



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

December 15, 2010

Gerald W. Bowes, Ph.D.
Manager, Cal/EPA Scientific Peer Review Program
Office of Research, Planning and Performance
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

SUBJECT: REQUEST FOR EXTERNAL PEER REVIEW FOR THE PROPOSED DOMINGUEZ CHANNEL AND GREATER LOS ANGELES AND LONG BEACH HARBOR WATERS TOXIC POLLUTANTS TOTAL MAXIMUM DAILY LOAD/BASIN PLAN AMENDMENT

Dear Dr. Bowes:

This letter transmits a Request for External Peer Review for the Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants Total Maximum Daily Load, which will be considered by the Los Angeles Regional Board as an amendment to the region's Basin Plan. The proposed TMDL requires peer review pursuant to California Health and Safety Code Section 57004. The proposal will be available for peer review by December 14, 2010 and Regional Board staff requests the peer review be completed by January 31, 2011. The proposed TMDL is scheduled to be considered by the Regional Board at the March 2011 regular Board Meeting to ensure that the LA Consent Decree deadline for completing the TMDL is met. Therefore, it is essential to complete the review in a timely manner.

Regional Board staff believe individuals from the academic, governmental, or professional communities, including scientists familiar with the impacts of OC pesticides, PCBs, PAHs, and metals in water and sediment to coastal aquatic ecosystems, and knowledgeable about watershed-level pollutant loading models, are the most appropriate to review the technical approach and scientific issues of the Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants TMDL. The models used in this proposed TMDL are the EFDC and LSPC models described at EPA's Watershed & Water Quality Modeling Technical Support Center the following website:
<http://www.epa.gov/athens/wwqtsdc/index.html>.

California Environmental Protection Agency



Our mission is to preserve and enhance the quality of California's water resources for the benefit of present and future generations.

Dr. Gerald Bowes

December 15, 2010

The attachments have been prepared per your request to provide a summary of the TMDL and to outline the scientific and other technical issues of the TMDL in need of peer review. Should you have questions regarding the project, please contact Thanhloan Nguyen at (213) 576-6689 (tnguyen@waterboards.ca.gov).

Sincerely,

(original signed by)
Renee A. Purdy
Section Chief, Regional Programs

Attachments: Summary of TMDL
Scientific Issues and Questions
List of Participants

cc: Rik Rasmussen, State Water Resource Control Board
Francis McChesney, Staff Counsel, Office of Chief Counsel

California Environmental Protection Agency



Recycled Paper

Our mission is to preserve and enhance the quality of California's water resources for the benefit of present and future generations.

Attachment 1**Summary of Proposed Action**

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board) is charged with implementing the provisions of both the Porter Cologne Water Quality Control Act (California law) and the Federal Clean Water Act in the Los Angeles Region. Section 303(d)(A)(1) of the Clean Water Act requires the Regional Board to identify those waters within the Region that do not support beneficial uses and establish Total Maximum Daily Loads (TMDLs) for the pollutants causing the impairments. A TMDL specifies the maximum amount of a pollutant a water body can receive and still meet water quality standards, and allocates the acceptable pollutant load to point and nonpoint sources. A schedule for the development of TMDLs in the Los Angeles Region was established in the Los Angeles Consent Decree (Heal the Bay, Inc., et al. v. Browner C 98-4825 SBA) approved on March 22, 1999.

Dominguez Channel, Dominguez Channel Estuary, and the Greater Los Angeles and Long Beach Harbor waters including Inner and Outer Harbor, Consolidated Slip, Fish Harbor, Cabrillo Marina, Inner Cabrillo Beach, Los Angeles River Estuary, and San Pedro Bay are identified on the 1998, 2002, 2006 and 2008/2010 Clean Water Act Section 303(d) list of water quality limited segments as impaired due to elevated levels of OC pesticides, PCBs, PAHs, and metals in fish tissue and sediment. The Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants TMDL will address these listings.

The ports of Los Angeles and Long Beach occupy over 10,500 acres of land and water. The Inner Harbors contain piers for ship loading and unloading and several marinas. The outer part of both harbors (the greater San Pedro Bay) has been less disrupted than the inner areas and supports a great diversity of marine life. It is open to the ocean at its eastern end and receives much greater ocean flushing than inner harbor areas.

The harbors receive the discharges of the Dominguez Channel, Los Angeles and San Gabriel Rivers, although the latter two watersheds are not the focus of these TMDLs. The Los Angeles River is largely wastewater flow and the watershed is 834 square miles of which 66% is developed area. The San Gabriel River Watershed is 689 square miles (including the Los Cerritos Channel and Alamitos Bay) and is largely developed in the downstream end. The Dominguez Channel Watershed is approximately 345 square miles, and is principally urban with 62% of its area covered by impervious surfaces.

The Dominguez Channel Watershed drains an area of approximately 133 square miles in southwestern Los Angeles. The watershed is composed of two hydrologic subunits. The two subunits drain primarily via an extensive network of underground storm drains. The northern subunit drains into the Dominguez Channel while the southern subunit drains directly into the Los Angeles and Long Beach Harbor Area. The headwaters of the Dominguez Channel consist of an underground storm drain system which daylight approximately 0.25 mile north of the Hawthorne Municipal Airport. The Dominguez Channel Watershed is dominated by urban land uses such as residential, industrial, commercial, and transportation, which comprise as much as 85% of the land area.



The proposed Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters TMDL addresses fish tissue, sediment, and water quality impairments for OC pesticides, PCBs, PAHs, and metals by reducing the loading of sediment to the harbors and removing contaminated sediment at highly impacted sites. The allocation approach has been designed to meet water and sediment quality objectives in the harbors. To assign allocations, hydrodynamic and sediment and contaminant transport models were used to simulate the metals, PAHs, PCBs, and DDT concentrations in the receiving water to evaluate potential management scenarios and to identify waste load allocations to support water quality management decisions in the harbor area. Water and sediment allocations were assigned to point and nonpoint sources of contaminants from both inland and on-water discharges.

The goal of the TMDL is to protect beneficial uses, and achieve sediment, fish tissue, and water quality targets in Dominguez Channel and greater Los Angeles and Long Beach Harbor Waters. Implementation will consider Sediment Quality Objectives/the triad approach thereby identifying concentration-based bulk sediment allocations for total metals along with sediment toxicity and benthic indices. The proposed TMDL would require permitted storm water dischargers and other NPDES dischargers and other responsible parties to achieve their final allocations within 25 years, although due to the complex and interdependent nature of allocations adjustments to the final schedule may be made through subsequent Basin Plan amendments.

The TMDL staff report was prepared by staff of the U.S Environmental Protection Agency and Los Angeles Regional Board. The TMDL staff report provides the detailed factual basis and analysis supporting the problem statement, numeric targets, source analysis, linkage analysis, allocations, margin of safety, seasonal variations, critical conditions, and implementation actions of the TMDL.



Attachment 2

Description of scientific issues to be addressed by peer reviewer for proposed TMDL for Toxic Pollutants in Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters

The statutory mandate for external scientific peer review (Health and Safety Code Section 57004) states that the reviewer's responsibility is to determine whether the scientific portion of the proposed rule is based upon sound scientific knowledge, methods, and practices.

We request that you make this determination for each of the following issues that constitute the scientific basis of the proposed regulatory action. An explanatory statement is provided for each issue to focus the review.

1. Appropriateness of selected sediment, fish tissue, and water numeric targets for OC pesticides, PCBs, PAHs, and metals.

Numeric water targets are established in this TMDL for metals, organics and toxicity. Water targets are based on the regulatory thresholds contained in the Basin Plan and the California Toxics Rule (CTR). Site-specific dissolved-to-total metals conversion factors were generated for freshwaters in Dominguez Channel.

Sediment triad targets are guided by the State Board's Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1 Sediment Quality (August 2009) and the sediment chemistry guidelines of Long and Arch ET&C (Long et al., 1995; Arch ET&C, 2000), which are recommended in the State's Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List (December 2004).

Fish tissue targets for chlordane, DDT and PCBs are selected from "*Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene*", which were recently developed by the Office of Environmental Health Hazard Assessment (OEHHA) (OEHHA, 2008). Use of fish tissue targets is intended to account for uncertainty in the relationship between pollutant loadings and beneficial use effects and directly addresses potential human health impacts from consumption of contaminated fish or other aquatic organisms.

Please review and comment on the appropriateness of the selection of water, sediment and fish tissue targets.

2. Development of the sources and linkage analysis to show how sources of contaminants loading to the harbors are linked to the sediment and water quality.



Loading Simulation Program in C++ (LSPC) and Environmental Fluid Dynamics Code (EFDC) were used for source analysis. The EFDC was selected to model the listed pollutants in this TMDL. Hydrodynamic, water quality, and sediment transport was developed to simulate the dynamic interaction in the greater harbor system.

The linkage analysis is intended to connect pollutant loads from the sources to the numeric targets and protection of beneficial uses of the listed waterbodies. The EFDC model was developed to simulate source loadings and transport of the listed pollutants in the greater harbor water area.

Please comment on the appropriateness of the model selection and the calibration of the model that can be used for loading capacity and load reduction simulation.

3. Calculating loading capacity

LSPC and EFDC were used for determining loading capacity. Inflows from point and nonpoint sources and corresponding sediment and contaminant concentrations are used to estimate the loading of sediment and contaminants to the harbors. Hourly observed flows are preferentially used for Dominguez Channel and the Los Angeles and San Gabriel Rivers with data gaps filled using flows simulated by the Loading Simulation Program in C++ (LSPC) watershed model (Tetra Tech, 2006). Nonpoint source flows from local nearshore watersheds are provided by the watershed model (Tetra Tech, 2006). The current loading capacity will be evaluated using the calibrated EFDC model and loads from each subwatershed obtained by the watershed model.

Please review the appropriateness the selected parameter and data input to the model to estimate loading capacity.

4. Development of a proposed monitoring program to assess effectiveness of the TMDL and attainment of water quality standards.

A proposed monitoring program will be developed to track water quality and ensure that numeric targets for water, sediment and fish tissue are being met. In addition, several special studies are planned to improve understanding of key aspects related to achievement of WLAs and LAs for the TMDL.

Please review the sufficiency of the proposed monitoring program and special studies to assess the effectiveness of the TMDL and attainment of sediment, fish tissue, and water quality targets.

5. Evaluation of implementation plan and allocations

The models were used to verify that a reduction in sediment loading through various implementation actions will result in the achievement of sediment, fish tissue, and water quality targets in Dominguez Channel and in the harbors. The identified implementation actions are expected to improve sediment quality and result in compliance with the allocations. The effectiveness of the load reduction scenarios and implementation actions will be demonstrated by the calibrated EFDC model.



An area of review should address the proposed implementation actions and their appropriateness to lead to the attainment of sediment quality objectives in the harbors.

Overarching questions:

Reviewers are not limited to addressing only the specific issues presented above and are asked to contemplate the following questions.

- (a) In reading the staff report and proposed implementation language, are there any additional scientific issues that are part of the scientific basis of the proposed rule not described above? If so, please comment with respect to the statute language given above.
- (b) Taken as a whole, is the scientific portion of the proposed rule based on sound scientific knowledge, methods, and practices?

Reviewers should also note that some proposed actions may rely significantly on professional judgment where available scientific data are not as extensive as desired to support the statute requirement for absolute scientific rigor. In these situations, the proposed course of action is favored over no action.

The preceding guidance will ensure that reviewers have the opportunity to comment on all aspects of the scientific basis of the proposed Board action. At the same time, reviewers also should recognize that the Board has a legal obligation to consider and respond to all feedback on the scientific portions of the proposed rule. Because of this obligation, reviewers are encouraged to focus feedback on the scientific issues that are relevant to the central regulatory elements being proposed.



Attachment 3

LIST OF PARTICIPANTS

EXECUTIVE OFFICE

Sam Unger, Executive Officer, Los Angeles Regional Water Quality Control Board

TOTAL MAXIMUM DAILY LOADS DEVELOPMENT

Peter Kozelka, US EPA Region IX

Renee A. Purdy, Chief, Regional Programs Section, Los Angeles Regional Water Quality Control Board

L.B. Nye, Unit Chief, TMDL Unit, Los Angeles Regional Water Quality Control Board

C.P. Lai, Los Angeles Regional Water Quality Control Board

Thanhloan Nguyen, Los Angeles Regional Water Quality Control Board

Amy King, Regional Project Manager, Tetra Tech Inc.

