Workgroup Activities – Second Quarter 2014

A. Contaminant Fate Workgroup

Purpose of Workgroup
The purpose of the workgroup is to evaluate the fate of contaminants in the Bay, to understand the contribution of Bay margins to the overall health of the Bay, and to assess the potential impacts of Bay management actions on Bay recovery.

Meetings:
The Contaminant Fate workgroup did not meet in 2013 and will likely not meet in 2014. Advisers will be tapped on an as needed basis for review of related documents and strategies.

Activities for the Third Quarter of 2014:

- Finishing the modeling plan.
- Completing a draft coring manuscript which has been circulated for review by authors.

For more information, see previous CFWG minutes and agendas at our website http://www.sfei.org/rmp/cfwg or contact the CFWG leader, Don Yee, at don@sfei.org.

B. Sources Pathways and Loading Workgroup (SPLWG)/Small Tributaries Loading Strategy Work Group (STLS)

Purpose of Workgroup
The purpose of the workgroup is to monitor storm water, small tributaries, and Delta outflow to understand contaminant loads to the Bay, to identify high priority tributaries for management actions, to evaluate how loads are changing over time, and to assess possible options for improving water quality.

Meetings:

- The STLS group continues to hold monthly phone conferences to planning for Water Year 2015 POC monitoring. Meetings were held on April 1st, April 16th, May 15th, and June 10th.
- The annual SPLWG meeting was held on May 29.

Milestones:

Began preparations for developing a monitoring design and site list for water year 2015 POC monitoring.

Activities for the Third Quarter of 2014:

- Continue preparation for water year 2015 POC monitoring
- Develop workplan for 2014 RWSM

For more information, see SPLWG minutes and agenda at our website http://www.sfei.org/rmp/splwg or contact the SPLWG lead, Lester McKee, at Lester@sfei.org.

C. Exposure and Effects Workgroup

Purpose of Workgroup
The Exposure and Effect workgroup (EEWG) seeks to answer the following questions: Are pollutants individually or in combination having adverse impacts on Bay biota?; Are there spatial and temporal trends?; Which pollutants are responsible for the impacts?; Are there cost-effective tools that can be used to easily monitor these impacts?; and What are the appropriate guidelines?

Meetings:

- The EEWG held a conference call on May 15th, 2014. During the meeting, special studies for 2015 were recommended.

Milestones:

- Completion of a draft of the Mesohaline Index Development San Francisco Bay Index Report Phase I. Report is currently being reviewed by the workgroup.
- Completion of the Bioanalytical Year 1 Progress report (was sent to workgroup for comment). Final report for Year 1 activities has been submitted and will be sent out to workgroup shortly.

Activities for the Third Quarter of 2014:

- Continuation of work on Bioanalytical Tools study (Year 2).
- Copper and olfactory nerve project. The study originally planned on collecting olfactory data from juvenile Chinook salmon late summer 2013 (both before and after smolting in estuarine water). A shutdown of the salmon aquaculture facility at the Mukilteo Research Station earlier this year prevented the study from being able to use Chinook salmon. Coho salmon reared at the Montlake facility in Seattle are available for the study. However, switching to coho salmon requires that smolting occur in the Spring of 2014. This is when the experiment will now take place. No additional funds are needed. NOAA researchers are approximately half-way through collecting data on freshwater coho and will begin the sea-water treatment shortly.

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

D. Emerging Contaminants Workgroup

Purpose of Workgroup
The purpose of the Emerging Contaminant Workgroup is to identify contaminants of emerging concern (CECs) that have the potential to adversely impact beneficial uses of the Bay.

Meetings:

- The ECWG met April 15th, 2014. During the meeting special studies for 2015 were recommended. Updates were given on the Bioanalytical Tool study, the PFOS precursor study results, alternative flame retardant work, and current use pesticide mapping exercise.

Milestones:

- Finished the Draft PBDE manuscript and will circulate for review among ECWG, TRC and SC.
- Collection of alternative flame retardant effluent and seal samples.
- Completion of the current use mapping pesticide exercise; presentation to TRC and ECWG.
- Completion of the draft pharmaceuticals and personal care products report (out for comment).
- Preparation of a CEC table for the State Panel describing RMP activities in relation to State Panel's recommendation for monitoring estuaries.
- Preparation of proposals for June TRC meeting.

Activities for the Third Quarter of 2014:

- Continuation of NIST broadscan work. Harbor seals manuscript in preparation. Mussel report received and sent to workgroup for comments
- Preparing for the collection of sediment samples for alt. flame retardants.

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

E. Nutrients

Purpose of Workgroup
The purpose of this workgroup is to evaluate nutrients status and trends, methods for monitoring nutrients/ indicators, and scenarios that may result in adverse impacts to the Bay. A governance structure for the broader nutrient effort is currently being implemented. RMP is being represented in this broader oversight group, but the RMP also contributes to the nutrient strategy

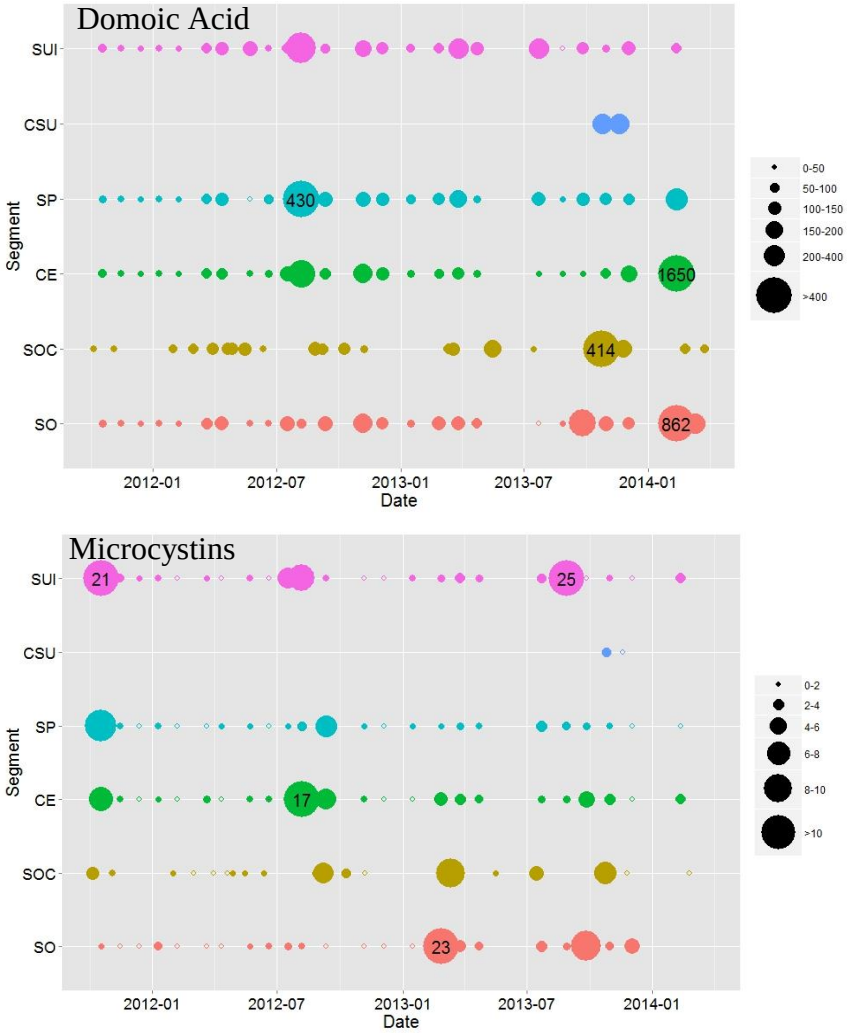
outside of this group and retains oversight over prioritization of these funds. The description below includes all nutrient strategy activities, with RMP-funded projects noted.

Meetings

In accordance with the newly-developed governance structure for the Nutrient Management Strategy, a Nutrient Technical Workgroup and a Steering Committee have been convened in Q2 2014. A project-specific technical team meeting also took place for the Assessment Framework Development (May 19th, 2014).

Milestones

- An interim report on the Solid Phase Absorption Toxin Tracking (SPATT) project for detecting algal toxins was recently completed (R. Kudela, UCSC). SPATT samples have been deployed regularly in-situ and on transect cruises since 2011 (2013 samples funded by RMP) and preliminary analysis has begun (see figure below). 69% of samples were positive for miscrocystins and 99% were positive for domoic acid. A no-cost extension has been requested in order to allow for sample collection and analysis to continue through September 2014



Concentrations of domoic acid and microcystins detected on SPATT resins (in ng/g) during transect deployments in SFB, by subembayment (SO=South, SOC=South+Central, CE= Central, SP=San Pablo, CSU=Central+ Suisun, SUI=Suisun)

Circles that are open, but not filled, indicate where samples were taken but toxins were not detected

Size of the bubble corresponds to concentration detected on the SPATT resin (in ng/g), and UCSC researchers are currently refining the relationship between SPATT resin concentration and environmental concentrations

- A draft "Development Plan

for the San Francisco Bay Nutrient Monitoring Program" was completed in March 2014 and recently sent to the TRC/SC for comment. This report makes initial recommendations for future monitoring program structure and identifies highest priority data investigations/pilot studies to address remaining questions, and the report will be revised/updated as the results become available. [Funded in part by the RMP].

Activities for the Third Quarter of 2014

- "Scientific Foundation for a San Francisco Bay Nutrient Strategy" (formerly known as "Nutrient Conceptual Model") will be completed in June 2014 [Funded by the RMP]
- A technical memo on the results of WY2012/WY2013 nutrient stormwater sampling is nearly complete and is expected in June 2014 [Funded by the RMP]
- Two deliverables for the moored sensor pilot program are expected in June 2014. One is a technical report that summarizes lessons learned about sensor operation, scientific analysis of pilot year data and recommendations for year 2 of the moored sensor program. The second is a manual that will provide guidance on sensor servicing and maintenance [Funded by the RMP]
- The detailed modeling workplan is currently being developed and is expected to be completed in July 2014, after which model development will being [Funded by the RMP]
- A draft report that synthesizes seasonal, spatial and temporal trends in ecosystem drivers (nutrients, sediments) and responses (chlorophyll, dissolved oxygen) in Lower South Bay is currently in development and is expected to be completed in July 2014.
- A beta web-tool for visualizing real-time moored sensor data from SFEI and USGS instruments is expected to be completed in July 2014.

For more information, please contact David Senn at davids@sfei.org or Emily Novick emilyn@sfei.org.

F. Status and Trends Sport Fish

Purpose of Workgroup

The purpose of the workgroup is to design RMP studies relating to sport fish contamination. RMP sport fish monitoring has been switched from a three-year cycle to a five-year cycle to maximize cost-effectiveness and to coordinate with state-wide monitoring efforts. The next round of sampling will occur this summer.

Meetings

The Sportfish Workgroup met on December 20th, 2013 to discuss the RMP's 2014 sport fish sampling effort, including the contaminants, species, and regions that will be sampled. Sampling will occur in the spring for Shiner Surfperch and in the summer for all other sport fish species.

Activities for the Third Quarter of 2014:

- We are coordinating field activities, lab analysis, and data management for sport fish monitoring.

For more information, please contact Jay Davis at jay@sfei.org.

G. Selenium Strategy

The RMP is developing of a Selenium Strategy in response to the upcoming North Bay Selenium TMDL. The Strategy will be focused solely on monitoring. The first meeting was held on April 22nd, 2014 and the second meeting was held on June 3rd, 2014. During the first meeting, the scope and goals of the Strategy were discussed; at the second meeting, special studies for 2015 were recommended.

For more information, please contact Jay Davis at jay@sfei.org.

H. Items of Interest

Delta

The Technical Advisory Committee (TAC) and its four ad-hoc subgroups are in the process of developing various components of the initial monitoring design for the initial priorities of the program: current use pesticides, methylmercury, nutrients, and pathogens (*Cryptosporidium and Giardia lamblia*). POTWs have identified a station network of proposed key locations for reasonable potential analysis. The plan is to integrate these various elements into a unifying design by September, with the intent to start collecting samples in 2015. SFEI staff currently engaged in these planning efforts include: Thomas Jabusch, Jay Davis, David Senn, and April Robinson.

For more information, contact the Delta RMP Project Lead, Thomas Jabusch, at thomas@sfei.org.

Resilient Landscapes

The Resilient Landscapes team is contributing to an animated flyover of the historical Delta. The flyover will visualize what the Delta was like a century and a half ago, and builds on the Sacramento-San Joaquin Delta Historical Ecology report, developed by the Resilient Landscapes team in 2012 (Alison Whipple, Robin Grossinger, et al.). The project is funded by Metropolitan Water District, and the team is working closely with 34 North in building the animation. The animation will be premiered by Robin Grossinger at the Orange County Water Summit May 16th. http://www.ocwatersummit.com/

EcoAtlas Updates

The USEPA recently awarded three Wetland Program Development Grants to enhance and support EcoAtlas. In partnership with the Delta Conservancy and State Water Board, SFEI staff

will (1) add new quantitative field data layers, and enhance the tool's visualization and dynamic project reporting; (2) develop training materials and cost estimates for regional stewardship of EcoAtlas; and (3) create a business plan to sustain EcoAtlas as an interagency tool into the future. In addition to enhancing the functionality in EcoAtlas, this funding will contribute to supporting wetland protection in California.

I. Transitions

Meg Sedlak will be taking a leave of absence to spend time with her two teenage kids, her husband (now published author – Water 4.0), and her deranged but always entertaining dog, Enkidu. She hopes to be back at the Institute in some capacity in a year or so. Phil Trowbridge has joined the Institute as the next RMP program manager. Phil is an MIT engineer who has over 14 years' experience running an estuary program on the east coast. An avid marathon runner and outdoor enthusiast, Phil is looking forward to working with the RMP community to better understanding the Bay ecosystem.