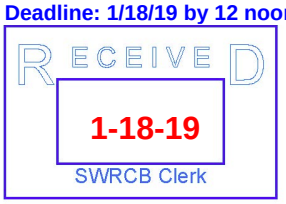


January 18, 2019

Chair Felicia Marcus and Board Members
c/o Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814

Sent via electronic mail to: commentletters@waterboards.ca.gov

Re: Comment Letter – Chollas Creek Administrative Record
Adoption of Site-Specific Water Effects Ratio in Chollas Creek, San Diego

Dear Chair Marcus and Board Members:

On behalf of San Diego Coastkeeper ("Coastkeeper") and Coastal Environmental Rights Foundation ("CERF") please accept the following comments on the incorporation of additional data and associated analyses for the State Water Resources Control Board ("State Board") administrative record for the Chollas Creek site-specific water quality objectives adopted by the San Diego Regional Water Quality Control Board ("Regional Board") as Resolution R9-2017-0015.

Collectively Coastkeeper and CERF represent thousands of members throughout the San Diego region in advocating for clean water and a healthy environment. Though CERF and Coastkeeper appreciate the State and Regional Board's effort to address our prior comments and concerns, the incorporation of additional data at this stage in the process only raises additional questions regarding the integrity of the process and validity of the data.[1] As further detailed below, Coastkeeper and CERF remain concerned that the out-of-date EPA interim guidance and the lack of statewide policy and guidelines to ensure a robust and consistent process undermine the true intent of site-specific objectives – to protect water quality.

The proposed amendment would revise water quality objectives ("WQOs") for copper and zinc in the Chollas Creek Watershed through the use of site-specific objectives ("SSOs"). Importantly, our groups are not opposed to the use of SSOs that are based upon robust datasets and that ensure appropriate WERs are adopted. We understood during the original adoption of the Chollas Creek metals TMDL that site-specific WERs could be revisited upon completion of further comprehensive studies. However, the necessary and appropriate studies have not been conducted to date.

[1] The Regional Board's decision to forgo peer review on its internal memorandum, the supplemental data, and the conclusions drawn therefrom is inappropriate. (Memo, p. 2). The public and State Board should be afforded the insight of independent review to assess the validity of the memorandum.

Despite the post-hoc inclusion of additional data to supplement the WER study, Coastkeeper and CERF's original concern regarding the number of samples upon which the Chollas Creek WER amendments are based remains. A more robust dataset for water chemistry, ecological function, and precipitation are necessary to ensure the new WQOs will protect designated beneficial uses over a range of watershed conditions. The fact remains, the final WER objectives for Chollas Creek are based on a total of 4 sampling events (at two sites) taken during a single calendar year (2010). In the Chollas Creek scenario, it is impossible based upon such a small dataset to tell whether the chosen WER is appropriate (i.e. whether it actually captures the critical condition, or circumstances under which metals are most bioavailable and therefore toxic in the waterbody).

To address these concerns, the Regional Board's October 19, 2018 memorandum ("Memo") purports to demonstrate that the key water chemistry conditions that affect bioavailability of zinc and copper measured during the WER study are consistent with and representative of creek conditions compared to data collected from 2007 to 2017. Notably, the data presented therein does not include toxicity data – which was collected by the San Diego copermittees pursuant to the San Diego Region National Pollutant Discharge Elimination System (NPDES) permit for MS4s. (See MS4 NPDES Permit, Sections D.1.c.(4)(a)-(f) ad D.1.d.(4)). This information, particularly if correlated with measured dissolved and total metal concentrations, would provide further insight into the appropriateness of the WERs and integrity of the dataset.[2] The Regional Board's decision to omit such critical data raises further questions.

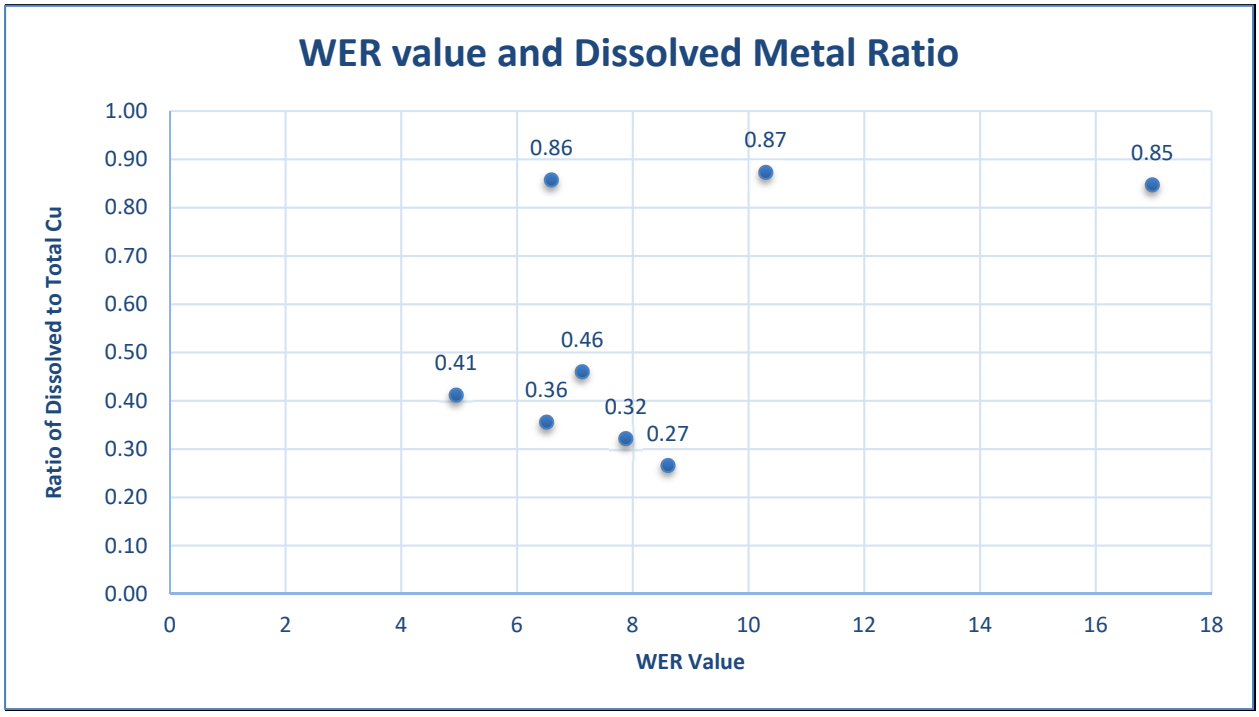
The Memo's historical data includes four parameters: pH, dissolved organic carbon (DOC), alkalinity and hardness. The Memo relies on this data to demonstrate the same parameters as measured during the WER study were consistent with this historical data. However, the data, Memo, and conclusions therein were not subject to peer review, so the integrity and scientific basis of such supplemental information remains suspect. Notably, one of the DOC concentrations was measured at 518 mg/L – a virtually impossible number. (Memo, Attachment 2, p. 2-1, Table 1; Data, SD8(1) DOC measured on 3/5/2008). The inclusion of this number not only skews the SD8(1) average, but also undermines the integrity of the dataset and review process. Even without this notable outlier, the Chollas Creek dataset reflects a much greater variability and standard deviation than the Los Angeles dataset. (See, p. 40, Table 17).[3]

[2] CERF and Coastkeeper attempted to obtain and compile this data in advance of the comment deadline. Thought the data was submitted to CEDEN, it is not available for public review for the post 2016 dataset. The City of San Diego did not provide the requested data in time for submission of the instant comment letter. CERF and Coastkeeper may supplement these comments when such data is obtained.

[3] https://www.waterboards.ca.gov/water_issues/programs/peer_review/rb4_la_river_metals/docs/attachment_a_42014.pdf)

The Regional Board Memo thus attempts to bolster the WER's limited dataset by cherry-picking historical data for comparison. However, a closer review of the WER dataset, comprised of four samples at two stations – at total of eight samples in one year – reveals the vulnerability of the WER study. First, the lab water LC50 values were all lower than anticipated and lower than required pursuant to the EPA Interim Guidance. Therefore, the WERs were calculated using species mean acute value (SMAV) – not site-specific derived values. (See, 2011 WER Study, p. 47 ["measured dissolved copper LC50 values for DMW experiments ranged from 3.1 to 5.2 µg/L. These values are considerably lower than BLM-predicted copper toxicity to C. dubia…and below BLM-derived CMC and CCC values…Subsequently, the SMAV LC50 for C. dubia was used in lieu of the LC50 determined from the DMW tests as the denominator to calculate the WER for copper."]; see also, 2014 WER Study, pp. 43-44 ["In evaluating the toxicity results for dissolved copper, it was observed that the LC50s in laboratory water were lower than those values identified by USEPA for *C. dubia*, potentially resulting in an artificially high WER for Chollas Creek."]).

Further, the eight total samples reveal the calculated WERs show no correlation to the copper dissolved-to-total metal ratio in the sample water. The ratio of dissolved to total metal concentration predicts the bioavailability of copper and therefore should have some relationship to the WER. However, the calculated WERs show no such correlation. Further, for three of the samples, even though almost 90 percent of the copper measured was in the dissolved form, the calculated WER ranged from 6 to 17.



This flawed WER dataset has been manipulated numerous times to attempt to fit the outdated EPA Guidelines. First, the City advocated for a different, more conservative WER in 2011 based on the same data.[4] (Chollas Creek WER Presentation [Copper WER = 4.64 and Zinc WER = 1.40]). At the time, the City advocated for a WER without a hardness normalized species mean acute value (SMAV). (See 2011 WER Study, p 48). In the 2014 WER Study, the City then normalized the 2010 dataset for hardness using SMAV at 100 mg/L. Apparently, however, the City did not normalize the 2014 confirmation samples. (See 214 WER Study, p. 46, Table 6-5).[5] It is unclear from the 2014 WER Study whether the 2014 confirmation test WERs for secondary species *p. promelas* were calculated using the SMAV or DMW (lab water) but it appears SMAV was used only for the primary species test conducted in 2010. Using hardness normalized SMAV – which would be consistent with the 2010 dataset and analysis – results in a finding that the secondary species copper WERs are not in fact within a factor of 3 and therefore fail to meet the EPA Interim Guidance for at least one of the sites (DPR2). (See 2014 WER Study, pp. 45-46). Further, though during the 2014 confirmation study side by side toxicity tests were conducted for both primary and secondary species for both copper and zinc, only secondary species data was presented and used in the 2014 WER Study. (*Id*.). Once again, if copper WERs are calculated using hardness normalized SMAV values for both species pursuant to the (limited) 2014 confirmation data set, the DPR2 dataset is not within a factor of 3 and the SD8 dataset is barely within such a range. The variability in the WERs from 2011 to 2014, the ever-changing calculation methods, and the susceptibility of the data to manipulation underscores the fundamental flaw with both the protocol and dataset: both are unreliable.

Since adoption of the Chollas Creek TMDL, the permittees responsible for reducing their waste load allocations have been interested in weakening the applicable standard through a WER. In fact, the copermittees already consistently apply the WERs – despite the fact that final State Board approval has not been granted – to transform water quality objective exceedances into compliant water monitoring data. (See, San Diego Bay WQIP Annual Report, 2016-2017, Appendix 4, Monitoring Results and Assessments p. 2-13 [using the WERs, dissolved copper and zinc concentrations were below acute and chronic WQOs]; see also, Caltrans TMDL Progress Report p. 6 ["Historical dissolved copper concentrations at Chollas Creek during wet-weather monitoring **events have generally been above** both acute and chronic Water Quality Objectives (WQOs) using the default Water Effect Ratio (WER) of 1. **Based on the site-specific objective WER, historical dissolved copper concentrations were below** the acute and chronic dissolved copper WQOs for receiving waters."], emphasis added).

[4] https://www.sandiego.gov/sites/default/files/legacy/stormwater/pdf/2011mtgmonitoring.pdf and https://www.sandiego.gov/sites/default/files/chollaswerstudy.pdf

[5] *P. promelas* copper WERs calculated using hardness normalized LC50 values for SMAV at 100 mg/L would be 42.06 at the DPR2 composite site and 15.02 at the SD8 grab sample site. (Using hardness data provided in Appendix G of the 2014 WER Study).

Because Chollas Creek has been described as "one of San Diego's most neglected watersheds"[6] and runs through communities that have been disproportionately impacted by environmental harm and degradation for many years, it is imperative that this first WER is not only defensible, but protective of this historically neglected waterbody. Importantly, the adoption of this SSO would essentially render the Chollas Creek copper and zinc TMDL meaningless, as the City of San Diego's technical report indicates all but one previous historical water quality samples taken by the City would fall into compliance with the new objective. A TMDL addressing toxic pollutants in an impacted community, which took many years and significant resources to develop and implement, should not be rendered moot based on four sampling events at two sites taken in a single year. Further, as the first of likely many WERs in the San Diego region (and many more likely throughout California), this precedent-setting process falls far short of a model. We therefore urge the State Board to reject the instant WER and postpone consideration thereof until the State Board has developed statewide guidance to ensure a truly defensible, robust process.

As always, Coastkeeper and CERF remain available and willing to discuss our concerns with State Water Board members and staff. Thank you for considering these comments. Please do not hesitate to contact us should you have any questions or need clarification.

Sincerely,

Matt O'Malley
Attorney for San Diego Coastkeeper

Marco Gonzalez

Livia Borak Beaudin
Attorneys for Coastal Environmental Rights Foundation

[6] http://www.voiceofsandiego.org/topics/science-environment/cleaning-up-chollas-creeks-trash/