



Fact Sheet: Calleguas Creek PCB TMDLs

Waterbody/ Watershed	<p>Eleven of fourteen reaches in the Calleguas Creek Watershed, southern Ventura County, were identified on the 2002 Clean Water Act section 303(d) list including Mugu Lagoon, Duck Pond Ag Drain, Calleguas Creek (Lower), Revolon Slough, Beardsley Channel, Arroyo Las Posas, Conejo Creek (Mainstem, Hill Canyon, North Fork, South Fork), and Arroyo Santa Rosa.</p> <p>Total # of TMDLs: 11</p>												
Date TMDL Approved	<p>Approved 3/14/2006; Lead Agency: California Environmental Protection Agency</p>												
Basis for 303(d) Listing	<p>Elevated levels of organochlorine (OC) pesticides and PCBs in water, sediment and/or fish tissue</p>												
Water Quality Standards Target & TMDL Target	<p>The basin plan identifies 21 existing, potential and intermittent beneficial uses for water bodies in the Calleguas Creek Watershed. The designated beneficial uses identified as impaired include habitat-related uses, human consumption of aquatic organisms, and recreational uses.</p> <p>Water column targets were derived from the California Toxics Rule (CTR) water quality criteria for protection of aquatic life. Chronic criteria (Criteria Continuous Concentration, or CCC) were applied.</p> <table border="1" data-bbox="587 1251 1370 1623"> <thead> <tr> <th colspan="2" style="text-align: center;">PCB Targets</th> </tr> </thead> <tbody> <tr> <td>Water Quality (freshwater, µg/L)</td> <td style="text-align: center;">0.014</td> </tr> <tr> <td>Water Quality (marine, µg/L)</td> <td style="text-align: center;">0.030</td> </tr> <tr> <td>Fish Tissue (µg/kg)</td> <td style="text-align: center;">5.3</td> </tr> <tr> <td>Sediment (freshwater, µg/dry kg)</td> <td style="text-align: center;">34</td> </tr> <tr> <td>Sediment (marine, µg/dry kg)</td> <td style="text-align: center;">23</td> </tr> </tbody> </table>	PCB Targets		Water Quality (freshwater, µg/L)	0.014	Water Quality (marine, µg/L)	0.030	Fish Tissue (µg/kg)	5.3	Sediment (freshwater, µg/dry kg)	34	Sediment (marine, µg/dry kg)	23
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<p>Existing Source Loadings</p>	<p>Monitoring data from major National Pollutant Discharge Elimination System (NPDES) discharges and land use runoff were analyzed to estimate the magnitude of PCB loads to Calleguas Creek, its tributaries and Mugu Lagoon. Most PCB residues are due to past use of PCBs as coolants and lubricants in transformers, capacitors, and other electrical equipment. Atmospheric deposition is also a potential source of PCBs. Urban runoff and publicly owned treatment works (POTWs) are minor sources of PCBs. Data analysis suggests that groundwater, atmospheric deposition, and imported water are not significant sources of OC pesticides, PCBs, or sediment. Further evaluation of these sources is set forth in the Implementation Plan.</p>
<p>Method for Characterizing Existing Loadings</p>	<p>The conceptual model for OC fate, transformation and uptake supports four basic linkages in this TMDL Analysis:</p> <ul style="list-style-type: none"> (1) Risk is proportional to OC concentration in fish times the fish consumption rate by people and wildlife; (2) OC concentrations in fish are proportional to OC concentrations in sediments; (3) OC concentrations in water are equal to OC concentrations in suspended sediments times the suspended sediment load; and (4) OC concentrations in sediments are equal to OC loads divided by sediment loads.
<p>Method for Determining Allowable Load (Loading Capacity)</p>	<p>The TMDL uses a basic food web model for Calleguas Creek Watershed freshwater and marine aquatic organisms.</p> <p>The TMDL is calculated as a reduction in sediment concentration, which is based upon fish tissue and water concentrations (and consideration of sediment guidelines, for reaches with sediment listings). In order to translate required reductions in fish tissue and water column concentrations into sediment concentration reductions, it is assumed that bioaccumulation factors for fish tissue to sediment and partition coefficients for water to sediment are linear, and that a given percent reduction in fish tissue or water concentration results in an equal percent reduction in sediment concentration.</p> <p>The validity of this assumption will be evaluated by special studies included in the Implementation Plan and allocations adjusted if necessary to ensure compliance with numeric targets and achievement of beneficial uses.</p>

Reductions Needed to Reach Target	Percent reductions water, sediment, and fish tissue range from 0% (water) to 14% (sediment and fish tissue) in Calleguas Creek Watershed.
Allocations	<p>Point sources: waste load allocations (WLAs) are assigned to the Hill Canyon Wastewater Treatment Facility, Camarillo Wastewater Treatment Plant, Camrosa Wastewater Reclamation Facility, Simi Valley Water Quality Control Plant, Ventura County Wastewater Treatment Plant, NPDES stormwater permittees (including municipal separate storm sewer system, Caltrans, industrial stormwater, and construction stormwater permittees), and other NPDES permittees.</p> <p>Nonpoint source: LAs for agricultural runoff are provided.</p>
Margin of Safety	<p>An implicit margin of safety exists in the final WLAs and LAs for this TMDL, which results from cumulative effect of several conservative methods employed during development of the TMDL, including:</p> <ul style="list-style-type: none"> ▪ using all years of available data for calculating required percent reductions likely over predicts current concentrations due to the effects of natural attenuation (i.e., older data reflect less degradation than newer data), • selecting the greater percent reduction required of water or fish tissue concentrations as the basis for determining the percent reduction required in sediment, and • ensuring protection of downstream subwatersheds from upstream inputs by reducing the allowable concentration for upstream subwatersheds where downstream allowable concentrations are lower.
Reasonable Assurance	<p>Nonpoint source pollution (i.e., LAs) is addressed through the Porter-Cologne Water Quality Control Act and CA's Nonpoint Source Pollution Control Program (NPSPCP); under the Porter-Cologne Act, regional water quality control boards must regulate all nonpoint sources of pollution using administrative permitting.</p> <p>A municipal separate storm sewer system (MS4) collection program for PCBs, construction site BMPs, and evaluation and modification of existing sediment activities along with POTW source control study and implementation of identified actions will contribute to achievement of WLAs.</p>

Implementation

WLA implementation:

- MS4s -- Stormwater WLAs will be incorporated into the NPDES permit as receiving water limits measured at in-stream discharge points for each subwatershed and will be achieved through the implementation of best management practices (BMPs) as outlined in the implementation plan. A collection program, construction site (BMPs), and evaluation and modification of existing sediment activities will be implemented.
- POTWs -- WLAs established for the three major POTWs in this TMDL will be implemented through NPDES permit limits. POTWs will also conduct source control studies.

LA implementation:

- LAs for OC pesticides and PCBs will be implemented consistent with the Porter-Cologne Water Quality Control Act. The primary implementation strategies for this TMDL involve reducing the total quantity of sediment discharged into receiving waters and/or reducing the concentration of PCBs in sediment discharged to receiving waters.
- Implementation of BMPs to achieve load allocations (LAs) in the nutrient TMDL, toxicity TMDL, and any future TMDLs will likely result in reductions in the discharge of PCBs as well. The implementation schedule provides a phased approach that includes implementation of BMPs to address other TMDLs with additional BMPs required only if load allocations are not achieved.

<p>Monitoring</p>	<p>The Calleguas Creek Watershed TMDL Monitoring Program's (CCWTMP) goals are summarized as follows:</p> <ol style="list-style-type: none"> 1. To determine compliance with numeric targets at monitoring stations generally located at the base of the subwatersheds and at POTW discharges. 2. To determine compliance with WLAs and LAs generally located at the base of the subwatersheds and at POTW discharges. 3. To generate additional land use runoff data (water and sediment) to better understand sources of OCs and proportional contributions from various land use types. 4. To monitor the effect of implementation actions by urban, POTW, and agricultural dischargers on in-stream water and sediment quality and fish tissue concentrations. 5. To implement the CCWTMP in a manner consistent with other TMDL implementation plans and regulatory actions within the watershed. <p>Compliance monitoring will begin within one year of the effective date of the PCB TMDL. In-stream water column samples will be collected quarterly for analysis of general water quality constituents and PCBs.</p>
<p>Sources:</p> <p><i>Calleguas Creek Watershed OC Pesticides and PCBs TMDL Technical Report</i>, June 20, 2005, available at http://www.waterboards.ca.gov/losangeles/board_decisions/basin_plan_amendments/technical_documents/2005-010/05_0426/OC_6_TechnicalReport.pdf.</p> <p><i>Attachment A to Resolution No. R4-2005-XXXX: Proposed Amendment to the Water Quality Control Plan – Los Angeles Region to Incorporate a Total Maximum Daily Load for Organochlorine (OC) Pesticides, Polychlorinated Biphenyls (PCBs) and Siltation in Calleguas Creek, Its Tributaries, and Mugu Lagoon</i>, available at http://www.waterboards.ca.gov/losangeles/board_decisions/basin_plan_amendments/technical_documents/2005-010/05_0426/OC_4_%20BPA.pdf.</p>	

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