

**COMMENT SUMMARY AND RESPONSES**  
**MACHADO LAKE PESTICIDES AND PCBS TMDL**

<b>List of Public Review Comment Letters</b>
1. City of Los Angeles, Department of Public Works, Bureau of Sanitation
2. County of Los Angeles, Department of Public Works
3. County of Los Angeles, Department of Public Works, Flood Control District
4. County of Los Angeles Sanitation District
5. Dominguez Channel Watershed Management Committee
6. Heal the Bay
7. United States Environmental Protection Agency, Region IX

<b>Number</b>	<b>Date</b>	<b>Comment</b>	<b>Response</b>
<b>1</b>	<b>June 1, 2010</b>	<b>City of Los Angeles, Department of Public Works, Bureau of Sanitation</b>	
1.1		The City of Los Angeles, Bureau of Sanitation (Bureau) appreciates the opportunity to comment on the Los Angeles Regional Water Quality Control Board's (Regional Board) Draft Staff Report and Proposed Basin Plan Amendment (BPA) to incorporate a Total Maximum Daily Load (TMDL) for Pesticides and PCBs in Machado Lake. While the Bureau appreciates and thanks the Regional Board's staff for its efforts in developing the Draft BPA and Staff Report, the Bureau has concerns with a few key issues and requests that the Draft BPA and Staff Report are modified accordingly to address these concerns.	Comment noted. See responses to comments below.

Number	Date	Comment	Response
		<p data-bbox="510 277 821 305"><u>Summary of Key Issues</u></p> <ul data-bbox="510 345 1213 1146" style="list-style-type: none"> <li data-bbox="510 345 1031 407">▪ The use of a water column target for bioaccumulative compounds</li> <li data-bbox="510 410 1157 472">▪ The lack of an averaging period for waste load allocations (WLA)</li> <li data-bbox="510 475 1205 537">▪ The use of an explicit margin of safety for the load allocations</li> <li data-bbox="510 540 1213 675">▪ The need to include language to allow the City of Los Angeles to submit one lake water quality management plan (LWQMP) to fulfill all waste load and load allocation requirements</li> <li data-bbox="510 678 1178 740">▪ The need to include a source assessment for in-channel sediment in Wilmington Drain</li> <li data-bbox="510 743 1178 842">▪ The need to include language pertaining to monitoring and implementation requirements for Wilmington Drain</li> <li data-bbox="510 846 1163 945">▪ The need to include language regarding the responsibility of dischargers for potential future implementation measures (i.e., dredging)</li> <li data-bbox="510 948 1205 1010">▪ The recognition of limitations on monitoring during the Proposition O Rehabilitation Project</li> <li data-bbox="510 1013 1192 1112">▪ The need to modify language to allow more flexibility for WLA dischargers for the coordinated monitoring compliance option</li> <li data-bbox="510 1115 1167 1146">▪ The need to include an explicit TMDL reopener</li> </ul> <p data-bbox="510 1182 1220 1312">This letter incorporates by reference Attachment 1, which provides additional Bureau comments, proposed revisions, and further details on the above and other issues.</p> <p data-bbox="510 1349 1146 1380">The Bureau has the following specific comments:</p>	

Number	Date	Comment	Response
1.2		<p><b>The use of a water column target for bioaccumulative compounds does not provide a direct link to the protection of human health and should be removed as TMDL target.</b></p> <p>Water column targets for the OC pesticides and PCBs should not be included as TMDL targets for the following reasons:</p> <ol style="list-style-type: none"> <li>1. The OC pesticide listings for Machado Lake are based on fish tissue concentrations and fish tissue targets are included in the TMDL. Additionally sediment impairments were identified during TMDL development and are addressed through sediment targets. However, no data are presented in the TMDL to demonstrate that concentrations in the water column present a human health (or aquatic life) impairment due to exceedances of the CTR criteria.</li> <li>2. Fish tissue targets provide the most direct link to protection of human health as humans are exposed to the organochlorinated compounds via diet (i.e., consumption of fish) and not through the water column. There is precedent in the Los Angeles Region (see the Calleguas Creek Watershed OC Pesticides and PCBs TMDL and Ballona Creek Toxics TMDL) for utilizing fish tissue targets as the means to protect human health from consumption rather than the CTR human health criteria.</li> </ol>	<p>Staff disagrees. As stated in the numeric targets section of the staff report, multiple numeric targets are used to ensure attainment of water quality standards, including protection of beneficial uses. Staff finds that all 3 numeric targets (water, sediment, and fish tissue) are necessary to fully protect the beneficial uses of Machado Lake.</p> <p>As presented in the TMDL linkage analysis, toxic pollutants from the lake sediments may solubilize into the water column exposing aquatic organisms to toxic pollutants, which biomagnify and expose humans to toxic pollutants. The water column numeric target will ensure that all standards are attained. Moreover, the water column numeric target is necessary to address the fish tissue impairment due to uncertainties in how the pollutants migrate between water, sediment, and fish tissue.</p> <p>Since the adoption of the Calleguas Creek Watershed OC Pesticides and PCBs TMDL and Ballona Creek Toxics TMDL in 2005, the Regional Board adopted 2 other toxics TMDLs in 2009 (McGrath Lake PCBs, Pesticides, and Sediment Toxicity TMDL and Colorado Lagoon Pesticides, Sediment Toxicity, PAHs, PCBs, and Metals TMDL), which included water column numeric targets to ensure protection of human health and all beneficial uses.</p> <p>Staff does not recommend the use of OEHHA's Advisory Tissue Levels (ATLs), and instead</p>

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		<p>3. The CTR human health criteria are expressed as water column targets by converting a fish tissue target into a water column target (by using a bioconcentration factor). Fish tissue targets, based on OEHHA guidelines, have already been directly expressed in the TMDL. Therefore, including water column targets based on the CTR human health criteria contradicts OEHHA guidance.</p> <p>4. Using fish tissue as the basis for ensuring the protection of human health makes sense not only from an exposure/risk perspective, but also from an analytical perspective as well. As the CTR water column criteria are derived values, many are below current detection limits in water, whereas the fish tissue concentrations are detectable using current analytical methods.</p> <p>5. The Regional Board has selected OEHHA's Fish Contaminant Goals (FCGs) over the Advisory Tissue Levels (ATLs) for fish tissue targets. FCGs do not take into account economic considerations, technical feasibility, or the counterbalancing benefit of fish consumption. OEHHA's final report (2008) states (emphasis added):</p> <p><i>"The use of ATLs still confers no significant health risk to individuals consuming sport fish in the quantities shown over a lifetime, while encouraging consumption of fish that can be eaten in quantities likely to provide</i></p>	<p>proposes the use of OEHHA's Fish Contaminant Goals (FCGs) as the numeric targets in the TMDL.</p> <p>According to OEHHA, FCGs are estimates of contaminant levels in fish that pose no significant health risk and were developed with the intent to assist other agencies in developing fish tissue-based criteria with a goal toward pollution mitigation or elimination. ATLs, on the other hand, are used to provide consumption advice and are one of the criteria that will be used by OEHHA for issuing fish consumption guidelines. There are key differences between fish consumption advisories and other environmental risk criteria; advisories consider the significant benefits of fish consumption, while criteria may be strictly risk-based and may not take into account other factors.</p> <p>Therefore, the TMDL, the goal of which is to implement water quality criteria and eliminate the discharge of toxic pollutants to Machado Lake, includes numeric targets based on FCGs, not ATLs.</p> <p>The Regional Board has previously adopted a TMDL with numeric targets equal to FCGs (Colorado Lagoon Pesticides, Sediment Toxicity, PAHs, PCBs, and Metals TMDL).</p>

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		<p><i>significant health benefits and discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be recommended in amounts suggested for improving overall health (i.e., 8 ounces total, prior to cooking, per week)."</i></p> <p>Using the FCGs instead of the ATLs is a very conservative selection for fish tissue targets for the protection of human health as there are orders of magnitude differences in tissue concentrations between the FCGs and the ATLs, yet, as noted above, the use of ATLs confers no significant health risk to individuals over a lifetime. As fish tissue targets most directly and appropriately assess the risk to human health, the use of FCGs instead of the ATLs therefore further supports the removal of the CTR-based water column target.</p> <p><i>Requested Action: Remove the water column target from the numeric target section of the BPA and the Staff Report.</i></p>	
1.3		<p><b>Waste load allocations should be expressed with an averaging period.</b></p> <p>Organochlorinated pesticides and PCBs bioaccumulate through the food chain. Therefore, risk to human health does not result from acute exposure but from chronic conditions. As sediment that is transported to the lake during storm events disperses and settles into the lake, the concentrations of sediment associated with a single storm do not directly relate to concentrations within the lake sediment itself.</p>	<p>Staff agrees that WLAs should be expressed with an averaging period. Because OC pesticides and PCBs bioaccumulate, the risk to human health and the environment does not occur as the result of a single discharge event. The impacts of OC pesticides and PCBs are manifested over long time periods. Short-term variations in pollutant concentrations are not likely to significantly impact the impairment and/or protection of beneficial uses.</p>

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		<p>As such, an averaging period for the waste load allocations is necessary to support an appropriate evaluation of the potential affect of sediment deposition on in lake sediment concentrations. The sediment deposition rate identified in the TMDL is 1110.2 m3/yr. Based on the surface area of the lake utilized in the Staff Report (40 acres) to estimate the volume of contaminated sediments, the deposition rate is approximately 0.686 centimeters per year. Typically, the top 2 centimeters of sediment are sampled to evaluate sediment for toxicity and pollutant concentrations (see SWAMP and Regional Board data sets utilized in TMDL). Therefore, based on the information contained in the TMDL, one would not expect sediment characteristics to change significantly from storm to storm or even from year to year.</p> <p>As such, the concentrations of sediment measured in the storm drains from a single storm event do not directly relate to concentrations in the active sediment layer (where exposure occurs) within the lake itself. Therefore, as loading of organochlorinated pesticides and PCBs is seasonal in nature (i.e., directly linked to storm events), and exposure to organochlorinated pesticides and PCBs results from bioaccumulation that occurs over time and not from acute conditions, it is logical to express the allocations as an average condition. There is precedent for this approach throughout Southern California as it was utilized in the Newport Bay Watershed (mass per year) (SARWQB, 2007), Ballona Creek (mass per year) (LARWQCB, 2005a), and Calleguas Creek Watershed (annual average of concentration) (LARWQCB, 2005b).</p>	<p>Thus, it is reasonable to evaluate discharges and improvements in water quality over a longer time period. In order to address this comment and requests from other stakeholders to provide a mass-based WLA, staff has incorporated a 3-year averaging period into the TMDL WLAs. The 3-year averaging period appropriately protects the beneficial uses of the lake over long time periods. The 3-year averaging period also acknowledges that implementation strategies will focus on sediment reduction, and that the levels of OC pesticides and PCBs in sediment originating in the watershed may vary over time and space. The averaging period will address this variability and exempt watershed dischargers from the need to design BMPs to treat all sediment, regardless of whether it meets or exceeds WLAs (which was the concern prompting the stakeholder's request for mass-based WLAs.)</p> <p>See also response 2.2 and 4.2</p>

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		<p><i>Requested Action: Add a footnote to the waste load allocation (Table 17 in the Staff Report and the table on page 5 of the BPA) that states the allocation is based on an annual average.</i></p>	
1.4		<p><b>The explicit 10% margin of safety for the load allocation is not appropriate</b></p> <p>Both an implicit and explicit margin of safety have been applied to the load allocations. The implicit margin of safety results from very conservative assumptions throughout the TMDL, including the selection of the most conservative fish tissue targets (OEHHA's FCGs) and the selection of most conservative sediment targets (TECs). The Staff Report and Basin Plan Amendment state that an additional explicit margin of safety is necessary in order to account for areas of uncertainty; however, the areas of uncertainty listed are related to uncertainty in the <i>current conditions</i> and not the <i>loading capacity of the system</i>. In terms of setting the allocations (i.e., how much can be discharged while still protecting beneficial uses), the amount of pesticides and PCBs currently residing in the sediment or being discharged to the lake is not relevant. What is relevant is how much can exist in order to protect beneficial uses. EPA guidance (1991) specifically states (emphasis added):</p> <p><i>The MOS is normally incorporated into the conservative assumptions used to develop TMDLs (generally within the calculations or models) and</i></p>	<p>A 10% explicit margin of safety for the load allocation is appropriate to account for uncertainties between the pollutant load from the internal lake sediments and water quality effects.</p> <p>This explicit margin of safety is intended to account for uncertainties in TMDL calculation methods and pesticide/PCB effects. The explicit 10% margin of safety will ensure that all water quality objectives are attained and that beneficial uses are protected.</p> <p>The areas of uncertainty recognized in the TMDL do relate to the lake loading capacity; for example, sediment volume and sediment bulk density were used in the loading capacity calculations (see Staff Report, Table 15).</p> <p>Additionally, the intention of a TMDL margin of safety is to address uncertainty in various aspects of the TMDL (e.g. WLA) analysis, not just uncertainty in the loading capacity, and ensure that the TMDL is established to attain all applicable narrative and numeric water quality standards (40 CFR § 130.7(c)(1)).</p>

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		<p><i>approved by EPA either individually or in State/EPA agreements. If the MOS needs to be larger than that which is allowed through the conservative assumptions, additional MOS can be added as a separate component of the TMDL (in this case, quantitatively, a TMDL = LC = WLA + LA + MOS).</i></p> <p>Therefore, as the uncertainties pertain to the existing conditions and not the loading capacity, applying an explicit margin of safety, in addition to the implicit margin of safety, is not warranted.</p> <p><i>Requested Action: Remove the explicit 10% margin of safety from Section 6.3 in the Staff Report and page 6 of the BPA.</i></p>	
1.5		<p><b>Allow the City of Los Angeles to submit one Lake Water Quality Management Plan (LWQMP)</b></p> <p>As stated in the Implementation Plan section of the Staff Report and Basin Plan Amendment, the City of Los Angeles will be responsible for submitting certain documents as a waste load allocation discharger (Department of Public Works as an MS4 Permittee) and as a load allocation discharger (Department of Recreation and Parks) per the following schedule:</p> <ul style="list-style-type: none"> <li>Department of Public Works <ul style="list-style-type: none"> <li>▪ Memorandum of Agreement (MOA): 1 year from effective date</li> <li>▪ Lake Water Quality Management Plan (LWQMP): 1.5 years from effective</li> </ul> </li> </ul>	<p>Staff agrees. The City of Los Angeles may submit one document that includes monitoring and implementation activities for both the WLA and LA requirements.</p> <p>The Implementation Schedules in the staff report and BPA have been revised to address this comment.</p>

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		<p>Department of Recreation and Parks</p> <ul style="list-style-type: none"> <li>▪ Monitoring and Reporting Plan (MRP): 6 months from effective date of the TMDL</li> <li>▪ Quality Assurance Project Plan (QAPP): 6 months from effective date of the TMDL</li> <li>▪ Implementation Plan: 6 months from completion of Phase 1 monitoring</li> </ul> <p>As the LWQMP includes an MRP, a QAPP, and implementation activities (all required elements of the City as an MS4 discharger through the WLA), it would more efficient to allow the City of Los Angeles to submit one plan (a LWQMP) that includes monitoring and implementation activities for both WLA and LA compliance.</p> <p>There is precedent for this approach in Machado Lake as both the City's Department of Public Works (on behalf of the WLA responsible party) and the Department of Recreation and Parks (on behalf of the LA responsible party) have signed the Nutrient TMDL MOA with the Regional Board and both departments intend to sign the Toxics TMDL MOA amendment to jointly submit one LWQMP that covers both WLA and LA requirements.</p> <p><i>Requested Action: Include language in the TMDL staff report and BPA (including the Implementation Schedules in both documents) to clarify that the City of Los Angeles will be submitting one LWQMP at 1.5 years from the effective date of the TMDL that includes all of the WLA and LA requirements for which the City is accountable.</i></p>	

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1.6		<p><b>Source assessment needs to include in-channel sediment from Wilmington Drain</b></p> <p>For the Machado Lake Ecosystem Rehabilitation Prop O Project, the City of Los Angeles assessed four sites in Wilmington Drain to measure levels of organochlorinated pesticides and PCBs in the soft bottom sediment. All four sites showed exceedances for all pesticides between 0-6 feet. This bottom sediment is a potentially significant source of organochlorinated pesticides and PCBs to Machado Lake. The Bureau provided this data to the Regional Board in the Draft Sediment Characterization Report – Machado Lake Ecosystem Rehabilitation Project and Wilmington Drain Multi-Use Project. The data from the report characterizing lake sediments were used in the Source Assessment in the Staff Report. However, the data in Wilmington Drain showing exceedances and the potential for those sediments to be a source to the lake was not included in the Source Analysis. The sediment data for Wilmington Drain are provided in Attachment 2 for your reference.</p> <p><i>Requested Action: Include a new section, Section 4.2.2, in the Source Assessment section of the Staff Report, to quantify the source of in-channel sediment in Wilmington Drain. Include the same information in the Source Analysis section of the BPA</i></p>	<p>Staff has added information to the staff report identifying in-channel sediments from Wilmington Drain as a potential source of pollutants to Machado Lake.</p>
1.7		<p><b>Monitoring and Implementation requirements for Wilmington Drain need to be more explicit</b></p> <p>As the City of Los Angeles is investing approximately</p>	<p>The Los Angeles County Flood Control District is identified as a responsible party in the TMDL and is assigned a TMDL WLA. Los Angeles County Flood Control District is required to submit an MRP</p>

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		<p>\$100 million in the rehabilitation of Machado Lake, the Bureau is concerned that such a large source of pesticides and PCBs in Wilmington Drain could be mobilized over time through typical storm events or deposited in the lake from one major storm event.</p> <p>As an MS4 permittee, the Los Angeles County Flood Control District must submit a MRP and QAPP within 6 months of the effective date of the TMDL and must submit an implementation plan to attain the WLAs within 6 months from completion of the Phase 1 monitoring. As the owner and manager of the Wilmington Drain, any monitoring program or implementation plan approved by the Executive Officer for the Los Angeles County Flood Control District needs to include monitoring and a sediment management plan, as appropriate, for the bottom sediment from within Wilmington Drain. The Bureau strongly supports the removal of the in-channel sediment before the Prop O Rehabilitation Project is completed.</p> <p><i>Requested Action: In the Implementation Plan section of the Staff Report and BPA, include language that will require the monitoring plan and implementation plan submitted by the Los Angeles County Flood Control District to specifically address and manage as appropriate the bottom sediment in Wilmington Drain.</i></p>	<p>and Implementation Plan to attain WLAs.</p> <p>Additionally, the TMDL calls for specific monitoring of bed sediment in Wilmington Drain by the County of Los Angeles Flood Control District to ensure that sediment from Wilmington Drain is not re-contaminating Machado Lake. The Regional Board may use other regulatory programs or issue other orders to require the clean up of Wilmington Drain, if necessary.</p> <p>Regional Board staff recognizes the importance and investment of the Proposition O projects and commends the City of Los Angeles on the planned projects that will improve water quality throughout the city. Regional Board staff is supportive of the Prop O Machado Lake Ecosystem Rehabilitation Projects. Staff will work with all responsible parties in the watershed to coordinate monitoring and/or remediation measures with the Prop O timeline.</p>
1.8		<p><b>Dischargers who exceed waste load and/or load allocations must be jointly responsible for any future implementation actions necessary to</b></p>	<p>Staff agrees. Once implementation activities are completed by the City and LAs attained, Machado Lake must be protected from possible</p>

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		<p><b>protect Machado Lake</b></p> <p>Through the Machado Lake Ecosystem Rehabilitation Prop O Project, the City of Los Angeles is spending approximately \$100 million to restore Machado Lake, including dredging of accumulated sediment from within the lake. If dischargers exceed their waste load and/or load allocation, sediment that contains organochlorinated pesticides and PCBs will be deposited in Machado Lake above the sediment target. If such discharges result in fish tissue exceeding TMDL targets and sediment from within the lake exceeding TMDL targets, then the dischargers that exceeded waste load and/or load allocations must be responsible for future implementation actions necessary to comply with the TMDL (such as dredging of the lake). There is precedent for this approach in the Organochlorinated Compounds TMDL for the Newport Bay watershed (SARWQCB, 2007). Similar to Machado Lake, Newport Bay is also undergoing a rehabilitation project that involves dredging of sediment. Through the implementation plan, the TMDL requires stakeholders (i.e., dischargers) to “evaluate the feasibility and mechanisms to fund future dredging operations within San Diego Creek, Upper and Lower Newport Bay.” This task recognizes that the possibility exists for sediment to accumulate in Newport Bay to levels that would exceed sediment targets and that dischargers responsible for such discharges would need to implement management actions to address those exceedances (e.g., dredging).</p>	<p>recontamination due to discharges from the surrounding watershed.</p> <p>Therefore, the TMDL assigns to watershed dischargers WLAs that will address pollutants discharged from the watershed into the lake. Additionally, the TMDL requires compliance monitoring, which will report if contaminated discharges are occurring. Parties not attaining WLAs and contributing to the recontamination of Machado Lake will be required to take action to address WLA exceedances and may be subject to other Regional Board actions.</p> <p>Language to clarify the responsibilities of watershed dischargers has been added to the staff report and BPA.</p>

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		<p><i>Requested Action: In the Implementation Plan section of the Staff Report and BPA, include the following language:</i></p> <p><i>If TMDL targets for sediment and/or fish tissue are exceeded within the lake, then dischargers that exceeded waste load and/or load allocations will be responsible for future implementation actions necessary within Machado Lake to comply with the TMDL (such as dredging of the lake).</i></p>	
1.9		<p><b>Modify monitoring requirement to recognize limitations during proposition O rehabilitation project</b></p> <p>The City's Machado Lake Prop O Project includes many elements that will rehabilitate the lake. To complete the work, fish will be removed from the lake, the lake will be completely drained, and lake sediments will be removed and replaced with a liner and clean sediments. As such, any fish tissue or sediment samples collected in the lake prior to the completion Prop O project will not be representative of conditions and not comparable to future data. As such, in-lake sampling should not be required until the completion of the Prop O project.</p> <p><i>Requested Action: Add language to the Monitoring section of the Staff Report and BPA to recognize the work being conducted in Machado Lake through the Ecosystem Rehabilitation Project and that monitoring requirements within the lake will commence upon completion of the project.</i></p>	<p>The staff report and BPA already address this comment. The LA compliance monitoring sections of the staff report and BPA clearly state that LA monitoring (i.e. in-lake sampling) will start <i>following</i> lake sediment remediation activities as presented in the LWQMP. Staff expects the LWQMP to incorporate the Prop O projects.</p>

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1.10		<p><b>Modify language to allow more flexibility for WLA dischargers who participate in coordinated monitoring</b></p> <p>The TMDL allows for WLA responsible parties to conduct upstream monitoring at each agency's outlet points, or to conduct a coordinated monitoring effort at Wilmington Drain, Project 77, and Project 510. The coordinated monitoring effort, however, will become a challenge unless every agency in the watershed participates; should a few but not all agencies participate, monitoring at the three downstream drains does not account for missing discharge points through the complicated storm drain network in the Machado Lake watershed. It would be more appropriate to allow agencies to work together to coordinate joint monitoring efforts based on the collective agencies' outlet points rather than to assign the locations of Wilmington Drain, Project 77, and Project 510. The Palos Verdes Peninsula Cities monitoring plan for the Machado Lake Nutrient TMDL is an example of a joint monitoring plan where the outlet points for the combined areas of the four cities involved are to be monitored.</p> <p><i>Requested Action: Include language in the TMDL staff report and BPA allowing WLA responsible agencies to conduct a joint monitoring program at the appropriate outlet points for their combined jurisdictional area, and delete the language referring to Wilmington Drain, Project 77, and Project 510 as the only option for</i></p>	<p>A change has been made to the staff report and BPA to allow stakeholders the flexibility to design coordinated monitoring programs.</p>

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		<i>outlet points to be monitored in a coordinated effort.</i>	
1.11		<p><b>TMDL schedule should include an explicit re-opener to occur concurrently with the re-opener of the Machado Lake Nutrient TMDL</b></p> <p>As is typical of most TMDLs, and as is the case for the Nutrient TMDL for Machado Lake (LARWQCB, 2008), the Implementation Schedule most often includes an explicit reopener for the TMDL to allow for the evaluation and consideration of new data, results of special studies, new information, etc. The Machado Lake Ecosystem Rehabilitation Prop O Project will result in substantial removal of sediment from within the lake and reduction in stormwater discharge loads through the use of sediment capture basins located right next to the lake at the discharge points for Wilmington Drain, Project 77, and Project 510. The restoration of the lake will substantially change conditions not just for this TMDL, but for other TMDLs as well. Therefore, in order to maximize efficiencies, the TMDL should be reopened concurrently with the Machado Lake Nutrient TMDL in order to assess new data, results of special studies, and new information and to re-evaluate the status of any impairments after the Prop. O project is completed.</p> <p><i>Requested Action: Add a task to the implementation section of the BPA and Staff Report for an explicit reopener of the TMDL to occur concurrently with the reopener of the Machado Lake Nutrient TMDL.</i></p>	<p>Mandatory TMDL reconsiderations are generally scheduled to account for the results of special studies and/or address specific data gaps in the TMDL. At this time, stakeholders have not suggested any necessary special studies or other data gathering projects needed to reconsider the targets and/or allocations. Therefore, a mandatory TMDL reconsideration is not included in the TMDL implementation schedule.</p> <p>The Machado Lake Ecosystem Rehabilitation Prop. O projects are implementation projects, which will be employed to attain the TMDL. The Prop O projects are not special studies designed to inform the TMDL numeric targets and/or allocations.</p> <p>In addition, the Regional Board may choose to reconsider a TMDL at anytime; it is not necessary to have a specific date in the TMDL implementation schedule.</p>

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1.12		<p>The Bureau is committed to improving and protecting the local environment as evidenced by the implementation of the \$100 million Machado Lake Ecosystem Rehabilitation Prop O Project. The Prop O project includes both measures to reduce accumulated sediment and associated pesticides and PCBs in the lake (through dredging) and to reduce stormwater discharge loads (through the use of sediment capture basins located right next to the lake at the discharge points for Wilmington Drain, Project 77, and Project 510). This investment in the future is done in partnership with your agency to achieve maximum return in local environmental programs and infrastructure.</p>	<p>Comment noted. Regional Board staff appreciates the City's commitment to water quality improvement through implementation of the Proposition O project.</p>
1.13		<p>Thank you for your consideration of these comments. If there any questions, please feel free to call Donna Toy-Chen, TMDL Section Manager at (213) 485-7954 or Shokoufe Marashi , Staff lead on this TMDL at (213) 485-3937.</p>	<p>Comment noted.</p>
1.14		<p><b>Attachment 1</b>  Water column targets for the OC pesticides should not be included as TMDL targets for the following reasons:</p> <p>The OC pesticide listings for Machado Lake are based on fish tissue concentrations and fish tissue targets are included in the TMDL. Additionally sediment impairments were identified during TMDL development and are addressed through sediment targets. However, no data are presented in the TMDL to demonstrate that concentrations in the water column present a human health (or aquatic life) impairment due to exceedances of the CTR criteria.</p>	<p>See response 1.2</p>

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		<p>Fish tissue targets provide the most direct link to protection of human health. There is precedent in the Los Angeles Region (see the Calleguas Creek Watershed OC Pesticides and PCBs TMDL and Ballona Creek Toxics TMDL) for utilizing fish tissue targets as the means to protect human health from consumption rather than the CTR Human Health criteria.</p> <p>The CTR human health criteria are expressed as water column targets by converting a fish tissue target into a water column target (by using a bioconcentration factor). Fish tissue targets, based on OEHHA guidelines, have already been directly expressed in the TMDL. Therefore, including water column targets based on the CTR human health criteria contradicts OEHHA guidance (see Comment #2 below regarding OEHHA's Fish Contaminant Goals).</p> <p>Using fish tissue as the basis for ensuring the protection of human health makes sense not only from an exposure/risk perspective, but also from an analytical perspective as well. As the CTR water column criteria are derived values, many are below current detection limits in water, whereas the fish tissue concentrations are detectable using current analytical methods.</p> <p>The Bureau requests that the water column targets be removed for the reasons presented above.</p>	

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1.15		<p>Fish Contaminant Goals (FCGs) and Advisory Tissue Levels (ATLs) were recently developed by the Office of Environmental Health Hazard Assessment (OEHHA). The FCGs prevent consumers from being exposed to more than the daily reference dose for non-carcinogens or to a risk level greater than <math>1 \times 10^{-6}</math> for carcinogens. OEHHA's final report states:</p> <p>“FCGs are based solely on exposure to each individual contaminant, without regard to economic considerations, technical feasibility, or the counterbalancing benefit of fish consumption.”</p> <p>ATLs take into account the benefits of fish consumption and are designed to prevent consumers from being exposed to more than the average daily dose for non-carcinogens or to a risk level greater than <math>1 \times 10^{-4}</math> for carcinogens. OEHHA's final report states:</p> <p>“The use of ATLs still confers no significant health risk to individuals consuming sport fish in the quantities shown over a lifetime, while encouraging consumption of fish that can be eaten in quantities likely to provide significant health benefits and discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be recommended in amounts suggested for improving overall health (i.e., 8 ounces total, prior to cooking, per week).”</p> <p>Additionally, both the FCGs and the ATLs assume that a consumer (i.e., an individual) will consume a certain serving size per week over a lifetime, which was</p>	See response 1.2

Number	Date	Comment	Response
		<p>assumed to be 30 years over a 70 year lifespan. Therefore, an individual would need to eat at least one 8 oz. serving of fish from Machado Lake with concentrations greater than the FCGs or the ATLS every week, for 30 years, in order to be at risk of accumulating contaminants to levels that would be harmful to human health.</p> <p>Further, by using the FCGs as a TMDL target, the Regional Board is establishing a contradictory public message from OEHHA on the safety of consumption of fish. Using DDT for example, if fish in Machado Lake had DDT concentrations equivalent to 400 ug/Kg wet weight, the Regional Water Board would require substantial reductions in order to meet the FCGs of 21 ug/Kg wet weight (based on eating one 8 oz. serving per week for 30 years) in order to protect human health.</p> <p>However, based on ATLS, OEHHA would determine that fish containing 400 ug/Kg wet weight would be safe for consumers to eat the same serving size not only once per week, but three times per week, for 30 years. OEHHA would encourage the same consumer to eat one serving of fish per week for 30 years for fish containing up to 2,100 ug/Kg wet weight. Therefore, the Regional Board would tell the public that fish are not safe to eat from Machado Lake while OEHHA would <i>encourage</i> the public to eat fish from Machado Lake.</p> <p>Using the FCGs instead of the ATLS is a very conservative selection for fish tissue targets for the</p>	

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		<p>protection of human health as there are orders of magnitude differences in tissue concentrations between the FCGs and the ATLS, yet the use of ATLS confers no significant health risk to individuals over a lifetime.</p> <p>As fish tissue targets most directly and appropriately assess the risk to human health, the use of FCGs instead of the ATLS therefore further supports the removal of the CTR-based water column target. As such, the Bureau requests that the water column targets be removed for the reasons presented above and in Comment #1</p>	
1.16		<p>For the Machado Lake Ecosystem Rehabilitation Prop O Project, the City of Los Angeles assessed four sites in Wilmington Drain to measure levels of organochlorinated pesticides and PCBs in the soft bottom sediment. All four sites showed exceedances for all pesticides at two depths (0-5 feet and at 5-6 feet). This bottom sediment is a potentially significant source of organochlorinated pesticides and PCBs to Machado Lake. The Bureau provided this data to the Regional Board in the Pre-Design Report for the Machado Lake Ecosystem Rehabilitation Project. This report was cited and the data were used in the Source Assessment of lake sediments in the Staff Report, but the in-channel sediment within Wilmington Drain data is not identified as a source.</p>	See response 1.6
1.17		<p>As sediments transported during storms to the lake from upstream sources disperse and settle into the lake, the concentrations of sediment associated with a single storm does not directly relate to concentrations</p>	See response 1.3

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		<p>within the lake itself. As such, an averaging period for the Waste Load and Load Allocations is necessary to support an appropriate evaluation of the potential affect of sediment deposition. The sediment deposition rate identified in the TMDL is 1110.2 m<sup>3</sup>/yr. Based on the surface area of the lake utilized in the Staff Report (40 acres) to estimate the volume of contaminated sediments, the deposition rate is approximately 0.686 centimeters per year. Typically sediment samples to evaluate the portion sediment of concern for toxicity and pollutant concentrations is 2 centimeters (see SWAMP and Regional Board data sets utilized in TMDL). Therefore, based on the information contained in the TMDL one would not expect sediment characteristics to change significantly in less than three years. As such, the Bureau requests that the Waste Load and Load Allocations be clarified to include an averaging period of no less than an annual averaging period.</p>	
1.18		<p>The fish tissue and sediment monitoring requirements required in the load allocations section should be the joint responsibility of parties assigned load allocations and waste load allocations. As both WLA and LA dischargers contribute sediment and targeted pesticides and PCBs to the lake, sediment and fish tissue monitoring should be a shared responsibility of all parties.</p>	<p>This TMDL divides the responsibility of allocations between the lake sediments and watershed discharges and therefore, divides the monitoring requirements as well.</p> <p>Parties assigned WLAs are responsible for ongoing and future pollutant discharges from the watershed and must conduct watershed monitoring to demonstrate compliance with the WLAs.</p> <p>The lake owner is assigned LAs and is responsible for the internal lake sediments and overall lake condition and is the appropriate party to conduct</p>

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			lake sediment and fish tissue monitoring to demonstrate compliance with the LAs.
1.19		The City's Machado Lake Prop O Project includes many elements that will rehabilitate the lake. To complete the work, fish will be removed from the lake, the lake will be completely drained, and the top 18 inches of lake sediments will be removed and replaced with a liner and clean sediments. As such, any fish tissue or sediment samples collected in the lake prior to the completion Prop O project will not be representative of conditions and not comparable to future data. As such, in-lake sampling should not be required until the completion of the Prop O project.	See response 1.9
1.20		As discussed in comment #4 above, sedimentation rates in Machado Lake are relatively low and changes in sediment chemistry related to deposition would not be expected to occur within a one year time frame. As such, the frequency of sediment sampling in the lake should be modified to every three years which would be consistent with the fish tissue sampling frequency. Note that a three year frequency of monitoring would be consistent with the Calleguas Creek Watershed TMDL monitoring program for sediment sampling in Mugu Lagoon which experiences similarly low sedimentation rates.	Staff agrees. Based on the low sedimentation rate in the Machado Lake subwatershed, one would not expect the concentrations of pollutants in the lake sediments to change significantly from year to year. Therefore, it is reasonable to reduce monitoring frequency for in-lake sediment to be once every three years to coordinate with fish tissue sampling. This change is incorporated in the staff report and BPA.
1.21		Through the Machado Lake Ecosystem Rehabilitation	See response 1.8

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		<p>Prop O Project, the City of Los Angeles is spending approximately \$100 million to restore Machado Lake, including dredging of accumulated sediment from within the lake. If dischargers exceed their waste load and/or load allocation, sediment that contains organochlorinated pesticides and PCBs will be deposited in Machado Lake above the sediment target. If such discharges result in fish tissue exceeding TMDL targets and sediment from within the lake exceeding TMDL targets, then the dischargers that exceeded waste load and/or load allocations must be responsible for future implementation actions necessary to comply with the TMDL (such as dredging of the lake). There is precedent for this approach in the Organochlorinated Compounds TMDL for the Newport Bay watershed (SARWQCB, 2007). Similar to Machado Lake, Newport Bay is also undergoing a rehabilitation project that involves dredging of sediment. Through the implementation plan, the TMDL requires stakeholders (i.e., dischargers) to “evaluate the feasibility and mechanisms to fund future dredging operations within San Diego Creek, Upper and Lower Newport Bay.” This task recognizes that the possibility exists for sediment to accumulate in Newport Bay to levels that would exceed sediment targets and that dischargers responsible for such discharges would need to implement management actions to address those exceedances (e.g., dredging).</p>	
1.22		<p>As is typical of most TMDLs, and as is the case for the Nutrient TMDL for Machado Lake (LARWQCB, 2008), the Implementation Schedule most often includes an</p>	See response 1.11

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		<p>explicit reopener for the TMDL to allow for the evaluation and consideration of new data, results of special studies, new information, etc. The Machado Lake Ecosystem Rehabilitation Prop O Project will result in substantial removal of sediment from within the lake and reduction in stormwater discharge loads through the use of sediment capture basins located right next to the lake at the discharge points for Wilmington Drain, Project 77, and Project 510. The restoration of the lake will substantially change conditions not just for this TMDL, but for other TMDLs as well. Therefore, in order to maximize efficiencies, the TMDL should be reopened concurrently with the Machado Lake Nutrient TMDL in order to assess new data, results of special studies, and new information and to re-evaluate the status of any impairments after the Prop. O project is completed.</p>	
1.23		<p>As the City of Los Angeles is investing approximately \$100 million in the rehabilitation of Machado Lake, the Bureau is concerned that such a large source of pesticides and PCBs in Wilmington Drain could be mobilized over time through typical storm events or deposited in the lake from one major storm event.</p> <p>As an MS4 permittee, the Los Angeles County Flood Control District must submit a MRP and QAPP within 6 months of the effective date of the TMDL and must submit an implementation plan to attain the WLAs within 6 months from completion of the Phase 1 monitoring. As the owner and manager of the Wilmington Drain, any monitoring program or implementation plan approved by the Executive Officer</p>	See response 1.7

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		<p>for the Los Angeles County Flood Control District needs to include monitoring and a sediment management plan, as appropriate, for the bottom sediment from within Wilmington Drain. The Bureau strongly supports the removal of the in-channel sediment before the Prop O Rehabilitation Project is completed.</p> <p>Additionally, the management requirements should be more stringent than visual inspections. A sediment management plan would be a more appropriate requirement.</p>	
1.24		<p>Machado Lake is not in the actual Dominguez Channel watershed as none of the drainage to Dominguez Channel interfaces with the drainage to Machado Lake. This has been verified through City and County drainage maps. In the past, the Los Angeles Regional Water Quality Control Board has referred to three separate watersheds (actual Dominguez Channel watershed, Machado Lake watershed, Harbor local runoff watershed) collectively as “Dominguez Channel Watershed Management Area”, but this creates a lot of confusion in that often the term “Dominguez Channel Watershed” is used to identify all three watersheds, which is not correct. Please change the reference to the “Watershed Management Area”.</p>	<p>The staff report has been revised to clarify between the terms “Dominguez Channel Watershed Management Area” and “Dominguez Channel Watershed.”</p>
1.25		<p>The actual area of Ken Malloy Harbor Regional Park is not accurately represented on Figure 1. See the shape file of the park boundary provided to the Regional Board staff on a CD and modify Figure 1 accordingly.</p> <p>The actual area of Ken Malloy Harbor Regional Park is</p>	<p>The watershed boundaries have been drawn by GIS technical staff based on the California Interagency Watershed Maps (CalWater). These maps are the State of California’s working definition of watershed boundaries. Regional Board GIS technical staff refined the sub-</p>

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		<p>not accurately represented on Figure 3. The park boundary shown in Figure 3 includes areas belonging to Harbor College that are not a part of KMHRP.</p> <p>The subwatershed boundary of the Machado Lake watershed is also shown incorrectly, as it includes the south wetlands area, which does not drain to the lake. It also does not match the Machado Lake subwatershed boundary in Figure 2, which is correct. Please modify the subwatershed boundary for Machado Lake as represented in Figure 2.</p>	<p>watershed boundaries based on regional hydrology and stormdrain drainage areas.</p> <p>These figures 1 and 3 are included in the staff report to provide general orientation and will not be used to determine jurisdictional boundaries. Staff finds the figure to be adequate for representing the general area of Machado Lake.</p>
1.26		Please clarify what land uses fall under the “all other” category. This category accounts for a significant 23% of the watershed, so a further breakdown of the land uses in the “all other” category is warranted.	The land use distributions in the Machado Lake subwatershed were taken from the <i>Machado Lake Watershed Management Plan</i> , City of Los Angeles Department of Recreation and Parks, May 2002. According to this document, “all other” is a defined land use and includes areas such as open space, parks, military or communications.
1.27		There has been some confusion on what the appropriate name is for the drain entering the lake south of Project 77. According to County as-built plans, the drain is called Project 510 - Line C. Suggest use of Project 510 - Line C instead of “Harbor City Relief Drain”, which does not appear on any as-builts. Note that Wilmington Drain, Project 77, and Project 510 are all owned and maintained by LA County Flood Control District per the as-built plans.	The reference to Harbor City Relief Drain has been struck from the staff report.
1.28		Fish were sampled and found to contain PCBs. Machado Lake is documented to have stocked fish according to Parsons Study and Rec & Parks. Farmed fish are documented as being high in PCBs. After dredging, targets for PCBs in sediment could be met,	As the responsible party for Machado Lake, the City of Los Angeles must ensure that any fish stocked to the lake do not exceed the fish tissue numeric target in this TMDL and will not cause or contribute to the exceedances of any water quality

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		<p>but because the lake is stocked with farm fish, PCBs could be found in fish tissue. Please add language in TMDL noting this issue to allow for further consideration in future management actions.</p>	<p>standard.</p>
1.29		<p>No one sediment quality guideline is endorsed for use by the State’s 303(d) listing policy. In fact, the 303(d) listing policy uses the probable effects concentration (PEC), not the threshold effect concentration (TEC) as an example of acceptable guidelines. It is misleading to state that the TEC is recommended over the PEC, or any other sediment quality guideline.</p> <p>Section 6.1.3 (Sediment Quality Guidelines for Marine, Estuarine, and Freshwater Sediments) of the 303(d) listing policy states (emphasis added):</p> <p>“RWQCBs may select sediment quality guidelines that have been published in the peer reviewed literature or by state or federal agencies. Acceptable guidelines include selected values (e.g., <i>effects range-median</i>, <i>probable effects level</i>, <i>probable effects concentration</i>), and other sediment quality guidelines. Only those sediment guidelines that are predictive of sediment toxicity shall be used (i.e., those guidelines that have been shown in published studies to be predictive of sediment toxicity in 50 percent or more of the samples analyzed).”</p> <p>As such, the Bureau requests that the reference related to use of the TEC per the recommendation of the State’s 303(d) listing policy be removed.</p>	<p><i>The Consensus-Based Sediment Quality Guidelines for Freshwater Ecosystems</i> (MacDonald, et al. 2000a) is an accepted sediment quality guideline and have been used by the State and Regional Boards in the evaluation of freshwater sediment (SWRCB, 2006 303(d) Staff Report). <i>The Consensus-Based Sediment Quality Guidelines for Freshwater Ecosystems</i> includes guidelines for both probable effects concentration (PEC) and threshold effects concentration (TEC). The staff report clearly states that the TEC guideline will be used in the TMDL.</p> <p>The PEC guideline is generally recommended for use in the 303(d) assessment process (SWRCB, 2006 303(d) Staff Report). A 303(d) assessment and the development of a TMDL are very different technical evaluations. A TMDL, in order to fully restore all impaired beneficial uses, warrants the use of a more stringent guideline like the TEC.</p>
1.30		<p>The text states that the original listing (1998) was</p>	<p>The staff report, Section 2.3.1 clearly states that</p>

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		<p>based on TSMP data using Maximum Tissue Residual Levels (MTRLs). However, Section 6.1.3 of the 303(d) listing policy states:</p> <p>“RWQCBs may select evaluation guidelines published by USEPA or OEHHA. Maximum Tissue Residue Levels (MTRLs) and Elevated Data Levels (EDLs) shall not be used to evaluate fish or shellfish tissue data.”</p> <p>The TMDL uses OEHHA guidance (FCGs) to evaluate the fish tissue data. However, as the data used in the assessment are unclear (see comment on Figures 4-7), it is not possible to determine if a finding of impairment based on tissue data is still valid.</p>	<p>the original 303(d) listing for fish tissue impairments was made using the MTRLs, the accepted guideline at the time. The staff report goes on to state that the OEHHA FCGs are currently the accepted guideline for the evaluation of fish tissue.</p> <p>The FCGs are shown on Figures 4 -7; there are numerous data points exceeding the FCGs on each figure. Thus, the finding of impairment is still valid.</p>
1.31		<p>It is not possible to evaluate the graphs presented in Figures 4 through 7 because the data points are unclear. Each figure should clearly note how many data points are represented in each year, if the data have been summarized based on mean, median, etc. tissue values. Additionally, the graphical representation of the tissue data impairment does not show the number of samples or incidents and thus it makes it difficult to evaluate the data. It would be beneficial if the data were also presented individually in a table to evaluate the range of tissue values and to determine any trends from the data similar to the sediment data presented in Table 7.</p>	<p>Figures 4 - 7 succinctly present a fish tissue data record spanning more than 20 years. The graphs clearly demonstrate the results of fish tissue sampling in relation to the FCGs. Each data point generally represents a composite of 2 - 6 tissue fillets from fish of the same species and age class, according to California Department of Fish and Game protocols.</p> <p>Data will be included in a tabular format as part of the administrative record.</p>
1.32		<p>Goldfish are not a sport fish (i.e., a species regularly consumed by people). It is therefore not appropriate to compare goldfish tissue concentrations to OEHHA</p>	<p>The goldfish tissue concentrations are presented, along with all available data, to provide a comprehensive picture of contaminated fish at</p>

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		guidelines in order to determine a human health impairment. These data should be removed from the evaluation of impairment.	<p>Machado Lake. Goldfish have not been collected for tissue analysis at Machado Lake in over 20 years and were not used to evaluate recent fish tissue impairments.</p> <p>Also, the goal of the TMDL is to protect the health of all people fishing at Machado Lake, including subsistence fishers, not just sport anglers.</p>
1.33		The text states the number of exceedances but does not provide the sample size in order to put the number of exceedances in context (i.e., to evaluate in comparison to the 303(d) listing policy). Sample size is necessary in order to evaluate the degree of impairment.	The text on page 25 of the staff report references Table 8 on page 27, which provides the number of sediment samples.
1.34		Please include the sediment quality guideline that is being used as the point of comparison to determine exceedances.	Section 2.2.2 of the staff report informs the reader that the <i>Consensus-Based Sediment Quality Guidelines for Freshwater Ecosystems</i> , TEC values will be used in the TMDL. Additionally, on page 25 paragraph 2, the staff report states that the TEC guideline is used to evaluate the exceedances presented in Table 8.
1.35		Suggest to change “The stormwater discharges from most of these Caltrans properties and facilities eventually end up in a municipal storm drain, which then discharges to Machado Lake,” to “The stormwater discharges from most of these Caltrans properties and facilities eventually end up in a municipal or County storm drain, which then discharges to Machado Lake,”	This change was made to the staff report.
1.36		This statement: “While these data were not collected	See response 1.24

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		<p>from the Machado Lake subwatershed specifically, they are representative of contaminant loadings from the Dominguez Channel watershed as a whole, which contains similar land uses and topography as the Machado Lake subwatershed,” is incorrect. While the two watersheds do have similar land uses and topography, the suggestion that Machado Lake is within Dominguez Channel is incorrect. These are two separate watersheds; the drainages do not interface. The staff report needs to recognize that the actual drainage to Dominguez Channel is completely separate from Machado Lake and that the County’s Dominguez Channel data was used to estimate the separate Machado Lake watershed, but is not related to any actual discharges to Machado Lake. Please see the map (Figure 2-9) in the 2008-2009 LA County NPDES monitoring report which shows the actual Dominguez Channel watershed, and clearly shows that the watershed is not connected to Machado Lake drainage:  <a href="http://dpw.lacounty.gov/wmd/NPDES/2008-09_Report/Figures/Figure2-9_DominguezChannelWatershedTributaryAreas_2008-2009.pdf">http://dpw.lacounty.gov/wmd/NPDES/2008-09_Report/Figures/Figure2-9_DominguezChannelWatershedTributaryAreas_2008-2009.pdf</a></p>	
1.37		<p>The report stated “The sediment deposition rate was estimated based on the comparison of bathymetric maps from 2000 and 2008.” Please explain how the comparison was done and how the rate was estimated. Please give the reference to the literature sources that are used for sediment porosity and sediment density.</p>	<p>The sediment deposition rate was taken from the Machado Lake Ecosystem Rehabilitation Project, Pre-design Report, July 2009. This report was prepared by CDM and Parsons, who conducted the comparison of the 2000 and 2008 bathymetric maps. The report does not detail the steps used by CDM and Parsons for comparing the bathymetric maps and estimating sediment</p>

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			<p>deposition. However, a bathymetric survey generally evaluates lakebed elevations; so, it is reasonable to assume they compared the difference in lakebed elevation between 2000 and 2008.</p> <p>Regional Board staff utilized the sediment deposition approximated by CDM and Parsons for calculations in the TMDL.</p> <p>The reference below was used for sediment porosity and sediment density.</p> <p>Principles of Sediment Transport in Rivers, Estuaries, and Coastal Seas., Leo C. van Rijn, Amsterdam: Aqua Publications, 1993</p>
1.38		The source assessment of the TMDL need to be revised to reflect the contaminated sediment coming from Wilmington Drain and further deposited in the northern part of the lake. Please refer to the 2009 Sediment Characterization Study for Machado Lake.	See response 1.6
1.39		Both an implicit and explicit margin of safety have been applied to the load allocations. The implicit margin of safety results from very conservative assumptions throughout the TMDL, including the selection of the most conservative fish tissue targets (OEHHA's FCGs) and the selection of most conservative sediment targets (TECs). The Staff Report and Basin Plan Amendment state that an additional explicit margin of safety is necessary in order to account for areas of uncertainty; however, the	See response 1.4

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		<p>areas of uncertainty listed are related to uncertainty in the current conditions and not the loading capacity of the system. In terms of setting the allocations (i.e., how much can be discharged while still protecting beneficial uses), the amount of pesticides and PCBs currently residing in the sediment or being discharged to the lake is not relevant. What is relevant is how much can exist in order to protect beneficial uses. EPA guidance (1991) specifically states (emphasis added):</p> <p>“The MOS is normally incorporated into the conservative assumptions used to develop TMDLs (generally within the calculations or models) and approved by EPA either individually or in State/EPA agreements. If the MOS needs to be larger than that which is allowed through the conservative assumptions, additional MOS can be added as a separate component of the TMDL (in this case, quantitatively, a TMDL = LC = WLA + LA + MOS).”</p> <p>Therefore, as the uncertainties pertain to the existing conditions and not the loading capacity, applying an explicit margin of safety, in addition to the implicit margin of safety, is not warranted.</p>	
1.40		<p>The relevancy of County’s Dominguez Channel (DC) mass emission and tributary NPDES data as related to stormwater discharges to Machado Lake is in question. The DC samples (both grab and composite) were water column samples analyzed for trace organics. They were not sediment samples. This does not correlate with the stormwater dischargers’</p>	<p>The TMDL identifies 2 sources of contaminated sediment that are impairing Machado Lake: (1) watershed discharges and (2) internal lake sediments. The staff report finds that watershed sources are small in comparison to the internal lake sources. The MS4 Permit Core Monitoring Program data from Dominguez Channel is used to</p>

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		<p>sediment objectives in the TMDL, nor does it imply that toxic sediment loading from stormwater discharge is minimal when sediment samples were not taken as a part of this program.</p> <p>In addition, the City's recent sediment sampling data shows significant levels of toxic sediments in Wilmington Drain, the major tributary to Machado Lake. There are also higher levels of the toxic pollutants in the top layers of sediment than the bottom layers, suggesting more recent accumulation. This data is in conflict with the conclusion in the staff report that: "current stormwater discharge from the Machado Lake subwatershed is considered a minimal source of contamination to the lake."</p>	<p>support this finding. While these data were not collected from the Machado Lake sub-watershed they are representative of potential contaminant loadings because the Dominguez Channel Watershed and the Machado Lake Watershed have similar characteristics.</p> <p>Staff agrees that the recent sediment sampling in Wilmington Drain demonstrates that small amounts of contaminated sediment from the watershed can accumulate over time and contribute to impairments. Therefore, all stormwater dischargers have been assigned concentration-based WLAs equal to the TMDL numeric targets. The WLAs and numeric targets are based on the most protective freshwater sediment guidelines available. Moreover, stormwater dischargers are required to conduct monitoring on bulk sediment to better characterize pollutant loading.</p> <p>Staff has included information from the Wilmington Drain Sediment Characterization study in the staff report, which documents recent toxic sediment accumulation. In addition, in response to this comment, staff has qualified language in the staff report referring to stormwater discharges as a minimal or small source.</p>
1.41		The statement: "Even though stormwater contributions of the TMDL pollutants appear to be minimal," is in	See response 1.40

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		<p>conflict with the results of the City's recent sediment sampling data that was shared with Regional Board staff via the Pre-Design Report for the Machado Lake Ecosystem Rehabilitation Project.</p> <p>The statement: "Additionally, as presented in the Source Assessment, a relatively small of load of pollutants is currently transported to the lake from the surrounding watershed. Therefore, it is likely that areas of the watershed are already attaining the WLAs and only compliance monitoring would be required," is in conflict with the results of the City's recent sediment sampling data that was shared with Regional Board staff.</p>	
1.42		Table 18 should reflect all dischargers as responsible parties similar to Table 17, since all upstream jurisdictions and industrial permittees drain to the lake and contribute to the lake sediment.	<p>This TMDL divides the responsibility of allocations between the lake sediments and watershed discharges.</p> <p>See also response 1.8 and 1.18</p>
1.43		The City of Los Angeles is assigned responsibility of its stormwater discharges to Machado Lake and of the lake itself, which is owned and maintained by the City of Los Angeles Recreation and Parks Department. The City of Los Angeles is already working cooperatively across different departments to implement the \$100 million Machado Lake Ecosystem Rehabilitation Prop O Project. The Prop O project includes both measures to reduce accumulated toxic sediment in the lake (such as dredging) and to reduce stormwater discharge loads (such as sediment capture basins	See response 1.5

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		<p>located right next to the lake at the discharge points for Wilmington Drain, Project 77, and Project 510). As such, it makes sense to allow the City of Los Angeles to work cooperatively on producing one LWQMP, which includes monitoring and implementation requirements to satisfy both WLA and LA compliance, instead of producing multiple plans (LWQMP, separate WLA MRP and IP). This agreement could be made as a part of the Toxics TMDL MOA amendment. Please include such language in the TMDL staff report referring to this option to submit one plan that would include solutions to meet the WLAs and LAs required of the City of Los Angeles.</p>	
1.44		<p>The Staff Report states:</p> <p>“Additionally, as presented in the Source Assessment, a relatively small load of pollutants is currently transported to the lake from surrounding watershed.”</p> <p>The section between the Harbor Freeway and Pacific Coast Highway is an earthen bottom section. Wilmington Drain is currently under capacity due to buildup of sediments in this reach. There are estimates of over 60,000 cubic yards of sediment built up in the reach between Lomita Boulevard and Pacific Coast Highway and at least an additional 30,000 cubic yards between Lomita Boulevard and the Harbor Freeway. This is a huge amount of sediment that has not been removed for over 20 years. This sediment, if passed through the system, will end up in Machado Lake. This sediment should be characterized to evaluate whether it will add to the loading in the lake.</p>	See response 1.6

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1.45		<p>The TMDL allows for WLA responsible parties to conduct upstream monitoring at each agency's outlet points, or to conduct a coordinated monitoring effort at Wilmington Drain, Project 77, and Project 510. The coordinated monitoring effort, however, will become a challenge unless every agency in the watershed participates; should a few but not all agencies participate, monitoring at the three downstream drains does not account for missing discharge points through the complicated storm drain network in the Machado Lake watershed. It would be more appropriate to allow agencies to work together to coordinate joint monitoring efforts based on the collective agencies' outlet points rather than to assign the locations of Wilmington Drain, Project 77, and Project 510. The Palos Verdes Peninsula Cities monitoring plan for the Machado Lake Nutrient TMDL is an example of a joint monitoring plan where the outlet points for the combined areas of the four cities involved are to be monitored.</p>	See response 1.10
1.46		<p>Please clarify is the flow measurement refers to the depth of the lake during a sampling event or actual flow input from storm drains (i.e. project 77, project 510, and Wilmington drain). A reliable flow measurement/data at Wilmington Drain may be difficult to obtain, due to the shape of the channel and the unevenness caused by sedimentation/vegetation.</p>	<p>The flow measurement required refers to actual flow at the stormdrain where water quality samples will be collected.</p> <p>The TMDL does not specifically require Wilmington Drain as a compliance point. However, if responsible parties identify Wilmington Drain as a compliance monitoring location, staff finds that reasonable technical considerations can be made to measure and/or estimate flow from Wilmington Drain. Any technical considerations necessary can be addressed as part of the Monitoring and</p>

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			Reporting Plan.
1.47		Wet weather sampling will essentially be conducted to capture sediments not necessarily to characterize conditions within the water column as they relate to general water chemistry. No general water chemistry data were presented in the TMDL to support evaluation of impairments. Furthermore, the City of Los Angeles anticipates the use of automated samplers for wet-weather monitoring which are remote-sensing and will not require staff presence on site. Conducting in-situ general chemistry tests will require staff to be present during inclement weather without clear benefits commensurate with the expense. As such, the Bureau requests the removal of the requirement to conduct in-situ monitoring. If such monitoring is not removed, please explain the relevance and anticipated use and value of conducting general water chemistry tests ( <i>e.g.</i> , temperature, dissolved oxygen, pH, and electrical conductivity) with OC pesticides and PCBs analyses.	<p>General water chemistry parameters are typically included in monitoring programs because they provide useful basic chemistry information that may be needed to inform analytical results.</p> <p>Staff agrees that conducting these measurements <i>in-situ</i> may be hazardous and costly during wet weather sampling events. The Compliance Monitoring sections of the staff report and BPA have been amended to allow for these measurements to be taken in the lab immediately following sample collection.</p>
1.48		The responsible party for all of the LA requirements should be stated as “City of Los Angeles, Department of Recreation & Parks” as the owner and maintainer of Machado Lake and KMHRP. This is consistent with the Nutrient TMDL.	This change has been made.
1.49		It is suggested that Section 7.4.3 be revised to read as follows: “The Los Angeles County Flood Control District shall monitor the outfall of Wilmington Drain to demonstrate that Wilmington Drain is not re-contaminating Machado Lake. Monitoring shall	See response 1.7

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		include water quality sampling during dry- and wet-weather discharges from Wilmington Drain and shall report the sediment and toxic loads discharged to Machado Lake. Additional monitoring shall include bed sediment sampling and visual inspection of channel maintenance and BMP operation. This additional monitoring shall be required by Executive Office order or a conditional Water Quality Certification under section 401 of the Clean Water Act.”	
1.50		<p>While it is understood that the Regional Board is prohibited from specifying the manner of compliance with its regulations (Water Code § 13360), it would make sense for the Regional Board staff (and they are not prohibited by law from doing so) to use current dredging cost estimates from the City of LA Prop O Project instead of estimating a number based on another project in Ventura County. The statement that the estimate of \$37 million for the total cost of dredging Machado Lake is likely over-estimated is incorrect; in fact, the City’s has estimated the dredging and disposal costs could amount to almost \$60 million.</p> <p>Please use the estimate contained in Pre-Design Report for the Machado Lake Ecosystem Rehabilitation Project report.</p>	The staff report cost section has been updated based on this comment.
<b>2</b>	<b>May 27, 2010</b>	<b>County of Los Angeles, Department of Public Works</b>	
2.1		Thank you for the opportunity to comment on the proposed amendment to the Water Quality Control Plan for the Los Angeles Region (Basin Plan) to incorporate Total Maximum Daily Load (TMDL) for	Comment noted

Number	Date	Comment	Response
		<p>pesticides and polychlorinated biphenyls (PCBs) for Machado Lake and the supporting Staff Report. The following comments are submitted on behalf of the unincorporated County of Los Angeles (County).</p>	
2.2		<p><b>Mass-based Waste-Load Allocations (WLAs) should be added.</b></p> <p>The proposed TMDL's WLAs are expressed solely as concentrations and without a mass-based alternative. Because the previously promulgated Machado Lake Nutrients TMDL expresses WLAs both in terms of concentration and mass, the absence of a mass-based compliance option here is problematic for those agencies, including the County, that have chosen to pursue a mass-based multi-pollutant implementation strategy. The County is currently conducting a special study leading to the preparation of a multi-pollutant implementation plan for unincorporated areas of the Machado Lake Watershed. The multi-pollutant implementation plan would include Best Management Practices designed to reduce pollutant loading on a mass basis. Because the absence of a mass-based WLA in this proposed TMDL would render the multi-pollutant implementation strategy infeasible, we respectfully request that the proposed Pesticides and PCBs TMDL be modified to include mass-based WLAs.</p>	<p>A mass-based WLA is not included in this TMDL because Machado Lake acts as a sedimentation basin at the base of the watershed. Allowing a mass load of pollutants to the lake would lead to ongoing contamination and/or recontamination of the lake. The TMDL establishes concentration-based WLAs and LAs to ensure that the sediments discharged to the lake and the internal lake sediments do not accumulate pollutants at levels that would exceed water quality standards and impair the lake.</p> <p>Mass based WLAs were provided in the Machado Lake Nutrient TMDL because nitrogen and phosphorus are non-conservative pollutants that undergo natural cycling in the environment. The pollutants addressed in this TMDL (OC pesticides and PCBs) are conservative pollutants that persist in the environment. They are not naturally cycled or buffered in the environment thus, mass based WLAs are not warranted.</p> <p>In order to provide stakeholders flexibility in designing implementation strategies, staff has incorporated a 3-year averaging period into the WLAs. This allows for modest variability in the quality of sediment discharged. An averaging period is appropriate in this TMDL because the</p>

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			<p data-bbox="1249 280 1890 410">pollutants being addressed are bioaccumulative and thus it is reasonable to evaluate discharges and expected improvements in water quality over longer timeframes.</p> <p data-bbox="1249 443 1587 475">See response 1.3 and 4.2</p>
2.3		<p data-bbox="510 581 1178 678"><b>The Monitoring and Reporting Plan (MRP) submittal timeline should correspond to that for the Machado Lake Nutrient TMDL.</b></p> <p data-bbox="510 716 1209 1075">The proposed Pesticides and PCBs TMDL requires the submittal of the Monitoring and Reporting Plan (MRP) within six months from the effective date. If this TMDL becomes effective before March 11, 2011, the MRP would then need to be submitted before September 11, 2011, which is the deadline to submit the MRP for the Machado Lake Nutrient TMDL. For consistency, the MRP deadline for the proposed Pesticides and PCBs TMDL should be set to September 11, 2011, or six months from the effective date, whichever is later.</p>	<p data-bbox="1249 581 1871 646">The TMDL Implementation Scheduled has been revised to incorporate this comment.</p>
2.4		<p data-bbox="510 1088 1167 1120"><b>The TMDL should include a reopener schedule.</b></p> <p data-bbox="510 1157 1199 1349">We respectfully request that the proposed TMDL be modified to include a schedule for a reopener. A reopener is necessary to ensure that the TMDL is reevaluated as new science and information become available. We recommend reconsidering this TMDL concurrently with the reconsideration of the Machado</p>	<p data-bbox="1249 1088 1503 1120">See response 1.11</p>

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2.5		<p>Lake Nutrient TMDL, which is scheduled for September 2016.</p> <p><b>Numeric targets should not be below the detection limits of current analytical methods</b></p> <p>The water column numeric targets proposed for the pesticides and PCBs in the TMDL are several orders of magnitude lower than the detection limits of current analytical methods, thus making compliance assessment impossible. Water column numeric targets should be set to levels detectable by current technology until analytical techniques are sufficiently advanced to detect pesticides and PCBs at the lower limits.</p>	<p>The TMDL must attain water quality standards including the narrative water quality objectives, which are translated into numeric targets. The pollutants being addressed in this TMDL are all priority toxic pollutants and as such have established numeric water quality objectives as part of the California Toxics Rule. These water quality objectives are established to protect human health and the environment.</p> <p>It is not appropriate to set a TMDL numeric target based on method detection levels available at commercial laboratories. Method detection levels were not developed with the intent of being a water quality objective and are unlikely to be protective of water quality and beneficial uses.</p> <p>At this time, currently available method detection limits will be used to evaluate compliance with the TMDL. As analytical methods and detection limits improve and are more readily available, they must be incorporated into dischargers' MRPs and used to demonstrate compliance with the TMDL.</p>
2.6		<p><b>The final compliance deadline should be extended</b></p> <p>The deadline to achieve the TMDL's WLAs by September 30, 2018, would give responsible parties less than two years to implement control measures if the TMDL is promulgated by March 2012 as required</p>	<p>The final compliance deadline for the TMDL has been extended by 1 year. The revised final compliance deadline is September 30, 2019. Additionally, the Phase 1 monitoring has been reduced to a 2-year period. The frequency of monitoring has been increased from 2 to 3</p>

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		<p>by the consent decree. Based on the implementation schedule in Table 7-38.2 of the draft TMDL, the series of actions leading up to the implementation of control measures would take nearly five years at minimum. According to the current schedule, assuming the MRP and the implementation plan are approved immediately upon submittal, the responsible parties would begin implementing control measures in early 2017, or about 18 months before the September 2018 deadline. Our experience indicates that the design, procurement, permitting, and construction of new treatment devices typically take a minimum of three years; therefore, we request that the final compliance date be changed to September 30, 2020.</p>	<p>samples per year to accommodate the loss of samples by reducing the Phase 1 monitoring period. Combined, these changes provide an additional 2 years for dischargers to implement management measures.</p> <p>This 1-year extension should not delay any management activities currently ongoing in the watershed.</p> <p>All responsible parties in the watershed are encouraged to cooperate and work towards the timely attainment of both WLAs and LAs.</p>
2.7		<p><b>More representative data are need to calculate storm drain loading</b></p> <p>According to Section 4.1.4 of the Staff Report, the annual storm drain loading of pesticides and PCBs was calculated using data from a single-sample event on December 10, 2008. This loading estimation is inappropriate for several reasons. First, given the temporal and seasonal variability associated with pollutant loading, a single sample is statistically insignificant and unrepresentative of the actual conditions. Given that December is near the start of the rain season, a possible first-flush effect can potentially lead to overestimation. As indicated in Section 4.1.3 of the Staff Report, data from the Los Angeles County Municipal Separate Storm Sewer System Permit Core Monitoring Program indicate that these pollutants were not detected in six tributaries to</p>	<p>Additional data would further characterize the discharge of pollutant laden sediment in stormwater. However, staff finds that the sediment data (collected by Regional Board staff on 12/10/08) from the 3 storm drains discharging into the lake provides sufficient information to document that contaminated sediment is being discharged to Machado Lake and a WLA is required.</p> <p>The Clean Water Act and EPA guidance require that TMDLs set WLAs. It is not possible to exclude WLAs from the TMDL.</p> <p>The evaluation of the Municipal Separate Storm Sewer System Permit Core Monitoring Program data in Section 4.1.3 of the staff report supports the supposition that overall pollutant</p>

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		the Dominguez Channel and that "[b]ased on this data, current stormwater discharge from the Machado Lake subwatershed is considered a minimal source of contamination to the lake." Thus, we believe current information is insufficient to substantiate assigning WLAs to municipal stormwater agencies discharging into Machado Lake.	concentrations from stormwater discharges are small compared to pollutant concentrations currently residing in the lake sediments. This evaluation supports the flexible compliance monitoring requirements for WLAs.
2.8		In Table 7-38.2 of the Basin Plan Amendment, we suggest adding the schedule for Phase 1 Monitoring. This can be added between Task Nos. 8 and 9.	This change has been made to the TMDL Implementation Schedule.
2.9		We suggest that the targets and allocations for dichlorodiphenyltrichloroethane (DDT) be based on total DDT alone and not on its derivatives.	The DDT derivatives (DDE and DDD) are individual toxic chemicals and it is necessary to assign numeric targets and allocations for these compounds to be fully protective of water quality. The DDE and DDD targets and allocations are less than the total DDT allocation. DDE and DDD are assigned individual targets and allocations to prevent a situation where the total DDT target/allocation is met, but toxic amounts of DDE and DDD are present in the environment.
2.10		Please provide the reference/source for the empirical equation used to quantify the external loading from storm drains as presented on page 32 of the draft Staff Report.	This reference has been provided in the staff report. The approach for quantifying the external loading was adapted from the U.S. EPA Newport Bay and San Diego Creek Toxic Pollutants TMDL.
2.11		It is unclear why monitoring for organic carbon is required for this TMDL provided that Machado Lake is not impaired for organic carbon. Please provide justification.	Measurement of organic carbon is an appropriate method to measure soil organic matter. Pesticides and PCBs have a very strong affinity for organic matter. Soil organic matter has important effects on the bioactivity, persistence, and biodegradability of pesticides and PCBs in the environment. Organic carbon data can be used to evaluate the

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			fate and transport of pesticides and PCBs throughout the watershed as they are conveyed to Machado Lake.
2.12		We look forward to your consideration of these comments. If you have any questions, please contact me at (626) 458-4300 or ghildeb@dpw.lacounty.gov or your staff may contact Ms. Rossana D'Antonio at (626) 458-4325 or rdanton@dpw.lacounty.gov	Comment noted
	<b>June 1, 2010</b>	<b>Los Angeles County, Department of Public Works: Flood Control District</b>	
3.1		Thank you for the opportunity to comment on the proposed amendment to the Water Quality Control Plan for the Los Angeles Region to incorporate a Total Maximum Daily Load (TMDL) for pesticides and polychlorinated biphenyls (PCBs) for Machado Lake. The following comment is submitted on behalf of the Los Angeles County Flood Control District (LACFCD).	Comment noted
3.2		The proposed TMDL should not name the LACFCD as a responsible party for the following reasons: First, land areas draining to the LACFCD storm drains that empty into Machado Lake are under the jurisdiction of upstream municipalities. The LACFCD drains function solely as a conveyance for urban and stormwater runoff from the upstream municipalities and do not generate any of the pollutants of concern at issue in the TMDL. Further, the LACFCD does not control land uses within the municipalities and, therefore, has no feasible means of preventing the pollutants at issue flowing from those land uses from entering its facilities and ultimately Machado Lake. Therefore, we request that the LACFCD be removed from the list of responsible parties for the proposed TMDL. The	Staff disagrees. The LACFCD is listed as a permittee in the Los Angeles County MS4 permit, which is one of the regulatory mechanisms identified in the TMDL to implement waste load allocations. Furthermore, the LACFCD, as the owner and operator of many of the storm drains in the watershed, is responsible for ensuring that water discharged from its facilities does not cause or contribute to exceedances of water quality standards. Unless the dischargers can demonstrate their discharges did not contribute to the exceedances coming from the outfall, MS4 dischargers are jointly and severally liable for discharges from the common storm drain system. The inter-connected nature of the storm drain

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		<p>LACFCD also supports comments being submitted by the County of Los Angeles and hereby incorporates them by reference.</p>	<p>system makes it difficult to determine exactly where pollutants originate within the MS4. In such an integrated system, one or more permittees may have caused or contributed to violations. Thus, permittees are jointly and severally liable either because a permittee is one of several sources that discharge pollutants or a permittee conveys and ultimately discharges pollutants that may have originated further up the MS4. In both cases, the MS4 owner and operator is responsible for pollutants discharged from its system. This joint and severally liability is consistent with the law. The Clean Water Act, recognizing that permittees may seek permits based on system-wide, not jurisdiction-by-jurisdiction, discharges, imposes additional roles and responsibilities upon those permittees. By accepting this type of permit, the permittees implicitly agree to accept the responsibilities necessary to control and reduce the discharge of pollutants in commingled discharges [40 C.F.R. sections 122.26(d)(2)(iv), (d)(2)(vii), (d)(2)(i)(D), and (d)(2)(iv)(B)(3).]</p> <p>Additionally, LACFCD specifically owns and operates Wilmington Drain, which directly discharges to Machado Lake. The sediments in Wilmington Drain have been identified as a likely source of contamination to the lake. As the owner and operator of Wilmington Drain, LACFCD is responsible for routine maintenance of this facility, including inspections, clean outs, and other activities. Moreover, LACFCD has the authority to install pollutant controls at the points of entry to its</p>

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			facilities, or within its facilities. These activities are feasible means of preventing pollutants from discharging to Machado Lake.
<b>4</b>	<b>June 1, 2010</b>	<b>County of Los Angeles Sanitation District</b>	
4.1		<p>The County Sanitation Districts of Los Angeles County (Sanitation Districts) appreciate the opportunity to provide comments to the Los Angeles Regional Water Quality Control Board (Regional Board) on the Total Maximum Daily Load (TMDL) for Pesticides and Polychlorinated Biphenyls (PCBs) in Machado Lake. The Sanitation Districts are a confederation of 23 individual special districts providing wastewater and solid waste management services to over 5 million people in Los Angeles County, including 78 cities and unincorporated areas within the County. The adoption of this proposed TMDL and the assignment of waste load allocations (WLAs) to stormwater dischargers in the Machado Lake subwatershed will impact the Palos Verdes Landfill (PVLFF) and the Joint Water Pollution Control Plant (JWPCP) operated by the Sanitation Districts in the City of Rolling Hills Estates and the City of Carson, respectively.</p> <p>The Sanitation Districts discharge stormwater from the</p>	Comment noted

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		<p>PVLF and the JWPCP to the drainage network that flows into Machado Lake pursuant to State Water Resources Control Board Water Quality Order No. 97-03-DWQ, Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities excluding Construction Activities (General Industrial Permit). The Sanitation Districts have been and will continue to actively implement Best Management Practices (BMPs) to reduce sediment or prevent pollutants in industrial stormwater and authorized non-stormwater discharges as required by the General Industrial Permit. The Sanitation Districts fully support the Regional Board's effort to reduce pesticide and PCB loading in the Machado Lake subwatershed.</p>	
4.2		<p><b>Provide WLAs and Monitoring Requirements that Measure Loads to the Lake</b></p> <p>The Implementation Plan of the Tentative Basin Plan Amendment and the Draft Staff Report states that the "Permitted stormwater dischargers can implement a variety of implementation strategies to meet the required WLAs, such as non-structural and structural BMPs, and/or diversion and treatment to reduce sediment transport from the watershed to the lake.") However, because the Machado Lake pesticides and PCBs TMDL assigns WLAs expressed as the mass of a target constituent per mass of sediment</p>	<p>A mass-based WLA is not included in this TMDL because Machado Lake acts as a sedimentation basin at the base of the watershed. Allowing a mass load of pollutants to the lake would lead to ongoing contamination and/or recontamination of the lake. The TMDL establishes concentration based WLAs and LAs to ensure that the sediments discharged to the lake and the internal lake sediments do not accumulate pollutants at levels that would exceed water quality standards and impair the lake.</p> <p>In order to provide stakeholders flexibility in</p>

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		<p>concentrated from stormwater discharges, this implementation strategy will not achieve compliance with the TMDL. If the WLAs remain as drafted, a facility which reduces its contaminated sediment loading to Machado Lake would not make any progress towards meeting the TMDL because the sediments that are present would continue to have the same concentration of the target constituents. Alternately, a facility which doesn't reduce its contaminated sediment loading and instead allows a new source of clean soil to be eroded by stormwater could comply with the TMDL through dilution. This does not seem consistent with the Regional Board's goals. If the intent of the TMDL is to reduce the volume of sediment containing the target pollutants, then the waste load allocations should be designed specifically to achieve that goal.</p> <p>In order to monitor loading to Machado Lake, the Sanitation Districts recommend that the Regional Board modify the proposed TMDL to express WLAs in terms of micrograms of the target pollutant per day (ug/day). This approach is consistent with the Environmental Protection Agency's TMDL Development Guidance and will ensure that responsible parties measurably reduce their contaminated sediment loadings to Machado Lake</p>	<p>designing implementation strategies staff has incorporated a 3-year averaging period into the WLAs. This allows for modest variability in the quality of sediment discharged. An averaging period is appropriate in this TMDL because the pollutants being addressed are bioaccumulative and thus it is reasonable to evaluate discharges and expected improvements in water quality over longer timeframes.</p> <p>This comment appears to assume that the quality of sediment will not improve and that contaminated sediment will continue to be discharged from the watershed. Staff does not agree with this assumption; staff expects that sediment quality will generally improve and that cleaner sediments will be transported from the watershed. Also, a focus on non-structural housekeeping BMPs and the identification of potential hot spots within the watershed can be effective to improve the quality of sediment discharged from the watershed.</p> <p>In response to this comment staff maintains the concentration-based WLAs, in order to fully protect Machado Lake, but incorporates a 3-year averaging period, which provides stakeholder flexibility during the implementation period.</p>
4.3		<p><b>Provide a Mechanism for Clean Facilities to Be Exempted from On-going Monitoring</b></p> <p>The Sanitation Districts request that the Regional Board consider providing provisions in the TMDL that</p>	<p>Staff finds that all stormwater permittees must complete Phase 1 monitoring to document the attainment of WLAs. The TMDL provides flexibility during the Phase 2 monitoring that will reflect if dischargers are attaining WLAs.</p>

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		<p>will allow industrial stormwater permittees to demonstrate compliance with the proposed TMDL by submitting a site characterization report to the Regional Board documenting that the facility cannot generate sediment discharges that exceed the target concentrations. By providing an "off-ramp" from ongoing monitoring requirements, the Regional Board would create an incentive for dischargers to fully characterize and document the pesticides and PCBs on their site. The results of the characterization could then be used to certify the site as compliant or to target remediation and/or BMPs to the most appropriate locations. This would allow funds allocated for TMDL compliance to be spent in the most efficient way possible and avoid placing undue burden on facilities that are not contributors of these pollutants.</p> <p>The Sanitation Districts request that the Regional Board include the following language in the Monitoring Plan Section of Attachment A to the Resolution and in Section 7.4.1 of the Staff Report:</p> <p><i>In lieu of Phase 1 Monitoring, an industrial stormwater permittee has the option to submit a site characterization report to the Regional Board that documents a facility's potential to exceed the target concentrations in sediment discharges. The report should be a thorough and conservative assessment of all potential sources onsite that can contribute to industrial stormwater and authorized non-stormwater discharges. Any facility that can be certified as not having the potential to exceed the target concentrations based on a characterization report shall</i></p>	

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		<i>be exempt from the on-going monitoring requirements in Phase 2.</i>	
4.4		<p><b>Consideration of Other Appropriate Analytical Methods</b></p> <p>Analyses conducted pursuant to the General Industrial Permit are required to be conducted using analytical methods that have been promulgated under 40 CFR Part 136. However, 40 CFR Part 136 does not contain any approved methods for analyzing pesticides and PCBs in sediment. The Regional Board should consider the schedule for incorporating approved methods into 40 CRF Part 136 as part of the implementation schedule.</p>	Staff recognizes this issue and will coordinate with SWRCB staff to include methods for analyzing pesticides and PCBs in sediment at the time the General Industrial Permit is renewed.
4.4		The Sanitation Districts thank you in advance for your careful consideration of our comments and suggested modifications. If you have any questions concerning this letter or need additional information, please contact me at (562) 908-4288, extension 2802.	Comment noted.
<b>5</b>	<b>May 25, 2010</b>	<b>Dominguez Channel Watershed Management Committee</b>	
5.1		The Dominguez Channel Watershed Management Committee (DCWMC) is pleased to submit comments in connection with the proposed Machado Lake Pesticides and PCBs draft TMDL (toxics TMDL). DCWMC believes that the proposed toxics TMDL is in need of revision for several reasons that are described more particularly below – including a revision of waste load and load allocations. DCWMC believes the toxics TMDL, which is scheduled for a public hearing in July, is not adoptable at this time.	<p>Comment noted.</p> <p>Staff disagrees. It is not necessary to postpone the adoption of this TMDL. This TMDL is technically sound and meets all federal and state requirements and can be adopted by the Regional Board.</p> <p>During the development stage of this TMDL, staff held a public meeting on March 18, 2010 to solicit stakeholder input in the development of this TMDL.</p>

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		<p>Because revisions are needed, DCWMC recommends that the Regional Board: (1) postpone adoption of the toxics TMDL, which is currently scheduled for the first week in July, and convene the hearing in Los Angeles; and (2) conduct a workshop to enable stakeholders and Regional Board staff to work towards resolution of the issues identified herein. The affected cities in the DCWMC support all of the below comment with the exception that the City of Los Angeles requires additional data to support the conclusion stated in comments 1, 2, and 7.</p>	<p>Staff has encouraged stakeholders to communicate and work with staff throughout the TMDL development period. In addition, the public comment period allowed stakeholder 45 days to provide input on the TMDL and supporting documents.</p> <p>In response to stakeholders' requests, the Board meeting scheduled for July 9, 2010 was relocated to Los Angeles County.</p>
5.2		<p><b>Implementation measures for Dieldrin and PCBs are unnecessary</b></p> <p>The staff report found that the current load in the lake for Dieldrin and PCBs is less than the target load for the lake and that no load reductions are necessary to achieve the targets for these two compounds. Therefore, implementation measures are unnecessary to meet WLAs and LAs for these pollutants.</p>	<p>The staff report estimates that the existing load of dieldrin and PCBs in the lake sediments is less than the loading capacity of the lake sediments.</p> <p>In order to comply with the State's Antidegradation Policy the staff report sets the existing load of dieldrin and PCBs as the TMDL. This results in a more conservative LA for dieldrin and PCBs.</p> <p>The TMDL establishes LAs and WLAs for dieldrin and PCBs to ensure that sediment concentrations of these pollutants do not increase and that fish tissue concentrations are reduced over time. See response 1.8.</p> <p>Since implementation measures for toxic organic pollutants generally focus on sediment removal/reduction measures, implementation measures for one pollutant will generally address all pollutants. It is unlikely that implementation actions would individually address the pollutants in</p>

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			this TMDL.
5.3		<p><b>More monitoring for dieldrin and PCBs is unnecessary</b></p> <p>Additional monitoring for Dieldrin and PCBs is unwarranted, since both have been banned in the United States for several decades. It is apparent that this prohibition has been effective (as a source control) in reducing the loading of these pollutants to the lake. Beyond this, USEPA is reassessing the remaining uses of PCBs to evaluate whether additional limitations should be applied, which if implemented may further reduce any residual loading to the lake from existing sources.</p>	<p>The monitoring of dieldrin and PCBs outlined in the staff report and BPA is monitoring necessary to determine compliance with the TMDL. The staff report identifies stormwater discharges of pesticides and PCBs as a small source of contamination to Machado Lake compared to the internal lake sediments. This is reflected in the flexible compliance monitoring requirements for stormwater dischargers.</p> <p>As presented in the Problem Identification Section of the staff report, all of the pollutants addressed in this TMDL have been banned from use for approximately 20-40 years. However, because of their physio-chemical properties, these pollutants persist in the environment and cause widespread pollution problems. It is well documented that the discharge of pollutant laden sediment is an ongoing source of contamination to waterbodies.</p> <p>Staff agrees that the various U.S. EPA bans on the manufacturing and application of these chemicals are effective measures to prevent new direct sources of these chemicals in the environment.</p>
5.4		<p><b>No Discussion of Machado Lake's History</b></p> <p>There is no discussion in the staff report of the history of the creation of Machado Lake, which should have included the deposition of the compounds of concern</p>	<p>The staff report includes a description of the Machado Lake environmental setting. A detailed description of Machado Lake history does not support nor inform the TMDL technical analysis.</p>

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		<p>and the mechanisms for their redistribution within the slough/lake system. The lake was originally a wetland known as Bixby Slough, which was dammed by the City of Los Angeles to create a recreational lake. An excerpt from a <i>City of Los Angeles Mitigated Negative Declaration for the Vegetation Management Plan</i> for the Lake states:</p> <p><i>During the early 1950's, the City of Los Angeles, through its Department of Recreation and Parks, began acquiring the portion of Bixby Slough south of Pacific Coast Highway for public recreational use. The Bixby Slough is a hydrologic remnant of the old Los Angeles River channel that was left behind when the river shifted its course. Various recreational improvements were made at the Slough in the ensuing years, culminating with its dedication as Harbor Regional Park in 1971. To improve the Slough's recreational potential, an earthen dam was constructed to retain stormwater for the creation of an urban fishing lake. As constructed, the dam basically bisects the former Slough, with Machado Lake (previously known as Harbor Lake) lying on its north side and a degraded seasonal freshwater marsh on its south side. This configuration of Machado Lake remains the same today.</i></p> <p>The negative declaration does not specify when construction of the earthen dam took place. Knowing when is relevant to understanding the history of the deposition of DDT and Chlordane, which were in use prior to the creation of the lake and were discontinued sometime after the lake was created. Damming to</p>	<p>The TMDL addresses the two ongoing source of contamination to the lake: (1) the active layer of internal lake sediments and (2) the contaminated sediment discharged from the watershed.</p>

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		<p>create the lake most likely increased the retention time of sediments and therefore certainly increased the rate of deposition of these compounds in lake sediments, and also possibly in the soft bottom sections of Wilmington Drain.</p>	
5.5		<p><b>No discussion of application of DDT to Wilmington Drain</b></p> <p>DDT was widely used in California in agriculture for the control of mosquitoes and other disease carrying insects. Its use in California peaked in the late 1960's. Thus it is quite possible that DDT was applied directly to Wilmington Drain and Bixby Slough/Machado Lake for mosquito control during the period prior to its ban in 1972. The staff report does not discuss the possibility of direct application of the pesticide to Wilmington Drain/Bixby Slough/Machado Lake as a historical source of the load in the lake.</p>	<p>The California Department of Pesticide Regulation did not start full pesticide use reporting requirements until 1990. There is only limited pesticide use data available prior to 1990. Since DDT was banned in 1972, there is not information on the application of DDT to specific locations. The staff report generally discusses the widespread historic use of DDT as a ubiquitous source.</p>
5.6		<p><b>JWPCP as source of toxics</b></p> <p>Another possible source of the chemicals of concern not discussed in the staff report is related to the presence of the Los Angeles County Sanitation District Joint Water Pollution Control Plant (JWPCP). This waste water treatment facility is located adjacent to the Wilmington Drain. Discharges from the Montrose Chemical Plant, which manufactured DDT, passed through the JWPCP and were conveyed to the Palos Verdes Shelf, through the outfall, which ultimately created a Superfund Site on the Palos Verdes Shelf. There may also have been emergency bypass</p>	<p>Discharges from the Los Angeles County Sanitation District Joint Water Pollution Control Plant (Joint Plant) are not a current source of pollutants to Machado Lake. All of the permitted discharge points for the Joint Plant are outfalls in the Pacific Ocean.</p> <p>In accordance with EPA guidance, the TMDL identifies the amount of pollutants biologically available to the ecosystem (pollutants in the active layer of sediment) as a result of historic and current loadings. It is not necessary to identify all historic discharges especially since in many cases</p>

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		<p>discharges of wastewater in addition to stormwater-related discharges from the JWPCP into Wilmington Drain that could have conveyed DDT into Bixby Slough/Machado Lake. A review of historical operating permits for the JWPCP should indicate whether there were permitted emergency bypass discharges during the periods when DDT was manufactured at Montrose. The JWPCP utilized outdoor sludge drying beds for the solid materials removed during the waste water treatment process. The sludge drying beds are known to have contained DDT. These beds were paved over between 1980 and 1983, but it is unknown whether the contaminated soils were fully remediated. Additionally, as there are currently permitted storm drain discharges from the JWPCP to the Wilmington Drain, the Los Angeles County Sanitation District should also be included among the affected industrial stormwater permittees.</p>	<p>there are no records of these discharges. It is only necessary to quantify the pollutants residing in the lake sediments as a source.</p> <p>The Joint Plant is enrolled in the General Industrial Stormwater Permit (Order No. 97-03-DWQ, NPDES Permit Nos. CA S000001) and is assigned WLAs as part of this TMDL. This will address industrial stormwater discharges from the Joint Plant into Wilmington Drain.</p>
5.7		<p><b>Assignment of WLAs to MS4 permits unsubstantiated</b></p> <p>Data are insufficient to support the assignment of WLAs to the MS4 permittees for current discharges. Data specified in the staff report was derived from a single grab sample of sediment taken from each of the three storm drains. A total of three samplings is statistically insignificant and unrepresentative of what may be present in suspended sediment discharges to the lake. The staff report also provided no indication as to where or how these three sediment samples were collected. Further, the methodology prescribed in the staff report for collecting and filtering stormwater</p>	<p>See response 2.7</p> <p>All samples collected by Regional Board staff were collected using SWAMP approved field and laboratory protocols.</p>

Number	Date	Comment	Response
		for suspended solids, and analyzing the suspended solids, apparently was not followed by Regional Board staff	
5.8		<p><b>Other Data Concerns</b></p> <ul style="list-style-type: none"> <li>▪ There was no evidence from sediment samples taken from storm drains that PCBs and Dieldrin are being discharged above the proposed lake target concentrations. Dieldrin was not detected in any of the three storm drain sediment samples. PCBs were only detected in the Wilmington drain sediment but at a concentration that is less than half the target objective.</li> <li>▪ DDT was detected in two of the storm drain sediment samples, one in the Project 77 discharge and the other in the Wilmington Drain. However the concentration in the Project 77 sample was below the lake target, and the Wilmington Drain sediment sample was above the DDT target.</li> <li>▪ Chlordane was found in the Project 77 and Wilmington drains above the target concentration.</li> </ul> <p>Based on this very limited and unrepresentative data, the Regional Board's annual loading estimates conveyed to the lake from the MS4 represent 1/10<sup>th</sup> of 1% of the existing load: 0.12% for Chlordane; 0.15% for DDT; and 0.14% for PCBs. The majority of this load is attributed to the Wilmington Drain and a significant portion of this may come from redistribution of historical deposits in its soft bottom sections -- rather than from newly transported sources in the MS4</p>	See response 5.2 and 2.7

Number	Date	Comment	Response
		system.	
5.9		<p><b>Data needed to establish representative WLAs</b></p> <p>The kind of data that was needed to properly establish WLAs for the MS4 on a mass basis (which is now being requested for collection by MS4 permittees, as part of the implementation schedule) should have been collected before preparing the draft toxics TMDL. Also, in order to assign representative WLAs for current discharges from the MS4, the sampling should be conducted upstream of the soft bottom section of the Wilmington Drain at the major storm drain inputs to the soft bottom section, including the West and East Channels north of the 110 Freeway, Project 2 under Lomita Boulevard, and Project 510 Line A so that actual watershed contributions from the MS4 can be distinguished from the re-suspension of sediment associated with historic deposits in the soft bottom section. <u>Therefore, the assignment of WLAs for the MS4 should be deferred until this data is collected, at which point, the toxics TMDL should be reconsidered and reopened to revise the WLAs.</u></p>	See response 2.7
5.10		<p><b>More time is needed to prepare the MRP and QAPP</b></p> <p>Six months from the effective date is insufficient time to prepare a Monitoring and Reporting Plan (MRP) and Quality Assurance Project Plan (QAPP) -- especially to: (1) establish the necessary field protocols and methodology for collecting and filtering sufficient suspended solids for analysis and (2) meet the detailed and onerous requirements of the Surface</p>	Staff disagrees. Staff finds that six months is adequate time to prepare an MRP and QAPP. The methods and analysis required for monitoring under this TMDL are standard; no new technologies or protocols are needed for the collection and filtration water samples. Likewise, there are standard methods available for the analysis of pesticides and PCBs at commercial laboratories.

Number	Date	Comment	Response
		<p>Water Ambient Monitoring Program (SWAMP). The monitoring being requested will most likely require that filtration of stormwater be performed in the field as it would be too cumbersome to haul to the lab the tens of gallons of water that will be necessary to obtain sufficient sediment sample to conduct the requisite analysis.</p> <p>Municipal budgets are severely strained and municipalities will need to budget a fiscal year in advance for what are essentially non-existent resources to prepare and implement this monitoring plan. A SWAMP-compatible QAPP, which is being required in the Implementation Schedule, is a detailed and lengthy document requiring no small effort. <u>Task 7 of the implementation schedule should be extended to at least twelve months after the effective date of the toxics TMDL.</u> In order to allow sufficient time to establish a Memorandum of Agreement (MOA) among the responsible agencies to conduct the monitoring once the scope of the MRP and QAPP are approved by the Regional Board, <u>Task 8 should provide six months after approval of the MRP and QAPP to begin monitoring.</u></p>	<p>The SWRCB website provides resources for stakeholders to easily develop SWAMP compatible QAPPs. For example, there are QAPP templates that can be readily adapted to any monitoring program in the state. The website also provides the SWAMP QAPP advisor, which is an online tool designed to assist stakeholders in writing QAPPs.</p> <p><a href="http://www.swrcb.ca.gov/water_issues/programs/swamp/tools.shtml#ga">http://www.swrcb.ca.gov/water_issues/programs/swamp/tools.shtml#ga</a></p> <p>Any agreements between stakeholders planning to conduct coordinated monitoring should be in place before the MRP and QAPP are submitted to the Regional Board for approval. Sixty days is sufficient time to initiate a monitoring program. No change has been made to the implementation schedule.</p>
5.11		<p><b>Mass loading instead of concentration based WLA</b></p> <p>The proposed means of compliance with WLAs discussed in the staff report and the Implementation Plan section of the Basin Plan Amendment is a general reduction in sediment loading from MS4s into the lake. However, reducing sediment loads to the</p>	See response 2.2 and 4.2

Number	Date	Comment	Response
		lake will not meet the proposed concentration based WLAs. In order for reduction in sediment loading to make sense with respect to compliance with WLAs, the WLAs would need to be expressed in terms of mass loading, for which the data is currently insufficient. This is another argument for postponing the establishment of WLAs until such time the necessary data can be collected.	
5.12		<p><b>WLAs should be applied to general stormwater permittees</b></p> <p>Although a WLA has been ostensibly assigned to General Construction Activity and Industrial Activity Stormwater permittees, the implementation schedule does not appear to apply to them. Implementation requirements are being imposed on the MS4 Permittees and Caltrans, but not on the general construction and industrial MS4 permittees. Yet the latter are equally or more likely to be the source of potential hot spots of the toxic constituents of concern. This regulatory inequity places a disproportionate burden on municipalities. <u>If WLAs are to be assigned to the MS4 at this time, then implementation and monitoring requirements must also be required of all general permittees within the Machado Lake Watershed.</u> These data are essential to developing an effective and appropriate implementation plan. If indeed there is any current discharge from the MS4 conveyance system in excess of the toxics TMDL targets, it may be far more effective to identify and control hot spots of residual contamination at industrial</p>	Staff agrees. Stormwater discharges from industrial and construction sites are a likely source of pollutants within the watershed. To address this source, the TMDL assigns WLAs and monitoring requirements to all industrial and construction stormwater dischargers in the watershed. These dischargers were inadvertently excluded as responsible parties on the TMDL Implementation Schedule. The implementation schedule has been revised and now identifies general industrial and construction stormwater dischargers as responsible parties.

Number	Date	Comment	Response
		<p>and construction sites than to control suspended sediments in storm drain discharges from the entire 20-square mile watershed.</p> <p>It should be noted that TMDLs adopted by other jurisdictions require WLA compliance not only for general permittees but Phase II MS4 permittees as well, along with certain entities that are not subject to stormwater permits but are subject to waste discharge permits issued by the Regional Board pursuant to Porter-Cologne.</p>	
5.13		<p><b>WLA should be applied to industrial and construction permittees</b></p> <p>Activities at industrial facilities include metals recycling, auto dismantling, rubber manufacturing, concrete production, etc. These activities are associated with toxic pollutants that may include PCBs.</p> <p>Further, industrial permittees are currently only required to monitor for pH, total suspended solids, specific conductance, and total organic carbon as well as certain pollutants specific to the facility type. It is unlikely that many of the permittees sample for the Machado Lake pollutants of concern, yet it is a possibility that the permittees are sources of these pollutants. The Industrial General Permit states that:</p> <p><i>Effluent limitations and toxic and effluent standards established in Sections 208(b), 301, 302, 303(d), 304, 306, 307, and 403 of the Federal Clean Water Act</i></p>	<p>See response 5.12</p> <p>The TMDL WLAs and compliance monitoring requirements will be incorporated in the statewide General Industrial and General Construction stormwater permits (Order No. 97-03-DWQ, NPDES permit No. CAS 000001 and Order No. 99-08-DWQ, NPDES permit No. CAS 000002) when the SWRCB renews the permits. These NPDES permits will be used to implement this TMDL and ensure that all construction stormwater and industrial stormwater dischargers conduct monitoring and attain WLAs.</p>

Number	Date	Comment	Response
		<p><i>(CWA), as amended, are applicable to storm water discharges and authorized non-storm water discharges regulated by this General Permit.</i></p> <p>The Regional Board should require the permitted industrial facilities to monitor for the pollutants identified in the TMDL to ensure they are not contributing to the pollution problem in Machado Lake.</p> <p>Construction permittees are currently only required to monitor for total suspended solids, settleable solids, suspended sediment concentration, and turbidity as well as perform a bioassessment if the site is greater than thirty (30) acres. However, the state Construction General Permit requires that:</p> <p><i>The discharger shall ensure that storm water discharges and authorized non-storm water discharges will not contain pollutants that cause or contribute to an exceedance of any applicable water quality objectives or water quality standards (collectively, WQS) contained in a Statewide Water Quality Control Plan, the California Toxics Rule, the National Toxics Rule, or the applicable Regional Water Board's Water Quality Control Plan (Basin Plan).</i></p> <p>Therefore, the Regional Board should require the permitted construction sites to monitor for the pollutants identified in the TMDL to ensure they are not contributing to the pollution problem in Machado Lake. For example, the U.S. EPA performed a study in the areas surrounding the Montrose Chemical Corporation Superfund Site that found background concentration</p>	

Number	Date	Comment	Response
		<p>levels of DDT in the soil of 1-2 part per million. Construction sites that disturb soil are potentially mobilizing residual sources of DDT that could be deposited into Machado Lake.</p>	
5.14		<p><b>Regional Board should evaluate all possible pollutant sources</b></p> <p>In the Staff Report for the toxics TMDL, the Regional Board stated there are forty-seven (47) General Permitted industrial facilities and thirty-one (31) construction sites subject to the state General Construction Permit. However, a majority of the industrial facilities and construction sites that the Regional Board referenced are not located within the Machado Lake Subwatershed. Eight (8) of the forty-seven (47) industrial facilities and eleven (11) of the thirty-one (31) construction sites identified by the Regional Board are located within the Machado Lake Subwatershed. Additionally, there are a number of other permitted industrial facilities and commercial sites located within the Machado Lake Subwatershed that were not referenced by the Regional Board. For example, there are twenty-eight (28) facilities with industrial NPDES permits and twenty-seven (27) permitted construction sites located within the subwatershed, which the Regional Board did not identify and may be sources of pollutants.</p>	<p>The TMDL includes a source assessment that has identified sources of pollutant loading to Machado Lake. The assessment of point source discharges included all NPDES permits in the Machado Lake subwatershed including the Los Angeles County municipal separate storm sewer system (MS4) permit, the Caltrans stormwater permit, and general industrial and general construction stormwater permits. There are no major individual, minor individual, or general NPDES permits (including dewatering from groundwater) adopted by the Regional Board for the Machado Lake subwatershed.</p> <p>The review of general industrial and general construction permittees is a snap shot based on enrollment information provided by the SWRCB. The TMDL does not identify specific enrolled operations, because these are general permits and there is a regular process of operations enrolling and/or terminating coverage. However, the TMDL WLAs and monitoring requirements apply to all current and future enrollees.</p> <p>The nonpoint source assessment included internal lake sediments and atmospheric deposition. Based on this assessment, point and nonpoint source allocations were assigned accordingly.</p>

Number	Date	Comment	Response
5.15		<p><b>The toxics TMDL staff report should reference water quality based effluent limits and an adaptive iterative BMP approach</b></p> <p>The staff report suggests strict compliance with the WLAs numeric limits. Affected MS4 permittees will be required to meet WLAs and LAs, as strict numeric limits, through an assortment of structural and/or non-structural BMPs. Failure to meet the WLAs and LAs would expose non-compliant permittees to enforcement action and third party litigation. However, DCWMC members believe that the Regional Board is required under federal stormwater regulations to translate WLAs (once they are revised) into water quality based effluent limits (WQBELs), as the following indicates:</p> <p><i>Federal regulations require that NPDES requirements incorporate water quality based effluent limitations (WQBELs) that must be consistent with the requirements and assumptions of any available WLAs, which may be expressed as numeric effluent limitations, when feasible, and/or as a best management practice (BMP) program of expanded or better-tailored BMPs.</i></p> <p>In other words, when a TMDL is incorporated into an MS4 permit, compliance is determined not by strict compliance with WLAs through the implementation of BMPs, but by BMPs that make progress towards meeting them. In effect, BMPs are a type of effluent limitation used in MS4 permits.</p>	<p>Federal regulation requires that NPDES permits must contain requirements necessary to achieve water quality standards (40 CFR § 122.44(d)(1)). Additionally, federal regulations require that water quality based effluent limits are set consistent with the assumptions and requirements of any available WLA for the discharge (40 CFR § 122.44(d)(1)(vii)(B)).</p> <p>While federal regulations allow the permitting authority to specify - as conditions of a NPDES permit - the use of BMPs to control or abate the discharge of pollutants in stormwater pursuant to Clean Water Act section 402(p) (40 CFR § 122.44(k)(2)), this is only supportable under specified circumstances where the permit's administrative record supports that the BMPs are expected to be sufficient to implement the WLA in the TMDL (US EPA 2002). Furthermore, this does not substitute for the permitting authority's obligation to include other requirements such as numeric effluent limits that may be necessary to achieve water quality standards.</p> <p>US EPA recently stated in a comment letter dated May 29, 2008 on the tentative Ventura County MS4 Permit, "EPA supports the approach used for incorporating TMDL WLAs in the August 28, 2007 second draft of this permit, in which the WLAs were incorporated as numeric water quality-based effluent limits (WQBELs) ... Under this approach, clear compliance determinations may be made, and the effectiveness of stormwater controls on</p>

Number	Date	Comment	Response
		<p>Other Regional Boards have placed WQBELs in MS4 permits. The Santa Ana Regional Board referenced WQBELs in the Riverside and San Bernardino MS4 Permits. The San Diego Regional Board has begun referencing WQBELs in recently adopted TMDLs, including the <i>Total Maximum Daily Loads for Indicator Bacteria, Project I – Twenty Beaches and Creeks in the San Diego Region (Including Tecolote Creek)</i>. It is also planning to insert WQBEL language into its next MS4 permit which is due for renewal.</p> <p>Hand-in-hand with WQBELs is the adaptive/iterative process. MS4 permits issued in California specify certain minimum BMPs and incorporate an iterative process that requires increasingly more effective BMPs if the Water Quality Standards are not met. This also applies to WQBELs in meeting TMDLs, as stated in the Riverside MS4 permit, which “incorporates the WLAs as Water Quality-Based Effluent Limitations (WQBEL) and requires Permittees to achieve the WLAs for Urban Runoff through an iterative process of implementing BMPs.”</p> <p>A workshop is needed, among other things, to discuss the WQBEL requirement and the adaptive/iterative process as it relates to the toxics TMDL and the kinds of BMPs that can be applied as numeric limitations to address WLAs and LAs. This is a very different compliance approach from the one specified in the toxics TMDL, which essentially requires strict compliance with WLAs and LAs through BMPs.</p>	<p>water quality may be assessed. As a general matter, MS4 permits, many of which represent the fourth generation of permits to control municipal stormwater, should enable permitting authorities to more effectively determine compliance and evaluate impacts on water quality.”</p> <p>The State Board also recently addressed the issue of translating TMDL wasteload allocations into effluent limits in MS4 Permits and concluded that, “whether a future municipal storm water permit requirement appropriately implements a storm water wasteload allocation will need to be decided based on the regional water quality control board’s findings supporting either the numeric or non-numeric effluent limitations contained in the permit” (Order WQ 2009-0008).</p> <p>Furthermore, federal regulations do not suggest that the iterative/adaptive process is an inherent component of BMP-based permit requirements. That notwithstanding, the Regional Board has provided permittees under the LA County MS4 NPDES Permit 19 years, since the first MS4 Permit was adopted in 1990, to iteratively apply BMPs to achieve water quality standards. TMDLs are the backstop for the Clean Water Act in cases where effluent limitations, or BMPs in the case of MS4 permits, have been inadequate to achieve water quality standards. Indefinitely continuing such an iterative/adaptive approach without greater specificity in terms of implementation schedules and numeric limitations is not in the best</p>

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			interest of water quality.
5.16		<p>The unincorporated County of Los Angeles and the Los Angeles County Flood Control District will jointly submit their own comment letter. The City of Los Angeles will also be submitting an additional comment letter on issues not discussed in this letter.</p> <p>Finally, DCWMC members would like to thank you for taking the time to read these comments and hope that they will result in a revised toxics TMDL that reflects our concerns and recommendations. In the meantime, should you need clarification or require additional information, please feel free to contact me at (310) 847-3529.</p>	Comment noted
<b>6</b>	<b>May 28, 2010</b>	<b>Heal the Bay</b>	
6.1		<p>On behalf of Heal the Bay, we submit the following comments on the Draft Machado Lake Pesticides and PCBs TMDL. We support many aspects of this TMDL, particularly the inclusion of concentration-based waste load allocations (WLAs) for the constituents of concern in the water column, the call for development of a Lake Water Quality Management Plan (LWQMP), and coordinated timeline for implementation with the Machado Lake Nutrient TMDL. We also support the inclusion of an explicit 10% margin of safety to the load allocations (LAs) for constituents of concern found in amounts at or above the loading capacity of the lake. However, we also believe a 10% explicit margin of safety (MOS) should be applied to the LAs with existing loads less than the loading capacity and</p>	Comment noted. See response to comments below.

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		to the WLAs within the TMDL. We are also concerned that the compliance monitoring is not adequate to fully understand if water quality standards are being met. These issues are expressed in more detail below.	
6.2		<p><b>The seven-year implementation schedule should include additional interim milestones in the TMDL Implementation Plan</b></p> <p>We support the seven-year schedule for meeting final WLAs and LAs. This is consistent with the timeframe for the TMDL for Eutrophication, Algae, Ammonia, and Odors in Machado Lake. It makes sense for the implementation schedule for this TMDL to be shorter relative to other Region IV TMDLs because the City of LA has already completed a conceptual design of a comprehensive project to restore and dredge the lake and has earmarked Proposition O funding to implement the project by mid-2014. Of note, the staff report does not mention this 117 million dollar project that will be the key to meeting the WLAs. We suggest the staff report include a brief discussion of this project and its timing to aid in public review of the TMDL.</p> <p>In addition, staff should include additional interim milestones into the Implementation Plan of the Basin Plan Amendment. The plan currently lacks detail pertaining to actual steps that will be taken to decrease contamination, even though efforts are already under way to do so. The April 2010 Proposition O monthly report outlines actions that are to be taken at Machado Lake. We recommend that these be included as milestones in the implementation</p>	<p>Comment noted.</p> <p>Regional Board staff recognizes the importance of the Proposition O projects and commends the City of Los Angeles on the planned projects that will lead to improved water quality throughout the City. Regional Board staff is supportive of the Prop O Machado Lake Ecosystem Rehabilitation Projects.</p> <p>Regional Board staff did consider the Proposition O planned projects and schedule when developing this TMDL, although a specific discussion of Proposition O is not included in the staff report. The Regional Board, however, is prohibited from specifying the manner of compliance with its regulations (Water Code § 13360). The TMDL implementation schedule allows responsible parties the option to develop a Lake Water Quality Management Plan (LWQMP) to attain the TMDL LAs. Responsible parties may include Proposition O activities in the LWQMP.</p> <p>In response to the request made by other stakeholders staff has extended the final compliance date of the TMDL implementation schedule by 1 year. Staff finds this extension reasonable to provide watershed dischargers adequate time to implement management actions.</p>

Number	Date	Comment	Response
		<p>plan with a twelve to eighteen month buffer added to the various phases to allow ample flexibility to the schedule. Specifically, these milestones would include:</p> <ul style="list-style-type: none"> <li>• Sediment characterization and management by December 2011.</li> <li>• Completion of Phase I of work on the Wilmington Drain by January 2014.</li> <li>• 3. Completion of the Machado Lake Ecosystem Rehabilitation Project by January 2016.</li> </ul>	<p>The final compliance date in the in the revised BPA is September 30, 2019.</p> <p>See response 2.6</p>
6.4		<p><b>The explicit Margin of Safety (MOS) should apply to all LAs and WLAs in the TMDL</b></p> <p>The Regional Board’s decision to include an explicit margin of safety for LAs in the proposed TMDL is reasonable and justified. Staff appropriately points out uncertainties in calculating recognized in this margin of safety, including:</p> <ul style="list-style-type: none"> <li>▪ Limited data on the amount of pesticides and PCBs residing within the lake sediments</li> <li>▪ Limited data on the amount of pesticides and PCBs entering the lake</li> <li>▪ Estimated information on the depth to firm sediment in Machado Lake</li> <li>▪ Estimated information on the watershed sediment deposition rate</li> </ul> <p>(Staff Report Page 41). We believe these uncertainties warrant the 10% explicit margin of safety appropriately included in this TMDL. Of note, the Staff Report also points out uncertainty from constant bulk density, sediment density, and porosity values used to</p>	<p>Comment noted. The BPA has been amended to include all listed uncertainties identified in the staff report.</p>

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		<p>calculate the load associated with deposited sediment (Staff Report Page 42). However, this uncertainty appears to have been unintentionally omitted from the Draft Basin Plan Amendment. We encourage staff to fix this discrepancy</p> <p>There are precedents for applying explicit margins of safety to other TMDLs within Region 4. The mass based WLAs for ammonia in the Calleguas Creek Nitrogen and Related Effects TMDL include a 10% explicit margin of safety to account for uncertainty concerning the relationships between WLAs and attainment of the water quality standards addressing algae and other listed stressors associated with nutrient loads. More recently, the Draft TMDL for Colorado Lagoon OC Pesticides, PCBs, Sediment Toxicity, PAHs, and Metals incorporated a 10% explicit margin of safety to mass based waste load allocations. Thus, Regional Board's decision to include an explicit margin of safety is consistent with these precedents.</p>	
6.6		<p><b>The Regional Board should include a 10% explicit margin of safety to all load allocations, even for pollutants of concern that do not exceed the loading capacity calculated for this TMDL.</b></p> <p>The Regional Board appropriately assigned an explicit MOS to pollutants of concern that exceed the loading capacity calculated in this TMDL. The Draft Basin Plan Amendment states "The LAs are set to attain the lake loading capacity, including a 10% margin of safety;</p>	The TMDL has been revised to include a 10% explicit margin of safety to all TMDL LAs.

Number	Date	Comment	Response
		<p>however, in the case that the existing load is less than the loading capacity, the LA is at the existing load.” (Draft TMDL Page 5). However, we understand that this margin of safety will only apply to chlordane and total DDT, which currently exceed their loading capacity. We believe due to the uncertainties of the lake loading capacity, this margin of safety should also apply to those constituents that do not exceed the calculated loading capacity (dieldrin and PCBs). In establishing the margin of safety in this TMDL, the Regional Board acknowledged some uncertainties in the calculation of the TMDL, such as the uncertainties introduced due to limited data on the amount of pesticides and PCBs residing in and entering the lake, estimated information on the volume of the active layer of sediment in Machado Lake, and estimated information on the watershed sediment deposition rate. These uncertainties apply to dieldrin and PCBs, even though they do not currently exceed their loading capacities. We therefore urge the Regional Board to add a 10% explicit MOS to the LAs of these constituents as well.</p>	
6.7		<p><b>The Regional Board should include a 10% explicit MOS to WLAs</b></p> <p>We believe that an explicit MOS should be applied to WLAs. Staff maintains that there is an implicit margin of safety in the choice of CTR human health criteria and TECs as numeric targets and in developing load allocations for the sediment. We support these targets, but we do not agree they provide an adequate MOS in and of themselves. CTR criteria themselves have</p>	<p>This TMDL includes both an explicit and implicit margin of safety (MOS). The explicit MOS is applied to the LAs and the implicit MOS is included in the TMDL numeric targets and WLAs.</p> <p>EPA TMDL guidance states that an implicit margin of safety may be used if conservative assumptions were used in the TMDL analysis. Staff did make conservative assumptions in the development of this TMDL; for example, staff</p>

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		<p>associated uncertainties. For instance, as described in the Federal Registry, “[a]n aquatic life criterion derived using EPA’s CWA section 304(a) method might be thought of as an estimate of the highest concentration of a substance in water which does not present a significant risk to the aquatic organisms in the water and their uses.” (45 FR 79341). EPA’s 1985 Guidelines attempt to provide a reasonable and adequate amount of protection with only a small possibility of substantial overprotection or underprotection. The approach EPA used is believed to be as well balanced as possible...[emphasis added]” 40 CFR part 131.</p> <p>We support the Regional Board’s use of threshold effect concentration (TEC) values as the numeric targets for sediment within Machado Lake because the TECs are easily measured numeric values that can function as effective indicators of healthy sediments. However, TECs for the constituents of concern are concentrations slightly higher than ERLs, which represent a level below which toxicity is observed in one or more species in marine environments and, therefore, leaves no margin of safety.</p> <table border="1" data-bbox="516 1114 1178 1308"> <thead> <tr> <th>Constituent</th> <th>TEC (ppm, dry wt.)</th> <th>ERL (ppm, dry wt.)</th> </tr> </thead> <tbody> <tr> <td>Total PCBs</td> <td>59.8</td> <td>22.7</td> </tr> <tr> <td>DDT (all congeners)</td> <td>4.16</td> <td>1</td> </tr> <tr> <td>DDE (all congeners)</td> <td>3.16</td> <td>2</td> </tr> <tr> <td>DDD (all congeners)</td> <td>4.88</td> <td>2</td> </tr> <tr> <td>Total DDT</td> <td>5.28</td> <td>3</td> </tr> <tr> <td>Chlordane</td> <td>3.24</td> <td>0.5</td> </tr> <tr> <td>Dieldrin</td> <td>1.9</td> <td>0.02</td> </tr> </tbody> </table> <p>Therefore the use of CTR criteria and TECs is not a</p>	Constituent	TEC (ppm, dry wt.)	ERL (ppm, dry wt.)	Total PCBs	59.8	22.7	DDT (all congeners)	4.16	1	DDE (all congeners)	3.16	2	DDD (all congeners)	4.88	2	Total DDT	5.28	3	Chlordane	3.24	0.5	Dieldrin	1.9	0.02	<p>chose the most protective numeric targets for water and sediment.</p> <p>The reference to CTR aquatic life criteria is not applicable as the water column targets and load allocations are based on the human health criteria.</p> <p>The <a href="#">National Oceanic and Atmospheric Administration</a> (NOAA) TEC sediment guideline used in this TMDL is the concentration below which adverse effects are not expect to occur and is a conservative sediment guideline. The same approach has been used in other TMDLs; the only difference is application of marine sediment guidelines since previous TMDLs were for marine waterbodies.</p> <p>ERLs are marine sediment guidelines. Machado Lake is a freshwater ecosystem; marine guidelines can not be applied to a freshwater ecosystem. The TEC guidelines are the most protective freshwater sediment guideline.</p> <p>Staff believes that the combination of both an explicit and implicit margin of safety is sufficiently protective to ensure that water quality standards are attained and maintained by the TMDLs.</p>
Constituent	TEC (ppm, dry wt.)	ERL (ppm, dry wt.)																									
Total PCBs	59.8	22.7																									
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Dieldrin	1.9	0.02																									

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		conservative assumption that provides an adequate implicit margin of safety and the Regional Board should instead include an explicit margin of safety for WLAs in this TMDL.	
6.8		<p><b>The Regional Board should strengthen and add clarification to the proposed monitoring plan for Machado Lake.</b></p> <p>A comprehensive monitoring plan with an adequate collection frequency is essential to assess progress towards meeting the WLAs and ultimate compliance with the WLAs. We agree with the general components of the monitoring program included in the draft TMDL, including sediment, ambient monitoring and compliance assessment monitoring. We also are supportive of the Board outlining specific monitoring frequencies and locations within the Basin Plan Amendment. Although this allows some flexibility for responsible parties to further develop details of the MRP, it outlines the structure of a monitoring regime that will ensure lake conditions are adequately captured. The TMDL requires monitoring at the northern, central, and southern portions of Machado Lake. We recommend that the Regional Board also require the sediment samples to be positioned in the deepest portions of the lake where the most sediment is likely to accumulate.</p>	<p>The TMDL requires sediment sampling at the northern, central, and southern regions of Machado Lake. These sampling locations reflect sediment deposition patterns in the lake. For example, at Machado Lake the greatest volume of sediment and the most contaminated sediment is deposited in the northern portion of the lake near the outlet of Wilmington Drain. Sediment is then slowly transported to the southern end of the lake. The sediment sampling is designed to capture information on both the most recently deposited sediment and the movement of that sediment within the lake.</p>
6.9		<p>The TMDL proposes Phase 1 monitoring to be conducted during two wet weather events each year for the first three years and Phase 2 requires samples to be collected during one wet weather event every</p>	<p>The rate of sediment deposited from the watershed to Machado Lake is relatively low and the sediments transported to the lake disperse and settle into the internal lake sediments.</p>

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		<p>other year thereafter. We do not believe these frequencies are adequate. These frequencies are low compared to other lake TMDLs in the Region. For instance, the monitoring plan for Colorado Lagoon was proposed to be quarterly water quality monitoring in the first year, and annual monitoring thereafter, with sediment sampling occurring annually. To ensure conditions are appropriately measured in Machado Lake, we recommend the Regional Board require quarterly water quality monitoring and annual sediment monitoring in addition to the wet-weather monitoring currently proposed. This monitoring should continue to ensure variability in the lagoon is adequately captured. Similar to the Colorado Lagoon BPA, this TMDL should also contain a provision to accelerate monitoring if water quality objectives are exceeded.</p>	<p>Concentrations of polluted sediment from a single sampling event do not directly relate to internal lake sediment concentrations. Additionally, there is limited flow to the lake during dry weather. The impacts of OC pesticides and PCBs are manifested over long time periods. Short term variations in pollutant concentrations are not likely to significantly impact the impairment and/or protection of beneficial uses.</p> <p>Therefore, staff finds that a greater monitoring frequency is not warranted. The TMDL monitoring is established in a manner that is meaningful to the evaluation of pollutant loading and compliance with targets and WLAs.</p>
6.10		<p>The Regional Board should allow for public review of the Monitoring and Reporting Plan submitted to the Board for Executive Officer approval.</p>	<p>All documents submitted to the Regional Board are publicly available and can be reviewed upon request.</p>
6.11		<p>The Regional Board should provide clarity on the type of fish tissue testing that will occur as part of the compliance monitoring program for Machado Lake. For instance, which life phase of fish will Regional Board require to be tested? We recommend adult fish be tested as they are likely to have accumulated the most contaminants. What type of tissue sampling will occur? Testing should be performed on all fish tissue, as many subsistence fishermen often use the whole fish (not a fillet) with skin-on. For instance, a fish consumption study found that of Asian anglers surveyed, 50 percent consume the whole fish. (SCCWRP, Santa Monica Bay Seafood Consumption</p>	<p>Staff agrees that the required fish tissue monitoring must address topics such as:</p> <ul style="list-style-type: none"> <li>▪ Target species and size class</li> <li>▪ Seasonal sampling</li> <li>▪ Sample type (e.g. whole fish, skin on fillet, etc...).</li> </ul> <p>However, staff finds that it is a better approach to specify these requirements in the LWQMP and/or MRP documents. The TMDL requires the fish collection and tissue analysis to be conducted in accordance with U.S. EPA <i>Guidance for Assessing Chemical Contaminant Data for Use in Fish</i></p>

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		Study, 1994). We suggest that the Regional Board clarify the types of fish species that will be monitored as well. At least one bottom-feeding fish species and one water column feeding fish should be tested for one year and then the most sensitive species with the greatest contaminant tissue concentrations should be tested thereafter. During what time of year will these samples be taken? Species that have specific mating seasons should be tested at the beginning of this season, as this is the time of year when fish consume the most and have the greatest lipid content, therefore being the critical condition in which the most contaminant can accumulate within fish tissue.	<i>Advisories: Volume 1 Fish Sampling and Analysis.</i> This document provides detailed guidance on all of the topics listed above and concerns identified by the commenter. This guidance will be followed in the preparation, review, and approval of the LWQMP and/or MRP.
6.12		In conclusion, we are supportive of many aspects of this TMDL, but we urge the Regional Board to apply an explicit MOS to all LAs and WLAs in this TMDL and to clarify and strengthen the monitoring plan as described above. If you have any questions or would like to discuss any of these comments, please feel free to contact us at (310) 451-1500. Thank you for your consideration of these comments.	Comment noted.
<b>7</b>	<b>June 1, 2010</b>	<b>United States Environmental Protection Agency, Region IX</b>	
7.1		The U.S. Environmental Protection Agency (EPA) appreciates the opportunity to comment on the proposed organochlorine pesticides and PCBs TMDLs for Machado Lake. We urge the Regional Board to adopt the TMDLs to meet California's TMDL commitments and to enable EPA to meet its requirements under the consent decree ( <i>Heal the Bay V. Browner, C. 98-48 25 SBA, March 22, 1999</i> ).	Comment noted.
7.2		EPA reviewed the proposed draft and finds one	A change has been made to the staff report and

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		<p>remaining issue that needs to be addressed. TMDLs must be calculated to meet the fish tissue, water column and sediment targets. For pollutants where all targets are currently being met, the draft document presents a calculated loading capacity greater than the existing load in the lake. In order to comply with the antidegradation policy under CWA Section 303(c) and the State's Basin Plan, TMDLs for these pollutants should be set at the <i>lowest</i> of either the existing load or the loading capacity.</p>	<p>BPA based on this comment. The TMDLs for dieldrin and PCBs are set equal to the existing load.</p> <p>Additionally, based on oral comments provided by U.S. EPA the 10% explicit margin of safety is applied to the dieldrin and PCBs TMDLs. The margin of safety is applied to dieldrin and PCBs to ensure attainment of the fish tissue numeric target.</p> <p>Although the lake sediments are not impaired for dieldrin and PCB, fish tissue is impaired by these chemicals. The TMDL linkage analysis is based on the exposure of aquatic organisms to contaminated sediments. In order to attain the fish tissue targets the sediment concentrations of dieldrin and PCBs must be reduced below existing levels. Thus, the margin safety is applied to dieldrin and PCBs.</p>
7.3		<p>Overall, EPA finds the proposed TMDLs provide reasonable scientific analysis for addressing the ChemA, chlordane, dieldrin, DDT and PCB impairments included on California's 2006 Section 303(d) List. We find the concentration-based wasteload allocations established in the TMDLs are consistent with EPA guidance and other similar TMDLs adopted in the state. Although water column targets for some parameters are below the detection limits currently available at commercial labs, they are consistent with California Toxics Rule. These TMDLs appropriately reviewed all sources of pollutant loading to the lake, including stormwater, and appropriately</p>	<p>Comment noted.</p>

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7.4		<p>assigned allocations to the sources.</p> <p>Finally, we appreciate the inclusion of specific actions and milestones in the associated implementation plan to provide greater clarity of implementation expectations for all concerned stakeholders. However, in keeping with Element Five in the State's Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program, we recommend that the TMDL Implementation Plan identify more clearly the potential consequences when load allocations are not achieved.</p>	<p>The staff report and BPA outline the preferred strategy for implementing the TMDL LAs, which is through the developed of a Memorandum of Agreement (MOA) and LWQMP. This approach is consistent with the State's Impaired Waters Policy and Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program. The staff report and BPA also state that a Cleanup and Abatement Order, or any other appropriate Regional Board order may be used if the MOA and LWQMP are unsuccessfully in attaining LAs.</p>