

## Workgroup Activities – Second Quarter 2008

### A. Contaminant Fate Workgroup

#### Meetings:

This quarter a workgroup meeting was held on July 7<sup>th</sup> to discuss.....

#### Milestones:

- PBDE Manuscript submitted to *Environment International*.
- PCB Model
  - The PCB model project is nearing completion. A detailed presentation was given to the workgroup outlining progress-to-date and major achievements.
  - Calibration of the model has been revised and improved from the outcome of sensitivity and uncertainty analyses.
  - Two draft reports on v2.1 were prepared for the January 15<sup>th</sup> meeting. One report focused on model development and testing, the second report discussed the forecast model and uncertainty in key parameters.
    - A number of comments were received for both the PCB model and the Five-year plan. Some reviewers requested more time.
- 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.

#### Activities for the second quarter of 2008:

- PCB model final report (v2.1)
- Radiodating of remaining cores at large intervals to identify rough cuts for subsequent sectioning and chemical analysis (gamma counting typically requires ~2 days/section or longer,  $x17\text{cores} \times 10\text{sections/core} = \sim 1\text{ year}$ ).
- Refinement of Five-year plan and Hg strategy.
- Methyl mercury budget for the Bay will be developed for next workgroup meeting.
- Developing a methylmercury sediment article.

For more information, see previous CFWG minutes and agenda at our website [http://www.sfei.org/rmp/rmp\\_minutes\\_agendas.html](http://www.sfei.org/rmp/rmp_minutes_agendas.html) or contact the CFWG leader, John Oram, at [Joram@sfei.org](mailto:Joram@sfei.org).

Next meeting is scheduled for July 7<sup>th</sup>.

## **B. Sources Pathways and Loading Workgroup (SPLWG)**

### Meetings:

The SPLWG met on May 14<sup>th</sup> 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. Continues work on the Mallard Island Hg manuscript
4. Held a SPLWG meeting
5. Developed the materials for a follow-up meeting to plan for the development of a small tributaries loading strategy.
6. Completed sampling Z4LA year 2 (including dry season samples for reactive Hg)

### Activities for third quarter 2008:

1. Post SPLWG meeting materials and minutes
2. Send out 5-year plan for final review
3. Revise SS/PS proposals based on WG input and submit to the TRC for review and discussion
4. 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.
5. Complete a draft report for review of Z4LA small tributaries loading study - yr 1 and send out for review.
6. Complete and submit manuscripts for Mallard Island Hg and for PCBs and OC pesticides and trace metals in Guadalupe River.
7. Begin work on Z4LA year 2 report
8. 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](http://www.sfei.org/rmp/rmp_minutes_agendas.html) or contact the SPLWG lead, Lester McKee, at [Lester@sfei.org](mailto:Lester@sfei.org).

## **C. Exposure and Effects Pilot Study (EEPS) Workgroup**

### Meetings:

A workgroup meeting was held on November 26<sup>th</sup> to review the benthos, small fish, and avian monitoring elements of the five-year workplan. Key priority questions for each of the elements were agreed upon <MEG REVISE>.

#### Milestones:

- Completion of draft five-year plans for the benthos, fish effects, and avian elements of the EEPS five-year plan.

#### Activities for the second 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.
- Completion of the EEPS five-year plan
- Develop a scope of work and contracts for new benthos sampling added to the Status and Trends sediment monitoring program in 2008 (at 27 stations).

The next workgroup meeting will be held on May 12th 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](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 3<sup>rd</sup>. 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 five 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 planning for May 2008 event.
- Samples of seal blubber shipped to Gregg Tomy for gratis analyses of chlorinated paraffins.

Activities for the second quarter 2008:

- Sampling seals in May 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](http://www.sfei.org/rmp/rmp_minutes_agendas.html) or contact the ECWG lead, Meg Sedlak, at [meg@sfei.org](mailto: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](mailto:Sarahl@sfei.org).

#### **F. Benthos Analyses in the Delta** (not part of RMP – informal summary)

The SFEI - Contaminant Monitoring and Research program's Delta-SQO project is composed of three separate tasks:

- Participate in the Scientific Advisory Committee and other technical activities to develop SQOs for the Delta's estuarine regions (Lead: Bruce Thompson)
- Assist in sampling logistics, analyses, and data management for ambient monitoring of the "triad" parameters (e.g., sediment chemistry, toxicity, and benthos). Sampling occurred in October 2007. (Lead: Sarah Lowe)
- Refine the SQO Framework and tools for indirect effects. (Lead: Ben Greenfield)

Update on Fall-2007 sampling in the lower Delta region: 100 sediment stations were sampled and analyzed for potential amphipod toxicity (10-day survival test using *Hyalella azteca*). Only three of the samples were significantly toxic to amphipods (see Figure below). A subset of 50 stations were further tested for potential toxicity to the midge (10-day survival and growth endpoints using *Chironomus dilutus*), and a full suite of sediment quality and chemistry parameters. Benthic community analyses are being conducted on all 100 samples through a collaborative effort with the DWR - Environmental Monitoring Program. A second sampling effort may be implemented in 2008 to target potentially more toxic/contaminated sites.

For more information, please contact the leads on each task.

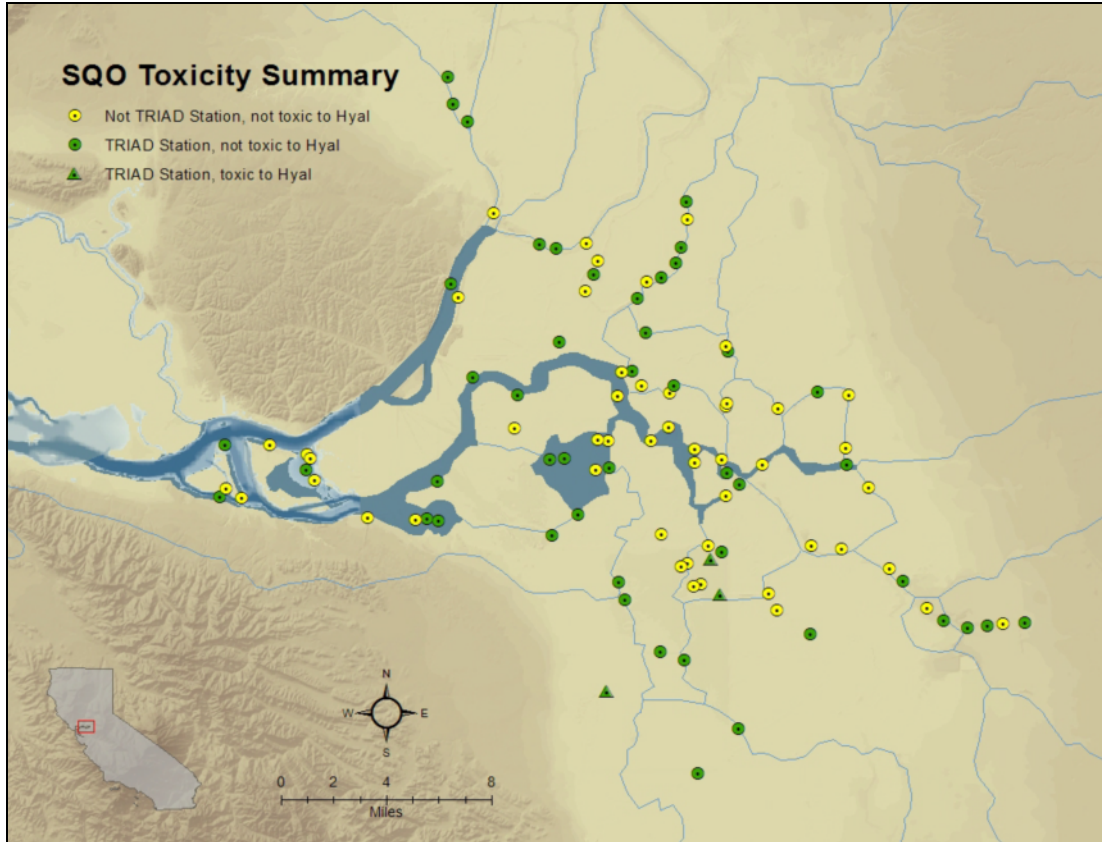


Figure. Map of 100 sediment stations sampled in the lower Delta by the SQO-Delta study (Fall-2007). Green symbols indicate the 50 stations selected for additional TRIAD analyses, beyond the amphipod toxicity and benthic community analyses. Green triangles are the three stations that were significantly toxic to amphipods.

### **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.