

Workgroup Activities – Second Quarter 2008

A. Contaminant Fate Workgroup

Meetings:

This quarter a workgroup meeting was held on July 7th to discuss modeling strategies. Presentations were given by modelers from USGS, UC-Berkeley and several consultants on models applicable to the Bay and modeling needs. With regard to the PCB multi-box model, the advisory panel felt that the tasks that had been outlined had been completed satisfactory (calibration, data validation, etc.) and the limitation of the model well documented. A recommendation was made to include PCB homologues. This will be evaluated and either set up as a separate task for next year or incorporated into the existing report, depending on the amount of work needed to make this revision.

Milestones:

- PBDE Manuscript accepted to *Environment International*.
- Five Year Plan
 - Draft completed and currently being reviewed.
 - Some comments have been received. Extension granted for comment period.
- Sediment Coring Project
 - All bay and wetland sites planned (11+6) have been cored. Cores have been sectioned, and sections at coarse intervals (mid- and bottom-core) are currently being radiodated at USC to identify sections for subsequent contaminant analyses and finer resolution radiodating. The cores have been sent to the analytical labs for analyses. Results are expected late fall.
- Development of a methylmercury mass budget. Results of this exercise were presented at the meeting. The general conclusion was that methylation and demethylation have the greatest impacts.

Activities for the third quarter of 2008:

- Evaluation of the ease of incorporating homologues into the existing PCB multi-box model.
- Developing a methylmercury sediment article.

The next meeting is scheduled for early 2009. Items to be included on the agenda are the sediment coring project and the mercury studies currently being conducted by Holger Hinterlmann (Diffusive Thin Films) and Joel Blum (Mercury Isotopes).

For more information, see previous CFWG minutes and agenda at our website

http://www.sfei.org/rmp/rmp_minutes_agendas.html or contact the CFWG leader, John Oram, at Joram@sfei.org.

B. Sources Pathways and Loading Workgroup (SPLWG)

Meetings:

The SPLWG met on May 14th 2008. The main agenda items were: 1. Update: Small Tributaries Loads Study #2 – Z4LA, Hayward, 2. Update: Modeling Sediment and Contaminant Loads, 3. Collaboration Opportunity: USGS NAWQA Contaminant Trends in Lake Sediments, 4. SPLWG 5-year Workplan Revision, 5. Proposed Pilot and Special Studies 2009 (Budget ~\$100k), and 6. Advisory Panel Closed Session.

Milestones this quarter:

1. Produced final draft of the SPLWG 5-year plan.
2. Continued work on the Z4LA year 1 report
3. Continued work on the Mallard Island Hg manuscript
4. Developed the materials for a follow-up meeting to plan for the development of a small tributaries loading strategy.
5. Completed sampling Z4LA year 2 (including dry season samples for reactive Hg)

Activities for third quarter 2008:

1. Send out 5-year plan for final review
2. Hold an RMP small tributaries loading strategy team meeting (July 11) to decide how to develop a strategy who should take the lead and what the end points should look like.
3. Complete a draft report for review of Z4LA small tributaries loading study - yr 1 and send out for review.
4. Complete and submit manuscripts for Mallard Island Hg and for PCBs and OC pesticides and trace metals in Guadalupe River.
5. Begin work on Z4LA year 2 report
6. Develop work plans for the coming winter field season

Next workgroup meeting is likely first week of November. An agenda package will be mailed out the week prior to the meeting.

For more information, see previous SPLWG minutes and agenda at our website http://www.sfei.org/rmp/rmp_minutes_agendas.html or contact the SPLWG lead, Lester McKee, at Lester@sfei.org.

C. Exposure and Effects Pilot Study (EEPS) Workgroup

Meetings:

A workgroup meeting was held on May 12th to get an update on the Causes of Toxicity study (SFEI), Mercury in Terns (USGS) and PAHs in juvenile flatfish (NOAA). In addition, the food web monitoring (Part 1- small fish and Part 2 – bird egg monitoring) element of the five-year plan was approved. The workgroup also reviewed and made recommendations for studies ideas for 2009.

Milestones:

- Completion of draft five-year plans for the food web monitoring element of the EEPS five-year plan.
- Completion of a draft journal article by USGS researchers on mercury monitoring in terns and a draft report "A Dual Life-Stage Approach to Monitoring the Effects of Mercury Concentrations on the Reproductive Success of Forster's Terns in San Francisco Bay".

Activities for the third quarter 2008:

- Continuation of analyses of fish tissue for contaminants as well as examining thyroid hormones.
- Continuation of USGS and USFWS study on terns and hatchability success and mercury egg concentrations.
- Continuation of the small fish study. Temporal collection has commenced at arrowhead marsh. SFEI staff are coordinating with Dr. Joel Blum and Holger Hintelmann to assure that the mercury isotope work and the DGT mercury films are well coordinated with the small fish study. Development in consultation with RMP participants of a small fish spatial collection site map.
- Commencement of NOAA study on juvenile flatfish. First year study will focus on zebra fish as a model fish and will expose the fish to four and five ringed PAHs that are common in SF Bay sediments.
- Completion of the EEPS five-year plan
- Benthic sampling will occur in July 2008 (at 27 Status and Trends stations)
- Benthic workshop to be held in August/September (date to be determined)

The next workgroup meeting will be held on November 13th to complete the five-year plan.

For more information, see previous EEPS minutes and agenda at our website http://www.sfei.org/rmp/rmp_minutes_agendas.html or contact the EEPS WG lead, Meg Sedlak, at meg.sfei.org.

D. Emerging Contaminants Workgroup

Meetings:

The workgroup met on April 3rd. A new panel member has been added, Dr. Lee Ferguson of University of South Carolina. Dr. Ferguson has an expertise in carbon-based nanomaterials (such as single-walled carbon nanotubes), endocrine disruptors (such as steroid hormones and detergent breakdown products) and hydrophobic organic contaminants (such as polybrominated diphenyl ethers and pesticides).

Milestones:

- Revision of the five-year plan. ECWG endorsed the approach taken and was very pleased with the progress on the brominated flame retardants.
- Preparation of four pilot studies for the workgroup meeting on the following topics: chlorinated naphthalenes, sources of perfluorinated compounds, presence of alkylphenols, and a study of pharmaceuticals. The committee recommendations included the following: chlorinated naphthalenes be included in any future dioxin work, the sources of perfluorinated compounds move forward for consideration by the TRC, and that the RMP EC staff develop a model/white paper regarding wastewater contaminants in the Bay (e.g., PPCPs, alkylphenols, nano-metals, etc).
- Preparation of a report on the presence of pharmaceuticals in influent, effluent and Bay water samples. This report is currently being reviewed by the workgroup.
- Sample analyses of archived blood samples from 2007 (Castro Rocks/Tomales) event and 2004 (Mowry Slough) and collection of samples from the May 2008 event.
- Samples of seal blubber shipped to Gregg Tomy for gratis analyses of chlorinated paraffins.

Activities for the third quarter 2008:

- Analyses of seal blood samples for PFOS.
- Sample collection and analyses for the alternative brominated flame retardants.

Next meeting is scheduled for October 17th.

For more information, see previous EC workgroup minutes and agenda at our website http://www.sfei.org/rmp/rmp_minutes_agendas.html or contact the ECWG lead, Meg Sedlak, at meg@sfei.org.

E. Causes of Toxicity

The following four sites were sampled and tested for sediment toxicity to amphipods in early April-2007:

- Rheem Creek (San Pablo Bay –east)
- Mission Creek (Central Bay – west)
- San Leandro Bay (Central Bay –east)
- San Mateo Creek (South Bay –west)

Note: The targeted Fruitvale site did not have appropriate sediment, so we did not use that site (too much shell debris, insufficient fine-grained sediment).

Mission Creek was sufficiently toxic to perform a TIE on those sediments (most of the TIE study is complete – validation chemistry data are pending).

A second sampling effort is currently underway (January 2008) to sample the following four sites in an effort to locate a sufficiently toxic site to perform the second TIE study.

- Lower San Mateo Creek (South Bay – east)
- Near the San Francisco Airport (South Bay – east)
- Islia Creek (Central Bay – east)
- Dumbarton Bridge (Lower South Bay – west)

Results of these sampling efforts (including the initial toxicity screening study and subsequent sediment chemistry/quality analyses and the TIE study/ies) will be included in the final report (target draft date: September-2008)

For more information, please contact Sarah Lowe at Sarahl@sfei.org.

F. Benthic Workshops

The Sediment Quality Objectives for Bays and Estuaries (Phase I) was promulgated in February 2008. Benthic indicators for mesohaline areas such as San Pablo Bay and South Bay and oligohaline area such as Suisun have not been developed. The RMP will hold two benthic workshop to develop consensus on the indicators. The first workshop is scheduled for September 3rd. A draft of possible presentations and discussion items is included below.

Presentations:

- Benthic Assessments for SQO Phase 1 (polyhaline). (Ranasinghe)
What was done, rationale, etc.
- What is needed in other SF Estuary habitats (mesohaline, oligohaline, limnetic), (Weisberg, Thompson)
- Review of data available in the other SF Estuary habitats and the sampling plan for the Delta (Lowe, Gehrts)

Discussion:

- Have we properly identified all assemblages in SF Estuary?
- Can we develop indices of disturbance (impact) in the SF Estuary habitats?
Do we have the right data?
What if there are no apparent gradients?
- Would a BPJ exercise be useful for the 3 habitats? Are there other ways to determine a ‘true’ disturbance gradient? How to structure and conduct recommended approach.
- Data analysis for Delta benthic data collected in 2007-08.

G. Status and Trends Sport Fish

No committee meetings were held in the last quarter. Results of 2006 sampling event (except striped bass) have been reported for metals and organics. The first round of otolith data are in and will be reviewed by SFEI and OEHHA. Draft report to be completed by end of March. Sportfish planning meeting for the 2009 sampling will likely be held the first week of November.