



May 16, 2016

Pamela Creedon, Executive Officer
Central Valley Regional Water Quality Control Board
10200 Sun Center Drive, Suite 200
Rancho Cordova, CA 95670-6114

Re: Determination that Ammonia Results Do Not Trigger Management Plan

Dear Ms. Creedon:

The Sacramento Valley Water Quality Coalition (Coalition) and Colusa Glenn subwatershed respectfully request your determination that the exceedances of ammonia water quality objectives (WQOs) observed for Walker Creek near Highway 99 West and County Road 33 (Coalition StationCode 520XWLKCH) in August 2014 and May 2015 are not valid as a trigger for Management Plan requirements for ammonia in Walker Creek for the reasons discussed below.

Water quality samples collected at Walker Creek in both August 2014 (Event 102) and May 2015 (Event 111) were collected from isolated pools in the water body as shown in **Figures 1 – 4**. At the time these water quality samples were collected, the isolated pools from which they were collected had no upstream or downstream hydrologic connection to the rest of the water body. These pools contained stagnant water and supported significant algal growth. The lack of flow and observed stagnant conditions are the direct cause of the elevated temperatures (28.2 °C for Event 102 and 27.0 °C for Event 111) and pH (8.53 - log[H+] for Event 102 and 9.95 -log[H+] for Event 111) that result in the lowering of the ammonia criterion to which the ambient ammonia concentration is compared. The stagnant conditions and elevated temperatures at the site concentrate constituents in the pools that promote algal growth. Increased algal growth in turn produces increases in ambient pH due to photosynthetic CO₂ assimilation during daytime. These conditions are not caused by agricultural discharges. While measured ammonia (as N) concentrations in the isolated pools exceeded chronic criteria (see concentrations in red text in **Table 1**), the Coalition contends that the elevated ammonia concentrations and exceedances were not the result of agricultural discharges, should not be used to characterize agricultural discharge quality, and therefore, are not valid as a trigger for Management Plan requirements for ammonia in Walker Creek. As shown by the ammonia data collected in Walker Creek from April 2009 through May 2015 (see **Table 1**), ammonia (as N) concentrations measured at this Coalition monitoring location are typically well below the most stringent water quality objective. Copies of Coalition field logs are also included for the monitoring events in question.

Sincerely,

A handwritten signature in black ink, appearing to read "David J. Guy". The signature is fluid and cursive, with a large initial "D" and "G".

David J. Guy
President
Northern California Water Association

cc: Sue McConnell
Susan Fregien
Kandi Manhart
Lester Messina
Bruce Houdesheldt
Claus Suverkropp

Table 1: Ammonia (as N) concentrations measured in Walker Creek near Highway 99 West and County Road 33.

Event	Sample Date	Ammonia (mg/L as N)	Most Stringent Water Quality Objective	Notes
38	04/22/2009	0.13	1.5	BP T&O objective ¹
39	05/20/2009	<0.06	1.2	1999 USEPA chronic criterion ²
40	06/18/2009	0.15	1.5	BP T&O objective ¹
41	07/22/2009	<0.06	1.5	BP T&O objective ¹
42	08/19/2009	<0.06	1.07	1999 USEPA chronic criterion ²
43	09/23/2009	<0.06	1.5	BP T&O objective ¹
44	10/21/2009	<0.06	1.5	BP T&O objective ¹
45	11/18/2009	0.32	1.5	BP T&O objective ¹
46	12/17/2009	0.14	1.5	BP T&O objective ¹
59	01/19/2011	0.16	1.5	BP T&O objective ¹
60	02/16/2011	0.088 DNQ	1.5	BP T&O objective ¹
61	03/16/2011	0.12	1.5	BP T&O objective ¹
62	04/21/2011	0.13	1.5	BP T&O objective ¹
63	05/18/2011	0.21	1.5	BP T&O objective ¹
64	06/22/2011	0.066 DNQ	1.47	1999 USEPA chronic criterion ²
65	07/20/2011	<0.04	0.9	1999 USEPA chronic criterion ²
66	08/17/2011	0.055 DNQ	1.5	BP T&O objective ¹
69	11/09/2011	0.055 DNQ	1.5	BP T&O objective ¹
70	12/08/2011	<0.04	1.5	BP T&O objective ¹
93	11/20/2013	<0.04	1.5	BP T&O objective ¹
94	12/12/2013	0.12	1.5	BP T&O objective ¹
95	01/15/2014	0.25	1.5	BP T&O objective ¹
96	02/11/2014	0.099 DNQ	1.5	BP T&O objective ¹
97	03/19/2014	<0.04	0.82	2013 USEPA chronic criterion ³
98	04/16/2014	0.088 DNQ	1.32	2013 USEPA chronic criterion ³
99	05/21/2014	0.044 DNQ	0.90	2013 USEPA chronic criterion ³
100	06/18/2014	0.077 DNQ	0.85	2013 USEPA chronic criterion ³
101	07/17/2014	0.27	1.07	2013 USEPA chronic criterion ³
102	08/20/2014	0.20	0.19	2013 USEPA chronic criterion ³
106	12/03/2014	0.29	1.5	BP T&O objective ¹
107	01/21/2015	0.055 DNQ	1.5	BP T&O objective ¹
108	02/08/2015	0.51	1.5	BP T&O objective ¹
109	03/19/2015	0.13	0.34	2013 USEPA chronic criterion ³
110	04/22/2015	0.23	0.87	2013 USEPA chronic criterion ³
111	05/20/2015	0.21	0.04	2013 USEPA chronic criterion ³

1. Ambient concentration compared to drinking water taste and odor threshold incorporated by reference into the Water Quality Control Plan (Basin Plan) for the California Regional Water Quality Control Board: Central Valley Region, the Sacramento River Basin and San Joaquin River Basin (Fourth Edition, Revised) October 2011.

2. Water quality objective calculated using USEPA 1999 Update of Ambient Water Quality Criteria for Ammonia.

3. Water quality objective calculated using USEPA Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater 2013.



Figure 1: Downstream view of Walker Creek (WLKCH), Event 102.



Figure 2: Upstream view of Walker Creek (WLKCH), Event 102.



Figure 3: Downstream view of Walker Creek (WLKCH), Event 111.



Figure 4: Upstream view of Walker Creek (WLKCH), Event 111.