RESPONSES TO COMMENTS

This page intentionally left blank

Table of Contents

This page intentionally left blank

1 List of Persons Submitting Comments

The following persons submitted comments on the February 29, 2008 version of the Technical Report for the Implementation Provisions for Indicator Bacteria Water Quality Objectives to Account for Loading from Natural Uncontrollable Sources within the Context of a Total Maximum Daily Load. Written comments were requested no later than April 14 to allow staff time to prepare written responses.

Commenters	Date Received
• City of Dana Point	April 21, 2008
• City of Laguna Niguel	April 21, 2008
• County of Orange	April 16, 2008
• Riverside County	April 24, 2008
• San Diego Coastkeeper	April 29, 2008

2 Introduction

This report provides responses to public comments received on the February 29, 2008 version of the Technical Report for the Provisions for Indicator Bacteria Water Quality Objectives to Account for Loading from Natural Uncontrollable Sources within the Context of a Total Maximum Daily Load. The Basin Plan Amendment documents were made available to the public for formal review and comment beginning February 29, 2008.

The San Diego Water Board received comments in letters and emails from interested persons on the February 29, 2008 version of the Basin Plan Amendment documents. The letters were not reproduced in this document. Individual comments were excerpted from the letters and email, and organized by subject. The comments were numbered sequentially in this report. Individual commenters are identified in the "List of Persons Submitting Comments" on page 4-1 of this appendix.

3 Comments and Responses to Technical Report and Tentative Resolution No. R9-2008-0028 and Attachment A Basin Plan Amendment

Comments and responses are grouped according to subject matter in the following subsections.

3.1 Fecal Indicator Bacteria

Comment 1 on the Technical Report

General Comment: Section 2 should include a discussion explaining that fecal indicator bacteria are used as surrogates for pathogens and the scientific and practical limitations of this surrogacy. A sentence or two at the end of the second paragraph would suffice, for example: "Indicator bacteria are used as surrogates to express potential human health risk from pathogens associated primarily with fecal material. However, the indicator bacteria species used for the REC-1 and REC-2 water quality objectives may also come from sources that are non-anthropogenic or not linked to pathogens." Comment made by County of Orange and City of Laguna Niguel.

Response: The text of Section 2 of the Technical Report has been modified as suggested in the comment as shown in the errata sheet.

3.2 Characterization of Target Water Body and Identification of the Reference System

Comment 2 on the Technical Report

Section 5.1.1 Characterization of Target Water Body and Identification of the Reference System: The text should clarify whose responsibility it is to identify reference systems, collect and analyze water quality data. It is expected that for future TMDLs this step be completed by the Regional Board prior to adoption of the TMDL. Commented by the County of Orange.

Response: The San Diego Water Board is responsible for adopting bacteria TMDLs based on an appropriately identified reference system, and properly collected and analyzed water quality data. However, any stakeholder can identify a reference system, and collect and analyze data. If done properly, the San Diego Water Board can use such information developed by stakeholders to develop bacteria TMDLs using the RSAA, much like a third-party led TMDL. Once this amendment is adopted and approved, the step of identifying an appropriate reference system, and the application of the RSAA will be

part of TMDL development, and completed before the San Diego Water Board adopts the TMDL. No change has been made to text.

Comment 3 on the Technical Report

Section 5.1.1 Characterization of Target Water Body and Identification of the Reference System: The text should be modified through an errata change as follows: "To determine the appropriateness of a reference system for a target water body, the indicator bacteria conditions (density, sources, etc) with the reference system can be compared to the indicator bacteria conditions of open space areas unimpacted by development of the target water body's watershed…Reference systems must have representative data for the bacterial water quality conditions within the systems. ~~Data~~ A weight of evidence demonstrating the absence of human fecal contamination is also necessary." Commented by County of Orange.

Response: The suggested change was made to the text of Section 5.1.1 of the Technical Report as shown in the errata sheet.

3.3 Determination of the Allowable Number of Wet Weather Exceedance Days

Comment 4 on the Technical Report

Section 5.1.4 Determination of the Allowable Number of Wet Weather Exceedence Days: The text should clarify how an exceedance probability is calculated." Commented by County of Orange.

Response: The exceedance probability for a reference system is calculated by taking the number of days that water quality objectives were exceeded divided by the sum of the days that objectives were exceeded and the days objectives were met. This definition has been added to Section 5.1.4 of the Technical Report as shown in the errata sheet.

3.4 Identification of Dry Weather Days

Comment 5 on the Technical Report

Section 5.2.2 Identification of Dry Weather Days: The requirement to utilize data from the critical wet year to determine the number of dry weather days to be used in the calculation of dry weather TMDLs should be removed. Separate models have been used for the development of dry and wet weather TMDLs. For the dry weather condition, the critical condition is the preponderance of dry weather

days. The text should be modified through an errata change as follows: ~~In order to be consistent with the modeling approach used for wet weather TMDLs, data from the critical wet year is used to determine the number of dry weather days to be used in calculation of dry weather TMDLs.~~ Commented by the County of Orange and Laguna Niguel.

Response: The text of Section 5.2.2 of the Technical Report has been modified as suggested in the comment as shown in the errata sheet.

3.5 Determination of Allowable Exceedance Frequency

Comment 6 on the Technical Report

Section 5.2.3 Determination of Allowable Exceedance Frequency: The requirement to utilize discrete 30-day data intervals should be replaced with the use of running 30-day data intervals. Calculating bacteria water quality using a running 30-day geomean is the convention used by most health care agencies and publicly-owned treatment works as it provides the most accurate assessment of public health risk. Using discrete 30-day periods can underestimate the exceedance frequency of the geomean standard and creates artificial breaks in the data which can mask trends in bacteria levels. The text should be modified through an errata change as follows: The reference system exceedance frequency will be determined by dividing these dry days into ~~discreet~~ (sic) <u>running</u> 30-day intervals. Commented by County of Orange and Riverside.

Response: In the method discussed in Comment 6, using running 30-day intervals instead of discrete 30-day intervals precludes calculating an allowable exceedance load because successive running 30-day intervals share at least three weekly sampling results. This assumes that bacteria sampling occurs weekly. Two successive running geometric means calculated one week apart share 23 days, and therefore a minimum of three sampling results. Using running 30-day intervals would therefore over estimate the allowable exceedance load because part of the load causing the exceedance of one 30-day interval also could be part of the load causing the exceedance of the next running 30-day interval, and so on. In other words, an exceedance frequency could be calculated based on running 30-day intervals, but an allowable exceedance load could not be derived from that exceedance frequency because of the problem of shared sample results.

Using discrete 30-day periods to calculate exceedance loads is consistent with the *Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List* (Listing Policy). One of the fundamental assumptions of the binomial test in the listing policy is that data points are independent of each other. Running 30-day geomeans are not independent of each other because they share a minimum of three sampling results. Thus, when analyzing a data set for listing purposes, 30-day geomeans are calculated using discrete 30-day intervals rather than running intervals.

The method described in Section 5.2 of the Technical Report is meant to be an example, and not the only possible way to apply the RSAA to a dry weather bacteria TMDL. Staff will continue to work with the stakeholders to see if a method can be developed that utilizes running 30-day intervals. No change has been made to text.

Comment 7 on the Technical Report

With respect to County's comment #4,5 and 6, clarifying 5.1.4, 5.2.2, or 5.2.3 may not be critical, since how the exceedance days, exceedance probability or frequency are calculated would all be among the "other options and steps" allowed to be put forward in alternative ways under the provisions of the Section 5 introductory paragraph. Commented by City of Laguna Niguel.

Response: The comment is correct in that the methods for applying the RSAA to wet weather and dry weather TMDLs discussed in the Technical Report are examples, and not the only possible ways to apply the RSAA. No change has been made to text.

Comment 8 on the Technical Report

Also, under 5.2.3, it seems to me that the wording should be "discrete OR running geomean" to clarify that there are options/flexibility in how to think about and model this question (not previously addressed in any RB9 Bact TMDLs). Commented by Laguna Niguel.

Response: As discussed in the response to Comment 6, using running geomeans to calculate the exceedance frequency would not work in the method discussed in the Technical Report. That is not to say that a method could not be developed that utilizes running geomeans instead of discrete geomeans. No change has been made to text.

Comment 9 on the Technical Report

A little point of spelling: "discreet" is a personal quality of discretion or tactfulness; "discrete" means mathematically separate individual entities and is the word you want in 5.2.3 and 5.2.4. :-)" Commented by City of Laguna Niguel.

Response: The spelling of discrete has been corrected in the text of the Technical Report as shown in the errata sheet.

3.6 Control of All Anthropogenic Sources of Indicator Bacteria

Comment 10 on the Technical Report

Section 5.3.1 Control of All Anthropogenic Sources of Indicator Bacteria: The text listing examples of the types of activities that can be expected to be necessary to control anthropogenic sources should be revised to recognize that not all MS4 dischargers control the sewage collection and treatment system. The text should be modified through an errata change as follows: Effective ~~prevention of~~ collaboration to prevent discharges of sewage into and from MS4s. Commented by County of Orange.

Response: The commenter requests recognition that not all MS4 dischargers control the sewage collection and treatment system. While we recognize that private entities own and operate many of the sewage collection and treatment systems in Orange County, the MS4 dischargers never-the-less retain responsibility for all prohibited discharges into and from their MS4, including sewage. That said, it is also important to recognize that the owner operator of the sewage collection and treatment system is primarily responsible for discharges from their system and is regulated under both State Water Board Order No. 2006-003-DWQ and San Diego Water Board Order No. R9-2007-0005. While Order No. 2006-003-DWQ prohibits sanitary overflows to surface or ground waters in general, Order No. R9-2007-0005 is more stringent and prohibits "(t)he discharge of sewage from a sanitary sewer system at any point upstream of a sewage treatment plant…" Together, these orders prohibit most kinds of discharge, including but not limited to sewer overflows and leaking underground sewer pipes. It is anticipated that all of the responsible entities will collaborate to prevent sewage discharges.

The text of Section 5.3.1 of the Technical Report has been revised as follows and also shown in the errata sheet:

Effective prevention and collaboration to prevent discharges of sewage into and from MS4s.

Comment 11 on the Technical Report

Section 5.3.1 Control of All Anthropogenic Sources of Indicator Bacteria: Further clarification of "Achievement of full compliance with waste discharge requirements and waiver conditions that apply to the discharge of indicator bacteria from anthropogenic sources" is needed." Commented by the County of Orange.

Response: The San Diego Water Board implements TMDLs using its regulatory tools which include waste discharge requirements (WDRs) and conditional waivers of WDRs (waivers). If the San Diego Water Board is implementing a particular TMDL using these tools, then dischargers must fully comply with the terms and conditions of the WDRs and/or waivers. Compliance with WDR and waiver terms and conditions is typically shown through monitoring and reporting programs. No change has been made to text.

3.7 Demonstration of Maintenance of Health Risks at Acceptable Levels

Comment 12 on the Technical Report

The District would like to see Section 5.3.3 conclude with the following statement:

"The Water Quality Standards for Coastal and Great Lakes Recreational Waters is intended for use on waterbodies subject to the Beach Act. Inland water bodies are not subject to the requirements of the Beach Act. Further, due to limited recreational usage rates, there are limited opportunities to support site-specific epidemiological studies for inland waterbodies in the San Diego Region. For this reason, alternative and simplified approaches to demonstrating maintenance of health risks may need to be considered for inland waterbodies." Commented by the Riverside County Flood Control And Water Conservation District.

Response: As the comment points out, conducting epidemiological studies in inland streams is problematic in the San Diego Region because the number of recreational users of a creek most likely is too low to produce a statistically valid sample population for the study. At this time, the San Diego Water Board does not expect dischargers to conduct epidemiological studies in inland streams where recreational usage rates are too low. In this

situation, other methods would need to be used to assess the health risk to recreational users associated with a TMDL developed using the natural sources exclusion approach. The text of Section 5.3.3 of the Technical Report was revised to clarify this issue regarding epidemiological studies as shown in the errata sheet.

3.8 Anthropogenic

Comment 13 on Attachment A, Basin Plan Amendment to the Tentative Resolution No. R9-2008-0028

Appendix 2 Revisions to Chapter 4 (Implementation), Implementation Provisions for Indicator Bacteria Water Quality Objectives in the Context of a TMDL, second paragraph, second sentence: For consistency with the definition of anthropogenic source, the text should be modified through an errata change as follows: "They also acknowledge that it is not the intent of the Region Board to require treatment or diversion of natural water bodies or to require treatment of natural <u>or uncontrollable</u> sources of bacteria". Commented by the County of Orange.

Response: We've made the change to the Attachment A, Basin Plan Amendment to the Tentative Resolution No. R9-2008-0028 as requested in the comment and as shown in the errata sheet.