

**Delta Methylmercury TMDL
DRAFT BASIN PLAN AMENDMENTS, COMMENTS & RECENT REVISIONS
(8 December 2009)**

The Delta Methylmercury TMDL Stakeholder Group has been discussing and developing suggested revisions for the draft Basin Plan Amendment (BPA) text. The following table provides (1) the version of the BPA text dated 2 September, (2) comments provided by stakeholder group participants as of 24 September, additional comments received from 24 September through 7 December, along with Board staff responses to those comments, and (3) revised BPA text. Revisions to the 2 September BPA draft are noted in underlined and ~~striketrough~~ text. In preparation for the next stakeholder meeting, please read comments submitted by other stakeholders.

Appendix 43 is provided in a separate Adobe Acrobat file. Appendix 43 contains maps and lists of named waterways in the Delta and Yolo Bypass and the subarea delineations. The draft appendix has not been edited since February 2008. Appendix 43 and this table, as well as the table with the 27 July BPA text and the comments received for it, are available at the following Central Valley Water Board website:

http://www.waterboards.ca.gov/centralvalley/water_issues/tmdl/central_valley_projects/delta_hg/stakeholder_meetings/

Commenters:

CDPH:	California Department of Public Health
CVCWA:	Central Valley Clean Water Association
CVFPB:	Central Valley Flood Protection Board
CWA:	Clean Water Action
DFG:	California Department of Fish and Game
DPC:	Delta Protection Commission
DU:	Ducks Unlimited
DWR:	California Department of Water Resources
MS4:	Sacramento & Stockton Stormwater Management Programs
PCH	People for Children's Health and Environmental Justice
RB:	Central Valley Water Board staff
TNC:	The Nature Conservancy
Tribes	Representatives of several Tribes in the Sacramento River watershed; comments generated at a meeting with Staff on 23 Nov. 2009.
UCF	United Cambodian Families
USFWS:	U.S. Fish and Wildlife Service
YCFCWCD:	Yolo County Flood Control & Water Conservation District

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#	<i>September 2 BPA Text</i>	<i>Edits & Comments as of 7 December 2009</i>	<i>Revised BPA Text</i>
1	<p>Revise Chapter II (Existing and Potential Beneficial Uses), Table II-1 for Sacramento San Joaquin Delta, to add as follows: Sacramento San Joaquin Delta (8,9,e)</p> <p>Footnote: (e) in addition COMM is designated for the Sacramento San Joaquin Delta waterways listed in Appendix 43 and not any tributaries unless specifically designated.</p>	<p>CVCWA: The designation should be classified as a potential use for sections of the delta not meeting MeHg fish tissue objectives because the water quality conditions necessary to meet this use have not existed and do not exist in all water bodies listed in Appendix 43.</p> <hr/> <p>CWA: Then what constitutes a Sacramento San Joaquin waterway? Needs to be specified, because it is our understanding that tributaries within the watershed are included in this TMDL. How do we avoid taking away a designation because water is impaired</p> <hr/> <p>RB: Staff recommends adding the beneficial use of COMM (commercial and sport fishing) for the Delta waterways, which are identified in the Basin Plan (Appendix 43). Staff proposes adding COMM because when the Basin Plan was originally written, a COMM beneficial use designation was not used for fresh water. The purpose of the proposed fish tissue objectives and the implementation plan is to protect for the consumption of fish, which is more accurately covered under COMM than REC-1 (contact recreation). Designating a beneficial use, either potential or existing, means that the Board will protect that beneficial use. Staff proposes describing COMM as potential for the Delta because water quality objectives are not yet achieved in all parts of the Delta.</p> <p>Appendix 43 lists all of the specific waterways this TMDL applies to. The TMDL assigns general allocations to the tributary watersheds, but does not assign specific allocations or requirements to individual sources outside the Delta or Yolo Bypass. This will be done in the upstream TMDLs.</p>	<p>Revise Chapter II (Existing and Potential Beneficial Uses), Table II-1 for Sacramento San Joaquin Delta, to add as follows: Sacramento San Joaquin Delta (8,9,e)</p> <p>Footnote: (e) in addition COMM is designated for a <u>potential beneficial use</u> for the Sacramento San Joaquin Delta waterways listed in Appendix 43 and not any tributaries unless specifically designated.</p>
2	<p>Revise Chapter III (Water Quality Objectives), under “Methylmercury”,</p>	<p>TNC: “This objective is protective of wildlife species that consume small fish.” – I assume this was accidentally deleted in the Sept 2</p>	<p>Revise Chapter III (Water Quality Objectives), under “Methylmercury”, to add as follows:</p>

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	<p>to add as follows:</p> <p>The following fish tissue objectives apply to the Sacramento-San Joaquin Delta and Yolo Bypass waterways listed in Appendix 43. The average methylmercury concentrations shall not exceed 0.08 and 0.24 mg methylmercury/kg, wet weight, in muscle tissue of trophic level 3 and 4 fish, respectively (150 500 mm total length). The average methylmercury concentrations shall not exceed 0.03 mg methylmercury/kg, wet weight, in whole fish less than 50 mm in length.</p>	<p>revision. (S. Liu)</p> <p>CVCWA: Add the hyphen: (150_500 mm total length).</p> <p>DWR: Where is Appendix 43 that is referenced here? (M. List)</p> <p>CWA: These paragraphs (number 2 and number 3) should be reversed and CWA recommends the following edits. Please keep in mind that this is a suggestion and has not been vetted with impacted communities who we are aware have strong concerns about the fish tissue targets in this TMDL to date and the calculations of a meal size.</p> <p><u>“The long-term goal is a fish tissue objective protective of humans eating four to five meals (xxg/day) per week of top trophic level fish. (Fill in with actual concentration numbers as you do below)”</u></p> <p><u>The immediate objectives of the BPA will protect people eating one meal/week (32 g/day) of Delta fish plus some non-Delta (commercial market) fish. The fish tissue objectives will be reevaluated during the Phase 1 Delta Mercury Control Program Review and later program reviews to determine by what timeframe the higher consumption rate can be attained as methylmercury reduction actions are developed and implemented.</u></p> <p><u>The following fish tissue objectives apply to the Sacramento-San Joaquin Delta and Yolo Bypass waterways listed in Appendix 43 during phase 1. The average methylmercury concentrations shall not exceed 0.08 and 0.24 mg methylmercury/kg, wet weight, in muscle tissue of trophic level 3 and 4 fish, respectively (150 500 mm total length). The average methylmercury concentrations shall not exceed 0.03 mg methylmercury/kg, wet weight, in whole fish less than 50 mm in length.</u>“</p> <p>We would respectfully recommend avoiding words like “reasonable” in this specific case. This is an ultimate goal that must be met over time. We strongly believe that the data generated by community</p>	<p>The following fish tissue objectives apply to the Sacramento-San Joaquin Delta and Yolo Bypass waterways listed in Appendix 43. The average methylmercury concentrations shall not exceed 0.08 and 0.24 mg methylmercury/kg, wet weight, in muscle tissue of trophic level 3 and 4 fish, respectively (150-500 mm total length). The average methylmercury concentrations shall not exceed 0.03 mg methylmercury/kg, wet weight, in whole fish less than 50 mm in length. <u>This objective is protective of wildlife species that consume small fish.</u></p>

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		<p>groups and DPH, demonstrating much higher consumption rates must be fully integrated into what those goals should be and those studies clearly demonstrate significantly higher consumption rates.</p> <p>CWA is attempting here to provide an approach that establishes the necessary fish tissue goals up front but to allow for a realistic less stringent goal in the short term as we learn more and in recognition that it may take time to reach more stringent goals. Bottom line is that the TMDL must be driven by the needs of the watershed in order to meet a true beneficial use, and not an artificial one.</p> <p>We understand the challenges to meet load allocations, and are not advocating for actions/strategies that do not make sense in terms of little gain at great cost. However, it is not appropriate for goals necessary to protect beneficial uses of a watershed to be based on what discharger claim they can/can't do. It is about the water.</p> <hr/> <p>DPC: Please note that Water Policy 3 of the Management plan provides that "Water agencies at local, State, and federal levels shall work together to ensure that adequate Delta water quality standards are set and met and that beneficial uses of State waters are protected consistent with the CALFED (see Water Code Sections 12310(f)) record of Decision dated August 8, 2000."</p> <hr/> <p>Tribes: Fish consumption data being used in the development of the BPA do not accurately reflect Tribal fish consumption. With the proposed fish tissue objective, Natives who depend on fish for culture and sustenance will be consuming poisonous levels of mercury. The proposed fish tissue objectives will not meet the beneficial use for potentially tens of thousands of consumers of Delta fish. The proposed fish tissue objectives should be modified to reflect the consumption rates of subsistence fishers._</p> <hr/> <p>RB: The reference to the objective being protective of wildlife species that consume small fish was added. Appendix 43 lists the Delta and Yolo Bypass waterways, and is available on the Board website and in the February 2008 staff reports</p>	

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		<p>and BPA.</p> <p>Staff did not change the order of paragraphs 3 and 4. The fish tissue objective, once adopted by the Board and approved by USEPA, will be the official fish tissue objective unless the Board amends the fish tissue objective at a later date. Thus, the FTO will apply after Phase 1 if it is not amended; therefore, staff did not make the recommendation of only applying the FTO to Phase 1 or as an interim objective.</p> <p>The proposed water quality objectives will protect the beneficial use of fish consumption in the Delta. Staff agrees that agencies should work together to protect all of the Delta's beneficial uses. The CALFED Record of Decision (ROD) states that wetland restoration activities directed by the ROD may have an adverse environmental impact of increasing methylmercury production and mitigation may be needed to ameliorate the environmental impact.</p> <p>In developing water quality objectives, staff looked at quantities of fish that can be safely eaten as well as evidence (within the Delta and in the Western US) that the fish tissue level can actually be met. Staff believes that these recommended water quality objectives are the lowest (i.e., most protective) levels for which we can show assurance that the objectives will be achieved. The BPA staff report shows four alternatives for fish tissue objectives that the Board will consider when adopting this amendment.</p>	
3	<p>A long-term goal is to have a fish tissue objective protective of humans eating four to five meals per week of top tropic level fish. The current objectives protect people eating one meal/week (32 g/day) of Delta fish plus some non-Delta (commercial market) fish. The fish tissue objectives will be reevaluated during the Phase 1 Delta Mercury Control Program Review and later program reviews to determine whether the higher consumption</p>	<p>CVCWA: Edit the last sentence as follows: "The fish tissue objectives will be re-evaluated during the Phase 1 Delta Mercury Control Program Review and later program reviews to determine whether the higher consumption rate can be <u>reasonably</u> attained as methylmercury reduction actions are developed and implemented."</p> <p>Need to be consistent on the name of the program review. The title sometimes refers to the Phase I, and sometimes not.</p> <hr/> <p>CWA: We would strongly recommend any language about studying</p>	<p>The long-term goal is to have a fish tissue objective protective of humans eating four to five meals per week (<u>128-160 g/day</u>) of top tropic level fish. The current above objectives protect people eating one meal/week (32 g/day) of Delta fish plus some non-Delta (commercial market) fish. The fish tissue objectives will be re-evaluated during the Phase 1 Delta Mercury Control Program Review and later program reviews to determine whether a higher consumption rate can be attained as methylmercury reduction actions are</p>

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	rate can be attained as methylmercury reduction actions are developed and implemented.	<p>the feasibility of reaching higher (more stringent) goals be included in the TMDL and not in an MOI.</p> <hr/> <p>Tribes: Since both historical and current consumption information show a main source of Tribes' protein is fish, being able to safely eat four to five meals per week of top trophic level fish should not be a long term goal but the fish tissue objective.</p> <hr/> <p>RB: The Porter Cologne Water Quality Control act authorizes the Regional Water Board to establish water quality objectives that "ensure the reasonable protection of beneficial uses" (Section 13241). Adding "reasonable" here is redundant.</p> <p>Row 35 was amended to include requirements for studies to evaluate the feasibility of achieving more stringent methylmercury levels.</p> <p>"Phase 1" was added where appropriate to the program review.</p>	developed and implemented.
4	<p>Revise Chapter IV (Implementation), under "Mercury Discharges in the Sacramento River and San Joaquin River Basins", to add as follows:</p> <p><i>[The introductory paragraphs in this section will be updated to reflect current conditions.]</i></p>		<p>Revise Chapter IV (Implementation), under "Mercury Discharges in the Sacramento River and San Joaquin River Basins", to add as follows:</p> <p><i>[The introductory paragraphs in this section will be updated to reflect current conditions.]</i></p>
5	<p><u>Delta Mercury Control Program</u> The Delta Mercury Control Program applies specifically to the Delta and Yolo Bypass waterways listed in Appendix 43.</p>	<p>DWR: Where is Appendix 43 that is referenced here? (M. List)</p> <hr/> <p>RB: Appendix 43 lists the Delta waterways, and is available on the Board website and in the February 2008 staff reports and BPA. Appendix 43 will be part of this BPA.</p>	<p><u>Delta Mercury Control Program</u> The Delta Mercury Control Program applies specifically to the Delta and Yolo Bypass waterways listed in Appendix 43.</p>
6	This control program was adopted by the Regional Water Quality Control Board on [date], approved by the Office of Administrative Law on [date], [Effective Date], and approved the U.S. Environmental Protection Agency on [date].	<p>CVCWA: The Basin Plan amendment is not effective until approved by the U.S. Environmental Protection Agency. Thus, the placeholder for the effective date must follow the EPA date, not the Office of Administrative Law.</p> <hr/> <p>RB: To avoid confusion, staff changed the effective date to approval by the USEPA. The USEPA approves parts of the implementation</p>	This control program was adopted by the Regional Water Quality Control Board on [date], and approved the U.S. Environmental Protection Agency on [date] [Effective Date].

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		<p>plan that are directed or authorized by the Clean Water Act, including water quality objectives, load and wasteload allocations, and NPDES permit conditions. Some parts of the Delta implementation plan, such as the Control Studies, are authorized under Porter Cologne and could become effective after full State approval, however to avoid confusion, the EPA date will be used.</p>	
7	<p>Program Overview</p> <p>Additional information must be developed on ways to control methylmercury sources in order to attain waste load and load allocations. Therefore, the Delta Mercury Control Program shall be implemented through a phased, adaptive management approach.</p>	<p>CVCWA: Edit: "Additional information must be developed on <u>methods</u> ways to control methylmercury sources in order to attain waste load and load allocations.</p> <hr/> <p>YCFCWCD: It would help to state that: Hg control is needed to protect human health and wildlife, but current understanding indicates some controls may reduce wildlife habitat or result in actions that increase other types of risk to humans and wildlife. The management program will aim at balancing these potentially competing needs.</p> <p>This would give proper foundation to later specifics dealing with adaptive management.</p> <hr/> <p>RB: At this time, we do not know if methylmercury controls will reduce wildlife habitat, or if control actions could result in increases of other risks to humans and wildlife, as those controls have not been developed. This is the purpose of the Phase 1 studies. The study results can describe potential benefits and risks of the inorganic mercury and methylmercury controls.</p>	<p>Program Overview</p> <p>Additional information must be developed on ways for <u>methods</u> to control methylmercury sources in order to attain waste load and load allocations <u>and for potential benefits and adverse impacts of those control methods to humans and wildlife</u>. Therefore, the Delta Mercury Control Program shall be implemented through a phased, adaptive management approach.</p>
8	<p>Phase 1 spans from [Effective Date] to [8 years after the Effective Date]. Phase 1 emphasizes studies and pilot projects to develop and evaluate management practices to control methylmercury. Phase 1 includes pollution minimization programs for inorganic (total) mercury sources in the Delta and Yolo Bypass, as well as requirements for reducing total mercury loads from the upstream watersheds, to reduce sediment-bound</p>	<p>CVCWA: Is the requirement for reducing total mercury loads from upstream watersheds still accurate? The requirements for the Cache Creek Settling Basin are to evaluate load reduction feasibility. See version below and correct if necessary. Also added total mercury to be consistent with Principal 1.</p> <p>Suggested edit: Phase 1 emphasizes studies and pilot projects to develop and evaluate management practices to control <u>inorganic (total) and methylmercury</u>. Phase 1 includes <u>provisions for:</u> pollution minimization programs for inorganic (total) mercury sources in the</p>	<p>Phase 1 spans from [Effective Date] <u>through the Phase I Delta Mercury Control Program Review, expected to be in to</u> [98 years after the Effective Date]. Phase 1 emphasizes studies and pilot projects to develop and evaluate management practices to control methylmercury. Phase 1 includes pollution minimization programs for inorganic (total) mercury sources in the Delta and Yolo Bypass, as well as requirements for reducing total mercury loads from the upstream watersheds, to reduce sediment-bound</p>

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	<p>mercury in the Delta and Yolo Bypass that may become methylated in wetland and open-water habitats, and to reduce total mercury loading to San Francisco Bay, as required by Resolution R2-2006-0052.</p>	<p>Delta and Yolo Bypass, as well as requirements for reducing total methylmercury load reductions from the upstream watersheds; to reduce best management practices to reduce sediment-bound mercury in the Delta and Yolo Bypass that may become methylated in wetland and open-water habitats, and to reduced total mercury loading to San Francisco Bay, as required by Resolution R2-2006-0052.</p> <p>CWA: As we have said over the last few years, we oppose an 8 year study period that is just that.</p> <p>We believe the goals of Phase 1 need to be twofold (and note that we include methylmercury strategies as well as total):</p> <ol style="list-style-type: none"> 1) Study strategies to reduce methylmercury. 2) Implement strategies, based on what we know on the date the TMDL becomes effective and what will become known throughout Phase 1 to reduce methylmercury and total mercury <p>In some cases, we will not have definitive understanding of whether strategies to interfere with/reduce methylation will be effective. Those may be pilot programs and not full blown projects during Phase 1 as part of the learning process. However, keep in mind that we will not know 'everything' in 8 years either.</p> <p>As you will see below, we also believe that while this is a methylmercury TMDL, reducing total mercury loads should continue in Phase 2 as part of the strategy to reduce methylmercury levels</p> <p>We also believe that the clarity needed on this issue is needed in the BPA and not in an MOI. The MOIs need to reflect the goals of the TMDL, not the other way around.</p> <p>Edit: "and <u>potentially</u> the development of a pilot mercury offset program".</p> <p>We don't want to reiterate all of our comments from the past, but development of such a program must have limitations/parameters</p>	<p>mercury in the Delta and Yolo Bypass that may become methylated in wetland and open-water habitats, and to reduce total mercury loading to San Francisco Bay, as required by Resolution R2-2006-0052. Phase 1 includes provisions for: pollution minimization programs and interim mass limits for inorganic (total) mercury point sources in the Delta and Yolo Bypass, and control of sediment-bound mercury in the Delta and Yolo Bypass that may become methylated in agriculture, wetland, and open-water habitats, and to reduce total mercury loading to San Francisco Bay, as required by Resolution R2-2006-0052.</p>

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		<p>and be seen as last resort, so should not be seen as a definite. This wording takes it for granted that such programs will need to be included.</p> <p>The internal processes that dischargers must go through to get their reduction strategies approved by their own leadership is not something the TMDL should consider. That is, frankly, up to the discharger groups to address internally.</p> <p>RB: The BPA does describe the total mercury load reductions necessary from the American River, Putah Creek, and Feather River, but does not describe the specific control programs in this Delta TMDL. Therefore, the paragraph was edited as suggested. Phase 1 does not require dischargers to evaluate inorganic mercury controls nor does it emphasize pilot projects for total mercury control, although they may be part of an offset program, which is currently being discussed by the stakeholder group.</p> <p>Staff recommends the seven-year study period as a reasonable period of time for sources to conduct the methylmercury (MeHg) studies. What is learned in the first seven years can be implemented during the first phase and, as more is learned about inorganic mercury/MeHg and as additional management practices are developed, the program can be adapted to incorporate the new information. Row 18 states sources should implement reasonable and feasible MeHg management practices as they are developed rather than waiting for the end of Phase 1.</p> <p>Reducing inorganic mercury loads is one management option to reduce MeHg, and thus inorganic mercury reductions will be part of Phase 2 and subsequent phases of the TMDL.</p> <p>Development of an offsets strategy is still a topic of discussion for the stakeholder group. It is anticipated that an offset program could be developed during Phase 1 for future Board consideration, therefore 'potentially' was not added to Row 9. The details for developing an offset strategy can be in the MOI.</p>	

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		<p>The BPA language was modified to clarify the period for Phase 1. Row 8 also summarizes inorganic mercury control requirements for Phase 1.</p>	
9	<p>Phase 1 also includes: development of upstream mercury control programs for major tributaries; the development and implementation of a mercury exposure reduction program to protect humans; and development of a pilot mercury offset program.</p>	<p>CVCWA: Unless the Offset program is developed adequately to describe in prior to Basin Plan approval, the offset program to be developed in Phase I should not be described as a pilot program in this section. The program itself may include a pilot aspect (see Rows 110 & 111). With the language in this section, it limits the development of a program as described in Row 10. Suggest removing the word pilot. Be consistent with Rows #10 and 110-111.</p> <p>RB: Staff agrees with the comment and will remove 'pilot'.</p>	<p>Phase 1 also includes: development of upstream mercury control programs for major tributaries; the development and implementation of a mercury exposure reduction program to protect humans; and development of a pilot mercury offset program.</p>
10	<p>At the end of Phase 1, the Regional Water Board shall conduct a Delta Mercury Control Program Review that considers: modification of methylmercury goals, objectives, and/or allocations for the Delta Mercury Control Program; adoption of management practices and implementation schedules for methylmercury controls; and adoption of a Mercury Offset Program to compensate for loads in excess of the methylmercury allocations. The fish tissue objectives, the linkage analysis between objectives and sources, and the attainability of the allocations will be re-evaluated based on the findings of Phase 1 control studies and other information. The linkage analysis, fish tissue objectives and allocations shall be adjusted at the end of Phase 1, or subsequent program reviews, if appropriate.</p>	<p>DU: I suggest adding to evaluations for consideration by the board: Review of the public and environmental benefits of wetlands vs. MeHg impacts and consideration of modifying (increasing) wasteload allocations to allow for these beneficial uses or conflicts, such as providing habitat for wetlands dependant endangered species.</p> <p>CWA: At the end of Phase 1, the Regional Water Board shall conduct a Delta Mercury Control Program Review that considers: modification of <u>immediate</u> methylmercury goals and <u>timelines for reaching them</u>, objective <u>timeframe</u>, and/or allocations for the Delta Mercury Control Program; adoption of management practices and implementation schedules for methylmercury controls; and <u>potential</u> adoption of a Mercury Offset Program <u>for dischargers who cannot meet load allocations after implementing all reasonable possible load reduction strategies and can demonstrate no disproportionate impacts on local communities as a result</u>. The fish tissue objectives, the linkage analysis between objectives and sources, and the attainability of the allocations will be re-evaluated based on the findings of Phase 1 control studies and other information. The linkage analysis, fish tissue objectives and allocations shall be adjusted at the end of Phase 1, or subsequent program reviews, if appropriate.</p> <p>Tribes: The Regional Board be required to reconsider the program at</p>	<p>At the end of Phase 1, the Regional Water Board shall conduct a <u>Phase 1 Delta Mercury Control Program Review</u> that considers: modification of methylmercury goals, objectives, <u>allocations</u> and/or <u>allocations the Final Compliance Date for the Delta Mercury Control Program</u>; <u>adoption implementation</u> of management practices and <u>implementation</u> schedules for methylmercury controls; and adoption of a Mercury Offset Program <u>to compensate for loads in excess of the methylmercury allocations for dischargers who cannot fully meet load allocations after implementing all reasonable load reduction strategies and can demonstrate no disproportionate impacts on local communities as a result</u>. <u>The review also shall consider the potential public and environmental benefits and negative impacts of attaining the allocations</u>. The fish tissue objectives, the linkage analysis between objectives and sources, and the attainability of the allocations will be re-evaluated based on the findings of Phase 1 control studies and other information. The linkage analysis, fish tissue objectives, allocations, and time schedules shall be adjusted at the end of Phase 1, or subsequent program reviews, if appropriate.</p>

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		<p>the end of Phase 1.</p> <hr/> <p>RB: A sentence was added for the control program review to consider the benefits and impacts of attaining allocations, but does not limit the review to only wetland allocations.</p> <p>Language contained within Row 10 adequately describes review and modification of the control program; compliance schedule review is on Row 17.</p> <p>The language regarding offsets was added; however, this language may be modified based on Offsets workgroup and stakeholder group discussions. The word 'potential' was not included because the Board will 'consider' a program at the end of Phase 1. The word 'possible' was not included because it seemed redundant with 'reasonable'.</p>	
11	<p>During Phase 2 (after the Phase 1 Delta Mercury Control Program Review through 2030), dischargers shall implement methylmercury control programs. Compliance monitoring and implementation of upstream control programs also shall occur in Phase 2.</p>	<p>DU: Does this mean compliance monitoring does not start until Phase 2 begins? What about monitoring during Phase 1? Apart from monitoring during designated studies, will all other monitoring be deferred until Phase 2 begins?</p> <hr/> <p>CVCWA: Phase 2 should span 15 years, to the year 2035, which is equivalent to 3 five-year NPDES permit cycles, as originally contemplated when the BPA was introduced in 2004. Otherwise this limits compliance to 10 years or less to achieve Phase 2 WLAs, which may not be enough time to design, build, and implement BMPs for some dischargers.</p> <hr/> <p>CWA: During Phase 2 (after the Phase 1 Delta Mercury Control Program Review through 2030), dischargers shall implement methylmercury control programs and <u>continue with inorganic mercury reduction strategies</u>. Compliance monitoring and implementation of upstream control programs also shall occur in Phase 2.</p> <hr/> <p>RB: The draft Basin Plan amendment does not require individual monitoring of nonpoint source discharges. The Phase 1 studies will</p>	<p>During Phase 2 (after the Phase 1 Delta Mercury Control Program Review through 2030), dischargers shall implement methylmercury control programs <u>and continue with inorganic (total) mercury reduction strategies</u>. Compliance monitoring and implementation of upstream control programs also shall occur in Phase 2.</p>

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		<p>include the development and implementation of monitoring for nonpoint sources. Compliance monitoring will begin in Phase 2. It is anticipated that permits for some nonpoint source projects built during Phase 1 may contain mercury/methylmercury monitoring requirements with the option (recommendation) of conducting the monitoring through collaborative control studies and monitoring efforts. Even during Phase 2, there may not be individual NPS project monitoring requirements. Projects constructed during Phase 1 and later that do not conduct the individual studies nor are part of the comprehensive studies may be subject to individual monitoring requirements. Staff does not recommend that the Basin Plan defer mercury/MeHg monitoring outside of the Control Studies; there may be new projects or projects that are proposed that were not anticipated during the development and implementation of the Control Studies. These projects may have monitoring requirements included with their permits.</p> <p>Staff is recommending the 2030 compliance date. At this time, it is unknown whether or not the 2030 date is unreasonable or if additional time is needed. After the Phase 1 studies are completed, then we will know what actions and projects will need to be built to meet the allocations and how much additional time is needed.</p>	
12	<p>Load and Waste Load Allocations</p> <p>Methylmercury waste load allocations for point sources and load allocations for non-point sources are listed in Tables A through D. New or expanded methylmercury discharges that begin after [Effective Date] may necessitate adjustments to the allocations.</p>	<p>CVCWA: Add at the end “Load and wasteload allocations will become effective at the beginning of Phase 2.” (Do the load allocations account for potential new or expanded discharges? It must include the consideration of new and expanded discharges now as the allocation can’t be adjusted later. We need to specifically account for potential new discharges from MUN now.)</p> <p>_____</p> <p>DWR: It is unclear that the Table D waste load allocation for Cache Creek Settling Basin Outflow is reasonable or achievable. (M. List)</p> <p>_____</p> <p>CWA: As we’ve said in past, new and expanded methylmercury dischargers are not acceptable in a watershed with no more assimilative capacity.</p>	<p>Load and Waste Load Allocations</p> <p><u>Final m</u>Methylmercury waste load allocations for point sources and load allocations for non-point sources are listed in Tables A through D. New or expanded methylmercury discharges that begin after [Effective Date] may necessitate adjustments to the allocations. <u>Load and waste load allocations will become effective at the beginning of Phase 2.</u></p>

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		<p>RB: Final allocations are included in this TMDL, and if appropriate, they are subject to change based on the Phase 1 studies. Load and waste load allocations become effective during Phase 2. If the Phase 1 studies are not completed, the allocations and Final Compliance Date does not change (see Row #70).</p> <p>The waste load allocations account for new and expanded discharges, both in the facility-specific allocations and in the “unassigned” allocations for new or expanded discharges. Please see Table A in this draft BPA. In addition, Chapter 8.1 in the February 2008 draft TMDL report describes how staff used California Department of Finance population growth predictions to anticipate new and expanded discharges and addressed the increases in the allocations; this section will be updated to reflect additional factors identified by the NPDES Workgroup. Given the future reality may not reflect staff’s best efforts to anticipate the nature of population growth and increases in NPDES facility discharges, the allocations potentially may need to be adjusted at the end of Phase 1 and later Phases.</p> <p>Staff understands CWA’s concern about no excess assimilative capacity. TMDL allocations were calculated to allow allocations for new MeHg discharges with corresponding decreases incorporated in other sources’ allocations so that the assimilative capacity is not exceeded.</p> <p>Table D (Tributary Watershed Methylmercury Allocations) assigns an allocation to the Cache Creek watershed where it leaves the settling basin, and not specifically to DWR. It entails a 78% reduction from the existing MeHg load leaving the watershed. For comparison, the Cache Creek TMDL includes subwatershed allocations that entail MeHg load reductions ranging from 50 to 86%, and a 95% reduction in total mercury from mine sites. The long-term mass balance for the CCSB seems to indicate that the CCSB structure is not a net source of MeHg on an annual loading basis. It is conceivable that the Delta TMDL allocation for the Cache Creek watershed might be met without</p>	

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		modifying the Settling Basin to reduce MeHg loads, though this could still be an option to be explored along with upstream reductions.	
13	Load allocations are specific to Delta subareas, which are shown on Figure xx-x. The load allocations for each Delta subarea apply to the sum of annual methylmercury loads produced by agricultural lands, wetlands, and open-water habitat in each subarea, as well as atmospheric wet deposition to each subarea (Table A). The subarea allocations apply to both existing and future discharges.	<p>DPC: Enhance language to specifically address benefit/cost analysis that takes into account the costs to reduce mercury by beneficial activities in the Delta such as habitat creation, flood control, agriculture, wastewater treatment and dredging. (Comment may apply to other Rows as well).</p> <p>DWR: Without the figure (referenced as Figure xx.x) it is very difficult to follow the discussion of load allocations (Table A). (M. List)</p> <p>RB: Rows 7 and 10 have edits to address the evaluation of potential benefits and impacts of methylmercury controls. The staff report includes cost considerations for the methylmercury studies and potential controls. Porter Cologne does not require a cost-benefit analysis. One of the difficulties of doing a cost-benefit analysis is that it is difficult to determine the dollar value of an uncontaminated fish, or the dollar value to a threatened or endangered species' ability to consume an uncontaminated fish, or the value of allowing human subsistence fishers to consume locally caught fish. Likewise, we do not know the dollar value of a Delta smelt or a wetland restored to protect the smelt. Granted, stakeholders would be able to provide the costs and economic benefits of projects such as flood control, agriculture, wastewater treatment, and dredging.</p> <p>Staff edited text in response to an MS4 comment in Row 135.</p>	Load allocations are specific to Delta subareas, which are shown on Figure xx-x. The load allocations for each Delta subarea apply to the sum of annual methylmercury loads produced by <u>different types of nonpoint sources</u> : agricultural lands, wetlands, and open-water habitat in each subarea, as well as atmospheric wet deposition to each subarea (Table A), <u>and runoff from urban areas outside of Municipal Separate Storm Sewer System (MS4) service areas</u> . The subarea allocations apply to both existing and future discharges.
14	Waste load allocations apply to individual NPDES permitted facility and Municipal Separate Storm Sewer System (MS4) discharges (Tables B and C, respectively).	RB: Staff edited text in response to an MS4 comment in Row 135.	Waste load allocations apply to point sources, which include individual NPDES permitted facility <u>discharges</u> and <u>runoff from urban areas within MS4 service areas within the Delta and Yolo Bypass</u> (Tables B and C, respectively).
15	Methylmercury allocations are assigned to tributary inputs to the Delta and Yolo Bypass (Table D). Future upstream control programs are planned for tributaries to the Delta through which management practices will be	DWR: It is unclear who must comply with the load allocations specified in Table D. Additionally, for load allocation assignments, regardless of the tributary, the language and table do not address the issue of upstream inputs to the point location being measure and assessed the load. With the example of Cache Creek Settling Basin	Methylmercury allocations are assigned to tributary inputs to the Delta and Yolo Bypass (Table D). Future upstream control programs are planned for tributaries to the Delta through which management practices will be implemented to meet load allocations for tributary

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	implemented to meet load allocations for tributary inputs assigned by the Delta Mercury Control Program.	<p>(and/or any other specific tributary allocation), it is unclear if the load allocation is addressing the difference between upstream inputs of total and methylmercury versus the output loads, or if the entire allocation and control is being placed on the point location used as the measuring point. (M. List)</p> <hr/> <p>CWA: Timing?</p> <hr/> <p>RB: The allocations in Table D are assigned to the watersheds, not specific point or non-point sources. The upstream TMDLs will identify requirements and schedules for the upstream sources. The allocation applies to the point specified in Table D; i.e., the load passing the point. The number applies to the entire tributary, not the difference between the inputs and outputs. As noted earlier, the CCSB is apparently not a net annual source of methylmercury.</p> <p>Row 103 provides a schedule for the major tributary TMDLs.</p>	inputs assigned by the Delta Mercury Control Program.
15.5	New row.	RB: Staff added this text in response to MS4 comments in Row 135.	<u>Load allocations for the tributary inputs, urban areas outside of MS4 service areas, open-water habitat, and atmospheric deposition, and waste load allocations for the MS4s, are based on water years 2000 through 2003, a relatively dry period. Annual loads are expected to fluctuate with rainfall volume and other factors. As a result, attainment of these allocations shall be assessed as a five-year average annual load. Allocations for these sources will be re-evaluated during review of the Phase 1 Delta Mercury Control Program as wet year data become available.</u>
16	Margin of Safety The Delta Mercury Control program includes an explicit margin of safety of 10%.	<p>DWR: How is this margin of safety calculated, and what inputs are used in the calculation? (M. List)</p> <hr/> <p>RB: The TMDL staff report describes the margin of safety. It is based on the aqueous methylmercury goal of 0.066 ng/l (from the fish-water linkage), decreased to 0.06 ng/l (10%).</p>	Margin of Safety The Delta Mercury Control program includes an explicit margin of safety of 10%.
17	Compliance Date	DU: Since much of the discharge and presumably methylation of mercury takes place in the bypass during flood events, how will such	<u>Final</u> Compliance Date

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	<p>Methylmercury load and waste load allocations for dischargers in the Delta and Yolo Bypass shall be met as soon as possible, but no later than 2030, unless the Regional Water Board modifies the implementation schedule and final compliance date.</p>	<p>events be treated in the context of load allocation or meeting allocations, considering there will be no means to control such events and the consequences? Language should be inserted to clarify that, or allocations be adjusted to reasonably accommodate such events.</p> <hr/> <p>CVCWA: Need to look at. Phase I is a study period and in Phase I we are looking for interim limits for all. Load and waste load allocations are to be reviewed and adjusted as necessary in the public review process AFTER Phase I studies are completed. Therefore, “as soon as possible” is no sooner than the beginning of Phase 2.</p> <p>What happened to year 2035? The year 2035 was calculated as 15 years (three 5-year cycles for NPDES permits) from the year 2020 milestone for starting Phase 2.</p> <p>Use of the term “dischargers” is confusing. Do you mean those with NPDES permits or all of those who contribute to the methylmercury loading? Suggest being specific.</p> <p>Edit: <u>Beginning in Phase 2, methylmercury load and waste load allocations for point (and non-point?) dischargers in the Delta and Yolo Bypass shall be met as soon as possible, but no later than 2030</u>2035, unless the Regional Water Board modifies the implementation schedule and final compliance date.</p> <hr/> <p>CWA: Under what circumstances would the Reg. Board do this?</p> <hr/> <p>RB: The TMDL period, water years 2000-2003, was a relatively dry period. For example, the Fremont Weir and Cache Creek Settling Basin weir, the primary tributary water sources to the Yolo Bypass, did not spill at all during WY2001. In addition, there was not adequate data at the time that the TMDL report for scientific peer review was written to estimate floodplain inputs during wet years. As a result, staff did not include a “floodplain allocation” in the draft BPA, but did recommend that water management agencies submit a comprehensive, coordinated study plan that would provide a</p>	<p><u>Beginning in Phase 2, methylmercury load and waste load allocations for dischargers in the Delta and Yolo Bypass shall be met as soon as possible, but no later than 2030, unless the Regional Water Board modifies the implementation schedule and Final Compliance Date.</u></p>

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		<p>characterization of methylmercury (MeHg) production and discharge from lands immersed by managed flood flows within the Bypass that builds on the results provided in the 2008 CalFed mercury program reports. Staff expects to develop a “floodplain allocation” for the Yolo Bypass subarea of the Delta when the source analysis for the Delta TMDL is expanded to include data presented in the 2008 CalFed mercury program study reports for wet years when the Yolo Bypass flooded and any additional data collected during Phase 1. This strategy could be memorialized in the MOI.</p> <p>The Fremont and Sacramento Weirs are managed flood control structures, however reducing flows through the Weirs and flooding the City of Sacramento during flooding conditions is not a reasonably foreseeable mercury control option for the Bypass. However, controlling flow into the Yolo Bypass is not the only control option conceivable. In addition, there may be ways to manage water in the Yolo Bypass during non-flood conditions. One reasonably foreseeable method of compliance with a floodplain allocation could be the reduction of total mercury inputs from upstream sources in order to decrease sediment mercury concentrations in the open channels and associated MeHg production. (See Chapter 4.3.11 in the February 2008 BPA staff report for a list of ideas for types of total mercury reduction projects.) In addition, entities responsible for maintaining the capacity of the Bypass could consider methods similar to those being explored by a recently-funded Yolo Bypass wetlands study, e.g., managed grazing to reduce vegetation biomass before flood-up. [Initial results from a recent Yolo Bypass study showed an order of magnitude decrease in MeHg concentrations after cattle were allowed to graze (Stephenson, pers. comm.).]</p> <p>Allocations will apply starting in Phase 2, but do not have to be met by all sources until 2030, unless the Board changes the date. The goal of this TMDL is to start reducing MeHg loading as soon as possible and not waiting until the Final Compliance Date, 2030. The Phase 1 studies will determine which methylmercury management practices can be used to achieve and maintain allocations. If there are feasible MeHg reduction practices that could be incorporated into</p>	

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		<p>existing or new projects, they could be included in the project now rather than waiting until after a project is built only to be modified later. This idea is included in Row #18.</p> <p>EPA stated that the phrase “as soon as possible” should be added as a compliance date for NPDES permitted discharges. Federal and State NPDES regulations require that NPDES-permitted discharges demonstrate to the Board why a compliance schedule up to 2030 is necessary. See Rows 11 and 12 for additional responses.</p> <p>Staff is recommending that the Final Compliance Date be 2030. At this time, it is unknown whether or not the 2030 date is unreasonable or if additional time is needed. After the Phase 1 studies are completed, we will know what actions and projects will need to be built to meet the allocations and how much additional time is needed. Compliance dates and compliance schedules can be different for different sources, and the Board may consider changes to the compliance date at the end of Phase 1. Staff consulted with USEPA to see if modifying the compliance date in the future is allowable, and USEPA indicated that the Board has this option.</p> <p>Load allocations apply to nonpoint sources, and waste load allocations apply to point sources. The compliance date applies to both sources.</p> <p>The Board may consider modifying the Final Compliance Date through an amendment to the Basin Plan after a public hearing and review.</p>	
18	<p>Nonpoint source dischargers are not required to begin implementation of methylmercury management practices developed in Phase 1 until the Regional Water Board has completed the Delta Mercury Control Program Review and has developed the tributary mercury control programs. However, nonpoint source dischargers should implement reasonable and</p>	<p>CVCWA: Why would this requirement be exclusively for NPS group?</p> <p>Nonpoint source During Phase 1, all dischargers shall implement reasonable control options for inorganic mercury and/or methylmercury. However, dischargers are not required to begin implementation of methylmercury management practices developed identified in Phase 1 until the Regional Water Board has completed the Delta Mercury Control Program Review and has developed the</p>	<p>Nonpoint source dischargers are not required to begin implementation of methylmercury management practices developed in Phase 1 until the Regional Water Board has completed the Delta Mercury Control Program Review and has developed the tributary mercury control programs.</p> <p>However, nonpoint source dischargers should</p>

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	feasible methylmercury management practices as they are developed.	<p>tributary mercury control programs</p> <hr/> <p>DWR: Please provide an implicit definition or reference to a list identifying specifically which discharges are being considered as point source versus non-point source. Traditional definitions refer to those discharges with an NPDES permit). There has been, and still is ambiguity in the definitions of which discharges must specifically implement methylmercury management practices, and by when. (M. List)</p> <hr/> <p>CWA: We oppose this. We do believe that “nonpoint” source dischargers should be held responsible for their loads of mercury and methylmercury into the watershed.</p> <hr/> <p>RB: Please see modifications. The first sentence requires reasonable inorganic mercury management practices to be implemented now. For many sources, this is could consist of erosion and sediment control; which is an existing Basin Plan requirement. The second sentence indicates sources should implement reasonable methylmercury management practices. These requirements apply to both point and non-point sources.</p> <p>Point source dischargers include NPDES permitted facilities (e.g., wastewater treatment plants) and urban stormwater runoff. Nonpoint source dischargers include agriculture, wetlands, open water areas, atmospheric deposition, and other methylmercury sources and activities causing or contributing to a methylmercury discharge not covered by an NPDES permit. Staff edited the draft BPA text in Rows 13 and 14 to clarify this.</p>	<p>implement reasonable and feasible methylmercury management practices as they are developed.</p> <p><u>During Phase 1, all dischargers shall implement reasonable, feasible controls for inorganic (total) mercury and/or methylmercury.</u></p> <p><u>All dischargers should implement methylmercury management practices identified during Phase 1 that are reasonable and feasible. However, implementation of methylmercury management practices identified in Phase 1 is not required for the purposes of achieving methylmercury allocations until the Regional Water Board has completed the Phase 1 Delta Mercury Control Program Review and has developed the tributary mercury control programs.</u></p>
19	When implementing the waste load allocations in this control program, the Regional Water Board shall, as necessary, include schedules of compliance in NPDES permits for compliance with water quality-based effluent limits based on the waste load allocations. The compliance schedules must be consistent with	<p>CVCWA: Consistent with the comment in row #12, add at the end “...as soon as possible <u>in Phase 2.</u>”</p> <p>The final sentence makes this item confusing related to whether the section is talking about WLAs or about interim total mercury limits which will be handled in the individual NPDES permits? Recommend deleting the final sentence and sticking with the requirements in Rows</p>	When implementing the <u>final</u> waste load allocations in this control program <u>in Phase 2</u> , the Regional Water Board shall, as necessary, include schedules of compliance in NPDES permits for compliance with water quality-based effluent limits based on the waste load allocations. The compliance schedules must be consistent with the requirements of the Clean Water

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	<p>the requirements of the Clean Water Act, EPA regulations 40 CFR 122.47, and State laws and regulations, including State Water Board Resolution 2008-0025. Compliance with NPDES requirements in this program shall be as soon as possible.</p>	<p>17 and 22.</p> <p>The TMDL and the Basin Plan Amendment must include compliance schedule provisions that are separate from compliance with State Water Board Resolution 2008-0025. The State's Compliance Schedule Policy limits compliance schedules in NPDES permit to no longer than 10-years. It is anticipated here that compliance schedules may need to be longer than 10-years. Thus, the Basin Plan Amendment must include its own compliance schedule provisions for approval by U.S. EPA.</p> <p>CVCWA: What happened to text specifically allowing compliance schedules in the permits? This specifically needs to be stated in the BPA to allow compliance schedules beyond 10 years.</p> <p>RB: Staff edited the BPA language in an attempt to address CVCWA's concern about confusion with interim limits. Requirements for interim inorganic mercury limits, pollution minimization programs, etc., in individual permits are all requirements of the Phase 1 program to maintain existing facility performance. Allocations become affective in Phase 2 after the Phase 1 studies program review.</p> <p>Please refer to Rows 12 and 17 for responses to CVCWA's question about compliance schedule. The last sentence was removed since it is already stated in Row 17.</p>	<p>Act, USEPA regulations 40 CFR 122.47, and State laws and regulations, including State Water Board Resolution 2008-0025 <u>and the Final Compliance Date.</u> Compliance with NPDES requirements in this program shall be as soon as possible.</p>
20	<p>Implementation Program <u>[Issue for Stakeholder Discussion: How and where to include Principle #1?</u> <i>[During Phase 1, all dischargers shall implement reasonable control options for inorganic mercury and/or methylmercury.]</i> <i>(May not fit here.)]</i></p>	<p>TNC: Suggest add to Paragraph 8, although not sure about legal ramifications of "shall" and "reasonable". Reword first to add "should" and "reasonable, feasible"? (S. Liu)</p> <p>CVCWA: Note: Principle #1 states Phase 1 studies should address both inorganic mercury (inorganic Hg) and methylmercury (MeHg) from all sources. Reasonable control options should be implemented during Phase 1 for inorganic Hg and/or MeHg.</p> <p>See paragraphs 8 and 18 above for suggested areas to incorporate</p>	<p>Implementation Program <u>See Row 18.</u></p>

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		<p>the principle.</p> <p>We agree with TNC that the principal that implementation is going to be conducted through an adaptive management approach needs to be very clear and should be spelled out right away.</p> <hr/> <p>RB: Row 18 has Principles #1 and 5 incorporated.</p>	
21	<p><u>Point Sources</u> The regulatory mechanism to implement the Delta Mercury Control Program for point sources shall be through NPDES permits.</p>		<p><u>Point Sources</u> The regulatory mechanism to implement the Delta Mercury Control Program for point sources shall be through NPDES permits.</p>
22	<p><i>Requirements for NPDES Permitted Facilities</i> NPDES permitted facilities listed in Table B shall implement reasonable, feasible actions with the goal of reducing inorganic mercury discharges. By [six months after Effective Date], all facilities listed in Table B shall submit individual pollutant minimization program workplans to the Regional Water Board. The dischargers shall implement their respective pollutant minimization programs by 30 days after Executive Officer approval of the workplans. The dischargers shall submit annual progress reports on pollution minimization activities implemented and evaluation of their effectiveness, including mercury and methylmercury monitoring results.</p>	<p>CVCWA: There are several issues with this paragraph where we suggest corrections: (1) Sometimes it is several weeks beyond the dated letter when POTWs receive their approval letters. (2) Monitoring data will be submitted as part of the self-monitoring reports. This appears to be a duplication of effort. (3) PMP program effectiveness may be measured by water quality or other parameter, where the last sentence seems to indicate that water quality monitoring is the appropriate matrix. (4) The text infers that PMP reporting needs to go on forever (including reports, etc). The BPA should include an end date – for example, when final WLAs are incorporated in the permits. (5) There is a lot of confusion in this section between total and methyl mercury reductions that continues on in other point source (including MS4) paragraphs, which makes it unclear what the proposed requirements really are. There may also need to be a differentiation between Phase I and Phase 2.</p> <p>Edit as follows: <u>During Phase I before compliance is achieved in Phase 2 with final WLAs,</u> NPDES permitted facilities listed in Table B shall implement reasonable, feasible actions with the goal of reducing inorganic <u>(total)</u> mercury discharges. By [six months after Effective Date], all facilities listed in Table B shall submit individual pollutant minimization program workplans to the Regional Water Board. The dischargers shall implement their respective pollutant minimization programs <u>within 30 days after receipt of written</u> Executive Officer approval of the workplans. <u>Until the NPDES permitted facility</u></p>	<p><i>Requirements for NPDES Permitted Facilities</i> NPDES permitted facilities listed in Table B shall implement reasonable, feasible actions with the goal of reducing inorganic (total) mercury discharges. By [six months after Effective Date], all facilities listed in Table B shall submit individual pollutant minimization program workplans to the Regional Water Board. The dischargers shall implement their respective pollutant minimization programs <u>within 30 days after receipt of written</u> Executive Officer approval of the workplans. <u>Until the NPDES permitted facility achieves compliance with its WLA,</u> the discharger shall submit annual progress reports on pollution minimization activities implemented and evaluation of their effectiveness, including a summary of mercury and methylmercury monitoring results.</p>

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		<p><u>achieves compliance with its WLA,</u> tThe discharger shall submit annual progress reports on pollution minimization activities implemented and evaluation of their effectiveness, including mercury and methylmercury monitoring results.</p> <p>Alternative: <u>and an annual summary of</u>including mercury and methylmercury monitoring results.</p> <hr/> <p>CWA: We certainly agree that actions need to be within reason, but this text does not indicate that these actions need to be based on the most up to date technologies and should be comprehensive. Otherwise dischargers can decide what is reasonable and hide behind current capacity or in appropriate cost considerations. How will the Exec. Officer determine what is adequate and what is reasonable? It needs to say here that the expectation is that all current technologies will be considered in establishing a plan and implemented to the extent possible.</p> <hr/> <p>RB: The first sentence of Row 22 was removed as it is redundant with Row 18.</p> <p>During the workgroup meetings we discussed using pollution minimization programs (PMPs) to maintain inorganic mercury caps and that controlling inorganic mercury would indirectly control MeHg discharges. Monitoring water in addition to other matrices could be used to evaluate the PMPs effectiveness. PMP reporting during Phase 1 could be part of other reports and does not need to be a duplicative effort. PMP reporting was be modified to be consistent with achieving WLAs.</p> <p>Porter-Cologne section 13263.3 contains requirements for pollution prevention plans. The plans must be approved by the EO. Regional Board staff experienced with PMPs will review the plans and annual reports to ensure that they are adequate. Note, a PMP addresses pollution prevention, not pollutant treatment, and does not include treatment technologies.</p>	

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23	During Phase 1, all facilities listed in Table B shall limit their discharges of inorganic (total) mercury. The 12-month running average effluent total recoverable mercury loading shall not exceed XX lbs/month. This interim mass limit is to be derived using current, representative data as follows: XX lbs/month = 99.9th percentile running annual average mercury load. The limit shall be assigned in permits.	CVCWA: Edit: "This interim <u>inorganic (total) mercury</u> mass limit is to be derived..." RB: Staff made the edit.	During Phase 1, all facilities listed in Table B shall limit their discharges of inorganic (total) mercury. The 12-month running average effluent total recoverable mercury loading shall not exceed XX lbs/month. This interim <u>inorganic (total) mercury</u> mass limit is to be derived using current, representative data as follows: XX lbs/month = 99.9th percentile running annual average mercury load. The limit shall be assigned in permits.
24	The applicability and effectiveness of the total mercury limit will be re-evaluated at the end of Phase 1.	CVCWA: Edit: "The applicability and effectiveness of the <u>interim inorganic (total) mercury</u> <u>mass</u> limit will be re-evaluated at the end of Phase 1." This is consistent with row #23 and we are not sure how "applicability" will be evaluated. CWA: We continue to advocate for expectations to be as explicit as possible. So it should be said that actions to reduce total mercury will continue in Phase 2. Why wouldn't they? RB: Staff modified this line to include potential modification of the load limit. We do not know what the results of the Phase 1 studies will be; it may be appropriate to maintain the Phase 1 inorganic mercury load limits into Phase 2, or the limits could be lowered or raised based on the results of the MeHg control studies and the efficacy of controlling inorganic mercury to meet MeHg allocations. Row 11 indicates Phase 2 continues with inorganic mercury reduction strategies.	The applicability and effectiveness of the total mercury limit will be re-evaluated at the end of Phase 1. <u>At the end of Phase 1, the interim inorganic (total) mercury mass limit will be re-evaluated and modified as appropriate.</u>
25	NPDES permitted facilities that begin discharging to the Delta or Yolo Bypass during Phase 1 shall comply with the above requirements.	CVCWA: (if this is intended to allow for new discharges, it needs to so specify.) CWA: We do not support allowing new discharges, esp. in Yolo Bypass.	NPDES permitted facilities that begin discharging to the Delta or Yolo Bypass during Phase 1 shall comply with the above requirements.

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		<p>RB: The TMDL accounts for new discharges. New NPDES discharges would be allocated a portion of the unassigned allocation (Table B), and would have to follow the same requirement as other facilities (e.g., PMPs, inorganic mercury mass caps, studies). Please refer to Row 12 for additional discussion on this topic.</p>	
26	<p><i>Requirements for NPDES Permitted Urban Runoff Discharges</i> NPDES-permitted MS4 dischargers listed in Table C shall implement reasonable, feasible inorganic mercury control actions with the goal of reducing inorganic mercury discharges. MS4 dischargers listed in Table C shall implement best management practices (BMPs) to control erosion and sediment discharges consistent with their existing permits and orders.</p>	<p>CVCWA: See comment above regarding timeframe for total mercury control.</p> <p>CWA: NPDES-permitted MS4 dischargers listed in Table C shall implement reasonable, feasible inorganic mercury control actions with the goal of reducing mercury discharges. MS4 dischargers listed in Table C shall implement best management practices (BMPs) to control erosion and sediment discharges consistent with their existing permits and orders.</p> <p>We recommend deleting the word <u>inorganic</u> simply because they should be reducing the mercury discharges in their stormwater, even if it has methylated.</p> <p>Our understanding is that the BPA can list recommended BMPs as a way to provide guidance and as a place to start, as long as they are not prescribed. We would recommend such detail be included.</p> <p>RB: BMPs to control erosion and sediment is not limited to the mercury issue or Phase 1 or 2, therefore a timeframe for mercury is not included.</p> <p>Staff removed 'inorganic.'</p> <p>Because of the evolving nature of best management practices (BMPs), any specific BMPs included in the Basin Plan - as guidance or requirements - could quickly become outdated and potentially cause confusion for permit writers and the regulated community alike. As a result, staff will not list potential BMPs for stormwater in the draft BPA. The MS4 permits specify that municipalities reduce the discharge of pollutants in urban runoff to the maximum extent</p>	<p><i>Requirements for NPDES Permitted Urban Runoff Discharges</i> NPDES-permitted dischargers listed in Table C shall implement reasonable, feasible inorganic mercury control actions with the goal of reducing mercury discharges. MS4 dischargers listed in Table C shall implement best management practices (BMPs) to control erosion and sediment discharges consistent with their existing permits and orders <u>with the goal of reducing mercury discharges.</u></p>

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		<p>practicable (MEP). Because MEP is a dynamic performance standard that evolves over time as urban runoff management knowledge increases, the municipalities' storm water programs must continually be assessed and modified to incorporate improved programs, control measures, and BMPs in order to achieve the evolving MEP standard. Storm Water Management Plans (SWMPs) are an integral and enforceable component of the MS4 permits that describe in detail the type of BMPs to be implemented. The MS4 permits allow BMPs be changed in the Annual Reporting process to meet the MEP standard.</p> <p>Staff combined the two sentences to avoid redundancy.</p>	
27	<p>The Sacramento MS4 (CAS082597) and Stockton MS4 (CAS083470) permittees shall implement pollution prevention measures and best management practices to minimize total mercury discharges. This requirement shall be implemented through mercury reduction strategies required by their existing permits and orders. Annually, the dischargers shall submit a report on the results of monitoring and a description of implemented pollution prevention measures and their effectiveness.</p>	<p>CVCWA: Is this a Phase I activity, Phase 2 interim or both? Is this a forever and ever reporting requirement, or should there be a stopping point such as compliance with final WLAs?</p> <p>MS4: The MS4 permittees are required already to submit annual reports to the Regional Board. These reports include the results of monitoring and a description of implemented pollution prevention measures and their effectiveness. The measures are already documented in their Mercury Plans. Add: "The report required by this amendment may be provided as a section of the annual reports that the MS4s submit under the NPDES permit requirement."</p> <p>RB: This is a Phase 1 activity. It may be modified when the Board reviews the program at the end of Phase 1. Reporting will be through Phase 1, and then modified as necessary.</p> <p>The BPA does not preclude submitting the mercury report with a facility's annual report. Staff is not recommending including additional language here.</p> <p>The Contra Costa County MS4 was added to the BPA in Rows 27 and 28 since it is a large MS4.</p>	<p>The Sacramento MS4 (CAS082597), <u>Contra Costa County MS4 (CAS 083313)</u>, and Stockton MS4 (CAS083470) permittees shall implement pollution prevention measures and best management practices to minimize total mercury discharges. This requirement shall be implemented through mercury reduction strategies required by their existing permits and orders. Annually, the dischargers shall report on the results of monitoring and a description of implemented pollution prevention measures and their effectiveness.</p>
28	<p>The Sacramento MS4 (CAS082597) and Stockton MS4 (CAS083470) shall continue to conduct mercury control studies to monitor</p>	<p>MS4: The last phrase, "and to develop..." could be deleted, as it is redundant with the more detailed requirements in rows #35-61.</p>	<p>The Sacramento MS4 (CAS082597), <u>Contra Costa County MS4 (CAS 083313)</u>, and Stockton MS4 (CAS083470) shall continue to conduct mercury control</p>

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	and evaluate the effectiveness of existing BMPs per existing requirements in permits and orders, and to develop and evaluate additional BMPs as needed to reduce mercury and methylmercury discharges.	RB: Staff is suggesting that some new BMPs may need to be developed to address MeHg in addition to conventional BMPs to address erosion and sediment. Staff edited the BPA language in response to MS4 comments in Row 61.	studies to monitor and evaluate the effectiveness of existing BMPs per existing requirements in permits and orders, and to develop and evaluate additional BMPs as needed to reduce <u>their</u> mercury and methylmercury discharges <u>within and upstream of the legal Delta boundary</u> .
29	<u>Nonpoint Sources</u> Nonpoint sources shall be regulated through the authority contained in Water Code sections 13263 and 13269, and in conformance with the State Water Resources Control Board's Nonpoint Source Implementation and Enforcement Policy.	DPC: See comment on Row 13. RB: Rows 7 and 10 have edits to address the evaluation of potential benefits and impacts of MeHg controls. The staff report will include cost considerations for the methylmercury studies and potential controls. Porter Cologne does not require a cost-benefit analysis. One of the difficulties of doing a cost-benefit analysis is that it is difficult to determine the dollar value of an uncontaminated fish or the dollar value to a threatened or endangered species to consume a clean fish, or the value of allowing human subsistence fishers to consume locally caught fish. Likewise, we do not know the dollar value of a Delta smelt or a wetland restored to protect the smelt. Granted, stakeholders would be able to provide the costs and economic benefits of projects such as flood control, agriculture, wastewater treatment, and dredging. Section 13267 authorizes the Board to request technical reports, so this was added to this list.	<u>Nonpoint Sources</u> Nonpoint sources shall be regulated through the authority contained in Water Code sections 13263, <u>13267</u> and 13269, and in conformance with the State Water Resources Control Board's Nonpoint Source Implementation and Enforcement Policy.
30	Non-point sources are responsible for discharges that contribute to net increases in methylmercury and/or inorganic mercury loading to Delta and Yolo Bypass waterways listed in Appendix 43.	CVFPB: Just want to clarify that "loading to Delta and Yolo Bypass" means that dischargers into these areas that increase MeHg are the ones responsible for mitigation not the managers of the bypass, except for wetland restoration projects. DPC: This program creates a funding burden to in-Delta interests for an environmental legacy issue of statewide concern. We see a lack of funding to accomplish program's objectives.	Non-point sources are responsible for discharges that contribute to net increases in methylmercury and/or inorganic mercury loading to Delta and Yolo Bypass waterways listed in Appendix 43.

¹ Stephenson, M., C. Foe, G.A. Gill, and K.H. Coale. 2008. Transport, Cycling, and Fate of Mercury and Methylmercury in the San Francisco Delta and Tributaries: An Integrated Mass Balance Assessment Approach. CALFED Mercury Project Final Report. Task 2: Methyl Mercury Concentrations and Loads in the Central Valley and Freshwater Delta. Available at: <http://mercury.mlml.calstate.edu/reports/reports/>

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		<p>DWR: Where is Appendix 43 that is referenced here? (M. List)</p> <hr/> <p>RB: Water management practices can lead to increased methylmercury in fish, and agencies responsible for water management that contribute methylmercury are dischargers in this TMDL. The Yolo Bypass is the largest feature of the Sacramento River Flood Control Project. It is designed to divert storm water from the Sacramento River around the City of Sacramento. According to a recent 2008 CalFed mercury program study,¹ much of the methylmercury production within the Yolo Bypass occurs when it is inundated by spills from Fremont Weir, which is a managed flood control structure. According to the 2001 Yolo Bypass Management Strategy report,² the Central Valley Flood Protection Board (formerly called the Reclamation Board) has 1,600 acres of “fee title acreage” in the Bypass comprised of grassland with trees that is flooded when the Fremont Weir spills, is used for spoil pile storage for levee repair, and is leased to individuals for pheasant hunting. In addition, the Yolo Bypass Strategy report stated, “... land use within the Bypass is restricted by easements held by the Reclamation Board. In addition to granting the state the right to inundate the land with floodwaters, the easements preclude landowners from building structures or berms or growing vegetation that would significantly obstruct floodflows.” Because CVFPB owns land within the Bypass that becomes inundated by Fremont Weir spills, and private lands are restricted in their use by CVFPB easements, CVFPB will need to coordinate with private landowners and wetland managers to develop effective control studies and mitigation strategies. Please see RB responses to DU comments in Row 17.</p> <p>Funding is a significant issue for all of the sources assigned responsibility for the study and management of methylmercury and total mercury. The BPA does not provide funding for the studies or management efforts. Completing the studies will be the responsibility of the sources contributing to MeHg discharges. A topic for the</p>	

² Jones & Stokes. 2001..A Framework for the Future: Yolo Bypass Management Strategy. August 2001 Final Report. Prepared for the CALFED Bay-Delta Program by the Yolo Bypass Working Group, Yolo Basin Foundation, and Jones & Stokes. Available at: http://www.yolobasin.org/bypass_strategy.cfm

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		<p>stakeholder group needs to include developing a funding strategy, including a strategy for requesting funding from the state and federal governments.</p> <p>Appendix 43 is in the February 2008 BPA and is available on the mercury website.</p>	
31	<p>During Phase 1, all nonpoint sources in the Delta and Yolo Bypass shall implement reasonable, feasible actions to reduce sediment in runoff with the goal of reducing inorganic mercury loading to the Yolo Bypass and Delta, in compliance with existing Basin Plan objectives and requirements, and Irrigated Lands Regulatory Program requirements.</p>	<p>CWA: Does this contradict what was said above?</p> <hr/> <p>RB: Row 30 assigns responsibility to those entities that are net sources of MeHg, while Row 31 is for sources of inorganic mercury. Generally nonpoint sources in the Delta are not a source of inorganic mercury unless they are discharging lots of sediment, and discharging lots of sediment would violate existing Basin Plan requirements for turbidity). For example, the Basin Plan contains objectives for increases in turbidity attributable to controllable water quality factors, and requires operations to minimize sediment in irrigation return water (tail-water) in order to meet Basin Plan turbidity objectives and to prevent concentrations of materials toxic to fish or wildlife. Also, the Conditional Waiver of waste discharge requirements for discharges from irrigated lands (Order No. R5-2006-0053) requires implementation of a monitoring and reporting program to determine effects on water quality and implementation of management practices to comply with applicable water quality standards, including those in the Basin Plan. In addition, the waiver states: "...when it is determined that discharges of waste from irrigated lands have caused or contributed to exceedances of applicable water quality standards, the Executive Officer may request a Management Plan, which will identify the management practices that may be implemented, evaluate the effectiveness of existing management practices in achieving applicable water quality standards, and identify additional actions, including, but not limited to, different or additional management practice implementation or education outreach to achieve applicable water quality standards. The Management Plan will also include a schedule to implement the management practices and the means of assessing and evaluating their effectiveness."</p>	<p>During Phase 1, all nonpoint sources in the Delta and Yolo Bypass shall implement reasonable, feasible actions to reduce sediment in runoff with the goal of reducing inorganic mercury loading to the Yolo Bypass and Delta, in compliance with existing Basin Plan objectives and requirements, and Irrigated Lands Regulatory Program requirements.</p>

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32	Attainment of methylmercury load allocations at the end of Phase 2 will be determined by comparing monitoring data and documentation of methylmercury management practice implementation for each subarea with loads specified in Table A and Table D.	<p>CVCWA: State somewhere what triggers the “end of Phase 2”</p> <hr/> <p>MS4: When is the end of Phase 2?</p> <hr/> <p>RB: The end of Phase 2 is 2030 (see Row 11). Staff edited the draft BPA text to clarify this.</p>	Attainment of methylmercury load allocations at the end of Phase 2 <u>2030</u> will be determined by comparing monitoring data and documentation of methylmercury management practice implementation for each subarea with loads specified in Table A and Table D.
33	For subareas not in compliance with allocations by 2030, the Regional Water Board shall develop load allocations for individual sources and require individual monitoring and waste discharge requirements.	<p>CVCWA: Change to 2035. See comments above.</p> <hr/> <p>TNC: This changed from the previous draft. It now reads “shall”, where it used to say “may”. We do not think “shall” is appropriate. For instance, the Delta Mercury Control Program Review may come to the conclusion that the tested control measures are going to achieve 50% reduction and the subareas would potentially still out in compliance. Another possibility is that the 2030 timeframe may come and tested control measures are <i>all</i> in place and the subareas are still out in compliance. The Regional Board may require load allocations, but it should not box itself (and NPS sources) in, with use of “shall”.</p> <p>TNC edits: For subareas not in compliance with allocations by 2030, the Regional Water Board shall <u>may</u> develop load allocations for individual sources and require individual monitoring and waste discharge requirements.</p> <hr/> <p>CWA: Don’t dischargers have individual load allocations and discharge requirements?</p> <hr/> <p>RB: Please see previous discussion regarding the 2030 date (e.g., Row 11).</p> <p>The ‘shall’ was changed to ‘may’. Individual load allocations and WDRs might not be necessary, and the program may be better managed by evaluating areas within a subarea to identify causes and solutions for exceedances.</p> <p>For nonpoint sources, the draft BPA does not assign individual</p>	For subareas not in compliance with allocations by 2030, the Regional Water Board shall may develop load allocations for individual sources and require individual monitoring and waste discharge requirements.

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		allocations and discharge requirements. Allocations are assigned jointly by subarea.	
34	<p>In subareas needing reductions in methylmercury, proponents of new wetland and wetland restoration projects scheduled for construction after [Effective Date] shall (a) participate in Control Studies as described below, or shall implement site-specific study plans, that evaluate practices to minimize methylmercury discharges, and (b) implement methylmercury controls as feasible. Wetland projects may include pilot projects and monitoring to evaluate management practices that minimize methylmercury discharges.</p>	<p>CVCWA: Is there a reason this is only limited to wetlands?</p> <hr/> <p>DU & TNC: DU & TNC appreciate the EO's work in bringing the Permitting and TMDL sections together to coordinate work and ensure that the interim permitting period follows the flavor of the draft BPA. We would like to work with the RB to further discuss this coordination and prevent unnecessary and costly monitoring that does not advance the research knowledge on wetland characterization and control studies. The research knowledge will be advanced under Phase I studies that are developed and implemented with rigorous research study and monitoring protocols. It should be noted that RB has dropped mandatory characterization studies from the BPA and requiring site-specific monitoring is equivalent to requiring mandatory characterization.</p> <p>DU & TNC proposes additional text to clarify how new projects will be evaluated for inclusion in the collaborative Control Studies.</p> <p>DU & TNC edits: In subareas needing reductions in methylmercury, proponents of new wetland and wetland restoration projects scheduled for construction after [Effective Date] shall (a) participate in <u>collaborative</u> Control Studies as described below, or shall implement site-specific study plans, that evaluate practices to minimize methylmercury discharges, and (b) implement methylmercury controls as feasible. <u>New wetland</u> projects may include pilot projects and <u>associated</u> monitoring to evaluate management practices that minimize methylmercury discharges.</p> <p>Text for BPA or MOI: Proposed new wetland and wetland restoration projects will be evaluated for applicability to and incorporation in collaborative Control Studies. New projects will be included if the project will yield scientifically valid data required to evaluate management practices</p>	<p>In subareas needing reductions in methylmercury, proponents of new wetland and wetland restoration projects scheduled for construction after [Effective Date] shall (a) participate in Control Studies as described below, or shall implement site-specific study plans, that evaluate practices to minimize methylmercury discharges, and (b) implement methylmercury controls as feasible. <u>New wetland</u> projects may include pilot projects and <u>associated</u> monitoring to evaluate management practices that minimize methylmercury discharges.</p>

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		<p>that minimize methylmercury discharges. Funding for data collection or additional study-related expense should be provided through specially designated grants and contracts tied to Control Study Work Plans.</p> <hr/> <p>CWA: Based on discussion 9/17: Any language developed to coordinate and clarify Phase 1 studies should 1) be included in the BPA and not simply the MOI, esp since this is central to what wetlands restoration projects are required to do and is part of ensuring that we will accomplish the TMDL's goals.; 2) address the fact that however studies are developed, they will take into consideration the differences in what role wetlands play in methylmercury levels</p> <hr/> <p>RB: This text is focused on wetlands because we expect that this is the source type most expected to increase its MeHg load because of new restoration projects.</p> <p>The Control Studies are not mandated to be collaborative, so inserting the word 'collaborative' here, or adding specific language to coordinate studies, is not appropriate. Row 49 describes the collaborative approach.</p> <p>There is concern about coordination between TMDL and 401 Certification programs now and in future. Wetland projects may coordinate with other projects or do site-specific studies. Specific characterization monitoring of projects during Phase 1 was removed, though monitoring will be a key component of evaluating the effectiveness of MeHg management projects. Projects that are part of a comprehensive study will not need individual monitoring. The individual and/or comprehensive Control Study Workplan(s) will need to propose monitoring programs.</p> <p>DU/TNC's proposed new language has been moved to the MOI, as was CWA's comment that the studies consider the different roles wetlands play in methylmercury levels. The Control Study Workplan(s) will contain the details of the coordinated studies and</p>	

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		<p>who does the various forms of monitoring. The Control Study Workplan(s) will be developed by stakeholders and is subject to EO approval.</p>	
35	<p><u>Control Studies</u> Point and nonpoint source dischargers, working with other stakeholders, shall conduct methylmercury control studies (Control Studies) to identify existing control methods and, as needed, develop new control methods to comply with the methylmercury load and waste load allocations.</p>	<p>TNC: change “identify” to “evaluate”. The revision to identify does not fit since entire phrase suggested by WWTP not used. (S. Liu)</p> <p>TNC Edits: Point and nonpoint source dischargers, working with other stakeholders <u>and a Technical Advisory Committee as described below</u>, shall conduct methylmercury control studies (Control Studies) to <u>evaluate</u> existing control methods and, as needed, develop new control methods to comply with the methylmercury load and waste load allocations.</p> <p>CVCWA: Add to the title “<u>Phase 1 Control Studies</u>”</p> <p>Aspects of Principle 3 should be incorporated in this discussion. Principle 3 states: “The control program should create strategies, including incentives to encourage innovative actions, to address the accumulation of MeHg in fish tissue and to reduce MeHg exposure, including watershed approaches, offsets projects, and short and long-term actions that result in reducing inorganic Hg and MeHg.”</p> <p>As currently worded, it is asking for cutting-edge research to develop new technologies.</p> <p>Edit: “...to <u>identify, characterize and evaluate the effectiveness of existing control methods and, as needed, develop new control methods to comply with the methylmercury load and waste load allocations. Incentives to encourage innovative actions, watershed approaches, offsets projects, and short and long-term actions that result in reducing inorganic Hg and MeHg to address the accumulation of MeHg in fish tissue and to reduce MeHg exposure are encouraged to be evaluated in the Phase 1 control studies.</u>”</p>	<p><u>Phase 1 Control Studies</u> Point and nonpoint source dischargers, working with other stakeholders, shall conduct methylmercury control studies (Control Studies) to identify <u>evaluate</u> existing control methods and, as needed, develop <u>additional new</u> control methods to comply with the methylmercury load and waste load allocations. <u>The Control Studies shall evaluate the feasibility of reducing sources more than the minimum amount needed to achieve allocations. A Technical Advisory Committee, described below, will review the Control Studies’ designs and results.</u></p> <p><u>Control Studies can be developed through a stakeholder group approach or other collaborative mechanism, or by individual dischargers. Individual dischargers are not required to do individual studies if the individual dischargers join a collaborative study group(s).</u></p> <p><u>Phase 1 studies also may include an evaluation of innovative actions, watershed approaches, offsets projects, and other short and long-term actions that result in reducing inorganic (total) mercury and methylmercury to address the accumulation of methylmercury in fish tissue and to reduce methylmercury exposure.</u></p>

³ Drury, D. 2007. Santa Clara Valley Water District. Reduction of methyl mercury concentrations in an urban lake using a solar-powered circulator. Presentation at the 2007 Annual International Symposium of the North American Lake Management Society. October. <http://www.nalms.org/Conferences/Orlando/PDF/Orlando2007Program.pdf>

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		<p>MS4: MS4s (presumably like other dischargers) cannot be expected to develop new control methods needed to comply with allocations. That type of research is appropriate for industry groups, government research centers and university researchers. See edit to row 39.</p> <p>CVFPB: “working with other stakeholders” should have the statement “to secure funding for these studies” added directly after it.</p> <p>RB: The term ‘identify’ was changed to ‘evaluate’. The TAC will not be conducting the studies, but will be providing the review of study designs and results.</p> <p>Staff added ‘Phase 1’ to the title and incorporated the concept of Principle 3. Incentives may be part of an offset program; details need to be determined by the Stakeholder Group and other workgroups and can be part of the MOI.</p> <p>The control studies will need to look at current practices and may need to develop new ways of reducing MeHg, which could include a combination of existing technologies. For instance, many WWTPs discharge very low levels of MeHg; the studies could look into those current practices that remove MeHg and then evaluate how those practices could be implemented or modified for use elsewhere. The BPA does require that new practices should be developed and evaluated as needed to meet allocations. For instance, studies are already being conducted in the Yolo Bypass to determine if different grazing and water management practices lead to changes in wetland MeHg discharges. In addition, existing and innovative management practices should be evaluated to determine if it is possible to reduce MeHg discharges by more than the amount needed to meet allocations.</p> <p>There is precedence for the Water Boards requiring dischargers to conduct control studies as a component of TMDL implementation programs, including dischargers that have public benefit mandates, and agencies with operations that affect in-stream conditions. For</p>	

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		<p>example, the dissolved oxygen TMDL for the Stockton Deep Water Ship Channel allocated equal accountability for excesses of net oxygen demand to entities responsible for flow, channel geometry, and sources of oxygen-demanding substances and required responsible entities to engage in studies of the causes. The estimated cost for the studies at the time the Central Valley Water Board adopted the dissolved oxygen TMDL was \$15.6 million. In addition, the San Francisco Bay's mercury TMDL control program requires NPDES dischargers and wetland and dredging projects to conduct MeHg studies. Also, the Guadalupe River TMDL implementation program incorporates requirements for technical studies to develop and evaluate methods to reduce MeHg production in reservoirs and Lake Almaden and other methods that have the potential to reduce bioaccumulation of mercury. The Santa Clara Valley Water District's pilot project to reduce MeHg in Lake Almaden has shown very positive results.³</p> <p>Consequently, staff does not consider it unreasonable for the Central Valley Water Board to require control studies as a component of the Delta mercury control program. Ultimately, it would be the responsibility of the dischargers to address their discharges and acquire funding for control studies. However, staff will work with dischargers to help them identify funding and design and implement cost effective control studies. Funding strategies can be contained in the MOI but are not included in the draft BPA.</p> <p>In addition, per a comment included in Row 3, a sentence was added requiring Control Studies to evaluate the feasibility of reducing sources more than the minimum amount needed to achieve allocations. Also, per a comment included in Row 49, text was moved from Row 49 to the second paragraph of this row.</p>	
36	The Regional Water Board will use the Phase 1 Control Studies' results and other information to consider amendments to the Delta Mercury Control Program during the Delta Mercury Control Program Review.		The Regional Water Board will use the Phase 1 Control Studies' results and other information to consider amendments to the Delta Mercury Control Program during the Phase 1 Delta Mercury Control Program Review.

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37	Dischargers may evaluate inorganic mercury controls as a method of controlling methylmercury discharges.		Dischargers may evaluate inorganic <u>(total)</u> mercury controls as a method of controlling methylmercury discharges.
38	Dischargers may conduct characterization studies to inform and prioritize the Control Studies. Characterization studies may include, but not be limited to, evaluations of methylmercury and total mercury concentrations and loads in source waters, receiving waters, and discharges, to determine which discharges act as net sources of methylmercury, and which land uses result in the greatest net methylmercury production and loss.	CVCWA: During Phase I, it appears that only point sources will be monitoring MeHg and total mercury. Characterization data is needed to identify current contributions and provide benchmarks for control strategies. RB: NPDES permits have requirements for monitoring. The Phase 1 Control Study Workplan(s) for nonpoint sources will have to contain monitoring plans.	Dischargers may conduct characterization studies to inform and prioritize the Control Studies. Characterization studies may include, but not be limited to, evaluations of methylmercury and total mercury concentrations and loads in source waters, receiving waters, and discharges, to determine which discharges act as net sources of methylmercury, and which land uses result in the greatest net methylmercury production and loss.
39	Final reports for Control Studies shall include a description of existing and/or newly developed methylmercury and/or organic mercury management practices; an evaluation of the effectiveness, costs, potential environmental effects, and overall feasibility of the control actions; and proposed implementation plans and schedules to comply with methylmercury allocations.	TNC: should be “and/or <u>inorganic</u> mercury management...” (S. Liu) CVCWA: Edit “Final reports for Control Studies shall include a description of <u>available existing and/or newly developed methylmercury and/or organic</u> mercury management practices...” MS4: Edit “...a description of <u>available existing and/or newly developed methylmercury and/or organic</u> mercury management practices...” RB: Staff added ‘in’ to ‘organic’. The final report should include a description of the existing management practices and any new practices developed in Phase 1. This information, along with the cost and implementation feasibility, will be considered by the Board during the review.	Final reports for Control Studies shall include a description of existing and/or newly developed methylmercury and/or <u>inorganic (total)</u> mercury management practices <u>identified in Phase 1</u> ; an evaluation of the effectiveness, costs, potential environmental effects, and overall feasibility of the control actions; and proposed implementation plans and schedules to comply with methylmercury allocations.
40	Final reports for Control Studies for wetlands and agriculture lands may include a cost-benefit analysis or other evaluation of the incremental adverse impact of implementing control actions to reduce methylmercury	DPC: See comment Row 13. DU: Another assessment of environmental impact would be how the cost of regulating MeHg affects the acreage of wetlands restored, and the lost opportunity cost to the environment if wetlands are not	<i>Moved to MOI.</i>

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	<p>discharges when such implementation would negatively affect the ecological function of the wetlands or would result in conversion of agricultural crop lands to different crops or to non-agricultural use.</p>	<p>restored.</p> <hr/> <p>DWR: How does compensatory wetland mitigation from construction activities, as is often required by the USACE, DFG, and/or other regulatory/resource agencies under 404 (and other) permits affect the cost-benefit ratio? If an entity or agency is required under ESA and/or the Clean Water Act to develop wetlands as mitigation, and the cost of not doing so would cause enforcement from that agency and violate law or statute, yet the potential cost of doing so may also adversely affect methylmercury production and conflict with this BPA, which competing interest “wins”? (M. List)</p> <hr/> <p>RB: This text provided an option for the final reports (“may include”) instead of a requirement. Porter Cologne does not require an assessment of the cost/benefit ratio. Since study participants will decide whether to include a cost/benefit analysis or similar evaluation of potentially competing ecosystem goals, staff removed the text from the draft BPA and recommends that it be placed in the MOI or study workplan developed with stakeholders.</p> <p>Staff is not aware that compensatory wetland mitigation projects require an analysis of costs and benefits of those wetlands. Wetland mitigations are conducted on a per acre basis of wetlands lost, not a financial one. Phase 1 study results will provide information for the Board to consider when evaluating any potential competing interests.</p>	
41	<p>If the Control Study results indicate that achieving a given methylmercury allocation is infeasible, then the discharger, or an entity representing a discharger, shall provide an implementation plan and schedule to achieve partial compliance along with detailed information on why full compliance is not achievable.</p>	<p>CVCWA: Suggested edit: “If the Control Study results indicate that achieving a given methylmercury allocation is infeasible, then the discharger, or an entity representing a discharger, shall provide <u>detailed information on why full compliance is not achievable, what allocation is achievable, and</u> an implementation plan and schedule to achieve partial compliance along with detailed information on why full compliance is not achievable.”</p> <hr/> <p>DWR: The definition of infeasible in this context is unknown. Is this referring to economic and technological infeasibility or something different? (M. List)</p>	<p>If the Control Study results indicate that achieving a given methylmercury allocation is infeasible, then the discharger, or an entity representing a discharger, shall provide an implementation plan and schedule to achieve partial compliance along with detailed information on why full compliance is not achievable, <u>what methylmercury load reduction is achievable, and an implementation plan and schedule to achieve partial compliance.</u></p>

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		<p>RB: Staff incorporated CVCWA's edits.</p> <p>Infeasible in this context could mean technically, economically, or environmentally infeasible and will need to be defined and defended on a case-by-case basis with the Control Study results.</p>	
42	<p><i>Sources and Activities for which Control Studies Are Required</i></p> <p>Control Studies are required for:</p> <p>a. Irrigated agricultural lands that discharge to the Yolo Bypass and Delta subareas that require methylmercury source reductions</p>		<p><i>Sources and Activities for which Control Studies Are Required</i></p> <p>Control Studies are required for:</p> <p>a. Irrigated agricultural lands that discharge to the Yolo Bypass and Delta subareas that require methylmercury source reductions</p>
43	<p>b. Managed wetlands and wetland restoration projects that discharge to the Yolo Bypass and Delta subareas that require methylmercury source reductions.</p>		<p>b. Managed wetlands and wetland restoration projects that discharge to the Yolo Bypass and Delta subareas that require methylmercury source reductions.</p>
44	<p>c. Existing NPDES permitted facilities in the Delta and the Yolo Bypass (listed in Table B).</p>		<p>c. Existing NPDES permitted facilities in the Delta and the Yolo Bypass (listed in Table B).</p>
45	<p>d. Sacramento Area MS4 and Stockton MS4 service areas within and upstream of the legal Delta boundary.</p>	<p>RB: The portion of Contra Costa County within Region 5 was added to the list since it is a large MS4 within the Delta TMDL boundary. Table C, footnote C was edited for consistency with Row 45.</p>	<p>d. Sacramento Area MS4, and Stockton MS4, <u>and Contra Costa County MS4</u> service areas within and upstream of the legal Delta boundary.</p>
46	<p>e. State and Federal agencies whose projects affect the transport of mercury and the production and transport of methylmercury through the Yolo Bypass and Delta, or manage open water areas in the Yolo Bypass and Delta, including but not limited to Department of Water Resources, State Lands Commission, Central Valley Flood Protection Board, and U.S. Bureau of</p>	<p>DU: I suggest citing the authorities that enable the Regional Board to mandate this of federal agencies.</p> <p>CVFPB: If the CVFPB is listed here, then we feel that the USACE should also probably be listed. Also, by "affect" does this mean in either a positive or adverse impact? Some structures already reduce the amount of mercury already in the system.</p>	<p>e. State and Federal agencies whose projects affect the transport of mercury and the production and transport of methylmercury through the Yolo Bypass and Delta, or manage open water areas in the Yolo Bypass and Delta, including but not limited to Department of Water Resources, State Lands Commission, Central Valley Flood Protection Board, <u>U.S. Army Corps of Engineers</u>, and U.S. Bureau of Reclamation. <u>State and federal projects include new</u></p>

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	Reclamation.	<p>RB: Clean Water Action Section 313 requires that federal agencies comply with federal, state, and local requirements on water quality control. The staff report will provide the full citation.</p> <p>USACE was added. The term 'affect' was included for any activities that have an impact on mercury/methylmercury. Structures that have positive effects (not just negative impacts) on mercury management should be part of the overall mercury studies to evaluate how the state and federal water projects affect mercury or methylmercury conditions.</p>	<p>projects or changes to existing projects <u>related to flood conveyance, water management, and salinity control that have the potential to increase ambient mercury and/or methylmercury levels in the Delta or Yolo Bypass.</u></p>
47	f. Proposed new projects or changes to existing projects related to flood conveyance, water management, and salinity control that have the potential to increase ambient mercury and/or methylmercury levels in the Delta or Yolo Bypass.	<p>CVCWA: Add "g. Other significant sources of methylmercury not listed above, as identified and deemed appropriate by the Executive Officer."</p> <hr/> <p>CVFPB: This essentially seems as if it needs to be grouped with No. 46, however is it separated merely because this is specifically for projects that have an adverse affect?</p> <hr/> <p>RB: Staff concurs with adding yet to be identified sources to the list. Row 47 (f) was combined with Row 46(e), and "Other significant sources" was listed separately.</p>	<p>f. <u>Other significant sources of methylmercury not listed above, as identified and deemed appropriate by the Executive Officer.</u></p> <p>Proposed new projects or changes to existing projects related to flood conveyance, water management, and salinity control that have the potential to increase ambient mercury and/or methylmercury levels in the Delta or Yolo Bypass.</p>
48	<p><i>Control Study Workplans and Technical Advisory Committee</i></p> <p>Control Studies shall be implemented through Control Study Workplan(s). The Control Study Workplan(s) shall provide detailed descriptions of how methylmercury control methods will be identified, developed and monitored, and how effectiveness, costs, potential environmental effects, and overall feasibility will be evaluated for the control methods.</p>	<p>CVCWA: Should separate workplans (part of rows #35-41) and TAC (part of row #51-53).</p> <p>Suggested Edit: "<i>Control Study Workplans and Technical Advisory Committee</i>"</p> <hr/> <p>DU/TNC: We recommend emphasizing the need for scientifically rigorous studies that will yield useful results for the regulatory program. Suggest adding words: scientifically valid".</p> <p>DU/TNC edits: "Control Studies shall be implemented through <u>scientifically valid</u> Control Study Workplan(s)."</p> <hr/>	<p><i>Control Study Workplans and Technical Advisory Committee</i></p> <p>Control Studies shall be implemented through Control Study Workplan(s). The Control Study Workplan(s) shall provide detailed descriptions of how methylmercury control methods will be identified, developed, and monitored, and how effectiveness, costs, potential environmental effects, and overall feasibility will be evaluated for the control methods.</p>

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		<p>RB: The stakeholders will be charged with developing studies – and the Control Study Workplans – in conjunction with scientific advisors from dischargers, the TAC and Board staff; and the TAC will be charged with ensuring the studies are conducted and reviewed in a scientific process. Staff is not recommending adding ‘scientifically valid’ to the BPA text because science is ingrained in the entire process.</p>	
49	<p>Control Study Workplans can be developed through a stakeholder group approach or other collaborative mechanism, or by individual dischargers. Individual dischargers are not required to do individual studies if the individual discharger joins a collaborative study group.</p>	<p>TNC: Item 49 should be elevated to the discussion on the Control Studies after Item 35, rather than buried in the Workplan, since it is not just the Workplans that are collaborative. We need to set the stage of collaborative studies right in the beginning of the discussion (If so, strike the word “Workplans”).</p> <p>TNC edits: “Individual dischargers are not required to do individual studies <u>or monitoring</u> if the individual discharger joins a collaborative study group”</p> <hr/> <p>RB: Row 49 was moved to Row 35, and ‘workplans’ was removed as the stakeholder approach does not need to be limited to workplans.</p> <p>Projects that do not conduct the studies nor are part of the comprehensive studies may be subject to individual monitoring requirements. Staff does not recommend that the Basin Plan defer mercury/methylmercury monitoring outside of the Control Studies; there may be new projects or projects that are proposed that were not anticipated during the development and implementation of the Control Studies- these projects may have monitoring requirements included with their permits.</p>	<p><i>Row 49 was moved to Row 35.</i></p>
50	<p>The Control Study Workplan(s) shall include details for organizing, planning, developing, prioritizing, and implementing the Control Studies.</p>		<p>The Control Study Workplan(s) shall include details for organizing, planning, developing, prioritizing, and implementing the Control Studies.</p>
51	<p>The Control Studies will be conducted using an Adaptive Management approach. This includes the formalization of a Stakeholder Group and a Technical Advisory Committee</p>	<p>DU: The Regional Board should also make a statement about committing funding, or at least pursuit of funding.</p> <hr/> <p>CVCWA: Edit to break up section and include new header and other</p>	<p>The Control Studies will be conducted <u>governed</u> using an Adaptive Management approach.</p> <p><i><u>Technical Advisory Committee and Adaptive</u></i></p>

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	<p>(TAC). The Regional Water Board commits to supporting an Adaptive Management approach and will provide, along with the TAC, technical study guidelines and framework to stakeholders.</p>	<p>edits:</p> <p>“The Control Studies will be conducted <u>governed</u> using an Adaptive Management approach.</p> <p><i>Technical Advisory Committee and Adaptive Management Approach</i> This includes the formalization of a Stakeholder Group and a Technical Advisory Committee (TAC). The Regional Water Board commits to supporting an Adaptive Management approach. <u>The adaptive management approach includes the formalization of a Stakeholder Group and a Technical Advisory Committee (TAC).</u> The Regional Water Board, working with the TAC and Stakeholder Group, and will provide, along with the TAC and Stakeholder Group, technical study guidelines and framework to stakeholders.”</p> <p>Would the SG be different than the current one, even as a starting point?</p> <p>This topic needs some clarity—implies that the SG and TAC will be leading the studies for various source categories. Does the changing the word from conducted to governed work, or is there a better way to say it?</p> <hr/> <p>USFWS: Still a bit confusing as to whether this means there will be one Stakeholder Group and one TAC to address all Control Studies not just for the Delta but also for future TMDLs upstream. Since this has all been done in the context of a Delta MeHg TMDL one might assume there may be other Stakeholder Groups and TACs for future MeHg TMDLs. (TCM)</p> <hr/> <p>RB: The Regional Board does not have funding for the Control Studies. Staff is evaluating potential funding sources and will continue to do so throughout the program. Row 108 recommends that the mercury reduction projects have priority for grants. It is recommended that the MOI outline a funding strategy for the studies.</p> <p>The Stakeholder Group could be the same as the existing one or a</p>	<p><u>Management Approach</u></p> <p><u>The Regional Water Board commits to supporting an Adaptive Management approach. The adaptive management approach This includes the formalization of a Stakeholder Group(s) and a Technical Advisory Committee (TAC). Regional Water Board commits to supporting an Adaptive Management approach and will provide, along with the TAC, technical study guidelines and framework to stakeholders. The Regional Water Board, working with the TAC and Stakeholder Group(s), will provide technical study guidelines and framework to stakeholders.</u></p>

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		<p>combination of new and existing stakeholders. The BPA will not specify the composition of the group. Stakeholders could add these details to the MOI or the workplans as they are developed. The stakeholders responsible for the individual and/or collaborative studies would lead the studies, not the TAC. The TAC is the advisory committee and will review study proposals by the stakeholder, but will not direct which studies will be conducted. These details could be in the MOI.</p> <p>The BPA does not mandate that a single stakeholder group be formed. It is possible that there may be different stakeholder groups that gather and conduct the coordinated studies based on geography or source type. In addition, it is possible that TAC subcommittees could be formed to work with more focused stakeholder groups. The TAC could be flexible depending on the magnitude and scope of studies that are proposed. The BPA now has plural "Group(s)".</p>	
52	<p>The TAC shall be comprised of independent experts who would convene as needed to provide scientific and technical peer review of the Control Study Workplan(s) and results, advise the Board on scientific and technical issues, and provide recommendations for additional studies and implementation alternatives developed by the dischargers. The Board shall form and manage the TAC with recommendations from the dischargers and other stakeholders, including community organizations.</p>	<p>CWA: How do we ensure that TAC members are in fact independent given that dischargers can recommend those members?</p> <hr/> <p>RB: The TAC members may be required to fill out a disclosure form indicating if they have a conflict of interest with respect to dischargers, as is done for the State Water Board scientific peer review program. Staff recognizes it may be difficult to find TAC members for the range of potential studies. It may be that if a TAC member recommended by the stakeholders, including staff, has a specific conflict, then all parties would be made aware of the potential conflict during study reviews.</p>	<p>The TAC shall be comprised of independent experts who would convene as needed to provide scientific and technical peer review of the Control Study Workplan(s) and results, advise the Board on scientific and technical issues, and provide recommendations for additional studies and implementation alternatives developed by the dischargers. The Board shall form and manage the TAC with recommendations from the dischargers and other stakeholders, including community organizations.</p>
53	<p>Board staff shall work with the TAC and Stakeholder Group to review the Control Study Workplan(s) and results. As new information becomes available from the Control Studies or outside studies that result in redirection of existing studies, dischargers may amend the Control Study Workplan(s) with Executive Officer approval.</p>	<p>DWR: If a characterization/control study is already being planned/initiated, prior to the development of the BPA/TMDL adoption and TAC development, how/what involvement does RWQCB staff and their EO believe is necessary at this point? (M. List)</p> <hr/> <p>RB: Staff recommends that stakeholders engaging in early development of studies (pre-BPA effective date) consult with staff before and during the studies to ensure the studies will provide the</p>	<p>Board staff shall work with the TAC and Stakeholder Group(s) to review the Control Study Workplan(s) and results. As new information becomes available from the Control Studies or outside studies that result in redirection of existing studies, dischargers may amend the Control Study Workplan(s) with Executive Officer approval.</p>

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		information needed for the BPA.	
54	<p><i>Mercury Control Studies Schedule</i></p> <p>1. By [six months after the Effective Date], entities required to conduct Control Studies shall submit for Executive Officer approval either: (1) a report(s) describing how dischargers and stakeholders plan to organize to develop a coordinated, comprehensive Control Study Workplan(s), or (2) a report describing how individual dischargers will develop individual Control Study Workplans. For dischargers conducting coordinated studies, the report shall include a list of participating dischargers, stakeholders and community groups. Dischargers shall be considered in compliance with this reporting requirement upon written commitment to either be part of a group developing a Control Study Workplan or develop an individual Control Study Workplan.</p>	<p>CVCWA: Something like a Gantt chart would be useful to discuss in the stakeholder group. The larger group efforts will take time, as the TMDL developers know. See also edits to rows #56 and 60.</p> <hr/> <p>MS4: Sacramento and Stockton MS4s have already submitted Mercury Plans. See row 28. How would this schedule fit in with those existing plans?</p> <hr/> <p>USFWS: RWQCB needs to clearly identify what it wants to see as a minimum for these reports otherwise the reports will be all over the place as to format, level of effort and quality. Reports for different types of dischargers may need to be different. The RB could provide report guidelines in later documents, such as the MOI, but recommend that the BPA say that staff will provide such guidance in coordination with stakeholders. (TCM)</p> <hr/> <p>RB: The MS4s have submitted mercury plans per existing permit requirements. This BPA requires studies to evaluate additional BMPs as needed to reduce mercury and methylmercury discharges. Staff purposely included "as needed" in the BPA text because, depending on the outcome of the current studies, additional BMP evaluations may or may not be needed.</p> <hr/> <p>The BPA language in Row 51 includes text that directly addresses USFWS's comment regarding the need for the BPA to say that staff will provide such guidance in coordination with stakeholders. The study guidelines, including criteria for the reports, will be developed in coordination with the TAC.</p>	<p><i>Mercury Control Studies Schedule</i></p> <p>1. By [six months after the Effective Date], entities required to conduct Control Studies shall submit for Executive Officer approval either: (1) a report(s) describing how dischargers and stakeholders plan to organize to develop a coordinated, comprehensive Control Study Workplan(s), or (2) a report describing how individual dischargers will develop individual Control Study Workplans. For dischargers conducting coordinated studies, the report shall include a list of participating dischargers, stakeholders and community groups. Dischargers shall be considered in compliance with this reporting requirement upon written commitment to either be part of a group developing a Control Study Workplan or develop an individual Control Study Workplan.</p>
55	<p>2. Control Study Workplans shall be submitted to the Regional Water Board within [nine months of the Effective Date of this amendment]. The Control Study Workplan(s) shall contain a detailed plan for the Control Studies and the work to be</p>	<p>CVCWA: This timeframe again is too short. Although we realize that there may be some opportunities to organize beforehand, workplan development is important and the TMDL should allow additional time for this process. One alternative is to allow additional (12 months) time for group efforts, which need the additional time for coordination and approvals.</p>	<p>2. Control Study Workplans shall be submitted to the Regional Water Board within [nine months of the Effective Date of this amendment]. With Executive Officer approval, an additional nine months may be allowed for Workplans being developed by a collaborative stakeholder approach. The Control</p>

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	<p>accomplished in the following three years. Regional Water Board staff and the TAC will review the workplans and provide recommendations for revising workplans if necessary.</p>	<p>Still uncertain how the Stakeholder group fits in to this and the adaptive management review. #53 above indicates that the Stakeholder group would also be reviewing, although this could cause timeframe issues.</p> <hr/> <p>MS4: While the characterization studies have been dropped as requirements, there is an expectation that they'll be done. However, this schedule doesn't seem to provide any time for characterization. Perhaps some control studies will just have a first step of characterization.</p> <hr/> <p>DWR: It is unclear whether or not the RWQCB staff/EO and/or TAC must provide a letter of concurrence with the proposed study prior to study initiation. Assuming the norm, most studies work plans will not be submitted until nine months after the effective date of this amendment. Projecting complete compliance, the sheer volume of work plans will completely overwhelm Water Board staff and the TAC. If a concurrence letter must be received prior to initiating studies, the Water Board/TAC will become a backlog, resulting in delays in study initiation. Additionally, as with our comment in Row #53, what is the intended process for those already preparing/initiating studies, prior to adoption of the BPA and establishment of the TAC? (M. List)</p> <hr/> <p>Tribes: An eight year study period is unacceptable and should be reduced. The amount of time prior to implementation of the plan leaves fish-eating populations vulnerable and this is an unacceptable risk.</p> <hr/> <p>RB: The time frame for the studies needs further discussion at the stakeholder meetings. Staff can conceive that it would take a group of stakeholders more time to work with a TAC to develop a collaborative study that evaluates multiple discharges than the time needed for a single stakeholder to work with a TAC to develop a study that evaluates a single discharge. However, at this time, the effective date on the BPA may not be until early 2011, at the earliest, so nine months later would mean Workplans would be due in 2012. This</p>	<p>Study Workplan(s) shall contain a detailed plan for the Control Studies and the work to be accomplished <u>during Phase 1</u>. in the following three years. Regional Water Board staff and the TAC will review the Workplans and provide recommendations for revising Workplans if necessary.</p>

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		<p>should be an adequate timeframe. None-the-less, staff included additional text in an attempt to address this concern and allowed nine additional months for a collaborative study approach.</p> <p>The Stakeholder Group would take part in developing the Workplans in coordination with the stakeholders they represent, so there should not be more time needed for stakeholder group review.</p> <p>The MS4 comment is correct in that some sources will want to identify where MeHg is originating (e.g., within a MS4 conveyance system) so that the BMP studies can be focused there. There will be about seven years to conduct the studies before final reports are due.</p> <p>Row 56 provides four months for Board review of the studies; also see CVCWA's suggestion in Row 56. Studies conducted prior to the BPA will not require EO approval. Staff recommends pre-BPA studies be discussed with staff to ensure studies are designed to provide information needed to inform the TMDL. Once the BPA is approved, stakeholders conducting the pre-BPA effective date studies could submit a letter to the Board explaining how their studies address the BPA requirements and their plans for any additional efforts that may be needed to comply with the BPA requirements.</p>	
56	<p>Within four months of submittal, the Executive Officer must determine if the Workplans are acceptable. After four months, Workplans are deemed approved and ready to implement if no written approval is provided by the Executive Officer.</p>	<p>CVCWA: Add at end “, unless the Executive Officer provides written notification to extend the approval process.”</p> <hr/> <p>DWR: Although this item partially addresses our comment in Row #55, a four month review period seems extensive for those who are ready to begin work, and must coordinate contracting, and other planning/budgeting efforts, as well as begin sampling when water is present in the system. A four month delay in approval may result in missing critical sampling events (e.g. first flush storm events, etc.) (M. List)</p> <hr/> <p>RB: CVCWA's suggestion was added.</p> <p>Not having an approved workplan would not exclude a stakeholder</p>	<p>Within four months of submittal, the Executive Officer must determine if the Workplans are acceptable. After four months, Workplans are deemed approved and ready to implement if no written approval is provided by the Executive Officer, <u>unless the Executive Officer provides written notification to extend the approval process.</u></p>

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		<p>from beginning sampling efforts. Staff expects that the collaborative Workplans will be developed in coordination with the Stakeholder Group and Technical Advisory Committee, which ought to reduce the amount of time needed for the EO and staff to review the Workplans once they are formally submitted to the Board. However, if DWR's assumed norm is correct (that most individual Workplans will not be submitted until the last minute), then more time likely will be needed to coordinate reviews by the TAC and Board staff, meet with the stakeholder who submitted the Workplan, and develop well-considered recommendations for Workplan revisions.</p>	
57	<p>Dischargers shall be considered in compliance with this reporting requirement upon timely submittal of workplans and revisions.</p>		<p>Dischargers shall be considered in compliance with this reporting requirement upon timely submittal of workplans and revisions.</p>
58	<p>3. By [three years after the Effective Date], entities responsible for implementing Control Study Workplan(s) shall submit report(s) to the Regional Water Board documenting progress towards complying with the Control Study Workplan(s). The report shall include amended workplans for any additional studies needed to address methylmercury reductions. The TAC will review the progress reports and may recommend what additional or revised studies should be undertaken to complete the objectives of the Control Studies. Staff will review the progress reports and recommendations of the TAC and provide a progress report to the Regional Water Board.</p>	<p>CVCWA: Change from three to four years to account for the workplan approval process, as this will be less than 2 years into the study.</p> <p>_____</p> <p>RB: The time frame for the studies needs further discussion at the stakeholder meetings.</p>	<p>3. By [four years after the Effective Date], entities responsible for implementing Control Study Workplan(s) <u>Control Studies Workplans</u> shall submit report(s) to the Regional Water Board documenting progress towards complying with the Control Study Workplan(s). The report shall include amended workplans for any additional studies needed to address methylmercury reductions. The TAC will review the progress reports and may recommend what additional or revised studies should be undertaken to complete the objectives of the Control Studies. Staff will review the progress reports and recommendations of the TAC and provide a progress report to the Regional Water Board.</p>
59	<p>4. By [seven years after the Effective Date], entities responsible for Control Study Workplans shall complete the studies and submit to the Regional Water Board Control Studies final reports that present the results</p>	<p>CVCWA: The above paragraph describes "entities responsible for <i>implementing</i> Control Study Workplans" this sentence leaves out the word implementing. Does this infer that they may be two separate groups?</p> <p>_____</p>	<p>4. By [seven years after the Effective Date], entities responsible for Control Studies shall complete the studies and submit to the Regional Water Board Control Studies final reports that present the results and descriptions of methylmercury control options,</p>

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	<p>and descriptions of methylmercury control options, their preferred methylmercury controls, and proposed implementation schedules for achieving methylmercury allocations. In addition, final report(s) shall propose points of compliance for non-point sources.</p>	<p>RB: The word 'Workplan' was removed from Rows #58-59. Final reports are due from entities identified in Rows #42-47. The final reports will contain proposed methylmercury management plans and implementation schedules for the management activities. If collaborative studies were conducted, then each entity in their final report would indicate their participation in the collaborative studies and findings relevant to their operations. Not every agricultural and wetland entity will be required to submit a final report, but they could submit combined reports, e.g., working with the Water Quality Coalitions or other group effort.</p>	<p>their preferred methylmercury controls, and proposed implementation <u>methylmercury management plan(s) (including implementation schedules)</u>, for achieving methylmercury allocations. In addition, final report(s) shall propose points of compliance for non-point sources.</p>
60	<p>If the Regional Water Board determines that dischargers are making significant progress towards completing the Phase 1 Control Studies but that more time is needed to finish the studies, the Regional Water Board may consider extending the time for the studies' completion.</p>	<p>CVCWA: Edit "If the Regional Water Board determines that dischargers are making significant progress towards <u>developing, implementing and/or</u> completing the Phase 1 Control Studies but that more time is needed to finish the studies, the Regional Water Board may consider extending the a time for the studies' completion <u>deadline</u>.</p> <p>The above suggested edit provides flexibility on the front end if warranted.</p> <p>May want to add a final backstop so that other dischargers are not harmed if one report gets an extension beyond 7 years. Final WLA and LA should not go into effect until the Phase I Delta MeHg Program Review is complete. See comments under #70 below.</p> <p>RB: Staff accepted the edits proposed by CVCWA and added a backstop to time extensions, and allow the Executive Officer to extend the time. As noted on Row 63, the Executive Officer will provide a progress report to the Board. Providing the Executive Officer authority to make changes to dates can be accomplished without amendments to the Basin Plan and make the date changes timely. The public and Regional Board will be informed of the EO's pending decision.</p> <p>Staff agreed with DWR's suggestion (Row 65) to allow more time for staff to compile Phase 1 data and revise the TMDL/implementation</p>	<p>If the Regional Water Board <u>Executive Officer</u> determines that dischargers are making significant progress towards <u>developing, implementing and/or</u> completing the Phase 1 Control Studies but that more time is needed to finish the studies, the Regional Water Board <u>Executive Officer</u> may consider extending the time for the studies' completion <u>deadline</u>.</p>

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		plan and added a year to the review process.	
61	<p>Dischargers in the Central Valley that are not subject to the Delta Mercury Control Program but may be subject to future mercury control programs in upstream tributary watersheds are encouraged to participate in the coordinated Delta Control Studies. If such dischargers actively participate in the Control Studies, they will be exempt from conducting Control Studies required by future upstream mercury control programs.</p>	<p>MS4: The Stockton and Sacramento MS4s are already required to participate in studies per this TMDL and will be implicated in upstream TMDLs for the San Joaquin and American Rivers (both due 2012), respectively. Edit the second sentence as follows: "If such Dischargers in and upstream of the Delta who actively participate in the Control Studies, they will be exempt..."</p> <p>Are there other MS4s upstream who may be implicated, who could be encouraged by this language to participate now in a coordinated study?</p> <hr/> <p>DWR: It is unclear what "active participation" in studies entails. The intent appears to be to try and encourage more involvement in studies. If land owner "X" is an upstream contributor/source of total or methyl mercury, what level of participation is necessary to exempt them from future control study work? Is only monetary participation sufficient for exemption? Does the participation have to involve detailed studies and results for their property? (M. List)</p> <hr/> <p>RB: MS4s are more complicated than most dischargers because one MS4 service area can straddle multiple watersheds. The allocations in the Delta TMDL apply only to the MS4 service areas within the legal Delta boundary. They do not include the majority of MS4 service areas that are in the upstream watersheds. If the Stockton and Sacramento MS4s conduct Control Studies that evaluate their discharges both (1) within the legal Delta boundary to comply with the Delta-specific allocations and (2) within the upstream watersheds to anticipate the development of the future TMDLs, then the MS4s would not be required to conduct Control Studies as part of the upstream TMDL control programs.</p> <p>Staff made MS4's suggested BPA language edits, and also edited Row 28 to specify that the MS4s evaluate their discharges both within and upstream of the Delta as part of their Control Studies.</p>	<p>Dischargers in the Central Valley that are not subject to the Delta Mercury Control Program but may be subject to future mercury control programs in upstream tributary watersheds are encouraged to participate in the coordinated Delta Control Studies. If such dischargers actively participate in the Control Studies, they <u>Dischargers in and upstream of the Delta who participate in the Control Studies</u> will be exempt from conducting Control Studies required by future upstream mercury control programs.</p>

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		<p>The Modesto MS4 could be encouraged to participate in the Control Studies. The Contra Costa County MS4 is a Phase 1 (large) MS4 in that is being added to this BPA. All other MS4s are small Phase 2 ; they could participate in the coordinated studies and be exempt from upstream study requirements.</p> <p>The BPA does not define what active participation is. The term 'active' can be removed. Participation could include, but not be limited to, helping fund studies, allowing property access, collecting data, conducting pilot studies, and working with other stakeholder in identifying and testing BMPs. It would be most beneficial if the studies they participated in benefited their own properties and activities, but it would not preclude them being involved with watershed approaches or offset projects. These details could be included in the MOI.</p>	
62	Annually, staff shall publicly report to the Regional Water Board progress of upstream TMDL development, discharger and stakeholder coordination, Control Study Workplan status, implementation of Control Studies, actions implemented or proposed to meet TMDL load and waste load allocations, and the status of the formation and activities of the TAC.		Annually, staff shall publicly report to the Regional Water Board progress of upstream TMDL development, discharger and stakeholder coordination, Control Study Workplan status, implementation of Control Studies, actions implemented or proposed to meet TMDL load and waste load allocations, and the status of the formation and activities of the TAC.
63	By [four years after the Effective Date], the Executive Officer shall provide a comprehensive report to the Regional Water Board on Phase 1 progress, including progress of upstream mercury control program development, Control Studies, actions implemented or proposed to meet Delta Mercury Control Program load and waste load allocations, and the status and progress of the TAC.	<p>CVCWA: Again, the date may need adjustment based on the whole scheduling of the effort.</p> <hr/> <p>RB: The time frame for the studies needs further discussion at the stakeholder meetings.</p>	By [four years after the Effective Date], the Executive Officer shall provide a comprehensive report to the Regional Water Board on Phase 1 progress, including progress of upstream mercury control program development, Control Studies, actions implemented or proposed to meet Delta Mercury Control Program load and waste load allocations, and the status and progress of the TAC.
64	If dischargers do not comply with Control	RB: Note staff made a text change to require actions for non-	If dischargers do not comply with Control Study

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	Study implementation schedules, the Executive Officer will consider issuing individual waste discharge requirements or requests for technical reports and management plans.	compliance with the study requirements.	implementation schedules, the Executive Officer will <u>shall consider issuing</u> individual waste discharge requirements or requests for technical reports and management plans.
65	<p><u>Delta Mercury Control Program Review</u></p> <p>By [eight years after Effective Date] at a public hearing, and after a scientific peer review and public review process, the Regional Water Board shall review and reconsider, if appropriate, the Delta Mercury Control Program and may consider modification of objectives, allocations, implementation provisions and schedules, and the final allocation compliance date.</p>	<p>DWR: Consider giving more time for staff to compile Phase 1 results and revising the TMDL and implementation plan.</p> <hr/> <p>RB: The original schedule allowed one year from the end of the studies to revise the BPA for Board consideration. An additional year is added so that there will be adequate time for study reviews and stakeholder involvement with developing a revisions to the TMDL and implementation plan.</p>	<p><u>Phase 1 Delta Mercury Control Program Review</u></p> <p>By [eight <u>nine</u> years after Effective Date] at a public hearing, and after a scientific peer review and public review process, the Regional Water Board shall review and reconsider, if appropriate, the Delta Mercury Control Program and may consider modification of objectives, allocations, implementation provisions and schedules, and the Final allocation Compliance Date.</p>
66	The Regional Water Board shall assess: (a) the effectiveness, costs, potential environmental effects, and technical and economic feasibility of potential methylmercury control methods; (b) whether implementation of some control methods would have negative impacts on other beneficial uses; (c) methods that can be employed to minimize or avoid potentially significant negative impacts to beneficial uses that may result from control methods; (d) implementation plans and schedules proposed by the dischargers; and (e) whether methylmercury allocations can be attained.		The Regional Water Board shall assess: (a) the effectiveness, costs, potential environmental effects, and technical and economic feasibility of potential methylmercury control methods; (b) whether implementation of some control methods would have negative impacts on other beneficial uses; (c) methods that can be employed to minimize or avoid potentially significant negative impacts to beneficial uses that may result from control methods; (d) implementation plans and schedules proposed by the dischargers; and (e) whether methylmercury allocations can be attained.
67	The Regional Water Board shall use any applicable new information and results of the Control Studies to adjust the relevant allocations and implementation requirements as appropriate. The Regional Water Board shall require implementation of appropriate	<p>CVCWA: After the first sentence in this part, add the statement: "Allocations will not be reduced as a result of early actions conducted to reduce mercury in discharges."</p> <hr/> <p>RB: This recommendation was added so that dischargers who conduct early actions that lead to reduced mercury and MeHg in their</p>	The Regional Water Board shall use any applicable new information and results of the Control Studies to adjust the relevant allocations and implementation requirements as appropriate. <u>Allocations will not be reduced as a result of early actions than result in reduced inorganic (total) mercury and/or methylmercury</u>

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	management practices.	discharges are not penalized.	<p><u>in discharges.</u></p> <p>The Regional Water Board shall require implementation of appropriate management practices.</p>
68	<p>As part of the Phase 1 Delta Mercury Control Program Review and subsequent program reviews, the Regional Water Board may consider adjusting the allocations to allow methylmercury discharges from existing and new wetland restoration and other aquatic habitat enhancement projects if dischargers provide information that demonstrates that 1) all reasonable management practices to limit methylmercury discharges are being implemented and 2) implementing additional methylmercury management practices would impair fish and wildlife beneficial uses. The Regional Water Board will consider the merits of the project(s) and whether to require the discharger(s) to propose other activities in the watershed that could offset the methylmercury. The Regional Water Board will periodically review the progress towards achieving the allocations and may consider additional conditions if the plan described above is ineffective.</p>	<p>CVCWA: Is the verb “offset” referring to conducting a project under an offset program?</p> <p>RB: Yes, offset refers to conducting a project through an offset program or other watershed approach.</p>	<p>As part of the Phase 1 Delta Mercury Control Program Review and subsequent program reviews, the Regional Water Board may consider adjusting the allocations to allow methylmercury discharges from existing and new wetland restoration and other aquatic habitat enhancement projects if dischargers provide information that demonstrates that 1) all reasonable management practices to limit methylmercury discharges are being implemented and 2) implementing additional methylmercury management practices would impair fish and wildlife beneficial uses. The Regional Water Board will consider the merits of the project(s) and whether to require the discharger(s) to propose other activities in the watershed that could offset the methylmercury. The Regional Water Board will periodically review the progress towards achieving the allocations and may consider additional conditions if the plan described above is ineffective.</p>
69	<p>If the Regional Water Board allows an extension for the Control Studies’ schedule, the Board may consider extending the schedule for the Delta Mercury Control Program Review and implementation of methylmercury control methods to comply with the allocations.</p>	<p>RB: Staff modified this text to clarify that if the Board extends the Phase 1 period, then the Board may consider modification of the implementation of the schedule for Phase 2 and the final compliance date. In addition, reference to the Executive Officer was included to be consistent with Row 60.</p>	<p>If the Regional Water Board <u>Executive Officer</u> allows an extension for the Control Studies’ schedule <u>or needs additional time to conduct its Delta Mercury Control Program Review,</u>, the Board <u>Executive Officer</u> may consider extending the schedule. for the Phase 1 Delta Mercury Control Program Review. <u>If the Executive Officer extends the Phase 1 Delta Mercury Control Program more than one year, the Regional Water Board may should consider extending the schedule for, and Phase 2</u> implementation of methylmercury controls</p>

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			methods, and the Final Compliance Date to comply with the allocations.
70	If the Regional Water Board does not receive information to review and update the Delta Mercury Control Program, the program shall not be changed. Then, by [eight years after Effective Date], the Regional Water Board shall issue waste discharge requirements or requests for management plans for meeting the allocations and compliance date.	<p>CVCWA: Concerned with the language of this process. If there is still no information, there still needs to be a public meeting to confirm the allocations and start Phase 2. Otherwise, as written, Phase 2 may begin by a date certain [eight years after the effective date] with or without information, which could be detrimental to stakeholders.</p> <p>Suggested Edit: <u>“The Regional Water Board shall conduct the Phase I Delta Mercury Program Review based on information received in Phase I. If the Regional Water Board does not receive timely information to review and update the Delta Mercury Control Program, the program shall not be changed. Then, by [eight years after Effective Date] Beginning in Phase 2, the Regional Water Board shall issue waste discharge requirements or requests for management plans for meeting the allocations and compliance date.</u></p> <p>RB: Staff accepted some of CVCWAs edits and added additional language for non-compliance. Staff removed the last sentence as it is redundant with Row 64.</p>	<p><u>The Regional Water Board shall conduct the Phase I Delta Mercury Program Review based on information received in Phase I. If the Regional Water Board does not receive timely information to review and update the Delta Mercury Control Program, then the individual allocations shall not be raised but may be lowered and the 2030 Final Compliance Date for these individual dischargers shall not be changed. Then, by [eight nine years after Effective Date], the Regional Water Board shall issue waste discharge requirements or requests for management plans for meeting the allocations and compliance date.</u></p>
71	<i>[Need stakeholder discussion about how to address the need for some assurance that early implementation of actions will not be “taken against” if/when allocations are adjusted.]</i>	<p>CVCWA: Under row #67, add the statement: “Allocations will not be reduced as a result of early actions conducted to reduce methylmercury discharges.”</p> <p>USFWS: Not just early implementation actions but also for common wetland management practices already utilized that reduce methylation. (TCM)</p> <p>RB: This concept was added to Row 67.</p> <p>Management practices that are implemented in Phase 1 to reduce methylmercury below current levels will be accounted for during the Phase 1 review and will not result in decreased allocations.</p>	See Row 67.
72	Methylmercury controls developed in Phase 1 shall be initiated as soon as possible, but no later than 2019 or within one (1) year of review	CVCWA: This paragraph should be deleted. It differs from rows #10, 11, and 17 and is ambiguous (which controls? How soon is possible?). The Control Study reports and Phase 2 of the TMDL will	Methylmercury controls developed in Phase 1 shall be initiated as soon as possible, but no later than 2019 or within one (1) year of review of the Delta Mercury

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	of the Delta Mercury Control Program.	include implementation schedules (See paragraph #68). RB: The intent of this row is for dischargers to start implementing methylmercury controls by a fixed date based on the Phase 1 Delta Mercury Control Program Review. Row 11 indicates controls should be implemented during Phase 2. Controls should be implemented as soon as possible, and not wait until 2030. The methylmercury management plans will contain implementation schedules.	Control Program. <u>The methylmercury management plan(s) developed in Phase 1 shall be initiated as soon as possible, but no later than one (1) year after Phase 2 begins.</u>
73	The Regional Water Board shall make all reasonable efforts to complete its review of the Control Program by 2020; if it does not, the Regional Water Board will consider extending the compliance date to the extent necessary to facilitate its review. In this case, methylmercury controls shall be initiated within one (1) year of review of the Delta Mercury Control Program.	CVCWA: Consistent with the comment in row 72, delete the last sentence. CWA: This contradicts number 72. RB: This text was added to allow a contingency in case the review does not happen by 2019, building in a change in the start date for Phase 2. Row 72 specifies the start of the implementation. Row 17 provides for Regional Water Board modification of the final compliance date. Row 73 is redundant and has been removed.	<i>Text deleted.</i>
74	The Regional Water Board shall review this control program every 10 years after the Phase 1 Delta Mercury Control Program Review.	CVCWA: 10 years after ~2020 would be 2030. This first review should be scheduled before regulatory deadlines, to address cases of unanticipated eventual non-compliance. RB: Staff selected 10 years to coincide with Phase 2. Staff added a review before the 2030 compliance date.	The Regional Water Board shall review this control program every 10 years after the Phase 1 Delta Mercury Control Program Review. <u>The Regional Water Board shall review this control program two years prior to the end of Phase 2, and at intervals no more than 10 years thereafter.</u>
75	<u>Compliance Monitoring</u> Starting in 2022, entities responsible for meeting load and waste load allocations shall monitor methylmercury loads and concentrations and submit annual reports to the Regional Water Board. The points of compliance for waste load allocations for NPDES facilities shall be the effluent monitoring points described in individual NPDES permits. The points of compliance for MS4s required to conduct methylmercury	CVCWA: Replace “in 2022” with “within one (1) year of review of the Delta Mercury Control Program”. Entities with WLAs already will be monitoring and reporting during Phase 1—see Row #22 above. As written, Phase 2 of the TMDL will be written based on circa 2003 data because the only discharge and receiving water monitoring required is by NPDES permittees. See also row #126. This implies that the Control Studies will determine monitoring locations. They are supposed to suggest monitoring locations – what	<u>Compliance Monitoring</u> Starting in 2022, <u>Within two years of the start of Phase 2</u> entities responsible for meeting load and waste load allocations shall monitor methylmercury loads and concentrations and submit annual reports to the Regional Water Board. The points of compliance for waste load allocations for NPDES facilities shall be the effluent monitoring points described in individual NPDES permits. The points of compliance for MS4s required to conduct methylmercury monitoring are those locations described in the individual MS4 NPDES

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	<p>monitoring are those locations described in the individual MS4 NPDES permits or otherwise determined to be representative of the MS4 service areas and approved by the Executive Officer on an MS4-specific basis. The points of compliance and monitoring plans for non-point sources shall be determined during the Control Studies. Compliance with the load allocations for nonpoint sources and waste load allocations for MS4s may be documented by monitoring methylmercury loads at the compliance points or by quantifying the annual average methylmercury load reduced by implementing pollution prevention activities and source and treatment controls.</p>	<p>is the approval process to solidify these suggestions?</p> <hr/> <p>MS4: Sacramento and Stockton with WLAs already will be monitoring and reporting during Phase 1—see Row #22 above.</p> <hr/> <p>RB: CVCWA and MS4 are correct that point sources will already be conducting periodic monitoring during Phase 1. The Control Studies will include development of a monitoring strategy for non-point sources (see Row 130). The framework can be in the MOI and the study workplans will have specific monitoring. The EO will be approving the workplans; at that time the monitoring would be approved. Phase 2 of the TMDL will be based on point and nonpoint source data collected during Phase 1 as well as data collected prior to the BPA's adoption. Monitoring also will be incorporated into the Phase 2 control program revisions.</p>	<p>permits or otherwise determined to be representative of the MS4 service areas and approved by the Executive Officer on an MS4-specific basis. The points of compliance and monitoring plans for non-point sources shall be determined during the Control Studies. Compliance with the load allocations for nonpoint sources and waste load allocations for MS4s may be documented by monitoring methylmercury loads at the compliance points or by quantifying the annual average methylmercury load reduced by implementing pollution prevention activities and source and treatment controls.</p>
76	<p>Entities will be allowed to comply with their mercury receiving water monitoring requirements by participating in a regional monitoring program, when such a program is implemented.</p>	<p>CVCWA: Where are the receiving water monitoring requirements outlined? Is this referring to the monitoring points discussed in line 75 above? If so, be consistent with terminology: effluent monitoring points, receiving water monitoring points, monitoring points specified in NPDES permits, or monitoring determined by the control studies.</p> <hr/> <p>RB: The February 2008 draft BPA included requirements for all NPDES facilities to monitor their receiving water, and NPDES permits typically require receiving water monitoring. Dischargers indicated that they wanted to use a regional monitoring program (RMP) for receiving water monitoring, which is why staff added this text during early revisions to the February 2008 version. However, CVCWA is correct that there are no longer receiving water monitoring requirements in this version of the draft BPA, which makes this text incongruous.</p> <p>If receiving water monitoring requirements are not included in this BPA, then this text could be removed. However, receiving water monitoring could be part of Phase 2; therefore this language could remain here as a placeholder for dischargers to comply with any</p>	<p>Entities will be allowed to comply with their mercury receiving water monitoring requirements by participating in a regional monitoring program, when such a program is implemented.</p>

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		potential Phase 2 requirements for receiving water monitoring.	
77	Chapter V, Surveillance and Monitoring, contains additional monitoring guidance.		Chapter V, Surveillance and Monitoring, contains additional monitoring guidance.
78	<p><u>Allocations and Requirements for State and Federal Agencies</u></p> <p>Open water allocations are assigned jointly to the State Lands Commission, the Department of Water Resources, and the Central Valley Flood Protection Board. Open water allocations apply to the methylmercury load that fluxes to the water column from sediments in open-water habitats within channels and floodplains in the Delta and Yolo Bypass.</p>	<p>CVFPB: Is there a specific reason that the CVFPB was added to this list for open water allocations, even though the CVFPB does not directly own any open waters? The CVFPB is responsible along with DWR for management of such facilities for flood control and belongs in the list in 79, but may not also be listed here. Seems the comment from DWR last time about federal and local agencies being mentioned in this list was also not addressed.</p> <hr/> <p>DWR: It is unclear what the legal basis is for assigning these allocations to the specified entities. How does Regional Water Board staff envision those assigned as “responsible” will be able to affect a change in the chemical process taking place in open water? What about other state agencies (e.g. the State Water Board, California Environmental Protection Agency, etc.) and land owners who still have a fee ownership of the water course? (M. List)</p> <hr/> <p>RB: The CVFPB was added to this list because, according to the Yolo Bypass Management Strategy report, the CVFPB owns land in the Yolo Bypass, and more importantly holds flood inundation easements for private lands that restrict land use activities by the land owners. [Please see Row 30]. Federal and State agencies are included on Rows 79 and 82 as responsible for studies.</p> <p>The TMDL assigns allocation responsibility to sources and activities that contribute to the impairment. Several State and federal agencies own land and/or have conservation and flood inundation easements for land that includes open water and floodplain areas in the Delta/Yolo Bypass. Rows 79 and 82 list agencies with responsibilities for the studies. Staff is not aware of local agencies that should be named and therefore has modified Row 79 to read “... include, <u>but are not limited to...</u>” In addition, water management and storage activities can affect the transport and methylation of mercury. The TMDL staff report describes this in Chapter 3. The State Water</p>	<p><u>Allocations and Requirements for State and Federal Agencies</u></p> <p>Open water allocations are assigned jointly to the State Lands Commission, and the Department of Water Resources, and the Central Valley Flood Protection Board. Open water allocations apply to the methylmercury load that fluxes to the water column from sediments in open-water habitats within channels and floodplains in the Delta and Yolo Bypass.</p>

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		<p>Board and Cal EPA do not own or operate land or structures. Even so, the State Water Board is named in Row 79 as some of their water rights and salinity control decisions may impact methylmercury levels. Landowners of wetland and agricultural areas were addressed in Rows 42 and 43.</p> <p>Staff has not yet attempted to identify individual private landowners of open-water, wetland, and agricultural areas. The State has fee ownership of the beds of all navigable rivers and lakes, including all tidal waterways between the ordinary high water marks. As a result, staff expects that coordinating efforts between the State Lands Commission, agriculture coalitions, and other State and federal agencies mentioned in the above paragraph will ultimately encompass the majority, if not all, of the fee owners of the water courses as well as owners and easement holders of floodplain lands (including wetlands and agricultural areas) inundated by spills from the Fremont, Sacramento, and Cache Creek Settling Basin weirs.</p> <p>Please refer to Rows 17 and 30 for a response to DWR's question, "How does Regional Water Board staff envision those assigned as "responsible" will be able to affect a change in the chemical process taking place in open water?"</p>	
79	<p>The transport and deposition of mercury-contaminated sediment and water management activities contribute to the Delta fish mercury impairment. State and Federal projects affect the transport of mercury and the production and transport of methylmercury. Activities including water management and storage in and upstream of the Delta and Yolo Bypass, maintenance of and changes to salinity objectives, dredging and dredge materials disposal and reuse, and management of flood conveyance flows are subject to the open water methylmercury allocations. Agencies responsible for these</p>	<p>DU: I suggest citing the authorities that enable the Regional Board to mandate this of federal agencies.</p> <hr/> <p>CVFPB: Funding issues have not been addressed at all as a requirement, however, it is a necessity for any mitigation projects to be completed. These funding opportunities will also most likely be joint efforts between stakeholders.</p> <hr/> <p>RB: Clean Water Action Section 313 requires that federal agencies comply with federal, state, and local requirements for water quality control. The staff report will provide the full citation.</p> <p>Funding is an issue that needs to be addressed. The federal government has not provided financial resources for the states to</p>	<p>The transport and deposition of mercury-contaminated sediment and water management activities contribute to the Delta fish mercury impairment. State and Federal projects affect the transport of mercury and the production and transport of methylmercury. Activities including water management and storage in and upstream of the Delta and Yolo Bypass, maintenance of and changes to salinity objectives, dredging and dredge materials disposal and reuse, and management of flood conveyance flows are subject to the open water methylmercury allocations. Agencies responsible for these activities in the Delta and Yolo Bypass include, <u>but are not limited to</u>, Department of Water Resources, State Lands Commission, Central Valley Flood</p>

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	<p>activities in the Delta and Yolo Bypass include Department of Water Resources, State Lands Commission, Central Valley Flood Protection Board, U.S. Bureau of Reclamation, and U.S. Army Corps of Engineers (USACE), and the State Water Resources Control Board. These agencies shall include requirements for projects under their authority to conduct Control Studies and implement methylmercury reductions as necessary to comply with the allocations by 2030. These agencies may conduct their own coordinated Control Studies or may work with the other stakeholders in comprehensive, coordinated Control Studies.</p>	<p>implement Clean Water Act requirements. Staff will work with stakeholders to pursue funding. A funding strategy needs to be developed through the stakeholder group and should include requesting funding from the state and federal governments.</p>	<p>Protection Board, U.S. Bureau of Reclamation, U.S. Army Corps of Engineers (USACE), and the State Water Resources Control Board. These agencies shall include requirements for projects under their authority to conduct Control Studies and implement methylmercury reductions as necessary to comply with the allocations by 2030. These agencies may conduct their own coordinated Control Studies or may work with the other stakeholders in comprehensive, coordinated Control Studies.</p>
80	<p>The responsible agencies should coordinate with wetland and agricultural landowners to characterize existing methylmercury discharges to open waters from lands immersed by managed flood flows and develop methylmercury control measures.</p>	<p>CVCWA: Where will this data be reported? <hr/> CWA: Why is this not done in Phase 1? We would like to see “should” changed to “shall”. <hr/> RB: This data would be reported with the Control Studies. Coordination and studies with the landowners would take place during Phase 1. Staff added “Phase 1” to the text. Staff does not propose that the agencies must coordinate with the private landowners as the agencies would be in violation if some landowners refused to take part. The coordinated approach is the recommended approach, otherwise individual studies may be required.</p>	<p>The responsible agencies should coordinate with wetland and agricultural landowners during Phase 1 to characterize existing methylmercury discharges to open waters from lands immersed by managed flood flows and develop methylmercury control measures.</p>
81	<p>The State Lands Commission, Central Valley Flood Protection Board, and Department of Water Resources shall conduct Control Studies and evaluate options to reduce methylmercury production in open waters under jurisdiction of the State Lands Commission and floodplain areas inundated by managed flood flows. Evaluations shall include inorganic mercury reduction projects. By [three months after Effective Date] these</p>	<p>CVFPB: How do you reduce or mitigate MeHg in the floodplain? CVFPB believes that this is the responsibilities of the upstream dischargers. Also, agencies are referenced as being responsible; however there should be some sort of requirement for upstream dischargers to be held accountable and responsible for contributing to the funding or studies in some way, to protect these agencies from the entire financial burden of these studies, reports, and mitigations. <hr/> DWR: It seems the CA Environmental Protection Agency and/or the State and Regional Water Boards should be the agency(-ies)</p>	<p>The State Lands Commission, Central Valley Flood Protection Board, and Department of Water Resources shall conduct Control Studies and evaluate options to reduce methylmercury production in open waters under jurisdiction of the State Lands Commission and floodplain areas inundated by managed flood flows. Evaluations shall include inorganic mercury reduction projects. By [three months after Effective Date] these agencies shall submit to the Legislature a budget proposal to fund Control Studies and mercury reduction</p>

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	<p>agencies shall submit to the Legislature a budget proposal to fund Control Studies and mercury reduction actions. Regional Water Board staff will work with these agencies in conducting these studies and evaluating potential mercury reduction actions.</p>	<p>submitting the Budget Change Proposal to fund investigation and clean-up for this legacy problem. (M. List)</p> <hr/> <p>RB: Please refer to Rows 17, 30 and 78 for a response to CVFPB's question and comment regarding how to reduce/mitigate methylmercury (MeHg) in the floodplain, and why land owners within the floodplain are held responsible.</p> <p>The draft BPA for the Delta mercury control program also includes requirements for methylmercury and total mercury load reductions for the tributary watershed inputs to the Delta and Yolo Bypass, and staff plans to recommend in future BPAs that the upstream TMDL control programs require parties responsible for upstream sources to study and reduce the upstream sources. As a result, the downstream stakeholders would not be responsible for the upstream sources unless (a) responsibility is accepted via an offset project and/or (b) a given entity owns or manages land and/or conducts water/flood management activities both within and upstream of the Delta/Yolo Bypass.</p> <p>Staff could work with State Lands Commission, DWR and other state agencies in developing Budget Change Proposals and other funding mechanisms. Those agencies would use the additional budget to fund the studies assigned to them. Staff is also looking into other options for funding. The stakeholder group may be better able to encourage their State legislators to direct the use of State funds for the studies and cleanup.</p>	<p>actions. Regional Water Board staff will work with these agencies in conducting these studies and evaluating potential mercury reduction actions.</p>
82	<p>Agencies that fund or implement new wetland, floodplain, and other aquatic habitat restoration and enhancement projects, including but not limited to USACE, U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration Fisheries, U.S. Environmental Protection Agency, California Department of Water Resources, and California Department of Fish and Game, shall</p>	<p>DU: I suggest citing the authorities that enable the Regional Board to mandate this of federal agencies.</p> <hr/> <p>DFG: Department staff appreciates the effort to address previous Departmental concerns about this proposed language. However, concerns remain.</p> <p>1. It is not clear that the Department has specific legal jurisdictions or mandates necessary to enforce compliance with water quality regulations in the manner proposed. The Department is not</p>	<p>Agencies that fund or implement nNew wetland, floodplain, and other aquatic habitat restoration and enhancement projects, including but not limited to <u>projects developed, planned, funded, or approved by individuals, private businesses, non-profit organizations, and local, State, and federal agencies such as</u> USACE, U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration Fisheries, U.S. Environmental Protection Agency,</p>

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	<p>require that projects comply with all applicable requirements of this program, including conducting or participating in Control Studies and complying with allocations.</p>	<p>specifically the State water quality agency, and is not a water quality enforcement agency. (Instead, it <u>consults</u> with the Regional Water Quality Control Boards [e.g., via memorandums of understanding, task forces, stakeholder groups, etc.] on issues of water quality that impact fish and wildlife resources.)</p> <p>2. Rather, it is the Water Board that has the specific legal and regulatory authorities to ensure water quality compliance, for example through its own permit and enforcement programs. Therefore, the proposed language should be changed to state this.</p> <p>The Water Board may, of course, require compliance of individual permit applicants and holders, of which the Department may be one, for specific projects. As such, the Department may have to comply with Basin Plan requirements in the operation and maintenance of its own wildlife refuges, for example, if such require Water Board approvals or are subject to Water Board regulations (which they, of course, may be).</p> <p>But it remains unclear under what authority the Department can and should be regulatorily (via formal mention in the Basin Plan) directed to enforce compliance with the Basin Plan with regard to methyl-mercury discharges.</p> <p>3. This requirement appears to have no precedent in the current Central Valley Basin Plan.</p> <p>4. This requirement would also require some level of not insignificant resources (manpower, funding) to implement. Where will these resources come from?</p> <p>Suggested edits: Agencies that fund or implement aNew wetland, floodplain, and other aquatic habitat restoration and enhancement projects, including but not limited to <u>projects developed, planned, or approved by individuals, private businesses, non-profit organizations, and local, State, and federal agencies such as USACE, U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration Fisheries, U.S. Environmental Protection Agency, California Department of</u></p>	<p>California Department of Water Resources, and California Department of Fish and Game, shall <u>be required that projects to</u> comply with all applicable requirements of this program, including conducting or participating in Control Studies and complying with allocations. <u>To the extent allowable by their regulatory authority, Federal, State, and local agencies that fund, approve, or implement such new projects shall require project applicants/grantees/loanees to apply to or consult with the Regional Water Board to ensure full compliance with the water quality requirements herein.</u></p>

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		<p>Water Resources, and California Department of Fish and Game, shall require that projects comply with <u>be reviewed for compliance with all applicable requirements of this program, including and may be required to conducting or participating participate</u> in Control Studies and to complying with pre-determined methyl-mercury discharge <u>allocations. Compliance shall be implemented via standard legal and regulatory authorities granted to the Water Board in laws and regulations associated with the California Environmental Quality Act, the California Porter-Cologne Water Quality Act, and the federal Clean Water Act.</u></p> <p>Agencies that fund or implement a <u>New wetland, floodplain, and other aquatic habitat restoration and enhancement projects, including but not limited to projects developed, planned, funded, or approved by individuals, private businesses, non-profit organizations, and local, State, and federal agencies such as USACE, U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration Fisheries, U.S. Environmental Protection Agency, California Department of Water Resources, and California Department of Fish and Game, shall be required that projects to</u> comply with all applicable requirements of this program, including conducting or participating possible <u>participation in Control Studies and complying compliance with discharge</u> allocations. <u>Federal, State, and local agencies that fund, approve, or implement such new projects shall require, to the extent practicable, project applicants/grantees/loanees to apply to or consult with the Water Board to help ensure full compliance with the water quality requirements herein.</u></p> <hr/> <p>USFWS: This is better than the previous language as we discussed. (TCM)</p> <hr/> <p>RB: Clean Water Action Section 313 requires that federal agencies have to comply with federal, state, and local requirements on water quality control. The staff report will provide the full citation.</p> <p>This language may not be necessary as it is actually theoretically redundant with existing requirements. However, there is a need for</p>	

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		<p>new project proponents to know at the time that the projects are being planned and funded that these projects will need to comply with applicable requirements of this program. Learning about the requirements at the time an application is sent to the Board for a 401 Certification is too late in the process. The agencies are specifically included because they are the largest drivers in wetland creation, either because they manage and/or fund the projects themselves, or because they require others to create wetlands as mitigation. Staff accepted DGFs suggestions, with modifications. Funding for these requirements will need to be determined by the agencies.</p>	
83	<p><i>Dredging and Dredge Material Reuse</i></p> <p>The following requirements apply to dredge projects in the Delta and Yolo Bypass where a Clean Water Act 401 Water Quality Certification or other waste discharge requirements are required. The Clean Water Act 401 Water Quality Certifications shall include the following conditions:</p>		<p><i>Dredging and Dredge Material Reuse</i></p> <p>The following requirements apply to dredge projects in the Delta and Yolo Bypass where a Clean Water Act 401 Water Quality Certification or other waste discharge requirements are required. The Clean Water Act 401 Water Quality Certifications shall include the following conditions:</p>
84	<p>1. Dredging activities and activities that reuse dredge material in the Delta should minimize increases in methyl and total mercury discharges to Delta waterways (Appendix 43).</p>		<p>1. Dredging activities and activities that reuse dredge material in the Delta should minimize increases in methyl and total mercury discharges to Delta waterways (Appendix 43).</p>
85	<p>By [two years from Effective Date] project proponents shall submit a study workplan(s) to evaluate methylmercury and mercury discharges from dredging and dredge material reuse, and to develop and evaluate management practices to minimize increases in methyl and total mercury discharges. The proponents may submit a comprehensive study workplan rather than conduct studies for individual projects. The comprehensive workplan may include</p>		<p>By [two years from Effective Date] project proponents shall submit a study workplan(s) to evaluate methylmercury and mercury discharges from dredging and dredge material reuse, and to develop and evaluate management practices to minimize increases in methyl and total mercury discharges. The proponents may submit a comprehensive study workplan rather than conduct studies for individual projects. The comprehensive workplan may include exemptions for small projects. Upon Executive Officer approval, the plan shall be</p>

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	exemptions for small projects. Upon Executive Officer approval, the plan shall be implemented.		implemented.
86	By [seven years after the Effective Date], final reports that present the results and descriptions of mercury and methylmercury control management practices shall be submitted to the Regional Water Board.		By [seven years after the Effective Date], final reports that present the results and descriptions of mercury and methylmercury control management practices shall be submitted to the Regional Water Board.
87	2. Employ management practices during and after dredging activities to minimize sediment releases into the water column.	<p>DWR: Minimization of sediment release to the water column is already a requirement for dredging projects covered under 401, and in this context is duplicative. The focus here should be on minimizing mercury release, which may, or may not be linked directly to sediment discharge. (M. List)</p> <hr/> <p>RB: This was intended to be duplicative and was included to emphasize the need for sediment control while the mercury studies are conducted to determine if there are other management practices that could be implemented. For now the assumption is that the mercury is attached to sediment. If the language were changed to mercury control, stakeholders will respond that mercury-specific controls still need to be developed.</p>	2. Employ management practices during and after dredging activities to minimize sediment releases into the water column.
88	3 Characterize total mercury load and concentration of material removed from Delta waterways (Appendix 43) by dredging activities.		3 Characterize total mercury load and concentration of material removed from Delta waterways (Appendix 43) by dredging activities.
89	4. When approved dredge material disposal sites are utilized to settle out solids and return waters are discharged into the adjacent surface water, the goal is to ensure that return flows do not have methylmercury concentrations greater than the receiving water concentration. The project proponent shall conduct monitoring and conduct or cause to be conducted studies to evaluate management practices	<p>CVFPB: The wetlands are going to be mitigated for within the floodplain. Once again to clarify, there is not a request to mitigate the entire floodway is there?</p> <hr/> <p>RB: Studies need to be conducted to determine how to minimize methylmercury produced in dredge material settling ponds that discharge to the Delta and Yolo Bypass, as well as methylmercury produced by wetlands, agricultural and other floodplain areas. Please refer to Row 30 for a detailed response to CVFPB's question.</p>	4. When approved dredge material disposal sites are utilized to settle out solids and return waters are discharged into the adjacent surface water, the goal is to ensure that return flows do not have methylmercury concentrations greater than the receiving water concentration. The project proponent shall conduct monitoring and conduct or cause to be conducted studies to evaluate management practices to minimize methylmercury in return flows.

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	to minimize methylmercury in return flows.		
90	5. Ensure that under normal operational circumstances, including protection from wet weather, dredged material reused at upland sites, including the tops and dry-side of levees, is protected from erosion into open waters.		5. Ensure that under normal operational circumstances, including protection from wet weather, dredged material reused at upland sites, including the tops and dry-side of levees, is protected from erosion into open waters.
91	6. A goal is to ensure that reuse of dredge material at aquatic locations, such as wetland and riparian habitat restoration sites, does not add mercury-enriched sediment or water to a site or otherwise result in a net increase in methylmercury discharges from the site. Projects that propose to dispose dredge material to aquatic sites shall conduct mercury and methylmercury monitoring and, if monitoring shows methylmercury increases due to the project, proponents shall conduct or cause to be conducted studies to evaluate management practices to minimize the methylmercury discharges. The results of the management practices studies should be applied to future projects.	<p>YCFCWCD: Goal is too narrow. Should say material does not result in increased Hg exposure. We may want to use Hg laden sediments as fill below a root zone in subsided areas we want restored. Goal as stated would prevent this.</p> <hr/> <p>RB: Staff agrees. The goal is to not increase MeHg discharges from a site. Mercury contaminated material that is not biologically available in an aquatic location would not be contributing to MeHg loading. The removal of the text, "add mercury-enriched sediment or water to a site or otherwise", would allow sediments to be used. The sediments would need to be protected from erosion and exposure to biological activity.</p>	6. A goal is to ensure that reuse of dredge material at aquatic locations, such as wetland and riparian habitat restoration sites, does not add mercury-enriched sediment or water to a site or otherwise result in a net increase in methylmercury discharges from the site. Projects that propose to dispose dredge material to aquatic sites shall conduct mercury and methylmercury monitoring and, if monitoring shows methylmercury increases due to the project, proponents shall conduct or cause to be conducted studies to evaluate management practices to minimize the methylmercury discharges. The results of the management practices studies should be applied to future projects.
92	<p><i>Cache Creek Settling Basin Improvement Plan and Schedule</i></p> <p>DWR, Central Valley Flood Protection Board, and USACE, in conjunction with any interested landowners and other stakeholders, shall implement a plan for management of mercury in or discharged from the Cache Creek Settling Basin, including improvements for decreasing total mercury discharges from the Cache Creek Settling Basin, by 21 December 2018, or following Congressional authorization</p>	<p>CVFPB: Funding cooperation and requirements are still not discussed. Something needs to be put in place to protect the agencies from the sole burden of these positive improvements for mitigation to structures that already provide mitigation.</p> <hr/> <p>RB: The BPA will not specify funding requirements. These are public works projects paid for by the state and federal governments. Staff is uncertain whom CVFPB recommends should fund improvements to these public projects.</p> <p>Also, CEQA establishes a duty for public agencies to avoid or minimize environmental damage where feasible, even for projects</p>	<p><i>Cache Creek Settling Basin Improvement Plan and Schedule</i></p> <p>DWR, Central Valley Flood Protection Board, and USACE, in conjunction with any interested landowners and other stakeholders, shall implement a plan for management of mercury in or discharged from the Cache Creek Settling Basin, including improvements for decreasing total mercury discharges from the Cache Creek Settling Basin, by 21 December 2018, or following Congressional authorization to modify the Cache Creek Settling Basin.</p>

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	to modify the Cache Creek Settling Basin.	designed as mitigation for other concerns. Even when a lead agency prepares a statement of overriding considerations to reflect the ultimate balancing of competing public objectives when the agency decides to approve a project that will cause one or more significant effects on the environment (e.g., if a lead agency were to determine that a flood protection project must take place in spite of predicted fish mercury increases), that statement does not negate the duty to implement feasible methods to avoid or minimize environmental damage resulting from the project.	
93	1. By [one year after Effective Date] the agencies shall take all necessary actions to initiate the process for Congressional authorization to modify the Basin, including coordinating with the USACE.		1. By [one year after Effective Date] the agencies shall take all necessary actions to initiate the process for Congressional authorization to modify the Basin, including coordinating with the USACE.
94	2. By [two years after the Effective Date], the agencies shall develop a strategy to reduce total mercury discharged from the Basin for the next 20 years. The strategy shall include implementation schedules and an evaluation of funding options. The agencies shall work with the landowners within the Basin and local communities affected by Basin improvements.	<p>CVFPB: for No. 94-98 we feel that timing should be discussed further between interested parties, and these timeframes need to be predicated on the ability to secure funding.</p> <p>DWR: Our previous comments stated that <u>4 years</u> after the effective date were needed to 1) complete the characterization and control studies (a 3-year study), 2) evaluate potentially feasible alternative, and 3) to formulate control strategies. It is unreasonable to expect development of control strategies without evaluating the detailed characterization and control study results. (M. List)</p> <p>RB: The BPA does not currently predicate the studies on funding. Row 81 contains a schedule for agencies to request funding.</p> <p>Row 94 is for the agencies to develop an overarching strategy to address mercury loads from the settling basin, including an evaluation of potential funding options and schedules for ongoing and planned studies within the basin. Row 94 does not expect or require the agencies to have the final strategy or alternatives developed in two years. The strategy can have the schedule for the control studies and evaluation of alternatives. Row 94 was modified to clarify these requirements.</p>	2. By [two years after the Effective Date], the agencies shall develop a strategy to reduce total mercury discharged from the Basin for the next 20 years. The strategy shall include <u>a description of, and schedule for, potential studies and control alternatives, implementation schedules</u> and an evaluation of funding options. The agencies shall work with the landowners within the Basin and local communities affected by Basin improvements.

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95	3. By [three years after the Effective Date], the agencies shall submit a report describing the long term environmental benefits and costs of sustaining the Basin's mercury trapping abilities indefinitely.	<p>CVFPB: see No. 94</p> <hr/> <p>DWR: Our previous comment identified the submittal date of (December 31, 2018) as the time frame to necessary to complete this requested work. A detailed flood control study must be completed and combined with the results of the mercury studies in order to meet the requirements laid out in the proposed BPA and comply with the USACE Operation and Maintenance Manual for the Cache Creek Settling Basin. The December 31, 2018 time frame is a reasonable date to set for compliance with this requested item. (M. List)</p> <hr/> <p>RB: DWR comments on Row 94 indicate that four years are required to complete the mercury studies, evaluate alternatives, and formulate control strategies. Cost estimates would likely be part of the alternatives analysis, so staff is recommending that Row 95 be changed to be consistent with the four-year report schedule. The 2018 date is for the implementation of the plan to reduce the mercury loads. Row 95 does not require implementation of the plan.</p>	3. By [three <u>four</u> years after the Effective Date], the agencies shall submit a report describing the long term environmental benefits and costs of sustaining the Basin's mercury trapping abilities indefinitely.
96	4. By [two years after the Effective Date], the agencies shall submit a report that evaluates the trapping efficiency of the Cache Creek Settling Basin and proposes, evaluates, and recommends potentially feasible alternative(s) for mercury reduction from the Basin. The report shall evaluate the feasibility of increasing the trapping efficiency by 50% in addition to other trapping efficiencies.	<p>CVFPB: see No. 94</p> <hr/> <p>DWR: This comment was previously addressed by DWR, and the requested changes were not made. DWR sticks by the previous comments, as no trap efficiency evaluations can reasonable be conducted prior to completion of the Characterization and Control study, and feasibility evaluation. It is also unclear how the RWQCB can be specifying a proposed increase in trap efficiency of this flood control structure. This appears to be the Regional Board staff specifying the manner of compliance. The Cache Creek Settling Basin (in its existing and previous configurations) has had a net positive effect on reducing mercury loads that reach the Yolo Bypass, Sacramento River, the Delta, and areas downstream. Without the Cache Creek Settling Basin, all of the sediment and mercury from the Cache Creek Watershed that is currently trapped in the basin would be distributed downstream in the Yolo Bypass, Sacramento River, the Delta, the SF Bay, and the Pacific Ocean. There is no</p>	4. By [two <u>four</u> years after the Effective Date], the agencies shall submit a report that evaluates the trapping efficiency of the Cache Creek Settling Basin and proposes, evaluates, and recommends potentially feasible alternative(s) for mercury reduction from the Basin. The report shall evaluate the feasibility of <u>decreasing mercury loads from the basin, up to and including a 50% reduction from existing loads</u> increasing the trapping efficiency by 50% in addition to other trapping efficiencies.

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		<p>acknowledgement of this fact. (M. List)</p> <hr/> <p>YCFCWCD: limit focus to Hg trapping efficiency. Do not refer to sediment trapping efficiencies. Hg and sediment do not likely behave in a one to one relationship and limiting sediment discharge could make it harder to manage for Hg. If in practice the management is coupled, then no added control is provided by the BPA addressing sediment. If on the other hand, methods can differentially retain Hg, allowing sediment to move through the system would extend operational life of the basin.</p> <hr/> <p>RB: Without improvements to the CCSB, the inorganic mercury load will increase with time. This is a special concern given that many acres of downstream wetland habitat are planned for the Yolo Bypass. The BPA does not require a specific increase in efficiency to the CCSB; it does require that various trapping efficiencies be evaluated, up to and including 50%. This is only an evaluation step. The studies will tell us if a 50% is physically possible. The BPA language was modified to address DWR's concern that the Board was specifying the manner of compliance and replace it with a performance standard. The date was changed to four years to be consistent with Row 94.</p> <p>The BPA does not specify sediment trapping efficiency.</p>	
97	5. By [_TBD_] years after Effective Date], the agencies shall submit a detailed plan for improvements to the Basin to increase its sediment and mercury mass trapping efficiency.	<p>CVFPB: see No. 94</p> <hr/> <p>DWR: Increasing sediment trap efficiency at Cache Creek Settling Basin may not be in the best interest of the People of the State from a flood management perspective. Additionally, increasing the volume of sediment impounded in Cache Creek Settling Basin is likely to decrease total mercury released from the basin, but may cause increased export of methylmercury. It is inappropriate for this BPA to specify manner of compliance. At most, this item should state ...submit a detailed plan to minimize mercury loads leaving the basin. (M. List)</p> <hr/>	5. By [<u>six</u> years after Effective Date], the agencies shall submit a detailed plan for improvements to the Basin to <u>decrease mercury loads from the basin</u> increase its sediment and mercury mass trapping efficiency.

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		<p>YCFCWCD: limit focus to Hg trapping efficiency. Do not refer to sediment trapping efficiencies. See comment above.</p> <p>_____</p> <p>RB: The term 'sediment' was removed. The line was changed to be consistent with Row 96. Staff are recommending the detail plan for the basin be submitted six years after the effective date; the would allow the agencies two years after the feasibility studies (Row 96) to develop the plan, and two years after that to implement the plan to meet the 2018 date.</p>	
98	<p>6. By [_____], the agencies shall initiate management practices to reduce total mercury loads discharged by the Cache Creek Settling Basin and complete project improvements by [seven years after the effective date of this amendment _____].</p>	<p>CVFPB: see No. 94</p> <p>_____</p> <p>DWR: This item contains open time frames, yet specifies "complete project improvements by [seven years after the effective date of this amendment _____]." The seven year time frame is neither reasonable nor achievable. A time frame of completing work by December 31, 2018 was previously provided by DWR staff, and we maintain that schedule as necessary. (M. List)</p> <p>_____</p> <p>RB: Row 98 was modified for consistency with the above lines, and requires the agencies to start mercury reduction projects in eight years and completed construction two years thereafter.</p>	<p>6. By [<u>eight years after Effective Date</u>], the agencies shall <u>implement plans</u>initiate management practices to reduce total mercury loads discharged by the Cache Creek Settling Basin and complete project improvements by [<u>ten years after Effective Date</u>].</p>
99	<p>The agencies shall submit the strategy and planning documents described above to the Regional Water Board for approval by the Executive Officer.</p>	<p>YCFCWCD: Add a statement that provides that a feasibility study or environmental documents developed to support modifications of the Basin can be used in lieu of the prescribed reports if the feasibility study or environmental documents address the issues required by the reports.</p> <p>_____</p> <p>RB: Some of the reports described in this section are due at different times. The agencies are not prohibited from submitting the reports as part of feasibility studies or environmental documents.</p>	<p>The agencies shall submit the strategy and planning documents described above to the Regional Water Board for approval by the Executive Officer.</p>
100	<p><i>Tributary Watersheds</i></p> <p>Table D identifies methylmercury allocations for tributary inputs to the Delta and Yolo Bypass.</p>		<p><i>Tributary Watersheds</i></p> <p>Table D identifies methylmercury allocations for tributary inputs to the Delta and Yolo Bypass.</p>

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101	The sum total of 20-year average total mercury loads from the American River, Putah Creek, and Feather River needs to be reduced by 32 kg/yr, from 103 to 71 kg/yr.	<p>CVCWA: Why are these tributaries called out specifically but not all of the others on the 303(d) list?</p> <hr/> <p>RB: These tributaries are the major sources of mercury-contaminated sediment to the Delta. These reductions, in addition to reductions from Cache Creek, are intended to comply with the load reductions required by Region 2's San Francisco Bay mercury control program and will result in less contaminated material entering the Delta.</p>	The sum total of 20-year average total mercury loads from the American River, Putah Creek, and Feather River needs to be reduced by 32 kg/yr, from 103 to 71 kg/yr.
102	Future mercury control programs for tributary watersheds shall implement the methylmercury allocations and total mercury load reductions. Additional methylmercury and total mercury load reductions may be required to accomplish future water quality objectives to be established for those watersheds.	<p>CVCWA: I am not sure I understand what the first sentence means.</p> <p>Edit: "Additional methylmercury and total mercury load reductions may be required to accomplish future water quality objectives <u>or load allocations</u> to be established for those watersheds.</p> <hr/> <p>DWR: Although future mercury reductions are addressed here, when will reductions of the mercury input from the Cache Creek watershed, which enters the Cache Creek Settling Basin be achieved? Until significant reductions in the Cache Creek Watershed mercury source contamination is significantly reduced, the Cache Creek Settling Basin will continue to be plagued by excessive mercury. (M. List)</p> <hr/> <p>RB: Upstream TMDLs/BPAs will have programs to meet the Delta tributary allocations. The wording was edited to clarify this.</p> <p>The current Basin Plan amendment for Cache Creek has a schedule for cleanup of mines in the upper watershed. A few mines have been cleaned up and work is under way to address the other mines identified in the Basin Plan. The cleanup efforts focus on the highly enriched sources, but the whole watershed is enriched. Mercury-laden soil will continue to erode after mines are remediated, so the maintenance of the CCSB is needed to keep Cache Creek watershed soil from contaminating the Yolo Bypass and Delta.</p>	Future mercury control programs for tributary watersheds shall implement the <u>will address the tributary watershed methylmercury allocations and total mercury load reductions assigned to tributary inputs to the Delta and Yolo Bypass.</u> Additional methylmercury and total mercury load reductions may be required to accomplish future water quality objectives <u>within those watersheds to address any mercury impairment within those watersheds.</u>
103	Development of mercury control programs shall be completed for tributary inputs to the Delta by the following dates: <u>2012</u> : American River;	<p>CVCWA: Not one of these is consistent with the latest 303(d) list:</p> <ul style="list-style-type: none"> • American River is 2010 • Feather is 2012 • 5 reaches of the San Joaquin are 2012 	Development of mercury control programs shall be completed for tributary inputs to the Delta by the following dates: <u>2012</u> : American River;

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	<p><u>2016</u>: Feather, Sacramento, San Joaquin, and Mokelumne Rivers, and Marsh and Putah Creeks; and</p> <p><u>2017</u>: Cosumnes River and Morrison Creek.</p>	<ul style="list-style-type: none"> • Sacramento and Mokelumne are 2021 • Marsh Creek's are 2015 • Putah is 2017 • Cosumnes River and Morrison Creek are not listed <hr/> <p>CWA: When will they be required to meet their reduction requirements by?</p> <hr/> <p>Tribes: We remain concerned about impacts of mercury in lakes and rivers upstream of the Delta. Pollution control for these water bodies should occur as soon as possible.</p> <hr/> <p>RB: The high priority watersheds for the Delta control program were listed in this draft BPA. This list differs from the 303d List's priorities. The 303d List's priorities are not binding (e.g., the priorities are not a regulation). In addition, the 303d List priorities were developed over a year ago, long before stakeholders suggested that specific dates be included in the BPA for the completion of upstream TMDLs. Based on staff's review of this updated BPA, the duration of the stakeholder process for the Delta mercury control program, and key issues raised during the process, staff re-evaluated the 303(d) List 's priorities and developed this list to coincide with the Phase 1 activities.</p>	<p><u>2016</u>: Feather, Sacramento, San Joaquin, and Mokelumne Rivers, and Marsh and Putah Creeks; and</p> <p><u>2017</u>: Cosumnes River and Morrison Creek.</p>
104	<p><u>Recommendations for State and Federal Agencies</u></p> <p>USEPA and the California Air Resources Board should work with the State Water Board to evaluate local and statewide mercury air emissions and deposition patterns and to develop a load reduction program(s).</p>		<p><u>Recommendations for State and Federal Agencies</u></p> <p>USEPA and the California Air Resources Board should work with the State Water Board to evaluate local and statewide mercury air emissions and deposition patterns and to develop a load reduction program(s).</p>
105	<p>The State Water Board should consider requiring methylmercury controls for new water management activities that are expected to increase ambient methylmercury levels as a condition of approval of any water right action required to implement the project. The State</p>		<p>The State Water Board should consider requiring methylmercury controls for new water management activities that are expected to increase ambient methylmercury levels as a condition of approval of any water right action required to implement the project. The State Water Board Division of Water Rights should</p>

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	Water Board Division of Water Rights should consider requiring the evaluation and implementation of feasible management practices to reduce or, at a minimum, prevent methylmercury ambient levels from increasing from changes to water management activities and flood conveyance projects. The State Water Board should consider funding or conducting studies to develop and evaluate management practices to reduce methylmercury production resulting from existing water management activities or flood conveyance projects.		consider requiring the evaluation and implementation of feasible management practices to reduce or, at a minimum, prevent methylmercury ambient levels from increasing from changes to water management activities and flood conveyance projects. The State Water Board should consider funding or conducting studies to develop and evaluate management practices to reduce methylmercury production resulting from existing water management activities or flood conveyance projects.
106	During future reviews of the salinity objectives contained in the Bay-Delta Plan, the State Water Board Division of Water Rights should consider conducting studies to determine if methylmercury production in the Bay-Delta is a function of sulfate concentrations. Furthermore, the State Water Board should consider the results of these studies in evaluating changes to the salinity objectives.	CVCWA: Is it only a sulfate issue? Could other issues related to the salinity objectives (flow, salinity, etc.) impact this? RB: Staff modified the text to be more general about changes to the salinity objectives. Details can be included in the MOI or study workplan.	During future reviews of the salinity objectives contained in the Bay-Delta Plan, the State Water Board Division of Water Rights should consider conducting studies to determine if methylmercury production in the Bay-Delta is a function of sulfate concentrations. Furthermore, the State Water Board should consider <u>the results of these studies in evaluating changes to the salinity objectives</u> <u>proposed changes to salinity objectives will affect methylmercury production and should consider the results of these studies in evaluating changes to the salinity objectives.</u>
107	The State of California should establish the means to fund a portion of the mercury control projects in the Delta and upstream watersheds.	DU: Strike “a portion” and insert “ <u>non-federal</u> ” RB: Staff added this sentence in the BPA as a recommendation that some mercury control projects should be funded by state funds, but it does not indicate which projects would be limited to the funding. Should a mercury remediation fund be proposed for establishment by the legislature, maybe the bill’s authors can work with stakeholders to provide a strategy for setting up and disbursing the funds.	The State of California should establish the means to fund a portion of the mercury control projects in the Delta and upstream watersheds.
108	<u>Other Recommendations</u> Watershed stakeholders are encouraged to identify total mercury and methylmercury		<u>Other Recommendations</u> Watershed stakeholders are encouraged to identify total mercury and methylmercury reduction projects and

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	reduction projects and propose and conduct projects to reduce upstream non-point sources of methylmercury and total mercury. The Regional Water Board recommends that state and federal grant programs give priority to projects that reduce upstream non-point sources of methylmercury and total mercury.		propose and conduct projects to reduce upstream non-point sources of methylmercury and total mercury. The Regional Water Board recommends that state and federal grant programs give priority to projects that reduce upstream non-point sources of methylmercury and total mercury.
109	Dischargers may direct imposed administrative civil liabilities towards total mercury and methylmercury reduction projects in their watersheds, consistent with supplemental environmental project policies.	CVCWA: Add: "...methylmercury <u>discharge and risk</u> reduction projects... Capitalize "Supplemental Environmental Project" RB: CVCWA is suggesting that risk reduction projects be included as part of projects funded with administrative civil liabilities. Staff added this to the BPA.	Dischargers may direct imposed administrative civil liabilities towards total mercury and methylmercury <u>discharge and exposure</u> reduction projects in their watersheds, consistent with Supplemental Environmental Project policies.
110	<u>Pilot Mercury Offset Program and Early Implementation of Total Mercury Reduction Efforts</u> <i>[Additional language pending stakeholder offsets workgroup and Stakeholder Group discussions.]</i>	CVCWA: Note: We need to convene another offsets WG meeting with clearer goals for the meeting to provide additional language in this section. Remove the word "Pilot" in this section. The Mercury Offset program can include a pilot aspect, but it doesn't need to be limited here. RB: "Pilot" was removed. An offset meeting is scheduled in October.	<u>Pilot-Mercury Offset Program and Early Implementation of Total Mercury Reduction Efforts</u> <i>[Additional language pending stakeholder offsets workgroup and Stakeholder Group discussions.]</i>
111	Regional Water Board staff shall work with stakeholders to develop guidance for a mercury offset pilot program by [two years after the effective date of this amendment].	CVCWA: Use same terminology as elsewhere. Write "[two years after the Effective Date of this amendment]" RB: The recommendation was changed to reflect the development of the offset program during Phase 1 and bringing the program to the Board at the end of Phase 1 along with the mercury studies.	Regional Water Board staff shall work with stakeholders <u>during Phase 1</u> to develop guidance for a mercury offset pilot program <u>by the end of Phase 1</u> . [two years after the Effective Date of this amendment].
112	<u>Exposure Reduction Program</u> Methylmercury dischargers in the Delta and Yolo Bypass shall work with community organizations to develop and implement	DU: This is really a role for State Agencies, not private landowners or others involved with restoring and preserving wetlands habitat that provides public benefits. And the State should fund this. CVCWA: Lots of questions for SG discussion:	<u>Exposure Reduction Program</u> Methylmercury dischargers in the Delta and Yolo Bypass shall work with <u>affected communities</u> community organizations, public health experts, and

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	<p>effective, community driven programs to reduce mercury-related risks to humans. This shall include activities that reduce actual and potential exposure of – and mitigate health impacts to – those people and communities most likely to be affected by mercury in Delta-caught fish.</p>	<ul style="list-style-type: none"> • How will funds for this effort be coordinated and apportioned? Will the open water and tributaries be responsible for the vast majority? • What does it mean to reduce potential exposure? • How could a program mitigate health impacts? <p>What is an effective, feasible program?</p> <hr/> <p>PCH & UCF: The exposure reduction program is important. But, community-based organizations need funding to participate in development of the TMDL and exposure reduction program. This funding is in addition to funds to actually conduct outreach or other activities. To be successful, community groups must be involved in the creating and doing the exposure reduction program.</p> <hr/> <p>CDPH: While we think it is absolutely critical to involve community groups in any exposure reduction programs, it might be more productive to seek involvement among a broader range of groups and emphasize collaborations among these groups. As it is written now, the exposure reduction program is limited to only community organizations and community driven programs. We would hope that you would consider some exposure reduction approaches that may not be community organization driven, or where community groups play a supportive or collaborative role. For example, you might want to have exposure reduction efforts that involve health care or social service providers; Women, Infants, and Children (WIC) programs; and food stamp and nutrition education programs that target low-income populations. For the most part these types of programs are not conducted by “community organizations”. Also, someone (maybe you, CDPH or another group) would need to coordinate among the different groups/programs to bring consistency and agreement on the overall message and approaches.</p> <p>It’s very challenging to quantify health impacts. We’re not sure how you will demonstrate that you’ve mitigated health impacts since you can’t really, in any feasible way, measure them. Of course, we see no discussion of how you will evaluate your exposure reduction efforts, and what you are putting forth will be virtually impossible to</p>	<p><u>other interested groups</u> to develop and implement an effective community driven program(s) to reduce mercury-related risks to humans <u>that eat Delta fish</u>. The <u>Exposure Reduction Program</u> shall include activities that reduce actual and potential <u>mercury</u> exposure and mitigate health impacts, <u>as necessary</u>, to people most likely to be affected by mercury in Delta-caught fish.</p> <p><u>Objectives of the Exposure Reduction Program are to: raise community awareness around fish contamination issues among affected populations; reduce mercury exposure; and mitigate health impacts, as necessary, to people most likely to be affected by mercury in Delta-caught fish.</u></p>

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		<p>evaluate. We're also not sure what reducing "potential exposure" means. Finally, we think you should also mention "raising community awareness around fish contamination among affected populations" because some people, when they get information about mercury in fish, may still, due to personal choice, cultural reasons, or other factors, opt not to change their consumption practices.</p> <p>Suggested revised wording:</p> <p>Methylmercury dischargers in the Delta and Yolo Bypass shall work with community organizations <u>and other groups</u> to develop, and implement, <u>and evaluate the effectiveness of</u> effective, community driven <u>exposure reduction</u> programs to reduce mercury-related risks to humans. This shall include activities that reduce actual and potential exposure of <u>and mitigate health impacts to</u> those people and communities most likely to be affected by mercury in Delta-caught fish <u>raise community awareness around fish contamination issues among affected populations and encourage these populations to reduce their exposures to mercury in Delta fish.</u></p> <hr/> <p>RB: For reference, State Board resolution 2005-0060 states, in part, "Directs the San Francisco Bay and Central Valley Water Boards to investigate ways, consistent with their regulatory authority, to address public health impacts of mercury in San Francisco Bay/Delta fish, including activities that reduce actual and potential exposure of and mitigate health impacts to those people and communities most likely to be affected by mercury in San Francisco Bay-Delta caught fish, such as subsistence fishers and their families."</p> <p>The San Francisco Bay Water Board established precedence for requiring dischargers to develop and implement effective programs to reduce mercury-related risks to humans and wildlife and quantify risk reductions resulting from their activities. The stakeholder group may want to have further discussion about the Exposure Reduction Program for the Delta and potential sources of funding. The details for this program could be in the MOI. Reducing "potential" or future exposure could occur through education or through providing access</p>	

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		<p>to resources so that an individual does not need to consume contaminated fish.</p> <p>Following additional conversation with CWA and CDPH, RB further edited the text. Although evaluating effectiveness is worthwhile, staff did not add it as a requirement (i.e., not included under “shall”). If the program has limited funds, they may be better spent fully on exposure reduction activities, not on evaluation. “Community-driven” was omitted from the program description to ensure that activities suggested by CDPH, such as nutrition guidance and health screenings provided by health clinics, could occur as well as activities more directly carried out by community-based organizations. The requirement to work with community-based organizations in development and implementation of the Exposure Reduction Program remains in the first sentence.</p> <p>RB staff agreed both with CDPH, that identifying methylmercury as the cause of health problems is difficult, and with CWA, that there may be activities in addition to education that are needed to improve health in people exposed to methylmercury in Delta fish. Text from the State Board Resolution is already in line #115. Raising awareness is the fish consumption guidance and education (line #114). Staff proposes eliminating the redundant text and capturing all intended outcomes of the program as objectives.</p>	
113	<p>The dischargers shall work with affected communities and the public health agencies to develop and implement an effective risk management program(s). Dischargers may work together to develop a program. The risk management program(s) should include, but not be limited to, the following activities:</p>	<p>CWA: The dischargers shall work with affected communities and the public health agencies to develop and implement an effective <u>risk exposure</u> management program(s). Dischargers may work together to develop a program. The <u>risk exposure</u> management program(s) should include, but not be limited to, the following activities:</p> <p>_____</p> <p>CDPH: “Exposure management” is an odd sounding term that I’m not sure what it means. The term “exposure reduction” is used in other places and is clearer.</p> <p>_____</p> <p>RB: Edits made. First sentence deleted because it is redundant with</p>	<p>The dischargers shall work with affected communities and the public health agencies to develop and implement an effective risk exposure reduction management program(s). Dischargers may work together to develop a program. The risk exposure reduction management program(s) should include, but not be limited to, the following activities:</p>

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114	<ul style="list-style-type: none"> Provide fish-consumption advice to the public in multiple languages and culturally appropriate fashion, including identifying fish species that have relatively low levels of mercury; 	<p>CDPH: This sounds very reasonable. Suggested revised wording: Provide fish-consumption advice <u>and implement educational activities with</u> to the public in multiple languages and culturally appropriate fashion, including identifying fish species that have relatively low levels of mercury;</p> <hr/> <p>RB: Edits made. (Please note that the order of Rows 114 and 115 was changed).</p>	<ul style="list-style-type: none"> Provide fish-consumption advice <u>and implement educational activities with</u> to the public in multiple languages and culturally appropriate fashion, including identifying fish species that have relatively low levels of mercury;
115	<ul style="list-style-type: none"> Plan and implement feasible ways to address public health impacts of mercury in Delta fish, including activities that reduce the actual and potential exposure of and mitigate health impacts to those people and communities most likely to be affected by mercury in Delta fish, such as subsistence fishers and their families. 	<p>CVCWA: Would like to discuss what is envisioned here with the stakeholder group.</p> <hr/> <p>CDPH: See comments for #112 above. Suggested revised wording: Plan, and implement, feasible ways to address public health impacts of mercury in Delta fish, including activities that reduce the actual and potential exposure of and mitigate health impacts to those people and communities most likely to be affected by mercury in Delta fish, such as subsistence fishers and their families and evaluate the effectiveness of activities to raise community awareness around fish contamination issues among affected populations and encourage these populations to reduce their exposures to mercury in Delta fish.</p> <hr/> <p>RB: The stakeholder group may want to have further discussion about the Exposure Reduction Program. Staff retained the text from State Board resolution 2005-0060.</p>	<ul style="list-style-type: none"> Plan and implement feasible ways to address public health impacts of mercury in Delta fish, including activities that reduce the actual and potential exposure of and mitigate health impacts to those people and communities most likely to be affected by mercury in Delta fish, such as subsistence fishers and their families.
116	<ul style="list-style-type: none"> Regularly inform the public about monitoring data and findings regarding hazards of eating mercury-contaminated fish in an easy to understand and culturally appropriate fashion; and 	<p>CDPH: Saying “hazards” is a bit harsh of a characterization. Suggested revised wording: Regularly inform the public about monitoring data and findings regarding hazards of eating mercury-contaminated fish <u>the risks and benefits of eating Delta fish in an accessible,</u> easy to</p>	<ul style="list-style-type: none"> Regularly inform the public about monitoring data and findings regarding <u>the risks and benefits of eating Delta fish</u> hazards of eating mercury-contaminated fish in an <u>accessible,</u> easy to understand and culturally appropriate fashion; and

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		<p>understand and culturally appropriate fashion; and</p> <p>Also, I think it is prudent to involve fish consumers in the design of monitoring programs, to ensure that monitoring programs address the community's fish consumption patterns and particular needs. This doesn't fit here but I would recommend including is somewhere.</p> <hr/> <p>RB: Edits made. Rows 126-130 prescribe monitoring locations and frequencies to determine compliance with allocations (based on the TMDL analysis). Staff recommends that future monitoring programs such as the Surface Water Ambient Monitoring Program (SWAMP), be designed with input from local consumers regarding preferred species and fishing sites.</p>	
117	<ul style="list-style-type: none"> Perform special studies as needed to support exposure assessment, especially among the most impacted fish consumers, and to identify appropriate intervention strategies. 	<p>CDPH: I would add at the end "...and evaluate their effectiveness."</p> <hr/> <p>RB: Edits made.</p>	<ul style="list-style-type: none"> Perform special studies as needed to support exposure assessment, especially among the most impacted fish consumers, and to identify appropriate intervention strategies <u>and evaluate their effectiveness.</u>
118	<p>The dischargers shall submit an exposure reduction workplan for Executive Officer approval by [two years after Effective Date], and implement the plan by [four years after Effective Date]. The implementation plan must describe how the discharger(s) have and will work collaboratively with impacted communities to develop appropriate strategies and how those communities will be involved in implementation. Every three years thereafter, the dischargers shall provide a progress report to the Executive Officer.</p>	<p>CVCWA: There should be an end date to the progress reports, such the end of Phase 2 (2035).</p> <hr/> <p>DWR: Which dischargers is this referring to? It seems like a huge overlap for each and every "discharger" to be conducting this same work. Would it be better for all required discharges to contribute funding and/or resources to the CA Dept of Health Services and/or the CA Dept of Public Health, or county health agencies for this work to be completed? (M. List)</p> <hr/> <p>CDPH: Suggested revised wording: "... The implementation plan must describe how the discharger(s) have and will work collaboratively with impacted communities <u>and other relevant groups and agencies</u> to develop appropriate strategies and how those communities, <u>groups, and agencies</u> will be involved in implementation...."</p> <hr/> <p>RB: Exposure reduction activities will last beyond Phase 2. The</p>	<p>The dischargers shall submit an exposure reduction workplan for Executive Officer approval by [two years after Effective Date], and implement the plan by [four years after Effective Date]. The implementation plan must describe how the discharger(s) have and will work collaboratively with impacted communities <u>and other relevant groups and agencies</u> to develop appropriate strategies and how those communities, <u>groups, and agencies</u> will be involved in implementation. Every three years thereafter, the dischargers shall provide a progress report to the Executive Officer.</p>

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		<p>Board can periodically evaluate the effectiveness of the program and amend the reporting dates during the reviews.</p> <p>Currently, 'dischargers' refers to the entities named in this BPA. The stakeholder group needs to discuss a strategy for the Exposure Reduction Program to determine which dischargers should be responsible for its development and implementation, and their level of involvement. These details can be in the MOI. CDPD edits were added.</p>	
119	<p>The California Department of Health Services and the local county health departments should develop and promote public education programs and work with at risk fish consumers to develop exposure reduction activities and provide guidance to dischargers and other that are conducting such activities.</p>	<p>DWR: Where is the funding for this work anticipated to be coming from? (M. List)</p> <hr/> <p>CDPH: The California Department of Public Health and the county health <u>and environmental health</u> departments should develop and promote public education programs and work with at risk fish consumers to develop exposure reduction activities <u>collaborate with community organizations and other groups to develop, implement, and evaluate exposure reduction programs</u> and provide guidance to dischargers and others that are conducting such activities.</p> <hr/> <p>RB: This row is a recommendation for CDPH and local agencies to work with the other groups. Staff expects that CDPH staff would need to submit a Budget Change Proposal for the extra work, and that county departments will need to do budget funds or apply for grants. The suggested edits were made.</p>	<p>The California Department of Health Services<u>Public Health</u> and the local county health <u>and environmental health</u> departments should develop and promote public education programs and work with at risk fish consumers to develop exposure reduction activities <u>collaborate with community organizations and other groups to develop, implement, and evaluate exposure reduction programs</u> and provide guidance to dischargers and other that are conducting such activities.</p>
120	<p>These efforts need to consider and incorporate the positive health impacts associated with fish consumption.</p>	<p>CDPH: Yes, we agree. These efforts also need to consider and incorporate: (1) the presence of other chemical found Delta fish and (2) the baseline exposures to mercury from consumption of commercial fish.</p> <hr/> <p>RB: Staff added other contaminates and commercial fish considerations.</p>	<p>These efforts need to consider and incorporate: <u>the positive health impacts associated with fish consumption; other fish contaminants; and mercury in commercial fish.</u></p>
121	<p><u>Exceptions for Low Threat Discharges</u></p> <p>Discharges subject to a waiver of waste discharge requirements based on a finding</p>		<p><u>Exceptions for Low Threat Discharges</u></p> <p>Discharges subject to a waiver of waste discharge requirements based on a finding that the discharges</p>

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	that the discharges pose a low threat to water quality, except for discharges subject to water quality certifications, are exempt from the mercury requirements of this Delta Mercury Control Program.		pose a low threat to water quality, except for discharges subject to water quality certifications, are exempt from the mercury requirements of this Delta Mercury Control Program.
122	Discharges subject to waste discharge requirements for dewatering and other low threat discharges to surface waters are exempt from the mercury requirements of this Delta Mercury Control Program.		Discharges subject to waste discharge requirements for dewatering and other low threat discharges to surface waters are exempt from the mercury requirements of this Delta Mercury Control Program.
123	<p>Revise Chapter IV (Implementation), under “Estimated Costs of Agricultural Water Quality Control Programs and Potential Sources of Financing”, to add:</p> <p>Delta Mercury Control Program The total estimated costs (2007 dollars) for the agricultural methylmercury characterization and control studies to develop management practices to meet the Delta methylmercury objectives range from \$430,000 to \$820,000. The estimated annual costs for agricultural discharger compliance monitoring range from \$14,000 to \$25,000. The estimated annual costs for Phase 2 implementation of methylmercury management practices range from \$500,000 to \$1.1 million.</p>		<p>Revise Chapter IV (Implementation), under “Estimated Costs of Agricultural Water Quality Control Programs and Potential Sources of Financing”, to add:</p> <p>Delta Mercury Control Program The total estimated costs (2007 dollars) for the agricultural methylmercury characterization and control studies to develop management practices to meet the Delta methylmercury objectives range from \$430,000 to \$820,000. The estimated annual costs for agricultural discharger compliance monitoring range from \$14,000 to \$25,000. The estimated annual costs for Phase 2 implementation of methylmercury management practices range from \$500,000 to \$1.1 million.</p>
124	1. Potential funding sources include those identified in the San Joaquin River Subsurface Agricultural Drainage Control Program and the Pesticide Control Program.		1. Potential funding sources include those identified in the San Joaquin River Subsurface Agricultural Drainage Control Program and the Pesticide Control Program.
125	Revise Chapter IV (Implementation), under “Mercury Discharges in the Sacramento River and San Joaquin River Basins”,		Revise Chapter IV (Implementation), under “Mercury Discharges in the Sacramento River and San Joaquin River Basins”,

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	<p>under subsection “Cache Creek Watershed Mercury Program”, as follows:</p> <p>Delete the last line in Table IV-6.1, ‘Cache Creek Settling Basin Outflow’, and delete Footnote ‘(c)’.</p>		<p>under subsection “Cache Creek Watershed Mercury Program”, as follows:</p> <p>Delete the last line in Table IV-6.1, ‘Cache Creek Settling Basin Outflow’, and delete Footnote ‘(c)’.</p>
126	<p>Revise Chapter V (Surveillance and Monitoring), under “Mercury and Methylmercury”, to add as follows:</p> <p>Delta <u>Fish Methylmercury Compliance Monitoring</u> The Regional Water Board will use the following specifications to determine compliance with the methylmercury fish tissue objectives in the Sacramento-San Joaquin Delta. Beginning 2025, Regional Water Board staff will initiate fish tissue monitoring. Thereafter compliance monitoring will ensue every ten years, more frequently as needed where substantial changes in methyl or total mercury concentrations or loading occur, but not to exceed ten years elsewhere.</p>	<p>CVCWA: This schedule means that Phase 2 of the TMDL will be developed based on circa 2003 data. Additional monitoring should occur before this point to provide a basis in Phase 2 for early implementation.</p> <hr/> <p>USFWS: Considering the changes likely to take place in the Delta in the next 15 years I think it would be appropriate to start this compliance monitoring before 2025 (e.g. don’t want to wait until 2025 to see that the Central Delta fish increased in Hg for some reason). Every 5 years until 2025 would be appropriate and then an evaluation of whether extending the period to every 10 years will be sufficient. (TCM)</p> <hr/> <p>RB: Phase 2 of the TMDL will incorporate the data included in the February 2008 TMDL report as well as results from recent fish mercury monitoring efforts by the Fish Mercury Project (funded by the California Bay-Delta Authority, http://www.sfei.org/cmr/fishmercury/), and any other new data collected before and after the effective date of the BPA.</p> <p>Staff proposes to begin compliance-related fish monitoring after Phase 2 is adopted and sources have implemented methylmercury reduction projects. Sources, agencies, and staff are not precluded from conducting additional monitoring to evaluate early load reduction projects; in addition, some projects such as offsets and restoration projects may want to include more frequent monitoring. The purpose of the proposed text is to describe a state-funded monitoring program to evaluate compliance towards fish tissue objectives. More frequent monitoring could be proposed once reduction projects are implemented.</p>	<p>Revise Chapter V (Surveillance and Monitoring), under “Mercury and Methylmercury”, to add as follows:</p> <p>Delta <u>Fish Methylmercury Compliance Monitoring</u> The Regional Water Board will use the following specifications to determine compliance with the methylmercury fish tissue objectives in the Sacramento-San Joaquin Delta. Beginning 2025, Regional Water Board staff will initiate fish tissue monitoring. Thereafter compliance monitoring will ensue every ten years, more frequently as needed where substantial changes in methyl or total mercury concentrations or loading occur, but not to exceed ten years elsewhere.</p>

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127	<p>Initial fish tissue monitoring will take place at the following compliance reaches in each subarea:</p> <ul style="list-style-type: none"> • Central Delta subarea: Middle River between Bullfrog Landing and Mildred Island; • Marsh Creek subarea: Marsh Creek from Highway 4 to Cypress Road; • Mokelumne/Cosumnes River subarea: Mokelumne River from the Interstate 5 bridge to New Hope Landing; • Sacramento River subarea: Sacramento River from River Mile 40 to River Mile 44; • San Joaquin River subarea: San Joaquin River from Vernalis to the Highway 120 bridge; • West Delta subarea: Sacramento/San Joaquin River confluence near Sherman Island; • Yolo Bypass-North subarea: Tule Canal downstream of its confluence with Cache Creek; and • Yolo Bypass-South subarea: Toe Drain between Lisbon and Little Holland Tract. 		<p>Initial fish tissue monitoring will take place at the following compliance reaches in each subarea:</p> <ul style="list-style-type: none"> • Central Delta subarea: Middle River between Bullfrog Landing and Mildred Island; • Marsh Creek subarea: Marsh Creek from Highway 4 to Cypress Road; • Mokelumne/Cosumnes River subarea: Mokelumne River from the Interstate 5 bridge to New Hope Landing; • Sacramento River subarea: Sacramento River from River Mile 40 to River Mile 44; • San Joaquin River subarea: San Joaquin River from Vernalis to the Highway 120 bridge; • West Delta subarea: Sacramento/San Joaquin River confluence near Sherman Island; • Yolo Bypass-North subarea: Tule Canal downstream of its confluence with Cache Creek; and • Yolo Bypass-South subarea: Toe Drain between Lisbon and Little Holland Tract.
128	<p>Compliance fish methylmercury monitoring will include representative fish species for comparison to each of the methylmercury fish tissue objectives:</p> <ul style="list-style-type: none"> • Trophic Level 4: bass (largemouth and striped), channel and white catfish, crappie, and Sacramento pikeminnow. • Trophic Level 3: American shad, black bullhead, bluegill, carp, Chinook salmon, redear sunfish, Sacramento blackfish, Sacramento sucker, and white sturgeon. • Small (<50 mm) fish: primary prey species 		<p>Compliance fish methylmercury monitoring will include representative fish species for comparison to each of the methylmercury fish tissue objectives:</p> <ul style="list-style-type: none"> • Trophic Level 4: bass (largemouth and striped), channel and white catfish, crappie, and Sacramento pikeminnow. • Trophic Level 3: American shad, black bullhead, bluegill, carp, Chinook salmon, redear sunfish, Sacramento blackfish, Sacramento sucker, and white sturgeon. • Small (<50 mm) fish: primary prey species consumed by wildlife in the Delta, which may

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	consumed by wildlife in the Delta, which may include the species listed above, as well as inland silverside, juvenile bluegill, mosquitofish, red shiner, threadfin shad, or other fish less than 50 mm		include the species listed above, as well as inland silverside, juvenile bluegill, mosquitofish, red shiner, threadfin shad, or other fish less than 50 mm.
129	Trophic level 3 and 4 fish sample sets will include three species from each trophic level and will include both anadromous and non-anadromous fish. Trophic level 3 and 4 fish sample sets will include a range of fish sizes between 150 and 500 mm total length. Striped bass, largemouth bass, and sturgeon caught for mercury analysis will be within the CDFG legal catch size limits. Sample sets for fish less than 50 mm will include at least two fish species that are the primary prey species consumed by wildlife at sensitive life stages. In any subarea, if multiple species for a particular trophic level are not available, one species in the sample set is acceptable.		Trophic level 3 and 4 fish sample sets will include three species from each trophic level and will include both anadromous and non-anadromous fish. Trophic level 3 and 4 fish sample sets will include a range of fish sizes between 150 and 500 mm total length. Striped bass, largemouth bass, and sturgeon caught for mercury analysis will be within the CDFG legal catch size limits. Sample sets for fish less than 50 mm will include at least two fish species that are the primary prey species consumed by wildlife at sensitive life stages. In any subarea, if multiple species for a particular trophic level are not available, one species in the sample set is acceptable.
130	<p><u>Water Methylmercury and Total Mercury Compliance Monitoring</u></p> <p>Compliance points for irrigated agriculture and managed wetlands methylmercury allocations shall be developed during the Control Studies.</p>	<p>CVCWA: The process is still missing as earlier sections only include a recommendation.</p> <hr/> <p>RB: BPA language was added for the development and implementation of NPS monitoring during Phase 1. The EO will be approving the Control Study plans, which will contain monitoring programs.</p>	<p><u>Water Methylmercury and Total Mercury Compliance Monitoring</u></p> <p>Compliance points for irrigated agriculture and managed wetlands methylmercury allocations shall be developed during the Phase 1 Control Studies.</p> <p><u>In conjunction with the Phase 1 Control Studies, nonpoint sources, irrigated agriculture, and managed wetlands shall develop and implement mercury and/or methylmercury monitoring, and submit monitoring reports.</u></p>
131	NPDES facilities' compliance points for methylmercury and total mercury monitoring are the effluent monitoring points currently		NPDES facilities' compliance points for methylmercury and total mercury monitoring are the effluent monitoring points currently described in individual NPDES permits.

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	described in individual NPDES permits.		
132	Facilities listed in Table B shall conduct total mercury and methylmercury monitoring starting by [one year after the Effective Date]. Monitoring frequencies shall be defined in the NPDES permits.	<p>CVCWA: Total Mercury monitoring should not be required after compliance with the WLA is achieved. Edit: <u>“During Phase I and while under a compliance schedule in Phase 2, F</u>facilities listed in Table B shall conduct total mercury and methylmercury monitoring starting by [one year after the Effective Date]. Monitoring frequencies shall be defined in the NPDES permits.</p> <p>RB: Total mercury monitoring was included to determine compliance with the interim mercury cap. In addition, total mercury monitoring is already required by most NPDES permits. Staff edited the BPA to specify that monitoring will be re-evaluated during program reviews.</p>	<p><u>During Phase 1 and Phase 2, facilities listed in Table B shall conduct effluent total mercury and methylmercury monitoring starting by [one year after the Effective Date]. Monitoring frequencies shall be defined in the NPDES permits. Effluent monitoring requirements will be re-evaluated during the Delta Mercury Control Program Reviews.</u></p>
	Facilities that begin discharging to surface water during Phase 1 and facilities for which effluent methylmercury data were not available at the time Table B was compiled, shall conduct monitoring.		Facilities that begin discharging to surface water during Phase 1 and facilities for which effluent methylmercury data were not available at the time Table B was compiled, shall conduct monitoring.
134	Compliance points and monitoring frequency for MS4s required to conduct methylmercury and total mercury monitoring are those locations and wet and dry weather sampling periods currently described in the individual MS4 NPDES permits or otherwise determined to be representative of the MS4 service areas and approved by the Executive Officer on an MS4-specific basis.		Compliance points and monitoring frequencies for MS4s required to conduct methylmercury and total mercury monitoring are those locations and wet and dry weather sampling periods currently described in the individual MS4 NPDES permits or otherwise determined to be representative of the MS4 service areas and approved by the Executive Officer on an MS4-specific basis.
135	Annual methylmercury loads in urban runoff in MS4 service areas may be calculated by the following method or by an alternate method approved by the Executive Officer. The annual methylmercury load in urban runoff for a given MS4 service area during a given year may be calculated by the sum of wet weather and dry weather methylmercury loads. To estimate wet weather methylmercury loads	<p>MS4: Does the representative area need to be defined for Sacramento and Stockton MS4s, to distinguish between in-Delta and upstream discharges?</p> <p>MS4 current loads exceed their average load in almost half of the years and will exceed their WLAs at a similar rate even if they meet it as a long-term average. If compliance is assessed annually, MS4s will need some sort of water year normalizing or a multi-year averaging period.</p>	Annual methylmercury loads in urban runoff in MS4 service areas <u>within the Delta and Yolo Bypass</u> may be calculated by the following method or by an alternate method approved by the Executive Officer. The annual methylmercury load in urban runoff for a given MS4 service area during a given year may be calculated by the sum of wet weather and dry weather methylmercury loads. To estimate wet weather methylmercury loads discharged by MS4 urban areas, the average of wet

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	<p>discharged by MS4 urban areas, the average of wet weather methylmercury concentrations observed at the MS4's compliance locations may be multiplied by the wet weather runoff volume estimated for all urban areas within the MS4 service area. To estimate dry weather methylmercury loads, the average of dry weather methylmercury concentrations observed at the MS4's compliance locations may be multiplied by the estimated dry weather urban runoff volume in the MS4 service area.</p>	<p>RB: Staff edited the text in this row and Rows 13 and 14, as well as the title of Table C and footnote (b), to clarify the distinction between in-Delta/Yolo Bypass and upstream discharges, as well as between urban areas within and outside of MS4 areas.</p> <p>Staff added a new row (Row 15.5) and edited Table C footnote (a) to address the MS4's second comment.</p>	<p>weather methylmercury concentrations observed at the MS4's compliance locations may be multiplied by the wet weather runoff volume estimated for all urban areas within the MS4 service area <u>within the Delta and Yolo Bypass</u>. To estimate dry weather methylmercury loads, the average of dry weather methylmercury concentrations observed at the MS4's compliance locations may be multiplied by the estimated dry weather urban runoff volume in the MS4 service area <u>within the Delta and Yolo Bypass</u>.</p>
TABLE A		<p>YCFCWCD: label as MeHg load and wasteload allocations</p> <p>RB: Edits made.</p>	
TABLE C		<p>MS4: Table C, footnote (a) comment: The MS4s will certainly have to look at their longer-term datasets during Phase 1. This footnote alludes to the fact that the estimated average load is probably exceeded in more than half of the years now. The WLA could be exceeded at the same rate, even if loads are reduced by the required percentages.</p> <p>Edit footnote (b): management agencies <u>in the Delta</u>, including but not...</p> <p>RB: Staff agrees. Please refer to the discussion in Row 135, and edits made to Rows 135, 13, 14, 15.5, and Table C title and footnotes (a) and (b).</p>	
TABLE D		<p>YCFCWCD: Add a footnote to the Cache Creek Setting Basin allocation that states: Loads from Cache Cr derived from flows above 30,000 cfs are excluded from the TMDL. <i>(See letter from S. Lorenzato following Tables D.)</i></p> <p>RB: The load allocation is assigned to the Cache Creek watershed, upstream of where the watershed enters the Yolo Bypass, and not</p>	

#	<i>September 2 BPA Text</i>	<i>Edits & Comments as of 7 December 2009</i>	<i>Revised BPA Text</i>
		<p>specifically to the settling basin. The allocation is in terms of methylmercury. Currently, the settling basin is a not a net source of methylmercury over the longer cycle. It is not known if modifications to the settling basin (to improve its trapping efficiency of inorganic mercury) could result in a change in the methylmercury characteristics within the basin- the Phase 1 studies could address this. The settling basin is not expected to meet the entire methylmercury load allocation assigned to the Cache Creek watershed.</p> <p>Heavy precipitation events, which produce flows greater than 30,000 cfs, cause the greatest amount of erosion from all areas, including the mine sites and other enriched areas. Indeed, higher flows may result in decreased mercury sediment concentrations for the reasons explained in S. Lorenzato's paper. In addition, it is understood that the Capay floodplain is depositional and traps mercury when floodwaters extend beyond the channel is acknowledged, but staff is uncertain why this phenomenon should exempt flows >30,000 cfs. Granted methylmercury production during the time flows are over 30,000 may be limited due to the brief duration of these events. Whether or not Basin managers focus on particular flow and water levels to meet BPA requirements will be their decision and can be described in the Phase 1 studies.</p> <p>The BPA recognizes that the allocations are based on a limited data set and will be revised if additional is collected when the BPA is reviewed.</p>	

Draft Tables A through D

TABLE A
METHYLMERCURY LOAD AND WASTELOAD ALLOCATIONS FOR EACH DELTA SUBAREA BY SOURCE CATEGORY

Source Type	DELTA SUBAREA													
	Central Delta		Marsh Creek		Mokelumne River		Sacramento River		San Joaquin River		West Delta		Yolo Byp	
	Current Load (g/yr)	Allocation (g/yr)	Current Load (g/yr)	Allocation (g/yr)	Current Load (g/yr)	Allocation (g/yr)	Current Load (g/yr)	Allocation (g/yr)	Current Load (g/yr)	Allocation (g/yr)	Current Load (g/yr)	Allocation (g/yr)	Current Load (g/yr)	Allocation (g/yr)
Methylmercury Load Allocations														
Agricultural drainage	37	37	2.2	0.40	1.6	0.57	36	20	23	8.3	4.1	4.1	19	4
Atmospheric wet deposition	7.3	7.3	0.23	0.23	0.29	0.29	5.6	5.6	2.7	2.7	2.4	2.4	4.2	4
Open water sediment	370	370	0.18	0.032	4.0	1.4	140	78	48	17	190	190	100	1
Tributary Inputs ^(a)	37	37	1.9	0.34	110	39	2,034	1,129	367	133			462	1
Inputs from Upstream Subareas	(b)	(b)	---	---	---	---	---	---	---	---	(b)	(b)	---	---
Urban (nonpoint source)	0.14	0.14	---	---	0.018	0.018	0.62	0.62	0.0022	0.0022	0.066	0.066	---	---
Wetlands	210	210	0.34	0.061	30	11	94	52	43	16	130	130	480	1
Methylmercury Wasteload Allocations														
NPDES facilities ^(a)	1.3	1.3	0.086	0.086	0	0	162	90	40	15	0.0019	0.0019	1.0	0
NPDES facilities future growth ^(a)	---	0.31 ^(b)	---	0.21	---	0	---	8.5	---	2.2	---	0.57 ^(b)	---	0
NPDES MS4 ^(a)	5.4	5.4	1.2	0.30	0.045	0.016	2.8	1.6	4.8	1.7	3.2	3.2	1.5	0
Total Loads ^(c) (g/yr)	668	668	6.14	1.66	146	52.6	2,480	1,384	528	195	330	330	1,068	2

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- (a) Values shown for Tributary Inputs, NPDES Facilities, NPDES Facilities Future Growth, and NPDES MS4 represent the sum of several individual discharges. See Tables B, C, and D for allocations for the individual discharges that should be used for compliance purposes.
 - (b) The Central Delta subarea receives flows from the Sacramento, Yolo Bypass, Mokelumne, and San Joaquin subareas. The West Delta subarea receives flows from the Central Delta and Marsh Creek subareas. These within-Delta flows have not yet been quantified because additional data are needed for loss rates across the subareas. Thereafter, allocations will be calculated. However, these subarea inflows are expected to decrease substantially (e.g., 40-80%) as upstream mercury management practices take place. As a result, reductions for sources within the Central and West Delta subareas and tributaries that drain directly to these subareas are not required.
 - (c) The sum of all allocations for each subarea equals the assimilative load capacity for that subarea. Because calculations were completed prior to rounding, some columns may not add to totals.

**TABLE B
MUNICIPAL AND INDUSTRIAL WASTEWATER METHYLMERCURY (MeHg) ALLOCATIONS**

PERMITTEE ^(a)	NPDES Permit No.	MeHg Wasteload Allocation ^(b) (g/yr)
Central Delta		
Discovery Bay WWTP	CA0078590	0.37
Lodi White Slough WWTP	CA0079243	0.93
Metropolitan Stevedore Company	CA0084174	^(c)
San Joaquin Co DPW CSA 31 – Flag City WWTP	CA0082848	0.0066
Unassigned allocation for NPDES facility discharges	^(d)	0.31
Marsh Creek		
Brentwood WWTP	CA0082660	0.14
Unassigned allocation for NPDES facility discharges	^(d)	0.16
Sacramento River		
California, State of, Central Heating / Cooling Facility	CA0078581	^(e)
Rio Vista Northwest WWTP	CA0083771	0.083
Rio Vista WWTP	CA0079588	0.056
Sacramento Combined WWTP	CA0079111	0.53
SRCS D Sacramento River WWTP	CA0077682	89
Unassigned allocation for NPDES facility discharges	^(d)	8.4
San Joaquin River		
Deuel Vocational Inst. WWTP	CA0078093	0.021
Manteca WWTP	CA0081558	0.38
Mountain House Community Services District WWTP	CA0084271	0.37
Oakwood Lake Subdivision Mining Reclamation ^(f)	CA0082783	0.38 ^(f)
Stockton WWTP	CA0079138	13
Tracy WWTP	CA0079154	0.77
Unassigned allocation for NPDES facility discharges	^(d)	1.8
West Delta		
GWF Power Systems ^(e)	CA0082309	0.0052
Mirant Delta LLC Contra Costa Power Plant	CA0004863	^(e)
Unassigned allocation for NPDES facility discharges	^(d)	0.57
Yolo Bypass		
Davis WWTP ^(g)	CA0079049	0.17 ^(g)
Woodland WWTP	CA0077950	0.43
Unassigned allocation for NPDES facility discharges	^(d)	0.42

Table B Footnotes:

- (a) If NPDES facilities that have allocations in Table B regionalize or consolidate, their waste load allocations can be summed.
- (b) Methylmercury waste load allocations apply to annual (calendar year) discharge methylmercury loads.
- (c) A methylmercury waste load allocation for non-storm water discharges from the Metropolitan Stevedore Company (CA0084174) shall be established in its NPDES permit once it completes three sampling events for methylmercury in its discharges. Its waste load allocation is a component of the "Unassigned Allocation" for the Central Delta subarea.
- (d) Table B contains unassigned waste load allocations for new discharges to surface water that begin after [the effective date of this amendment]. New discharges that may be allotted a portion of the unassigned allocation may come from (1) existing facilities that previously discharged to land and then began to discharge to surface water or diverted discharges to another facility that discharges to surface water as part of ongoing regionalization efforts; (2) newly built facilities that have not previously discharged to land or water; and (3) expansions to existing facilities beyond their allocations listed in Table B where the additional allocation does not exceed the product of the net increase in flow volume and 0.06 ng/l methylmercury. The sum of all new and/or expanded methylmercury discharges from NPDES facilities within each Delta subarea shall not exceed the Delta subarea-specific waste load allocation listed in Table B.
- (e) Methylmercury loads and concentrations in heating/cooling and power facility discharges vary with intake water conditions. To determine compliance with the allocations, dischargers that use ambient surface water for cooling water shall conduct concurrent monitoring of the intake water and effluent. The methylmercury allocations for such heating/cooling and power facility discharges are 100%, such that the allocations shall become the detected methylmercury concentration found in the intake water. GWF Power Systems (CA0082309) acquires its intake water from sources other than ambient surface water and therefore has a methylmercury allocation based on its effluent methylmercury load.
- (f) The waste load allocation for the Oakwood Lake Subdivision Mining Reclamation (CA0082783) shall be assessed as a five-year average annual methylmercury load.
- (g) The City of Davis WWTP (CA0079049) has two discharge locations; wastewater is discharged from Discharge 001 to the Willow Slough Bypass upstream of the Yolo Bypass and from Discharge 002 to the Conaway Ranch Toe Drain in the Yolo Bypass. The methylmercury load allocation listed in Table B applies only to Discharge 002, which discharges seasonally from about February to June. Discharge 001 is encompassed by the Willow Slough watershed methylmercury allocation listed in Table G.
- ~~(h) These facilities are required to complete Phase 1 Control Studies. If they conduct effluent monitoring that demonstrates average effluent methylmercury concentrations less than 0.06 ng/l, they will not be required to conduct the Control Studies.~~

TABLE C
MS4 METHYLMERCURY WASTELOAD ALLOCATIONS
FOR URBAN RUNOFF WITHIN EACH DELTA SUBAREA

Permittee	NPDES Permit No.	Wasteload Allocation ^(a, b) (g/yr)
Central Delta		
Contra Costa (County of) ^(c)	CAS083313	0.75
Lodi (City of)	CAS000004	0.053
Port of Stockton MS4	CAS084077	0.39
San Joaquin (County of)	CAS000004	0.57
Stockton Area MS4	CAS083470	3.6
Marsh Creek		
Contra Costa (County of) ^(c)	CAS083313	0.30
Mokelumne River		
San Joaquin (County of)	CAS000004	0.016
Sacramento River		
Rio Vista (City of)	CAS000004	0.0078
Sacramento Area MS4	CAS082597	1.0
San Joaquin (County of)	CAS000004	0.11
Solano (County of)	CAS000004	0.040
West Sacramento (City of)	CAS000004	0.36
Yolo (County of)	CAS000004	0.040
San Joaquin River		
Lathrop (City of)	CAS000004	0.098
Port of Stockton MS4	CAS084077	0.0036
San Joaquin (County of)	CAS000004	0.80
Stockton Area MS4	CAS083470	0.18
Tracy (City of)	CAS000004	0.65
West Delta		
Contra Costa (County of) ^(c)	CAS083313	3.2
Yolo Bypass		
Solano (County of)	CAS000004	0.021
West Sacramento (City of)	CAS000004	0.28
Yolo (County of)	CAS000004	0.083

Table C Footnotes:

- (a) Some MS4s service areas span multiple Delta subareas and are therefore listed more than once. The allocated methylmercury loads for all MS4s are based on the average methylmercury concentrations observed in runoff from urban areas in or near the Delta during water years 2000 through 2003, a relatively dry period. Annual loads are expected to fluctuate with water volume and other factors. As a result, attainment of these allocations shall be assessed as a five-year average annual load. Allocations may be revised during review of the Delta Mercury Control Program to include available wet year data.
- (b) The methylmercury waste load allocations include all current and future permitted urban discharges not otherwise addressed by another allocation within the geographic boundaries of urban runoff management agencies within the Delta and Yolo Bypass, including but not limited to Caltrans facilities and rights-of-way (NPDES No. CAS000003), public facilities, properties proximate to banks of waterways, industrial facilities, and construction sites.
- (c) The Contra Costa County MS4 discharges to both the Delta and San Francisco Bay. The above allocations apply only to the portions of the MS4 service area that discharge to the Delta within the Central Valley Water Quality Control Board's jurisdiction. ~~Most of the MS4's service area falls within the San Francisco Bay Regional Water Quality Control Board's jurisdiction. The mercury control requirements approved by the San Francisco Bay Regional Water Quality Control Board (Resolution R2-2006-0052) for the Contra Costa County MS4 apply to its service area within the Central Valley Regional Water Quality Control Board's jurisdiction. The methylmercury allocation for the Contra Costa County MS4 service area within the Delta will be reevaluated during the Phase 1 Delta Mercury Control Program Review.~~

**TABLE D
TRIBUTARY WATERSHED
METHYLMERCURY (MeHg) ALLOCATIONS**

Tributary	MeHg Load Allocation ^(a) (g/yr)
Central Delta	
Bear Creek @ West Lane / Mosher Creek @ Morada Lane (sum of watershed loads)	11
Calaveras River @ railroad tracks u/s West Lane	26
Marsh Creek	
Marsh Creek @ Highway 4	0.34
Mokelumne River	
Mokelumne River @ Interstate 5	39.3
Sacramento River	
Morrison Creek @ Franklin Boulevard	4.2
Sacramento River @ Freeport	1,122 (1,100) ^(b)
San Joaquin River	
French Camp Slough downstream of Airport Way	4.0
San Joaquin River @ Vernalis	129 (130) ^(b)
Yolo Bypass	
Cache Creek Settling Basin Outflow	30
Dixon Area	0.77
Fremont Weir	39
Knights Landing Ridge Cut	22
Putah Creek @ Mace Boulevard	2.4
Ulati Creek near Main Prairie Road	2.1
Willow Slough	3.9

(a) Methylmercury allocations are assigned to tributary inputs to the Delta and Yolo Bypass. Mercury control programs designed to achieve the allocations for tributaries listed in Table D will be implemented by future Basin Plan amendments. Methylmercury load allocations are based on water years 2000 through 2003, a relative dry period. Annual loads are expected to fluctuate with water volume and other factors. As a result, attainment of these allocations shall be assessed as a five-year average annual load. Allocations will be revised during review of the Delta Mercury Control Program to include available wet

year data.

- (b) Tributary load allocations rounded to two significant figures for compliance evaluation.

Comment: Cache Creek Settling Basin Requirement and Table D footnote recommendation.
YCFWCWD (S. Lorenzato, 22 September 2009)

I believe the TMDL would be improved by specifically stating that high flows in Cache Creek above 30,000 cfs (the design capacity of the Cache Creek settling basin) are excluded from the load allocations. I think this will focus limited financial resources on controlling mercury in flows that pose the greatest exposure risks. High flows that do not pass through the settling basin are different than sediment mobilizing flows below this discharge level and pose little additional exposure risk (see explanation below). A Cache Creek flood management strategy is being developed that is aimed at reducing flooding risks in Woodland. To achieve this end, it is necessary to eliminate ponding of flood waters behind (to the west of) the west levee of the Yolo Bypass. Eliminating this ponding would allow some additional flood waters into the Yolo Bypass, and those waters would carry some amount of mercury. However, the events that create this ponding are rare, and for various reasons the concentration of mercury in these flows would be low enough, that on an annualized basis, they would not pose a significant contribution to Delta mercury loads.

Hg loading in the Cache Creek basin is generally believed to be primarily the result of erosion of soils and sediments from mine sites and geothermal features in the upper watershed (Domagalski 2004, Holloway 2009, Foe and Bosworth 2008), while the majority of sediment is derived from Capay Valley (USACE, 1979). Soil and sediments in channel sections and on alluvial fans and plains have been examined by the USGS. In the upper watershed above Capay valley, exposed serpentinite soils, mine tailings, and geothermal vents continue to release high concentrations of mercury into the stream channels. (Domagalski 2004, Holloway 2009). Soils in the mid and lower watershed generally have mercury concentrations equivalent to continental background levels unless they are overlain with upper watershed deposits. (Holloway et al. 2009)

Stream flows that result in discharges up to 30,000 cfs at the settling basin mobilize channel sediments, but stay within the channel banks. Flows above this level can often flood Capay Valley and portions of the Cache Creek alluvial plain between the Settling Basin and Capay Dam. Alluvial deposits downstream of Cache Creek canyon demonstrate diluted sediment mercury concentrations due to the low mercury content Great Valley derived sediments (Holloway et al 2009). Capay Valley acts as a mercury sink in large events as evidenced by the elevated soil mercury concentrations in the floodplain soils when compared to Great Valley formation background levels (Holloway et al. 2009). Capay Valley also contributes sediment to the channel from overland sheet erosion and in channel erosion during high flow events (USACE 1975). Both of these sources exhibit mercury concentrations near continental background, so the overland sediment contributions act to dilute mercury concentrations in water reaching the lower Cache Creek alluvial plain (Foe and Croyle 1998, Foe and Bosworth 2008). Flood flows that come out of channel in the lower alluvial plain are substantially lower in Hg than flows moving through the settling basin as evidenced by soil samples analyzed by USGS (0.13-.2 mg/kg alluvial plain, Holloway, >0.7mg/kg settling basin Domagalski 2004, Conway pers. communication). This is consistent with Regional Board findings that grain size analysis reveals that more than 75 percent of the mercury in the Cache Creek canyon is contained in sand and larger sized material (RWQCB 2008). These heavier particles tend to stay within the channel during higher flows. Over bank flows are likely to carry a high percentage of silts and clays and a low percentage of sands. The USGS data show the alluvial plain acts as a Hg sink.

The over bank flows also persist for relatively short periods of time. For example in the 1995 high flow event the storm flow lasted for over 200 hours but the peak above 30,000 cfs only lasted for

about 10 hours and the discharge associated with the flows over 30,000 cfs was less than 10% of the storm event discharge. The other, roughly 90% of the flows went through the settling basin.

If we assume the ratio between settling basin soils and alluvial plain soils represents the concentrations of Hg in the overlying waters, then the alluvial plain receives water that is 1/10 to 1/5 the concentration of water moving through the settling basin. If we assume at least as efficient Hg trapping on the floodplain as in the basin (a conservative assumption given the slower and shallower flows that will occur on the floodplain) then only about 1/20 to 1/10 of the Hg moving through the creek would be available for overland transport to the Yolo Bypass. Foe and Croyle estimated daily Hg loads from selected storm events in 1997 and 1998. The highest value estimated at the inlet to the settling basin is 63,000 g/day total Hg. Using this value and assuming that the daily load from overbank flows would be proportional in time (10 hrs/24hrs) 26,250 grams would be moving during the overbank flow period. The overbank flow represents about 33% of the total flow at that time, or ~8500 grams during the event. But if we apply the correction factor above, then only 425-850 grams would be carried in the overbank flows. However, not all of the over bank water would reach the Yolo Bypass. Assuming the alluvial plain absorbs about half the overbank waters, about 200-450 grams of mercury would reach the Yolo Bypass from over bank flows.

If we then consider the annual loading rate this represents (eg. a 50 year recurrence period) then the annual load from overbank flows is 4-9 grams of total mercury. The TMDL regulates MeHg, and a consistent conversion between total and methyl Hg is not available. But given that overbank flows will not be subjected to the wetting and drying phenomena that is emerging as a major driver of methylation, and that the ratio of total to methyl mercury is often between 100 and 1000 to one, it is safe to assume that the annualized contribution of MeHg will likely be a fraction of a gram. Data from sediment cores in the watershed also suggest that control measures being put in place are reducing overall loading. (Holloway) This suggests we might expect a continued decline in the concentration of Hg in overbank flows.

Given this relative magnitude of loading and the difficulty of managing mercury during high flow events, it would be reasonable to exclude these flows from the TMDL. I suggest that a footnote be added to Table D for the Cache Creek Settling Basin allocation that says:

Loads from Cache Cr derived from flows above 30,000 cfs are excluded from the TMDL.

Foe and Bosworth 2008, Mercury Inventory in the Cache Creek Canyon, Regional Water Quality Control Board, Central Valley Region, Staff Report,

Foe and Croyle, 1998. Mercury Concentrations and Loads from the Sacramento River and from Cache Creek to the Sacramento-San Joaquin Delta Estuary. California Regional Water Quality Control Board, Central Valley Region, June 1998

Domagalski et al., 2004 Mercury and methylmercury concentrations and loads in the Cache Creek Watershed, California, January 2000 through May 2001, Califed Bay Delta Program, pg28.

Holloway 2009, Spatial and seasonal variations in mercury methylation and microbial community structure in a historic mercury mining area, Yolo County, California, Chemical Geology, 1579.

Holloway et al. 2009, Geomorphic controls on mercury accumulation in soils from a historically mined watershed, Central California Coast Range, USA , Applied Geochemistry, 2009, in press

USACE 1979. Cache Creek Basin California: Feasibility Report and Environmental Statement for Water Resources Development, US Army Corps of Engineers, February 1979, pg 23.