CITY OF LOS ANGELES
CALIFORNIA

BOARD OF PUBLIC WORKS MEMBERS

KEVIN JAMES
PRESIDENT

MONICA RODRIGUEZ
VICE PRESIDENT

MATT SZABO
PRESIDENT PRO TEMPORE

MICHAEL R. DAVIS
COMMISSIONER

BARBARA ROMERO
COMMISSIONER

ERIC GARCETTI
MAYOR

BUREAU OF SANITATION

ENRIQUE C. ZALDIVAR
DIRECTOR

TRACI J. MINAMIDE
CHIEF OPERATING OFFICER

VAROUJ S. ABKIAN
ADEL H. HAGEKHALIL
ALEXANDER E. HELOU
ASSISTANT DIRECTORS

NEIL M. GUGLIELMO
CHIEF FINANCIAL OFFICER

1149 SOUTH BROADWAY, 9TH FLOOR
LOS ANGELES, CA 90015
TEL: (213) 485-2210
FAX: (213) 485-2979
WWW.LACITYSAN.ORG

November 14, 2013

Via Email: losangeles@waterboards.ca.gov

Mr. Sam Unger
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street
Los Angeles, CA 90013

ATTN: Man Voong, TMDL Unit

Dear Mr. Unger

TECHNICAL COMMENTS ON THE DRAFT BALLONA CREEK METALS TMDL

The City of Los Angeles, Bureau of Sanitation (Bureau) appreciates the opportunity to provide technical comments on the proposed amendment to the Water Quality Control Plan for the Los Angeles Region (Basin Plan) to revise the Total Maximum Daily Load (TMDL) for Ballona Creek (BC) Metals (Metals TMDL). The Bureau is providing the following comment letter to highlight a few key technical issues. Additional detailed technical comments are also provided in the associated attachment.

SUMMARY OF KEY TECHNICAL ISSUES

- Consistent with the State Implementation Policy, dry weather translators should be based on the median translator.
- Site-specific translators should be calculated from data that reflect current conditions within Ballona Creek.
- The percent reduction interim compliance milestones should relate to "baseline" conditions rather than "current" conditions.
- Additional compliance language should be included for consistency.

This letter incorporates by reference Attachment 1, which provides additional Bureau technical comments, proposed revisions, and further details on the above and other issues.

The Bureau has the following specific technical comments related to the summary of key issues above:

1. Consistent with the State Implementation Policy, Dry Weather Translators Should Be Based on the Median Translator

The 2005 California State Policy for the Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP) dictates how a translator (i.e., conversion factor) is derived for a location based on the set of ratios calculated:

> "The translator shall be derived using the median of data for translation of chronic criteria and the 90th percentile of observed data for translation of acute criteria."

The TMDL currently uses the 90th percentile of the observed data for both the chronic (dry weather) and acute (wet weather) translators. Given that the chronic criteria were the basis for the dry-weather numeric targets, State guidance indicates the conversion factor shall be derived using the median of data for translation of the dry-weather numeric targets, not the 90th percentile.

Requested Actions: Revise the calculations for the dry weather translators to be based on the median of the data for consistency with State guidance.

2. Site-specific Translators Should Be Calculated from Data that Reflect Current Conditions within Ballona Creek

Based on an analysis of the data used to calculate data, it is recommended that only data from October 2005-2012 be used in calculating the dry and wet weather translators for the following two reasons: 1) the more recent data are more reliable and 2) the more recent data are representative of current conditions.

As a first step in calculating translators, all data are reviewed and those data that are not acceptable to calculate translators are excluded. The Regional Board staff excluded three categories of data: 1) either the dissolved or total metal result was reported as less than the reporting limit; 2) both the dissolved and total metal result was reported as less than the reporting limit, and 3) the dissolved metal result was reported as greater than the total metal result. The remaining data are considered usable for calculating translators. As shown in **Table 1**, there are significant differences in the percent of usable data for the 1995–2005 period (early) and the 2005–2012 period (recent), with the more recent data having higher percentages of usable data. The largest differences between the early and recent datasets were in the high percentages of data below reporting limits for lead and zinc. The high percentages of data below reporting limits for lead and zinc are indicative of poor overall data quality which calls into question the validity of the early data for the purpose of calculating representative translators. This is not unexpected as reporting limits, have improved significantly since 1996 (the first year of data considered in the translator calculations). For example, the reporting limits for copper, lead, and zinc have decreased from 5 µg/L to 0.5 µg/L for copper and lead, and 50 µg/L to 10 µg/L for zinc. These

ten-fold and five-fold decreases in reporting limits would be similarly reflected in decreases in detection levels. The high rates of exclusions significantly bias the distribution of translator results for these data sets.

Table 1. Comparison of Percentage of Data Excluded between Early Data Set and Recent Data Set

	Dry Weather		Wet Weather	
	Early	**Recent**	**Early**	**Recent**
Copper	6%	0%	13%	0%
Lead	79%	3%	95%	24%
Zinc	49%	0%	78%	0%

The early and recent data sets were also tested for differences. The recent data period had significantly lower mean translator values ($p<0.05$) for wet and dry events for lead and zinc, and for wet events for copper. These differences are also reflected in the 90th percentile values used as final translators. The differences in translator data are illustrated with box plots for all three metals (**Figure 1**).

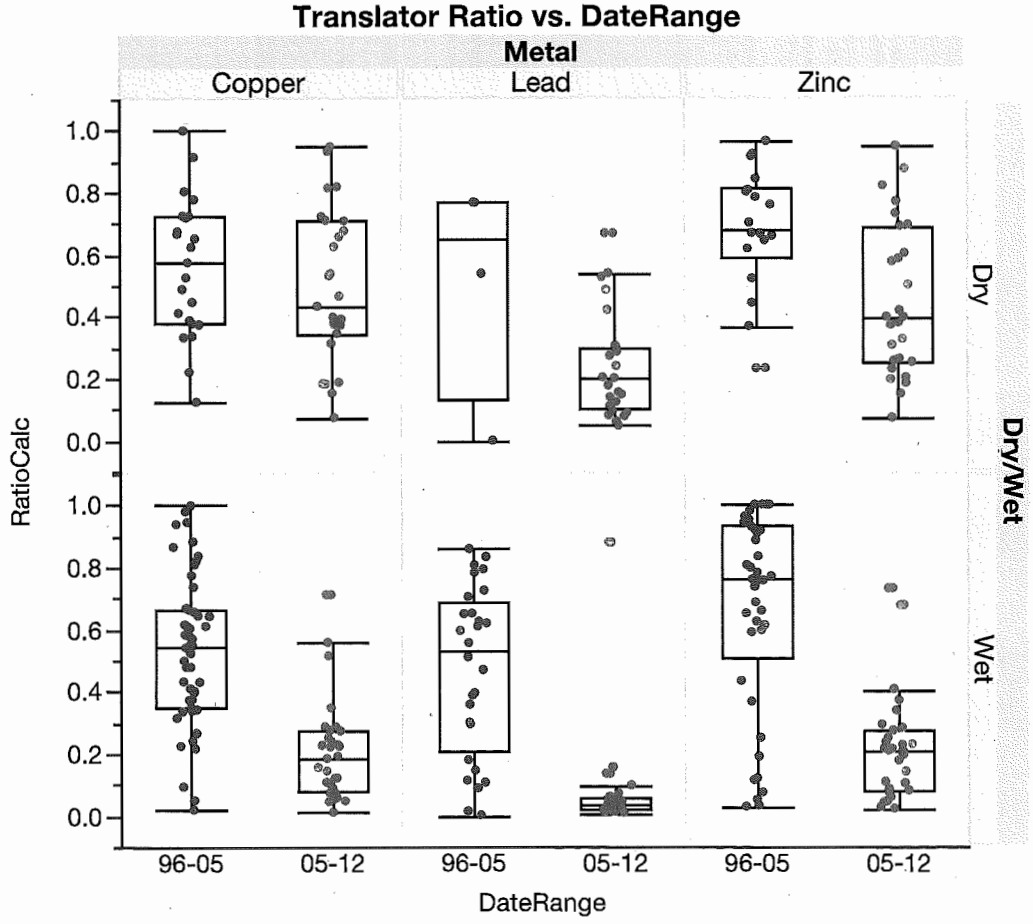

Figure 1. Differences in Translators Observed between Early and Recent Data Sets

The recent data set is representative of current conditions and is clearly of more reliable quality for calculating translators than the early data. Additionally, the CTR criteria of interest are established 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. The number of exceedances observed when comparing dissolved metals data against the dissolved metals target is the criteria which best demonstrates whether or not the water body is truly impaired by each metal. However, it is understood that the Environmental Protection Agency's National Pollutant Discharge Elimination System regulations require that limits for metals in permits be stated as total recoverable 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 (e.g., dissolved, specific valence, or total) when required to carry out provisions of the Clean Water Act. As such, the BC Metals TMDL uses translators to convert the dissolved metals target to a total metals target.

Table 2 and **Table 3** present a comparison of the available data to TMDL targets using the proposed TMDL translators and the translators based on the more recent data set, respectively. As shown in **Table 2** and **Table 3**, the number of exceedances observed when comparing dissolved data against a dissolved target is generally significantly lower than the number of exceedances observed when comparing total metals data against a total target. Furthermore, there are significantly more exceedances when using the proposed translator (**Table 2**), as compared to a translator based on the more recent data set (**Table 3**). Thus, the choice of data in selecting site-specific translators is important.

Table 2. Summary of Wet Exceedances Using New Target and Translator

	Copper		Lead		Zinc	
	Dissolved	Total	Dissolved	Total	Dissolved	Total
Number of Samples	81	81	81	81	81	81
Number of Exceedances	22	61	1	8	6	43
% Exceedance	27%	75%	1%	10%	7%	53%

Table 3. Summary of Wet Exceedances Using New Target and Translator from Recent Data Set

	Copper		Lead		Zinc	
	Dissolved	Total	Dissolved	Total	Dissolved	Total
Number of Samples	81	81	81	81	81	81
Number of Exceedances	22	37	1	1	6	25
% Exceedance	27%	46%	1%	1%	7%	31%

Requested Actions: Use only the recent data set (October 2005-2012) when calculating wet and dry weather translators for copper, lead, and zinc and revise the dry-weather and wet-weather numeric targets as follows:

Table 4. Dry-weather numeric targets (µg total recoverable metals/L)

	Conversion Factor	Total Recoverable
Copper	~~0.816~~ 0.441	~~35.56~~ 65.82
Lead	~~0.551~~ 0.200	~~19.65~~ 54.15
Zinc	~~0.849~~ 0.387	~~446.55~~ 978.96

Table 5. Wet-weather numeric targets (µg total recoverable metals/L)

	Conversion Factor	Total Recoverable
Copper	~~0.814~~ 0.382	~~13.70~~ 29.21
Lead	~~0.677~~ 0.086	~~76.75~~ 602.73
Zinc	~~0.945~~ 0.380	~~104.77~~ 260.59

If translators based on the more recent data set are not included in the TMDL, incorporate language into the Implementation section and Implementation Schedule (Table 7-12.2) allowing compliance with the interim and final milestones to be demonstrated by meeting the dissolved CTR criteria instream. This step will ensure that if the Permittees' actions result in attainment of the CTR criteria (which are dissolved criteria) they will not be out of compliance because of the translator.

3. **THE PERCENT REDUCTION INTERIM COMPLIANCE MILESTONES SHOULD RELATE TO "BASELINE" CONDITIONS RATHER THAN "CURRENT" CONDITIONS**

The Bureau appreciates the inclusion of an approach that allows for compliance with interim allocations to be based on load reduction in addition to the percent area approach. The addition of this approach is important as the purpose of the TMDL is to reduce the loading of metals to Ballona Creek, and BMPs are selected and located within the watershed based on their efficiency and effectiveness at reducing pollutant loadings. However, it is requested that the term "current loading" be replaced with "baseline loading". This would help to avoid confusion on the intent of the load reduction approach. The goal of the TMDL is to reduce loadings from the "baseline" that existed when the impairment was identified to meet the TMDL targets and attain the beneficial uses.

Requested Action: Replace "current loading" with "baseline loading" throughout the BPA and Staff Report. Comments #10 and #11 of Attachment 1 present locations within the BPA that are requested for revision.

4. **ADDITIONAL COMPLIANCE LANGUAGE SHOULD BE INCLUDED FOR CONSISTENCY**

Language Should Indicate Multiple Methods for Demonstrating Compliance and Be Consistent throughout the BPA

The Ballona Creek Estuary Toxic Pollutants TMDL included multiple methods for demonstrating compliance with interim and final WLAs. Similar methods should be included for the Metals TMDL. In addition, compliance with the interim and final milestones in the Implementation Schedule (Table 7-12.2) should provide mechanisms for compliance that are consistent with the language on page 12 of the BPA.

BMP Based Compliance Should Apply to Dry and Wet Weather

The ability to demonstrate compliance via the development of a watershed management program that provides a quantitative demonstration that control measures and BMPs will achieve WLAs per the TMDL schedule and is approved by the Executive Officer should be applicable to both wet and dry weather 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.
Requested Action: Incorporate strikeout-underline language found in comments #8, #9, #14, and #15 of Attachment 1 into the Implementation section of the BPA and the BPA Implementation Schedule (Table 7-12.2).

The Bureau is committed to improving and protecting the local environment as evidenced by the leadership role the City has taken in implementing TMDLs and in proactively implementing clean water projects, such as the Echo Park Lake Ecosystem Rehabilitation Project which was initiated prior to a TMDL, via the voter approved Proposition O ballot measure. These investments in the future are done in partnership with your agency to achieve maximum return in local environmental programs and infrastructure.

Thank you for your consideration of these technical comments. If there any questions, please feel free to call Donna Toy-Chen at (213) 485-3928.

Sincerely,

for ENRIQUE C. ZALDIVAR, Director
Bureau of Sanitation

ECZ:AH:SK:DC:SM
WPDCR9073

Attachments:

Attachment 1 – Detailed Technical Comments Matrix on Revised Ballona Creek Metals TMDL

cc: Deborah J. Smith, Regional Water Quality Control Board – Los Angeles Region
Renee Purdy, California Regional Water Quality Control Board – Los Angeles Region
L.B. Nye, California Regional Water Quality Control Board – Los Angeles Region
Man Voong, California Regional Water Quality Control Board – Los Angeles Region
Adel Hagekhalil, Bureau of Sanitation/EXEC
Shahram Kharaghani, Bureau of Sanitation/WPD
Donna Chen, Bureau of Sanitation/WPD
Mas Dojiri, Bureau of Sanitation/EMD
Shokoufe Marashi, Bureau of Sanitation/WPD

Attachment 1: Ballona Creek Metals TMDL Revisions
Technical Comment Matrix

<table>
<tr><th>Comment Number</th><th>Document Reference (Doc, Section, Pg.#)</th><th>Topic</th><th>Comment</th></tr>
<tr><td>1</td><td>BPA
Problem Statement, Pg. 2</td><td>Exclusion of selenium from Metals TMDL</td><td>The Bureau greatly appreciates the revisions to the Metals TMDL based on recent data that indicate that selenium is not present at levels exceeding existing targets and is not impairing the designated beneficial uses.</td></tr>
<tr><td>2</td><td>BPA
Numeric Target, Pg. 2</td><td>The WER term should be included for consistency with the CTR and LA River Metals TMDL.</td><td>Consistent with the LA River Metals TMDL Amendment adopted in 2010, please include the water effect ratio (WER) directly into the target, loading capacity, and allocations. Similar to the LA River Metals TMDL, a footnote stating that WER(s) have a default value of 1.0 unless site-specific WER(s) are approved would be included at this time as no WER has been conducted or approved.</td></tr>
<tr><td>3</td><td>BPA
Numeric Target, Pg. 2</td><td>Dry weather translator should be based on median consistent with the State Implementation Policy</td><td>The 2005 California State Policy for the Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP) dictates how a translator (i.e., conversion factor) is derived for a location based on the set of ratios calculated:

“The translator shall be derived using the median of data for translation of chronic criteria and the 90th percentile of observed data for translation of acute criteria.”

The TMDL currently uses the 90th percentile of the observed data for both the chronic (dry weather) and acute (wet weather) translators. Given that the chronic criteria were the basis for the dry-weather numeric targets, State guidance indicates that the conversion factor shall be derived using the <u>median</u> of data for translation of the dry-weather numeric targets, not the 90th percentile. Please revise the calculations for the dry weather translators to be consistent with State guidance.</td></tr>
<tr><td>4</td><td>BPA
Numeric Target, Pg. 3</td><td>Apparent error in calculation of dissolved numeric targets</td><td>The dissolved numeric targets for copper, lead, and zinc appear to have been incorrectly calculated. It appears as if the dissolved targets were calculated by using the site-specific conversion factor as opposed to the California Toxics Rule (CTR) conversion factor when the CTR criteria was being converted from a criteria expressed as total metals to a criteria expressed as dissolved metals. Site-specific conversion factors are used to convert the dissolved CTR criteria to total criteria not to revise the dissolved CTR criteria. As such, the following changes are requested:

Table 1. Dry-weather numeric targets (µg/L)
<table><tr><th></th><th>Dissolved</th></tr><tr><td>Copper</td><td><s>24.68</s> <u>29.03</u></td></tr><tr><td>Lead</td><td><s>10.11</s> <u>10.83</u></td></tr><tr><td>Zinc</td><td><s>326.50</s> <u>379.16</u></td></tr></table></td></tr>
</table>

<table>
<tr><th>Comment Number</th><th>Document Reference (Doc, Section, Pg.#)</th><th>Topic</th><th>Comment</th></tr>
<tr><td></td><td></td><td></td><td>Table 2. Wet-weather numeric targets (µg/L)
<table><tr><th></th><th>Dissolved</th></tr><tr><td>Copper</td><td><s>9.45</s> 11.15</td></tr><tr><td>Lead</td><td><s>42.96</s> 52.00</td></tr><tr><td>Zinc</td><td><s>95.74</s> 99.04</td></tr></table></td></tr>
<tr><td>5</td><td>BPA
Numeric Target, Implementation, and Schedule
Pgs. 2, 3, 12, 17 and 18</td><td>Site-specific translators should be calculated from data that reflect current conditions</td><td>Based on an analysis of the data used to calculate data, it is recommended that only data from October 2005-2012 be used in calculating the dry and wet weather translators for the following two reasons: 1) the more recent data are more reliable and 2) the more recent data are representative of current conditions. As a first step in calculating translators, all data are reviewed and those data that are not acceptable to calculate translators are excluded. The Regional Board staff excluded three categories of data: 1) either the dissolved or total metal result was reported as less than the reporting limit, 2) both the dissolved and total metal result was reported as less than the reporting limit, and 3) the dissolved metal result was reported as greater than the total metal result. The remaining data are considered usable for calculating translators. As shown in Table 3, there are significant differences in the percent of usable data for the 1995–2005 period (early) and the 2005–2012 period (recent), with the more recent data having higher percentages of usable data. The largest differences between the early and recent datasets were in the high percentages of data below reporting limits for lead and zinc. The high percentages of data below reporting limits for lead and zinc are indicative of poor overall data quality which calls into question the validity of the early data for the purpose of calculating representative translators. This is not unexpected as reporting limits, have improved significantly since 1996 (the first year of data considered in the translator calculations). For example, the reporting limits for copper, lead, and zinc have decreased from 5 µg/L to 0.5 µg/L for copper and lead, and 50 µg/L to 10 µg/L for zinc. These ten-fold and five-fold decreases in reporting limits would be similarly reflected in decreases in detection levels. The high rates of exclusions significantly bias the distribution of translator results for these data sets.

Table 3. Comparison of Percentage of Data Excluded between Early Data Set and Recent Data Set
<table><tr><th></th><th colspan="2">Dry Weather</th><th colspan="2">Wet Weather</th></tr><tr><th></th><th>Early</th><th>Recent</th><th>Early</th><th>Recent</th></tr><tr><td>Copper</td><td>6%</td><td>0%</td><td>13%</td><td>0%</td></tr><tr><td>Lead</td><td>79%</td><td>3%</td><td>95%</td><td>24%</td></tr><tr><td>Zinc</td><td>49%</td><td>0%</td><td>78%</td><td>0%</td></tr></table>The early and recent data sets were also tested for differences. The recent data period had</td></tr>
</table>

Comment Number	Document Reference (Doc, Section, Pg.#)	Topic	Comment
			significantly lower mean translator values ($p<0.05$) for wet and dry events for lead and zinc, and for wet events for copper. These differences are also reflected in the 90th percentile values used as final translators. The differences in translator data are illustrated with box plots for all three metals (**Figure 1**).

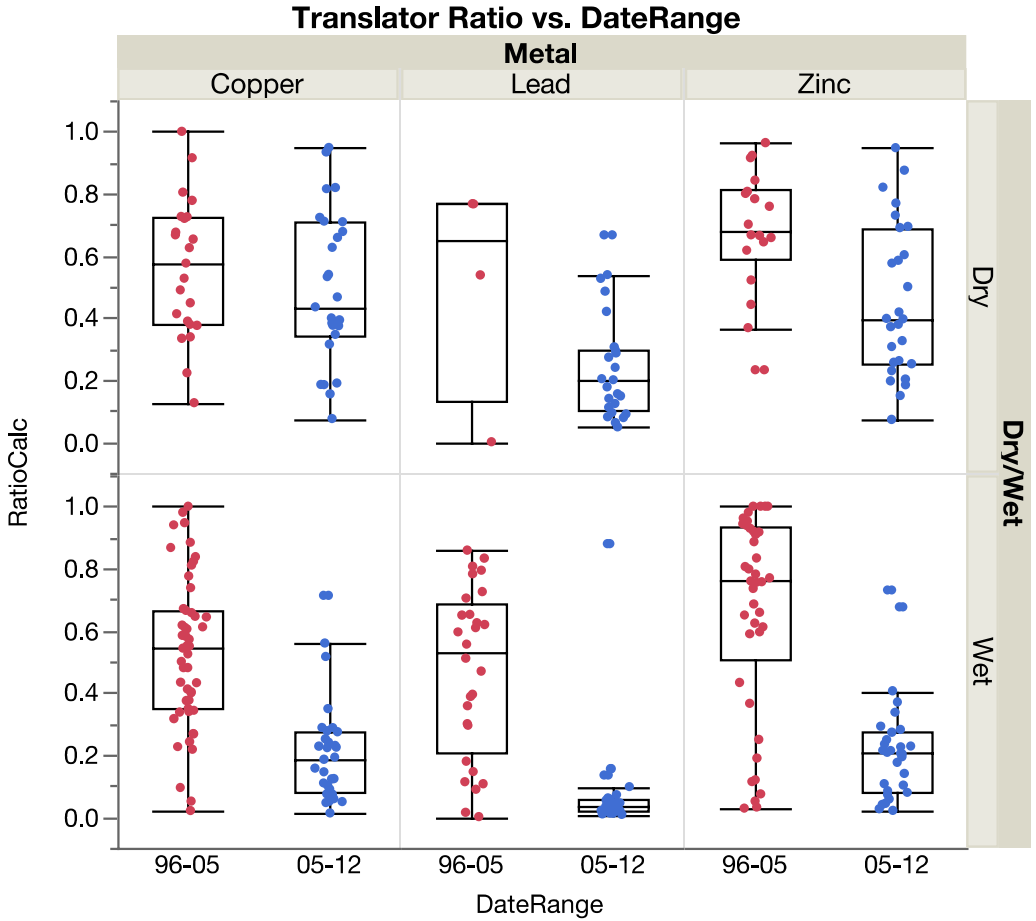

Figure 1. Differences in Translators Observed between Early and Recent Data Sets

The recent data set is representative of current conditions and is clearly of more reliable quality

<table>
<tr><th>Comment Number</th><th>Document Reference (Doc, Section, Pg.#)</th><th>Topic</th><th>Comment</th></tr>
<tr><td></td><td></td><td></td><td>
for calculating translators than the early data. Based on the findings above, it is requested that only the recent data set be used when calculating wet and dry weather translators for copper, lead, and zinc and that the dry-weather and wet-weather numeric targets be revised as follows:

Table 4. Dry-weather numeric targets (µg total recoverable metals/L)
<table>
<tr><th></th><th>Conversion Factor</th><th>Total Recoverable</th></tr>
<tr><td>Copper</td><td><s>0.816</s> 0.441</td><td><s>35.56</s> 65.82</td></tr>
<tr><td>Lead</td><td><s>0.551</s> 0.200</td><td><s>19.65</s> 54.15</td></tr>
<tr><td>Zinc</td><td><s>0.849</s> 0.387</td><td><s>446.55</s> 978.96</td></tr>
</table>
Table 5. Wet-weather numeric targets (µg total recoverable metals/L)
<table>
<tr><th></th><th>Conversion Factor</th><th>Total Recoverable</th></tr>
<tr><td>Copper</td><td><s>0.814</s> 0.382</td><td><s>13.70</s> 29.21</td></tr>
<tr><td>Lead</td><td><s>0.677</s> 0.086</td><td><s>76.75</s> 602.73</td></tr>
<tr><td>Zinc</td><td><s>0.945</s> 0.380</td><td><s>104.77</s> 260.59</td></tr>
</table>
Additionally, the CTR criteria of interest are established 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. The number of exceedances observed when comparing dissolved metals data against the dissolved metals target is the criteria which best demonstrates whether or not the water body is truly impaired by each metal. However, it is understood that EPA's NPDES regulations require that limits for metals in permits be stated as total recoverable 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 (e.g., dissolved, specific valence, or total) when required to carry out provisions of the CWA. As such, the BC Metals TMDL uses translators to convert the dissolved metals target to a total metals target.

Table 6 and Table 7 present a comparison of the available data to TMDL targets using the proposed TMDL translators and the translators presented in Table 5, respectively. As shown in Table 6 and Table 7, the number of exceedances observed when comparing dissolved data against a dissolved target is generally significantly lower than the number of exceedances observed when comparing total metals data against a total target. Furthermore, there are significantly more exceedances when using the proposed translator (Table 6), as compared to a translator based on the more recent data set (Table 7). Thus, the choice of data in selecting
</td></tr>
</table>

<table>
<tr><th>Comment Number</th><th>Document Reference (Doc, Section, Pg.#)</th><th>Topic</th><th>Comment</th></tr>
<tr><td></td><td></td><td></td><td>site-specific translators is important. As such, if the translators presented in Table 4 and Table 5 are not included in the TMDL, it is requested that language be added to the Implementation section and Implementation Schedule (Table 7-12.2) allowing compliance with the interim and final milestones to be demonstrated by meeting the dissolved CTR criteria instream. This step will ensure that if the Permittees' actions result in attainment of the CTR criteria (which is a dissolved criteria) they will not be out of compliance because of the translator.

Table 6. Summary of Wet Exceedances Using New Target and Translator
<table>
<tr><th></th><th colspan="2">Copper</th><th colspan="2">Lead</th><th colspan="2">Zinc</th></tr>
<tr><th></th><th>Dis</th><th>Tot</th><th>Dis</th><th>Tot</th><th>Dis</th><th>Tot</th></tr>
<tr><td>Number of Samples</td><td>81</td><td>81</td><td>81</td><td>81</td><td>81</td><td>81</td></tr>
<tr><td>Number of Exceedances</td><td>22</td><td>61</td><td>1</td><td>8</td><td>6</td><td>43</td></tr>
<tr><td>% Exceedance</td><td>27%</td><td>75%</td><td>1%</td><td>10%</td><td>7%</td><td>53%</td></tr>
</table>
Table 7. Summary of Wet Exceedances Using New Target and Translator from Recent Data Set
<table>
<tr><th></th><th>Copper</th><th></th><th>Lead</th><th></th><th>Zinc</th><th></th></tr>
<tr><th></th><th>Dis</th><th>Tot</th><th>Dis</th><th>Tot</th><th>Dis</th><th>Tot</th></tr>
<tr><td>Number of Samples</td><td>81</td><td>81</td><td>81</td><td>81</td><td>81</td><td>81</td></tr>
<tr><td>Number of Exceedances</td><td>22</td><td>37</td><td>1</td><td>1</td><td>6</td><td>25</td></tr>
<tr><td>% Exceedance</td><td>27%</td><td>46%</td><td>1%</td><td>1%</td><td>7%</td><td>31%</td></tr>
</table></td></tr>
<tr><td>6</td><td>BPA
WLAs, Pg. 6</td><td>Apparent error in calculation of wet-weather storm water WLA</td><td>The Wet-Weather Storm Water WLA for Copper appears to have been incorrectly calculated. As such, the following change is requested:

Table 8. Wet-Weather Storm Water WLAs (total recoverable metals)
<table>
<tr><th></th><th>Waste Load Allocation (grams/day)</th></tr>
<tr><td>Copper</td><td><s>1.136</s> 1.362 x 10^{-5} x Daily storm volume (L)</td></tr>
</table></td></tr>
<tr><td>7</td><td>BPA
Margin of Safety (MOS), Pg. 8</td><td>Use of 90th percentile conversion factor for the translation of dry-weather targets is an inappropriate MOS</td><td>The 2005 SIP dictates how a translator is derived for a location based on the set of ratios calculated:

"The translator shall be derived using the median of data for translation of chronic criteria and the 90th percentile of observed data for translation of acute criteria."</td></tr>
</table>

Comment Number	Document Reference (Doc, Section, Pg.#)	Topic	Comment
			The SIP states that the conversion factor shall be derived using the median of data for translation of the chronic criteria, which in this case are used to establish dry-weather numeric targets. Furthermore, the basis for the SIP translator approach is the USEPA's 1996 Metals Translator Guidance, which allows States to adopt alternative percentiles to address a margin of safety (MOS). In the case of California, the choice regarding the MOS is addressed by the decision in the SIP to use the median for chronic criteria. As a result, use of 90th percentile conversion factor for the translation of dry-weather targets is an inappropriate MOS, and the median should be used and considered to incorporate an appropriate MOS.
8	BPA Implementation, Pg. 12	Additional compliance language should be included for consistency	The BC Toxics TMDL included multiple methods for demonstrating compliance with interim and final WLAs. Similar methods should be included for the Metals TMDL. In addition, as stated in comment #5, if the translators presented in **Table 4** and **Table 5** are not included in the TMDL, it is requested that language allowing MS4 dischargers to demonstrate compliance with the interim and final milestones by meeting the dissolved CTR criteria instream be included. As such, the following revisions are requested: Each municipality and permittee will be required to meet the storm water waste load allocation. MS4 dischargers can demonstrate compliance with the interim and final milestones via one of the following: 1. Interim or final allocations are met consistent with the schedule in Table 7-12.2; or 2. There is no direct or indirect discharge from the Permittee's MS4; or 3. Dissolved or total CTR criteria are met instream; or 4. Flow-weighted concentration from MS4 discharges is less than or equal to CTR criteria, based on a weighted-average using flow rates from all measured outfalls discharging to a compliance point; or, 5. If permittees provide a quantitative demonstration as part of a watershed management program plan that control measures and BMPs will achieve milestones consistent with the schedule in Table 7-12.2, then compliance may be demonstrated by implementation of those control measures and BMPs, subject to Executive Officer approval.
9	BPA Implementation, Pg. 12	BMP based compliance should apply to dry and wet weather conditions	The ability to demonstrate compliance via the development of a watershed management program that provides a quantitative demonstration that control measures and BMPs will achieve WLAs per the TMDL schedule and is approved by the Executive Officer should be applicable to both wet and dry weather WQBELs. Permittees that make a good faith effort to implement measures and BMPs that are expected to result in attainment of the WQBELs should

Comment Number	Document Reference (Doc, Section, Pg.#)	Topic	Comment
			not be found in violation as they adaptively manage their programs consistent with an approved process. Additionally, it appears the incorrect table is referenced in the text. As such, the following changes are requested: If permittees provide a quantitative demonstration as part of a watershed management program plan that control measures and BMPs will achieve ~~wet weather~~ WLAs consistent with the schedule in Table 7-142.2, then compliance with ~~wet weather~~ WQBELs may be demonstrated by implementation of those control measures and BMPs, subject to Executive Officer approval.
10	BPA Implementation, Pg. 12	% reduction should relate to "baseline" conditions rather than "current" conditions	The Bureau appreciates the inclusion of an approach that allows for compliance with interim allocations to be based on load reduction in addition to the percent area approach. The addition of this approach is important as the purpose of the TMDL is to reduce the loading of metals, and BMPs are selected and located within the watershed based on their efficiency and effectiveness at reducing pollutant loadings. However, it is requested that the term "current loading" be replaced with "baseline loading". This would help to avoid confusion on the intent of the load reduction approach. The goal is to reduce loadings from the "baseline" that existed when the impairment was identified to meet the TMDL targets and attain the beneficial uses. As such, the following revisions are requested: The implementation schedule for the MS4 and Caltrans permittees consists of a phased approach, with compliance to be achieved in prescribed percentages of the watershed or as a reduction from the ~~current~~ baseline loading, with total compliance to be achieved ~~by January 11, 2021~~as outlined in Table 7-12.2. The baseline loading is defined as the loading that existed when the impairment was identified.
11	BPA Monitoring, Pg. 13	% reduction should relate to "baseline" conditions rather than "current" conditions	Similar to comment #10, the Bureau appreciates the inclusion of an approach that allows for compliance with interim allocations to be based on load reduction in addition to the percent area approach. However, it is requested that the term "current loading" be replaced with "baseline loading" as follows: The MS4 and Caltrans storm water NPDES permittees are required to submit for approval of the Executive Officer a coordinated monitoring plan that will demonstrate the effectiveness of the phased implementation schedule for this TMDL, which requires attainment of the applicable waste load allocations in prescribed percentages of the watershed over a 15-year period or as a reduction from ~~current~~ baseline load.
12	BPA Monitoring, Pg. 14	Language referencing additional TMDL re-considerations should be	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, the following revisions are requested:

Comment Number	Document Reference (Doc, Section, Pg.#)	Topic	Comment
		included	In place of striking out the following sentence in its entirety: ~~The Regional Board will re-consider the TMDL by January 11, 2011 in light of the findings of these studies;~~ modify the sentence as follows: The Regional Board will re-consider the TMDL ~~by January 11, 2011 in light of the findings of these studies.~~ five years after the effective date of this amendment in light of the findings of these or other relevant studies.
13	BPA Schedule, Pg. 17	Include reference to Coordinated Integrated Monitoring Program	As the MS4 Permittees have joined together to develop a Coordinated Integrated Monitoring Program, please add the following language to the requirement to update the coordinated monitoring plan (CMP) by June 11, 2015 to allow for monitoring updates to be incorporated directly into the CIMP rather than a separate CMP. Submit a revised coordinated monitoring plan or the MS4 Permit required Integrated Monitoring Program or Coordinated Integrated Monitoring Program.
14	BPA Schedule, Pg. 17 and 18	Additional compliance language should be included for consistency	The following comments relate to the compliance language for the interim dates of January 11, 2012, 2014, and 2016. Compliance with the milestones should provide additional mechanisms for compliance consistent with the language on page 12 of the BPA. As such, the following revisions to the compliance demonstration approaches are requested for the January 11, 2012, 2014, and 2016 interim compliance milestones: Compliance with the metals TMDL may be demonstrated in either ~~one of two~~ the following ways: 1. There is no direct or indirect discharge from the Permittee's MS4; or 2. Dissolved or total CTR criteria are met instream; or 3. Flow-weighted concentration from MS4 discharges is less than or equal to CTR criteria, based on a weighted-average using flow rates from all measured outfalls discharging to a compliance point; or, 4. If permittees provide a quantitative demonstration as part of a watershed management program plan that control measures and BMPs will achieve the interim milestones consistent with the schedule, then compliance may be demonstrated by implementation of those control measures and BMPs, subject to Executive Officer approval; or

Comment Number	Document Reference (Doc, Section, Pg.#)	Topic	Comment
			5. Interim allocations are met as described below: **The following changes are only for the 2012 Interim Milestone** ~~1.~~ The MS4 and Caltrans storm water NPDES permittees shall demonstrate that 50% of the total drainage area served by the MS4 is effectively meeting the dry-weather waste load allocations and 25% of the total drainage area served by the MS4 is effectively meeting the wet-weather waste load allocations. ~~2.~~ Alternatively, permittees shall attain a 50% reduction in dry-weather and 25% reduction in wet-weather in the difference between the ~~current~~ baseline loadings and WLAs, as measured at the relevant existing MS4 permit monitoring location and/or at relevant MS4 monitoring stations identified in an approved coordinated monitoring plan. **The following changes are only for the 2014 Interim Milestone** 5. Interim allocations are met as described below: ~~1.~~ The MS4 and Caltrans storm water NPDES permittees shall demonstrate that 75% of the total drainage area served by the MS4 is effectively meeting the dry-weather waste load allocations. ~~2.~~ Alternatively, permittees shall attain a 75% reduction in dry-weather in the difference between the ~~current~~ baseline loadings and WLAs, as measured at the relevant existing MS4 permit monitoring location and/or at relevant MS4 monitoring stations identified in an approved coordinated monitoring plan. **The following changes are only for the 2016 Interim Milestone** 5. Interim allocations are met as described below: ~~1.~~ The MS4 and Caltrans storm water NPDES permittees shall demonstrate that 100% of the total drainage area served by the MS4 is effectively meeting the dry-weather waste load allocations and 50% of the total drainage area served by the MS4 is effectively meeting the wet-weather waste load allocations. ~~2.~~ Alternatively, permittees shall attain a 100% reduction in dry-weather and 50% reduction in wet-weather in the difference between the ~~current~~ baseline loadings and WLAs, as measured at the relevant existing MS4 permit monitoring location and/or at

Comment Number	Document Reference (Doc, Section, Pg.#)	Topic	Comment
			relevant MS4 monitoring stations identified in an approved coordinated monitoring plan.
15	BPA Schedule, Pg. 18	Additional compliance language should be included for consistency	Compliance with the final milestone should have additional mechanisms for compliance consistent with the language on page 12 of the BPA. Please revise as follows: Compliance with the <u>metals</u> TMDL may be demonstrated in either ~~one of two~~ <u>the following</u> ways: 1. <u>There is no direct or indirect discharge from the Permittee's MS4; or</u> 2. <u>Dissolved or total CTR criteria are met instream; or</u> 3. <u>Flow-weighted concentration from MS4 discharges is less than or equal to CTR criteria, based on a weighted-average using flow rates from all measured outfalls discharging to a compliance point; or,</u> 4. <u>If permittees provide a quantitative demonstration as part of a watershed management program plan that control measures and BMPs will achieve the final milestones consistent with the schedule, then compliance may be demonstrated by implementation of those control measures and BMPs, subject to Executive Officer approval; or</u> 5. <u>Final allocations are met as described below:</u> ~~1.~~ The MS4 and Caltrans storm water NPDES permittees shall demonstrate that 100% of the total drainage area served by the MS4 is effectively meeting both the dry-weather and wet-weather waste load allocations. ~~2.~~ Alternatively, permittees shall attain a 100% reduction of both dry and wet-weather in the difference between the ~~current~~ <u>baseline</u> loadings and WLAs, as measured at the relevant existing MS4 permit monitoring location and/or at relevant MS4 monitoring stations identified in an approved coordinated monitoring plan.
16	BPA Schedule, Pgs. 16 and 18	Revise compliance schedule to be consistent with other adopted metals TMDLs in the region	Two implementation plans (IPs) for the Metals TMDL were developed in 2008-09 using a watershed-wide and integrated water resources approach. One was developed by the City of LA for all cities and Caltrans and the other was developed by Los Angeles County to address both the County and Flood Control District. Since the development of the IPs, Senate Bill (SB) 346 was signed by then-Governor Schwarzenegger and more information from the Brake Pad Partnership has become available. An analysis of the current annual load of copper that can be attributed to brake pad wear indicates that brake pads are a significantly larger source of copper in the Ballona Creek watershed than was assumed at the time when the IPs were developed. Over 32% of the total current copper loading to the watershed may be attributable to wear from brake pads. This value is conservative because calculations assumed a dry weather equilibrium

Comment Number	Document Reference (Doc, Section, Pg.#)	Topic	Comment
			of brake pad copper on street surfaces after 20 days, and did not account for washdowns of copper from street surfaces during storm events in the wet season. Recent results of Metals TMDL monitoring in Ballona Creek confirm that copper is the most challenging pollutant for meeting the WLAs of the Metals TMDL, followed by zinc, whereas lead rarely exceeds the WLAs, respectively. Wet weather WLAs are consistently exceeded for total recoverable copper, whereas dissolved copper exceeds the wet weather WLAs much less frequently, and the dry weather copper WLAs are rarely exceeded. These findings confirm that particulate copper (i.e., copper from brake pads), is a major source of the total copper loading to Ballona Creek, particularly during storm events when particulate copper is mobilized from street surfaces. Lastly, exceedances of the total recoverable copper WLAs occurring at all monitoring stations, at least occasionally, during wet weather also speaks to brake pads being a major source as the Ballona Creek watershed is highly urbanized with a high vehicle density that is uniformly distributed over the watershed. The ubiquitous nature of copper (and other metals) throughout the watershed imposes challenges to implementation and compliance schedules. Identical challenges to the implementation and compliance schedules for the Los Cerritos Channel Metals TMDL (Los Cerritos Channel Metals TMDL) and the San Gabriel River and Impaired Tributaries Metals and Selenium TMDL (SGR Metals TMDL) existed, and the Regional Board has set precedent regarding how to address these challenges. Identical to the Metals TMDL, the Los Cerritos Channel Metals TMDL and the SGR Metals TMDL address multiple metals in a highly urbanized watershed, and were adopted in the years just prior to the time when SB 346 was signed into law. Also, similar to what is estimated for the Ballona Creek watershed, the staff report written for the Los Cerritos Channel Metals TMDL and SGR Metals TMDL Implementation Plans states that "a range of urban runoff reduction estimates from 17% to 29% by 2020 and 55 to 61% by 2032 as a result of the anticipated phase out of copper in brake pads due to SB 346." In the Los Cerritos Channel Metals TMDL and the SGR Metals TMDL, the challenges were addressed by including the implementation period presented in **Table 9** that considers the effects of SB 346. As such, to also consider the effects of SB 346 in the BC Metals TMDL, it is requested that the Implementation Schedule be modified to include the interim and final compliance dates and milestones that were included for the Los Cerritos Channel Metals TMDL and the San Gabriel River and Impaired Tributaries Metals and Selenium TMDL (**Table 9**). **Table 9. Los Cerritos Channel and San Gabriel River Metals TMDLs Interim and Final Compliance Dates and Milestones**

Attachment 1: Ballona Creek Metals TMDL Revisions
Technical Comment Matrix

Comment Number	Document Reference (Doc, Section, Pg.#)	Topic	Comment

Date	% of Total Drainage Area Needing to Meet Dry-Weather WLAs	% of Total Drainage Area Needing to Meet Wet-Weather WLAs
September 30, 2017	30	10
September 30, 2020	70	35
September 30, 2023	100	65
September 30, 2026	100	100