

**Response to Comments on Proposed Site-Specific Water-Effect Ratios for Copper and Recalculated Lead Objectives in the Los Angeles River Watershed and Revised TMDL for Metals in the Los Angeles River and Tributaries**  
**Comment Deadline: March 16, 2015**

**List of commenters:**

1. Los Angeles River Metals TMDL Steering Committee
2. Los Angeles Waterkeeper and Heal the Bay
3. Alhambra
4. Arcadia
5. Azusa
6. Bell Gardens
7. Bradbury
8. Commerce
9. Cudahy
10. Downey
11. Duarte
12. Glendale
13. Hidden Hills
14. La Cañada Flintridge
15. Los Angeles County and Los Angeles County Flood Control District
16. Lakewood
17. Monrovia
18. Montebello
19. Monterey Park
20. Paramount
21. Pasadena
22. Pico Rivera
23. Rosemead
24. San Gabriel
25. San Marino
26. Sierra Madre
27. Signal Hill
28. South El Monte
29. South Gate
30. South Pasadena
31. Vernon
32. City of Los Angeles Bureau of Sanitation
33. Burbank
34. County Sanitation Districts of Los Angeles County
35. California Department of Fish and Wildlife
36. TECS Environmental

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**Comment Deadline: March 16, 2015**

**Responses to comments:**

<b>Comment Number</b>	<b>Comment Summary</b>	<b>Response</b>
1.1	The Los Angeles River Metals TMDL Steering Committee appreciates the Los Angeles Regional Water Quality Control Board's (Regional Board) effort to update the copper and lead water quality objectives and associated TMDL requirements to reflect site-specific conditions.	Comment noted.
1.2	Copper WER sampling sites were located within the tributaries at the most downstream locations in the waterbody to represent conditions for the length of the tributary and to represent the water quality of tributary flows immediately prior to the point where the tributary meets the LA River mainstem. The approach is consistent with common practice, including the approved Metals TMDL Coordinated Monitoring Program. Comments were received requesting additional sites within the tributaries during the development of the work plan. In consultation with Regional Board staff and the Technical Advisory Committee (TAC) it was determined that the selected sites presented in the March 2010 <i>Work Plan for Recalculation and Water-Effect Ratio to Support Implementation of the Los Angeles River and Tributaries Metals TMDL</i> (Final Work Plan) were appropriate, and the approach was approved by the Regional Board Executive Officer. As such, the copper WERs should be extended to the upstream reaches of Verdugo Wash, Arroyo Seco, and Rio Hondo.	<p>The proposed changes to Chapter 3 of the Basin Plan have been revised to extend the copper WERs to Verdugo Wash Reach 2, Arroyo Seco Reach 2, and Rio Hondo Reach 2.</p> <p>Additional monitoring requirements have been added to examine the assumption that downstream tributary monitoring locations are representative of the entire tributary. If the additional monitoring shows that downstream tributary monitoring locations are representative of the entire tributary, this additional monitoring may be discontinued.</p>
1.3	As outlined in the approved Final Work Plan, copper WER sampling sites were selected to bracket major inputs to the system from water reclamation plant (WRP) discharge. To support the appropriate characterization of Burbank Western Channel (BWC), two sampling sites were established, one site upstream of and one site downstream of the Burbank Water Reclamation Plant (BWRP). The inclusion of two sites on BWC was in response to comments made by Regional Board staff on	As stated in the staff report supporting the proposed Basin Plan amendments, revising the loading capacity and allocations in the TMDL by applying two separate WERs in the Burbank Western Channel would require an adjustment of the critical flows contemplated in the original TMDL, which is beyond the scope of this reconsideration.

**Response to Comments on Proposed Site-Specific Water-Effect Ratios for Copper and Recalculated Lead Objectives in the Los Angeles River Watershed and Revised TMDL for Metals in the Los Angeles River and Tributaries**  
**Comment Deadline: March 16, 2015**

Comment Number	Comment Summary	Response
	<p>the initial draft of the study work plan.</p> <p>As expected, the results of the WER testing indicated a difference in characteristics between these two sites because of the predominance of highly treated wastewater effluent in the BWC downstream of the BWRP. The WERs for the BWC upstream and downstream of the BWRP are 5.44 and 4.75, respectively. The two WERs were evaluated and found to be protective of their specific portions of the waterbody (see Section 7.4.3 of Attachment A to the Staff Report).</p> <p>Furthermore, an analysis was undertaken to evaluate whether copper loading capacities calculated using the higher upstream WER would support attainment of TMDL targets downstream of the BWRP. As presented in Attachment A to Attachment C to the Staff Report, the analysis showed that use of two separate WER values upstream and downstream of the BWRP would be fully protective of beneficial uses in both reaches. Specifically, use of separate WER values would result in zero exceedances of water quality objectives (with a confidence level of 99.2%) over any three-year period, consistent with the definition of attainment established for the analysis in consultation with Regional Board staff and the TAC.</p> <p>Given that the use of two reach-specific copper WER values was shown to be protective of both segments of the BWC, the site-specific WER of 5.44 should be applied specifically to the BWC upstream of the BWRP in Chapter 3 of the Basin Plan and the TMDL targets, loading capacity, and wasteload allocations should be revised accordingly.</p>	<p>Furthermore, applying a higher WER in the channel segment above BWRP is not needed. The existing copper data (2003-2013) collected above the BWRP show that copper concentrations are lower than the adjusted numeric target calculated using the WER of 4.75. The median copper concentration of samples collected above the BWRP is 14 ug/L and the maximum is 95 ug/L, while the adjusted numeric target using the WER of 4.75 is 123 ug/L.</p> <p>The Regional Board staff comment on the initial draft of the study work plan was that the study should include an actual sampling site below the BWRP (i.e., downstream receiving water rather than using “constructed downstream water” by combining effluent with upstream water). The Regional Board did not specifically require a sample to be collected above the BWRP.</p>
1.4	Ch.7 BPA WLAs, Pg. 9: The superscript following the copper WER term for LA River Reach 5 should be 1 and not 2 in the Stormwater Permittee dry-weather WLAs table.	The requested correction has been made.

**Response to Comments on Proposed Site-Specific Water-Effect Ratios for Copper and Recalculated Lead Objectives in the Los Angeles River Watershed and Revised TMDL for Metals in the Los Angeles River and Tributaries  
Comment Deadline: March 16, 2015**

Comment Number	Comment Summary	Response
1.5	<p>Ch.7 BPA WLAs, Pgs. 9 and 12: The footnote for the stormwater Permittee dry and wet-weather WLAs requires action to be taken if an increasing trend is observed. However, there is a lack of clarity as to what constitutes an increasing trend and from what baseline the trend will be evaluated. Additionally, the concern with an increasing trend should be focused on conditions within the receiving water rather than individual discharges from the MS4. An example of a potentially more appropriate and clear approach was utilized for a copper WER adopted for portions of San Francisco Bay. In the San Francisco Bay example, triggers were established in order to detect a statistically significant change in dissolved copper concentration in the receiving water. Trigger values were determined using a power analysis consisting of a one-sided t-test of means with an alpha value of 0.05 (i.e., a 95% confidence). The San Francisco Bay approach establishes:</p> <ol style="list-style-type: none"> <li>1. A clear linkage to the receiving water and corresponding beneficial uses.</li> <li>2. A statistically significant level of change above the baseline that would require action.</li> <li>3. A definition of an increasing trend that uses an appropriate statistical method.</li> </ol> <p>A similar approach is warranted and needed within the LA River watershed to ensure that MS4 Permittees and Regional Board staff can interpret the requirements consistently. We request that the footnote for the stormwater Permittee dry and wet-weather WLAs should be revised as follows:</p> <p>* For <u>MS4 discharges regulated under this TMDL receiving waters</u> with concentrations below WER-adjusted allocations at the time of TMDL adoption, MS4 Permittees shall track trends in concentrations and loads and, where <u>statistically significant</u> increasing trends are observed in</p>	<p>The footnote has been revised to say:</p> <p><u>* For MS4 discharges regulated under this TMDL with Where existing concentrations in MS4 discharges are below WER-adjusted allocations upon the effective date of these revisions to the TMDL, MS4 Permittees shall track trends in concentrations and loads and, where increasing trends are observed and are determined to be statistically significant, shall conduct an evaluation of the cause(s) of the increasing trends in concentration and/or load within the contributing drainage area(s). Permittees shall propose criteria for determining whether a trend is statistically significant as an addendum to their approved Coordinated Integrated Monitoring Program (CIMP) or Integrated Monitoring Program (IMP) under their respective MS4 permit, or the Regional Board will specify criteria if a Permittee is following the baseline monitoring program of a MS4 permit. If the increasing trend is caused or contributed to by the MS4 Permittees discharges, the MS4 Permittees shall then report on and evaluate the cause(s) of any increasing trends and shall include actions to arrest increasing trends in their annual reports and/or as part of their adaptive management process in an approved Watershed Management Program or Enhanced Watershed Management Program. identify additional watershed control measures and corresponding time schedules for implementation to arrest the increasing trend(s). MS4 Permittees shall report on trends and</u></p>

**Response to Comments on Proposed Site-Specific Water-Effect Ratios for Copper and Recalculated Lead Objectives in the Los Angeles River Watershed and Revised TMDL for Metals in the Los Angeles River and Tributaries**  
**Comment Deadline: March 16, 2015**

Comment Number	Comment Summary	Response
	<p><u>receiving waters, MS4 Permittees shall conduct an evaluation of the cause(s) of the increasing trends in concentration and/or load within the contributing drainage area(s). When determining whether an increasing trend is statistically significant, an appropriate statistical test (including a 95% confidence) and a minimum of the previous two years of historical data shall be utilized. If the statistically significant increasing trend is caused by the MS4 Permittees, the MS4 Permittees shall then identify the MS4 sources that are potentially causing the trend. MS4 Permittees shall report on trends and evaluations of the potential cause(s) of any statistically significant increasing trends in their annual reports. If the statistically significant increasing trend results in receiving water concentrations above baseline concentrations (defined as when the TMDL was developed in 2005), additional watershed control measures and corresponding time schedules for implementation to arrest the statistically significant increasing trend(s) may be required as part of the MS4 Permittees shall report on trends and evaluations of the cause(s) of any increasing trends in their annual reports and shall include actions to arrest increasing trends in their annual reports and/or as part of their adaptive management process in an approved Watershed Management Program or Enhanced Watershed Management Program. Further, regardless of the WER, Permit compliance with anti-degradation and antibacksliding requirements shall be documented in permit fact sheets.</u></p>	<p><del>evaluations of the cause(s) of any increasing trends in their annual reports and shall include actions to arrest increasing trends in their annual reports and/or as part of their adaptive management process in an approved Watershed Management Program or Enhanced Watershed Management Program. Further, regardless of the WER, Permit compliance with anti-degradation and anti-backsliding requirements shall be documented in permit fact sheets.</del></p> <p>The Regional Board disagrees that the observations of trends should be limited to the receiving water. MS4 Permittees should evaluate trends in both the receiving water and their discharges.</p>
1.6	Ch.7 BPA WLAs, Pg. 10: Suggest removal of what appears to be an unnecessary row with the number “5” in the Other dry-weather WLAs table.	“5” is the WLA for Se. The table alignment was shifted to show track changes.

**Response to Comments on Proposed Site-Specific Water-Effect Ratios for Copper and Recalculated Lead Objectives in the Los Angeles River Watershed and Revised TMDL for Metals in the Los Angeles River and Tributaries**  
**Comment Deadline: March 16, 2015**

Comment Number	Comment Summary	Response
1.7	Ch.7 BPA WLAs, Pg. 10: The lead TMDL target for Tujunga Wash is 83 ug/L multiplied by the WER. However, in the Other dry-weather WLAs table, the WLA for lead in Tujunga Wash is 102 ug/L multiplied by the WER. The 102 ug/L should be revised to 83 ug/L.	The requested correction has been made.
1.8	Ch.7 BPA WLAs, Pg. 10: The lead TMDL target for Verdugo Wash is 102 ug/L multiplied by the WER. However, in the Other dry-weather WLAs table, the WLA for lead in Verdugo Wash is 100 ug/L multiplied by the WER. The 100 ug/L should be revised to 102 ug/L.	The requested correction has been made.
1.9	Ch.7 BPA WLAs, Pg. 10: In the Other dry-weather WLAs table, Verdugo Wash appears twice in the table. Suggest removal of the words “and Verdugo” from the “Reach 3 above LA-Glendale WRP” row.	The requested correction has been made.
1.10	Ch.7 BPA WLAs, Pg. 12: In the MS4 wet-weather WLAs table, the WLA equation for copper was revised incorrectly. Additionally, the WLA equation for lead was not revised as needed. The subject WLA equations should read as follows:  Copper $WER^{+2} \times 1.5 \times 10^{-8} \times \text{daily volume (L)} - 9.5$ Lead $WER^1 \times 8.55 \times 10^{-8} \times \text{daily volume (L)} - 3.8532$	The requested correction has been made.
1.11	Ch.7 BPA WLAs, Pg. 12: The footnote for the MS4 wet-weather WLAs is not consistent with the footnote for the Storm water Permittees’ dry-weather WLAs. Please revise the wet-weather footnote to be consistent with the dry-weather footnote, inclusive of the requested revisions presented in comment #5.	The footnotes have been revised to be consistent.
1.12	Ch.7 BPA WLAs, Pg. 13: The footnote for the Caltrans wet-weather WLAs is not consistent with the footnote for the Storm water Permittees’ dry-weather WLAs. Please revise the wet-weather footnote to be consistent with the dry-weather footnote, inclusive of the requested revisions presented in comment #5.	The footnotes have been revised to be consistent.

**Response to Comments on Proposed Site-Specific Water-Effect Ratios for Copper and Recalculated Lead Objectives in the Los Angeles River Watershed and Revised TMDL for Metals in the Los Angeles River and Tributaries**  
**Comment Deadline: March 16, 2015**

Comment Number	Comment Summary	Response
1.13	Ch.7 BPA WLAs, Pg. 13: The superscript following the copper WER term in the Individual General Construction or Industrial Permittees WLAs table should be 2 and not 1.	The requested correction has been made.
1.14	<p>Ch.7 BPA Implementation, Pg. 15: Special studies that may serve to refine the estimate of loading capacity, waste load and/or load allocation, and other studies that may serve to optimize implementation efforts may still be conducted. As such, it is requested that in place of striking out the following sentence in its entirety:</p> <p style="padding-left: 40px;">The Regional Board shall reconsider this TMDL by January 11, 2011 based on additional data obtained from special studies.</p> <p>Modify the sentence as follows:</p> <p style="padding-left: 40px;">The Regional Board shall reconsider this TMDL <del>by January 11, 2011 based on additional data obtained from special studies</del> <u>five years after the effective date of this amendment in light of the findings of relevant studies, if available.</u></p> <p>OR</p> <p style="padding-left: 40px;">The Regional Board shall reconsider this TMDL <del>by January 11, 2011 based on additional data obtained from special studies</del> <u>in light of the findings of relevant studies as they become available.</u></p>	The Regional Board can revise the TMDL at any time. The proposed language is unnecessary.
1.15	Ch.7 BPA Implementation, Pgs. 15 and 20: If site-specific conditions change in the future, it is acknowledged that the WERs in the Basin Plan, and correspondingly in the TMDL, may need to be revised. However, such revisions should follow a similar process to the adoption of the WERs and revised TMDL. Language related to potential future modifications should clearly outline that revisions will be addressed through a	The requested change has been made.

**Response to Comments on Proposed Site-Specific Water-Effect Ratios for Copper and Recalculated Lead Objectives in the Los Angeles River Watershed and Revised TMDL for Metals in the Los Angeles River and Tributaries**  
**Comment Deadline: March 16, 2015**

<b>Comment Number</b>	<b>Comment Summary</b>	<b>Response</b>
	<p>basin planning process. As such, the following revisions are requested:</p> <p>Ch. 7, Pg. 15: Site-specific WERs may be modified or revert back to a default of 1.0 <u>through a basin planning process</u> if data indicate that the WERs are not protective of either the beneficial uses of the waterbody to which they apply or downstream beneficial uses.</p> <p>Ch. 7, Pg. 20: The Regional Board will evaluate the WER-based copper WLAs based on potential changes in the chemical characteristics of the water body that could impact the calculation or application of the WER and will revise the WERs and copper WLAs <u>through a basin planning process</u>, if necessary, to ensure protection of beneficial uses.</p>	
1.16	<p>Currently the TMDL refers to five jurisdictional groups. However, the approach to watershed management has been effectively re-defined by the 2012 LA County MS4 Permit, which established a Watershed Management Program (WMP)/Enhanced Watershed Management Program (EWMP) approach. The language referring to five jurisdictional groups should be replaced with language referring to WMP/EWMP groups as well as associated WMPs/EWMPs and Coordinated Integrated Monitoring Programs (CIMPs).</p>	<p>The TMDL already includes language that states, "Jurisdictional groups can be reorganized or subdivided upon approval by the Executive Officer". No change is needed.</p>
1.17	<p>As the purpose of the TMDL is to reduce metals loading to the LA River and its tributaries, and selection of implementation projects (i.e., BMPs) is based on the most efficient manner to reduce the overall loading of pollutants, it is requested that the TMDL also allow interim compliance to be assessed via demonstration of a percent reduction in the load from the MS4 drainage area. For example, instead of demonstrating that 50% or 75% of the drainage area met WLAs, a Permittee could demonstrate that the load from their MS4 drainage area was</p>	<p>The requested change is outside the scope of the TMDL reconsideration and is not necessary. Permittees have already proposed such approaches in their WMPs, which are currently being reviewed by Regional Board staff. The Regional Board finds that this approach is consistent with the requirements of the WLAs.</p>



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<b>Comment Number</b>	<b>Comment Summary</b>	<b>Response</b>
	<p>reduced by the same percentage. This approach was incorporated into the amendment to the Ballona Creek Metals TMDL adopted by the Regional Board in May 2013 and the Los Cerritos Channel Metals and San Gabriel River Metals TMDLs Implementation Plans adopted by the Regional Board in June 2013.</p>	
1.18	<p>The ability to demonstrate compliance via the development of an approved watershed management program that provides a quantitative demonstration that control measures and BMPs will achieve WLAs per the TMDL schedule should be applicable to WQBELs. Permittees that make a good faith effort to implement measures and BMPs that are expected to result in attainment of the WQBELs should not be found in violation as they adaptively manage their programs consistent with an approved process. Language to this effect was included in the 2013 amendment to the Ballona Creek Metals TMDL.</p>	<p>The requested change is outside the scope of the TMDL reconsideration and is not necessary. The Regional Board has established through its MS4 permits that Permittees may demonstrate compliance with interim WQBELs derived from TMDL WLAs by showing through a Reasonable Assurance Analysis that the proposed BMPs will achieve the interim WQBELs and then implementing the BMPs as proposed. According to Part VI.E.2.d.i.(4), p. 143 of Order No. R4-2012-075, "A Permittee shall be considered in compliance ... if any of the following is demonstrated:            ... (4) The Permittee has submitted and is fully implementing an approved Watershed Management Program or EWMP pursuant to Part VI.C..."</p>
1.19	<p>The water quality criteria of interest are established in the California Toxics Rule (CTR) as dissolved metals criteria as the dissolved metal more closely approximates the bioavailable fraction of the metal in the water column than does the total recoverable metal. It is understood that the TMDL targets and WLAs are established as total recoverable metals in most cases (see 40 CFR 122.45(c)) except when an effluent guideline specifies the limitation in another form of the metal, the approved analytical methods measure only dissolved metal, or the permit writer expresses a metal's limit in another form</p>	<p>The WLAs are expressed as total recoverable metals consistent with NPDES regulations because, once discharged, additional particulate metal could dissolve in the receiving water causing the dissolved criteria to be exceeded.</p> <p>The proposed language taken from the Ballona Creek Metals TMDL revision cannot be applied to the Los Angeles River Metals TMDL because the Los Angeles River Metals TMDL numeric targets are expressed as</p>

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**Comment Deadline: March 16, 2015**

<b>Comment Number</b>	<b>Comment Summary</b>	<b>Response</b>
	<p>(e.g., dissolved, specific valence, or total) when required to carry out provisions of the Clean Water Act.</p> <p>This creates a situation where the underlying applicable criterion (i.e., dissolved metal criterion) is met, but a Permittee may be found out of compliance with a total metal limitation. This issue came up during the adoption hearing for the 2013 amendment to the Ballona Creek Metals TMDL. At the adoption hearing, the Regional Board directed Regional Board staff to address this issue, and the approach taken was to incorporate the following language into the Ballona Creek Metals TMDL to indicate that attainment of the dissolved numeric targets could be used to demonstrate compliance: “Alternatively, permittees may be deemed in compliance with WQBELs if they demonstrate compliance with dissolved numeric targets in dry and wet-weather in the applicable receiving water.”</p> <p>Given the same issue exists in the LA River Metals TMDL, it should be addressed in the same manner for consistency with the direction given by the Regional Board at the Ballona Creek Metals TMDL adoption hearing. Consistency amongst TMDLs is often cited within the region as justification for inclusion of elements within a reopened TMDL. As the LA River Metals TMDL does not explicitly state the dissolved numeric targets, the following language from the Ballona Creek Metals TMDL (which has been slightly modified for clarity) should be incorporated.</p>	<p>total recoverable metals. In addition, while the 2013 Ballona Metals TMDL reconsideration reconsidered every element of that TMDL, the proposed revisions to the Los Angeles River Metals TMDL are limited to the application of the Copper WER study and Lead Recalculation report. The requested change is outside the scope of the TMDL reconsideration.</p> <p>This notwithstanding, the LA County and Long Beach MS4 Permits provide several ways to demonstrate compliance with TMDL provisions, including by showing through monitoring data that there are no exceedances of the applicable receiving water limitation for the pollutant associated with a specific TMDL in the receiving water. In this case, the receiving water limitations are the dissolved criteria established in the CTR. According to Part VI.E.2.d.i.(4), p. 143, of Order No. R4-2012-075, “A Permittee shall be considered in compliance ... if any of the following is demonstrated:          ... (2) There are no exceedances of the applicable receiving water limitation for the pollutant associated with a specific TMDL in the receiving water(s)...</p> <p>In addition, a according to the compliance determination for final WQBELs/RWLs in Part VI.E.2.e.i.(2), page 145 “There are no exceedances of applicable receiving water limitation for the specific pollutant in the receiving water(s)...”</p> <p>A receiving water limitation is defined as, “Any applicable numeric or narrative water quality objective or criterion, or limitation to implement the applicable</p>

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**Comment Deadline: March 16, 2015**

Comment Number	Comment Summary	Response
		<p>water quality objective or criterion, for the receiving water as contained in Chapter 3 or 7 of the Water Quality Control Plan for the Los Angeles Region (Basin Plan), water quality control plans or policies adopted by the State Water Board, or federal regulations, including but not limited to, 40 CFR § 131.38.” (Attachment A – Definitions, p. A-16)</p> <p>While the TMDL numeric targets are expressed as total recoverable metals, this was done to allow determination of WLAs expressed as total recoverable metals, and the underlying water quality objectives, which are referenced in the definition above (i.e., CTR criteria contained in 40 CFR § 131.38), are expressed in the dissolved form. Thus, if a permittee(s) demonstrates that they are achieving the dissolved water quality objective in the receiving water, then that would constitute compliance under the MS4 permits, in the context of these TMDL provisions.</p>
1.20	<p>To increase the cost efficiency and effectiveness of the monitoring program, CIMPs prepared in compliance with the Los Angeles County MS4 Permit may develop and utilize alternative approaches to meet the primary objectives of the Los Angeles County MS4 Permit Monitoring Program. The primary objectives of the Los Angeles County MS4 Permit Monitoring Program include assessing the chemical, physical, and biological impacts of discharges from the MS4 on receiving waters and assessing compliance with receiving water limitations and WQBELs established to implement TMDL wet weather and dry WLAs. These objectives are consistent with the objectives of the monitoring recommendations and requirements specified in the TMDL BPA. Given that the</p>	<p>This change is unnecessary as the LA County and Long Beach MS4 permits already allow Permittees to optimize standard MS4 monitoring requirements and TMDL monitoring requirements to the extent possible. According to Attachment E, Part IV, pages E-6 to E-7 of Order No. R4-2012-075,:</p> <ul style="list-style-type: none"> <li>• IMPs – Part IV.A.5, “The requirements of an approved TMDL Monitoring Plan may be modified by an IMP that is subsequently approved by the Executive Officer of the Regional Water Board.”</li> <li>• CIMPs – Part IV.B.3, “The requirements of an</li> </ul>

**Response to Comments on Proposed Site-Specific Water-Effect Ratios for Copper and Recalculated Lead Objectives in the Los Angeles River Watershed and Revised TMDL for Metals in the Los Angeles River and Tributaries**  
**Comment Deadline: March 16, 2015**

Comment Number	Comment Summary	Response
	<p>objectives of the Los Angeles County MS4 Permit Monitoring Program and the TMDL BPA are consistent, CIMPs approved by the Regional Board Executive Officer will meet the objectives of both programs.</p>	<p>approved TMDL Monitoring Plan may be modified by an IMP or CIMP that is subsequently approved by the Executive Officer of the Regional Water Board.”</p> <p>Further, the additional monitoring to determine the ongoing protectiveness of WERs required in the proposed revisions is a distinct objective not included in the MS4 permits that must be addressed. While this monitoring objective can be addressed through a CIMP or IMP, it is important that the TMDL establish this monitoring requirement.</p>
1.21	<p>Special studies that may serve to refine the estimate of loading capacity, waste load and/or load allocation, and other studies that may serve to optimize implementation efforts may still be conducted. The text referring to the TMDL reconsideration should be updated to reflect the potential for future re-considerations as follows:</p> <p>The Regional Board will re-consider the TMDL <del>by January 11, 2011</del> in light of the findings of these studies <u>as they become available</u>.</p>	<p>The proposed change is unnecessary. The Regional Board may reconsider the TMDL at any time to reflect the results of new studies and data.</p>
2.1	<p>The Copper WER Report identifies dry weather, regardless of season, as the critical condition in the Los Angeles River Watershed. Critical condition is defined as the condition with the lowest WER or the condition in a waterbody when aquatic life is most threatened. We agree with this approach. However, we believe the Copper WER Report does not capture conditions that would result in the lowest WERs and therefore does not coincide with how the study defines critical condition. The only specificity in the Report for dry weather sampling was that (1) flow must be below 500 cfs at the Wardlow station and (2) that samples would be collected roughly monthly. Six dry</p>	<p>The Copper WER Study adequately captured the critical condition (e.g., condition with the lowest copper WER), which is dry weather. This determination is based on the following findings:</p> <ol style="list-style-type: none"> <li>1) A previous copper WER study in the Los Angeles River identified dry weather as the critical condition.</li> <li>2) Before approving the Work Plan for the current WER study, the Executive Officer required the study proponents to independently determine the critical</li> </ol>

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**Comment Deadline: March 16, 2015**

Comment Number	Comment Summary	Response
	<p>weather samples were used to calculate final WERs for each reach of the Los Angeles River and tributaries (except for Rio Hondo where only five sample results were used), with the intention of capturing the critical condition. We believe samples do not characterize the variability of water chemistry during all dry weather conditions, especially dry weather immediately following a rain event. If a variety of samples were collected, in a variety of dry weather conditions (those following a rain event and in drier conditions), the data would provide a more complete basis to compare and determine critical condition and final WERs. Thus, we believe the analyses used in the Tentative Amendment may not be protective during times when toxicity is most harmful to aquatic life.</p> <p>During storm events, copper concentrations in the Los Angeles River and tributaries spike due to stormwater discharges laden with copper, while at the same time turbidity increases and instream water hardness plummets. In the days following rain events, copper concentrations may remain high and instream hardness relatively low, while turbidity levels drop due to sedimentation; this condition creates a period in which copper is more bioavailable and a higher threat to aquatic life. [The 2009 LWA memo shows dry weather predicted WERs to be lowest within 72 hours of rainfall. See sampling locations White Oak Ave and Sepulveda Blvd.] These critical days following a rain event are not accounted for in the study's sampling design – and these may be the most critical times for identifying toxicity to organism. In review of the Copper WER Report, no samples were collected during this critical period; most dry weather winter samples were collected weeks following the last rain event, giving time for hardness to return to typical levels and copper concentrations to decrease, thus lowering</p>	<p>condition. In response, the study proponents applied the Biotic Ligand Model (BLM) to identify the critical condition using historical data (2006-2008) collected in the Los Angeles River. The BLM analysis evaluated dry-weather conditions as well as conditions that occurred during wet weather or shortly thereafter. The findings, presented in an October 30, 2009 memorandum, were included as an attachment to the Work Plan, which the commenter references in footnote 3 of their comments. The commenter states that conditions immediately following a rain event represent a condition in which copper is more bioavailable and a higher threat to aquatic life and cites the 2009 memorandum to support the statement. However, in reviewing the 2009 memorandum, the statement appears to mischaracterize the analysis conducted. The analysis presented in the 2009 memorandum found that dry weather was the critical condition, not wet weather or the time period immediately following wet weather. The memorandum demonstrated that wet-weather predicted WERs decreased in the days following a rain event to a level that was within the range of dry-weather predicted WERs. For example, at the White Oak site, the two lowest wet-weather predicted WERs, which, as correctly stated by the commenter, occurred 72 hours after a rain event, were 2.5 and 3.7, <i>and were greater</i> than the lowest dry-weather WER predicted for that site, which was 2.3. At the Sepulveda Blvd. site, the lowest wet-weather predicted WER, which also occurred 72 hours after a rain event, was 8.6, <i>and was greater</i> than the lowest dry-weather WER predicted for that site, which was 8.3.</p>

**Response to Comments on Proposed Site-Specific Water-Effect Ratios for Copper and Recalculated Lead Objectives in the Los Angeles River Watershed and Revised TMDL for Metals in the Los Angeles River and Tributaries**  
**Comment Deadline: March 16, 2015**

<b>Comment Number</b>	<b>Comment Summary</b>	<b>Response</b>
	<p>copper toxicity and resulting in higher WERs. As identified on page eight of the Copper WER Report, the “approach to developing an environmentally conservative WER [is] to identify a critical condition and ensure sufficient data [is] collected to develop a representative and protective WER for each waterbody.” The Copper WER Report falls short on its own approach for developing environmentally conservative WERs - the study does not collect data during conditions in which the lowest WER could be observed. Because of this shortcoming, we believe any recommendations from the Report are not representative of the true critical condition and should not be used for the Tentative Amendment at this time.</p>	<p>3) After the Work Plan was approved, along with the identification of dry-weather as the critical condition, the WER Study collected six dry-weather samples from each site (except Rio Hondo). Dry-weather sampling events were spread out approximately one month apart and were conducted in both summer and winter to capture potential seasonal variability. Two wet-weather samples were collected at each site to confirm that dry weather was the critical condition. The Study-calculated WERs, just as the BLM-predicted WERs, were lowest in dry weather.</p> <p>4) While copper concentrations can be higher during wet weather or in the days following a rain event, copper concentrations do not affect the value of the WER. Only the concentrations of constituents that change the bioavailability of copper affect the value of the WER. Based on the BLM parameter sensitivity analysis presented in the 2009 memorandum, the bioavailability of copper in the Los Angeles River is most sensitive to pH and dissolved organic carbon.</p>
2.2	<p>The lack of site-specific data used for calculating copper WERs undermines the protectiveness of the Tentative Amendment. The Copper WER Report’s data collection period was only 17 months long, March 2011 to August 2012, covering just one wet season. This is concerning as 2011-2012 had below average rainfall and does not characterize average conditions in the Los Angeles River Watershed – annual rainfall was 6.29 inches below average. The use of data collected over such a short period of time and during drought conditions to justify long-term</p>	<p>In accordance with Section I.7.a.of the Interim Guidance, water quality data collected during the WER Study period were reviewed to evaluate their representativeness of long-term conditions within the Los Angeles River watershed. The results are presented in Section 6.5 of the WER Study Report. The comparisons indicate that the WER Study parameters (TSS, DOC, and hardness for main stem sites and hardness only for tributary sites), compared</p>

**Response to Comments on Proposed Site-Specific Water-Effect Ratios for Copper and Recalculated Lead Objectives in the Los Angeles River Watershed and Revised TMDL for Metals in the Los Angeles River and Tributaries**  
**Comment Deadline: March 16, 2015**

<b>Comment Number</b>	<b>Comment Summary</b>	<b>Response</b>
	<p>water quality management regulations lacks scientific merit and reasoning. Samples collected for the Copper WER Report do not accurately represent an average precipitation year or full range of conditions experienced in the Los Angeles River Watershed. Relying on extremely limited data to justify changing a WQO is inappropriate, and SSOs should not be pursued until more thorough data is collected. We recommend that data collection and sampling continue over a five year study period to develop a WER that is well supported and protective of beneficial uses. This would ensure samples collected include a variety of water chemistry and flow conditions, which not only influence copper loading, but also parameters influencing hardness and bioavailability of copper.</p>	<p>to historical parameters, are within the expected range for the sites. These results are presented visually in Figures 1-3, attached to this response to comments. Figure 1 and Figure 3 present the dry- and wet-weather hardness data, respectively. Figure 2 presents the dry-weather DOC data.</p> <p>Additionally, a previous WER study conducted for Reaches 1-4 of the Los Angeles River, based on data collected in 2005 and 2006, determined a final WER of 3.96. The final WER for the currently proposed Basin Plan amendment for these same reaches is 3.97. The fact that the final WERs based on 2005-2006 and 2011-2012 data are similar demonstrates that the WER data are accurately representative of conditions in the watershed.</p> <p>The proposed Basin Plan amendment contains ongoing monitoring with triggers for WER reevaluation if data show that conditions are changing in a way that might affect the toxicity of copper in the Los Angeles River watershed.</p>
2.3	<p>Fourteen sampling sites were used to represent four reaches and six tributaries of the Los Angeles River Watershed (roughly 154 stream miles; 50 miles in the main stem). Given the geographic extent and varied land use of Los Angeles River and its tributaries, 14 dry weather sites and 10 wet weather sites is not representative of all watershed conditions. For many of the tributaries, only one sampling location was used in the study despite having extreme variability in land use, substrate and other conditions. Vegetation in waterbodies can also greatly influence water chemistry, flow dynamics, the binding of copper to sediments, etc., potentially having great influence on</p>	<p>Copper WER sampling sites were located within the tributaries at the most downstream locations in the waterbodies to represent conditions for the length of the tributary. The intent of the WER Study was for the WERs to apply to the upstream portions of the tributaries as well, consistent with the assumptions used in the development of the TMDL. The lengths of the tributaries evaluated are mostly within the urbanized portions of the watershed and are subject to dry- and wet-weather urban runoff from similar land uses throughout their lengths. The application of the</p>

**Response to Comments on Proposed Site-Specific Water-Effect Ratios for Copper and Recalculated Lead Objectives in the Los Angeles River Watershed and Revised TMDL for Metals in the Los Angeles River and Tributaries**  
**Comment Deadline: March 16, 2015**

<b>Comment Number</b>	<b>Comment Summary</b>	<b>Response</b>
	<p>WER calculations. Thus, it is inappropriate to use a single sample location for tributaries because it cannot adequately characterize water chemistry for an entire reach. In addition, less than 100 data points were used to conduct the watershed wide SSO; this is simply not enough data to characterize an entire watershed and change WQOs. The California Toxics Rule (40 CFR §131.38) allows SSOs because every waterbody has slightly different conditions influencing toxicity. However, in identifying site-specific objectives, it is essential that robust data is collected in multiple locations for each reach to capture variability. The severely limited sampling regimes used in the Copper WER Report fails to use enough data to account for watershed variability.</p>	<p>WERs in the proposed Basin Plan amendments was clarified in response to Comment 1.2.</p> <p>However, in response to this comment and to examine the assumption that downstream tributary monitoring locations are representative of the entire tributary, additional monitoring requirements have been added to the Basin Plan amendment. If the additional monitoring shows that downstream tributary monitoring locations are representative of the entire tributary, this additional monitoring may be discontinued.</p>
2.4	<p>The contamination of samples used in the Copper WER Report and the change of analytical laboratories during the first half of the study raises a red flag. How can we be sure that water chemistry analyses conducted for the study accurately portrays site specifics when several instances of contamination took place during the study? Several of the dissolved organic carbon (DOC) concentrations used in the analysis were qualified contaminated due to contamination in the equipment blank samples. However, this data was not eliminated, nor were samples recollected. Although efforts were made to correct for the contamination in the sample data, we fear that this contaminations may bias sample results, thus having an effect on study conclusion</p>	<p>The DOC samples collected as part of the study were related to the BLM analysis. These data were not used in the calculation of the final WERs included in the proposed Basin Plan amendments. As these data were not used to calculate the final WERs, they would not result in a sample bias and there is no need to eliminate the data. While the contamination did not jeopardize the calculation of the WERs and is not an uncommon occurrence, based on discussions with Regional Board staff, the study proponents, and the TAC, it was decided that the laboratory should be changed and the investigation documented in the WER Study Report.</p>
2.5	<p>The Tentative Amendment proposes a lead recalculation SSO using a national Draft USEPA dataset. We have concerns that this dataset may not be protective of native species in the watershed. The national dataset does not include species native to Los Angeles River or Southern California. In the Lead</p>	<p>As stated in the staff report, USEPA's Recalculation Procedure contained in Appendix B of the Interim Guidance and USEPA's <i>A Change in the Recalculation Procedure and Optional Consideration of Life Stage When the Recalculation Procedure is</i></p>



**Response to Comments on Proposed Site-Specific Water-Effect Ratios for Copper and Recalculated Lead Objectives in the Los Angeles River Watershed and Revised TMDL for Metals in the Los Angeles River and Tributaries**  
**Comment Deadline: March 16, 2015**

<b>Comment Number</b>	<b>Comment Summary</b>	<b>Response</b>
	<p>Recalculation Report, the SSO is referred to as a de facto national recalculation. There is nothing site-specific about the lead SSO in the Tentative Amendment. How can we be creating a site-specific objective when no site-specific data is used? In our mind, this is bad policymaking and should not be pursued. We feel it is inappropriate for dischargers to apply a statewide approach to specific waterbodies or reaches, such as we are seeing in the Tentative Amendment, they are assigned TMDL wasteload allocations. Why didn't dischargers pursue a WER study for lead, using site-specific data, as they did with copper?</p>	<p><i>Used</i> (USEPA 1997) are intended to be used either (1) to take into account relevant differences between the sensitivity of species in the national dataset and those at a site or (2) to take into account any updates or revisions in the national dataset (not necessarily site-specific updates). So, while the geographic focus of the study was on the Los Angeles River watershed, in the case of lead, the recalculation is based on updates to the national dataset, not site-specific data. However, in conducting the recalculation of the objectives, the study did consider whether the recalculated objectives would be protective of species of interest for the LA River watershed.</p>
2.6	<p>Species of interest are identified in the Lead Recalculation Report to ensure lead recalculations are indeed protective of important species to the State of California. Surrogate species are commonly chosen by comparing surrogate species' toxicity sensitivity to species of interest's toxicity sensitivity. This is done to ensure recalculated WQOs are protective of important native species. The Lead Recalculation Report neither discusses nor justifies the use of the chosen surrogate species. Further, the Report fails to compare life cycle stages of surrogates and species of interest. Surrogate species used in the Report were non-native species, which, in general, are usually less susceptible to toxicity than native species. We are concerned that the use of surrogate species could result in lead recalculations which are not protective of natives (several of which are threatened or endangered). Further explanation and analyses is warranted to confirm surrogates used are comparable with species of interest. If surrogate species are utilized, we recommend they be regionally native species.</p>	<p>The Lead Recalculation Report justified the use of surrogate species because there were no data in the internal USEPA draft lead toxicity dataset for the four species of interest in the Los Angeles River watershed.</p> <p>Regional Board staff disagrees that when selecting surrogate species, the taxonomic classification should be limited to the same genus. There are no specific USEPA guidelines for selecting an appropriate surrogate species as part of the recalculation procedure. The Endangered Species Act document, "Use of Surrogate Species in Assessing Contaminant Risk to Endangered and Threatened Fishes" (USEPA, 1995), recommends using Fathead minnow as a surrogate for warm water fishes, which the study did, along with other fishes in the same family, for the Sana Ana speckled dace.</p>

**Response to Comments on Proposed Site-Specific Water-Effect Ratios for Copper and Recalculated Lead Objectives in the Los Angeles River Watershed and Revised TMDL for Metals in the Los Angeles River and Tributaries**  
**Comment Deadline: March 16, 2015**

<b>Comment Number</b>	<b>Comment Summary</b>	<b>Response</b>
	<p>At a minimum, when selecting surrogate species, the taxonomic classification should be limited to the same genus. USEPA methods, used for lead recalculation rely solely upon genus for recalculation. However, of the surrogate species used in the recalculation, only one is of the same genus, while the others are of the same class, tribe, and family. There was no justification given in the Report for how species of the same family, class, and tribe relate in their sensitivity to lead. Furthermore, it is unclear if the California Department of Fish and Wildlife was consulted on the use of non-native surrogates for California species of concern and threatened and endangered species. The approach here lacks the appropriate level of caution. The Tentative Amendment unjustifiably relies on insufficient data for establishing a SSO and should be rejected.</p>	<p>The chosen surrogate species were used because they were the most closely related to the four species of interest in the Los Angeles River watershed. Of the surrogate species used in the Report, one was of the same genus (Bonytail for Arroyo chub), one was of the same tribe (Razorback sucker for Sana Ana sucker), four were of the same family (Fathead minnow and others for Sana Ana speckled dace), and one was from the same order (Marbled salamander for Coast Range newt).</p> <p>The Marbled salamander and Coast Range newt are the least closely related surrogate and species of interest, and the sensitivity of their life cycle stages is summarized here. Both of these species are of the class Amphibian and the order Caudata. Both have similar life history characteristics in that they both undergo metamorphosis from a larval aquatic life-stage to an adult aquatic-dependent life stage. The toxicity testing of the Marbled salamander in the internal USEPA draft dataset included embryo-larval bioassays (Birge et al., 1978). According to Birge et al., 2000, the testing of embryo-larval life stages provides a “multitude of chemical-receptor sites associated with all stages of the development processes such as genetically regulated patterns of cell proliferation, cell differentiation, and organogenesis that occur during embryonic development and metamorphosis.”</p> <p>It should be noted that the four most sensitive species in the internal USEPA draft dataset used for the lead recalculation are aquatic invertebrates, while the four</p>

**Response to Comments on Proposed Site-Specific Water-Effect Ratios for Copper and Recalculated Lead Objectives in the Los Angeles River Watershed and Revised TMDL for Metals in the Los Angeles River and Tributaries**  
**Comment Deadline: March 16, 2015**

<b>Comment Number</b>	<b>Comment Summary</b>	<b>Response</b>
		species of interest in the Los Angeles River watershed are vertebrates, which are less sensitive to lead than invertebrates.
2.7	<p>Changing a water quality threshold is a very serious action and should be approached cautiously. Since SSOs may allow for higher concentrations of metals than what the California Toxic Rule qualifies as toxic to freshwater aquatic life there are major implications of their application. Moreover, if SSOs are developed using inappropriate methods, data, and reasoning, TMDLs will prove ineffective in addressing water impairments. Almost all of Los Angeles' waterbodies are impaired. It is critical that the region work to improve water quality in these waterbodies to protect their many beneficial uses. The Tentative Amendment would dramatically alter one of the most important TMDLs in Los Angeles County. It is imperative that sound science and analysis support any changes to regional WQOs. We urge the Regional Board to address our above comments and seriously reconsider the Tentative Amendment. We believe it is premature to move forward with adopting SSOs for metals in the Los Angeles River Watershed at this time as there are clear data gaps and unjustified findings in the Copper WER and Lead Recalculation Reports. We are also concerned that moving forward with faulty SSOs for metals in the Los Angeles River Watershed will set harmful precedent for the consideration of future SSOs.</p>	<p>The proposed site-specific WERs and recalculated lead objectives are based on studies that were conducted according to a work plan that was approved by the Executive Officer after revisions were made in response to comments from the Regional Board, stakeholders, and the TAC. When providing comments on the draft work plan and ultimately approving the final work plan, the Executive Officer considered direction provided by the Regional Board regarding the scientific rigor required for development and application of WERs. The work plan was implemented under the supervision of Regional Board staff and the TAC to ensure that the sampling and analysis followed all applicable guidelines and that any resulting WERs or recalculated criteria were protective of the most sensitive beneficial uses of the Los Angeles River and tributaries.</p> <p>The Regional Board recognizes the proposed amendments constitute significant changes to the copper and lead water quality objectives. As a result, the proposed amendments contain ongoing monitoring to ensure that the revised water quality objectives and TMDL remain protective.</p> <p>The proposed amendments were submitted for independent scientific peer review. The peer reviewers found that the proposed revisions were scientifically defensible and consistent with USEPA guidelines.</p>

**Response to Comments on Proposed Site-Specific Water-Effect Ratios for Copper and Recalculated Lead Objectives in the Los Angeles River Watershed and Revised TMDL for Metals in the Los Angeles River and Tributaries**  
**Comment Deadline: March 16, 2015**

<b>Comment Number</b>	<b>Comment Summary</b>	<b>Response</b>
3.1 to 31.1	<p>The City appreciates the Regional Board’s consideration and adoption of the proposed amendments with the incorporation of the detailed technical comments provided by the Los Angeles River Watershed Metals TMDL Steering Committee.</p> <p>The City joined with over 30 other cities, the County of Los Angeles, and the California Department of Transportation over seven years ago to identify special studies to improve our understanding the watershed and support implementation efforts to reduce the effects of urban runoff on water quality. As part of those efforts, the studies that form the basis of the proposed amendments were identified as an appropriate step in ensuring the latest science specific to our watershed is applied.</p> <p>Based on the available data, we are concerned that we will not be able to consistently meet the interim and final TMDL limits in our MS4 Permit at this time. However, the results of the studies demonstrate that the current TMDL targets for copper and lead can be revised without adversely affecting the beneficial uses. The revised targets will still be as protective as intended by the TMDL. The development of information to support this determination occurred through a thorough scientific review process that included Regional Board staff and an independent Technical Advisory Committee. The copper WER and lead recalculation studies followed established USEPA methods and were applied as intended when the California Toxics Rule was promulgated.</p>	Comment noted.
3.2, 5.2, 7.2, 8.2, 14.2, 18.2, 23.2, 27.2, 28.2	A significant number of the watershed’s communities and census tracts are identified by the State of California as communities with an annual Median Household Income (MHI) that is less than 80% of the Statewide MHI. This includes a portion of our community. As such, it is important that our limited resources are used as effectively as possible. By	Comment noted.

**Response to Comments on Proposed Site-Specific Water-Effect Ratios for Copper and Recalculated Lead Objectives in the Los Angeles River Watershed and Revised TMDL for Metals in the Los Angeles River and Tributaries**  
**Comment Deadline: March 16, 2015**

<b>Comment Number</b>	<b>Comment Summary</b>	<b>Response</b>
	<p>adopting the appropriately developed site-specific objectives and corresponding changes to the TMDL, the Regional Board helps protect our financially challenged communities from the implementation of an unnecessary level of control measures. This in turn allows us to focus on other issues in the watershed, such as the Los Angeles River Bacteria TMDL and the reduction of or capture and beneficial reuse of urban runoff.</p>	
32.1 and 33.1	<p>Two copper WER sampling sites were established in the Burbank Western Channel (BWC), one site upstream of and one site downstream of the Burbank Water Reclamation Plant (BWRP), to evaluate the difference in waterbody conditions with and without the influence of tertiary treated wastewater. The results of the study indicated that separate copper WERs (5.44 and 4.75 upstream and downstream of the BWRP, respectively) are appropriate. However, only the downstream WER is proposed to be applied to the entirety of the BWC. This approach is inconsistent with the original TMDL, which acknowledged different conditions upstream and downstream of the BWRP by establishing different numeric targets (WER * 26 ug/L and WER * 19 ug/L upstream and downstream of the BWRP, respectively). Chapter 3 should be revised to note different WERs for BWC upstream and downstream of the BWRP. Additionally, the TMDL should be revised to incorporate the WER upstream of the BWRP into the TMDL targets, loading capacity, and wasteload allocations sections.</p>	See response to comment 1.3.
32.2 to 34.2	<p>Wastewater treatment is a complex biological process where the system is designed to remove multiple pollutants, and adjustments made to control one pollutant can adversely impact the removal of others. In addition, influent wastewater characteristics which can affect effluent quality are subject to change due to water conservation, drought conditions, regional</p>	<p>The footnote is written to allow a broad array of options for ensuring that effluent concentrations do not exceed the level of water quality that can be reliably maintained by the facility's applicable treatment technologies. The additional language proposed by the commenter to be consistent with the</p>

**Response to Comments on Proposed Site-Specific Water-Effect Ratios for Copper and Recalculated Lead Objectives in the Los Angeles River Watershed and Revised TMDL for Metals in the Los Angeles River and Tributaries**  
**Comment Deadline: March 16, 2015**

Comment Number	Comment Summary	Response
	<p>population changes, and regional industrial discharges. Additional changes to influent characteristics are likely as WRPs further accept dry weather urban runoff and first flush stormwater to support both beneficial use protection and the enhancement of recycled water opportunities. SSOs provide a mechanism to operate WRPs to maximize pollutant removal while still maintaining and protecting beneficial uses. For the aforementioned reasons and for consistency in how the TMDLs are incorporated into the WRPs' permits, the revised language is appropriate. However, several modifications are requested to further improve the consistency with the LA River Nutrients TMDL footnote as follows:</p> <p>TMDL BPA Pgs. 8, 9, and 11: Regardless of the WER <u>and WER-adjusted allocations</u>, for discharges regulated under this TMDL with concentrations below WER-adjusted allocations, effluent limitations shall ensure that effluent concentrations do not exceed the levels of water quality that can be reliably maintained by the facility's applicable treatment technologies existing at the time of permit issuance, reissuance, or modification unless anti-backsliding requirements in Clean Water Act section 402(o) and anti-degradation requirements are met. <u>When developing effluent limitations in these circumstances, consideration shall include, but is not limited to, existing and projected facility flows for the permit term and the corresponding effect on the facility's capability to reduce copper concentrations. It is not the intent for these performance based limits to have the effect of de-rating Water Reclamation Plants that are operating below their permitted design capacities.</u> Permit compliance with anti-degradation and anti-backsliding requirements shall be documented in permit fact sheets.</p>	<p>Los Angeles River Nitrogen Compounds and Related Effects TMDL is not applicable for metals treatment at wastewater treatment facilities because metals removal is not dependent on facility flows.</p>

**Response to Comments on Proposed Site-Specific Water-Effect Ratios for Copper and Recalculated Lead Objectives in the Los Angeles River Watershed and Revised TMDL for Metals in the Los Angeles River and Tributaries**  
**Comment Deadline: March 16, 2015**

Comment Number	Comment Summary	Response
32.3 to 34.3	<p>For consistency with the WLA tables, a similar revision is needed on Pg 22 where the implementation table is presented. Alternatively, a citation to the previous footnote with similar language could be included:</p> <p><u>TMDL BPA Pg. 22: Effluent limitations based on WER-adjusted WLAs shall ensure that effluent concentrations and mass discharges do not exceed the levels of water quality that can be attained by performance of a facility's treatment technologies existing at the time of permit issuance, reissuance, or modification. Regardless of the WER and WER-adjusted allocations, for discharges regulated under this TMDL with concentrations below WER-adjusted allocations, effluent limitations shall ensure that effluent concentrations do not exceed the levels of water quality that can be reliably maintained by the facility's applicable treatment technologies existing at the time of permit issuance, reissuance, or modification unless anti-backsliding requirements in Clean Water Act section 402(o) and anti-degradation requirements are met. When developing effluent limitations in these circumstances, consideration shall include, but is not limited to, existing and projected facility flows for the permit term and the corresponding effect on the facility's capability to reduce copper concentrations. It is not the intent for these performance based limits to have the effect of de-rating Water Reclamation Plants that are operating below their permitted design capacities. Permit compliance with anti-degradation and anti-backsliding requirements shall be documented in permit fact sheets.</u></p>	See response to comments 32.2 to 34.2.
32.4 to 34.4	Changes to WERs based on future conditions should follow a similar process as is being conducted as part of the proposed amendments considered herein. The following suggested	See response to comment 1.15.

**Response to Comments on Proposed Site-Specific Water-Effect Ratios for Copper and Recalculated Lead Objectives in the Los Angeles River Watershed and Revised TMDL for Metals in the Los Angeles River and Tributaries**  
**Comment Deadline: March 16, 2015**

Comment Number	Comment Summary	Response
	<p>language could provide additional clarity to the process:</p> <p>TMDL BPA Pg. 15: Site-specific WERs may be modified or revert back to a default of 1.0 if data indicate that the WERs are not protective of either the beneficial uses of the waterbody to which they apply or downstream beneficial uses. <u>Any modification to site-specific WERs must be approved through a formal basin planning process.</u></p> <p>TMDL BPA Pg. 20-21: The Regional Board will evaluate the WER-based copper WLAs based on potential changes in the chemical characteristics of the water body that could impact the calculation or application of the WER and will revise the WERs and copper WLAs, if necessary, to ensure protection of beneficial uses. <u>Any modification to site-specific WERs must be approved through a formal basin planning process.</u></p>	
35.1	<p>The Department [of Fish and Wildlife] is not clear about the cumulative (over a period of years) effect of adding additional copper and lead in a river system such as the Los Angeles River. Therefore, the Department would recommend that the document clearly discuss the cumulative effects of potentially adding higher concentrations of copper and lead and how this may affect wildlife over time</p>	<p>The proposed revisions to the water quality objectives and the TMDL will not result in adding copper and lead to the Los Angeles River system. The proposed revisions also will not require any actions that would result in any new discharge to surface waters.</p> <p>Additionally, the USEPA methodologies for copper WER development and lead recalculation used to derive the objectives are designed to ensure that the revised objectives will be as protective of aquatic life as the national criteria. Therefore, the proposed amendment will not result in deterioration of existing fish or wildlife habitat.</p> <p>The revised TMDL also requires permittees to comply with anti-degradation and anti-backsliding requirements. Permittees must track trends in water</p>



**Response to Comments on Proposed Site-Specific Water-Effect Ratios for Copper and Recalculated Lead Objectives in the Los Angeles River Watershed and Revised TMDL for Metals in the Los Angeles River and Tributaries**  
**Comment Deadline: March 16, 2015**

<b>Comment Number</b>	<b>Comment Summary</b>	<b>Response</b>
		<p>quality, and where increasing trends are observed, evaluate the cause and identify additional watershed control measures to arrest the increasing trends. It should be noted that discharges of copper and lead are on the decline and that trend is expected to continue as a result of the ban on leaded gasoline and implementation of the legislation to reduce copper in brake pads. Furthermore, BMPs that will be implemented in the watershed to address zinc and bacteria TMDLs, which are not affected by the proposed amendments, will also ensure that copper and lead levels continue to decrease.</p> <p>Any potential downstream effects in the sediment will be controlled through implementation of requirements in the Harbors Toxics TMDL, which includes sediment targets for lead and copper. Note that for lead, there is no downstream sediment impairment in the LA River Estuary. The Harbors Toxics TMDL requires that the existing concentration of lead in the estuary bed sediment, which is already below the numeric target required to protect against direct impacts to the benthic community, is not exceeded. Under the Harbors TMDL, responsible parties identified in the Los Angeles River Metals TMDLs must conduct water and sediment monitoring above the Los Angeles River Estuary to ensure no recontamination of bed sediment in the Estuary and, if necessary implement additional actions to meet the targets.</p> <p>Finally, the reaches and tributaries of the Los Angeles River watershed will be monitored, including the estuary, and if monitoring shows that the beneficial</p>

**Response to Comments on Proposed Site-Specific Water-Effect Ratios for Copper and Recalculated Lead Objectives in the Los Angeles River Watershed and Revised TMDL for Metals in the Los Angeles River and Tributaries**  
**Comment Deadline: March 16, 2015**

<b>Comment Number</b>	<b>Comment Summary</b>	<b>Response</b>
		uses are not being fully protected, then the WER and recalculated lead objectives will be re-evaluated.
36.1	TECS Environmental is pleased to submit comments on behalf of its municipal clients (Carson, Compton, Gardena, Irwindale, Lawndale, San Fernando, South El Monte, and West Covina.) regarding the proposed basin plan amendment affecting the Los Angeles River Metals TMDL. My clients will only support the proposed basin plan amendment if: (1) the MS4 Permit is revised to prevent a violation in the event of a single, non-de minimis annual exceedance for the ambient (dry weather) standard; (2) the wet weather standard is eliminated; and (3) Reach 2 of the Rio Hondo be removed from the Los Angeles River Metals TMDL. It is also recommended that the metals TMDL for the Los Angeles River be reevaluated for its ability to protect fish as a beneficial. NGOs such as FOLAR and SCCWRP have concluded that the metals associated with the Los Angeles River Metals TMDL (LAR-MTMDL) do not pose a toxicity risk to fish. In light of this, the Regional Board should consider de-listing the metals from the 303(d) for the Los Angeles and San Gabriel Rivers.	The proposed revisions to the Los Angeles River Metals TMDL are limited to changes pertaining to the application of the results of the Copper WER Study and Lead Recalculation Report. The requested changes are outside the scope of the TMDL reconsideration.

Response to Comments on Proposed Site-Specific Water-Effect Ratios for Copper and Recalculated Lead Objectives in the Los Angeles River Watershed and Revised TMDL for Metals in the Los Angeles River and Tributaries  
Comment Deadline: March 16, 2015

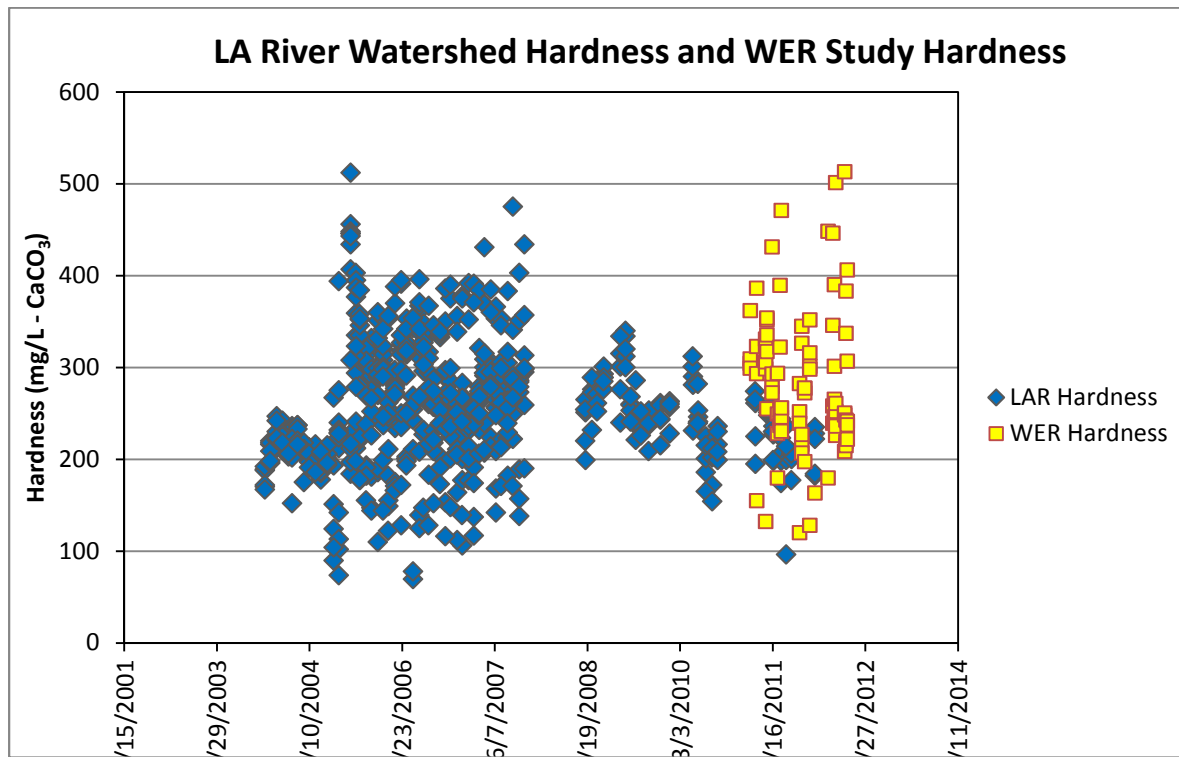


Figure 1. Dry Weather LA River Watershed and Copper WER Study Hardness Data Points Presented in Section 6.5

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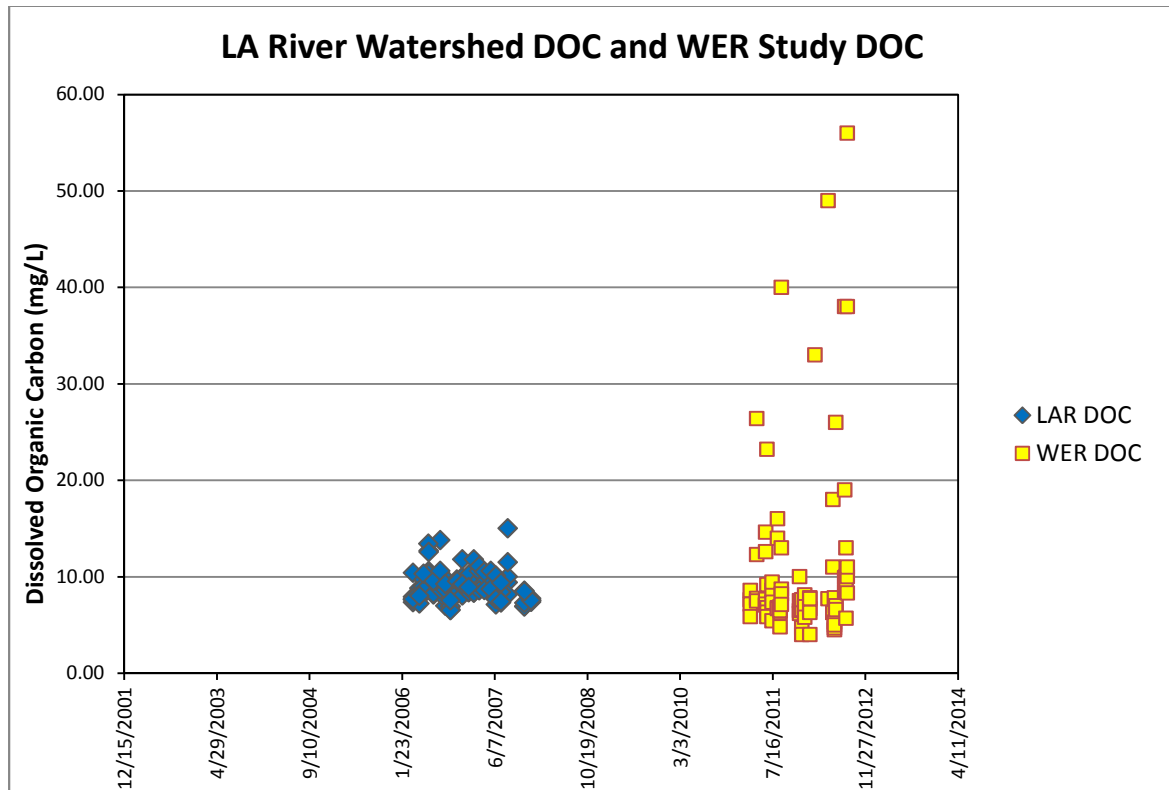
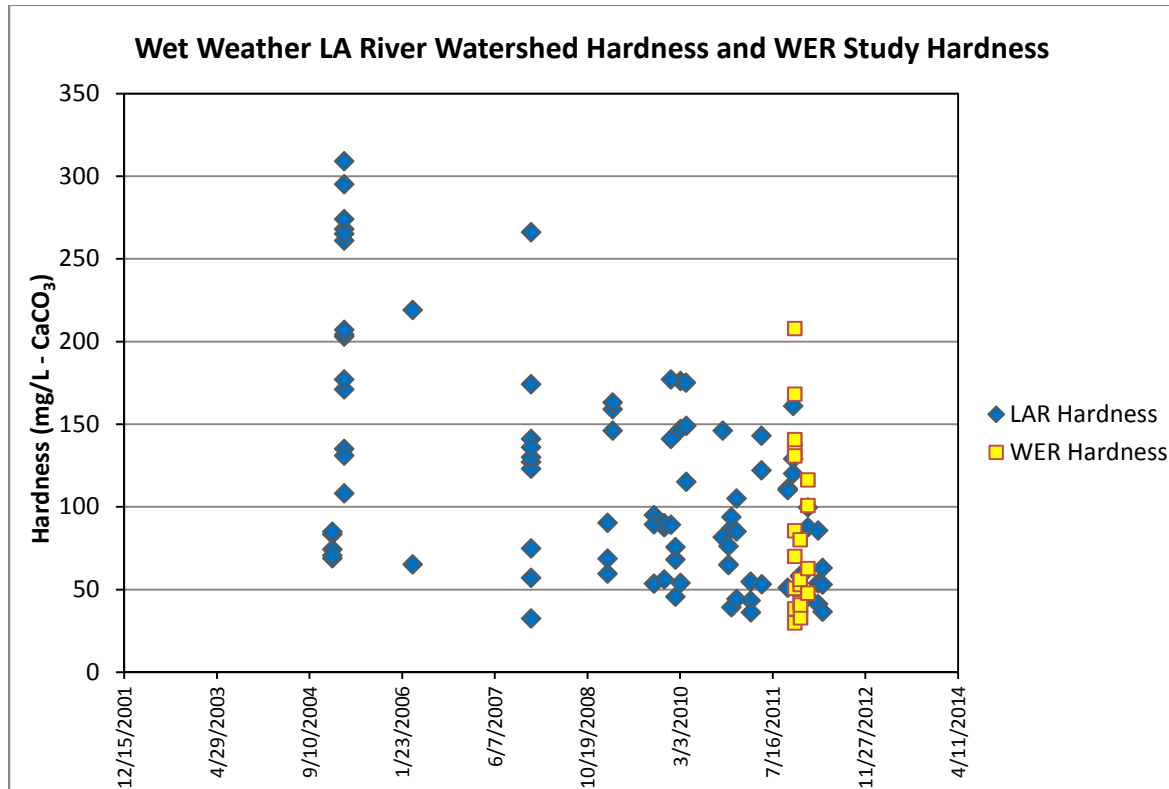


Figure 2. Dry Weather LA River Watershed and Copper WER Study DOC Data Points Presented in Section 6.5

**Response to Comments on Proposed Site-Specific Water-Effect Ratios for Copper and Recalculated Lead Objectives in the Los Angeles River Watershed and Revised TMDL for Metals in the Los Angeles River and Tributaries**  
**Comment Deadline: March 16, 2015**



**Figure 3. Wet Weather LA River Watershed and Copper WER Study Hardness Data Points Presented in Section 6.5**