

Comment Summary and Responses  
 Comment Deadline: October 18, 2017

Amendment to the Water Quality Control Plan for the San Diego Basin to Incorporate Site-Specific Water Effect Ratios  
 into Total Maximum Daily Loads for Dissolved Copper and Dissolved Zinc in Chollas Creek

List of Commenters:

| Comment Reference | Date             | Organization(s)  | Representative(s)                                      |
|-------------------|------------------|--|--|
| 1                 | October 17, 2017 | CERF et al.:<br>San Diego Coastkeeper<br>Coastal Environmental Rights Foundation | Matt O'Malley<br>Marco Gonzalez<br>Livia Borak Beaudin |

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| 1.1 | Chollas Creek is “one of San Diego’s most neglected watersheds” and noted that recent CalEnviroScreen data indicate that the communities through which Chollas Creek runs remain among the top five to ten percent of communities in the State most impacted by pollution. In support of its comment, CERF et al. referenced an article titled “Cleaning up Chollas Creek’s Trash” and submitted photos of trash in the creek. | The Chollas Creek watershed is impacted by multiple forms of pollution. However, it is unclear why approval of the proposed Water Quality Control Plan for the San Diego Basin (Basin Plan) amendment would contribute to or exacerbate these environmental conditions when the water effect ratio (WER) results, using conservative measures of central tendency, indicate that copper will not be bioavailable at toxic concentrations.<br><br>Adopting site-specific WERs for copper and zinc does not authorize pollution in Chollas Creek. Under section 13050(l) of the California Water Code, pollution means an alteration of the quality of the waters of the State by waste to a degree which unreasonably affects beneficial uses or the facilities that serve these beneficial uses. The beneficial uses in Chollas Creek are warm water freshwater habitat (WARM), wildlife habitat (WILD), contact water recreation (REC-1), and non-contact water recreation (REC-2). Discharges of metals in concentrations that cause or contribute to an exceedance of water quality objectives (WQOs) may unreasonably affect beneficial uses. However, the proposed amendment to the Water Quality Control Plan for the San Diego Basin (Basin Plan) is a recalculation of the applicable WQOs, not a relaxation of these objectives. |

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|     |         | <p>The increase in the allowable copper and zinc discharges to Chollas Creek due to the proposed Basin Plan amendment is not expected to negatively affect the overall pollution burden in the communities near Chollas Creek. As explained in the San Diego Regional Water Quality Control Board's (San Diego Water Board's) February 8, 2017 Technical Report for the proposed Basin Plan amendment, the relevant WQOs for copper and zinc were promulgated in the California Toxics Rule (CTR) (40 CFR section 131.38). Because site-specific water chemistry factors, such as alkalinity and pH, can affect the toxicity of metals to aquatic life, the CTR authorizes the application of site-specific WERs provided that these WERs are determined in accordance with the U.S. Environmental Protection Agency's (USEPA's) Interim Guidance<sup>1</sup> or another scientifically valid method adopted by the State. Site-specific WERs and the WQOs derived using these procedures do not violate the CTR and are fully protective of beneficial uses.</p> <p>Moreover, any increase in the allowable copper and zinc discharges to Chollas Creek due to the proposed Basin Plan amendment has little, if any, relationship to the amount of trash in the Chollas Creek watershed. The most significant source of metals in Chollas Creek is urban runoff, not trash. (Chollas Creek Metals Total Maximum Daily Loads [TMDLs], p. 32).<sup>2</sup> Chollas Creek is, and will remain, on the Clean Water Act Section 303(d) list of impaired waters (303(d) list) for trash unless and until applicable trash objectives are attained.</p> |

<sup>1</sup> USEPA, 1994. Interim Guidance on the Determination and Use of Water-Effect Ratios for Metals. EPA/823/B-94/001. U.S. Environmental Protection Agency, Office of Science and Technology, Washington, DC. February 1994.

<sup>2</sup> San Diego Water Board, 2007. Technical Report for Total Maximum Daily Loads for Copper, Lead, and Zinc in Chollas Creek, Tributary to San Diego Bay. May 2007

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| 1.2 | Adoption of a site-specific objective for copper would render the Chollas Creek copper TMDL meaningless and result in fewer multi-benefit green space projects in the Chollas Creek watershed because all but one historical water quality sample taken by the City of San Diego would comply with the new copper objective. | This proposed Basin Plan amendment updates WQOs. Neither the current WQOs nor the proposed updated WQOs have been established for the sake of increasing or decreasing multi-benefit green space projects. These WQOs simply take into account the concentrations of copper and zinc in this particular water body, Chollas Creek, that would cause aquatic life to experience toxic effects. The original concentrations, established in 2007, only took one site-specific condition into account (hardness); all other physicochemical conditions were based on laboratory dilution water. Since that time, a series of monitoring and analyses using the Chollas Creek site water itself has demonstrated that the copper and zinc concentrations that trigger toxic effects to aquatic life are higher than those in laboratory dilution water. That is what prompted this proposed Basin Plan amendment. |

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|     |         | <p>The adoption of site-specific WERs for copper will change the compliance thresholds and may even ultimately result in Chollas Creek being delisted for a copper and/or zinc impairment.<sup>3</sup> However, it does not logically follow that the TMDL is rendered meaningless. Water body-specific studies add valuable information on the level of protection necessary to protect beneficial uses based on a broad suite of physiochemical conditions of the water body. In 2007, when the Chollas Creek Metals TMDLs were first approved, the San Diego Water Board acknowledged that site-specific investigations on the appropriate WER values may be relevant because the CTR's default criteria could be over or under-protective depending on the bioavailability of copper and zinc. (See Chollas Creek Metals TMDLs, Appendix H.)<sup>4</sup> While it was certainly appropriate to adopt the Chollas Creek Metals TMDLs based on the best available information at the time, the City of San Diego's 2014 report on its site-specific WER study for Chollas Creek (WER Study)<sup>5</sup> fills in a known data gap underpinning Chollas Creek Metals TMDLs. This phased approach may shift compliance obligations for dischargers of copper and zinc into the creek; however, a TMDL is more meaningful to the regulators, the regulated community, and the public when it is reevaluated and refined in response to new information.</p> |

<sup>3</sup> Adoption of the WERs would trigger reevaluation of Chollas Creek's impairment status for copper and zinc. The procedures for adding and removing waters from the Clean Water Act section 303(d) list of impaired waterbodies (303(d) are outlined in the Water Quality Control Policy for Developing California's Clean Water Section 303(d) List (Listing Policy). Any recommended delisting due to a revised WQO must be approved by the Regional Water Board, the State Water Board, and USEPA.

<sup>4</sup> San Diego Water Board, 2007. Technical Report for Total Maximum Daily Loads for Copper, Lead, and Zinc in Chollas Creek, Tributary to San Diego Bay. May 30, 2007.

<sup>5</sup> City of San Diego, 2014. Development of Site-Specific Water Quality Objectives for Trace Metals in Chollas Creek: Water-Effect Ratio Study for Copper and Zinc, and Recalculation of Lead. October 28, 2014.

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|     |   | <p>Moreover, the CERF et al. concern that adoption of site-specific WQOs for copper will affect the number of multi-benefit green spaces in the Chollas Creek watershed appears to be overstated. The same estimates cited by the commenter project that a 29.1% reduction in zinc will be still be necessary even after adoption of the site-specific WERs. (San Diego Bay Water Quality Improvement Plan [WQIP], Appendix H, Table H-3). Even if multi-benefit green spaces were no longer necessary to meet metal WQOs, these projects provide other benefits, e.g. addressing other pollutants (e.g. nutrients), creating habitat, and increasing groundwater recharge. It is therefore speculative to assume that multi-benefit green spaces will be abandoned solely because they are no longer needed to address copper.<sup>6</sup></p> |
| 1.3 | <p>The proposed Basin Plan amendment should be postponed until a State policy is developed and implemented.</p> | <p>No statewide or regional WER policy is under development at this time. However, as reported in the February 2019 State Water Resources Control Board (State Water Board) Executive Director’s Report, the State Water Board does intend to establish criteria for developing site-specific WQOs for metals in the future.<sup>7</sup> USEPA guidance on developing WERs is a national guide for deriving site-specific criteria based on site-specific conditions. The WER Study approach was based on USEPA guidance using site-specific data for Chollas Creek and it reflects local conditions. Waiting for a policy to be developed is unnecessary given the appropriateness of existing guidance.</p>   |

<sup>6</sup> Copermittees under the San Diego Water Board’s Phase I Municipal Separate Storm Sewer Systems (MS4) National Pollutant Discharge Elimination System (NPDES) permit are required to develop and implement WQIPs to comply with the permit’s discharge prohibitions, receiving water limitations, and effluent limitations. WQIPs are developed on watershed basis for each of the ten “Watershed Management Areas” in the San Diego Region. WQIPs include descriptions of the highest priority pollutants or conditions in a specific watershed, goals and strategies to address those pollutants or conditions, and time schedules associated with those goals and strategies. Chollas Creek is part of the San Diego Bay Watershed Management Area WQIP (San Diego Bay WQIP). The MS4 dischargers in the Chollas Creek watershed identified green streets and infrastructure as a strategy to address the highest priority water quality conditions in Chollas Creek (metals and bacteria).<sup>6</sup> (See San Diego Bay WQIP, pages 4-40-42.) The San Diego Bay WQIP is available at: [https://www.waterboards.ca.gov/sandiego/water\\_issues/programs/stormwater/docs/wqip/san\\_diego\\_bay/2016-0315\\_ACCEPTED\\_SDBWMA\\_WQIP.pdf](https://www.waterboards.ca.gov/sandiego/water_issues/programs/stormwater/docs/wqip/san_diego_bay/2016-0315_ACCEPTED_SDBWMA_WQIP.pdf)

<sup>7</sup> February 2019 State Water Board Executive Director’s Report available at: [https://www.waterboards.ca.gov/board\\_info/exec\\_dir\\_rpts/2019/ed\\_rpt\\_021119.pdf](https://www.waterboards.ca.gov/board_info/exec_dir_rpts/2019/ed_rpt_021119.pdf)

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| 1.4 | The USEPA Interim Guidance is outdated. | <p>The CTR drives the process for determining WERs. In 2000, USEPA promulgated the CTR based on the determination that priority toxic pollutant WQOs are necessary in the State of California to protect human health and the environment. When the TMDLs for copper and zinc in Chollas Creek were established, numeric targets were set equal to the CTR's WQOs, which are comprised of hardness-based equations for copper and zinc. The equations account for pollutant- and site-specific data, when they are available, to establish site-specific WERs that are representative of water body conditions. The CTR states that pollutant- and site-specific WERs should be determined as set forth in USEPA's Interim Guidance or alternatively, other scientifically defensible methods adopted by the State as part of its water quality standards program and approved by USEPA.</p> <p>The USEPA published two guidance documents related to copper criteria since the Interim Guidance was issued in 1994: the 2001 Streamlined Water-Effect Ratio Procedure for Discharges of Copper (Streamlined Procedure) and the 2007 Aquatic Life Ambient Freshwater Quality Criteria – Copper were published pursuant to section 304(a) of the Clean Water Act. The 2007 guidance recommends using the Biotic Ligand Model (BLM) to derive freshwater copper criteria.</p> <p>Section 304(a) criteria recommendations are published to provide guidance for the states in establishing water quality standards. States retain discretion in adopting or approving freshwater copper criteria based on existing or alternative</p> |

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|     |         | <p>scientific methods.<sup>8</sup> Currently, only four states (Oregon, Kansas, Delaware, New Hampshire) have statewide surface water quality standards based on the BLM, while only nine states specifically authorize the use of the BLM to derive site-specific WQOs (Arizona, Idaho, Iowa, Georgia, Missouri, New Mexico, Vermont, Virginia, and Arkansas).<sup>9</sup> California has not yet updated the copper or zinc water quality objectives to specifically authorize use of the Streamlined Procedure or the BLM to replace the freshwater copper criteria or to develop site-specific WQOs.<sup>10</sup> However, in the case of the WERs for copper in Chollas Creek, the Streamlined Procedure and the BLM were taken into account. During the WER Study, since the copper median lethal concentration (LC50) values in laboratory water were lower than identified by USEPA for <i>C. dubia</i> (indicating potential for artificially high WERs), the Technical Advisory Committee recommended calculating copper WERs based on the Streamlined Procedure as well. This resulted in lower WERs and to be conservative, those are the values proposed for the Basin Plan amendment. In addition, the BLM was used in the October 19, 2018 memorandum from the San Diego Water Board to the</p> |

<sup>8</sup> USEPA has not yet provided guidance on how variability of the BLM parameters should be characterized when developing site-specific criteria for copper, noting that “[m]ultiple input parameters for the BLM could complicate the calculation of site-specific criteria because of their combined effects on variability.” (2007 guidance at 22.) USEPA’s training materials on the BLM note that states that choose not to use the BLM may continue to use the WER method to develop site-specific criteria. These training materials also acknowledge that statewide implementation of the BLM may not be appropriate in all circumstances. (See USEPA training materials on Copper BLM: Implementation, available at <https://www.epa.gov/sites/production/files/2015-11/documents/copper-implementation-training.pdf> and USEPA training materials on Copper BLM: Data Requirements, available at <https://www.epa.gov/sites/production/files/2015-11/documents/copper-data-requirements-training.pdf>.)

<sup>9</sup> Idaho has approved a BLM-based statewide standard for copper but USEPA approval is pending.

<sup>10</sup> Federal regulations require that states consider updating water quality standards with new or updated recommended criteria published by USEPA, including the BLM.<sup>10</sup> (40 CFR Part 131(c)) During the next triennial review cycle, the San Diego Water Board will be required to review recommended criteria published by USEPA. The San Diego Water Board will then decide which, if any, criteria should be updated in the subsequent triennial review cycle.

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|     |   | <p>State Water Board (WER Memorandum) to demonstrate that the 2010 WER-derived site-specific WQOs are generally conservative compared to the BLM-predicted WQOs based on Chollas Creek water chemistry data collected from 2007 to 2017.</p>   |
| 1.5 | <p>The Interim Guidance was developed for more traditional and continuous point source discharges rather than episodes driven by rain and storm events.</p> | <p>The Interim Guidance does not explicitly or implicitly state that it is solely intended for continuous point source discharges rather than episodes driven by rain events, nor does the Interim Guidance state that it is inappropriate for Southern California water bodies. Appendix A to the Interim Guidance, lists “ephemeral streams” as an example of a water body or category of water that could be considered a “site” in the context of site-specific criteria developed pursuant to the Interim Guidance (Interim Guidance, Appx. A, p. 82). The fact that the Interim Guidance can be used to develop WERs for ephemeral or stormwater dominated streams, like Chollas Creek, is made even more explicit in the 2001 Streamlined Procedure, which specifically states that the “1994 Interim Procedure applies to essentially all situations for most metals.”</p> <p>Furthermore, the Interim Guidance takes into account the fact that WERs are inherently site-specific and variable. The Interim Guidance recommends that the experimental design of WER studies take into account variability that may occur due to flow, season, or water quality characteristics (Interim Guidance, p. 67). The Chollas Creek WER Study sampling was designed to capture site-specific flow variability associated with temporal seasonality and flow. Between October and March, flow-weighted composite samples were collected in both the north and south forks of Chollas Creek during four flow events of various sizes.</p> |

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| 1.6 | <p>A regional or statewide WER policy should require more robust data sets because there is significant variation in the WER Study methodologies amongst the regions. The San Diego Water Board relied upon a total of four sampling events in approving the final site-specific WERs for Chollas Creek that range from 4.9 to 10.3. The Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) relied upon 42 samples when approving site-specific WERs for the Los Angeles River that range from 3.4 to 4.5, resulting in relatively minor variability.</p> | <p>There is significant variation amongst the regional water boards because there is significant variation among the regions. The Los Angeles River and Chollas Creek water bodies and watersheds are vastly different. The Los Angeles River is 55 miles long and its watershed is 824 square miles in area, with several major tributaries. The Los Angeles River flows during both wet and dry weather with a wide variety of discharges, including effluent from three major publicly-owned wastewater treatment works. The Los Angeles Water Board required additional sampling beyond what is recommended in the Interim Guidance (a minimum of three samples) in order to reflect the unique flow and chemical conditions in the Los Angeles River. Seven WER sampling sites were used to represent four reaches and one tributary of the river. They required three to five samples at each site during dry weather (four sample days) and wet weather (one sample day) since those WERs apply to both dry and wet weather. The Chollas Creek WER Study did not require as many samples as the Los Angeles River. Chollas Creek's cumulative length is 30 linear miles (two major forks) and the watershed is 25 square miles in area. Discharges to the creek are less diverse than to the Los Angeles River and Chollas Creek is usually dry, with intermittent inputs of urban runoff from groundwater seeps, lawn watering, and other activities under ambient conditions. The creek's flow is primarily wet weather driven and wet weather was determined to be the critical condition in Chollas Creek, unlike the Los Angeles River where dry weather was determined to be the critical condition. Eight samples were gathered from Chollas Creek – four from two stations (each fork) during wet weather – to determine a final copper WER and final zinc WER that apply to wet weather only.</p> |

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|     |         | <p>The commenter also notes that the Los Angeles Water Board approved site-specific WERs for the Los Angeles River based upon 42 samples, ranging from 3.4 to 4.5.<sup>11</sup> The final WERs for the Los Angeles River ranged from 3.4 to 4.5; however, the individual sample WERs ranged from 2.368 to 6.021 (dry weather). (LA River WER Study, Table 21, p. 47-50.) The same study also included final WERs for seven Los Angeles River tributaries ranging from 1.324 to 9.691. (LA River WER Study, Table 43, p. 80) The individual sample WERs for the seven tributaries ranged from 0.966 to 18.18.<sup>12</sup> (LA River WER Study, Table 21, p. 47-50.) Two tributaries, Tujunga Wash and Rio Hondo, included samples that were more variable than the Chollas Creek WER Study. (Id.)<sup>13</sup> Considering the full range of data supporting the development of the Los Angeles River WERs, the variability of values derived in the Los Angeles WER Study and in the Chollas Creek WER Study is not notably different.</p> |

<sup>11</sup> Los Angeles River Metals TMDL Implementation Group, 2014. Final Report on Copper Water-Effect Ratio Study to Support Implementation of the Los Angeles River and Tributaries Metals TMDL. April 2014.

<sup>12</sup> Per the Interim Guidance, at least four significant figures must be retained to prevent roundoff error in subsequent calculations.

<sup>13</sup> The sample WERs ranged from 4.837 to 18.18 for the Tunjunga Wash and from 6.196 to 17.15 for Rio Hondo.

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| 1.7 | <p>The number of samples upon which the Chollas Creek WER amendments are based is very low, resulting in a relatively high variability. 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.” A second peer review commenter reinforced our concerns by commenting that there exists in the Chollas Creek WERs, “a high variability in the response.”</p> | <p>The acceptable variability of sample WERs is not explicitly defined in the Interim Guidance, but there is language indicating that sample WERs within a factor of three are considered similar (See Interim Guidance, p. 61 stating “[e]qually sensitive tests are expected to give WERs that are similar (e.g., within a factor of 3), whereas a test that is less sensitive will probably give a smaller WER than a more sensitive test”). Additionally, if the range of sample WERs is less than a factor of 5, then the final WER is calculated using the geometric mean. For WERs where the range is greater than a factor of 5, then the final WER is based on the lowest of either the sample WER, the highest WERs, or the geometric mean. (Id. at 36.) In the Chollas Creek WER Study, individual WERs varied by no more than a factor of 2.5 and 2 for copper and zinc, respectively. Thus, variability amongst individual WERs was acceptable.</p> <p>Generally, stream flow occurs only when there is sufficient precipitation to produce runoff to Chollas Creek. For Chollas Creek, four wet weather samples were gathered from each fork (eight samples total) in order to calculate WERs based on typical wet weather conditions. These samples were collected during storm events in February, April, October, and December of 2010. The final WERs for copper and zinc were determined by calculating the geometric mean of the individual WERs for each branch of the creek and using the more conservative value between the two branches. In addition to the 2010 evaluations, additional sampling from Chollas Creek took place during a storm in April 2014 to confirm the validity of the 2010 results.</p> |

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|     |   | <p>To the extent the commenter is concerned that the variability in the WER samples indicates that the samples are not representative of the conditions in Chollas Creek as required by the Interim Guidance, the data analyses included in the WER Memorandum corroborates findings in the WER Study that the WERs derived from the 2010 and 2014 samples are comparable; and that key water chemistry conditions that affect bioavailability in the 2010 and 2014 samples are representative of creek conditions compared to historical data (2007 to 2017). Furthermore, the fact that Chollas Creek flows are primarily driven by wet weather do not make the conditions anomalous. The process for determining WERs for Chollas Creek was methodical in capturing typical rain events and conditions of bioavailability. As documented in the WER Study sent out for peer review and public comment, precipitation for these events spanned the historical range reported in that region and standard water quality parameters such as hardness, as well as copper and zinc concentrations, were well within historical ranges and therefore, representative of wet weather flows in Chollas Creek. (WER Study report at Table 6-1.) In addition, the data analyses in the WER Memorandum indicated that the amount of precipitation during the 2010 and 2014 sampling events had no noticeable effect on WERs.</p> |
| 1.8 | <p>Acknowledges that both the Los Angeles and San Diego WER studies met the minimum number of samples required by USEPA guidance.</p> | <p>Comment noted.</p>  |

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| 1.9  | A statewide WER policy that recognizes local or statewide variation would more accurately account for the critical condition of such water bodies.   | As stated above in response to Comment No. 1.3, the State Water Board intends to establish criteria for developing site-specific WQOs for metals in the future. However, until such guidance is developed, the Interim Guidance is sufficiently robust to accurately account for the critical condition in California waterbodies. The Interim Guidance may be applied to any surface water body, perennial or intermittent, and establishes a general framework for designing a sampling methodology that captures the critical condition of a water body. (See response to Comment No. 1.5 for additional discussion).  |
| 1.10 | <p>During the State Water Board hearing to approve site-specific WERs for the Los Angeles River, Mr. Jonathan Bishop, Chief Deputy Director of the State Water Board, indicated that basing a WER on three samples would be unacceptable, specifically stating:</p> <p style="padding-left: 40px;">“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.”</p> | As the commenter concedes, the Chollas Creek WER Study considered eight samples, not three. Mr. Bishop in his testimony also acknowledged that there will always be a conundrum regarding what is considered an adequate number of samples to calculate site-specific WERs. While more data may be preferable (assuming the data are evaluated in a scientifically sound manner), in this instance it’s not entirely clear that additional data would dramatically differ from the proposed site-specific WERs. There is no indication that the factors that affect bioavailability were anomalous during the 2010 WER-related sampling events. As previously discussed, historical data demonstrate that the conditions in the creek during the WER-related sampling events are representative of typical conditions in the creek. While the wet weather-driven flows in the creek may be flashy, water chemistry and water quality samples do not exhibit an unusual degree of variability. |
| 1.11 | The adopted amendments fail to include adequate post-adoption monitoring and lack a mechanism to reconsider WERs if they fail to protect beneficial uses. Monitoring of sediment quality in the mouth of Chollas Creek is insufficient to determine if the site-specific objectives are protective of the creek.   | Post-adoption monitoring is not required when adopting a site-specific WER. However, Chollas Creek will continue to be monitored as part of the San Diego Water Board’s existing regulatory programs.   |

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|     |         | As noted in the February 8, 2017 Technical Report for the proposed Basin Plan amendment, San Diego Water Board Investigative Order No. R9-2015-0058 required sediment quality monitoring at the mouth of Chollas Creek. Sediment quality monitoring at the mouth is not a substitute for creek water column monitoring but the results can nonetheless indicate the presence of chemicals of potential concern, which may trigger further investigations. Although the investigative order was a separate regulatory effort, it still provides context in its conclusions regarding the nature and extent of contamination, potential sources of contamination, and pathways of transport for contaminants. <sup>14,15</sup> |

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<sup>14</sup> The final (Phase 2) report with results and analyses from the investigative order was submitted to the San Diego Water Board in March 2018.

<sup>15</sup> The overall conclusion of the investigative order states that the primary ongoing source of most chemicals of concern is likely related to legacy sources in San Diego Bay and that evidence indicates that upstream sources do not appear to represent a significant source of contamination to the creek mouth.

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|     |         | <p>Additionally, the San Diego Water Board Regional Phase I Municipal Separate Storm Sewer Systems (MS4) National Pollutant Discharge Elimination System (NPDES) permit requires copermittees in the Chollas Creek watershed to implement the monitoring program required under Investigative Order No. R9-2004-0277, California Department of Transportation and San Diego Municipal Separate Storm Sewer System Copermittees Responsible for the Discharge of Diazinon into the Chollas Creek Watershed (2004 IO). The 2004 IO was adopted prior to the Chollas Creek Metals TMDLs but includes water column monitoring for copper, zinc, lead, hardness, acute toxicity and chronic toxicity. Sampling for metals, and toxicity must be conducted during three storm events annually at the same time and the same locations.<sup>16</sup> This sampling is sufficiently frequent for the San Diego Water Board to determine if the site-specific WERs for copper and zinc are associated with toxicity in the creek and need to be revisited.</p> <p>Additionally, State and regional water boards have an ongoing legal obligation to evaluate of the adequacy of basin plan WQOs under both section 303(c) of the Clean Water Act and section 13240 of the California Water Code. This process is commonly referred to as the “triennial review” because the review must occur every three years to comply with the Clean Water Act. The triennial review process allows the regional water boards to seek input from staff and stakeholders on priority issues in their respective region – including, but not limited to, modification or adoption of water quality standards. The sufficiency that site-specific WQOs for copper and zinc are providing ongoing protectiveness may be considered in subsequent triennial reviews.</p> |

<sup>16</sup> Sampling is conducted in the north fork, in the south fork, and upstream of the mouth of Chollas Creek.

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| No.  | Comment  | Response   |
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| 1.12 | A statewide WER policy should require post-adoption monitoring aimed at assessing whether revised WERs are actually protective of beneficial uses.   | Comment noted as a statewide WER policy does not yet exist.  |
| 1.13 | The proposed Basin Plan amendment violates State and federal antidegradation policies. By approving site-specific WERs based on the geometric mean of four highly variable samples, degradation will occur in Chollas Creek because the WERs are not representative of the actual lowest WERs that occur in Chollas Creek. The San Diego Water Board provided little detail on how degradation resulting from the WER is consistent with the maximum benefit to the people of the State, whether the reduction in water quality unreasonably affects actual or potential beneficial uses, and whether water quality will fall below applicable WQOs in the Basin Plan. | <p>It's not entirely clear that the antidegradation policies even apply to the adoption of site-specific WERs. The CTR pre-authorizes the use of site-specific WERs calculated in accordance with the Interim Guidance. Adoption of a site-specific WER recalculates the standard and does not allow degradation. Moreover, USEPA has suggested the antidegradation review only applies in the permitting context and is not required for planning aspects of Clean Water Act programs (e.g. TMDLs, water quality standards). (See USEPA's Response to Public Comments on the Water Quality Standard Regulatory Revisions (2015) p. 3-259 available at <a href="https://www.regulations.gov/document?D=EPA-HQ-OW-2010-0606-0344">https://www.regulations.gov/document?D=EPA-HQ-OW-2010-0606-0344</a>.)</p> <p>Nonetheless, the San Diego Water Board conducted an antidegradation analysis. The proposed site-specific WERs for copper and zinc are consistent with federal and State antidegradation policies.<sup>17</sup></p> |

<sup>17</sup> It is not clear from the record whether any waters in the Chollas Creek watershed are considered a "high quality waters" for the purposes of State Water Board Resolution No. 68-16, Statement of Policy with Respect to Maintaining the Quality of the Waters of the State. However, in the absence of data to the contrary it is assumed that at least some waters are high quality. To the extent that waters in the Chollas Creek are not high quality, only the federal antidegradation policy requiring protection of existing in-stream water quality is applicable (40 CFR section 131.12)(a)(1).

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|-----|---------|---|
|     |         | <p>The record before the San Diego Water Board contains sufficient evidence that the adoption of the site-specific WERs for copper and zinc is necessary to advance important social and economic interests. After the adoption of the proposed WERs for copper and zinc, the City of San Diego alone estimates that it will need to spend \$170 million in the Chollas Creek watershed to comply with the Chollas Creek Metals TMDLs. This is likely to result in savings from the original estimates of Chollas Creek Metals TMDLs compliance cost, which ranged from \$970,000 to \$492 million in 2006 dollars for construction, operation and maintenance of structural best management practices (BMPs). In today's dollars, that is an estimated \$1.2 million to \$616 million that would be spent on copper and zinc treatment even though copper and zinc have been shown to be far less toxic than the national criteria that formed the basis of the Chollas Creek Metals TMDLs. Implementing more appropriate treatment levels for copper and zinc would result in substantial savings to taxpayers and would allow the MS4 dischargers in Chollas Creek to redirect limited public funds to higher priority issues. Also, the San Diego Water Board did not only consider costs but also the reduction in environmental impacts associated with the construction and operation/maintenance of unnecessary or oversized structural BMPs. In light of the foregoing, there is adequate evidence in the record to establish that adoption of the proposed WERs is to the maximum benefit to the people of the State.</p> |

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|      |   | Using the geometric mean to calculate the WER does not necessarily result in degradation. Central tendencies of data, by design, do not reflect the lowest (or highest) values. The geometric mean is used to capture representative conditions in a water body and is consistent with the protocol in the Interim Guidance. Even assuming some lowering of water quality occurs in any given instant, the State and federal antidegradation policies do not prohibit all degradation – these policies merely require that degradation be justified. (WQ 86-17 at 20). This type of degradation is consistent with the State and federal antidegradation policies. |
| 1.14 | The proposed WERs violate Clean Water Act anti-backsliding requirements in the San Diego Water Board's Regional MS4 permit. | This comment was not raised during the San Diego Water Board's public comment period.  |

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|     |         | <p>The Clean Water Act prohibits the renewal, reissuance, or modification of an existing NPDES permit that contains effluent limits that are less stringent than the previous permit. (Clean Water Act section 402(o).) The San Diego Water Board’s MS4 permit includes water quality based effluent limitations (WQBELs) for copper and zinc discharges into Chollas Creek that implement the Chollas Creek Metals TMDL. The WQBELs are equal to 90 percent of the WQOs for copper and zinc as defined in the CTR. Like the CTR, the WQBELs for copper and zinc in the MS4 permit are expressed as hardness-based equations that assume the WER to be 1.0 unless there is an approved site-specific WER. Specifically, the San Diego MS4 permit states, “[t]he Water Effect Ratio (WER) is assumed to be 1.0 unless there is a site-specific and chemical-specific WER provided in the Basin Plan.” (Notes to Table 4-2, page E-16, Attachment E, Order No. R9-2013-0001 as amended by Order Nos. R9-2015-0001 and R9-2015-0100). Because the San Diego MS4 permit prospectively incorporates the usage of site-specific WERs in the Basin Plan, anti-backsliding is not implicated. The site-specific WERs for copper and zinc in Chollas Creek are effective upon approval by the Office of Administrative Law<sup>18</sup> and no changes to the MS4 permit are needed to reflect the adoption of site-specific WERs.</p> |

<sup>18</sup> Adoption of site-specific WERs do not require USEPA review and approval under section 303(c) of the Clean Water Act because the CTR pre-authorizes use of WERs and the criteria are not being changed. (See USEPA Memorandum from Tudor T. Davies to Water Management Division Directors, Regions I-X, State Water Quality Standards Program Directors (Feb. 22, 1994) at p. 4, stating that USEPA review and approval under Section 303(c) is not required in jurisdictions included in the National Toxics Rule.)

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|     |         | <p>Even if the adoption of site-specific WERs through a basin plan amendment is considered backsliding, backsliding may be allowed provided that the requirements in either section 303(d) or section 402(o) of the Clean Water Act are met. Here, adoption of the proposed site-specific WQOs falls squarely within Section 303(d) of the Clean Water Act. Section 303(d)(4)(A) of the Clean Water Act allows relaxation of water quality-based effluent limitations (WQBELs) in waters where water quality is not attained if the cumulative effect of all such revised effluent limits or waste load allocations will assure attainment of the water quality standard. A revised water quality standard fits squarely within this exception. (See USEPA's Interim Guidance on Implementation of Section 402(o) Anti-backsliding Rules for Water Quality-Based Permits (1987) at 5, "CWA section 303(d)4)(A) clearly allows for the relaxation of water quality standards of water quality-based effluent limitations based on a revision of water quality standards...".) Site-specific WERs developed in accordance with the Interim Guidance or another scientifically valid method approved by the State assure attainment of the appropriate WQOs for copper and zinc. Therefore, the proposed WERs do not violate the anti-backsliding requirements.</p> |