

Workgroup Activities – Third Quarter 2010

A. Contaminant Fate Workgroup

Meetings:

The Contaminant Fate Workgroup meeting was held June 7, 2010. Topics of discussion included: progress on mercury isotope and DGT studies; 3-D Bay modeling project; coring study; and atmospheric deposition.

Milestones:

- Completion of a draft version of remote sensing report.
- Submission of methylmercury simple mass balance manuscript to Environmental Toxicity and Chemistry.

Activities for the fourth quarter of 2010:

- Completion of 3D-Modeling effort.
- Completion of Bay Margin Model.
- Completion of the Bioaccumulation Model.
- Incorporating comments from workgroup meeting into atmospheric deposition strategy.
- Completion of air deposition report for dioxin.

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:

Previous meeting was held on May 6th to discuss recommendations for 2011 special studies and to review status of current projects. Presentations and minutes from the meeting are posted to the SFEI website.

The meeting focused on the review of draft outcomes of the small tributaries loading strategy (STLS) tasks:

1. Develop criteria and rank watersheds (for loading related studies)
2. Optimize sampling methods for loads and trends
3. Recommend special studies for 2011

Secondary topics included:

4. Update on modeling tasks.
5. Update of loadings studies for the year (Z4LA storm drain, Guadalupe River, and Sacramento River).

Milestones during the third quarter:

- All laboratory data from 2009/2010 wet season has been reviewed by the data management team.

Activities for fourth quarter:

- Finish reconnaissance of 30 watersheds for wet weather sampling by October 1. Will present recommendations for sampling at approximately 16 sites.
- Complete report Zone 4 Line A (summarizing four years of data).
- Complete report for Guadalupe HSPF.
- Complete report on Mallard Island.
- Prepare for upcoming 2010/2011 wet season.

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 (EE) Workgroup

Meetings:

A workgroup meeting was held on March 11, 2010. Updates were given on the following topics: improving benthic assessment tools (SFEI); the UC-Davis Granite Canyon study on Causes of Sediment Toxicity; UC-Berkeley/SCCWRP Molecular TIE project; Development of a mercury threshold for egg hatchability in terns (USGS); and Effects of PAHs on juvenile flatfish (NOAA).

Milestones:

- Kevin Kelley with assistance from Rusty Fairy successfully collected staghorn sculpins at several Bay locations including Oakland, Redwood City, Coyote Creek and beneath the Bay Bridge. Dr. Kelley continues to investigate effects to the thyroids and anticipates a report summarizing his current work to be completed by October 2010.

Activities for the fourth quarter 2010:

- Site selection for the small fish study, which will commence in October.
- Continuation of NOAA study on juvenile flatfish. The first year of the study was 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. As a result of the oil spill, NOAA's resources have been moved to the Gulf. This prevented John Incardona from collecting sediments from Kitimat Alaska for the second year of his study which will focus on exposure of field sediments to juvenile California halibut. He anticipates conducting this study in the Spring of 2011 when halibut larvae are available.

- Dr. Barnett Rattner will continue his PBDE and terns study. At present, no changes to tern skeletal systems was noted based on exposure to PBDEs. Kestrel hatchlings were found to have reduced skeletal lengths and deformed spines. These results will be further investigated. No effects to the bursa follicle were noted from exposure to PBDEs. (Bursa follicle is an epithelial and lymphoid organ found only in birds.)
- Completion of the EEPS Synthesis document.

The next workgroup meeting will be determined.

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:

A workgroup meeting was held on March 26, 2010. Topics of discussion included: RMP alternative flame retardant work, the RMP archiving strategy, AXYS Analytical pro bono analyses of brominated dioxins and CECs, the NOAA Mussel Watch CEC California Pilot Study, and the CEC White Paper. Proposed pilot and special studies for 2011 were also reviewed.

Milestones:

- Moderated a session at the American Chemical Society national meeting in San Francisco on Contaminants of Emerging Concern.
- Completion of the Archive Strategy and Memorandum of Understanding with NIST for storage of RMP samples. Sportfish (2009) and sediments (2010) have been shipped; bivalves (2010) and bird eggs (2009) will be shipped in the next quarter.
- Completion of draft CEC chemical profiles on alkylphenol ethoxylates and antimicrobials.
- Collection of sediment samples for the Sources of PFCs special study.
- Preparation of manuscript on PFCs in Bay area wildlife.
- Completion of sample collection for NOAA Mussel Watch CA Pilot Study.

Activities for the fourth quarter 2010:

- Completion of a manuscript on Sources of PFCs to San Francisco Bay.
- Preparation of a draft report/manuscript on alkylphenols and PPCPs in San Francisco Bay.

- Completion of draft CEC chemical profiles on carbamazepine.
- Preparation of a draft report/manuscript on alternative flame retardants in San Francisco Bay.

Next ECWG meeting date will be determined shortly.

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 scope of work for the UC-Davis Granite Canyon work under the Causes of Toxicity element includes:

- Develop LC50 thresholds of effects for three compounds (cyfluthrin, chlordane and pyrene).
- Develop a collaborative state-wide workgroup and research effort to address causes of persistent moderate toxicity.
- Further research solid phase toxicity identification and evaluation (TIE) methods.

Milestones:

- The first of two Stressor Identification work group meetings was held at SFEI on April 7, and a second meeting is planned for November. The Agenda and Minutes from the first meeting are available on the SFEI website at: <http://www.sfei.org/node/3117>.
- Exposed amphipods from selected RMP Status and Trends monitoring stations were provided to UC Berkeley researchers for the development of gene microarray technology for *Eohaustorius estuarius*. Additional exposed amphipods will be provided as additional exposures are conducted with cyfluthrin, pyrene, and trans-chlordane.

Activities for the fourth quarter 2010:

- Range finding tests indicate that pyrene and trans-chlordane are not sufficiently toxic to *Eohaustorius estuarius* to conduct TIE method development. Definitive tests will be conducted for pyrene and trans-chlordane to determine the LC-50.
- TIE Method Development will be conducted for cyfluthrin using both sediment and interstitial water.
- A second stressor ID workshop is planned for November.

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

F. Benthic Workshops

Meetings:

Sediment Quality Objectives for Enclosed Bays and Estuaries (SQO Phase I) was promulgated in February 2008. Benthic indicators form one line-of-evidence in the SQO assessment procedure. However, in mesohaline areas of San Francisco Estuary, such as San Pablo and South bays, current benthic indices require revision. In oligohaline areas, such as Suisun Bay, benthic indices have yet to be developed.

Milestones:

- Work continues on the mesohaline assessment method report. A comparison of good/bad indicators in BPJ samples to good/bad indicators in reference vs. non reference samples has been conducted and tables based on presence/absence have been prepared.

Activities for the fourth quarter 2010:

- Aroon Melwani will finish the Mesohaline Assessment report.
- Bruce Thompson and the benthic team will complete and circulate two manuscripts for review.

The next benthic workgroup meeting will be held on October 20th.

For more information, please contact the benthic workgroup leads, Bruce Thompson, at brucet@sfei.org, Aroon Melwani, at aron@sfei.org, or Sarah Lowe, at Sarahl@sfei.org

G. Status and Trends Sport Fish

Sportfish samples have been submitted to the laboratories and the results are starting to come in. We will review the data in the next quarter and begin summarizing our findings. The draft SWAMP/RMP sportfish monitoring should be prepared by the end of the year with a final report available in the first quarter.

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