

**Delta Methylmercury (MeHg) Total Maximum Daily Load (TMDL) and
Basin Plan Amendment**

**Stakeholder Informational Meeting
Draft Meeting Summary**

MEETING DATE: May 14, 2009

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

ATTENDEES: See attachment

ACTION ITEMS

1. Center for Collaborative Policy (CCP) will send out the link to the online repository
2. CCP will post the Heinz studies and the U.S. EPA report to Congress in the online repository
3. Christal Love, CCP, will send out a revised stakeholder process timeline for the process

MEETING SUMMARY

Welcome, Introductions, and Agenda Review

Christal Love, CCP Facilitator, welcomed everyone to the meeting and reviewed the stakeholder process thus far and addressed logistics of the Water Board facilities. Ms. Love explained that Dave Ceppos, CCP Facilitator, who usually leads these meetings, was with his family on vacation for that week, and that she would facilitate the meeting today.

Ms. Love then reviewed the agenda and stated that the meeting would begin with a continuation from the April 21, 2009 meeting of a presentation by Michelle Wood, Water Board Staff, about the TMDL and Basin Plan Amendment process. Ms. Love called the group's attention to the April 21 draft meeting summary and asked for changes or edits. No one requested changes and the meeting summary was entered into the project record as "Final". Each person then introduced him/herself to the group, followed by those who had called in to the conference phone line.

TMDL Technical Presentation

Ms. Wood presented the scientific foundation for TMDL development and Basin Planning. She offered two emphases for the presentation discussion: 1) the scientific foundation for TMDL, and 2) how it is used in developing a Basin Plan Amendment to implement (see attached PowerPoint presentation). The group was encouraged to ask questions and members of Water Board staff were identified as being available to respond.

Ms. Wood focused on the seven interlinked components of scientific foundation that were the focus of peer review, and waited to address controllable processes and unknowns at the next meeting.

Ms. Wood, with assistance from other Water Board Staff, addressed a question from the April 21 meeting concerning the safety of mercury levels in drinking water. Here were several questions raised during the April 21, 2009 Stakeholder Group meeting:

- Do we need to be concerned about mercury in drinking water?
 - *Water Board Response: There is no need to be concerned; humans are end users of drinking water and the mercury cannot biomagnify enough to be dangerous.*
- Do differences in targets for wildlife species imply different sensitivities to mercury?
 - *Water Board Response: The number varies. For avian species by example, it depends on how much a bird species weighs and how much food they eat rather than based on different sensitivity levels.*
- What harmful effects is the bird reference dose based on?
 - *Water Board Response: The bird reference dose is based on non-lethal effects on reproduction in the second and third generations of mallards.*
 - *Stakeholder Comment: Requested more information on the connection between MeHg in parent birds and their future generations. The Regional Board and CCP committed to making the Heinz Studies available to the Stakeholder Group via the online document repository. The studies evaluated the reproductive and behavioral effects MeHg had on three generation of Mallard Ducks; species differences in the sensitivity of avian embryos to MeHg; and the effects of low dietary levels of MeHg on Mallard reproduction. A robust discussion of the effects MeHg exposure has on bird reproduction followed.*
- What is the safety factor in these different numeric targets?
 - *Water Board Response: The way to get any target level is the same for humans and wildlife; look at studies, the effects and level of exposure, use a safety and uncertainty factor, divide by 3 to get safe level.*
- Is the four meals (human consumption) rate the default rate recommended by the U.S. EPA?
 - *Water Board Response: Yes; when the U.S. EPA put out their human health guidance on developing human health criteria in 2000 it was based on four meals a week.*

Members of the Stakeholder Group posed the following questions during the technical presentation.

- What is the total population of the Delta?
 - *Water Board Response: The human population within the legal boundaries of the Delta is not relatively large; however, a significant number of people live directly adjacent to the Delta in places such as Sacramento and Stockton and are not included in the population numbers.*
- We have a monumental manmade problem in the Delta despite the background levels. Need to recognize and determine how far down the MeHg levels can go based on our ability to address this. Understand there are challenges, especially in the short-term.
- How is atmospheric deposition included?
 - *Water Board Response: The Regional Board funded a master's student at Moss Landing Marin Labs to collect data from reservoirs and lakes and analyze the question: how has mercury concentrations changed over last several hundred years due to atmospheric deposition.*
 - *Stakeholder Comment: What does natural deposition mean in the context of atmospheric deposition?*
 - *Stakeholder Comment: we need to be aggressively controlling those sources we can control.*
 - *U.S. EPA Response: U.S. EPA defines natural background as pre-anthropogenic levels, and does not include air deposition from runoff from naturally occurring mercury on the surface, or air deposition from coal-fired facilities in Asia.*
- Are there any studies in place to measure the effect of substantial flooding (i.e. sediment deposition) on the bottom lands of the Cosumnes River Preserve?
 - *Water Board Response: Not to our knowledge, however, similar studies have been done by Darryl Slotten.*
 - *Stakeholder Comment: Darryl Slotten sampled in late spring during periods of snowmelt; the North Delta is more likely to be flooded during wintertime.*
- Do you have water column data showing mercury and MeHg levels, or is there no correlation identified yet?
 - *Water Board Response: There is a correlation with the fish data.*

Ms. Wood announced that during the June Stakeholder Group meeting, the Water Board would present a discussion on controllable processes, looking at reducing inorganic mercury in surface sediment, reducing MeHg loading from in-channel surfaces through reducing it in sediment or other techniques, and what are external direct inputs from agricultural areas and treatment plants, etc.

Ms. Wood then did a quick preview of mercury sources, including:

- Sediment– pore water exchange and diffusion, both in open channel areas especially those with finer sediments, and also in wetlands.
- External direct inputs – agricultural return water inputs, urban runoff, and treatment plant effluent.

During the source discussion, the following comments were raised:

- Are naturally flooded areas natural wetlands or managed wetlands?
 - *Water Board Response: The Board has assumed the flooded areas are both natural and flooded wetlands.*
- California has lost 95% of its wetlands, so wouldn't pre-anthropogenic levels be even higher?
 - *Water Board Response: It is hard to calculate what the levels would be because the pre-anthropogenic time had more wetlands, but less mercury in that surface sediment.*
- What does Photo-degradation mean?
 - *Water Board Response: It is the process by which a methyl group is pulled off, and the MeHg goes back to inorganic total mercury.*
- Very hesitant to actually disturb areas like Cache Creek Settling Basin where the intent of some is to remove sediment. It could expose higher concentration layers from mining era and increase availability of contact area and methylate a great deal more even with clean water coming through.

Stakeholder Group Update

Patrick Morris, Water Board Staff, brought the group up to date in regard to the project's timeline. Mr. Morris informed the group that he and Mr. Ceppos went to the Water Board on April 23 to report on the stakeholder process. Mr. Morris and Mr. Ceppos explained how the group had progressed, the different stakeholder meetings held, and workgroups formed to address issues. Mr. Ceppos further discussed a formal stakeholder process and the options.

Several stakeholders currently participating in these stakeholder meetings came forward to express their views for or against the proposal to create a more formal Stakeholder Group. Mr. Morris had requested additional time from the Regional Board to come back with a project for consideration in January or February 2010 in place of October 2009. He then opened the floor to questions, to which the group requested an update of the funding situation. Mr. Morris explained that the Water Board ran out of money to pay for the process, so a letter was sent out to stakeholders asking for financial assistance. Organizations have put forth \$23,500 as well as numerous meeting location and logistical support contributions.

The Water Board had also been working with the City of Stockton on a proposal to contribute Supplemental Environmental Projects (SEP) funds to the Delta process. The SEP proposal would enable the stakeholder process to continue, and is undergoing the mandatory 30 day public review period. If the City of Stockton is able to have its proposal approved, \$37,500 would go towards this process, bringing the total to approximately \$61,000, leaving \$14,000 to go. Mr. Morris thanked the stakeholders who have been able to contribute, and will follow up with the proceedings of the SEP proposal so other organizations can contribute directly, rather than through the regional or state board.

Mr. Morris subsequently laid out the group's deadline. The goal is to get to the first meeting of the Regional Board in 2010, most likely taking place in late January. With this goal in mind, workgroups will need to finish by July 31, 2009. This work includes the Basin Plan language outlined in order to update staff reports, California Environmental Quality Act (CEQA), and economic analysis. The next step will be to pass the outline back to stakeholder groups for additional review. The meetings after July 2009 will be oriented around fine-tuning. Mr. Morris stressed the July deadline so his staff has sufficient time for revision, and a revised report for final formal public notice will be put out in late 2009.

Mr. Morris further pointed out that this new timeline offers the group two-and-a-half more months than previously anticipated and highlighted that the workgroups have been meeting about every other week.

The group asked the questions below as follow-up:

- At some point the work has to be turned over to the formalized stakeholder group. To clarify, where does the current workgroup's responsibility end and those of the formal stakeholder group begin?
 - Ms. Love responded that the formal invitations have been on hold until there was more clarity about the funding situation.
- If we did have a formal stakeholder group, would it end in July?
 - Mr. Morris explained the formal group would continue the current group's work by doing the fine-tuning after July.

- Stephen McCord (Larry Walker Associates) clarified that the two groups should be regarded as overlapping rather than distinct.
- Ms. Love added that the intention was to get the substantive issues settled with the current group, and that this group would have a voice in the formal process.

Review and Discuss DRAFT FINAL Outcomes from Principles Workgroup

Tony Pirondini City of Vacaville, presented the latest draft of the Final Outcomes from the Principles Workgroup to the larger group. He described the collaborative effort among the workgroup members, which included representatives from The Nature Conservancy, wastewater dischargers, Environmental Justice advocates, Ducks Unlimited, as well as others. The document was consolidated from the previous Guiding Principles, and was modified to represent the group. Mr. Pirondini went through each of the principles with the larger group, as indicated below:

1. Phase 1 studies should address both inorganic mercury and MeHg from all sources. Reasonable control options should be implemented during Phase 1 for inorganic Hg and/or MeHg.
 - *Group choose to leave the text as is.*
2. Phase 1 control studies should develop knowledge for effectively controlling MeHg.
 - *Group choose to leave the text as is.*
3. The Basin Plan Amendment (BPA) and staff report should state the current state of knowledge of the ability to control inorganic Hg and MeHg sources to attain their load and waste load allocations and fish tissue objectives. The TMDL source control requirements should be based on that knowledge and the results of the Phase 1 studies, and be reasonable.
 - *Group discussed defining what the term reasonable means; but ultimately choose to leave the text as is.*
4. The mercury control program should be adaptable.
 - *The text above was changed to: The mercury control program should incorporate an adaptive management process.*
5. The mercury control program should implement reasonable, feasible actions to address MeHg loads/production and human/wildlife exposure in the near-term. The BPA should particularly address public health impacts of mercury in Delta fish, including activities that reduce actual and potential exposure of—and mitigate health impacts to—those people and communities most likely to be affected by mercury in Delta-caught fish, such as subsistence fishers and their families.
 - *Group choose to leave the text as is.*
6. The mercury control program should incorporate long-term stakeholder involvement in the control studies, Technical Advisory Committee, and upstream TMDLs.

- *Group choose to leave the text as is.*
7. The control program should create strategies, including incentives to encourage innovative actions, to address the accumulation of MeHg in fish tissue and to reduce MeHg exposure, including watershed approaches, offsets projects, and short and long-term actions that result in reducing inorganic Hg and MeHg. Innovative and creative solutions such as offsets should not substitute for reasonable actions to address local impacts.
 - *Group choose to leave the text as is.*
 8. The linkage analysis and fish tissue objectives and the attainability of the allocations should be re-evaluated based on the findings of Phase 1 control studies and other information. The linkage analysis, fish tissue objectives and allocations should be adjusted in Phase 2, if appropriate.
 - *Group choose to leave the text as is.*
 9. The implementation plan should include methods to assess the relative magnitudes and other factors of different MeHg and inorganic Hg sources, and prioritize study and control actions, if and when it is not feasible to pursue those actions simultaneously.
 - *Group choose to leave the text as is.*
 10. The methylmercury characterization and control studies should be subject to independent review.
 - *The text above was changed to: The Phase 1 studies should be subject to independent peer review by the Technical Advisory Committee.*
 11. The geographic scope of the Phase 1 mercury control studies and allocations should be downstream of major dams. Allocations for the Delta TMDL will apply to all point and non-point methylmercury sources in the legal Delta and Yolo Bypass, including open waters.
 - *The text above was changed to: The geographic scope of the Phase 1 mercury control studies should include all sources downstream of major dams. Allocations in the Delta TMDL should be given to all point and non-point methylmercury sources within the legal Delta and Yolo Bypass, including open waters.*
 12. The mercury control program should recognize the multiple competing and conflicting interests and projects in the Delta, such as habitat restoration, flood protection, water supply, and human and wildlife consumption of fish.
 - *The text above was changed to: The mercury control program and other Delta projects should recognize the multiple competing and potentially conflicting interests and projects, such as habitat restoration, flood protection, water supply, and human and wildlife consumption of fish.*
 13. Efforts should be taken to ensure all stakeholder interests are represented in developing mercury control programs.

- *Group choose to leave the text as is.*

Review and Discuss Key Questions from National Pollution Discharge Elimination System (NPDES) Workgroup

Mr. McCord presented and summarized the NPDES Workgroup's key points and outcomes to update the larger stakeholder group. Mr. McCord emphasized that the document was still in progress, and further suggested that individuals read the document in full. All those with concerns were welcome to join the workgroup's process.

Mr. McCord called the group's attention to the following subjects, with the workgroup's findings:

- **Pollutant Minimization Programs (PMPs):** Pollutant holders should have PMPs, regardless of discharge. The disagreement lies in how much and far it should go.
- **Characterization and Control Studies:** More information is needed, particularly regarding treatment plant changes, conservation programs, recycling, storage, and other Best Management Practices.
- **Final Waste load Allocations:** The issue is that if more reuse or reclamation projects are in the system, how will they affect discharge character, concentration, or load, and the impacts of conservation or early actions?

Unfortunately, due to time constraints, Mr. McCord was unable to go into further detail. The larger group also concluded the workgroup needed more work before the larger group would be able to give feedback or comment. Ms. Love reiterated the invitation to join the workgroup.

Review and Discuss Key Questions from Adaptive Framework Workgroup

Sally Liu, The Nature Conservancy, presented summaries of the April 27 and May 11 Adaptive Framework Workgroup conference calls and brought forth discussion items for the larger group.

Ms. Liu then discussed the following topics

Risk Reduction / Public Education

Environmental Justice Caucus had not been formed yet, suggested forming separate work group or future subgroup meeting to discuss this further.

Proportionality and Liability Issues

Members of the group expressed concerns that while point sources are delineated, the non-point community will be given a general allocation reduction amount. There is uncertainty about who will be required to be involved in characterization and control studies and how the Water Board

is going to deal with liability (i.e. costs). The general concept was that it would be unfair to say that some dischargers should pay more while other dischargers pay nothing.

Revision of Attachment A into the revised BPA

The most recent decision was to take the draft February 2008 BPA and Attachment A, add adaptive framework text, and bring the revised text to the Stakeholder Group for consideration. The Stakeholder Group generally supported this approach.

The group expressed confusion as to what the specific purpose and goal of the Adaptive Framework Workgroup was. Ms. Liu echoed their concern, saying that the Workgroup was still discussing the Technical Advisory Group (TAC), and the Stakeholder Advisory Group (SAG). The group discussed the various tasks the Workgroup had been asked to consider and agreed that it was not surprising that the purpose seemed unclear. Ms. Liu assured the group that the Workgroup would continue to refine the BPA text, specifically in terms of the roles of the TAC and SAG during the upcoming implementation phases.

Next Steps

Ms. Love announced that CCP was working with the Water Board to schedule the next several months of Stakeholder Group meetings and would be contacting stakeholders who had volunteered in kind services.

Adjourn

May 14 Delta MeHg TMDL Stakeholder Group Meeting Attendees

Name	Organization
Tim Stevens	CA Dept of Fish and Game
Peter Halpin	Caltest Analytical Lab
Christal Love	Center For Collaborative Policy
Dorian Fougères	Center For Collaborative Policy
Nicole Ugarte	Center For Collaborative Policy
Debbie Webster	Central Valley Clean Water Association
Nancy Moricz	Central Valley Flood Protection Board
Patrick Morris	Central Valley Regional Water Quality Control Board
Michelle Wood	Central Valley Regional Water Quality Control Board
Janis Cooke	Central Valley Regional Water Quality Control Board
Kim Spear	City of Roseville
Hong Lin	City of Sacramento
Jeff Willett	City of Stockton
Erich Delmas	City of Tracy
Tony Pirondini	City of Vacaville
Travis Peterson	City of Vacaville
Mark Cooke	City of Woodland
Andria Ventura	Clean Water Action
Holden Brink	Cosumnes River Preserve, Bureau of Land Management
Steve Mindt	CSLC
Judi Quan	Delta Protection Commission
Jacquelyn Pimental	Department of Water Resources
Mark List	Department of Water Resources
Stephen McCord	Larry Walker Associates
Tom Grovhoug	Larry Walker Associates
Lysa Voight	Sacramento Regional County Sanitation District
Vanessa Emerzian	SAIC
Misty Kaltreider	Solano County
Pablo Garza	The Nature Conservancy
Sally Liu	The Nature Conservancy
Bob Schneider	Tuleyome
Debra Denton	U.S. EPA
Diane Fleck	U.S. EPA
Carolyn Yale	U.S. EPA
Thomas Maurer	U.S. Fish and Wildlife
Jennifer Skrel	