

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

**STAFF REPORT FOR REGULAR MEETING OF MAY 8, 2009**

Final Prepared April 13, 2009

**ITEM NUMBER: 17**

**SUBJECT: Resolution amending the Water Quality Control Plan for the Central Coast Basin to (1) Remove the Shellfish Harvesting Beneficial Use from San Lorenzo River Estuary, (2) add the San Lorenzo River Watershed as subject to the Domestic Animal Waste Discharge Prohibition and the Human Fecal Material Discharge Prohibition, and (3) Adopt Total Maximum Daily Loads for Pathogens in San Lorenzo River Estuary, San Lorenzo River, Branciforte Creek, Camp Evers Creek, Carbonera Creek, and Lompico Creek.**

**SUMMARY**

The San Lorenzo River Estuary (also know as the "San Lorenzo River Lagoon"), San Lorenzo River, Carbonera Creek, and Lompico Creek are located in the San Lorenzo River Watershed and are listed as impaired pursuant to Clean Water Act section 303(d) due to pathogens. Branciforte and Camp Evers Creeks are not on the Clean Water Act section 303(d) list of impaired waters for pathogens, and do not meet Basin Plan water quality objectives for fecal coliform. This agenda item is for the Central Coast Water Board to adopt a Total Maximum Daily Load (TMDL) and program of implementation (Implementation Plan) to address the impairment in the San Lorenzo River Watershed. The Central Coast Water Board's goal for establishing TMDLs in the San Lorenzo River Watershed is to rectify the fecal coliform impairment, thereby maintaining the water for the beneficial uses of contact and non-contact water recreation.

In March 2008, the Central Coast Water Board approved amendments to the Basin Plan to include 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) and to approve new prohibitions to regulate specific non-point sources of pathogens in the San Lorenzo River Watershed (Resolution R3-2008-0001 herein referred to as "2008 Resolution"). The Central Coast Water Board also approved removal of the shellfish harvesting beneficial use from the San Lorenzo River Estuary. Water Board staff forwarded the approved amendments to the State Water Resources Control Board (State Board) for its approval. State Board staff recommended changes to improve the clarity of the proposed amendments before State Board consideration.

Water Board staff has revised the Basin Plan Amendments consistent with the State Board staff recommended changes. The previously adopted resolution number was Resolution R3-2008-0001. The new resolution is Resolution R3-2009-0023 (2009 Resolution). The new and previous public comments and responses are contained in Attachment 6 of this Staff Report (Public Comment and Water Board Staff Response).

In this agenda item, Water Board staff recommends the Central Coast Water Board adopt the revised Basin Plan Amendments, thereby 1) adopting the removal of the shellfish harvesting beneficial use from the San Lorenzo River Estuary, 2) adopting the pathogen TMDLs and an Implementation Plan to restore the water-contact recreation beneficial use to San Lorenzo River Estuary, San Lorenzo River, Branciforte Creek, Camp Evers Creek, Carbonera Creek, and Lompico Creek, and 3) adding the San Lorenzo River Watershed as subject to the Domestic Animal Waste Discharge Prohibition and the Human Fecal Material Discharge Prohibition.

This Staff Report describes the changes to the amendments approved in March 2008. This Staff Report also summarizes the proposed TMDL elements and the Implementation Plan. The attachments support summary statements made in this Staff Report. The Resolution (Attachment 1) contains more significant changes relative to the Resolution the Water Board approved in March 2008; the Final Project Report (Attachment 2) has minor, corresponding changes.

The technical report that supports the Basin Plan Amendment is the Project Report for the TMDLs. 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\\_info/agendas/2009/2009\\_agendas.shtml](http://www.waterboards.ca.gov/centralcoast/board_info/agendas/2009/2009_agendas.shtml)

Click on "view agenda" for May 8, 2009; then click on Item 17, TMDLs for Pathogens in San Lorenzo River Watershed. Staff did not include the document in the Staff Report to save paper. Paper copies are available upon request.

#### **CHANGES TO THE AMENDMENTS TO THE BASIN PLAN (ORDER R3-2009-0023) TO INCLUDE TMDLS AND TO MODIFY EXISTING BASIN PLAN PROHIBITIONS**

Water Board staff is recommending the following changes to the Basin Plan amendments and corresponding supporting documents approved in Order R3-2008-0001:

- Water Board staff recommends adding San Lorenzo River Watershed to the list of watersheds subject to two existing prohibitions: 1) the Human Fecal Material Discharge Prohibition, and 2) the Domestic Animal Waste Discharge Prohibition. In the 2008 Resolution, Water Board staff recommended modification of an existing prohibition to include domestic animals and human waste, and to allow responsible parties to be *exempt* from the prohibition if they met described conditions. In the revised language, the responsible parties can not be *exempt* from the prohibitions, rather responsible parties are required to comply with the prohibition and can demonstrate compliance with the prohibitions over time as set forth in the Implementation Plan.
- Water Board staff recommends the allocations for all sources of fecal indicator bacteria from human waste be zero. Water Board staff revised language so these allocations are equal to zero, indicating that no loading of fecal indicator bacteria from human waste is allowed. In the 2008 Resolution, Water Board staff recommended assigning each human source of fecal indicator bacteria an allocation equal to the water quality objective for water contact recreation (log-mean 200 MPN/100mL).
- Water Board staff recommends language in the TMDL that is consistent with current requirements in Water Board-approved Storm Water Management Plans (SWMPs) for regulated entities to implement TMDL wasteload allocations. Water Board staff clarified the language describing the requirements of entities responsible for storm water discharges.
- Water Board staff recommends more detail in the Implementation Plan to describe how and when responsible parties will demonstrate progress toward meeting their TMDL

allocations. Water Board staff revised language in sections pertaining to regulation of discharges from domestic animals, private laterals, and spills and leaks from sewer collection systems.

- Water Board staff recommends revision in language in Attachments 1 and 2 to update, clarify and add more detail related to source analyses and implementation language for onsite systems and private laterals as described in TMDLs recently adopted on March 20, 2009 and per Attachment 2. Final Project Report: "Total Maximum Daily Loads for Pathogens in San Lorenzo River Watershed, Santa Cruz County, California, for the May 8, 2009 Water Board Hearing.
- Water Board staff recommends removal of the following sources from the problem statement and corresponding regulation: City of Scotts Valley- sanitary sewer collection leaks, private lateral leaks, and onsite wastewater disposal systems. Staff revisited data described in the Project Report (Attachment 2) and determined the changes were justified.

See Attachment 1, Resolution No. R3-2009-0023, of this Staff Report for the precise language recommended, as summarized in the bullets above.

### **SUMMARY OF THE TMDL ELEMENTS AND THE IMPLEMENTATION PLAN**

#### **PROJECT DEVELOPMENT FOR TMDLs AND REMOVAL OF SHELLFISH HARVESTING BENEFICIAL USE**

Water Board staff did not consider any additional information or conduct any additional technical analyses in revising the TMDLs, prohibitions or removal of the shellfish harvesting beneficial use. Consequently, Water Board staff is not recommending any changes to the problem statement or numeric target and the descriptions below are the same as those reported in support of the recommendation to adopt the order in March 2008.

The data and information Water Board staff used to develop the TMDLs were obtained from the County of Santa Cruz, including raw data and 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); this report contains *E. coli* concentration data and results of ribotyping. Water Board staff also utilized discharger data and reports, land use data, field reconnaissance work, and conversations with staff from other agencies to complete the source analysis.

The San Lorenzo River Estuary was designated with the shellfish harvesting beneficial use in the 1975 Basin Plan; staff found no documentation supporting this designation.

Staff developed 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 Attachment 2).

As part of the Use Attainability Analysis, 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 San Lorenzo River 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, scientists, and consultants had no evidence of shellfish occurring in the Estuary.

Based on staff's Use Attainability Analysis, three factors preclude attainment of shellfish harvesting in San Lorenzo River Estuary (see 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 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 proposes TMDLs for fecal coliform concentration protective of water contact recreation, and not more strict TMDLs for total coliform concentration protective of shellfish harvesting.

#### 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.

Natural uncontrollable sources of fecal coliform in the listed waterbodies are present and likely contributing to impairment at varying degrees by season and location.

#### TMDLs AND ALLOCATIONS

The TMDLs for pathogens in San Lorenzo River Estuary, San Lorenzo River, Branciforte Creek, Camp Evers Creek, Carbonera Creek, and Lompico Creek are equal to the Basin Plan water quality objective for fecal coliform. In the 2008 Resolution, Water Board staff recommended assigning each human source of fecal indicator bacteria an allocation equal to the water quality objective for water contact recreation (log-mean 200 MPN/100mL). In this revised 2009 Resolution, Water Board staff recommends the allocation to sources of fecal indicator bacteria from human waste be zero. Water Board staff recommends this change

because they agree with State Board staff that there is a higher probability that fecal material from humans has a higher proportion of pathogens, relative to fecal material from other organisms. Additionally, the regulatory mechanisms used to regulate sources of human fecal material do not allow any loading to surface waters, which, in effect, equates to a zero allocation to these sources. The allocations to all other sources of fecal indicator bacteria are the same as in the 2008 Resolution and are equal to the Basin Plan water quality objective for fecal coliform.

The responsible parties for controllable sources are 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 or containing domesticated animals, owner and operators of land that have onsite wastewater disposal systems, and owners and operators of land that includes homeless persons and encampments. Owners of land containing homeless persons or encampments may include the California State Department of Transportation, California State Parks, Santa Cruz County Parks, and railroad companies. Natural sources are assigned an allocation equal to the Basin Plan water quality objective for fecal coliform. The parties responsible for the allocations to controllable sources are not responsible for the allocation to natural sources. The Implementation Table in the Resolution (Attachment 1) shows these allocations to the responsible parties.

#### IMPLEMENTATION PLAN

The proposed Implementation Plan in the Resolution (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.

Water Board staff originally developed and proposed (in March 2008) an implementation strategy to implement these TMDLs that reflected staff's understanding of pathogen loading in the San Lorenzo River Watershed and the best ways to reduce the loading and achieve allocations at that time. However, State Board staff pointed out that although the intent of Plan was clear, its language and approach lacked clarity. Staff concurred, and developed a revised Implementation Plan.

Water Board staff recommends the following changes:

- Add the San Lorenzo River Watershed to the list of watersheds subject to two existing prohibitions: 1) the Human Fecal Material Discharge Prohibition and 2) the Domestic Animal Waste Discharge Prohibition. (Note that these two prohibitions were approved by the Central Coast Water Board in March 2009, as part of Order R3-2009-0008, the Pajaro River Watershed Pathogen TMDL.) In the 2008 Resolution, Water Board staff recommended modifying an existing prohibition to include domestic animals and human waste and to allow responsible parties to be *exempt* from the prohibition if they met described conditions. In the revised language, the responsible parties can not be *exempt* from the prohibitions, and the proposed Implementation Plan sets forth how responsible parties can demonstrate compliance with the prohibitions.
- Revise regulatory language (Attachment 1, Resolution) to make it consistent with current requirements in Water Board-approved Storm Water Management Plans (SWMPs) for regulated entities to implement TMDL wasteload allocations. Water Board staff clarified the language describing the requirements of entities responsible for storm water discharges. The revised language is consistent with language approved by the Central Coast Water Board in March 2009 as described in the Pajaro River Watershed Pathogen TMDL.

- Update the source analyses and provide more detail in the Implementation Plan to describe how and when responsible parties will demonstrate progress toward meeting their TMDL allocation. Water Board staff revised language in sections pertaining to regulation of discharges from domestic animals, private laterals, and spills and leaks from sewer collection systems.

The Implementation 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 waste discharge requirements, the NPDES General Permit for stormwater discharges from municipalities, and compliance with prohibitions.

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, Water Board staff may re-evaluate the TMDL, targets and allocations and propose revisions to the Central Coast Water Board. For example, Water Board staff may propose a site-specific objective for San Lorenzo River Watershed 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.

#### 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. Water Board staff developed a recommended set of locations and will work with responsible parties to establish on-going monitoring at these locations. Responsible parties will conduct the monitoring and submit results to the Central Coast Water Board. Water Board staff will evaluate the monitoring data on an on-going basis, as well as during three-year assessments to determine progress towards achieving the allocations and TMDLs.

Water Board staff proposes storm drain sampling to evaluate reductions in pathogen loading from storm drains and effectiveness of stormwater management plans. The City and County of Santa Cruz and the City of Scotts Valley will work with 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

At least every three years, Water Board staff will evaluate implementation and monitoring data and self-assessments of progress submitted by responsible parties, 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 CEQA Substitute Environmental Document (Attachment 3), the responses to comments (Attachment 6), and this Staff Report 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.

### **ANTI-DEGRADATION**

Adoption of these TMDLs and prohibitions as basin plan amendments will not result in any degradation of water quality; in fact, they are designed to improve water quality. As such, these TMDLs and prohibitions comply with all requirements of both State and Federal anti-degradation requirements (State Board Resolution 68-16 "Statement of Policy with Respect to Maintaining High Quality of Waters in California, and 40CFR 131.12).

### **SCIENTIFIC PEER REVIEW**

The peer reviewer provided comments to Water Board staff in October 2007. Note that the reviewer reviewed the Project Report prior to Water Board staff changes described in the IMPLEMENTATION section above. However, also note that the described changes are regulatory in nature, and not scientific; the scientific review is focused on the scientific validity of the project, and not the regulatory mechanisms.

Water Board staff prepared responses and revised the TMDL report in response to these comments in October and November 2007, prior to distribution for public comments. Peer review comments and Water Board staff responses are included in Attachment 5. These comments resulted in minor changes, mostly with regard to pathogen indicator organisms and the monitoring plan, as indicated in the Water Board staff responses.

### **PUBLIC INVOLVEMENT**

Water Board 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.

Water Board staff also received oral comments at a June 26, 2006 public workshop/CEQA scoping meeting. At this meeting, Water Board staff announced that they would accept (1) oral 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). Water Board staff

also told stakeholders that written responses to individual comments submitted during the formal public comment period would be prepared. Water Board staff responded to comments by making changes, where appropriate, to draft documents subsequent to this meeting.

Comments were received for the March 20-21, 2008 hearing by:

1. Teri Caddell, A-1 Septic Service, Inc. in a letter dated December 6, 2007,
2. John Ricker, Water Resources Division Director, Santa Cruz County Environmental Health Services, in an email dated January 23, 2008.

Comments were received for the May 8, 2009 hearing by:

1. Steve Wolfman, City of Santa Cruz in an email dated March 17, 2009
2. John Ricker, County of Santa Cruz in two emails dated March 15, 2009

Public comments and Water Board staff responses are included in Attachment 6 to this Staff Report.

### **RECOMMENDATION**

Adopt Resolution No. R3-2009-0023 contained in Attachment 1, as proposed, to amend the Basin Plan to remove the shellfish harvesting beneficial use from the San Lorenzo River Estuary, adopt the TMDL for Pathogens in the San Lorenzo River Estuary, San Lorenzo River, Branciforte Creek, Camp Evers Creek, Carbonera Creek, and Lompico Creek, and add the San Lorenzo River Watershed as subject to the Domestic Animal Waste Discharge Prohibition and the Human Fecal Material Discharge Prohibition.

### **ATTACHMENTS:**

The attachments are available at:

[http://www.waterboards.ca.gov/centralcoast/board\\_info/agendas/2009/2009\\_agendas.shtml](http://www.waterboards.ca.gov/centralcoast/board_info/agendas/2009/2009_agendas.shtml)

Click on "view agenda" for May 8, 2009; then click on Item 17, TMDLs for Pathogens in San Lorenzo River Watershed.

1. Resolution No. R3-2009-0023,
2. Final Project Report: "Total Maximum Daily Loads for Pathogens in San Lorenzo River Watershed, Santa Cruz County, California, for the May 8, 2009 Water Board Hearing
3. CEQA Substitute Document
4. Notice of Public Hearing / Notice of Filing
5. Scientific Peer Review Comment
6. Public Comment and Water Board Staff Response

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