

US EPA ARCHIVE DOCUMENT

## Response to Comments on the Total Maximum Daily Loads for Metals and Selenium in San Gabriel River and Impaired Tributaries (March 26, 2007)

### List of Commenters

1. Michael Egan, City of Bellflower, on behalf of Coalition for Practical Regulation
2. Richard Montevideo, Rutan and Tucker, on behalf of Coalition for Practical Regulation
3. Susan Paulsen, Flow Science, on behalf of Coalition for Practical Regulation and Michael Wang, Western States Petroleum Association
4. Kenneth C. Farfsing, City of Signal Hill
5. Matthew E. Cohen, Richards, Watson and Gershon, on behalf of the Cities of Artesia, La Mirada and Norwalk
6. Daniel W. Keeseey, City of Laverne
7. Gerald Green, San Gabriel River Watershed Management Area Committee
8. John D. Ballas, City of Industry
9. Dawn White, Golden State Water Company
10. Chris Crompton, County of Orange
11. Robert G. Asgian, County Sanitation Districts of Los Angeles County
12. Katherine Rubin, Department of Water and Power, City of Los Angeles
13. Steve Maghy, AES Southland, LLC
14. G. Scott McGowen, Department of Transportation
15. Michael Wang, Western States Petroleum Association
16. Kristen James and Mark Gold, Heal the Bay

## **1. Comments from Michael Egan, City of Bellflower, on behalf of Coalition for Practical Regulation (CPR)**

**Comment 1:** As EPA's proposed TMDLs do not contain any implementation plan and since California has not yet adopted an implementation plan for these TMDLs a concern was raised that the TMDLs numeric targets will go into effect when the TMDLs are adopted by EPA.

***RESPONSE:** The commenter is correct that EPA's TMDLs do not contain an implementation plan. The TMDLs will need to be implemented by the Regional Board. It is misleading to focus on the "effect" of the numeric targets. Rather, the requirement in EPA regulations is that water quality-based effluent limitations in NPDES permits must be consistent with the assumptions and requirements of any available wasteload allocation. 40 CFR 122.44(d)(1)(vii)(B). As discussed below in response to comment #7, EPA policy supports establishing water quality-based effluent limitations in NPDES permits regulating stormwater discharges through best management practices (BMPs) rather than as numeric effluent limits. See EPA's November 22, 2002 Memorandum, "Establishing TMDL WLAs for Storm Water Sources and NPDES Permit Requirements Based on those WLAs."*

**Comment 2:** One major concern with the TMDLs is that the Los Angeles County cities, within the watershed would be held to separate and unequal requirements as compared to the Orange County cities. The NPDES permit regulating the Orange County cities exempts them from compliance with water quality standards for metals in storm water runoff if the sources of such metals are outside of their municipal control. EPA should provide direction to the State and Regional Boards that this metals exemption is to be extended to the Los Angeles County cities as well.

***RESPONSE:** The TMDL allows for approaches based on Best Management Practices (BMPs) to meet the storm water waste load allocations in both Orange County and Los Angeles County MS4 permits. Although municipalities may not have direct control over indirect atmospheric deposition, the amount of copper in brake pads or the amount of zinc in rubber tires, they do have control over infrastructures that facilitate pollutant washoff and discharge to the storm drain system and other surface waters. The Regional Boards, State Board, and Air Resources Board have begun to address the issues and will develop appropriate policies or take other actions to address atmospheric sources of metals.*

**Comment 3:** The TMDL Report does not provide a map and a list of cities, and does not otherwise indicate which cities will be affected by the TMDL.

***RESPONSE:** A map and a list of cities affected by the TMDL has been incorporated into the document.*

For Response to Legal Comments raised by the CPR: See response to comments from Richard Montevideo, Rutan and Tucker on behalf of CPR Cities

For Response to Technical Comments raised by the CPR, See response to comments from Susan Paulsen, Flow Science on behalf of CPR Cities

## **2. Comments from Richard Montevideo, Rutan & Tucker, on behalf of Coalition for Practical Regulation (CPR)**

**Comment 4:** Under the CWA, EPA cannot lawfully adopt the TMDLs as there has been no showing of a “prolonged failure” on the part of the state to adopt such TMDLs. Under *Pronsolino v. Marcus*, EPA should not be taking action until the State has submitted a TMDL.

**RESPONSE:** *EPA’s discretionary authority to establish a TMDL is not limited to situations where there has been a prolonged failure on the part of the state, although EPA believes that the Agency does have authority to establish TMDLs in the absence of sufficient state action. The San Gabriel River reach 2 for lead was on the State of California’s 1998 303(d) list, as were the other waterbody-pollutant combinations listed in Attachment 2 of the consent decree in Heal the Bay v. Browner. Attachment 2 of the Heal the Bay consent decree, which contains the list of waters and pollutants covered by the decree, was generated from information contained in the State of California’s 1998 303(d) List. See Attachment 2 n.1. California’s 1998 303(d) list included a listing for San Gabriel River Reach 2 for lead, but this waterbody-pollutant combination was, probably inadvertently, not included in Analytical Unit 39 in Attachment 2 of the consent decree, which contemplates a TMDL for metals in this watershed by March 24, 2007. Instead, Analytical Unit 39 includes an erroneous reference to “San Jose Reach 2 – lead,” which was not on California’s 1998 303(d) list. Given the similarity of this waterbody-pollutant combination to those included in the consent decree, and the fact that the State specifically indicated in its most recent 303(d) list that a TMDL for this segment should be established in 2006, we consider it appropriate to establish a TMDL for this segment this year.*

*In addition, the Regional Board has requested EPA to establish the San Gabriel River metals TMDLs. We are simultaneously establishing TMDLs for the other metals impairments in this watershed at the request of the Regional Board. The Regional Board and EPA agree that development of TMDLs on a watershed basis, and for related pollutants that might implicate similar control strategies, is a useful approach to addressing pollution within a watershed. See, e.g., EPA’s 1991 “Guidance for Water Quality-based Decisions: The TMDL Process,” p. 15, in which EPA recommends development of TMDLs on a geographical basis because many water pollution concerns are “area-wide phenomena that are caused by multiple dischargers, multiple pollutants (with potential synergistic and additive effects....” The commenter’s citation to *Pronsolino v. Marcus* is puzzling in that both the District Court and Court of Appeals upheld a TMDL established by EPA when the state was in the process of establishing a*

*TMDL but had not established it or submitted it to EPA. Accordingly, EPA's establishment of these TMDLs is a reasonable exercise of EPA's discretionary authority.*

**Comment 5:** Since TMDLs are not self-executing but require issuance of State regulations for implementation, and since the State is already in the process of adopting metals TMDLs, EPA's adoption of the proposed TMDLs would serve no purpose and is a useless act. Moreover, the State cannot implement the TMDLs without complying with the requirements of the California Environmental Quality Act (CEQA).

**RESPONSE:** *Establishment of these TMDLs is not a useless act. TMDLs provide extensive information to the State that can be used in developing State plans and strategies for improving water quality in the targeted waterbodies. Additionally, under EPA regulations at 40 CFR 122.44(d)(1)(vii)(B), water quality-based effluent limits in NPDES permits must be consistent with the assumptions and requirements of any available wasteload allocation. This requirement is not contingent on the State having complied with CEQA.*

**Comment 6:** The metals TMDLs are contrary to law as EPA wrongly seeks to apply them to unlisted waters, unidentified waters, and unimpaired waters. (a) California's 303(d) list does not include selenium for San Jose Creek Reach 1, copper for San Gabriel River Estuary, or lead and zinc for Coyote Creek. The State just last year amended its 303(d) list, and did not identify any of these waterbody/pollutant combinations as impaired. Under the CWA, a TMDL can only be established for those waters that have first been identified on the State's 303(d) list. Under *Baykeeper v. Whitman*, 297 F. 3d 877 (9th Cir. 2002), TMDLs are established based on the State's priority ranking. (b) The TMDL also includes WLAs for other unlisted and unnamed reaches that merely drain to listed reaches. There is no authority in the CWA or elsewhere that this is appropriate. Discharges from upstream sources can only be dealt with in an implementation plan. (c) "Informational" TMDLs under CWA 303(d)(3) can only be developed by the State.

**RESPONSE:** *(a) On March 8, 2007, EPA added the following waterbody-pollutant pairs to California's Clean Water Act Section 303(d) List of Water Quality Limited Segments for 2004-2006: Coyote Creek Reach 1 (lead and zinc); Coyote Creek (toxicity); San Jose Creek Reach 1 (selenium and toxicity); and San Gabriel River Estuary (copper). See letter dated March 8, 2007, from Alexis Strauss, Director, Water Division, EPA, Region 9, to Tom Howard, Acting Executive Director, State Water Resources Control Board. As indicated in EPA's listing action, EPA determined that each of these waters are impaired. For each waterbody, the impairment determination was made after consideration of data showing either exceedances of numeric water quality objectives (Coyote Creek Reach 1, San Jose Creek Reach 1, and San Gabriel River Estuary) or violations of narrative water quality objectives (Coyote Creek and San Jose Creek Reach 1). See Table 1 attached to letter dated March 8, 2007, and citations referenced in Table 1.*

Moreover, the plain language of CWA 303(d)(2) allows simultaneous identification of a waterbody needing a TMDL and establishment of that TMDL. Although EPA has established the biennial listing process as a matter of administrative convenience, nothing in the statute or regulations prevents identification of a particular waterbody in another manner. Development of TMDLs on a watershed basis, and for related pollutants that might implicate similar control strategies, is a useful approach to addressing pollution within a watershed. See, e.g., EPA's 1991 Guidance for Water Quality-based Decisions: The TMDL process, p. 15, in which EPA recommends development of TMDLs on a geographical basis because many water pollution concerns are "area-wide phenomena that are caused by multiple dischargers, multiple pollutants (with potential synergistic and additive effects...." During initial TMDL development, then, the Regional Board investigated the broad spectrum of metals impairment in this watershed, and during that investigation, identified impairments in addition to those on the existing 303(d) list. The public had an opportunity to comment on the Regional Board's identification of these segments as impaired during the public comment period on the Regional Board's TMDLs, and then again when EPA similarly concluded in the draft EPA TMDLs that these segments are impaired.

Neither the CWA nor EPA regulations precludes establishment of a TMDL that has not previously been given a "high" priority ranking, and here, it is reasonable to conclude that high priority should be given for establishment of these TMDLs as part of this watershed TMDL analysis. The State in its 2004-2006 list indicated that TMDLs for copper in Coyote Creek and lead in San Gabriel River Reach 2 were to be prepared in 2006. Thus, establishment at this time of those TMDLs, plus the related ones for the segments EPA has added to the list, is entirely reasonable and consistent with the State's priority listing.

(b) The comment itself quotes EPA's rationale from the draft TMDL as to why allocations for sources that discharge into segments that flow into the impaired waters are necessary. This is based on our determination that achieving the water quality standards in the impaired waterbodies requires addressing these sources as well as those that discharge directly into the impaired waterbodies. Under the Clean Water Act, TMDLs must be established "at a level necessary to implement the applicable water quality standards." CWA 303(d)(1)(C).

(c) EPA is not establishing these TMDLs as "informational TMDLs."

**Comment 7:** The proposed metals TMDLs are contrary to law as according to California's SIP, they should not be applied to stormwater discharges, and as they fail to reflect that they may be complied with through a best management practices (BMPs) approach, in accord with EPA policy. In the California Toxics Rule (CTR), EPA asserted that compliance with the CTR was to be obtained through pollution prevention and BMPs, rather than through "costly end-of-pipe controls," citing 65 Fed. Reg. 31682 and various responses to comments.



**RESPONSE:** *The CTR establishes numeric water quality criteria for inland surface waters in California, including the San Gabriel River. As a result, they are part of the applicable water quality standards and, hence, the TMDLs must be established at levels necessary to implement the CTR criteria. The statement in the SIP that it does not apply “to regulation of storm water discharges” (p. 1, footnote 1) cannot be interpreted to mean that CTR standards do not apply to the San Gabriel River or that TMDLs with numeric WLAs are contrary to either federal or state law. The purpose of the SIP was to develop procedures for implementing CTR criteria in traditional NPDES permits, with the understanding that stormwater discharges could be expected to be controlled in the same manner as under the general permits cited in footnote 1 of the SIP. There is nothing in either the SIP or the CTR indicating that CTR criteria do not apply to stormwater discharges. See *Waterkeepers Northern California v. AG Industrial Manufacturing, Inc.*, 2005 U.S. Dist LEXIS 43006 [E.D. Cal. 2005 (“The California Toxics Rule (‘CTR’), established effective May 18, 2000, sets forth water quality standards applicable to toxic pollutants such as lead, cadmium, copper and zinc in storm water discharges within the State of California,”)]. Moreover, these TMDLs are entirely consistent with EPA’s November 22, 2002 memorandum “Establishing TMDL WLAs for Storm Water Sources and NPDES Permit Requirements Based on those WLAs.” The 2002 memorandum specifically states that NPDES-regulated storm water discharges must be addressed by the WLA component of a TMDL and that WLAs are to be expressed in numeric form in the TMDL. The 2002 memorandum also supports establishing water quality based effluent limits (WQBELs) for NPDES-regulated municipal and small construction storm water discharges in the form of best management practices (BMPs), and there is no reason to expect that the Regional Board will not do so when implementing these TMDLs. Indeed, when the Regional Board developed implementation strategies for its own metals TMDLs, it supported the use of BMPs, and the Regional Board specifically stated that the TMDLs would not result in the application of CTR limits as end-of-pipe numeric limits for the municipalities. (See Regional Board’s response to comments 2.4, comment 16.1.)*

**Comment 8:** The subject metals TMDLs are contrary to law as the TMDLs have not been developed based on an adequate consideration of their economic impacts. When EPA established the CTR, it did not analyze the cost impact of CTR on stormwater discharges. The commenter quotes statements by the Regional Board as to the cost of TMDL implementation, asserts that the metals TMDLs will have significant economic impacts throughout the Los Angeles region, and asserts that all responsible agencies, including EPA, have an affirmative duty to fully consider these economic impacts before adopting TMDLs, and to determine whether the numeric objectives are necessary to ensure reasonable protection of beneficial uses. The commenter asserts that federal law requires an economic analysis when TMDLs are being adopted because 40 CFR 130.6(c) includes economic factors as part of a State’s water quality management plan. The commenter cites State Board and State judicial decisions regarding the State’s responsibilities. The commenter recommends that EPA consider various reports concerning economic impacts of various CWA programs.

**RESPONSE:** TMDLs must be set at levels necessary to meet applicable water quality standards, and there is no requirement that a TMDL include an economic analysis. The Regional Board may consider economic impacts when implementing these TMDLs, so long as the implementation actions are consistent with the CWA and EPA regulations [e.g. 40 CFR 122.44(d)(1)(vii)(B)]. In its response to comments concerning the draft Regional Board TMDLs on which EPA's TMDLs are based, the Regional Board indicated that economics were extensively considered in developing the TMDL implementation program (comment 15.1), and also noted that funding is available to municipalities through the State's Consolidated Grants program. (See Regional Board's response to comment 8.7). While 40 CFR 130.6(c) includes economic factors as an item for consideration in a State's implementation of its water quality management plan and development of Best Management Practices, it does not mandate consideration of economic factors in development of TMDLs. To the contrary, the CWA specifically requires that TMDLs be established at levels necessary to implement water quality standards, without qualification. Neither the CWA nor EPA regulations require the State or EPA to reanalyze the appropriateness of the existing water quality objectives when a TMDL is developed.

**Comment 9:** The metals TMDLs are improper as insufficient science exists to support their development and as they are not suitable for calculation and are not daily loads. Concentration-based effluent limits are not daily loads. Because there are not daily loads, the TMDLs are not suitable for calculations and their adoption would be contrary to law. EPA should reconsider its position that all pollutants are suitable for the calculation of TMDLs.

**RESPONSE:** EPA disagrees. The TMDLs are based on a robust scientific analysis. Contrary to the commenter's assertion, the TMDLs and all the allocations are calculated as daily amounts. The load and wasteload allocations in these TMDLs are expressed in terms of daily load. Dry-weather load allocations to San Gabriel Reach 1 and Coyote Creek are presented in Table 6-3. Daily wet-weather loads to San Gabriel Reach 2 (Table 6-2) and Coyote Creek (Table 6-3) can be calculated by simply multiplying the daily storm volume by the numeric target. Table 6-2 and Table 6-3 also provide an example of daily load calculation based on the 90<sup>th</sup> percentile flow. The TMDLs for copper to the estuary (Table 6-6) and selenium to the San Jose Reach 1 (Table 6-7) are expressed in terms of concentration with a daily time step. The fact that some of the allocations are concentration-based does not mean they are not daily loads, as EPA regulations make clear that TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measure (40 CFR 130.2). EPA considers a partial concentration-based approach reasonable for addressing the pollutants in these TMDLs.

The TMDL expresses the selenium allocations to San Jose Creek 1 in terms of concentrations. As discussed in the TMDL it is possible to express the selenium allocations in San Jose Creek Reach 1 in terms of daily load. Pomona Plant is designed at 15 MGD which results in a daily load of 0.284 kg/d. However it should be noted that Pomona Plant discharges into a tributary of San Jose Creek and that most of the Pomona flow goes into ground water during dry-weather conditions. The stream gage at 7<sup>th</sup>



*Street was used to estimate dry-weather flows in San Jose Creek Reach 1. The median flow at this station is 19 cfs. The creek runs dry about 10% of the time. Based on a median dry-weather flow of 19 cfs the daily allowable load to this reach was calculated to be 0.232 kg/d. The San Jose Creek Treatment Plant has a discharge point below the gage station. The concentrations of selenium out of this plant are generally below 1 ug/l. RB4 found that selenium in San Jose Creek was often above the CTR and based on reasonable potential analysis established an effluent limit for discharge No.02 of 4.3 ug/l. The daily allowable load from this plant is 1 kg/d based on a design flow of 62.5 MGD from the East Plant.*

*It is more challenging to calculate a mass based daily load for the estuary. Estimates of the tidal prism (i.e. the difference between high and low tide) range from about  $1.18 \times 10^7$  to  $2.78 \times 10^7$  cubic feet which equates to about 15m<sup>3</sup>/s to 35 m<sup>3</sup>/s over the course of a 6.21 tidal cycle. The mean discharge is 22 m<sup>3</sup>/s could be as high as 100 m<sup>3</sup>/s (based on a design flow of 2.3 billion gallons per day). Flows from the rivers are around 5 m<sup>3</sup>/s. The discharge is 80 to 95% of the flow. Flow Science studies suggest that tidal waters provide little to no dilution in the San Gabriel River Estuary. Therefore the simplest and most straight forward approach to ensuring water quality standards are attained is to ensure that effluent concentrations from the power plants are at or below the water quality standard.*

**Comment 10:** EPA failed to utilize a translator in establishing the TMDL. Here, EPA relied entirely upon CTR in setting the numeric targets and failed to use a translator to translate the narrative objectives contained in the State's Basin Plan into the numeric targets contained in the TMDL. Additionally, EPA failed to use an accurate translator in translating CTR criteria for dissolved metals into TMDLs for total recoverable metals.

**RESPONSE:** *There is no requirement in the CWA or EPA regulations for a translator in developing TMDLs. Under the Region 9 guidance quoted by the commenter, when a TMDL is established to implement a narrative water quality objective, the TMDL should include numeric targets translating the narrative standard into numbers suitable for TMDL calculation. Here, it is not necessary to "translate" the CTR criteria because they are already numeric. The issue of translating between measurements of total recoverable metals and the dissolved is discussed below in response to comment #11.*

**Comment 11:** (a) The metals TMDLs are contrary to law since EPA has failed to fully and properly determine the loading capacity of the water bodies to which the TMDLs apply. There is no evidence that EPA adequately analyzed the assimilative capacities of each of the relevant waterbodies to determine the amount of each pollutant each waterbody can assimilate without impairing the designated uses of that waterbody, based upon its particular characteristics. (b) EPA failed to use an accurate translator in translating CTR criteria for dissolved metals into TMDLs for total recoverable metals. EPA applied CTR default conversion factors, despite the fact that EPA was aware that the default conversion factors overestimate the amount of such metals in dissolved form.

**RESPONSE:** a. *The loading capacity for each of the listed reaches was determined in a straight-forward and pragmatic way. The allowable load is simply a function of the water volume times the numeric target. The dry-weather loading capacity for most reaches was determined from a long-term evaluation of reach-specific flow data from USGS or LADPW stations within the listed waterbody. The median flow from these gaging stations was used to represent dry-weather baseline conditions. The median flow was selected over other more commonly used measurements of critical flow such as the 7Q10 (lowest weekly flow in 10 years) because the use of such measurements in Southern California would effectively result in a critical flow of zero. The median flow provides a good representation of base-flow conditions for Southern California streams. This value has been used in other TMDLs in Southern California (e.g., LA River and Ballona Creek).*

*For the wet-weather condition, the loading capacity is based on the volume of water during a storm. Given the variability in storm flows it is not logical to develop a single load allocation since the loading capacity changes as a function of flow. The wet-weather loading capacity established in the TMDL is based on the daily average storm volume multiplied by the numeric target. This approach is widely used in TMDLs throughout the country to establish wet-weather loading capacity. This approach has also been used in many other TMDLs in Southern California (e.g. LA River, Ballona Creek).*

b. *Use of site specific translators. The California Toxics Rule (CTR) provides default values for the conversion of measurements based on total recoverable metals to the dissolved fraction. There is some uncertainty in the use of translators for estimating the dissolved fraction of metals in the total recoverable metals for stormwater. Numerous studies, referenced in the TMDL, have shown that metals in urban stormwater tend to be associated with particles. These studies suggest that the CTR default translators would tend to overestimate the dissolved fraction in stormwater. This logic led to the allowance of site-specific translators in the Los Angeles River metals TMDL and the Ballona Creek metals TMDL. In these instances, site-specific translators were allowed when plots of total to dissolved using storm water data collected from these sites verified that the default conversion factors tended to overestimate the dissolved fraction and where a reasonable relationship could be inferred from linear regression. EPA reevaluated the regressions used in the draft San Gabriel River metals TMDLs (Figures 6,7,8,9 and Table 3-4). The final regressions were calculated without the non-detects, because regressions are influenced by the presence of non-detects. This is consistent with the approach used in Los Angeles River and Ballona Creek. Removal of the non-detects generally improved the regressions in Coyote Creek but did not improve the regression for lead San Gabriel River Reach 2. In this TMDL provisional site-specific translators are applied to Coyote Creek for copper (53%), lead (64%) and zinc (78%). For lead in the San Gabriel River Reach 2 we used a hardness adjusted default translator of 0.709. See response to comment #65 for more discussion on lead translator for San Gabriel Reach 2. The Regional Board may re-open the issue of site-specific translators when it reconsiders the TMDL.*

**Comment 12:** Within the TMDLs, EPA wrongly assigns responsibility for non-point sources, such as aerial deposition, to the municipal stormwater permittees. (a) Under EPA regulations and guidance, stormwater discharges from sources that are not currently regulated by an NPDES permit are required to be addressed through load allocations. 40 CFR 130.2(g). EPA's omission of proper load allocations will unfairly result in nearly the entire burden for nonpoint sources being borne by the Cities and the County. The responsibility for aerial deposition should be borne by the State, not the Cities. Other TMDLs in the United States address air deposition as a nonpoint source. Atmospheric deposition is obviously an air quality issue which must be dealt with under the Clean Air Act, not the NPDES program. There should be an analysis of businesses in the watershed that are sources of atmospheric deposition of copper, lead and zinc. Additionally, by failing to include a load allocation for atmospheric deposition, the TMDL fails to include any air quality implementation strategies. The Regional Board's strategy in its TMDLs inappropriately emphasizes treatment controls to be installed and operated by permittees, when it should be emphasizing regional source control by working with the Air Quality Management District to reduce aerial deposition. (b) Under 40 CFR 130.2(i), if BMPs or other nonpoint source controls make more stringent load allocations practical, then wasteload allocations can be made less stringent. These TMDLs do the opposite. They ignore the load allocation segment, and improperly impose more stringent WLAs on the Cities. (c) The TMDL also fails to include either load allocations or wasteload allocations to address loadings from universities, school districts, and State and federal facilities.

**RESPONSE:** (a) *In these TMDLs, direct air deposition to a waterbody is treated as a nonpoint source of the pollutant and given its own load allocation. There is also a separate load allocation labeled "open space" to account for nonpoint source loads from the Los Angeles National Forest, including loads from air desposition. Air deposition that enters the waterbody by way of NPDES-regulated stormwater discharges is included in the allocations for stormwater in accordance with EPA regulations and guidance, as described in EPA's Nov. 22, 2002 memo, "Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NDPEs Permit Requirements Based on Those WLAs. This is also the approach that was used by the Regional Board in its draft TMDLs, and we consider it the most appropriate approach. As noted by the Regional Board in its Comment Summary and Responses regarding the San Gabriel River metals TMDLs (July 7, 2006), although municipalities may not have direct control over indirect atmospheric deposition, they do have control over infrastructures that facilitate pollutant washoff and discharge to the storm drain system and other surface waters. In addition, research suggests that re-suspended road dust is the primary source of atmospheric deposition of metals. It then follows that roads within the cities are the primary source of the metal-laden particulates that comprise the majority of atmospheric deposition loading. EPA supports working with the Air Resources Board, the Air Quality Management District and local businesses to encourage reductions in air deposition.* (b) *Regarding 40 CFR 130.2(i), it is precisely because of the difficulties in reducing nonpoint loads of these metals that EPA did not consider it appropriate to make the WLAs for point sources less stringent. Where any wasteload allocation to a point source is increased based on an assumption that loads*

*from nonpoint sources will be reduced, there must be “reasonable assurances” that the nonpoint source load allocations will in fact be achieved. See EPA Memorandum “New Policies for Establishing and Implementing Total Maximum Daily Loads (TMDLs), August 8, 1977. For more on the contribution of air deposition to the watershed, see response to comment #19.*

*c. The concern over the apparent lack of load and wasteload allocations for universities, schools, state and federal facilities appears to be related to coverage under the MS4. The MS4 permit acknowledges that “Federal, state, or local entities within the permittees boundary or in jurisdictions outside the Los Angeles County Flood Control District and not currently named in this order may operate storm drain facilities and/or discharge to storm drains and water courses covered by this order. The permittee may lack jurisdiction over these entities under state or federal constitutions.”*

*We note that the MS4 permit indicates that “Permittees have expressed their intention to work cooperatively to control the contribution of pollutants from one portion of the MS4 to another portion of the system. Permittees may control the contribution of pollutions to the MS4 from non-permittee discharge such as Caltrans, the US Department of Defense, and other state and federal agencies through interagency agreement.”*

*To the extent that these entities are discharging to the stormwater system the wasteload allocations are covered under an individual NPDES permit or under the general construction or general industrial permit. Wasteload allocations for Caltrans are part of the general MS4 allocation. Load allocations for the National Forest are covered under the load allocation for open space.*

**Comment 13:** The metals TMDLs are improperly based on non-uses or potential uses, contrary to federal and state law. Under EPA regulations, states may remove a designated use that is not an existing use in certain circumstances, such as when natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use; where dams, diversions or other types of hydrologic modifications preclude attainment of the use and it is not feasible to restore the waterbody; or when controls more stringent than those required by CWA 301(b) and 306 would result in substantial and widespread economic and social impacts. 40 CFR 131.10(g). Thus, where the State has designated a “use” that is not an existing use, the “use” may appropriately be removed from the Basin Plan. The circumstances in 40 CFR 131.10(g) appear to exist in connection with the waterbodies in these TMDLs. Moreover, there is nothing in either State or federal law that authorizes the State or EPA to establish a TMDL to remove an impairment of a “possible” or “potential” use of a waterbody. At least several of these TMDLs are being driven by the need to improve water quality to comply with a “potential” use designation.

**RESPONSE:** *TMDLs must be set at levels necessary to achieve all applicable standards. EPA regulations clearly contemplate that a State’s designated uses – which are a component of water quality standards – is not limited to existing uses. See 40 CFR 131.13(f). Thus, these TMDLs need to be set at levels to meet the existing standards*



*described in the TMDL. If the commenter thinks the Regional Board should consider a use attainability analysis under 40 CFR 131.10(g) for waters addressed by these TMDLs, such comments should be addressed to the Regional Board.*

**Comment 14:** The metals TMDLs are improper as there has been a lack of intergovernmental coordination as required by law. Under CWA 33 USC 1329(a)(1)(C) (CWA Sec. 319), there needs to be inter-governmental coordination and public participation in identifying Best Management Practices (BMPs) to address nonpoint sources. There is no evidence of sincere consultation with local governmental agencies in the development of these metals TMDLs, nor is there evidence of inter-governmental coordination or prior public participation in the process of developing the WLAs and LAs in the TMDL.

**RESPONSE:** *As noted by the Regional Board in its response to comment document, numerous municipal stakeholders participated in the process leading to the development of the Regional Board's TMDLs (on which the EPA TMDLs are based), and local and state agencies were consulted at numerous steps. Both the Regional Board and EPA afforded all interested parties, including local governments, an opportunity to comment on the draft TMDLs.*

### **3. Comments from FLOW/SCIENCE submitted on behalf of CPR and WSPA**

**Comment 15:** TMDLs are proposed for waterbody constituent combinations that are not included on the State's 303(d) list. These include San Gabriel River Estuary for copper, San Jose Creek Reach 1 for selenium, Coyote Creek for lead and zinc, and San Gabriel River Reach 2 for lead. They suggested that EPA re-evaluate the impairment status of these waterbodies using the 2004 Listing Policy. EPA only has authority to do informational TMDLs on unlisted waters.

**RESPONSE:** *The listing for lead in the San Gabriel River has been on the California 303(d) list since 1998 and was included on the list submitted by the State to EPA for 2006. EPA carefully reviewed the applicable data both during development of these TMDLs and in our review of the State's 2004-06 List submission. Through these reviews, we determined that these segments should be considered impaired and should be addressed through TMDLs*

*See response to comments #4 and #6 for more on EPA authority to establish TMDLs.  
See response to comment #74 for details on copper listing in San Gabriel River Estuary.  
See response to comment #60 for details on lead listing in San Gabriel River Reach 2.  
See response to comment #61 for details on selenium listing in San Jose Creek Reach.  
See RTC to LACSD Comment #63 for details on lead and zinc listings in Coyote Creek.*

**Comment 16:** Data do not support the impairment assessment for several waterbody-constituent pairs according to the standards set forth in the State Listing Policy. (a) TMDLs are developed for wet weather for lead in San Gabriel River Reach 2 based on exceedances of chronic criteria; however, zero exceedances were observed of the acute



criterion, which is the criterion relevant to evaluations of wet weather conditions. (b) For lead in Coyote Creek (wet weather), six exceedances of the acute criterion would be required for listing, while zero were demonstrated. (c) EPA continues to use CTR chronic criteria for evaluating wet weather impairment despite their finding that CTR acute criteria are the basis for the wet-weather targets because they are protective of aquatic life during the generally short-term and episodic storm conditions. (d) The majority of reported wet-weather exceedances for copper, lead and zinc on San Gabriel River Reach 2 and Coyote Creek occurred during the 1997-98 El Nino wet season, suggesting that such exceedances are not representative.

**RESPONSE:** *In reviewing the States' listing decisions, EPA analyzes available data and considers both State and federal law and guidance. As indicated in EPA's 2006 Integrated Reporting Guidance, EPA in its review applies state methodologies adopted as part of the State's adopted water quality standards. EPA considers state methodologies that are not adopted by rulemaking to the extent that they reflect a reasonable interpretation of the State's water quality standards and sound science. The "Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List adopted by the State Water Resources Control Board in September 2004 does not purport to govern EPA when EPA identifies waters meeting federal listing criteria. See State Water Resources Control Board Resolution No. 2004-0063 (Sept. 30, 2204), par. 2 and Listing Policy, p. 2. During the development of the State Listing Policy, EPA expressed concerns with several of the policy's provisions. See comments from EPA referenced in Listing Policy's Final Functional Equivalent Document, Appendix B, Responses to Comments.*

*During our review of California's 2004-06 list, EPA reviewed the application of the State Listing Policy's decision rules with respect to the waters not included on the final list. We concluded that for the most part the State's assessment decisions were consistent with federal listing requirements and applicable water quality standards. However, based on federal listing regulations and guidance, we determined that some waterbody-pollutant combinations that met the federal listing requirements had been excluded from the State's List. These include Coyote Creek Reach 1 (lead and zinc); Coyote Creek (toxicity); San Jose Creek Reach 1 (selenium and toxicity); and San Gabriel River Estuary (copper). Therefore, EPA has now added these segments to the 2004-06 list. See letter dated March 8, 2007, from Alexis Strauss, Director, Water Division, EPA, Region 9, to Tom Howard, Acting Executive Director, State Water Resources Control Board.*

*One of EPA's main concerns in reviewing the 2004-06 list was the State's application of numeric water quality standards for toxic pollutants. During development of the State Listing Policy, EPA had expressed repeated concerns with some provisions of the policy that appeared to be inconsistent with certain aspects of the State's applicable water quality standards, including those for toxic pollutants. During our list review, EPA reviewed the State's assessment of toxic pollutants in comparison with applicable standards, including those in the California Toxics Rule (CTR), which contains numeric water quality standards for 126 toxic pollutants to protect aquatic life and human health in fresh and saline waters. The CTR provides that toxic pollutant standards are not to be*

*exceeded more than once in three years on average. The State's application of a binomial statistical method to assess attainment of water quality standards for toxicants appeared to yield some assessment conclusions that were inconsistent with this CTR provision and resulted in the omission of several waters that should have been listed as impaired. In our review, we also referred to listing criteria contained in EPA's water quality assessment guidance documents (EPA 1997, 2001, 2003, 2005). Through this review, EPA concluded that the segments of the San Gabriel River identified above met federal listing requirements for failure to meet CTR water quality standards for metals and selenium.*

*(a) San Gabriel Reach 2 is listed for lead in the State's 303(d) List. EPA has approved this listing. See RTC to LACSD Comment #4 for details on lead listing in San Gabriel River Reach 2.*

*(b) Coyote Creek is listed as impaired for lead. See response to comment #63.*

*(c) The comparison to chronic criteria provides a conservative estimate of impairment and is in conformance with the State Listing Policy. The commenter is correct in the assertion that chronic criteria are typically based on 4-day averages. However, lacking data that correspond to 4-day averages it is appropriate to apply the chronic value to data sampled over a shorter time frame. This is consistent with the State Listing Policy.*

*(d) El Nino Comment. The samples analyzed are all temporally independent because they do not come from the same storm. This is consistent with the State Listing Policy. See response to comment #60 for more on temporal independence.*

**Comment 17:** In contradiction with explicit EPA guidance, the TMDL applies CTR metals criteria to stormwater. WLAs in the TMDL for stormwater dischargers amount to requirements that dischargers meet the relevant CTR metals criteria as end-of-pipe not-to-exceed limits. This contradicts EPA guidance on the application of CTR criteria. EPA has explicitly stated that CTR criteria were never intended to be applied directly to NPDES permitted stormwater discharges.

**RESPONSE:** *EPA guidance does not exempt storm water from CTR. In its responses to comments on CTR, EPA did not express an intent to exempt storm water. EPA's responses merely anticipated that Best Management Practices (BMPs) would be used to implement standards like CTR where infeasible or insufficient information existed to develop water quality based effluent limits (WQBELs). EPA guidance on TMDLs recommends implementing stormwater WLAs through best management practices, but also emphasizes that the WLAs themselves are to be numeric.*

*CTR water quality standards apply to all surface waters in the Los Angeles Region. The TMDLs in turn prescribe waste load allocations required to achieve these standards. The TMDL will not result in the application of CTR limits as end-of-pipe numeric limits for the storm water permittees. The TMDL allows for BMP type approaches to meet the wasteload allocations. Water quality monitoring at key compliance points is the preferred mechanism for establishing compliance with the TMDL. We explicitly state that "storm water NPDES permittees will be found to be effectively meeting wet-weather load allocations if the load at the downstream monitoring site is equal to or less than the*

loading capacity”. We further go on to explain that “For practical purposes, this is when the EMC for a flow-weighted composite is less than or equal to the numeric target”.

EPA in the CTR, as in the 2002 memorandum on WLAs and permits for stormwater sources, has indicated that BMPs can serve appropriately as WQBELs in NPDES permits for stormwater sources. These TMDLs are not inconsistent with that approach. See response to comment #7.

**Comment 18:** CTR metal criteria applied in the TMDL do not account for site-specific characteristics of the San Gabriel River watershed. It is suggested that the TMDLs did not account for hardness, differences in the fractionation between total and dissolved metals or the potential for water effect ratios (WERs). They cite LA River and Calleguas Creek as examples where allowances have been made for WERs. They requested that the TMDL be amended to add a provision for WERs.

**RESPONSE:** The TMDL clearly used site-specific hardness values in setting numeric targets for specific reaches and for different hydrologic conditions (wet vs. dry). In this TMDL, EPA used site specific data to translate from total recoverable metals to the dissolved fraction for copper, lead and zinc in Coyote Creek. A default translator is used for lead in San Gabriel Reach 2 because the site-specific data did not support the application of a translator to this reach. See response to comments #11 and #65. The development of WERs is a standards and Basin Planning issue that is beyond the scope of this TMDL. We are aware of efforts in Calleguas Creek and the Los Angeles River to develop WERs for copper. There is no need to add a provision to this TMDL because WER development is clearly allowed within the framework of the CTR. The TMDL may be reconsidered and amended if and when the Regional Board adopts a WER.

**Comment 19:** A large portion of metals loads in the San Gabriel River watershed derives from sources beyond the control of dischargers, especially atmospheric deposition. The commenter’s calculations suggest that average wet-weather copper and zinc concentrations in the San Gabriel River, deriving solely from atmospheric deposition, could be higher than the relevant default freshwater acute CTR criteria. Recent studies suggest that stormwater from natural, open space areas may contribute significantly to concentrations and loads of metals in Southern California. Insofar as stormwater dischargers do not have direct control over the sources of atmospheric deposition (e.g., copper from automobile brake pads or zinc from tires), or metals in storm flows from natural areas (e.g., the highly erosive San Gabriel Mountains), it is inappropriate to charge them with responsibility for metals deriving from these sources. Calculations suggest that the annual average loads derived from atmospheric deposition are sufficient to result in exceedances of the CTR.

**RESPONSE:** Nonpoint source load allocations are developed for the background loadings associated with direct atmospheric deposition and background loadings from natural areas. Metals loadings in stormwater derived from atmospheric deposition are properly regulated through the stormwater permit. As noted by the Regional Board in its

*Comment Summary and Responses regarding the Regional Board's San Gabriel River TMDLs (July 7, 2006), although municipalities may not have direct control over indirect atmospheric deposition, they do have control over infrastructures that facilitate pollutant washoff and discharge to the storm drain system and other surface waters. See also response to comment #12.*

*Research suggests that re-suspended road dust is the primary source of atmospheric deposition of metals. It then follows that roads within the cities are the primary source of the metal-laden particulates that comprise the majority of atmospheric deposition loading.*

*Although calculations may suggest that annual loads of metal to the San Gabriel Watershed may be large enough to cause exceedances, not all this load deposited on land within the watershed makes its way to the river. Annual load to the watershed is not the same as annual load to the river. We note that the calculations used by Flow Science were based on a study by Sabin et al. (2004), which occurred over a small drainage area (12.5 acre area), that was 80% impervious, and where virtually all of the flow was routed to a single catch basin. While we believe that this is an important study, application of transmission efficiencies (50% to 100%) from this study area to the entire watershed would severely overestimate the contribution of annual atmospheric load to the river. Finally the annual atmospheric load deposited over the watershed is not the right metric for TMDL evaluation. The TMDL uses daily storm load delivered to the river divided by daily storm volume.*

*We acknowledge that metals may come from natural soils in undeveloped areas. However recent studies by SCCWRP (Stein and Yoon, 2007, Tiefenthaler et al., In Prep) suggest that metals concentrations in stormwater runoff from developed watershed area are typically 10 to 100 times greater than concentrations from undeveloped watersheds. Loadings of developed watersheds were 100 times higher for copper, 50 times higher for lead, and 30 times higher for zinc.*

**Comment 20:** Wet weather WLAs were calculated in a manner that is unrealistic and fails to consider assimilative capacity. WLAs were apportioned to storm water discharge permittees according to proportion of land area occupied by each permittee and did not take into consideration site-specific factors such as soil conditions, slope, vegetation, and impervious area.

**RESPONSE:** *Assimilative capacity in the San Gabriel watershed is not a fixed number but was defined as daily storm volume. Group wet-weather allocations were apportioned amongst stormwater discharges based on area. We recognize that runoff volume may vary greatly by land and land use. The area-based allocation approach was seen as the most equitable way of assigning responsibility amongst literally thousands of stormwater permittees. The logic is that none of the stormwater groups (MS4, Caltrans, Industrial, Construction) should be discharging more than their fair share. It also has the benefit of encouraging formation of stormwater coalitions around the impairments and to develop implementation plans that are best suited to conditions in their area. We appreciate the*



*hypothetical example of runoff volumes and loads from land use provided by the commenter and agree that this would be a reasonable and justifiable approach. Although we foresee some difficulties in developing defensible runoff coefficients and concentration distributions, we think this could be a workable mechanism that could be incorporated into future planning.*

**Comment 21:** Dry weather and wet weather models formulated for the TMDL linkage analysis were based on an inadequate quantity of data, and are therefore inaccurate and irrelevant to the TMDL. Neither model used in TMDL development was able to reproduce observed flow or water quality data with any accuracy, which is unsurprising given the small amount of data upon which the models were based.

**RESPONSE:** *The models were used to establish the linkage between loads and water quality exceedances. The data used to develop the model was commensurate with other modeling efforts throughout the country. While more complete knowledge is always preferable, sufficient understanding of the science was considered for a complete, reasonable TMDL. The models do provide a reasonable representation of the hydrology of the system and the relationship between rainfall and storm volume. The models also provide good representation of storm loads and the effect on water quality.*

*As noted by the commenter, the TMDL itself acknowledges that the models may be refined in the future when additional data becomes available. EPA considers use of these models reasonable for development of these TMDLs. Additionally, the Regional Board's TMDLs on which EPA's TMDLs were based were peer reviewed in accordance with California Health & Safety Code 57004.B (see Regional Board's RTC 18.7). We believe that the models can and should be used to evaluate the relative benefits of implementation plans and expect that the resulting information will be useful to the Regional Board in implementing improvements to water quality in this watershed.*

**Comment 22:** Best Management Practices (BMPs) may not be sufficient to result in attainment of water quality standards during wet weather conditions. Because the TMDLs do not provide a design storm or design hydrologic conditions, they effectively require complete compliance. The application of BMPs should be site-specific, as not all BMPs will be suitable for all locations within the watershed. Thus, it is unclear that the requirements of the TMDL can be met without application of expensive treatment processes to large quantities of storm water runoff.

**RESPONSE:** *The challenge faced by regulators and the regulated community alike is the desire to rely on BMP-based approaches while acknowledging that BMPs may not be sufficient to meet water quality standards at extremely high flows. The Regional Board is working with stake holders to address the issue of design storm. This work is being done through the design storm technical advisory committee that is part of the wet-weather task force established as part of the Basin Plan Triennial Review. Once established by the Regional Board, we believe the design storm concept could and should be incorporated into this and other TMDLs. The issue of site-specificity of BMPs must be addressed by the implementers. EPA agrees that it may be necessary to develop site-*



*specific BMPs. The Regional Board will develop implementation measures for these TMDLs. In commenting on its own TMDLs, on which the EPA TMDLs are based, the Regional Board wrote that it expects a mix of structural and non-structural BMPs will achieve the WLAs (See Regional Board's response to comments 13.23). The TMDL does not call for certainty that BMPs will achieve water quality standards but reasonable assurances that water quality will be attained.*

#### **4. Comments from Kenneth C. Farfsing, City of Signal Hill**

**Comment 23:** The TMDL did not contain an exhibit indicating which local agencies are to be regulated under the TMDLs creating confusion. This was done in LA River TMDL. Clarity is needed when there are two separate counties. There is confusion as to whether City of Signal Hill is regulated under the TMDL. Evidence was provided to the Regional Board suggesting that flows from the City of Signal Hill do not flow into San Gabriel River but rather empty in to Los Cerritos Wetlands to Marine Stadium and to Alamitos Bay. The other portion of Signal Hill drains to the Los Angeles River and is covered under the LA River TMDL.

*RESPONSE: The final TMDL includes a map and a list of the cities that will be affected by the TMDL. We acknowledge the receipt of exhibits on the discharge and recognize that flows from Signal Hill do not flow directly into the San Gabriel River. We note however that flows from Signal Hill may discharge indirectly to the San Gabriel River Estuary via the discharge from the Power Plant which receive its intake water from Los Cerritos Channel. The Los Angeles Department of Water and Power has provided evidence that intake water from Los Cerritos channel is often higher than the CTR. We note that Los Cerritos Channel is on the 303(d) list for copper among other pollutants.*

#### **5. Comments from Matthew E. Cohen, Richards Watson Gershon law firm, on behalf of Cities of Artesia, La Mirada, and Norwalk**

**Comment 24:** The draft TMDL fails to consider other sources of pollution, especially air deposition. The TMDL does not provide scientific data or analysis sufficient to prove that the cities can effectively control and mitigate the net effect of that deposition, especially air deposition from Asia. EPA should encourage a graduated metal reduction program in the TMDL until air deposition studies of the State Water Board are completed. Source control alternatives may be more feasible than requiring cities to monitor and control runoff. When developing WLAs, EPA should consider the external sources and develop WLAs that recognize the difficulties cities will have in preventing pollution from these sources. The TMDL presumes that the cities can monitor facilities over which they have no jurisdiction, such as school districts, water districts, state entities and private landowners. EPA should ask the Regional Board to exercise regulatory jurisdiction over these facilities prior to the adoption of an implementation plan for the TMDL.

*RESPONSE: Much of this comment deals with implementation of the TMDLs, which is within the purview of the Regional Board. This response addresses the claim that the*

*cities are unable to address loadings from atmospheric deposition and other non-point sources. Nonpoint source load allocations are developed for the background loadings associated with direct atmospheric deposition and natural areas. Metals loadings in stormwater derived from atmospheric deposition are properly regulated through the stormwater permit. We note that atmospheric deposition includes copper from brake dust and zinc from tires which are deposited on lands near roads. Although municipalities may not have direct control over indirect atmospheric deposition, they do have control over infrastructures that facilitate pollutant washoff and discharge to the storm drain system and other surface waters. The storm water waste load allocations can be achieved by a mix of structural and non-structural BMPs and will not require massive infrastructure projects. See also response to comment #12 and response to comment #19.*

**Comment 25:** The scientific method and criteria employed are inadequate for the stated purpose. The TMDLs, if applied as strict numeric limits to the cities, will result in the application of CTR limits as end-of-pipe numeric limits to be met at all times. Several studies have demonstrated that current BMPs cannot consistently achieve the metals required to meet CTR levels. Dissolved metals generally cannot be removed through conventional BMPs. The data relied on in developing the TMDL utilized limited knowledge regarding, e.g., effect of aerial deposition, the appropriateness of the assimilative capacity study conversion factors, and the effectiveness of mandating numeric limitations rather than BMPs.

**RESPONSE:** *The proposed TMDL is based on sound science and was based on the input of numerous stakeholders. While more complete knowledge is always preferable, sufficient understanding of the science, including assimilative capacity, aerial deposition and so forth was considered for a complete, reasonable TMDL. The numeric targets and allocations are based on a straightforward application of CTR, which is the applicable water quality standard (See response to comment #11). We acknowledge that BMPs may not be sufficient to meet water quality standards at extremely high flows. The Regional Board is working with stake holders to address the issue of design storm. This work is being done through a technical design storm technical advisory committee that is part of the wet-weather task force established as part of the Basin Plan Triennial Review. Once established by the Regional Board, we believe the design storm concept could and should be incorporated into this and other TMDLs. The issue of site-specificity of BMPs must be addressed by the implementers. The TMDL does not call for certainty that BMPs will achieve water quality standards but reasonable assurances that water quality will be attained (See response to comment #7). For discussion on aerial deposition see response to comments #12 and #19.*

**Comment 26:** EPA's reliance on numeric limits in the metals TMDL is infeasible. EPA should consider recommendations of the State Board regarding use of numeric effluent limitations for stormwater permits. EPA should prohibit the Regional Board from establishing absolute numeric limits for BMPs.

**RESPONSE:** *EPA supports the use of BMPs in implementing WLAs in stormwater permits (see EPA's 2002 guidance) The TMDL is consistent with the recommendations*

of the State Board's Expert Panel as it allows for BMP type approaches to meet the waste load allocations. Water quality monitoring at key compliance points is the preferred mechanism for establishing compliance with the TMDL. We explicitly state that "storm water NPDES permittees will be found to be effectively meeting wet-weather load allocations if the load at the downstream monitoring is equal to or less than the loading capacity". We further go on to explain that "For practical purposes, this is when the EMC for a flow-weighted composite is less than or equal to the numeric target". See response to comments #7 and #22.

**Comment 27:** The TMDL needs substantial revision, EPA should postpone adoption of the TMDL until such revisions are made, and EPA should conduct a hearing to get the Cities recommendations on means of achieving compliance with the TMDL.

**RESPONSE:** EPA must establish the TMDL to meet the consent decree deadline of March 24, 2007. EPA prepared this TMDL based upon the Regional Boards TMDL which was developed with the input of numerous stakeholders, including cities under the MS4 permit.

#### **6. Comments from Daniel W. Keeseey, City of Laverne**

**Comment 28:** It is inappropriate to require cities to plan for El Nino sized storms in relation to wet-weather TMDLs. A design storm should be used as a benchmark instead.

**RESPONSE:** The Regional Board is working with stakeholders to address the issue of a design storm. This work is being done through a technical design storm technical advisory committee, which is part of the wet-weather task force established as part of the Basin Plan Triennial Review. Once established by the Regional Board, we believe the design storm concept could and should be incorporated into this and other TMDLs. See response to comment #22.

**Comment 29:** The U.S. Forest Service and other open space must be included in the TMDL.

**RESPONSE:** The TMDL assigns load allocations to nonpoint sources of metals, including open spaces in the Angeles National Forest. See response to comment #12.

**Comment 30:** Atmospheric deposition of metals is outside the jurisdiction and control of municipalities.

**RESPONSE:** Although municipalities may not have direct control over indirect atmospheric deposition, they do have control over infrastructures that facilitate pollutant washoff and discharge to the storm drain system and other surface waters. The Regional Boards, State Board, and Air Resources Board have begun to address the issues. They have expressed an intent to develop appropriate policies or take other actions to address atmospheric sources of metals. See responses to comments #12 and #19.

**Comment 31:** Orange County MS4 permittees will implement the TMDL differently than Los Angeles County MS4 permittees.

*RESPONSE: The TMDL allows for an approach based on Best Management Practices (BMPs) to meet the storm water waste load allocations in both Orange County and Los Angeles County MS4 permits.*

**Comment 32:** The application of CTR to storm water is inappropriate.

*RESPONSE: The water quality standards in the CTR apply to all surface waters in the Los Angeles Region. The San Gabriel River and tributaries are impaired due to exceedances of CTR objectives. The TMDLs in turn prescribe waste load allocations required to achieve these standards. The TMDL will not result in the application of CTR limits as end-of-pipe numeric limits for the storm water permittees. The TMDL acknowledges that waste load allocations for storm water may be implemented through best management practices. See response to comment #7*

**Comment 33:** It is unreasonable to apply waste load allocations to upstream, unlisted reaches, to achieve compliance in downstream reaches.

*RESPONSE: Addressing the impairing metals and selenium throughout the San Gabriel River watershed will ensure that they do not contribute to impairments elsewhere in the watershed. Metals and selenium allocations are therefore developed for upstream reaches and tributaries that drain to impaired reaches. Federal law requires that TMDLs include an assignment of load and waste load allocations to all sources of the impairing constituents (including natural background), even if constituents are being discharged to unimpaired tributaries of an impaired water.*

**Comment 34:** The Regional Board should be responsible for completing special studies.

*RESPONSE: The Regional Board will work cooperatively with stakeholders if they choose to conduct the voluntary special studies and has already committed funding for an atmospheric deposition study.*

**Comment 35:** An EIR or functional equivalent should be prepared for the TMDL.

*RESPONSE: EPA TMDLs do not include an implementation plan and are not subject to CEQA/NEPA requirements. See also responses to comments #5, #6, and #59.*

#### **7. Comments from Gerald Greene, San Gabriel River Watershed Management Area Committee**

**Comment 36:** The commenter suggested that San Gabriel Reach 2 should have been delisted.

**RESPONSE:** EPA's data assessment indicates that there is still an impairment in San Gabriel River Reach 2 (see responses to comments #40 and #60).

**Comment 37:** San Jose Creek selenium is based on dry-weather data and the commenter suggested that more recent data from LACSD indicates that the San Jose Creek Reach 1 is not impaired. The commenter also noted that selenium may be naturally high in certain soils and that groundwater may be the source. It was further noted that policies directed toward increasing pervious surfaces in the watershed may increase infiltration and result in more selenium being discharged to the river.

**RESPONSE:** With respect to selenium, we have reviewed the selenium data provided by LACSD. We acknowledge that selenium may be high in ground water. We received comments from the City of Industry, indicating that selenium in groundwater that flows to San Jose Creek averages around 13 ug/l and that recent sampling in San Jose Creek shows concentrations typically range from 3 to 7 ug/l. See response to comment #61.

EPA TMDLs do not include an implementation plan and do not require a particular compliance approach, such as increasing pervious surfaces in the watershed. If this approach were chosen, groundwater and surface water interactions could be studied to determine any potential for increased exfiltration of groundwater and discharge of selenium to the river.

**Comment 38:** Loads from the upstream sources are a small percentage of the total copper loading to the estuary. The copper in the San Gabriel Estuary is primarily from the power plant discharges which get their intake from Los Alamitos Bay. The concentration in the intake from Los Alamitos Bay is at times greater than the CTR value. The State Board did not list the San Gabriel Estuary for copper.

**RESPONSE:** While the upstream sources are a small percentage of copper loading, they nonetheless discharge to an impaired waterbody and must receive waste load allocations. These waste load allocations were assigned taking into account the relative contribution of upstream sources. The San Gabriel Estuary is currently listed as impaired for copper (See response to comment #6). EPA is not bound by the State Listing Policy. The State Board did not list copper in the Estuary because the available receiving water data was for total recoverable metals and the CTR criteria are for dissolved. However, CTR provides options for translating total recoverable metals data to dissolved metals, which was done in this TMDL. EPA considered both the frequency and magnitude of excursions to assess compliance and, based on a weight of evidence, determined that the water quality standard for copper is not attained. See also response to comment #74.

**Comment 39:** The commenter noted that Coyote Creek watershed is in two Regional Boards. More than half is in the Santa Ana Regional Board jurisdiction and suggested that the Santa Ana Regional Board should be the lead in the development of the Coyote Creek TMDL.



**RESPONSE:** *The impairments are in the portion of the Coyote Creek under the jurisdiction of the Los Angeles Regional Board. However, the TMDL assigns waste load allocations to upstream discharges located under the jurisdiction of the Santa Ana Regional Board. The Santa Ana Board is responsible for issuing permits in the Santa Ana Region (with the exception of statewide permits or possible watershed-specific permits) and enforcing those permits. See response to comment #2.*

**Comment 40:** The commenter suggested that San Gabriel Reach 2 should not be listed for lead. They argue that the data do not indicate impairment. Most of the exceedances were related to high flow or fire-related. There has only been one exceedance in the last five years. Some of the samples are not temporally independent. TMDL targets for lead in the San Gabriel Reach 2 are 4 times higher than has ever been seen in storm water samples.

**RESPONSE:** *The three exceedances during the 1997/98 storm season occurred over the whole season over several storm events. The two additional exceedances occurred in 2001 and 2005. All of the samples demonstrating impairment are thus temporally independent. Potential reasons for the exceedances, such as recent fires or high rainfall, do not justify the impairments or dispute the independence of the samples. The CTR criteria, against which the assessments were made, apply at all times during wet and dry weather. There are no exceptions for very large storm events. See response to comment #60.*

**Comment 41:** EPA testified that CTR would not be applicable to stormwater.

**RESPONSE:** *EPA's responses to comments on CTR did not express intent to exempt storm water. EPA's responses merely anticipated that BMPs would be used to implement standards like CTR where infeasible or insufficient information exists to develop WQBELs. See response to comment #7.*

**Comment 42:** The CTR was not based on the total metals. The TMDLs should have been predicated on the completion of site-specific objective (SSO) or water-effect ratio (WER) studies.

**RESPONSE:** *Dischargers may develop site-specific objectives or water-effect ratios if they choose.*

**Comment 43:** The use of the CTR default conversion factor to translate between total recoverable metals and the dissolved fraction is an excessively conservative assumption.

**RESPONSE:** *The assumptions are not excessively conservative for dry weather. They may be over conservative for stormwater. Site-specific defaults were developed for copper, lead and zinc in Coyote Creek. The CTR default value was used for lead in San Gabriel River Reach 2 because development of a site-specific was not justified by the data. See responses to comments #11 and #65.*

**Comment 44:** The TMDL document states that “the loading of metals associated with indirect atmospheric deposition are accounted for in the estimates of the storm water loading. Once metals are deposited on land under the jurisdiction of a storm water permittee, they are within a permittee’s control”. The SGRWMAC disputes this assertion.

*RESPONSE:* Although municipalities may not have direct control over indirect atmospheric deposition, they do have control over infrastructures that facilitate pollutant washoff and discharge to the storm drain system and other surface waters. The Regional Boards, State Board, and Air Resources Board have begun to address the issues and will develop appropriate policies or take other actions to address atmospheric sources of metals. See responses to comments #12 and #19.

**Comment 45:** The TMDL notes that metals can be associated with sediments. The commenter questioned the assumption that all metals are potentially dissolved.

*RESPONSE:* The model assumed that metals are associated with sediment for the purpose of estimating loading. This does not contradict the assumption that once metals are loaded to receiving water, there is a potential for dissolution. Furthermore, the assumption is that a certain fraction of metals are dissolved, not that all metals are potentially dissolved.

**Comment 46:** The SGRWMAC disagrees with the assertion that metals deposited on land under their jurisdiction are within their control. Examples include general industrial or construction permit site discharge to the MS4 or runoff from a state college or military base.

*RESPONSE:* See response to comment #12.

## **8. Comments from John D. Ballas, City of Industry**

**Comment 47:** City of Industry commented that selenium should not be included in this TMDL (since it is not on the existing 303(d) list). City of industry samples indicate high selenium concentrations averaging 13 ug/l that come from groundwater and are part of the natural background. If included, the selenium target should be around 15ug/l to reflect natural background.

*RESPONSE:* The selenium target is set to protect aquatic life and wildlife beneficial uses in San Jose Creek. The TMDL acknowledges that much of the selenium may result from natural soils in the watershed. However, anthropogenic activities that mobilize groundwater to the surface, such as dewatering activities and irrigation, can exacerbate the problem. See responses to comments #37 and #61.

## **9. Comments from Dawn White, Golden State Water Company**

**Comment 48:** Golden State Water Company noted that they have about 30 permits in the watershed for filter backwash and well maintenances. The MCLs for copper are above the CTR limit. Their detection limits for copper are above the CTR and the detection limits for selenium are equal to the CTR. They are concerned about the impact to the water industry and the potential for the TMDL to force costly treatment which could force them to take some water sources off line.

*RESPONSE: The CTR-based numeric targets for copper and selenium are more stringent than drinking water MCLs because they are for the protection of aquatic life, which is the most sensitive beneficial use of the water body. Detection limits are not related to actual environmental impacts and do not constitute an acceptable basis for setting water quality criteria. There are analytical methods available to dischargers with detection limits lower than the CTR criteria for copper and selenium.*

#### **10. Comments from Chris Crompton, County of Orange**

**Comment 49:** County of Orange is concerned that EPA appears to be imposing wasteload allocations for nonimpaired waters. They indicate that no distinction is made between the lower reach of Coyote Creek which is listed as impaired by the Los Angeles Regional Board and the upper portion of Coyote Creek which is not listed as impaired by the Santa Ana Regional Board. They request that waste load allocations for the upper portion of Coyote Creek be deleted from the TMDL.

*RESPONSE: Allocations are assigned to upstream reaches and tributaries to meet TMDLs in downstream reaches. Discharges to upstream reaches can cause or contribute to exceedances of water quality standards and contribute to impairments downstream. See responses to comments #6, #38 and #74.*

**Comment 50:** County of Orange requested EPA to emphasize that sections related to implementation and monitoring be EPA recommendations, since implementation is ultimately the responsibility of the Regional Board.

*RESPONSE: EPA will emphasize that these sections are merely recommendations.*

**Comment 51:** County of Orange requested explicit language which states that municipal discharges will meet their allocations through best management practices (BMPs) and not numeric limits. They referenced EPA comments on the CTR and the State's Blue Ribbon panel on stormwater.

*RESPONSE: The TMDL allows for BMP type approaches to meet the waste load allocations. See response to comment #7. Water quality monitoring at key compliance points is the preferred mechanism for establishing compliance with the TMDL. We explicitly state that "storm water NPDES permittees will be found to be effectively meeting wet-weather load allocations if the load at the downstream monitoring is equal to or less than the loading capacity". We further go on to explain that "For practical*

purposes, this is when the EMC for a flow-weighted composite is less than or equal to the numeric target”.

**Comment 52:** County of Orange is of the opinion that the approach used to develop wet-weather targets results in a concentration limit and does not meet the CWA requirements for developing a TMDL.

**RESPONSE:** *The approach used to develop wet-weather allocations is not unique to this TMDL. This approach has been used in many EPA-approved TMDLs in Southern California and across the country. It is important to note that the load-duration curves are not the allocations but represent the allowable load of a pollutant to the river for any given storm event. The allocations in the TMDL are expressed as a percentage of the allowable load (See response to comment #11a). The TMDL does not assign concentration-based limits to stormwater (See response to comment #7)..*

**Comment 53:** County of Orange feels that the proposed TMDL does not provide an adequate explanation for why the TMDL is expressed in total recoverable metals instead of dissolved metals when the CTR is based on dissolved metals.

**RESPONSE:** *The TMDL is designed to meet the dissolved criteria. The TMDL is expressed in terms of total for three specific reasons: 1) There is uncertainty in the relationship between the total and dissolved phase. In the absence of certainty about the sorption/desorption of metals in the receiving water, the targets are based on the total recoverable fraction. If the targets and the waste load allocations set to meet the targets were expressed in the dissolved form, additional particulate metals could dissolve in the receiving water causing the criteria to be exceeded. 2) Most of the monitoring data from dischargers is expressed in terms of total recoverable. 3) The expression of the metals in terms of total recoverable metals provides a common currency for keeping track of the mass of the pollutant.*

**Comment 54:** County of Orange feels that the proposed TMDL does not adequately explain why it is appropriate to use the default CTR conversion factors when both EPA and the Regional Board acknowledge that these factors tend to overestimate the dissolved fraction in stormwater. There was also some discussion about EPA’s use of the term uncertainty when discussing numeric targets.

**RESPONSE:** *Site-specific defaults were developed for the wet-weather condition for copper, lead and zinc in Coyote Creek. The CTR default value was used for lead in San Gabriel River Reach 2 because development of a site-specific was not justified by the data. See response to comment #11b.*

**Comment 55:** County of Orange feels that the assignment of a load allocation to stormwater for direct atmospheric deposition is inconsistent with the Los Angeles Regional Board statement that the issue of atmospheric deposition should be studied for five years before considering whether reductions in atmospheric metals should be included in waste allocations for MS4 permits.

**RESPONSE:** *The Regional Board stated that indirect atmospheric deposition was properly accounted for in the storm water waste load allocations because storm water permittees have control over infrastructures that facilitate pollutant washoff and discharge to the storm drain system. The Regional Board stated that the special studies are voluntary and could be used to further characterize the source and determine control measures. See responses to comments #12 and #19.*

**Comment 56:** County of Orange expressed the opinion that the TMDLs should not address potential uses and that the Water Board is only required to protect existing and probable uses.

**RESPONSE:** *EPA must protect both potential and existing uses. The toxicity standards (which are a reflection of national policy prohibiting the discharge of toxic pollutants in toxic amounts) are designed to protect presumptive uses under section 101 of the Clean Water Act. The CTR criteria are set to protect both existing and potential beneficial uses of the water body. See response to comment #13.*

#### **11. Comments from Robert G. Asgian, County Sanitation Districts of Los Angeles.**

**Comment 57:** USEPA is not required by the Consent Decree (CD) to establish the TMDL and thus should not take over the State's responsibility for establishing the TMDL. The impetus for USEPA's action appears to be solely related to the consent decree between USEPA and Heal the Bay. However, the consent decree does not require establishment of TMDLs for any of the waterbody-pollutant combinations currently under consideration by USEPA, because none of them are included on the 2002 or 2006 303(d) lists. All the waterbody-pollutant combinations in Analytical Unit 39 of the consent decree have either been removed from the 303(d) list or never were on the list. There is no evidence that San Jose Creek is impaired for lead. It appears that Heal the Bay does not agree with the Regional Board's conclusion that a typographical error resulted in San Jose Creek Reach 2 being included rather than San Gabriel River Reach 2. Regardless of the assertion that San Gabriel River Reach 2 should be included under the CD, the CD cannot be changed without written notification and stipulated agreement by the parties to the CD. San Gabriel River Reach 2 is not impaired for lead.

**RESPONSE:** *In the 1996 303(d) list, San Jose Creek Reach 2, San Jose Creek Reach 1 and San Gabriel River Reach 2 were all listed for lead. San Jose Creek was delisted for lead in the 1998 303(d) list. There is no lead listing for San Jose Creek in the 1998 303(d) list, the 2002 303(d) list or the 2006 303(d) list. There is a listing for lead in San Gabriel River Reach 2 in the 1998 303(d) list, the 2002 303(d) list and the 2006 303(d) list. The Consent Decree, which was finalized in March 1999 and was supposed to reflect the 1998 303(d) list, identifies the need to address lead in San Jose Creek Reach 2 rather than San Gabriel River Reach 2. There is no other explanation for this other than a typographical error in the Consent Decree. We agree that San Jose Creek Reach 1 is not impaired due to lead. We disagree with the contention that a TMDL is not required for San Gabriel Reach 2 (per the Consent Decree) and that San Gabriel Reach 2 is not*



*impaired. As discussed above, it is clear that at the time the Consent Decree was signed the 1998 303(d) list identified San Gabriel Reach Reach 2 as impaired by lead. EPA's data assessment indicates that there is still a condition of impairment in San Gabriel River Reach 2 (see response to comment #60). The commenter's quotation from a previous comment from Heal the Bay does not suggest that Heal the Bay disagrees that the inclusion of San Jose Creek Reach 2-lead in Analytical Unit 39 was a typographical error. Rather, the comment indicates a concern by Heal the Bay with notice requirements in the Consent Decree. EPA has fully complied with the Consent Decree in establishing these TMDLs and has given Heal the Bay all the necessary notices.*

**Comment 58:** (a) The TMDL as currently proposed by USEPA must include an implementation plan and compliance schedule. Adoption of the current TMDL without a compliance schedule would represent a significant cost burden for the Districts and could result in the unnecessary destruction of natural resources and unnecessary construction of facilities that will no longer be needed after the Puente Hills Landfill closes in 2013. Without an incremental approach to meeting the WLAs, large structural BMPs will have to be installed, with no guarantee that they will perform adequately. USEPA shouldn't put the Districts in the position of potentially expending close to \$900 million to comply with the TMDL when it is not required by the consent decree. EPA does not have a mandatory duty to establish TMDLs in California. EPA should either refrain from establishing these TMDLs since they are not required by the consent decree; adopt a "phased" TMDL (citing EPA's August 2, 2006 Memorandum on "Clarification Regarding 'Phased' TMDL Loads"); or adopt a TMDL with staged implementation (also citing the 2006 Memorandum). If any TMDL is adopted, USEPA's 1991 guidance recommends that the TMDL include a schedule or time frame within which water quality standards are expected to be met. This is equivalent to a compliance schedule. USEPA has authority to establish compliance schedules when acting in the shoes of the State, as EPA did in the CTR. The CWA does not require that TMDLs be implemented within a specific period of time. (b) The Puente Hills Landfill is the largest active landfill in the United States and is tributary to Reach 2 of the SGR. Under State law, operation of the landfill requires that infiltration be minimized, and also that exposed soils are present daily. Stormwater discharges from fine soil-based landfill cover systems can contain large amounts of suspended solids, which contain naturally-occurring metals. Thus, compliance with State requirements as to landfills could jeopardize the ability to comply with the WLAs in the TMDL. If large structural BMPs are required, this will destroy hundreds of acres of open space and require purchase of large amounts of private property. However, the need for large structural BMPs will be greatly reduced in 2013, when the Landfill closes and the final cover is constructed and vegetated. (c) Even if EPA believes the correct impairment that should have been included in Analytical Unit 39 in the Consent Decree was lead for SGR Reach 2, that reach is no longer impaired for lead.

**RESPONSE:** (a) *We disagree that significant uncertainty exists to necessitate a phased TMDL. As indicated in EPA's August 2, 2006 memo, which clarifies EPA's 1991 guidance, EPA recommends that the term "phased TMDLs" be limited to TMDLs that for scheduling reasons need to be established despite significant data uncertainty and where the State expects to reevaluate and revise the TMDL in the near future as new*

information is collected. Phased TMDLs include the elements of a regular TMDL and must be established at levels necessary to achieve applicable water quality standards. Inasmuch as this TMDL is not being established in the face of significant data uncertainty, a phased TMDL as described in the EPA memo would not be appropriate here. In these TMDLs, the numeric targets and waste load allocations are based on a straightforward application of CTR. The TMDL allows for implementation of WLAs through best management practices (BMPs). It is unlikely that the State Board will strictly apply the WLAs for this TMDL as numeric effluent limits in the revised statewide general industrial permit. The Regional Board is working with stake holders to address the issue of design storm. This work is being done through a technical design storm technical advisory committee which is part of the wet-weather task force established as part of the Basin Plan Triennial Review. Once established by the Regional Board we believe the design storm concept could and should be incorporated into this and other TMDLs.

In terms of implementation, EPA regulations do not include an implementation plan as a mandatory part of TMDLs developed by EPA, and EPA TMDLs do not include implementation plans. Implementation is the responsibility of the State. If the State decides that staged implementation is desirable as to point sources, that could be done either through time schedule orders, existing State provisions authorizing compliance schedules in NPDES permits, or by obtaining EPA approval for a new provision authorizing compliance schedules in NPDES permits pursuant to EPA's Star-Kist Caribe Administrator decision, *In re Star-Kist Caribe, Inc.*, 3 EAD 172 (1990), modification denied, 4 EAD 33 (Environmental Appeals Board 1992), and 40 CFR 131.13. (b) To address the commenter's concern over the landfill, we note that the landfill is covered under the general industrial stormwater permit. As discussed above it is unlikely that the State Board or Regional Board would strictly apply WLAs established in this TMDL as permit limits to a discharger regulated under the general industrial stormwater permit. In fact the language of the TMDL clearly expresses the intent to use BMPs. It also emphasizes that compliance with the TMDLs would be based on concentrations at the downstream compliance point rather than at the end of the pipe. (c) Regarding the lead impairment for SGR Reach 2, see response to comments #16, #57 and #60.

**Comment 59:** USEPA is allowing the State to circumvent its responsibilities under CEQA. The Districts have identified several areas for which the Regional Board's CEQA analysis was inadequate, and it is the commenter's understanding that the Regional Board's SGR metals TMDLs were delayed from consideration by the State Board so that the Regional Board could refine its CEQA analysis. With the lack of a compliance schedule regarding the Puente Hills Landfill, the TMDLs will result in unmitigatable significant impacts. By taking over this TMDL, USEPA is allowing the State to circumvent State law regarding CEQA, because there is no guarantee (and no requirement) that the State will complete its process to adopt the metals TMDL, including full compliance with CEQA, once USEPA has established it.

**RESPONSE:** EPA is not circumventing the State's CEQA requirements, but is rather acting to meet the consent decree timeline. The Regional Board fully intends to complete

*its process to adopt the metals TMDLs, including completion of the CEQA process. It is anticipated that the Regional Board will have a version of the San Gabriel River Metals and Selenium TMDLs at the September 2007 Regional Board Meeting (Letter from Jonathan Bishop to Alexis Strauss dated March 12, 2007).*

**Comment 60:** Reach 2 of the San Gabriel River is not impaired with regards to lead. The Regional Board's and EPA's analysis of the lead data differs significantly from the State's Listing Policy (i.e., treatment of non-detects, calculation of chronic exceedances, separate analysis for wet and dry weather conditions). LACSD's analysis indicates that only 4 out of 64 samples showed exceedances (as opposed to the 5/64) threshold, and that three of these samples were collected over a 2 month period and therefore not temporally independent. The wet-weather target of 166 ug/l is too conservative. Since this reach is not impaired, a TMDL is neither required nor appropriate.

**RESPONSE:** *San Gabriel Reach 2 is currently listed for lead and a TMDL is required. The State Board retained the listing for lead in San Gabriel River Reach 2 because the disagreement among stakeholders was based on the difference between one or two exceedances and the Listing Policy requires the use of discretion in such cases. EPA supports the State's decision to retain the listing based on application of the State's Listing Policy. However, it is important to note that EPA is not bound to methodology in the State's Listing Policy. EPA is required to assess water quality based on EPA approved standards and/or federal listing regulations and EPA guidance. In this case, the applicable standards are contained in CTR, which states that the allowable excursion frequency is once in three years on average. Therefore, two exceedances in three years on average equates to impairment. Furthermore, three exceedances in six years on average and four exceedances in nine years on average equate to impairment. Thus, even if one of the exceedances in the 1997/98 storm season is excluded from the analysis, as proposed by LACSD, four exceedances in nine years, regardless of the number of total samples or whether wet and dry samples are combined, equates to impairment.*

*The samples contained in the data set meet the temporal independence requirement of the State Listing Policy. The three exceedances during the 1997/98 storm season occurred over the whole season and over several storm events. The two additional exceedances occurred in 2001 and 2005. All of the samples demonstrating impairment are thus temporally independent.*

*The wet-weather target is not too conservative and will protect aquatic life uses during short-term storm events. The argument that the wet-weather target is too conservative is contradicted by the fact that the samples from the compliance point has not been shown to exceed that target.*

**Comment 61:** San Jose Creek is not impaired for selenium and no TMDL for this waterbody-pollutant combination should be established by USEPA. The Districts have identified additional representational data that should be considered by USEPA in determining if this reach is impaired for selenium. USEPA's analysis was based on 11 out of 78 samples. Since then, the Districts have compiled additional data which includes

78 samples (July 05 to Dec 06), SCCWRP samples (Sept 02 and Sept 03), and 38 samples from the Montebello Forebay Dewatering (2005-2006). These result in 203 independent samples. Based on this analysis, 16 out of 203 samples exceed the CTR criterion and therefore the reach should not be listed.

***RESPONSE:** With respect to selenium, we accept the analysis performed by LACSD, which indicates that only 16 out of 203 samples exceed the CTR criterion of 5 ug/l. We note, however, that 16 exceedances between 2001 and 2006 require a listing per the CTR-allowable excursion frequency and that 17 out of 203 exceedances would require a listing per the State Board Listing Policy. We also note comments from the City of Industry, which suggest that selenium in groundwater that flows to San Jose Creek averages around 13 ug/l based on 4 years of monthly sampling. More recent sampling in San Jose Creek suggests that concentrations range from 3 to 7 ug/l. Although these data were not submitted as part of their comments, it seems clear that there are exceedances of the selenium standard in San Jose Creek.*

**Comment 62:** Specific guidance should be included in the TMDL for translating TMDL-based wasteload allocations (WLAs) into permits. Currently, the TMDLs recommend applying SIP procedures or other applicable engineering practices authorized under federal regulations in setting NPDES permit limitations. With other TMDLs, use of the SIP procedures has resulted in numbers much lower than the WLAs. A permit limit that is half of a TMDL allocation is not consistent with the TMDL. The commenter believes that “consistent” should be interpreted to mean “equal to” the WLAs. The commenter requests that USEPA add recommendations to the TMDL that the allocations in the TMDL be placed directly into permits upon a determination that reasonable potential exists for the pollutant at each discharge. The sentence that permit writers can translate the wasteload allocations into effluent limitations using SIP procedures should also be deleted.

***RESPONSE:** EPA’s Environmental Appeals Board has considered the issue of whether water quality based effluent limits (WQBELs) in NPDES permits must be identical to WLAs in TMDLs and has determined that they need not be, so long as they are consistent [See City of Moscow Idaho, NPDES Appeal no. 00-10 (Environmental Appeals Board, July 27, 2001)]. It may be that in specific cases, the permitting authority finds that under State or federal permit requirements, it is necessary to set WQBELs more stringent than direct application of the WLAs would require. Permit writers must write permits that take into account variability and still meet the numeric targets established in this TMDL and to maintain water quality standards in the San Gabriel River. As noted in response to comment #7, the TMDL emphasizes the use of best management practices (BMPs) to set WQBELs.*

**Comment 63:** USEPA should not place certain waterbody/pollutant combinations on the 303(d) list that the State Board has recently determined should not be listed. On the 303(d) list approved by the State Board in October 2006, the only metals listings for SGR watershed are SGR Reach 2 for lead and Coyote Creek for copper. The commenter is submitting data to show that San Jose Creek Reach 1 is not impaired for selenium. The



purported impairments for Coyote Creek lead and zinc, and copper for the estuary were reviewed by the State Board in October 2006 and determined not to be impaired. EPA's proposed TMDL relies on the same data set used by the State Board. EPA should follow the State Listing Policy. In determining impairment and setting water quality standards, the State has primacy. When standing in the shoes of the State, EPA should be held to the same requirements, policies, and procedures as the State. The proposed TMDL provides no findings or evidence of actual impairment.

**RESPONSE.** *While the State is primarily responsible for determining impairment and setting water quality standards, the Clean Water Act specifically requires EPA to review state determinations and, if it disapproves a WQS or list submission, to revise the list or WQS. EPA and the Regional Board looked at the data during the preparation of the TMDL. We disagree with the State Board on the delisting of Coyote Creek for lead and zinc. EPA is not bound by the State Listing Policy but by the requirements of the Clean Water Act. EPA reviewed the data relied on by the State Board in October 2006 and assessed compliance with the CTR-allowable excursion frequency of once in three years on average. Based on this analysis EPA determined that Coyote Creek is impaired for lead with 7/62 exceedances and zinc with 6/62 exceedances over a nine-year period.*

*Some of the data presented in the TMDL were not considered by the State Board during the 2006 303(d) listing cycle because they were for total recoverable metals. We disagree with the exclusion of this readily available data, which can be used to assess compliance with dissolved standards using translators.*

*With regard to the selenium impairment for San Jose Creek Reach 1, we have considered the data submitted by the commenter and have concluded that this segment should be considered impaired for selenium. See response to comment #61 for more on selenium.*

*On March 8, 2007, EPA added the following waterbody-pollutant combinations to the State's 303(d) list: Coyote Creek for lead and zinc, San Jose Creek for selenium and the Estuary for copper. See responses to comments #6 and #16.*

**Comment 64:** The TMDL should be consistent with the findings of the State Board's Panel on Numeric Limits for Stormwater Discharges, which studied whether it is technically feasible to develop numeric limits or other quantifiable measures for inclusion in stormwater permits. The TMDL does not identify a design storm in order to appropriately size the Best Management Practices (BMPs). Stormwater agencies should not be held accountable for pollutant removal from storms beyond the size for which a BMP is designed. BMPs should be site-specific. The TMDL does not specify a design storm for BMPs and compliance. The stormwater agencies should not be held accountable for storms that are larger than the design storm. Without a design storm the agencies are force to handle very large storms. This is contrary to the incremental implementation approach used in the General Industrial Permit.

**RESPONSE:** *The TMDL is consistent with the recommendations of the State Board's Expert Panel. The TMDL allows for BMP approaches to meet the waste load allocations*



(See response to comment #7). Water quality monitoring at key compliance points is the preferred mechanism for establishing compliance with the TMDL. The TMDL explicitly states that “storm water NPDES permittees will be found to be effectively meeting wet-weather load allocations if the load at the downstream monitoring is equal to or less than the loading capacity’.... ‘For practical purposes, this is when the EMC for a flow-weighted composite is less than or equal to the numeric target”. The TMDL does not specify a design storm, the Regional Board is working with stakeholder to address the issue of desing storms. This work is being done through the Design Storm Technical Advisory Committee that is part of the Wet-weather Task Force established as part of the Basin Plan Triennial Review. Once established by the Regional Board, we believe the design storm concept could and should be incorporated into this and other TMDLs. See response to comment #22.

**Comment 65:** The TMDL allocations are overconservative because they are based on dissolved not total metals concentration. One example is the use of the default value in the CTR of 0.709 to translate total metals to dissolved metals. They suggested a value of 0.043 because lead has a low solubility and is unlikely to go into solution. They also noted that soils have natural lead.

**RESPONSE:** The data presented by LACSD are stormwater runoff from the Puente Hills landfill where they admittedly have high suspended solids in the runoff. These data showed no relationship between total and dissolved lead concentrations. These data may not be entirely applicable to stormwater in the rest of the watershed. However, analysis of eight years of stormwater data from San Gabriel River Reach 2 also failed to reveal a relationship (See TMDL, Table 3-3). It should be noted that the CTR does not always overestimate the dissolved fraction (See TMDL, Figure 6), so in this sense it would not be overly conservative. Lacking data to show a relationship that would translate between total recoverable lead and dissolved, the TMDL applies the hardness adjusted CTR default value to lead in San Gabriel River Reach 2. We encourage further research into this question. The Regional Board may reevaluate the use of translators when it reconsiders the TMDL. See response to comment #11.

**Comment 66:** The TMDL should provide relief from compliance in the event of extreme natural events or occurrences.

**RESPONSE:** This comment will be forwarded to the Regional Board for its use in developing implementation measures for these TMDLs. See also response to comment #22.

**Comment 67:** Table 1 of the proposed TMDL is misleading because it does not represent the seasonality of the impairments.

**RESPONSE:** Table 1 reflects the current list of waterbody impairments under section 303(d) as approved by EPA on March 8, 2007 (See response to comment #6). The 303(d) list does not make reference to seasonality of impairment. Discussion of exceedances in

relative to dry-weather or wet-weather is reflected in the TMDL and summarized in Table 2-9.

**Comment 68:** The USEPA did not accurately represent the history of the impairments being addressed in this TMDL.

**RESPONSE:** *Our intent in stating that these impairments were identified during the State process was to demonstrate that the public had the opportunity to comment on the identification. See response to comment #6 regarding EPA's March 8, 2007 listing decision. The TMDL has been modified to include mention of this decision.*

**Comment 69:** The regression  $R^2$  values are greater than 0.6 for the analyses of storm water data in Coyote Creek. These values suggest a reasonable linear relationship between the dissolved and total data measured in Coyote Creek. USEPA should provide justification for not using the site-specific relevant data and instead opting for less representative default conversion factors.

**RESPONSE:** *EPA reevaluated the regressions used in the draft San Gabriel TMDL (Figures 6,7,8,9 and Table 3-4). We agree that the regressions in Coyote Creek suggest a reasonable relationship between the dissolved and total metals data. The TMDL has been revised to include provisional site-specific translators for copper, lead and zinc of 0.53, 0.64 and 0.78 (See response to comment #11). The Regional Board may reevaluate the use of provisional site-specific translators when it reconsiders the TMDL.*

**Comment 70:** The commenter requested that Tables 4-6, 4-7, 4-8 and 4-9 be altered to include information on selenium concentrations and loadings.

**RESPONSE:** *Selenium has been added to the tables as requested.*

**Comment 71:** If lead continues to be included for SGR Reach 2, the commenter requests that USEPA adopt dissolved targets and allocations within this TMDL even if an explicit margin of safety must be used in conjunction with dissolved allocations.

**RESPONSE:** *EPA is not changing the allocation scheme in this document. We believe this comment is related to concern over potential liability associated with runoff from the Puente Hills Landfill. The Regional Board has already indicated that it will continue to use a BMP approach for industrial stormwater permits regulated under this TMDL. Compliance with the TMDL will not be evaluated at the end of pipe but will be determined at the LADPW gaging station downstream of the landfill. It is also expected that both total and dissolved fractions will be measured and that assessments of water quality impairment will be based on dissolved when it is available rather than total recoverable fraction. The Regional Board provided an implementation schedule in its version of the TMDL that would allow time for LACSD to proceed with the planned closure of the landfill. It is anticipated the Regional Board TMDL will be heard at the September 2007 Board meeting.*

**Comment 72:** The Districts attached a copy of their comments to the Regional Board on similar TMDLs submitted on June 19, 2006.

*RESPONSE: EPA has reviewed these comments and the Regional Board's responses to them and do not consider that an additional response is necessary.*

**Comment 73:** The Districts also attached to their comment letter a copy of a letter sent to the State Board on October 25, 2006 regarding the State metals TMDLs for SGR.

*RESPONSE: These comments either reiterate comments discussed above or deal solely with implementation, which is within the purview of the State.*

## **12. Comments from Katherine Rubin, City of Los Angeles, Department of Water and Power**

**Comment 74:** Development of a binding TMDL for the Lower San Gabriel Rivers (LSGR) is inappropriate since the LSGR is not listed on the 303(d) list. The impacts are due to upstream sources. The addition of San Gabriel Estuary denied the opportunity for public comment and participation. If a TMDL is truly warranted it should be informational. Since the LSGR is not listed as impaired, the administrative requirements for an impairment listing have not been met, and the public has not had the opportunity to submit separate comments on the listing decision. Therefore, the USEPA should not develop a copper WLA for the LSGR in their TMDL at this time unless the WLA is "informational" per the Clean Water Act"

*RESPONSE: The water quality data summary demonstrates impairment and provides adequate justification for assigning a copper TMDL for the Estuary. EPA is not bound by the State Listing Policy. The State Board did not list copper in the Estuary because the available receiving water data was for total recoverable metals and the CTR criteria are for dissolved. However, CTR provides options for translating total recoverable metals data to dissolved metals, which was done in this TMDL. EPA considered both the frequency and magnitude of excursions to assess compliance and, based on a weight of evidence, determined that the water quality standard for copper is not attained (See response to comment #6).*

*Based on LACSD Estuary monitoring data, the copper criterion was exceeded in every sample that was analyzed using detection limits below the criterion. The copper data provided by the commentor confirms the copper impairment in the Estuary. Thirteen out of 25 total samples exceed the copper criterion. The locations sampled by LACSD are within the influence of the power plant. The field data and model results submitted by LADWP indicate that the power plant discharge does contribute to impairments in the estuary. Regardless of the source, there is an impairment of copper in the Estuary. All sources discharging to the Estuary must therefore receive an allocation.*

**Comment 75:** LADWP requested that this TMDL be modified to be a phased TMDL. Phase 1 would include development and implementation, special studies and calculation

of waste load allocations. They suggested that a phased TMDL is appropriate since copper in the estuary is not part of the 1998 Consent Decree. Due to the unknowns regarding the sources of copper in Alamitos Bay (AB) and the Long Beach Marina (LBM), (source water to the HnGS influent, the LADWP request that copper in the LSGR be removed from the TMDL document. However, if copper in the LSGR is to be included in the TMDL document, LADWP recommends the documents be revised to include a phased approach for copper. This would allow for more information to be gathered regarding the sources of copper in the AB and LBM which are introduced to the LSGR via the power plant, and also correctly determine WLAs for the sources and their respective contributions.

***RESPONSE:** We disagree that significant uncertainty exists to necessitate a phased TMDL because the numeric targets and waste load allocations are based on a straightforward application of CTR. (See response to comment #58). We acknowledge in the TMDL that the intake water from Los Alamitos Bay at times exceeded the CTR value. However, potential sources of copper in Alamitos Bay and the Long Beach Marina are not assigned WLAs because they do not discharge to the Estuary. The Power Plants discharge this water to the Estuary via their cooling water intake structures and are therefore the recipients of WLAs.*

**Comment 76:** The Haynes Generating Station (HnGS) withdraws once-through cooling water from the San Pedro Bay via Alamitos Bay. HnGS Station does not appear to be “adding” significant amounts of copper into the receiving water. Moreover, the copper concentrations do not exceed CTR criteria downstream of the power plants. USEPA should delete the incorrect WLAs for copper in the LSGR and state in the TMDL document that copper WLAs will be recalculated when an assessment of contributing sources of copper is complete. In addition, WLAs for copper should be for an informational TMDL per the Clean Water Act until USEPA approves 303(d) listing for copper in LSGR.

***RESPONSE:** EPA provided the rationale for the copper listing and noticed the action during the TMDL process (See response to comment #74). EPA added the copper listing to the estuary to the 303(d) list on March 8, 2007. Informational TMDLs are not an option for listed waters (See response to comment #6).*

**Comment 77:** USEPA staff should involve stakeholders from the property owners, boat owners and other potential discharges to the Alamitos Bay so that they can participate in the development of the TMDS once the LSGR has been listed as impaired. Participants should be made aware of product substitution options without copper as well as their implementation schedule. Paint manufacturers should also be informed about this TMDL and be allowed to participate in discussions.

***RESPONSE:** EPA acknowledged in the TMDL that the intake water of the power plant may contain high concentrations of copper. We also note that Los Cerritos Channel which drains into Alamitos Bay is on the 303(d) list for a number of pollutants including copper. The Regional Board is beginning the planning process for development of the*

*Los Cerritos Channel TMDL. We encourage stakeholders to participate in the development of that TMDL.*

**Comment 78:** The USEPA should recognize that the major source of water to the LSGR is the San Pedro Bay via Alamitos Bay and Long Beach Marina. Thus, sources of copper to Alamitos Bay, whether from ships in San Pedro Bay, boats in the marine, storm drains, or elsewhere, should be addressed and assigned WLAs as necessary. Again, these WLAs would be part of an “informational” TMDL per the Clean Water Act and mentioned previously.

**RESPONSE:** *We acknowledge that the most of the water in the estuary is from intake water drawn from Alamitos Bay. We disagree that San Pedro Bay is a significant source of copper to the estuary. Background concentrations for California Coastal waters are around 0.1 ug/l (Flegal et al., 1991). We disagree with the contention that Coyote Creek is the main source of the copper impairment since the volume of waters from Coyote Creek is small relative to the volume of water discharged from the power plant. Nonetheless, the TMDL does provide WLAs for copper discharges to Coyote Creek and the Lower San Gabriel River.*

**Comment 79:** If a TMDL for copper is to be assigned to San Gabriel River, it should be for Coyote Creek, as it may be the main source of copper that cause measured impairments to the upper LSGR.

**RESPONSE:** *The TMDL does provide WLAs for copper discharges to Coyote Creek and the San Gabriel River Reach 1. As discussed in the TMDL, the power plant discharges are the predominant source of copper loadings to the Estuary. While the comment is correct in noting that many of the copper exceedances were recorded at sampling stations above the power plant outfalls, these stations do not appear to be above the influence of the power plant discharge. Regardless, the Estuary is impaired for copper and all discharges to the Estuary must receive an allocation.*

**Comment 80:** Data gaps and missing information make development of a TMDL for the LSGR inappropriate at this time. The LADWP’s hydrodynamic study provides a better understanding of the conditions in the LSGR with continuous flow provided by the power plants. The yet-to-be-released SCCWRP modeling study has empirical data that supports the LADWP study. The USEPA should cite these sources of information to show the need for addressing sources of copper to San Pedro Bay and Alamitos Bay, which are the main sources of water to the LSGR.

**RESPONSE:** *We acknowledge the complex nature of the Estuary and the simplification of the allocation approach. EPA has reviewed the information provided by Flow Science and the two recent studies prepared by USGS (Rosenberger et al., 2007) and by SCCWRP (Ackerman and Stein., In Press). The conclusions of these studies suggest that most of the flow in the estuary is from the power plant, there is little dilution from ocean water, the net flow is largely unidirectional toward the ocean, and the residence time for a parcel of water is short (typically less than a day). These findings do not negate the*



*basic finding in the TMDL that the estuary is impaired, there is little dilution, and that wasteload allocation must be developed for the power plants. Furthermore, even if the allocation scheme were changed, the power plants would still be required to meet WLAs approximately equal to the numeric target of 3.7 µg/L.*

**Comment 81:** LADWP contends that there are no impacts to beneficial uses in the estuary. They recommend that USEPA should acknowledge that receiving water monitoring data illustrating beneficial uses are protected, data indicating the lack of copper toxicity, and the data indicating the low sediment impact by copper are all evidence that there is no urgent need to develop a TMDL at this time. They suggest, that if the TMDL is approved as draft, there would be negative implementation impacts, such as greater impact from upstream sources, degradation of Alamitos Bay due to lack of circulation and reduction of habitat value in the LSGR; these are detailed in the CEQA analysis comment.

*RESPONSE: The CTR criteria are set to protect the beneficial uses of the water body. The CTR water column criteria are exceeded in the Estuary; therefore, the uses are impaired. We acknowledge that there is no evidence of sediment impairment in the Estuary and we do not propose sediment targets in the TMDL. EPA is bound to complete consent decree TMDLs by the consent decree deadlines.*

**Comment 82:** Linkage Analysis and Tidal “Exchange. The assumption of tidal exchange is false. Volume calculations in the TMDL documents are irrelevant. They claim that the LSGR is not an estuary and that dilution credits should be allowed as per the Ocean Plan.

*RESPONSE: We accept that most of flow from the power plants effectively displaces much of the water in the estuary. This does not negate the fact that there is little to no dilution of effluent in the estuary. The designation of the waterbody as an estuary is a Basin Planning issue and beyond the scope of this TMDL. Regardless of the designation it is unclear why a 4.5 dilution credit should be granted when there is little to no dilution.*

**Comment 83:** Intake Credits. Influent concentration is often greater than CTR and sometimes greater than effluent. LADWP also suggest that Reach 1 is the source of receiving water impairments in the LSGR. Due to the similarity between influent and effluent at the power plants, as well as the lack of harm, LADWP requests that intake credits be allowed.

*RESPONSE: The power plant discharges do not meet the SIP requirements for intake credits. The intake water is not from the same waterbody as the receiving water body. The intake water is from Alamitos Bay and the receiving water is the San Gabriel River Estuary. The fact that the power plants’ cooling water intake structures connect these two waterbodies via the Pacific Ocean does not make them the same waterbody.*

*The CWA requirement to protect and enhance water quality is not conditioned on factors such as intake water quality, and it would be inappropriate for the impaired water body*

to be subject to such a condition. The CWA does not make special allowances for intake pollutants. Use of intake water as cooling water by an industrial facility and the subsequent discharge of that cooling water is an “addition” subject to CWA regulation. The fact that the pollutants were withdrawn by the facility so that they were no longer in waters of the United States means that the subsequent release of those pollutants into receiving water is an addition of pollutants from the facility. It is irrelevant that the pollutants are originally from the Pacific Ocean, Alamitos Bay, or from the San Gabriel River Estuary. Dischargers do not have a right to discharge intake water pollutants since the discharge of intake pollutants by a point source constitutes an “addition.” Intake pollutant relief cannot be reconciled with the requirement to establish limits that implement water quality standards.

**Comment 84:** Implementation Issues (CEQA/NEPA). The Clean Water Act exempts USEPA from producing environmental impact statements for many projects. This exemption was allowed because there is an implicit requirement that, USEPA’s document should be functionally equivalent to an EIS if a separate EIS is not produced. Instead, the Staff Report has a section titled “Implementation Recommendations” but that section provides no analysis of the consequences for TMDL implementation alternatives. Specifically, the following, implementation measures and their impacts should be discussed in the TMDL document: Source control, circulations, water sources for wet cooling towers, increased greenhouse gases, increased copper in Alamitos Bay, and the need for an implementation schedule.

**RESPONSE:** *This comment deals explicitly with implementation issues and requests that EPA address the environmental/economic consequences of implementation in the TMDL. Implementation is within the Regional Board’s purview. See responses to comments #5, #6 and #59.*

### **13. Comments from Steve Maghy, AES Southland**

AES Southland expressed concern about the impact of the amendment to the generating station and power supply. They also implied that EPA should not be performing TMDLs on unlisted waters.

**Comment 85:** The re-designation of AGS as an estuarine discharge is inappropriate.

**RESPONSE:** *The designation of the San Gabriel Estuary as an estuary in the Basin Plan is an issue that is outside the scope of this TMDL. Nonetheless, the lower San Gabriel watershed has not been re-designated as an estuary; rather it was properly named in the 1994 Basin Plan as an estuary.*

**Comment 86:** The application of intake credits should be continued since the copper concentrations are high in the intake water.

**RESPONSE:** *The data was not provided with the comments submitted to EPA. However, we acknowledge in the TMDL that the intake water from Los Alamitos Bay at*

times exceeded the CTR value. The SIP does not allow for credits when transferring water between two separate waterbodies.

Furthermore, the CWA does not make special allowances for intake pollutants. Use of intake water as cooling water by an industrial facility and the subsequent discharge of that cooling water is an "addition" subject to CWA regulation. The fact that the pollutants were withdrawn by the facility so that they were no longer in waters of the United States means that the subsequent release of those pollutants into receiving water is an addition of pollutants from the facility. It is irrelevant that the pollutants are originally from the Pacific Ocean, Alamitos Bay, or from the San Gabriel River Estuary. Dischargers do not have a right to discharge intake water pollutants since the discharge of intake pollutants by a point source constitutes an "addition." Intake pollutant relief cannot be reconciled with the requirement to establish limits that implement water quality standards.

**Comment 87:** The amendment would cause an unfair economic burden on the AES facility. They argue that it is economically infeasible to retrofit the plants with alternate cooling system or to replace the existing copper/nickel condenser tubes. They further argue that such an economic burden would have a potential impact to the California's power supply.

**RESPONSE:** EPA is not subject to the CEQA requirements to consider the economic burden. However the Regional Board calculated that if the cost to relocate outfalls were between \$304 or \$385 million per plant and these costs were passed on to customers, it would translate to an increase in cost of \$.02/kw-hr for one year based on design capacity of plant.

**Comment 88:** Elimination of the water could negatively affect the biota in the San Gabriel Estuary.

**RESPONSE:** The TMDL does not call for the elimination of discharge to the San Gabriel Estuary. If AES chose to eliminate discharge to the Estuary as a compliance option, much of the water discharged to the Estuary by the power plants would be replaced by tidally driven ocean water.

#### **14. Comments from G. Scott McGowen, Department of Transportation**

**Comment 89:** EPA adoption of 2006 Reach 2 is listed for lead and Coyote Creek is listed for metals. The list does not include San Jose Creek for any metals ; San Gabriel River for copper or zinc. There is no need to do a TMDL

**RESPONSE:** EPA approved the State's 2004-06 303(d) list on November 30, 2006. EPA has also added waters and associate pollutants to the State's List as part of our partial disapproval action. See March 8, 2007 letter from Alexis Straus to Tom Howard. As these waters are impaired and on the State's 303(d) list, TMDLs are required. Also see response to comment #6.

**Comment 90:** CTR states the water quality objectives should be expressed as dissolved. Compliance should be judged using the dissolved criteria. Allocations can be assigned as total recoverable metals if deemed appropriate by the TMDL analysis.

*RESPONSE: EPA completed its assessment using dissolved data, where available. If only total recoverable metals data is available, then EPA has indicated the assessment should utilize the data along with translators to determine compliance with dissolved criteria.*

**Comment 91:** DOT requests that EPA issue separate WLA for the appropriate metals in the appropriate reaches.

*RESPONSE: The Department of Transportation (Caltrans) wasteload allocation is included in the general MS4 allocation. At the present time, we are unable to separate out the Caltrans contributions from the load contributions attributable to Los Angeles County or Orange County MS4 permits. This request will be passed on to the Regional Board for their consideration.*

#### **15. Comments from Michael Wang, Western States Petroleum Association**

**Comment 92:** WSPA has expressed concern over the underlying science surrounding TMDLs. They submitted technical comments prepared by Susan Paulsen of Flow Science, Inc.

**Response:** *See responses to comments #15 thru #22.*

#### **16. Comments from Kristen James and Mark Gold, Heal the Bay Comments**

**Comment 93:** Heal the Bay expressed concern over the lack of dry-weather targets for San Gabriel Reach 2 and Coyote Creek (with the exception of copper). They also expressed concern over the lack of wet-weather targets for San Jose Creek Reach 1 or the San Gabriel River Estuary. Heal the Bay noted that the 303(d) listing policy makes no distinction between the use of dry vs. wet-weather monitoring data in assessing waterbody impairment.

*RESPONSE: The 303(d) listings were primarily based on LADPW storm water data. The TMDL data review confirmed this and showed that there were different impairments in different reaches for wet and dry weather. Data for San Gabriel Reach 2 and Coyote Creek showed no impairments during dry weather. This is consistent with studies that show the majority of metals loading to rivers in the region occur during storm events. For San Gabriel River Reach 2, a lack of dry-weather impairment is consistent with the use of various groundwater recharge facilities in the upper and middle portions of the watershed. Regional Board indicated they are likely to revise the Basin Plan amendment to state that within 1 year of the effective date of the 2006 303(d) list they will include*

*dry-weather numeric targets for lead in San Gabriel River Reach 2 and lead and zinc in Coyote Creek.*

*Regarding the lack of wet-weather targets for San Jose Creek Reach 1 or the San Gabriel River Estuary, the TMDL requires wet-weather monitoring in San Jose Creek and the Estuary. This monitoring will help determine if storm water is a source of the impairments in these reaches.*

**Comment 94:** Heal the Bay expressed concern over the use of the 50<sup>th</sup> percentile hardness in calculating the numeric target for stormwater.

**RESPONSE:** *The toxicity of certain metals are affected by the hardness of the ambient water. We used site-specific stormwater hardness values to set reach specific targets in Coyote Creek and San Gabriel River Reach 2. There is a good degree of variability in hardness values in storm water. The 10th percentile of hardness data would not accurately represent the hardness values during storm water conditions. Using Coyote Creek as an example; the 10<sup>th</sup> percentile hardness value of 51 mg/l results in a target of 13.9 ug/l; use of the 50<sup>th</sup> percentile hardness value of 105 mg/l results in a target of 27.6 ug/l; and using the 90<sup>th</sup> percentile value of 210 mg/l results in a target of 52.9 ug/l. This represents a 4-fold difference in the wet-weather copper target. Use of the 10<sup>th</sup> percentile would be overly protective 90% of the time and at least twice as protective as needed 50% of the time. The Regional Board is working on implementation provisions for CTR criteria that will determine the appropriate use of hardness values in determining site specific objectives. These implementation provisions will be applicable to multiple TMDLs.*

**Comment 95:** Heal the Bay did not approve of the use of the default translator as an implicit margin of safety. They argue the data from San Gabriel River is very limited, that the relationship between dissolved and total is highly variable, and they cite figures in the TMDL which show that the dissolved to total fraction is sometimes greater than the CTR default would indicate.

**RESPONSE:** *There is some uncertainty in use of default translators for dry-weather. The CTR default translators assume that 96% of the copper is dissolved, 78% of the lead is dissolved and 98% of the zinc in the total recoverable metals fraction is available as dissolved. These values are conservative numbers as most of these metals have a high affinity for particles.*

*There is also some uncertainty in the use of translators in wet weather. The figures referenced by the commenter are based on 8 years worth of stormwater data from two sites in the San Gabriel Watershed and clearly show that the use of the default tends to overestimate the dissolved fraction for the vast majority of samples. Furthermore a number of scientific studies, referenced in the TMDL, have shown that metals in urban stormwater tend to be associated with the particles. These studies suggest that the CTR default translators would tend to overestimate the dissolved fraction. This logic led to the allowance of site-specific translators in the Los Angeles River Metals TMDL, the*



*Ballona Creek Metals TMDL, and in this San Gabriel Metals TMDL for Coyote Creek. Site-specific translators were allowed when plots of total to dissolved using storm water data verified that the default conversion factors tended to overestimate the dissolved fraction and where a reasonable relationship could be established with linear regression.*

*In none of these cases is the relationship perfect. This may be due to a number of reasons. The relationships may be obscured because of limitations in either the quality or quantity of data. Differences in particle distribution among stormwater samples may confound simple regressions between total to dissolved fractions. It is also possible there may be differences in fractionation that occur between storms or even differences within a storm may be so great that the concept of a single translator may need to be rethought. Nonetheless, it is clear, the default CTR numbers are clearly overly conservative when compared to literature values for stormwater. The site-specific translators developed in this TMDL for Coyote Creek (53% for copper, 64% for lead and 78% for zinc) are also conservative relative to literature values which suggest that only about 10% of the metals is in the dissolved phase.*

*Further research is encouraged to evaluate the relationship between dissolved and total metals in stormwater. The ambient monitoring program will include both total recoverable and dissolved metals, which can be used to refine the assumptions made in the development of numeric targets. The Regional Board may reevaluate the use of the provisional site-specific translators when it reconsiders the TMDL.*

**Comment 96:** Heal the Bay would like to see an explicit margin of safety applied to the TMDL.

**RESPONSE:** *There is rarely 100% certainty in any regulatory decision. For the dry-weather conditions, perspective on the need for additional margins of safety can be in terms of its influence on load. Figures 4 and 5 of the TMDL show the flow frequency distributions of flow for Coyote Creek and San Gabriel River. The slope of the curve is smallest at low flows and greatest at higher flows. As an example in Coyote Creek the 10<sup>th</sup> percentile flow is 6cfs, 50<sup>th</sup> percentile flow is 19 cfs and the 90<sup>th</sup> percentile flow is 156 cfs. The difference between the 10<sup>th</sup> and 50<sup>th</sup> percentile is 13 cfs but the difference between the 50<sup>th</sup> and 90<sup>th</sup> percentile flow is 135 cfs. Using copper as an example, loading capacity based on 10<sup>th</sup> percentile flow would be 0.3 kg/d as opposed to 0.9 kg/day using the median. The volume of dry-weather flow increases dramatically between 50<sup>th</sup> and 90<sup>th</sup> percentile. At the 90<sup>th</sup> percentile, the calculated loading capacity would be 7.8 kg/d. Use of the 50<sup>th</sup> percentile for establishing the dry-weather TMDL balances the risk of being under protective about half the time (where the difference in loading is small) against the risk of being over protective about half the time (where the difference in loading could be quite large). At flows below the 50<sup>th</sup> percentile, the assumptions about hardness and translators do not have a substantial effect on the total allowable load because flows are low. So no additional margin of safety is necessary. The effect of capping the dry-weather inputs based on 50<sup>th</sup> percentile flow provides a large margin of safety for the higher dry-weather flows.*

*For wet-weather, some judgment is applied in the application of the translators and the selection of the appropriate hardness value. The 50<sup>th</sup> percentile adequately characterizes stormwater condition. The use of provisional site-specific translators tends to overestimate the dissolved fraction. No additional margin of safety is required.*