

THE EXCHANGE AND INTEGRATION OF MONITORING DATA TO ADDRESS MANAGEMENT QUESTIONS AT MULTIPLE SCALES

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ABSTRACT

The Regional Monitoring Program for Water Quality (RMP), managed by the San Francisco Estuary Institute (SFEI), is the primary source of long-term contaminant monitoring data for the San Francisco Estuary, providing high quality, scientific information for the formulation of technically sound policies regarding the Estuary. To facilitate the public exchange and use of these monitoring data, the RMP's data management and information system incorporates standardized data storage procedures that are comparable to the Surface Water Ambient Monitoring Program (SWAMP) and California Environmental Data Exchange Network (CEDEN) statewide efforts, a web-based tool for accessing results (www.sfei.org/RMP/report), and a variety of reports for presenting synthesized results to different target audiences.

Water, sediment, and bioaccumulation data collected by the Status and Trends Monitoring component of the RMP are used by the San Francisco Bay Regional Water Quality Control Board for regulatory purposes, such as evaluating the Estuary for 303(d) listing of water bodies, calculating National Pollutant Discharge Elimination System (NPDES) permit conditions, estimating Total Maximum Daily Loads (TMDL) and recovery trajectories under various implementation scenarios, and evaluating the success of management actions in reducing contaminant loads or mitigating impacts to the Estuary.

SFEI is one of several data centers that are working toward establishing standards for data exchange and integration from multiple, distributed data sources via a common portal under CEDEN. The benefits of establishing data centers are exchanging data in a common format with standardized key fields of information (e.g., method and analyte codes), sharing technical expertise and tool development (e.g., GIS mapping and data uploaders), and facilitating access to more comprehensive datasets for answering scientific questions by compiling results from various projects and organizations.

Due to the need to provide high quality monitoring data, RMP data are evaluated by a rigorous QA/QC verification and validation process before being made available to water quality managers, decision-makers, scientists, and the public through a web-based data retrieval tool. These results are also compiled and synthesized in annual reports (e.g., *The Pulse of the Estuary*), technical reports, and peer-reviewed articles. This integrated information system provides the scientific data needed to address specific management questions.

KEYWORDS

Data integration and sharing strategies, data management and exchange, contaminant monitoring