

**State of California**  
**California Regional Water Quality Control Board, Los Angeles Region**

**RESOLUTION NO. 2005-012**  
**October 6, 2005**

**Amendment to the *Water Quality Control Plan for the Los Angeles Region* to  
Incorporate a Total Maximum Daily Load for Toxic Pollutants in Marina del Rey  
Harbor**

**WHEREAS, the California Regional Water Quality Control Board, Los Angeles Region, finds that:**

1. The Federal Clean Water Act (CWA) requires the California Regional Water Quality Control Board, Los Angeles Region (Regional Board) to develop water quality objectives, which are sufficient to protect beneficial uses for each water body found within its region. Water bodies that do not meet water quality objectives or support beneficial uses are considered impaired.
2. A consent decree between the U.S. Environmental Protection Agency (USEPA), Heal the Bay, Inc. and BayKeeper, Inc. was approved on March 22, 1999. This court order directs the USEPA to complete Total Maximum Daily Loads (TMDLs) for all impaired waters within 13 years. A schedule was established in the consent decree for the completion of the first 29 TMDLs within 7 years, including completion of a TMDL to reduce metals and organic compounds in Marina del Rey Harbor by March 22, 2006. The remaining TMDLs will be scheduled by Regional Board staff within the 13-year period.
3. The elements of a TMDL are described in 40 CFR 130.2 and 130.7 and section 303(d) of the CWA, as well as in USEPA guidance documents (Report No. EPA/440/4-91/001). A TMDL is defined as the sum of the individual waste load allocations for point sources, load allocations for nonpoint sources and natural background (40 CFR 130.2). Regulations further stipulate that TMDLs must be set at levels necessary to attain and maintain the applicable narrative and numeric water quality standards with seasonal variations and a margin of safety that takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality (40 CFR 130.7(c)(1)). The regulations in 40 CFR 130.7 also state that TMDLs shall take into account critical conditions for stream flow, loading and water quality parameters.
4. The numeric targets in this TMDL are not water quality objectives and do not create new bases for enforcement against dischargers apart from the existing water quality standards they translate. The targets merely establish the bases through which load allocations (LAs) and waste load allocations (WLAs) are calculated. WLAs are only enforced for a discharger's own discharges, and then only in the context of its National Pollutant Discharge Elimination System (NPDES) permit, which must be consistent with the assumptions and requirements of the WLA. (40 C.F.R. 122.44(d)(vii)(B)). The Regional Board will develop permit requirements through subsequent permit actions that will allow all interested persons, including but not limited to municipal storm water dischargers, to provide comments on how the WLA will be translated into permit requirements.

5. As envisioned by Water Code section 13242, the TMDL contains a “description of surveillance to be undertaken to determine compliance with objectives.” The Compliance Monitoring and Special Studies elements of the TMDL recognize that monitoring will be necessary to assess the on-going condition of Marina del Rey Harbor and to assess the on-going effectiveness of efforts by dischargers to reduce toxic pollutant loading to the harbor. Special studies may also be appropriate to provide further information about new data, new or alternative sources, and revised scientific assumptions. The TMDL does not establish the requirements for these monitoring programs or reports, although it does recognize the type of information that will be necessary to secure. The Regional Board’s Executive Officer will issue orders to appropriate entities to develop and to submit monitoring programs and technical reports. The Executive Officer will determine the scope of these programs and reports, taking into account any legal requirements, and issue the orders to the appropriate entities.
6. Upon establishment of TMDLs by the State or USEPA, the State is required to incorporate the TMDLs along with appropriate implementation measures into the State Water Quality Management Plan (40 CFR 130.6(c)(1), 130.7). This Water Quality Control Plan for the Los Angeles Region (Basin Plan), and applicable statewide plans, serves as the State Water Quality Management Plans governing the watersheds under the jurisdiction of the Regional Board. Attachment A to this resolution contains the Basin Planning language for this TMDL.
7. The Marina del Rey watershed area is approximately 2.9 square miles located in Santa Monica Bay, California. It is south of Venice and north of Playa del Rey, and approximately 15 miles southwest of downtown Los Angeles. The watershed includes City of Los Angeles, Culver City and some unincorporated areas of Los Angeles County. The proposed TMDL addresses impairments of fish tissue and sediment quality caused by metals, and organic compounds in the back basins of Marina del Rey Harbor.
8. “[I]t is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited.” (33 U.S.C. 1251(a)(3)). Water quality standards reflect this express national policy of Congress. When a pollutant is present in the water column at levels in excess of the California Toxics Rule, then the pollutant is present in toxic amounts. Discharges of toxic pollutants can also accumulate in sediments and fish tissue. This TMDL addresses the accumulation of toxic pollutants in sediments and fish tissue and attempts to implement express Congressional policy.
9. The Regional Board’s goal in establishing the Marina del Rey Harbor Toxic Pollutants TMDL is to protect the aquatic life and wildlife beneficial uses of Marina del Rey Harbor and to achieve sediment quality to protect these beneficial uses.
10. Regional Board staff have prepared a detailed technical document that analyzes and describes the specific necessity and rationale for the development of this TMDL. The technical document entitled “Total Maximum Daily Load for Toxic Pollutants in Marina del Rey Harbor” is an integral part of this Regional Board action and was reviewed, considered, and accepted by the Regional Board before acting. Further, the technical document provides the detailed factual basis and analysis supporting the problem statement, numeric targets (interpretation of the narrative and numeric water quality objectives, used to calculate the pollutant allocations), source analysis, linkage analysis, waste load allocations (for point sources), load allocation (for nonpoint sources), margin of safety, and seasonal variations and critical conditions of this TMDL.

11. On October 6, 2005, prior to the Board's action on this resolution, public hearings were conducted on the Marina del Rey Toxics TMDL. Notice of the hearings were sent to all known interested persons and published in the Los Angeles Times on August 3, 2005 in accordance with the requirements of Water Code Section 13244.
12. The public has had reasonable opportunity to participate in review of the amendment to the Basin Plan. A draft of the Marina del Rey Toxics TMDL was released for public comment on August 3, 2005. A Notice of Hearing and Notice of Filing were published and circulated 45 days preceding Board action, and Regional Board staff responded to oral and written comments received from the public. The Regional Board held a public hearing on October 6, 2005 to consider adoption of the TMDL.
13. In amending the Basin Plan, the Regional Board considered the applicable requirements set forth in Sections 13240 and 13242 of the California Water Code. These state requirements are considered in light of the unqualified requirement of section 303(d)(1)(C) of the Clean Water Act that the TMDL shall be established at a level necessary to implement the applicable water quality standards.
14. The amendment is consistent with the State Antidegradation Policy (State Board Resolution No. 68-16), in that it does not authorize any lowering of water quality and is designed to implement existing water quality objectives. Likewise, the amendment is consistent with the federal Antidegradation Policy (40 CFR 131.12).
15. Because the TMDL implements existing water quality objectives, the Regional Board has consistently maintained (along with the State Water Resources Control Board) that adopting a TMDL does not require the water boards to consider the factors of Water Code section 13241. The consideration of the Water Code section 13241 factors, by section 13241's express terms, only applies "in establishing water quality objectives." Here the Regional Board is not establishing water quality objectives, but as required by section 303(d)(1)(C) of the Clean Water Act is adopting a TMDL that will implement the previously established objectives that have not been achieved. To the extent there is any conflict between Water Code section 13241, if it were applicable, and section 303(d)(1)(C) of the Clean Water Act, state law would yield to supreme federal law.
16. While the Regional Board is not required to consider the factors of Water Code section 13241, it, nonetheless, has developed and received significant information pertaining to the Water Code section 13241 factors and considered that information in developing and adopting this TMDL. The past, present, and probable future beneficial uses of water have been considered in that Marina del Rey Harbor is designated for a multitude of beneficial uses in the Basin Plan. Various living organisms (including vegetation, fish, invertebrates, and wildlife) are present in, transient through, and will be present in Marina del Rey Harbor. The environmental characteristics of Marina del Rey Harbor are spelled out at length in the Basin Plan and in the technical documents supporting this Basin Plan amendment, and have been considered in developing this TMDL. Water and sediment quality conditions that reasonably could be achieved through the coordinated control of all factors which affect water and sediment quality in the area have been considered via the discussion of likely means of compliance, and studies indicating that a mix of best management practices (BMPs), rather than advanced treatment plants, would achieve the TMDL. Authorizing certain storm water dischargers to rely on BMPs in the first instances reflects the reasonableness of the action in terms of the ability to implement the requirements, as well as a belief that the water and sediment quality conditions can reasonably be achieved in any

event. Establishing a plan that will ensure Marina del Rey Harbor sediments are not toxic is a reasonable water quality condition. However, to the extent that there would be any conflict between the consideration of the factor in Water Code section 13241 subdivision (c), if the consideration were required, and the Clean Water Act, the Clean Water Act would prevail. Notably, national policy established by Congress prohibits the discharge of toxic pollutants in toxic amounts. Economic considerations were considered throughout the development of the TMDL. Some of these economic considerations arise in the context of Public Resources Code section 21159 and are equally applicable here. The TMDL maps out a 10 to 15-year approach to implementing national policy prohibiting toxic pollutants in toxic amounts. This implementation program recognizes the economic limitations on achieving immediate compliance - especially for municipal storm water dischargers. The TMDL also authorizes the use of BMPs, to the extent authorized by law, for various storm water dischargers. Again, these recognize the economic limitations on certain storm water dischargers, while remaining faithful to the requirement to implement existing water quality standards and national policy. As part of this economic consideration, the Regional Board considered several studies pertaining to the cost of attaining water quality standards for storm water discharges. While section 13241 of the Water Code does not require a balancing of the costs and benefits, the Deviny et al. (2004) study concludes that any costs would be outweighed by the societal and economic benefits to Los Angeles' coastal economy. Again, these "economic considerations" were all considered and are reflected in an implementation program that is flexible and allows 10 to 15 years to comply with the final WLAs. The need for housing within the region has been considered, but this TMDL is unlikely to affect housing needs. Whatever housing impacts could materialize are ameliorated by the flexible nature of this TMDL and the 10 to 15-year implementation period. Finally, the TMDL is likely to facilitate the use of recycled water, as demonstrated by the City of Los Angeles' Integrated Resources Plan.

17. Pursuant to Public Resources Code section 21080.5, the Resources Agency has approved the Regional Water Boards' basin planning process as a "certified regulatory program" that adequately satisfies the California Environmental Quality Act (CEQA) (Public Resources Code, Section 21000 et seq.) requirements for preparing environmental documents. (14 Cal. Code Regs. § 15251(g); 23 Cal. Code Regs. § 3782.) As such, the Regional Water Board's basin planning documents together with an Environmental Checklist, are the "substitute documents" that contain the required environmental documentation under CEQA. (23 Cal. Code Regs. § 3777.) The detailed technical report entitled "Total Maximum Daily Load for Toxic Pollutants in Marina del Rey Harbor," responses prepared by staff to address comments raised during the development of the TMDL, this resolution, and the Environmental Checklist serve as the substitute documents for this project. The project itself is the establishment of a TMDL for toxic pollutants in Marina del Rey Harbor. While the Regional Board has no discretion to not establish a TMDL (the TMDL is required by federal law) or for determining the water quality standard to be applied, the Board does exercise discretion in assigning waste load allocations and load allocations, determining the program of implementation, and setting various milestones in achieving the waste load allocations.
18. A CEQA Scoping hearing was conducted on May 6, 2003 at the Los Angeles Regional Water Quality Control Board, 320 W. 4th Street, Los Angeles, CA 90013. A notice of the CEQA Scoping hearing was sent to interested parties including cities and/or counties with jurisdiction in or bordering the Marina del Rey watershed.
19. The lengthy implementation period allowed by the TMDL will allow many compliance approaches to be pursued. In preparing the accompanying CEQA substitute documents, the

Regional Board has considered the requirements of Public Resources Code section 21159 and California Code of Regulations, title 14, section 15187, and intends the substitute documents to serve as a tier 1 environmental review. Nearly all of the compliance obligations will be undertaken by public agencies that will have their own obligations under CEQA. Project level impacts will need to be considered in any subsequent environmental analysis performed by other public agencies, pursuant to Public Resources Code section 21159.2. If not properly mitigated at the project level, there could be adverse environmental impacts. The substitute documents for this TMDL, and in particular the checklist and staff's responses to comments, identify broad mitigation approaches that should be considered at the project level. Consistent with CEQA, the substitute documents do not engage in speculation or conjecture and only consider the reasonably foreseeable environmental impacts of the methods of compliance, the reasonably foreseeable feasible mitigation measures, and the reasonably foreseeable alternative means of compliance, which would avoid or eliminate the identified impacts.

20. The proposed amendment could have a significant adverse effect on the environment. However, there are feasible alternatives, feasible mitigation measures, or both that would substantially lessen any significant adverse impact. The public agencies responsible for those parts of the project can and should incorporate such alternatives and mitigation into any subsequent projects or project approvals. Possible alternatives and mitigation are described in the CEQA substitute documents, specifically the TMDL technical report and the Environmental Checklist. To the extent the alternatives, mitigation measures, or both are not deemed feasible by those agencies, the necessity of implementing the federally required metals TMDL and removing the toxicity impairment from Marina del Rey Harbor (an action required to achieve the express, national policy of the Clean Water Act) outweigh the unavoidable adverse environmental effects.
21. The regulatory action meets the "Necessity" standard of the Administrative Procedures Act, Government Code, Section 11353, Subdivision (b). As specified above, federal regulations require that TMDLs be incorporated into the water quality management plan. The Regional Board's Basin Plan is the Regional Board's component of the water quality management plan, and the Basin Plan is how the Regional Board takes quasi-legislative, planning actions. Moreover, the TMDL is a program of implementation for existing water quality objectives, and is, therefore, appropriately a component of the Basin Plan under Water Code section 13242. The necessity of developing a TMDL is established in the TMDL staff report, the section 303(d) list, and the data contained in the administrative record documenting the toxicity impairments of Marina del Rey Harbor.
22. The Basin Plan amendment incorporating a TMDL for toxic pollutants in Marina del Rey Harbor must be submitted for review and approval by the State Water Resources Control Board (State Board), the State Office of Administrative Law (OAL), and the USEPA. The Basin Plan amendment will become effective upon approval by USEPA. A Notice of Decision will be filed with the Resources Agency.

**THEREFORE, be it resolved that pursuant to sections 13240 and 13242 of the Water Code, the Regional Board hereby amends the Basin Plan as follows:**

1. Pursuant to Sections 13240 and 13242 of the California Water Code, the Regional Board, after considering the entire record, including oral testimony at the hearing, hereby adopts the amendments to Chapter 7 of the Water Quality Control Plan for the Los Angeles Region, as set forth in Attachment A hereto, to incorporate the elements of the Marina del Rey Toxic Pollutants TMDL.
2. The Executive Officer is directed to forward copies of the Basin Plan amendment to the State Board in accordance with the requirements of section 13245 of the California Water Code.
3. The Regional Board requests that the State Board approve the Basin Plan amendment in accordance with the requirements of sections 13245 and 13246 of the California Water Code and forward it to OAL and the USEPA.
4. If during its approval process Regional Board staff, the State Board or OAL determines that minor, non-substantive corrections to the language of the amendment are needed for clarity or consistency, the Executive Officer may make such changes, and shall inform the Board of any such changes.
5. The Executive Officer is authorized to sign a Certificate of Fee Exemption.

I, Jonathan Bishop, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of a resolution adopted by the California Regional Water Quality Control Board, Los Angeles Region, on October 6, 2005.

  
Jonathan Bishop  
Executive Officer  
Chief Deputy E.O.  
for

11-14-05  
Date

# Attachment A to Resolution No. 2005-012

## Amendment to the Water Quality Control Plan – Los Angeles Region to incorporate the Marina del Rey Harbor Toxic Pollutants TMDL

Adopted by the California Regional Water Quality Control Board, Los Angeles Region on October 6, 2005.

### Amendments:

#### Table of Contents

Add:

Chapter 7. Total Maximum Daily Loads (TMDLs) Summaries  
7-18 Marina del Rey Harbor Toxic Pollutants TMDL

#### List of Tables, Figures and Inserts

Add:

Chapter 7. Total Maximum Daily Loads (TMDLs)

Tables

7.18 Marina del Rey Harbor Toxic Pollutants TMDL

7.18.1 Marina del Rey Harbor Toxic Pollutants TMDL: Elements

7.18.2 Marina del Rey Harbor Toxic Pollutants TMDL: Implementation Schedule

Chapter 7. Total Maximum Daily Loads (TMDLs) Summaries, Section 7-18 (Marina del Rey Harbor Toxic Pollutants TMDL)

This TMDL was adopted by the Regional Water Quality Control Board on October 6, 2005.

This TMDL was approved by:

The State Water Resources Control Board on [Insert Date].

The Office of Administrative Law on [Insert Date].

The U.S. Environmental Protection Agency on [Insert Date]

The following tables include the elements of this TMDL.

## Attachment A to Resolution No. 2005-012

**Table 7-18.1. Marina del Rey Harbor Toxic Pollutants TMDL: Elements**

Element	Key Findings and Regulatory Provisions															
<p><b>Problem Statement</b></p>	<p>The back basins of Marina del Rey Harbor are on the Clean Water Act Section 303(d) list of impaired waterbodies for chlordane, copper, lead, zinc, PCBs, DDT, dieldrin, sediment toxicity and a fish consumption advisory. Review of available data during the development of this TMDL indicated that dieldrin and DDT are no longer causes of impairment. The following designated beneficial uses are impaired by chlordane, copper, lead, zinc, PCBs, and toxicity: water contact recreation (REC1); marine habitat (MAR); wildlife habitat (WILD); commercial and sport fishing (COMM); and shellfish harvesting (SHELL).</p>															
<p><b>Numeric Target</b> <i>(Interpretation of the narrative and numeric water quality objective, used to calculate the allocations)</i></p>	<p>Numeric targets for the harbor sediments are based on the sediment quality guidelines compiled by the National Oceanic and Atmospheric Administration, which are used in evaluating waterbodies within the Los Angeles Region for development of the 303(d) list. The Effects Range-Low (ERLs) guidelines are established as the numeric targets for sediments in Marina del Rey Harbor.</p> <table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr> <th colspan="3" style="text-align: center; border-bottom: 1px solid black;">Numeric Targets for Metals in Sediment (mg/kg)</th> </tr> <tr> <th style="text-align: center; border-bottom: 1px solid black;">Copper</th> <th style="text-align: center; border-bottom: 1px solid black;">Lead</th> <th style="text-align: center; border-bottom: 1px solid black;">Zinc</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">34</td> <td style="text-align: center;">46.7</td> <td style="text-align: center;">150</td> </tr> </tbody> </table> <table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center; border-bottom: 1px solid black;">Numeric Targets for Organic Compounds in Sediment (µg/kg)</th> </tr> <tr> <th style="text-align: center; border-bottom: 1px solid black;">Chlordane</th> <th style="text-align: center; border-bottom: 1px solid black;">Total PCBs</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">0.5</td> <td style="text-align: center;">22.7</td> </tr> </tbody> </table> <p>In addition to the sediment numeric target, water column and fish tissue targets are set for the PCB impairment in fish tissue.</p> <p>The California Toxics Rule (CTR) Criterion for the protection of human health from the consumption of aquatic organisms is selected as the final numeric target for total PCBs in the water column. However, given the inability of current analytical methods to detect concentrations at this low level, an interim numeric target will be applied. The CTR Chronic Criterion for the protection of aquatic life in saltwater is selected as the interim numeric target for the fish tissue impairment by PCBs. This numeric target will remain in effect until advances in technology allow for analysis of PCBs at lower detection limits.</p> <p><b>Interim Target for total PCBs in the Water Column: 0.03µg/L</b>  <b>Final Target for total PCBs in the Water Column: 0.00017 µg/L</b></p> <p>The numeric Target for PCBs in fish tissue is the Threshold Tissue Residue Level that is derived from CTR human health criteria, which are adopted criteria for water designated to protect humans from consumption of contaminated fish or other aquatic organisms.</p> <p><b>Numeric Target for total PCBs in Fish Tissue: 5.3 µg/Kg</b></p>	Numeric Targets for Metals in Sediment (mg/kg)			Copper	Lead	Zinc	34	46.7	150	Numeric Targets for Organic Compounds in Sediment (µg/kg)		Chlordane	Total PCBs	0.5	22.7
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## Attachment A to Resolution No. 2005-012

Element	Key Findings and Regulatory Provisions															
<p><b>Source Analysis</b></p>	<p>Urban storm water has been recognized as a substantial source of metals. Numerous researchers have documented that the most prevalent metals in urban storm water (i.e., copper, lead, and zinc) are consistently associated with suspended solids. Because metals are typically associated with fine particles in storm water runoff, they have the potential to accumulate in marine sediments where they may pose a risk of toxicity. Similar to metals, the majority of organic constituents in storm water are associated with particulates.</p> <p>Passive leaching of copper-based anti-fouling paints is a potential source of copper loading to the sediment. However, there is insufficient information available to quantify the contribution of boat discharges to the sediment pollutant load. This TMDL requires a study designed to estimate copper partitioning between the water column and sediment in Marina del Rey harbor, in order to determine the impact of passive leaching on the marine sediment.</p> <p>Direct deposition of airborne particles to the water surface may be responsible for contributing copper, lead and zinc to the Marina del Rey back basins. The estimated contribution from this source is minor. Indirect atmospheric deposition reflects the process by which metals deposited on the land surface may be washed off during storm events and delivered to Marina del Rey Harbor. The loading of metals associated with indirect atmospheric deposition are accounted for in the storm water runoff.</p>															
<p><b>Loading Capacity</b></p>	<p>TMDLs are developed for copper, lead, zinc, chlordane, and PCBs within the sediments of Marina del Rey Harbor's back basins.</p> <p>The loading capacity for Marina del Rey Harbor is calculated by multiplying the numeric targets by the average annual total suspended solids (TSS) loading to the harbor sediment. The average annual TSS discharged to the back basins of the harbor is 64,166 kilograms per year (kg/yr). The TMDL is set equal to the loading capacity.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="3" style="text-align: center;"><u>Metals Loading Capacity (kilograms/year)</u></th> </tr> <tr> <th style="text-align: center;">Copper</th> <th style="text-align: center;">Lead</th> <th style="text-align: center;">Zinc</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">2.18</td> <td style="text-align: center;">3.0</td> <td style="text-align: center;">9.6</td> </tr> </tbody> </table> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2" style="text-align: center;"><u>Organics Loading Capacity (grams/year)</u></th> </tr> <tr> <th style="text-align: center;">Chlordane</th> <th style="text-align: center;">Total PCBs</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">0.03</td> <td style="text-align: center;">1.46</td> </tr> </tbody> </table>	<u>Metals Loading Capacity (kilograms/year)</u>			Copper	Lead	Zinc	2.18	3.0	9.6	<u>Organics Loading Capacity (grams/year)</u>		Chlordane	Total PCBs	0.03	1.46
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<p><b>Load Allocations (for nonpoint sources)</b></p>	<p>Load allocations (LA) are developed for nonpoint sources in Marina del Rey Harbor, which includes direct atmospheric deposition. The load allocations are not assigned to a particular nonpoint source or group of nonpoint sources.</p> <p>The mass-based load allocation for direct atmospheric deposition is equal to the percentage of the watershed covered by water (5.4%) multiplied by the total loading capacity.</p>															

## Attachment A to Resolution No. 2005-012

Element	Key Findings and Regulatory Provisions																																													
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<i>Waste Load Allocations (for point sources)</i>	<p>Waste load allocations (WLA) are assigned to point sources for the Marina del Rey watershed. A grouped mass-based waste load allocation is developed for the storm water permittees (Los Angeles County MS4, Caltrans, General Construction and General Industrial) by subtracting the load allocations from the total loading capacity. Concentration-based waste load allocations are developed for other point sources in the watershed.</p> <p style="text-align: center;"><b><u>Metals Waste Load Allocations for Storm Water (kg/yr)</u></b></p> <table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr> <td style="border-bottom: 1px solid black; padding: 2px 10px;">Copper</td> <td style="border-bottom: 1px solid black; padding: 2px 10px;">Lead</td> <td style="border-bottom: 1px solid black; padding: 2px 10px;">Zinc</td> </tr> <tr> <td style="text-align: center; padding: 2px 10px;">2.06</td> <td style="text-align: center; padding: 2px 10px;">2.83</td> <td style="text-align: center; padding: 2px 10px;">9.1</td> </tr> </table> <p style="text-align: center;"><b><u>Organics Waste Load Allocations for Storm Water (g/yr)</u></b></p> <table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr> <td style="border-bottom: 1px solid black; padding: 2px 10px;">Chlordane</td> <td style="border-bottom: 1px solid black; padding: 2px 10px;">Total PCBs</td> </tr> <tr> <td style="text-align: center; padding: 2px 10px;">0.03</td> <td style="text-align: center; padding: 2px 10px;">1.38</td> </tr> </table> <p>The storm water waste load allocations are apportioned between the MS4 permittees, Caltrans, the general construction and the general industrial storm water permits based on an estimate of the percentage of land area covered under each permit.</p> <p style="text-align: center;"><b><u>Metals Storm Water WLAs Apportioned between Permits (kg/yr)</u></b></p> <table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr> <td style="border-bottom: 1px solid black;"></td> <td style="border-bottom: 1px solid black; padding: 2px 10px;">Copper</td> <td style="border-bottom: 1px solid black; padding: 2px 10px;">Lead</td> <td style="border-bottom: 1px solid black; padding: 2px 10px;">Zinc</td> </tr> <tr> <td style="padding: 2px 10px;">MS4 Permittees</td> <td style="text-align: center; padding: 2px 10px;">2.01</td> <td style="text-align: center; padding: 2px 10px;">2.75</td> <td style="text-align: center; padding: 2px 10px;">8.85</td> </tr> <tr> <td style="padding: 2px 10px;">Caltrans</td> <td style="text-align: center; padding: 2px 10px;">0.022</td> <td style="text-align: center; padding: 2px 10px;">0.03</td> <td style="text-align: center; padding: 2px 10px;">0.096</td> </tr> <tr> <td style="padding: 2px 10px;">General Construction</td> <td style="text-align: center; padding: 2px 10px;">0.033</td> <td style="text-align: center; padding: 2px 10px;">0.045</td> <td style="text-align: center; padding: 2px 10px;">0.144</td> </tr> <tr> <td style="padding: 2px 10px;">General Industrial</td> <td style="text-align: center; padding: 2px 10px;">0.004</td> <td style="text-align: center; padding: 2px 10px;">0.006</td> <td style="text-align: center; padding: 2px 10px;">0.018</td> </tr> </table> <p style="text-align: center;"><b><u>Organics Storm Water WLAs Apportioned between Permits (g/yr)</u></b></p> <table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr> <td style="border-bottom: 1px solid black;"></td> <td style="border-bottom: 1px solid black; padding: 2px 10px;">Chlordane</td> <td style="border-bottom: 1px solid black; padding: 2px 10px;">Total PCBs</td> </tr> <tr> <td style="padding: 2px 10px;">MS4 Permittees</td> <td style="text-align: center; padding: 2px 10px;">0.0295</td> <td style="text-align: center; padding: 2px 10px;">1.34</td> </tr> <tr> <td style="padding: 2px 10px;">Caltrans</td> <td style="text-align: center; padding: 2px 10px;">0.0003</td> <td style="text-align: center; padding: 2px 10px;">0.015</td> </tr> <tr> <td style="padding: 2px 10px;">General Construction</td> <td style="text-align: center; padding: 2px 10px;">0.0005</td> <td style="text-align: center; padding: 2px 10px;">0.022</td> </tr> <tr> <td style="padding: 2px 10px;">General Industrial</td> <td style="text-align: center; padding: 2px 10px;">0.0001</td> <td style="text-align: center; padding: 2px 10px;">0.003</td> </tr> </table> <p>Each storm water permittee enrolled under the general construction or industrial storm water permits will receive an individual waste load allocation on a per acre basis, based on the acreage of their facility.</p>	Copper	Lead	Zinc	2.06	2.83	9.1	Chlordane	Total PCBs	0.03	1.38		Copper	Lead	Zinc	MS4 Permittees	2.01	2.75	8.85	Caltrans	0.022	0.03	0.096	General Construction	0.033	0.045	0.144	General Industrial	0.004	0.006	0.018		Chlordane	Total PCBs	MS4 Permittees	0.0295	1.34	Caltrans	0.0003	0.015	General Construction	0.0005	0.022	General Industrial	0.0001	0.003
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<b>Element</b>	<b>Key Findings and Regulatory Provisions</b>																				
	<p align="center"><b>Metals per Acre WLAs for Individual General Construction or Industrial Storm Water Permittees (g/yr/ac)</b></p> <table border="1"> <thead> <tr> <th>Copper</th> <th>Lead</th> <th>Zinc</th> </tr> </thead> <tbody> <tr> <td align="center">2.3</td> <td align="center">3.1</td> <td align="center">10</td> </tr> </tbody> </table> <p align="center"><b>Organics per acre WLAs for Individual General Construction or Industrial Storm Water Permittees (mg/yr/ac)</b></p> <table border="1"> <thead> <tr> <th>Chlordane</th> <th>Total PCBs</th> </tr> </thead> <tbody> <tr> <td align="center">0.03</td> <td align="center">1.5</td> </tr> </tbody> </table> <p>Concentration-based waste load allocations are assigned to the minor NPDES permits and general non-storm water NPDES permits that discharge to Marina del Rey Harbor. Any future minor NPDES permits or enrollees under a general non-storm water NPDES permit will also be subject to the concentration-based waste load allocations.</p> <p align="center"><b>Metals Concentration-based Waste Load Allocations (mg/kg)</b></p> <table border="1"> <thead> <tr> <th>Copper</th> <th>Lead</th> <th>Zinc</th> </tr> </thead> <tbody> <tr> <td align="center">34</td> <td align="center">46.7</td> <td align="center">150</td> </tr> </tbody> </table> <p align="center"><b>Organic Concentration-based Waste Load Allocations (µg/kg)</b></p> <table border="1"> <thead> <tr> <th>Chlordane</th> <th>Total PCBs</th> </tr> </thead> <tbody> <tr> <td align="center">0.5</td> <td align="center">22.7</td> </tr> </tbody> </table>	Copper	Lead	Zinc	2.3	3.1	10	Chlordane	Total PCBs	0.03	1.5	Copper	Lead	Zinc	34	46.7	150	Chlordane	Total PCBs	0.5	22.7
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<b>Margin of Safety</b>	<p>An implicit margin of safety is applied through the use of the more protective sediment quality guideline values. The ERLs were selected over the higher ERMs as the numeric targets.</p>																				
<b>Implementation</b>	<p>The regulatory mechanisms used to implement the TMDL will include the Los Angeles County Municipal Storm Water NPDES Permit (MS4), the State of California Department of Transportation (Caltrans) Storm Water Permit, minor NPDES permits, general NPDES permits, general industrial storm water NPDES permits, general construction storm water NPDES permits. Nonpoint sources will be regulated through the authority contained in sections 13263 and 13269 of the Water Code, in conformance with the State Water Resources Control Board's Nonpoint Source Implementation and Enforcement Policy (May 2004). Each NPDES permit assigned a WLA shall be reopened or amended at re-issuance, in accordance with applicable laws, to incorporate the applicable WLAs as a permit requirement.</p> <p>The Regional Board shall reconsider this TMDL in six years after the effective date of the TMDL based on additional data obtained from special studies. Table 7-18.2 presents the implementation schedule for the responsible permittees.</p>																				

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Element	Key Findings and Regulatory Provisions
	<p><b>Minor NPDES Permits and General Non-Storm Water NPDES Permits:</b></p> <p>The concentration-based waste load allocations for the minor NPDES permits and general non-storm water NPDES permits will be implemented through NPDES permit limits. Permit writers may translate applicable waste load allocations into effluent limits for the minor and general NPDES permits by applying applicable engineering practices authorized under federal regulations. The minor and existing general non-storm water NPDES permittees are allowed up to seven years from the effective date of the TMDL to achieve the waste load allocations.</p> <p><b>General Industrial Storm Water Permit:</b></p> <p>The Regional Board will develop a watershed specific general industrial storm water permit to incorporate waste load allocations. Concentration-based permit limits may be set to achieve the mass-based waste load allocations. These concentration-based limits would be equal to the concentration-based waste load allocations assigned to the other NPDES permits. It is expected that permit writers will translate the waste load allocations into BMPs, based on BMP performance data. However, the permit writers must provide adequate justification and documentation to demonstrate that specified BMPs are expected to result in attainment of the numeric waste load allocations. The general industrial storm water permittees are allowed up to seven years from the effective date of the TMDL to achieve the waste load allocations.</p> <p><b>General Construction Storm Water Permit:</b></p> <p>Waste load allocations will be incorporated into the State Board general permit upon renewal or into a watershed specific general construction storm water permit developed by the Regional Board.</p> <p>Within seven years of the effective date of the TMDL, the construction industry will submit the results of BMP effectiveness studies to determine BMPs that will achieve compliance with the waste load allocations assigned to construction storm water permittees. Regional Board staff will bring the recommended BMPs before the Regional Board for consideration within eight years of the effective date of the TMDL. General construction storm water permittees will be considered in compliance with waste load allocations if they implement these Regional Board approved BMPs.</p> <p>All general construction permittees must implement the approved BMPs within nine years of the effective date of the TMDL. If no effectiveness studies are conducted and no BMPs are approved by the Regional Board within eight years of the effective date of the TMDL, each general construction storm water permit holder will be subject to site-specific BMPs and monitoring requirements to demonstrate compliance with waste load allocations.</p>

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<b>Element</b>	<b>Key Findings and Regulatory Provisions</b>
	<p><b>MS4 and Caltrans Storm Water Permits:</b></p> <p>The County of Los Angeles, City of Los Angeles, and Culver City are jointly responsible for meeting the mass-based waste load allocations for the MS4 permittees. Caltrans is responsible for meeting their mass-based waste load allocations, however, they may choose to work with the MS4 permittees. The primary jurisdiction for the Marina del Rey Harbor watershed is the County of Los Angeles.</p> <p>Each municipality and permittee will be required to meet the waste load allocations at the designated TMDL effectiveness monitoring points. A phased implementation approach, using a combination of non-structural and structural BMPs may be used to achieve compliance with the waste load allocations. The administrative record and the fact sheets for the MS4 and Caltrans storm water permits must provide reasonable assurance that the BMPs selected will be sufficient to implement the numeric waste load allocations. We expect that reductions to be achieved by each BMP will be documented and that sufficient monitoring will be put in place to verify that the desired reductions are achieved. The permits should also provide a mechanism to adjust the required BMPs as necessary to ensure their adequate performance.</p> <p>The implementation schedule for the MS4 and Caltrans permittees consists of a phased approach, with compliance to be achieved in prescribed percentages of the watershed, with total compliance to be achieved within 10 years. However, the Regional Board may extend the implementation period up to 15 years if an integrated water resources approach is employed.</p> <p>The waste load allocations and load allocations have been developed to achieve the numeric targets in the back basins of Marina del Rey Harbor by the end of the compliance period. However, the Regional Board is aware of toxic pollutants bound up in sediment. To the extent that the Regional Board or another responsible jurisdiction or agency determines that toxic pollutants bound in sediments are still preventing the attainment of numeric targets, the Regional Board will issue appropriate investigatory orders or cleanup and abatement orders to achieve attainment of the numeric targets.</p>
<i>Seasonal Variations and Critical Conditions</i>	<p>There is a high degree of inter- and intra-annual variability in total suspended solids discharged to Marina del Rey Harbor. This is a function of the storms, which are highly variable between years. The TMDL is based on a TSS load derived from long-term average rainfall over a 52-year period from 1948 to 2000. This time period contains a wide range of storm conditions and drain discharges to Marina del Rey Harbor. Use of the average condition for the TMDL is appropriate because issues of sediment effects on benthic communities and potential for bioaccumulation to higher trophic levels occurs over long time periods.</p>
<i>Monitoring</i>	<p>Effective monitoring will be required to assess the condition of Marina del Rey Harbor and to assess the on-going effectiveness of efforts by</p>

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Element	Key Findings and Regulatory Provisions
	<p>dischargers to reduce toxic pollutants loading from the Marina del Rey Watershed. Special studies may also be appropriate to provide further information about new data, new or alternative sources, and revised scientific assumptions. Below the Regional Board identifies the various goals of monitoring efforts and studies that shall be developed in a coordinated manner. The programs, reports, and studies will be developed in response to subsequent orders issued by the Executive Officer.</p> <p><b>Ambient Component</b></p> <p>A monitoring program is necessary to assess water quality throughout Marina del Rey Harbor and to assess fish tissue and sediment quality in the harbor's back basins. Data on background water quality for copper will help refine the numeric targets and waste load allocations and assist in the effective placement of BMPs. In addition, fish tissue data is required in Marina del Rey's back basins to confirm continued impairment.</p> <p>Water quality samples shall be collected monthly and analyzed for chlordane and total PCBs at detection limits that are at or below the minimum levels until the TMDL is reconsidered in the sixth year. The minimum levels are those published by the State Water Resources Control Board in Appendix 4 of the Policy for the Implementation of Toxic Standards for Inland Surface Water, Enclosed Bays, and Estuaries of California, March 2, 2000. Special emphasis should be placed on achieving detection limits that will allow evaluation relative to the CTR standards. If these can not be achieved with conventional techniques, then a special study should be proposed to evaluate concentrations of organics.</p> <p>Water quality samples shall also be collected monthly and analyzed for copper, lead, and zinc until the TMDL is reconsidered in the sixth year. For metals water column analysis, methods that allow for (1) the removal of salt matrix to reduce interference and avoid inaccurate results prior to the analysis; and (2) the use of trace metal clean sampling techniques, should be applied. Examples of such methods include EPA Method 1669 for sample collection and handling, and EPA Method 1640 for sample preparation and analysis.</p> <p>Storm water monitoring shall be conducted for metals (copper, lead, and zinc) and organics (chlordane and total PCBs) to provide assessment of water quality during wet-weather conditions and loading estimates from the watershed to the harbor. Special emphasis should be placed on achieving lower detection limits for organochlorine compounds.</p> <p>The MS4 and Caltrans storm water permittees are jointly responsible for conducting bioaccumulation testing of fish and mussel tissue within the Harbor. The permittees are required to submit for approval of the Executive Officer a monitoring plan that will provide the data needed to</p>

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Element	Key Findings and Regulatory Provisions
	<p>confirm the 303(d) listing or de-listing, as applicable.</p> <p>Representative sediment sampling shall be conducted quarterly within the back basins of the harbor for copper, lead, zinc, chlordane, and total PCBs at detection limits that are lower than the ERLs. Sediment samples shall also be analyzed for total organic carbon, grain size and sediment toxicity.</p> <p>Initial sediment toxicity monitoring should be conducted quarterly in the first year of the TMDL to define the baseline and semi-annually, thereafter, to evaluate effectiveness of the BMPs until the TMDL is reconsidered in the sixth year. The sediment toxicity testing shall include testing of multiple species, a minimum of three, for lethal and non-lethal endpoints. Toxicity testing may include: the 28-day and 10-day amphipod mortality test; the sea urchin fertilization testing of sediment pore water; and the bivalve embryo testing of the sediment/water interface. The chronic 28-day and shorter-term 10-day amphipod tests may be conducted in the initial year of quarterly testing and the results compared. If there is no significant difference in the tests, then the less expensive 10-day test can be used throughout the rest of the monitoring, with some periodic 28-day testing.</p> <p><b>Effectiveness Component</b></p> <p>The water quality samples collected during wet weather, defined as rainfall of 0.1 inch or more plus the 3 days following the rain event, shall be analyzed for total dissolved solids, settleable solids and total suspended solids if not already part of the sampling program. Sampling shall be designed to collect sufficient volumes of settleable and suspended solids to allow for analysis of copper, lead, zinc, chlordane, total PCBs, and total organic carbon in the sediment.</p> <p>Monthly representative sediment sampling shall be conducted at existing monitoring locations throughout the harbor, and analyzed for copper, lead, zinc, chlordane, and total PCBs at detection limits that are lower than the ERLs. The, sediment samples shall also be analyzed for total organic carbon and grain size. Sediment toxicity testing shall be conducted semi-annually, and shall include testing of multiple species (a minimum of three) for lethal and non-lethal endpoints. Toxicity testing may include: the 28-day or 10-day amphipod mortality test; the sea urchin fertilization testing of sediment pore water; and the bivalve embryo testing of the sediment/water interface.</p> <p>Toxicity shall be indicated by an amphipod survival rate of 70% or less in a single test, in conjunction with a statistically significant decrease in amphipod survival relative to control organisms (significance determined by T-test, <math>\alpha=0.05</math>). Accelerated monitoring maybe conducted to confirm toxicity at stations identified as toxic. Accelerated monitoring shall consist of six additional tests, approximately every two weeks, over a 12-week period. If the results of any two of the six accelerated tests are less than 90% survival, then the MS4 and Caltrans permittees shall conduct a Toxicity Identification Evaluation (TIE).</p>

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	<p>Alternatively, responsible parties have the option of foregoing accelerated toxicity testing and conducting a TIE directly following an indication of toxicity. The TIE shall include reasonable steps to identify the sources of toxicity and steps to reduce the toxicity. The Phase I TIE shall include the following treatments and corresponding blanks: baseline toxicity; particle removal by centrifugation; solid phase extraction of the centrifuged sample using C8, C18, or another media; complexation of metals using ethylenediaminetetraacetic acid (EDTA) addition to the raw sample; neutralization of oxidants/metals using sodium thiosulfate addition to the raw sample; and inhibition of organophosphate (OP) pesticide activation using piperonyl butoxide addition to the raw sample (crustacean toxicity tests only).</p> <p>Bioaccumulation monitoring of fish and mussel tissue within the Harbor shall be conducted annually. The permittees are required to submit for approval of the Executive Officer a monitoring plan that will provide the data needed to assess the effectiveness of the TMDL. The general industrial storm water permit shall contain a model monitoring and reporting program to evaluate BMP effectiveness. A permittee enrolled under the general industrial permit shall have the choice of conducting individual monitoring based on the model program or participating in a group monitoring effort. MS4 permittees are encouraged to take the lead in group monitoring efforts for industrial facilities within their jurisdiction because compliance with waste load allocations by these facilities will in many cases translate to reductions in contaminate loads to the MS4 system.</p> <p><b>Special Studies</b></p> <p>Special studies are necessary to refine source assessments, to provide better estimates of loading capacity, and to optimize implementation efforts. The Regional Board will re-consider the TMDL in the sixth year after the effective date in light of the findings of these studies.</p> <p>Studies required for this TMDL include:</p> <ul style="list-style-type: none"> <li>• Evaluate partitioning coefficients between water column and sediment to assess the contribution of water column discharges to sediment concentrations in the harbor, and</li> <li>• Evaluate the use of low detection level techniques to determine water quality concentrations for those contaminants where standard detection limits cannot be used to assess compliance for CTR standards or are not sufficient for estimating source loadings from tributaries and storm water.</li> </ul> <p>Studies recommended for this TMDL include:</p> <ul style="list-style-type: none"> <li>• Develop and implement a monitoring program to collect the data necessary to apply a multiple lines of evidence approach;</li> <li>• Refine the relationship between pollutants and suspended solids aimed at better understanding of the delivery of pollutants to the</li> </ul>

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	watershed, and <ul style="list-style-type: none"><li data-bbox="548 278 1404 342">• Evaluate the effectiveness of BMPs to address pollutants and/or sediments.</li></ul>

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**Table 7-18.2. Marina del Rey Harbor Toxic Pollutants TMDL: Implementation Schedule**

Date	Action
Effective date of the TMDL	Regional Board permit writers shall incorporate the waste load allocations for sediment into the NPDES permits. Waste load allocations will be implemented through NPDES permit limits in accordance with the implementation schedule contained herein, at the time of permit issuance, renewal or re-opener.
On-going	The Executive Officer shall promptly issue appropriate investigatory and clean up and abatement orders to address any toxicity hotspots within sediments identified as a result of data submitted pursuant to this TMDL, any U.S. Army Corps of Engineer dredging activity, or any other investigation.
Within 6 months after the effective date of the State Board adopted sediment quality objectives and implementation policy	The Regional Board will re-assess the numeric targets and waste load allocations for consistency with the State Board adopted sediment quality objectives.
5 years after effective date of the TMDL	Responsible jurisdictions and agencies shall provide to the Regional Board result of any special studies.
6 years after effective date of the TMDL	The Regional Board shall reconsider this TMDL to re-evaluate the waste load allocations and the implementation schedule.
<b>MINOR NPDES PERMITS AND GENERAL NON-STORM WATER NPDES PERMITS</b>	
7 years after effective date of the TMDL	The non-storm water NPDES permits shall achieve the concentration-based waste load allocations for sediment per provisions allowed for in NPDES permits.
<b>GENERAL INDUSTRIAL STORM WATER PERMIT</b>	
7 years after effective date of the TMDL	The general industrial storm water permits shall achieve the mass-based waste load allocations for sediment per provisions allowed for in NPDES permits. Permits shall allow an iterative BMP process including BMP effectiveness monitoring to achieve compliance with permit requirements.
<b>GENERAL CONSTRUCTION STORM WATER PERMIT</b>	
7 years from the effective date of the TMDL	The construction industry will submit the results of the BMP effectiveness studies to the Regional Board for consideration. In the event that no effectiveness studies are conducted and no BMPs are approved, permittees shall be subject to site-specific BMPs and monitoring to demonstrate BMP effectiveness.

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Date	Action
8 years from the effective date of the TMDL	The Regional Board will consider results of the BMP effectiveness studies and consider approval of BMPs no later than eight years from the effective date of the TMDL.
9 years from the effective date of the TMDL	All general construction storm water permittees shall implement Regional Board-approved BMPs.
<b>MS4 AND CALTRANS STORM WATER PERMITS</b>	
12 months after the effective date of the TMDL	In response to an order issued by the Executive Officer, the MS4 and Caltrans storm water NPDES permittees must submit a coordinated monitoring plan, to be approved by the Executive Officer, which includes both ambient monitoring and TMDL effectiveness monitoring. Once the coordinated monitoring plan is approved by the Executive Officer, monitoring shall commence within 6 months. The draft monitoring report shall be made available for public comment and the Executive Officer shall accept public comments for at least 30 days.
5 years after effective date of TMDL (Draft Report) 5 ½ years after effective date of TMDL (Final Report)	The MS4 and Caltrans storm water NPDES permittees shall provide a written report to the Regional Board outlining how they will achieve the waste load allocations for sediment to Marina del Rey Harbor. The report shall include implementation methods, an implementation schedule, proposed milestones, and any applicable revisions to the TMDL effectiveness monitoring plan. The draft report shall be made available for public comment and the Executive Officer shall accept public comments for at least 30 days.
<b>Schedule for MS4 and Caltrans Permittees if Pursuing a TMDL Specific Implementation Plan</b>	
8 years after effective date of the TMDL	The MS4 and Caltrans storm water NPDES permittees shall demonstrate that 50% of the total drainage area served by the MS4 system is effectively meeting the waste load allocations for sediment.
10 years after effective date of the TMDL	The MS4 and Caltrans storm water NPDES permittees shall demonstrate that 100% of the total drainage area served by the MS4 system is effectively meeting the waste load allocations for sediment.
<b>Schedule for MS4 and Caltrans Permittees if Pursuing an Integrated Resources Approach, per Regional Board Approval</b>	
7 years after effective date of the TMDL	The MS4 and Caltrans storm water NPDES permittees shall demonstrate that 25% of the total drainage area served by the MS4 system is effectively meeting the waste load allocations for sediment.
9 years after effective date of the TMDL	The MS4 and Caltrans storm water NPDES permittees shall demonstrate that 50% of the total drainage area served by the MS4

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Date	Action
	system is effectively meeting the waste load allocations for sediment.
11 years after effective date of the TMDL	The MS4 and Caltrans storm water NPDES permittees shall demonstrate that 75% of the total drainage area served by the MS4 system is effectively meeting the waste load allocations for sediment.
15 years after effective date of the TMDL	The MS4 and Caltrans storm water NPDES permittees shall demonstrate that 100% of the total drainage area served by the MS4 system is effectively meeting the waste load allocations for sediment.