 1 pH units) due to naturally occurring changes in microbial respiration and photosynthesis (Spencer et al., 2007; Parker et al., 2005). pH may also decrease from deposition of acidic precipitation (e.g., acid rain or snowmelt) and weathering of surrounding rock. Overall, changes in pH may be compounded if multiple processes or sources of chemical constituents are added upstream. The USEPA considers other sources and activities to include mine wastes, historic mine sites, acid generating rocks/soils, power plants and other sources of acidic gases, coal pile runoff, industrial effluents, landfill leachate,

confined animal feeding operations, dairy runoff, instream oxidation or reduction processes, recent draining of naturally inundated wetlands or floodplains, etc.

Escherichia coli (E. coli)

During the 2023 CY, the first observed exceedance occurred at the HWY 65 and monitoring site in February 2023. The second exceedance was observed at the HWY 65 monitoring site in April 2023, triggering a management plan. An exceedance also occurred at the HWY99/Zerker Rd monitoring site in April 2023. Figure 3 shows fluctuations in results for E. coli analysis during the 2023 CY. Results significantly increase in February 2023 following high precipitation events. Levels reduce again in March potentially from dilution or reduced level of runoff. Results spike again with a variation in runoff and precipitation fluctuations in April 2023 following high precipitation events.

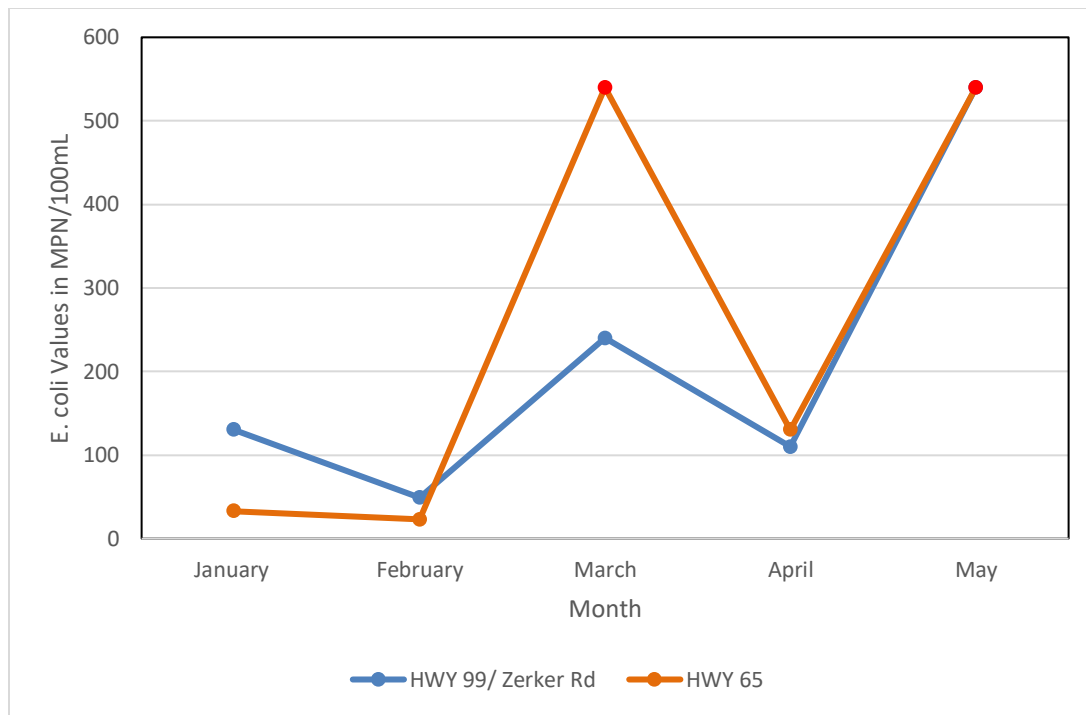


Figure 3 Trends in E. coli for HWY 99/ Zerker Rd and HWY 65 from the 2023 CY for CWDC

E. coli is an indicator organism, meaning it is used to identify fecal contamination in freshwater and imply the possible presence of pathogens. E. coli is found in the feces of warm-blooded animals and can enter surface water in a variety of ways: wastewater treatment plan effluent, broken or leaky sewer pipes, failed septic systems, and stormwater runoff from land containing livestock (USEPA, 2021). Dairy cattle are natural hosts for many food and waterborne bacterial pathogens (USGS, 2018). Many surveys and studies have been conducted on the presence of these pathogens, especially E. coli. Other sources of pathogens and indicator pathogens such as E. coli include wildlife, recreational human use, and domestic animals. Furthermore, there is no irrigated agriculture upstream of the Highway 65 monitoring site to potentially contribute to the exceedance. As discussed previously, the Coalition is willing to participate in a work group that is formed to manage E. coli and other inputs to help manage and minimize impacts to waterbodies.



CAWELO WATER DISTRICT COALITION
REPRESENTING GROWERS IN THE CAWELO WATER DISTRICT AREA

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WDR GENERAL ORDER No. R5-2013-0120, CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, CENTRAL VALLEY

APRIL 2014

Conclusions and Recommendations

CWDC remains committed to maintaining compliance with the General Order through required monitoring efforts, and submittal and development of required reports. Although water quality results show elevated water quality levels and management plan triggers from the 2023 CY, CWDC does not believe this is a direct result of irrigated agriculture, for reasons detailed above, and is willing to work with other contributors to manage and minimize effects. CWDC will inform growers of exceedances and encourage them to continue best management practices.

Additionally, CWDC will continue to work with CVRWQCB staff on properly addressing management plan triggers and ensuring all sources are considered, where some water quality issues are still present.

Sincerely,

Dave Halopoff, PE
Third-Party Program Manager