



Mercury Pollution in Northern California  
**Delta Tributaries Mercury Council**



**Delta Mercury NPS Workgroup  
Kickoff Meeting for Planning Phase I Control Studies  
~ Meeting Summary ~  
Tuesday, August 24, 2010  
10:00 a.m. – 12:00 p.m.  
707 4<sup>th</sup> Street, Suite 200; Davis, CA 95616**

**Facilitator:** Stephen McCord, LWA  
**Meeting Summary by:** Sally Liu, TNC

**Attendees (In-person and Teleconference)**

<b>First</b>	<b>Last</b>	<b>Affiliation</b>
Josh	Ackerman	US Geological Survey
Carol	Atkins	CA Dept. Fish & Game
Charmaine	Bernard	Contra Costa County
Mark	Bibbo	Westervelt Ecological Services
John	Brodie	San Jo. Co. RCD/E. San Jo. Co. & Delta WQ Coalition
Paul	Buttner	California Rice Commission
Janis	Cooke	CV-RWQCB
Brian	Currier	Office of Water Programs, CSUS
Collin	Eagles-Smith	US Geological Survey
Kari	Fisher	California Farm Bureau Federation
Jacob	Fleck	US Geological Survey
Diane	Fleck	USEPA
Matt	Gause	Westervelt Ecological Services
Wes	Heim	CA Dept. Fish & Game – Moss Landing Marine Labs
John	Herrick	South Delta Water Agency
Bruce	Houdesheldt	Northern California Water Assoc.
Sally	Liu	The Nature Conservancy
Jaymee	Marty	The Nature Conservancy
Tom	Maurer	US Fish and Wildlife Service
Jeff	McCreary	Ducks Unlimited
Steven	Mindt	California State Lands Commission
Carrie	Monohan	The Sierra Fund
Patrick	Morris	CV-RWQCB
Anitra	Pawley	Cal. Dept. Water Resources
Kevin	Petrik	Ducks Unlimited
Erik	Ringelberg	BSK Associates Engineers & Laboratories
Mark	Stephenson	CA Dept. Fish & Game – Moss Landing Marine Labs
Leah	Wills	Plumas County
Greg	Yarris	California Waterfowl Association

## I. Welcome and Introductions

The Steering Committee is currently comprised of:

- Mary Lee Knecht (Sacramento River Watershed Program)
- Stephen McCord (Larry Walker Associates)
- Sally Liu (The Nature Conservancy)
- Mark Stephenson, Wes Heim, Carol Atkins (CA Dept. Fish & Game)
- Josh Ackerman, Collin Eagles-Smith (USGS)
- Jeff McCreary, Kevin Petrik (Ducks Unlimited)

[After the meeting, a question was raised by Erik Ringelberg regarding the inclusion of an irrigated agriculture representative on the steering committee. Stephen McCord will ask irrigated agriculture representatives to help identify someone for that role.]

The NPS workgroup is comprised of three distinct groups:

- Wetlands & Irrigated Agriculture Land Owners, Managers, and Representative Agencies (CA DFG, CA DWR, CA SLC, US BLM, US FWS, TNC, DU, CWA, WES, NCWA, SJC&DWQC, SDWA, CRC)
- Mercury Researchers (CA DFG-MLML, USGS, Cal State Sac-OWP)
- Regulatory Agencies (CV-RWQCB, US EPA)

Agencies or organizations are listed who have agreed to officially participate in the 319(h) grant-funded project and are providing matching in-kind funding via meeting participation and document reviews hours (non-state, non-regulatory entities only). However, other sources identified in the TMDL and other interested parties also are encouraged to participate.

Sally Liu (TNC) provided a project background, summarized from the Delta Methylmercury (MeHg) Basin Plan Amendment (BPA) and information from Michelle Wood (CV-RWQCB). The BPA requires Phase 1 Control Studies; the objective of this planning project is to develop a collaborative Control Study Workplan. MeHg sources in the Delta include 19% from Wetlands (>26,000 acres) and 2% from Irrigated Agriculture (>500,000 acres). Delta subareas Mokelumne R, Sacramento R, San Joaquin R, and Yolo Bypass, exceed their wetland load allocations. Delta subareas Sacramento R, San Joaquin R, Yolo Bypass, exceed their irrigated agriculture load allocations. Percentages of permanent, seasonal, and tidal wetlands were defined by area; different wetland types have different levels of MeHg loadings. Seasonal wetlands are a high priority in this project due to current research. Prevalent irrigated crop types must also be assessed; currently acreage by general crop type is known through county records. This planning study will perform a detailed GIS analysis to provide up-to-date GIS coverage that stratifies the source categories into these subpopulations and survey land owners / managers to characterize land use, management practice, and Delta subarea characteristics (high/low salinity, peat/mineral soil types, etc). This project will provide a state-of-the-research summary of pertinent MeHg research on wetlands and irrigated agriculture.

Janis Cooke pointed out that the 2008 Calfed Revised MeHg Budget wetland loading of 0.15 g/d is different than the BPA loading estimate of 2.7 g/d. In particular, the Calfed estimate did not include Yolo Bypass loads.

## II. Scope of Work

### Overview (Stephen McCord, LWA)

Stephen noted that the overall goal for the Nonpoint Sources (NPS) Workgroup is to determine realistic and practical management practices to control MeHg production and/or release from these types of wetlands and irrigated agriculture in the Delta. This NPS Workgroup will be doing collaborative planning to vet recommended Management Practices proposed by the mercury research team; prioritize control study source types; prioritize study elements, given costs, replicability, etc.; and volunteer control study sites. Project outcomes address initial BPA requirements: Organization Report on Collaborative Control Studies and Control Studies Workplan Template. The template will not be site-specific but will provide study protocols, unit costs, sampling protocols, etc. that can then be used to develop site-specific workplans.

The 319(h) planning project includes six tasks. Steering Committee entities leading each task are identified:

1. Manage and Administer Project (SRWP)
2. Develop Knowledge Base (USGS, DU, DFG)
3. Plan for Nonpoint Sources Control Studies (LWA, TNC, USGS, DU, DFG)
4. Determine Budget for Control Studies (USGS, DFG)
5. Communicate with Stakeholders (LWA)
6. Prepare Final Project Report (LWA)

Steve Mindt commented that State Lands Commission has no legislative mandate to do these Control Studies and a recent budget request was turned down. DWR appears to be taking the lead on behalf of all state agencies to do the control studies addressing the allocations for open water (17%) and wetlands. Anitra Pawley said her group (FloodSAFE Environmental Stewardship and Statewide Resources Office) is interested in the ag & wetland issues, particularly in the sample sites and control studies. She and others at DWR will get clarity on the scope, funding, etc. as per the BCPs. Several BCPs were denied by legislature this year. Important to define what gaps occurred so DWR can push next year's agenda.

### Literature Review (Collin Eagles-Smith, USGS)

Collin reported that USGS will be involved in Tasks 2-4. USGS will summarize the findings of published and unpublished studies throughout the US, particularly for the Delta. The focus is on identifying the key factors that control MeHg. USGS will compile the data into a matrix form so we will know what factors regulate MeHg in different habitat types. USGS will do a gap analysis to identify what we need to know to develop the control studies. USGS will coordinate with DFG to identify management practices. USGS will support the design of the collaborative control studies as well.

USGS's request for input from the NPS Workgroup: We want feedback on input on active/unpublished studies (Task 2), feed back on feasibility (Tasks 3, 4), Summary of available habitat types & logistical support (Tasks 3,4).

## **Land Use Analysis (Kevin Petrik, Ducks Unlimited)**

Kevin reported that DU will be refining the GIS mapping of source types and characterizing water management practices. DU will survey wetlands managers & rice managers with questions on time of flood up, drawdown, duration, drawdown methodologies, etc. DU will conduct surveys/interviews through the Farm Service Agency, UC Extension staff to identify flood and furrow irrigation rates for different irrigated crop types. The water survey data will be analyzed for geographic and crop management trends, including analysis with soil survey data. DU will compile and update GIS maps of wetlands and create a rice layer for 2009. Geographic information on irrigated agriculture will also be collected. In addition, wetlands will be classified as managed or unmanaged.

DU's request for input from the NPS Workgroup include: (1) Give feedback on draft survey for wetland managers, (2) Review mapped wetland & rice maps for accuracy, (3) check managed wetland GIS layer for accuracy, and (4) Examine wetlands manager surveys for accuracy.

Greg Yarris commended that on rice fields, there is significant variation in post-harvest manipulations for decomposition in terms of water management, weather, soil, and rice type. The data will be very useful to the Joint Venture planning process as well. DU should make sure that this new information is shared with the ongoing USFWS LCC research projects.

Stephen McCord added that it is most important to consider the hydrology / water management. Kevin Petrik added that they need to get info such as if they top off, is it a flow-through system, etc. Jeff McCreary added that we also need to estimate depth from inflow/outflow data. Mark Stephenson emphasized that it is best if we can get volunteer sites that have weirs, pumps, and other means to *quantify* flow rates.

## **Potential Measures Review (Wes Heim, CDFG-MLML)**

Wes discussed DFG-MLML's role in Task 2. Their focus is to identify potential Management Measures/Management Practices (MM/MPs), by drawing on all of the information from USGS, DU, etc. The approach will include a list of the pros/cons for each MM/MPs. An important focus is what is really possible given the primary goals of the land management. For instance, there can be conflicts between MeHg MP and vector control MP.

DFG-MLML's request for input from the NPS Workgroup:

- What are the viable MMs/MPs that landowners are actually willing to adopt?
- Which landowners will allow access to lands, are willing to make modifications to their land to support the Control Studies (e.g., construct smaller subplots to allow for replication of study plots), have more tightly controlled flow structures for better quantification of the hydrology (e.g., one inflow location and one outflow), are willing to test different MPs (e.g., BMP of grazing)?

Wes Heim requested adding a question to the water management survey – would you be willing to host a Control Study site?

John Herrick stated that the program described so far is heavily focused on wetlands and if there is a focus on irrigated agriculture. Sally Liu responded that there is an emphasis on wetlands given their larger contribution to methylmercury loading as per the BPA (19% vs 2%); however, the planning project will address *both* source types.

Jacob Fleck requested that the group clarify the legal definitions of MPs vs BMPs.

Carrie Monohan asked for clarity as to who is developing the MMs/MPs - DFG or entire Workgroup? Wes responded that it is the entire Workgroup.

### **Tasks 3-4: Control Study Plans (Stephen McCord, LWA)**

Stephen listed the many elements required to develop a holistic look at the Delta wetland and irrigated ag Control Study: ID source types, define management practices, prioritize sites/practices, coordinate with other monitoring, ID study sites, ID protocols/methodologies, provide associated costs, report on organization. Stephen emphasized that this is a collaborative process and that input from the NPS Workgroup will be essential.

### **Schedule (Stephen McCord, LWA)**

Stephen reviewed the BPA approval schedule, Control Studies schedule as listed in the BPA, and the 319(h) project schedule. The Administrative Record is currently being finalized for submittal to the State Board. The Office of Administrative Law and then the US EPA must then approve the BPA. At a minimum, this is another 6-9 months before the "Effective Date". The BPA requires the Collaborative Control Study organization report 6 months after the Effective Date and the Collaborative Control Study Workplan 9 months after the Effective Date. Currently this project plans for the Knowledge Base to be completed in 2011 and the Generic Workplan and final project report in 2012. There is uncertainty with the "Effective Date" and also with the start date of the 319(h) funding. The latter can only start after the state budget is approved.

## **III. Means of Communication**

### **Web site**

We will use the web address: [www.delta-mercury-nps.net](http://www.delta-mercury-nps.net). It will redirect the user to the DTMC website, so you can access from DTMC as well. The website has the ability to provide access-restricted space for posting of internal drafts, etc. Content will likely include: meeting presentations and minutes, 319(h) grant proposal, other useful references (e.g., referenced study reports), participants list (without contact information), and links to related web sites.

### **Email listserv**

We will use the SRWP's web-based email service, creating a new listserv for the Delta MeHg TMDL NPS Workgroup.

Anitra Pawley asked how members will be able to contact other NPS Workgroup members. Stephen McCord said all meeting attendees will be listed in the meeting minutes, which will be posted on the website. Emails to the entire NPS Workgroup can be requested through Stephen.

### **Meetings (when, where, how, why)**

Meetings will be at the LWA office in Davis. WebEx and teleconferencing will always be available. Quarterly meetings will aim to coincide with DTMC quarterly meetings. Meetings are planned for the 3<sup>rd</sup> Tuesday of the month, pending major conflicts. Meetings will run 2-3 hours, depending on content.

During the development of the Knowledge Base, meetings are expected to be quarterly to plan & prepare, discuss issues, and review the draft memo.

During development of the Control Studies, meetings are expected to be approximately monthly.

## **Participants**

The NPS Workgroup was queried to identify any important stakeholders missing. Carrie Monahan suggested that the US Army Corps of Engineers should be included. Stephen McCord said he has made efforts. Janis Cooke and Diane Fleck agreed to make additional efforts to get them involved. Carrie Monahan asked about point sources. Stephen McCord works with those groups as well (MS4s and WWTPs). There are 3 large MS4s, who each already implement mercury plans. The WWTPs are largely organized under the Central Valley Clean Water Association (CVCWA) and meet separately. There are no current plans by the CV-RWQCB to hold meetings for the entire Delta Stakeholder Group.

## **IV. Meeting Wrap-Up**

### **Action Items (some pending contract execution)**

- Anitra Pawley (DWR): Provide updates to the Workgroup on the scope of the DWR Budget Change Proposal that was recently funded (or proposed?).
- Stephen McCord: Activate [www.delta-mercury-nps.net](http://www.delta-mercury-nps.net) website under the DTMC website, post relevant materials (presentations, meeting agendas & notes, participants' names & affiliations, links to TMDL & adaptive management plan).
- Patrick Morris: Send notice via Lyris Delta MeHg TMDL listserv how to join Workgroup, new NPS web site
- Steering Committee: Develop internal schedule & roadmap for Task 2 (Knowledge Base) included milestones for Workgroup involvement
- Janis Cooke & Diane Fleck: Encourage US Army Corps of Engineers to communicate with Workgroup (join listserv, provide update at next meeting)
- Janis Cooke: Identify 401 certification holders with MeHg-related requirements; encourage them to participate in the NPS Workgroup.
- Stephen McCord: Add Irrigated Ag stakeholder representative to Steering Committee (key contacts include Paul, John, Bruce, John, Erik)

### **Future Agenda Suggestions**

- DWR scope of work for addressing Delta MeHg TMDL for all state agencies
- Knowledge Base roadmap, survey instruments

### **Next Meeting Time**

- Dependent on Contract start date, likely in early 2011