Workgroup Activities -- Second Quarter 2006

A. Contaminant Fate Workgroup

Meetings:

CFWG did not meet this quarter.

Milestones:

- The PCB Multi-box Model
  - ~10,000 Monte Carlo runs of the model performed using changes made to model inputs (addressing workgroup comments and Tetra Tech findings).
  - Tetra Tech commenced analysis of uncertainty test runs; report due in September.

- The Plan for Core Sampling and Analysis.
  - The CEP/RMP has allocated $300,000 for collection of cores in the Bay. Sample cores were collected from three sites in Central and South Bay in May. Logistical and scheduling issues delayed the remainder of the in-Bay sampling to July 2006. Wetland core sampling will occur in September-October 2006, after clapper rail breeding season.
  - Laboratories for chemical and radiodating analysis of cores have been selected, contracting is underway.
- Presentation at the National Water Quality Monitoring Council meeting in San Jose, California on Modeling the Fate of Organic Contaminants in San Francisco Bay, CA (John Oram)

Activities for the third quarter:

1. Working with AMS on logistics and contracting for the coring study.
2. Continuation of SFEI support on the multi-box model.
3. Next workgroup meeting will be scheduled upon completion of the uncertainty analyses by Tetra Tech. This will likely be Summer or early Fall of 2006.

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:

A workgroup meeting was held on May 15th. Three talks were presented on studies external to the RMP (Neil Ganju on cross-section variability at Mallard Island, James

Downing on Hg processes in sewage treatment, and Ken Schiff on the use of HSPF hydrological model to test BMP scenarios). Two new advisory panel members were present at the meeting, Barbara Mahler USGS of Austin, TX and Ken Schiff of SCCWRP.

The main actions from other items on the agenda were:

Guadalupe River Small Tributaries Loadings Study – Continuation?
Actions:

1. Lester to prepare a formal request to the TRC for using contingency funds for sample large floods (>12 feet that occur in response to >2 inches of rain in the mining district over a six-hour period). A request will also be made to the SCVWD or other local sponsor for continuation of the sediment monitoring.
2. A special study for power analysis of the data for TRC consideration in 2007.

SPLWG Special and Pilot Studies – Small Tributaries Loading Study #2 – TRC votes
Actions:

1. McKee to discuss Zone 4 line A with Arleen Fong and Gary M to obtain permits.
2. If permission is gained for Zone 4 Line A, SFEI to complete second reconnaissance with field team to gather data specific to the design of equipment. If permission is not granted, then reconnaissance will be conducted on Colma Creek with the same objectives.
3. McKee to present WG meeting outcomes to TRC for discussion and ratification.

Milestones this quarter:

- Completed sampling on Guadalupe River on April 30th.
- Lester McKee gave a presentation to SCCWRP titled: " Sources Pathways and Loadings of Sediments and Trace Contaminants in the Bay Area: Regional, Watershed, and Storm-sewershed Scales." Similar presentations were given to Auckland Regional Council (New Zealand) and the UC-Davis' Hydrology of the Bay and Delta class by Lester McKee.
- Presentations titled "Characterization of mercury concentrations in suspended sediment loads in Guadalupe River and Coyote Creek, San Jose, California: Can TMDL targets be met?" (Lester McKee) and "Mercury transport to San Francisco Bay through the Sacramento-San Joaquin River Delta" (Nicole David) at the National Water Quality Monitoring Council in San Jose.

Activities for the third quarter:

1. Upon receipt, review and evaluate Mallard and Guadalupe.

Next meeting will be scheduled for October/November 2006.

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:
No meetings were held this quarter.

Milestones:

- Bob Spies of AMS and Katie Springman of UC-Davis continued work on the Shiner Surfperch project, a two-year project to examine the effects of contamination on growth and reproduction. Drs. Spies and Springman collected Shiner Surfperch from Big River in Mendocino County to be used to develop a laboratory culture at the Bodega Bay Marine Laboratory.
- Presentations at the National Water Quality Monitoring Conference in San Jose on Monitoring Mercury in Biosentinel Fish in San Francisco Bay and Legacy and Emerging Contaminants in San Francisco Bay Sport Fish, 2003 (both presentations by Ben Greenfield).

Activities for the third quarter:

- Ben Greenfield and Letitia Grenier will continue the small fish project. Fieldwork will commence in the summer of 2006.
- Because it is not technically feasible at this point to fund a PBDE egg injection of terns, the EEPS workgroup will need to develop a new study idea and approve it. Letitia Grenier and Meg Sedlak are currently soliciting new study ideas. Potential ideas include: an evaluation of PAH on heart development in fish; fish eggs as indicators of contaminants; and identification of stressors in fish using growth hormones.

Next meeting will be on July 26th.

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. Review of Benthic Assessment Methods/ Benthic Workshop

Sediment Quality Objectives (SQOs) are being developed for California Bays by the SWRCB. SFEI staff have been participating in the development of SQOs and are quite familiar with the proposed SQO framework and its components, which prompted a proposal to include benthos in the RMP S&T program to prepare for SQO implementation. However, many of the RMP participants and Regional Board Staff have not had an opportunity to review the proposed framework. At the suggestion of the EEPS Panel, the TRC requested RMP staff convene a workshop to discuss benthic monitoring and assessment techniques. The Benthic Workshop was held on May 23rd at the

Regional Water Quality Control Board offices in Oakland, which was attended by approximately 30 people, including State and Regional Board staff, RMP participants and state and local benthic ecologists. The agenda, powerpoint presentations, and meeting summary are posted on the RMP web site.

Key discussions focused on the Sediment Quality Triad as a useful way to assess sediment condition. As a key component to assess aquatic life beneficial use, the SQO benthic team has evaluated several benthic indices for use in SQO, and shown that they accurately reflect impacted or disturbed benthic conditions. However, some Estuary scientists are skeptical that benthic indices cannot adequately distinguish natural from anthropogenic impacts (disturbances) in a physically driven system. Interpretation of benthic assessments must be conducted with knowledge of physical events (e.g., floods, droughts), and consider long-term benthic trends and factors that have influenced benthic change over time. Additionally, sediment contamination and toxicity should be part of the interpretation of any observed benthic effects. Three elements were recommended for follow-up:

1. Collaborative Sampling. The RMP has a great opportunity to collaborate with DWR and IEP to collect information on the benthic community (DWR/IEP) and correlate this with sediment chemistry (RMP).

   Action: Bruce will meet with DWR, IEP and CMARP representatives to discuss these possibilities create a plan with options for varying levels of coordination, schedule and funding prospectus. Revise the pending proposal for RMP to resume benthic sampling to reflect outcome of these discussions.

2. Test SQO usefulness at several known hot spots. Several known hot spots in the estuary may be useful to test the SQO framework, to see if change over time can be observed in benthic condition related to contamination.

   Action: Discuss this as a RMP special study (EEPS) for the future.

3. Stressor Identification. Studies are needed to determine causes of observed benthic impacts, whether they may be physical factors, such as organic carbon, or contamination. Knowledge of causes will help managers make decisions about how to specifically remediate them.

   Action: Revise and amend the pending RMP EEPS proposal to study causes of benthic effects. This will require further discussion and approval within the EEPS.

E. 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:
The first meeting of the workgroup was held on June 1. The workgroup heard presentations from each of the advisory panel members:

- Identifying New Persistent Chemicals in the Great Lakes (Derek Muir)

  Derek Muir presented strategies for identifying emerging contaminants, criteria for ranking chemicals, and results of analyses of emerging contaminants in Hamilton Harbor, Ontario. Recommended emerging chemicals included: perfluorinated compounds; brominated compounds (e.g. PBDEs); chlorinated paraffins (e.g., Dechlorane Plus); chlorinated napthalenes; musks; pharmaceuticals; current use pesticides; and phenolics (e.g., triclosan and bisphenol A).

- Perfluorinated Compounds Occurrence and Mass Flows of Fluorochemicals during Municipal Wastewater Treatment (Jennifer Field)

  Dr. Field presented a case study of the loads and fate of perfluorinated compounds in a wastewater treatment plant in Corvallis, Oregon.

- Chemical Contaminants and Endocrine Disruption in Fish (David Sedlak)

  The causes of the sex reversal in fish are not well understood and may be the result of legacy contamination (e.g., DDT) or nonionic detergents/pesticide adjuvants (e.g., nonylphenol) or steroid hormones. Ranges of concentrations of steroid hormones in US rivers were discussed.

The group discussed general considerations for inclusion of chemicals and rankings. In the afternoon, the workgroup reviewed PS/SSs for 2007. The workgroup recommended that Daniel Oros' PS/SS on pharmaceuticals be considered by the TRC at the June meeting. Ms. Sedlak's PS/SS proposal should be revised to consider perfluorinated compounds in seals only as they are at the apex of the food chain. Dr. Oros' proposal on pyrethroids should be referred to the episodic toxicity program.

Milestones:
A strategy paper for inclusion of emerging contaminants into the RMP was prepared for the June 1 meeting.

Activities for the third quarter:

- 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 October 30.

F. PAH Workshop

The RMP, NOAA and USEPA are hosting a PAH workshop on July 20th at the USEPA San Francisco Headquarters. There is limited seating capacity at the event so please pre-register by contacting Daniel Oros at SFEI (Daniel@SFEI.org).

The agenda for the meeting is attached.

DRAFT AGENDA 07/05/06

WORKSHOP ON
EFFECTS OF POLYCYCLIC AROMATIC HYDROCARBONS
IN SAN FRANCISCO BAY SEDIMENTS

EPA Building, 75 Hawthorne Street, San Francisco, CA 94105
Nevada/Hawaii Conference Room, 1st Floor
July 20, 2006 9:00 am-4:30 pm

Meeting Purpose: To reach a common understanding of the state of knowledge regarding the concentration of PAHs in sediments and potential effects to estuarine/marine fishes

Meeting Agenda

9:00 Welcome and Introductions

9:05 General Overview of Issue (Mike Connor, SFEI)

9:20 Presentations: National Overview of State of Knowledge

- Dave Mount (EPA): *EPA national perspective on PAH policy and research*
- Todd Bridges (Corps): *Corps national perspective on PAH policy and research*

10:20 Break

10:30 Presentations: Focus on the West Coast and San Francisco Bay- Research

- Daniel Oros (SFEI): *A 10-Year retrospective on PAH monitoring in San Francisco Bay*
- Lyndal Johnson (NOAA Fisheries): *Relationship between sediment PAH concentration and adverse effects to estuarine fish*

12:00 Break for Lunch

1:00 Presentations: Focus on the West Coast and San Francisco Bay - Policy

- Tom Gries (WA Dept Ecology): *Management of PAHs in Washington State*
- Fred Hetzel (SFRWQCB): *Determination of ambient PAH sediment concentrations in San Francisco Bay*

2:30 Open Discussion

What are the information gaps? What assumptions are we making? Are we using best available information? What are the next steps?

4:30 End