

STATE WATER RESOURCES CONTROL BOARD
BOARD MEETING SESSION—DIVISION OF WATER QUALITY
JULY 21, 2005

ITEM 11

SUBJECT

CONSIDERATION OF APPROVAL OF AN AMENDMENT TO THE WATER QUALITY CONTROL PLAN FOR THE SAN FRANCISCO BAY REGION TO INCORPORATE A TOTAL MAXIMUM DAILY LOAD (TMDL) FOR MERCURY IN SAN FRANCISCO BAY

DISCUSSION

The San Francisco Bay Regional Water Quality Control Board (San Francisco Bay Water Board) adopted the revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) under Resolution No. 95-76 on June 21, 1995. The revised Basin Plan 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.

The [Basin Plan](#) contains a basinwide narrative water quality objective for bioaccumulation and, for the portion of San Francisco Bay north of the Dumbarton Bridge, a numeric water quality objective for mercury. The numeric objective requires that marine waters shall not contain concentrations of mercury greater than 0.025 micrograms per liter ($\mu\text{g/L}$) calculated on a four-day average. A footnote associated with the objective states that its source is the 1984 U.S. Environmental Protection Agency (USEPA) Ambient Water Quality Criteria for Mercury. This criteria document states: “saltwater aquatic organisms and their uses should not be affected unacceptably if the four-day average concentration of mercury does not exceed 0.025 $\mu\text{g/L}$ more than once every three years on the average.” It also says: “If the four-day average concentration exceeds 0.025 $\mu\text{g/L}$ more than once in a three-year period, the edible portion of consumed species should be analyzed to determine whether the concentration of methylmercury exceeds the FDA [Food and Drug Administration] action level.”

In 1998, the San Francisco Bay Water Board placed San Francisco Bay on the Clean Water Act (CWA) section 303(d) list as impaired by mercury due to the exceedance of the narrative bioaccumulation water quality objective. It is not clear whether San Francisco Bay, north of the Dumbarton Bridge, exceeds the numeric mercury marine four-day average water quality objective.

CWA section 303(d)(1)(C) requires states to establish TMDLs for the pollutants causing the impairments at levels necessary to protect the beneficial use and attain applicable water quality objectives. A TMDL is a numerical calculation and allocation of the total loading capacity that a water body can assimilate, considering seasonal variations and a margin of safety, and still attain water quality standards. A TMDL includes one or more numerical targets that represent attainment of the standards.

On September 15, 2004, the San Francisco Bay Water Board adopted Resolution No. R2-2004-0082 (Attachment 1) to establish a TMDL for mercury in the San Francisco Bay. The proposed TMDL implements the bioaccumulation water quality objective by setting numeric targets for mercury in sediment, fish tissue, and in bird eggs.

The numeric targets included in the TMDL are:

- Fish tissue – 0.2 milligrams (mg) mercury per kilogram (kg) fish tissue. The target is based on the 95th percentile of the consumption rate of San Francisco Bay sport and subsistence fishers who consume their catch.
- Sediment – 0.2 mg mercury per kg dry sediment. The target is based on the calculated reduction needed to achieve the fish tissue target.
- Bird egg – less than 0.5 mg mercury per kg wet weight.

San Francisco Bay Water Board Resolution No. R2-2004-0082 authorized 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. State Water Board staff review of the proposed amendment identified an item in the amendment that required clarification. As a result of a typographic error, a portion of the bird egg target was inadvertently omitted. As reflected in the San Francisco Bay Water Board's staff report, the correct bird egg target should read: "*The wildlife target is expressed as a bird egg mercury concentration less than 0.5 mg mercury per kg (wet weight) where no observable adverse effects occur.*" By memorandum dated March 7, 2005, the San Francisco Bay Water Board Executive Officer made the above non-substantive correction to the amendment "Exhibit A Basin Plan Amendment" (Attachment 2). Staff deems the corrected bird egg target an acceptable target for monitoring purposes.

USEPA has objected to the TMDL and remains concerned that the implementation plan may not cause the water body to attain the four-day average water quality objective. This TMDL, which is directed to the narrative bioaccumulation objective, constitutes an appropriate program of implementation of that objective under California Water Code section 13242.

At the March 16, 2005 meeting, the State Water Board adopted Resolution No. 2005-0026 "Regarding an amendment to the Water Quality Control Plan for the San Francisco Bay region to incorporate a total maximum daily load (TMDL) for mercury in San Francisco Bay." That resolution stipulates that the TMDLs for the control of mercury in the Sacramento-San Joaquin Rivers Delta (Delta), Guadalupe River, and the San Francisco Bay be integrated, that specified issues be addressed, and progress reports be prepared for the State Water Board every three months.

At the June 16, 2005 meeting, the State Water Board instructed staff to bring the San Francisco Bay mercury TMDL back for a potential vote at the July 2005 meeting and to obtain the following information:

1. Do the waste load allocations require the municipal and industrial dischargers to perform at the most appropriate level considering available pollution prevention programs and existing technology?

2. What is the feasibility and cost of not disposing in the Bay dredged spoils containing mercury concentrations in excess of the sediment target?
3. What are other agencies doing to control and remediate mercury in the environment, and how can we all coordinate our efforts to achieve greater reduction?
4. Consider the feasibility and cost of the suggestions entitled, "Option 1.5", made by Baykeeper, Natural Resources Defense Council, and Clean Water Action, in their comment letter dated June 6, 2005.

Staff is in the process of compiling the information necessary to respond.

POLICY ISSUE

Should the State Water Board approve the amendment to the Basin Plan in accordance with the Staff Recommendation below?

FISCAL IMPACT

California Water Board staff work associated with or resulting from this action can be accomplished within budgeted resources.

REGIONAL WATER BOARD IMPACT

Yes, San Francisco Bay Water Board.

STAFF RECOMMENDATION

That the State Water Board:

1. Approves the amendment to the Basin Plan to incorporate a TMDL for mercury in San Francisco Bay adopted under San Francisco Bay Water Board Resolution No. R2-2004-0082, as corrected by the Executive Officer (Attachment 2).
2. Authorizes the Executive Director to submit the amendment and administrative record for this action to OAL and the TMDL to USEPA for approval.

Policy Review: _____

Fiscal Review: _____

Legal Review: _____

STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 2005 –

APPROVING AN AMENDMENT TO THE WATER QUALITY CONTROL PLAN
FOR THE SAN FRANCISCO BAY REGION TO INCORPORATE 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 for the San Francisco Bay Region (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 (Attachment 1) amending the Basin Plan to incorporate a TMDL for mercury in the San Francisco Bay.
3. At the March 16, 2005 Meeting the State Water Board adopted Resolution No. 2005–0026 “Regarding an amendment to the Water Quality Control Plan for the San Francisco Bay region to incorporate a total maximum daily load (TMDL) for mercury in San Francisco Bay.” That resolution stipulates that the TMDLs for the control of mercury in the Sacramento-San Joaquin Rivers Delta (Delta), Guadalupe River, and the San Francisco Bay be integrated and that specified issues be addressed.
4. The San Francisco Bay Water Board and the Central Valley Regional Water Quality Control Board (Central Valley Water Board) have provided adequate assurances to the State Water Board that development of the TMDLs has been and is being coordinated.
5. The State Water Board finds that the TMDL bird egg target is acceptable as a monitoring target.
6. The State Water Board finds that the proposed TMDL for mercury is an adequate and acceptable program of implementation directed to the narrative bioaccumulation water quality objective in the Basin Plan, as required by Clean Water Act section 303(d)(1)(C) and California Water Code section 13242.
7. The State Water Board finds that given California’s gold rush legacy and the number of unremediated and abandoned mines and mining areas, the effort to restore mercury-impaired waters in California would be best accomplished with the active participation of the U.S. Environmental Protection Agency (USEPA), which should use its full authority to commence a comprehensive effort to abate these facilities’ contribution to this problem.

8. The San Francisco Bay Water Board staff prepared documents and followed procedures satisfying environmental documentation requirements in accordance with the California Environmental Quality Act and other State laws and regulations.
9. San Francisco Bay Water Board Resolution No. R2–2004–0082 delegated to the San Francisco Bay Water Board Executive Officer authority to make minor, non-substantive corrections to the adopted amendment, if needed, for clarity or consistency. It appeared that the bird-egg target as reflected in the Basin Plan amendment was inconsistent with the intent stated in the San Francisco Bay Water Board’s supporting staff report. San Francisco Bay Water Board staff indicated that the inconsistency was occasioned by a typographical error, where part of the target was inadvertently omitted from the regulatory language. By memorandum dated March 7, 2005, the San Francisco Bay Water Board Executive Officer made the necessary correction to the amendment (Attachment 2).
10. The State Water Board finds that the Basin Plan amendment is in conformance with Water Code section 13240, which specifies that Regional Water Boards may revise Basin Plans, and section 13242, which requires a program of implementation of water quality objectives.
11. A Basin Plan amendment does not become effective until approved by State Water Board and until the regulatory provisions are approved by OAL. Additionally, the TMDL must be approved by the USEPA.

THEREFORE BE IT RESOLVED THAT:

The State Water Board:

1. Approves the amendment to the Basin Plan to incorporate a TMDL for mercury in San Francisco Bay adopted under San Francisco Bay Water Board Resolution No. R2–2004–0082, as corrected by the Executive Officer (Attachment 2).
2. Authorizes the Executive Director to submit the amendment and administrative record for this action to OAL and the TMDL 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 July 21, 2005.

Debbie Irvin
Clerk to the Board