

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

**STAFF REPORT FOR REGULAR MEETING OF MARCH 24, 2006**

Prepared on February 22, 2006

**ITEM NUMBER: 13**

**SUBJECT: Adoption of a Basin Plan Amendment including the Watsonville Slough Total Maximum Daily Load (TMDL) for Pathogens, the Watsonville Slough Watershed Livestock Waste Discharge Prohibition, and the removal of the shellfish harvesting beneficial use from Watsonville Slough and tributaries**

**SUMMARY**

This item recommends that the Central Coast Water Board (Water Board) adopt a Basin Plan Amendment, including a Total Maximum Daily Load (TMDL) and Implementation Plan to restore the REC-1 Beneficial Use to Watsonville Slough and its tributaries, Struve, Hanson, Harkins, and Gallighan Sloughs. The amendment also includes the Watsonville Slough Watershed Livestock Waste Discharge Prohibition. This Prohibition would provide the Water Board another means to implement the TMDL in addition to proposed amendments to existing waste discharge requirements for stormwater and sewage collection systems. The third action in this amendment is the removal of the shellfish harvesting (SHELL) beneficial use from Watsonville Slough and its tributaries.

Watsonville Slough is listed as impaired for pathogens on the current 303(d) list based on data indicating that fecal coliform bacteria levels exceed Basin Plan objectives for the protection of water contact recreation (REC-1).

This staff report summarizes TMDL elements, the prohibition, the SHELL beneficial use removal, and provides background information. The attachments support summary statements made in this staff report.

The TMDL 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/httpwww.waterboards.ca.govcentralcoastBoardMeetings2006meetings\\_000.htm](http://www.waterboards.ca.gov/centralcoast/Board/Meetings/httpwww.waterboards.ca.govcentralcoastBoardMeetings2006meetings_000.htm). (Then click on "view agenda" for March 24, 2005; then click on Item 13, Watsonville Slough Pathogen TMDL). Staff did not include the document in the staff report to save paper. Paper copies are available upon request.

Staff investigated bacteria contamination and conditions in the Sloughs concerning current or historical harvestable shellfish populations. Staff hypothesized that such conditions did not exist and that the Sloughs were inappropriately designated with the SHELL beneficial use. 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. This allowed staff to compare actual field conditions to the factors that provide a legal basis for de-designating a beneficial use. The result is our proposal to remove the SHELL beneficial use from Watsonville Slough and its tributaries.

Water Board approval of these items would be a major step toward addressing priority pollutant problems in the Watsonville Slough area.

## DISCUSSION

### Project Development

To initiate TMDL development, staff contracted with the Cal State University, Monterey Bay, Central Coast Watershed Studies group to conduct an assessment of pathogen conditions and sources in Watsonville Slough and tributary waterbodies. The group concluded their assessment in Fall 2004. Water quality assessment focused on *E. coli*, fecal, and total coliform concentrations in the waters of Watsonville Slough and its tributary sloughs, Gallighan, Harkins, Struve, and Hanson. Fecal coliform bacteria are used as indicator organisms for the presence of other pathogenic organisms.

### Problem Statement and Numeric Target

Current levels of fecal coliform in Watsonville Slough and tributary sloughs are not supportive of the REC-1 and REC-2 beneficial uses.

The numeric target used to develop the allocations and TMDL is equivalent to the existing Basin Plan water quality objective for fecal coliform, which supports the REC-1 beneficial use. That objective states that the log mean concentration of fecal coliform shall not exceed 200/100 mL, based on a minimum of five samples for any 30-day period. Also, no more than ten percent of the samples collected during any 30-day period shall exceed a fecal coliform concentration of 400/100mL. This objective also protects the non-water contact recreation (REC-2) beneficial use because it is more stringent than the objective protecting REC-2.

Watsonville Slough and the four tributary sloughs are currently designated for the beneficial use of shellfish harvesting (SHELL). However, staff demonstrated that conditions in the Sloughs do not support SHELL and prepared a Use Attainability Analysis (UAA) to propose de-designating the Sloughs for that beneficial use (See the UAA in Appendix C of Attachment 2 at the website [http://www.waterboards.ca.gov/centralcoast/Board/Meetings/httpwww.waterboards.ca.gov/centralcoastBoardMeetings2006meetings\\_000.htm](http://www.waterboards.ca.gov/centralcoast/Board/Meetings/httpwww.waterboards.ca.gov/centralcoastBoardMeetings2006meetings_000.htm). (Then click on "view agenda" for March

24, 2005; then click on Item 13, Watsonville Slough Pathogen TMDL)). These conditions include extensive hydraulic modifications to the sloughs, seasonal closure to tidal circulation of the lagoon at the mouth of the Pajaro River, and an absence of evidence of any current or historic presence of harvestable shellfish.

Consistent with our proposed removal of the SHELL designation, staff developed the pathogen TMDL to address the impairment of the REC-1 beneficial use, not the SHELL beneficial use. REC-1 and SHELL water quality objectives differ, with the SHELL objectives being more restrictive. The bacteria objective supporting the SHELL beneficial use requires that median total coliform concentrations throughout the water column for any 30-day period not exceed 70/100 mL. Also, no more than ten percent of the samples collected during any 30-day period shall exceed a total coliform concentration of 230/100 mL for a five-tube decimal dilution test, or 330/100 mL when a three-tube decimal dilution test is used. The TMDL implementation plan, therefore, does not propose to reduce total coliform levels to the level of this SHELL water quality objective, but rather to the fecal coliform levels of the REC-1 objective.

### Source Analysis

Our source analysis included identifying specific sources of high bacteria loads. Staff examined the relationship between hydrologic conditions and bacteria levels, the connections between land use and bacteria counts, and the genetic source of bacteria from known hot spots. Our analysis identified the pathogen sources as humans, pets, livestock, and land-applied manure. These sources are associated with dominant land uses in the watershed, such as residential housing, irrigated agriculture, and grazing.

### TMDL and Allocations

The TMDL is equal to the numeric target, which is the receiving water concentration of fecal coliform.

The allocations are also expressed as receiving water concentrations of fecal coliform equal to

the numeric target. The "Proposed Basin Plan Amendments," an attachment to Attachment 1 of this Staff Report, explains the allocations with respect to location and responsible party.

The responsible parties are the City of Watsonville (City), the County of Santa Cruz (County), operators or owners of livestock facilities and animals, and operators or owners of irrigated lands who apply manure directly to their land as soil amendment.

#### **Implementation Plan**

Water Board staff devised an implementation strategy (Plan) for this TMDL that reflects our current but incomplete understanding of pathogen loading in Watsonville Slough. The Plan requires responsible parties to implement actions that will reduce pathogen loading, and monitoring to continue assessing pathogen sources. The Plan is adaptive, allowing staff and responsible parties to modify monitoring plans and implementation actions after an initial three-year period and review of new information.

The Implementation Plan identifies management measures to address each source category and identifies parties responsible for implementing actions to reduce fecal coliform loading. Implementation is required pursuant to existing regulatory authority through currently held National Pollutant Discharge Elimination System (NPDES) permits, Waste Discharge Requirements, and through the proposed Watsonville Slough Livestock Waste Discharge Prohibition.

The proposed Watsonville Slough Livestock Waste Discharge Prohibition is consistent with mechanisms authorized and described in the State's Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program. To implement this Prohibition, the Executive Officer will notify responsible parties of the prohibition and conditions for compliance with the prohibition. To comply with the prohibition, responsible parties must submit either: 1) an approvable Nonpoint Source Pollution Implementation Control Program (Program); or, 2) documentation that their activities do not

cause livestock animal waste to pass into waters of the Watsonville Slough Watershed (documentation).

As specified in the *Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program, May 2004*, the Program submitted by the responsible parties should include the following Key Elements: 1) a statement of the program purpose, 2) a description of the management practices and other program elements dischargers expect to implement, along with an evaluation program that ensures proper implementation and verification, 3) a time schedule and quantifiable milestones, and 4) sufficient monitoring so that the Water Board, dischargers, and the public can determine if the implementation program is achieving its stated purpose(s), or whether additional or different management practices or other actions are required. Dischargers may join with other dischargers to create a cooperative program or may submit an individual program.

The Executive Officer will review and approve or request modification of the Program or documentation within six months. Should the Program or documentation require modification or if a party fails to submit a Program or documentation, the Executive Officer may impose civil liability pursuant to section 13268 or 13350 of the CWC, or alternatively, issue individual or general waste discharge requirements or conditional waivers to assure compliance with the prohibition.

The "Proposed Basin Plan Amendment," contained within Attachment 1, describes the responsibilities of each responsible party with respect to TMDL implementation.

Staff will evaluate implementation and numeric target monitoring data every three years to determine if changes to implementation actions or monitoring are warranted. If responsible parties demonstrate that controllable sources of pathogens are not contributing to exceedance of water quality objectives in receiving waters, staff may consider re-evaluating the targets and allocations. For example, staff may propose a site-specific objective for Watsonville Slough.

The site-specific objective would 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 public review and Board adoption procedures.

#### **Monitoring Plan**

Staff identified receiving water locations for fecal coliform monitoring. Responsible parties will conduct the monitoring and staff will evaluate the monitoring data to determine compliance with the TMDL. In addition to the receiving water locations, the City and the County will identify the locations of stormwater outfalls where they will collect samples and analyze for fecal coliform.

The County and the City will identify which stormwater outfalls to monitor based on representative flows and the volume of discharge (loading potential), among other factors. Water Board staff will review and approve the final monitoring plan, request modifications if necessary, or recommend that the Executive Officer require specific monitoring.

All dischargers have the option of presenting discharge monitoring data or other evidence to the Water Board in lieu of conducting receiving water monitoring. The Executive Officer will determine if this other data/evidence demonstrates compliance with the TMDL (i.e., if quality assurance/quality control was adequate and the data/evidence are otherwise reliable). Where dischargers conduct monitoring, they must collect any monitoring data according to a monitoring plan approved by the Executive Officer and commencing within the first year following approval of the TMDL by the Office of Administrative Law.

Operators and owners of livestock and livestock facilities must choose receiving water monitoring or the second option of providing the Water Board with acceptable discharge data or other evidence. Either would serve as "key element number four" in their Nonpoint Source Pollution Control Implementation Programs.

#### **Time-Schedule for Achieving the TMDL**

The target date to achieve the TMDL is ten years after 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.

#### **Cost of Implementation**

Water Board staff considered the costs associated with the following implementation measures needed to achieve the TMDL:

- Stormwater Management
- Management Practices for Livestock Facilities and Grazing
- Nonpoint Source Pollution Control Implementation Program Development
- Monitoring

Identified responsible parties will incur these costs, which staff determined to be reasonable relative to the water quality benefits to be derived from achieving the TMDL. Please see an itemization and examples of anticipated cost in Section 9 of the TMDL Project Report (Attachment 2) located on our Website at: [http://www.waterboards.ca.gov/centralcoast/Board/Meetings/httpwww.waterboards.ca.gov/centralcoastBoardMeetings2006meetings\\_000.htm](http://www.waterboards.ca.gov/centralcoast/Board/Meetings/httpwww.waterboards.ca.gov/centralcoastBoardMeetings2006meetings_000.htm). (Then click on "view agenda" for March 24, 2005; then click on Item 13, Watsonville Slough Pathogen TMDL).

#### **ENVIRONMENTAL SUMMARY**

The California Resources Agency has certified the basin planning process as being 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 1), including Appendix C: Use Attainability Analysis for SHELL Beneficial Use; the CEQA Checklist (Attachment 3); 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 Water Board finds that 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

This order is 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 TMDL will result in improved water quality throughout the watershed and maintains the level of water quality necessary to protect existing and anticipated beneficial uses.

### STATE SCIENTIFIC PEER REVIEW

Peer Review comments were provided to staff in October 2005. Staff prepared responses and revised the TMDL report in response to these comments in November 2005, prior to distributing for Public Comments. Peer Review comments and staff responses are included in Attachment 6. These comments resulted in minor changes, mostly clarification of existing information or recommendations, as indicated in the staff responses.

### PUBLIC COMMENTS

Staff held three workshops to share information with and solicit input from stakeholders. We conducted the first workshop on December 3, 2002, the second on July 9, 2003, and the third on December 16, 2004. At each workshop we presented the status of our research, and in the final meeting we introduced possible implementation strategies. Stakeholders provided input during all workshops.

This Staff Report, Attachments and the Resolution were made available for formal public comment associated with this Board Hearing on March 24, 2006. Comments were received by February 1, 2006. Public Comments and Staff responses are included in Attachment 7 to this Staff Report. These comments resulted in minor changes to the

recommendations as indicated in the staff responses.

### RECOMMENDATION

Adopt Resolution No. R3-2006-0025 contained in Attachment 1, as proposed.

### ATTACHMENTS:

1. Resolution No. R3-2006-0025, including attachment "Proposed Basin Plan Amendments."
2. Final Project Report: Total Maximum Daily Load for Pathogens in Watsonville Slough, February 23, 2006 is at:  
[http://www.waterboards.ca.gov/centralcoast/Board/Meetings/httpwww.waterboards.ca.gov/centralcoast/BoardMeetings2006meetings\\_000.htm](http://www.waterboards.ca.gov/centralcoast/Board/Meetings/httpwww.waterboards.ca.gov/centralcoast/BoardMeetings2006meetings_000.htm). (Then click on "view agenda" for March 24, 2005; then click on Item 13, Watsonville Slough Pathogen TMDL).
3. California Environmental Quality Act "Functional Equivalent" Report for Basin Plan Amendment (Resolution No. R3-2006-0025)
4. Notice of Public Hearing / Notice of Filing
5. Draft Certificate of Fee Exemption/De Minimus Impact Finding
6. Scientific Peer Review Comments and Staff Response
7. Public Comment and Staff Response

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