STATE WATER RESOURCES CONTROL BOARD
BOARD MEETING SESSION--DIVISION OF WATER QUALITY
MARCH 18, 2008

ITEM 3

SUBJECT

CONSIDERATION OF A RESOLUTION APPROVING AN AMENDMENT TO THE WATER QUALITY CONTROL PLAN FOR THE SACRAMENTO RIVER AND SAN JOAQUIN RIVER BASINS (BASIN PLAN) TO DETERMINE THAT CERTAIN BENEFICIAL USES ARE NOT APPLICABLE AND ESTABLISH WATER QUALITY OBJECTIVES FOR MERCURY IN SULPHUR CREEK, COLUSA COUNTY

DISCUSSION

On March 16, 2007, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) adopted Resolution No. R5-2007-0021 amending the Basin Plan to modify the beneficial uses of and establish water quality objectives for mercury in Sulphur Creek, Colusa County.

Sulphur Creek (Creek) drains a 6,543-acre watershed within the Cache Creek watershed, in the Coast Range of California. The Creek is an intermittent stream with continuous flows during the fall and spring months (October through June). Stretches of the stream are wet throughout the year due to inputs from springs. Water quality in the lower portion of the Creek is a function of inputs from the geothermal springs and erosion of naturally mercury-enriched soil. Water quality in the Creek likely has not changed since prior to 1975. Since 1975, there have been no changes in discharge to the Creek, natural or anthropogenic; no major landslides, wildfires, or catastrophic erosion events have occurred; and operations at all mines had ceased by 1975. Geothermal inputs are a natural feature of the Creek that existed prior to mining and development activities. Mining is not believed to have altered discharges of mercury or salts from springs in the lower Sulphur Creek watershed.

USE ATTAINABILITY ANALYSIS

Section 303(c) of the Clean Water Act (CWA) requires that each state designate uses for all water bodies within the state. A designated use can be either an existing use or a higher quality use even though it is not a currently existing use. In addition, section 303(c) requires states to set "water quality standards" for all waters within their boundaries. Currently, the Basin Plan does not specifically designate beneficial uses for the Creek. However, beneficial uses including Municipal and Domestic Supply (MUN), Water Contact Recreation (REC-1), and Warm Freshwater Habitat (WARM) are assigned to the Creek using the Basin Plan's tributary rule.

The Creek contains naturally-occurring concentrations of mercury, and total dissolved solids/ electrical conductivity that exceed drinking water criteria and that make the Creek unsuitable habitat for fish and consumable aquatic invertebrates. In addition, the high levels of total dissolved solids and electrical conductivity meet the criteria set forth in State Water Resources Control Board's (State Water Board's) Sources of Drinking Water Policy (Resolution No. 88-63) for excepting the municipal and domestic supply beneficial use designation for surface and ground waters. These are not existing beneficial uses, and they cannot feasibly be attained in

the future due to the excessive cost of treating the Creek to meet drinking water standards. Thus, the Central Valley Water Board has adopted this amendment recognizing that the beneficial uses of municipal and domestic supply and the human consumption of aquatic organisms do not exist and are not attainable in the Creek. Available data supports the removal of these uses from the Basin Plan. To remove existing beneficial use designations, federal regulation 40 Code of Federal Regulations (CFR) 131.10(j) requires the state to conduct a Use Attainability Analysis (UAA) in order to justify deviation from the use designations set forth in the CWA. Federal regulation [40 CFR 131.10(g)] lists the six use removal criteria that can be used to show that attaining a designated use is not feasible. It is the Central Valley Water Board's finding that 40 CFR 131.10(g) factor #1, "naturally occurring pollutant concentrations prevent the attainment of the use," is the factor justified in the UAA for de-designating the beneficial uses of municipal and domestic supply and the human consumption of aquatic organisms in the Creek.

WATER QUALITY OBJECTIVES

The Basin Plan amendment also establishes water quality objectives for mercury based on natural conditions that will protect the beneficial uses of the Creek, a tributary to Bear and Cache Creeks, that existed prior to anthropogenic disturbance in the watershed (e.g., mining). The proposed objectives will also protect beneficial uses in Bear and Cache Creeks. Because the municipal and domestic supply beneficial use and the human consumption of aquatic organisms do not exist and are not attainable, none of the promulgated water quality criteria for mercury apply. Instead, on March 16, 2007, the Central Valley Water Board adopted the following site-specific water quality objectives for mercury in the Creek, based on natural background conditions: *"For Sulphur Creek (Colusa County), waters shall be maintained free of mercury from anthropogenic sources such that beneficial uses are not adversely affected. During low flow conditions, defined as flows less than 3 [cubic feet per second] cfs, the instantaneous maximum total mercury concentration shall not exceed 1,800 [nanograms per Liter] ng/L. During high flow conditions, defined as flows greater than 3 cfs, the instantaneous maximum ratio of mercury to total suspended solids shall not exceed 35 [milligrams per kilogram] mg/kg. Both objectives apply at the mouth of Sulphur Creek."*

IMPLEMENTATION

The Central Valley Water Board is required to develop an implementation plan and time schedule to achieve water quality objectives (California Water Code §13242). The implementation actions required to meet the proposed objectives are described in the Sulphur Creek mercury total maximum daily load (TMDL) staff report, and were adopted in the Cache Creek Watershed Mercury TMDL Basin Plan amendment by the Central Valley Water Board in October 2005. The Cache Creek Watershed Mercury amendment incorporated a plan for control of mercury in Cache Creek, Bear Creek, Sulphur Creek, and Harley Gulch and was approved on July 19, 2006 under State Water Board Resolution No. 2006-0054, and became effective February 7, 2007 after U.S. Environmental Protection Agency (U.S. EPA) approval. The Cache Creek Watershed Mercury TMDL established numeric water quality objectives for methylmercury in fish tissue and an implementation plan to achieve the objectives. When combined with the Sulphur Creek Mercury TMDL staff report, approval of this amendment would fulfill U.S. EPA requirements for a TMDL.

MONITORING

The Cache Creek Watershed Mercury TMDL included a surveillance and monitoring program to ensure compliance with the objectives in the Cache Creek Watershed. The program includes

water, sediment, and fish tissue monitoring. However, the fish tissue monitoring set forth in the Basin Plan amendment for the Cache Creek Watershed will not directly apply to the Creek because the Creek does not support fish. In addition, monitoring at mine cleanup sites or monitoring for compliance with the proposed erosion control requirements will be the responsibility of the project proponents.

COSTS

The Creek water exceeds drinking water criteria for mercury, electrical conductivity, and total dissolved solids. The high concentrations of mercury occur naturally because the area has natural mercury-enriched soils that cause the thermal springs to discharge high levels of mercury. Pollution control activities for these sources are not economically feasible, and it is highly unlikely that the landowners have the ability or resources to control the discharge. Instead, the amendment will enable the Central Valley Water Board to regulate waste discharges to the Creek and to make impairment assessments based on appropriate beneficial uses. This action will eliminate the expenditure of precious resources that are allocated to protect non-existent uses. In addition, fully attaining the municipal and domestic supply beneficial use is not feasible due to the cost of treating the Creek to meet drinking water standards. The estimated costs for treating the Creek water and springs for the removal of mercury are as follows: $10,960,900 for the Creek water below Wilbur Springs; $918,200 for Blanck Spring; and $2,629,250 for Elgin Springs. The costs include the capital cost and maintenance and monitoring for 30 years, in present worth dollars. However, with approval of this amendment, there are zero costs associated with removing the specified beneficial use designations and establishing site-specific water quality objectives for mercury.

POLICY ISSUE

Should the State Water Board approve the amendment to revise the Basin Plan to determine that certain beneficial uses are not applicable and establish water quality objectives for mercury in the Creek as adopted under Central Valley Water Board Resolution No. R5-2007-0021?

FISCAL IMPACT

Central Valley 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 Central Valley Water Board's Basin Plan.

STAFF RECOMMENDATION

That the State Water Board:

1. Approves the amendment to the Basin Plan adopted under Central Valley Water Board Resolution No. R5-2007-0021.

2. Authorizes the Executive Director or designee to submit the amendment adopted under Central Valley Water Board Resolution No. R5-2007-0021, as approved, and the administrative record for this action to the Office of Administrative Law and the water quality objectives, beneficial use changes, and TMDL to U.S. EPA for approval.

D R A F T

STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 2008-

APPROVING AN AMENDMENT TO THE WATER QUALITY CONTROL PLAN FOR THE SACRAMENTO RIVER AND SAN JOAQUIN RIVER BASINS (BASIN PLAN) TO DETERMINE THAT CERTAIN BENEFICIAL USES ARE NOT APPLICABLE AND ESTABLISH WATER QUALITY OBJECTIVES FOR MERCURY IN SULPHUR CREEK, COLUSA COUNTY

WHEREAS:

1. On March 16, 2007, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) adopted Resolution No. R5-2007-0021 amending the Basin Plan to modify the beneficial uses of and establish water quality objectives for mercury in Sulphur Creek, Colusa County.

2. On October 21, 2005, the Central Valley Water Board adopted Resolution No. R5-2005-0146 amending the Basin Plan to reduce the overall mercury and methylmercury loads to Cache Creek, Bear Creek, Sulphur Creek, and Harley Gulch. The amendment was approved July 19, 2006 by the State Water Resources Control Board (State Water Board), by the Office of Administrative Law (OAL) on October 19, 2006, and by the U.S. Environmental Protection Agency (U.S. EPA) on February 7, 2007.

3. Studies have been completed evaluating the attainability of the municipal and domestic supply beneficial use and the human consumption of aquatic organisms, which conclude that these beneficial uses are not existing and cannot be attained in Sulphur Creek from Schoolhouse Canyon to the mouth due to natural sources of dissolved solids and mercury.

4. The Central Valley Water Board found that the analysis contained in the staff report, the California Environmental Quality Act (CEQA) checklist, notice of public hearing, and notice of filing prepared by Central Valley Water Board staff comply 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.

5. The Central Valley Water Board found that the proposed amendment is consistent with State Water Board Resolution No. 68-16, in that the changes to water quality objectives (i) consider maximum benefit to the people of the state, (ii) will not unreasonably affect present and anticipated beneficial use of waters, and (iii) will not result in water quality less than that prescribed in policies, and the proposed amendment is consistent with the federal Antidegradation Policy (40 Code of Federal Regulations part 131.12). The proposed amendment determines that certain beneficial uses are not applicable and establishes water quality objectives for mercury in Sulphur Creek from Schoolhouse Canyon to the mouth. The proposed amendment is of maximum benefit to the people of the state and will not unreasonably affect present and anticipated beneficial uses nor result in water quality less than described in applicable policies because the amendment is intended to protect the existing and attainable beneficial uses. The actions to be taken are not expected to cause other impacts on water quality.

6. The State Water Board finds that the Basin Plan amendment is in conformance with Water Code section 13240, which specifies that Regional Water Quality Control Boards may revise Basin Plans, section 13241, which authorizes Regional Water Quality Control Boards to

establish water quality objectives, section 13242, which requires a program of implementation of water quality objectives, and section 13244 which requires Regional Water Quality Control Boards to provide a published, public notice to all interested persons of any public hearing. The State Water Board also finds that the Basin Plan amendment is consistent with the requirements of federal Clean Water Act section 303(c).

3. The State Water Board finds that the analysis contained within the amendment adopted under Resolution No. R5-2005-0146 (Basin Plan Amendment for the Control of Mercury in the Cache Creek Watershed), the Sulphur Creek TMDL for Mercury Staff Report, and the Staff Report that supports Basin Plan amendment R5-2007-0021 (Basin Plan Amendment to Determine Certain Beneficial Uses Are Not Applicable in and Establish Water Quality Objectives for Sulphur Creek) constitutes a TMDL and is consistent with Clean Water Act section 303(d).

7. Based on the record as a whole, including draft Basin Plan amendments, the environmental document, accompanying written documentation, and public comments received, the Central Valley Water Board found that the amendments will not result in adverse effects on fish, wildlife, or the environment, and therefore no mitigation measures are proposed.

8. 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 water quality objectives, beneficial use changes, and TMDL must be approved by U.S. EPA.

THEREFORE BE IT RESOLVED THAT:

The State Water Board:

1. Approves the amendment to the Basin Plan adopted under Central Valley Water Board Resolution No. R5-2007-0021.

2. Authorizes the Executive Director or designee to submit the amendment adopted under Central Valley Water Board Resolution No. R5-2007-0021, as approved, and the administrative record for this action to OAL and the water quality objectives, beneficial use changes, and TMDL to U.S. EPA for approval.

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 Board held on March 18, 2008.

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Jeanine Townsend
Clerk to the Board