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## STATE WATER RESOURCES CONTROL BOARD BOARD MEETING SESSION – DIVISION OF WATER QUALITY [DATE - TBD], 2010

### ITEM

#### SUBJECT

CONSIDERATION OF A RESOLUTION APPROVING AN AMENDMENT TO THE WATER QUALITY CONTROL PLAN FOR THE SAN FRANCISCO BAY REGION (BASIN PLAN) TO ESTABLISH A TOTAL MAXIMUM DAILY LOAD (TMDL) FOR SEDIMENT IN SONOMA CREEK, AND AN IMPLEMENTATION PLAN TO ACHIEVE THE TMDL AND RELATED HABITAT ENHANCEMENT PLAN

#### DISCUSSION

The San Francisco Bay Regional Water Quality Control Board (San Francisco Bay Water Board) adopted [Resolution No. R2-2008-0103](#) on December 10, 2008 establishing a TMDL for sediment in Sonoma Creek, and an implementation plan to achieve the TMDL and related habitat enhancement plan. Due to significant erosion and sedimentation in the Sonoma Creek Watershed, the narrative water quality objectives for sediment and settleable material are not being met, and the following beneficial uses are impaired: cold freshwater habitat, wildlife habitat, fish spawning, recreation, and preservation of rare and endangered species. In addition, channel incision has caused habitat simplification, which has reduced the quantity and quality of spawning and rearing habitat for salmonids and other native aquatic species. Channel incision is a controllable water quality factor that is contributing to a violation of the narrative water quality objective for population and community ecology.

The goals of the Sonoma Creek Watershed Sediment TMDL and Habitat Enhancement Plan (Plan) are to:

- Conserve the steelhead trout population,
- Restore water quality to meet water quality standards, including attaining beneficial uses,
- Enhance the overall health of the native fish community,
- Protect and enhance habitat for native aquatic species, and
- Enhance the aesthetic and recreational values of the creek and its tributaries

To achieve these goals, specific actions are needed to:

1. Reduce sediment loads, and fine sediment in particular, to Sonoma Creek and its Tributaries,
2. Attain and maintain suitable gravel quality in freshwater reaches of Sonoma Creek and its tributaries,
3. Reduce and prevent channel incision,
4. Reduce erosion and sedimentation,
5. Repair large sources of sediment supply (e.g., landslides), and
6. Enhance channel complexity (e.g., by adding and encouraging retention of large woody debris and restoring riparian vegetation)

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Field assessments and sediment load modeling provide credible estimates of average rates of sediment delivery to Sonoma Creek. The average annual sediment load to the freshwater reach of Sonoma Creek is estimated to be 117,000 tons per year, or 360 tons per km<sup>2</sup> per year. The natural background sediment delivery rate to Sonoma Creek is 52,000 tons per year, or 160 tons per km<sup>2</sup> per year. Therefore, the current sediment delivery rate is estimated to be 225 percent of the natural background rate.

The Sonoma Creek sediment TMDL is established at 65,400 tons per year, which is approximately 125 percent of natural background load. Natural background load depends upon natural processes, and varies significantly. Therefore, the TMDL and allocations are expressed both in terms of sediment mass and percent of natural background. The percentage based TMDL, applies throughout the watershed. In order to achieve the TMDL, controllable sediment delivery resulting from human actions needs to be reduced by approximately 81 percent from current proportion of the total load. TMDL attainment will be evaluated at the limit of tidal influence in the Sonoma Creek watershed, which approximates the downstream boundary of freshwater habitat for steelhead. Sonoma Creek has several tributaries that join the main stem below the tidal limit; therefore, several points will be used to evaluate TMDL attainment. These points are: main stem Sonoma Creek just downstream of the Fowler/Carriger Creek confluence, and the freshwater portions (above tidal influence) of Schell, Ramos, Carneros, and Merazo Creeks. Attainment of the TMDL will be evaluated over a five to ten year averaging period. The TMDL equal to 125 percent of natural background load, can be achieved if human-related sources are reduced to the level of the allocations. To demonstrate attainment of applicable allocations, responsible parties must demonstrate that they are in compliance with required implementation measures and any applicable waste discharge requirements (WDRs), WDR waiver conditions, or National Pollutant Discharge Elimination System permits. The allocations are to be attained within 20 years from the effective date of the TMDL.

Implementation measures for grazing lands and vineyards constitute an agricultural water quality control program and therefore, consistent with California Water Code requirements (Section 13141), requiring a cost estimate. The cost estimate includes the cost of implementing all sediment control and stream channel restoration measures specified in the implementation plan, and is based on costs associated with technical assistance and evaluation, project design, and implementation of actions needed to achieve the TMDL. In estimating costs, the San Francisco Bay Water Board assumed that owners of agricultural businesses (e.g., grape growers and ranchers own 75 percent of total land area on hillside parcels, and 95 percent of the land along the length of Sonoma Creek and its tributaries. Based on these assumptions, an estimate of total cost for program implementation for agricultural sources could be \$1.3 - to - 2.3 million per year throughout the 20-year implementation period. However, considering potential benefits to the public in terms of ecosystem functions, aesthetics, recreation, and water quality, San Francisco Bay Water Board staff concluded that at least 75 percent of the cost of these actions can be financed with public funds. The total cost to agricultural businesses associated with efforts to reduce sediment supply and enhance habitat in Sonoma Creek is therefore \$300,000 - to - \$600,000 per year.

In collaboration with stakeholders in the watershed, San Francisco Bay Water Board staff will develop a detailed monitoring program to assess progress of TMDL attainment and to provide a basis for reviewing and revising TMDL elements or implementation actions. As an initial milestone, by fall 2011, the Water Board and watershed partners will complete monitoring plans to evaluate: a) attainment of water quality targets; and b) suspended sediment and turbidity conditions. Initial data collection, based on the protocols established in these monitoring plans

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is anticipated to begin in the winter of 2011–2012. These monitoring plans will assess channel response and progress toward achieving water quality targets, further evaluate potential impacts of suspended sediment and related turbidity, assess whether required sediment reduction measures are undertaken, evaluate the effectiveness of selected sediment reduction measures, and evaluate the effectiveness of recommended habitat enhancement measures and the progress towards the goals of the Habitat Enhancement Plan. Results of progress or anticipated studies that enhance understanding of the population status of steelhead trout in the Sonoma Creek watershed, and/or factors controlling those populations, may also trigger changes to the plan and TMDL.

The scientific basis of the Sonoma Creek Watershed Sediment TMDL, as presented in the Staff Report, was evaluated by two peer reviewers, who concluded that the scientific basis of the proposed Basin Plan amendment is based on sound scientific knowledge, methods, and practices.

## **POLICY ISSUE**

Should the State Water Board approve the amendment to the Basin Plan to establish a TMDL for sediment in Sonoma Creek No. R2-2008-0103?

## **FISCAL IMPACT**

San Francisco Bay Water Board and State Water Board staff work associated with or resulting from this action will be addressed with existing and future budgeted resources.

## **REGIONAL WATER BOARD IMPACT**

Yes, approval of this resolution will amend the San Francisco Bay Water Board's Basin Plan.

## **STAFF RECOMMENDATION**

That the State Water Board:

1. Approves the amendment to the Basin Plan as adopted under San Francisco Bay Water Board Resolution No. R2-2008-0103.
2. Authorizes the Executive Director or designee to submit the amendment adopted under San Francisco Bay Water Board Resolution No. R2-2008-0103 to OAL for approval of the regulatory provisions and to U.S. EPA for approval of the TMDL.

State Water Board action on this item will assist the Water Boards in reaching Goal 1 of the Strategic Plan Update: 2008-2012 to implement strategies to fully support the beneficial uses for all 2006-listed water bodies by 2030. In particular, approval of this item will assist in fulfilling Action 1 to prepare, adopt, and take steps to carry out Total Maximum Daily Loads, designed to meet water quality standards, for all impaired water bodies on the 2006 list.

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## STATE WATER RESOURCES CONTROL BOARD RESOLUTION NO. 2010-

APPROVING AN AMENDMENT TO THE WATER QUALITY CONTROL PLAN FOR THE SAN FRANCISCO BAY REGION TO ESTABLISH TOTAL MAXIMUM DAILY LOAD (TMDL) FOR SEDIMENT IN SONOMA CREEK AND AN IMPLEMENTATION PLAN TO ACHIEVE THE TMDL AND RELATED HABITAT ENHANCEMENT GOALS

### WHEREAS:

1. An updated Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) was adopted by the San Francisco Bay Regional Water Quality Control Board (San Francisco Bay Water Board) on January 21, 2004, approved by the State Water Resources Control Board (State Water Board) on July 22, 2004, and approved by the Office of Administrative Law (OAL) on October 4, 2005.
2. On December 10, 2008, the San Francisco Bay Water Board adopted an amendment to the Basin Plan, [Resolution No. R2-2008-0103](#), to establish a TMDL for sediment in Sonoma Creek, and an implementation plan to achieve the TMDL and related habitat enhancement goals.
3. The San Francisco Bay Water Board found that the analysis contained in the Final Project Report, along with the California Environmental Quality Act (CEQA) substitute environmental documentation for the proposed Basin Plan amendment, including the CEQA Checklist, the staff report, and the responses to comments prepared by San Francisco Bay Water Board staff, and Resolution R2-2008-0103 adopted by the San Francisco Bay Water Board complies with the requirements of the State Water Board's certified regulatory CEQA process, as set forth in the California Code of Regulations, Title 23, section 3775 et seq.
4. The scientific basis for the TMDL, was subjected to an independent, external peer review, pursuant to the requirements of Health and Safety Code section 57004. Water Board staff revised the proposed Basin Plan amendment in response to the comments provided by the reviewers, or provided a written response that explained the basis for not incorporating other proposed changes. The peer reviewers' responses confirmed that the rulemaking portions of the TMDL and implementation plan are based on sound scientific knowledge, methods, and practices.
5. The State Water Board finds that, in amending the Basin Plan, the San Francisco Bay Water Board complied with the requirements set forth in sections 13141, 13240, 13242, 13245, and 13246 of the Water Code. The State Water Board also finds that the regulatory action meets the "Necessity" standard of the Administrative Procedures Act, Government Code section 11353, Subdivision (b).
6. The San Francisco Bay Water Board found that adoption of this amendment is consistent with the State Antidegradation Policy ([State Water Board Resolution No. 68-16](#)) and Federal Antidegradation Policy (40 C. F. R. §131.12).
7. A Basin Plan amendment does not become effective until approved by the State Water Board and until the regulatory provisions are approved by OAL. The TMDL must also be approved by U.S. EPA.

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THEREFORE BE IT RESOLVED THAT:

The State Water Board:

1. Approves the amendment to the Basin Plan as adopted under San Francisco Bay Board Resolution No. R2-2008-0103.
2. Authorizes the Executive Director or designee to submit the amendment adopted under San Francisco Bay Water Board Resolution No. R2-2008-0103 to OAL for approval of the regulatory provisions and to U.S. EPA for approval of the TMDL.

## CERTIFICATION

The undersigned Clerk to the Board does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on **TBD**.

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Jeanine Townsend  
Clerk to the Board