

**STATE OF CALIFORNIA  
REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL COAST REGION**

**STAFF REPORT FOR REGULAR MEETING OF MARCH 15, 2012**

Prepared February 23, 2012

**ITEM NUMBER: 18**

**SUBJECT: Amending the Water Quality Control Plan for the Central Coastal Basin to (1) Adopt Total Maximum Daily Loads for Fecal Indicator Bacteria in Santa Maria River Watershed and (2) Add the Santa Maria River Watershed (including Oso Flaco Creek subwatershed) to the Domestic Animal Waste Discharge Prohibition**

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**THIS ACTION: Adopt Resolution No. R3-2012-0002**

**SUMMARY**

The Clean Water Act requires the state to identify water bodies within its jurisdiction that are impaired and do not support the beneficial uses and to develop Total Maximum Daily Loads (TMDLs) to address those impairments. The purpose of a TMDL is to identify the constituent[s] causing the impairment, to identify the sources of the impairment, and to allocate loads to nonpoint sources and waste loads to point sources in the form of mass or concentrations that when achieved will eliminate the impairment and restore the beneficial uses of the water body. TMDLs developed by the state also generally include implementation programs that often include a schedule to attain the TMDLs. The Central Coast Water Quality Control Board (Central Coast Water Board or Board) has adopted 21 of TMDLs to address impairments for various constituents, including metals, bacteria, sediment, nutrients, and pesticides. This is the eleventh TMDL to be considered by the Central Coast Water Board that addresses impairment of water bodies due to bacteria.

Staff recommends adoption of proposed Total Maximum Daily Loads (TMDLs) for fecal indicator bacteria (FIB) in the Santa Maria River Watershed, including Alamo Creek, Blosser Channel, Bradley Canyon Creek, Bradley Channel, Cuyama River (above Twitchell Reservoir), La Brea Creek, Little Oso Flaco Creek, Main Street Canal, Nipomo Creek, Orcutt Creek, Oso Flaco Creek, Oso Flaco Lake, Santa Maria River Estuary, and Santa Maria River.

Staff also recommends adding the Santa Maria River Watershed (including Oso Flaco Creek subwatershed) to the existing Basin Plan Domestic Animal Waste Discharge Prohibition. This would prohibit discharges of domestic animal waste that cause or contribute to exceedance of water quality objectives. Staff is proposing that this prohibition be used to reduce or eliminate sources of FIB to waterbodies in the Santa Maria River Watershed. The TMDL sets forth an implementation plan that includes actions taken by the Executive Officer, pursuant to delegated authority, or by the Central Coast Water Board to require implementation actions by parties responsible for domestic animal waste discharges to comply with the prohibition.

The Santa Maria River is the receiving water for approximately 1.2 million acres. The Santa Maria River receives flow from the Cuyama River upstream to the northeast, with flows regulated by the Twitchell Dam. The Santa Maria also receives flow from the Sisquoc River to the southeast. It also receives flow from various smaller tributaries in the lower watershed before discharging through the Santa Maria River Estuary and into the Pacific Ocean.

Alamo Creek, Blosser Channel, Bradley Canyon Creek, Bradley Channel, Cuyama River (above Twitchell Reservoir), Little Oso Flaco Creek, Main Street Canal, Nipomo Creek, Orcutt Creek, Oso Flaco Creek, Santa Maria River Estuary, and Santa Maria River are listed on the 2008-2010 Clean Water Act 303(d) list as impaired due to fecal coliform. Additionally, Main Street Canal, Nipomo Creek, Orcutt Creek, Oso Flaco Creek, Santa Maria River Estuary, and Santa Maria River are impaired due to *E. coli*. These waterbodies do not meet the USEPA recommended criteria for *E. coli*. The Santa Maria River Estuary is listed on the 2008-2010 Clean Water Act 303(d) list as impaired due to total coliform. This waterbody does not meet the Basin Plan water quality objectives for total coliform.

La Brea Creek and Oso Flaco Lake are not on the 2008-2010 Clean Water Act 303(d) list of impaired waters for fecal coliform or *E. coli*, but do not meet the Basin Plan water quality objectives for fecal coliform and USEPA water quality criteria for *E. coli* for Oso Flaco Lake only. These waterbodies are impaired due to fecal indicator bacteria; we are proposing TMDLs for these impaired but not 303(d)-listed waters.

The water contact recreation beneficial use is not protected in the Santa Maria River Watershed due to exceedance of FIB related water quality objectives. Additionally, the shellfish harvesting beneficial use is not protected in the Santa Maria River Estuary due to exceedance of water quality objectives for total coliform.

These TMDLs establish the acceptable total load and wasteload allocations to parties responsible for sources of FIB to protect the water contact recreation beneficial use in the Santa Maria River Watershed. Central Coast Water Board staff has identified sources of FIB that are causing or contributing to impairment, has identified parties responsible for these sources, has proposed waste load and load allocations necessary to achieve the TMDLs, and has identified implementation and regulatory mechanisms to achieve the TMDLs. The proposed allocations to non-human sources of FIB are equal to existing water quality objectives for fecal coliform and *E. coli* protective of the water contact recreation beneficial use; allocations for human sources of fecal coliform and *E. coli* are zero.

Additionally, for the Santa Maria Estuary only, the TMDLs establish the acceptable total load and wasteload allocation to parties responsible for sources of total coliform that protect the shellfishing beneficial use. Staff has identified sources of total coliform that are causing or contributing to impairment, has identified parties responsible for these sources, has proposed waste load and load allocations necessary to achieve the TMDLs, and has identified implementation and regulatory mechanisms to achieve the TMDLs. The proposed allocations to non-human sources of total coliform are equal to existing water quality objectives protective of the shellfish harvesting beneficial use.

The technical report that supports the Basin Plan Amendments is the Project Report for the TMDLs. The Project Report (Attachment 2 to this Staff Report) is available at the Central Coast Water Board website at:

[http://www.waterboards.ca.gov/centralcoast/water\\_issues/programs/tmdl/docs/santa\\_maria/fib/index.shtml](http://www.waterboards.ca.gov/centralcoast/water_issues/programs/tmdl/docs/santa_maria/fib/index.shtml)

## DISCUSSION

### Project Development for TMDLs

The data and information staff used to develop the TMDLs were obtained from the Central Coast Ambient Monitoring Program (CCAMP), City of Santa Maria, County of Santa Barbara's Project Clearwater, U.S. Geological Survey flow data, and Water Board TMDL program monitoring activities to assess fecal indicator bacteria conditions in surface waters of the Santa Maria River Watershed. Staff also used discharger data and reports, land use data, field reconnaissance work, USEPA-recommended or recognized empirical load assessment methods, and conversations with staff from other agencies to complete the source analysis.

### Problem Statement and Numeric Targets

The beneficial use of water contact recreation is not protected in the impaired reaches of the Santa Maria River Watershed, including Alamo Creek, Blosser Channel, Bradley Canyon Creek, Bradley Channel, Cuyama River (above Twitchell Reservoir), La Brea Creek, Little Oso Flaco Creek, Main Street Canal, Nipomo Creek, Orcutt Creek, Oso Flaco Creek, Oso Flaco Lake, Santa Maria River Estuary, and Santa Maria River because FIB concentrations exceed existing Basin Plan numeric water quality objectives and/or USEPA criteria protecting this beneficial use.

The numeric targets for the TMDLs are equal to the water quality objectives protecting water contact recreation (REC-1), which are:

*Fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200 MPN per 100 mL, nor shall more than 10 percent of samples collected during any 30-day period exceed 400 MPN per 100 mL (Basin Plan, section III-10)*

*Based on a statistically sufficient number of samples (generally not less than 5 samples equally spaced over a 30-day period), the geometric mean of E. coli densities shall not exceed: 126 per 100mL; and no sample shall exceed a one sided confidence limit (C.L.) calculated using the following as guidance: lightly used for contact recreation (90% C.L.) = 409 per 100mL (USEPA, 1986)*

For the Santa Maria Estuary only, the numeric targets for the TMDL are also equal to the water quality objectives protecting the shellfish harvesting (SHELL) beneficial use, which are:

*At all areas where shellfish may be harvested for human consumption, the median total coliform concentration throughout the water column for any 30-day period shall not exceed 70/100mL, nor shall more than ten percent of the samples collected during any 30-day period exceed 230/100mL for a five-tube decimal dilution test or 330/100 mL when a three-tube decimal dilution test is used (Basin Plan, section III-12)*

If these water quality objectives protecting REC-1 and/or SHELL are amended in the future, the allocations, numeric targets, and loading capacities for this TMDL will be equal to the amended water quality objectives.

### Source Analysis

The controllable sources contributing fecal indicator bacteria, listed in order of decreasing contribution, to the Santa Maria River Watershed listed by subwatershed are:

Alamo Creek: 1) domestic animals/livestock discharges.

Blosser Channel: 1) discharges from Municipal Separate Storm Sewer Systems (MS4s), 2) sanitary sewer collection system leaks.

Bradley Channel: 1) discharges from MS4s, 2) sanitary sewer collection system leaks.

Bradley Canyon Creek: 1) domestic animals/livestock discharges.

Cuyama River (upstream of Twitchell reservoir to Highway 33): 1) domestic animals/livestock discharges.

La Brea Creek: 1) domestic animals/livestock.

Little Oso Flaco Creek: 1) domestic animals/livestock discharges.

Main Street Canal: 1) discharges from MS4s, 2) sanitary sewer collection system leaks.

Nipomo Creek: 1) domestic animals/livestock discharges, 2) discharges from MS4s.

Orcutt Creek: 1) discharges from MS4s, 2) domestic animals/livestock discharges, 3) sanitary sewer collection system leaks.

Oso Flaco Creek: 1) domestic animals/livestock discharges.

Oso Flaco Lake: 1) domestic animals/livestock discharges.

Santa Maria River Estuary: 1) domestic animals/livestock discharges, 2) discharges from MS4s, 3) sanitary sewer collection system leaks.

Santa Maria River: 1) domestic animals/livestock discharges, 2) discharges from MS4s, 3) sanitary sewer collection system leaks.

Natural, uncontrollable sources of fecal coliform in all the listed waterbodies are present at varying degrees by season and location.

#### **TMDLs and Allocations**

The TMDLs for FIB in the Santa Maria River Watershed are equal to the Basin Plan REC-1 water quality objective for fecal coliform and the USEPA recommended criteria for *E. coli* using lightly used contact as the single sample maximum. The TMDLs are equal to the numeric targets; see the Numeric Targets section above for numeric values. The allocation to sources of FIB from untreated human fecal material is zero, which is consistent with waste discharge requirements regulating potential human sources.

For the Santa Maria River Estuary only, the TMDL is equal to the Basin Plan SHELL water quality objective for total coliform, which is also equal to the numeric target. Please see the Numeric Target section for numeric value.

The implementing parties are assigned allocations equal to the TMDLs and numeric targets. Natural uncontrollable sources are also assigned allocations, consistent with USEPA guidance.

The implementing parties addressing controllable sources of FIB are the City of Santa Maria, City of Guadalupe, County of Santa Barbara, County of San Luis Obispo, and owners and operators of land with domestic animals (e.g., farm animals and livestock).

The Implementation Table (Table IX P-1) in the Resolution (attachment 1) shows these allocations to the responsible parties.

### **Implementation and Monitoring**

The Central Coast Water Board will require implementation and monitoring pursuant to regulatory authority through existing waste discharge requirements, NPDES General Permits for stormwater discharges, and demonstration of compliance with the Domestic Animal Waste Discharge prohibition via applicable sections of the Water Code.

The proposed Implementation Plan in the Resolution (attachment 1 of this Staff Report) describes the responsibilities of each responsible party and the steps the Central Coast Water Board will take to require actions by the responsible parties.

Parties responsible for stormwater discharges are required to develop wasteload allocation attainment programs (WAAP). The WAAP will contain steps the MS4 will take to assess its contribution, develop a list of likely sources, prioritize them, develop and implement best management practices targeting those sources, and assess the effectiveness of the practices. The MS4 will submit the WAAP to the Water Board and will report during the implementation phase.

Central Coast Water Board staff will identify parties with livestock discharges causing or contributing to exceedance of water quality objectives. These responsible parties will be required to submit documentation consistent with the State Water Resources Control Board's Non-point Source Policy and demonstrate compliance with the prohibition. Their plans must identify management practices aimed at reducing load, reasonable assurance that the practices will achieve targets, monitoring of effectiveness, and reporting to the Water Board during the implementation phase.

Parties responsible for sanitary collection systems are required to ensure compliance with their existing waste discharge requirements.

If responsible parties demonstrate that controllable sources of FIB have been eliminated and that the remaining natural background non-controllable sources are causing exceedance of water quality objectives in receiving waters, staff may re-evaluate the TMDL, targets, and allocations and propose revisions to the TMDL. For example, staff could propose a site-specific objective for some waters. A site-specific objective would be proposed as a Basin Plan amendment through the appropriate adoption and public review procedures required by the Central Coast Water Board, State Water Resources Control Board, and United States Environmental Protection Agency.

### **Time Schedule for Tracking Progress and Achieving the TMDLs**

Staff intends to assess TMDL progress every three years, beginning three years from the effective date of the TMDL.

The target date to achieve the TMDLs is 15 years after the effective date of the TMDLs, which is the date of approval by the Office of Administrative Law. This projection is based on anticipated

implementation schedules of the responsible parties, which are in turn based on economic and logistic considerations.

Staff has established interim targets of 20%, 50%, and 100% reduction of controllable sources of FIB in five, 10, and 15 years, respectively. Interim targets are not effluent limitations or allocations and are not enforceable.

## **ENVIRONMENTAL SUMMARY**

The California Resources Agency has certified the basin planning process in accordance with section 21080.5 of the Public Resources Code. The process is therefore exempt from Chapter 3 of the California Environmental Quality Act (CEQA). The analysis contained in the Final Project Report (attachment 2), the CEQA Substitute Environmental Document (attachment 3, this staff report), and the responses to comments comply with the requirements of the State Water Board's certified regulatory CEQA process, as set forth in California Code of Regulations, Title 23, section 3775 et seq. Furthermore, the analysis fulfills the Central Coast Water Board's obligations attendant with the adoption of regulations "requiring the installation of pollution control equipment, or a performance standard or treatment requirement," as set forth in section 21159 of the Public Resources Code. All public comments were considered.

Public Resources Code section 21159 provides that an agency shall perform, at the time of the adoption of a rule or regulation requiring the installation of pollution control equipment or a performance standard or treatment requirement:

- 1) an environmental analysis of the reasonably foreseeable methods of compliance,
- 2) an analysis of the reasonably foreseeable environmental impacts of the methods of compliance,
- 3) an analysis of reasonably foreseeable mitigation measures to lessen the adverse environmental impacts, and
- 4) an analysis of reasonably foreseeable alternative means of compliance with the rule or regulation that would have less significant adverse impacts.

Section 21159(c) requires that the environmental analysis take into account a reasonable range of environmental, economic, and technical factors; population and geographic areas; and specific sites.

The CEQA Substitute Document Report (attachment 3) provides the environmental analysis required by Public Resources Code section 21159. The CEQA Report identifies reasonably foreseeable methods of compliance with the TMDL and specifies in the CEQA checklist whether there are any anticipated impacts to the environment associated with the reasonably foreseeable methods of compliance. The CEQA Report found no significant impacts to the environment associated with the reasonably foreseeable methods of compliance. The CEQA Report identifies some areas where there may be an impact that is less than significant and identified the basis for that conclusion. Some actions needed to implement the TMDL could result in actions that might have an impact on the environment. The Central Coast Water Board may not specify the manner of compliance and, therefore, cannot know for certain whether some actions in the future to implement the TMDL could have a significant impact on the environment. The Water Board is not required to speculate beyond evaluating reasonable foreseeable methods of compliance. Public agencies responsible for implementing or approving actions in the future may be required to conduct CEQA review of those actions. The CEQA Report identified some potential mitigation measures that could lessen adverse environmental

impacts. The CEQA Report also analyzed alternative methods of compliance that could be considered by the responsible parties in complying with the TMDL.

The Project Report (attachment 2) evaluated environmental, economic, and technical factors, including the water quality of the project area, the impacted population, the technical issues affecting the reasons for the impairment and that would affect the ability to comply with the TMDL, and the reasonably expected cost of compliance and economic impacts of the impairment.

### **ANTI-DEGRADATION**

These Basin Plan amendments are consistent with the provisions of the State Water Resources Control Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California" and 40 CFR 131.12. The Basin Plan amendments require actions that will result in improved water quality throughout the watershed and maintenance of the level of water quality necessary to protect existing and anticipated beneficial uses.

### **SCIENTIFIC PEER REVIEW**

The peer reviewer provided comments to staff in May 2009. Staff prepared responses and revised the Project Report in response to these comments prior to distributing it for a public comment period associated with an August 2010 public workshop. Peer review comments and staff responses are included in attachment 5. As a result of these comments, staff made several changes to the Project Report, as follows: 1) addition of mass-based daily load expressions in accordance with 2007 USEPA draft guidance, 2) assessment of the potential load contribution of wildlife, and 3) additional assessments of the spatial and flow-based variation in bacteria loads. These changes are discussed in staff responses described in attachment 5.

### **PUBLIC INVOLVEMENT**

Staff conducted stakeholder outreach efforts throughout the project process. Staff worked with city, county, state, and federal agencies during the data collection and data analysis phases. Results of coordinated efforts were publicized in newspapers and distributed via email.

Staff made several presentations and engaged with stakeholders during the development of the TMDL. Staff made contact with and/or persons from the following list attended the meetings:

- Cachuma Community Services District
- Cattle ranchers
- Central Coast Salmon Enhancement
- City of Guadalupe
- City of Santa Maria
- Coalition of Labor Agriculture & Business (COLAB)
- Irrigated agriculture representatives
- Laguna County Sanitation District
- Nipomo Community Services District
- Northern Chumash Tribal Council
- Resource conversation districts
- San Luis Obispo Coast Keeper
- San Luis Obispo Farm Bureau

- Santa Barbara County
- San Luis Obispo County
- State Parks
- UC Cooperative Extension

Staff conducted CEQA stakeholder scoping meetings on December 12, 2006, and October 16, 2008. Staff addressed questions and comments from attendees.

Staff held other stakeholder meetings in February 2010 and August 2010, prior to the formal public comment period preceding the Central Coast Water Board public hearing to consider adoption of the TMDL. Staff held two outreach meetings in September 2011 specifically with cattle ranchers. Staff also met with municipalities in September 2011. Staff responded orally to public comments and questions at the stakeholder meetings.

This Staff Report, Resolution, and other attachments were made available for formal public comment on November 1, 2011.

Comments were received from:

1. Richard E. Adam of Santa Maria in a letter dated December 1, 2011, and received via fax on December 2, 2011.
2. County of Santa Barbara Public Works Department, Project Clean Water as an email attachment received December 13, 2011.
3. Fred Chamberlin of Los Olivos and on behalf of the Santa Barbara County Cattlemen's Association via mail and received on December 13, 2011.
4. County of San Luis Obispo, Department of Public Works, as an email attachment received December 14, 2011.
5. City of Guadalupe as an email attachment received December 14, 2011.
6. University of California, Agriculture and Natural Resources, San Luis Obispo County Cooperative Extension as an email attachment received December 15, 2011.
7. City of Santa Maria as an email attachment received December 15, 2011.
8. Brownstein, Hyatt, Farber, Schreck on behalf of Santa Barbara County Cattlemen's Association as an email attachment received December 15, 2011.
9. Ron Davis, cattle foreman, Rancho Sisquoc/Flood Ranch as an email attachment received December 15, 2011.
10. Mark Adam, La Brea Ranch owner, as an email attachment received December 15, 2011.
11. Janet Parrish, USEPA as an email attachment received December 15, 2011.

Staff made changes to the proposed Basin Plan amendment documents as a result of these comments. Staff included more explicit language about how responsible parties could show compliance with their wasteload and load allocations through monitoring and reporting best management practices along with water quality monitoring. Staff also removed additional reporting requirements for entities with jurisdiction over sewer collection systems. These entities will show compliance with the TMDL through their existing statewide waste discharge requirements for collection agencies.

Staff added interim targets as a way to show progress towards achieving the TMDL. Interim targets are not effluent limitations or allocations and are not enforceable.



Staff also made a minor change to Appendix A and in the Project Report (Tables 5-6) which included adding one sampling event for site 312SMA (5/14/2008) as this was previously omitted and changing the sample result at site 312BCU from 6 MPN/100 mL fecal coliform to 3,000 MPN/100 mL fecal coliform. These corrections did not result in any changes regarding the impaired status of these waterbodies.

Public comments and staff responses are included in attachment 6 to this Staff Report.

## **RECOMMENDATION**

Adopt Total Maximum Daily Loads for Fecal Indicator Bacteria in the Santa Maria River Watershed including Alamo Creek, Blosser Channel, Bradley Canyon Creek, Bradley Channel, Cuyama River (above Twitchell Reservoir), La Brea Creek, Little Oso Flaco Creek, Main Street Canal, Nipomo Creek, Orcutt Creek, Oso Flaco Creek, Oso Flaco Lake, Santa Maria River Estuary, and Santa Maria River.

## **ATTACHMENTS:**

The attachments are available at:

[http://www.waterboards.ca.gov/centralcoast/water\\_issues/programs/tmdl/docs/santa\\_maria/fib/index.shtml](http://www.waterboards.ca.gov/centralcoast/water_issues/programs/tmdl/docs/santa_maria/fib/index.shtml)

1. Resolution No. R3-2011-0002 and Basin Plan Amendment Language
2. Final Project Report: "Total Maximum Daily Loads for Fecal Indicator Bacteria in Santa Maria River Watershed"
3. CEQA Substitute Document
4. Notice of Public Hearing / Notice of Filing
5. Scientific Peer Review Comment
6. Public Comment and Staff Responses

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