

12. City of Sacramento Combined Sewer System (CSS)

Marty Hanneman, P.E. (Director, City of Sacramento Dept. of Utilities)

Letter Date: 1 April 2010

CSS Comment #1.

The City appreciates the efforts made by the Regional Water Board and its staff to improve the process that has been used in the development of the Delta Mercury Total Maximum Daily Load (TMDL) and associated Basin Plan Amendment (BPA). As a result of this process, the current draft BPA addresses many of the previous concerns however several still remain to be resolved.

The City of Sacramento supports the comments submitted by the Sacramento, Contra Costa County, and Stockton stormwater programs regarding the latest draft of the BPA. In particular, the City shares the same concern for the CSS regarding the proposed "Exposure Reduction Program". We urge the revision of this language to clearly provide the option for implementing a local outreach effort or for participating in a statewide program, and delete any language assigning responsibility to dischargers for reduction of risk. Dischargers can provide outreach as has been done in the past for other statewide efforts such as the State General Construction and Industrial permits.

Response: This commenter supports the comments provided by the Sacramento, Contra Costa County, and Stockton stormwater agencies. Please see the staff responses to the specific comments provide by the other stormwater agencies.

Staff has prepared a revised Exposure Reduction Program for Board review. There will still be requirements for some type of participation by the dischargers. The Basin Plan amendment calls for the development of an Exposure Reduction Strategy. The descriptions of the exposure reduction program and Strategy are flexible enough to include a focus on local outreach and/or participation in a more regional program. One element of the Strategy is to utilize and expand on existing programs. The details of the program will be developed during the development of the strategy.

CSS Comment #2.

In addition, the City shares the same concerns voiced by the Central Valley Clean Water Agencies (CVCWA) regarding the BPA with regards to CSS discharges. The CSS is a very limited seasonal discharge, typically discharging during four days out of a given year. As such, we agree with the recommended language submitted by CVCWA for interim dischargers. We recommend the language for Interim Limits for NPDES Wastewater Dischargers be revised on page BPA-4 as suggested by CVCWA for consideration of site specific discharge conditions.

Thank you for this opportunity to comment on the public review draft BPA. We sincerely appreciate your consideration of our comments and thoughtful revision of the current BPA to address these concerns.

Response: Staff revised the BPA text to account for intermittent discharges and consideration of site-specific conditions.

13. Clean Water Action and Bay Keeper (CWA/BK)

Andria Ventura (Program Manager, CWA), Ian Wren (Staff Scientist, BK)
Letter Date: 7 April 2010

CWA/BK Comment #1.

On behalf of Clean Water Action (CWA) and our 60,000 California members, as well as San Francisco Baykeeper, we submit the following comments on the proposed methylmercury total maximum daily load (TMDL) for the Delta and the amendment of the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (referred to herein as the 'proposed BPA'.) We appreciate the hard work that Board Staff has put into developing this plan to address one of the most dangerous and widespread contaminants in the watershed, which we recognize as both complex and difficult. They are to be commended for their diligence.

While there are positive aspects of this plan, particularly the methylmercury emphasis, we do have concerns about the proposed BPA. Before we provide you with our specific comments, we are obligated to point out that the proposed BPA does not represent a consensus of all stakeholders, especially those most impacted by methylmercury in the Delta and in Delta fish.

While we recognize that the Board's decision to establish a public stakeholder process may have been well intentioned and that Staff did attempt to be inclusive in incorporating various viewpoints into their proposed BPA and staff reports, the result was in fact a discharger and government agency (some of whom are also dischargers) driven process. This was because:

- The very structure of the process excluded full participation by community based and other public interest groups. Such formalized stakeholder processes require a tremendous time commitment and expense to travel to meetings or even to participate by phone. Dividing the work of the stakeholder group into multiple workgroups served to further expand the time and resources necessary to fully participate, and allowed for discussions to be limited to smaller groups of people—meaning at best that those not able to join these discussions could only comment on documents produced by the smaller groups instead of being part of their development. The reality is that community groups are outnumbered by and cannot compete with dischargers and agencies that have dedicated personnel and even budgets for such processes. Meetings held exclusively in one part of the Delta which may be inaccessible to impacted community members, further limited their participation. Furthermore, technical or jargon filled discussions often serve to discourage community voices from asserting themselves, despite the fact that they have unique expertise about their particular regions of the watershed and the impacts of the decisions being made about how to address the mercury contamination. An attempt to overcome these problems by holding phone meetings specifically with community groups, while again well intentioned, in fact isolated their concerns and comments, as opposed to integrating them into the larger discussions by the stakeholder group.

Response: The commenters state that the proposed BPA does not represent a consensus, especially for those most impacted, and that the stakeholder process favored agencies and dischargers. The current proposed basin plan amendment is the product of two years of in-depth stakeholder work, including months of fine tuning specific basin plan language and phrasing. Staff believes that the current wording is as close to a consensus as we can get, recognizing that the amendment must comply with federal and state requirements. However, we recognize that revisions may be warranted where existing language is not clear or where there are inconsistencies.

Staff has been working on this TMDL for more than 5 years. For the entire period, we have tried to reach out to stakeholders to get input as we developed our TMDL and control program. At the direction of the Regional Water Board, staff initiated a comprehensive, collaborative, stakeholder process more than two years ago to try to make sure we heard from all stakeholder groups and understood all their different perspectives. We recognize that community groups and others could not participate in this process to the same level that agencies, dischargers and discharger groups could. That is why staff made special efforts to contact community groups to make sure we understood their perspectives. The Regional Water Board contracted with the Center for Collaborative Policy (CCP) to facilitate our stakeholder process. CCP staff spent a lot of time and effort contacting community groups to find out what their concerns and issues were and to try to figure out ways of better integrating their participation in the process. We tried to make our presentations and information as jargon free as possible to facilitate stakeholder input.

Staff tried to develop an amendment that met federal and state requirements and took into account input and perspectives from all the different stakeholder groups. No entity got everything it wanted. Virtually every entity involved in this process continues to have "some concerns" about parts of the proposed basin plan amendment. On many issues, a consensus is simply not possible. However, most stakeholder groups have agreed to continue to work with us as we move forward and develop and implement studies to figure out how best to accomplish the task of reducing mercury concentrations in fish. The amendment contains provisions for the Regional Water Board to re-evaluate the control program elements after control studies are completed (the Phase 1 Study period). This is a difficult, controversial subject and there are no easy answers. We will continue to work with community groups to develop and implement mercury control strategies and exposure reduction efforts. Staff welcomes suggestions on how to improve our dialog with the community groups and provide a process where the community can feel part of the discussions.

CWA/BK Comment #2.

- Outreach to tribes, who bring both unique expertise and needs to this process, did not happen until late 2009, meaning that they were left out of the development of the current BPA draft. This is not merely an egregious oversight. We contend that since this TMDL is a requirement under the federal Clean Water Act and must be approved by US EPA, neglecting the role of impacted tribes until the eleventh hour means that the stakeholder process did not comply with Executive Order 13175 (Consultation and Coordination with Indian Tribal Governments, November 2000, http://www.usace.army.mil/CECW/TribalIssues/Documents/eo_13175.pdf)

Given these limitations, we respectfully ask the Board to recognize that the proposed BPA is not the result of a fair, truly inclusive process that built true consensus on key areas of concern related to this methylmercury plan. We look to you for fair consideration of the comments we make in this letter, and those submitted by other public interest and impacted groups and individuals, weighing them equally with recommendations that came out of the limited stakeholder process and are reflected in this TMDL. Further, we strongly urge the Board to delete language in the proposed resolution to adopt this Delta Mercury Control Program describing the stakeholder process (bullet 28, page 5). It is misleading in that it appears that participation and influence by all stakeholders listed was equal.

Response: The Central Valley Water Board apologizes for not including individual tribes earlier in the development of this TMDL. We worked with tribes in previous mercury TMDLs for Clear Lake and Cache Creek. Staff from the California Indian Environmental Alliance (CIEA), a tribal-

based advocacy group, provided comments on the Delta TMDL in 2008 and was involved in the Delta mercury TMDL stakeholder process. Initially, we were not aware of tribes that have significant interests related to mercury levels in Delta fish. Very quickly after CIEA identified individual tribes interested in the Delta TMDL, staff held a workshop specifically for tribes to educate them about the TMDL and to hear concerns.

One of the Tribes' major concerns expressed at the November 2009 workshop was the need to improve timely communication with Regional Board so that tribes are involved at the beginning of TMDL development. Tribes shared communication ideas that included sending notices of upcoming TMDLs to tribes on a regular basis (Caltrans and possibly other State agencies maintain contact lists), providing information to representatives on regional tribal councils, and utilizing resources of the State Water Board's Tribal liaison and USEPA's tribal outreach. Staff is committed to working further with tribes as we develop TMDLs for the rivers and streams tributary to the Delta and in the upstream reservoirs.

Staff is not characterizing the stakeholder process as fully inclusive or consensus-building. As evidenced by stakeholders' comments on the draft Basin Plan amendment text collected three times during the stakeholder process, staff collected and responded to a range of stakeholders' perspectives (see links BPA Tables provided under meeting materials for 24 February 2010 and 1 October 2009 Stakeholder Meetings, http://www.waterboards.ca.gov/centralvalley/water_issues/tmdl/central_valley_projects/delta_hg/stakeholder_meetings/index.shtml). Staff appreciates Clean Water Action's frequent participation in the stakeholder group meetings. At the April 2010 hearing, staff will highlight stakeholders' remaining concerns, including differing levels of involvement in the stakeholder process. Resolution Finding #28 lists entities that participated in the stakeholder process and is not intended to imply that participation was equal. Note that staff edited Finding #28 by removing "community-based organizations" from the list.

CWA/BK Comment #3.

The following is a list of our concerns with the proposed BPA in its current form, as well as our recommendations to address these issues:

(Continued on next page.)

1. The goals of the TMDL, expressed by the fish tissue target, fall short of attaining the true beneficial uses of the Delta and will perpetuate the health threat to communities with high levels of subsistence fishing.

CWA and Baykeeper have consistently opposed a fish tissue target that will limit safe consumption of Delta caught fish to one meal a week. As we stated in previous written comments to this Board, “The purpose of the TMDL is to remediate the Delta in order to regain and protect its beneficial uses. The Clean Water Act does not condone only protecting a portion of these beneficial uses or only part of the population that takes advantage of them. Instead, the goal is to protect all populations that depend on a clean safe environment.” (April 21, 2008)

While Staff does state that “the long-term goal of the mercury program is to enable people to safely eat four to five meals per week (128-160 g/day) of Delta fish (BPA, page 2)”, the proposed BPA’s objective remains at 32 grams/day (one meal a week) of trophic level 3 and 4 Delta fish, plus some commercial fish. This objective is not valid because it is based on averages taken over a large population and ignores the significance of variations of fish consumption within that population. In fact, it is the right of all people to fish in our waters to the degree that they see fit. By ignoring the rates of subsistence fishing taking place in many of the Delta’s communities for cultural and/or economic reasons, as well as tribal traditions related to fishing, the proposed fish tissue target is discriminatory. Communities with the highest levels of fishing are often low income communities and/or communities of color. In a nutshell, the current fish tissue target does not comply with the intent of the Clean Water Act, and will not protect a significant portion of the Delta’s human population.

In addition to asserting that the TMDL must establish goals that represent the true beneficial uses of the Delta, including subsistence fishing by a wide variety of communities, we continue to strongly disagree with Staff’s contention that meeting a more stringent fish tissue target may not be achievable or measurable. As we stated in our previous comments, measurement capabilities have, and will continue to improve over time. More importantly, because understanding of how to control methylmercury (the focus of this TMDL) is also expected to grow over time, we believe that reducing fish tissue levels to allow for subsistence fishing, is in fact achievable, as opposed to if we were relying on eradicating total mercury contamination in the watershed. We perceive the latter as much more unlikely to be successful given the scope of the contamination over the last century and a half.

Recommendations:

In order to ensure that the TMDL ultimately results in reestablishing the Delta’s true beneficial use of fishing for all people, we recommend the following:

- Establish Staff’s Alternative 5 as the fish tissue target of this TMDL¹ -- 128-160 g/day of Delta fish-- until further research on fishing practices in the Delta demonstrate that it should be lowered or increased. This target is in line with the US EPA’s recommendation of a rate of 142.4 grams/day and would allow 4 to 5 meals a week of Delta fish. This is closer to actual fishing practices in many of the region’s communities, and thus a far more appropriate fish tissue target for this TMDL.
- Include a subsistence fishing designation as a beneficial use for the Delta and the Native American Cultural (CUL) use, in recognition of the communities who rely on such practices to provide basic nutritional and cultural sustenance for their families. We recommend this over the COMM designation suggested by Staff for recreational fishing², as it best characterizes the true beneficial uses of the Delta and would protect both recreational and subsistence fishers.

Response: The Central Valley Water Board adopts beneficial uses, water quality objectives and implementation programs consistent with State and Federal laws and regulations. State and Federal laws and regulations include provisions and requirements to base basin plan amendments on sound scientific rationale. Parts of the Delta that currently meet the proposed

fish tissue objective while other parts do not. However, the available scientific information does not include an explanation on what activities, management practices, and treatment technologies assure the consistent attainment of the proposed fish tissue objective. The Basin Plan Amendment provides the opportunity for responsible parties to explore these scientific issues during Phase 1 with the expectation that all of the Delta should be able to achieve the fish tissue objectives that are currently met in parts of the Delta. Therefore, there is sound scientific rationale for expecting to achieve the proposed fish tissue objectives. However, the fish tissue target requested by the Commenter is not met anywhere in the Delta. Without an understanding for what activities, management practices, and treatment technologies are available to reduce concentrations of methylmercury, there is no sound scientific rationale for the Central Valley Water Board to require the more stringent fish tissue objectives. The Central Valley Water Board is not unsympathetic to the concerns of the Commenter since the Central Valley Water Board recognizes that some consumers of Delta fish consume higher quantities of fish. Based on the results of the Phase 1 studies, the Central Valley Water Board could review and consider modifying the fish tissue objectives.

The COMM beneficial use protects “uses of water for commercial or recreational collection...”. The COMM’s use of “recreational” refers to fish that is not sold with a commercial license but is consumed by the angler and/or distributed informally. As used in the COMM definition, “recreational” does not define the rate of consumption. As described above, staff’s proposed water quality objectives are based on levels that are achievable, not on a presumed consumption rate of a “recreational” angler. At this time, it is unclear if the Delta can support the higher levels of consumption identified by the Commenter. Therefore, the Central Valley Water Board will not designate a subsistence fishing beneficial use to the Delta but may do so in the future if the Board finds that the use is appropriate for the Delta. In order to aid this assessment, staff welcomes more information about the degree of subsistence fishing in the Delta.

CWA/BK Comment #4.

- 2. Phase One does not include specific and measurable total mercury reduction requirements for all dischargers while methylmercury control studies are occurring and allows unnecessary delays in implementing methylmercury reductions strategies.***

The proposed BPA establishes a phased approach with a 9-year study period for dischargers to research and develop methylmercury control programs. While we support the study period as a means of optimizing methylmercury reductions, we have consistently expressed concerns about delaying the clean-up process for almost another decade. These concerns have not been allayed given the vague language in the BPA about interim requirements to control total or inorganic mercury. For instance, the BPA states that “during Phase 1, all dischargers shall implement reasonable, feasible controls for inorganic (total) mercury” (BPA, page 3), though there is no definition of “reasonable” or “feasible” and implies that enforcement will be performance based and not on attainment of specific numeric reductions. Furthermore, the resolution to adopt the proposed BPA describes a more limited total mercury reduction requirement. It states that the proposed changes to the Basin Plan “require *specific point source dischargers* to implement inorganic mercury controls during the first phase of the control program” (Resolution No. R5-2010-XXXX, item #13, page 2, emphasis added), leaving out non-point, tributaries, and potentially some point sources all together. This not only delays efforts to reduce mercury levels in the Delta over the next decade but also threatens to delay implementation of reduction and mitigation measures pursuant to the San Francisco Bay mercury TMDL.

The proposed BPA also permits the Executive Officer undue discretion to extend the duration of mercury control studies beyond nine years in the event it is determined that dischargers are making significant progress (BPA, page 8). Significant progress is not defined. Furthermore, the proposed BPA actually incentivizes delays by stating that dischargers will not be required to implement methylmercury controls before the Board has reviewed the Phase 1 Mercury Control Program and developed upstream control programs for tributaries (BPA, page 3). This could delay implementation beyond the nine year study period, thus extending the threat of mercury exposure to both humans and wildlife.

Nine years is more than an adequate amount of time to develop methylmercury control strategies and should at the very least be rigorously enforced. However, the BPA should also make it clear that the Executive Officer should also retain the authority to require appropriate best management practices for methylmercury and/or other methylmercury controls at any time during Phase 1 as appropriate. The adaptive management framework of the TMDL will ensure that as dischargers and the Board learn more about methylmercury control, during both Phase 1 and 2, new strategies can and should be implemented. It is likely that there will always be gaps in our understanding. This does not mean that efforts to address methylmercury based on current knowledge should not move forward.

Response: Regulatory requirements are contained in the Basin Plan Amendment and not the Resolution. The Resolution provides a summary of some of the provisions contained in the Basin Plan Amendment but is not necessarily fully inclusive. Finding No. 13 includes the requirement for specific point source dischargers to implement pollution minimization programs but does not include the requirement for the nonpoint source dischargers to reduce sediment runoff. To provide a more complete picture of the regulatory requirements contained in the Basin Plan Amendment, Finding No. 13 will be modified to include the sediment runoff requirement. The Basin Plan Amendment includes load and wasteload allocations consistent with the provisions of the Clean Water Act section 303(d) and federal regulations in 40 CFR Part 130. The Commenter has not provided specific examples missing or inappropriate load allocations.

The proposed amendment requires pollutant minimization programs from the point source dischargers and sediment erosion control from the nonpoint source dischargers. Within-Delta dischargers contribute a very small portion of the total mercury loads. Our control program focuses on controlling upstream loads of mercury enriched sediment that come from Cache Creek and other sources in tributaries to the Delta and on controlling methylmercury discharges within the Delta and in tributaries to the Delta. The Delta mercury control program focuses on methylmercury and total mercury because ultimately, fish tissue objectives will be reached more quickly than if controls just reduce total mercury. The main job of within-Delta dischargers during Phase 1 is to produce scientifically valid, comprehensive studies that identify effective methylmercury control measures.

The proposed amendment does not require immediate or short term reductions in methylmercury loads from dischargers because there is a need for studies to be completed to identify the most feasible and cost effective management measures that could be implemented to reduce methylmercury discharges from the various source categories. The proposed amendment includes a study phase to allow for the needed studies to be completed and allows time for the Regional Water Board to reevaluate the load allocations and time schedules for compliance, if necessary.

The proposed basin plan amendment says that dischargers **should** implement reasonable and feasible management practices as they are identified in the Phase I studies. The word **should** indicates that this is not a requirement. Specific definitions of reasonable and feasible are not provided in the proposed amendment. During the Phase 1 Study period (adaptive management phase), we will work through a collaborative stakeholder process to evaluate which management practices appear to be reasonable and feasible. If the Regional Water Board does not agree with the stakeholder determinations about reasonable and feasible, the Water Board can take independent action, consistent with their regulatory authority.

The proposed amendment contains a provision that allows the Executive Officer to extend the length time that will be allowed for studies to be completed. Staff believes that this is reasonable. The studies may be expensive and technically challenging. We need to have some flexibility to allow entities that are required to do studies to have enough time to secure resources and plan and implement the studies.

CWA/BK Comment #5.

Recommendations: Specific changes to the BPA should include:

- Clarification of the responsibilities of dischargers during Phase 1 to reduce total mercury loads by harmonizing the proposed adoption resolution with the actual BPA and assigning load allocations to all dischargers

Response: The proposed basin plan amendment says that dischargers should implement reasonable and feasible management practices as they are identified in the Phase I studies. In addition, during Phase 1, NPDES dischargers are required to implement mercury pollution minimization programs. In addition, NPDES dischargers are required to meet total mercury load allocations. Waste load allocations have been assigned to point source dischargers within the Delta. Load allocations for nonpoint sources within the Delta have been assigned by discharger group. Staff believes that all significant sources within the Delta are covered. Load allocations have also been identified for rivers tributary to the Delta. Specific load and waste load allocations will be assigned to upstream sources and source categories in the next several years as control programs are developed in the upstream watersheds.

CWA/BK Comment #6.

- Deletion of language regarding the extension of mercury control studies beyond Phase 1

Response: The proposed amendment contains a provision that allows the Executive Officer to extend the length time that will be allowed for studies to be completed. Staff believes that this is reasonable. The studies may be expensive and technically challenging. We need to have some flexibility to allow entities that are required to do studies to have enough time to secure resources and plan and implement the studies.

CWA/BK Comment #7.

- Establishment of a process in the proposed BPA to enable dischargers whose studies demonstrate effective methylmercury controls to begin meeting their methylmercury allocations in advance of Phase 2, when appropriate, and publicly recognizing their achievements as an incentive for them to move forward in as expedient a manner as possible.

Response: The proposed amendment encourages dischargers to implement methylmercury control measures as soon as they are developed. NPDES dischargers are also required to provide documentation on why waste load allocations cannot, or are not, being met. In adopting and renewing permits, the Regional Water Board makes determinations on effluent limits. These determinations can take into account the results of studies that have been completed and other information. A process already exists for encouraging or requiring NPDES dischargers to implement management measures and work toward achieving allocations. The Basin Plan Amendment language has been modified to delete the sentence that methylmercury management practices identified in Phase 1 are not required to be implemented until the Central Valley Water Board has completed the Phase 1 Review.

CWA/BK Comment #8.

3. Progress of the methylmercury reduction programs described in this BPA is subject to minimal input by community interests, and continued disproportionate influence by dischargers.

In order to support an “an adaptive management approach”, the proposed BPA includes the formation of a Stakeholder Group(s) to help review the Control Study Workplan(s) and results (BPA, page 7). While we support a public process, we are concerned that like the stakeholder process discussed above, this group will be largely made up of dischargers. This is inappropriate given that the group will be assessing the workplans that dischargers will be producing to meet their TMDL requirements. In other words, those being regulated will be able to influence decisions on how well they are meeting their regulatory responsibilities.

The BPA also includes the development of a Technical Advisory Committee (TAC) of “independent experts ...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” (BPA, page 7). We support the development of the TAC and are pleased to see that community groups will be consulted for their recommendations. We note, however, that tribes are not mentioned as well. We are also concerned again with the potential influence the regulated community will have in regard to who will serve on the committee. Such influence puts the independent nature of the TAC in jeopardy and could thus undermine its purpose.

Recommendations:

- Add tribes to those recommending members of the TAC,
- Instead of establishing a separate stakeholder group, enhance true public input and participation by specifying that the TAC will include tribal and other community representation. Consequently we suggest deleting the language describing the Stakeholder Group(s) (BPA, page 7) and add the following sentence to the 2nd paragraph under “Technical Advisory Committee and Adaptive Management Approach (page 7).
“TAC membership will include representatives of tribal and other community and public interest groups who provide particular expertise on issues such as but not limited to their local watershed, local fishing practices, and the impacts of total and methylmercury on their communities. All TAC meetings and documents shall be public and transparent and allow for public comment.”
- Delegate final approval of Control Study Workplans to the TAC, following public comment. Add language that “approval of Control Study Workplans shall not be delegated to the regulated community or representatives thereof”. (BPA, page 7)

Response: Please see answer to first comment. The process described in the Basin Plan has been carefully developed through a collaborative stakeholder process that has taken place over the past two years. We have tried to put together a process that will allow maximum participation of all interested parties and stakeholders. The amendment already mentions that community groups will be consulted during the process. Staff changed the Basin Plan amendment to specifically mention that tribes will be consulted during the process and in formation of the Technical Advisory Committee (TAC). Staff will work hard to make sure that all viewpoints and recommendations are considered and make sure that any particular interest group does not unduly influence the process. The Central Valley Water Board welcomes suggestions for improving the participation of all affected and interested stakeholders in our public processes.

The Technical Advisory Committee is intended to be a panel of independent scientific experts with experience in methylmercury production, transport, and loss. The TAC will help develop

study plans and review results for their scientific integrity and provide guidance to the Regional Board. The function of the TAC will be similar to that of the independent peer reviewers who participated in the CALFED mercury program. Staff envisions that the TAC will interact with all stakeholders that are involved in the Phase 1 control studies, including tribes. Please see Basin Plan Staff report Chapter 4.3.5 for description of the TAC. Representatives of Tribes and community groups that also possess scientific expertise in methylmercury would be eligible for the TAC.

The Executive Officer has final approval over the Control Study Workplans. The Basin Plan Amendment does not give the Executive Officer any delegation authority (see Basin Plan Amendment language item #2 under “Mercury Control Studies Schedule)

CWA/BK Comment #9.

4. The proposed BPA lacks clear measurement and enforcement strategies, especially, though not exclusively in relation to non-point sources of mercury.

In a number of cases, it is unclear how the Board will determine that a discharger is in compliance with the proposed BPA’s provisions or what the repercussions of non-compliance will or may be. This results in a lack of assurance that the plan will actually achieve the results it intends. For instance:

- The proposed BPA states that “Nonpoint sources shall be regulated through the authority contained in State laws and regulations, including State Water Board’s Nonpoint Source Implementation and Enforcement Policy” (BPA, page 4). However, it does not apply the appropriate regulatory authority to various requirements in the BPA.
- It is unclear how implementation by non-point sources in the Delta and Yolo Bypass of “reasonable, feasible actions to reduce sediment in runoff” during Phase 1 will be measured or enforced (BPA, page 5). Nor does the proposed BPA contain definitions or examples of reasonable and feasible actions.
- Dischargers will be considered in compliance with reporting requirements related to their mercury control studies “upon timely submittal of workplans and revisions” (BPA, page 7). However, no mention is made of what the consequences of delayed submittal or non-compliance with the reporting requirements, in general, would or could be.
- It is unclear how Clean Water Act 401 Water Quality Certifications and other requirements related to dredging activity will be enforced. Will such certifications be revoked upon non-compliance?
- The BPA does not explain how the Board will enforce the requirement that “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” (BPA, page 17).

Finally, it is not possible to comment on the appropriateness of the wastewater methylmercury allocations. Table B (BPA, page 20) provides a list of the load allocations assigned to each municipal and industrial wastewater facility, but does not indicate what the current load is. Consequently, it cannot be determined how much a reduction, if any, is being required. We presume this information is available, since Table C (BPA, page 21) indicates current combined loads from wastewater facilities in the various subareas of the watershed. Furthermore, it would be inappropriate to allow NPDES facilities to sum their load allocations if their allocations regionalize or consolidate (Table B Footnotes, BPA page 21) in

order to ensure that all communities where facilities are located enjoy reductions in local methylmercury discharges.

Recommendation: While we recognize that enforcement can take a variety of forms depending on circumstances, the BPA needs to provide the public with assurances that its requirements will be enforced to ensure that remediation activities will in fact move forward in a reasonable time period. We therefore recommend that the BPA:

- Includes at least general statements on how requirements listed throughout the document will be enforced, particularly in regard to non-point sources.
- Include current wastewater load allocations in Table B for specific dischargers and recalculate the required waste load allocations according to the fish tissue target we are recommending. We further recommend that Board staff recirculate the revised table for public review before final adoption. This will mean that the Board may have to adopt the BPA conditionally and revisit the wastewater allocations at a later date.
- Delete item (a) in Table B Footnotes

Response:

Comment Bullet 1: As the Commenter noted, the Basin Plan Amendment specifies that Nonpoint sources will be regulated through the authority contained in State laws and regulations including the State Water Board's Nonpoint Source Implementation and Enforcement Policy. The Basin Plan Amendment does not need to repeat this language for this language to apply throughout. The State Water Board's Nonpoint Source Implementation and Enforcement Policy contains details on how the State regulates nonpoint source dischargers.

Comment Bullet 2: The proposed basin plan amendment says that in Phase 1, nonpoint sources shall implement reasonable, feasible activities to control mercury. Specific definitions of reasonable and feasible are not provided in the proposed amendment. "Reasonable and feasible" will vary by discharge. For example, tailwater recovery systems limit water and mercury discharged, but are not feasible for irrigated fields in which tailwater reuse creates salt build-up. Well-defined, feasible erosion control practices are commonly used by farmers and land managers. Guidance is available from Resource Conservation Districts and Board staff. Under the Irrigated Lands Regulatory Program, farmers are already expected to implement erosion control measure to limit sediment and pesticide runoff. During the Phase 1 Study Period the Water Board can take additional independent action, consistent with the Nonpoint Source Implementation and Enforcement Policy, if necessary.

Comment Bullet 3: The Regional Water Board has various regulatory tools to encourage and require submittal of the workplans. These are spelled out in the Water Code and the State's Nonpoint Source Implementation and Enforcement Policy. It is not necessary to repeat these authorities in the Basin Plan or appropriate to explain how the Water Board would use these authorities depending on the circumstances. Staff recommends no revisions.

Comment Bullet 4 Dredging: Requirements for dredging and dredge material reuse will be enforced through the Central Valley Water Board's 401 Water Quality Certification program. Staff members from the 401 certification and mercury TMDL units are working closely to attain consistency between the two programs. When a dredger applies for a 401 certification, the application fulfills the dredger's requirement under the Water Code to file a report of waste discharge. The Regional Board staff would first work with the dredgers to try to avoid violations of requirements contained in the 401 certification. Ultimately, as a discharger, the dredger could be subject to enforcement provisions (such as fines) provided under Water Code.

Bullet 5: Please see response to Bullet 4. The Irrigated Lands Regulatory Program's existing monitoring and reporting system provides an example for that can be followed for methylmercury monitoring.

It is particularly not clear what role the Memorandums of Intent that have been promoted through the Stakeholder group process, will actually play in ensuring full cooperation and participation in developing and implementing Control Studies in Phase 1. They are not legally binding and are not therefore an enforcement tool for the Board.

Response:As the Commenter noted, the Memorandum of Intent is not legally binding and is not an enforcement tool. The purpose of the Memorandum of Intent (now called the Adaptive Management Approach document) is to provide a repository of principles and guidance for cooperative and adaptive implementation of the TMDL. The AMA document contains details that are not included in the Basin Plan amendment, including:

- Guiding Principles, prepared by the Stakeholder Group, that describe how the Stakeholder Group expect the Delta MeHg TMDL to be carried out,
- Descriptions of the phased approach for Delta MeHg TMDL implementation including a specific description of proposed adaptive management methods,
- Descriptions of what it means to the Phase 1 stakeholder workgroup to have coordinated Control Studies (as required in the BPA); including coordination of non-point sources, and it describes a framework for how to apportion responsibility for the mercury Control Studies and recommendations for Control Study workplans,
- Description of proposed Science Program for the Delta MeHg TMDL including how the Stakeholder Group will interact with a Technical Advisory Committee (TAC) and other science specialists.
- Description of Water Board staff's roles, responsibilities and interactions with stakeholders and the TAC.
- Guidance for the Delta Mercury Control Program Review at the end of Phase 1
- Details of the Exposure Reduction Program.

The AMA document is a "living document" to provide guidance as useful for Phase 1 implementation. All stakeholders are welcome to help to develop it. A draft is available at: http://www.waterboards.ca.gov/centralvalley/water_issues/tmdl/central_valley_projects/delta_hg/stakeholder_meetings/2010feb24/24feb10_adapt_man_appch.doc

Finally, it is not possible to comment on the appropriateness of the wastewater methylmercury allocations. Table B (BPA, page 20) provides a list of the load allocations assigned to each municipal and industrial wastewater facility, but does not indicate what the current load is. Consequently, it cannot be determined how much a reduction, if any, is being required. We presume this information is available, since Table C (BPA, page 21) indicates current combined loads from wastewater facilities in the various subareas of the watershed. Furthermore, it would be inappropriate to allow NPDES facilities to sum their load allocations if their allocations regionalize or consolidate (Table B Footnotes, BPA page 21) in order to ensure that all communities where facilities are located enjoy reductions in local methylmercury discharges.

Response Existing loads for all NPDES facilities are provided in Tables 6.5 and 8.4 of the TMDL Staff Report. Staff's method for calculating allocations is provided in Chapter 8 of the TMDL report. In particular, Table 8.4 contains existing load, percent reduction needed and resulting wasteload allocation for each facility.

Regionalization describes the practice of consolidating the wastewater produced in multiple industrial sites or municipalities and conveying it to a central facility for treatment. No backsliding of treatment process would be allowed at the central facility if it accepts wastewater from municipality that previously discharged elsewhere. In general, the Regional Board has accepted regionalization as a way to improve efficiency of treatment by allowing older treatment plants to be retired and wastewater routed to more effective treatment facilities.

Recommendation: While we recognize that enforcement can take a variety of forms depending on circumstances, the BPA needs to provide the public with assurances that its requirements will be enforced to ensure that remediation activities will in fact move forward in a reasonable time period. We therefore recommend that the BPA:

- Includes at least general statements on how requirements listed throughout the document will be enforced, particularly in regard to non-point sources.
- Include current wastewater load allocations in Table B for specific dischargers and recalculate the required waste load allocations according to the fish tissue target we are recommending. We further recommend that Board staff recirculate the revised table for public review before final adoption. This will mean that the Board may have to adopt the BPA conditionally and revisit the wastewater allocations at a later date.
- Delete item (a) in Table B Footnotes

Response: Basin Plan Amendment page 5 describes generally how nonpoint sources shall be regulated, including reference to the State's nonpoint source policy. It is not necessary to repeat this information in other parts of the BPA. Existing wasteloads are provided in the TMDL Report Table 8.4. As described above, staff cannot show that lower water quality objectives are attainable. Thus staff did not recalculate loads. Staff did not delete Table B footnote (a) because regionalization is acceptable to the Regional Board and is not expected to result in lesser treatment of wastewater.

CWA/BK Comment #10.

5. All sources of mercury loading must be addressed.

In some cases the BPA does not actively require mercury controls and reductions related to activities in the Delta and/or sources of mercury, and allows exceptions in studying some sources.

Recommendations: The proposed BPA needs to make clear the requirements for all dischargers and activities that impact mercury and methylmercury loading in the Delta:

- Revise "Dredging activities and activities that reuse dredge material in the Delta *should* minimize increases in methyl and total mercury discharges to Delta waterways" (BPA, page 11, emphasis added) to read "Dredging activities and activities that reuse dredge material in the Delta *shall* minimize increases in methyl and total mercury discharges to Delta waterways".
- Revise "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" (BPA, page 11, emphasis added) to read "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 *implement* management practices to minimize increases in methyl and total mercury discharges".

Response: Dredging removes mercury and methylmercury from the waterway. For dredging to maintain existing water depth and conditions, dredgers are not given “credit” for the mercury and methylmercury that they remove. Dredgers are required to minimize methylmercury and mercury in return flow (water returned to the river after sediment settles). Staff used the word, “shall” instead of “should” because at this time, with the exception of sediment retention, management practices do not exist for dredgers to limit the amount of methylmercury in return flow. Through the 401 certification program, the Regional Board directed the US Army Corps of Engineers (USACE) to collect data on methylmercury within and discharged from dredge material settling ponds. Methylmercury was produced in some ponds. In 2010, prior to the TMDL being fully approved, the USACE plans to test several methods of settling pond management aimed at limiting methylmercury production. Staff members from the 401 certification and Mercury TMDL units are working closely to integrate requirements of the two program. If the studies required by the BPA demonstrate effective management practices, implementation will be required on a per-project basis in the 401 certifications during Phase 1. At Delta Program Review, staff can propose revising the requirements for dredging.

CWA/BK Comment #11.

6. The impacts of new sources of mercury to the watershed are not adequately addressed in the proposed BPA

The proposed BPA states that “new or expanded methylmercury discharges that begin after [Effective Date] may necessitate adjustments to the allocations” (BPA, page 2). The BPA should clarify the process that would be required to adjust the allocations, which would be to adopt a new BPA following appropriate public review. Anything less would be tantamount to adopting load allocations and waste load allocations which are not really allocations at all, and would not fulfill the requirements of a TMDL.

Recommendation:

- Add specific language indicating that “the proposed BPA would be amended, with proper public review, if new or expanded methylmercury discharges beginning after [Effective Date] require adjusting the allocations established in this TMDL”. (BPA, page 2)

Response: Staff believes that it is clear in the staff report and the amendment language that new sources would need to be addressed by revising the load or waste load allocations and this can only be done through the basin planning amendment process. As for this TMDL, amending the Basin Plan can only be done by the Regional Board members in a public hearing after a period of public notice and comment. Table A of this Basin Plan amendment contains assimilative capacity, or the total maximum load, of methylmercury in each Delta subarea. Allocations in Tables A-D add up to the assimilative capacity. In order to change allocations, these tables would need to be revised.

CWA/BK Comment #12.

7. The BPA inappropriately allows offsets during Phase One

CWA has consistently expressed concern over the assumption that dischargers may develop offsets programs to meet their load allocations because of the potential environmental justice implications of such schemes. As we noted in our comments to the Board dated November 13, 2006, “while offset programs are often touted as resulting in aggregate environmental benefits, they have also often resulted in disproportionate impacts on local, usually disadvantaged communities of color and can discourage dischargers from reaching optimum pollution reductions. Consequently...[offsets] should be seen as generally undesirable and a last resort.”

The proposed BPA does state “on or before [9 years after Effective Date], the Regional Board will consider adoption of a mercury (inorganic and/or methyl) offsets program” (BPA, page 13). We are pleased to see some of our key principles reflected in the proposed BPA, specifically that offsets should only be available to “fulfill a discharger’s responsibility to meet its (waste) load allocation after reasonable control measures and pollution prevention strategies have been implemented” and that they should not be allowed “in cases where local human or wildlife communities bear a disparate or disproportionate pollution burden as the result of the offset” (BPA, page 13). However, we have two specific concerns that should be addressed in the proposed BPA and in any potential policy that the Board establishes down the road, namely that since this is a methylmercury TMDL, offsets should focus on reducing methylmercury loads and that pilot offset projects should not occur during Phase 1 as stated in this draft.

We object to offsets in Phase 1 for the following reasons:

1. No offsets should be approved before the Board has established a policy with explicit parameters
2. Offsets are meant to assist dischargers who cannot meet their wasteload allocations to fulfill their mercury reduction obligations. Phase One is specifically meant to study how best to do just that. Consequently, it makes no sense to establish an offset program when it is not yet clear that a discharger will be in violation of their waste load allocations in Phase 2. As we stated above, Phase 1 should be focused on developing strategies to reduce methylmercury, and certainly, not on developing offsets.
3. Phase 1 does require dischargers to meet load allocations for total mercury. Such controls are well understood and should not require dischargers to offset their responsibilities to reduce or maintain current levels.

Another concern arises not out of the BPA language, but out of discussions of the Offsets Workgroup that comprised part of the Stakeholder process. While CWA was only able to participate in such discussions on a very limited basis, we were deeply concerned with proposals that pollution trading would be an acceptable strategy under an offsets program. We are absolutely opposed to pollution trading schemes that allow one discharger to trade credits with another. This serves only to move pollution around, discourage optimum pollution reductions, and can further contaminate local communities situated near or around the discharger who has obtained the extra credits.

Recommendations:

- Delete language that permits offsets during Phase 1
- Specify that if an offsets policy is developed and programs implemented, they must focus on reducing methylmercury loads
- Add to the list of key principles governing potential offsets (BPA 13) that no pollution trading schemes that allow one discharger to sell or trade credits to discharge total or methylmercury

into the watershed will be permitted in order to optimize mercury reductions and ensure that all communities are protected from disproportionate burdens of pollution as per Environmental Justice principles.

- Ensure that if an offsets policy is developed by the Board, it is done through a public process that is accessible to impacted communities and is approved by the State Board.

Response:

Comment 7 There should be no offsets until a policy is adopted

The Basin Plan Amendment allows the opportunity for stakeholders to propose and implement **pilot** offset projects. The information from **pilot** offset projects will be very useful in formulating the offset program that the Central Valley Water Board will consider. Any offset program will be a Basin Plan amendment and will go through the public process required for basin plan amendments. The principles described in the Basin Plan Amendment should be sufficient at this time to allow stakeholders to work on an offset program without being unduly restrictive. In addition, any offset program will need to comply with all federal and state laws and regulations. USEPA has similar concerns that will need to be addressed when developing the offset policy (see USEPA' April 2010 comment letter). Staff believes that the current proposal provides for a public process that should provide for a fair determination to be made on any offset project proposal. The BPA includes principles that must be met for proposed offset projects to be approved by the Regional Water Board. There is language in the proposed amendment that says that dischargers must evaluate steps that can be implemented to reduce loads at their own facilities. The idea of pollution trading is not specifically condoned or ruled out in the amendment language. Staff believes that we should keep all options open. It is very difficult to judge the merits of anything until there is a specific proposal to review. Staff believes that the guiding principles in the proposed amendment are sufficient to insure that only good projects are approved. The offset policy that is mentioned in the proposed amendment would need to be adopted by the Regional Water Board through the normal basin planning process. The commenters request that offsets be focused on reducing methylmercury loads. The BPA text includes mercury because NPDES facilities already have effluent limits for inorganic mercury. An offset program could provide flexibility for a facility to meet its inorganic or methylmercury discharge requirements. It is likely that requirements and trading ratios for projects conducted to satisfy for mercury and methylmercury effluent limits would be different. Staff proposes no revisions to the current language.

CWA/BK Comment #13.

8. Exposure Reduction language recommendations

CWA and Baykeeper appreciate the efforts by Staff to include language to clarify responsibilities of dischargers to support and help facilitate the development of interim exposure reduction strategies to protect subsistence fishing populations over the time the TMDL is being implemented as directed by the State Water Quality Control Board in Resolution 2005-0060. This will be important in ensuring that such strategies can be identified, developed, and implemented as quickly as possible and to the maximum extent practicable. CWA joined other stakeholders working with impacted communities to develop recommendations to further strengthen the proposed BPA language. We refer the Board to a letter submitted to the Board on April 1, 2010 by CWA and these other stakeholders containing that language.

Again we wish to recognize the hard work Board Staff has put into this proposed BPA. We submit these comments and recommendations in the spirit of making this an effective and successful TMDL that will, over time, return the Delta to a state in which it will fulfill its true beneficial uses. Thank you for your consideration of our comments and for the opportunity to express them. We are available to clarify any of the points herein or provide more specific recommendations as necessary.

Response:

Comment 8 Please see responses to the joint letter submitted by CWA and others that contained the exposure reduction recommendations.

14. Joint Letter from Community, Environmental, and Tribal Stakeholders

Letter date: 7 April 2010

Dr. Henry Clark
West County Toxics Coalition

Sherri Norris
California Indian Environmental Alliance

Whitney Dotson
North Richmond Shoreline Open Space Alliance

Andria Ventura
Clean Water Action

Angel Luevano
TODOS UNIDOS

Christine Cordero
Center for Environmental Health

Dipti Bhatnagar
Environmental Justice Coalition for Water

Comment #1.

The problem of mercury, and in particular methylmercury, in the Delta has very real impacts on the people living in and around the region, especially communities with high levels of exposure due to local subsistence, cultural, and recreational fishing. Many of us were not involved in the stakeholder process that influenced the development of this draft basin plan amendment (BPA)/TMDL for methylmercury in the Delta, either because we were unaware of the process or because we did not have the resources, accessibility to meetings, or ability to participate in such a time intensive formal process. As a result, we wish to provide the Board with the following comments on the proposed basin plan amendment (BPA)/TMDL for methylmercury, as it has a direct bearing on the health and safety of the communities we work with and/or represent.

1. The TMDL objectives will not protect fishing communities

We recommend that the BPA's fish tissue target be revised to allow consumption of 128-160 g/day of Delta fish, which is in line with the US EPA's recommendation of a rate of 142.4 grams/day and would allow 4 to 5 meals a week of Delta fish. We also suggest including a subsistence fishing designation as a beneficial use for the Delta so as to protect low income communities and communities of color who consume high levels of Delta fish.

We support the methylmercury focus of this BPA as it is the form of mercury that collects up the food chain and threatens our health. However, we strongly oppose the proposed fish tissue target, which will in fact limit the safe consumption of trophic level 3 and 4 Delta caught fish (plus some commercial fish) to one meal a week. This totally disregards the fact that families in many of our communities eat much higher levels of Delta fish, often for cultural reasons or out of economic need. While we recognize the challenges in addressing methylmercury in the watershed, the ultimate goal of the TMDL, under the provisions of the Clean Water Act, must be to protect the health and safety of *all* fishing communities, including low income communities and communities of color. We urge the Board to ensure that this BPA is revised to better reflect the needs of all of our communities so that both recreational and subsistence fishers are ultimately protected.

Response: Staff agrees that the water quality objectives should be as protective as possible. However, staff must also show that the TMDL, with the objectives, has a reasonable assurance of being achieved. Staff believes that the recommended water quality objective based on the USEPA 32 g/day of trophic level 3 and 4 fish will be met but that more stringent objectives may not be reached. In a survey of mercury concentrations in fish from 626 sites in 12 western states, a fish tissue concentration of 0.05 mg/kg (which corresponds to 4-5 fish meals per week)

is not observed even in pristine streams (Environmental Science and Technology 2007, vol 41 pg 58-65). Note that the most recent Delta fish advisories identify some fish and shellfish that may safely be eaten at three servings per week by the most sensitive groups (pregnant and nursing women and children). A goal of the TMDL is to reduce methylmercury levels so that the fish that are now highest in mercury may be safely eaten once per week. Without more understanding for what activities, management practices, and treatment technologies are available to reduce concentrations of methylmercury, there is no sound scientific rationale at this time for the Central Valley Water Board to require the more stringent fish tissue objectives. The Central Valley Water Board is not unsympathetic to the concerns of the Commenter since the Central Valley Water Board recognizes that some consumers of Delta fish consume higher quantities of fish. The Basin Plan amendment directs the Regional Board to review and consider modifying the fish tissue objectives after Phase 1.

At this time, it is unclear if the Delta can support the higher levels of consumption implied by a subsistence fishing beneficial use. Note, neither the COMM nor subsistence fishing beneficial use contains a consumption rate or fish species to be protected. Therefore, Board staff does not recommend that the Central Valley Water Board designate a subsistence fishing beneficial use to the Delta but may do so in the future if additional information becomes available that indicates the use designation is appropriate for the Delta. In order to aid this assessment, staff welcomes more information about subsistence fishing in the Delta.

Comment #2.

2. We cannot wait 9 years for improvements to begin

The proposed BPA establishes a 9-year study period, referred to as Phase 1, during which dischargers will not be implementing methylmercury reduction control programs. In our view, the expectations during Phase 1 are too limiting and will allow for unnecessary delay. For example, while the BPA does state that dischargers, particularly point source dischargers, shall be required to implement total mercury control programs in the interim, it appears that these measures will be largely aimed at maintaining the status quo versus actual reductions. For some dischargers, particularly non-point sources of mercury, compliance with total mercury reduction requirements will be based on documenting actions taken and not the actual results of those actions. Furthermore, the BPA states that the Board will consider extending the study period as we approach the 9-year mark, which could further delay the Delta Mercury Control Program Review for an additional two years (see BPA page 8, paragraphs 4 and 5 and page 8, paragraph 1).

Implementing total mercury control programs is not the same as actually reducing discharged mercury levels and is not acceptable. In addition, not only should the 9-year deadline to complete methylmercury control studies be rigorously enforced by the Board, early implementation of methylmercury reduction strategies should be prioritized whenever possible. We therefore urge the Board to make three revisions to ensure real reductions of both total mercury (in the interim) and methylmercury occur in the most expedient way possible:

- Include clearly defined, measurable reductions of total mercury during Phase 1 for all dischargers, including non-point sources,
- Delete the language on pages 8 and 9 as indicated above that refers to extending the control study period,
- Strengthen the language in paragraph 6, page 9 by revising it as follows (underline indicates changes to existing text)

“The Regional Water Board shall require implementation of appropriate management practices. The methylmercury management plan(s) developed in Phase 1 shall be initiated as soon as possible, but no later than six (6) months after Phase 2 begins. In addition, the Executive Officer shall retain the authority to require appropriate methylmercury best management practices or other controls to be implemented at anytime during Phase 1 based on periodic review of the control studies’ progress.”

Response: The proposed amendment requires pollutant minimization programs from the point source dischargers and sediment erosion control from the nonpoint source dischargers to reduce total mercury loads in Phase 1. NPDES facilities and urban stormwater systems must monitor and report results to the Board. NPDES dischargers are also required to provide documentation on why waste load allocations cannot, or are not, being met. Nonpoint source management measures, such as erosion control for irrigated agriculture, are typically “performance based”, meaning that the measures include particular protocols shown to provide effective pollutant reduction. Tracking implementation would involve ensuring that the management measures are applied correctly. Within-Delta dischargers contribute a very small portion of the total mercury loads. Our control program focuses on controlling upstream loads of mercury enriched sediment that come from Cache Creek and other sources in tributaries to the Delta and on controlling methylmercury discharges within the Delta and in tributaries to the Delta. The Delta mercury control program focuses on methylmercury and total mercury because ultimately, fish tissue objectives will be reached more quickly than if controls just reduce total mercury. The main job of within-Delta dischargers during Phase 1 is to produce scientifically valid, comprehensive studies that identify effective methylmercury control measures.

The Basin Plan Amendment only gives the Executive Officer latitude to extend the Control Study period under two conditions: i) studies are making significant progress but need more time for completion and ii) dischargers need more time to obtain funds for studies due to severe budget shortfalls. The Regional Board would look to the TAC to advise whether “significant progress” is being made. In the February 2010 version of the Basin Plan amendments, staff increased the responsibility for State water management agencies to be involved in the studies. Due to the State’s fiscal crisis, however, they may need more time to obtain funds.

The proposed underlined text is not necessary. The Regional Board retains the authority to require implementation of methylmercury management measures through its regulatory programs, such as 401 water quality certifications, permits, enforcement orders, and the Irrigated Lands Regulatory Program. The Basin Plan amendment text only states that for the purposes of achieving the methylmercury allocations, nonpoint source dischargers do not have to implement methylmercury controls until after the Phase 1 studies. Methylmercury controls for all dischargers subject to these regulatory programs need to be better identified, which is the purpose of the Phase 1 studies. However, the Basin Plan amendment gives direction to the regulatory programs that in Phase 1, known methylmercury controls should be implemented.

Comment #3.

3. Decision making processes must be accessible to all communities and not discharger dominated or disproportionately influenced.

While we applaud the BPA's intention of ensuring public participation during both Phases 1 and 2 of this TMDL, we are concerned that a formalized stakeholder group as we had over the last year will again limit true community participation and lead to a discharger/ agency driven process. We suggest that instead of establishing a similar stakeholder model, the BPA should require tribal and other community representation on the Technical Advisory Committee with resources made available to ensure their ability to participate. In addition, meetings should be rotated throughout the Delta region to encourage public input and transparency.

Response: Staff changed the Basin Plan amendment to specifically indicate that the tribes will be consulted during the process and in formation of the Technical Advisory Committee (TAC). Staff will work hard to make sure that all viewpoints and recommendations are considered and make sure that any particular interest group does not unduly influence the process. The Central Valley Water Board welcomes suggestions for improving the participation of all affected and interested stakeholders in our public processes.

The Technical Advisory Committee is intended to be a panel of independent scientific experts with experience in methylmercury production, transport, and loss. The TAC will help develop study plans and review results for their scientific integrity and provide guidance to the Regional Board. The function of the TAC will be similar to that of the independent peer reviewers who advised the CALFED mercury program. Staff envisions that the TAC will interact with all stakeholders that are involved in the Phase 1 control studies, including community-based organizations, tribes, and consumers of Delta fish. Please see Basin Plan Staff report Chapter 4.3.5 for description of the TAC. Representatives of Tribes and community groups that also possess scientific expertise in methylmercury would be eligible for the TAC.

Comment #4.

4. Exposure reduction strategies must be developed from the community up

The BPA rightly includes language on the exposure reduction program mandated by the State Water Board (Resolution 2005-0060). We remind the Regional Board that such a program is not the answer to the methylmercury problem in the Delta—true exposure reduction will involve reducing methylmercury in the watershed. Interim efforts to reduce exposure and address potential health impacts are meant to protect fishing populations over the decades it will take to clean up the pollution. A successful program can, in fact, only be developed from the ground up. **Consequently, we support a strategy by which the Regional Board brings together impacted**

community representatives and other public interest groups to “brainstorm” on appropriate strategies to reduce actual mercury exposure instead of a system where dischargers, water board staff, and other government agencies develop potential programs and outreach tools and then bring them to the communities. Furthermore, resources will best be employed in facilitating communities themselves to implement the strategies that they work with the Board and dischargers to develop.

Again, we recognize the complexity of mercury remediation and the long term commitment it will take by all parties to accomplish. We assert that the BPA must embrace the diverse needs of the communities in and around the Delta, and that the watershed’s beneficial uses be available for all of them, no matter their racial and cultural makeup or their economic status. Consequently, we offer these comments in the spirit of wanting to work with the Board to ensure that this BPA results in true improvements to the Delta for everyone.

Response: Staff agrees that source controls must accompany exposure reduction activities. The Basin Plan amendment states that an exposure reduction program conducted with consumers of Delta fish “is not intended to replace timely reduction of mercury and methylmercury loads to Delta waters”. Staff also recognizes that exposure reduction activities will be most effective when Delta fish consumers and community-based organizations are fully involved in design and implementation of the activities. Staff welcomes interest from all community-based organizations that want to participate in the Exposure Reduction Program.

Staff appreciates these thoughtful comments.

15. Contra Costa County Flood Control & Water Conservation District (CCCFCWCD)

R. Mitch Avalon (Deputy Chief Engineer)
Letter Date: 1 April 2010

CCCFCWCD Comment #1.

Contra Costa County Flood Control and Water Conservation District (Flood Control District) manages approximately 70 miles of streams in Contra Costa County for the purposes of flood protection and habitat management. Portions of several streams listed in the proposed Amendments to the Water Quality Control Plan for the Sacramento and San Joaquin River Basins for the Control of Methylmercury and Total Mercury in the Sacramento – San Joaquin Delta Estuary (Basin Plan Amendments) are managed by the Flood Control District. As an owner and manager of stream channels, the Flood Control District offers the following comments on the proposed Basin Plan Amendments.

First the Flood Control District acknowledges that the Central Valley Regional Water Quality Control Board (Water Board) has implemented a process to include the issues from various stakeholders within the permit area. Discussions with colleagues involved in the process have indicated they have been collaborative and productive. The Flood Control District also acknowledges that we have not participated in this process. It is possible that some of the issues outlined in this letter have been discussed and resolved through the stakeholder process. On the other hand, it is also possible that the Flood Control District is providing a different perspective than presented in the stakeholder process.

Response: No response necessary.

CCCFCWCD Comment #2.

Approaching Mercury and Methylmercury contamination from a wider, watershed approach.

The staff reports in support of the proposed Basin Plan Amendments indicate that the vast majority of historic and current mercury contamination has occurred from historic upstream sources. Yet the onus of clean-up efforts is being placed upon the downstream recipients of these toxic substances. This places a disproportionate responsibility upon Delta local agencies (cities, counties, and special districts within the legal boundary of the Delta) to clean-up pollutants generated by others over the past 150 years. The State and Regional Waterboards have been at the forefront of developing a watershed wide perspective in environmental management, yet the proposed Basin Plan Amendments place near complete responsibility to study and develop control programs for these pollutants upon those jurisdictions within the legal definition of the Delta. This simply does not make sense from a watershed perspective.

Of greatest concern is the requirement for Delta local agencies to address mercury pollutants in upstream tributaries. The Delta local agencies have no legal authority to influence, let alone control pollutants generated in other jurisdictions upstream of our legal boundaries. Exactly how does a city, county, flood control or sanitary district implement control measures beyond their legal boundaries? For example, the Flood Control District's main mercury source within Marsh Creek lies on private property upstream of our facilities. We have no legal ability to address the pollution source without using eminent domain to acquire the property. If the Flood Control District were to acquire the property, we would assume full legal liability for the pollution source. This is something the Flood Control District simply cannot afford to do.

Requiring Delta local agencies to control pollution sources beyond their boundaries will lead to failure to successfully implement the proposed Basin Plan Amendments. The Basin Plan Amendments indicate that TMDL's for tributary watersheds will be developed in the future, but does not propose a schedule for their development or implementation.

Response: Mercury from legacy sources has contaminated downstream watersheds. While the mines were the primary source, most of the mercury from the mines is in the downstream channels where it is available for methylation and subsequent transport. Because of this widespread contamination and the difficulty in removing mercury from all sediments, the Delta Mercury Control Program addresses the development and control of methylmercury (the bioavailable form of mercury) as a means of protecting beneficial uses of the Delta. The draft BPA does not require any of the Dischargers assigned methylmercury allocations to remediate inorganic mercury sources outside or upstream of their jurisdictions. The Phase 1 studies are focused on reducing methylmercury where it is produced and evaluating water and land management practices to minimize methylmercury production or maximize demethylation.

The draft BPA does provide a schedule for development of the tributary TMDLs, including Marsh Creek (BPA page 13).

Also, please note that the California Legislature recently adopted SB 310, or the California Watershed Improvement Act of 2009, which added Chapter 27 (commencing with section 16100) to Division 7 of the California Water Code to allow a permittee or co-permittees under an NPDES permit for municipal separate storm sewer systems to develop a watershed improvement plan in coordination with other stakeholders in the watershed. The Watershed Improvement Act describes the elements of a watershed improvement plan and authorizes the entity or entities that develop the plan to impose fees on activities that generate or contribute to runoff, stormwater, surface runoff pollution to pay the costs of the preparation of the watershed improvement plan or the implementation of a plan that is approved by a regional board if certain conditions are met.

CCCFCWCD Comment #3.

The Flood Control District recommends the following changes to the proposed Basin Plan Amendments to address mercury contamination on a watershed wide basis.

- Expand the focus, study area, and requirements to include the entire watershed that feeds into the Sacramento – San Joaquin Delta in order to develop appropriate and implementable measures to address mercury and Methylmercury pollution within the Delta.
- Transfer oversight of the Total Daily Maximum Load (TMDL) and Basin Plan Amendment process to the State Water Resources Control Board, since the problems and solutions lie across multiple Regional Board areas.
- Work with the United States Environmental Protection Agency (US EPA) to utilize existing programs or develop new ones to provide funding to clean up and abate abandoned mercury mines in tributaries leading into the Delta.
- Grant “Good Samaritan” and liability protections to local agencies and non-government organizations who address abandoned mercury sources in upstream tributaries. Coordinate with US EPA to develop similar liability protection at the Federal level.

Response: The draft Delta Mercury Control Program provides the framework for upstream TMDLs. It includes a schedule for development of the mercury control programs for tributaries to the Delta and Yolo Bypass. The draft Delta Mercury Control Program includes a Phase 1 review (nine years after the effective date of the amendment) that will look at the results of the Phase 1 studies and new information about methylmercury controls. After adoption of the Delta Mercury Control Program, staff will be developing a mercury control program for the Central Valley to include the major tributaries to the Delta. The upstream control programs should be in-place at the time of the Phase 1 Delta review. At that time, the Board could also consider modification of all of the mercury programs to address the watersheds so that controls are implemented in a coordinated, effective manner.

Both the San Francisco Bay Region and the Central Valley Region are addressing mercury impairments through their TMDL programs. Staff members are aware of the other’s activities and coordinate and share information about their mercury programs. The State Water Board works on issues that require coordination at the statewide level but, recognizing that there are regional differences, expects the Regional Water Boards to develop basin plan amendments and TMDLs that are consistent and meet the regional needs. At this time, fish tissue objectives that protect consumers of fish are a statewide issue and the State Water Board is working on statewide fish tissue objectives. Controlling sources of mercury depends on source categories which are different regionally and are best handled by the Regional Water Boards.

Staff has worked with USEPA Superfund staff in the cleanup of mercury mines in the Cache Creek and Marsh Creek watersheds. Staff is continuing to work with USEPA and the Department of Toxic Substances Control on the cleanup of inactive mines.

The Porter Cologne Water Quality Control Act contains provisions for third parties to remediate abandoned mines and provides liability protection at the state level if a mine is cleaned up in accordance with an approved remediation plan. The commenter is correct that there is no similar Good Samaritan protection under the Clean Water Act. Staff has coordinated with the State Water Board in commenting encouragingly on federal Good Samaritan legislation, but unfortunately these bills have not been passed by the US Congress. Staff will continue to

coordinate with State Water Board and USEPA on this issue. Stakeholders affected by mercury from inactive mines may wish to advocate for federal Good Samaritan protection with their elected representatives.

CCCFCWCD Comment #4.

Lack of funding to implement the proposed Basin Plan Amendments

Another concern the Flood Control District has is that the proposed Basin Plan Amendments lack funding mechanisms to implement the proposed regulations. The vast majority of the regulated agencies have extremely constrained abilities to raise the money needed to implement the proposed studies and control measures outlined in the proposed Basin Plan Amendments. Cities, Counties, and Flood Control Districts must adhere to the requirements passed in Propositions 13 (1978) and 218 (1996). It is essentially impossible to convince two-thirds of the electorate to raise fees or taxes to support activities that provide little perceived tangible benefits. Despite the benefits of reducing mercury and Methylmercury pollution in the Delta, most voters will not see this as an appropriate use of their local tax dollars. Consequently, Delta local agencies will be unable to implement the proposed Basin Plan Amendments without impacting other core services.

The Flood Control District recommends the following changes to the proposed Basin Plan Amendments to address adequate funding.

- Revise Chapter IV (Implementation), under "Recommended for Implementation by Other Agencies" #2 to replace "should" with "shall be required". Then this sentence would read: "the State of California shall be required to establish the means to fund a portion of the mercury control projects in the Delta and upstream watersheds" (BPA pg 15). Furthermore the required funding must adequately fund all of the required studies and control projects outlined within the proposed Basin Plan Amendments, including those slated to be conducted by local agencies. It is only through the adequate funding of the proposed Basin Plan Amendments that the Regional Board can hope to achieve the mercury and Methylmercury standards outlined in the TMDL.
- If adequate financial resources are not obtained prior to implementation of Phase I or II, then the State Board should develop a dedicated grant funding source for local agencies to use in order to implement the Basin Plan Amendments requirements for studies and control programs. One possible source would be to utilize the State Revolving Fund as programs where a percentage of the loan could be forgiven (similar to how American Recovery and Reinvestment Act money was distributed).

Response: The Central Valley Water Board recognizes the burden placed on dischargers in the Delta and will make it a priority to fund Phase 1 studies with resources under the Board's control. The Central Valley Water Board encourages dischargers in the Delta to apply for appropriate funds, whether or not these funds are under the Board's control, and develop funding sources. Staff is available to assist dischargers in these efforts.

The Central Valley Water Board does not have the authority to require the State or any other entity to establish funding mechanisms. The Central Valley Water Board can only make

recommendations and, in recognition of the financial burden that will be borne by dischargers in the Delta, included the recommendations noted by the Commenter in the BPA.

Then Central Valley Water Board works with the State Water Board on exploring flexibility in the funds that the State Water Board administers so that they may be used for Phase 1 studies.

CCCFCWCD Comment #5.

Responsibilities associated with the Exposure Reduction Program

The proposed Exposure Reduction Program, designed to reduce the amount of Methylmercury ingested by people consuming mercury-tainted fish from the Delta, places an unacceptable burden upon Delta local agencies. The program not only requires Delta local agencies to conduct a community outreach campaign to target human populations and achieve measurable reductions in the consumption of mercury tainted fish, but it also requires local agencies "to mitigate health impacts due to intake of mercury in Delta fish." It is our understanding that the "mitigation of health impact" language may be changed based upon discussions at the February 24, 2010 stakeholders meeting. If this is the case, then these changes need to be codified prior to approval of the proposed Basin Plan Amendments.

If the requirement to mitigate health impacts from consuming mercury tainted fish remains within the proposed Basin Plan Amendments, then local agencies will be placed in an untenable liability risk that could potentially bankrupt them. It is not the responsibility of a city, county, or special district to restrict fish consumption; nor should these agencies be held liable for the health impacts incurred by those who choose to consume tainted fish. Mercury contamination in the Delta is a watershed wide issue. Delta local agencies cannot be held responsible for the health outcome of people's food consumption habits.

Although local agencies can address mercury contamination of waterways and aquatic ecosystems on those streams they manage, they cannot change dietary habits. The implementation of the Exposure Reduction Program will require specialized capabilities best implemented by public health agencies. Since the threat of mercury contamination in fish is essentially a state-wide issue and many of the proposed waterways to be included in the proposed Basin Plan Amendments are managed by the State, the Flood Control District believes it is most appropriate for the State to implement the Exposure Reduction Program through the CA Dept. of Public Health (CDPH). CDPH is the most appropriate agency to lead this effort and can better coordinate with County public health departments than cities or special districts can.

The Flood Control District recommends the following changes to the proposed Basin Plan Amendments regarding the Exposure Reduction Program.

- Incorporate the changes negotiated in the February 24, 2010 stakeholders meeting to eliminate the local agency requirement to mitigate the health impacts due to intake of mercury contaminated fish.
- Designate the CDPH as the lead agency to implement the Exposure Reduction Program and ensure adequate funding for this program is guaranteed for the duration of the TMDL requirements.

Response: Staff revised the Exposure Reduction Program (ERP) section after the February 24th stakeholder meeting. The phrase, “mitigate health impacts” originates from the State Water Board resolution 2005-0060, which directs the San Francisco Bay and the Central Valley Water Boards to address public health concerns of mercury in fish. Staff quoted this finding from the resolution in its entirety and added the reference. Within the resolution quote is the only time that “mitigate health impacts” appears in the BPA. It is not a specific requirement for this ERP. Central Valley Water Board and Department of Public Health staff members remain unclear about what these phrases actually mean and how health mitigation could be accomplished within a program focused on mercury in fish. Some dischargers also are concerned about possibly being required to mitigate health impacts and reduce potential exposure without knowing how to do so. The ERP text in the Basin Plan amendments allows for activities that go beyond public education such as health screenings that are requested by Delta fish consumers and community-based organizations. The text also states that community-based organizations shall be fully involved in development and implementation of ERP actions.

The BPA states that the CDPH should collaborate with and provide guidance to dischargers to develop and implement the ERP. The BPA also states that the CDPH or other appropriate agency should seek funds to continue the ERP as long as it is needed. Dischargers will still have responsibility for participating in the program until their methylmercury allocations are achieved. Staff agrees that funding from the State will likely be needed in order to have a comprehensive ERP.

CCCFCWCD Comment #6.

Extension of proposed Basin Plan Amendments to other Regional Board and state agency requirements

The Flood Control District has concerns that requirements for studies of baseline conditions and development of control measures may be implemented through regulatory mechanism on projects that have little or no nexus to mercury contamination. In particular, the Regional Board’s water quality certifications and/or waste discharge requirements, or CA Dept of Fish and Game’s Streambed Alteration Agreements and/or Section 2080.1 endangered species consistency determination appear to be susceptible to imbedding mercury study or control program requirements. The Flood Control District agrees that projects that create or exacerbate mercury contamination should be required to address mercury issues in the regulatory permit process. But the Flood Control District is opposed to regulatory mechanisms being used to require studies or control programs where little or no nexus is required.

The Flood Control District recommends the following changes to the proposed Basin Plan Amendments regarding the use of regulatory mechanisms to further mercury TMDL goals and requirements:

- Modify the proposed Basin Plan Amendments to clearly state that regulatory mechanisms can only be used to require studies or control plans where there is a clear and proportionate nexus between the proposed activity and the potential impact upon mercury within the Delta.

Response: Controllable activities that contribute methylmercury to the Delta are identified in the BPA. Entities responsible for these activities have been identified and will be required to conduct Phase 1 studies. Some of these entities may be subject to regulation under the Water Quality Certification Program or the Waste Discharge Requirements Program. As part of their requirements under these programs, these entities will be required to conduct the Phase 1 studies and reduce their methylmercury loads during Phase 2.

The commenter seems concerned that regulatory programs will incorporate mercury requirements that are not included in the BPA. It is important to note that the TMDL is really a plan for eliminating impairment of the Delta by mercury. Adopting a TMDL does not give the Regional Board new regulatory powers. The Basin Plan Amendments contains requirements that the Board must implement through its existing authority and regulatory programs. Regional Board staff members from the Mercury and Metals TMDL Unit will continue to coordinate with staff of the regulatory program units (such as 401 certifications and NPDES permits) to make implementation of the BPA requirements as clear and seamless as possible through the regulatory programs. After the Basin Plan amendment is approved, the regulatory programs will be looking to the Basin Plan for mercury and methylmercury requirements.

CCCFCWCD Comment #7.

Mitigation for impacts to wetlands from required mercury control programs

The proposed Basin Plan Amendments will have potentially significant impacts upon streams and wetlands, as discussed in the CEQA Environmental Checklist and Discussion (CEQA Checklist). Required implementation of control programs to treat Methylmercury will involve the temporary and often permanent removal of wetland resources. The CEQA Checklist also indicates that impacts to wetland resources will require pre-planning studies, construction monitoring, and compensatory mitigation. Yet the Regional Board assumes that Delta local agencies will incur the burden of complying with project specific planning, implementation, and mitigation associated with implementation of the proposed Basin Plan Amendments. These projects will be conducted solely because of the requirements of the proposed Basin Plan Amendments. It is unacceptable for the Regional Board to pass along the responsibility to mitigate projects for which the Delta local agencies have no choice but to comply. The discretionary actions that require mitigation lies with the Regional Board's decision to amend the Basin Plan, not the Delta local agencies, who must comply with newly mandated requirements.

The Flood Control District recommends the following changes to the proposed Basin Plan Amendments regarding compliance with the CEQA analysis.

- The Basin Plan Amendments CEQA document needs to more fully examine impacts of the amendments upon wetland resources. Specifically the CEQA document must estimate the amount of wetland acreage, function, and value that will be impacted by the proposed Basin Plan Amendments and determine potential avenues to mitigate the temporal and permanent losses associated with

proposed control programs.

- The Regional Board should consider developing an exception to the Basin Plan requirements to compensate for unavoidable losses of wetland resources when implementing control programs. Or consider lowering the mitigation ratio from 3:1 (as outlined in the CEQA checklist) to 1:1.
- The Regional Board should develop a wetland mitigation bank to allow Delta local agencies who incur unavoidable wetland impacts to use either free of charge or at cost to meet compensatory mitigation requirements.

The Flood Control District thanks the Regional Board for this opportunity to comment upon the proposed Basin Plan Amendment to Control Methylmercury and Total Mercury in the Sacramento-San Joaquin Delta Estuary. If you have any questions regarding this letter, please contact Cece Sellgren, Environmental Planner, at 925-313-2296 or by e-mail at csell@pw.cccounty.us.

Response: The BPA does not require removal of wetland resources. The environmental analysis identifies a slowdown in creation or change in design of new wetlands as a potential impact. In the Phase 1 Review the Central Valley Water Board may consider modification of methylmercury goals, objectives, allocations and/or the Final Compliance Date; implementation of management practices and schedules for methylmercury controls; and adoption of a mercury offset program for dischargers who cannot meet their load and waste load allocations after implementing all reasonable load reduction strategies. The Basin Plan amendment specifically calls for the Regional Board to evaluate potentially significant negative impacts of methylmercury controls. A potentially significant negative impact could be reduction of wetland habitat that supports a threatened or endangered specie if methylmercury control measures were implemented. At this time, however, the Regional Board does not have information on what particular wetland functions or types can incorporate methylmercury management without changing function and which cannot. At the end of the Phase 1 study period, dischargers shall submit reports detailing proposed methylmercury management plans. If Control Studies indicate that achieving a particular methylmercury allocation is infeasible, then the discharger shall provide this information to the Regional Board. Note that the managed wetland methylmercury allocations are assigned on a subarea, not individual parcel basis. Studies have shown that some wetland produce methylmercury, while others are sinks for it. The Delta Mercury Control Program may change after the Phase 1 review and there may be different requirements for specific discharge categories.

The Delta Mercury Control Program is coordinated across all the Central Valley Water Board programs. The Central Valley Water Board with the other Water Boards is concerned over the quantity and quality of wetlands in California and is working with the State Water Board on the statewide Wetland and Riparian Area Protection Policy. The requirements of the Delta Mercury Control Program will be coordinated with the statewide Wetland and Riparian Area Protection Policy to assure that appropriate criteria are developed to protect the beneficial uses of wetlands and mitigation projects.

It is important to remember that the purpose of the TMDL implementation program is to remove the methylmercury impairment, as required under the federal Clean Water Act. If some sources are unable to reduce methylmercury, the methylmercury allocations for other sources may have to become more stringent. Regardless of the TMDL requirements, "Publicly important projects" such as dredging, habitat restoration, and flood control must comply with federal and State

environmental laws, including the Clean Water Act and the California Environmental Quality Act (CEQA). . Although not commonly done, a project that increases methylmercury loads to the Delta, which is already impaired, should address the increased methylmercury as a water quality impact in the projects CEQA analysis.

16. Ducks Unlimited (DU)

Rudolph Rosen, Ph.D. (Director, Western Regional Office)
Letter Date: 1 April 2010

DU Comment #1.

I thank Chair Katherine Hart and Regional Board members for allowing work by Executive Director Pamela Creedon and her staff to improve the process of developing the Delta Mercury TMDL and Basin Plan Amendment, and for enabling stakeholders/dischargers to work with staff to develop the Adaptive Management Plan.

Two years ago I was among a group of stakeholders who expressed concern about the administrative process and development of the TMDL and draft Basin Plan amendments. We felt then that there was inattention to our concerns, as well as a seeming lack of appreciation of numerous technical and practical implementation issues. Along with others, I asked the Board for an expanded role by stakeholders who would be directly affected by the Board's then pending actions. In particular I felt this to be important to Ducks Unlimited (DU), because DU engineers and biologists regularly seek permits for restoration of wetlands, and conduct design and build work that would have been directly affected by the legal requirements of the Board's then pending actions.

Over the course of the past two years, numerous stakeholders met and held discussions along with facilitators, and several Board members and staff. As a result we have developed a more defined and cooperative process whereby stakeholders may work with the Board and staff in complying with requirements of law. While I doubt any single participant is completely satisfied with everything that emerged from the process, I believe most will agree the Board and staff made genuine efforts to accommodate stakeholder concerns. The resulting Adaptive Management Plan, with its guidance on control studies, a science program, offsets, a listing of principles and a phased approach to compliance provides a much clearer and cooperatively based path to follow as regulations are phased in for compliance with methylmercury discharge requirements.

Response: No response needed.

DU Comment #2.

But this is just the beginning. Any process is only of value if used. Please support continuing staff work with the stakeholders during Phase 1 of the Delta Mercury Control Program. Further, please base your conclusions, recommendations, and decisions during the course of your work on the control program on sound scientific evidence and, of particular interest to DU, the protection of the full range of beneficial uses and ecologically important functions of wetlands, including wetlands value to waterfowl. Such uses and values have been the basis for multi-million dollar wetlands restoration and protection efforts over the course of many years by state, federal and local governments, private individuals, and nongovernmental organizations. These efforts have created wetlands habitats of significance that support the Pacific Flyway's migratory waterfowl and other waterbirds, an assemblage of species protected by federal and state regulations, as well as by international treaty.

Response: The draft BPA commits the Central Valley Water Board to an extensive review process at the end of Phase 1 that includes consideration of the potential public and environmental benefits and negative impacts of methylmercury controls on projects such as habitat restoration, water supply, flood protection, and fish consumption. The Phase 1 Program Review will go through scientific review and a public review process. In addition, the draft Resolution directs Board staff to continue working with the stakeholders during Phase 1.

DU Comment #3.

Ducks Unlimited has been active in stakeholder discussions, because the Western Regional Office of DU is involved in design and construction of wetlands restoration projects in partnership with state, federal and local government agencies and private partners in the Delta and elsewhere in the Central Valley. This often requires DU to acquire permits for restoration of wetlands, where DU is contractually responsible for permitting. As a result, the TMDL and Basin Plan Amendments will directly affect DU's work on permitting, design, construction and management of wetlands projects.

Ducks Unlimited is a membership-based conservation organization. The organization is not a trade association or a legally responsible party for wetlands managers or landowners, thus DU has no authority to represent the interests of private landowners, wetlands managers, or the lands interests of state, federal or local government agencies in permitting or other regulatory matters regarding state or federally mandated methylmercury reduction control studies or requirements. I mention this to reinforce the point that DU makes these comments to the Board and participated in the stakeholder processes on its own behalf.

Ducks Unlimited has expertise in wetlands management, with over 180 wetlands projects underway in California and another 350 elsewhere in the western U.S., and has worked with over 2,000 government, corporate and private partners on wetland conservation efforts.

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Response: Staff understands DU's role in wetlands management and appreciates DU's involvement in the stakeholder process. Their perspective on private and public wetlands development and conservation has been beneficial.

DU Comment #4.

Despite appreciation for the Stakeholders' Adaptive Management Plan's improved process within which to work through Phase 1 requirements on discharge, control studies, and other activities, little has happened in the past two years to change our fundamental concern over the lack of a means to control or even predict methylmercury production in wetlands and our opinion that it is the state and/or federal government that has legal responsibility for the adverse envi-

ronmental and health impacts of legacy mercury in wetlands. In particular we still assert that state and/or federal government are the appropriate parties to pay for control studies and subsequent control measures.

There is no new compelling rationale to justify why today's wetlands owners should be primarily responsible for the costs of reduction of legacy mercury, instead of the state and/or federal government taking responsibility. Nor is there information to justify why only just now government is taking action to reduce methylmercury in the environment. After all, it was the state or federal government that failed to prevent discharge of mercury into waters of the state many decades ago, and even today still allows legacy mercury to be carried by state waters and to enter and be deposited in wetlands. Californians all share in this legacy and the impact on the environment, not just those who now find themselves owners of mercury laden lands. As a relic pollutant which is the legacy of people who can no longer be held accountable, it is now most logically a responsibility of the public sector itself to resolve the problem.

Response: The Central Valley Water Board recognizes that wetlands and other land managers in the Delta are the recipient of legacy mercury that is discharged upstream of the Delta. However, human activities on the land, including wetland management, can create conditions for methylmercury production. A goal of the Delta Mercury Control Program is to control methylmercury that is generated by activities of wetlands and land owners in the Delta from the mercury that is part of the sediment on the land. The Basin Plan amendments state that managed wetlands and irrigated agriculture are only responsible for controlling the net methylmercury load discharged from their property, where net equals methylmercury in outflow minus methylmercury in source water (BPA Table A footnotes). Managed wetlands and irrigated agriculture are also directed to "implement reasonable, feasible actions to reduce sediment runoff", but they are not assigned total mercury load limits.

The Basin Plan Amendment incorporates time in Phase 1 to conduct studies to further understand the generation of methylmercury and to identify technical and financially feasible management practices that will reduce the generation of methylmercury while allowing the land manager to continue using the land as the owner intends. The draft Basin Plan Amendment includes the opportunity for a Phase 1 Program Review in which the Central Valley Water Board will evaluate the results of the various Phase 1 studies and may refine the load and waste load allocations and implementation provisions and schedules among other elements of the Basin Plan Amendment.

The Central Valley Water Board also recognizes the burden placed on dischargers in the Delta and will make it a priority to fund Phase 1 studies with resources under the Board's control. The Board was pleased to see that the Sacramento River Watershed Program, on behalf of a coalition of wetland managers in the Delta, successfully applied for a grant under the federal Clean Water Act section 319(h) to create the capacity to conduct these studies. Other studies are already underway that evaluate methylmercury management practices, particularly for wetlands. Some information about possible management measures was shared at a stakeholder Nonpoint Source Workgroup meeting in November 2009. Staff will work with stakeholders to make such information more widely available prior to the time that Phase 1 Control Studies are being designed.

Also, the draft Basin Plan amendments contain load allocations for open-water habitat in all Delta subareas that incorporate the same percent reductions required for other point and nonpoint sources that discharge to those subareas (rather than setting open water allocations equal to existing average annual methylmercury loads, as was done in the February 2008 draft amendments). The draft Basin Plan amendments contain language that requires 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 who manage open water areas in the Yolo Bypass and Delta, to conduct methylmercury control studies during Phase 1 that evaluate in Delta projects, and to meet the open water allocations by the end of Phase 2 (the same final compliance date required for other point and nonpoint source allocations). Note that “and upstream projects” was removed from BPA text. In addition, the draft Basin Plan amendments also include requirements for a 110 kg/yr reduction in total (inorganic) mercury loads from the tributary watersheds, with the recommendation to initially focus on watersheds that export the most mercury-contaminated sediment (e.g., the Feather, American and Cosumnes Rivers and Cache and Putah Creeks). The TMDL control programs developed for upstream watersheds will focus on how to comply with the tributary methylmercury allocations and watershed total mercury load reduction requirements included in the Delta TMDL, including requirements for control actions for individual sources within the tributary watersheds.

Finally, legacy¹ mercury may comprise only about 30% of total mercury entering the Delta [“Staff’s Initial Responses to Board and Stakeholder Questions and Comments at the April 2008 Hearing”² (see item A-1, pages 3 through 12)]. In addition, even if control actions are implemented to remediate legacy mercury in the Delta’s tributary watersheds, it would likely take natural processes many centuries to completely remove the legacy mercury already in Central Valley river beds and channels. Evidence supporting this assertion comes from the source analysis of total mercury that continues to enter the Delta years after the mercury and gold mining period and studies of contaminated sediment transport conducted elsewhere. The magnitude of legacy, mine-related mercury spread through river beds and banks downstream of major dams that continues to erode the Delta and difficulties in controlling these loads is discussed under Question #1 (page 3) and additional discussion about the time needed for natural processes to flush in-channel sediments from the Delta are included under Item #22 (page 44) in staff’s “Initial Responses to Comments at the April 2008 Hearing”.

As a result, even if legacy mercury loads could be reduced to zero, we would still need to be concerned about activities in and around the Delta that contribute methylmercury. Given available information about wetland restoration goals for the Delta (e.g. the Record of Decision (ROD) for the California Bay-Delta Authority commits it to restore 75,000 to 90,000 acres of additional seasonal and permanent wetlands in the Delta, which represents about a three to four times increase in wetland acreage from current conditions (about 21,000 acres)), and their potential to increase methylmercury loading to the Delta, we need to have a mercury control program that is more comprehensive and protective of the environment and subsistence fishers who cannot wait for centuries for improvements.

¹ Board staff refers to mercury from historic mining operations in the Coast Ranges and Sierra Nevada that was released to Central Valley waterways by historic operations as well as by past and present erosion of excavated overburden and tailings as “legacy mercury”.

² Available at: http://www.waterboards.ca.gov/centralvalley/water_issues/tmdl/central_valley_projects/delta_hg/stakeholder_meetings/25nov08_hearing_rtc.pdf

DU Comment #5.

While some new data are available on potential control methods, no significant new information has come to light that provides a ready solution to the problem of legacy mercury in wetlands and production of methylmercury. There is no question that under certain conditions, methylmercury is produced in wetlands where inorganic mercury is present. Methylmercury in a wetland is symptomatic of the problem of mercury in the environment. Naturally functioning wetlands naturally produce methylmercury. Naturally functioning wetlands also may sequester methylmercury.

Response: One of the goals of the Phase 1 Control Studies is to develop and evaluate ways to reduce mercury methylation or increase methylmercury sequestration without negatively affecting wetland habitat function or other beneficial uses of Delta waters. At the same time, the Board will be developing upstream control programs for methylmercury and identifying inorganic mercury reduction projects (e.g., mine cleanups and remediation of mercury hot spots in stream channels). A goal is to reduce the concentration of inorganic mercury in Delta sediment so that less methylmercury is produced in Delta open water and wetland habitats.

DU Comment #6.

We don't mean to underplay the problem of mercury in the aquatic environment, but the presence of mercury and methylmercury in Central Valley waterways and the Delta is not a new phenomenon. Any consequences of mercury contamination of wetlands in the Central Valley is a historic and long-standing matter.

Discharge of mercury into the environment began, and was most widespread and copious over a century ago. At that time the acreage of wetlands in the Valley was about twenty times greater than the acreage today.

State and federal agencies, private landowners and private organizations such as DU, are now busily engaged in restoring wetlands destroyed since the early days of development in California. Where the Valley's wetlands once had the capacity to support between 20 and 40 million waterfowl, today only about 5 to 6 million waterfowl are supported.

So as we consider mercury contamination of wetlands and the consequence of that contamination today, such as bioaccumulation of mercury in species, the extent of impact on species and the level of methylmercury contamination in wetlands has probably been reduced – perhaps greatly in recent times -- with the loss of wetlands and the commensurate reduction of fish and wildlife dependant on the once much more abundant wetlands.

Response: It seems that DU is claiming that there is less methylmercury impairment now because there are fewer wetlands and fewer wetland-dependent wildlife, and therefore current levels of impairment should be considered an improvement over the past and therefore acceptable. However, in general there are many other factors that have changed during the past century in addition to loss of wetland habitat, for example (but not limited to): the routing, timing, and water characteristics (e.g., temperature and EC) of “natural” flows has fundamentally changed with the implementation of the federal and state water projects and creation of

numerous reservoirs; invasive species (e.g., largemouth bass, striped bass, and Asian clam) have fundamentally altered the food web in the Delta and many of its tributary water bodies; and other local and global sources of anthropogenic mercury have increased substantially. The Central Valley of today defies comparison to the Central Valley of the 1800's, so much so that it would be hazardous to guess at methylmercury conditions of the past without a well-considered, multi-variable model or some form of historic data that is water-body specific.

Also, staff offers another perspective: with fewer wetlands and wetland-dependent wildlife, it is more important now than ever that existing and restored wetlands be of the highest quality to better sustain wildlife species of concern, which includes not having harmful levels of pollutants such as methylmercury. Although Delta-specific exposure and effect studies for wildlife are lacking, concentrations of methylmercury measured in Delta fish are above levels observed in field and laboratory studies elsewhere that harm wildlife species. For example, the highest fish tissue levels observed in the Delta were in the lower Cosumnes River (Davis *et al.*, 2008; Slotton *et al.*, 2007³), an area of intensive wetland restoration efforts. Extensive multi-year and seasonal fish mercury monitoring conducted in the lower Cosumnes River after the development of the TMDL source analysis observed small fish mercury levels that were 5 to 29 times the small fish mercury objective proposed in Chapter 3 of the draft Basin Plan Amendment report (Slotton *et al.*, 2007). Slotton and others (2007, pages 58-59) observed extreme (400-500%) increases in silverside mercury at the Cosumnes site in July 2006, when concentrations in 45-75 mm (2-3 inch) silversides reached levels averaging an "astounding" 0.869 ppm, with individual fish as high as 2.0 ppm. According to the authors, "these were concentrations that should be of serious concern, particularly in relation to wildlife exposure." A goal of the Phase 1 studies is to develop methods of reducing methylmercury that do not impair the function of open water and wetland habitats so that existing and restored habitat is of high quality for sustaining populations of wildlife species of concern.

The Clean Water Act Section 303(d) requires states to identify water bodies that do not meet their designated beneficial uses and to develop programs to eliminate impairments. The Porter Cologne Water Quality Act directs the State to regulate activities and factors which may affect the quality of the state to attain the highest water quality which is reasonable, considering all demands being made and to be made on the waters and the total values involved (California Water Code Section 13000). The State and Regional Water Boards defined controllable water quality factors as "those actions, conditions, or circumstances resulting from human activities that may influence the quality of the waters of the State, are subject to the authority of the Water Boards, and that may be reasonably controlled" (Basin Plan Chapter IV page 15.00, *Controllable Factors Policy*). Human activities, including wetland restoration through management of land and water, are considered "controllable factors". Note that the Regional Board is directed to consider water quality protection in the light of other values. Other values would include use of beneficial uses of water for wildlife habitat. Staff recognizes that in some wetland habitats, implementing methylmercury management measures could conflict with habitat benefits. The Board needs information from the Phase 1 studies in order to understand where implementation of methylmercury controls is infeasible or will cause significant, negative impacts.

³ Davis, J.A., B.K. Greenfield, G. Ichikawa, and M. Stephenson. 2008. Mercury in sport fish from the Sacramento San Joaquin Delta region, California, USA. *Science of the Total Environment*, 391:66-75.

Slotton, D.G., S.M. Ayers, and R.D. Weyland. 2007. CBDA Biosentinel Mercury Monitoring Program, Second Year Draft Data Report Covering Sampling Conducted February through December 2006. May 29, 2007. Available at: <http://www.sfei.org/cmr/fishmercury/DocumentsPage.htm>

DU Comment #7.

It is mercury contaminating wetlands that is creating the matter at issue before this board. Wetlands are not the source of mercury. Mercury is the problem, methylmercury within a wetland is symptomatic of the problem of mercury in the environment. Mercury has never been wanted by wetlands managers in their wetlands or added to wetlands by anything wetlands managers have done before or do now, but it is only now that they are being placed on notice that they may be responsible for cleaning up the effects of this mercury.

The obvious long-term solution to methylmercury production in wetlands is to stop flow of mercury into wetlands.

There is a notion -- perhaps correct -- that wetlands can be managed or built in a fashion that reduces production of methylmercury, and that's among critical underpinnings of the staff proposal and among primary objectives of Phase 1 work.

Response: Staff agrees that wetlands don't produce inorganic mercury. Wetlands can provide the environmental conditions to methylate the mercury. Land management activities are controllable factors that could affect methylmercury production. The BPA is not requiring studies on natural, unmanaged wetlands, although Phase 1 study designers could choose to evaluate natural wetlands that have been found to be minimal methylmercury sources or even sinks to determine if such features could be incorporated in the design and management of manmade wetlands. The focus of the control program is to evaluate the design, construction, and water management activities for manmade wetlands. Staff concurs that without inorganic mercury flowing onto wetlands, there would be no methylmercury. The draft Basin Plan amendments include requirements for a 110 kg/yr reduction in total (inorganic) mercury loads from the tributary watersheds, with the recommendation to initially focus on watersheds that export the most mercury-contaminated sediment (e.g., the Feather, American and Cosumnes Rivers and Cache and Putah Creeks, all watersheds with a high density of gold and mercury mine sites). The draft Basin Plan amendments include requirements for evaluating and reducing mercury discharges from the Cache Creek Settling Basin, which receives exports from the Cache Creek watershed and contributes about half of all mercury loading to the Delta. That said, legacy mercury is so widespread, and inorganic mercury comes from other anthropogenic sources besides legacy mercury from historic mine sites⁴, such that it may be infeasible to remove all of the anthropogenic inorganic mercury, much less remove it in a reasonable amount of time or remove it from contaminated stream beds and channel banks in a way that does not negatively affect existing floodplain and wetland habitat within channel areas and/or interfere with flood control activities. Also, unfortunately, many existing and proposed wetland projects are downstream from substantial sources of mercury-contaminated sediment (e.g., in the Yolo

⁴ Inorganic mercury comes from both local and global anthropogenic sources; please see the Delta total mercury source analysis in Chapter 7 of the TMDL Report. Please refer to Section 8.4.3.6 in the February 2010 TMDL Report for an updated review of global mercury emissions and atmospheric deposition. While the Central Valley Water Board, California Air Resources Board, and USEPA have authority to require the control of discharges to surface water and emissions to the atmosphere from sources in California, they do not have the authority to control emission sources in other countries. Reducing local mercury emissions is expected to help compensate for increases in global sources; however, it likely will be impossible to achieve substantial reductions in current methylmercury and total mercury loads contributed by atmospheric deposition given predicted increases in global emissions.

Bypass, Marsh Creek, Cosumnes River areas). Therefore, the proposed mercury control program requires evaluation of methylmercury management options.

Please see staff's responses to DU Comment #4, which also address DU Comment #7.

DU Comment #8.

Unintended Adverse Consequences of Board Action to Wetlands and Waterfowl

The staff report states, “[t]he environmental analysis determined that implementation of the proposed Basin Plan amendments could result in potentially significant impacts to biological resources, greenhouse gas emissions, hydrology/water quality, and utilities/service systems, unless mitigation is incorporated.” The staff report then goes on to list “...reasonable actions to reduce the potential impacts from implementation projects....through careful project planning, design, and implementation.”

We are particularly concerned about significant impacts on wetlands, waterfowl and recreation involving waterfowl. However, it is clear the staff report recognizes the many challenges associated with addressing wetlands, and makes clear a number of potential options to mitigate impacts on wetlands restoration and wetlands management, including emphasizing the need for a phased approach as described in the Stakeholders' Adaptive Management Plan to study various options and methodologies, and take into consideration technical, economic and practical realities in the process of moving from Phase 1 studies and characterization to Phase 2 implementation.

The staff report also makes clear that not all wetlands may even be net producers of methylmercury, i.e., “...seasonal wetlands may be overall net producers of methylmercury, while permanent freshwater and tidal wetlands may be overall less productive of methylmercury or even net sinks (that is, more methylmercury enters the wetlands than leaves).” Added research and characterization studies are needed to answer a host of critical questions about methylmercury and wetlands in the Delta/Yolo Bypass before implementing any mandatory controls over dischargers.

Response: Staff appreciates that DU recognizes that the program will use an adaptive management approach and the studies are needed before methylmercury controls are implemented. The draft BPA includes language that states that implementation of methylmercury-specific controls for the purpose of achieving the proposed methylmercury load allocations would not be required until Phase 2.

DU Comment #9.

Following are several specific comments on portions of the staff report.

Recreation.

According to the staff report, “[t]he proposed Project’s net impact on recreation is expected to be positive.” The report goes on to describe the notion that, “...there is the possibility that there will be an increase in the use of regional parks and other recreational facilities as people who previously were limited or discouraged by the fish advisories begin to catch more fish from the Delta.”

While recreational fishing may benefit from methylmercury control implementation, the staff report acknowledges there may be adverse impacts on wetlands and species, and specifically cites the potential impact on new wetlands restoration. We believe this may have a significant adverse impact on wildlife-related recreation if wetlands management or acreage, or future wetlands restoration is adversely affected in a fashion that would limit or reduce wildlife use of the Delta/Yolo Bypass.

The staff report specifically acknowledges proposed increases in restored wetlands acreage: “The Record of Decision for the CALFED Bay-Delta Program commits it to restore 30,000 to 45,000 acres of fresh, emergent tidal wetlands, 17,000 acres of fresh, emergent non-tidal wetlands, and 28,000 acres of seasonal wetlands in the Delta by 2030. This is a total of 75,000 to 90,000 acres of additional seasonal and permanent wetlands in the Delta, which represents about a three to four times increase in wetland acreage from current conditions.” The staff report implies a potential 90,000 acres of new wetlands may be affected by implementation of controls, yet no assessment has yet been made of the impact on waterfowl hunting, waterfowl observation, or hunting or observation of other wildlife as a result of these potential impacts.

Hunting and wildlife observation are important recreational activities conducted in the Delta/Yolo Bypass. Given the implications of potential reduced acreage of wetlands restoration or altered management of existing wetlands, it is hard to see how implementation of mercury controls and the effect on wetlands acreage restored can be assumed positive to wildlife-related recreation. Study and characterization of mercury controls on hunting and other wildlife-associated recreation should be conducted during Phase 1.

Response: The draft BPA language does not propose a reduction in existing wetland acreage during Phase 1, nor limit the creation of new wetlands during Phase 1. In addition, the draft BPA includes language that commits the Board to assessing during the Phase 1 Program Review the potential environmental effects and whether implementation of some methylmercury control methods would have negative impacts on other project or activity benefits, and methods that can be employed to minimize or avoid potentially significant negative impacts to project or activity benefits that may result from methylmercury control methods. The commenter indicates that implementation of Phase 2 control actions have the potential to result in the creation of fewer wetlands or in altered management of future restoration projects, which could lead to less wildlife use, which in turn could lead to reduced recreational activities such as hunting and

wildlife observation. It would be overly speculative to attempt to evaluate potential effects of implementation activities conducted during Phase 2 of the proposed control program on hunting and other wildlife-associated recreation until the Phase 1 studies have been completed. Potential negative effects of methylmercury controls on hunting and wildlife-associated recreation can be added as a factor to be evaluated as part of the Phase 1 methylmercury control studies by wetland managers and researchers.

DU Comment #10.

Balancing or assessing direct impacts on wildlife health versus reduced wildlife habitat value or acreage.

The staff report states, “[t]he goal of the proposed Basin Plan amendments is to lower fish mercury levels in the Delta so that the beneficial uses of fishing and wildlife habitat are attained.”

The staff report provides only an indirect and theoretical fish consumption-based assessment of the potential affect of methylmercury on several species of wildlife. There is no analysis of actual studies of methylmercury affects on waterfowl or other wildlife in the Delta/Yolo Bypass. There is no analysis of studies of mercury levels in waterfowl or other wildlife in the Delta/Yolo Bypass. There is no substantive evidence presented to quantify the current level of harm, if any to wildlife in the Delta/Yolo Bypass.

As a result, while it is possible to quantify the adverse effect on waterfowl if wetlands acreage is reduced, or anticipated wetlands restoration is blocked, it is not possible to make an assessment of the benefits to wildlife health of methylmercury control versus the adverse effects of loss or impairment of waterfowl or other wildlife habitat (wetlands). Such an assessment should be part of Phase 1 studies.

Work is needed to determine if actual benefits to wildlife from reducing mercury outweigh the potential adverse effect of decreasing wildlife habitat. In particular this assessment needs to be conducted for Pacific Flyway waterfowl, which is an assemblage of important species managed by federal and state governments, as well as by international treaty, and which are dependant on federal, state and private wetlands habitat in the Delta/Yolo Bypass for maintenance of current population levels and to meet future population goals.

Response: As noted in staff’s response to DU Comment #6, although Delta-specific exposure and effect studies for wildlife are lacking, concentrations of methylmercury measured in Delta fish are above levels observed in field and laboratory studies elsewhere that harm wildlife species. For example, the highest fish tissue levels observed in the Delta were in the lower Cosumnes River (Davis *et al.*, 2008; Slotton *et al.*, 2007), an area of intensive wetland restoration efforts. Extensive multi-year and seasonal fish mercury monitoring conducted in the lower Cosumnes River after the development of the TMDL source analysis observed small fish mercury levels that were 5 to 29 times the small fish mercury objective (0.03 mg/kg methylmercury in < 50 mm whole fish) proposed in Chapter 3 of the draft Basin Plan

Amendment report. Slotton and others (2007, pages 58-59) observed extreme (400-500%) increases in silverside mercury at the Cosumnes site in July 2006, when concentrations in 45-75 mm (2-3 inch) silversides reached levels averaging an “astounding” 0.869 ppm, with individual fish as high as 2.0 ppm. According to the authors, “these were concentrations that should be of serious concern, particularly in relation to wildlife exposure.”

As described in Chapter 4 of the TMDL Report, U.S. Fish and Wildlife Service (USFWS) provided guidance on safe methylmercury ingestion rates for sensitive wildlife species. The reference dose for birds is based on studies of mallard growth and reproduction following methylmercury exposure; the lowest toxic dose was divided by three to account for differences in species’ and individuals’ reactions to mercury and produce a dose level at which harmful effects are not expected. In their 2008 comment letter, USFWS staff stated: “The Service believes these proposed methylmercury objectives of 0.24 mg/kg for trophic level 4 fish and 0.03 mg/kg for fish less than 50 mm in length will be protective of listed species and other fish and wildlife resources in the Delta. As we have noted previously these values should not be cast in stone and should be reevaluated as new data become available.”

A recent study of species differences in the sensitivity of avian embryos to methylmercury indicated that, relative to other species, mallard embryos are not very sensitive to injected methylmercury (Heinz *et al.*, 2009⁵). Other species the study authors categorized as also exhibiting relatively low sensitivity to injected methylmercury were the hooded merganser, lesser scaup, Canada goose, double-crested cormorant, and laughing gull. Species the study authors categorized as having medium sensitivity were the clapper rail, sandhill crane, ring-necked pheasant, chicken, common grackle, tree swallow, herring gull, common tern, royal tern, Caspian tern, great egret, brown pelican, and anhinga. Species the study authors categorized as exhibiting high sensitivity were the American kestrel, osprey, white ibis, snowy egret, and tri-colored heron. Board staff is supportive of Ducks Unlimited and others exploring the implications of this new information and generating new information during Phase 1, and submitting the information for evaluation in the Phase 1 Program Review. The proposed Basin Plan amendments include language that commits the Board to assessing new information, re-evaluating the objectives, and considering adjustments to the fish tissue objectives, if appropriate.

⁵ Heinz, G.H., D.J. Hoffman, J.D. Klimstra, K.R. Stebbins, S.L. Kondrad, C.A. Erwin. 2009. Species Differences in the Sensitivity of Avian Embryos to Methylmercury. *Arch. Environ. Contam. Toxicol.*, 56(1); 129-138.

DU Comment #11.

Pacific Flyway migratory waterfowl are dependent on Delta/Yolo Bypass wetlands

The staff report acknowledges that, "...implementation of methylmercury management practices to achieve safe fish mercury levels...has the potential to result in cumulatively considerable impacts to habitat that supports endemic species with limited geographic ranges, such as Sacramento splittail and Delta smelt. Until the proposed Phase 1 control studies have been completed, it is unknown whether the wetlands that act as substantial methylmercury sources in the Yolo Bypass also provide critical habitat to endemic species, and whether it will be possible to avoid all potentially significant impacts."

The staff report fails to consider effects of implementation of the proposed Basin Plan amendments on migratory waterfowl species which may not ordinarily be considered by the Board or staff to be "endemic" in the same sense as Delta and splittail smelt, but which are nonetheless highly dependant on the Delta/Yolo Bypass for significant periods, in particular since the Delta encompasses a significant portion of the five percent of the Central Valley's remaining wetlands acreage. The catastrophic loss of wetlands in the Central Valley has made all remaining wetlands highly valuable to remaining waterfowl populations. Thus, the dependency on wetlands habitat of the Delta/Yolo Bypass by such migratory species is no more or less critical to survival than are the Delta's wetlands to resident species endemic only to the Delta.

Phase 1 studies should assess the impact of mercury control implementation on overall Pacific Flyway populations and on federal, state and international population objectives. These studies should be conducted in the context of existing bioenergetic modeling and habitat management goals set through the Central Valley Joint Venture 2006 Implementation Plan.

Response: Staff concurs that the potential impacts of methylmercury controls on migratory waterfowl habitat can be added as a factor to be evaluated as part of the Phase 1 methylmercury control studies by wetland managers and researchers.

DU Comment #12.

Methylmercury load allocation attributable to wetlands

The staff report attributes to wetlands 19% of total average annual methylmercury loading to the Delta/Yolo Bypass, based on Water Years (WY) 2000-2003. We suggest these data are biased because, 1) studies providing data on methylation rates in wetlands were too limited to allow an accurate assessment of methylmercury contribution by wetlands to the Delta/Yolo Bypass, and 2) accurate data on total cumulative annual volumes of water discharged from wetlands were not available and/or used. In particular, if wetlands owners are to be assigned a specific "load reduction allocation" requirement and assessed the cost and legal burden of meeting specific load reduction criteria, then the contribution to Delta/Yolo Bypass methylmercury load from wetlands must be accurately assessed. Phase 1 studies need to center on accurately determining the quantity of water discharged as well as the methylmercury load carried by that discharge, based on timing of discharge and residence time of water in wetlands, as well as on variability of methylation by wetlands characteristics and temporal/spatial characteristics of the discharge itself.

In particular, as the staff report has identified, methylmercury loading from wetlands in the Delta/Yolo Bypass was based on work conducted only in a single location: Twitchell Island west pond. Based on summer flux rate data there, the staff report estimates wetlands account for about 19% of all methylmercury to the Delta during the relatively dry period of WY 2000-2003. Staff also report, "...if the east pond data had been used, methylmercury loading from wetlands would account for only about 3% of all methylmercury to the Delta. In addition, research completed since the February 2008 draft TMDL Report indicates that the Twitchell Island west pond flux rates are lower than initially estimated from the preliminary monitoring results, and that the Twitchell Island ponds are not characteristic of all wetlands in the Delta region, in part because they receive continual inputs of water (compared to seasonal wetlands)." Thus the estimates of wetlands contribution to total methylmercury loading are highly suspect and methylmercury contribution by wetlands must be subject to additional characterization.

Response: The Central Valley Water Board concurs that Phase 1 studies should improve the baseline wetland methylmercury load estimates, including an assessment of the quantity of water discharged, and appreciates the leadership that Ducks Unlimited can provide to performing these studies and submitting the results for the Phase 1 Program Review described in the draft Basin Plan amendments.

DU Comment #13.

Costs of Phase 1 work

Finally a word about cost of characterization and control studies. The staff report provides cost estimates, and the costs will be high. The staff report acknowledges, “[f]or wetland restoration and management projects already underway with fixed budgets, methylmercury study and management costs could result in less wetland acreage being actively managed or restored.”

Funding must be made available for determining how to control production of methylmercury and implement discharge reduction strategies in wetlands while maintaining wetlands values. State, federal and private wetlands owners all need access to funding, in particular where cooperative work is proposed. Ducks Unlimited is currently a partner with other stakeholders in a proposed study that may receive 319(h) funding.

Ducks Unlimited also just had an additional 319(h) funding proposal rejected. This funding would have resulted in a study to, 1) provide an improved estimate of the annual contribution of methylmercury from wetlands to the Delta watershed, and 2) quantitatively evaluate the effectiveness of a Best Management Practice (BMP) of reducing discharge to Delta waterways from managed seasonal wetlands as a methylmercury Source Reduction Strategy. We believe these to be the most logical first steps in assessing the capacity of wetland owners to meet potential load reduction goals, yet even this most basic of studies failed to receive funding. We do want to acknowledge the assistance and support of Board staff in helping prepare that 319(h) proposal. We also appreciate the recognition in the staff report of options that might enable parties conducting studies and control actions to lessen potential economic impacts.

For state and federal wetlands managers, any significant added cost will be difficult to bear, as generally public wetlands already are being managed with reduced and often inadequate budgets. Funds for wetlands restoration or maintenance are tight and often are a result of funding partnerships. Wetlands have not been restored or managed as a revenue producing ventures, but are for public benefit, including benefits to water quality and quantity, as well as providing recreation and open space values.

There are no “deep pockets” in the world of wetlands restoration. Ducks Unlimited’s members and volunteers hold fundraising events, asking individuals for donations, to bid on auction items and to buy raffle tickets. Funds raised are used to leverage federal or state funds. Added costs for dealing with legacy contaminants simply should not rest solely with today’s wetlands owners. Mercury now contaminating wetlands is a result of long past failure of federal and state governments to control pollution and more recent failure to control mercury transport through state waters. Payment for research and control should be the responsibility of state and federal government.

Response: There is a very limited amount of federal Clean Water Act section 319(h) funds, which results in an extremely competitive process. Therefore, the Central Valley Water Board

was pleased to see that the Sacramento River Watershed Program, on behalf of a coalition of wetland managers in the Delta including Ducks Unlimited, successfully applied for a grant under the federal Clean Water Act section 319(h) to create the capacity to conduct these studies. The Central Valley Water Board encourages the nonpoint source dischargers, including Ducks Unlimited, in the Delta to apply for these and similar funds in future grant cycles and staff is available to assist potential grantees complete grant proposals to conduct the Phase 1 studies.

Please refer to staff's responses to DU Comment #4 regarding State responsibility for Phase 1 studies and legacy mercury in the Delta and its tributary watersheds.

DU Comment #14.

For the private wetlands owners and those who may be contemplating restoring wetlands, the added initial or annual cost could very well thwart maintaining existing managed wetlands and building new ones. Such loss of future benefits could result in an overall diminishment of environmental goods and services in California, such as wetlands contribution to helping reverse the threat of global climate change. Such loss could outweigh environmental benefits associated with mercury control.

Response: The Central Valley Water Board is aware of the financial burden placed on public and private landowners in the Delta to complete the requirements of the Basin Plan Amendment. To reduce duplication and save costs, the Basin Plan Amendment allows dischargers, including private landowners, to work together to conduct the studies. The Central Valley Water Board recognizes the limitations of government assistance for private entities but is willing to explore opportunities to help the private landowners meet their obligations under the Delta Mercury Control Program.

Staff worked with stakeholders during the formal stakeholder process after the April 2008 hearing meeting to develop the below text to address stakeholder concerns regarding the balancing of methylmercury controls and other competing water quality and ecosystem issues:

"By [nine 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 Compliance Date." (page BPA-8)

"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 project or activity benefits; (c) methods that can be employed to minimize or avoid potentially significant negative impacts to project or activity benefits that may result from control methods; (d) implementation plans and schedules proposed by the dischargers; and (e) whether methylmercury allocations can be attained." (page BPA-9)

However, federal law does not give the State license to allow the methylmercury impairment to remain or worsen in trade for other environmental benefits. The State must develop coordinated programs that address multiple impairments, protect all beneficial uses, and achieve environmental objectives. This is a daunting effort and is the reason staff recommended a phased approach to TMDL implementation in the 2008 and 2010 draft BPA and staff reports. This concern was further addressed by the formal stakeholder process after

the April 2008 hearing meeting and the February 2010 draft BPA and staff reports, and should be further discussed during the ongoing stakeholder process as the proposed Phase 1 methylmercury control studies take place and the upstream control programs are developed.