

2013 PROGRAM PLAN HIGHLIGHTS

October 29,
2012

PROGRAM MANAGEMENT

- Internal Coordination among RMP participants and collaborators
 - TRC and SC quarterly meetings
 - Workgroup meetings



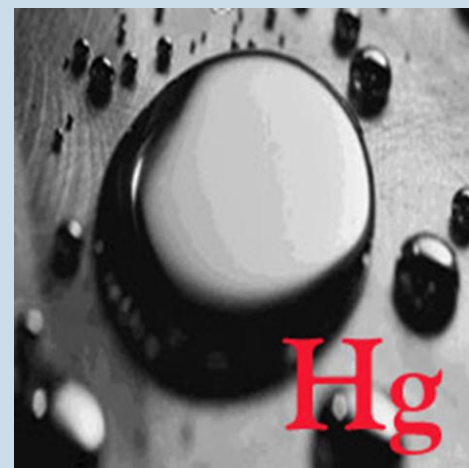
PROGRAM MANAGEMENT

- Workshops

- Facilitating flow of information in areas of uncertainty

- Topics for 2013

- Mercury and Marsh Restoration?
- Selenium – current understanding and future needs?
- Others?

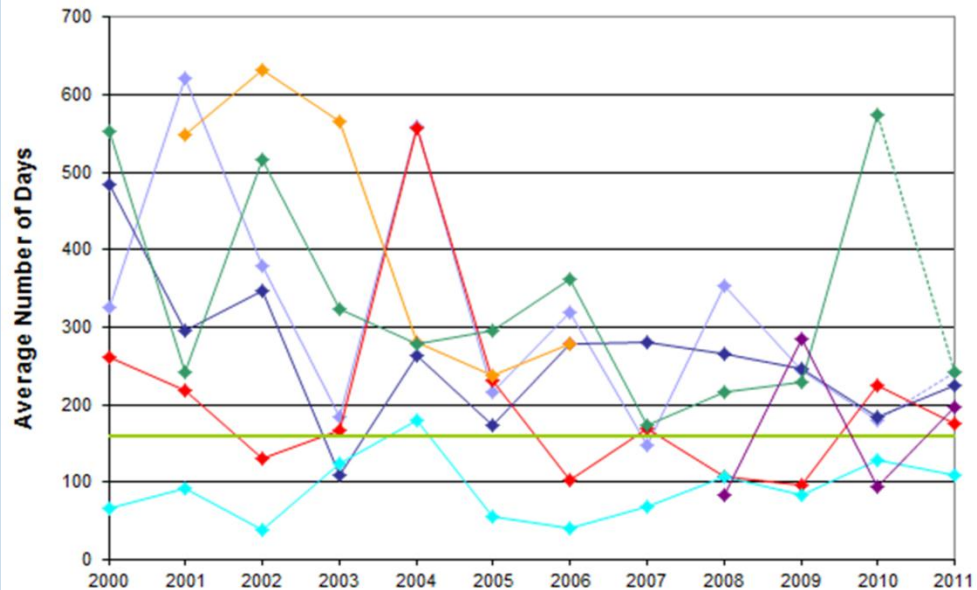


PROGRAM MANAGEMENT

- Financial Management
 - Invoices, contracts, and audits
- External Coordination
 - Meetings with Regional Board (Region 2 and 5), SWAMP, LTMS, and NorCal SETAC
- Program Planning
 - MYP and Program Plan

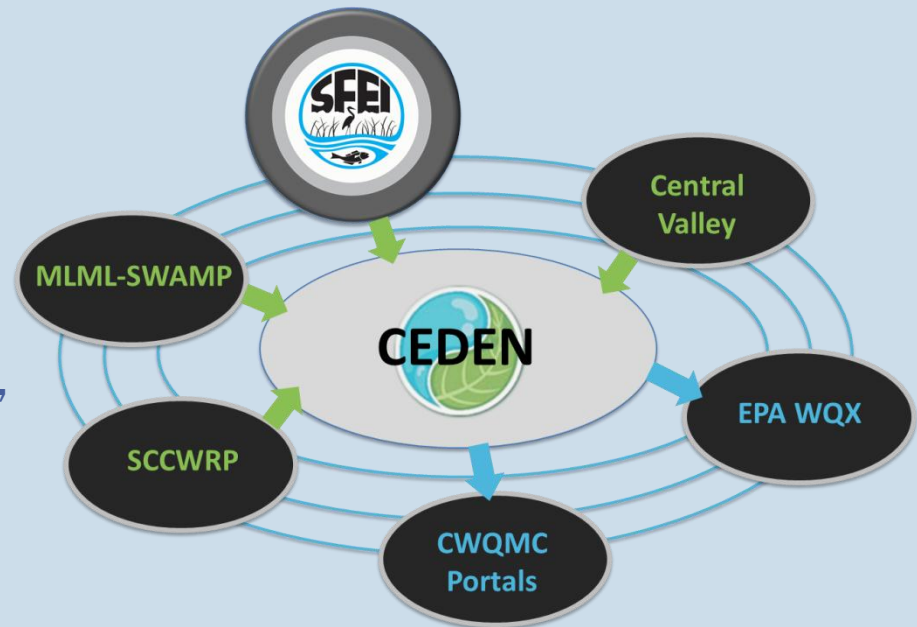
INFORMATION MANAGEMENT

- Data formatting, Maintenance, and Efficiencies
 - Nearly 900,000 data results
 - 1,600 queries to web site in 2011
 - 600 pages of documentation
 - Timeliness is a priority



INFORMATION DISSEMINATION

- Strong data management team with state-wide expertise
- Coordinating with CEDEN
 - SFEI is a Regional Data Center
 - Leveraging funds for templates, standardization, automation of congener ratio checks, etc.
 - Upgrades to the website





INFORMATION DISSEMINATION

- Publications
- Pulse
- Annual Monitoring Results
- Estuary Insert and Factsheets
- Reports
- Journal Articles

Conceptual Model of
Contaminant Fate on the
Margins of San Francisco Bay

Draft Report

by
Craig Jones
Sea Engineering, Inc.

Donald Yee
Jay A. Davis

2012



Regional Monitoring Program

A Report of the Regional Monitoring Program for Water Quality in the San Francisco Estuary

Update

Environment International 47 (2012) 56–65



ELSEVIER

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journal homepage: www.elsevier.com/locate/envint



RMP FALL 2012
Update

REGIONAL MONITORING PROGRAM
FOR WATER QUALITY IN THE SAN FRANCISCO ESTUARY
A Cooperative Program Managed by the San Francisco Estuary Institute

Brominated and chlorinated flame retardants in San Francisco Bay sediments and wildlife

Susan L. Klosterhaus ^{a,*}, Heather M. Stapleton ^b, Mark J. La Guardia ^c, Denise J. Greig ^d

**FLAME RETARDANTS
IN SAN FRANCISCO BAY**

INFORMATION DISSEMINATION

- RMP Annual Meeting
 - State of the Estuary – Oct. 29th and 30th 2013
- SETAC
 - Chairing Session on Emerging Contaminants
 - NorCal SETAC
- International Conference on Hg
- NWQMC Meeting
- AGU
- Newspaper, Webinars, and Radio





STATUS & TRENDS

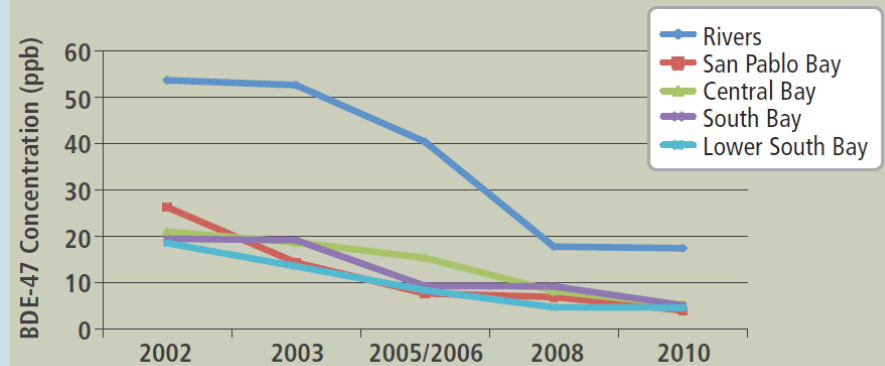
- **S&T Water**
 - Metals at 22 sites
 - USGS Turning Tides
- **USGS Water Quality (Cloern)**
 - Monthly sampling 36 stations down spine of the Bay
 - DO, SSC, Temp and Phytoplankton
 - Important parameter nutrients and foodweb modeling
- **USGS Sediment Dynamics (Schoellhamer)**
 - 5 Stations in the Bay and one temporary site



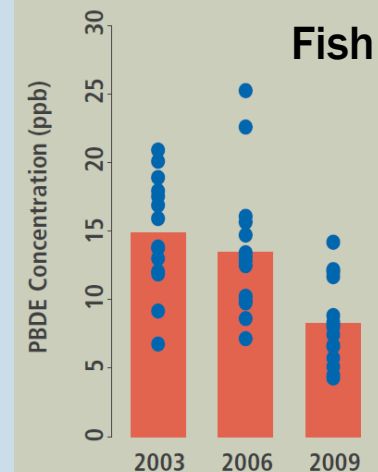
SS EMERGING CONTAMINANTS

- **PBDE Summary Report**
 - Summarizing 2002-2012
 - Dramatic decline in biota
 - \$35,000
- **Updating the EC Strategy**
 - Review of literature and discussion with experts
 - \$20,000
- **Current Use Pesticides**
 - Evaluate CUPs and make recommendations for S&T
 - \$15,000

Bivalves



Fish



SS EXPOSURE AND EFFECTS



- Bioanalytical Tools – nontargeted approach for identifying biologically active compounds



- Linking cell effects to effects in fish
- 2-Year Study (\$126K)
 - Evaluating fish and EDCs

SS EXPOSURE AND EFFECTS

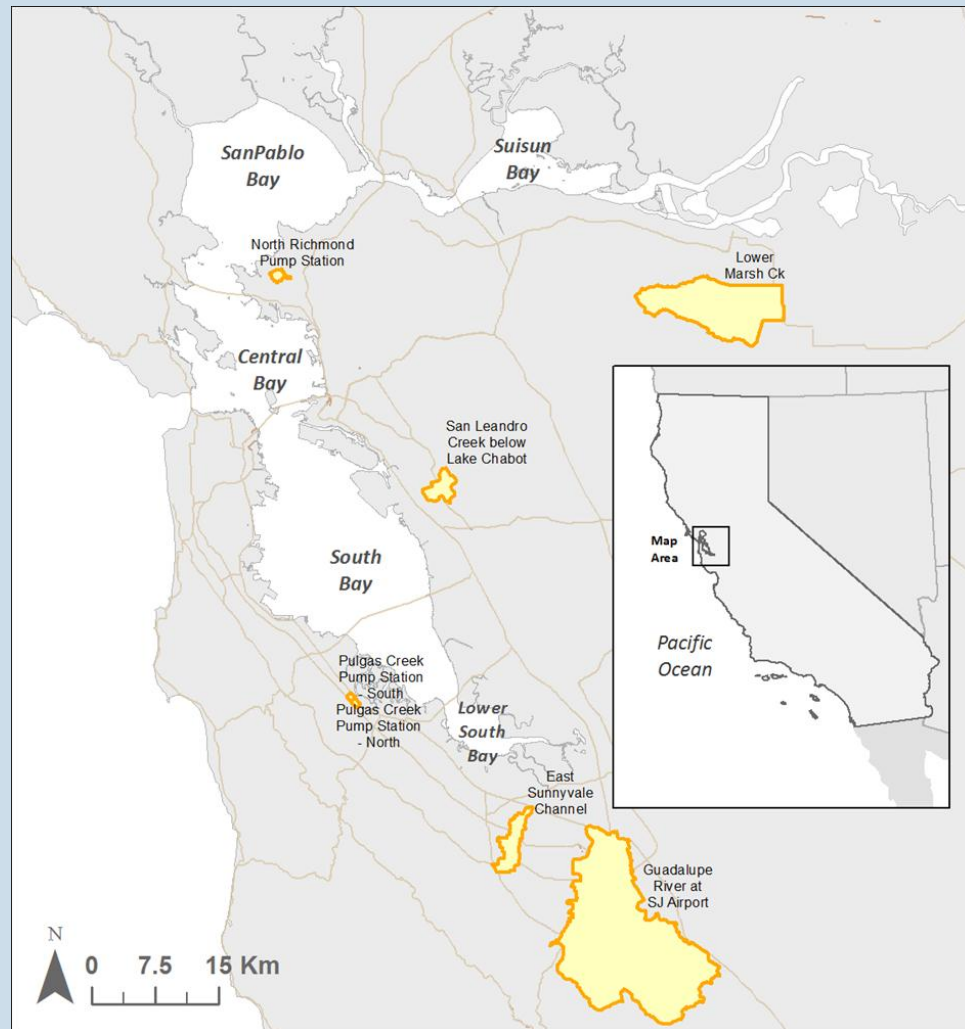
- Sediment Quality Objectives
 - Triad approach
 - Validated for polyhaline
- Developing Benthic Indices for Mesohaline (low salinity)
- 2-year study (2012/2013)
 - \$76,000

SS MODELING

- Working to address contaminant and nutrient modeling needs
- 2012 develop tactical plan for model selection
 - Addressing MQs for nutrients and contaminants
 - Evaluate model capabilities
 - Estimate time and cost for developing model, running and interpreting results
 - Convene a modeling team
- 2013 develop hydrodynamic and sediment transport model
 - Potentially use Delft-3D – leverage existing USGS grids
 - Develop low resolution nutrient-phytoplankton model for Suisun and South Bay
 - Grid aggregation – load calculations
 - Develop low-resolution 3D models for particle-reactive and bioaccumulative contaminants
 - \$100,000

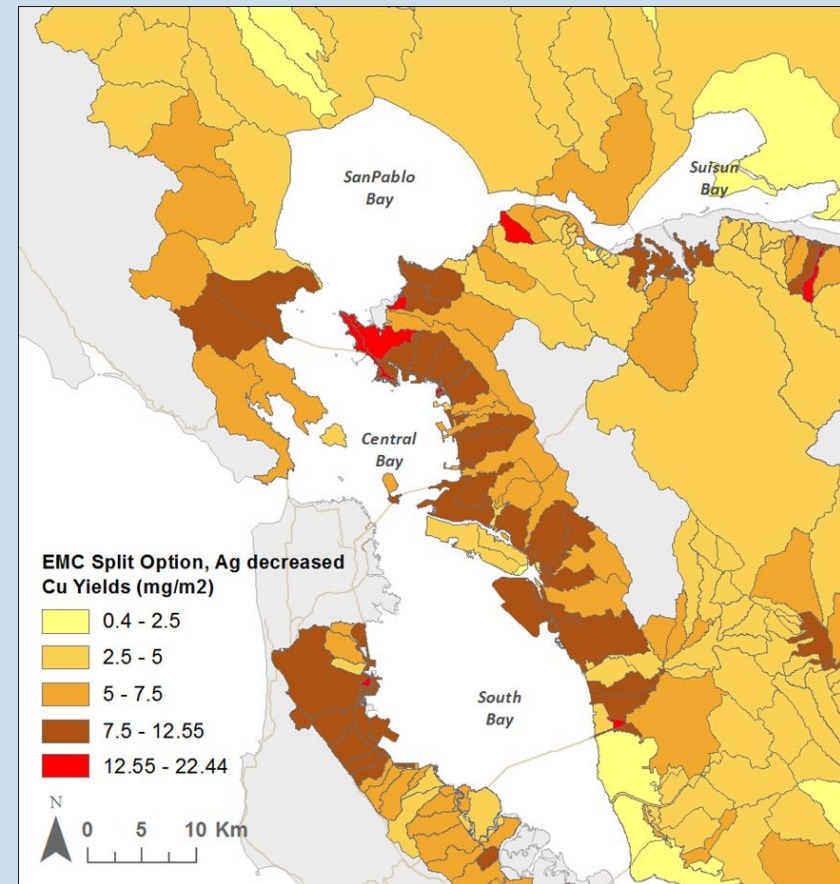
SMALL TRIBUTARY LOADING STRATEGY

- Load Monitoring in Representative Watersheds
- MRP: 6 Bay Area watersheds sampled for 4 storms
 - RMP sites: East Sunnyvale and North Richmond
 - 16 samples each storm event will be analyzed for PCBs, PAHs, PBDEs, pyrethroids, mercury, copper, selenium, suspended sediment, nitrate and toxicity
- \$343,000



SMALL TRIBUTARY LOADING STRATEGY

- Regional Watershed Spreadsheet Model – Year 4
- Need to estimate loads from watersheds
 - Currently working on Cu model
 - Improving Hg and PCB models for 2013
- Input parameters
 - Rainfall
 - Runoff Coefficients
 - Land use based contaminant event mean concentrations (EMCs)
- \$25,000

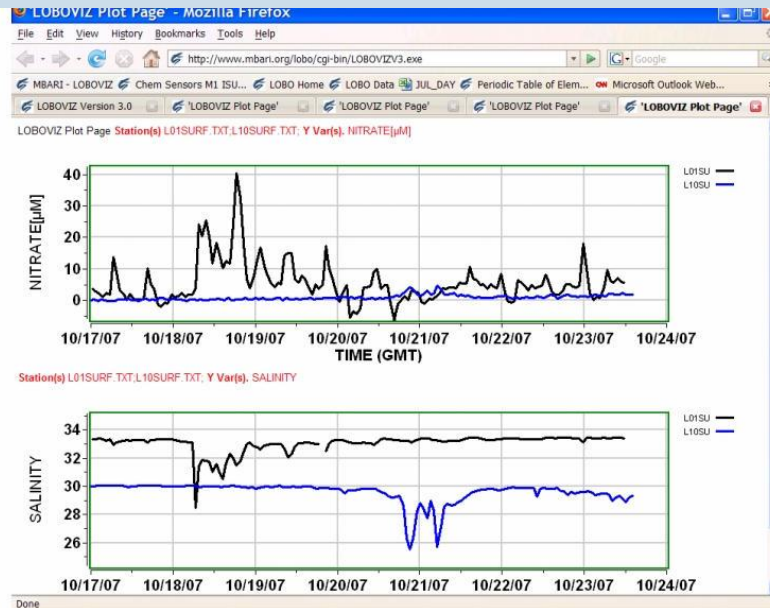


SMALL TRIBUTARY LOADING STRATEGY

- Land-use and Source Area Specific Event Mean Concentrations (EMCs)
- EMCs important for Regional Watershed Spreadsheet Model
- Tasks - TBD
 - Refine GIS layers in RWSM
 - Conduct additional computations to generate PCB and Hg EMC
 - Collect additional field data for EMCs
 - \$80,000
- Management Support
 - \$20,000

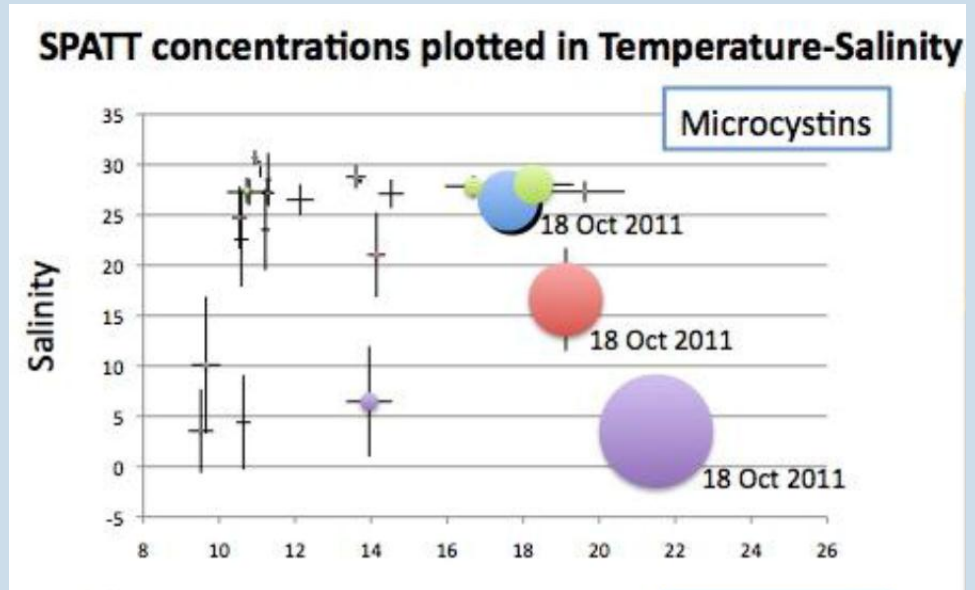
SS NUTRIENTS

- Uncertainty regarding USGS monitoring
- Moored Sensors
 - Continuous monitoring CTD, DO, Chl-a, turbidity, and nitrate
 - Leverage USGS labor – Dumbarton site
- \$200,000



SS NUTRIENTS

- Solid Phase Adsorption Toxin Tracking (SPATT)
 - UCSC – Dr. Kudela
 - Passive sampling device to monitor Harmful Algal Blooms
 - Microcystins
- Deploy on USGS monthly cruises and fixed locations (Dumbarton and Benicia bridges)
 - Validate and calibrate through ambient sampling and laboratory experiments
- \$65,000



SS NUTRIENTS

- **Augmenting Stormwater Monitoring**
 - Monitoring for ammonium and total Kjeldahl nitrogen
 - \$40,000
- **Quantifying Nutrient Loads**
 - POTWs, stormwater, Delta, Golden Gate and atmospheric flux
 - Loads for South Bay have been developed
 - Expand to Central, San Pablo and Suisun Bays
 - \$30,000
- **Management Support**
 - \$20,000

SS COPPER AND SALMON

- Cu SSO developed in 2007
- Preliminary results suggest little toxicity in seawater
- Research will evaluate effects in low salinity environments

