



October 17, 2017



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

Sent via electronic mail to: [commentletters@waterboards.ca.gov](mailto:commentletters@waterboards.ca.gov)

**Re: 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”) we submit the following comments on Tentative Resolution No. R9-2017-0015, *A Resolution Amending the Water Quality Control Plan for the San Diego Basin to Incorporate Site-Specific Water Effects Ratios Into Water Quality Objectives for Toxic Pollutants and Total Maximum Daily Loads for Copper and Zinc in Chollas Creek* (“Proposed Amendment”). Collectively Coastkeeper and CERF represent thousands of members throughout the San Diego region in advocating for clean water and a healthy environment.

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”). Practically speaking the decision to adopt SSOs in Chollas Creek is a vitally important one. Chollas Creek has been described as “one of San Diego’s most neglected watersheds”<sup>1</sup> and runs through communities that have been disproportionately impacted by environmental harm and degradation for many years. Recent Cal Enviro Screen data indicate that the communities through which Chollas Creek runs - namely Barrio Logan and Logan Heights – remain among the top five to ten percent of communities in the state most impacted by pollution. Importantly, the adoption of this SSO would essentially render the Chollas Creek copper 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.<sup>2</sup> Thus, approval of the amended SSOs will result in far fewer multi-benefit green space projects that would benefit Chollas Creek water quality and surrounding communities.<sup>3</sup>

<sup>1</sup> <http://www.voiceofsandiego.org/topics/science-environment/cleaning-up-chollas-creeks-trash/>. See Attachment C for pictures taken in and around Chollas Creek.

<sup>2</sup> The permittees acknowledge this fact in their MS4 Water Quality Improvement Plans in listing a “0%” copper load reduction would be required after WER SSO approval.

<sup>3</sup> The Regional Board Technical Report itself acknowledges, “the reduction in the number and size of structural BMPS.” Technical Report, pages 21, 22, and 25.

Coastkeeper and CERF have numerous concerns regarding the adopted SSOs. Specifically, our concerns include: (1) the lack of a state policy on water effects ratios (“WERs”) adoption and the continued utilization of EPA guidance that is ill-suited to address WERs and SSOs in Southern California stream systems; (2) the absence of post-adoption monitoring requirements to verify the amended SSOs are protective of beneficial uses; and (3) anti-degradation and anti-backsliding deficiencies.

Each of our below statements was timely raised before the San Diego Water Board in both written and oral form except where specifically noted and explained, and each was included in a letter to the State Board dated March 1, 2017 and attached herein. The majority of our previous concerns in letters and testimony to the Regional Board and State Board have not been adequately addressed or responded to and remain. To the extent that any issues below were not raised, those issues became apparent to our groups only during the Regional Board hearing and after the Regional Board concluded opportunities for public comment. The Substitute Environmental Document, Responses to Comments, Technical Report, other supporting documents, and ultimately the adopted Order contain inadequate responses to comments and substantive defects. Therefore, we incorporate our earlier comments as attachments to these comments and request that they be considered.

The State Water Board should first adopt a statewide WER policy, as EPA Guidance is out of date and not suitable to assess the unique nature of California’s waterways

Of great concern to our groups is the fact that the number of samples upon which the Chollas Creek WER amendments are based is very low and are based on outdated guidance developed for different river and stream conditions than exist in San Diego. Instead, regional or statewide standards requiring a more robust dataset should be developed before these Chollas Creek WERs and other future WERs are approved and adopted. As it exists, regional variation is considerable even within California, and we expect many more WER amendment proposals to follow. By way of comparison, the Los Angeles Regional Board based the final WER objectives for copper in the LA River on a total of 42 sampling events.<sup>4</sup> The San Diego Regional Board, however, approved the final WER objectives for Chollas Creek based on a total of 4 sampling events taken during a single calendar year (2010).<sup>5</sup>

The number of samples taken is further concerning to us considering the variability between samples. In the LA River study, WER values based upon 42 samples ranged from 3.4 to 4.5, resulting in a relatively minor variability. In Chollas Creek, however, WER values based

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<sup>4</sup> The LA River WER was determined by taking 6 samples at 7 sites, for a total of 42 total samples.

<sup>5</sup> While we acknowledge that 4 samples were taken in 2 sites at Chollas Creek for a total of 8, only a single sample site’s results were used in determining the final WER for Chollas Creek. Those samples were taken as flow weighted composites, rather than grab samples. We note that flow weighted composite samples would be less likely than multiple individual grab samples to capture the lowest WER in the Chollas Creek due to the composite nature of the samples and loss of low end results.

upon just 4 samples ranged from 4.9 to 10.3, resulting in a relatively high variability.<sup>6</sup> Peer review comments on the Chollas Creek WER called attention to the small sample size, asking, “if the four sampling events provide enough data on which to confidently estimate WERs for the site.”<sup>7</sup> A second peer review commenter reinforced our concerns by commenting that there exists in the Chollas Creek WERs, “a high variability in the response.”<sup>8</sup> We feel strongly that a TMDL addressing toxic pollutants in a disproportionately impacted community and that took many years and significant resources to develop and implement should not be rendered moot based on 4 sampling events taken in a single year.

While we acknowledge both the Los Angeles and San Diego studies upon which the WER changes were based met the minimum number of samples required by the now 23-year-old EPA guidance<sup>9</sup>, we believe the significant difference in sampling events deemed acceptable by different regional boards highlights the critical need for development of statewide or regionally specific guidance on SSO development.

Notably, the EPA guidelines were developed as a national guide and were intended to apply to more traditional and continuous point source discharges rather than episodes driven by rain and storm events as is the case in Chollas Creek. Therefore, the EPA guidance should be regarded as a minimum starting point rather than an appropriate standard, and regional or statewide standards requiring a more robust dataset should be developed before these Chollas Creek WERs and future WERs are approved and adopted.

A statewide WER policy that recognizes local or statewide variation would serve to require a robust dataset upon which WERs are based, more accurately account for the lowest WERs, account for the critical condition of such waterbodies, and ensure further degradation does not result from WER SSOs. Testimony of State Water Board staff during the Los Angeles River WER adoption indicated that the EPA minimum of three samples would be unacceptable to staff given the unique nature of southern California waterbodies. In referring to the EPA required number of minimum samples of three, Mr. Jonathan Bishop stated:

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<sup>6</sup> In samples taken at the second site (SD81) which were not used, the relative standard deviation for the WER is 51%. Relative standard deviation of samples taken at the site that was used to determine the WER (DPR2) is 32%.

<sup>7</sup> Peer Review Comments of Professor Marc Beutel, Associate Professor of Environmental Engineering, University of California. Comments available at:

[http://www.waterboards.ca.gov/sandiego/water\\_issues/programs/basin\\_plan/docs/basinplan\\_wer/peer\\_review\\_comments.pdf](http://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/docs/basinplan_wer/peer_review_comments.pdf)

<sup>8</sup> Peer Review Comments of Professor Robert P Mason, Dept of Marine Sciences, University of Connecticut. Comments available at:

[http://www.waterboards.ca.gov/sandiego/water\\_issues/programs/basin\\_plan/docs/basinplan\\_wer/peer\\_review\\_comments.pdf](http://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/docs/basinplan_wer/peer_review_comments.pdf)

<sup>9</sup> USEPA, 1994, *Interim Guidance on Determination and Use of Water-Effects Ratios for Metals*, and USEPA, 2001, *Streamlined Water-Effect Ratio Procedure for Discharges of Copper*.

...I would never propose that we do a water effects ratio based on that level of sampling because we don't have the same conditions that were contemplated by the EPA standards, which was contemplating a more – a less flashy system, a less changeable system – a more constant river system was what was considered.

In the case of Chollas Creek, the final WER SSOs were based on the geometric mean of just four samples, just one more than the EPA minimum of three. Considering that the EPA guidance was developed to apply to situations very unlike those that exist in Chollas Creek specifically and San Diego in general, the Chollas WER changes should be postponed until a state policy is developed and implemented.

The adopted amendments fail to include adequate post-adoption monitoring and lack a mechanism to reconsider WERs if they fail to protect beneficial uses

Importantly, the adopted SSO order contains no monitoring provisions to determine whether the revised SSOs are protective of beneficial uses, and likewise contains no provision triggering future revision if the adjusted WERs fail to protect those uses. The WER Technical Report states that, “if future monitoring results, e.g. from Investigative Order No. R9-2015-0058, or any future risk assessments reveal that these concentrations do not compromise beneficial uses in Chollas Creek or at the creek mouth, TMDLs for metal in Chollas Creek must be revisited.”<sup>10</sup> The Report, however, fails to acknowledge that Investigative Order No. R9-2015-0058 deals specifically with the investigation of sediment quality and pollution contributions at the *mouth* of Chollas Creek and does not include water column or sediment quality *in the creek* itself. Further, the Technical Report fails to specifically define what “any future risk assessments” might be, and includes no further discussion regarding future monitoring to determine whether the new WERs were protective of beneficial uses and aquatic organisms. No additional monitoring will be required by the Regional Board besides monitoring already required in the MS4 permit, which is neither designed or sufficient to determine whether the amended WERs are protective of beneficial uses.

Besides setting a minimum data set protocol and other pre-adoption standards and practices, a state policy on WERs would be useful in the development of required post-adoption monitoring aimed at assessing whether revised WERs are actually protective of beneficial uses.<sup>11</sup> Our groups urge the State Board to postpone the adoption of the Chollas Creek WERs and develop a statewide policy that includes minimum datasets, protocols, and post-amendment monitoring requirements for WER SSOs.

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<sup>10</sup> The Technical Report (“TR”) states that, “if future monitoring in Chollas Creek or its mouth at San Diego Bay do demonstrate that the beneficial uses are not being achieved, then the WER, as well as reasonably foreseeable compliance methods, will be re-evaluated at that time.” TR, page 26. The TR does not indicate what this “future monitoring” might be or consist of, or what regulatory mechanism would require additional monitoring to occur.

<sup>11</sup> We note that portions of Chollas Creek covered by the copper and zinc TMDL are tidally influenced, and with rising sea levels greater portions of the Creek will be inundated with brackish and salt water from San Diego Bay, further highlighting the need for future SSO-specific monitoring of metals toxicity in the waterbody.

## The Adopted Amendments are Unsupported by a Proper Anti-Degradation Analysis and Violate Anti-Backsliding Requirements

By approving a WER SSO based on the geometric mean of four sample results (just one more than the three required by EPA guidance), the Regional Board adopted SSOs will cause degradation to occur in Chollas Creek. Degradation is likely, if not certain, to occur in at least two situations. First, due to the limited dataset used to make the determination and the high variability among that data it is not possible to tell whether the chosen WER actually captures the circumstances under which metals are most bioavailable and toxic in Chollas Creek. Therefore it is possible, if not likely, that the critical condition was not captured and is not represented in the sampled results.<sup>12</sup> By not capturing the condition during which metals are most bioavailable the study did not capture the lowest possible resulting WERs that are representative of the conditions in Chollas Creek. The adopted WERs, then, are not representative of the actual lowest WERs that occur in Chollas Creek, allowing further degradation of Chollas Creek to occur under the Regional Board's adopted WER.

Second, even if we were to assume that the study methodology did capture the lowest WER possible in Chollas Creek (which it almost certainly did not), the fact that the Regional Board did not adopt the lowest WER demonstrated in the study but instead adopted the geometric mean of the WER values means there will necessarily be situations where degradation will occur in Chollas Creek because the mean value is considerably higher than the lowest sampled value. Specifically, the geometric mean of the WERs sampled by the study and ultimately adopted for copper is 6.998 and for zinc is 1.711, while the lowest WER observed was 4.951 for copper and 1.183 for zinc. At least one peer reviewer pointed out that the use of the geometric mean rather than the lowest WER was less protective, in stating, "perhaps the consideration could be made that the proposed WER values be the lowest determined value, which would be more protective."<sup>13</sup> That peer reviewer reinforced that recommendation in noting, "another reason for considering a lower WER value is the fact that the relative variability in the four tests for each site are quite high."<sup>14</sup>

Despite this certainty that degradation will occur, the Technical Report spends a scant total of 1.5 pages discussing antidegradation, and most of that discussion consists of little more than a restatement of applicable anti-degradation legal requirements and additional praise for the cost savings San Diego permittees will achieve through adoption of the SSOs.<sup>15</sup> Little detail is

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<sup>12</sup> The critical condition is the condition during which metals are most bioavailable, and thus toxic, in a waterbody. For more on this see our comments October 31, 2016, Attachment A.

<sup>13</sup> Peer review comments of Professor Robert P Mason, Dept. of Marine Science, University of Connecticut, September 12, 2016.

<sup>14</sup> *Id.*

<sup>15</sup> See *Agua vs. Central Valley Regional Water Quality Control Board*, 201 Cal.App.4<sup>th</sup> 1255 at 1279, "Cost savings to the discharger, standing alone, absent a demonstration of how these savings are necessary to accommodate

provided on how the degradation that will result is consistent with the maximum benefit to people of the State, whether the reduction in water quality will not unreasonably affect actual or potential beneficial uses, and whether water quality will fall below WQOs set to protect beneficial uses as prescribed by the Basin Plan.<sup>16</sup> Without adequately assessing degradation that will or may occur as a result of adopting SSOs, and especially adoption of a WER that we know is not the most protective WER, the antidegradation analysis admits that a reduction of water quality will occur and states that “any reduction in water quality” is consistent with the maximum benefit to the people of the state and that compliance with existing WQOs is “costly and result in marginal benefit to water quality” as compared to the SSOs. In acknowledging that there will be a “reduction in water quality caused by application of the site-specific WQOs”<sup>17</sup>, the Technical Report simply states that this reduction will not unreasonable affect beneficial uses of Chollas Creek, without more.

Inexplicably, and counter to the report’s own admission that water quality degradation will occur, the Technical Report then goes on to state that, “achieving the CTR values for dissolved copper and zinc that incorporate the site-specific WERs for Chollas Creek proposed...are expected to improve the current environmental conditions of the water column and sediments within and downstream of the Chollas Creek watershed.”<sup>18</sup> Yet, the technical report conducted by the permittees that supported the CTR states that all but one previous sample taken would have complied with the amended SSOs. The outcome is that the copper TMDL is essentially nullified and further action to reduce copper in Chollas Creek is not expected.<sup>19</sup> We are at a loss, then, to understand how the water column and sediments in the creek and downstream will be “improved” by non-action by permittees, especially in light of the fact that degradation will necessarily occur each and every time the WER falls below the adopted WER in this case, which it did on at least three occasions during the study.

Finally, upon adoption the WER SSOs would be automatically incorporated into the San Diego Regional Municipal Storm Water Permit.<sup>20</sup> As noted above, the adopted WERs would necessarily result in objectives that are less protective than the existing objectives, specifically if the critical condition was not captured due to the limited dataset or when WERs in Chollas Creek

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“important social and economic development” are not adequate justification’ for allowing degradation. See [State Board] Order No. WQ 86-17, at 22, n. 10.”

<sup>16</sup> The Technical Report notes that, compliance with existing WQOs is costly and results in marginal benefit to water quality at concentrations lower than the site-specific objectives, but offers no further evidence or discussion of this point. TR p. 27.

<sup>17</sup> P. 28, TR..

<sup>18</sup> P. 20, TR.

<sup>19</sup> The Regional Board Technical Report recognizes this lack of action while it goes on to conduct an exercise mental gymnastics in its limited CEQA review, stating that, “the reduction in the number and size of structural BMPs will reduce the severity of potential effects on the environment.” TR, p. 25.

<sup>20</sup> See National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements for Discharges from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds Within the San Diego Region; Order No. R9-2013-001, as Amended by Order Nos. R9-2015-0001 and R9-2015-0100; NPDES No. CAS0109266 (“2013 Permit”)

are lower than the geometrical mean adopted, which occurred in at least three instances in the study.<sup>21</sup> By failing to adopt the lowest WER of the study or identifying the critical condition (i.e. the lowest WER of Chollas Creek), adoption of the proposed WER is also the adoption of a weaker standard that is not protective of the environment and that allows further degradation and impairment. Because permits – including renewal permits – may not contain weaker standards than those contained in a previous permit except under limited circumstances that do not exist here, the approval of the Chollas Creek SSOs would violate anti-backsliding requirements.<sup>22</sup>

### Conclusion

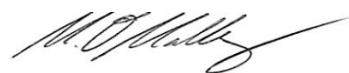
Coastkeeper and CERF appreciate the State Board’s attention on this matter and believe each of the above-mentioned deficiencies could be cured through the adoption of a statewide WER policy. We urge the Board to adopt a state WER policy that includes minimum required datasets and includes testing protocols and monitoring requirements for WER SSOs. Such an approach would ensure studies take into consideration the unique nature of waterbodies and stream and river systems in our state and will remain protective of water quality, ensure sampling sufficient to capture the water body’s critical condition, protect against further degradation and anti-backsliding, and contain sufficient post-adoption monitoring to ensure SSOs are protective of beneficial uses.

As adopted by the San Diego Regional Board, the WER SSOs for Chollas Creek would fail to protect and restore water quality in one of the state’s most beleaguered waterbodies running through an environmental justice community. We respectfully urge the State Board to decline approval until a statewide policy and protocol can be developed that will ensure Chollas Creek will achieve its beneficial uses.

Coastkeeper and CERF remain available and willing to discuss our concerns with State Water Board and staff.

Thank you for considering these comments and considering the development of a robust, scientifically defensible WER SSO guidance protocol for our region and the state prior to the adoption of WER SSOs. Please do not hesitate to contact us should you have any questions or need clarification.

Sincerely,



Matt O'Malley



Marco Gonzalez

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<sup>21</sup> Specifically, the study sampled reported a WER of 4.951 for copper and WERs of 1.658 and 1.183 for zinc, each of which is lower than the final adopted WERs for those metals.

<sup>22</sup> 33 U.S.C. § 1342(o); 40 C.F.R. § 122.44(l).

Attorney and Executive Director  
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Attachments



# **ATTACHMENT A**



October 31, 2016

Melissa Valdovinos  
San Diego Regional Water Quality Control Board  
2375 Northside Drive Suite 100  
San Diego, CA 92108

VIA EMAIL

Melissa.Valdovinos@waterboards.ca.gov

**Re: Basin Plan Amendments to Incorporate Chollas Creek Water Effects Ratios  
Comments Regarding Insufficiency of WER Analysis**

Dear Ms. Valdovinos:

On behalf of Coastal Environmental Rights Foundation (“CERF”) and San Diego Coastkeeper (“Coastkeeper”), we submit the following comments on *Tentative Resolution No. R9-2016-0148, A Resolution Amending The Water Quality Control Plan For The San Diego Basin To Incorporate Site Specific Water Effect Ratios Into Water Quality Objectives For Toxic Pollutants And Total Maximum Daily Loads For Copper, Lead, And Zinc In Chollas Creek* (“Tentative Resolution”). San Diego Coastkeeper works to protect and restore the waters of the San Diego region through water quality monitoring, advocacy, education, community engagement, and enforcement. CERF is a nonprofit environmental organization founded by surfers in North San Diego County and active throughout California’s coastal communities. CERF was established to aggressively advocate, including through litigation, for the protection and enhancement of coastal natural resources and the quality of life for coastal residents. We appreciate this opportunity to provide comments on the Tentative Resolution.

The Tentative Resolution would revise the Basin Plan to incorporate site-specific water effect ratios (“WERs”) into water quality objectives (“WQOs”) for toxic pollutants and total maximum daily loads (“TMDLs”) for copper, lead, and zinc in Chollas Creek. While we acknowledge the effort and resources the San Diego Regional Water Quality Control Board (“Regional Board”) and stakeholders have put into the Tentative Resolution, proposed WERs remain premature and require further data collection and analyses to justify their incorporation in the Chollas Creek Metals TMDL and San Diego Region Water Quality Control Plan (“Basin Plan”). Most notably, we believe Appendix A, the City of San Diego’s Development of Site-Specific Water Quality Objectives for Trace Metals in Chollas Creek: Water-Effect Ratio Study for Copper and Zinc, and Recalculation for Lead (“WER Report”), has serious limitations and thus cannot justify the proposed Basin Plan Amendment.

**A. The WERs Fail to Account for the Period of Greatest Bioavailability**

CERF and Coastkeeper incorporate the concerns expressed in the peer review document, in total. Specifically, we wish to echo concerns related to the justification for basing the WER

on the geometric mean of four sampling events in the context of the 1994 Interim Guidance. We do not agree that the sampling events upon which the Tentative Resolution is based are able to capture site-specific variability associated with temporal seasonality and flow, nor do we believe the sampling events are representative of conditions during which metals are most bioavailable.

Further, wet weather samples are not indicative of dry weather conditions. In fact, the WER study for the LA River recognized dry weather conditions as “critical conditions”, i.e. that time when metals are most bioavailable. The 2014 City of San Diego study further included a footnote stating, “during wet weather, the WERs for dissolved copper and dissolved zinc are 6.998 and 1.711, respectively. During dry weather the WERs are equal to 1.” Though the Regional Board’s response to peer review comments indicates the dry weather WERs will be 1, the Basin Plan amendment language does not include this distinction. (See Tentative Resolution, pp. 1-2).

Factors influencing the toxicity of metals, and thus the value of WERs, include the form of metal (i.e., whether it is in a more bioavailable ionic state or bound with another compound); presence of organic compounds in the water column; pH; turbidity; temperature; and water hardness, among other factors. The bioavailability of all forms of metals (and thus the potential toxicity) depends on constantly fluctuating environmental conditions. As a result, the value of a WER is constantly changing in response to a changing environment.

Wet weather involves heavy loading of metals into Chollas Creek through stormwater runoff. However, the initial flush of metals also typically occurs with turbidity and an influx of organic particulate matter carried with the stormwater. The turbidity and particulates help mitigate the toxicity of metals during and immediately following wet weather because metals can bind to the organic and other particulates, lowering the bioavailability of the metals. To an extent, the different types of pollution help cancel each other out in the very short term. After several days of dry weather, however, the turbidity/organic matter drops significantly, providing less opportunity for metals to bind. Thus, any metals in the water become increasingly bioavailable and increasingly toxic, and the WERs drop correspondingly. It is our understanding that sampling conducted to support the WERs did not include this critical time period. It is therefore neither reasonable nor prudent to apply WERs developed for wet weather events to dry weather conditions.

WERs also vary with environmental conditions. Therefore, to ensure that SSOs based on WERs remain protective of all designated beneficial uses at all times and also remain consistent with the narrative WQS, a WER study must analyze the “critical condition.” The critical condition is the point in the hydrologic cycle when the WER is at its lowest value – reflecting the point of highest toxicity of a pollutant in a waterbody. Conversely, if the WER study does not analyze the critical condition, the calculated WER value will not accurately reflect the relative toxicity and any SSOs and TMDLs multiplied by the WER could result in toxic levels of pollution in the waterbody or otherwise fail to provide an appropriately protective standard to support the designated beneficial uses. By monitoring only during wet weather (as opposed to

dry weather, **or dry weather during the wet season**), the study fails to adequately capture the critical condition.

Notably, staff recognizes “USEPA’s WER guidance recommends WER testing under conditions that are representative of the site.” (Response to External Peer Review Comments, p. 2). Though stream flow may only occur when there is “sufficient precipitation to produce runoff to Chollas Creek,” the Creek has “highly variable flows” and “during dry weather, there are often extended periods of no surface flows in the creek,” but “pools of standing water may be present.” (Chollas Creek Diazinon TMDL, Technical Report, p. 11). “In general, 90% of the water flow occurs during less than 10% of the year, i.e., the most significant storm events and associated high flows usually occur during the months of December, January, and February.” (*Id.* at pp. 29-30). Here, however, sampling was conducted only during wet weather, subsequent to rain events, in an El Nino year.<sup>1</sup> Such sampling is not representative of the conditions of Chollas Creek.

Further, because a flow-weighted composite was used, the study fails to account for the critical condition and when the WER would be lowest. Use of the flow-weighted composite sampling directly impacts the sufficiency of the proposed WER. If the pollutant concentration changes quickly, drastically, or both, a flow-weighted measured pollutant concentration may not represent the average pollutant concentration accurately for the incremental volume.

Regional Board staff indicate flow-weighted composite sampling was required by the MS4 Permit and therefore the Chollas Creek WER Study used such monitoring. (Response to External Peer Review Comments, p. 2). This is nonsensical. First, the MS4 Permit was adopted after the WER Study sampling was conducted. (R9-2013-0001). Further, the MS4 Permit requires flow-weighted composite sampling to assess receiving waters throughout the County – not for development of a water-body specific WER. (See R9-2013-0001, pp. 55-56). Indeed, the MS4 Permit’s toxicity monitoring allows for either *grab or composite* sampling. (*Id.*, p. 51). The WER study’s departure from the USEPA recommendation to collect samples during first flush when metal concentrations are likely to be highest (worst case scenario) is therefore inappropriate and results in a WER that is not protective of water quality and beneficial uses.

Thus, the WERs proposed do not represent the most conservative approach to protecting beneficial uses in Chollas Creek, do not represent the true critical condition, and should not be used as the basis for the Tentative Resolution at this time.

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<sup>1</sup> <http://www.kpbs.org/news/2014/jun/30/san-diegos-rain-year-ends-drought-continues/> and <http://www.sandiegouniontribune.com/sdut-highlights-san-diegos-wild-and-weird-2010-weather-2011jan02-htmlstory.html>

## **B. The WERs Violate State and Federal Antidegradation Policies**

If, despite these failures in the study, the Board moves forward to adopt the Tentative Resolution, at the very least, the Board should heed the recommendations in the Peer Review Comments that the most conservative lowest value for copper and zinc be adopted (i.e., 4.951 for copper and 1.183 for zinc). To do otherwise would violate anti-degradation laws.

The Clean Water Act seeks to “restore and maintain” the “integrity of the Nation’s waters.” (33 U.S.C. §1251(a)). This fundamental purpose of the Act have given rise to a robust federal anti-degradation policy, which prohibits actions which further degrade impaired waters (i.e. actions that lower the quality of waters that already do not meet water quality standards for a pollutant). (40 C.F.R. §131.12(a)(1).) California’s state anti-degradation policy (see SWRCB Resolution 68-16), which applies to both existing and potential uses, also prohibits further degradation of impaired waters, and includes additional requirements related to high quality waters. The quality of existing high quality waters must be maintained unless the State can demonstrate any degradation in quality is “consistent with the maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water, and will not result in water quality less than that prescribed in the policies.”

The SWRCB’s Administrative Procedures Update (APU) 90-004 provides additional guidance on the content, analysis, and findings required in state anti-degradation analyses. APU 90-004 also mandates that whenever feasible, anti-degradation analyses should be integrated with CEQA analyses for projects subject to CEQA. (APU, p. 3). Taken together, the federal and state anti-degradation requirements prohibit the further degradation of impaired waters.

Here, Regional Board staff acknowledge the WER’s potential to result in degradation. (WER Draft Technical Report, p. 25 [“The Basin Plan amendment has the potential to allow degradation to water quality, because use of site-specific WERs increases the permissible copper and zinc loadings in Chollas Creek.”]). Specifically, due to the variability in samples, the use of any WER greater than the lowest WER sampled guarantees that at least some conditions under which the allowed toxicity for copper exceeds the toxicity of the Creek under the baseline WQOs. Since Chollas Creek is already impaired for copper, application of the proposed geometric mean copper WER of 6.998 is certain to further degrade water quality in Chollas Creek. Whenever the true WER in Chollas Creek falls below 6.998 (as it did for at least one instance in conjunction with the WER study), applying the WER of 6.998 will lead to *underestimation* of the bioavailability and toxicity of copper in the tributary – and a decline in actual water quality with respect to copper relative to the baseline WQOs.

The SSOs based on a copper WER that is not the most conservative thus violate anti-degradation policies and are unlawful. The use of a flow-weighted composite sampling technique further fails to account for the critical condition – when the WER would be lowest – as the result does not provide for the most conservative WER under circumstances when metals are most

bioavailable. The use of the flow-weighted composite sampling technique therefore violates anti-degradation policies and is unlawful.

### **C. Adoption of the WERs Will Likely Result in Significant Environmental Impacts**

To achieve CEQA compliance here, the Regional Board purports to tier from a substitute environmental document (SED) which accompanied the adoption of the TMDLs. (Draft Technical Report, pp. 22-25). Such tiering does not absolve the Board from conducting further CEQA review. In fact, nothing in the SED or the TMDL addressed the potential significance impacts of a site-specific WER. As noted above, adoption of the WER and basin plan amendment may “allow degradation to water quality, because use of site-specific WERs increases the permissible copper and zinc loadings in Chollas Creek.” (WER Draft Technical Report, p. 25). Further, because the proposed WERs lead to underestimation of the bioavailability and toxicity of copper at least some of the time, the basin plan amendment will most certainly result in significant impacts to water quality and biology.

Notably, the 2011-2012 San Diego Copermittee San Diego Bay WMA trend assessment for Chollas Creek highlights a continued increase in concentration of numerous constituents, *including copper*, despite adoption of the TMDL. (See attached, Exhibit A). Thus, any relaxation of the TMDL will likely result in further increases in copper loading. This is particularly true where the City – through application of the WERs – falsely believes it is in compliance with the TMDL and CTR and therefore curtails implementation of additional or more robust BMPs.

In addition, the Board’s disregard for downstream impacts further undermines its position that the WERs will not result in significant environmental impacts and is equally troubling. (See Response to Comments Regarding Downstream Impacts). The Board assumes downstream impacts at the mouth of Chollas Creek will not result in a significant impact because of naturally high DOC, neutral pH of the water, and oxygenation during the mixing process. (Response, p. 3). However, a SCCWRP storm water toxicity study of the Chollas Creek plume found plume toxicity in the Bay was similar to the toxicity of the Creek itself. (Stormwater toxicity in Chollas Creek and San Diego Bay, California, p. 232).<sup>2</sup> Moreover, marine organisms were *more sensitive* to such toxicity. (*Id.* at p. 224). Thus, an increase in metal-loading to Chollas Creek will increase toxicity in the Chollas Creek plume, as well as toxicity to marine organisms in the Bay.

Likewise, the Regional Board’s reliance on Investigative Order No. R9-2015-0058 to verify the Board’s assumption that by application of the WERs will not negatively impact sediment toxicity has the process exactly backwards. (Response to Comments, p. 4). Should results of the Investigative Order show negative impacts to beneficial uses, the Board commits to “revisit” the TMDLs. Rather than approving a potentially detrimental basin plan amendment, the

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<sup>2</sup> available at [http://ftp.sccwrp.org/pub/download/DOCUMENTS/AnnualReports/2001\\_02AnnualReport/23\\_ar15-ken.pdf](http://ftp.sccwrp.org/pub/download/DOCUMENTS/AnnualReports/2001_02AnnualReport/23_ar15-ken.pdf)

Board should confirm its assumptions and wait for the results of the Investigative Order *prior to* adopting a WER.

In summary, because the SED did not address the significant water quality and biological impacts which will likely result from the Board's adoption of the WERs and basin plan amendment, adoption of the proposed Tentative Order without further CEQA review will result in a violation of the letter and spirit of CEQA.

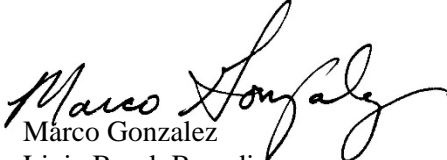
#### **D. Conclusion**

When establishing SSOs, it is essential that data used for Basin Plan and TMDL changes is representative of watershed conditions in which they apply. Robust and continual site-specific data for water chemistry, ecological function, native species, precipitation, etc., is necessary to ensure changes to WQOs will protect designated beneficial uses. CERF and San Diego Coastkeeper strongly believe SSOs should be applied with caution. Where used, it is imperative that SSOs are supported by sound and sufficient science and monitoring. CERF and San Diego Coastkeeper are likewise concerned about the lack of a defined process to evaluate the protectiveness of the SSOs over time. For that reason, and because WQOs for copper in Chollas Creek would increase by a factor of 7, we urge the Regional Board to reject the proposed Tentative Resolution until adequate and robust data supports adoption of site-specific WERs.

Thank you for your consideration of our comments.

Sincerely,

  
Matt O'Malley  
Attorney for San Diego Coastkeeper

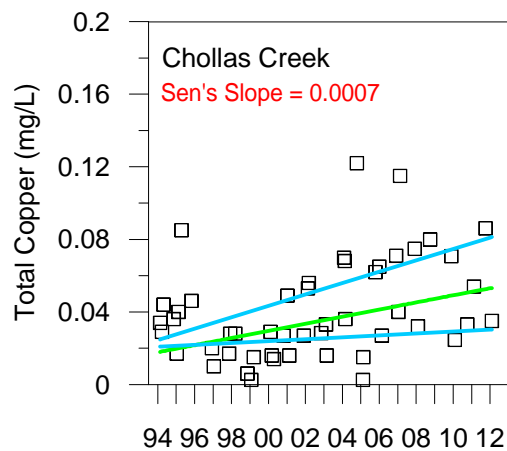
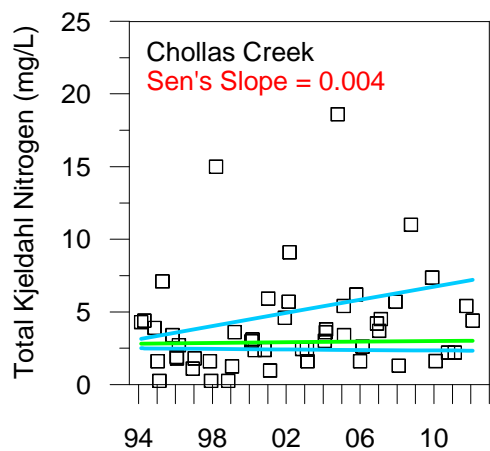
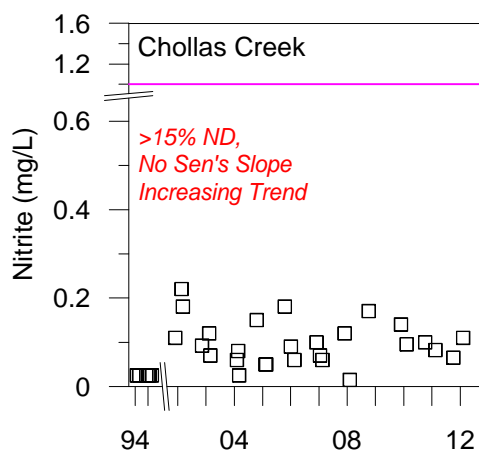
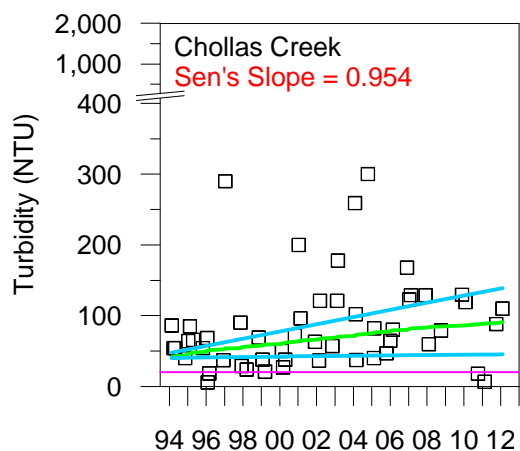
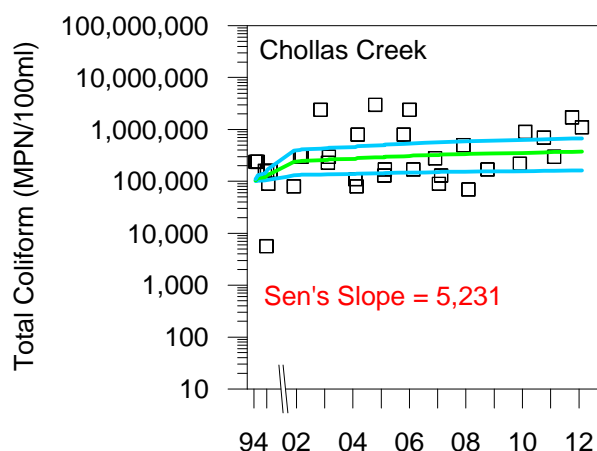
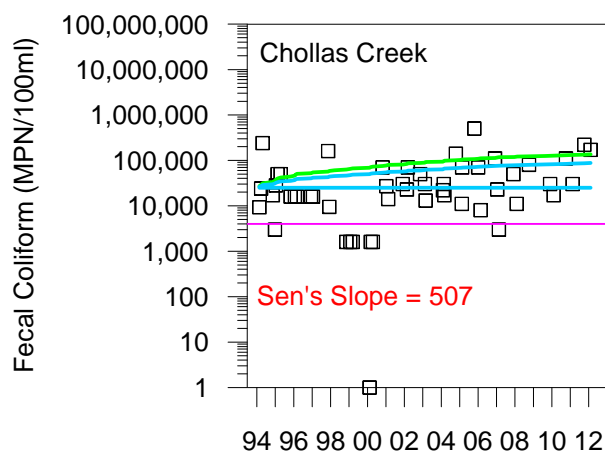
  
Marco Gonzalez  
Livia Borak Beaudin  
Attorneys for Coastal Environmental  
Rights Foundation

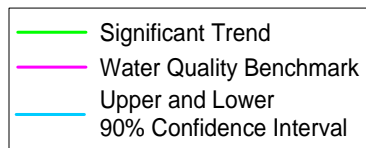
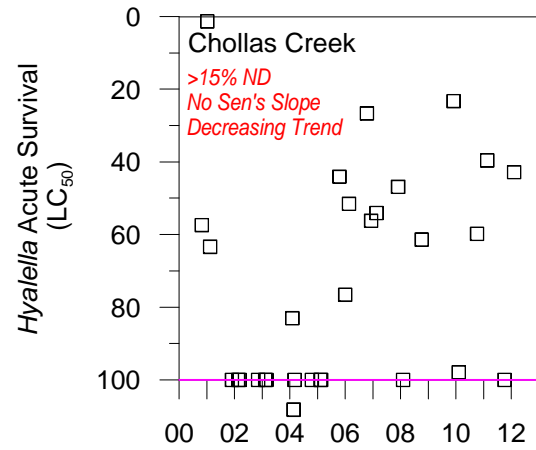
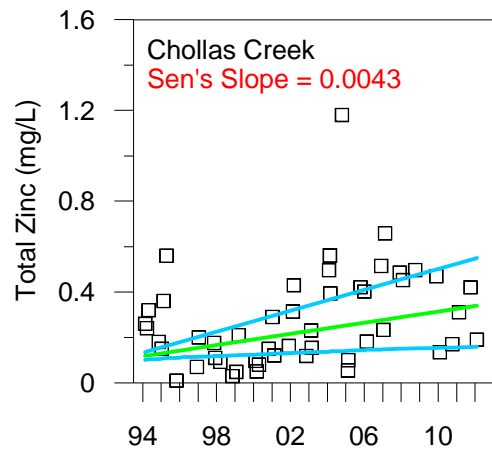
# **EXHIBIT A**



# SAN DIEGO BAY WMA

## Chollas Creek MLS Trend Results





# **ATTACHMENT B**



March 1, 2017

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

*Sent via electronic mail to: [commentletters@waterboards.ca.gov](mailto:commentletters@waterboards.ca.gov)*

**Re: 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”) we submit the following comments on Tentative Resolution No. R9-2017-0015, *A Resolution Amending the Water Quality Control Plan for the San Diego Basin to Incorporate Site-Specific Water Effects Ratios Into Water Quality Objectives for Toxic Pollutants and Total Maximum Daily Loads for Copper and Zinc in Chollas Creek* (“Proposed Amendment”). Collectively Coastkeeper and CERF represent thousands of members throughout the San Diego region in advocating for clean water and a healthy environment.

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 being adopted, and we understood during the original adoption of the Chollas Creek metals TMDL that site specific WERs may be revisited upon the conclusion of further comprehensive studies. We understand and acknowledge the amount of effort and resources the San Diego Regional Water Quality Control Board (“Regional Board”) and stakeholders have put into the Proposed Amendment. In fact, in response to our written comments on an initial draft Order, the Regional Board staff adjusted language in the Amendment to clarify that WER SSOs were limited to wet weather events and that the WER would remain at the default historical number originally assigned during dry weather. We appreciate the efforts of the Regional Board and Board staff to date. Still, Coastkeeper and CERF continue to be concerned about the breadth and depth of data used to justify adoption of SSOs.

Coastkeeper and CERF have concerns that the number of samples upon which the Chollas Creek WER amendments are based is very low, and that regional or statewide standards requiring a more robust dataset should be developed before these Chollas Creek WERs, and future WERs, are approved and adopted. By way of comparison, the Los Angeles Regional Board based the final WER objectives for copper in the LA River on a total of 42 sampling

events.<sup>1</sup> The San Diego Regional Board, however, approved the final WER objectives for Chollas Creek based on a total of 4 sampling events taken during a single calendar year (2010).<sup>2</sup>

The number of samples taken is further concerning considering the variability between samples. In the LA River, WER values based upon 42 samples ranged from 3.4 to 4.5, resulting in a relatively minor variability. In Chollas Creek, however, WER values based upon just 4 samples ranged from 4.9 to 10.3, resulting in a relatively high variability<sup>3</sup>. Peer review comments on the Chollas Creek WER called attention to the small sample size in asking, “if the four sampling events provide enough data on which to confidently estimate WERs for the site.”<sup>4</sup> A second peer review commenter further reinforced our concerns by commenting that there exists in the Chollas Creek WERs, “a high variability in the response.”<sup>5</sup>

Put plainly, it is not possible to tell whether the chosen WER actually captures the circumstances under which metals are most bioavailable and toxic in Chollas Creek due to the small dataset used to make the determination and the high variability among that data.

While we acknowledge both the Los Angeles and San Diego studies upon which the WER changes were based met the minimum number of samples required by the now 23-year-old EPA guidance<sup>6</sup>, we believe the significant difference in sampling events presented and deemed acceptable by different regional boards highlights the critical need for development of statewide or regionally specific guidance on SSO development. While the recent approval of the Proposed Amendment by the San Diego Regional Board for Chollas Creek SSOs is illustrative of the inconsistency in WER methodology that exists throughout the state unless and until regional or statewide guidance is developed on the determination of sufficiency of sample size and methodology, it is likely to be just the first of many SSOs to be developed in our region.

Notably, the EPA guidelines were developed as a national guide and were intended to apply to more traditional and continuous point source discharges rather than episodes driven by rain and storm events as is the case in Chollas Creek. Therefore, the EPA guidance should be

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<sup>1</sup> The LA WER was determined but taking 6 samples at 7 sites, for a total of 42 total samples.

<sup>2</sup> While we acknowledge that 4 samples were taken in 2 sites at Chollas Creek for a total of 8, only a single sample site’s results were used in determining the final WER for Chollas Creek.

<sup>3</sup> In samples taken at the second site (SD81) which were not used, the relative standard deviation for the WER is 51%. Relative standard deviation of samples taken at the site that was used to determine the WER (DPR2) is 32%.

<sup>4</sup> Peer Review Comments of Professor Marc Beutel, Associate Professor of Environmental Engineering, University of California. Comments available at:

[http://www.waterboards.ca.gov/sandiego/water\\_issues/programs/basin\\_plan/docs/basinplan\\_wer/peer\\_review\\_comments.pdf](http://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/docs/basinplan_wer/peer_review_comments.pdf)

<sup>5</sup> Peer Review Comments of Professor Robert P Mason, Dept of Marine Sciences, University of Connecticut. Comments available at:

[http://www.waterboards.ca.gov/sandiego/water\\_issues/programs/basin\\_plan/docs/basinplan\\_wer/peer\\_review\\_comments.pdf](http://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/docs/basinplan_wer/peer_review_comments.pdf)

<sup>6</sup> USEPA, 1994, *Interim Guidance on Determination and Use of Water-Effects Ratios for Metals*, and USEPA, 2001, *Streamlined Water-Effect Ratio Procedure for Discharges of Copper*.

regarded as a minimum starting point rather than an appropriate standard, and regional or statewide standards requiring a more robust dataset should be developed before these Chollas Creek WERs, and future WERs, are approved and adopted.

Practically speaking the decision to adopt SSOs in Chollas Creek is a vitally important one. Chollas Creek has been described as “one of San Diego’s most neglected watersheds”<sup>7</sup> and runs through communities that have been disproportionately impacted by environmental harm and degradation for many years. Recent Cal Enviro Screen data indicate that the communities through which Chollas Creek runs - namely Barrio Logan and Logan Heights – remain among the top five to ten percent of communities in the state most impacted by pollution. 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. We feel strongly that a TMDL addressing toxic pollutants in a disproportionately impacted community that took many years and significant resources to develop and implement should not be rendered moot based on 4 sampling events taken in a single year.

Coastkeeper and CERF remain available and willing to discuss our concerns with State Water Board and staff.

Thank you for considering these comments and considering the development of a robust, scientifically defensible WER SSO guidance protocol for our region and the state prior to the adoption of WER SSOs. 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  
Attorneys for Coastal Environmental  
Rights Foundation

cc:  
Johnathan Bishop  
[Jonathan.Bishop@waterboards.ca.gov](mailto:Jonathan.Bishop@waterboards.ca.gov)

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<sup>7</sup> <http://www.voiceofsandiego.org/topics/science-environment/cleaning-up-chollas-creeks-trash/>

# **ATTACHMENT C**



## Pictures of Chollas Creek





