

Lower American River and Lake Natoma Mercury TMDL Stakeholder Meeting

Meeting Summary

Meeting Date: September 16, 2010 (10 am – 12 pm)

Location: Central Valley Regional Water Quality Control Board
11020 Sun Center Drive, #200
Rancho Cordova, CA

Attendees: See below.

Agenda Items:

- Guiding Principles
- Straw Proposal
- Next Steps

Patrick Morris (Central Valley Water Board Mercury TMDL Unit supervisor) welcomed everyone, reviewed the purpose of the meeting and meeting logistics, and led a round of introductions of meeting participants.

Patrick Morris and Stephen Louie (Central Valley Water Board LAR Mercury TMDL Lead) gave a slide presentation that provided:

- An overview of key Guiding Principles that were part of the Delta TMDL
- The elements of the Straw Proposal
- The proposed mercury reduction strategy
- Scientific basis for the mercury reduction strategy
- Possible responsible parties and implementation actions to reduce total and methyl- mercury
- Review of TMDL definition
- Possible allocation strategies

The PowerPoint presentation was shown in the meeting room and via web conference. In-person attendees were also given paper copies of the slides. The slide presentation is available on the web.

Key Topics Discussed:

Guiding Principles

The Guiding Principles were developed by for the development of the Delta MeHg TMDL. Board staff asked, if some of these concepts could be applied in the

development of the LAR TMDL. Some of the concerns that were brought up during the meeting were:

1. To address all sources, upstream sources in the watershed should be considered.
2. Adaptive management is a good concept, however, parties of currently identified sources may have to contribute more resources than those identified in later (e.g., pay for studies, while upstream sources wait).
 - a. The Upper American River Foundation and El Dorado National Forest is proposing a study to estimate mercury loads from abandoned mines and trails located on the El Dorado National Forest lands within the upper American River watershed.

Sources

Many stakeholders urged that the upstream sources of mercury need to be addressed, as those are major sources to the lower American. Some stakeholders said that mercury loads from Folsom Dam are due to sources in the watershed and not from the reservoir, and the allocation should not be entirely assigned to the USBR. The TMDL implementation plan should include the upstream watershed actions.

The American River watershed should be addressed as a whole- it is not like the Delta where the Delta TMDL assigned load allocations to the tributary watersheds without identifying the sources and actions for the upstream sources. TMDLs were intended for a watershed approach.

Board staff will evaluate the possibility of including upstream sources of mercury as being responsible for implementation actions. Board staff has already been evaluating the development of a multiple reservoir mercury TMDL in the Central Valley to address mercury in reservoirs. The US EPA representative indicated it would be acceptable to assign an allocation to the flows from Folsom Dam without naming the USBR, or others, as the primary responsibility for the allocation. However, the implementation plan must provide reasonable assurances of meeting the TMDL.

The Straw Proposal contains tables that show that average aqueous methylmercury concentrations increase from Folsom Dam to Nimbus Dam and from Nimbus Dam to Discovery Park. Approximately 1% of the source comes from atmospheric deposition. Releases from Nimbus Dam account for approximately 60% of the total and methylmercury loads at Discovery Park. Approximately, 40% of the loads to the lower American River below Nimbus Dam will not be reduced by upstream controls.

Board staff presented 4 slides for the scientific background of the proposed mercury reduction strategy. Fish tissue concentrations were reduced substantially in highly contaminated rivers after discharges from facilities were stopped or decreased. Decreases in fish tissue levels typically took 5-10 years. Most of the fish levels remained above background levels, however, most of the control programs did not incorporate the removal of contaminated sediment in the rivers.

Two slides showed the importance of controlling sources of total mercury, however, inorganic mercury is only one factor that controls the production of methylmercury. Methylmercury is the primary form that bioaccumulates up the food web. Statistically significant relationships have been found between aqueous methylmercury concentrations and largemouth bass tissue concentrations in the Delta. In addition, responses in biosentinel fish tissue mercury concentrations mirrored fluctuations in aqueous methylmercury concentrations in the San Joaquin and Cosumnes Rivers in 2006. Actions to control methylmercury will likely need to be addressed in addition to upstream sources of total mercury.

The average aqueous methylmercury concentration in the lower American River ranges between 0.02 to 0.07 ng/L. This was compared to the Delta TMDL implementation goal of 0.06 ng/L methylmercury, which this concentration is predicted to reduce fish tissue levels in the Delta to safe levels.

Inorganic mercury concentration may not be the limiting factor that controls methylmercury concentrations in fish tissue that reside in the lower American River. A recent CA lake study (pending report) found relationships (in addition to total mercury) between fish tissue mercury and degree of stratification; DOC, sulfate, and chlorophyll-A concentrations; and specific conductivity. Controlling other factors of methylation/demethylation (residence time, pH, wetland density, etc.), bioaccumulation rates (growth rate, algae abundance, etc.), or consumption risks (fish species, education, etc.) may present more feasible actions to reduce the risk of mercury to humans and wildlife.

Allocations

Staff asked for ideas on how to distribute the allocations. For the Delta, each source within a Delta sub region was assigned the same % reduction for the allocation. The group indicated it may be better to have different reduction requirements for the various sources. Stakeholders can provide suggestions as they comment on the straw proposal. Allocations will be re-evaluated during the TMDL review period.

Control Actions

The Straw Proposal presents some possible control actions that could possibly decrease the risks of mercury to human and wildlife consumers. Not all actions will be applicable to every project in the watershed. Nor, does the proposal contain all possible actions that could address the mercury impairment. Board staff must present a range of reasonable means of compliance that can be evaluated for environmental impacts as a result of the implementation of the control program. Board staff is seeking input for other potential control options for controlling total and methyl- mercury.

The mercury control program will be consistent with other state and federal laws, mandates, policies, etc. that may be applicable to stormwater management programs, flood protection programs, water quality programs, etc.

Entities and agencies that conduct actions that may contribute to the mercury impairment will be responsible to pay for possible studies, control actions, etc.

Responsible Parties

The group suggested other potential agencies and entities that could be responsible for TMDL actions in American River watershed could include, but not be limited to:

- Caltrans
- CA State Lands Commission
- US Army Corp of Engineers
- CA Department of Conservation
- City of Auburn
- Sierra Pacific Industries
- US Forest Service
- California State University, Sacramento
- Folsom Prison
- SAFCO
- Placer County Water Agency
- PG&E
- SMUD
- El Dorado Irrigation District

Next Steps:

- Staff will review stakeholder comments regarding the Straw Proposal due on 5 October 2010.
- Staff to develop alternatives and draft preliminary Basin Plan amendment text for stakeholder review before the next meeting.

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Stakeholder Meeting
September 16, 2010**

Attendees

Bill Christner, ECORP
Dave Tamayo, Sacramento County SWP
Gene Lee, U.S. Bureau of Reclamation
Hong Lin, City of Sacramento
Stephen McCord, Larry Walker Associates
Patrick Morris, Central Valley Water Board
Stephen Louie, Central Valley Water Board
Carol Kennedy,* U.S. Forest Service
Bonnie Van Pelt,* U.S. Bureau of Reclamation
Rod Miller,* City of Folsom
Janis Cooke, Central Valley Water Board
Lauren Dailey, CA DFG
Stuart Angerer, U.S. Bureau of Reclamation
Michael Stephens, CA State Parks
Brian Currier,* CSU Sacramento
Tracey Eden-Bishop,* El Dorado County
Debbie Curry, USGS
Steven Mindt,* CA State Lands Commission
Brad Gacke,* SMUD
Diane Fleck,* U.S. Environmental Protection Agency
Drea Traeumer,* EM Hydrology

* People who attended by Webinar/conference call.