



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street
San Francisco, CA 94105-3901

Ms. Dorothy Rice
Executive Director
State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812-0100

DEC 18 2008

Dear Ms. Rice:

Thank you for submitting the Basin Plan amendment containing total maximum daily loads (TMDLs) to address indicator bacteria at Kiddie and Hobie beaches located in the Channel Islands harbor. The TMDL submittal was dated October 17, 2008 and supplemental information was provided to EPA on December 10, 2008. The State adopted TMDLs to address the following water bodies identified on California's 2006 Clean Water Act Section 303(d) list:

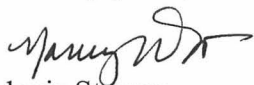
- Channel Islands Harbor Beach – Indicator Bacteria (a.k.a. “Kiddie Beach”)
- Hobie Beach (Channel Islands Harbor) - Indicator Bacteria

Based on EPA's review of the TMDL submittals under Clean Water Act Section 303(d)(2), I have concluded the TMDLs adequately address the pollutant of concern and, upon implementation, will result in attainment of applicable water quality standards. These TMDLs include waste load and load allocations as needed, take into consideration seasonal variations and critical conditions, and provide an adequate margin of safety. The State provided sufficient opportunities for public review and comment on the TMDLs and demonstrated how public comments were considered in the final TMDLs. All required elements are adequately addressed; therefore, the TMDLs are hereby approved pursuant to Clean Water Act Section 303(d)(2).

The State's submittal also contains a detailed plan for implementing these TMDLs. Current federal regulations do not define TMDLs as containing implementation plans; therefore, EPA is not taking action on the implementation plan provided with the TMDLs. However, EPA generally concurs with the State's proposed implementation approaches.

The enclosed review discusses the basis for this decision in greater detail. I appreciate the State and Regional Boards' work to adopt these TMDLs and look forward to our continuing partnership in TMDL development. If you have questions concerning this approval, please call me at (415) 972-3572 or Peter Kozelka at (415) 972-3448.

Sincerely yours,


Alexis Strauss
Director, Water Division

Enclosure

cc: Tracy Egoscue, Los Angeles RWQCB

TMDL Review Checklist

State: California

Waterbodies: Kiddie and Hobie Beaches in the Channel Islands Harbor

Pollutant(s): Indicator Bacteria

Date of Initial Submission: October 17, 2008

Date Received By EPA: October 24, 2008

Dates of Supplemental Submission(s) and Receipt by EPA: December 10, 2008

EPA Reviewer: Valentina Cabrera-Stagno

1. Submittal Letter: *State submittal letter indicates final TMDL(s) for specific water(s)/pollutant(s) were adopted by state and submitted to EPA for approval under 303(d).*

Submittal letter from Elizabeth Haven to Alexis Strauss, dated October 17, 2008. State process completed December 10, 2008. The Los Angeles Regional Water Quality Control Board (RWQCB) adopted the TMDLs to address indicator bacteria at Kiddie and Hobie beaches located in the Channel Islands harbor on November 1, 2007 (RWQCB Resolution # R4-2007-017). The submittal addresses the beaches as identified on the State's 2002 and 2006 Clean Water Act Section 303(d) list for indicator bacteria. The State Water Resources Control Board (SWRCB) approved these TMDLs on October 7, 2008 (SWRCB Resolution # 2008-0072). The State Office of Administrative Law approved these TMDLs on December 9, 2008 (OAL File #2008-1023-01 S). The submittal package contained the final Regional Board adopted Resolution, final State Board adopted Resolution, OAL approval, final TMDL Technical Staff Report and Responses to comments.

2. TMDLs Included: *The submittal clearly identifies the water segments and pollutants or stressors for which TMDLs were developed. The submittal should include the water segment identifier (e.g., NHD code) for each segment addressed. The submittal should clearly identify the TMDLs adopted for currently 303(d) listed waterbody-pollutant combinations. It should also clarify if TMDLs were adopted for new impairment findings (by waterbody-pollutant combinations) that do not exist on the current 303(d) list. If appropriate, the submittal should describe any assessment decisions that may have resulted in non-impairment status for water/pollutant combinations that exist on State's most current 303(d) list.*

These TMDLs were adopted for following segments identified on the state's 2006 303d list:

- Channel Islands Harbor Beach – Indicator Bacteria
[referred to as Kiddie Beach in the staff report]
- Hobie Beach (Channel Islands Harbor) - Indicator Bacteria
[referred to as Hobie Beach in the staff report]

3. Water Quality Standards Attainment: *TMDL and associated allocations are set at levels adequate to result in attainment of applicable water quality standards.*

(See Staff Report, dated December 20, 2007, pp.18-24)

The TMDLs are designed to implement the existing water quality objectives for bacteria. Impairments to Kiddie and Hobie Beaches are for indicator bacteria.

The TMDL submission identified designated beneficial uses for each of the waters addressed in the TMDLs and the associated State water quality standards that apply to each water segment (Staff Report, pp. 19-20).

These TMDLs are based on a multi-part numeric target based on the updated bacteria objectives for marine waters designated for water contact recreation, REC-1, specified in the Basin Plan Amendment adopted by the Regional Board on October 25, 2001 and approved by the State Water Resources Control Board on July 18, 2002. The Office of Administrative Law approved it on September 19, 2002, and the US EPA approved it on September 25 2002. The State interpreted these WQS objectives to include four bacterial indicators, total coliform, fecal coliform, enterococcus, and the fecal-to-total coliform ratio, and found that these pollutants caused impairments of designated beneficial uses.

The Staff Report analysis concludes that exceedances of the bacterial indicator objectives can adversely affect beneficial uses and focused these TMDLs on recreational water contact (REC-1 and REC-2).

Consistent with the water quality standards the geometric mean objectives are strictly applied. The single sample limits are applied on a case-by-case basis.

The State reasonably concluded that the specified load and wasteload allocations will lead to attainment of the applicable water quality objectives.

4. Numeric Target(s): *Submission describes applicable water quality standards, including beneficial uses, applicable numeric and/or narrative criteria. Numeric water quality target(s) for TMDL identified, and adequate basis for target(s) as interpretation of water quality standards is provided.*

(See Staff Report, pp. 33-34 and Basin Plan Amendment Attachment A Table 7-28.1 pp.2-3)

These TMDLs implement numeric water quality objectives for total coliform, fecal coliform and enterococcus densities, and fecal-to-total coliform ratio. At Kiddie and Hobie Beaches targets will apply at existing monitoring sites, with samples taken at ankle to knee-high depth. These targets apply during both dry and wet weather. Geometric mean targets are based on a rolling 30-day period and may not be exceeded at any time (p 33).

Rolling 30-day Geometric Mean

- a. Total coliform density shall not exceed 1,000/100ml;
- b. Fecal coliform density shall not exceed 200/100ml;
- c. Enterococcus density shall not exceed 35/100ml.

Single Sample

- a. Total coliform density shall not exceed 10,000/100ml;
- b. Fecal coliform density shall not exceed 400/100ml;
- c. Enterococcus density shall not exceed 104/100ml;
- d. Total coliform density shall not exceed 1,000/100ml, if the ratio of fecal-to-total coliform exceeds 0.1.

Protection of REC-1 uses will protect REC-2 uses because REC-1 objectives for pathogen indicators are more stringent. The implementation of the bacteria objectives as set forth in these TMDLs is achieved using a 'reference system/anti-degradation approach', comparing monitored levels with historical exceedance levels at existing monitoring locations, including a local reference beach within the Los Angeles Region. This reference system approach utilizes allowable exceedance days (based on geometric mean results) per year. The allowable number of exceedance days is set such that (1) bacteriological water quality at any site is at least as good as at a designated reference site within the watershed and (2) there is no degradation of existing bacteriological water quality (pp. 46-54). A certain number of exceedances of the single sample bacteria objectives are permitted.

The State's approach is a reasonable and environmentally protective approach to account for uncertainty in the relationship between pollutant loading levels and attainment of water quality standards, as required by the CWA Section 303(d)(1)(C).

5. Source Analysis: *Point, non-point, and background sources of pollutants of concern are described, including the magnitude and location of sources. Submittal demonstrates all significant sources have been considered.*

(See Staff Report, pp. 34-40 and Basin Plan Amendment Attachment A Table 7-28.1 pp.3)

The TMDL analysis examined all existing and relevant information concerning the sources of bacteria indicators impairing Kiddie and Hobie Beaches, including monitoring data and special studies conducted by the County of Ventura as well as a bacterial source study and circulation improvement funded by a State Board Clean Beaches Initiative grant.

Bacterial sources include anthropogenic and non-anthropogenic sources and point and non-point sources in both dry and wet weather. While a source identification study indicated that local non-point sources are the majority contributor in summer dry-weather, high bacteria densities and exceedances during wet-weather may be more indicative of urban and agricultural run-off.

There are four active NPDES permits or Waste Discharge Requirements for discharges to Channel Islands Harbor or Edison Channel (see Staff Report Table 4-1, pp.35). Of these only California Department of Transportation is expected to be a significant source of bacteria loading. Potential non-point sources of bacteria contamination at the Harbor Beaches of Ventura County include: marina activities such as waste disposal from boats, boat deck and slip washing, swimmer "wash-off," and restaurant washouts; natural sources include birds, waterfowl, and feral cat; and agricultural sources.

The Staff TMDL report adequately considered all significant sources by examining data from all relevant sources. The TMDLs sufficiently described all sources of impairments.

6. Loading Capacity Linkage Analysis: *Submittal describes relationship between numeric target(s) and identified pollutant sources. Submittal clearly identifies loading capacity. For each pollutant, describes analytical basis for conclusion that sum of allocations and margin of safety does not exceed the loading capacity of the receiving water(s).*

(See Staff Report, pp.40-42 and Basin Plan Amendment Attachment A Table 7-28.1 pp.4)

The Regional Board examined all relevant studies to provide an analysis of the linkage between bacterial sources and water quality, including field monitoring data, numerical analysis, and bacterial source studies. Studies show that bacterial degradation and dilution during transport from the watershed to the

receiving water do not significantly affect bacterial indicator densities. Consequently, the loading capacity is defined in terms of bacterial indicator densities, which is the most appropriate for addressing public health risk, and is equivalent to the numeric targets. The results show local non-point sources are the majority contributor in summer dry-weather, storm water and agricultural run-off contribute to bacteria loading in the Channel Islands Harbor during wet-weather. Since the numeric targets must be met at the point where the effluent from storm drains or other sources initially mix with the receiving water throughout the day, no degradation or dilution allowance is provided.

The State's analysis sufficiently describes the link between the numeric targets and the pollutant sources in Ventura County harbor beaches.

7. TMDL and Allocations:

TMDL—Submittal identifies the total allowable load, which is set equal to or less than the loading capacity. TMDL is expressed in terms of mass-based, concentration-based or other equivalent approaches that are consistent with federal requirements. If TMDL has seasonal features then please describe.

(See Staff Report, pp.42-54 and Basin Plan Amendment Attachment A Table 7-28.1 pp.4-7)

The TMDLs, WLAs and LAs are expressed as the number of daily or weekly sample days that may exceed the single sample targets identified at a monitoring site. The TMDLs set the relevant allocations as "allowable number of exceedance days" because bacterial density and the frequency of single sample exceedances are most relevant to public health. For each monitoring site, allowable exceedance days are set on an annual basis as well as for three time periods:

- (1) summer dry-weather (April 1 to October 31),
- (2) winter dry weather (November 1 to March 31), and
- (3) wet-weather (defined as days with 0.1 inch of rain or greater and the three days following the rain event).

The allowable number of exceedance days for a monitoring site for each time period is based on the lesser of two criteria (1) exceedance days in the designated reference system and (2) exceedance days based on historical water quality data at the monitoring site. This ensures that water quality is at least as good as that of a largely undeveloped system and that there is no degradation of existing water quality.

EPA concludes that the State's approach of setting the TMDLs and allocations in terms of the number of sample days that may exceed a bacterial density amount is appropriate for the waters and pollutants of concern and consistent with the provisions of 40 CFR 130.2(i), which authorizes expression of TMDLs in terms of "mass per time, toxicity, or other appropriate measure."

Allocations—Submittal identifies appropriate wasteload allocations for all point sources and load allocations for all non-point sources. If point sources are present, submittal identifies existing NPDES permits by name and number. If no point sources are present, wasteload allocations are zero. If no non-point sources are present, then load allocations are zero. Allocations are expressed in terms of mass-based, concentration-based or other equivalent approaches, the submittal explains why it is reasonable and appropriate to express the TMDL in those terms.

TMDLs and allocations should be expressed in terms of daily time steps. If the TMDL and/or allocations are also expressed in terms other than mass loads per day, the submittal explains why it is reasonable and appropriate to express the TMDL in those terms.

(See Tables 6-4, 6-5 and 6-6 in the Staff Report pp.52-54 and Basin Plan Amendment Attachment A Table 7-28.1 pp.4-7 and Table 7-28.2 pp.10)

Waste Load Allocations

Wasteload allocations (WLAs) are assigned to the County of Ventura, the Ventura County Watershed Protection District (VCWPD) and associated Municipal Separate Storm Sewer System (MS4) permittees in the Channel Islands Harbor subwatershed, the City of Oxnard and Caltrans.

All WLAs for summer dry-weather single sample bacteria densities at Kiddie and Hobie beaches are zero (0) days of allowable exceedances. The WLAs for winter dry-weather single sample bacteria densities at Kiddie and Hobie beaches are three (3) days of allowable exceedances if sampling daily or one (1) day of allowable exceedances if sampling weekly. The WLAs for wet-weather single sample bacteria densities at Kiddie and Hobie beaches are seventeen (17) days of allowable exceedances if sampling daily or three (3) days of allowable exceedances if sampling weekly.

The WLAs for the rolling 30-day, geometric mean during any time period or monitoring site at the harbor beaches of Ventura County are zero (0) days of allowable exceedances.

General NPDES permits, individual NPDES permits, the Statewide Industrial Storm Water General Permit, the Statewide Construction Activity Storm Water General Permit, and WDR permittees in the Channel Islands Harbor subwatershed are assigned WLAs of zero (0) days of allowable exceedances for all three time periods and for the single sample limits and the rolling 30-day geometric mean. Any future enrollees under these permits will also be subject to the WLA.

Load Allocations

Load allocations (LAs) are assigned to the County of Ventura and the City of Oxnard.

All LAs for summer dry-weather single sample bacteria densities at Kiddie and Hobie beaches are zero (0) days of allowable exceedances. The LAs for winter dry-weather single sample bacteria densities at Kiddie and Hobie beaches are three (3) days of allowable exceedances if sampling daily or one (1) day of allowable exceedances if sampling weekly. The LAs for wet-weather single sample bacteria densities at Kiddie and Hobie beaches are seventeen (17) days of allowable exceedances if sampling daily or three (3) days of allowable exceedances if sampling weekly.

The LAs for the rolling 30-day, geometric mean during any time period or monitoring site at the harbor beaches of Ventura County are zero (0) days of allowable exceedances.

Based on the information in the Staff Report and the Basin Plan Amendment, EPA concludes that the TMDLs include appropriate waste load and load allocations that are consistent with federal requirements

8. Margin of Safety: *Submission describes explicit and/or implicit margin of safety for each pollutant.*

(See Staff Report, pp.55 and Basin Plan Amendment Attachment A Table 7-28.1 pp.8)

An implicit margin of safety is included through several conservative assumptions that no dilution takes place between the on-shore sources and where the effluent initially mixes with the receiving water, and that bacteria degradation rates are not sufficient to affect bacteria densities in the receiving water. In addition, an explicit margin of safety has been incorporated, as the load allocations will allow exceedances of the single sample targets no more than 5% of the time on an annual basis, based on the cumulative allocations for dry- and wet-weather. The Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List concludes that there are water quality impairments using a binomial method which lists waterbodies when the exceedances are between approximately 8 and

10 percent.

EPA considers this a permissible and appropriate way of dealing with uncertainty concerning the relationships between WLAs and water quality.

9. Seasonal Variations and Critical Conditions: *Submission describes method for accounting for seasonal variations and critical conditions in the TMDL(s)*

(See Staff Report, pp.55-56 and Basin Plan Amendment Attachment A Table 7-28.1 pp.8-9)

Seasonal variations are addressed by developing separate waste load allocations for summer dry-weather, winter dry weather, and wet-weather based on public health concerns and observed natural background levels of exceedance of bacteria indicators

Historic monitoring data for the harbor beaches of Ventura County and the reference beach indicate that the critical condition for bacterial loading is during wet-weather due to greater exceedance probabilities of the single sample bacteria objectives than during dry-weather. To set the allowable number of exceedance days, the Regional Board selected the 90th percentile storm (in terms of wet days) as the reference year. Selecting the 90th percentile year is a more conservative approach that will accommodate a 'worst case' scenario resulting in fewer exceedance days than the maximum allowed in drier years. Conversely, in the 10% of wetter years, there may be more than the allowable number of exceedance days.

The TMDLs adequately account for the seasonal variations and critical conditions by examining the existing flow record and water quality data. The impairment assessment sufficiently included these situations in the analysis and margin of safety.

10. Public Participation: *Submission documents provision of public notice and public comment opportunity; and explains how public comments were considered in the final TMDL(s).*

(See Regional Board's CEQA Scoping Meeting on January 10, 2007, Notice of Public Hearing on September 6, 2007, State Water Board's Notice of Opportunity for Public Comment, State Water Board's October 7, 2008 Meeting Agenda, and Regional and State Board Response to Comments documents)

The Regional and State Boards provided public notice and opportunities to comment on the TMDLs through newspaper notices, mailings, making the draft TMDL available to the public and formal hearings. The State Board also held seven public meetings between October 26, 2004 and August 27, 2007 for these TMDLs. Public comments were received in writing and in oral testimony.

The State demonstrated that it provided sufficient opportunities for public comments and considered public comments in its final decision by providing reasonably detailed responsiveness summaries.

11. Technical Analysis: *Submission provides appropriate level of technical analysis supporting TMDL elements.*

The TMDL analysis provides a thorough review and summary of available information concerning bacterial indicators in the specific areas of concern. We conclude the Regional Board was reasonably diligent in its technical analysis of the four bacterial density indicators at Kiddie and Hobie Beaches in the Channel Islands Harbor.

12. Reasonable Assurances: *If wasteload allocations are made less stringent based on inclusion of load allocations that reflect nonpoint source reductions, submission describes how there are reasonable assurances that necessary nonpoint source reductions will occur.*

Not Applicable

13. Other: *Table for clarifying submittal for TMDL waterbody-combinations for 303(d) listed water, new impairment findings or non-impairment findings.*

Not applicable.