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STATE WATER RESOURCES CONTROL BOARD BOARD MEETING SESSION – DIVISION OF WATER QUALITY DATE - TBD

ITEM

SUBJECT

CONSIDERATION OF A RESOLUTION APPROVING AN AMENDMENT TO THE WATER QUALITY CONTROL PLAN FOR THE LOS ANGELES REGION (BASIN PLAN) TO INCORPORATE A TOTAL MAXIMUM DAILY LOAD (TMDL) FOR POLYCHLORINATED BIPHENYLS (PCBS), ORGANOCHLORINE PESTICIDES (PESTICIDES) AND SEDIMENT TOXICITY IN MCGRATH LAKE

DISCUSSION

The Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) adopted [Resolution No. R09-006](#) on October 1, 2009 incorporating a TMDL for PCBs, pesticides and sediment toxicity in McGrath Lake. A schedule for development of TMDLs in the Los Angeles Region was established in a consent decree (Heal the Bay Inc., et al. v. Browner C 98-4825 SBA) approved on March 22, 1999. The consent decree combined water body pollutant combinations in the Los Angeles Region into 92 TMDL analytical units. In accordance with the consent decree, the McGrath Lake PCBs, Organochlorine Pesticides and Sediment Toxicity TMDL addresses the listings for sediment DDT, dieldrin, chlordane and toxicity under analytical unit 25.

McGrath Lake is a small, black dune lake located in coastal Ventura County. Situated at the southern end of McGrath State Beach Park, the lake is south of the McGrath State Beach Campground and west of Harbor Blvd. Much of the adjacent area to the east is utilized for agricultural operations, such as strawberries, celery and cut flowers. The dominant land use in the McGrath watershed is agriculture, accounting for approximately 78% of the total land use. McGrath Lake is located within the McGrath Lake sub-watershed, which is approximately 1,200 acres and part of the larger Santa Clara River watershed. Prior to agricultural development within the region, the lake and surrounding area was part of the extensive wetland and floodplain complex of the Santa Clara River Delta. Tile drains installed in the region allowed for extensive agricultural operations and have greatly reduced the flooded soils and resulting wetlands. In 1958, Harbor Boulevard was built east of the park and lake, further disrupting the hydrological inputs to McGrath Lake. The lake is a receiving water for tile drain discharge, irrigation runoff, and stormwater from agricultural operations in the sub-watershed. An artificial discharge of lake water to McGrath State Beach occurs through the use of pumps to keep flooding of the fields east of Harbor Blvd to a minimum.

The Regional Board's goal in establishing the TMDL for PCBs, Organochlorine Pesticides and Sediment Toxicity in McGrath Lake is to protect the recreation (REC 1 and REC 2), aquatic life (EST, WILD, RARE, WET) and commercial and sportfishing (COMM) beneficial uses of McGrath Lake by achieving the numeric and narrative water quality objectives set to protect those uses. Numeric targets for the TMDL are based on narrative and numeric water quality objectives (WQOs) provided in the Basin Plan and 40 CFR 131.38 (California Toxics Rule or CTR).

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Water column targets for PCBs, chlordane, DDT, and dieldrin are based on the CTR water quality criteria for protection of human health (organisms only). These criteria are more stringent than those for the protection of aquatic life and thus will protect both aquatic life and fish consumption beneficial uses. The sediment numeric targets are derived from the Effects Range-Low (ER-Ls) guidelines compiled by the National Oceanographic and Atmospheric Administration (NOAA). The sediment toxicity impairment is addressed by these numeric targets, which are protective of aquatic life in sediment.

Los Angeles Water Board staff have prepared a detailed technical document that analyzes and describes the specific necessity and rationale for the development of this TMDL. The technical document entitled "McGrath Lake PCBs, Organochlorine Pesticides and Sediment Toxicity TMDL" is an integral part of this Los Angeles Water Board action and was reviewed, considered, and accepted by the Los Angeles Water Board before acting. Further, the technical document provides the detailed factual basis and analysis supporting the problem statement, numeric targets (interpretation of the narrative and numeric water quality objectives, used to calculate the waste load and load allocations), source analysis, linkage analysis, waste load allocations (for point sources), load allocations (for non-point sources), margin of safety, and seasonal variations and critical conditions of this TMDL.

At the time of TMDL adoption, there are no point source discharges to McGrath Lake. Therefore, no wasteload allocations (WLAs) have been assigned in this TMDL. If future development results in stormwater discharges in the McGrath Lake subwatershed, the absence of a WLA would require that stormwater discharges cannot be directed into McGrath Lake. If it was determined that point source discharges would be directed to McGrath Lake, then the McGrath Lake TMDL would need to be amended. Load allocations (LAs) addressing non-point sources of pesticides and PCBs are assigned to discharges from the Central Ditch to the lake and internal sources from the lake sediments. The lake sediments are defined as bed sediments in the main body of the lake and the riparian corridor west of Harbor Boulevard.

The TMDL includes an implementation schedule which requires development of a monitoring and reporting program (MRP) by responsible parties. The monitoring program will consist of two phases. The first phase will focus on sampling the Central Ditch (for the first 10 years of the TMDL implementation schedule) and will be conducted by the responsible parties for the Central Ditch LAs. In Phase 2 the sampling, analysis and flow measurements begun in Phase 1 will continue. Additionally, samples will be collected from within the lake. Water column and surficial sediment (top 2 cm) samples will be collected at the northern end of the lake and from the deepest portion of the lake. All samples will be collected in accordance with SWAMP protocols. Cooperative parties shall only commence, participate or fund the Phase 2 monitoring as prescribed by the McGrath Lake Work Plan (MLWP) developed pursuant to a Memorandum of Agreement (MOA) entered into by and between "cooperative parties" and the Los Angeles Water Board.

Compliance with this TMDL will require the elimination of pollutant loads in toxic amounts from the Central Ditch to the lake and identification and implementation of strategies to remediate the contaminated sediments at the bottom of the lake. The TMDL contains a 14 year implementation schedule for cooperative parties to implement a MOA to jointly develop the MLWP to implement strategies to remediate the contaminated lake sediments and achieve lake sediment load allocations.

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POLICY ISSUE

Should the State Water Board approve the amendment to the Basin Plan to incorporate a TMDL for PCBs, pesticides and sediment toxicity in McGrath Lake as adopted by Los Angeles Water Board Resolution No. R09-006?

FISCAL IMPACT

Los Angeles Water Board and State Water Board staff work associated with or resulting from this action will be addressed with existing and future budgeted resources.

REGIONAL WATER BOARD IMPACT

Yes, approval of this resolution will amend the Los Angeles Water Board's Basin Plan.

STAFF RECOMMENDATION

That the State Water Board:

1. Approves the amendment to the Basin Plan as adopted under Los Angeles Water Board Resolution No. R09-006.
2. Directs the Executive Director or designee to submit the amendment adopted under Los Angeles Water Board Resolution No. R09-006 to OAL for approval of the regulatory provisions and to U.S. EPA for approval of the TMDL and the Surface Water Quality Objectives.

State Water Board action on this item will assist the Water Boards in reaching Goal 1 of the Strategic Plan Update: 2008-2012 to implement strategies to fully support the beneficial uses for all 2006-listed water bodies by 2030. In particular, approval of this item will assist in fulfilling Action 1 to prepare, adopt, and take steps to carry out TMDLs, designed to meet water quality standards, for all impaired water bodies on the 2006 list.

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STATE WATER RESOURCES CONTROL BOARD RESOLUTION NO. 2010-

APPROVING AN AMENDMENT TO THE WATER QUALITY CONTROL PLAN FOR THE LOS ANGELES REGION (BASIN PLAN) TO INCORPORATE A TOTAL MAXIMUM DAILY LOAD (TMDL) FOR POLYCHLORINATED BIPHENYLS (PCBS), ORGANOCHLORINE PESTICIDES (PESTICIDES) AND SEDIMENT TOXICITY IN MCGRATH LAKE

WHEREAS:

1. On October 1, 2009, the Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) adopted an amendment to the Basin Plan, [Resolution No. 09-006](#), to incorporate a TMDL for PCBs, pesticides and sediment toxicity in McGrath Lake.
2. The TMDL for PCBs, pesticides and sediment toxicity in McGrath Lake is designed to protect the recreation (REC 1 and REC 2), aquatic life (EST, WILD, RARE, WET) and commercial and sportfishing (COMM) beneficial uses of McGrath Lake by achieving the numeric and narrative water quality objectives set forth to protect those uses.
3. The Los Angeles Water Board found that the analysis contained in the Final Project Report, the California Environmental Quality Act (CEQA) "Substitute Environmental Document" for the proposed Basin Plan amendment, including the CEQA Checklist, the staff report, and the responses to comments prepared by Los Angeles Water Board staff and Resolution R09-006 adopted by the Los Angeles Water Board complies with the requirements of the State Water Board's certified regulatory CEQA process, as set forth in the California Code of Regulations, Title 23, section 3775 et seq.
4. The State Water Board finds that in amending the Basin Plan the Los Angeles Water Board complied with the requirements set forth in sections 13240 and 13242 of the California Water Code. The State Water Board also finds that the regulatory action meets the "Necessity" standard of the Administrative Procedures Act, Government Code section 11353, Subdivision (b).
5. The Los Angeles Water Board found that adoption of this amendment is consistent with the Antidation Policy ([State Water Board Resolution No. 68-16](#)) and Federal Antidegradation Policy (40 CFR 131.12), in that it does not allow degradation of water quality, but requires restoration of water quality and attainment of water quality standards.
6. Numeric targets expressed as loading capacities for the TMDL are based on the water quality objectives provided in the Basin Plan. Compliance with the targets will be based on a fourteen-year implementation schedule.
7. A Basin Plan amendment does not become effective until approved by the State Water Board and until the regulatory provisions are approved by the Office of Administrative Law (OAL). The TMDL must also be approved by the U.S. Environmental Protection Agency (U.S. EPA).

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THEREFORE BE IT RESOLVED THAT:

The State Water Board:

1. Approves the amendment to the Basin Plan as adopted under Los Angeles Water Board Resolution No. R09-006.
2. Directs the Executive Director or designee to submit the amendment adopted under Los Angeles Water Board Resolution No. R09-006 to OAL for approval of the regulatory provisions and to U.S. EPA for approval of the TMDL.

CERTIFICATION

The undersigned Clerk to the Board does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on **TBD**.

Jeanine Townsend
Clerk to the Board



California Regional Water Quality Control Board

Los Angeles Region



Linda S. Adams
Agency Secretary

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: <http://www.waterboards.ca.gov/losangeles>

Arnold Schwarzenegger
Governor

TO: Darrin Polhemus, Deputy Director
DIVISION OF WATER QUALITY
STATE WATER RESOURCES CONTROL BOARD

FROM: Samuel Unger *SU*
Interim Executive Officer
Los Angeles Regional Water Quality Control Board

DATE: July 22, 2010

**SUBJECT: MINOR, NON-SUBSTANTIVE CHANGES TO THE BASIN PLAN
AMENDMENT ADOPTED UNDER LOS ANGELES REGIONAL WATER
QUALITY CONTROL BOARD RESOLUTION NO. R09-006**

The Los Angeles Regional Water Quality Control Board (Regional Board) adopted an amendment to the Los Angeles Water Quality Control Plan (Basin Plan) on October 1, 2009 under Resolution No. R09-006 that establishes a Total Maximum Daily Load (TMDL) for pesticides and PCBs in McGrath Lake. The amendment is scheduled for consideration at the September 2010 meeting of the State Water Resources Control Board (State Board).

Regional Board Resolution No. R09-006 grants the Executive Officer the authority to make minor, non-substantive changes to the language of the adopted Basin Plan amendment if Regional Board staff, the State Board, or OAL determines that such changes are needed for clarity or consistency. I am hereby making the following minor, non-substantive corrections to the amendment language. The changes are shown below using underline text to show insertions.

The change appears in Table 7-37.1, on page 8 of the amendment.

"The estimated costs for on-farm BMPs such as buffer crops, filter strips, and sedimentation basins are approximately \$373/acre of BMP, \$1002/acre of BMP, and \$10,000/acre of BMP, respectively. The estimated costs for regional sub-watershed BMPs, such as converting the Central Ditch to a grassed waterway or converting the dirt road that runs along the Central Ditch into a filter strip, are approximately \$1,288/per acre of BMP and \$1002/per acre of BMP, respectively. The estimated cost of a regional treatment system to address the Central Ditch water is about \$151,536/year. The estimated costs to redirect the agriculture discharge toward a nearby canal are \$612,611 (open ditch) to \$1,287,402 (piped diversion). Potential sources of financing for these

California Environmental Protection Agency



implementation alternatives, such as Clean Water Act section 319(h) grant funding, are discussed in Chapter 4. As discussed in Chapter 4, the U.S. Department of Agriculture Soil Conservation Service and the Resource Conservation Districts provide information on, and assistance in, implementing BMPs.”

The change reflects the Regional Board's intention to provide an estimate of the total cost of an agricultural water quality control program and an identification of potential sources of financing as required by California Water Code section 13141. The cost information is already included in the staff report and is being added to the amendment language to be consistent with the findings in the staff report. The sources of financing are already discussed in Chapter 4 of the Basin Plan and are reiterated in this amendment to Chapter 7 of the Basin Plan for clarity. Other than these changes, the language of the Basin Plan amendment is unaltered. To ensure that the State Board interprets these changes accurately, I have attached the revised amendment language with my Executive Officer corrections shown in strikeout/underline format.

Please call me at (213) 576-6607 if you have any questions about this matter. You may also contact Jenny Newman at (213) 576-6691, Chief of TMDL Unit 3.

Attachment

cc: Jennifer Fordyce, OCC
Nicholas Martorano, DWQ
Jenny Newman, LARWQCB
Elisha Wakefield, LARWQCB

**Amendment to the Water Quality Control Plan – Los Angeles Region
to Incorporate the
Total Maximum Daily Load for PCBs, Pesticides and Sediment Toxicity
in McGrath Lake**

Adopted by the California Regional Water Quality Control Board, Los Angeles Region on
October 1, 2009

Amendments:

Table of Contents

Add:

Chapter 7. Total Maximum Daily Loads (TMDLs)

7-37 McGrath Lake PCBs, Pesticides and Sediment Toxicity TMDL

List of Figures, Tables, and Inserts

Add:

Chapter 7. Total Maximum Daily Loads (TMDLs)

Tables

7-37 McGrath Lake PCBs, Pesticides and Sediment Toxicity TMDL

7-37.1. McGrath Lake PCBs, Pesticides and Sediment Toxicity
TMDL - Elements

7-37.2. McGrath Lake PCBs, Pesticides and Sediment Toxicity
TMDL - Implementation Schedule

Chapter 7. Total Maximum Daily Loads (TMDLs) Summaries

Add:

7-37 McGrath Lake PCBs, Pesticides and Sediment Toxicity TMDL

This TMDL was adopted by:

The Regional Water Quality Control Board on October 1, 2009.

This TMDL was approved by:

The State Water Resources Control Board on **[Insert date]**.

The Office of Administrative Law on **[Insert date]**.

The U.S. Environmental Protection Agency on **[Insert date]**.

This TMDL is effective on **[Insert Date]**.

The elements of the TMDL are presented in Table 7-37.1 and the Implementation Plan
in Table 7-37.2.

**Table 7-37.1. McGrath Lake PCBs, Pesticides and Sediment Toxicity
TMDL: Elements**

TMDL Element	Regulatory Provisions																								
<p>Problem Statement</p>	<p>McGrath Lake was placed on the Clean Water Act Section 303(d) list in 1998, 2002, and 2006 as impaired for organochlorine pesticides (chlordane, dieldrin, DDT and derivatives) and polychlorinated biphenyls (PCBs) in sediment and for sediment toxicity. These toxic organic chemicals bind to soil particles, are stored in the fat tissue of exposed organisms, and create long term environmental impairments. Past studies concluded that sediment toxicity in McGrath Lake was likely due to the elevated concentrations of pesticides and PCBs in sediment.</p> <p>Applicable Water Quality Objectives for this TMDL are narrative water quality objectives for Chemical Constituents, Bioaccumulation, Pesticides and Toxicity contained in Chapter 3, the numeric water quality objective for PCBs contained in Chapter 3 and the numeric water quality criteria promulgated in 40 CFR 131 (California Toxics Rule (CTR)).</p> <p>The exposure of the McGrath Lake ecosystem to chlordane, DDT, dieldrin, and PCBs in amounts exceeding the objectives and criteria has impaired the beneficial uses of the lake, including aquatic life uses (rare, threatened or endangered species and estuarine, wildlife, and wetland habitat) and recreation uses (contact and non-contact recreation and commercial and sport fishing).</p>																								
<p>Numeric Targets</p>	<p>Water column targets for PCBs, chlordane, DDT, and dieldrin are based on the CTR water quality criteria for protection of human health (organisms only). These criteria are more stringent than those for the protection of aquatic life and thus will protect both aquatic life and fish consumption beneficial uses. The sediment numeric targets are derived from the Effects Range-Low (ER-Ls) guidelines compiled by the National Oceanographic and Atmospheric Administration (NOAA). The sediment toxicity impairment is addressed by these numeric targets, which are protective of aquatic life in sediment.</p> <table border="1" data-bbox="581 1373 1295 1717"> <thead> <tr> <th>Pollutant</th> <th>Water Column Targets (µg/L)</th> <th>Sediment Targets (ng/dry g)</th> </tr> </thead> <tbody> <tr> <td>Chlordane</td> <td>0.00059</td> <td>0.5</td> </tr> <tr> <td>Dieldrin</td> <td>0.00014</td> <td>0.02</td> </tr> <tr> <td>4,4'-DDT</td> <td>0.00059</td> <td>1</td> </tr> <tr> <td>4,4'-DDE</td> <td>0.00059</td> <td>2.2</td> </tr> <tr> <td>4,4'-DDD</td> <td>0.00084</td> <td>2</td> </tr> <tr> <td>Total DDT</td> <td>--</td> <td>1.58</td> </tr> <tr> <td>Total PCBs</td> <td>0.00017</td> <td>22.7</td> </tr> </tbody> </table>	Pollutant	Water Column Targets (µg/L)	Sediment Targets (ng/dry g)	Chlordane	0.00059	0.5	Dieldrin	0.00014	0.02	4,4'-DDT	0.00059	1	4,4'-DDE	0.00059	2.2	4,4'-DDD	0.00084	2	Total DDT	--	1.58	Total PCBs	0.00017	22.7
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<p>Source Analysis</p>	<p>A source of the pesticide and PCB loading is contaminated surface water and sediments flushing into McGrath Lake from the Central Ditch, which drains agriculture and other lands. All of the contaminants included in this TMDL are</p>																								

Attachment A to Resolution No. R09-006

TMDL Element	Regulatory Provisions
	<p>legacy pollutants. While they are no longer legally sold or used, they remain ubiquitous in the environment, bound to fine-grained particles. Irrigation and rainfall in the watershed mobilize these particles, which are loaded to McGrath Lake. Surface water (stormwater and agricultural drainage) accounts for almost half of the total recharge of the lake, while groundwater accounts for the rest of the recharge. Pesticides and PCBs have been detected in the surface water inlet to the lake (Central Ditch) but not in the groundwater from local monitoring wells. There are no point sources of pesticides or PCBs to McGrath Lake. Atmospheric deposition may be contributing PCBs.</p> <p>In addition to external loading, the in-situ sediments are likely a source of contaminants to the lake water column due to the high concentrations of contaminants in the sediment.</p>
Linkage Analysis	<p>A conceptual model identifies the assimilative capacity of McGrath Lake and links the source loading information to the numeric targets. The chemical properties of the pesticides and PCBs result in strong binding to particulate matter, therefore most of the incoming contaminants from the Central Ditch to the lake are bound to suspended solids. However, pesticide exceedances are observed in the Central Ditch even in low-flow conditions, indicating that some of the contaminants are transported to the lake in the water fraction. Therefore, there are water column and suspended sediment allocations for the Central Ditch.</p> <p>Once the suspended sediment settles to the lake bottom, desorption is possible due to the high contaminant concentrations, favorable environmental conditions and extended contact time (between the sediment and water). The contaminated lake sediments are toxic to benthic organisms and may also be taken up through bioturbation and feeding processes. Therefore, both external loading sources from the lake subwatershed and internal loading from contaminated lake sediments are assigned load allocations.</p>

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Load Allocations	<p>Load allocations (LAs) addressing non-point sources of pesticides and PCBs are assigned to discharges from the Central Ditch to the lake and internal sources from the lake sediments. The lake sediments are defined as bed sediments in the main body of the lake and the riparian corridor west of Harbor Boulevard.</p> <p>The in-lake LAs are for concentrations in sediment only.</p> <table border="1" data-bbox="691 464 1192 835"> <thead> <tr> <th>Pollutant</th> <th>Load Allocation for Concentration in Lake Sediment ($\mu\text{g}/\text{dry kg}$)</th> </tr> </thead> <tbody> <tr> <td>Chlordane</td> <td>0.5</td> </tr> <tr> <td>Dieldrin</td> <td>0.02</td> </tr> <tr> <td>4,4'-DDT</td> <td>1</td> </tr> <tr> <td>4,4'-DDE</td> <td>2.2</td> </tr> <tr> <td>4,4'-DDD</td> <td>2</td> </tr> <tr> <td>Total DDT</td> <td>1.58</td> </tr> <tr> <td>Total PCBs</td> <td>22.7</td> </tr> </tbody> </table> <p>The Central Ditch LAs are for concentrations in both suspended sediment and water.</p> <table border="1" data-bbox="565 970 1313 1344"> <thead> <tr> <th>Pollutant</th> <th>Water Column Load Allocation ($\mu\text{g}/\text{L}$)</th> <th>Load Allocation for Concentration in Suspended Sediment ($\mu\text{g}/\text{dry kg}$)</th> </tr> </thead> <tbody> <tr> <td>Chlordane</td> <td>0.00059</td> <td>0.5</td> </tr> <tr> <td>Dieldrin</td> <td>0.00014</td> <td>0.02</td> </tr> <tr> <td>4,4'-DDT</td> <td>0.00059</td> <td>1</td> </tr> <tr> <td>4,4'-DDE</td> <td>0.00059</td> <td>2.2</td> </tr> <tr> <td>4,4'-DDD</td> <td>0.00084</td> <td>2</td> </tr> <tr> <td>Total DDT</td> <td>--</td> <td>1.58</td> </tr> <tr> <td>Total PCBs</td> <td>0.00017</td> <td>22.7</td> </tr> </tbody> </table>	Pollutant	Load Allocation for Concentration in Lake Sediment ($\mu\text{g}/\text{dry kg}$)	Chlordane	0.5	Dieldrin	0.02	4,4'-DDT	1	4,4'-DDE	2.2	4,4'-DDD	2	Total DDT	1.58	Total PCBs	22.7	Pollutant	Water Column Load Allocation ($\mu\text{g}/\text{L}$)	Load Allocation for Concentration in Suspended Sediment ($\mu\text{g}/\text{dry kg}$)	Chlordane	0.00059	0.5	Dieldrin	0.00014	0.02	4,4'-DDT	0.00059	1	4,4'-DDE	0.00059	2.2	4,4'-DDD	0.00084	2	Total DDT	--	1.58	Total PCBs	0.00017	22.7
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Margin of Safety	<p>The uncertainties associated with this TMDL are due to limited data on the amount and media by which PCBs and pesticides are entering the lake and the extent to which these contaminants are already in the lake. The seasonal and annual variability in the hydrologic budget also creates uncertainty. To address these uncertainties, an implicit margin of safety is applied. Conservative assumptions were used to calculate the loading to the lake and more the protective ER-L sediment quality guidelines were used for the sediment numeric targets.</p>																																								
Seasonal Variations and Critical Conditions	<p>As the contaminants of concern for this TMDL are transported to the lake by the mobilization of sediment, it is expected that the greatest influx of PCBs and pesticides occurs during periods of increased runoff from the watershed. Due to the artificial interference in the watershed hydrologic cycle due to agricultural activities, peak runoff may not correspond to the southern California wet season. Seasonal variations and critical conditions are addressed by the use of</p>																																								

Attachment A to Resolution No. R09-006

TMDL Element	Regulatory Provisions
	<p>concentration-based load allocations. However, due to the bioaccumulative properties of the pollutants, effects occur over extended time periods, which minimizes the importance of seasonal variations.</p>
<p>Monitoring</p>	<p><u>Monitoring Program</u></p> <p>The monitoring program shall measure the progress of pollutant load reductions and improvements in water and sediment quality. The monitoring program shall:</p> <ul style="list-style-type: none"> ▪ Determine attainment of numeric targets for PCBs and pesticides; ▪ Determine compliance with the load allocations for PCBs and pesticides; and ▪ Monitor the effect of implementation actions on lake water and sediment quality. <p>The monitoring program shall consist of two phases. The first phase will focus on sampling the Central Ditch (for the first 10 years of the TMDL implementation schedule) and will be conducted by the responsible parties for the Central Ditch LAs. For the remaining portion of the TMDL implementation schedule, required water and sediment samples will be collected from the Central Ditch by "responsible parties" for the Central Ditch LAs, while required water and sediment samples will be collected from the lake as prescribed by the McGrath Lake Work Plan (MLWP) developed pursuant to a Memorandum of Agreement (MOA) entered into by and between "cooperative parties" and the Regional Board. The "responsible parties" and "cooperative parties" are defined in the implementation section below.</p> <p><u>Phase 1</u></p> <p>Phase 1 requires the development of a monitoring and reporting plan (MRP) to comply with the TMDL requirements. The MRP shall propose a monitoring frequency for water and sediment sampling that will characterize the variability in water and sediment quality observed in the Central Ditch. Water samples will be analyzed for the following constituents:</p> <ul style="list-style-type: none"> ▪ Total Organic Carbon ▪ Total Suspended Solids ▪ Total PCBs ▪ DDT and Derivatives ▪ Dieldrin ▪ Total Chlordane <p>Sediment samples will be analyzed for the following constituents:</p> <ul style="list-style-type: none"> ▪ Total Organic Carbon ▪ Total PCBs ▪ DDT and Derivatives ▪ Dieldrin ▪ Total Chlordane

TMDL Element	Regulatory Provisions
	<p>The annual monitoring reports will summarize proposed changes to the MRP based on the results of the previous year's monitoring. Sampling frequency may be reduced during future years once characterization of the variability in water and sediment quality has been achieved. In addition to the constituents above, general water chemistry (temperature, dissolved oxygen, pH and electrical conductivity) and a flow measurement will be required at each sampling event.</p> <p>Responsible parties for phase 1 monitoring shall submit a MRP plan to assess compliance with LAs and a Quality Assurance Project Plan (QAPP). The MRP and QAPP must be submitted to the Executive Officer for approval within six months of the effective date of the TMDL. The QAPP shall include protocols for sample collection, standard analytical procedures, and laboratory certification. All samples shall be collected in accordance with Surface Water Ambient Monitoring Program (SWAMP) protocols, where available or alternative protocols proposed by dischargers and approved by the Executive Officer. Monitoring shall begin 90 days after the Executive Officer has approved the MRP and QAPP.</p> <p>At the time of TMDL adoption, several of the constituents of concern had numeric targets lower than the laboratory detection limits. As analytical methods and detection limits continue to improve (i.e. development of lower detection limits) and become more environmentally relevant, responsible parties shall incorporate new analytical methods with lower detection limits in the MRP and the QAPP.</p> <p>A monitoring report shall be prepared and submitted to the Regional Board annually within three months after the completion of the final sampling event of the year.</p> <p><u>Phase 2</u></p> <p>The sampling, analysis and flow measurements begun in Phase 1 will continue. Additionally, samples will be collected from within the lake. Water column and surficial sediment (top 2 cm) samples will be collected at the northern end of the lake and from the deepest portion of the lake. All samples will be collected in accordance with SWAMP protocols. Cooperative parties shall only commence, participate or fund the Phase 2 monitoring as provided in the MLWP.</p> <p>Water samples will be analyzed for the following constituents:</p> <ul style="list-style-type: none"> ▪ Total Organic Carbon ▪ Total Suspended Solids ▪ Total PCBs ▪ DDT and Derivatives ▪ Dieldrin ▪ Total Chlordane <p>Sediment samples will be analyzed for the following constituents:</p> <ul style="list-style-type: none"> ▪ Total Organic Carbon ▪ Total PCBs

Attachment A to Resolution No. R09-006

TMDL Element	Regulatory Provisions
	<ul style="list-style-type: none"> ▪ DDT and Derivatives ▪ Dieldrin ▪ Total Chlordane ▪ Toxicity (if toxicity is determined, a TIE shall be completed to elucidate the cause of the toxicity) <p>Samples from the lake will be collected annually. The annual reports required for Phase 1 will continue during Phase 2. Additional monitoring may be required depending on which implementation option is chosen.</p> <p>Three years from the effective date of the TMDL, cooperative parties must submit the MLWP as discussed in the implementation section below.</p> <p>At the time of TMDL adoption, several of the constituents of concern had numeric targets lower than the laboratory detection limits. All required monitoring under Phase 1 and Phase 2 shall incorporate new analytical methods, once commercially available with lower detection limits, in the MRP and the QAPP.</p> <p>A monitoring report shall be prepared and submitted to the Regional Board annually within three months after the completion of the final sampling event of the year.</p>

TMDL Element	Regulatory Provisions
<p>Implementation Plan</p>	<p>Compliance with this TMDL will require the elimination of pollutant loads in toxic amounts from the Central Ditch to the lake and identification and implementation of strategies to remediate the contaminated sediments at the bottom of the lake. Table 7-37.2 contains a schedule for cooperative parties to implement a MOA to jointly develop the MLWP to implement strategies to remediate the contaminated lake sediments and achieve lake sediment load allocations.</p> <p>I. Implementation and Determination of Compliance with the Central Ditch LAs for Agricultural Non-point Source Discharges</p> <p>The Central Ditch load allocations assigned to agriculture non-point source dischargers will be implemented through the Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands (Conditional Waiver) or other appropriate Regional Board Orders. The load allocations for the Central Ditch shall be incorporated into the Conditional Waiver or other appropriate Regional Board Orders.</p> <p>It is likely that a combination of implementation measures will be needed to achieve the LAs. The Central Ditch implementation actions may include, but are not limited to the following:</p> <ul style="list-style-type: none"> ▪ On-Farm BMPs ▪ Regional Sub-Watershed BMPs ▪ Regional Treatment System ▪ Redirect Agriculture Discharge <p><u>The estimated costs for on-farm BMPs such as buffer crops, filter strips, and sedimentation basins are approximately \$373/acre of BMP, \$1002/acre of BMP, and \$10,000/acre of BMP, respectively. The estimated costs for regional sub-watershed BMPs, such as converting the Central Ditch to a grassed waterway or converting the dirt road that runs along the Central Ditch into a filter strip, are approximately \$1,288/per acre of BMP and \$1002/per acre of BMP, respectively. The estimated cost of a regional treatment system to address the Central Ditch water is about \$151,536/year. The estimated costs to redirect the agriculture discharge toward a nearby canal are \$612,611 (open ditch) to \$1,287,402 (piped diversion). Potential sources of financing for these implementation alternatives, such as Clean Water Act section 319(h) grant funding, are discussed in Chapter 4. As discussed in Chapter 4, the U.S. Department of Agriculture Soil Conservation Service and the Resource Conservation Districts provide information on, and assistance in, implementing BMPs.</u></p> <p>Agricultural Dischargers will be considered in compliance with the TMDL LAs if they comply with all provisions of the Conditional Waiver established to implement the LAs , or those of any alternative regulatory order, if any, that may be established to implement the LAs in lieu of the Conditional Waiver.</p>

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	<p>II. Implementation of Memorandum of Agreement to Develop McGrath Lake Work Plan and Determination of Compliance with LAs for Contaminated Lake Sediments</p> <p>The contaminated lake sediment LAs may be implemented through a MOA, which the Executive Officer is authorized to negotiate and execute, provided it is consistent with the following: The MOA shall detail the voluntary efforts that will be undertaken to attain the load allocations. The MOA shall comply with the <u>Water Quality Control Policy for Addressing Impaired Waters: Regulatory Structure and Options</u> ("Policy"), including part II, section 2 (c)(ii) and related provisions, and shall be consistent with the requirements of this TMDL. If the MOA is timely adopted in accordance with the implementation schedule below, the program described in the MOA shall be deemed "certified", pursuant to the Policy, subject to the conditions of Policy section 2 (e). The MOA shall include development of the MLWP, which must be approved by the Executive Officer, and may be amended with Executive Officer approval, as necessary. Implementation of the MOA shall be reviewed annually by the Executive Officer as part of the MRP annual reports.</p> <p>The purpose of the MOA is not to create evidence of responsibility or ascertain legal liability for subsequent remediation of the lake sediments, but rather to organize stakeholders who have an interest in the remediation of the lake sediments.</p> <p>To be a valid non-regulatory implementation program adopted by the Regional Board, the MOA shall include the following requirements and conditions:</p> <ul style="list-style-type: none"> ▪ The MOA shall direct development of a MLWP that addresses the impaired waterbody as approved by the Executive Officer. ▪ The MOA shall outline the roles and responsibilities of the Regional Board and each cooperative party. ▪ The MOA shall contain conditions that require trackable progress on attaining load allocations and numeric targets. A timeline shall be included that identifies the point(s) at which Regional Board regulatory intervention and oversight will be triggered if the pace of work lags or fails. ▪ The MOA shall contain a provision that it shall be revoked based upon findings that the program has not been adequately implemented, is not achieving its goals, or is no longer adequate to restore water quality. ▪ The MOA shall be consistent with the <u>California Policy for Implementation and Enforcement of the Non-point Source Pollution Control Program</u>, including but not limited to, the "Key Elements of a Non-point Source Pollution Control Implementation Program".

TMDL Element	Regulatory Provisions
	<p>Pursuant to the terms of the MOA, the cooperative parties and the Regional Board will work jointly to develop the MLWP and remediate the lake sediments. The purpose of the MLWP is to set forth strategies to achieve lake sediment load allocations in a manner that is beneficial to subwatershed landowners and the public in general. To the satisfaction of the Executive Officer, the MLWP shall meet the following criteria:</p> <ul style="list-style-type: none"> ■ Three years from the effective date of the TMDL cooperative parties shall submit a MLWP for approval by the Executive Officer. ■ The MLWP shall include identification of implementation measures that will achieve lake sediment LAs. ■ The MLWP shall include any additional monitoring needed to assess the effectiveness of the MLWP's chosen implementation strategies. ■ The MLWP shall include a MRP and QAPP for phase 2 monitoring. ■ The MLWP shall include a strategy to secure funds necessary to remediate the lake sediments and achieve lake sediment allocations. ■ The MLWP shall include tasks and a clear timeline for task completion leading to attainment of lake sediment LAs. The roles and responsibilities of each cooperative party shall also be outlined in the MLWP. ■ The MLWP shall consider and address the potential impacts of lake sediment remediation strategies on the implementation of the McGrath Beach Bacteria TMDL, and ongoing restoration efforts at McGrath State Beach. ■ The MLWP shall achieve compliance with the load allocations through the implementation of lake management strategies to reduce and manage internal pesticide and PCBs sources from lake bed sediments. The lake management implementation actions may include: <ul style="list-style-type: none"> ■ Sediment Capping; ■ Dredging/Hydraulic Dredging; ■ Monitored Natural Attenuation; or ■ Other appropriate means of implementation. <p>The Executive Officer may require a revised MLWP to reflect the results of data obtained through TMDL implementation.</p> <p>III. APPLICATION OF ALLOCATIONS</p> <p>A. Responsible parties for the Central Ditch LAs are the agricultural dischargers in the McGrath Lake sub-watershed.</p>

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	<p>B. Responsible parties for the lake sediment LAs have not yet been identified. Instead, cooperative parties for the lake sediment LAs are identified, not as responsible parties or as dischargers, but as landowners in the subwatershed who may execute a MOA jointly with the Regional Board for the development of the MLWP so that lake sediment allocations can be achieved in a manner that is in the best interest of both the subwatershed landowners and the public in general.</p> <p>Cooperative parties for the lake sediment LAs include:</p> <ul style="list-style-type: none"> • State of California Department of Parks and Recreation • McGrath Family (owners of the Central Ditch west of Harbor Blvd and the northern end of the lake) • Agricultural Landowners in the McGrath Lake sub-watershed • Ventura Regional Sanitation District (Bailard Landfill) <p>If a MOA is not established by and between cooperative parties and the Regional Board within two years of the effective date of the TMDL, or the cooperative parties do not comply with the terms of the MOA, or if the MOA and MLWP are not implemented or otherwise do not result in attainment of load allocations consistent with the provisions and schedule of the TMDL, the Executive Officer shall initiate an investigation, with input from current landowners, to (1) identify the responsible parties, whether named in this TMDL or not, whose discharges of the legacy pollutants have caused or contributed to the impairment of the lake; (2) ascertain the whereabouts and capacities of those responsible parties and/or their successors; (3) determine the parties to whom responsibility for remediation of sediments should be assigned; and (4) issue appropriate regulatory orders to those responsible parties.</p> <p>In addition, a comprehensive review of the MOA by the Executive Officer shall take place five years from the effective date of the MOA. The purpose of this review is to ensure adequate progress pursuant to the timeline established in the MOA on development of the MLWP and ultimately attainment of the lake sediment load allocations. If the Executive Officer determines that adequate progress has not been made, the Regional Board shall initiate the investigation described above.</p> <p>If the Executive Officer is unable to identify the responsible parties per the investigations above, then the TMDL shall be reconsidered.</p>

Table 7-37.2 McGrath Lake PCBs and Pesticides TMDL: Implementation Schedule

Task Number	Task	Deadline
1	Responsible parties assigned Central Ditch LAs shall submit a Monitoring and Reporting Plan (MRP) to the Executive Officer for review and approval to address Phase 1 monitoring.	6 months from the effective date of the TMDL
2	Responsible parties assigned Central Ditch LAs shall begin monitoring as outlined in the approved MRP.	90 days from the date of MRP approval
3	Responsible parties assigned Central Ditch LAs shall submit annual monitoring reports. Reports shall be submitted within three months after the completion of the final sampling event of the year.	Annually
4	Cooperative parties shall enter into a Memorandum of Agreement (MOA) with the Regional Board to implement the lake sediment LAs.	Two years from the effective date of the TMDL
5	Parties subject to the MOA shall submit a McGrath Lake Work Plan (MLWP) for review and approval by the Executive Officer.	Three years from the effective date of the TMDL
6	Parties subject to the MOA shall submit annual progress reports.	Annually from the date of MLWP approval
7	Responsible parties shall attain Central Ditch LAs.	10 years from the effective date of the TMDL
8	Begin implementation of McGrath Lake sediment remediation actions based on MLWP.	As soon as possible, but no later than 10 years from the effective date of the TMDL
9	Phase 2 monitoring shall begin as outlined in the MLWP. The results shall be included as part of the annual progress reports initiated in Task 6.	To be determined based on MLWP.
10	Lake sediment LAs shall be achieved.	14 years from the effective date of the TMDL