

**Attachment 2**  
**Proposed Basin Plan Amendments for a Delta Mercury Control Program:**  
**Revisions Based on Stakeholder Comments since June 2006**

Each numbered section identifies a component of the draft Basin Plan amendment proposed in June 2006 that staff modified in response to stakeholder comments.

**1. COMM is an EXISTING beneficial use.**

*Comment:* The COMM beneficial use does not currently exist because the Delta is impaired by mercury.

*Response:* Staff agreed and changed EXISTING to POTENTIAL.

*February 2008 Proposed BPA:* COMM is a POTENTIAL beneficial use.

**2. Fish tissue objectives of 0.08 and 0.24 mg/kg in large trophic level 3 and 4 fish, respectively.**

*Comment:* Fish tissue objectives do not allow people to eat enough of Delta fish

*Response:* Staff added a fish tissue objective alternative for Board consideration that would allow people to eat more fish. Staff did not change its recommended fish tissue objectives because lower objectives are likely not achievable, given background fish mercury levels in the western USA.

*February 2008 Proposed BPA:* (No change in fish tissue objectives from the 2006 draft.)

**3. Discharge of methylmercury is prohibited after 2014 unless specific conditions are met** (methylmercury fish tissue objectives are met or dischargers conduct methylmercury studies and implement controls).

*Comment:* A conditional prohibition of discharge is not appropriate.

*Response:* Staff removed the comprehensive discharge prohibition.

*February 2008 Proposed BPA:* The Regional Board may consider a conditional prohibition of individual methylmercury discharges or other control actions if a discharger has not made sufficient progress towards developing and implementing control actions.

**4. Methylmercury study plans are required by December 2007.**

*Comment:* The Board should wait until the CALFED wetland studies are completed (Dec 07) before adopting the TMDL.

*Response:* Staff revised the schedule to allow the latest CALFED studies to be completed. Dischargers can use recent findings about methylmercury production and discharge from wetlands to inform their studies.

*February 2008 Proposed BPA:* Within one year of Basin Plan approval (e.g., 2009), dischargers shall report how they plan to organize with other dischargers to form study groups; within two years the study work plan would be due (e.g., 2011).

**5. Phase 1 study coordination and technical advisory panel.**

*Comment:* It is important to make sure the studies are well done and coordinated. An advisory panel should review the TMDL implementation program.

*Response:* Staff revised the amendment to include a technical review panel to help guide the methylmercury studies.

*February 2008 Proposed BPA:* Staff will work to form a technical advisory committee of independent mercury experts to evaluate plans and results for the characterization and control studies, propose follow-up studies, and make recommendations for implementing management practices.

**6. Point and nonpoint sources within 30 miles of the Delta, as well as those within the Delta, must achieve methylmercury allocations and conduct characterization and control studies.**

*Comment:* Allocations should only apply to Delta sources since it is the Delta TMDL.

*Response:* Staff removed the reference to the 30-mile perimeter around the Delta.

Methylmercury allocations for the small portion of the Yolo Bypass that is north of the legal Delta boundary were retained because the Yolo Bypass is a substantial source of methylmercury to the Delta.

*February 2008 Proposed BPA:* Methylmercury allocations apply to sources in the Delta and the Yolo Bypass.

**7. All NPDES permitted facilities in the Delta must conduct characterization and control studies.**

*Comment:* NPDES facilities that discharge to unimpaired subareas of the Delta or that discharge methylmercury at less than 0.06 ng/L do not contribute to the problem and should not have to do studies.

*Response:* Staff revised the amendment to require studies only from large facilities that discharge elevated levels of methylmercury.

*February 2008 Proposed BPA:* Of the Delta/Yolo Bypass NPDES facilities that discharge greater than 1 mgd, only those that discharge to an impaired subarea and have effluent concentration greater than 0.06 ng/L must complete the characterization and control studies.

**8. Discharge from new NPDES permitted facilities (initiated between 2008 and 2014) is prohibited unless effluent concentration is less than 0.06 ng/L or discharger conducts studies and the new discharge is approved by the Executive Officer.**

*Comment:* Population growth is expected; the proposed policy is too strict.

*Response:* Staff revised the amendment to account for future discharges. Using population growth predictions, staff estimated future wastewater volumes and calculated methylmercury wasteload allocations to allow for population growth and discharges from new facilities.

*February 2008 Proposed BPA:* In each Delta subarea, methylmercury load allocations are reserved for new municipal wastewater treatment plants.

**9. NPDES facilities discharging greater than 1 mgd are assigned total mercury mass limits (load caps) based on each facility's 2008 annual mercury load. After 2008, the mercury limit must be achieved or offset.**

*Comment:* Discharge volumes are expected to increase with population growth. If adequate offset projects are not identified, facilities may not be able to achieve the total mercury load limits.

*Response:* Staff revised the amendment to remove total mercury load limits for facilities. The revised program requires facilities to maintain existing effluent total mercury concentrations. Facilities can increase their mercury loads due to population growth as long as they maintain their baseline effluent mercury concentrations and minimize loading to the

maximum extent practicable. The goal is to minimize adding to the impairment while methylmercury studies are conducted.

*February 2008 Proposed BPA:* For total mercury, facilities are required to implement a Mercury Evaluation and Minimization Program. Facilities must monitor effluent total mercury monthly for one year to define baseline concentrations and continue minimization activities to maintain effluent mercury concentrations at or below baseline.

**10. All large MS4s (population greater than 100,000) must complete methylmercury characterization and control studies.**

*Comment:* The cost of characterization and control studies will be burdensome, especially for smaller urban areas.

*Response:* Staff revised the amendment to require that only the largest three MS4s need to do studies.

*February 2008 Proposed BPA:* Methylmercury characterization and control studies are required only from the Sacramento, Stockton, and Tracy MS4s.

**11. Total mercury mass limits (load caps) are assigned to MS4s with populations greater than 100,000 in the Delta and downstream of major dams, effective in 2011.**

*Comment:* It will be expensive for MS4s to meet the mercury load limits with likely little benefit to the Delta, since urban stormwater provides a small fraction of the Delta mercury load.

*Response:* Staff removed the total mercury load caps. The revised amendment requires BMPs for erosion control (all MS4s) and mercury control (the largest three MS4s).

*February 2008 Proposed BPA:* The Sacramento, Stockton, and Tracy MS4s shall implement pollution prevention measures and BMPs to the maximum extent practicable to control total mercury discharges. All MS4s shall implement BMPs for erosion and sediment control.

**12. The June 2006 Basin Plan amendment did not include guidance for mercury offset projects.**

*Comment:* The proposed mercury program states that methylmercury allocations and total mercury load limits may be achieved through offsets, but does not include an offset program in the TMDL. The Regional Board should adopt an offset program now. Offset credits should be given for reductions in methylmercury loads, not just mercury loads.

*Response:* Staff added a pilot offset project program that would allow dischargers to conduct offset projects and accrue credit while the Regional Board considers a larger, long-term program. Staff acknowledges that dischargers want to be able to use offsets to meet their allocations if necessary. However, more time is needed to develop a complete offset program consistent with USEPA requirements and State Water Board policies (under development) and that identifies appropriate offset projects and credit strategies.

*February 2008 Proposed BPA:* The BPA provides a structure for dischargers to conduct pilot mercury offset projects while they are doing methylmercury control studies. Dischargers may accrue credits for both methylmercury and total mercury after completing pilot load reduction projects. The credits could be used towards extending compliance schedules up to 5 years for meeting methylmercury allocations in Phase 2 of the control program (after 2015). Pilot offset projects would be allowed at almost any source; however, the amount of credit granted would be based on actual reductions in mercury or methylmercury to the Delta. Staff will develop a region-wide mercury offset program for Regional Board consideration at the end of Phase 1.

**13. The June 2006 Basin Plan amendment did not include a specific offset program for Sacramento Regional County Sanitation District (SRCSD).**

*Comment:* The Sacramento Regional County Sanitation District (SRCSD) wants a facility-specific offset program adopted with the TMDL. SRCSD wants the offset program to include methylmercury and total mercury and wants permit relief from having to control any forms of mercury, including methylmercury.

*Response:* Staff added specific language allowing SRCSD to accumulate credits under their existing permit conditions. The amendment recognizes, and gives SRCSD credit for, recent reductions in effluent mercury and methylmercury. The credits may be used to extend the time schedule for compliance with SRCSD's methylmercury allocation up to 5 years. The site-specific methylmercury offset ratio for an offset project in the Cache Creek settling basin is still an outstanding issue that requires scientific peer review.

*February 2008 Proposed BPA:* Any net mass credit of total mercury accumulated under Order No. 5-00-188, and the equivalent mass credit of methylmercury (100 grams of methylmercury per kilogram of total mercury, the average methylmercury to mercury ratio in effluent) shall be available to offset methylmercury allocations by extending the compliance schedule by up to 5 years, to the extent sufficient credit has accumulated.

**14. The June 2006 Basin Plan amendment did not include guidance for mercury offset projects.**

*Comment:* Environmental Justice interests will contest any offset program that allows facilities to continue to discharge (and expand discharges) into an impaired area; feasible controls must be implemented before offsetting pollution.

*Response:* Staff added language so that dischargers may conduct pilot projects to evaluate the effectiveness of removing mercury in the watershed instead of at their facility. Pilot offset projects will have limits on how long accumulated credits can be used after 2030. The amendment requires dischargers that conduct pilot offset projects to also conduct methylmercury studies to determine the feasibility of on-site controls for their own methylmercury discharges.

**15. Dredging activities must not increase methylmercury or total mercury loading to the Delta. Dredged material with greater than 0.2 mg/kg mercury must be protected from erosion by 100-year precipitation or flow events.**

*Comment:* This provision would curtail and/or significantly increase the cost of dredging and levee repair activities. All of the Delta could be considered within the flood zone of a 100-year event, which could prevent any reuse of dredge material in the Delta.

*Response:* Staff modified the amendment so that dredging and dredge disposal activities can occur in the Delta while minimizing the effects of mercury. The amendment has standard requirements for erosion control and requires compliance with the existing Basin Plan and requirements of the Clean Water Act 401 Water Quality Certification program. We removed the reference to the 100-year flow or precipitation event and 0.2 mg/kg mercury threshold.

*February 2008 Proposed BPA:* Dredging and dredge material reuse activities shall minimize increases in methylmercury and total mercury loads. Levee projects that use dredge material must implement erosion protection consistent with existing Regional Board programs. Projects that dispose dredge material in aquatic sites must monitor to show that disposal activities do not increase mercury bioavailability.

**16. Entities responsible for flood conveyance, salinity control, and water management must conduct studies to characterize existing methylmercury discharges and develop control measures.**

*Comment:* Existing flood conveyance and water management activities are necessary in order to manage floods and water deliveries. These activities may not be able to change to accommodate methylmercury concerns.

*Response:* Staff revised the amendment to require methylmercury studies only if changes to current water management operations are proposed and, if the studies indicate the proposed operations would increase ambient methylmercury, to evaluate potential methylmercury control actions and their effects on flood and flow mandates.

*February 2008 Proposed BPA:* Methylmercury studies are required only for water projects that would have the potential to alter methylmercury levels in the Delta by changing water management, salinity, and flood control activities. Change in water management is defined as a change to the Central Valley Project operational procedures or changes to the salinity objectives.

**17. The Department of Water Resources (DWR) and US Army Corps of Engineers (USACE) shall implement control actions to reduce total mercury loads from the Cache Creek Settling Basin by 53 kg/yr, to be achieved by 2010.**

*Comment:* USACE is not responsible for settling basin maintenance. DWR cannot accomplish the task in such a short time period.

*Response:* Staff removed the reference to the USACE. Staff extended the time schedules for improvements to the settling basin to allow DWR additional time to secure funding for this project.

*February 2008 Proposed BPA:* DWR shall develop and implement a plan to maintain the settling basin and increase its mercury trapping efficiency in order to achieve a 45 kg/year reduction in mercury discharge. Control actions shall be complete by seven years after the amendment is effective (about 2014).

**18. Managed wetlands and agricultural lands are assigned methylmercury allocations.**

*Comment:* Wetlands and agriculture should not be regulated for mercury or methylmercury. Agricultural landowners should not be responsible for methylmercury that is discharging from agricultural lands.

*Response:* Staff clarified that wetland and agricultural landowners are not responsible for inorganic mercury or methylmercury in their source water. Most individual sources, such as a wetland or agricultural drainage, provide a small portion of methylmercury loading in the Delta. However, the sum of these sources contributes to the impairment of the Delta. No single discharger or discharge type is entirely responsible for the impairment. All dischargers are responsible for their effluent's quality. They are responsible for methylmercury produced by their activities only.

*February 2008 Proposed BPA:* The BPA retains methylmercury allocations for managed wetlands and agricultural lands. To be in compliance with the methylmercury allocations, wetlands and agricultural lands are only responsible for net increases in methylmercury (outgoing methylmercury load minus the load in source water).

**19. All owners/managers of agricultural lands and managed wetlands must conduct methylmercury characterization and control studies.**

*Comment:* Wetlands and agriculture should not be responsible for studies.

*Response:* Staff revised the amendment to require just those wetland and Ag dischargers in the impaired subareas to conduct characterization studies and only those wetland and Ag dischargers identified by the characterization studies to be sources of methylmercury to conduct control studies. There are management practices that might be useful to reduce methylmercury loads, but more information is needed. The study period is intended to better estimate methylmercury loads and identify effective management practices for various types of wetlands and agricultural operations. As described above (#5), staff added the technical advisory committee, which will aid landowners in conducting studies efficiently. Also, under the proposed timeline, conclusions from ongoing studies (e.g., evaluating methylmercury production from Delta islands and methylmercury production from rice fields and wetlands in the Yolo Bypass) will be available before characterization study plans must be submitted.

*February 2008 Proposed BPA:* Owners/managers of agricultural lands and managed wetlands studies shall participate in studies to characterize methylmercury loads only if they discharge to Delta/Yolo Bypass subareas that need reductions in methylmercury levels or if changes in land use could increase methylmercury. Participation in methylmercury control studies (second stage of the study period to investigate possible management practices) is only required of agricultural lands and managed wetlands that act as a net source of methylmercury to the Yolo Bypass or Delta. The Yolo Bypass is a major source of methylmercury to the Delta. The Bypass contains many wetlands that are inundated by flood control flows and many wetlands restoration projects are planned. Hence, the BPA requires water management agencies to work with the wetland agencies to study methylmercury.

**20. New sources of methylmercury discharge are prohibited after 2014 unless discharge methylmercury concentrations are less than source water concentrations or the discharger conducts methylmercury studies and the increased discharge is approved by the Executive Officer.**

*Comment:* The TMDL will severely halt wetlands restoration projects. The benefits of wetlands far outweigh issues concerning methylmercury production and discharge from the wetlands.

*Response:* Staff removed the prohibition language and requirement for Executive Officer approval of increases and revised the requirements for wetlands. The BPA was never intended to eliminate wetland projects. Wetlands are significant sources of methylmercury. Some wetlands contain high concentrations of methylmercury, which may be detrimental to wildlife in the wetlands. The Clean Water Act requires that all methylmercury sources be assigned load allocations. We need the wetland proponents to evaluate the methylmercury in the wetlands and its effects on the environment.

*February 2008 Proposed BPA:* New wetland and wetlands restoration projects may proceed if the project proponents participate in methylmercury studies for their project and implement newly developed management practices as feasible. The amendment allows for comprehensive, coordinated studies within the Delta subareas. New wetlands can be built, but the proponents must conduct methylmercury studies. Pilot wetland projects are allowed so that management practices can be developed and evaluated. If management practices are feasible, existing management wetlands and new wetlands should incorporate them.

**21 Agricultural lands within each Delta subarea are assigned a methylmercury allocation for the sum of agricultural discharges in the subarea. The same allocation scheme is used for managed wetlands.**

*Comment:* Environmental Justice interests want individual allocations for individual managed wetlands and agricultural lands, not group allocations.

*Response:* Staff is not proposing that all individual landowners must meet individual allocations because currently there is not sufficient information to assign allocations to individual discharges. The Regional Board's Irrigated Lands Program allows landowners to participate in coalitions to meet requirements for monitoring and pollution control. Staff expects that the methylmercury studies will show that some types of agricultural drainage and wetlands have high methylmercury production while others have little-to-no production and that some types of methylmercury sources can be more effectively controlled than others. It is possible, then, that subarea allocations may be met with only some dischargers implementing controls. The Regional Board may consider individual allocations later in the control program if group-based reductions are not effective.

**22 Establishes 0.06 ng/l methylmercury as the average annual ambient methylmercury concentration to meet fish tissue objectives.**

*Comment:* Stakeholders do not want 0.06 ng/l to be interpreted by permit writers as an effluent limits in NPDES permits.

*Response:* Staff revised the amendment to more clearly identify how the 0.06 ng/l methylmercury goal for ambient water will be used. The 0.06 ng/l goal is used to determine the percent reduction needed from methylmercury sources to achieve the fish tissue objectives throughout the Delta and which dischargers need to conduct methylmercury studies. It also specifies the Phase 1 effluent methylmercury concentration limit for existing permits that discharge very low (less than 0.06 ng/l) levels of methylmercury.

*February 2008 Proposed BPA:* The ambient water methylmercury goal of 0.06 ng/l is used to determine: source reductions, which dischargers must conduct methylmercury studies, and Phase 1 effluent methylmercury concentration limits for facilities that currently discharge very low levels of methylmercury. The amendment states that the 0.06 ng/l goal will not be used as an effluent limit in permits for existing or new facilities that discharge effluent with annual average methylmercury concentrations greater than 0.06 ng/l during Phase 1.

**23. NPDES facilities had both methylmercury load and concentration allocations.**

*Comment:* Stakeholders were concerned allocations were expressed as both concentration and loads.

*Response:* Staff modified the implementation plan to include only methylmercury waste load allocations and removed the reference to concentration allocations.

*February 2008 Proposed BPA:* Tables in the Basin Plan amendment specify waste load allocations only as loads (grams/year).

**24. Recommends that health departments should expand outreach and education programs**

*Comment:* The Basin Plan amendment does not follow the SWRCB resolution for risk reduction and management. Affected communities should have a role in the risk management process.

*Response:* Staff has modified the Basin Plan amendment to be consistent with the requirements of the SRWCB resolution. It also includes involving the at-risk communities. The revised

proposed plan requires large WWTPs, MS4s and agencies to develop and implement effective programs to reduce mercury related risks and quantify risk reductions resulting from the risk reduction activities. It describes specific requirements for the program, including involving affected communities.

## **25. Methylmercury production in wetlands and wildlife.**

*Comment:* Some stakeholders were concerned that some wetlands could be sources of methylmercury that could affect wildlife.

*Response:* The amendment requires wetland managers to evaluate methylmercury discharges from wetlands to determine if they discharge elevated levels of methylmercury and to develop control options if applicable. Numerous studies in the Delta and elsewhere show some wetlands are a source of methylmercury.

## **26. Requirements for methylmercury control.**

*Comment:* The focus on methylmercury is not appropriate because there is still significant scientific uncertainty about methylmercury production and the factors that influence uptake of mercury by aquatic organisms.

*Response:* All of the major mercury researchers agree that methylmercury concentrations in fish are directly linked to methylmercury concentrations in water. Statistically significant, positive correlations between methylmercury in fish and water have been shown for the Delta and elsewhere. Reducing ambient methylmercury concentrations is expected to reduce fish methylmercury levels. We need more information about methylmercury production from various sources and effective management practices. Phase 1 of the implementation plan is designed to allow time for the needed studies.