Workgroup Activities -- Fourth Quarter 2006

A. Contaminant Fate Workgroup

Meetings:

CFWG met this quarter on October 30th to discuss the uncertainty analysis conducted by Tetra Tech, the one-box PBDE model that will be included in the CM/IA, and ideas for pilot and special studies for 2007. In addition, Dr. Bryce Johnston gave a presentation on the results of his coring study in Seaplane Lagoon, Alameda, CA.

Milestones:

- PCB Model
  - Tetra Tech testing of PCB model is nearly complete. Preliminary report was presented at workgroup meeting and we are currently waiting for review comments.
  - Proposed outline for PCB model draft/final reports circulated to workgroup for comments.
  - Proposed sensitivity and management scenarios distributed to workgroup for review.
- PBDE Conceptual Model / One-Box Model
  - The model was presented to workgroup at the meeting and we are currently waiting for written review comments. Initial reviews at meeting were positive. Members urged more development and journal article.
- Sediment Coring Project
  - All bay sites planned (11) have been cored. Cores are currently being radiodated at USC to identify sections for subsequent contaminant analyses.
  - Five of the six wetland sites have been cored as of Dec 7 (coring the 6th site planned Dec. 12th, weather/access permitting).

Activities for the first quarter of 2007:

- PCB model draft /final report
- Radiodating of remaining cores at large intervals to identify rough cuts for sectioning and chemical analysis (gamma counting typically requires ~2 days/section or longer, x17cores x 10sections/core = ~1 year).

A workgroup meeting is planned for the first quarter of 2007. Agenda will include discussion of multibox draft report, updated results of the sediment coring study, 5 year workplan, and 2007 pilot and special studies.

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:
SPLWG met this quarter on November 13th. Workgroup was fortunate to have valuable input from the two scientific advisory panel members, Eric Stein, SCCWRP and Barbara Mahler, USGS, as well as Vince Pettigrove, Melbourne Water District (visiting SFEI at the time).

The workgroup meeting focused on presenting for review and discussion, our best estimates of PCB and PBDE loadings for Mallard Island, Guadalupe River, and Coyote Creek. In addition, we presented three methods for extrapolating the data to regional scale estimates in the absence of a numeric model.

Milestones this quarter:

1. We have installed equipment on Zone 4 Line A (our new small tributaries loadings study location). We collected first samples on November 13th after the workgroup meeting. (Eric Stein and Carrie Austin came with Lester to collect the inaugural sample.)
2. We have written four subcontracts in relation to the Zone 4 Line A study: River Metrics, AXYS Analytical, Moss Landing Marine Labs, and AMS Texas.
3. Lester McKee provided a written rational to the Santa Clara Valley Water District which subsequently agreed to fund the USGS to continue the sediment component of the Guadalupe River small tributary loading study at Hwy 101 in San Jose. Lester reinstalled the turbidity probe with assistance from a staffer at SCVWD.
4. Nicole David continued work on the Mallard Island Hg manuscript including several meetings with USCS group, continued review of the literature and writing.
5. John Oram continued work on writing several short reports on trace organic loadings for five years of Mallard Island data and four years of Guadalupe River data.
6. Lester McKee and Nicole David presented the Guadalupe and Mallard Island studies at the CALFED science conference. Nicole David also gave a poster presentation at SETAC titled: Riverine Transport of Sediment and Mercury to North San Francisco Bay.
7. Lester McKee began gathering literature to write a paper on trace metal loadings in the Guadalupe system.

Activities for 1st quarter 2007:

1. We will focus on sampling at Cabot Blvd in Zone 4 Line A watershed.
2. If there is sufficient precipitation, we wil collect falling stage samples for Hg analysis at Hwy 101 in the Guadalupe River.

3. We will complete four technical reports: 1. trace metals paper for Guadalupe, 2. Hg report (manuscript) for Mallard, 3. Trace organics report for Guadalupe, 4. Trace organics report for Mallard Island.
4. We will schedule a WG meeting for April or early May.

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:
The EEPS workgroup met on December 4th to discuss 2007 funds. After reviewing proposals and seeing short presentations on these proposals, the scientific advisory board recommended that the work group fund the following two studies: study of endrocrine hormones and contaminants in shiner surfperch and pacific staghorn sculpin (CSU- Long Beach) and a study of the effects of mercury on egg hatchability and chick survival (USFWS).

Milestones:

- Completion of the report summarizing the effect of contaminants on growth and fitness of shiner surfperch (Applied Marine Sciences).

- Completion of the first year of collection of shiner surfperch and pacific staghorn sculpin. During July and August of 2006, four sites were sampled within the Bay; two reference sites were also sampled (Tomales and Bodega Bay). Preliminary data to date indicates that fish from Oakland Harbor and San Pablo Bay have impaired stress response systems (reduced levels of the stress hormone cortisol were observed). PCBs, pesticides and PAHs have all been identified in the livers the fish. Investigations are continuing to look at other hormones in these fish.

- Completion of year 2 of small fish sampling.

- Presentation of biota data at SETAC by Meg Sedlak (PBDEs in the San Francisco Estuary).

Activities for the first quarter 2007:

- Data analysis will be completed for the benthic impacts study. A draft report is due at the end of January, 2007. The results will be evaluated and used to develop a joint toxicity and benthic study in 2007.

The next workgroup meeting will be held on May 24th to discuss the five-year plan for EEPS.

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

A new workgroup was convened to evaluate new chemicals for inclusion in the RMP. The following individuals serve as advisory panel members: Dr. David Sedlak, University of California-Berkeley, an expert on emerging contaminants including pharmaceuticals and endocrine disruptors; Dr. Jennifer Field, Oregon State University, an expert on surfactants and perfluorinated compounds; and Dr. Derek Muir, Environment Canada, an expert on PBDEs and emerging contaminants.

Meetings:
No meetings were held this quarter.

Milestones:

- Collection of effluent and bay samples for analysis of pharmaceuticals.

Activities for the first quarter 2007:

- Continued analysis of harbor seal samples for perfluorinated compounds and polybrominated diphenyl ethers. Analysis of City of San Jose and City of Palo Alto effluent samples and select bay samples for pharmaceuticals.

- The strategy white paper will be revised to reflect the workgroup's comments. A list of compounds will be developed.

Next meeting is scheduled for early 2007.

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. Benthic Workshop Follow-up

RMP staff met with DWR staff to discuss how to implement a demonstration sampling program in the North Bay in the summer of 2007. DWR would sample benthos, and RMP would sample sediment contamination to provide the information needed to test the efficacy of benthic assessments for both programs.

Based on recent discussions with SCCWRP, it appears that sampling of the North Bay will occur using funding external to the RMP. Bruce Thompson will coordinate this effort.

F. Status and Trends Sport Fish Committee

SFEI staff held a phone conference with the Fish Committee on November 28th. Collections of sport fish were completed in Summer of 2006. The Committee reviewed the 2006 catch and selected fish for chemical analysis. There were four main Status & Trends species collected in 2006: white croaker, white sturgeon, shiner surfperch, and striped bass. White croaker and shiner perch are indicator species for evaluating changes in PCB concentrations (and organic contaminants generally) over time, striped bass is an indicator of mercury changes over time, and white sturgeon are used to indicate changes in selenium concentrations over time.

In addition to the S&T species, we are also in our 2nd year of collecting other popular Bay sport fish species. In 2006, we collected walleye surfperch, black surfperch, anchovy, brown rockfish, and Chinook salmon. We are looking at these additional species to monitor contaminant levels (PCBs, Hg, and PBDEs) to determine if levels are safe for human consumption. There were also two bycatch species (rubberlip surfperch and barred surfperch) that we will be analyzing for PCBs, Hg, and PBDES. The Committee also approved funding to analyze otoliths in striped bass in order to determine habitat (sea vs. fresh vs. estuarine) that might better illustrate where fish are spending most of their time and how this could be linked to contaminant accumulation.