AQUATIC SCIENCE CENTER

www.aquaticsciencecenter.org

NOTICE AND AGENDA
Regular Meeting

Board of Directors
Aquatic Science Center

To Be Held
December 2, 2010
11:30am-2:30pm

San Francisco Estuary Institute
7770 Pardee Lane
First Floor Conference Room

Oakland, CA 94621
Phone (510) 746-7334

The Business Meeting will be preceded by an informational discussion session with the SFEI Board of Directors at 11:30, followed by lunch at 12:30pm

1. **Call to Order**

2. **Public Comments**

3. **Consent Items**
   a) **Approval of Agenda**
   b) **Approval of September 2, 2010, Meeting Minutes (Attachment 1)**

4. **Review of Action Items from September meeting**

5. **Action Items**
   a) **Approve Strategic Planning Schedule and Budget (Attachment 2)**
   b) **Endorse or Modify Proposed Vision and Mission Statements, Goals and Objectives (Attachment 3)**

7770 Pardee Lane
Second floor
Oakland, CA 94621
p: 510-746-7334
f: 510-746-7300

6. **Information and Discussion Items**
    a) **Director's Report (Attachment 4)**
    b) **Updated Program Plan (Attachment 5)**
    c) **Update on water quality monitoring proposal from Dr. Jim Cloern – maintaining the linkage between upper and lower estuary**
    d) **Implications of new ASC Goals and Objectives: Relationships to SFEI, broader representation on Board of Directors, possible administrative infrastructure requirements**
    Requested Input: What types of questions should we ask during the Environmental Scan phase (see Attachment 3)? What kind of stakeholder input does staff and the Board need to identify and evaluate opportunities and risks?

7. **Future Meeting Agenda Items**

8. **Adjournment**

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Attachment 1

Minutes of the Aquatic Science Center Board of Directors
September 2, 2010
East Bay Regional Parks District Training Center
11500 Skyline Blvd.
Oakland, CA 94619

Members Present:
Bruce Wolfe, San Francisco Bay Regional Water Quality Control Board
Darrin Polhemus State Water Resources Control Board
Pamela Creedon, Central Valley Regional Water Quality Control Board
David Williams, Bay Area Clean Water Agencies
Amy Chastain (Alternate), Bay Area Clean Water Agencies
Kirsten Struve, Bay Area Clean Water Agencies
Alexis Strauss, U.S. Environmental Protection Agency, Region 9
Rainer Hoenicke, San Francisco Estuary Institute

Others Present:
Stephanie Seto, San Francisco Estuary Institute
Robin Grossinger, San Francisco Estuary Institute
Meredith Williams, San Francisco Estuary Institute
Trish Mulvey, SFEI Board and CLEAN South Bay
Marc Beyeler, Marc Beyeler Associates
Page Nelson, Marc Beyeler Associates

Call to Order
Mr. Williams, Board Chair, called the meeting to order at 10:06 a.m.

Public Comments
None

Consent Items
Review and Approve Agenda
Mr. Williams made a motion to approve all consent items, including the agenda and June 3, 2010 meeting minutes. The motion was seconded by Mr. Wolfe and passed unanimously.

Overview of Strategic Planning Workshop and Meeting Objectives
Dr. Hoenicke introduced Mr. Nelson and Mr. Beyeler. Meeting objectives included review of the meeting's goals, planning of a full-day Strategic Planning Retreat in the Spring of 2011, organizational improvements, strategic framework and approach. There was discussion about the goals and purpose statement of ASC. Mr. Beyeler mentioned that the strategic planning process should be customized to meet ASC needs and that it would be a good idea to use the Board's Strategic Planning Subcommittee, working with staff, as a principal means of communicating the details of the strategic planning process with the board.

Review ASC Major Activities and Milestones, Relationship to SFEI

The Board reviewed major ASC activities to date, history, milestones, and the organization's relationship to SFEI. Discussion centered around the possibility of changing the current relationship between ASC and SFEI to give ASC its separate identity. In addition, the Board discussed the current geographic scope of the ASC (SF Estuary and its tributary watersheds, at a minimum) and the desire to explore a larger geographic scope of "Central and Northern California" to better address the need for science, information and data support services for the area "north of the Tehachapies."

Desired Outcomes of Strategic Planning Process

There was discussion regarding the Strategic Planning Framework. The Board agreed that it is very important to articulate the vision and mission for ASC. Strategy is key in regards to activities, programs, and priorities. There was discussion regarding a few edits to the Flow Chart. The Board would like to expand the model a bit and add a diamond entitled Implementation or Business Plan. Other edits included Milestones/Key Performance Indicators and Strategic Plan Review & Program Evaluation Update. The Board would like to have the arrow go back to Goals and not Vision. There may be several circles embedded depending upon the timeline. Mr. Beyeler suggested that the comments will be addressed and brought back to the table as part of the December 2 meeting package to gain consensus from the entire board of the overall strategic direction of ASC. There was discussion regarding the alignment of the parallel planning processes of ASC and SFEI.

Action Item:

- Edits and comments from the Flowchart will be addressed and brought back to the table at the December 2 regular Board Meeting.

Discuss ASC Mission/Purpose Statement and Identify Draft Goals and Objectives

Dr. Hoenicke reviewed the handout of ASC JPA Purpose and Goals. The ASC does not have a clear vision statement, mission statement, or set of objectives. The Board agreed that the current goal statement of the JPA list on handout 3A should be revised. There was discussion regarding the organizational structure of SFEI/ASC and its partnership. The task at hand is to revise the goals as necessary or desired and use this as a foundation to give the ASC more of its own identity. Dr. Hoenicke will ask the Planning Subcommittee to assist in drafting the mission, goals, and objectives to be included in the strategic plan.

Action Item:

- Planning Subcommittee will assist in drafting the mission, goals, and objectives

Staff Reports on New Initiatives and Board Feedback

Mr. Grossinger updated the Board with new science developments in the Historical Ecology Department as an example of a key project that had been undertaken under the umbrella of the ASC. Dr. Williams updated the Board with context about regional data center work. $4 million were made available from the State Water Board to the four Regional Data Centers to further develop the California Environmental Data Exchange Network. The ASC would like to take the wetland tracker and enhance its utility for incorporation into the Wetlands Portal on the "My Water Quality" website.

There was discussion regarding fiduciary responsibilities and role the ASC may play to serve in an administrative function for cost-effective delivery of science support to public

agencies. There will be no forward movement without the involvement of both SFEI and ASC Boards. There was discussion of options and considerations. Dr. Hoenicke promised more details within two to three months and that this topic will be discussed prior to the full-day strategic planning retreat. Deadline in terms of options, pros, cons, and implications will be March 2011.

Summary of Meeting Agreements and Next Steps

Mr. Nelson and Mr. Beyeler will submit a next steps memo in a few weeks to Dr. Hoenicke as well as the Strategic Subcommittee for review. This memo will be revised and the final version will be submitted to the Board. The Strategic Planning Subcommittee consists of Mr. Williams, Mr. Polhemus, Ms. Creedon, and Ms. Whyte (as the alternate to Mr. Wolfe). Working with executive staff, this Subcommittee will create an agenda for the Spring Retreat.

Action Item:

- Mr. Nelson and Mr. Beyeler will submit a next steps memo to Dr. Hoenicke and the Strategic Subcommittee for review. The revised version will be submitted to the Board.

The tentative date for the full-day Strategic Planning Retreat is June 2, 2011. A draft of ASC mission statement, vision statement, and a clear set of objectives will be completed by the next regular board meeting on December 2, 2010.

Future board meetings for 2011 are scheduled for March 3, June 2, September 1, and December 1.

Adjournment

The meeting is adjourned at 2:08 p.m.

Respectfully submitted,

_____ _____

Pamela Creedon, Board Secretary Date

Action Item	Who? When?	Status
Edits and comments from the Flowchart will be addressed and brought back to the table at the December 2 regular Board Meeting.	Planning Subcommittee	Completed
Planning Subcommittee will assist in drafting the mission, goals, and objectives	Planning Subcommittee	Completed
Mr. Nelson and Mr. Beyeler will submit a next steps memo to Dr. Hoenicke and the Strategic Subcommittee for review. The revised version will be submitted to the Board.	Mr. Nelson, Mr. Beyeler, Dr. Hoenicke, Planning Subcommittee	Completed

Attachment 2

ASC Strategic Planning Schedule
SP Subcommittee/BOD SP Agenda Topics November 2010-September 2011

November 2011
BOD SP Subcommittee Teleconference Call
- Proposed Agenda Topics for December BOD SP Update
- Strategic Planning Schedule and Process
- Proposed Vision and Mission Statements
- Proposed Goals
- Proposed Objectives

December
BOD Quarterly Meeting
- SP Update from ED/SP Subcommittee:
- Review Strategic Planning Schedule and Process
- Review Proposed Vision and Mission Statements
- Review Proposed Goals
- Review Proposed Objectives

January 2011
BOD SP Subcommittee Teleconference Call
- Revised Vision, Mission, Goals and Objectives
- Environmental Scan Information Sources
- Key Informant Questions
- SWOT Survey Questions
- Draft Agenda for June Planning Meeting
- Agenda Topics for February Teleconference Call

February
BOD SP Subcommittee Teleconference Call
- Information from Environmental Scan Sources
- Key Informant Information (interim results)
- SWOT Survey (interim results)
- Revised Agenda for June Planning Meeting
- Agenda Topics for March BOD SP Update

March
BOD Quarterly Meeting
- SP Update from ED/SP Subcommittee
- Review Revised Draft Vision, Mission, Goals and Objectives
- Review Key Informant Information
- Review Environmental Scan Information
- Review SWOT Survey (interim results)
- Review/Approve Agenda for June Planning Meeting

April
BOD SP Subcommittee Teleconference Call
SWOT Survey Tabulation and Analysis
Draft Strategies
Draft Milestones/Targets
Draft Key Performance Indicators
Agenda Topics for May Teleconference Call

May
BOD SP Subcommittee Teleconference Call
Draft Strategies
Draft Milestones/Targets
Draft Key Performance Indicators
Final Agenda Topics for June BOD SP Meeting

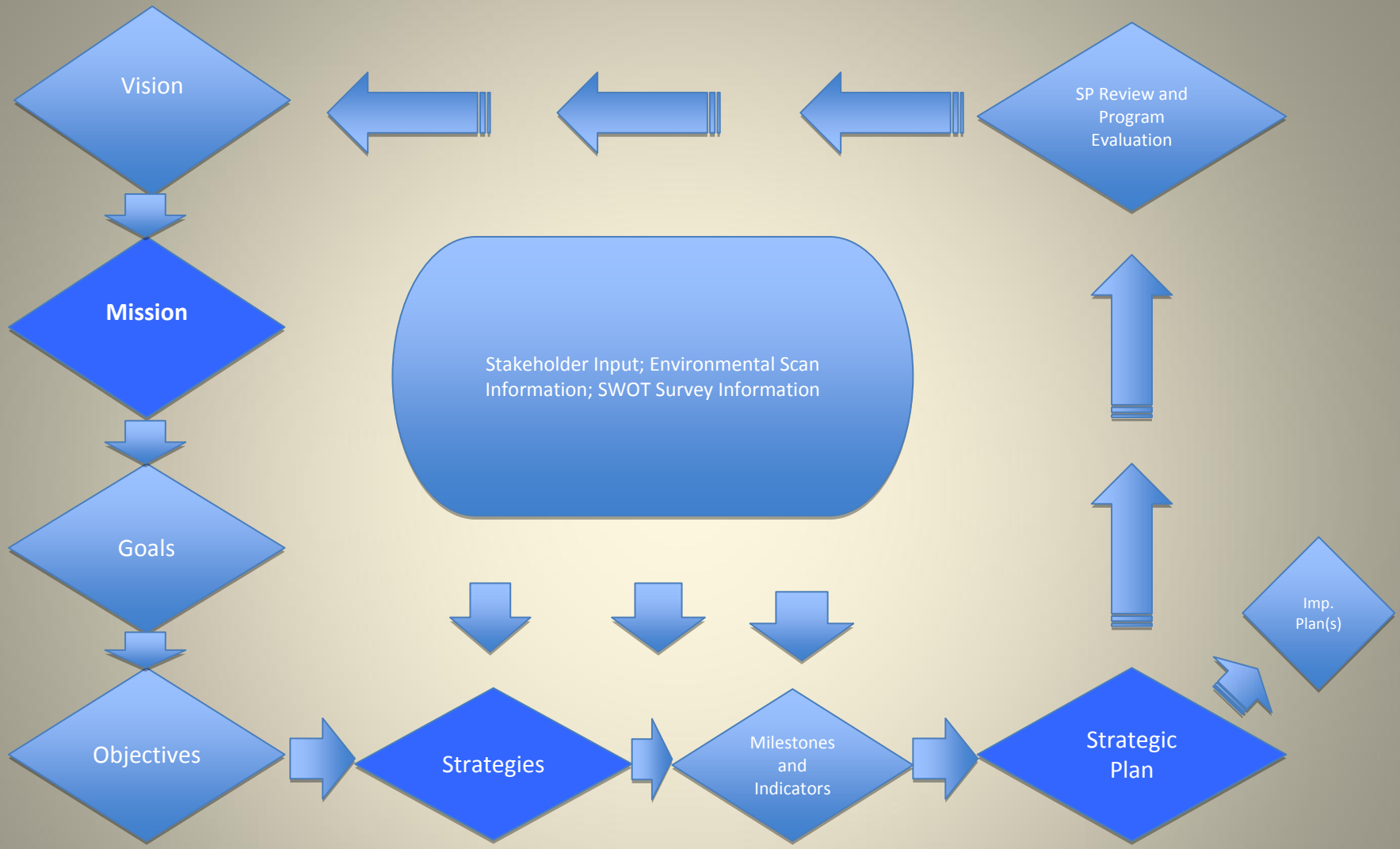
June
BOD Quarterly Meeting
Hold Strategic Planning Meeting (Full Day)

July
BOD SP Subcommittee Teleconference Call
Draft Strategic Plan document
Agenda Topics for August Teleconference Call

August
BOD SP Subcommittee Teleconference Call
Final Draft Strategic Plan document
Final Agenda Topics for September BOD SP Review and Adoption

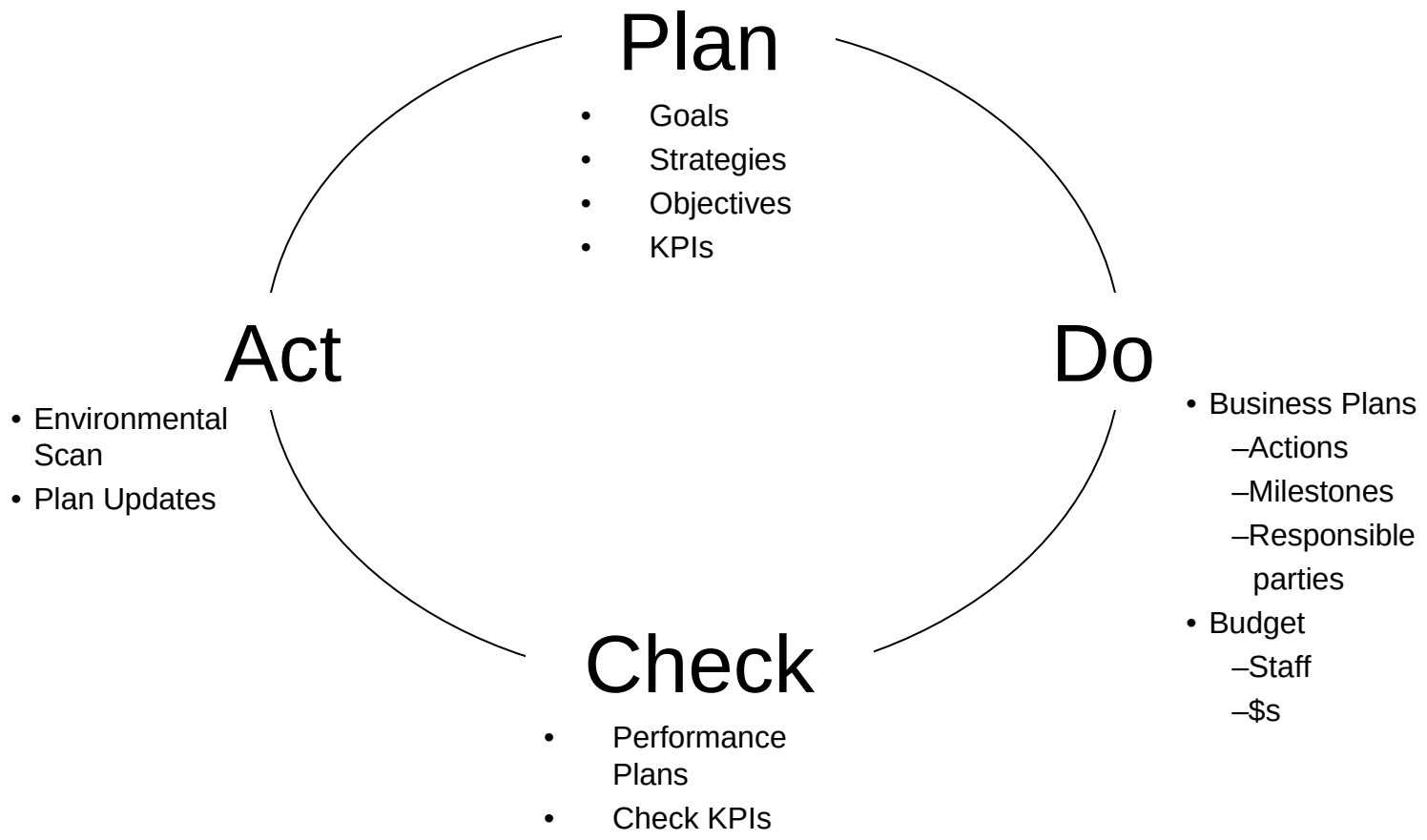
September
BOD Quarterly Meeting
Review and Adopt 2010-2015 Strategic Plan

Total Budget for 2011 to complete all tasks and milestones: $40,000



ASC Strategic Planning Process

Strategic Planning and the Continuous Improvement Model



Attachment 3

Proposed Vision and Mission Statements

Proposed Vision Statement (How we want things to be)

Sound science is used for the protection and enhancement of aquatic ecosystems and facilitates public decision-making that anticipates and keeps pace with environmental change.

Proposed Mission Statement (What we do to achieve how we want things to be)

Operate a collaborative institution supporting public decision-making through the provision of sound science and the development of effective decision-support and communication tools

Proposed Goals

Goal 1
Provide science support services, focused on connecting science to policy and decision-making.

Goal 2
Provide tools and develop systems for expanded data and information coordination and integration

Goal 3
Provide efficient administrative support services to maximize the use of public resources towards providing scientific and information management support.

Goal 4
Provide an independent and transparent forum to improve science and policy integration, communicating relevant conclusions to a wide variety of stakeholders and decision-makers

Proposed Objectives

Objective 1.1
Provide science support to other public agencies involved in environmental protection, planning, and decision-making
(JPA Purpose 1b. 5)

Objective 1.2
Connect science and policy involving a broad array of stakeholders, by providing a forum and mechanism to refine and use adaptive management principles in aquatic ecosystem protection and restoration
(Purpose 1b. 2)

Objective 2.1
Strengthen the integration of Regional Monitoring information
(Purposes 1b. 3 and 4)

Objective 2.2
Integrate Data and Information with Management and Policy Options and Responses
(Purpose 1b. 1)

Objective. 3.1
Continue to streamline contracts and grants administration role anticipating future needs and opportunities of partner agencies
(Purpose 1b. inclusive)

Objective 4.1
Develop improved communication tools, including trainings, workshops and web-based offerings
(Purposes 1b. 2, 3 and 5)

Objective 4.2
Develop improved environmental management, reporting, permitting and protection tools

ASC ATTACHMENT 4

Executive Director's Quarterly Report

2010 • Quarter 4

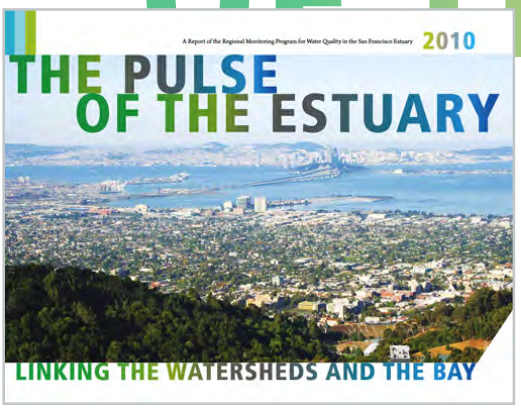
The last four months of each year are usually filled with key scientific conferences that provide staff with great opportunities to disseminate their research and results of their monitoring and assessment activities from previous years and to catch up on new developments. I served on the Bay-Delta Science Conference Coordinating Committee and organized, together with Stephanie Fong, the student poster and platform presentation evaluations. Student awards will be announced shortly. The Institute and Aquatic Science Center staff were prominently featured at the conference, with Allison Whipple and Robin Grossinger organizing and moderating a special session on The Natural Delta: Patterns and Processes before Modern Management. It was very satisfying to hear the work of the Institute and the Center mentioned in numerous sessions. Staff was also well represented at the annual North America meeting of the Society of Environmental Toxicology and Chemistry in November and at the California Stormwater Quality Association Conference. And last, but not least, the Annual Meeting of the Regional Monitoring Program for Water Quality was another great success.

The strategic planning efforts for both the Institute and the Center are well underway. The members of our staff spearheading a number of new initiatives based on numerous discussions with our partner agencies have met in two facilitated workshop settings to identify: (1) values that drive behaviors in support of the mission and vision of SFEI; (2) the strategic priorities and goals that will align all activities; and (3) projects/initiatives that align with the strategic priorities.

Many housekeeping items remain on the schedule for the rest of this year and into next, and despite a heavy work load, everyone is looking toward 2011 as a new beginning with new team members being integrated into an exciting mix of projects.

— RAINER HOENICKE, EXECUTIVE DIRECTOR

THE PULSE OF THE ESTUARY



OCT 5

Release of 2010 Pulse of the Estuary

Every fall the Regional Monitoring Program for Water Quality in the San Francisco Bay issues an annual report that presents the latest results from water quality monitoring and addresses a theme related to a timely topic. The theme for 2010 is "Water Quality Monitoring: Linking the Watersheds and the Bay" and includes articles on the Municipal Regional Stormwater Permit adopted by the Water Board in October 2009, a SFEI study on stormwater best management practices, RMP monitoring of loads from small tributaries, Surface Water Ambient Monitoring Program monitoring of creek health, and, as always, the latest water quality information for the Bay from the RMP and other programs.

Related Media

Bay Pollution Source is Close to Home
Mercury News by Mike Taugher
http://www.mercurynews.com/science/ci_16252214?nclick_check=1

San Francisco Chronicle

Cities Key Source of Toxics in Bay, Study Finds
SF Chronicle by by Kelly Zito
http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2010/10/04/BAPC1FO6QP.DTL

Study Blames Urban Runoff for Toxins in SF Bay
Mercury News by Associate Press
http://www.thereporter.com/news/ci_15226109

SF Bay Report Reveals Runoff Toxicity Levels
KGO-TV San Francisco
http://abclocal.go.com/kgo/story?section=news/local/san_francisco&id=7708505

New Report Shows Sources of Pollution in SF Bay
KTVU by Tom Vacar
http://www.ktvu.com/video/25294210/index.html

A Live KCBS Interview with Tom Mumley
KCBS
http://nyc.podcast.play.it/media/d0/d0/d0/dV/dQ/dH/dD/VQHD_3.MP3?authtok=5561265711907019578_U4OawSOVhxWJYQE5h3c4b4rdE0

KGO NEWSTALK AM810

A Live KGO Interview with Tom Mumley
KGO. (The interview can be found at the 4:16:30 mark of the 4:00-5:00 PM podcast)
http://vaca.bayradio.com/kgo_archives/?d=2#

Winter 2010

CA Academy of Science Interactive Planetarium Program

What: California Valley Oaks: An Ecological Journey Through Time

Who: SFEI Historical Ecology Team and CA Academy of Science's Center for Applied Biodiversity Informatics

YAHOO!

CALIFORNIA ACADEMY OF SCIENCES
DEPARTMENTS COLLECTIONS PEOPLE OPPORTUNITIES
Center for Applied Biodiversity Informatics

The Yahoo Employee Foundation funded the production of an interactive planetarium program **based on SFEI research** to be delivered at a live event as part of the Earth Updates series and a short Science in Action media story about the past, present and projected future of a threatened California iconic species, Valley oak (*Quercus lobata*). Like many ecosystems that are characteristic of California, Valley oak savannas have co-existed with humans for millennia and are today threatened by habitat loss and climate change. However, due to their ecological and cultural significance, scientists, agriculturalists and indigenous peoples are working on restoring Valley oaks back into the landscape in an effort to curb these threats and ensure the persistence of this iconic species into the future.

These multimedia programs will bring together a rich array of historical and cultural data along with the latest results in climate change research that are rarely seen by public audiences. Visual media will be coupled with an evolving narrative told from the perspectives of indigenous peoples, agriculturalists and scientists who live with and study Valley oaks. Through the programs and live event, we will invite audiences to "peel away" the layers of history and explore the ways humans have interacted with this species in the past, understand the forces that shape its character today and project how the species will fare under climate change and conservation efforts. **Chuck Striplen and other staff in the Historical Ecology team** will be collaborating with CalAcademy staff on this project

OCT

Strategy for an Aquatic Atlas for California Aquatic Resources

The concept of an Aquatic Atlas is under consideration by the California Water Monitoring Council. The Atlas would serve as a centralized map-based repository of information regarding California's water resources and water quality and would give users the ability to answer questions about aquatic ecosystem health independent of water body type.

Meredith Williams presented the Aquatic Atlas concept to the Wetlands Monitoring Workgroup, Healthy Streams Partnership, and the Monitoring Council. The system is envisioned as a system for data management and visualization of information on the extent and condition of aquatic resources.

Key Atlas Features and Functions

- The user interface for the Regional Data Centers
- Common base map that encompasses all aquatic resource types
- Project information across agency programs
- Ambient assessment data and reference site data
- Ability to generate project-specific reports
- Source for information for the My Water Quality Portals

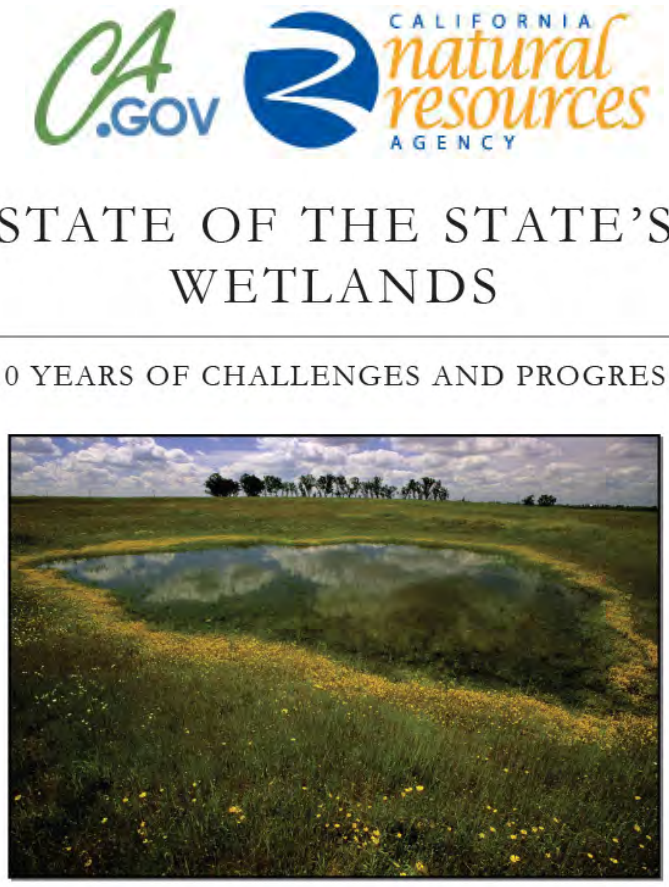
http://www.waterboards.ca.gov/mywaterquality/

The Monitoring Council considered next steps related to development of an atlas:

1. Development of a common based map and framework for integrating aquatic resource information across water body types
2. Engagement with the Departments of Fish and Game (DFG) and Water Resources to produce and shepherd the master base map, including information from DFG's Biogeographic Information and Observation System (BIOS) and USGS's National Hydrography Dataset.
3. Formation of a data management workgroup to facilitate data sharing and integration across agencies.

A decision was made that a Data Management Committee should be formed to develop a recommended strategy for water quality and ecosystem data sharing and integration between state agencies and others. The strategy should include the concept of a master base map, prioritize data pathways to be developed, and cost implications. The Monitoring Council will bring the Committee's recommendations to the two Agency Secretaries. The Natural Resources Agency should lead the Data Management Committee effort.

To view the Monitoring Council Meeting Notes, please go to this link: **http://www.waterboards.ca.gov/mywaterquality/monitoring_council/meetings/2010oct/notes_101310.pdf**



OCT 18

State of the State's Wetlands Report

The California Natural Resources Agency released its second *State of the State's Wetlands* report which summarizes the progress made by many state agencies, public and private partnerships, and the federal government to protect, restore, and monitor California's diverse wetland resources from 1999 through 2009. Billions of dollars have been invested to protect and restore wetlands and riparian areas across California. These investments have led to substantial increases in protected wetland acreage, primarily in San Francisco Bay, along California's south coast, in the Central Valley, and in the Sierra. The need for these actions is underscored by the fact that from the 1780's to the 1980's California lost approximately 91 percent of its wetlands.

The report was prepared through the Natural Resources Agency by staff from the Department of Fish and Game, the Southern California Coastal Water Research Project, the **San Francisco Estuary Institute**, and the State Coastal Conservancy. The Resources Agency makes many recommendations on how the state and its partners can continue to make gains in wetlands and to provide state wetland managers with tools to better assess wetland quality and quantity. **For example, these recommendations address:**

- wetlands data collection and management,
- agency coordination and public information, wetland partnerships and their importance, and
- the potential for wetland restoration projects to sequester carbon

The *State of the State's Wetlands* report was funded under a grant from the U.S. Environmental Protection Agency, Region IX can be downloaded from the Natural Resources Agency's Web site at **http://www.resources.ca.gov** and the California Wetlands Portal at **http://www.californiawetlands.net**.

NOV 10

Rainer Hoenicke interviewed about the Redwood City Saltworks smart growth proposal for SF Public Press.

Smart growth is an anti-sprawl planning concept that promotes compact city-centered growth with public transportation options, open spaces and a mix of affordable housing, commercial and retail developments. It's seen as the most environmentally friendly and sustainable way to address growth needs in a world with rapidly dwindling resources. Implemented correctly, smart growth plans can reduce carbon-belching commutes, save open space and create more livable communities.

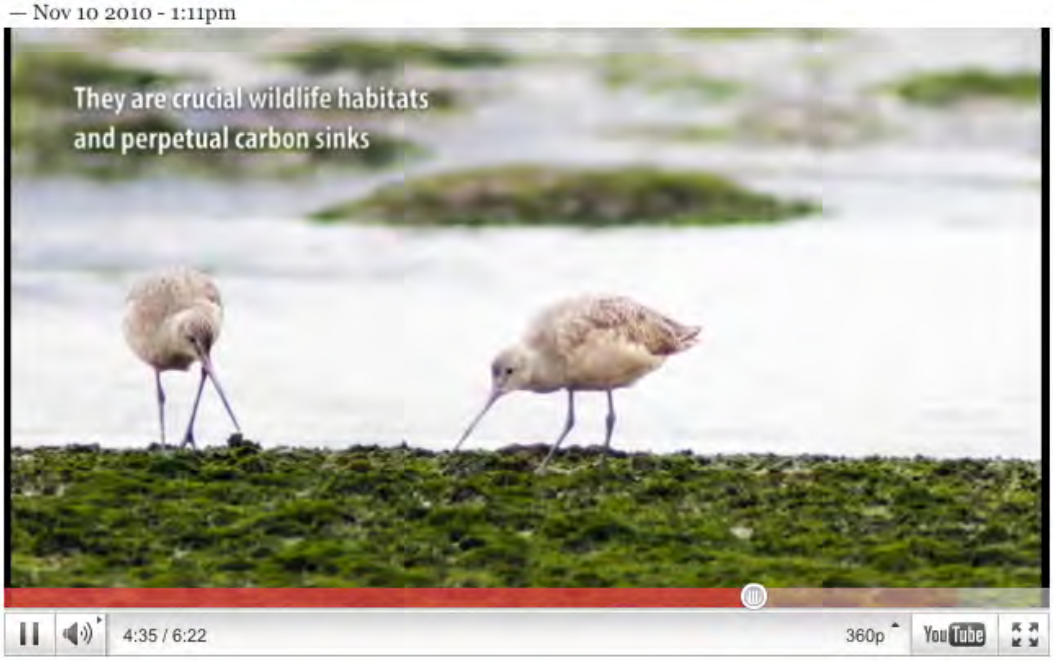
But opponents say the location and the nature of the land makes it a dumb place for a smart growth project."

› SF Public Press ›

Huge development on fringe of Bay sparks debate over 'smart growth'

By Maureen Nandini Mitra

— Nov 10 2010 - 1:11pm



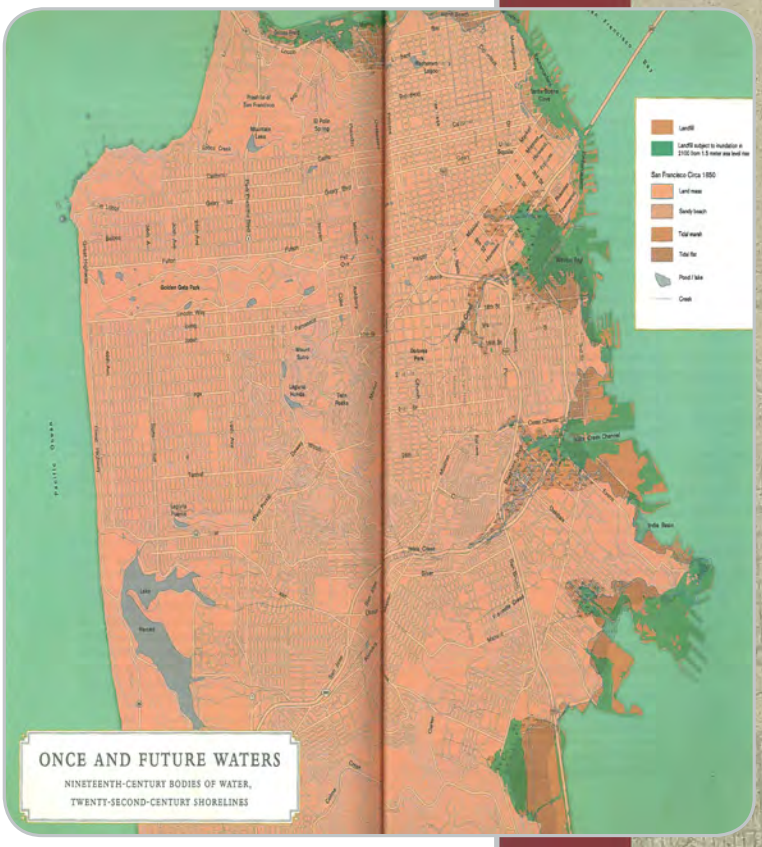
Read the full article and watch the film at: http://sfpublicpress.org/news/2010-11/huge-development-on-fringe-of-bay-sparks-debate-over-smart-growth

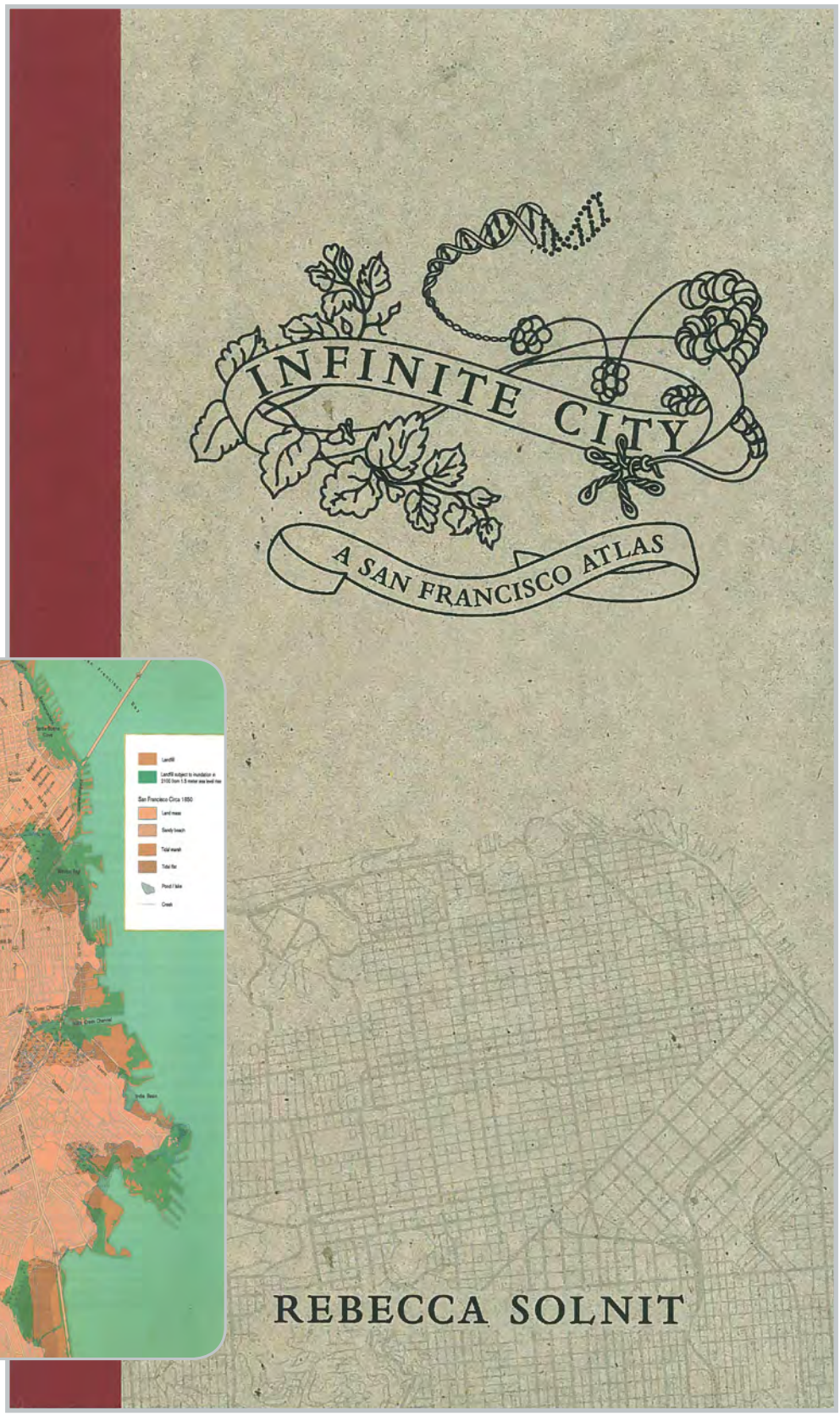
"Scientifically, it makes a lot more sense to restore the wetlands and leave them as buffer zones to protect for developments further inland," says Rainer Hoenicke, ecologist and executive director of the San Francisco Estuary Institute, a nonprofit that offers "impartial scientific interpretations" to aid environmental planning and policy development.

NOV 10

Historical Ecologists contribute to Rebecca Solnit's "Infinite City"

Robin Grossinger, **Ruth Askevold**, and **Chuck Striplen** contributed to Rebecca Solnit's new book *Infinite City: A San Francisco Atlas*, published by the University of California Press in November. Solnit describes the city in a series of wide-ranging essays and maps. **Robin** and **Ruth** helped develop the map entitled "Once and Future Waters: Nineteenth-Century Bodies of Water, Twenty-Second-Century Shorelines" (a map depicting the historical San Francisco shoreline based on SFEI information and the effect of rising sea level on the contemporary shoreline, from the USGS research on climate change). **Chuck** helped advise on the map of tribe names around the bay, in a map called "The Names Before the Names: The Indigenous Bay Area, 1769".





IN THIS SECTION

Book Section

Frontiera, P.L. 2010, Spatial Data Integration. In B. Warf (Ed.) Encyclopedia of Geography, Thousand Oaks, CA: Sage.

Reports

OCT

Beller, E., Salomon, M. and Grossinger, R. M., 2010. Historical vegetation and drainage patterns of Western Santa Clara Valley: A technical memorandum describing landscape ecology in Lower Peninsula, West Valley, and Guadalupe Watershed Management Areas. SFEI Contribution 622. San Francisco Estuary Institute, Oakland, CA

Eagles-Smith, C. and Ackerman, H. , 2010. Developing Impairment Thresholds for the Effects of Mercury on Forster's Tern Reproduction in the San Francisco Bay. Data Summary. Prepared for: Regional Monitoring Program, Exposure and Effects Workgroup, San Francisco Estuary Institute, Don Edwards San Francisco Bay National Wildlife Refuge, South Bay Salt Pond Restoration Project, California Department of Fish and Game, U.S. Fish and Wildlife Service, U. S. Geological Survey

Grenier, J.L., Greenfield B.K., Slotton, D. and Ayers, S., 2010. North Bay Small Fish Mercury Monitoring with a focus on Napa-Sonoma Managed Ponds and Sloughs, version 2. Contribution 620. Aquatic Science Center, Oakland, CA (see cover above).

San Francisco Estuary Institute (SFEI) 2010. The Pulse of the Estuary: Linking the Watersheds and the Bay. SFEI Contribution 613. San Francisco Estuary Institute, Oakland, CA. See page 2 for more information.

Posters

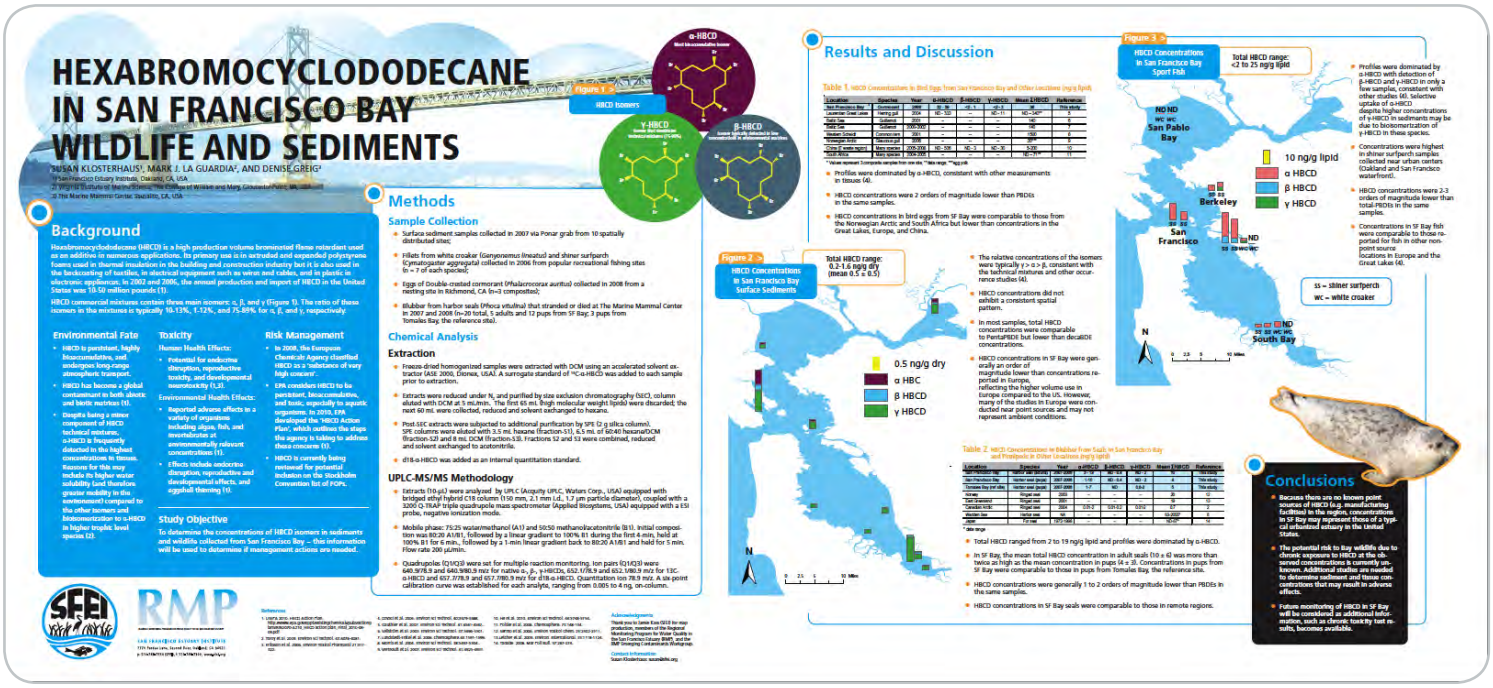
NOV

Hexabromocyclododecane in San Francisco Bay Wildlife and Sediments by Susan Klosterhaus, Mark J. La Guardia and Denise Greig (see below).

Carbamazepine in San Francisco Bay Surface Waters, Sediments and Mussels by Rachel Allen, Susan Klosterhaus and Richard Grace.

Upcoming Journal Articles

Yee, D., McKee, L. J. and Oram, J. J. (In Press)A Regional Mass Balance of Methylmercury in San Francisco Bay, California, USA. Environmental Toxicology and Chemistry.



IN THIS SECTION

SEP 27-29, 2010

The Biennial Bay-Delta Science Conference

Alicia Gilbreath, Watershed Science Program. Concentrations and Loads of Trace Contaminants in the Zone 4 Line a Small Tributary Hayward, California: Water Years 2007-2010

Letitia Grenier, Conservation Biology Program. A Preliminary Framework for Monitoring Mercury in Wetland Projects: Tidal Marsh Mercury Biosentinels as Adaptive Management Tools

Robin Grossinger, Historical Ecology Program. Historical Delta Landscapes: Conceptual Models for Building a Diverse and Resilient Future Delta

Michelle Lent, John Oram, and Lester McKee. Guadalupe River Watershed Model: Support tool for regional Hg and PCB management

Lester McKee, Wetlands Science Program. New Estimates of Suspended Sediment Loads to San Francisco Bay

Meredith Williams, EDIT-Environmental Data, Information & Technology. Bay Area Base Map of Aquatic Resources

Alison Whipple, Historical Ecology Program. The Historical Yolo Basin Landscape

Poster Presentation

Central Valley Monitoring Directory's Web-based Data Upload and Access Tool
Thomas Jabusch, Cristina Grosso, Todd Featherston, and Mike

SEPT 29 & 30

Nicole David gave a presentation at the Clean Water Program workshop for Alameda County in Dublin titled, "Green Infill for Clean Stormwater: Preliminary Results," on Sept 29 She also gave the presentation at the CASQA quarterly meeting on Sept 30.

OCT 5

RMP Annual Meeting

Robin Grossinger gave a presentation at the RMP 2010 Annual Meeting titled, "Linkages Between Watersheds and the Bay: Past, Present, and Future."

Lester McKee gave a presentation at the RMP 2010 Annual Meeting titled, "Recent Advances in Bay Area Stormwater Science."

Meg Sedlak gave a presentation at the RMP 2010 Annual Meeting titled, "PFCs in San Francisco Bay."

Susan Klosterhaus gave a presentation at the RMP 2010 Annual Meeting titled, "Update on Contaminants of Emerging Concern."

See page 9 for details on the RMP Meeting

CASQA CALIFORNIA STORMWATER QUALITY ASSOCIATION® CONFERENCE

NOV 2

Nicole David gave a presentation at the California Stormwater Quality Association (CASQA) conference titled, "Green Infill for Clean Stormwater: Preliminary Results," from 11:10-11:40 a.m.

Lester McKee gave a presentation at the California Stormwater Quality Association (CASQA) conference titled, "A BMP Tool Box for Reducing PCBs and Hg in Municipal Stormwater" from 4:55 - 5:25 p.m

See page 8 for details on the RMP Meeting

2010 PORTLAND SETAC

NOV 7-11

SETAC North America 31st Annual Meeting

Ben Greenfield presentation, CMR. California Sediment Quality Objectives for Human Health.

Aroon Melwani, RMP. Empirical Estimation of Biota Exposure Range for calculation of bioaccumulation parameters.

Meg Sedlak, RMP. Perfluorochemicals in San Francisco Bay Wildlife, Water and Sediment."

Don Yee, RMP. Estimating Biota Exposure Range for Calculation of Bioaccumulation ParametersExpectations and Surprises in Pollutants in San Francisco Bay and Wetland Sediment Cores."

IN THIS SECTION

SEP 23

Jamie Kass, **Marcus Klatt**, and **Greg Tseng** of the GIS department attended an all-day seminar in San Francisco about the new ESRI software ArcGIS 10. This will be replacing the previous version 9.3, which is currently the software most GIS users rely on for their work. Many changes have been implemented in ArcGIS 10, and we have started a testing period internally within the GIS department before unrolling it company-wide. This seminar focused on cartography, geoprocessing, and web-based GIS applications.

NOV 1-3

Kristen Cayce, **Jennifer Hunt**, **Lester McKee**, and **Nicole David** attended the 2010 California Stormwater Quality Association (CASQA) conference. The conference was held at Westin Mission Hills, Rancho Mirage, California.
See page 5 for more information.

NOV 3

RMP Steering Committee Meeting
Topics discussed included Dredger Fees for 2011 to 2013, 2012 Budget and Program Updated.

NOV 5-6

Susan Klosterhaus attended the 'Second Research Workshop on Microplastic Debris' in Tacoma, WA.

NOV 16

California Wetland Monitoring Workgroup was held at San Francisco Estuary Institute. The CWMW's mission is to improve the monitoring and assessment of wetland and riparian resources by developing a comprehensive wetland monitoring plan for California and increasing coordination and cooperation among local, state, and federal agencies, tribes, and non-governmental organizations. The workgroup will review technical and policy aspects of wetland monitoring tool development, implementation and use of data to improve wetland management in California. These meetings are held every other month in Sacramento, Southern California, and Oakland on a rotating basis. For more information about previous meetings and the CWMW, go to **http://www.waterboards.ca.gov/mywaterquality/monitoring_council/wetland_workgroup/**

DEC 1

California Wetland and Riparian Area Protection Policy - Technical Advisory Team Meeting was held a the Environmental Protection Agency (EPA) in Sacramento, Ca. The State Water Resources Control Board is developing a new policy (Wetland and Riparian Area Protection Policy or "WRAPP") to protect wetlands and riparian areas. The State Policy Team (PT) has established a Technical Advisory Team (TAT) to help assure that he WRAPP is scientifically sound. The TAT develops stand-alone memoranda that address technical and scientific questions raised by the PT. The next meeting will focus on reviewing alternative stream definitions & developing criteria for selecting riparian definitions.

DEC 3

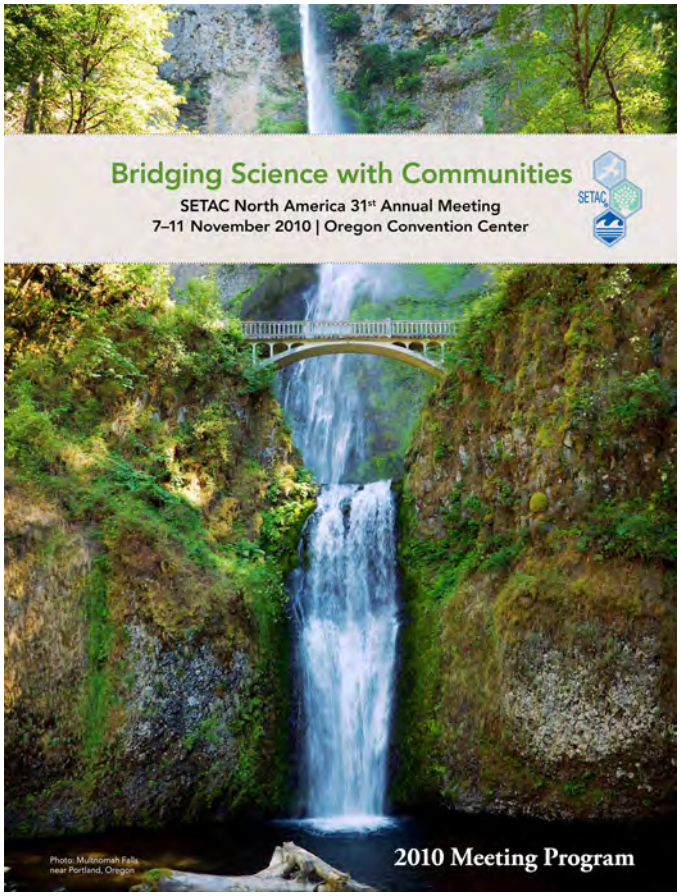
Susan Klosterhaus will be giving a presentation on 'Contaminants of Emerging Concern in San Francisco Bay' as part of San Francisco State University's Department of Chemistry Spring Seminar Series.

NOV 7-11

Society of Environmental Toxicology and Chemistry (SETAC)

North America 31st Annual Meeting: Bridging Science with Communities
Oregon Convention Center, Portland, OR

Aroon Melwani, **Ben Greenfield**, **Don Yee**, **Meg Sedlak**, **Rachel Allen**, and **Susan Klosterhaus** attended the 2010 SETAC annual meeting in Portland. The SFEI staff presented their recent work, and attended sessions on the most recent updates in Environmental Toxicology, Contaminant Fate and Effects, Risk Assessment, and Analytical Chemistry, among many other topics.



IN THIS SECTION

OCT 5

2010 RMP Annual Meeting

Oakland Museum, Oakland, CA

This year's RMP ANNUAL MEETING focused on linking the watersheds and San Francisco Bay, and featured keynote presentations from stormwater programs around the country as well as updates on research and management of stormwater in the Bay Area. Tom Schueler, from the Chesapeake Stormwater Network, and John Sansalone, from the University of Florida, described stormwater monitoring programs in their respective regions, and illustrated some of the common and unique aspects of runoff in different urban areas. Following a line-up of local managers and researchers, the meeting concluded with an update on sediment science and management - a follow up to the 2009 meeting on Bay sediment - and two updates on contaminants of emerging concern. About 160 people attended the meeting, and feedback on the meeting and the Pulse of the Estuary was very positive.

WATER QUALITY MONITORING: LINKING THE WATERSHEDS AND THE BAY

Presentations

Morning

Emerging Stormwater Pollutant Reduction Strategies from Another Urban Watershed: Importing Some Ideas from the Chesapeake Bay
Tom Schueler

Myths, Models, and Monitoring for Rainfall-Runoff Controls
John Sansalone

Linkages Between Watersheds and the Bay: Past, Present, and Future
Robin Grossinger

The Municipal Regional Stormwater Permit
Tom Mumley

Low Impact Development: Implementation Examples and New Directions
Laura Prickett

Afternoon

Lessons from Watershed Monitoring in Southern California
Ken Schiff

The RMP Small Tributary Loading Strategy
Chris Sommers

Recent Advances in Bay Area Stormwater Science
Lester McKee

SWAMP: Monitoring the Health of Our Watersheds
Karen Taberski

Update on Sediment Science and Management
Panel Discussion: Dave Schoellhamer, Brenda Goeden and Tom Mumley

PFCs in San Francisco Bay
Meg Sedlak

Update on Contaminants of Emerging Concern
Susan Klosterhaus

IN THIS SECTION

OCT 26

Dr. Urs Jans

City College of New York

Chlordane in New York City Sediments

Chlordane concentrations in recently collected surficial sediments (ten sites) and sediment cores (four sites) in Long Island Sound (LIS) were determined. The highest chlordane concentrations were observed in western LIS. The chlordane concentrations did not decrease significantly in the past decade when compared to the data collected in 1996. Chlordane concentrations in two of the four sediment cores showed a peak below the sediment surface. The lack of a chlordane concentration maximum below the sediment surface in the other two cores, coupled with the lack of a well-defined 137Cs peak, indicated significant sediment mixing. Simulations of 137Cs and 210Pb profiles in sediment cores with a sediment mixing model confirmed the occurrence of both sedimentation and significant sediment mixing. Simulations of the chlordane profiles indicated that continued chlordane input and significant sediment mixing may have contributed to the persistent chlordane concentrations in surficial sediment.

NOV 4

Christopher Richard

Curator of Aquatic Biology at the Oakland Museum of California

The Mystery of Laguna Dolores: a reexamination of the "now vanished" lake at the heart of the founding myth of San Francisco

Christopher R ichard, Curator of Aquatic Biology at the Oakland Museum of California, presented the results of his research on The Mystery of Laguna Dolores: a reexamination of the "now vanished" lake at the heart of the founding myth of San Francisco.

RMP Update
WINTER 2010
REGIONAL MONITORING PROGRAM FOR WATER QUALITY IN THE SAN FRANCISCO ESTUARY
A Cooperative Program Managed by the San Francisco Estuary Institute
www.sfei.org

TRACKING MERCURY SIGNATURES IN BAY SEDIMENTS

By CHRISTINE WERME, Independent Consultant
werme@sbcglobal.net

Mercury has long been recognized as one of the nastiest pollutants affecting San Francisco Bay. It has washed into the South Bay from mercury mines, particularly the New Almaden Quicksilver Mining District, which once was the nation's greatest mercury mining region. It has entered the North Bay via the Central Valley watershed, through its use in gold processing in the Sierra Nevada foothills. It remains present in the waste stream, a result of wide use in dental products, electronics, batteries, fluorescent light bulbs, and other products. Atmospheric deposition of mercury from distant coal-burning power plants, waste incinerators, and oil refineries can be other major sources.

USING SENTINEL DEVICES TO ASSESS METHYLMERCURY SOURCES

By CHRISTINE WERME, Independent Consultant
werme@sbcglobal.net

Determining the dominant sources of mercury to the Bay sediments has been a challenge. Scientists from the University of Michigan and the U.S. Geological Survey, with funding and assistance from the RMP, have begun using a new tool, stable mercury isotopic signatures, and their results are providing some notable insights (Gehrke et al., in press).

MERCURY ISOTOPIC SIGNATURES

Mercury exists as seven natural stable isotopes, which are forms of the same chemical element having slightly different atomic masses. Stable mercury isotope atomic masses range from 196 to 204. The most common mercury isotope has an atomic mass of 202, generally written as ^{202}Hg.

Studies have shown that there are different mixes of mercury isotopes in mercury ore, coal, soils, sediments, and other source material, and these differences can be used as identifiers or signatures. Some physical and biological reactions that transform mercury in the environment can change those signatures, so differences in isotopic signatures can be used to track both sources and environmental processes.

One measure of mercury isotopic signatures is reported as δ^{202}Hg (delta ^{202}Hg), which is calculated by comparing the ratio of ^{202}Hg to ^{198}Hg in an environmental sample to the same ratio in a reference material. The δ^{202}Hg value is reported in parts per thousand ‰, where 0‰ means that the isotopic signature of the sample is the same as that of the reference material. Positive numbers indicate a signature characterized by a greater relative abundance of higher mass-isotopes. Negative numbers indicate a greater abundance of lower-mass isotopes. Other measures of isotopic signatures are also used, but δ^{202}Hg has proven especially valuable in assessing mercury sources in San Francisco Bay.

In mercury mining, mercury was separated from its parent rock material by exposing the ore (cinnabar) to high heat in a process called "roasting." In the process of roasting the cinnabar to produce mercury metal, mercury with lower ^{202}Hg was preferentially evaporated and recaptured as metal.

Continued on Page 3 →

Mercury has been called San Francisco Bay's public enemy number one (SFEI 2008). It is the main pollutant driving the Bay's fish consumption advisory and a prime suspect for harming the health of birds and other wildlife. Its most toxic form is methylmercury, which accumulates in biota and reaches higher concentrations as it is passed up the food chain. Methylmercury is primarily produced by bacterial action in sediments that contain mercury.

Understanding the sources, distribution, and rates of methylmercury production in San Francisco Bay are key issues for understanding how mercury enters and moves through the food chain. Direct analyses of total mercury and methylmercury in water, sediments, sport fish, and bird eggs, which are routine components of the RMP, provide some information, but do not answer all the questions. RMP special studies of biosentinel fish with small home ranges, such as the Mississippi silverside and topsmelt, provide additional data on

Continued on Page 2 →

REGIONAL MONITORING PROGRAM Update 2010

Upcoming Events

DEC 3

Seminar at San Francisco State University on Contaminants of Emerging Concern

Susan Klosterhaus will be giving a presentation on 'Contaminants of Emerging Concern in San Francisco Bay' as part of San Francisco State University's Department of Chemistry Spring Seminar Series.

DEC-JAN

RMP Estuary News Insert (cover shown on right)

The annual RMP update will be distributed in the December issue of the Estuary Newsletter, published by the San Francisco Estuary Partnership. It highlights two recently completed RMP studies on mercury cycling in the Bay.

FEB 24

California Academy of Sciences Docent Visit

SFEI will host the California Academy of the Sciences docents.
Docents will learn about SFEI's work with a focus on the Wetland Science Program

For comments or corrections, please email the Design Department, (lindaw@sfei.org).

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ASC

SFEI

2011 Annual Plan

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December 2, 2010

Contents

A. Introduction

The 2010 Program Plan for the San Francisco Estuary Institute represented a new approach to planning, tracking, and reporting by augmenting the initial, anticipated work effort for the whole year with detailed quarterly updates. Likewise, the 2011 Plan is the first best estimate of our intended work effort for the coming year and a road map for both Boards of Directors (Aquatic Science Center and San Francisco Estuary Institute) to oversee and guide implementation by considering and acting on quarterly updates and adjustments. The 2011 Plan incorporates projects funded through the San Francisco Estuary Institute and the Aquatic Science Center, since both organizations share the same staff. However, since the Aquatic Science Center operates on a state fiscal year (July 1 through June 30), this Program Plan may be considered the semi-annual update to its own 2010/11 Plan approved in June 2010. Projects and their respective budgets are organized not only by general focus areas or initiatives but also by the entity that serves as the recipient of grant or contract funds (ASC or SFEI).

B. 2010 in Review

Projects

The year started with all suspended projects back on track and being re-negotiated. This caused considerable disruptions in terms re-prioritization of work load, especially on projects where partners were no longer in a position to participate. All previously suspended projects required scope modifications and timeline extensions that in most cases were shorter than the suspension period. Two major projects in that category were completed in 2010 (*Napa River Watershed Profile: Past and Present Alluvial River Function in the Napa River Watershed and Implications for Future Management and Essential Ecological Services* and *A BMP Toolbox for Reducting Polychlorinated Biphenyls and Mercury in Municipal Stormwater*). Both resulted in notable findings that will culminate in a book to be published by UC Press in the first half of 2011 (Napa Valley Historical Ecology Atlas, partially funded by a Prop 40 grant), and several peer-reviewed publications that are in the planning stages.

The Institute re-gained its financial footing and is expected to end the year with a surplus. The number

of existing and new SFEI and ASC projects awarded in 2010 provides funding for the next 28 months, which provides for a comfortable planning horizon.

Operations

In 2010, implementation of a number of operational improvements included:

- revisions to the job classification system and initial adjustments to the salary structure
- implementation of a new, integrated project planning, tracking, payroll, and accounting system
- updates to policies and procedures in the human resources arena
- guidance development for tracking and reporting internally funded project expenses, milestones, and deliverables
- a concerted effort to diversify the Institute's funding portfolio to become less dependent on bond-funded projects
- assessment of strategic human resource development needs
- performance documentation of information technology infrastructure operation and maintenance.

All of these improvements will be tracked and adjusted as needed with a direct linkage to the strategic plan revisions to be completed in 2011.

Board and Staff

The Nominating Committee of the Board successfully attracted four new board members that started serving SFEI in June. Four new staff members joined the Institute, one filling an existing vacancy, and three stepping into newly created positions. Selected staff members participated in a re-evaluation of scientific directions, began discussions with mid- and upper-level management at key agencies we are supposed to serve and began to "map" our existing work efforts and planned initiatives onto the management needs articulated by our agency colleagues. This resulted in a gap analysis ("What new expertise do we need?" "What partnerships should we strengthen?" "How do we build the most effective teams?"). We used that analysis to help us define the desired characteristics of new senior staff members we would like to attract (Deputy Director, Senior Scientists), and how to build teams with the appropriate leadership. This internal strategic evaluation has so far resulted in a complete re-organization of the former Environmental Informatics Program, led until summer of 2010 by John Oram, who has changed his affiliation with SFEI to adjunct Research Associate. In August 2010, Meredith Williams became the director of the Environmental Data, Information, and Technology (EDIT) group. Another major change in responsibilities occurred in recognition of the need for better integration of our former program areas. Josh Collins stepped into the new role of Lead Scientist to develop and coordinate science initiatives as part of strategic plan implementation, integration of projects encompassing multiple scientific disciplines, development of regional monitoring program elements covering valued ecosystem functions and services, and broad scientific oversight of project team products. The Lead Scientist will serve as a highly knowledgeable resource to all scientists at SFEI with regard to project development, execution, and science communication in the service of environmental management, regulation, and policy. Josh will also help strengthen connections to the San Francisco Estuary Partnership and its Director. As our strategic plan takes on more concrete form in 2011 as part of our organizational effectiveness improvements, we will add key members to our exsisting staff of 41 full-time and nine part time employees and three limited-term interns, staff roles and responsibilities will evolve accordingly.

Lease Options

The evaluation process of alternative locations to our existing building began in earnest in 2010 in anticipation of our lease expiration at 7770 Pardee Lane in October of 2011. This evaluation eliminated 18 out of 20 options based on key criteria, such as on-site field equipment storage, lab facilities, and cost. A decision will be forthcoming in early 2011.

C. New Strategic Directions

In anticipation of a more stable financial foundation in 2010, both the Aquatic Science Center and SFEI Boards decided to develop and update their respective strategic plans, which are at this point interlinked. The planning processes will reach into 2011 and involve two consultant teams. Senior staff is aware of the implications and follow-up needs these efforts entail in terms of developing business plans and priorities for (a) products and services (science and tool development); (b) stakeholder and community outreach; (c) financial and resource management; and d) human resource management – all of which need to be aligned with our new and/or revised vision and mission statements. I expect to have the ASC plan completed by June 2011 and the SFEI plan updated by September 2011. The required resources for completing this process are included in the 2011 budget and specific descriptions for internally funded projects (see Section F)

D. Continuing Operational Improvements

Our HR consultants conducted targeted interviews with staff across the Institute to assess barriers to improving our operational efficiencies and developed key recommendations for improvements. The Institute has not had a formal professional development and training plan in place since its founding. As a result, no mechanisms yet exist that would make staff development an integral element of a "people strategy" that will take care of that gap and becomes incorporated into the emerging SFEI and ASC business plans. Over time and as resources allow, staff will receive training in the key areas of project management, leadership development, communication skills, meeting effectiveness, performance management, and team-

building. Future Program Plan updates will contain specific internally funded project descriptions as these subject areas become better defined following the new reporting system below.

E. Budget

Assumptions

The budget presented here is a combination of hard numbers and estimates for revenues and expenses for 2011. While all projects with signed agreements and proposals with a promise of a future contract award have been included, the latter category contains uncertainties with regard to start and ending dates. The plan is based on best judgment with respect to work-load allocation. Quarterly Plan Updates will insure that the Board can follow developments as they become more certain. A number of projects are at a stage where we know with fairly high confidence that they will be funded, but we will not have any formal notification prior to the December 2 Board Meeting. They include a Prop 84 Integrated Regional Water Management grant from DWR and the North San Diego County Historical Ecology Study (proposed to the State Coastal Conservancy in collaboration with SCCWRP). They are included in the proposed budget. Increasingly, state budget problems and increased processing times due to agency staff cut-backs make it difficult to allocate work load with a high degree of certainty. Some project hours, currently allocated in 2011, may spill over into 2012. Quarterly updates to the Program Plan will reveal how workflow becomes more predictable over time.

Documentation

Labor costs include a 2.5% adjustment pool (excluding promotions to higher job classes). Our current billing multipliers of 2.85 for local and state government and non-profits, and 2.7 for ASC projects will remain the same as in 2010. Our separate federal indirect cost rate that is calculated for the non-RMP portion of our budget is likely to decrease from 2.82 in 2010 to 2.75 in 2011 (currently under negotiation).

The Institute currently has 41 full-time and nine part-time, benefited staff members, as well as three interns. The Deputy Director vacancy, a mid-level and two senior scientist positions that are being advertised now are fully budgeted for 2011.

Tables 1a-c show the projected revenues in 2011 for the Aquatic Science Center, the Regional Monitoring Program for Water Quality, and all other SFEI projects, respectively. Total projected revenue from all three sources is shown in Table 1d.

Table 1a. Projected Revenue – ASC

	ASC Year Budget
Revenue	
Billed Labor	$ 1,247,942
Subcontracts	$50,000
Other Reimb Revenue	$10,000
Total Revenue	$ 1,307,942

Table 1b. Projected Revenue – RMP

	RMP Budget
Revenue	
Billed Labor	$ 1,640,910
Subcontracts	$1,350,000
Other Reimb Revenue	$159,530
Total Revenue	$ 3,150,440

Table 1c. Projected Revenue - SFEI

	SFEI Year Budget
Revenue	
Billed Labor	$ 2,317,607
Subcontracts	$500,000
Other Reimb Revenue	$50,000
Total Revenue	$ 2,867,607

Table 1d. TOTAL Projected Revenue

	Total Year Budget
Revenue	
Billed Labor	$ 5,206,459
Subcontracts	$1,900,000
Other Reimb Revenue	$219,530
*Other Revenue	$8,500
Total Revenue	$ 7,334,489

*Extra revenue from rental income & equipment rental

Table 2 Projected Expenses

Expenses	
Salaries	$3,297,979
Benefits	$854,165
Total Labor Expenses	**$4,152,144**
Subcontracts	$1,900,000
Other Reimb Expense	$219,530
Total Direct Cost Expenses	**$2,119,530**
Legal/Accounting	$25,000
Consultants	$80,000
Supplies - Office	$25,000
Publications/Dues	$5,000
Printing	$12,000
Postage & Courier	$5,000
Small Equip Office & Field	$15,000
Contingency for Moving Expenses	$13,000
Rent	$347,000
Equipment Lease & Rental	$35,000
Telephones	$25,000
Insurance	$35,000
Repairs & Maint	$8,000
Janitorial service	$25,000
Travel	$20,000
Professional Development	$30,000
Conference	$20,000
Membership	$8,000
Recruiting Costs	$8,000
License & Taxes	$2,000
Depreciation	$47,000
Bank/Payroll fees	$5,000
Miscellaneous	$2,000
Bad debt expense	$2,000
Total Admin Expenses	**$799,000**
Workstation software	$36,130
Workstation hardware	$23,500
IT Training	$37,000
Internet	$8,100
Data Storage (Backup)	$5,880
Server software	$9,870
Server hardware	$12,020
Small Equip. & Books	$16,750
Total IT Expenses	**$149,250**
TOTAL EXPENSES	**$7,219,924**
Controllable Costs/Year	$241,000
Controllable Costs/Month	$20,083

Table 2 shows the projected labor, subcontract, administrative and information technology expense line items for 2011. As a contingency, in case of a move to Richmond at the end of 2011, we included specific investments in virtual meeting technology and estimated moving expenses of $13,000.

Table 3 Summarized Budget

Admin Expense Budget	$ 799,000	2011
IT Expense Budget	$ 149,250	
Labor Expense Budget	$ 4,152,144	
Direct Cost Expense Budget	$ 2,119,530	
Total Expense Budget	$ 7,219,924	
Total Revenue Projected	$ 7,334,489	
Surplus/(Deficit) Projected	$ 114,565	

Admin Expenses Projected	$ 697,373	2010
IT Expenses Projected	$ 79,040	
Labor Expenses Projected	$ 3,638,778	
Direct Cost Expense Projected	$ 2,035,906	
Total Expenses Projected	$ 6,451,097	
Total Revenue Projected	$ 6,647,464	
Surplus/(Deficit) Projected	$ 196,367	

The summarized budget of anticipated revenue and expenses for 2011 is shown in Table 3 in comparison to the 2010 budget.

F. Planned Staff Allocation for 2011

Since early 2010, project managers, the contract manager, and controller have applied the new planning, tracking, and accounting software (Deltek Vision®) to Program Plan Updates. Quarterly plan updates will show work allocation estimates that will be leveled on an ongoing basis as new positions are being filled and start dates for new projects become known. Each quarterly Program Plan Update will indicate to what extent former estimates of project start dates and corresponding work load allocations are adjusted.

G. Project Descriptions

For the first time, internally funded projects with a clearly defined scope, start and end date, are included in the following project descriptions that summarize the objectives and scope of projects exceeding a total project budget of $5,000. Project descriptions follow the emerging new organizational template based on broad, interdisciplinary initiatives. They include:

1. Aquatic Science Center

- a. Clean Water
- b. Historical Ecology
- c. Conservation Biology
- d. Water-wise Landscapes
- e. Environmental Data, Information, and Technology

2. SFEI

- a. Clean Water
- b. Historical Ecology
- c. Conservation Biology
- d. Water-wise Landscapes
- e. Environmental Data, Information, and Technology
- f. Administration

1. Aquatic Science Center

a. Clean Water

Project Title
Focused Funding for Central Valley RMPs

PROJECT CODE
8100

START DATE
2/4/10

ANTICIPATED COMPLETION
3/31/12

TOTAL FUNDING
$300,000

FUNDING FOR SFEI LABOR
$246,916

FUNDING FOR 2011 SFEI LABOR
$140,000

STATUS
Active

DIRECT CLIENT
SWRCB

PRIMARY CLIENT
Same

LEAD SCIENTIST
Thomas Jabusch

PROJECT MANAGER
Meg Sedlak

COLLABORATORS
Brock Bernstein

Project Description
This project is intended to provide technical, administrative, and science support for planning and implementing a comprehensive regional water quality monitoring program for the Sacramento-San Joaquin Delta (Delta RMP). The initial planning phase of the Delta RMP development has been completed with the preparation of a draft program plan that describes a phased approach consisting of a program pilot, development phase, and the long-term program implementation. At an initial Delta RMP stakeholder workgroup meeting, consensus was reached that the Central Valley and State Water Boards, assisted by the Aquatic Science Center, would be responsible for coordinating this phase.

Work Products
Technical Plan describing Regional Monitoring and Assessment Framework and Delta RMP implementation; Program Plan presenting an interim organizational structure, projects, and anticipated organizational budget for the first year of the long term implementation; "Delta Pulse" report communicating a comprehensive analysis of priority water quality management issues in the Delta (e.g. ammonia, pyrethroids, endocrine disruptors, toxicity).

Plans for 2011
Publish first Delta Pulse report (January 2011)
Develop Technical Plan describing Regional Monitoring and Assessment Framework

Recent Findings and Publications
DRAFT Delta RMP (Plan) distributed to stakeholders in June 2010; Central Valley Monitoring Directory was officially launched in August; poster presentations at IEP workshop (Delta RMP) and Bay-Delta Science Conference (Monitoring Directory)

Project Status
Currently preparing the publication of the first Delta Pulse and a feasibility/sustainability study for the Monitoring Directory

Project Title
Delta Water Quality

PROJECT CODE
8104

START DATE
10/1/10

ANTICIPATED COMPLETION
3/31/12

TOTAL FUNDING
$200,000

FUNDING FOR SFEI LABOR
$141,979

FUNDING FOR 2011 SFEI LABOR
$113,583

STATUS
In Negotiation

DIRECT CLIENT/ PRIMARY CLIENT

EPA

LEAD SCIENTIST
Thomas Jabusch

PROJECT MANAGER
Meg Sedlak

COLLABORATORS
Brock Bernstein

Project Description

The purpose of this project is to assess the effectiveness of the current regulatory mechanisms designed to protect water quality in the Sacramento - San Joaquin Delta. Anticipated project outputs include:

A synthesis report of priority water quality issues in the Delta

A consultation process for prioritizing water quality issues and evaluating the effectiveness of the current regulatory framework.

A report, "DeltaPulse 2012", which will present project findings and recommendations in a format accessible to a wide audience. The "DeltaPulse 2012" will be produced in cooperation with the Central Valley Regional Water Quality Control Board.

Anticipated outcomes from this project include the following:

An evaluation of the ability to assess beneficial use attainments at the regional scale based on current regulatory monitoring requirements

An identification of institutional impediments to such assessments and suggestions about how they might be addressed and over what timeframe.

Work Products

Tech Memos, Reports, DeltaPulse

Plans for 2011

Prepare a synthesis of Delta water quality issues related to USEPA's Advanced Notice of Proposed Rule Making; synthesize stakeholder responses to ANPR; conduct consultation process to prioritize issues and develop recommendations; synthesize consultation and recommendations

Project Status

Prepared final workplan and budget. Contract execution is pending the processing of the formal grant application by USEPA.

Project Title

SF Bay Exposure Reduction Program

PROJECT CODE
8350

START DATE
12/1/10

ANTICIPATED COMPLETION
12/31/12

TOTAL FUNDING
$300,000

FUNDING FOR SFEI LABOR
$31,881

FUNDING FOR 2011 SFEI LABOR
$10,478

STATUS
Active

DIRECT CLIENT/ PRIMARY CLIENT
CDPH/BACWA/WSPA/BASMAA

LEAD SCIENTIST
Rainer Hoenicke

PROJECT MANAGER
Jennifer Hunt

COLLABORATORS
DPH, BASMAA, WSPA, BACWA

Project Description

The Mercury TMDL has a provision to develop a San Francisco Bay Risk Reduction Program to reduce mercury exposure from local sport fish consumption. As part of the San Francisco Bay municipal and industrial waste discharge permits, permittees are required to develop, an exposure reduction program that targets consumers of San Francisco Bay caught fish. The Bay Area Clean Water Agencies (BACWA), industrial dischargers, Bay Area Stormwater Management Agencies Association (BASMAA), and the Western States Petroleum Association (WSPA) are currently being asked by the San Francisco Bay Regional Water Quality Control Board (Water Board) to develop a risk reduction program. The Department of Public Health (DPH) has a MOA with ASC to perform the technical work with ASC staff working in facilitation and coordination of the project.

Work Products

Exposure reduction framework and a final report

b. Historical Ecology

Project Title
Sacramento-San Joaquin Delta HE

PROJECT CODE
8700

START DATE
6/30/09

ANTICIPATED COMPLETION
9/30/11

TOTAL FUNDING
$350,000

FUNDING FOR SFEI LABOR
$316,033

FUNDING FOR 2011 SFEI LABOR
$137,000

STATUS
Active

DIRECT CLIENT/PRIMARY CLIENT
DFG

LEAD SCIENTIST
Robin Grossinger

PROJECT MANAGER
Alison Whipple

Project Description
This project is intended to document the ecological and hydrogeomorphic characteristics of Sacramento-San Joaquin Delta prior to significant Euro-American modification. This historical reconstruction will illustrate, to the extent possible, patterns of variation and extent of habitats throughout the Delta to better understand species support functions and controlling physical processes within the native landscape. Such information will provide a basis for identifying target locations and physical conditions necessary to restore functional habitat mosaics within the projected future Delta landscape, and will inform the ERP Conservation Strategy and other restoration efforts.

c. Conservation Biology

Project Title
Stream & WL System Protection Policy Support: Technical Advisory Team (TAT)

PROJECT CODE
8401, 8402 & 8404

START DATE
11/1/08

ANTICIPATED COMPLETION
11/30/12

TOTAL FUNDING
$817,200

FUNDING FOR SFEI LABOR
$502,433

FUNDING FOR 2011 SFEI LABOR
$135,000

STATUS
Active

DIRECT CLIENT
SWRCB, ARRA & EPA

PRIMARY CLIENT
Same

LEAD SCIENTIST
Josh Collins

PROJECT MANAGER
Sarah Lowe

COLLABORATORS
SWRCB, US ACE, SFBRWQCB, Humboldt Bay Harbor, Recreation and Conservation District, SCCWRP, Ben Livsey, DFG, US-Forest Service

Project Description
SFEI has been funded to assemble and coordinate a team of Technical Advisors to provide technical oversight for the new Wetland and Riparian Area Protection Policy (WRAPP). The team has been charged with recommending a wetland definition and standardized methods of wetland delineation, mapping, and classification that are applicable statewide.

Background: The State Water Resources Control Board passed Resolution 2008-0026 for "development of a policy to protect wetlands and riparian areas in order to restore and maintain the water quality and beneficial uses of the waters of the State" to foster greater efficiency, effectiveness, and consistency among State Water Board programs, to reverse the trend in wetland loss revealed by recent scientific studies, and to counter a series

of U.S. Supreme Court decisions that have destabilized Federal wetland jurisdiction, resulting in less protection for California wetlands. The resolution called for a Policy Development Team (Policy Team) to coordinate with other State and federal agencies and interested stakeholders. The WRAPP is being developed in three Phases.

Phase 1 establishes a policy to protect wetlands from dredge and fill activities by establishing the intent of the California Water Boards to protect all waters of the State in coordination with other local, State, and federal agencies and local watershed interests; provide a statewide wetland definition; develop a framework for protecting water quality and beneficial uses at watershed scales; and, provide guidance on tracking wetland condition and function.

Phase 2 will expand the scope of the policy to protect wetlands from all other activities, in addition to dredge and fill activities.

Phase 3 will extend the policy's protection to riparian areas.

The TAT works by writing Technical Memoranda recommending a definition of wetlands as well as methods of wetland delineation, mapping, and classification that are applicable statewide. These memoranda are submitted for review by the California Wetlands Monitoring Workgroup, The Policy Development Team, and the Interagency Coordinating Committee comprised of executive managers from State and federal agencies with regulatory authority over wetlands.

Work Products
Technical Memoranda on specific scientific questions presented to the TAT by the PDT.

Plans for 2011
TAT meetings will focus on wetland delineation and classification and will draft a definition of channels and riparian areas.

Recent Findings and Publications
To date the TAT has developed scientific guidance on wetlands definitions, aquatic support areas in a watershed context, and wetlands delineation. Additionally TAT has been funded to develop guidance on wetland classification systems, mapping method standardization and a statewide wetland and riparian monitoring and assessment plan. Several technical memos have been developed by the TAT and released to the public including: the Role of the TAT, Definitions of Wetlands, Watershed Context (Landscape Framework for Wetlands and Other Aquatic Areas), and Wetlands Identification and Delineation.

Project Status
The Policy Development Team (PDT) has established a Technical Advisory Team (TAT) to help assure that the WRAPP is scientifically sound. To date the TAT has recommended a wetland definition, explained wetlands in the landscape context, and recommended a methodology for delineating wetlands. The TAT is drafting definitions of riparian areas and channels for further technical review. The current project will continue TAT work in support of the State WRAPP. The PT has suggested that the TAT first focus on wetlands and then expand its focus to include channels and riparian areas.

Project Title
Tahoe Region Wetlands Protection Development - CA WRAMP

PROJECT CODE
8403

START DATE
12/1/10

ANTICIPATED COMPLETION
11/30/13

TOTAL FUNDING
$345,000

FUNDING FOR SFEI LABOR
$177,195

FUNDING FOR 2011 SFEI LABOR
$109,500

STATUS
Active

DIRECT CLIENT
EPA

PRIMARY CLIENT
EPA

LEAD SCIENTIST
Josh Collins

PROJECT MANAGER
Sarah Lowe

COLLABORATORS
Tahoe Regional Planning Agency (TRPA), California Tahoe Conservancy (CTC), & Lahontan Regional Water Board (RB6SLT)

Project Description
This project will conduct a watershed assessment and landscape profile within the Tahoe Basin through a collaborative multi-agency regional effort to evaluate the efficacy of the California Wetland and Riparian Area Monitoring Program (WRAMP) for the Sierra ecoregion. The project will establish a multi-agency Sierra Regional Team to (1) test the ability of the draft wetland and riparian mapping protocol to depict the Sierran Stream Environment Zones that are jointly managed by Federal,

State, and local agencies; (2) use the mapping protocol to assess the distribution, abundance, and size-frequency of wetlands and other aquatic habitats in the demonstration watershed; (3) integrate the Sierra ecoregion into the California Wetlands Portal by adding the base map and selected wetland projects to the Wetland Tracker; and (4) begin developing a montane wet meadow module of the California Rapid Assessment Method (CRAM).

Work Products

1) Sierra ecoregion base map and selected wetland projects to be added to the Wetland Tracker

2) Begin developing a CRAM module for the montane wet meadow of the Sierra ecoregion.

Plans for 2011

The base maps will be developed and the work teams will develop the Sierra-ecoregion CRAM module.

Project Status

An initial meeting was held to discuss the project with stakeholders and multi-agency work teams have been identified

d. Water-wise Landscapes

Project Title

Performance Curves & Watershed Profiles

PROJECT CODE
8251

START DATE
1/1/11

ANTICIPATED COMPLETION
12/31/13

TOTAL FUNDING
$346,091

FUNDING FOR SFEI LABOR
$233,251

FUNDING FOR 2011 SFEI LABOR
$77,143

STATUS
Active

DIRECT CLIENT/PRIMARY CLIENT
EPA

LEAD SCIENTIST
Letitia Grenier

PROJECT MANAGER
Sarah Lowe

Collaborators

SCCWRP/Regional Board - 2

Project Description

A major uncertainty about the efficacy of the State's wetland protection strategy stems from a lack of information about the reasonable performance criteria for mitigation and restoration projects and how much time the projects might require to reach performance limits. The objective of this project is to develop performance curves using CRAM for estuarine and coastal riverine systems to show how overall condition, as assessed using CRAM, increases over time and what levels of performance are ultimately achieved by projects, relative to reference conditions. These performance curves will significantly help calibrate public and agency expectations and inform mitigation plans to minimize the risk of temporary losses of wetland functions (due to lags between wetland impacts and compensatory mitigation) or permanent losses (due to unreasonable expectation for project performance).

Work Products

1) White paper detailing approach to performance curves

2) CRAM assessments for 60 projects and 30 reference sites in Wetland Tracker of the California Wetland Portal

3) Project performance curves for estuarine wetlands of the San Francisco Bay Area and for riverine systems of coastal Southern California

4) Develop training curriculum for integrating watershed profiles and performance curves into the CA wetland protection strategy

Plans for 2011

In 2011 this project will focus on developing online watershed profiles and tools for quantifying and displaying wetland and watershed resources that will be used in developing the performance curves.

Project Status

This project will begin in 2011.

e. Environmental Data, Information and Technology

Project Title
Safe to Eat Portal

PROJECT CODE
8103

START DATE
6/15/10

ANTICIPATED COMPLETION
6/30/11

TOTAL FUNDING
$48,000

FUNDING FOR SFEI LABOR
$47,952

FUNDING FOR 2011 SFEI LABOR
$35,600

STATUS
Active

DIRECT CLIENT
SWRCB

PRIMARY CLIENT
Same

LEAD SCIENTIST
Thomas Jabusch

PROJECT MANAGER
Meg Sedlak

Project Description
These funds will cover work to enhance the Safe to Eat Portal. The work will be performed under the guidance of the CWQMC and the Bioaccumulation Oversight Group (a workgroup of the CWQMC), and under the supervision of the State Water Board contract manager. Specific features and datasets to be added to the Safe to Eat Portal will be selected under the direction of the Council, the BOG, and the State Board. Project includes coordination of BOG meetings and preparation of materials to develop an expanded BOG and to facilitate discussions needed to develop the Safe to Eat Portal. Coordination with the Council (attending meetings, reporting on progress, preparing and reviewing documents).

Work Products
Enhanced Safe to Eat Portal

Plans for 2011
Complete enhancements by June 2011.

Recent Findings and Publications
The Safe to Eat Portal: http://www.waterboards.ca.gov/mywaterquality/safe_to_eat/index.shtml

Project Title
Coastal Impact Assistance Program Wetlands Monitoring Tool Kit

PROJECT CODE
84xx

START DATE
3/1/11

ANTICIPATED COMPLETION
12/31/13

TOTAL FUNDING
$795,000

FUNDING FOR SFEI LABOR
$242,750

FUNDING FOR 2011 SFEI LABOR
$191,650

STATUS
In Negotiation

DIRECT CLIENT/ PRIMARY CLIENT
CIAP

LEAD SCIENTIST
Josh Collins

PROJECT MANAGER
Sarah Lowe

COLLABORATORS
Southern California Coastal Water Research Project, Moss Landing Marine Laboratories, California Coastal Commission, Humboldt Bay Harbor, Recreation and Conservation District

Project Description
This project will fund significant improvements in both Wetland Tracker and CRAM/eCRAM. The improvements will address end user needs, improve data management, analysis and reporting tools. The project will also include development and calibration of the depressional wetlands module for CRAM and will include a North Coast Demonstration of the 1-2-3 toolkit in a selected watershed. This project is will extend the functionality of Wetland Tracker portion of the Aquatic Atlas as the common data management system for the State's primary wetland protection policies and programs, including the 401 Certification and WDR Programs, the proposed Wetland and Riparian Area Protection Policy, and the State's No-Net-Loss Policy.

Work Products

- Revised eCRAM interface with improved GUI and tools for CRAM practitioners
- Tracker project input, flow, and habitat info

Project Title
Healthy Streams Portal

PROJECT CODE
8401

START DATE
9/1/10

ANTICIPATED COMPLETION
6/30/11

TOTAL FUNDING
$48,000

FUNDING FOR SFEI LABOR
$48,000

FUNDING FOR 2011 SFEI LABOR
$46,300

STATUS
Active

DIRECT CLIENT
SWRCB

PRIMARY CLIENT
EPA

LEAD SCIENTIST
Josh Collins

PROJECT MANAGER
Cristina Grosso

COLLABORATORS
Jon Marschak

Project Description
The ASC will work with the Healthy Streams Partnership to define content for and implement a new My Water Quality Portal for California streams and rivers. The portal will revolve around a key set of questions for assessing and reporting on the health of California streams. The ASC will work to help identify candidate existing data sets to be incorporated into the Portal.

2. San Francisco Estuary Institute

a. Clean Water

In the early 1990s, the San Francisco Bay Regional Water Quality Control Board obtained agreement by discharge permit holders that pooling their respective resources to form a monitoring consortium administered by an independent not-for-profit science organization would be a cost-effective mechanism to support management decisions related to pollution prevention, control, and remediation. Since then, the Regional Monitoring Program for Water Quality in the San Francisco Estuary (RMP) has become a mechanism to not only track the outcomes of water quality attainment strategies by dischargers and regulators, but also to articulate key management questions that could only be addressed through specific assessments. The Institute has been augmenting resources made available by the Regional Monitoring Program participants through assessments or special studies funded by other sources. Over time, the success of the RMP has caused other regions to consider it as a model, with Delta and Central Valley stakeholders exploring similar coordinated monitoring approaches. The Clean Water section of the 2011 Program Plan includes all RMP elements and complementary monitoring, study, and assessment efforts designed to protect beneficial uses and prevent degradation of aquatic resources.

Project Title

The Regional Monitoring Program for Water Quality in the San Francisco Estuary

PROJECT CODE
3011

START DATE
9/1/10

ANTICIPATED COMPLETION
12/31/11

TOTAL FUNDING
$3,400,000

FUNDING FOR SFEI LABOR
$1,628,910

FUNDING FOR 2011 SFEI LABOR
$1,628,910

STATUS
Active

DIRECT CLIENT/ PRIMARY CLIENT
NPDES permit holders for San Francisco Bay

LEAD SCIENTIST
Jay Davis

PROJECT MANAGER
Meg Sedlak

Project Description

The RMP is entering its 18th year of monitoring and synthesis. Since its inception, the purpose of the Program was to collect ambient water quality data and provide assessments to support management decisions. This continues to be a major goal and is addressed primarily through the core annual Status and Trends (S&T) monitoring program. The S&T program has been expanded over the years to include long-term water, sediment, and bivalve monitoring; hydrographic and sediment transport studies; and triennial bird egg (cormorant and tern) and sport fish monitoring. The RMP augments the status and trends element of the RMP with special studies on select topics.

The RMP is a partnership that combines shared financial support, direction, and participation by regulatory agencies and the regulated community in a model of collective responsibility. The RMP has established a climate of cooperation and a commitment to participation among a wide range of regulators, dischargers, industry representatives, non-governmental agencies, and scientists. The RMP provides an open forum for interested parties to discuss contaminant issues facing the Bay.

Stable funding has enabled the RMP to develop long-term plans through the core annual monitoring program, Status and Trends. In addition, pilot and special studies provide an opportunity to adapt to changing management priorities and advances in scientific understanding. RMP committees and workgroups meet regularly to keep the Program efficient, focused on the highest priority issues, and to ensure that the RMP is based on sound science. The RMP has continually improved since its inception in 1993.

The RMP has produced a world-class dataset on estuarine contaminants. Monitoring performed in the RMP determines spatial patterns and long-term trends in contamination through sampling of water, sediment, bivalves, bird eggs, and fish, and evaluates toxic effects on sensitive organisms and chemical loading to the Bay. The Program combines RMP data with data from other sources to provide for comprehensive assessment of chemical contamination in the Bay.

The RMP provides information targeted at the highest priority questions faced by managers of the Bay. The RMP produces an Annual Monitoring Report that summarizes the current state of the Estuary with regard to contamination, a summary report

(Pulse of The Estuary), technical reports that document specific studies and synthesize information from diverse sources, and journal publications that disseminate RMP results to the world's scientific community. The RMP website provides access to RMP products and links to other sources of information about water quality in San Francisco Bay.

The RMP budget for 2010 is projected to be $3.4 million dollars with approximately $500,000 of that budget dedicated to pilot and special studies. The general elements of the status and trends monitoring effort, pilot and special studies, as well as program management, data management and information synthesis activities and products are described in more detail below.

Project Title
RMP Program Management

START DATE
January 2011

ANTICIPATED COMPLETION
December 2011

TOTAL FUNDING
$592,000

FUNDING FOR SFEI LABOR
$520,700

FUNDING FOR 2011 SFEI LABOR
$520,700

CLIENT
RMP Participants

LEAD SCIENTIST
Jay Davis

PROJECT MANAGER
Meg Sedlak

COLLABORATORS
RMP Stakeholders

Project Description
The administration and management of the RMP requires a substantial effort from SFEI staff. Costs for this component of the RMP reflect the staff time required to manage finances and contracts, plan and coordinate internal activities and workgroups, and provide technical oversight of RMP products

Work Products
Varied. Workgroup, Technical Review Committee and Steering Committee meetings. Program Plans and workplans.

Project Title
Information Management and Synthesis

START DATE
January 2011

ANTICIPATED COMPLETION
December 2011

TOTAL FUNDING
$697,600

FUNDING FOR SFEI LABOR
$640,500

FUNDING FOR 2011 SFEI LABOR
$640,500

STATUS
Will start in January 2011

CLIENT
RMP Participants

LEAD SCIENTIST
Jay Davis

PROJECT MANAGER
Meg Sedlak

COLLABORATORS
RMP Stakeholders

Project Description
The overarching goal of the RMP is "to collect data and communicate information about water quality in the San Francisco Estuary to support management decisions." Therefore, all activities related to data management, RMP web site maintenance, development of newsletters, the RMP Annual Meeting, presentations, and information transfer to a variety of audiences, including preparation of the RMP Annual Monitoring Results and the "Pulse of the Estuary", are included in this category.

Work Products
Varied. Maintenance and improvements of the database; newsletters, annual meeting, national presentations, Pulse of the Estuary and the Annual Monitoring Results.

Project Title
Status and Trends

START DATE
January 2011

ANTICIPATED COMPLETION
December 2011

TOTAL FUNDING
$1,110,000

FUNDING FOR SFEI LABOR
$85,000

FUNDING FOR 2011 SFEI LABOR
$85,000

STATUS
Will start in January 2011

CLIENT
RMP Participants

LEAD SCIENTIST
Jay Davis

PROJECT MANAGER
Meg Sedlak

COLLABORATORS
RMP Stakeholders

Project Description
The Status and Trends (S&T) monitoring program is the core of the Regional Monitoring Program, providing long term status and trends data regarding sediment, water, sportfish, and bivalves. In 2011, the RMP will be sampling water and sediment in the dry season and analyzing these matrices for organic and inorganic compounds of interest.

Work Products
Collection of ambient water and sediment samples.

Project Title
Mercury Synthesis/ Conceptual Model Update

START DATE
December 2010

ANTICIPATED COMPLETION
August 2011

TOTAL FUNDING
$75,000

FUNDING FOR SFEI LABOR
$75,000.

FUNDING FOR 2011 SFEI LABOR
$75,000

STATUS
Will start in December 2010

CLIENT
RMP Participants

LEAD SCIENTIST
Jay Davis

PROJECT MANAGER
Meg Sedlak

COLLABORATORS
Don Yee, Ben Greenfield, Letitia Grenier, Lester McKee, Josh Collins (SFEI)
Coastal and Marine Mercury Ecosystem Research Collaborative

Project Description
Mercury is a high priority contaminant for the Bay. A TMDL for the Estuary has been developed; however, a number of uncertainties pose obstacles to management of this contaminant. The synthesis paper will be an opportunity to evaluate our understanding of mercury processes in the Bay by incorporating the most recent results, to update the conceptual model of mercury in San Francisco Bay developed in 2006, and to identify additional data gaps. The findings of this synthesis will be published in an article in a special issue of a journal featuring synthesis papers for seven major ocean regions as part of the Coastal and Marine Mercury Ecosystem Research Collaborative.

Work Products
Technical Report and Peer Reviewed publication

Plans for 2011
Draft outline: December 2010
Draft report: May 2011
Final report: August 2011

Project Title
Mercury Food Web Uptake (Small Fish)

START DATE
January 2011

ANTICIPATED COMPLETION
February 2012

TOTAL FUNDING
$20,000

FUNDING FOR SFEI LABOR
$7,500 (still estimated – needs approval)

FUNDING FOR 2011 SFEI LABOR
$7,500 (still estimated – needs approval)

STATUS
Will start in January 2011

CLIENT
RMP Participants

LEAD SCIENTIST
Ben Greenfield

PROJECT MANAGER
Meg Sedlak

COLLABORATORS
Darell Slotton and Shaun Ayers (UC Davis)
Rachel Allen (SFEI)

Project Description

Since 2005, SFEI has been monitoring forage fish in the San Francisco estuary in order to assess the sources and sites of mercury entering the estuary. Results to date suggest a spatial gradient with elevated concentrations in the South Bay that decrease toward the Delta. However, the geographical patterns in seasonal variation of Hg concentrations are less consistent. There is a need to better understand the patterns and magnitude of seasonal variation of mercury, in order to determine what times of the year present greatest potential risk to piscivorous wildlife. Fish will be collected from Benicia State Park, Eden Landing, Alviso Slough, and Artisian Slough during three periods: January, May/June, and September/October. Data analysis, interpretation, and presentation will focus on identifying long-term trends and intersite seasonal variability. These analyses will be made available to the RMP community through the Pulse of the Estuary.

Work Products

Graphical analyses of long-term small fish data

Plans for 2011

Sampling: January, May, and October 2011
Formatted data results: February 2012

Recent Findings and Publications

Greenfield, B. K., and A. Jahn. 2010. Mercury in San Francisco Bay forage fish. Environmental Pollution **158**:2716-2724.

Project Title #6

Synthesis of Information on PCBs

START DATE
January 2011

ANTICIPATED COMPLETION
August 2011

TOTAL FUNDING
$53,000

FUNDING FOR SFEI LABOR
$53,000

FUNDING FOR 2011 SFEI LABOR
$53,000

STATUS
Will start in January 2011

CLIENT
RMP Participants

LEAD SCIENTIST
Jay Davis

PROJECT MANAGER
Meg Sedlak

COLLABORATORS
Don Yee, Ben Greenfield, Lester McKee, John Ross, Rachel Allen (SFEI)

Project Description

Like mercury, PCBs are a high-priority contaminant for the Estuary. Over the last five years, a wealth of information has been obtained including new information on surface sediments and water using the RMP randomized design; additional trend data for bird eggs, bivalves, and sport fish; surprising data from small fish which show relatively elevated concentrations; and information on the full suite of 209 congeners. Similar to mercury, the goal of the synthesis effort will be to produce a technical report that reevaluates the potential for adverse effects on human and wildlife due to PCBs based on these new sources of information, assesses PCB management actions in SF Bay and elsewhere, and identifies high priority information gaps.

Work Products

Technical report
Plans for 2011
Draft outline: January 2011
Draft report: May 2011
Final report: August 2011

Project Title

Dioxins in Status and Trends

START DATE
January 2011

ANTICIPATED COMPLETION
August 2012

TOTAL FUNDING
$28,000

FUNDING FOR SFEI LABOR
$7,000

FUNDING FOR 2011 SFEI LABOR
$7,000

STATUS
We will collect the samples in the summer of 2011. The labor for this task is largely for the review of data and a summary to the TRC which will occur late 2011.

CLIENT
RMP Participants

LEAD SCIENTIST
Susan Klosterhaus and Don Yee

PROJECT MANAGER
Meg Sedlak

Project Description

In 1998, San Francisco Bay was placed on the State of California's 303 (d) list of impaired waterways as a result of elevated concentrations of dioxins in fish. Monitoring of sport fish has shown that the concentrations have remained relatively constant over time and continue to exceed screening values for human consumption. In 2011, we will collect ambient surface water samples as part of the Status and Trends monitoring and analyze these samples for dioxins.

Work Products

Review of data and reporting to the TRC/Dioxin workgroup.

Plans for 2011

Collection of samples in the summer and review of data fall/winter.

Project Title

Emerging Contaminants: Broadscan Screening of Biota (year 2)

START DATE
January 2010

ANTICIPATED COMPLETION
December 2011

TOTAL FUNDING
$70,000

FUNDING FOR SFEI LABOR
$20,000

FUNDING FOR 2011 SFEI LABOR
$20,000

STATUS
The second part of this two-year project will start in January 2011

CLIENT
RMP Participants

LEAD SCIENTIST
John Kucklick (NIST) and Susan Klosterhaus (SFEI)

PROJECT MANAGER
Meg Sedlak

COLLABORATORS
SCCWRP, NIST

Project Description

Recent advances in analytical instrumentation and techniques have enabled the National Institute for Standards and Technology (NIST) to use a non-targeted approach to screen human samples to identify contaminants that are accumulating in humans. NIST will apply a similar approach to San Francisco Estuary samples to identify previously unmonitored anthropogenic chemicals that are accumulating in biota. In this second year of the two year study, NIST will continue to build its library of new chemicals and attempt to quantify any non-target compounds that are found in the San Francisco Bay mussel and seal samples.

Work Products

An interim draft report will be prepared in 2010; a final report will be prepared in December 2011.

Plans for 2011

Seal and mussel samples from San Francisco Bay have been sent to NIST for analyses. Because of the low concentrations of contaminants in mussels, further refinement of the method

for mussel analysis will be necessary. NIST will improve the existing mass spec libraries and conduct quantification of non-target compounds.

Project Status
Samples have been collected, submitted to NIST.

Project Title
Synthesis on Chemicals of Emerging Concern (CEC)

START DATE
August 2011

ANTICIPATED COMPLETION
August 2012

TOTAL FUNDING
The funding level for this study is $30,000 for the second half of 2011; with an additional $15,000 earmarked for the first half of 2012.

FUNDING FOR SFEI LABOR
$45,000

FUNDING FOR 2011 SFEI LABOR
$30,000

STATUS
Will start in August 2011.

CLIENT
RMP Participants

LEAD SCIENTIST
Susan Klosterhaus and Meg Sedlak

PROJECT MANAGER
Meg Sedlak

COLLABORATORS
Rachel Allen (SFEI)

Project Description
In the last five years, the RMP has collected data on emerging contaminants through RMP-funded special studies and by working with other researchers to have San Francisco Bay samples analyzed. The objective of this study is to prepare a summary report that synthesizes Contaminants of Emerging Concern (CEC) data for San Francisco Bay, evaluates the San Francisco Bay data in light of recommendations made by the expert state advisory panel regarding prioritization and monitoring of CECs, and makes recommendations for the next steps for monitoring San Francisco Bay.

Work Products
Technical Report

Plans for 2011
Review and synthesis of existing Bay Area CEC data.

Project Title
Small Tributary Loading Strategy - Regional Loadings: Spreadsheet Model

START DATE
January 2010

ANTICIPATED COMPLETION
October 2011 with presentation to the workgroup. Upgrading and expanding the model will be an annual activity.

TOTAL FUNDING
$20,000

FUNDING FOR SFEI LABOR
$20,000

FUNDING FOR 2011 SFEI LABOR
$20,000

STATUS
In 2010, the RMP developed a regional storm water model which will be further enhanced in 2011.

CLIENT
RMP Participants

LEAD SCIENTIST
Michelle Lent

PROJECT MANAGER
Meg Sedlak

COLLABORATORS
Lester McKee

Project Description
A high priority for the Small Tributaries Loading Strategy (STLS) is to develop models to estimate the loads from local watersheds to the Bay and how these loads may be reduced or mitigated. The regional spreadsheet model developed in 2010 was a significant improvement on the simple model that was created in 2000. The improved model can calculate average monthly storm water volumes and better estimates of regional loads through improved spatial and temporal coverage. The base spreadsheet model will be refined in 2011 with input from the Sources Pathways and Loading Workgroup. Likely

refinements include incorporation of additional contaminants specified in the Municipal Regional Permit (MRP), testing of additional runoff coefficients, and developing Best Management Practices (BMP) modeling capabilities.

Work Products
Refined spreadsheet model for tributary loading

Plans for 2011
Further develop the existing spreadsheet model

Project Title
Small Tributary Loading Strategy: Load Monitoring in Representative Watersheds

START DATE
September 2010

ANTICIPATED COMPLETION
December 2011

TOTAL FUNDING
$300,000

FUNDING FOR SFEI LABOR
$147,000

FUNDING FOR 2011 SFEI LABOR
$147,000

STATUS
Fieldwork commenced in November 2010 with the beginning of the water year.

CLIENT
RMP Participants

LEAD SCIENTIST
Lester McKee

PROJECT MANAGER
Jen Hunt

COLLABORATORS
Moss Landing Marine Labs
AXYS Analytical
SFEI Staff

Project Description
There is an urgent need for estimates of stormwater loads by watershed and by region. The recently adopted Municipal Regional Permit (MRP) specifically requires additional information on the loads of sediment and contaminants. In addition, the Mercury and PCB TMDLs require reductions in watershed loads by 50 and 90 percent, respectively. Understanding the loads from representative watersheds will be critical for addressing these information needs and achieving these load reductions. In the 2011 Water Year, the RMP will monitor 16 high priority watersheds during one storm event for mercury, PCBs, and suspended sediment, as well as selenium, PBDEs and PAHs at selected sites.

Work Products
Technical Report

Plans for 2011
Sampling: November 2010, December 2010 and January 2011
Laboratory analysis: Spring 2011
Technical Report: May 2011

Project Title
Small Tributary Loading Strategy: Management Coordination for Model Outreach and Land-use-based Monitoring

START DATE
January 2011

ANTICIPATED COMPLETION
May 2011

TOTAL FUNDING
$20,000

FUNDING FOR SFEI LABOR
$20,000

FUNDING FOR 2011 SFEI LABOR
$20,000

STATUS
Will start in January 2011

CLIENT
RMP Participants

LEAD SCIENTIST
Lester McKee

PROJECT MANAGER
Meg Sedlak

COLLABORATORS
Eric Stein (SCCWRP)
Mike Stenstrom (UCLA)

Project Description

In 2010, the RMP funded the development of a regional storm water loads model and an estimation of loads using source characterization. It will be important to ensure that the results from the latter inform the former, and that the key stakeholders are able to provide input and guidance on the work products as well as the path forward. This task will consist of a series of short STLS meetings and a longer STLS meeting in which stakeholders would review the regional loads model, evaluate the use of source characterization loading estimates and their application to Bay Area watersheds, and recommend a list of candidate "land-use" monitoring sites.

Work Products

STLS meetings

Plans for 2011

Local STLS meetings: January 2011 – June 2011
Expert Review: March 2011

Project Title

Exposure and Effects: Effects of Copper on Salmon

START DATE
June 2011

ANTICIPATED COMPLETION
November 2011

TOTAL FUNDING
$37,000

STATUS
Will start in June 2011

CLIENT
RMP Participants

LEAD SCIENTIST
David Baldwin, NOAA Northwest Fisheries Science Center

COLLABORATORS
NOAA Northwest Fisheries Science Center

Project Description

Copper has been a priority concern due to its acute toxicity to aquatic life. Because of consistently low levels and recent research suggesting that it is less available to biota, San Francisco Bay was delisted for copper, and site-specific objectives for each of the Bay segments were developed in 2007. These objectives called for further study on the potential toxicity of copper to the olfactory system of salmonids, as copper has been shown to cause olfactory impairment to freshwater salmonids at low concentrations (3 µg/L). However, the impact of copper on the olfactory system of salmonids in estuarine systems remains unknown, as aquatic chemistry can differ dramatically between types of water bodies. The work will be conducted by NOAA Marine Fisheries, which will also contribute significant matching funds.

Work Products

Technical Report

Plans for 2011

Data collection: June – September 2011
Report: November 2011

Project Title

Exposure and Effects: Sediment Quality Assessment of Targeted Toxic Hot Spots in San Francisco Bay

START DATE
March 2011

ANTICIPATED COMPLETION
October 2012 (estimated)

TOTAL FUNDING
The funding level for this study is $60,000 for 2011 and $30,000 for 2012.

FUNDING FOR SFEI LABOR
$29,000

FUNDING FOR 2011 SFEI LABOR
$6,000

STATUS
Will start in January 2011.

CLIENT
RMP Participants

LEAD SCIENTIST
Meg Sedlak

PROJECT MANAGER
Meg Sedlak

COLLABORATORS
Aroon Melwani (SFEI) and Bruce Thompson Moss Landing Marine Laboratory

Project Description

In 2009, the State Water Resources Control Board adopted the Sediment Quality Objectives for marine waters in Enclosed Bays and Estuaries (SQOs). The SQOs are based on

an evaluation of sediment chemistry, benthos, and sediment toxicity. A fundamental challenge in SQO implementation has been the interpretation of the results of these assessments. This project will evaluate the chemistry, benthos, and toxicity at six previously identified hotspots within San Francisco Bay. Results from these evaluations will be compared to the evaluations of the 27 RMP sites for which there are similar data.

Work Products
Sediment Quality Objectives assessment scores that will be summarized in a technical report.

Plans for 2011
Develop final plan: May 2011
Sample collection: August 2011

Project Title
Status and Trends Bird Egg Summary Report (2006/2009)

START DATE
December 2010

ANTICIPATED COMPLETION
April 2011

TOTAL FUNDING
$15,000

FUNDING FOR SFEI LABOR
$15,000

FUNDING FOR 2011 SFEI LABOR
$12,500

STATUS
Will start in January 2011.

CLIENT
RMP Program Participants

LEAD SCIENTIST
Jay Davis

PROJECT MANAGER
Meg Sedlak

COLLABORATORS
Jen Hunt, Rachel Allen

Project Description
Cormorant and tern bird egg monitoring was incorporated into the Status and Trends Program in 2008, although substantial monitoring of eggs had previously been conducted through Exposure and Effects Pilot Studies. As of 2009, sampling will occur on a triennial basis. This report will be an opportunity to analyze and summarize the data on contaminants in bird eggs collected in 2006 and 2009.

Work Products
Technical Report

Plans for 2011
Report: April 2011

Project Title
Mercury in Small Fish

START DATE
December 2010 (estimated)

ANTICIPATED COMPLETION
June 2011

TOTAL FUNDING
$150,000

FUNDING FOR SFEI LABOR
$59,000

FUNDING FOR 2011 SFEI LABOR
Approximately $20,000.

STATUS
On-going

CLIENT
RMP Participants

PRIMARY CLIENT
RMP Participants

LEAD SCIENTIST
Ben Greenfield

PROJECT MANAGER
Meg Sedlak

COLLABORATORS
Darell Slotton and Shaun Ayers (UC Davis)

Project Description
Small fish have been analyzed as part of the Exposure and Effects Pilot Study since 2005. Small fish are excellent indicators of biological uptake of contaminants, particularly mercury, as they have high site-fidelity and are prey for higher trophic level organisms such as piscivorous birds, mammals, and fish. This report will present results and analysis of mercury concentrations in small fish based on six years of sampling.

Work Products
Technical Report

Plans for 2011
Report: June 2011

Project Title
Land Use Classification/ Stormwater Model

START DATE
January 2010

ANTICIPATED COMPLETION
February 2011

TOTAL FUNDING
$65,000

FUNDING FOR SFEI LABOR
$65,000

FUNDING FOR 2011 SFEI LABOR
Approximately $10,000

STATUS
On-going

CLIENT
RMP Participants

LEAD SCIENTIST
Lester McKee

PROJECT MANAGER
Meg Sedlak

COLLABORATORS
Michelle Lent

Project Description
One of the most efficient ways to estimate loads from the small tributaries to the Bay is to model the runoff from local watersheds. A simple GIS-based spreadsheet model will be developed using information of factors such as rainfall, land use, and soil type. This project will also develop a Bay Area-specific land use characterization system that classifies land uses by their impacts on stormwater loading. This source characterization will be used to inform and refine the spreadsheet model. The technical report will use the source characterization and loading model to identify the highest priority watersheds and regions for future monitoring.

Work Products
Stormwater Model and Technical Report

Plans for 2011
Model and Report: February 2011

Project Title #18
SQO Phase II

PROJECT CODE
1064

START DATE
5/1/07

ANTICIPATED COMPLETION
3/30/11

TOTAL FUNDING
$1,000,000.00

FUNDING FOR SFEI LABOR
$372,277.00

FUNDING FOR 2011 SFEI LABOR
$45,190

STATUS
Active

DIRECT CLIENT
SCCWRP

PRIMARY CLIENT
SWRCB

LEAD SCIENTIST
Sarah Lowe/Ben Greenfield

PROJECT MANAGER
Sarah Lowe

COLLABORATORS
Bruce Thompson

Project Description
This project focuses on 1) a Delta sediment quality triad survey in support of developing a method to evaluate sediment condition in the tidal-fresh regions of the San Francisco Bay-Delta that could lead to the development of appropriate Sediment Quality Objectives; 2) developing an assessment method to characterize benthic disturbance, and 3) developing an assessment tool for estimating risk from indirect effects of sediment contamination to human health (through fish consumption) and wildlife. The indirect effects assessment framework will integrate information on sediment contaminant concentration, bioavailability of sediment contaminants, and prey tissue contaminant concentration. The initial focus of the indirect effects research is to develop a human health assessment

framework for PCBs and chlorinated pesticides, chemicals that are widespread in California bays and estuaries and bioaccumulate in species at the top of the food web.

Work Products

The Delta sediment triad survey product consisted of a sediment chemistry, toxicity and benthos database (provided to SCCWRP in 2009). SFEI staff co-authored a Delta Survey Technical Report (in progress). The benthic assessment method is being developed by SCCWRP and was presented to regional benthos experts at a Benthic Workgroup meeting at SFEI in October, 2010. The indirect effects project has resulted in multiple technical documents detailing the proposed assessment approach. These will be updated and combined into a technical report describing the proposed framework and the technical tools to perform evaluations.

Plans for 2011

The Delta Survey task is complete. Two manuscripts related to benthic assessment method development have been prepared: one on the distribution of the major benthic assemblages in the San Francisco Bay and Delta and the other on the results from a Best Professional Judgment exercise conducted with national benthos experts to categorize benthic samples along a disturbance gradient. These manuscripts have been drafted and will be submitted for publication in 2011. In 2011, the indirect effects report will be released for public peer review and revised accordingly. Technical guidance will also be provided to the State Water Board to aid in bringing the indirect effects approach into California legal policy.

Recent Findings and Publications

In 2010, the SQO indirect effects framework and technical approach were presented at Southern California SETAC and national SETAC.

Project Status

This project is on track and within budget.

Project Title

SWAMP Phase II (Bioaccumulation Coast Year 1)

PROJECT CODE
1066.2

START DATE
5/29/07

ANTICIPATED COMPLETION
3/31/11

TOTAL FUNDING
$406,000

FUNDING FOR SFEI LABOR
$385,103

FUNDING FOR 2011 SFEI LABOR
$50,000

STATUS
Active

DIRECT CLIENT
SJSURF

PRIMARY CLIENT
SWRCB

LEAD SCIENTIST
Jay Davis

PROJECT MANAGER
Meg Sedlak

COLLABORATORS
State and Regional Boards, CDFG

Project Description

The Surface Water Ambient Monitoring Program (SWAMP) Roundtable has formed a subcommittee, the Bioaccumulation Oversight Group (BOG) that develops plans for and guides implementation of SWAMP bioaccumulation monitoring. The BOG has also convened a Bioaccumulation Peer Review Panel that is providing evaluation and peer review of the bioaccumulation program. SFEI coordinates the BOG and is the technical lead for SWAMP bioaccumulation monitoring. The BOG is evaluating bioaccumulation impacts on the fishing beneficial use in all California water bodies. This effort is an outgrowth of the RMP sportfish monitoring element and builds on the multi-year assessment of mercury bioaccumulation in forage and sport fish in the Central Valley. Sampling of lakes and reservoirs was conducted in the first two years (2007 and 2008). In 2009 and 2010, the California coast, including bays and estuaries, were being sampled. Rivers and streams will be sampled in 2011. The first year of coastal sampling focused on the Southern California Bight and the coastal area near San Francisco Bay. The effort was closely coordinated with Bight '08, the Regional Monitoring Program for San Francisco Bay, and additional monitoring by the Los Angeles Regional Board.

Work Products

A report on the findings of the first year of the survey of Contaminants in Fish from California Coastal Waters, along with a fact sheet, press release, and posting of the data on the California Water Quality Monitoring Council's web portal.

Plans for 2011

Activities in 2011 under Project 1066.2 will relate to development of a report on the findings of the first year of the survey of Contaminants in Fish from California Coastal Waters, along with a fact sheet, press release, and posting of the data on the California Water Quality Monitoring Council's web portal.

Recent Findings and Publications

1) Davis, J.A., A.R. Melwani, S.N. Bezalel, J.A. Hunt, G. Ichikawa, A. Bonnema, W.A. Heim, D. Crane, S. Swenson, C. Lamerdin, and M. Stephenson. 2010. Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA.

2) Davis, J.A., A.R. Melwani, S.N. Bezalel, J.A. Hunt, G. Ichikawa, A. Bonnema, W.A. Heim, D. Crane, S. Swenson, C. Lamerdin, and M. Stephenson. 2009. Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA.

Project Title

SWAMP Phase II (Bioaccumulation Coast Year 2)

PROJECT CODE
1066.6

START DATE
2/15/10

ANTICIPATED COMPLETION
3/31/12

TOTAL FUNDING
$129,833

FUNDING FOR SFEI LABOR
$114,833

FUNDING FOR 2011 SFEI LABOR
$75,000

STATUS
Active

DIRECT CLIENT
SJSURF

PRIMARY CLIENT
SWRCB

LEAD SCIENTIST
Jay Davis

PROJECT MANAGER
Meg Sedlak

COLLABORATORS
State and Regional Boards, CDFG

Project Description

The Surface Water Ambient Monitoring Program (SWAMP) Roundtable has formed a subcommittee, the Bioaccumulation Oversight Group (BOG) that develops plans for and guides implementation of SWAMP bioaccumulation monitoring. The BOG has also convened a Bioaccumulation Peer Review Panel that is providing evaluation and peer review of the bioaccumulation program. SFEI coordinates the BOG and is the technical lead for SWAMP bioaccumulation monitoring. The BOG is evaluating bioaccumulation impacts on the fishing beneficial use in all California water bodies. Sampling of lakes and reservoirs was conducted in the first two years (2007 and 2008). In 2009 and 2010, the California coast, including bays and estuaries, were being sampled. Rivers and streams will be sampled in 2011. The second year of coastal sampling focused on the north coast and central coast.

Work Products

A report on the findings of the two-year survey of Contaminants in Fish from California Coastal Waters, along with a fact sheet, press release, and posting of the data on the California Water Quality Monitoring Council's web portal.

Plans for 2011

Activities in 2011 under Project 1066.6 will relate to data management and development of a draft report on the findings of the second year of the survey of Contaminants in Fish from California Coastal Waters.

Project Title

SWAMP Bioaccumulation Rivers and Streams

PROJECT CODE
1066.x

START DATE
TBD

ANTICIPATED COMPLETION
TBD

TOTAL FUNDING
$152,000

FUNDING FOR SFEI LABOR
$137,000

FUNDING FOR 2011 SFEI LABOR
$10,000

STATUS
In Negotiation

DIRECT CLIENT
SJSURF

PRIMARY CLIENT
SWRCB

LEAD SCIENTIST
Jay Davis

PROJECT MANAGER
Meg Sedlak

COLLABORATORS
State and Regional Boards, CDFG

Project Description

The Surface Water Ambient Monitoring Program (SWAMP) Roundtable has formed a subcommittee, the Bioaccumulation Oversight Group (BOG) that develops plans for and guides implementation of SWAMP bioaccumulation monitoring. The BOG has also convened a Bioaccumulation Peer Review Panel that is providing evaluation and peer review of the bioaccumulation program. SFEI coordinates the BOG and is the technical lead for SWAMP bioaccumulation monitoring. The BOG is evaluating bioaccumulation impacts on the fishing beneficial use in all California water bodies. Sampling of lakes and reservoirs was conducted in the first two years (2007 and 2008). In 2009 and 2010, the California coast, including bays and estuaries, were being sampled. Rivers and streams will be sampled in 2011. The second year of coastal sampling focused on the north coast and central coast.

Work Products

A report on the findings of the survey of Contaminants in Fish from California Rivers and Streams, along with a fact sheet, press release, and posting of the data on the California Water Quality Monitoring Council's web portal.

Plans for 2011

Activities in 2011 under this Project will relate to BOG coordination, sampling design, oversight of sampling.

Project Title

National Coastal Condition Assessment

PROJECT CODE
1066.7

START DATE
2/15/10

ANTICIPATED COMPLETION
3/31/12

TOTAL FUNDING
$50,000

FUNDING FOR SFEI LABOR
$50,000

FUNDING FOR 2011 SFEI LABOR
$40,000

STATUS
Active

DIRECT CLIENT
SJSURF

PRIMARY CLIENT
SWRCB

LEAD SCIENTIST
Jay Davis

PROJECT MANAGER
Meg Sedlak

COLLABORATORS
USEPA, SCCWRP

Project Description

The USEPA National Coastal Assessment is a nationwide effort to answer broad-scale questions on environmental conditions. One of the largest components of the program is the coastal effort, in which EPA has partnered with coastal States to develop a nationally integrated monitoring network. The EPA uses the data from the national monitoring network to prepare a periodic report to congress called the National Coastal Condition Report series. Collaborating with the EPA on these assessments not only ensures that California is accurately represented, but also enables SFEI to compare the San Francisco Bay region to the rest of the state and nation. Data sets from the San Francisco Bay Regional Monitoring Program (RMP) and the 2010 NCCA will be combined and evaluated to assess the current condition of San Francisco Bay, based on the parameters measured in the NCCA program. This combination of data sets is a collaborative effort between the two programs to better utilize program resources and data interpretive power. Data assessments will be in concert with those performed on the national data set for NCCA, with exploratory enhancements utilizing the long term data generated by the RMP. A draft report will be developed in cooperation with EPA staff. After review from EPA, a final collaborative report will be completed for San Francisco Bay.

Work Products

Report on Condition of San Francisco Bay.

Plans for 2011
Complete draft report on Condition of San Francisco Bay.

Project Title
McNabney Marsh - Benthos

PROJECT CODE
1078

START DATE
8/13/08

ANTICIPATED COMPLETION
4/30/12

TOTAL FUNDING
$33,989.53

FUNDING FOR SFEI LABOR
$17,550

FUNDING FOR 2011 SFEI LABOR
$8,000

STATUS
Active

DIRECT CLIENT/PRIMARY CLIENT
Mt. View Sanitary District

LEAD SCIENTIST/ PROJECT MANAGER
Sarah Lowe

COLLABORATORS
Susan McCormick (taxonomy services)

Project Description
The McNabney Marsh has not seen tidal waters in about 100 years, and due to the perseverance by and diligence of the Peyton Slough Wetlands Advisory Committee (PSWAC) members, the re-introduction of tidal waters was implemented in August 2008. Benthic infauna are primarily sedentary, invertebrate organisms that burrow in or live on the surface of sediments. Benthic infauna communities fluctuate in response to natural and human induced environmental perturbations and therefore can be important indicators of environmental health and form important components of many ecological monitoring programs. This study included sampling of benthos at five of the historically monitored sampling stations in the McNabney Marsh area before the tide gates were opened and one year later. Benthic community attributes will be summarized for each station using species richness and abundance measures and a qualitative comparison between the two sampling seasons will be summarized. An effort to characterize the McNabney Marsh benthic community in the context of other similar habitats in other parts of the Estuary and/or Suisun Bay will be made using existing data from other studies of benthos around the Estuary.

Plans for 2011
Conduct the second sampling event in the Fall-2011 after the tide gates have been open for at least one season.

Project Status
This project was postponed and extended because the tide gates have not been opened for a long enough period of time to warrant a second sampling effort in 2010.

Project Title
State of the Bay Report

PROJECT CODE
1085

START DATE
4/15/10

ANTICIPATED COMPLETION
3/31/11

TOTAL FUNDING
$37,765

FUNDING FOR SFEI LABOR
$37,565

FUNDING FOR 2011 SFEI LABOR
$36,000

STATUS
Active

DIRECT CLIENT
CEMAR

PRIMARY CLIENT
SFEP

LEAD SCIENTIST
Rainer Hoenicke

PROJECT MANAGER
Meg Sedlak

COLLABORATORS
The Bay Institute, PRBO Conservation Science, CEMAR, ABAG

Project Description
The project team will draft the State of the Bay report, in advance of the 2011 State of the Estuary Conference.

Work Products
The first of two written products will be a one-page "scorecard" that will be circulated widely and form the basis for a web-based presentation of the results. The second written product will a 50-75 page report for practitioners that will describe in more detail the indicators and metrics used to compile the indices.

Plans for 2011
Publish State of the Bay 2011.

Project Status
The contract was started in September 2010. SFEI is preparing the QAPP.

Project Title
PCBs in Building Materials

PROJECT CODE
5056.1

START DATE
1/27/10

ANTICIPATED COMPLETION
12/1/11

TOTAL FUNDING
$87,976

FUNDING FOR SFEI LABOR
$81,150

FUNDING FOR 2011 SFEI LABOR
$48,000

STATUS
Active

DIRECT CLIENT
ABAG/SFEP

PRIMARY CLIENT
SWRCB

LEAD SCIENTIST
Susan Klosterhaus / Lester McKee / Jay Davis

PROJECT MANAGER
Meg Sedlak

COLLABORATORS
EBMUD, BASMAA

Project Description
The aim of this project is to identify the types of Bay Area structures that are more likely to have PCB-containing materials. Between 1950 and 1980 many building structures were built with a variety of materials known to contain PCBs including for example rubber sealants (e.g., Thiokol), concrete caulking, grouts, paints and flame retardant coatings of acoustic ceiling tiles. These building materials are considered a potential source of PCBs to the environment by various transport pathways including for example off-gassing and wind suspension of particulate matter from demolition activities. The extent of the potential contribution of PCBs to the environment by building materials remains unknown. This work is proposed to fill the information data gap on potential sources of PCBs to the environment and it will be a relevant key contribution to the current implementation efforts of the PCB TMDL for San Francisco Bay, specifically provision C.12.b of the Municipal Regional Stormwater Permit (MRP) that calls for evaluation of management options for managing PCBs during demolition and remodeling of buildings built and/or fitted before 1978.

Work Products
Final technical report

Plans for 2011
Sample collection, chemical analysis, report development

Recent Findings and Publications
The outcomes from the SFEI regional stormwater evaluation and BMPs project completed earlier this year suggested there is potential for reducing impacts associated with PCBs in calking and sealants that were used in, for example, buildings, bridges, foot paths, and roadway constrictions. However, we also highlighted that the load for PCBs from this pathway was most uncertain. The final reports for the SFEI regional stormwater evaluation and BMPs project are posted on SFEI website.

Project Title
Grasslands Bypass Report

PROJECT CODE
5061

START DATE
4/1/02

ANTICIPATED COMPLETION
9/30/15

TOTAL FUNDING
$1,016,210

FUNDING FOR SFEI LABOR
$955,350

FUNDING FOR 2011 SFEI LABOR
$110,000

STATUS
2010 funds active, 2011 funds In Negotiation

DIRECT CLIENT/ PRIMARY CLIENT
U.S. Bureau of Reclamation

LEAD SCIENTIST/PROJECT MANAGER
Nicole David

Project Description

The Project prevents discharge of subsurface agricultural drainage water into wildlife refuges and wetlands in central California . The drainage water is conveyed instead through a segment of the San Luis Drain to Mud Slough, a tributary of the San Joaquin River . The Project improves water quality in the wildlife refuges and wetlands, sustains the productivity of 97,000 acres of farmland, and fosters cooperation between area farmers and regulatory agencies in drainage management reduction of selenium and salt loading. The Project collects data that document the effectiveness of the bypass and maintains and updates the long-term database for agency assessments and management adjustments.

Work Products

Monthly, quarterly, and annual reports

Plans for 2011

Complete all 2010 deliverables as soon as data are available. Improvement of annual report, possibly additional shorter report (fact sheet) with feature article and data highlights.

Recent Findings and Publications

Annual Report 2006-07 was published in August.

Project Title

Estuarine Nutrient Numeric Endpoints

PROJECT CODE
5062

START DATE
10/1/08

ANTICIPATED COMPLETION
3/31/11

TOTAL FUNDING
$75,227

FUNDING FOR SFEI LABOR
$64,922

FUNDING FOR 2011 SFEI LABOR
$20,000

STATUS
Active

DIRECT CLIENT
SCCWRP

PRIMARY CLIENT
SWRCB

LEAD SCIENTIST
Lester McKee

PROJECT MANAGER
Meg Sedlak

COLLABORATORS
SCCWRP, BASMAA, Water Board

Project Description

US EPA Region IX and the California State Water Board have previously developed a technical approach and framework for developing numeric nutrient endpoints (NNEs) for California estuaries EPA 2007a. The stated goal of this effort is to develop a set of NNEs and to support the Total Maximum Daily Load (TMDL) Program and to develop TMDL tools that can be used to address impacts from eutrophication through the water quality programs of the State Water Board, Regional Water Quality Control Boards (Region Water Boards) and the regulated community. EPA 2007a presented a scientific framework to support the development of numeric endpoints for a suite of biological response indicators (e.g. algal biomass, dissolved oxygen, water clarity, etc.) that are directly linked with estuarine beneficial uses. The purpose of this project is to initiate NNE development in California estuaries. The Institute is a partner of SCCWRP in this effort and will contribute the following aspects to the project: (1) Outreach with the California State Regional Technical Advisory Group (STRTAG). (2) Identification of technical, stakeholder, and scientific advisory board members. (3) Preparation of technical documents to support the initiation of NNE development. (4) Statewide outreach on NNE development to be initiated after stakeholder and science advisory board review of draft documents. (5) Technical support to facilitate the process of numeric endpoint selection for dissolved oxygen. (6) Preparation of a summary report describing the results of the project and recommendations for the next steps.

Work Products

A draft report have been developed and reviewed by our local water board and SCCWRP. We are addressing comments and suggestions for addition materials presently and plan to have the next version completed before January 1st 2011. We are presenting the first 3 sections of the draft report to the local SF technical advisory group on December 2nd 2010. We anticipate receiving further direction at the meeting and improving products.

Plans for 2011

The contract is currently slated to end in March 2011. The

final product is going to be a technical report that contains a review of the literature in relation to the potential of a range of biological endpoint as indicator for changing nutrient related water quality in SF Bay. With export input, one or several indicators will be adopted. Recommendations and a work plan for filling data gaps will be presented.

Recent Findings and Publications

Draft products are in development

Project Status

Near completion, however there has been discussion about adding further tasks and expanding the project footprint into the Delta.

b. Historical Ecology

Project Title
Santa Clara Valley Historical Ecology Project

PROJECT CODE
7027

START DATE
3/22/04

ANTICIPATED COMPLETION
11/21/11

TOTAL FUNDING
$212,185

FUNDING FOR SFEI LABOR
$190,820

FUNDING FOR 2011 SFEI LABOR
$14,000

STATUS
Active

DIRECT CLIENT
Silicon Valley Pollution Prevention Center

PRIMARY CLIENT
Same

LEAD SCIENTIST
Robin Grossinger

PROJECT MANAGER
Erin Beller

COLLABORATORS
SCVWD staff

Project Description

This study will provide GIS layers of historical habitats in the Guadalupe, West Valley, and Lower Peninsula Watershed Management Areas of Santa Clara County (the valley floor from Palo Alto to San Jose). A wide range of valley floor habitats will be mapped, such as seasonal and perennial wetlands, valley oak savanna, and riparian forest.

This is a coordinated project to build a consistent, standardized set of data, analyses, technical reports, and publicly available data about historical landscape change in the Santa Clara County watersheds draining to San Francisco Bay. This foundation effort for local restoration and planning is supported by a grant from the Silicon Valley Pollution Prevention Center. The project is designed to expand upon the preliminary historical ecology studies carried out through the SCVWD Watershed Stewardship Project in 2004-5 and the recently completed Coyote Creek Historical Ecology Study. The SCVHEP is strategically supplementing these projects to provide seamless geographic coverage of georectified historical imagery and GIS, a supporting database. There is also interest in a set of technical synthesis reports covering the Guadalupe, West Valley, and Lower Peninsula watersheds.

Project Title
Ventura Historical Ecology Study

PROJECT CODE
7053

START DATE
7/13/07

ANTICIPATED COMPLETION
6/30/11

TOTAL FUNDING
$550,000

FUNDING FOR SFEI LABOR
$371,790

FUNDING FOR 2011 SFEI LABOR
$35,000

STATUS
Active

DIRECT CLIENT/ PRIMARY CLIENT
Coastal Conservancy

LEAD SCIENTIST
Robin Grossinger

PROJECT MANAGER
Erin Beller

COLLABORATORS
CSU-Northridge, SCCWRP, Stillwater Sciences, WRA, UCSB, USC

Project Description

This project includes two major components designed to advance the understanding and conservation of coastal and riverine systems of Southern California. The first component, Historical Mapping of Southern California Coastal Wetlands, uses high-resolution, color scans of 25 U.S. Coast (and Geodetic) Survey Topographic Maps ("t-sheets") to conduct preliminary analysis and interpretation of historical wetlands along the Southern California coast. The second component, the Ventura Historical Ecology Study, concentrates on the historical ecology of major riverine and wetland habitats in Ventura County. The geographic scope includes the lower Ventura River (downstream of Matilija Dam), the lower Santa Clara River (downstream of Highway 5), and the Oxnard Plain.

Project Title

HE of Eastern Contra Costa County

PROJECT CODE
7055

START DATE
7/2/07

ANTICIPATED COMPLETION
3/31/11

TOTAL FUNDING
$350,000

FUNDING FOR SFEI LABOR
$346,750

FUNDING FOR 2011 SFEI LABOR
$25,000

STATUS
Active

DIRECT CLIENT
Contra Costa County

PRIMARY CLIENT
California Coastal Conservancy, California Department of Fish and Game

LEAD SCIENTIST
Robin Grossinger

PROJECT MANAGER
Ruth Askevold

COLLABORATORS
Contra Costa County, Contra Costa Watershed Forum

Project Description

SFEI has been conducting a historical ecology assessment of natural resources in eastern Contra Costa County. The project will collect and synthesize data sources to develop an understanding of terrestrial, fluvial, riparian, and wetland habitats prior to significant Euro-American modification. New methods are being developed for assessing uplands, including use of Wieslander Vegetation Type Maps, compiled in the 1920s and 30s. The data developed through the project will help identify valuable habitat remnants, prioritize restoration opportunities and strategies for the HCP, and recognize landscape trends.

Project Title

Alameda Creek Historical Ecology Study

PROJECT CODE
7062

START DATE
12/12/08

ANTICIPATED COMPLETION
11/30/11

TOTAL FUNDING
$425,850

FUNDING FOR SFEI LABOR
$413,850

FUNDING FOR 2011 SFEI LABOR
$140,000

STATUS
Active

DIRECT CLIENT
Alameda County

PRIMARY CLIENT
San Francisco Public Utilities Commission; Alameda Flood Control and Water Conservation District

LEAD SCIENTIST
Robin Grossinger

PROJECT MANAGER
Ruth Askevold

COLLABORATORS
Alameda County Resource Conservation District, Laurel Collins (Watershed Sciences), Rob Leidy (EPA)

Project Description

The Alameda Creek Historical Ecology Study will assess watershed conditions prior to significant Euro-American modification, as a basis for understanding subsequent changes in watershed structure and function, and potential options for future environmental management. The geographic focus is the floodplains, valleys, and alluvial plains adjacent to Alameda Creek (to the diversion dam) and its tributaries. This includes the Livermore and Amador valleys, Sunol Valley and Niles Canyon, and the Niles cone and adjoining baylands. A pilot portion of the project will also focus on documenting landscape changes in the uplands of the San Antonio Creek watershed.

The project is designed to support several current planning efforts, including the Alameda Watershed Habitat Conservation Plan, Alameda County flood control planning, the South Bay Salt Pond Restoration Project, the Alameda Creek Watershed Council, and to advance public engagement in the watershed.

Project Title
Ballona Creek HE Study

PROJECT CODE
7070

START DATE
9/15/09

ANTICIPATED COMPLETION
9/30/11

TOTAL FUNDING
$46,000

FUNDING FOR SFEI LABOR
$44,965

FUNDING FOR 2011 SFEI LABOR
$20,000

STATUS
Active

DIRECT CLIENT
SCCWRP

PRIMARY CLIENT
Santa Monica Bay Restoration Conservancy (SBMRC); Southern California Coastal Water Research Project (SCCWRP)

LEAD SCIENTIST
Robin Grossinger

PROJECT MANAGER
Erin Beller

COLLABORATORS
CSU-Northridge, SCCWRP, USC

Project Description
The Ballona Creek project supports historical research conducted by the Southern California Coastal Water Research Project and CSU-Northridge on the historical ecology of the Ballona Creek watershed. The project uses historical research to provide enhanced understanding about baseline conditions of streams and wetlands in the watershed. Data collection and compilation will be completed during this first phase; synthesis and reporting will be completed under a subsequent phase of the project.

Project Title #37
Upper Penitencia Creek HE Assessment

PROJECT CODE
7072

START DATE
10/16/09

ANTICIPATED COMPLETION
8/31/11

TOTAL FUNDING
$40,000

FUNDING FOR SFEI LABOR
$40,000

FUNDING FOR 2011 SFEI LABOR
$39,000

STATUS
Active

DIRECT CLIENT/ PRIMARY CLIENT
Waste Management

LEAD SCIENTIST/PROJECT MANAGER
Robin Grossinger

COLLABORATORS
SCVWD

Project Description
This project addresses a number of questions about Upper Penitencia Creek to assist resource managers in designing appropriate projects to improve stream conditions. Upper Penitencia Creek, on the eastern side of Santa Clara Valley, has locally significant potential for stream restoration and anadromous fish recovery. Some of the issues the project will address include identifying perennial vs. intermittent reaches; classification of riparian habitat type; development of understanding of creek/channel modification.

Project Title
South Coast Wetland Change Analysis Phase 1

PROJECT CODE
70xx

START DATE
1/1/11

ANTICIPATED COMPLETION
12-18 months

TOTAL FUNDING
$104,000

FUNDING FOR SFEI LABOR
$104,000

FUNDING FOR 2011 SFEI LABOR
$69,333

STATUS
In Negotiation

DIRECT CLIENT
SCCWRP

PRIMARY CLIENT
USFWS

LEAD SCIENTIST
Robin Grossinger

PROJECT MANAGER
Kristen Cayce

COLLABORATORS
SCCWRP, CSUN

Project Description

This project will build upon past efforts by augmenting historical analysis and comparing historical and contemporary coastal wetland mapping. The scope of work covers the acquisition and georectification of 25 additional USCS T-sheets to complete basic documentation of the southern California coast and development of crosswalks to contemporary wetlands mapping, in preparation for an initial analysis of habitat change along the South Coast (Phase 2). The goal is to provide an initial estimate of change in coastal wetlands between the mid 19th century and today.

Work Products

Georeferenced T-sheets, preparatory technical work for Southern California Coastal Wetland Change Analysis.

Plans for 2011

T-sheet georeferencing

Project Title
North San Diego County Lagoons Historical Ecology Study

PROJECT CODE
70xx

START DATE
5/1/11

ANTICIPATED COMPLETION
2 years

TOTAL FUNDING
$300,000

FUNDING FOR SFEI LABOR
$200,000

FUNDING FOR 2011 SFEI LABOR
$100,000

STATUS
Proposal – 80% Probability

DIRECT CLIENT
SCCWRP

PRIMARY CLIENT
Coastal Conservancy

LEAD SCIENTIST
Robin Grossinger

PROJECT MANAGER
TBD

COLLABORATORS
SCCWRP, CSUN

Project Description

The Study will provide critical information for the planning and design of several important coastal wetland restoration projects, including San Elijo and Buena Vista lagoons. There is currently little available information about the natural structure and function of the coastal wetland systems in this area. To address this need, the project team (SFEI, SCCWRP, and California State University Northridge) will develop new information about the historical habitat mosaics, hydrology, and native species assemblages that characterized these systems, through a rigorous analysis of historical documents. The Study will build on the first regional assessment of historical wetland habitat types and distribution, the South Coast T-sheet Atlas.

Work Products

GIS products, technical report, public presentations

Plans for 2011

Data collection and initial public presentations

Project Title
Joint Fire Science Project

PROJECT CODE
70xx

START DATE
1/1/11

ANTICIPATED COMPLETION
12/31/12

TOTAL FUNDING
$62,040

FUNDING FOR SFEI LABOR
$42,000

FUNDING FOR 2011 SFEI LABOR
$21,000

STATUS
In Negotiation

DIRECT CLIENT/ PRIMARY CLIENT
National Park Service

LEAD SCIENTIST
Chuck Striplen

PROJECT MANAGER
Chuck Striplen

COLLABORATORS
BLM, NPS Pinnacles NM, UC Berkeley, Amah Mutsun Tribal Band

Project Description
SFEI will oversee and implement a fire history study at a number of study locations from southeast San Benito County to northwest Santa Cruz County, including National Park lands, State park lands, BLM lands, and private property. This is one element of a larger study on Ethno-ecological fire traditions. Other elements include a phytolith study and archaeological field school in PNM.

Work Products
Phase 1 HE data assembly; summary of fire scar dendro ecol collection progress

Project Title
Development of a Conceptual Approach Toward Classifying "Reference Landscapes."

PROJECT CODE
Overhead

START DATE
4/1/11

ANTICIPATED COMPLETION
9 months

TOTAL FUNDING
$10,000

FUNDING FOR SFEI LABOR
$10,000

FUNDING FOR 2011 SFEI LABOR
$10,000

DIRECT CLIENT
SFEI

PRIMARY CLIENT
SFEI

LEAD SCIENTIST
Robin Grossinger

PROJECT MANAGER
TBD

Project Description
This project will begin to synthesize the results of our individual historical ecology studies into a set of virtual landscapes that indicate the distribution, abundance, and spatial and temporal patterns of key habitat types for different climate regimes that together comprise the range of existing and likely future climates of the Bay Area and California. These reference landscapes can be used by all land and water planning and management agencies to guide landscape design. In the first phase, we would begin to classify existing and proposed studies with regard to climate, geology, and other controlling physical factors, and develop a conceptual approach to analyzing and presenting reference landscapes.

Work Products
Technical memo and associated graphics.

Plans for 2011
Develop conceptual approach for larger project.

Project Title #42
Napa Atlas Final Production

PROJECT CODE
Overhead

Lead Scientist
Ruth Askevold / Robin Grossinger

COLLABORATORS
University Of California Press

Project Description
Final production to meet UC Press guidelines will require a relatively small amount of value-added work in addition to that funded. This will be a high-profile SFEI product for public awareness and demonstration of SFEI work.

c. Conservation Biology

Project Title
Exotic Oyster Removal in SF Bay

PROJECT CODE
2027

START DATE
8/12/08

ANTICIPATED COMPLETION
12/31/11

TOTAL FUNDING
$225,000.00

FUNDING FOR SFEI LABOR
$69,977.00

FUNDING FOR 2011 SFEI LABOR
$15,000.00

STATUS
Active

DIRECT CLIENT/ PRIMARY CLIENT
Coastal Conservancy

LEAD SCIENTIST
Andy Cohen

PROJECT MANAGER
Alicia Gilbreath

COLLABORATORS
CRAB – Andy Cohen

Project Description
A population of the Pacific Oyster, Crassostrea gigas, which is native to Japan, was discovered in South San Francisco Bay in the summer of 2006. This project surveys appropriate habitats in the Bay and removes the oysters by hand, in order to reduce the chance of their becoming established. The project includes historical, genetic and sclerochronological investigation of possible sources and vectors for the introduction. An Advisory Panel composed of staff from relevant agencies, NGOs and funding organizations assists with review, advice and oversight of the project.

Work Products
Annual progress report and meeting.

Plans for 2011
Continued shoreline surveys and oyster removal; mapping and database update as needed. Annual report.

Recent Findings and Publications
Goodwin, D.H., Cohen, A.N. and Roopnarine, P.D. 2010. Forensics on the half shell: A sclerochronological investigation of a modern biological invasion in San Francisco Bay, United States. PALAIOS, v. 25, p. 742–753.

Project Status
Planning for the 2011 field season and preparation of the 2010 annual report has begun. This project is on track and within budget.

Project Title
Update to LTMS Science Framework Document

PROJECT CODE
1089

START DATE
8/16/10

ANTICIPATED COMPLETION
9/30/12

TOTAL FUNDING
$42,672

FUNDING FOR SFEI LABOR
$42,672

FUNDING FOR 2011 SFEI LABOR
$42,000

STATUS
Active

DIRECT CLIENT/PRIMARY CLIENT
USACE

LEAD SCIENTIST
Thomas Jabusch

PROJECT MANAGER
Sarah Lowe

Project Description
This project will revise the LTMS Science Framework Document to reflect current California and federally listed species of concern and environmental work windows for dredging in the San Francisco Bay area under LTMS jurisdiction. The framework, which contains technical and management underpinnings for managing species of concern, is the guiding document for the LTMS to pursue pertinent technical studies. The update shall be based in part upon literature and data searches, interviews with resource agency individuals, and stakeholder input.

Work Products
Update to LTMS Science Framework Document.

Plans for 2011
Conduct the literature and data searches, and interviews with resource agency individuals. Begin to work with stakeholder

and scientific advisors through a workgroup process.

Project Status
Project tasks and the first stakeholder meeting will begin late in 2010 into 2011.

Project Title
Longfin Smelt Literature Review

PROJECT CODE
2503

START DATE
8/12/10

ANTICIPATED COMPLETION
9/30/12

TOTAL FUNDING
$28,074

FUNDING FOR SFEI LABOR
$28,074

FUNDING FOR 2011 SFEI LABOR
$25,000

STATUS
Active

DIRECT CLIENT/ PRIMARY CLIENT
USACE

LEAD SCIENTIST
Letitia Grenier

PROJECT MANAGER
Sarah Lowe

Project Description
On June 25, 2009, the longfin smelt (Spirinchus thaleichthys) was declared a threatened species under the California Endangered Species Act (CESA). The California Department of Fish and Game (CDFG) has stated that dredging project sponsors in San Francisco Bay need to conduct assessments of whether their projects will result in take of this species. The goals of this project are to provide the LTMS and CDFG with better information with which to manage the species and to provide and synthesize scientific information upon which to base take assessments. These goals shall be accomplished through a literature and data review and development of a suite of potential studies (i.e., study plan) to be carried out at a later time.

Work Products
1) Stakeholder meeting

2) Literature and data review document

3) Scientific presentations to stakeholders and science symposiums

Plans for 2011
This project will end in 2011.

Project Status
Project tasks and the first stakeholder meeting will begin late in 2010 into 2011.

Project Title
Montezuma Technical Review Team (TRT)

PROJECT CODE
4044

START DATE
4/1/04

ANTICIPATED COMPLETION
9/1/11

TOTAL FUNDING
$182,290.50

FUNDING FOR SFEI LABOR
$168,223

FUNDING FOR 2011 SFEI LABOR
$54,945

STATUS
Active

DIRECT CLIENT/PRIMARY CLIENT
Montezuma Wetlands LLC

LEAD SCIENTIST
Josh Collins

PROJECT MANAGER
Sarah Lowe

COLLABORATORS
Robert Batha, SF Bay Conservation and Development Commission, Andree Breaux, SF Bay Regional Water Quality Control Board, Jane Hicks, USACE, Eric Polson, private consultant, Karl Malamud-Roam, Contra Costa County Mosquito Abatement District, Howard Shellhammer, San Jose State University, Bruce Herbold and Paul Jones, USEPA, Joe Didonato, East Bay Parks District, Jay Davis and Ben Greenfield and Don Yee and Cristina Grosso, SFEI, Steve Culberson, DWR

Project Description
The Montezuma Project is a for-profit venture to restore 2,500 acres of brackish tidal marsh in the western Delta using

dredged sediment. SFEI partners with the project sponsor to lead the technical team for independent scientific review and interpretation of the project monitoring effort and resulting data for the 20-30 year life of the project. SFEI renegotiates the contract each year. This project is a test case for large-scale re-use of dredged sediment. This project continues the planned part of the regional monitoring program that provides advice and review for local and regional monitoring efforts. Efforts on this project have been hampered by limited availability of dredged sediment.

Work Products

The TRT provides written comments to the Montezuma Management Team on scientific work.

Plans for 2011

Services to be performed by the TRT include: (1) Scientific review and comment on technical reports, (2) Planning and holding sub-team meetings that focus on key issues for the project (e.g., contaminants, high marsh design, least tern habitat, etc). 3) Monitoring plan recommendations that include a biological component. 4) Holding an Annual Meeting for the project.

Recent Findings and Publications

A new Adaptive Management Plan was submitted to the Water Board in 2010 that included five main adaptive management modifications proposed for Montezuma:

Restoration of tidal action to completed Phase 1 cells;

Creation of California Least Tern/Snow Plover habitat;

Modification of High Marsh Design for salt marsh harvest mouse (SMHM);

Pumping water directly from the Sacramento River/Suisun Bay using approved fish screens;

An increase in use of non-cover sediment in Phase 1 up to the permitted 20% threshold. The Water Board issued a letter of support for the proposed changes in a letter dated October 7, 2010.

Project Status

This is an ongoing project with a new contract negotiation annually.

Project Title

Wetlands Regional Monitoring

PROJECT CODE
4066

START DATE
3/1/07

ANTICIPATED COMPLETION
3/30/11

TOTAL FUNDING
$1,250,000

FUNDING FOR SFEI LABOR
$1,149,290

FUNDING FOR 2011 SFEI LABOR
$95,000

STATUS
Active

DIRECT CLIENT
SWRCB

PRIMARY CLIENT
Same

LEAD SCIENTIST
Josh Collins

PROJECT MANAGER
Sarah Lowe

COLLABORATORS
Eric Stein, Southern California Coastal Water Research Project, Shawna Dark, CSU Northridge, Richard Sumner and Paul Jones, USEPA Andree Greenberg and Shin Roei-Lee, Bay Area Water Board, Prison Industries Authority, Letitia Grenier, Sarah Pearce, Meredith Williams, Kristen Cayce, Mike May, Cristina Grosso, Patty Frontiera, SFEI

Project Description

This three year project will end in March 2011. The SFEI team is completing products from the application of the three level wetlands monitoring toolkit to Bay Area wetlands.

L1: The Bay Area Aquatic Resources Inventory – a base map of wetlands and riparian areas – will be completed and made available to the public through http://www.californiawetlands.net/tracker/ba

L2: An ambient assessment of wetland condition in the Coyote Creek Watershed was completed using CRAM. Several sites were assessed in Coyote Creek and Upper Penitencia, providing a picture of wetland health from headwaters streams to urbanized mainstem reaches.

L3: Mercury levels in song sparrow blood and feathers were analyzed to investigate the response of riparian biosentinels to factors related to the propensity toward methylation at a given site and to the total mercury contamination.

L3: standardized protocols for geomorphic monitoring of creeks.

As part of this project, work is underway with RB2 staff to develop a long-term funding strategy for regional wetlands and riparian monitoring.

Project Title
CRAM Reference Site Network

PROJECT CODE
4072

START DATE
1/1/09

ANTICIPATED COMPLETION
3/31/11

TOTAL FUNDING
$61,500

FUNDING FOR SFEI LABOR
$57,900

FUNDING FOR 2011 SFEI LABOR
$22,000

STATUS
Active

DIRECT CLIENT
SCCWRP

PRIMARY CLIENT
EPA

LEAD SCIENTIST
Josh Collins

PROJECT MANAGER
Sarah Lowe

COLLABORATORS
SCCWRP, USEPA, MLML

Project Description
A national assessment of wetland extent and condition will be conducted in 2011. A reference network is being established to ensure consistency of CRAM assessments across the state for this survey. Reference sites and audit teams are being identified for CRAM quality assurance.

Project Title
CA S&T Assessment of WL Extent & Intensification of the 2011 NWC

PROJECT CODE
40xx

START DATE
TBD

ANTICIPATED COMPLETION
TBD

TOTAL FUNDING
$58,000

FUNDING FOR SFEI LABOR
$58,000

FUNDING FOR 2011 SFEI LABOR
$58,000

STATUS
In Negotiation

DIRECT CLIENT
SCCWRP

PRIMARY CLIENT
EPA

LEAD SCIENTIST
Josh Collins

PROJECT MANAGER
Sarah Lowe

COLLABORATORS
SCCWRP, USEPA, MLML

Project Description
A national assessment of wetland extent and condition will be conducted in 2011. These projects will provide the infrastructure and tools needed for the survey. A reference network is being established to ensure consistency of CRAM assessments across the state. References sites and audit teams are being identified for CRAM quality assurance.

d. Water-wise Landscapes

Project Title
LID Monitoring Guidance

PROJECT CODE
4077

START DATE
TBD

ANTICIPATED COMPLETION
1 year

TOTAL FUNDING
$50,000

FUNDING FOR SFEI LABOR
$50,000

FUNDING FOR 2011 SFEI LABOR
$50,000

STATUS
In Negotiation

DIRECT CLIENT
SCCWRP

LEAD SCIENTIST
Lester McKee / Josh Collins

PROJECT MANAGER
Jennifer Hunt

COLLABORATORS
SCCWRP, USEPA, MLML

Project Description
The State Water Board will convene a Hydromodification Regulatory Review Panel consisting of representatives of the State Water Board, the Regional Water Boards and USEPA. SFEI will work with SCCWRP to prepare an outline attached as Outline Hydromodification Literature Review and Report that lays out a technical framework upon which future questions related to regulating hydromodification impacts can be best answered. The hydromodification literature review and report should build on the results of recent and ongoing work in association with development of Hydromodification Management Plans in various regions of the State. The hydromodification literature review and report should be structured such that it can inform hydromodification management actions under a variety of regulatory programs, such as Phase 1 and 2 municipal stormwater programs, Statewide General Permits, Section 401 Water Quality Certifications, and Waste Discharge Requirements. SFEI will also work with SCCWRP and the State Water Board to convene 3 stakeholder meetings to review project products. SFEI and SCCWRP will also work with the State water Board to develop a conceptual monitoring framework for hydromod and LID best management practices (BMPs) installed or monitored associated with State and Federal grant funding activities.

Work Products
Final Hydromodification Literature Review and Report

Stakeholder workgroup products and stakeholder workgroup summary memo

Final Conceptual Monitoring Framework

Plans for 2011
All work products will be completed within one year of contract finalization.

Recent Findings and Publications
We have a number of pilot projects in progress or started that provide context for this work, including the Green Infill Clean Stormwater Project, the El Cerrito Green Streets Project, and the Fremont Tree Well Filter Project. The final report for the Green infill project is due in March 2011 and is presently on time and budget.

Project Status
In Negotiation

Project Title
Critical Coastal Area Phase II

PROJECT CODE
5054

START DATE
4/1/07

ANTICIPATED COMPLETION
3/1/11

TOTAL FUNDING
$900,000

FUNDING FOR SFEI LABOR
$491,155

FUNDING FOR 2011 SFEI LABOR
$60,000

STATUS
Active

DIRECT CLIENT/PRIMARY CLIENT
SWRCB

LEAD SCIENTIST
Chuck Striplen

PROJECT MANAGER
Sarah Lowe

COLLABORATORS
ABAG, Sonoma Ecology Center, Santa Cruz County RCD, San Mateo County RCD, Southern Sonoma County RCD, Fugro William Lettis and Associates

Project Description

California's Critical Coastal Areas (CCA) Program fosters collaboration among local stakeholders and government agencies, to better coordinate resources and focus efforts on 101 coastal watersheds in critical need of protection from polluted runoff. Phase II of the CCA Program builds on the preliminary assessment of possible actions conducted under Phase I (completed in 2007). A key goal is to demonstrate the validity and applicability of various predictive tools to local government and other implementers of various BMPs under each set of applicable stormwater Management Measures. The objectives of this proposed project fall into three categories:

(1) Apply the methodology developed in the initial 319(h) and other, related work efforts to evaluate alternative development and associated management scenarios and develop the necessary data to calibrate appropriate models for scenario-planning.

(2) Select a minimum of three specific pollutant control, prevention, and mitigation measures in each of the three CCAs, prepare design specifications and assist local government in preparing bid documents, and develop an evaluation plan for intermediate and long-term effectiveness monitoring by local government under multiple environmental conditions.

(3) Enable local government agencies and other stakeholders to use and maintain management and land use scenario planning tools to test and implement additional MMs and BMPs as funding becomes available.

Project Title #55

Green Infill - Clean Stormwater

PROJECT CODE
5060

START DATE
10/1/08

ANTICIPATED COMPLETION
3/31/11

TOTAL FUNDING
$200,000

FUNDING FOR SFEI LABOR
$127,212

FUNDING FOR 2011 SFEI LABOR
$25,000

STATUS
Active

DIRECT CLIENT
ABAG/SFEP

PRIMARY CLIENT
CALFED

LEAD SCIENTIST
Lester McKee

PROJECT MANAGER
Nicole David

COLLABORATORS
San Mateo County

Project Description

Green Infill – Clean Stormwater will demonstrate a way forward for those who think urbanism and environmental protection cannot coexist. In Southern California, TreePeople found that green development can help restore a normal stream hydrograph, reduce pollutant loading, and support ecosystem functions. Portland has had great success replacing deteriorating pavement with Green Streets. In the Bay Area, the Green Infill – Clean Stormwater Grant will 1) move several viable integrated flood control, stormwater pollution prevention projects towards completion and demonstrate their efficacy as regional models, 2) offer incentives to local government to initiate innovative zoning and code modifications to promote green infill using alternative stormwater management approaches, 3) document the environmental and economic viability of low impact development, and 4) publicize the Green Infill – Clean Stormwater project successes to the local governments, regional, and subregional agencies of the 101-city, nine-county Bay Area.

SFEIs role is to collaborate with the San Mateo Countywide Water Pollution Prevention Program (SMCWPPP)'s Sustainable, Green Streets and Parking Lots Project to design effective monitoring and performance assessment features into the streets and parking lots prior to retrofitting. This will enable the County to use at least one green street and green parking lot project to conduct long-term monitoring of runoff reduction, and model anticipated environmental benefits of retrofitting whole city neighborhoods. The Green Infill Monitoring Project will evaluate the San Mateo program for pollutant load reduction potential under climatic conditions prevalent in the Bay Area. The budget includes monitoring equipment, site design to accommodate vandal-proof equipment placement, field work, sample analysis, reporting, modeling expected performance of green streets and parking lots on larger spatial scales (20%, 50%, 100% of city-scapes), and developing effective communication tools to convey key findings.

Work Products

Report and Information Sheets

Plans for 2011

Internal review and completion of report and information

sheets

Recent Findings and Publications

There is a distinct improvement in water quality due to the rain garden installation at the Daly City library. Contaminant load reductions between 59% for HgT and over 90% for PAHs, Zn, Cu, and Cd were observed during the first year after construction. The results from this study indicate that rain gardens and bio-swales can be highly effective in reducing pollutant loads from stormwater runoff.

Project Status

Data in QA review. Draft report almost compete.

Project Title

Estuary 2100 & Newcomb Model Block

PROJECT CODE
5065

START DATE
3/1/09

ANTICIPATED COMPLETION
1/31/12

TOTAL FUNDING
$268,750

FUNDING FOR SFEI LABOR
$267,769

FUNDING FOR 2011 SFEI LABOR
$125,000

STATUS
Active

DIRECT CLIENT
ABAG

PRIMARY CLIENT
EPA

LEAD SCIENTIST
Lester McKee / Josh Collins

PROJECT MANAGER
Meredith Williams

COLLABORATORS
13 project partners: Bahia Restoration Project (Marin Audubon Society), Yosemite Slough Restoration (California State Parks Foundation), Littorina Eradication (CRAB), Stream Management Program for Landowners (Urban Creeks Council), Shoreline Habitat Restoration (Save the Bay), Invasive Spartina Project, Wetland Adaptation Techniques in the Lower Corte Madera Creek Watershed (BCDC), Habitat Evolution Monitoring and Pond A8 Mercury Monitoring (South Bay Salt Ponds), Stream Channel Restoration Design Curves (Waterways Restoration Institute), Green Solutions (Community Conservancy International), Bayview Model Block (City and County of San Francisco/SFPUC), Santa Clara County Senador Mines (Santa Clara County)

Project Description

In November 2009, the Estuary Partnership was awarded a $4.8 million grant from the U.S. Environmental Protection Agency's San Francisco Water Quality Improvement Fund to improve the health of the Estuary. The Institute is again providing technical and monitoring support to project partners, by reviewing project design, and developing monitoring protocols and Quality Assurance Project Plans (QAPPs), managing data, and preparing technical reports. In addition, The Watershed Program will provide monitoring support of the Richmond stormwater diversion. The Institute was funded to promote local stewardship of watershed-scale maps to assist TMDL implementation. Lastly, we will adapt and refine methodologies from the USGS to characterize anticipated shoreline changes due to project results and climate change in the North Bay.

Project Title

Ecological Monitoring & Assessment Framework Project

PROJECT CODE
5067

START DATE
5/22/09

ANTICIPATED COMPLETION
3/31/11

TOTAL FUNDING
$233,447

FUNDING FOR SFEI LABOR
$231,392

FUNDING FOR 2011 SFEI LABOR
$35,000

STATUS
Active

DIRECT CLIENT
EOA

PRIMARY CLIENT
SCVWD

LEAD SCIENTIST
Josh Collins / Thomas Jabusch

PROJECT MANAGER
Sarah Lowe

Project Description
The Santa Clara Valley Water District (District) is establishing a comprehensive Ecological Monitoring and Assessment Program (EMAP). The goal of EMAP is to develop the strategies, frameworks, and tools to programmatically improve the efficiency and effectiveness of the District's ecological monitoring activities. This project is developing a recommended assessment framework, conducting a pilot study (employing the EPA's level 1, 2, 3 framework), and will develop an implementation plan for those activities.

Work Products
To date the project has developed several technical memos that outline: 1) Core monitoring question to guide the framework development 2) A pilot study to implement the 1, 2, 3 Framework in the Coyote Creek/Upper Penitencia Watershed. The final work product will be to develop an Implementation Plan.

Plans for 2011
This project will end in early 2011. The final draft Pilot Study report is due by the end of the year and the Implementation Plan and stakeholder outreach are the two tasks pending for 2011.

Project Status
This project is on track per contractual expectations.

Project Title
El Cerrito Green Streets Pilot Project

PROJECT CODE
5068

START DATE
10/6/09

ANTICIPATED COMPLETION
6/30/12

TOTAL FUNDING
$102,429

FUNDING FOR SFEI LABOR
$44,746

FUNDING FOR 2011 SFEI LABOR
$21,000

STATUS
Active

DIRECT CLIENT
SFEP

PRIMARY CLIENT
EPA

LEAD SCIENTIST
Lester McKee

PROJECT MANAGER
Jennifer Hunt

COLLABORATORS
AXYS & Brooks Rand

Project Description
The El Cerrito Green Streets pilot project consists of installing two stormwater treatment rain gardens, monitoring rain garden performance, conducting outreach about the rain gardens and stormwater pollution prevention outreach, and conducting technology transfer. The project retrofits a dense urban corridor with green stormwater infrastructure that detains and treats urban runoff to remove pesticides, PCBs, mercury, and copper as specified in San Francisco Bay Basin Water Quality Control Plan TMDLs and SSOs. The project will construct the rain gardens into existing sidewalks and on-street parking areas to treat stormwater from 1.23 acres of impervious surface (San Pablo Avenue, adjacent commercial properties, and adjacent residential streets), thus reducing pollutant loads. After construction, a monitoring plan will be designed and implemented to quantify the performance of one of the rain gardens, communicating results via technical report and other communication venues, such as newsletters and web sites. Outreach to the public about the rain gardens and stormwater pollution prevention will occur through interpretive signs, information on SFEP's and the City's websites, a Green Streets Tour, a flier for adjacent businesses, and a media release.

Work Products
Final technical report

Plans for 2011
Install a data logger and rain gage and complete "photo monitoring" of how the rain gardens function during about 4 storms in the 2010/11 wet season with the objective of determining the flow characteristics of the influent and effluent (timing and style of the hydrograph in relation to rainfall. We will then finish the monitoring design and do the full equipment install ready for monitoring in the 2011/12 wet season.

Project Status
Ongoing

Project Title
Estuary 2100 Phase 2

PROJECT CODE
5069

START DATE
TBD

ANTICIPATED COMPLETION
3 years

TOTAL FUNDING
$393,780

FUNDING FOR SFEI LABOR
$393,780

FUNDING FOR 2011 SFEI LABOR
$75,000

STATUS
In Negotiation

DIRECT CLIENT
ABAG

PRIMARY CLIENT
EPA

LEAD SCIENTIST
Lester McKee / Josh Collins

PROJECT MANAGER
Meredith Williams

COLLABORATORS
13 project partners:
Napa/Sonoma TM DL support North Bay Watershed Association, Yosemite Slough Restoration (California State Parks Foundation), North Richmond Dry Weather Flow Treatment Bypass (Contra Costa County Flood Control District), Living Shoreline subtidal restoration at Corte Madera Creek and Eden Landing (CA Coastal Conservancy, Marin Open Space District, San Francisco State University)

Project Description

In November 2009, the Estuary Partnership was awarded a $4.8 million grant from the U.S. Environmental Protection Agency's San Francisco Water Quality Improvement Fund to improve the health of the Estuary. The Institute is again providing technical and monitoring support to project partners, by reviewing project design, and developing monitoring protocols and Quality Assurance Project Plans (QAPPs), managing data, and preparing technical reports. In addition, The Watershed Program will provide monitoring support of the Richmond stormwater diversion. The Institute was funded to promote local stewardship of watershed-scale maps to assist TMDL implementation. Lastly, we will adapt and refine methodologies from the USGS to characterize anticipated shoreline changes due to project results and climate change in the North Bay.

Plans for 2011

Map stewardship protocols and methodology to transfer map data to partners. This will be coordinated with our WRMP and State Wetland and Riparian Area Protection Policy projects.

Develop partnerships for shoreline change to begin densification of existing shoreline characterization work. Development of Head of Tide mapping protocols will be funded separately through the Mineral management Service's CIAP program ($171,200). This work will be coordinated with shoreline change efforts.

Complete North Richmond Pumping Station QAPP and dry and wet season sampling plans.

Project Title

Geomorphology and Sediment Source Analysis

PROJECT CODE
5072

START DATE
6/1/10

ANTICIPATED COMPLETION
5/24/12

TOTAL FUNDING
$380,000

FUNDING FOR SFEI LABOR
$192,043

FUNDING FOR 2011 SFEI LABOR
$105,000

STATUS
Active

DIRECT CLIENT/PRIMARY CLIENT
Alameda County Flood Control and Water Conservation District

LEAD SCIENTIST
Lester McKee / Sarah Pearce

PROJECT MANAGER
Jennifer Hunt

COLLABORATORS
CEMAR, DHI Water and Environment, Watershed Sciences, Restoration Design Group, Paul Bigelow, Mitch Swanson

Project Description

SFEI will be coordinating a team of scientists and engineers to provide support for improved management of ACFC&WCD facilities focusing on the Alameda Flood Control Channel passing through Fremont. The project is multi-year with multiple components that include a preliminary channel goals facilitation process, geomorphic and engineering studies, sediment source analysis, and channel management recommendations. In addition, the District has asked for

analysis of sediment issues on the Eden Creek Hollis Creek area of the San Lorenzo Creek Watershed.

Work Products
Technical reports, meeting facilitations, design/management options, meeting presentations, peer-review

Plans for 2011
Extensive work products are planned for 2011. These include technical reports associated with our evaluations of sedimentation rates, causes, and channel processes in the mainstem Alameda Creek flood control channel, and a technical report describing the outcomes of the Stonybrook and Sinbad watersheds reconnaissance. In addition, we will get stated on an evaluation of sedimentation processes in the Eden/Hollis Creeks areas and begin work on synthesizing the present state of knowledge to support improved maintenance practices in the Fremont Flood Control Channel.

Recent Findings and Publications
To-date we have produced an number of technical reports to support the Alameda County Flood Control and Water Conservation District. These are available on our website and include:

Pearce, S., Bigelow, P., and McKee, L., 2009. Dry Creek Watershed Sediment Source Reconnaissance. A technical report of the Regional Watershed Program prepared for Alameda County Flood Control and Water Conservation District (AFC&WCD): SFEI Contribution 595. San Francisco Estuary Institute, Oakland CA, xx pp.

Pearce, S., and McKee, L., 2009. Alameda Creek Bulk Sediment Study. A technical report of the Regional Watershed Program prepared for Alameda County Flood Control and Water Conservation District (AFC&WCD): SFEI Contribution 596. San Francisco Estuary Institute, Oakland CA, xx pp.

McKee, L., 2009. Review of sediment gauging studies in Alameda Creek Watershed. SFEI Contribution #571. San Francisco Estuary Institute, Oakland, CA. 25pp.

Bigelow, P., Pearce, S., McKee, L., and Gilbreath, A., 2008. A Sediment Budget for the Alameda Creek Channel between Niles Canyon, Arroyo De La Laguna at Verona and Alameda near the Welch Creek Confluence. A Technical Report of the Regional Watershed Program: SFEI Contribution #550. San Francisco Estuary Institute, Oakland, CA. 140pp + Appendix.

Gilbreath, A.N, and McKee, L.J, 2008. Spatiotemporal variation of turbidity in Alameda Creek and selected tributaries: August thru December 2007. A Technical Report of the Regional Watershed Program: SFEI Contribution 547. San Francisco Estuary Institute, Oakland, CA. 53pp + Appendices

Project Status
Ongoing

Project Title #61
North Richmond Pump Station Grant Program

PROJECT CODE
5073

START DATE
6/1/10

ANTICIPATED COMPLETION
6/1/13

TOTAL FUNDING
$155,218

FUNDING FOR SFEI LABOR
$60,596

FUNDING FOR 2011 SFEI LABOR
$18,500

STATUS
Active

DIRECT CLIENT
Contra Costa County Public Works

PRIMARY CLIENT
EPA/SFEP

LEAD SCIENTIST
Lester McKee

PROJECT MANAGER
Jennifer Hunt

COLLABORATORS
EBMUD, AXYS, Rivermetrics & Brooks Rand

Project Description
SFEI will assist CCC to characterize water quality during low flow and high flow conditions in water flow through the North Richmond Pump station. This project will directly address MRP permit provision C.11.f and C.12.f that call for evaluation of the potential for reduced loads of Hg and PCBs from diversion of dry weather and first flush stormwater flows to sanitary sewers. The outcomes of the project may include diversion in this manor or recommendations for alternative use of stormwater including use in Chevron Refinery's cooling systems or perhaps use in a new Bay Freshwater wetland.

Work Products
Water sampling, laboratory analysis, QA, reporting

Plans for 2011

Complete wet and dry weather sampling and laboratory analysis for a number of sampling events. Produce preliminary analysis of finding in progress reports.

Project Status

Ongoing

Project Title

Sedimentation Study of Arroyo Mocho & Arroyo Las Positas

PROJECT CODE
5075

START DATE
10/1/10

ANTICIPATED COMPLETION
9/30/12

TOTAL FUNDING
$450,000

FUNDING FOR SFEI LABOR
$272,000

FUNDING FOR 2011 SFEI LABOR
$145,407

STATUS
Active

DIRECT CLIENT
Alameda County Flood Control and Water Conservation District (Zone 7)

PRIMARY CLIENT
Same

LEAD SCIENTIST
Lester McKee

PROJECT MANAGER
Jennifer Hunt

Project Description

Zone 7 Water Agency (the DISTRICT), covering an area of 425 square miles, is charged with providing a reliable supply of potable water for the residents of the cities of Dublin, Pleasanton, and Livermore, and about 3500 acres of farm land. In addition, since its inception in 1957, the DISTRICT has provided flood protection for Livermore-Amador Valley residents, largely abating the flooding which was commonplace prior to the 1960s. Today the DISTRICT maintains 37 miles of channels that receive and convey urban drainage from the tri-cities and runoff and eroded sediment from the watersheds of Arroyo Mocho, Arroyo Las Positas and tributaries to the north, totaling approximately 220 square miles. In recent decades, population has increased from 99,000 (1980) to 169,000 (2000) (2010 CENSUS DATA PENDING), and agriculture has been shifting in the Valley from non-irrigated rangeland to irrigated and controlled drainage viticulture. As a result, the flow of sediment and water has continued to evolve so that now there is evidence of sedimentation in the DISTRICT facilities and greater water flows. The most recent modeling now indicates that the combination of loss of capacity from sedimentation coupled with increased peak flows has lead to channels that do not pass design flows in some reaches. In addition, in recent years, the DISTRICT has been coming under pressure to include improved habitat and water quality function as well as flood control function to its operating procedures. Obtaining permits for routine maintenance activities, such as sediment removal, is more challenging than ever before.

These issues have caused the DISTRICT to embark upon a 3-year fact finding study to directly support improved modeling for design and compliance purposes and decisions about future operations and maintenance of its facilities focusing on the mainstem of Arroyo Mocho upstream from Alamo Canal and downstream from the Arroyo Mocho at Hagemann gage (the study area). The sub-objectives of this fact finding effort are:

Determine the flow of water and sediment into and out of mainstem Arroyo Mocho,

Determine characteristics, rates, and causes of sedimentation in DISTRICT channel facilities,

Develop a sediment budget for the study reach as a tool for clearly communicating the main sources and processes affecting the function of DISTRICT channels within the study area,

Map and characterize channel modification and mitigation opportunities based on a comparison of historic and modern channel function,

Communicate findings primarily to the DISTRICT and also to stakeholders within the Alameda Watershed Council.

Work Products

Data and literature review
Short (<10 page) interpretive report for DISTRICT and peer-review of suspended sediment load and bedload for each station

FINAL study plan

FINAL interpretive report including GIS based terrain mapping

FINAL interpretive report including summary of channel condition and assessment and grainsize distribution

GIS layers of focused Historical Ecology study

Final report including synthesis and recommendations

Plans for 2011

Measure suspended sediment load and bedload for 3 stations

Review existing data and literature on sediment transport and loads, water flow, geomorphic processes, and channel functioning

Project Status
The project has begun

Project Title
On-call Water Quality and Pollutant Control Consulting

PROJECT CODE
5076

START DATE
10/1/10

ANTICIPATED COMPLETION
9/30/15

TOTAL FUNDING
$200,000

FUNDING FOR SFEI LABOR
$200,000

FUNDING FOR 2011 SFEI LABOR
$40,000

STATUS
Active

DIRECT CLIENT
ACFC&WCD

PRIMARY CLIENT
ACFC&WCD/BASMAA

LEAD SCIENTIST
Lester McKee

PROJECT MANAGER
Cristina Grosso

COLLABORATORS
TBD

Project Description
SFEI will provide Clean Water on-call services to assist the District in administering and implementing ACCWP's activities and other tasks needed to comply with the five-year stormwater discharge permit ("Municipal Regional Stormwater Permit"or "MRP") issued to the ACCWP member agencies by the California Regional Water Quality Control Board, San Francisco Bay Region. These activities may include, but are not limited to, the partial list of "ACCWP MRP Task Numbers" associated with each Area of Expertise. The ACCWP Selection Committee approved the Contractor's qualifications to provide services in the following Areas of Expertise:

2) Pollutants of Concern Loads Monitoring

5) Data integration and presentation

Work Products
The likely work products for this year (not confirmed yet by Alreen Feng) are a) the completion of the sampling an analysis plan (SAP) or "field manual" for wet weather loadings sampling and b) the completion of the QAPP for wet weather loadings sampling, and c) Assistance with the development of a SWAMP comparable data base.

Plans for 2011
Continue to coordinate with BASMAA and be ready to provide assistance likely beginning June 2011.

Recent Findings and Publications
SFEI has produced many technical reports and documentations of our expertise in the areas of field data collection and data management. These are two numerous to list but interest parties should contact Lester McKee or Cristina Grosso for guidance on how to obtain information from our website in these subject areas.

Project Status
Contract initiated but work on hold pending BASMAA decisions.

Project Title
Senador Creek Watershed Restoration

PROJECT CODE
50xx

START DATE
12/1/10

ANTICIPATED COMPLETION
9/30/11

TOTAL FUNDING
$38,254

FUNDING FOR SFEI LABOR
$38,254

FUNDING FOR 2011 SFEI LABOR
$35,000

STATUS
Proposal – 90% Probability

DIRECT CLIENT
URS

PRIMARY CLIENT
Santa Clara County Park District

LEAD SCIENTIST
Lester McKee

PROJECT MANAGER
Jennifer Hunt

COLLABORATORS
URS, Brooks Rand

Project Description
SFEI will work with URS to assist the Park District in defining Hg contamination in the Senador mine area of the New Almaden Mining District. This data will be used to prioritize areas for increased management of sediment contamination and downstream transport that occurs through erosion during rainfall. The final outcome will be the design of erosion implementation of improved erosion control measures.

Work Products
QAPP, field sampling, QAQC, draft and final reports, meeting presentations, review of control strategies.

Plans for 2011
QAPP and field sampling, reporting

Recent Findings and Publications
SFEI has produced a number of reports that are of relevance. These include

McKee, L.J., Hunt, J., Greenfield, B.J., 2010. Concentration and loads of mercury species in the Guadalupe River, San Jose, California, Water Year 2010. A report prepared for the Santa Clara Valley Water District in Compliance with California Regional Water Quality Control Board San Francisco Bay Region Order Number 01- 036 as Amended by Order Number R2-2009-0044, Requirement D. October 29, 2010. San Francisco Estuary Institute.

McKee, L., Oram, J., Leatherbarrow, J., Bonnema, A., Heim, W., and Stephenson, M., 2006. Concentrations and loads of mercury, PCBs, and PBDEs in the lower Guadalupe River, San Jose, California: Water Years 2003, 2004, and 2005. A Technical Report of the Regional Watershed Program: SFEI Contribution 424. San Francisco Estuary Institute, Oakland, CA. 47pp + Appendix A and B.

McKee, L., Leatherbarrow, J., and Oram, J., 2005. Concentrations and loads of mercury, PCBs, and OC pesticides in the lower Guadalupe River, San Jose, California: Water Years 2003 and 2004. A Technical Report of the Regional Watershed Program: SFEI Contribution 409. San Francisco Estuary Institute, Oakland, CA. 72pp.

McKee, L., Leatherbarrow, J., Eads, R., and Freeman, L., 2004. Concentrations and loads of PCBs, OC pesticides, and mercury associated with suspended sediments in the lower Guadalupe River, San Jose, California. A Technical Report of the Regional Watershed Program: SFEI Contribution #86. San Francisco Estuary Institute, Oakland, CA. 79pp.

Project Status
Contract pending

Project Title
James V. Fitzgerald Area of Special Biological Significance Pollution Reduction Program

PROJECT CODE
50xx

START DATE
TBD

ANTICIPATED COMPLETION
3 years

TOTAL FUNDING
$400,000

FUNDING FOR SFEI LABOR
$217,500

FUNDING FOR 2011 SFEI LABOR
$36,270

STATUS
In Negotiation

DIRECT CLIENT
San Mateo County Public Works

PRIMARY CLIENT
Prop 84 ASBS

LEAD SCIENTIST
Lester McKee / New scientist hire?

PROJECT MANAGER
Nicole David

COLLABORATORS
San Mateo County RCD

Project Description
Includes implementation of targeted BMPs and an education/outreach campaign. Pilot BMPs on high threat discharges to the ASBS, a storm drain inventory and assessment, and apathogen source tracking study will precede targeted BMP implementation. Information from these precursory studies will guide targeted, broad-scale application of the most appropriate and effective BMPs to address upland sources of specific

pollutants and eliminate dry weather discharges. The Program will protect the beneficial uses of the ASBS by improving water quality at public beaches and the ASBS, help the community to meet objectives and regulations outlined in the Ocean Plan, and reduce pathogens in 303(d) listed Fitzgerald Marine Reserve and San Vicente Creek.

Work Products
Monitoring plan, data, outreach materials, QAPP

Plans for 2011
Possibly first flush and other pre-implementation sampling

Recent Findings and Publications
This project will benefit from a number of other projects that are underway or pending. Including Green Infill, El Cerrito, and Fremont TWF.

Project Status
Contract pending

e. Environmental Data, Information, and Technology

Project Title
SWAMP CEDEN Expansion & Support

PROJECT CODE
1066.8

Start Date
2/15/10

ANTICIPATED COMPLETION
3/31/12

TOTAL FUNDING
$42,833

FUNDING FOR SFEI LABOR
$42,833

FUNDING FOR 2011 SFEI LABOR
$34,000

STATUS
Active

DIRECT CLIENT
SJSURF

PRIMARY CLIENT
SWRCB

LEAD SCIENTIST/ PROJECT MANAGER
Cristina Grosso

COLLABORATORS
SWRCB, SSCWRP, MLML, CVRDC, USEPA

Project Description
In coordination with the other regional data centers, SFEI will (1) maintain CEDEN infrastructure and data standards and existing applications that allow for ongoing data submittals, and (2) develop and document standards for data formats, CEDEN comparability and data usage tiering.

Work Products
This funding will be used to expand and support ongoing CEDEN efforts. Work products include (1) maintaining SFEI's CEDEN database and (2) collaborating with the other regional data centers in developing and documenting standards for data formats and CEDEN comparability.

Project Title
Bay Area Trash Tracker

PROJECT CODE
6600

START DATE
4/1/10

ANTICIPATED COMPLETION
12/1/13

TOTAL FUNDING
$40,000

FUNDING FOR SFEI LABOR
$31,000

FUNDING FOR 2011 SFEI LABOR
$6,000

STATUS
Active

DIRECT CLIENT
ABAG

PRIMARY CLIENT
SWRCB/ARRA

LEAD SCIENTIST/ PROJECT MANAGER
Cristina Grosso

COLLABORATORS
Redlands Institute

Project Description
This project will develop the Bay Area Trash Tracker website http://www.bayareatrashtracker.org . The Tracker tracks trash capture devices installed as part of a regional effort using stimulus funds.

Work Products
Quarterly Progress Reports detailing website design and functionality, including copies of the web pages.

Recent Findings and Publications
A live demo of the website was presented to the various cities participating in the project on 9/20/10.

Project Title
Regional Data Center & WL Portal

PROJECT CODE
40xx

START DATE
7/1/11

ANTICIPATED COMPLETION
12/31/13

TOTAL FUNDING
$1,300,000

FUNDING FOR SFEI LABOR
$1,300,000

FUNDING FOR 2011 SFEI LABOR
$546,000

STATUS
In Negotiation

DIRECT CLIENT
SCCWRP

PRIMARY CLIENT
SWRCB

LEAD SCIENTIST
Josh Collins

PROJECT MANAGER
Cristina Grosso

COLLABORATORS
SWRCB, SSCWRP, MLML, CVRDC, USEPA

Project Description

The main goal of this project is to provide technical assistance to grant recipients that collect water quality monitoring data by assisting them with data management. This will enable the grant recipients to show the effectiveness of their projects while enabling the RDCs and CEDEN to collect and make their data available in at timely and comparable manner.

Work Products

Services to be performed by the Regional Data Centers include: (1) data discovery, (2) technical assistance, (3) data transfer, (4) data display, (5) future data capture plan/resource assessment, and (6) data center coordination.

Recent Findings and Publications

The CEDEN website and advanced query tool were officially released to the public on 8/24/10. The group met at SCCWRP on 8/25/10 to discuss the focus areas for this funding. The primary goal is to assist with SWRCB's preparation of the Integrated Report.

Project Title

Integrated Regional Water Management Plan Implementation

START DATE
6/1/11

ANTICIPATED COMPLETION
12/31/14

TOTAL FUNDING
$15,000,000

FUNDING FOR SFEI LABOR
$450,000

FUNDING FOR 2011 SFEI LABOR
$100,000

STATUS
In Negotiation

DIRECT CLIENT/ PRIMARY CLIENT
DWR

LEAD SCIENTIST
Meredith Williams

PROJECT MANAGER
Kristen Cayce, TBD

COLLABORATORS
SFEP, BAFPAA

Project Description

In this project, The Institute will work with SFEP to assess environmental outcomes of multiple green infrastructure projects and use the landscape classification system to stratify landscapes geospatially to predict cumulative outcomes if promising and appropriate low-impact development retrofits were implemented region-wide. Partners include, Stopwaste.org, Caltrans, Napa County, and the cities of Campbell, San Pablo, Richmond, El Cerrito, Albany, Berkeley, Emeryville & Oakland. The Estuary Partnership's Stormwater Spine Project develops stormwater treatment demonstration projects along San Pablo Avenue from Oakland to San Pablo (7 cities in Alameda & Contra Costa Counties and up to 14 acres). Projects will build upon the successful El Cerrito San Pablo Avenue stormwater planters. The City of Campbell will convert a portion of Hacienda Avenue to a green street with the following objectives: Reduce the roadway width by reclaiming and transforming approximately 25% of the existing roadway surface into a public green space running the length of Hacienda Avenue; Consider including linear parkway options to increase the amount of open space; Promote groundwater replenishment by replacing non-pervious asphalt concrete surfaces with pervious material. Napa County will develop and implement a program that promotes the conversion of wine and other barrels to home rain barrels. Napa County will also construct up to one acre's worth of demonstration rain gardens around the County. A rater from Stopwaste.org and the Bay Friendly Coalition will rate each project as Bay Friendly. SFEI & SFEP will compile and evaluate the project costs and benefits so they can be used to ensure that future green infrastructure efforts throughout the region can benefit from these demonstration projects.

A second element to the IRWMP Plan implementation focuses on compiling all existing Bay Area flood protection infrastructure maps and developing an interactive website.

Work Products

Assessment report
Flood protection infrastructure website

Plans for 2011

TBD

f. Administration

Project Title
Strategic Plan Development for SFEI

PROJECT CODE
Overhead

START DATE
1/2/2011

ANTICIPATED COMPLETION
10/31/2011

TOTAL FUNDING
(included in Administrative Expense budget)
$20,000

STATUS
Active

DIRECT CLIENT/ PRIMARY CLIENT
SFEI Board of Directors and Staff

PROJECT MANAGER
Rainer Hoenicke

Project Description
SM Consulting (Santalynda Marrero, in collaboration with Maria Hernandez) is continuing the strategic planning process begun in August of 2010.

Work Products
Strategic Plan draft and final.

Plans for 2011
Use staff and Board SWOT surveys to identify priorities in the four chapters covering the strategic plan – priorities for products and services; human resources management; financial and resource management; and stakeholder and community outreach.

Project Title
Strategic Plan Development for Aquatic Science Center

PROJECT CODE
Overhead

START DATE
1/2/2011

ANTICIPATED COMPLETION
8/31/2011

TOTAL FUNDING
(included in Administrative Expense budget)
$40,000

STATUS
Active

DIRECT CLIENT/ PRIMARY CLIENT
ASC Board of Directors and Staff

PROJECT MANAGER
Rainer Hoenicke

Project Description
Marc Beyeler and Page Nelson will continue the strategic planning process begun in August of 2010. The environmental scan and analysis of ASC strengths, weaknesses, opportunities, and threats (SWAT) will also inform the SFEI strategic plan.

Work Products
Strategic Plan draft and final.

Plans for 2011
Use interview results from the environmental scan of stakeholders and the SWOT surveys to identify priorities in the four chapters covering the strategic plan – priorities for products and services; human resources management; financial and resource management; and stakeholder and community outreach.

Project Title
Staff Training and Development

PROJECT CODE
Overhead

START DATE
1/15/2011

ANTICIPATED COMPLETION
1215/2011

TOTAL FUNDING
(included in Administrative Expense budget)
$40,000

STATUS
Active

DIRECT CLIENT
Staff

PRIMARY CLIENT
Same

PROJECT MANAGER
Rainer Hoenicke

Project Description
As part of the HR review conducted in 2010, a fairly broad range of staff training needs have emerged that range from improving meeting effectiveness, to enhancing communication and team building skills, project management, and leadership development

Work Products
Curricula and improved staff expertise.

Plans for 2011
The training plans for 2011 include both formal workshops and one-on-one sessions with Santalynda Marrero and Maria Hernandez.