

STATE WATER RESOURCES CONTROL BOARD  
BOARD MEETING SESSION--DIVISION OF WATER QUALITY  
~~MAY 22, JULY 17, 2007~~

ITEM 8

**SUBJECT**

CONSIDERATION OF A RESOLUTION APPROVING AN AMENDMENT TO THE WATER QUALITY CONTROL PLAN FOR THE SAN FRANCISCO BAY REGION TO ESTABLISH MERCURY FISH TISSUE OBJECTIVES, VACATE A MERCURY WATER QUALITY OBJECTIVE, AND ESTABLISH A TOTAL MAXIMUM DAILY LOAD (TMDL) FOR MERCURY IN SAN FRANCISCO BAY

**DISCUSSION**

The San Francisco Bay was placed on the federal Clean Water Act section 303(d) list in 1998 because the waters did not meet water quality standards for fish consumption by wildlife and humans. The determination was based, in part, on health advisories for consumption of multiple fish species. On September 15, 2004, the San Francisco Bay Regional Water Quality Control Board (San Francisco Bay Water Board) adopted Resolution No. R2-2004-0082 amending the Water Quality Control Plan (Basin Plan) to establish a TMDL for mercury in the San Francisco Bay. The State Water Resources Control Board (State Water Board) considered the TMDL at meetings in March, June, July, and September 2005. Under Resolution No. 2005-0060, which was adopted on September 7, 2005, the State Water Board remanded the TMDL to the San Francisco Bay Water Board for reconsideration. The remand resolution provided direction regarding: (1) effluent quality of point source discharges; (2) policy assumptions used to derive the waste load allocations; (3) monitoring for methylmercury; (4) compliance with the Long Term Management Strategy Plan for dredging and disposal of dredged sediment; (5) need for a numeric target for the protection of wildlife; (6) need to address the marine waters four-day average mercury water quality objective; (7) establishment of a priority list for addressing watershed legacy mercury; and (8) investigating ways to address public health impacts of mercury in San Francisco Bay fish.

On August 9, 2006, the San Francisco Bay Water Board adopted Resolution R2-2006-0052 ([Attachment 1](#)) amending the Basin Plan to establish fish tissue objectives for mercury, vacating the marine waters four-day average water quality objective for San Francisco Bay waters, and establishing a revised TMDL for mercury for San Francisco Bay.

The proposed Basin Plan amendment defines "San Francisco Bay" to mean that portion of the Sacramento-San Joaquin River Delta within the boundaries of the San Francisco Bay Region; Suisun Bay; Carquinez Strait; San Pablo Bay; Richardson Bay; Central San Francisco Bay; Lower San Francisco Bay; and South San Francisco Bay (including the lower South Bay). The proposed amendment generally addresses those issues which were specifically addressed in the remand resolution.

The proposed fish tissue objectives are:

1. For the protection of human health: 0.2 milligrams (mg) mercury per kilogram fish tissue, average wet weight concentration measured in the edible portion of trophic level 3 and trophic level 4 fish.

2. For the protection of aquatic life and wildlife: 0.03 mg mercury per kilogram fish, average wet weight concentration measured in whole fish 3–5 centimeters (cm) in length.

The human health objective takes into consideration local fish consumption rates. The wildlife objective is based on a U.S. Fish and Wildlife Service (USFWS) recommendation for the protection of the California least tern, a fish-eating bird listed as rare or endangered by USFWS. The proposed amendment specifies the method by which the San Francisco Bay Water Board will determine compliance with the human health objective.

The San Francisco Bay Water Board proposes to vacate, for the San Francisco Bay, the marine water four-day average mercury water quality objective of 25 nanograms per liter, on the basis that the science used to develop the objective is over two decades old.

The proposed, revised TMDL establishes numeric targets consistent with the proposed fish tissue objectives. The mercury target for human health is 0.2 milligrams per kilogram (mg/kg) fish tissue in average wet weight fish tissue muscle concentration in 60 cm long striped bass; and for wildlife protection is 0.03 mg mercury per kilogram average wet weight whole fish concentration in 3-5 cm long fish. Additionally, a mercury suspended sediment target of 0.2 mg/kg dry sediment is proposed.

The revised TMDL reduces the waste load allocations for advanced municipal wastewater treatment plants (POTWs) by twenty percent; for POTWs with secondary treatment levels by 40 percent. POTWs with advanced treatment are required to achieve full compliance with their waste load allocations in ten years; POTWs with secondary treatment are required to meet an interim waste load allocation in ten years, and achieve full compliance in 20 years. The waste load allocations for industrial dischargers were corrected. Once-through cooling water had been included in the 2004 TMDL calculation of **C&H Sugar's one discharger's** waste load allocation. The waste load allocation was recalculated without the cooling water, and as a result the combined allocation for non-petroleum refinery industrial dischargers was reduced from 2.0 kilograms per year (kg/yr) to 0.4 kg/yr. This recalculation resulted in minor adjustments to the waste load allocations for most of the other non-petroleum refinery industrial dischargers. Waste load allocations for individual petroleum refineries were reduced by ten to 40 grams per year. These waste load allocations are equivalent to estimated current performance.

Implementation provisions of the proposed TMDL specify that the San Francisco Bay Water Board will issue a watershed National Pollutant Discharge Elimination System (NPDES) permit for POTWs and a watershed NPDES permit for industrial dischargers. These NPDES permits will incorporate the following requirements: POTWs will develop and implement programs for pollution prevention; develop and implement a plan and schedule of actions and effectiveness measures; and develop an updated assessment of source control measures and wastewater treatment technologies. The TMDL requires industrial dischargers to develop and implement programs to control mercury sources and loading, including a demonstration that current discharge levels represent good performance. The TMDL further specifies that both permits will also include requirements to develop and implement programs to reduce mercury-related risks to humans and wildlife; monitor for methylmercury; and complete studies to evaluate the presence or potential for local effects on fish, wildlife, and rare and endangered species.

Implementation provisions of the proposed TMDL also **describe the San Francisco Bay Water Board's intentions regarding determination of compliance with NPDES permit(s) that the Regional Water Board has committed to adopting.** These provisions specify: (1) that if a facility exceeds its individual allocation as a 12-month rolling average or an effluent trigger concentration, the

facility shall be required to report the exceedance and implement corrective action, and (2) the conditions under which enforcement action may be taken. **This expression of the San Francisco Bay Water Board's intention regarding its enforcement discretion does not preclude the inclusion of individually-enforceable waste load allocations in NPDES permits designed to implement the TMDL.**

Urban storm water allocations are unchanged and will be implemented through NPDES storm water permits. The NPDES permits will include requirements that urban runoff management agencies develop and implement mercury source identification and control programs, and monitor for methylmercury in the discharge. Implementation provisions for the Central Valley and Guadalupe River watersheds are unchanged from the previous TMDL.

Allocations for sediment dredging and disposal are also unchanged. The implementation requirements were modified to include a statement that all in-Bay disposal of dredged material must comply with the Long-Term Management Strategy for the Placement of Dredged Material in the San Francisco Bay Region.

The TMDL implementation plan commits the San Francisco Bay Water Board to work with the Office of Environmental Health Hazard Assessment, California Department of Health Services, and dischargers to investigate ways to address public health impacts of mercury in San Francisco Bay fish.

The San Francisco Bay Water Board committed to review the TMDL approximately every five years to determine whether new evidence suggests revisions that will result in more efficient and cost effective achievement of water quality objectives.

**Resolution R2-2006-0052 authorizes the San Francisco Bay Water Board Executive Officer to make minor, non-substantive corrections to the language of the amendment, if needed, for clarity or consistency. The State Water Board staff's review of the proposed amendment identified items in the amendment that need clarification. The San Francisco Bay Water Board Executive Officer has made the non-substantive clarifications in a memorandum dated May 23, 2007.**

## **POLICY ISSUE**

Should the State Water Board approve the proposed amendment to the Basin Plan to incorporate fish tissue objectives for the protection of human health and wildlife, vacate for the San Francisco Bay the marine four-day average water quality objective for mercury, and establish a TMDL for the control of mercury in San Francisco Bay, ~~as~~ adopted under San Francisco Bay Water Board Resolution R2-2006-0052 **as corrected by the Executive Officer?**

## **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 adopted under San Francisco Bay Water Board Resolution ~~R2-2006-0052~~ No. R2-2006-0052 as corrected by the Executive Officer.
2. Anticipates, consistent with prior direction from the State Water Board in Resolution No. 2005-0060 to ensure that all dischargers aggressively implement pollution avoidance practices and consistent with federal regulations requiring permitting authorities to implement any available waste load allocation, that any NPDES permit or permits that implement the San Francisco Bay mercury TMDL will include effluent limitations, corresponding to waste load allocations for each discharger, that will be individually-enforceable.
3. Authorizes the Executive Director or designee to transmit the amendment and the administrative record for this action to OAL and the TMDL and water quality objectives to USEPA for approval.

**STATE WATER RESOURCES CONTROL BOARD  
RESOLUTION NO. 2007-**

APPROVING AN AMENDMENT TO THE WATER QUALITY CONTROL PLAN  
FOR THE SAN FRANCISCO BAY REGION TO ESTABLISH MERCURY FISH TISSUE  
OBJECTIVES, VACATE A MERCURY WATER QUALITY OBJECTIVE, AND ESTABLISH A  
TOTAL MAXIMUM DAILY LOAD (TMDL) FOR MERCURY IN SAN FRANCISCO BAY

WHEREAS:

1. The San Francisco Bay Regional Water Quality Control Board (San Francisco Bay Water Board) adopted a revised Water Quality Control Plan (Basin Plan) on June 21, 1995, which was approved by the State Water Resources Control Board (State Water Board) on July 20, 1995 and by the Office of Administrative Law (OAL) on November 13, 1995.
2. On September 15, 2004, the San Francisco Bay Water Board adopted Resolution No. R2-2004-0082 amending the Basin Plan to incorporate a Total Maximum Daily Load (TMDL) for mercury in the San Francisco Bay.
3. On September 9, 2005, the State Water Board adopted Resolution No. 2005-0060 remanding the TMDL to the San Francisco Bay Water Board for reconsideration.
4. On August 9, 2006, the San Francisco Bay Water Board adopted Resolution R2-2006-0052 ([Attachment 1](#)) amending the Basin Plan to establish fish tissue objectives for mercury for the protection of human health and the protection of wildlife; vacate the marine waters four-day average water quality objective for San Francisco Bay waters; and establish a TMDL for mercury in San Francisco Bay.
5. The implementation provisions for the San Francisco Bay mercury TMDL include statements about individual and group waste load allocations and how those allocations will be implemented and enforced. The State Water Board finds that the Basin Plan amendment language stating the San Francisco Bay Water Board's intentions regarding compliance determinations and enforcement of subsequently adopted NPDES permits implementing the TMDL does not preclude the inclusion of individually-enforceable waste load allocations in NPDES permits designed to implement the TMDL.
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 specifies the requirements for establishing water quality objectives; and section 13242 which requires a program of implementation of water quality objectives.
7. San Francisco Bay Water Board Resolution R2-2006-0052 delegated to its Executive Officer authority to make minor, non-substantive corrections to the adopted amendment, if needed, for clarity or consistency. The State Water Board finds that the provisions of this amendment, as adopted, warranted minor, non-substantive clarification to correct a calculation error caused by using the wrong flow rate for one discharge. The San Francisco Bay Water Board Executive Officer has made the necessary corrections to the amendment ([Attachment 2](#)) by memorandum dated May 23, 2007.

8. The San Francisco Bay Water Board found that adoption of this amendment will not have a significant adverse impact on the environment, and that it will result in no potential for adverse effects on wildlife.
9. The San Francisco Bay Water Board found that the analysis contained in the TMDL Staff Report, the California Environmental Quality Act (CEQA) checklist, and the response to comments 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.
10. 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 and water quality objectives must also be approved by the U.S. Environmental Protection Agency (USEPA).

**THEREFORE BE IT RESOLVED THAT:**

The State Water Board:

1. Approves the amendment to the Basin Plan adopted under San Francisco Bay Water Board Resolution No. R2-2006-0052 **as corrected by the Executive Officer ([Attachment 2](#))**.
2. **Anticipates, consistent with prior direction from the State Water Board in Resolution No. 2005-0060 to ensure that all dischargers aggressively implement pollution avoidance practices and consistent with federal regulations requiring permitting authorities to implement any available waste load allocation, that any NPDES permit or permits that implement the San Francisco Bay mercury TMDL will include effluent limitations, corresponding to waste load allocations for each discharger, that will be individually-enforceable.**
3. Authorizes the Executive Director or designee to transmit the amendment and the administrative record for this action to OAL and the TMDL and water quality objectives to USEPA 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 Resources Control Board held on ~~May 22,~~ July 17, 2007.

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Clerk to the Board