

Workgroup Activities – Second 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 (February 5th and 6th). 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. Presentations from both meetings are also posted at our web site.

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 and some of the organic contaminants have been received. Preliminary findings suggest that for several of the contaminants the cores are well mixed and surface concentrations reflect the deeper concentrations.
 - Completion of a draft coring article for the Pulse.
- 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.
- Continued development of the Modeling Strategy.

The date for the next CFWG meeting is June 10th.

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, Don Yee, at Don@sfei.org.

B. Sources Pathways and Loading Workgroup (SPLWG)

Meetings:

Next workgroup meeting is scheduled for May 27, 2009. Previous meeting was held on December 9th.

Milestones this quarter:

- Major focus of the workgroup was the development of a small tributary strategy. A meeting was held on March 17th 2009 with Water Board staff (Mumley, Looker), BASMAA staff (Feng and Sommers) and SFEI staff (McKee and Davis) to up-date the water Board on progress to-date on the STLS and discuss and promote alignment of the MRP with the RMP STLS. The outcome of the meeting was an agreement that the MRP would provide BASMAA with the alternative to do RMP monitoring (by reference the STLS and it monitoring methods) if:
 - a) it represents similar data types, quality and quantity and similar level of effort, or
 - b) it represents similar effort and addresses management questions in either provision C.8.f. or the MRP fact sheet.
- Completed WY2009 wet weather sampling in Zone 4 Line A year 3.
- Completed addressing reviewer comments for the Guadalupe model year 1 report, Zone 4 Line A year 1 report, Small Tributaries Regional Sediment Loads report and resubmitted these three reports to SPLWG for endorsement
- Addressed reviewer comments on the Mallard Is mercury loads journal article and resubmitted to the Journal

Activities for third quarter 2009

- Complete the small tributary strategy
- Complete a draft report for review of Z4LA small tributaries loading study - yr 3 and send out for review
- Complete and submit manuscripts for PCBs and OC pesticides and trace metals in Guadalupe River

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 November 13th 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 second 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 second 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 on July 6th.

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

D. Emerging Contaminants Workgroup

Meetings:

The workgroup met on April 17th to review the proposed pilot and special studies for 2010 including: using time of flight spectrometry to evaluate chemicals of emerging concern in seal

and mussel tissues; evaluation of fipronil, and stormwater loads of pentachlorophenol (PCP). Updates on projects from 2008 (alternatives to flame retardants) and 2009 (white paper) were given.

Milestones:

- Preparation of a report on the presence of pharmaceuticals in influent, effluent and Bay water samples.
- Sample collection and analyses for alternative flame retardants. Preliminary reporting of some of the data sets.

Activities for the second quarter 2009:

- Evaluation and synthesis of alternative flame retardant data. Preparation of a manuscript.
- Begin drafting the 2009 White Paper on Chemicals of Concern.
- Preparation of pilot study ideas for 2010.

Next meeting is scheduled for the fall.

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

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 for the RMP Status and Trends program;
- Focus on developing LC50 thresholds of effects for estuarine 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.
- Further research solid phase toxicity identification and evaluation (TIE) methods.

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.

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 summer to allow time for review and synthesis of data.

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

G. Status and Trends Sport Fish

Sportfish planning meeting for the 2009 sampling was held on November 5th. A sampling plan has been prepared and approved by the committee. Contracts for the collection and analyses of the fish are currently being prepared. The cost of this sampling exercise will be shared with SWAMP.

For more information, please contact Jennifer Hunt at jhunt@sfei.org.