Updating RMP Emerging Contaminants Strategy

Estimated Cost: $20,000
Oversight Group: Emerging Contaminant Work Group
Proposed by: Rebecca Sutton and Meg Sedlak, SFEI

Background

The RMP has completed a synthesis document summarizing the occurrence of contaminants of emerging concern (CECs) in San Francisco Bay (Klosterhaus et al. 2012) and has prepared a draft CEC strategy document for the workgroup to review (Sutton et al. 2013). The strategy document outlines the priorities for CEC monitoring in the next five years. Given that these are compounds of emerging concern, our understanding of their importance and our ability to monitor them is rapidly evolving. As a result, it is imperative that RMP staff continue to read the literature and actively engage with researchers on this topic.

To date, many of the CECs studies have been the result of pro bono work conducted as a result of collaborations with universities, government agencies, and commercial laboratories. These opportunities were identified by RMP staff through professional contacts and literature reviews. These studies have allowed for prioritization of these CECs using occurrence and toxicity data to determine the level of concern for individual contaminants in the Bay.

The RMP strategy document currently being developed articulates three approaches for identifying CECs for monitoring. These approaches are based on:

- Existing information (known or suspected use, occurrence or toxicity from other locations, best professional judgment),
- Effects (i.e., bioassays), and
- Occurrence (non-target analyses such as the RMP-funded project with NIST or fate modeling).

This will be an iterative process as new information, new analytical methods, and new collaborations become available. In order to keep the CEC Strategy document relevant and timely, funds are needed to review new results, track relevant work being conducted elsewhere, and develop potential collaborations.

Study Objective and Applicable RMP Management Question

The objective of this effort is to insure the RMP is keeping up with the state of the science regarding CECs by tracking new information as it becomes available and communicating relevant information to the ECWG. This study would address the following RMP management question (MQ):

MQ1. Are chemical concentrations in the Estuary at levels of potential concern and are associated impacts likely?

- A: Which chemicals have the potential to impact humans and aquatic life and should be monitored?
- B: What potential for impacts on humans and aquatic life exists due to contaminants in the Estuary ecosystem?

Approach

This effort will involve the review of key information sources throughout the year. These sources include:

- Abstracts of newly published articles in key peer-reviewed journals (e.g., Environmental Science and Technology, Environmental Toxicology and Chemistry, Environment International),
- Documents produced by other programs (e.g., USEPA, Environment Canada, European Chemicals Agency, Great Lakes CEC Program),
- Abstracts and proceedings from relevant conferences (e.g., Society of Environmental Toxicology and Chemistry, International Symposium on Halogenated Persistent Organic Pollutants (Dioxin), International Symposium on Brominated Flame Retardants)

The major outcome of this effort will be to provide updates on relevant information to the ECWG each year. More specifically, this information will be used to:

- Propose updates to the tiered risk-management action framework for San Francisco Bay (Klosterhaus et al. 2012),
- Propose additions or removal of CECs on the 'Unmonitored CEC Candidate List' discussed at the ECWG meetings, and
- Propose special studies for monitoring new CECs.

It is anticipated that this special study will be conducted each year to ensure the RMP is incorporating the most recent scientific findings regarding the monitoring of CECs in the Bay.

Budget

We estimate the cost to complete this task will be $20,000.

References

Klosterhaus, S., Yee, D., Sedlak, M, Wong, A. 2012. Contaminants of Emerging Concern in San Francisco Bay: A Summary of Occurrence Data and Identification of Data Gaps. RMP draft report. San Francisco Estuary Institute, Richmond, CA.

Sutton, R., Sedlak, M., Yee, D. 2013. Contaminants of Emerging Concern in San Francisco Bay: Strategy for Future Investigations. RMP draft report. San Francisco Estuary Institute, Richmond, CA.