Central Valley Clean Water Association
Representing Over Fifty Wastewater Agencies

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Re: Comments on February 2008 draft "Amendments to The Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control of Methylmercury and Total Mercury in the Sacramento-San Joaquin Delta Estuary" (hereafter "TMDL")

Dear Members of the Central Valley Regional Water Quality Control Board:

Thank you for providing this opportunity to review and comment on the subject TMDL. The Basin Plan Amendment and staff reports were made available for public review and comment in February 2008. Comments provided in this letter focus on the Basin Plan Amendment.
The Central Valley Clean Water Association (CVCWA) is a consortium of 60 publicly owned treatment works (POTWs) in the Central Valley. CVCWA's primary purpose is to exchange information and provide a unified voice on regulatory issues impacting POTWs throughout the Central Valley. POTWs want to participate in solutions to difficult problems such as mercury. It is our intention that these comments serve to improve the TMDL, particularly in recognition that we already serve the public trust by removing mercury from our waters and represent a *de minimus* source of mercury to the Delta.

The Central Valley Regional Water Quality Control Board (Regional Board) and staff must recognize that the charge of POTW operators in California is to protect the environment in the most cost-effective, responsible way. As a government agency responsible to the people of California, the Regional Board should fully evaluate and compare the relative costs and benefits of the complete range of alternatives. We are committed to working with you and the Regional Board staff to identify reasonable initial steps and workable provisions to clarify and provide specific adaptive management practices and flexibility to adjust the TMDL implementation plan.

As described below, there are five important comments that we still wish to bring to the attention of the Regional Board:

1) Use a different approach for management of methylmercury.
2) Address the majority of the mercury load to the Delta prior to implementing Phase 2 of this TMDL.
3) Focus mercury control requirements on total mercury until the linkage between methylmercury sources and mercury in fish tissue is better characterized.
4) Support rather than discourage mercury offsets.
5) Promote regional monitoring rather than require discharger-specific receiving water monitoring.

1. Use a Different Approach to Control Methylmercury

Methylmercury is different than other impairments addressed by the Regional Board. Scientists widely recognize that mercury is a naturally-occurring element and a legacy pollutant, present in Central Valley water bodies as a result of historic mining, mineral springs, natural erosion and atmospheric deposition. Mercury is not a pollutant that is added to sewer systems at a significant rate by domestic or industrial customers.

Recent mercury TMDLs in Minnesota[1] (covering two-thirds of the state's listed water bodies) and in seven Northeast states[2] (covering over 10,000 water bodies and 46,000 river miles) have taken a prudent approach that CVCWA believes would be appropriate for the Delta as well. Those TMDLs recognize that the major source (>97%) of total mercury in the environment is atmospheric deposition. Given the magnitude of the reductions required to implement the TMDLs, the regulators recognized that they could not reduce in-region sources further to compensate for insufficient reductions from out-of-region or otherwise uncontrollable sources. Instead of implementing wasteload allocations (WLAs) among individual sources within the state or region, mercury reduction is being accomplished through mercury minimization plans and the continuation of region-wide mercury reduction efforts.

Under certain circumstances, it may be reasonable for POTWs in the Central Valley to go beyond the requirements in Minnesota's and the Northeast states' TMDLs and conduct methylmercury characterization and control studies; but the Regional Board should only require such expensive scientific studies if there is a commensurate benefit. Requiring narrowly focused control measures, such as altering wetland designs or management practices to reduce methylation, would follow the practice of "serial engineering" in the Delta of creating new, unexpected problems while trying to solve others. Delta mercury TMDL peer reviewer Professor Alex Horne commented strongly on this point, stating *"Urgently needed is a trade (offset) between wetlands restoration benefits and [methylmercury] production. A minimum of 300,000 acres of restored wetland are needed since about 850,000 were lost. All other concerns are relatively minor."*

[1] Minnesota Statewide Mercury Total Maximum Daily Load (2007). By Minnesota Pollution Control Agency. Submitted March 27.
[2] Northeast Regional Mercury Total Maximum Daily Load (2007). By Connecticut Department of Environmental Protection (DEP), Maine DEP, Massachusetts DEP, New Hampshire Department of Environmental Services, New York State Department of Environmental Conservation, Rhode Island Department of Environmental Management, Vermont Department of Environmental Conservation, New England Interstate Water Pollution Control Commission. Submitted October 24.

The presence of total mercury is a necessary precursor for methylmercury production. A prudent approach to begin addressing mercury impairment in the Delta is to focus initial control efforts on total mercury source control. Much of the proposed TMDL requirements for total mercury control are reasonable and already being implemented by many POTWs. The methylmercury requirements in the proposed TMDL, in contrast, can not be expected to identify feasible control measures that lead to measurable reductions in methylmercury levels in Delta fish, due to fluctuations of water column concentrations of methylmercury resulting from the natural decomposition of organic matter.

Furthermore, this proposed TMDL largely ignores its impact on many other, more pressing issues in the Delta and throughout the state that are being addressed by the Regional Board, the State Water Resources Control Board (State Board), other state agencies, and the governor-appointed Delta Vision Blue Ribbon Task Force – pelagic organism decline, recycled water, salinity control, flood control, drinking water policy, habitat loss – that are of significant importance.

Recommendations:

- Focus on prudent total mercury reduction efforts to begin addressing impairments.
- Stipulate that control studies need to consider holistically the competing Delta water quality and ecosystem issues and potential consequences (positive and negative) of any significant new treatment requirements on POTWs.

2. Address the Majority of the Mercury Load to the Delta Prior to Implementing Phase 2 of this TMDL

Page ES-5 states:

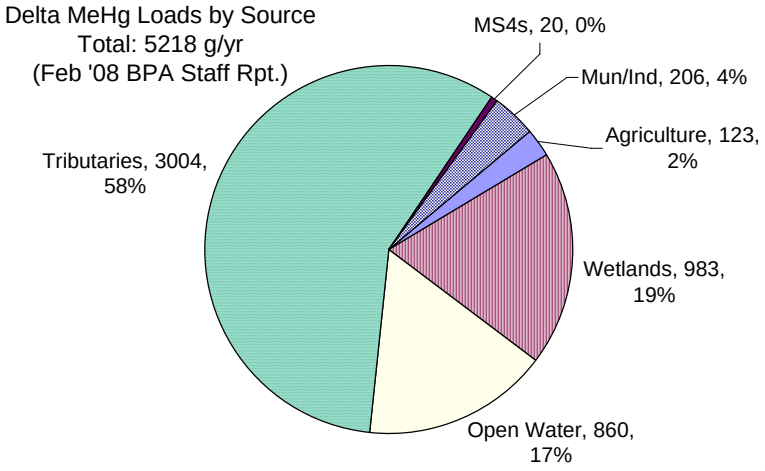
> "*Until the Phase 1 characterization and control studies have been completed, it is unknown whether the wetlands that act as substantial methylmercury sources in the Yolo Bypass also provide critical habitat to endemic species and whether it will be possible to avoid all potentially significant impacts*."

It is stated later in the closing statement that:

> "*The implementation of this proposed Basin Plan amendments will result in overall improvement in water quality in the waters of the Delta region and will have significant positive impacts to the environment and public health over the long term by enabling humans and wildlife to safely consume Delta fish.*"

The former statement indicates that we are not sure if Phase 1 will discover significant negative impacts to critical habitat in wetlands, yet the latter statement confidently predicts only significant positive impacts will result from adopting this TMDL. Taking into account the uncertainty associated with attempting to control methylmercury through establishing load reduction allocations for ~25% of the methylmercury loads in the Delta (see pie chart below) and the ongoing critical ecosystem concerns in the Delta, the confident prediction of positive outcomes seems unreasonable and unsupportable.

Regulated dischargers, such as municipal wastewater, represent a small fraction of the overall Delta methylmercury budget. The following pie chart easily demonstrates the relative magnitudes of sources identified in the TMDL:



About half the wastewater treatment plants in the Central Valley (listed in Table C in the Basin Plan Amendment) discharge methylmercury above the proposed limit, thus if eventually that half is forced to reduce their loads by ~50%, then no more than 1% of the Delta methylmercury source load would be eliminated. Yet the TMDL leaves the impression that the studies and resulting controls would lead to attainment of the TMDL fish tissue objectives.

Focusing attention on minor sources, while over 75% of the total mercury and methylmercury sources (tributaries and open water) are not addressed, is misleading to decision makers and ultimately will be ineffective. The Regional Board should have a realistic plan for addressing the entire load of mercury to the Delta beyond simply allocating reductions to tributary watersheds.

Recommendations:

- State in the Executive Summary and in the Basin Plan Amendment that "we hope to see significant positive impacts…", as there is no precedent established for the successful management and control of methylmercury in the environment.
- Commit the Regional Board in Phase 1 to conduct a Use Attainability Analysis to determine if the fish tissue objectives are reasonable and achievable. Adjust the fish tissue objectives accordingly.
- Commit the Regional Board in Phase 1 to develop an overall strategy for completing over 45 mercury TMDLs for multiple water bodies (based on the 2006 303(d) list for Region 5) and make significant progress in completing them.

3. Focus Mercury Control Requirements on Total Mercury Until the Llinkage Between Methylmercury Sources and Mercury in Fish Ttissue is Better Characterized

A linkage analysis is the conceptual and quantitative connection between pollutant sources and the impairment(s) that the TMDL intends to protect. Federal regulations require that an adequate linkage analysis be included in any TMDL. The proposed TMDL includes onerous methylmercury concentration limits and load reduction requirements (with deadlines) that are built on a number of unsupported assumptions and unproven hypotheses. A verifiable linkage between the proposed control measures and actual reductions in fish tissue levels for mercury must be established to justify requiring so many onerous elements.

One of CVCWA's primary concerns is that regulating methylmercury inputs into the Delta does NOT equate to removal of bioavailable mercury from the ecosystem. Tending towards equilibrium, reactive mercury de-methylated by a wastewater facility could re-methylate in the Delta; or conversely, methylmercury discharged by a wastewater facility could de-methylate in the Delta. It is important to recognize that methylmercury is naturally created and destroyed within the ecosystem by natural bacteria present in wetlands and in streambed sediments, and that *de minimus* point source reductions of methylmercury by POTWs or other discrete sources will not achieve the methylmercury fish tissue objectives proposed by this TMDL.

The staff report (pg. vii) illustrates this point, stating that "*Exports [in Water Year 2002-2003] were only about 50% of inputs, indicating that the Delta acts as a net sink for methylmercury. Preliminary photodegradation study results for the Sacramento River near Rio Vista (Byington et al., 2005) suggest that methylmercury loss from photodegradation may account for more than 50% of the unknown loss rate.*" If 50% of the methylmercury in the Delta is lost for unknown reasons, will minor reductions in point source loads to the Delta actually lower the remaining 50% suspected to responsible for elevated methylmercury levels in fish, or will these reductions be overwhelmed for unknown reasons too? Shouldn't we figure out where 50% of the methylmercury is being lost before assuming WLAs will be effective?

Another of CVCWA's primary concerns with this proposed TMDL centers on the significant scientific uncertainties surrounding the ability of the proposed implementation plan to achieve mercury objectives in fish tissue. These uncertainties should be clearly expressed in the Basin Plan Amendment, as should the uncertainty of most of the source characterizations and the unknowns in understanding methylmercury control mechanisms. All these uncertainties should be weighed in light of proposed stringent regulatory requirements and prohibitions. When setting new objectives and goals, sections 13241 and 13242 of the California Water Code requires a complete analysis of the feasibility of proposed implementation measures in relation to the attainment of target mercury levels in water and fish. This level of analysis is not provided in the current version of the proposed TMDL.

CVCWA continues to work cooperatively with Regional Board staff to provide additional information and insight regarding methylmercury concentrations produced by different types of wastewater treatment facilities. CVCWA member agencies have already collaborated to study the results of the 13267 methylmercury monitoring that POTWs were required to perform. One of the fundamental conclusions of this study is that there are no known technological solutions for existing POTWs to reduce methylmercury concentrations to the levels in the proposed TMDL short of redesigning their treatment processes. Consequently, the unattainable WLAs in this

proposed TMDL would divert limited resources from addressing other critical environmental protection issues, such as salinity control, etc., to constructing new treatment processes - and still not result in attainment of the fish tissue objectives.

The proposed Basin Plan Amendment presents essentially two separate TMDLs: total mercury and methylmercury. The proposed TMDL compels relatively minor sources to make reductions of methylmercury to implement potentially very expensive control measures for methylmercury, with little evidence that the control measures will actually result in significant net environmental benefit to the Delta. Until we develop a better understanding of how natural processes in water bodies transform total mercury to methylmercury, and vice-versa, CVCWA believes we should focus our efforts on controlling the known precursor to methylmercury in the Delta: total mercury.

Recommendation:

- Prior to adoption of this TMDL, establish a verifiable, peer-reviewed linkage analysis between proposed control measures and actual expected reductions of mercury in fish, and quantify the probability of achieving the TMDL objectives.

4. Support Rather than Discourage Mercury Offsets

At this time, CVCWA sees a fixed compliance date for WLAs yet no feasible means to comply with this deadline. Offset projects can provide financial incentives to accelerate mercury source load reductions at a lower cost to the public. For these reasons, CVCWA generally supports the concept of offset programs as an alternative compliance tool. The Regional Board already mandated offset feasibility studies submitted by the Sacramento Regional County Sanitation District (SRCSD) in 2005 and by the City of Stockton in 2006. Relying now on the State Board to develop a mercury offset policy seems to disregard the several years of effort embodied in those studies. The proposed TMDL also contains provisions that would discourage rather than encourage offset projects. In discouraging the implementation of an offset program that will inevitably be necessary for dischargers to meet WLAs, the Regional Board is discouraging this compliance option. Without an offset program, many billions of dollars could be spent installing costly treatment facilities to remove relatively insignificant amounts of methylmercury from wastewater with only a minimal net environmental benefit to the Delta.

The Regional Board needs to appreciate that most of the offsets evaluation criteria and requirement in the TMDL (pages BPA-13 to 14) would discourage participation in what should be a market-based incentive program. In particular, no responsible POTW is going to implement an offset project while knowing that (a) the Regional Board could subsequently enforce methylmercury allocations or set concentration limits that could potentially result in hundreds of millions of dollars in on-site controls, and (b) future TMDLs in tributary watersheds could allocate or otherwise mandate reductions by any identified offset projects.

Recommendation:

- Rewrite the TMDL section on offsets to support offset opportunities, incorporating the extensive edits that will be provided by SRCSD.

5. Promote Regional Monitoring Rather than Require Discharger-Specific Receiving Water Monitoring

The draft Basin Plan Amendment on page 6 requires that all POTWs in Tables B and C monitor for methylmercury and total mercury in their effluent and receiving water. The draft TMDL does not require monitoring from other minor sources. CVCWA believes that requiring individual POTWs to monitor receiving waters for a pollutant that presents a regional problem, without a comprehensive monitoring effort from all inputs, would not be productive. SRCSD has already conducted a very detailed scientific study tracking mercury in their receiving waters and found minimal localized effects.

The TMDL does not recognize the many current efforts to promote regional monitoring in the Sacramento and San Joaquin Rivers Watersheds and the Delta. For the Delta in particular, the recent Board Resolution R5-2007-0161 states:

> *Many agencies and groups monitor water quality, water flows, and ecological conditions in the Bay-Delta, but there is no comprehensive contaminants monitoring assessment program. IEP, CALFED, and other organizations, including the Water Boards, conduct some of these analyses, but due to their specific mandates, information gaps may exist. Emerging concerns with contaminants related to the POD, wastewater treatment plant discharges, agricultural discharges, pesticides, blue-green algae toxicity, and unknown toxicity events all highlight the need to improve contaminants monitoring. A system is needed for coordinating among monitoring programs and integrating contaminants monitoring into existing monitoring efforts whereby all data is synthesized and assessed on a regular basis. An example of such a program is the San Francisco Bay Regional Monitoring Program (RMP).*"

CVCWA is currently participating in Regional Board efforts to develop regional monitoring in the Delta and major tributaries. We believe it is appropriate in instances, such as this TMDL, where receiving water data throughout large waterbodies is needed to assess different sources or ecological effects, that monitoring be conducted through a well coordinated, regional monitoring program, rather than relying on individual efforts from a small sector of the potential sources.

What is needed now is to continue the regional efforts associated with biosentinel and sport fish monitoring at environmentally significant locations. Any monitoring requirements in the TMDL should focus on beneficial use impairment, coordinate special studies, and encourage collaboration among various entities with diverse interests.

Recommendations:

- Make any near-field receiving water monitoring by dischargers optional.
- Focus any receiving water monitoring requirements in the TMDL on beneficial use impairment
- Encourage collaboration with a regional monitoring program for the many diverse sources and source categories.

We appreciate this opportunity to provide input into the Basin Planning process and look forward to working with you and your staff to resolve our concerns.

Sincerely,

Debbie Webster
Executive Officer

Cc: Tam M. Doduc, Chair, SWRCB
Alexis Strauss, US EPA Region IX
Pamela Creedon, Executive Officer, CVRWQCB