

San Francisco Estuary Institute

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MEMORANDUM

Date: March 27, 2008

To: RMP Emerging Contaminant Workgroup

From: Susan Klosterhaus and Jay Davis, SFEI

Subject: Procedures for the Collection and Storage of Samples for the RMP Specimen Bank

A document is currently being drafted that contains the rationale and procedures for the collection and storage of samples for the RMP Specimen Bank. The purpose of the RMP Specimen Bank is to serve as a repository for sample material that can be used to document and assess the quality of the San Francisco Estuary through retrospective chemical analyses. A properly maintained sample archive will allow these samples to be used for the identification of changes in the accumulation of known or as yet unidentified chemical contaminants over time, the investigation of emerging contaminants, and future verification of analytical results if quality assurance issues arise.

The sample materials of value to the Specimen Bank must be representative of the Estuary and meet strict quality standards regarding sample collection and preservation. To assist the RMP in accomplishing this goal, we are seeking input from the Workgroup to insure that the samples we have selected for banking are appropriate, and to the maximum extent possible, the sample banking procedures maintain sample integrity and prevent changes in chemical concentration in the samples over time. At the April 3rd workgroup meeting, we will present a summary of our proposed strategy regarding the prioritization of samples for banking, the advantages and disadvantages of various storage temperatures with regard to sample integrity, and storage facility options, including the potential use of a commercial biorepository. Following the presentation, we will solicit feedback from the group. The section headings and a brief description of the primary topics addressed in each section of the RMP Specimen Bank strategy document are provided below.

Procedures for Collection and Storage of Samples for the Regional Monitoring Program for Water Quality in the San Francisco Estuary Specimen Bank

I. Introduction

- The Regional Monitoring Program (RMP)
- Objectives of the RMP Specimen Bank

II. Prioritization of Samples for Banking

- Items to consider in the design of a specimen banking program
- Priorities for samples to bank for each matrix sampled in the RMP

III. Stability of Samples in Long-Term Storage

- What is known regarding stability of analytes at different storage temperatures
- Decisions for the long-term storage of RMP samples and sample extracts

IV. Procedures for the Collection and Storage of Samples for the RMP Specimen Bank

- A summary of the RMP Status & Trends sampling plan for each matrix
- Detailed procedures for collection and storage of each sample matrix

V. Special Collection and Storage Procedures for Analysis of Perfluorinated Chemicals

VI. Specimen Bank Inventory Database

- Description of information in the database
- Procedures for maintaining the database

VII. Procedures for Obtaining Samples from the Specimen Bank

- Procedure for accessing samples from the Specimen Bank
- Procedure for acquiring sub-samples, if applicable

VIII. Future Considerations for the RMP Specimen Bank

- Duration of sample storage (how long before we discard samples and what criteria should be used to make this decision)
- Storage facility (space availability, maintenance issues, insuring long-term accessibility to samples)
- Costs

IX. References