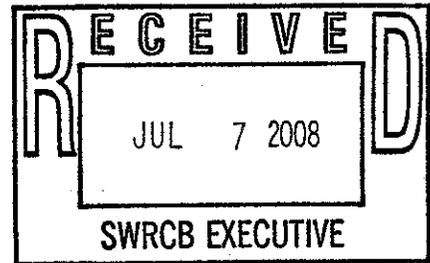




THE CITY OF SAN DIEGO

July 7, 2008



Jeanine Townsend, Clerk of the Board  
State Water Resources Control Board  
1001 I Street, 24<sup>th</sup> Floor  
Sacramento, CA 95814  
[commentletters@waterboards.ca.gov](mailto:commentletters@waterboards.ca.gov)

Subject: City of San Diego Comments Letter – San Diego TMDL for Dissolved Copper,  
Lead and Zinc in Chollas Creek

Dear Ms. Townsend:

The City of San Diego, Storm Water Department, is pleased to provide the State Water Resources Control Board (State Board) with the following comments regarding the San Diego TMDL for Dissolved Copper, Lead, and Zinc in Chollas Creek.

The City is asking to be afforded the same considerations in our resolution as those found in the Los Angeles River Metals TMDL Resolution 2008-0046. The San Diego Regional Water Quality Control Board technical report states on page 48 "*At this time however, a reasonable assumption is that Chollas Creek receives significant amounts of copper, lead, and zinc from indirect deposition.*" The attached report explains the City's position regarding this issue. The acceptance of our requested action would confirm the State Board's Draft Strategic Plan commitment to apply TMDL requirements consistently across California.

Your consideration and approval of our recommendations and requests is greatly appreciated. If you have any questions, please contact me at 619/525-8564 or Ruth Kolb at 619/525-8636.

Sincerely,

Kris McFadden  
Deputy Director

Enclosure: City of San Diego Comments Regarding: San Diego Total Maximum Daily Load  
for Dissolved Copper, Lead and Zinc in Chollas Creek, July 7, 2008

cc: File  
Tony Heinrichs  
Ruth Kolb



**Storm Water Pollution Prevention Program**

1970 B Street, MS 27A • San Diego, CA 92102  
Hotline (619) 235-1000 Fax (619) 525-8641

**City of San Diego Comments Regarding:  
San Diego Total Maximum Daily Load for  
Dissolved Copper, Lead and Zinc in Chollas Creek  
July 7, 2008**

The City of San Diego began taking a series of steps to determine what actions were necessary to achieve the mandated load reductions. In September 2006, the City developed the Chollas Creek Total Maximum Daily Load (TMDL) Source Loading, Best Management Practice (BMP) and Monitoring Strategy Assessment Report (Chollas Creek Strategic Plan). We identified:

- Data gaps due to unmeasured dry weather aerial deposition in the watershed;
- Usable industrial and commercial facilities monitoring data;
- The need to confirm metals sources;
- The need to confirm bacteria sources;
- The need to assess the magnitude of bacteria re-growth in channels and storm drain pipes;
- The need to evaluate the load contribution of ponded water, dry weather flows, and first flush phenomenon for bacteria and other pollutants; and,
- The need to develop an overall mass balance loading estimate for all sources to prioritize management actions, develop effective pollution prevention, source control and treatment control measures.

Based on the Chollas Creek Strategic Plan, the City took action to address the watershed's water quality problems. The first step was to conduct studies to assess what are the sources of pollutants, fill data gaps, determine which Best Management Practices (BMPs) work the best for each pollutant, where to place the BMPs, and which BMPs are more cost effective. The City used an integrated TMDL approach for our evaluation and assessment. This assessment was used to inform the Mayor and City Council of the water quality impacts, as they were listed on the 40 CFR 303(d) List of Impaired Waterbody Segments. A primary consideration was that we include all pollutants at once to proposed pilot BMPs to achieve the required load reductions; thereby, using public funds in the most effective and efficient manner. To help this process move forward more comprehensively, we request that all future TMDLs take an integrated approach.

Based on the Chollas Creek Strategic Plan, the City initiated the following projects to address this TMDL:

- Restoration of a 600 foot portion of the channelized creek with California Proposition 13 grant funding;
- Re-evaluation of the Tetra Tech TMDL model to determine our priority subwatersheds based on the pollutant loading;
- Assignment of BMPs to specific subwatersheds based on pollutant loading;
- Conducted monitoring at the mandated locations and additional sites;
- Initiation of advanced technology street sweeping pilot study;
- Implementation of effectiveness assessment monitoring;
- Initiation of the Dalbergia Street green mall pilot project concept design; and,
- Initiation of the Memorial Park infiltration project concept design.

In 2006, the City initiated an aerial deposition study based on the Southern California Coastal Waters Research Project (SCCWRP) aerial deposition study in the Los Angeles basin. The

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purpose of the City's study was to assess the effects of indirect aerial deposition on storm water discharges. Our study confirmed the SCCWRP findings that aerial deposition is a major contributor of copper and zinc, and to a lesser degree lead. Additionally, a significant finding was the highest copper deposition rates were found at the mouth of Chollas Creek, where heavy industrial activities occur. Estimates ranged from 50% - 90% of the copper and zinc pollutant loads were from aerial deposition. This study was provided to the Regional Board indicating over half of the copper was attributed to heavy industrial activities and transportation sources. The copper deposition rate was linked to brake pad wear, and zinc was attributed to tire\belt wear and galvanized products in the Chollas Creek watershed. Our results were similar to SCCWRP's Los Angeles study conducted by Sabin et al. Based on this information, the City has continued the study into a second year to further evaluate aerial deposition contributions, and more attention was placed on industrial sources within the watershed. These aerial deposition pollutant sources are outside of our control and we request assistance from the State Board and EPA in the regulation of heavy industrial copper emissions and automobile emissions, including copper from brake pad wear and zinc from tire\belt wear.

The Regional Board contracted with SCCWRP and Tetra Tech, Inc. to conduct initial watershed modeling with an aerial deposition component. The aerial deposition component was only for direct deposition on the creek mouth water surface, which was less than 1% of the total watershed area. The modeling exercise did not address the load or source contributions from indirect aerial deposition. The City of San Diego believes that this initial modeling exercise did not address load contributions from industrial and transportation emission sources.

The Regional Board's Chollas Creek TMDL Technical Report has only one section addressing aerial deposition found on Pages 48 and 49. The last two sentences of the first paragraph states:

*"Some information on atmospheric deposition follows from other urban studies. However, more site-specific information is needed to properly quantify either the direct or indirect deposition. If data are available at the future time, they may be used to further refine this analysis."*

The Technical Report further states in the sixth and summary paragraph:

*"Again, because information on atmospheric deposition of metals to the San Diego Region is not currently available, more research is needed to characterize this source of loading. Perhaps in the future the model developed for Santa Monica Bay (Stolzenbach et al., 2001) could be adapted to local conditions and combined with atmospheric concentrations of metals for San Diego County. At this time however, a reasonable assumption is that Chollas Creek receives significant amounts of copper, lead, and zinc from indirect deposition. These sources must travel through the MS4 to reach Chollas Creek and thus have already been accounted for. On the other hand, direct atmospheric deposition of metals is assumed to be relatively insignificant to Chollas Creek compared to other sources, in part due to the small surface area of the creek."*

The City of San Diego wishes to express our appreciation to the Regional Board for including this section in the final Technical Report and request that similar language be included in the TMDL Resolution R9-2007-0043.

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We recommend an interdisciplinary approach be used for dissolved metals TMDLs. This approach would include participants from different environmental disciplines, such as water quality, air, pesticide regulation, and consumer products. Copper used in consumer products is difficult for local governments to control because we have no authority over the product manufacturing and sale. The same is true for pesticides that are regulated by the U.S. Environmental Protection Agency (EPA) Office of Pesticide Programs and California EPA Department of Pesticide Regulation; however, monitoring results have shown that pesticides are in our waterbodies causing impairment. The impact from these consumer products are beyond our regulatory authority. We request that staffs from California departments work together to address water quality issues along the human health risks before products are released into the market.

The ability to remove dissolved copper, or any other dissolved fraction from the water column, is difficult. To help understand and better address the complexity of the dissolved copper contributions, we have partnered with Sustainable Conservation, which provided a technical understanding of the issue. We are also participants in CASQA's Brake Pad Partnership committee working with the manufacturers to implement legislation addressing the development of new brake pads with lower levels of copper. We have come to acknowledge that this is a long process to remove copper from brake pads due to safety considerations for vehicles. Based on these conversations and the knowledge that over 50% of the problem with copper is from brake pad wear, it does not appear that this avenue will provide us with the reductions necessary to achieve 80% compliance in 10-years found on Page 12. We are taking action working with CASQA in the development of legislation to remove copper from the majority of brake pads. This legislation is in draft and will include schedules for copper reductions.

The City review and understanding of the California Water Code, Porter-Cologne Water Quality Control Act requires the coordination with other agencies. Section 13146 - State agency compliance states:

*"State offices, departments and boards, in carrying out activities which affect water quality, shall comply with state policy for water quality control unless otherwise directed or authorized by statute in which case they shall indicate to the state board in writing their authority for not complying with such policy."*

Section 13247 - Compliance with plans of the Porter-Cologne Water Quality Control Act states:

*"State offices, departments and boards, in carrying out activities which may affect water quality, shall comply with water quality control plans approved or adopted by the state board unless otherwise directed or authorized by statute, in which case they shall indicate to the regional boards in writing their authority for not complying with such plans."*

The State Board's draft Strategic Plan recommends that consistent methodologies be used for the development of TMDLs across California. We are requesting similar considerations to those provided in the Los Angeles River Resolution 2008-0046: Approving an Amendment to the Water Quality Control Plan for the Los Angeles Region (Basin Plan) to Establish a Total Maximum Daily Load for Metals in the Los Angeles River. Resolution, items 10, 11 & 12 address aerial deposition, and are stated below:

*10. To the extent that pollutant loadings from indirect atmospheric deposition over land are being conveyed to stormwater discharges, these loadings are included in the*

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*stormwater waste load allocations. One study has shown that atmospheric deposition of particulates containing trace metals in the urban areas of the Los Angeles Region is an important source of metals contaminants on land surfaces. (Sabin et al., 2005)2. The Los Angeles Water Board met with the South Coast Air Quality Management District (SCAQMD) and the California Air Resources Board (CARB) to discuss the findings of the study. It appears that larger particulates are responsible for the highest loadings of metals in atmospheric deposition, and therefore pose the greatest risk to water quality. The two agencies have identified the need to (1) expand monitoring of larger particulates in atmospheric deposition to better gauge the impact to water quality, and (2) investigate the sources of these metals in order to design a control strategy. The Los Angeles Water Board and the State Water Board will continue to meet with the SCAQMD and CARB to pursue further studies and to assist in developing appropriate controls.*

*11. The State Water Board encourages local municipalities within the urban watersheds in the Los Angeles Region and Los Angeles County also to work with SCAQMD and CARB to further identify and control sources of trace metals in atmospheric deposition. If necessary, the State Water Board and Los Angeles Water Board shall enforce compliance with the adopted plans by the SCAQMD and CARB as appropriate under Water Code sections 13146 and 13247, and all other relevant statutes and regulations.*

*12. The Los Angeles Water Board will work with municipalities and Los Angeles County to encourage building designs and best management practices that will retain pollutants on site. This will help prevent the conveyance of pollutants from atmospheric deposition and other sources from being washed into stormwater and discharged to the Los Angeles River, Ballona Creek, and other urban watersheds.*

The City of San Diego is requesting the same "whereas" provisions as provided Resolution 2008-0046, shown below:

*2. The Los Angeles Water Board shall consider the data generated from the TMDL special studies or any other appropriate data, and determine whether and to what extent measures by the CARB and SCAQMD are necessary or appropriate to attain Water Quality Standards and the TMDL. If such measures are appropriate, the Los Angeles Water Board shall adopt a Basin Plan amendment consistent with the atmospheric deposition findings in Whereas 10, 11, and 12 above, and take appropriate action to pursue compliance with such requirements.*

The San Diego Regional Water Quality Control Board technical report states on page 48 "At this time however, a reasonable assumption is that Chollas Creek receives significant amounts of copper, lead, and zinc from indirect deposition." We understand that the processing of TMDLs is a newer procedure in the water quality control arena. The City is asking to be afforded the same considerations in our resolution as those found in the Los Angeles River Metals TMDL Resolution 2008-0046. The acceptance of our requested action would confirm the State Board's Draft Strategic Plan commitment to apply TMDL requirements consistently across California.