Board of Directors Meeting
Aquatic Science Center and San Francisco Estuary Institute

Friday, April 26, 2019 Time: 10:00 am – 2:00 pm

San Francisco Estuary Institute
4911 Central Ave, Richmond, CA 94804

Number: 1.415.655.0381 - Access Code: 664-310-209#

AGENDA *(DRAFT)*
Joint Business

1.	**Call to Order** **SFEI Roll Call and Determination of Quorum** **ASC Roll Call and Determination of Quorum** **Review and Approval of Agenda – ASC Board** **Review and Approval of Agenda – SFEI Board**	10:00 am Skyli McAfee
2.	**Public Comment**	10:15 am Skyli McAfee
3.	**Action: Consent Items** *Attachment 1 –January 25, 2019 Meeting Minutes and Action Items – page 1* **Desired Outcome:** Approval of Consent Items - Vote by ASC Board - Vote by SFEI Board	10:17 am Skyli McAfee
4.	**Executive Director Report** *Attachment 2 – Executive Director's Report – page 3*	10:25 am Warner Chabot
5.	**Discussion of Adaptation Atlas – Next Steps** *Attachment 3 – Adaptation Atlas – page 5*	10:35 am Letitia Grenier
6.	**Discussion of Environmental Informatics Program and Funding Opportunities** *Attachment 4 – Environmental Informatics Initiatives – page 9*	11:00 am Tony Hale & Lorenzo Flores
7.	**Development Report** *Attachment 5 – Development Report – page 17*	12:00 pm Jim Fiedler & Stacy Cullison
8.	**Board Member Reports**	12:10 pm Board Members
9.	**SFEI Strategic Plan** *Attachment 6 – **(By separate email)***	12:15 pm Warner Chabot
	LUNCH	12:30 pm
	Adjourn Joint Business Meeting and Call SFEI Meeting to Order	1:00 pm

San Francisco Estuary Institute Business Meeting

SFEI 1.	**FY19 Q2 Financials & Program Plan Update** *Attachment 7 – Financial Performance thru 2/28/19 – page 21* *Attachment 8 – FY19 Q2 SFEI Program Plan Update – page 25* **Desired Outcome:** Accept Financials and approve FY19 Q2 SFEI Program Plan Update	1:00 pm Warner Chabot & Patrick Walsh
SFEI 2.	**Adjourn SFEI Meeting**	1:15 pm

SFEI - ASC Future Agenda Items:

- FY 2019-20 Budget

Upcoming Board Meetings

Friday, June 7, 2019
Friday, September 27, 2019
Friday, January 24, 2020
Friday, April 24, 2020
Time: 10am-2pm

Attachment #1

DRAFT Minutes from the January 25, 2019 SFEI-ASC Joint Board Meeting

Attendance

Present
Ann Hayden
Skyli McAfee
Karen Mogus
Adam Laputz
Barbara Salzman
Dave Tucker (Phone)
Dave Williams
Adam Olivieri
Bruce Wolfe

Alternates
Luisa Valiela

Guest
Hiep Pham (Phone)

Absent
Jim Kelly
Prabhakar Somavarapu
Jim Fiedler

Staff
Warner Chabot
Stacy Cullison
Pat Walsh
Anna de Lopez
Julie Beagle
Lisa Domitrovich
Melissa Foley

Joint Board Meeting

1. **Call to Order** - The SFEI-ASC Board of Directors meeting was called to order at 10:08 am by Vice Chair Ann Hayden. A determination of quorum was made.

2. **Closed Session** – Discussion of Performance Review for Executive Director

3. **Public Comment** - None

4. **Resilient Landscape - Presentation on 'Adaptation Atlas' -** Julie Beagle presented and answered questions on SFEI's current and future partnership/leadership role on regional climate adaptation issues.

5. **Audit Report –** Hiep Pham gave summary of audit conducted on June 30, 2018. Audit went well and there were three opinions, all claims. The only concern was the receivables are high, about 50% higher than last year. The cause is from nonpayment from state and federal agencies, which is all collectable. Barbara Salzman mentioned the audit committee's approval of keeping R.J. Ricciardi, Inc as the audit company and Warner Chabot suggests changing the auditor due to Hiep Pham preforming audits for the past five years. (Attachment #4)
   Barbara motioned and Skyli second; the board unanimously approved audit report.

6. **September SFEI-ASC Board Minutes** – Number 6 has a blank space on who motioned to move the election of new members and officers to next board meeting. (Attachment #1)
   Dave and Skyli second; the board unanimously approved September's minutes of the respective SFEI and ASC Board meeting.

7. **Executive Director Report** - Warner Chabot opens by introducing SFEI's new Senior Development Officer Lisa Domitrovich, Clean Water Program Manager Melissa Foley, and mentioned that SFEI has brought on board a few new employees. Then continues summarizing the Executive Director Report. (Attachment #2)

8. **Development Report –** Stacy Cullison mentions the two develop meeting that took place and the details of the meetings are summarizes in the attachment. Also, talks about what Lisa has and will help the development team. Needs all board members to fill out the Information Form. For the future there will be a development webpage, newsletter, and presentation folder. (Attachment #3)

9. **Board Member Report –** Update from the San Francisco Bay Water Board recognizing Bruce Wolfe's retirement in late December and the Water Board has chosen Michael Montgomery as its Executive Officer.

10. **SFEI Officers Election & Discussion of New Board Members –** The Governance Committee is recommending the following changes to the Board of Director Officers: Chair to Skyli McAfee, Vice Chair (ASC) to Eileen White, Secretary to Tom Mumley, and Treasurer to Prabhakar Somavarapu. (Attachment #5)
    Dave Tucker motioned and Dave Williams second; the board unanimously approved the Election of New Officers.

11. **SFEI 2019-24 Strategic Plan -** Warner Chabot handed out and led a presentation on the current version of the plan. (Attachment #6)
    Barbara moved and Skyli second; the board unanimously approved the SFEI Strategic Plan.

Adjourn Joint Board Meeting at 12:58pm
Call SFEI Meeting to Order at 1:58pm

12. **SFEI FY19 Q1 Financial & Program Plan Update –** Pat Walsh presented the performance summary and went through the table of SFEI current and upcoming projects. (Attachment #7 & 8)
    Skyli moved and Adam Laputz seconded; the board unanimously approved the SFEI Strategic Plan

Adjourn SFEI Meeting at 1:24
Call ASC Meeting to Order at 1:24pm

13. **ASC FY19 Q1 Program Plan Update –** Pat Walsh presented the current and upcoming projects (Attachment #9).
    Skyli moved and Dave Williams seconded; the board unanimously approved the SFEI Strategic Plan

Adjourn Joint Meeting at 1:34pm

Attachment #2

Date: April 23, 2019
To: SFEI/ASC Board
From: Warner Chabot
Item: Executive Director's Report – (A summary of recent SFEI efforts)

Diversity, Equity & Inclusion

- SFEI is moving forward with an internal diversity, equity, and inclusion effort. We've formed a committee of staff, from each program, to discuss and shape the effort and to bring a consultant on board for FY20. We anticipate this will be a multi-year effort encompassing an assessment of the organization as well as implementing DEI into our practices and values.

Financials

- SFEI anticipates concluding our fiscal year close to a break even budget -- plus or minus $50K. Conservative accounting shows a year to date deficit of $51K through February.

Staffing

Since the January Board meeting, we have added a few additional staff to support SFEI's Clean Water, Resilient Landscapes and Development efforts. This includes the following hires

- Mathew Benjamin – Resilient Landscapes (Environmental Analyst 1)
- Liz Miller – Clean Water (Scientist 1)

Program Work

Environmental Informatics

- **BCDC Technical and Graphics Support** – SFEI has extended our partnership with BCDC to provide additional technical, environmental informatics and graphics support to expand their capabilities to respond to climate change.
- **Green PlanIT Tracker –** SFEI released a major upgrade to our Green PlanIT tool to allow local leaders to track the locations of green stormwater infrastructure in the Bay Area's urban communities. The tool will also track pollutant mass, maintenance needs and the cumulative outcomes of green infrastructure implementation.
- **E.I.'s web services** have:
  - Prepared and released the Giving pages (sfei.org/giving) for the Development Program.
  - Prepared and released the Adaptation Atlas sites (story map and conventional web pages) to support the release of the OLU report.
- **Delta Science** - E.I. also completed the Delta Science Program's Delta Science Tracker Needs Assessment. This project contracted through the Delta Conservancy, will help the DSP learn how a new science project tracker might also serve other public agencies and researchers.
- **Public Health Partnership** - We also spearheaded new relationship with the Department of Public Health to support their efforts to quantify tobacco-related litter in the environment.
- **Trash Monitoring** – We are continuing a partnership with SCCWRP to develop statewide tools to enable communities to use the best available technology to monitor and measure trash in their waterways and to prioritize policies to reduce the trash.
- **Valley Water** - The Santa Clara Valley Water District has asked SFEI to develop a set on online tools to:
  - Identify opportunities for multi-benefit management actions along local channels,
  - Track the impacts of those actions towards meeting established targets.

Water Quality

- **Central Valley Water Quality Projects** - We're planning a 3-year pilot study of Contaminants of Emerging Concern (CECs) to begin this year. This is a Central Valley and the Delta "first." SFEI will analyze hormones, pharmaceuticals, personal care products (PPCPs), and industrial contaminants in water, sediment, fish, and clams. We're also working with the Regional San wastewater agency serving 1.4 million people in the Sacramento area. Our monitoring efforts will study how their $1.6 billion upgrades and nitrogen reduction efforts are affecting Delta water quality and ecosystems.
- **Emerging Contaminants** – SFEI With the hire of Liz Miller, an environmental toxicologist, the Clean Water program is expanding our efforts to focus on emerging contaminants science in the Bay and Delta.
- **Stormwater and Sediment** – SFEI has received a $385K SEP grant from the Regional Water Board to Quantify Stormwater Flow and Sediment Flux to the Bay.
- **S.F. Bay Monitoring** - Deployments of moored sensors along South Bay's broad and shallow shoal (just north of San Mateo Bridge) indicate that chlorophyll concentrations are consistently higher there than along the Bay's spine, where most monitoring occurs. It may be that we've been missing an important part of the algae story.

Resilient Landscapes

- **Adaptation Atlas** - SFEI will release the **Adaptation Atlas** report on May 2nd. We're working with the Newsom administration to brief state agencies in Sacramento. We're also working with regional professional entities to brief local and regional policy leaders and to present at major conferences including the Bay Planning Coalition's annual policy summit. Business leaders like the Bay Area Council and the Silicon Valley Leadership Group have responded positively. News organizations have expressed interest in writing stories on the report's launch.
- **Urban Biodiversity Framework** – SFEI will soon issue a major report on Urban Biodiversity based on funding from the US EPA. This report establishes a new, science-based approach for improving biodiversity within cities.
- **Google Partnership** - SFEI continues to advise Google on ecological planning. We are facilitating a partnership between Google, Santa Clara Valley Water District, and the City of Sunnyvale to develop a vision for shoreline resilience that integrates innovative approaches to sea level rise, wastewater treatment, urban greening and stormwater management.
- **Urban Health (Major Foundation Funding)** - SFEI is also leading a partnership with the City of East Palo Alto, funded by the Robert Wood Johnson Foundation and Google, to strengthen the link between urban biodiversity and public health benefits, through technical synthesis, design guidelines, and implementation.
- **Community-based Historical Ecology** – SFEI has partnered with the Exploratorium and the Presidio to conduct a major community engagement effort in San Francisco to involve neighborhood leaders in the development of a landmark Historical Ecology project for the northern half of the city.
- **State of the Estuary Report** - SFEI is developing the science to support the **2019 State of the Estuary Report**, being produced by the San Francisco Estuary Partnership for their Fall event.
- **BioScience Journal Article** – SFEI partnered with a team of international ecologists to publish a foundational new science paper – "**Building ecological resilience in highly modified landscapes**." The report uses examples from SFEI's work in urban and rural areas to present a framework to apply ecological resilience science to landscape-scale management.

Attachment #3

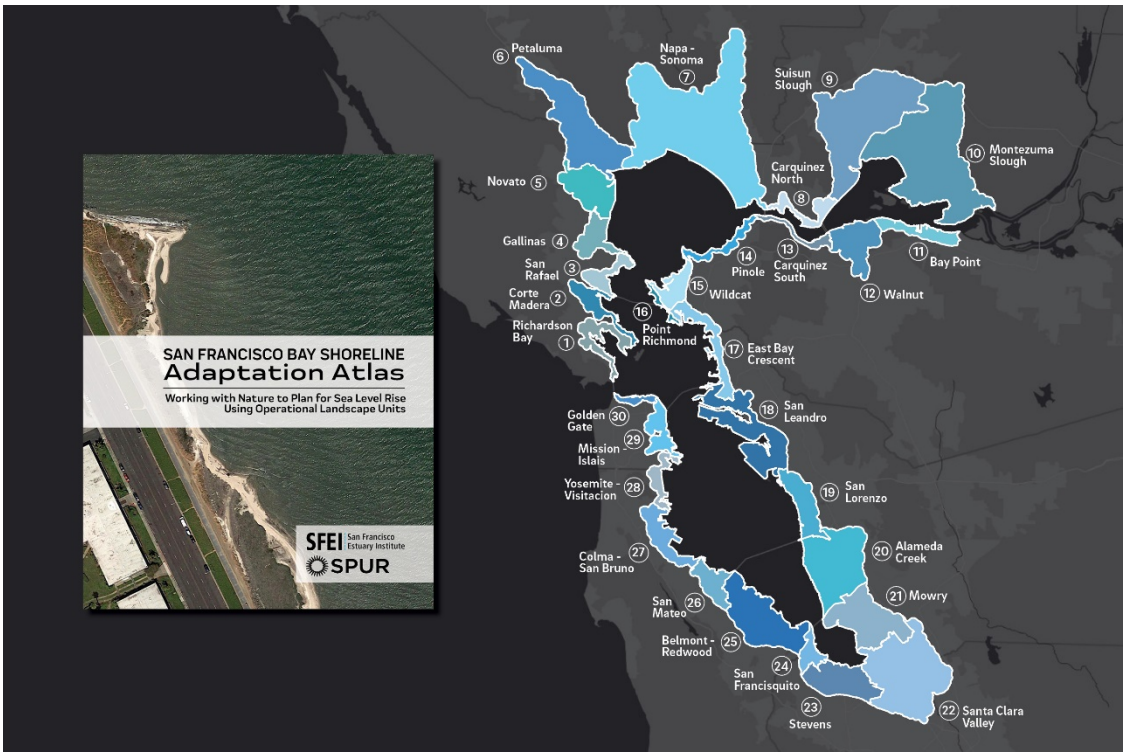
Date: April 18, 2019

To: SFEI-ASC Board

From: Warner Chabot

Re: Adaptation Atlas Report-- No Formal Action Needed

On May 2nd SFEI and SPUR will jointly release the "San Francisco Bay Shoreline Adaptation Atlas." The Atlas is the product of a two-year, joint effort by **SFEI** and **SPUR.** . It will outline a landmark, nature-based strategy for Bay Area climate adaptation planning.



This ground-breaking report and climate strategy (and the process to create it), demonstrates that the San Francisco Bay Area can be a national model for how an urban region of eight million people, at the edge of the sea works with nature to adapt to climate change.

Here are links to:

1) A 2-pg. set of **"**highlight bullets" from the **Adaptation Atlas.**
2) The **embargoed PDF** of the full report.
3) A **Preview website** that introduces the report.
4) **Registration** for the May 2nd Webinar.

This product represents a unique combination of comprehensive science, focused on nature-based shoreline solutions to Bay Area climate adaption and multi-agency collaboration. As a result of SFEI's

leadership the report's concepts and recommendations are already being adopted by local and regional entities (e.g. BCDC, MTC and local counties), even before the report is published.

I've asked Letitia Grenier to discuss the implications of the Atlas and SFEI's future plans to support regional adaptation planning, with continued funding from the Regional Water Board.

This Agenda item also includes a copy of the "Highlight Bullets" for the Atlas.

SFEI San Francisco Estuary Institute SPUR

San Francisco Bay Shoreline Adaptation Atlas

The San Francisco Bay Shoreline **Adaptation Atlas** is a landmark report that offers a national model for regional collaboration that works with nature to provide science-based, climate adaptation options.

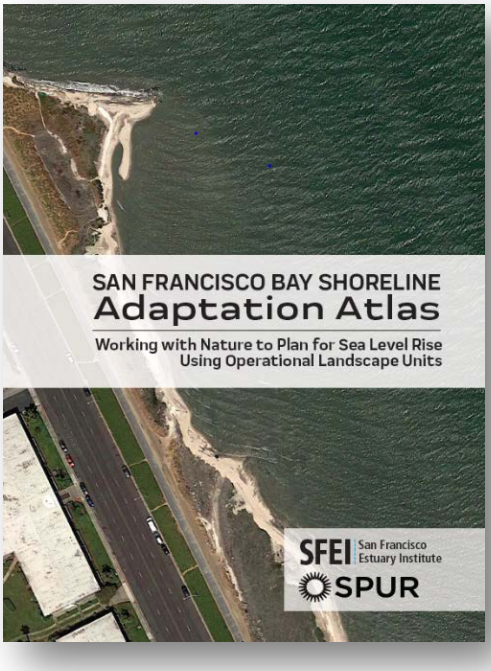
SUMMARY - The **Adaptation Atlas**:

- Proposes a science-based, geographically specific framework to understand and respond to sea level rise vulnerabilities by working with nature.
- Offers a suite of nature-based and policy options to fend off climate impacts, including shoreline flooding, with solutions that are often more effective, less expensive to maintain, and provide greater benefits that traditional engineered approaches.
- Cuts across traditional jurisdictional boundaries, allowing stakeholders who experience similar hazards and share similar coastal settings to come together to develop effective adaptation strategies.

The Problem

- Climate change threatens the quality of life for the 8 million people living in 101 cities and 9 counties across the diverse geography of the San Francisco Bay Area, especially in our most vulnerable communities.
- Much of the Bay Area's infrastructure, including water treatment plants serving the entire region, is located in the vulnerable lowlands near the Bay.
- We face a three-pronged challenge of sea level rise, high and rising groundwater, and increased lowland flooding from extreme weather. This challenge threatens to render our roads and transit systems unusable, homes uninhabitable, and jobs unavailable.
- Much of the Bay Area's infrastructure, including water treatment plants serving the entire region, is located in the vulnerable lowlands near the Bay.
- A recent USGS report estimated the cost of sea level rise to the Bay Area at $100 billion in property and infrastructure damage, affecting 400,000 people, (2/3 of the total state economy threatened by sea level rise). ***(Sources: USGS Report, KQED story)***
- Like most coastal regions, the Bay Area's varied landscapes and myriad overlapping jurisdictions make a coordinated, cost-effective response challenging.
- Not solving this challenge will increasingly result in our transportation systems being unusable, neighborhoods uninhabitable, and jobs unavailable.
- It is becoming widely recognized worldwide that designing resilient shorelines with natural systems is more cost-effective, long-lasting, and provides multiple benefits, when compared with conventional gray infrastructure. ***(Sources: USACE report, Scientific American article)***

A Solution – The Adaptation Atlas



- As federal leaders debate what to do about climate change, the Bay Area is not waiting, but leading.
- A landmark new Bay Area study, the "The San Francisco Bay Shoreline **Adaptation Atlas,**" provides a science-based blueprint for working with nature to improve shoreline resilience.

The **Adaptation Atlas:**

- Is the result of a two-year collaboration between **SFEI**, a scientific research institute and **SPUR**, an urban planning and public policy think tank.
- Presents a thorough and graphically detailed assessment of the environmental and urban sea level rise-related conditions facing the Bay Area now and in the future.
- Provides a suite of nature-based adaptation options, specific to 30 unique segments along 400 miles of Bay shoreline.
- Describes how communities can use policies, regulations, and financial mechanisms make long-term land use changes that will reduce their vulnerabilities to future sea level rise.
- Takes the first step to provide guidance for the regulatory community, regional governments, planners, and members of local communities on how to proactively integrate nature-based adaptation measure into adaptation plans.
- Provides a blueprint for regional environmental cooperation among local communities who make critical land use decisions, and who invest in shoreline flood protection.
- The Adaptation **Atlas** is empowering a wave of multi-jurisdiction collaborations on sea level rise planning to achieve regionally significant adaptation solutions.
- For example, over the past year, the SFEI/SPUR team worked with leaders in San Mateo and Marin counties in their county-based adaptation planning processes.
- Major regional agencies, like the Bay Conservation & Development Commission (BCDC) and the Metropolitan Transportation Commission (MTC), are already adopting the data and concepts into their planning efforts.

*Funding for the **Adaptation Atlas** was provided by the **San Francisco Bay Regional Water Quality Control Board***

Attachment #4

Date: April 18, 2019
To: SFEI-ASC Board
From: Warner Chabot
Re: Environmental Informatics Initiatives

SFEI has been exploring options to provide a stable and sustainable funding base for the operations and maintenance of our Environmental Informatics program. We're also developing new strategies for our technology. We want to discuss both items with the Board and what role you might play in supporting these efforts.

A Case for Environmental Informatics: The funding needs and opportunities for SFEI's technology program

Program Director Tony Hale will present the companion needs related to Environmental Informatics: operations and maintenance funding (O&M) as well as funding for research and development. Over the past several years, Tony Hale and Program Manager Cristina Grosso have developed a business plan for the EcoAtlas Toolset, a technology suite critical to a number of key agencies and organizations. While sharing some of the business plan's key findings and future designs, Dr. Hale will also describe how Board Members might productively contribute to the continued vitality of the Environmental Informatics program.

Highlighted Innovation: Environmental Machine Learning and Drone-Based Imagery

Since 2015, Lorenzo Flores, MS has served as an Application Developer at SFEI. He brings with him a special expertise in machine learning and artificial intelligence. His presentation will describe for the Board some of the recent strides in applying these skills to the detection of trash in the environment and thereby helping to solve some very tenacious problems. Stormwater programs across the state have demonstrated a strong stake in the outcome of this project.

The following provides:

- An Environmental Informatics Value Proposition (two pages)
- A Summary of the EcoAtlas Business Plan (four pages)

Environmental Informatics

A unique and integral program of SFEI, **Environmental Informatics (EI)** serves a dual role: providing basic computing infrastructure and technical support for the daily work of all SFEI staff, and applying information technology to compile, report, and translate data to a wide range of stakeholders throughout California who make critical decisions impacting our environment.

For its outward-facing functions, EI projects are designed to leverage a modular, core-and-periphery software structure. Core modules are held in common by related projects, while periphery modules are customized to meet specific contract goals. This structure facilitates the ongoing integrity of the core data and tools, simultaneously supporting the speedy and nimble development of requested customizations.

As outlined in SFEI's new Strategic Plan, *we seek to harness innovative technology and big data to empower people to visualize and solve environmental challenges*. This requires sustainable funding to enable Environmental Informatics the capacity to keep SFEI at the cutting edge of science and technology.

Program Cost and Proposed Solution

The EI budget contains two major expense categories:

Core Activities: The routine, recurring operations that are non-discretionary and needed to keep the existing toolsets secure, high quality, and functional. It includes user support, training and outreach; database management, upgrades and general maintenance, network infrastructure support; and quality assurance.

~ $425,000 per fiscal year Inflationary costs plus expanded data and toolsets will increase this line item over time

New Development: The creation of innovative new tools or adaptation of existing tools to leverage technological breakthroughs. This work often promotes collaboration with other partners to provide stakeholders – from agency officials to community groups – the power to access our vast database, visualize complex environmental issues, and make science-based decisions.

~$325,000 per fiscal year (or ~$150,000 per application/tool)

To sustain the data repository that SFEI has built over the years and maintain the level of excellence our users have come to expect, additional ongoing resources must be invested in Environmental Informatics.

Bridge Funding Campaign en route towards a Budget Change Proposal

1. Seek regional water board and other agency buy-in to include EI on list of annual contract needs
2. Prioritize philanthropy toward EI in the coming two years and solicit support as possible
3. Build interagency support and submit a legislative Budget Change Proposal (BCP) to authorize agency funding to sustain EI operations
4. If successful, it could be 2-3 years before the BCP would become a stable source of ongoing funding

Priority Projects

The projects below highlight the integration of SFEI's core activities and new development expertise as integral components. Future budgets would reflect these project priorities:

EcoAtlas (includes a basemap for wetlands across California, environmental condition assessment tools, and the Wetland Project Tracker)

Provide helpdesk, operations, maintenance, and updates in support of the statewide network of current and future users

Global climate, local effects

Harness climate models and downscale to determine local effects on aquatic species, habitats, and environmental processes

Outreach Initiative

Market and demonstrate SFEI tools to a broader audience, building case studies and other assets; focus on recruiting other states to join our network, further expanding footprint of tools' use and abilities

Regional Data Center

Enhance the Regional Data Center to optimize processes (e.g. managing real-time data), accommodate underserved local communities, and help nonprofits share data

Environmental Machine Learning

Optimize trash detection, geospatial analysis, and other contaminant tracking

Design Lab

Support integration for creative problem-solving among programs, e.g. augmented and virtual reality, intersection of contaminants, and landscape scenario planning

Mobilizing our tools

Create mobile apps for key tools in need of mobile support, e.g. CRAM, Safe to Eat portal

Geospatial Catalog

With boundaries, metadata, and filtering to share information internally and to the public

Unoccupied Aerial Systems expansion

Apply emerging technologies to latest challenges in change detection and related work

Environmental Informatics Value Proposition

- SFEI is a source of independent science—not driven by any political or advocacy agenda—and this science is supported by consistently high-quality data.
- Without this core support we risk the corruption and possible loss of decades' worth of environmental data; $7M of public investment diluted or wasted; a halt to tool maintenance and training, leaving hundreds of current and future users adrift; and gaps in data that will impact future environmental decisions in California
- SFEI has the capacity, expertise, and mission to assist nonprofits and underserved communities in organizing, analyzing, and presenting their data. A true public private partnership in action.
- SFEI's tools, developed for California's stakeholders, are ready to be exported and adapted to other regions.
- With mobile versions of key tools, we can take our data collection "into the field," making the data lifecycle much more efficient.
- SFEI's tools help integrate the Institute's programs and focus areas. When applied state- or nationwide, we facilitate innovation in environmental science and nature-based solutions.

The EcoAtlas Toolset

Applied Aquatic Science:

A Business Plan

03.07.2017

—

Prepared for the California Wetland Monitoring Workgroup

by Tony Hale and Cristina Grosso

Aquatic Science Center

4911 Central Ave

Richmond, CA 94804

Executive Summary

The EcoAtlas suite of tools represents a significant investment of time, energy, thought, scientific testing, technical innovation, and capital from a number of state and federal public agencies, grant programs, and NGOs over the course of its 17-year existence. The toolset embodies the scientific and programmatic investments of the California Wetland Monitoring Workgroup (CWMW), its many related state and federal agencies, non-governmental organizations (NGOs), and private consultants, as well as the goals of the growing set of stakeholders who have expanded the circle of interested parties over the years. It is known by many names -- "WRAMP" being most common -- but in its essence it comprises the following tools:

- EcoAtlas map viewer
- Project Tracker
- The California Aquatic Resources Inventory (CARI) map and editor tool
- The California Rapid Assessment Method (CRAM)
- The Riparian Zone Estimator Tool (RipZET)

Now highly capable, the toolset represents more than science and technology alone, but a distillation of both, customized to meet specific goals associated with the landscape-scale tracking and characterization of California's aquatic resources. The US Environmental Protection Agency (US EPA), for instance, has supported the toolset through multiple development grants so that the collected tools might be complementary to a still-nascent, statewide wetland protection program. Meanwhile, the state's Coastal and Delta Conservancies require the use of the tool, and regional water boards -- including SF Bay, Lahontan, and North Coast -- regularly employ the tool for mitigation and restoration project tracking. Essentially, EcoAtlas has proven critical to a variety of programs and represents a successful product of broad-based collaboration. However, it currently stands at a crossroads, and its stakeholders must direct the toolset's future.

The following plan is intended to ensure the continued vitality of the toolset. The plan's success will depend upon the continued collaboration of the public agencies that have supported the toolset thus far, but it must also integrate principles of resilience as it accounts for the tensions that arise as organizations move in different strategic directions.

Challenge

The major challenge we face is how to fund the continued maintenance, development, and innovation for the broad suite of tools constituting EcoAtlas. Having been reinvented in

2013, the tool is effectively on a trajectory from pilot project to an institutionalized instrument. Yet, the funding needed for such a transition is not yet available. US EPA and other governmental agencies have largely funded development of the EcoAtlas toolset through Wetland Program Development Grants and other in-kind contributions, which are designed to build state capacity but not to implement the toolset. Considering that state agencies presently depend on the tool for information resources, how do we ensure that EcoAtlas remains meaningfully connected to the stakeholders and public programs that have lent the toolset such vitality over the years?

The challenge is therefore chiefly a matter of process, people, and resources, rather than one of technology.

Solution

The toolset adheres to the concept that no one tool can comprehensively address all information gaps across the watershed and therefore collectively produces a synthesized "whole watershed approach." Whether estimating the ideal riparian buffer width for a given stream or assessing the health of a wetland at the edge of the estuary, the EcoAtlas tools allow practitioners to deploy the right tool for the job in scientifically defensible ways, thereby producing a credible picture through composite outputs.

The following business plan requires a combination of new state investment through a combination of in-lieu-fee agreements, participant fees, and continued project-based funding. It describes both the approach for ensuring the continued development of the toolset in alignment with stakeholder goals and the appropriate funding model to support the sustainable operations and maintenance of the tool. The result is a hybrid funding model that leverages agreements, participant fees, and project-specific funding, all of which will collectively facilitate the continued scientific and technological evolution of the toolset. The hybrid model will provide a diversification of the budgetary infrastructure, allowing for greater sustainability and resilience against unforeseen shortfalls. Furthermore, the regionalization of the tool will operationalize a customization strategy and allow the tool to meet stakeholder demands. In this way, innovation can also continue.

The plan provides an annualized budget for key tasks, including user support, training, outreach, database management, upgrades, and quality assurance, amounting to $365,000. This serves as a set amount that is reassessed annually. The more contributors pay into this common fund, the less each contributor must pay. New development, on the other hand, would continue as funded by individual grants, foundations, and other sources.

Current Stakeholders and Governance

The toolset has a strong user-base comprising different programs and organizations across California's varied governmental terrain. These groups include:

- regulatory agencies with regional jurisdictions, such as the Lahontan, North Coast, and San Francisco Bay Regional Water Quality Control Boards,
- state agencies with statewide jurisdiction, such as the State Water Board, CalTrans, and California Department of Fish and Wildlife,
- federal agencies, such as the US Army Corp of Engineers and NOAA-NMFS who stores its Southern California eelgrass restoration projects,
- conservancies, such as the State Coastal Conservancy and Sacramento-San Joaquin Delta Conservancy
- Joint Ventures, such as the San Francisco Bay and Central Valley Joint Ventures with whom SFEI signed a three-way MOU of continuing support for EcoAtlas, and
- wetland groups, such as the Central Coast Wetlands Group.

In addition, EcoAtlas, CRAM, CARI and Project Tracker were included in Proposition 1 guidelines for managing information on restoration projects.

The CWMW and its associated Level 1, Level 2, and Level 3 committees will continue to exercise authority for directing the development of the toolset's various core components. Meanwhile, projects that modify peripheral modules can be guided by individual funders.

Roadmap

The future of EcoAtlas requires a strategy for both the continued maintenance and new development of the toolset. The stakeholders of the toolset depend upon reliable updates (software and data) and upgrades (major revisions). These demands are only likely to increase.

For the most part, the toolset is highly centralized and singular. The roadmap calls for a strategic regionalization of the tools that meets specific regional needs while maintaining the consistency of the data and core functions to leverage past investments and retain scientific credibility for the toolset.

Implementation of this plan will require the CWMW to test the viability of the hybrid funding model and then, while clearly illustrating the future opportunities, secure contributions from its target clients.

Attachment #5

Date: April 18, 2019
To: SFEI-ASC Board
From: Stacy Cullison, Director of Development
Re: Development Report -- No Formal Action Needed

Below is a summary of various activities that the development department has undertaken since the January 25, 2019, board meeting.

Contributed revenue for FY19 totals $941,171. See attached Development Dashboard report for additional information about gifts received year-to-date and various program metrics. Note that we have added a new metric called "Significant Moves," which helps to track quality as well as quantity of contacts with prospects and donors.

New commitments received the past three months totaled $413,830, including two major gifts.

New Major Gifts from Silicon Valley Community Foundation ($49,000) and the Robert Wood Johnson Foundation ($407,230) awarded the past quarter. Both grants will support new projects in the Resilient Landscapes program. The Silicon Valley Community Foundation project will be a collaboration with SPUR and Santa Clara Open Space Authority.

Development web site is live! Thanks to the Development Committee and other Board members who provided feedback earlier this year. The site went live in late February and has been a great addition to the publicly-available information about SFEI.

- Add SFEI as a recipient of your Amazon account orders via *AmazonSmile*. A portion of all purchases will benefit SFEI

- Brokerage account now available to accept gifts of stock; information form on web site provides the details

Development Committee meeting held on Monday, April 15. Highlights included:

- Preliminary discussion of Environmental Informatics program and the fundamental, ongoing support that needs to be secured; this is an immediate priority for SFEI
- Reviewed Development Dashboard report; continuing evolution of donor database use and methodology as well as growth of donor and prospect pool over time will enable improved metrics tracking, future funding projections, and assessment of trends

- The Strategic Plan is undergoing a re-design and committee members saw an initial design draft. Feedback included tightening up the content so meaty issues are found more quickly at the beginning of the document, highlight quotes and call-out boxes more, and consider eliminating pages that don't seem necessary, such as the table of contents
- Staff will continue to revise the document design and lay out; a final copy edit will be done before it goes to print. The Plan will be available in hard copy and online.

Upcoming Items of Priority

1. Prepare for FY20 and complete DonorPerfect data entry to evaluate pipeline of support
2. Continue conversations with Finance team to refine FY20 budget process and accounting methodology
3. Finalize giving opportunities list and descriptive language
4. Begin project prioritization process with SFEI strategy team
5. Finalize and print Strategic Plan by June 1; distribute to prospective donors via mailings and personal visits
6. Write Case for Support and/or Gen Ops proposal, testing the message and related giving opportunities with major gift prospects and Bay Area philanthropists
7. Finalize development handbook for internal use and database consistency
8. Evaluate communication vehicles (presentation folders, newsletters, brochures, briefings, social media) and create plan to support development outreach and elevate brand to external audiences
9. Continue to instill a culture of philanthropy throughout SFEI

Attachments: Development Dashboard

Development Dashboard Report (April 18, 2019)

Fiscal Year 2019

Activity from July 1, 2018 - April 18, 2019

Revenue

FY 19 Contributed Revenue			Last FY Contributed Revenue (7/1/2017 - 4/8/2018)		
Campaign	**Number of Gifts**	**Amount**	**Campaign**	**Number of Gifts**	**Amount**
Annual Fund 2019 (non-Board)	12	$ 2,649	Annual Fund 2018 (non-Board)	3	$ 1,536
Annual Fund 2019 (Board)	9	$ 2,522	Annual Fund 2018 (Board)	10	$ 2,263
Major Gifts 2019	6	$ 909,000	--	0	$ -
Program Annual Fund 2019	4	$ 27,000	--	0	$ -
Total	**31**	**$ 941,171**		**13**	**$ 3,799**

Gifts & Pledges Received			
Donor Type	# of Gifts	Gift Amount	Pledge Balance
Individual	16	$ 2,908	$ -
Foundation	7	$ 919,000	$ 363,253
Corporation	4	$ 12,263	$ -
Organization	4	$ 7,000	$ -
Sub-Total	31	$ 941,171	$ 363,253
Total (gifts & pledges)		**$1,304,424**	

Change since Jan 2019 Report	$413,830
Unrestricted Gifts	$504,171

Pipeline

Prospect Tracking				
Solicitation Stage	# of Prospects	Target (Planned Ask)	Goal (Expected Amount)	Actual Amount
1. Identify	23	$ 1,840,500	$ 460,375	$ -
2. Research	0	$ -	$ -	$ -
3. Plan/Cultivate	1	$ 50,000	$ 12,500	$ -
4. Ready to Solicit	0	$ -	$ -	$ -
5. Ask	0	$ -	$ -	$ -
6. Steward	8	$ 1,858,000	$ 573,000	$ 1,282,253
Total	**32**	**$ 3,748,500**	**$ 1,045,875**	**$ 1,282,253**

Metrics

# of Visits	
Goal	137
Achieved	29
To Go	108

# of Other Contacts	
Phone Calls	24
Emails	160
Letters	38

Significant Moves			
	This Quarter	Last Quarter	Difference
# of Significant Move	1	0	1

Attachment #7

Date: April 22, 2019

To: SFEI Board of Directors

From: Patrick Walsh & Jen Hunt

Re: SFEI Financial Performance Summary

FY19 Financial Performance Summary through February 2019

There is a net negative surplus of -$51,566 through February 28, 2018. Our surplus goal for FY19 is $100k. We have been working to reduce Accounts Receivable as is evident on the following page but this is an on-going effort and we continue to make calls on past due accounts. See **Table 1** on the next page for more information on FYTD financials.

See **Table 2** of this Attachment for the two Surplus figures in the financial summary. As reported at the last board meeting, we are working through how to interpret the Contributed Revenue portion of our revenue, and especially as it relates to Surplus. The first Surplus figure in Table 2 accounts for the Contributed Revenue which by accounting standards is recognized when received. The 2nd Surplus figure (in this case deficit) of -$51,566 presents Surplus in the manner that SFEI traditionally computes Surplus. The 2nd Surplus figure removes that portion of Contributed Revenue that has yet to be spent (what SFEI traditionally calls "unearned"):

$647,909 (Contributed Revenue received through February 2019)
- $166,891 (Spent on the work of Contributed Revenue sponsored projects through 2/28/2019)
$481,018 (Adjusting figure to reduce revenue to compute SFEI's traditional Surplus figure)

$429,452 (Surplus)
-**$481,018** (Adjusting figure)
-$ 51,566

We met recently with our accountant to discuss the year end accounting of contributed revenue and the ways in which we could state both figures simultaneously for internal reporting and budgeting purposes. We will continue to refine our reporting of revenue and surplus figures.

Recommended Action: Accept financials to date

Table 1.

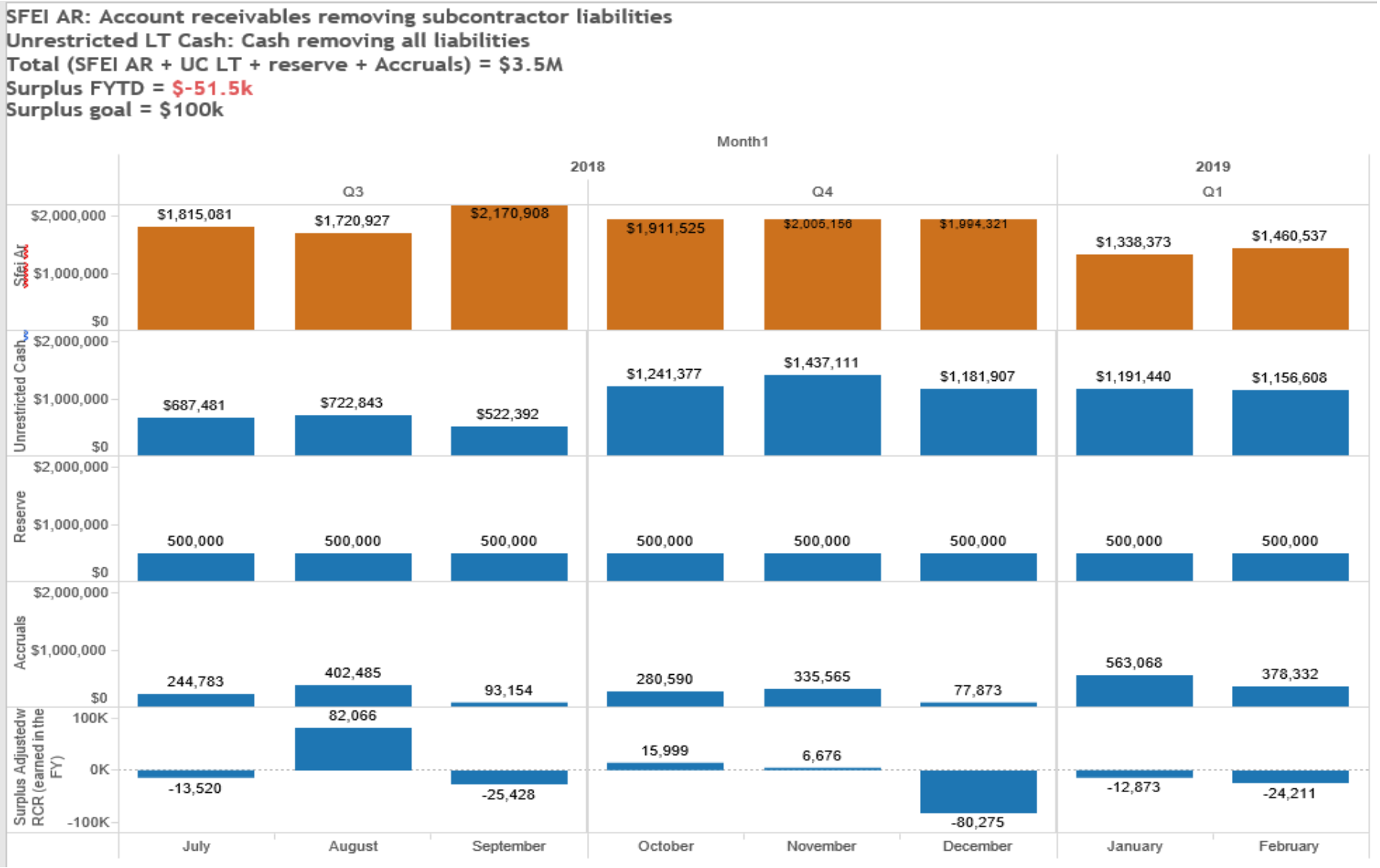

SFEI AR: Account receivables removing subcontractor liabilities
Unrestricted LT Cash: Cash removing all liabilities
Total (SFEI AR + UC LT + reserve + Accruals) = $3.5M
Surplus FYTD = $-51.5k
Surplus goal = $100k
Month1
2018
2019
Q3
Q4
Q1
Sfei Ar
$2,000,000
$1,000,000
$0
$1,815,081
$1,720,927
$2,170,908
$1,911,525
$2,005,156
$1,994,321
$1,338,373
$1,460,537
Unrestricted Cash
$687,481
$722,843
$522,392
$1,241,377
$1,437,111
$1,181,907
$1,191,440
$1,156,608
Reserve
500,000
Accruals
244,783
402,485
93,154
280,590
335,565
77,873
563,068
378,332
Surplus Adjusted w RCR (earned in the FY)
100K
0K
-100K
-13,520
82,066
-25,428
15,999
6,676
-80,275
-12,873
-24,211
July
August
September
October
November
December
January
February

Table 2.

Item	FY19 Board Approved Budget	FYTD Actuals thru 2/28/19	% of Budget
Revenue			
Billed Labor Revenue	$ 7,649,436	$ 5,015,497	66%
Contributed Revenue	$ 278,505	$ 647,909	233%
Other Revenue (Sub/Contract Reimbursable)	$ 2,527,000	$ 1,630,529	65%
LAIF & Other Revenue	$ 45,000	$ 36,138	80%
Total Revenue	**$ 10,499,941**	**$ 7,330,073**	**70%**
Expenses			
Salaries & Benefits	$ 6,495,123	$ 4,457,134	69%
Other Expenses	$ 2,527,000	$ 1,641,856	65%
Admin Expenses	$ 1,259,533	$ 734,699	58%
IT Expense	$ 118,309	$ 66,932	57%
Total Other Direct Cost Expense	**$ 10,399,965**	**$ 6,900,621**	66%
Total Surplus	**$ 99,976**	**$ 429,452**	**430%**
Adjustment for Restricted Contributed Revenue:		**(481,018)**	
Total Surplus net of Contributed Revenue:		**(51,566)**	

Attachment #8

Date: April 22, 2019
To: SFEI Board of Directors
From: Patrick Walsh, Finance Director
Re: FY19 Q3 SFEI Program Plan Update

On the next page is a table summarizing the SFEI projects not previously approved, followed by another table with project descriptions.

Recommended Action: Approve FY19 Q3 SFEI Program Plan Update

Project #	Project Title	Pro-gram	Multi-plier	Funding Probability	Anticipated Start Date or Actual Start date if Funded	Completion (Anticipated)	Total Funding	Total Funding for Labor	Projected FY Labor Spending	Direct Client	Fundng Source	PI	PM
7272	Scientific support for BARC/MTC for SB1 adaptation planning	RL	2.95	Funded	2/2019	5/2020	$25,000	$25,000	$6,667	MTC	State	Jeremy Lowe	Julie Beagle
	East Palo Alto Urban Forest Master Plan	RL	2.6	90%	6/2019	TBD	TBD	$10,000	TBD	City of East Palo Alto	prop 68 state funds	Robin Grossinger	Erica Spotswood
7266	Re-Oak North Bay Strategy	RL	2.95	Funded	1/2019	9/2019	$30,000	$30,000	$15,000	Napa Cty. Resource Conserv. Dist.	North Bay Watershed Association	Robin Grossinger	Robin Grossinger
	Petaluma WCB: Bayland Strategy	RL	2.95	50%	6/2019	6/2021	$121,000	$121,000	$5,042	Sonoma Land Trust	Wildlife Conservation Board	Jeremy Lowe	Scott Dusteroff
7268	Palo Alto SLR Assistance	RL	2.95	Funded	2/2019	2/2020	$9,210	$9,210	$1,535	City of Palo Alto	City of Palo Alto	Jeremy Lowe	Jeremy Lowe
7270	Quail in Urban Parks	RL	2.41	Funded	2/2019	9/2019	$20,000	$20,000	$5,500	Presidio Trust	Federal	Robin Grossinger	Erica Spotswood
	Sunnyvale Shoreline Resilience Visioning Process (SCVWD ($97K) and & Google($92K))	RL	2.95	99%	5/2019	12/2019	$189,000	$136,590	$39,026	Google ($97K) SCVWD ($92K)	Private & County	Robin Grossinger	Jeremy Lowe
	Master Planning and Ecological Advisory Services for Google sites @ San Jose, Caspian Promenade and Whisman campuses	RL	2.95	100%	2/2019	12/2019	$245,463	$220,917	$100,417	Google	Google	Robin Grossinger	Erica Spotswood
7269	Pacheco Creek Restoration Project	RL	2.95	Funded	2/2019	2/2021	$15,019	$15,019	$1,877	HT Harvey	Santa Clara ValleyWater Agency	Robin Grossinger	Julie Beagle
	East Palo Alto-Dumbarton Bridge Resiliency Study	RL			3/2019	15	$33,095	$33,095	$4,413	AECOM/MTC	MTC	Jeremy Lowe	Jeremy Lowe
6563	UAS Survey at Arroyo de la Laguna	EI	2.95	Funded	4/2019	12/31/2021	$21,480	$19,980	$4,995	Zone 7 Flood Control & Water Conserv. Distr.	Alameda County	Tony Hale	Pete Kauhanen
	SLR modeling and mapping for Hayward shoreline and development of master plan	RL	2.95	100%	4/2019	3/30/2021	$13,098	$13,093	$546	City of Hayward + Scape Landscaping ($10,122+$2,976)	City of Hayward	Letitia Grenier	Jeremy Lowe
	South Bay Salt Ponds Lead Scientist position	CW or RL	1.73	80%	7/2019	6/1/2021	$260,000	$260,000	$0	SCC	prop 68 state funds	Jay Davis	Jen Hunt
	Sediment	CW	2.6	100%	??	1 year	$15,936	$15,936	??	Delta Science Program	Prop 1 state	Dave Senn	Jen Hunt
	Boosting the awareness and confidence of engineers, planners and communities in nature-based seal level rise adaptation strategies in the SF Estuary	RL	2.6	50%	??	3 years	$655,000	$155,341	??	Point Blue Conservation Science	NOAA	Jeremy Lowe	Julie Beagle
	Enterococci monitoring in San Francisco Bay	CW	2.95	95%	4/22/2019	10/31/2019	$5,148	$5,148	$1,471	Bay Area Clean Water Agencies		Melissa Foley	Melissa Foley
	Bay Area Wetlands Regional Monitoring Program (Development)	RL	2.6	??	12/1/2019	11/30/2021	Est. $300,000	Est. $120,000	$0	EPA Region 9: WPDG FY2019-2020	federal	Josh Collins	Sarah Lowe
	Vernal Pool Mitigation Planning and Assessment Tool development for the Greater Central Valley, CA	RL	2.6	??	12/1/2019	11/30/2021	Est. $300,000	Est. $140,000	$0	EPA Region 9: WPDG FY2019-2020	federal	Sarah Lowe/Sara Pearce	Sarah Lowe
	Russian River Regional Monitoring Program (R3MP) Development Support	RL	2.6	??	12/1/2019	11/30/2020	Est. <$100,000	Est. 80,000	$0	EPA Region 9: WPDG FY2019-2020	federal	Josh Collins	Sarah Lowe
5091.1	Baseline Assessment and Geomorphic Modelling for the McCosker Restoration Project in Advance of Project Construction	CW	2.95	Funded	4/1/2019	10/31/2019	$9,928	$9,800	$3,267	EBRPD	state	Lester Mckee/ Sarah Pearce	Sarah Lowe

Project #	Project Title	Pro-gram	Multi-plier	Funding Probability	Anticipated Start Date or Actual Start date if Funded	Completion (Anticipated)	Total Funding	Total Funding for Labor	Projected FY Labor Spending	Direct Client	Fundng Source	PI	PM
	2019 CRAM Open-Enrollment Trainings	RL	2.95	100%	5/3/2019	10/31/2019	$20,000	$15,000	$5,000	Open-enrollment courses	Individuals	Sarah Pearce	Sarah Lowe
	EBRPD SF Bay Trail Risk Assessment and Adaptation Prioritization Plan	RL	2.95	100%	??	??	$15,000	$15,000	??	WRT Planning and Design	East Bay Regional Parks District	Julie Beagle	Julie Beagle
	On-call services to support Marin County SLR adaptation	RL	2.95	100%	5/1/2019	4/30/2020	$20,000	$20,000	$3,333	Marin County Dept of Public Works	Marin County Dept of Public Works	Julie Beagle	Julie Beagle
	Data Mapping for the San Francisco Bay IRWM DACTIP	EI	2.95	??	5/1/2019	9/30/2020	$330,048	$330,048	$18,336	Environmental Justice Coalition for Water	state (DWR IRWM)	Cristina Grosso	Cristina Grosso
	Yolo Basin Inundation Patterns of the Past	RL	2.95	90%	6/1/2019	5/31/2019	$36,966	$36,066	$3,006	CalTrout	CalTrout	Robin Grossinger	Alison Whipple
	Updates to eCRAM and EcoAtlas to Support SMC/SWAMP Programs	EI	2.95	100%	3/1/2019	10/1/2019	$7,980	$7,980	$1,995	SCCWRP	SCCWRP	Cristina Grosso	Cristina Grosso

Project #	Project Title	Project Description
7272	Scientific support for BARC/MTC for SB1 adaptation planning	The following scope is for SFEI to assist the BARC/MTC team with their SB1 projects, with scientific support and facilitating collaboration. Collate relevant data sets such as historical and present ecology, hydraulic conditions, and geomorphology related to the project site. Provide the environmental setting as a basis for the development of projects aligned with the landscape and planned ecological restoration and raise both opportunities and constraints that need consideration. Develop a series of technical questions to provide an environmental basis for design criteria. Uundertake an analysis of specific design questions, such as transition zones, or shallow bay processes, as agreed with the MTC team. SFEI can provide review and comment on conceptual designs developed by the MTC team to ensure that environmental aspects of the design are translated from into the project deliverables.
	East Palo Alto Urban Forest Master Plan	Landscape Resilience and UHI consulting for From Gray toGreen: An Urban Forest Master Plan for East Palo Alto to include strengthened tree protection ordinances, development of 2 tree maps, and planting of 100 trees.
7266	Re-Oak North Bay Strategy	SFEI will lead creation of a broad-scale regional strategy to Re-Oak the North Bay through coordinated planting across the agricultural, suburban, and urban landscapes.
	Petaluma WCB: Bayland Strategy	Develop an Adaptation and Resilience ImplementationPlan for the Petaluma River Baylands funded by the Wildlife Conservation Board. Identify opportunities to increase resilience and facilitate adaptation to climate change within existing and historical tidal and freshwater wetland and adjacent transition zones and identify opportunities for reconnecting wetlands to their watersheds through land protection. The project team will describe existing and projected future conditions within the baylands and work with public and private landowners and technical advisers to develop conceptual project plans. The Plan will draw from and refine the recommendations from SFEI's Petaluma Historical Hydrology and Ecology Study
7268	Palo Alto SLR Assistance	The City of Palo Alto is developing a Sea Level Rise Adaptation Policy to provide guidance in planning for SLR that could impact neighborhoods, economy, and the Baylands habitat. The policy will serve as guidance in developing the more detailed Sea Level Rise Adaptation Plan. SFEI has been awarded a short-term contract to assist with sea level rise policy and plan development. This includes input to the SLR policy; presentations at public meetings, to the City Council, and to the Parks and Recreation Commission; and, assistance in outlining the adaptation plan.
7270	Quail in Urban Parks	This project will fill a gap in our understanding of urban quail, providing critical insight for the Presidio by identifying the qualities of urban parks that tend to support quail. In addition, the project will develop implications for the Presidio's reintroduction project, providing an important foundation in data from which to develop a structured reintroduction plan that addresses the elements needed to support quail both at the Presidio and in the surrounding landscape.
	Sunnyvale Shoreline Resilience Visioning Process (SCVWD ($97K) and & Google($92K))	In January 2019 SFEI facilitated a workshop funded by Google to initiate communication and coordination towards improving the resilience of the Sunnyvale shoreline from the east side of Moffett Federal Airfield to San Tomas Aquino Creek. The workshop participants -Valley Water, City of Sunnyvale, Google, and Lockheed-Martin -- indicated that they found the dialogue useful and wish to continue collaboration. The visioning process, jointly funded by Valley Water and Google, involves four elements that would take place during March-December 2019: Quarterly Workshops among the key stakeholders, Technical Working Meetings and associated briefs to advance solution pathways between the quarterly meetings, and general Facilitation of the process. Finally, there is interest in a Vision document, whose exact structure and content would be determined through the course of 2019. This extends SFEI's involvement in the South San Francisco Shoreline Study; the RO concentrate studies; and urban ecology planning in the South Bay.
	Master Planning and Ecological Advisory Services for Google sites @ San Jose, Caspian Promenade and Whisman campuses	Review of Master Plans. Provide ecological content, incorporate urban biodiversity, ecological resilience and stream geomorphology science. Develop performative ecological metrics and objectives. Review and provide guidance on ecological design of campuses, including native landscape and plant palettes, tree removal & replacement, stormwater treatment and biophilic experiences. Assist Master Plan team in developing a detailed project description to be used as a basis for others to prepare CEQA environmental documents.
7269	Pacheco Creek Restoration Project	Technical Adisory Services: Field visits and background information gathering; draft and final feasibility study and conceptual plan options, identify biotic restoration opportunities and constraints; geomorphic assessment
	East Palo Alto-Dumbarton Bridge Resiliency Study	The Metropolitan Transportation Commission (MTC), in conjunction with their consultant AECOM, are developing and assessing adaptation strategies to protect the Dumbarton Bridge west approach and surrounding community of East Palo Alto from sea level rise and storm events. SFEI is subcontracted to AECOM to assist, on an as-needed basis, the development of adaptation strategies, the evaluation of alternatives, and input on the implementation plan for selected strategies. This will allow SFEI to continue its involvement along the San Mateo shoreline following the recently completed project with San Mateo County and the Natural Capital Project. This also build off the successful relationship established with MTC during the Highway 37 studies.
6563	UAS Survey at Arroyo de la Laguna	Survey study area biannually. Process individual surveys to produce products. Integrate Zone 7 provided ground control point information to sofware processing. Inventory/update inventory of plants of interest, with presence/absence, height, canopy diameter and addional notes. Package and deliver products and vegetation inventory to Zone 7 Water Agency. Survey study area biannually. Process individual surveys to produce products. Integrate Zone 7 provided ground control point information to sofware processing. Inventory/update inventory of plants of interest, with presence/absence, height, canopy diameter and addional notes. Package and deliver products and vegetation inventory to Zone 7 Water Agency. Survey study area biannually. Process individual surveys to produce products. Integrate Zone 7 provided ground control point information to sofware processing. Inventory/update inventory of plants of interest, with presence/absence, height, canopy diameter and addional notes. Package and deliver products and vegetation inventory to Zone 7 Water Agency.

Project #	Project Title	Project Description
	SLR modeling and mapping for Hayward shoreline and devlopment of master plan	The Hayward Area Shoreline Planning Agency (HASPA), in conjunction with their consultant, SCAPE, is developing a Hayward Shoreline Master Plan. The plan will identify SLR threats to shoreline assets and communities; recommend shoreline-zoning overlays; identify mitigation measures to protect natural and manmade shoreline resources; and identify additional policy and programmatic recommendations. SFEI is subcontracted directly to SCAPE to assist with background information and site knowledge as well assist with SLR mapping; SFEI is separately subcontracted through the City of Hayward to assist SCAPE, on an as-needed basis, in identifying adaptation responses and revising the draft Master Plan. This will allow SFEI to continue its long-term involvement along the Hayward shoreline through previous projects with SFEP and EBDA.
	South Bay Salt Ponds Lead Scientist position	SFEI will house the SBSP lead scientist position. The position is a 50% time position and the staff person will work closely with the State Coastal Conservancy to implement the restoration program. There is 50% funding for two years.
	Sediment	This study will address significant knowledge gaps by collecting sediment samples across the Delta and Suisun Bay to assess sediment properties and nutrient inventories, and by focusing on processes driving exchange with the water column. Sites will be selected across the Delta to assess the extent to which landscape-scale features – such as proximity to nutrient inputs, water depth, aquatic vegetation and hydrodynamic features – affect the role sediments and their associated microbial communities play in nutrient dynamics. The funds will support SFEI labor to collaborate with USGS on study design, data analysis, data interpretation, preparation for and participation in project team meetings and workgroup or workshops;and preparation of report and manuscripts.
	Boosting the awareness and confidence of engineers, planners and communities in nature-based seal level rise adaptation strategies in the SF Estuary	The project will engage coastal flood risk professionals in the San Francisco Estuary to identify barriers to the consideration and deployment of natural and nature-based sea level adaptation measures. We will then use models of shoreline change (marsh accretion, wave attenuation and shoreline erosion) to compare and contrast traditional vs. nature-based shoreline adaptation measures. Our evaluation will include an assessment of both the flood-risk management benefits that the different measures provide while also considering other benefits, such as ecosystem enhancement, carbon sequestration and recreation. In addition, we will show how metrics of these benefits can be included with metrics for cost to help select alternatives for further study and implementation.
	Enterococci monitoring in San Francisco Bay	Bay Area Clean Water Agencies (BACWA) would like SFEI to help them develop a study to measure the background level of enterococci in the Bay. The project will also include time to review any existing data, review newly collected data, and write a summary report after sampling is complete.
	Bay Area Wetlands Regional Monitoring Program (Development)	This is a new proposal to continue with development of the governance, design and initial implementation coordination for the Bay Area Wetlands Regional Monitoring Program. SFEI will be a sub-awardee on a Proposal submitted by SFEP (Heidi Nutters is the PI and Josh Collins is the Science Adviser on this project).
	Vernal Pool Mitigation Planning and Assessment Tool development for the Greater Central Valley, CA	This project supports the State's recently accepted Wetlands Definition and Dredge and Fill Procedures by developing regional mitigation planning and assessment decision support tools for vernal pool habitats in the Greater Central Valley, CA. The tools are consistent with the State's recommended watershed approach and will update the statewide California Aquatic Resources Inventory (CARI) GIS dataset for vernal pools in the region, employ the California Rapid Assessment Method for wetland condition assessments (CRAM) to create a habitat development curve for vernal pool wetlands (to assess project performance), and create a regional cumulative distribution function (CDF) estimate of the overall condition of vernal pool resources in the Greater Central Valley region. Project outreach includes uploading all data collected using CRAM to eCRAM and making the updated GIS-map, HDC, and CDF outputs publicly available on EcoAtlas, Project Tracker, and the Landscape Profile Tool .
	Russian River Regional Monitoring Program (R3MP) Development Support	This proposal will support SFEI staff (Josh Collins and Sarah Lowe) to continue supporting the R3MP's newly formed Steering Committee comprised of North Coast Regional Water Quality Control Board, Russian River Watershed Association, NPDES Permittees, and other local resource management agencies. Future tasks include further developing the program's list of regional ambient monitoring priorities and management questions, selecting the first management questions to address in the monitoring program, and developing the ambient survey designs and monitoring tasks.
5091.1	Baseline Assessment and Geomorphic Modelling for the McCosker Restoration Project in Advance of Project Construction	The East Bay Regional Park District (EBRPD) is restoring ~2,300 ft section of Alder Creek, a tributary to Upper San Leandro Creek, on the McCosker property. The project is part of the recently awarded EPA WQIF grant "Alder Creek Daylighting Project" that will likely be funded later this summer. Construction for the project will begin in June, 2019 and this small pre-construction assessment project will support SFEI in collecting pre-project baseline data to allow for pre- and post-project comparison under the larger EPA WQIF grant.There are three discreet monitoring tasks under this agreement: Conduct 1) an ecological condition assessment using CRAM, 2) a geomorphic assessment and carbon sequestration survey, and 3) an unmanned aerial photographic system (drone) survey of the project area.
	2019 CRAM Open-Enrollment Trainings	The Level-2 Committee of the California Wetland Monitoring Workgroup (CWMW) authorized 4 Northern California CRAM Practitioner trainings to be held during the spring to fall CRAM season in 2019. Sarah Pearce is a lead CRAM Practitioner and Trainer with over 15 years of training experience. She has been offering CRAM one to five day Agency and Practitioner Trainings in the Bay Area, Sacramento, and Lake Tahoe areas for the past several years. This year she is offering up to four open-enrollment courses in Roseville, Richmond, and South Lake Tahoe: https://www.cramwetlands.org/training
	EBRPD SF Bay Trail Risk Assessment and Adaptation Prioritization Plan	SFEI will be advising a team of WRT, ARUP, and ESA to complete an assessment of SLR risk to the Bay Trail, and assess nature-based adaptation options.

Project #	Project Title	Project Description
	On-call services to support Marin County SLR adaptation	On-call services shall include but are not limited to the following tasks and deliverables: Responding to requests for information for the adaptation framework and User's Guide Data analysis and processing to understand existing and future conditions and impacts for project-level planning Develop edits to the guide and communication tools from data and adaptation framework Support staff by attending meetings as needed to share analysis and gather feedback Provide technical guidance on improvements, standards, and future data collection for better decision-making
	Data Mapping for the San Francisco Bay IRWM DACTIP	This project will support the San Francisco Bay Area IRWM Disadvantaged Communities and Tribes Involvement Program (DACTIP) by providing data management and mapping services to the Environmental Justice Coalition for Water (EJCW) and 12 local partners around the Bay Area. Tasks include to provide mapping support to outreach partners, co-develop a mapping tool, demonstrate connecting communities with relevant agencies, conduct technical water infrastructure needs assessment, and assist in preparation and synthesis of materials for proposals. The project builds upon a smaller "relationship building" contract that SFEI had with EJCW over the past 18 months. Hopefully, this larger effort will help to build SFEI's capacity and reputation as a valued partner to the environmental justice community.
	Yolo Basin Inundation Patterns of the Past	Historically, the floodplains and flood basins of the Central Valley were often inundated for much of the wet season, providing extensive and productive habitat for out-migrating juvenile salmon and other native species. Documenting inundation characteristics of the past – including extent, duration, and variability – can provide valuable information for managing flooding in today's environment. Over the past decade, the San Francisco Estuary Institute-Aquatic Science Center (SFEI-ASC) has conducted extensive research on the historical ecology of the Delta and implications for restoration and management (e.g., Whipple et al. 2012, Beagle et al. 2013, Robinson et al. 2014, Robinson et al. 2016). This project will draw upon previously collected information and compile and analyze this information in order to describe historical inundation characteristics of the Yolo Basin. This synthesis of information is expected to advance our understanding of historical conditions relevant to ecological functions and support more quantitative hydrologic assessments. The primary goal of this project is to inform the development of inundation duration management guidelines.
	Updates to eCRAM and EcoAtlas to Support SMC/SWAMP Programs	The objective of this scope of work is to modify the existing CRAM data infrastructure to better support the reconciling of data for the SMC/SWAMP Programs and uploading of data to the SMC data portal. The CRAM database, eCRAM data entry forms, and CRAM data download in EcoAtlas will be modified.