

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

**STAFF REPORT FOR REGULAR MEETING OF MARCH 20-21, 2008**

Prepared February 27, 2008

**ITEM NUMBER: 18**

**SUBJECT: Amending the Water Quality Control Plan for the Central Coast Basin to (1) De-Designate the Shellfish Harvesting Beneficial Use from San Lorenzo River Estuary; (2) Modify San Lorenzo River Subbasin and Aptos-Soquel Subbasin Prohibition; and (3) Adopt the Total Maximum Daily Loads for Pathogens in San Lorenzo River Estuary, San Lorenzo River, Branciforte Creek, Camp Evers Creek, Carbonera Creek, and Lompico Creek**

**KEY INFORMATION**

This item recommends adoption of three proposed Basin Plan amendments that stem from development of the Total Maximum Daily Loads (TMDLs) for pathogens in the San Lorenzo River Estuary, San Lorenzo River, Branciforte Creek, Camp Evers Creek, Carbonera Creek, and Lompico Creek (San Lorenzo River Watershed).

Staff reviewed beneficial uses for the watershed and determined that the shellfish harvesting beneficial use is not an appropriate beneficial use for the San Lorenzo River Estuary; staff is recommending removal of this beneficial use.

Staff determined that an existing prohibition for the San Lorenzo River Subbasin and Aptos-Soquel Subbasin should be modified to include specific non-point sources.

Staff developed the TMDLs, load and wasteload allocations and implementation plans to reduce pathogen loading to waterbodies in the San Lorenzo River Watershed.

**SUMMARY**

This item recommends three Basin Plan Amendments, each requiring approval by the Central Coast Water Board. Staff recommends the following actions: (1) remove the shellfish harvesting beneficial use from the San Lorenzo River Estuary, (2) modify San Lorenzo River Subbasin and Aptos-Soquel Subbasin prohibition to include specific non-point sources of fecal indicator bacteria, and (3) adopt San Lorenzo River Watershed pathogen TMDLs. Staff uses the phrase "fecal indicator bacteria" to represent fecal coliform, enterococcus, *E. coli* or any other indicator organisms that are used to indicate the potential presence of fecal material and/or pathogens in a waterbody. Indicator organisms are used because (1) pathogens themselves may be difficult and/or costly to test for and (2) the Basin Plan does not have pathogen-specific water quality objectives. The word "pathogens" is also used in this document because the 303(d) listed waterbodies are listed as impaired by pathogens.

The first proposed amendment is to remove the designation of the shellfish harvesting beneficial use from the San Lorenzo River Estuary. This de-designation is based on the fact that staff found no evidence of the shellfish harvesting use in the San Lorenzo River Estuary. The second proposed amendment is to modify the San Lorenzo River Subbasin and Aptos-Soquel Subbasin prohibition. This modification allows the Central Coast Water Board to implement these TMDLs consistent with the State Water Resources Control Board's Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program, May 20, 2004. The third proposed amendment is to adopt pathogen TMDLs and an Implementation Plan to restore the water-contact recreation beneficial use to the San Lorenzo River Watershed.

This staff report summarizes the shellfish harvesting beneficial use dedesignation, modification of the San Lorenzo River Subbasin and Aptos-Soquel Subbasin prohibition (modified prohibition), and TMDL elements. The attachments support summary statements made in this staff report.

The primary technical report that supports all three Basin Plan Amendments is the Project Report for the TMDLs for pathogens in San Lorenzo River Watershed. The Project Report (listed as Attachment 2 to this staff report) is available at the Central Coast Water Board website at <http://www.waterboards.ca.gov/centralcoast/Board/Meetings/2008meetings.htm>. Then click on "view agenda" for March 21, 2008; then click on Item 18.

The Project Reports for the TMDLs for pathogens in the Soquel Creek Watershed and Aptos Creek Watershed also provide additional technical analysis that supports the modified prohibition. These Project Reports (listed as Attachment 2 to Agenda Items 19 and 20 for this Board Meeting) are also available at the Central Coast Water Board website at <http://www.waterboards.ca.gov/centralcoast/Board/Meetings/2008meetings.htm>. Then click on "view agenda" for March 21, 2008; then click on Item 19 for TMDLs for Pathogens in Soquel Lagoon Watershed and Item 20 for TMDLs for Pathogens in Aptos Creek Watershed. Staff did not include the documents in the staff report to save paper. Paper copies are available upon request.

Central Coast Water Board staff investigated the impairment from pathogens in these waterbodies because they were listed on the Clean Water Act section 303(d) list of impaired waters for pathogens in 1994.

Staff recommends that the Central Coast Water Board use existing waste discharge requirements, the State National Pollutant Discharge Elimination System (NPDES) General Permit for stormwater discharges from municipalities, and the modified prohibition as the implementation mechanisms to achieve the TMDLs.

Staff investigated conditions in the Estuary concerning current or historic harvestable shellfish populations. Staff concluded that harvestable shellfish populations did not exist and that the Estuary was inappropriately designated with this beneficial use.

Central Coast Water Board removal of this inappropriate beneficial use will allow staff, local agencies and landowners to focus resources on the appropriate level (water-contact recreation) of water quality protection in the Estuary as opposed to expending resources on shellfish uses that do not exist.

Central Coast Water Board approval of these TMDLs will result in reduction or elimination of pathogens to San Lorenzo River Watershed waters resulting in improved water quality.

## DISCUSSION

### DE-DESIGNATE THE SHELLFISH HARVESTING BENEFICIAL USE

San Lorenzo River Estuary is currently designated with the beneficial use of shellfish harvesting. Staff concluded that the 1976 designation of a shellfish beneficial use for San Lorenzo River Estuary was in error. The 1975 Basin Plan did not have shellfish harvesting listed as a beneficial use for the San Lorenzo River Estuary. In 1976, the Basin Plan did have shellfish harvesting listed as a beneficial use for the San Lorenzo River Estuary with no supporting documentation or rationale. Many waterbodies in the region were given a shellfish harvesting beneficial use in 1976, without supporting documentation. The reasons for this are unknown. Therefore, the designation of this beneficial use for this waterbody did not appear to be scientifically based.

Staff conducted a Use Attainability Analysis in order to determine if the shellfish harvesting beneficial use is appropriate for the San Lorenzo River Estuary. (See Appendix D of the Project Report at this link:

<http://www.waterboards.ca.gov/centralcoast/Board/Meetings/2008meetings.htm>

Then click on "view agenda" for March 21, 2008; then click on Item 18; then click on Appendix D.

Staff analyzed existing water quality data, conducted reconnaissance work in the area, contacted persons with knowledge of the area, and performed a literature review on the lifecycle and habitat requirements of shellfish. Staff concluded that conditions in the Estuary do not support shellfish harvesting because:

- 1) Water quality data indicated that the shellfish harvesting water quality objective has not been achieved since 1975,
- 2) There were no shellfish located in the San Lorenzo River Estuary upon visiting the site, and
- 3) Local agencies, academia, and consultants had no evidence of shellfish occurring in the Estuary.

Based on the Use Attainability Analysis, three factors preclude attainment of shellfish harvesting in San Lorenzo River Estuary (Clean Water Act 131.10(g)). These conditions include:

- 1) Seasonal closure to tidal circulation of the Estuary at the mouth,
- 2) Extensive hydraulic modifications to the Estuary, and
- 3) An absence of evidence of any current or historic presence of harvestable shellfish (appropriate physical conditions to support shellfish habitat seem to be lacking).

Consistent with staff's proposed removal of the shellfish harvesting beneficial use designation, staff developed the Project Report for these pathogen TMDLs to address the impairment of the water-contact recreational beneficial use, not the shellfish harvesting beneficial use. Therefore, staff does not propose that the TMDLs be set to reduce total coliform levels to shellfish harvesting water quality objectives, but rather to fecal coliform levels protective of the water-contact recreational beneficial use.

**MODIFY SAN LORENZO RIVER SUBBASIN AND APTOS-SOQUEL SUBBASIN PROHIBITION**

The Central Coast Water Board originally adopted a prohibition in 1975 that stated all waste discharges to the San Lorenzo River Subbasin and Aptos-Soquel Subbasin are prohibited. This prohibition was established for the regulation of point source discharges.

Since 1975, the State Water Resources Control Board adopted the Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program, May 20, 2004 (NPS Policy). This policy requires the Central Coast Water Board to regulate all nonpoint sources of pollution using the administrative permitting authorities provided by the Porter-Cologne Water Quality Control Act. The NPS Policy allows the Water Board to regulate nonpoint source discharges through Waste Discharge Requirements (WDRs), waivers of WDRs, or Basin Plan prohibitions.

The original prohibition was written to control point source discharges from degrading water quality. Staff has determined that to serve as an effective prohibition for control of nonpoint source pollution and to be consistent with the NPS Policy, the prohibition must be modified to incorporate specific nonpoint sources of fecal indicator bacteria, e.g. fecal coliform.

The modified prohibition adds language prohibiting discharges that contain: (1) human waste, and (2) waste from domestic animals. Examples of prohibited discharges containing human waste include those from homeless encampments and private laterals to sanitary sewer collection systems. Examples of prohibited discharges containing waste from domestic animals includes horses, cattle, goats, sheep, dogs, cats, or other domestic animals in the care of owners in the watershed.

The proposed prohibition is a conditional prohibition, meaning that the prohibition does not apply to potential responsible parties who:

(1) demonstrate they are not discharging waste containing fecal sources, or (2) submit an acceptable nonpoint source pollution control implementation program (consistent with the NPS Policy), or (3) comply with Waste Discharge Requirements, an NPDES permit, or a conditional waiver of waste discharge requirements that explicitly address compliance with the TMDLs for Pathogens in the San Lorenzo River Subbasin and Aptos-Soquel Subbasin.

**PROJECT DEVELOPMENT FOR TMDLS**

San Lorenzo River Estuary, San Lorenzo River, Carbonera Creek, and Lompico Creek were placed on the Clean Water Act section 303(d) list of impaired waters in 1994. These waters were listed for pathogens. Branciforte and Camp Evers Creek were not included on the list of impaired waters; however, these waters flow into San Lorenzo River Estuary and Carbonera Creek, respectively, and are also impaired.

This item proposes TMDLs and an Implementation Plan for pathogens to restore the water-contact beneficial use to San Lorenzo River Watershed waters. Staff defines the Watershed waters as the San Lorenzo River Estuary, San Lorenzo River, Branciforte Creek, Camp Evers Creek, Carbonera Creek, and Lompico Creek.

Staff used water quality data collected by the City and County of Santa Cruz and water quality data collected by the City of Scotts Valley to assess impairment. Staff also used a report prepared by the County of Santa Cruz, Environmental Health Service Water Resources Program titled Assessment of Sources of Bacterial Contamination at Santa Cruz County Beaches prepared in March 2006 (Proposition 13 Report). This Proposition 13

Report contains *E. coli* ribotyping results. Staff also used discharger data and reports, land use data, field reconnaissance work, and conversations with staff from other agencies to complete the source analysis.

### **PROBLEM STATEMENT AND NUMERIC TARGET**

Current levels of fecal coliform bacteria are not supportive of the water contact recreation beneficial use in the San Lorenzo River Watershed.

The numeric target for the TMDLs is equal to the water quality objectives protecting water contact recreation. The numeric target is:

“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.”

### **SOURCE ANALYSIS**

Pathogen sources include natural sources, sanitary sewer collection system spills and leaks, storm drain discharges that drain to municipally owned and operated storm sewer systems (MS4s), pet waste outside areas that drain to MS4s, onsite wastewater disposal system discharges, homeless person/encampment discharges outside areas that drain to MS4s, private laterals that connect to municipal sewage system collection systems, and domesticated animals/livestock discharges.

### **TMDLS AND ALLOCATIONS**

The TMDLs for pathogens in the San Lorenzo River Estuary, San Lorenzo River, Branciforte Creek, Camp Evers Creek, Carbonera Creek, and Lompico Creek are the Basin Plan water quality objectives for fecal coliform. This TMDL is being expressed in units of concentration, which is more appropriate than units of loading for fecal coliform.

The responsible parties for controllable sources are the City of Santa Cruz, the City of Scotts Valley, the County of Santa Cruz, the County of Santa Cruz Sanitation District, owners and operators of land used for/containing domesticated animals, owner/operators of land that have onsite wastewater disposal systems, owners/operators of private laterals connected to the sanitary sewer, and owners and land that includes homeless persons and encampments. Land owners of land containing homeless persons/encampments may include the California State Department of Transportation, California State Parks, Santa Cruz County Parks, and railroad companies. Each responsible party is assigned the same allocation and the allocation is equal to the Basin Plan water quality objectives for fecal coliform.

Natural sources are also assigned an equal allocation. The parties responsible for the allocations to controllable sources are not responsible for the allocation to natural sources. Table IX J-1 in the Resolution, contained within Attachment 1, shows these allocations to the responsible parties.

### **IMPLEMENTATION PLAN**

The proposed Implementation Plan in the Resolution, contained within Attachment 1, describes the responsibilities of each responsible party and the steps the Central Coast Water Board or the Executive Officer will take to require actions by the responsible parties.

Central Coast Water Board staff developed an implementation strategy (Plan) to implement these TMDLs that reflects our current understanding of pathogen loading in the San Lorenzo River Watershed. The Plan establishes that the Executive Officer will require responsible parties to implement identified actions that will reduce pathogen loading, monitor pathogen source reductions, and report progress and results of monitoring to the Central Coast Water Board.

Implementation is required pursuant to existing regulatory authority through currently held NPDES permits, the State NPDES General Permit for stormwater discharges from municipalities, Waste Discharge Requirements, and through the modified prohibition.

The Implementation Plan explains that if natural sources are found to cause the impairment and/or if responsible parties demonstrate that controllable sources of pathogens are not contributing to the exceedance of water quality objectives in receiving waters, staff will re-evaluate the TMDL targets and allocations and may propose revisions of these targets and allocations. For example, staff may propose a site-specific water quality objective for San Lorenzo River Watershed waters. The site-specific water quality objective could be based on evidence that natural or background sources, such as birds, are the cause of exceedances of the Basin Plan water quality objective for fecal coliform. 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.

#### **MONITORING PLAN**

The Implementation Plan establishes that the Executive Officer will require responsible parties to monitor pathogen source reductions, and report progress and results of monitoring to the Central Coast Water Board. Central Coast Water Board staff developed a recommended set of monitoring locations and will work with responsible parties to establish on-going monitoring. Staff will evaluate the monitoring data to determine compliance with the TMDLs.

Central Coast Water Board staff proposes storm drain sampling to evaluate stormwater management plan implementation effectiveness. The City and County of Santa Cruz and the City of Scotts Valley will work with Central Coast Water Board staff to identify which stormwater outfalls to monitor based on representative flows and the volume of discharge (loading potential), among other factors. The Central Coast Water Board Executive Officer will review and approve the final monitoring plan, request modifications if necessary, or may require specific monitoring.

#### **TIME-SCHEDULE FOR TRACKING PROGRESS AND ACHIEVING THE TMDLS**

Staff will evaluate implementation and numeric target monitoring data every three years to determine if changes to implementation actions or monitoring are warranted.

The target date to achieve the TMDLs is 13 years after the effective date of the TMDLs, which is the date of approval by the California 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.

## **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 Use Attainability Analysis for San Lorenzo River Estuary in Santa Cruz, California (Attachment 3); the CEQA Substitute Environmental Document (Attachment 4); this staff report; and the responses to comments complies 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 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.

## **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 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**

In June 2006, Central Coast Water Board staff received scientific peer review comments for the Use Attainability Analysis (which supports the recommendation to de-designate the shellfish harvesting beneficial use) from Sandra E. Shumway, Ph.D., D.Sc. of the University of Connecticut Marine Sciences Department. The scientific peer reviewer stated, "I agree completely with the author's assessment and it is not clear why the area was ever listed for this use in the first place."

In October 2007, Central Coast Water Board staff received scientific peer review comments for the TMDL Project Report. The Peer reviewer (Stefan Wuertz, Ph.D., University of California at Davis) provided comments. Staff prepared responses and revised the TMDL report in response to these comments in October and November 2007, prior to distributing for Public Comments. Peer Review comments and staff responses are included in Attachment 6. These comments resulted in minor changes, mostly with regard to pathogen indicator organisms and the monitoring plan, as indicated in the staff responses.

## **PUBLIC INVOLVEMENT**

Staff made a presentation on November 15, 2005 to the Technical Advisory Committee assisting with the Proposition 13 grant to assess bacterial contamination at Santa Cruz County beaches. Staff solicited comments at that meeting. Staff held phone meetings with key personnel from the City and County of Santa Cruz and the City of Scotts Valley. Staff considered comments made and incorporated them into the TMDL development.

Staff also received verbal comments at a June 26, 2006 public workshop/CEQA scoping meeting. At this meeting, staff announced that staff would accept (1) verbal comments at the public workshop, and (2) written comments received by Wednesday, July 12, 2006. (The

workshop notice stated staff would not provide a written response for each comment received, but would incorporate written responses to all significant environmental comment in the final reports provided to the Central Coast Water Board.) Staff also told stakeholders that written responses to individual comments submitted during the formal public comment period would be prepared. Staff responded to comments by making changes, where appropriate, to draft documents subsequent to this meeting.

This Staff Report, Resolution, and other attachments were made available for formal public comment associated with this Central Coast Water Board Hearing on March 21, 2008. Comments were received by:

1. Teri Caddell, A-1 Septic Service, Inc. in a letter dated December 6, 2007.
2. G. Scott McGowen, Chief Environmental Engineer, California Department of Transportation, in a letter dated January 18, 2008.
3. John Ricker, Water Resources Division Director, Santa Cruz County Environmental Health Services, in an email dated January 23, 2008.

Staff did not make any changes to the documents per A-1 Septic Services, Inc. and Caltrans' comments. Staff did make some changes to the documents in response to Santa Cruz County's comments. Changes to the document involved clarifying and/or adding language in portions of the Project Report, increasing the monitoring costs, and adding a summary table in the cost estimates section.

The complete record of public comments and staff responses are included in Attachment 7 to this Staff Report.

## **RECOMMENDATION**

Adopt Resolution No. R3-2008-0001 contained in Attachment 1, as proposed, removing the shellfish harvesting beneficial use from San Lorenzo River Estuary, modify San Lorenzo River Subbasin and Aptos-Soquel Subbasin prohibition to include specific non-point sources of fecal indicator bacteria, and adopt San Lorenzo River Watershed pathogen TMDLs.

## **ATTACHMENTS**

The attachments are available at:

<http://www.waterboards.ca.gov/centralcoast/Board/Meetings/2008meetings.htm>

Then click on "view agenda" for March 21, 2008; then click on Item 18.

1. Resolution No. R3-2008-0001,
2. Final Project Report: "Total Maximum Daily Loads for Pathogens in San Lorenzo River Watershed, Santa Cruz County, California, March 21, 2008
3. CEQA Substitute Document
4. Notice of Public Hearing / Notice of Filing
5. CEQA Filing Fee No Effect Determination Form
6. Scientific Peer Review Comment
7. Public Comment and Staff Response