

## Workgroup Activities – First Quarter 2009

### A. Contaminant Fate Workgroup

#### Meetings:

The Contaminant Fate Workgroup meeting was held the day after the Annual Hg meeting to enable keynote speakers to attend both events. Major discussion items were the review progress of Hg strategy pilot studies (the diffusive thin film gradient project and the mercury isotope project); develop long-term modeling strategy, and update workgroup on coring project. Minutes from this meeting can be reviewed on the SFEI website.

#### Milestones:

- Development of a Draft Modeling Strategy
- Five Year Plan
  - Draft completed and currently being reviewed.
- 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 for metals have been received; organics should be available by April.
- Development of a methylmercury mass budget. Results of this exercise were presented at the CFWG meeting and at the Annual Meeting. A paper is currently being drafted.
- A draft methylmercury sediment paper is almost completed.

#### Activities for the second quarter of 2009:

- Evaluation of the ease of incorporating homologues into the existing PCB multi-box model.
- Synthesis of coring data.
- Continued development of the Modeling Strategy.

The date for the next CFWG meeting has not been determined yet.

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, Don Yee, at [Don@sfei.org](mailto:Don@sfei.org).

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

#### Meetings:

The SPLWG met on December 8<sup>th</sup>, 2008.

Milestones this quarter:

- Major focus of the workgroup was the development of a small tributary strategy. A meeting of interested stakeholders was held on February 20<sup>th</sup> to further develop the strategy. A draft strategy was presented at the SPLWG meeting.
- Began WY2009 wet weather sampling.

Activities for first quarter 2009

- Complete the small tributary strategy.
- Complete a draft report for review of Z4LA small tributaries loading study - yr 1 and send out for review.
- Complete and submit manuscripts for Mallard Island Hg and for PCBs and OC pesticides and trace metals in Guadalupe River.

Next workgroup meeting is scheduled for May 27th 2009.

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 13<sup>th</sup> to get an update on the Causes of Toxicity study (SFEI), Mercury in Terns (USGS), and PAHs in juvenile flatfish (NOAA).

Milestones:

- Josh Ackerman and Collin Eagles-Smith (USGS) completed their report on mercury in terns: *A Dual Life-Stage Approach to Monitoring the Effects of Mercury Concentrations on the Reproductive Success of Forster's Terns in San Francisco Bay*.
- The Small Fish intensive sampling for 2008 has been completed and the lab is in the process of analyzing the samples. The majority of the mercury isotope samples for Dr. Joel Blum have been collected and sent to his lab. DGT mercury films were deployed at a subset of the Small Fish sites and have been shipped to Dr. Holger Hintlemann's lab for analysis.
- The NOAA study on PAHs in zebra fish found that fluoranthene and pyrene both affect development and loss of Kupffer's Vesicle, a temporary signaling structure that is important in the development of embryos.
- The NOAA group successfully raised a batch of California halibut, the flatfish that will be used in the next stage of the study.

Activities for the first quarter 2009:

- Continuation of analyses of fish tissue for contaminants as well as examining thyroid hormones. And work on final report for the work on endocrine disrupting compounds in fish. The report is expected to be completed in the first quarter of 2009.
- Continuation of USGS and USFWS study on terns and hatchability success and mercury egg concentrations.
- Continuation of the Small Fish study. Temporal collection is continuing at arrowhead marsh. An additional deployment of DGTs from Dr. Holger Hintlemann will be conducted at Zone 4 Line A during the wet season. Precipitation collection for the mercury isotope study by Dr. Joel Blum is being coordinated by SFEI staff.
- Continuation of NOAA study on juvenile flatfish. The first year of the study is focused on zebra fish as a model fish and exposure of the fish to four and five ringed PAHs that are common in SF Bay sediments. The next year will focus on juvenile California halibut.
- Completion of the EEPS five-year plan.

The next workgroup meeting will be held in the Spring 2009, a date has not yet been set.

For more information, see previous EEWG 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 EEWG lead, Meg Sedlak, at [meg@sfei.org](mailto:meg@sfei.org).

## **D. Emerging Contaminants Workgroup**

### Meetings:

The workgroup met on October 17<sup>th</sup>.

### Milestones:

- Presentation of EC work at the national SETAC meeting. Susan Klosterhaus presented the results of her alternative flame retardants study; Meg Sedlak presented a poster on the results of the seal work.
- Preparation of a report on the presence of pharmaceuticals in influent, effluent and Bay water samples.
- Received results of chlorinated paraffins analyses of seal blubber as part of pro bono work conducted by Environment Canada. Presented at EC meeting in October.
- Received results of sediment analyses for triclosan as part of pro bono work conducted by USEPA. Presented at EC meeting in October. Triclosan was detected at seven out of ten sites; concentrations ranged from 5-10 ng/g at the Central and South Bay sites, with the highest concentrations found in Central Bay.
- Sample collection and analyses for alternative flame retardants. Preliminary reporting of some of the data sets.

### Activities for the first quarter 2009:

- Evaluation and synthesis of alternative flame retardant data. Preparation of a manuscript.
- Development of scope of work for the 2009 White Paper on Chemicals of Concern. The workgroup recommended that a white paper be drafted that addresses representative chemicals from the various classes of pharmaceuticals and includes a dilution model for the SF Bay. It was recommended to look at the EPA list of pharmaceuticals to determine the final list of compounds on which to focus for the paper.
- Preparation of pilot study ideas for 2010. Suggestions from the meeting included: scanning of seal blood or other wildlife tissue for halogenated compounds, triclosan/triclocarban, quaternary ammonium surfactants, fipronil, stormwater loads of pentachlorophenol (PCP), and bioassays.

Next meeting is scheduled for April 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**

In 2008, the RMP completed a study evaluating causes of toxicity to amphipods at 12 sites identified as being toxic (e.g., sites with known contamination). The goal of the study was to develop better methods for determining the causes of the toxicity. The Toxicity Workgroup, a subcommittee of the Exposure and Effects Workgroup, reviewed the results of this study and recommended that the RMP conduct the following:

- Evaluate the use of freshwater test organisms in areas such as the river stations where the salinity is low;
- Focus on developing LC50 thresholds of effects for test species to aid in comparisons; and
- Develop a collaborative state-wide workgroup and research effort to address causes of persistent moderate toxicity. This effort should begin by convening one or more workgroups in 2009, in collaboration with SCCWRP and the State Water Board, to investigate and consider methods such as genomics and other sub-lethal markers of contaminant exposure that may be useful in identifying causes of moderate toxicity.

This element will be further developed and brought to the workgroup and TRC for approval.

For more information, please contact Sarah Lowe at [Sarahl@sfei.org](mailto: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. A benthic workshop was scheduled for the Fall of 2008; however, it has been postponed until early January to allow time for review and synthesis of data.

For more information, please contact Sarah Lowe at [Sarahl@sfei.org](mailto:Sarahl@sfei.org).

### **G. Status and Trends Sport Fish**

The 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. Sportfish planning meeting for the 2009 sampling was held on November 5th.

For more information, please contact Jennifer Hunt at [jhunt@sfei.org](mailto:jhunt@sfei.org).