State of California
Regional Water Quality Control Board
San Diego Region

EXECUTIVE OFFICER SUMMARY REPORT
December 12, 2007

ITEM: 12

SUBJECT: **TOTAL MAXIMUM DAILY LOADS FOR INDICATOR BACTERIA, PROJECT I – BEACHES AND CREEKS IN THE SAN DIEGO REGION (Tentative Resolution No. R9-2007-0044).** (*Benjamin Tobler*)

PURPOSE: The San Diego Water Board will deliberate and consider adopting the amendment to the Water Quality Control Plan for the San Diego Basin (9) (Basin Plan) incorporating these Total Maximum Daily Loads for Indicator Bacteria, Project I – Beaches and Creeks in the San Diego Region.

PUBLIC NOTICE: Public Notice of this item was provided in the Agenda Notice for the December 12, 2007 meeting of the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board). Federal Clean Water Act (CWA) regulations [40 CFR 25.5] require the San Diego Water Board to provide notice of a proposed Basin Plan amendment to all interested parties at least 45 days in advance of the public hearing. The State Water Board's California Environmental Quality Act (CEQA) implementation regulations [23 CCR 3777] require the San Diego Water Board to provide to the public a Notice of Filing of a written report on any standard, rule, regulation, or plan proposed for board approval or adoption at least 45 days prior to board action. The Notice of Public Hearing for this Basin Plan amendment and Notice of Filing of the written technical report (Supporting Document 1) were provided by newspaper publication in the San Diego Union Tribune and Orange County Register on March 9, 2007, 47 days in advance of the public hearing scheduled for April 25, 2007. The Notices were also distributed to interested persons by email and regular mail distribution. At the April 2007 hearing, the San Diego Water Board directed staff to allow an additional comment period, to provide responses to the comments, and make adjustments to the TMDLs as appropriate. A Notice of Filing of Environmental Documents, which began an additional 30 day comment period, was issued on June 25, 2007. At that time, the draft Technical

Report (including the draft Resolution and draft Basin Plan amendment) was also made available to the public on our website. The final Technical Report (including the Resolution and Basin Plan amendment) was made available to the public on our website on November 30, 2007. (Supporting Documents 2, 3 and 4).

DISCUSSION:

Project Background

Fecal bacteria originate from the intestinal flora of warm-blooded animals, and their presence in surface water is used as an indicator of human pathogens. Pathogens can cause illness in recreational water users. Bacteria have been historically used as indicators of human pathogens because bacteria are easier and less costly to measure than the pathogens themselves. As required by section 303(d) of the Clean Water Act (CWA), TMDLs for indicator bacteria were developed to address all bacteria-impaired beaches in 12 watersheds, and five bacteria-impaired creeks, in the San Diego Region. This project is referred to as 'Project I- Beaches and Creeks in the San Diego Region. The regulatory provisions of these TMDLs have been incorporated into a draft amendment to the Water Quality Control Plan for the San Diego Basin (9) (Basin Plan). The purpose of these TMDLs is to reduce indicator bacteria densities to attain all applicable WQOs for beaches and creeks in the San Diego Region in all seasons of the year.

Technical Approach

The San Diego Water Board and the USEPA coordinated a watershed assessment and modeling study to support the development of TMDLs. Because the climate in southern California has two distinct hydrological patterns, two models were developed for estimating bacteria loads. One model specifically quantified loading during wet weather events (storms), while the other model quantified bacteria loading during dry weather conditions. In addition to estimating current loading, both models were used to estimate TMDLs for the two climate conditions for each watershed.

For wet weather, interim TMDLs were calculated using a reference system approach to implement the REC-1 WQOs. The purpose of the reference system approach is to account for the natural, and largely uncontrollable sources of bacteria in the wet weather loads that can, by themselves, cause exceedances of WQOs, but are not likely to be associated with human pathogens. However, final TMDLs were calculated using WQOs as described in the Basin Plan, with

no implementation provisions allowing for WQO exceedances due to natural sources. These natural source loads consume the entire assimilative capacities of the waterbodies during storm events. The San Diego Water Board has committed to revisiting these final TMDLs within one year of approval of the TMDLs by the Office of Administrative Law (OAL) in order to incorporate these natural source loads.

The scientific basis of these TMDLs has undergone external peer review pursuant to Health and Safety Code section 57004. The Water Quality Standards Unit has considered and responded to all comments submitted by the peer review panel.

TMDL Implementation

Because bacteria loading within urbanized areas generally originates from urban runoff discharged from municipal separate storm sewer systems (MS4s), the primary mechanism for TMDL attainment will be increased regulation of these point source discharges. Owners and operators of MS4s will be responsible for meeting WLAs established in these TMDLs. These persons include municipal phase I urban runoff dischargers, municipal phase II urban runoff dischargers, the California Department of Transportation (Caltrans), and the Padre Dam Municipal Water District's Water Reclamation Plant (Padre Dam). The TMDLs will be implemented primarily by reissuing or revising the existing NPDES requirements that regulate discharges from MS4s to be consistent with the WLAs and compliance schedule established in this TMDL project.

Controllable nonpoint source discharges of bacteria were found to be greater than 5 percent of the wet weather load in four watersheds (San Juan Creek, San Luis Rey, San Marcos, and San Dieguito). Controllable nonpoint sources that warrant regulation include, for example, runoff from agricultural facilities, dairy/intensive livestock operations, horse ranches, and manure composting and soil amendment operations not regulated under NPDES requirements. Controllable nonpoint sources will be regulated primarily by enforcement of existing facility specific WDRs and various waivers of WDRs that apply to these dischargers.

Project Status

Final revisions to the Bacteria Project 1 – Beaches and Creeks TMDLs' Technical Report, Resolution, and Basin Plan amendment were made by the Water Quality Standards Unit, taking into consideration the written comments received on the June 25, 2007 version of the TMDL documents, and testimony and comments received at the April 25, 2007 hearing. Written responses to these comments are contained in Appendix U of the Technical Report (Supporting Document 4, Appendix U).

New guidance for the content of the Bacteria Load Reduction Plans (BLRPs) and the Comprehensive Load Reduction Plans (CLRPs) have been included in the Technical Report. Lead Jurisdictions will be responsible for developing, and submitting, either a BLRP or a CLRP. CLRPs may be submitted in lieu of a BLRP, if dischargers choose to address all water quality problems within a watershed. In these cases, up to a 20 years compliance period may be warranted. This guidance was developed to give San Diego Water Board staff and dischargers information on the conceptual scope of a BLRP or CLRP document.

Dischargers have 10 years to implement BMPs and other actions to meet 100 percent of the required load reductions for interim wet weather and final dry weather TMDLs and up to 20 years to meet 100 percent of the required load reductions for final wet weather TMDLs. Source control and structural and non-structural BMPs and management measures are likely mechanisms to control bacteria discharges. Monitoring and reporting will be required to assess the efficacy of these measures.

The San Diego Water Board has initiated a Basin Plan amendment to adopt implementation provisions to apply the reference system approach, and natural sources exclusion approach to bacteria WQOs in the context of a TMDL. When these implementation provisions are adopted, then final wet weather TMDLs and allocations established in this project will be recalculated using these approaches.

The SHELL TMDLs were removed from this project because the National Shellfish Sanitation Program model ordinance, upon which our SHELL WQOs are based, does not allow consideration of natural sources in implementing the WQOs. Data from the four Southern California reference systems

show that natural wet weather loads frequently exceed the WQOs. Therefore, we will address the SHELL impairments in separate TMDLs and/or a water quality standards action.

Another change to the San Diego River TMDLs was an additional fecal coliform wasteload allocation (WLA) assigned to Padre Dam for its effluent discharge. Because Padre Dam's effluent must meet the fecal coliform REC-1 WQO, the WLA was based on the effluent limitations in its WDRs.

Finally, some beach segments were removed from the 2006 303(d) List during the development of these TMDLs. Specifically, the Miramar Reservoir Hydrologic Area (HA), and all the beaches in the Scripps HA, except the Children's Pool, were removed. However, our analysis of all available water quality data for these two HAs show that some beaches in both HAs are impaired. In addition, Federal Law requires that TMDLs be developed for all waterbodies regardless of impairment status. The 303(d) list is a tool used to prioritize TMDL development. Therefore, TMDLs for these two HAs are included in this project.

KEY ISSUES:

1. **New guidance for the Bacteria Load Reduction Plans and the Comprehensive Load Reduction Plans.** Guidance has been added to provide information on the conceptual scope of a BLRP or CLRP document.
2. **Allowance for Natural Sources.** Final TMDLs do not yet include allowable exceedance loading from natural sources. The Regional Board has committed to revisiting these TMDLs within one year of OAL approval in order to incorporate these natural source loads.
3. **SHELL TMDLs Removed.** The SHELL TMDLs have been removed from these TMDLs. SHELL impairments will be addressed in a separate TMDL and/or a water quality standards action.
4. **Padre Dam Wasteload Included.** Padre Dam received a wasteload allocation which is based on the effluent limitations of its WDRs.
5. **Delisted Waterbodies.** In 2006, the 303(d) list was updated during the development of these TMDLs. As a result, the Miramar Reservoir Hydrologic Area (HA) and all the beaches in the Scripps HA, except the Children's Pool, were removed. All available water quality data

shows that some beaches in both HAs are impaired. Therefore both HAs are included in these TMDLs.

LEGAL CONCERNS: None.

SUPPORTING DOCUMENTS:

1. Notice of Filing of Environmental Documents, dated June 25, 2007.
2. Tentative Resolution No. R9-2007-0044 and Attachment A, Bacteria-Impaired Waterbodies Included, and Attachment B, Draft Basin Plan Amendment.
3. Technical Report, dated November 29, 2007.
4. Appendices A through U to the Technical Report.

RECOMMENDATION(S): Adopt the Total Maximum Daily Loads for Indicator Bacteria, Project I – Beaches and Creeks in the San Diego Region.