



**Delta Regional Monitoring Program
FY15-16 Detailed Workplan and Budget**

July 22, 2015



INTRODUCTION

The purpose of this memorandum is to provide the Steering Committee with a Detailed Workplan for FY15/16 Delta RMP budget.

On June 16, 2015, the Steering Committee approved the budget for FY15/16 and established the general tasks to be completed. The budget decisions made at this meeting were:

- The programmatic budget was set at \$247,900. This amount was reduced by \$27,000 from the initial proposal by dropping tasks for additional stakeholder meetings and website updates and reducing the cost of TAC co-chair contract.
- The budget for scientific activities was set at \$645,000 based on the “bare minimum” cost options that were recommended by the TAC for each of the priorities proposed for the initial phase of implementation (current use pesticides, nutrients, and pathogens).
- The FY14/15 sampling event for pesticides was postponed to FY15/16 and the funds (\$41k) were carried forward into the FY15/16 budget.

Based on these budget decisions, ASC has prepared a detailed workplan for the tasks to be completed. This report summarizes the:

- Expected revenue for FY15/16,
- A detailed budget and workplan for programmatic tasks,
- A detailed budget and workplan for monitoring and special studies and
- The overall FY15/16 Delta RMP budget and phasing plan.

The budgets presented have been divided into two halves of the year: July 1, 2015 to December 31, 2015 and January 1, 2016 to June 30, 2016. The reason for the two half-year budgets is because work to be completed in the second half of the year is contingent on funding that is expected in the fall and winter.

Approval of the FY15/16 Budget and Workplan will be a multi-step process:

- First, the at the June 16, 2016 meeting, the Steering Committee will be asked to set budget allocations for programmatic and monitoring activities in FY15/16 based on the available revenue. **(Completed at June 16, 2015 meeting)**
- Second, ASC will prepare the detailed workplan to implement the budget, including subcontractor selection. The workplan will be distributed to the Steering Committee for approval. The workplan will include a process for verifying that sufficient revenue is secure before implementing the workplan for the second half of the year. **(This Report)**
- Third, in the fall, the Steering Committee will be presented with information about revenue received or expected for the second half of the year. If revenues are lower than expected, the Steering Committee will decide whether to cancel (or add) implementation of some budgeted tasks for the second half of the year. **(Will be completed at October 23, 2015 Steering Committee meeting)**

FY15/16 REVENUE

The total expected revenue for FY15/16 is \$896k. However, this total includes funds that will be received during different months with different levels of certainty. Some of the funds are also in-kind, such as a State Board contract with UC Davis for toxicity testing (the “SWAMP Contract”). These in-kind funds are treated as revenue but are not fungible. They cannot be used for more than one purpose. For example, the SWAMP contract funds can only be used for toxicity analytical costs.

In terms of timing, Delta RMP funds are scheduled to arrive in three waves. By July 31, 2015, \$586k is expected. By September 30, 2015, another \$210k should arrive. Finally, another \$100,000 should be received by March 31, 2016. The funds arriving in September and March are considered revenue for the second half of the fiscal year (January 1, 2016 to June 30, 2016).

On June 16, 2015, the Steering Committee decided to delay current use pesticide (CUP) monitoring that was planned for FY14/15 and apply those funds (\$41,000) to FY15/16 budget. While not strictly new “revenue” to the Delta RMP, they have been treated as revenue for the FY15/16 budget. The delay in monitoring for CUPs and toxicity to FY15/16 was because the toxicity portion of the QAPP had to be approved by the SWAMP Quality Assurance Officer.

In terms of certainty, funds for which there is a contractual or permit obligation should be treated as being more certain. The different funding sources are listed below in order of decreasing certainty:

- ASC-State Board Contract Funds and FY14/15 Delta RMP funds
- SWAMP Contract Funds for toxicity analyses
- Contributions from Program Participants for an approved exchange of permit monitoring
- Contributions from Program Participants without an approved exchange

Table 1 summarizes the expected revenue for FY15/16 both in terms of timing and certainty. The table shows that \$586k of revenue is expected for the first half of FY15/16, most of which is in the high certainty category. For the second half of the year, another \$310k of revenue is expected, but with a lower level of certainty.

FY15/16 Delta RMP Detailed Workplan and Budget
Approved 7/22/15

Table 1: Delta RMP FY15/16 Revenue. Revenue is organized by expected arrival date and source of funds. Funds from the ASC-State Board Contract, FY14/15 Delta RMP budget, the SWAMP Contract, and from contributions for approved exchange of permit monitoring are considered to have a higher level of certainty.

Source	For the 7/1/15 – 12/31/15 Period	For the 1/1/16 – 6/30/16 Period
ASC-State Board Contract Funds	\$19,826 (Earmarked for Communications Plan)	\$0
FY14/15 Delta RMP Funds	\$41,000 (planned for CUP monitoring)	\$0
SWAMP Contract Funds	\$200,000	\$0
Participant Contributions	\$325,000 (of which \$243,048 from approved exchanges of permit monitoring)	\$310,000 (\$0 higher certainty)
Total for the 6-month Period	\$585,826 (\$503,874 higher certainty)	\$310,000 (\$0 higher certainty)
Grand Total for the Year		\$895,826 (\$503,874 higher certainty)

FY15/16 PROGRAMMATIC EXPENSES

Delta RMP expenses fall into two categories: programmatic expenses and expenses for monitoring and special studies. This section details the expected programmatic expenses for FY15/16, divided into two half-year budgets.

The programmatic budget covers the following categories of tasks:

- Program Management
- Governance
- Quality Assurance
- Communications
- Data Management

The estimated cost to implement these tasks is \$132k in the first half of the year and \$116k in the second half of the year (Table 2). For each of the budget numbers, a detailed description, budget justification, and list of deliverables has been provided in Table 3.

There is strong interest in reducing program management and governance costs in order to maximize funds available for technical studies and reports. However, managing a stakeholder process, such as the Delta RMP, requires a high level of governance process, effort and cost. The estimated costs for program management and governance in FY15/16 reflect the level of effort that has been requested of and delivered by ASC during the past fiscal year. It may be possible to reduce this level of effort as the program matures but probably not significantly due to the high level of stakeholder engagement with this program.

FY15/16 Delta RMP Detailed Workplan and Budget
Approved 7/22/15

Table 2: Delta RMP FY15/16 Programmatic Budget. The funding levels proposed are conservative based on the level of effort requested and delivered in FY14/15.

		Labor	Subcontract	Direct Cost	Grand Total	Planned For 7/1/15-12/31/15 Period	Planned For 1/1/16-6/30/16 Period
1. Program Management	A. Program Planning	\$45,000			\$45,000	\$22,500	\$22,500
	B. Contract and Financial Management	\$42,000		\$5,000	\$47,000	\$23,500	\$23,500
2. Governance	A. SC meetings	\$40,000	\$5,400	\$500	\$45,900	\$22,950	\$22,950
	B. TAC meetings	\$39,300	\$19,200	\$500	\$59,000	\$29,500	\$29,500
3. Quality Assurance	A. Quality Assurance System	\$10,000			\$10,000		\$10,000
	B. Technical Oversight and Coordination	\$11,000			\$11,000	\$5,500	\$5,500
4. Communications	A. Communications Plan	\$16,000			\$16,000	\$16,000	
	B. Communications Product	\$4,000			\$4,000	\$2,000	\$2,000
	C. RMP Website Maintenance				\$0		
	D. Stakeholder Meetings				\$0		
5. Data Management	A. Pathogen Study (Year 1)	\$10,000			\$10,000	\$10,000	
Grand Total		\$217,300	\$24,600	\$6,000	\$247,900	\$131,950	\$115,950

FY15/16 Delta RMP Detailed Workplan and Budget
Approved 7/22/15

Table 3: Delta RMP FY15/16 Programmatic Task Descriptions, Budget Justifications, and Deliverables. The funding levels proposed are conservative based on the level of effort requested and delivered in FY14/15.

Task	Subtask	Budget	Description	Budget Justification	Deliverables
1. Program Management	A. Program Planning	\$45,000	Preparing annual workplans and budgets. Tracking deliverables and action items. Updating foundational documents including Multi-Year Plan and Monitoring Design (as needed).	40 hours for Program Manager to produce the Annual Workplan and Budget. 100 hours (2 hrs/wk) for Program Manager to track and execute deliverables/ action items. 180 hours (3.6 hr/wk) for technical staff to complete PM tasks, contribute to workplan and update program documents.	FY16/17 Annual Workplan and Budget (May 2016 draft, June 2016 final). Quarterly reports on deliverables and action items provided in the SC agenda package. Updates to foundational documents.
	B. Contract and Financial Management	\$47,000	Tracking expenditures versus budget. Providing quarterly financial updates to the Steering Committee. Developing contracts and managing subcontractors. Invoicing program participants. Preparing a MOU based on the Financial Management Plan.	120 hours for Contracts Manager and 40 hours for accountant (1 hr/\$5000 budget). 40 hours for Program Manager and 40 hours for technical staff to draft and negotiate MOU and compile legal advice. \$5,000 for legal consultations regarding the MOU. 50 hours for Program Manager (1 hr/wk) and 50 hours (1 hr/wk) for Environmental Analyst for monitoring program subcontracts and finances weekly.	MOU for financial management and invoicing (March 2016). Quarterly updates on FY15/16 Budget provided in the SC agenda package. Contract management.

FY15/16 Delta RMP Detailed Workplan and Budget
Approved 7/22/15

Task	Subtask	Budget	Description	Budget Justification	Deliverables
2. Governance	A. SC meetings	\$45,900	Preparing agendas, agenda packages, participating in meetings, writing meeting summaries, following up on action items, meeting with Co-Chairs and stakeholders outside of meetings.	4 meetings per year. For each meeting: 40 hours for Program Manager, 20 hours for Lead Staff, 20 hours for Environmental Analyst. Travel from Richmond to Sacramento (\$125/meeting). Facilitation services by Brock Bernstein (quote: \$5,400)	4 Steering Committee meetings and meeting summaries
	B. TAC meetings	\$59,000	Preparing agendas, agenda packages, participating in meetings, writing meeting summaries, following up on action items, meeting with Co-Chairs and stakeholders outside of meetings. (The cost for this function assumes that MEI and USGS continue to serve as co-chairs of the TAC, with ASC serving in a coordination role. The alternative is to have volunteer TAC co-chairs from the Program Participants with ASC providing leadership and support. The cost for this option would be \$50,500.)	4 meetings per year. For each meeting: 20 hours for Program Manager, 40 hours for Lead Staff, 20 hours for Environmental Analyst. Travel from Richmond to Sacramento (\$125/meeting). TAC Co-Chair services provided by MEI (quote: \$19,200) and USGS. The USGS Co-Chair provides \$36,000 in in-kind support in this role.	4 TRC meetings and meeting summaries
3. Quality Assurance	A. Quality Assurance System	\$10,000	Updating the Quality Assurance Project Plan, coordinating interlaboratory comparison tests (as needed), researching analytical methods, maintaining laboratory SOP file system.	16 hours for ASC QA Officer. 16 hours for ASC senior chemist. 40 hours for RMP technical staff. For reference, the QAPP development cost ~\$20,000.	Revisions to QAPP (June 2016).

FY15/16 Delta RMP Detailed Workplan and Budget
Approved 7/22/15

Task	Subtask	Budget	Description	Budget Justification	Deliverables
	B. Technical Oversight and Coordination	\$11,000	Reviewing and commenting on reports and responding to unforeseen requests from Program Participants. Coordinating the TIE subcommittee and other technical committees.	64 hours for technical staff (16 hours per quarter). 16 hours for ASC Senior Scientists (4 hours per quarter).	
4. Communications	A. Communications Plan	\$16,000	Preparing a Communications Plan that will describe how Delta RMP data will be interpreted, reported to internal and external stakeholders, and used or adaptive management.	16 hours for Program Manager. 100 hours for Lead Staff. These costs will be covered by the State Board Contract Funds.	Communications Plan (September 2015).
	B. Communications Product	\$4,000	Preparing a communications product as required under the SWRCB contract by 2/1/16. The type of product will be defined by the SC. The working proposal is a summary of Delta RMP accomplishments to date and a charter document (compiled from existing foundational documents). These two documents could be used to recruit additional RMP participants.	10 hours for Program Manager. 20 hours for Lead Staff. These costs will be covered by the State Board Contract Funds.	Communications Product (February 2016).
5. Data Management	A. Pathogen Study (Year 1)	\$10,000	Data management costs for Year 1 of the Pathogens Study. This study is already underway and the data must be managed. Formatting, transcribing field collection information, performing QA/QC review, and uploading field and analytical results to SFEI's RDC database and replicating to CEDEN. Coordinating team, collection agencies, and laboratories. Tracking data deliverables and pending issues.	Quote from SFEI Data Management Team.	Quality Assurance Report on Year 1 Pathogens Study data (September 2016).

FY15/16 EXPENSES FOR MONITORING AND SPECIAL STUDIES

The FY15/16 Workplan implements “bare minimum” designs of the priorities proposed for the initial phase of the Delta RMP (current use pesticides, nutrients, and pathogens). The tasks to be completed, subcontractors, and deliverables for these tasks are described in the following sections.

Current Use Pesticides (CUPs) and Toxicity Monitoring

Sampling Design

Monitoring for CUPs and toxicity will begin in FY15/16 as soon as the toxicity portion of the QAPP is approved by the SWAMP Quality Assurance Officer. Monthly sampling (12 rounds) will be conducted at the 5 baseline sites: Mokelumne River at New Hope Road, Sacramento River at Hood, San Joaquin River at Buckley Cove, San Joaquin River at Vernalis, and Ulatis Creek at Brown Road.

CUP Sampling Sites	Latitude	Longitude
Mokelumne R @ New Hope Rd	38.23611	-121.41889
Sacramento R @ Hood	38.36691	-121.52037
San Joaquin R @ Buckley Cove	37.97667	-121.37889
San Joaquin R @ Vernalis	37.67556	-121.26417
Ulatis C @ Brown Ulatis Creek @ Brown Rd	38.30667	-121.79472

Parameters

At each site visit, the following measurements will be taken:

- Field parameters (water temperature, specific conductance, pH, dissolved oxygen, turbidity)
- Pesticides. The list of pesticides and degradates currently analyzed by USGS Pesticide Fate Research Group will be the initial list of target analytes.
- Dissolved copper, dissolved organic carbon, total organic carbon, and total suspended solids.
- Toxicity testing. The test species and endpoints to be used are *Selenastrum capricornutum* (growth), *Ceriodaphnia dubia* (survival and reproduction), and *Pimephales promelas* (larval survival and growth). The budget also includes funds for the 96-hour survival test of *Hyaella azteca* in water but this test will not be done until the Steering Committee approves its use.
- Pesticides-focused Toxicity Investigation Evaluations (TIEs) may be initiated for samples exceeding 50% response for at least one toxicity endpoint. A total of \$40,000 of TIE samples may be completed. The TIE subcommittee will decide which samples should have a TIE performed.

Subcontractors

ASC will subcontract with the U.S. Geological Survey (USGS) in the amount of \$189,208 for collecting the samples and performing the chemical analyses (pesticide scans, dissolved copper, dissolved organic carbon, total organic carbon, and total suspended solids). USGS has committed an additional \$41,708 in matching funds to this effort in FY15/16. ASC will also prepare a proposal to the Steering Committee to hire a second laboratory to analyze a few split samples for pesticides. The proposal will be to collect split samples at 3 station visits (5% of the station visits) and analyze them for as many of the pesticides on the USGS analyte list as possible with comparable methods. This supplemental funding request will be reviewed by the TAC and then sent to the Steering Committee for approval as soon as the amount of leftover funds from FY14/15 is known.

The total cost of toxicity testing and TIEs is expected to be \$287,830. An existing SWAMP contract between the Water Board and the UC Davis Aquatic Toxicology Laboratory (AHPL) will be used to pay for up to \$200,000 of these costs in FY15/16. The SWAMP contract will cover the first 7 months of toxicity testing. After the SWAMP contract funds are used up, ASC will subcontract with AHPL for the costs of the remaining 5 months of sampling (\$87,830). These budget numbers include the cost of the *Hyalella azteca* water test. If this test is not used for the whole year, the ASC subcontract with AHPL will be in the amount of \$46,250 (a savings of \$41,580).

Justification for the USGS sole-source contract is provided in Appendix A. The SWAMP contract will cover the cost of toxicity testing by AHPL for at least 7 months. A sole-source contract justification will be prepared for AHPL whenever ASC needs to enter into a separate contract with AHPL for the remainder of the toxicity testing, if that the contract amount will exceed \$50,000.

ASC Labor

ASC will manage the data and prepare final reports. The data management/quality assurance task has been quoted to cost \$21,000 by the ASC Data Services team. The reporting task is budgeted at \$15,000 (8 hours for Program Manager, 40 hours for Lead Staff, 60 hours for Environmental Analyst, 20 hours for Data Analyst, 8 hours for GIS staff).

Total Budget

The total cost for two months of CUP/Toxicity monitoring will be \$513,038. Of this total, \$200,000 will be covered by the Water Board contract with AHPL. The subcontract with the USGS will leverage and additional \$41,708 in services for the program. A detailed breakdown of all the components of the CUP/Toxicity budget is presented in Table 4.

FY15/16 Delta RMP Detailed Workplan and Budget
Approved 7/22/15

Deliverables

Product	Description	Frequency	Due Date	Reviewed By/ Reported To
Field Sampling Report	The Field Sampling Report will document how samples were collected, target sampling sites, actual sampling sites, how many samples were collected, measurements made using field instruments, and any deviations from the QAPP for field sampling methods.	Annual	1.5 months after the end of the field season (9/30/16)	TAC
Quality Assurance Report	The Quality Assurance Report will document the quality assurance / quality control measurements performed by laboratories, the results of these tests relative to data quality objectives, any data that were deemed unusable, and any deviations from the QAPP for laboratory methods.	Annual	5 months after the end of the field season (12/31/16)	TAC
Annual Monitoring Report	The Annual Monitoring Report will present the results of the previous year of sampling. Interpretation of the results will be done at a very basic level. The main purpose of this report is to share the final data with project partners and collaborators in a timely way.	Annual	7 months after the end of the field season (2/28/17)	TAC, SC

FY15/16 Delta RMP Detailed Workplan and Budget
Approved 7/22/15

Table 4: Detailed Budget for Delta RMP Pesticide-Toxicity Monitoring in FY15/16.

Contractor	Parameter	Unit Cost	Number	Total Cost	RMP Funds	SWAMP Funds	USGS Matching Funds	Total Budget	Comments
USGS	Sample collection at 5 baseline sites	\$1,815	12	\$21,780	\$17,028		\$4,752	\$21,780	25% USGS match on labor (\$396 per sampling round)
USGS	Field parameters (temp, conductance, pH, DO, turbidity)	\$0	60	\$0	\$0			\$0	Cost included in field sampling labor
USGS	Supplies (yearly cost)			\$700	\$700			\$700	
USGS-OCRL	Pesticide Scan (plus 30% QA samples)	\$2,060	78	\$160,680	\$160,680			\$160,680	
USGS-OCRL	Suspended Solids (TSS) (plus 30% QA)		78	\$0	\$0			\$0	Cost included in pesticide scan
USGS-OCRL	Pesticide data formatting and reporting			\$36,956	\$0		\$36,956	\$36,956	USGS match (23%) on labor for costs associated with project administration, formatting of pesticide analysis results for CEDEN database entry, and preparation of reports to the cooperator.
USGS-Denver	Copper (plus 20% QA samples)	\$20	72	\$1,440	\$1,440			\$1,440	
USGS-Denver	Carbon (TOC, DOC) (plus 20% QA samples)	\$130	72	\$9,360	\$9,360			\$9,360	
UCD-AHPL	Toxicity Testing (plus 10% QA samples)	\$3,755	66	\$247,830	\$87,830	\$160,000	\$0	\$247,830	Balance of \$200,000 SWAMP contract after TIE analyses. RMP funds to pay for later samples.

FY15/16 Delta RMP Detailed Workplan and Budget
Approved 7/22/15

Contractor	Parameter	Unit Cost	Number	Total Cost	RMP Funds	SWAMP Funds	USGS Matching Funds	Total Budget	Comments
UCD-AHPL	Conventional parameters (alkalinity, NH4, hardness, TSS, DO, pH, SC, temperature) (plus 10% QA samples)	\$0	66	\$0	\$0			\$0	Cost included in toxicity testing
UCD-AHPL	TIE Analyses (pesticides-focused TIE)			\$40,000	\$0	\$40,000	\$0	\$40,000	\$40,000 cap on TIE analyses. To be paid from SWAMP contract.
ASC	Data Management			\$21,000	\$21,000			\$21,000	
ASC	Reporting			\$15,000	\$15,000			\$15,000	
	TOTAL			\$554,746	\$313,038	\$200,000	\$41,708	\$554,746	
	TOTAL RMP COST				\$513,038				

Nutrients Synthesis – Identification of Critical Monitoring Data Gaps

Study Design

By December 2015, four nutrient synthesis studies for the Delta will be complete:

- Synthesis of EMP Data, Nutrient Loads, Stable Isotope, and DSM2 Nutrient Models (ASC-DWR contract)
- Synthesis of High-Frequency Sensor Data (Delta RMP FY14/15 Study)
- Synthesis of Nutrient Data and Analyses to Determine Delta Segments for Nutrient Assessment and Modeling (ASC-DSP contract)
- White Papers for the Central Valley Regional Water Quality Control Board’s Nutrient Research Plan

The objective of this task is to analyze the results from these studies with an ad hoc workgroup of experts to develop “no regrets” recommendations for the Delta RMP nutrient monitoring program. This workgroup will be different from the Delta RMP TAC but will include members of the TAC’s Nutrient Subcommittee (see *Subcontractors* section below). The workgroup will identify key data gaps and make recommendations about how those data gaps could be addressed through monitoring. The recommendations will be both short-term and long-term. For the short-term, the group will develop detailed proposals for the highest priority monitoring tasks that could begin in FY16/17 (up to the expected budget for nutrient monitoring in FY16/17). For the long-term, the group will develop research questions that need to be addressed for ongoing monitoring plan development in subsequent years.

The workgroup will address this topic at the technical/scientific level. It will not attempt to resolve political or institutional barriers. Furthermore, the recommendations will focus on obvious first steps, to be followed by iterative monitoring program development in subsequent years. Developing a comprehensive monitoring program for a system as complex as the Delta in one-shot is neither feasible nor desired.

There is the possibility of combining this effort with the next stage of planning the nutrient monitoring design for San Francisco Bay. This would leverage additional resources for the project and allow for a holistic view of nutrient monitoring needs in the Estuary.

Subcontractors

The budget includes up to \$20,000 for honoraria to engage technical experts to participate in the workgroup. Convening with a workgroup of experts from different disciplines will ensure that the report is comprehensive and has outside review. The members will be selected to ensure that the workgroup contains members with the following expertise or affiliations:

- Nutrient Biogeochemistry
- Phytoplankton/HABs
- Nutrient Modeling

- Delta Hydrology
- Sensors for Continuous Nutrient Monitoring
- Central Valley Regional Water Quality Control Board (Nutrient Research Plan)
- Interagency Ecological Program (Nutrient Monitoring)
- Nutrient Management Strategy for San Francisco Bay
- Delta RMP TAC Nutrient Subcommittee

ASC Labor

ASC staff will convene the workgroup and prepare a final report. These tasks are budgeted at \$30,000 (80 hours for Lead Staff, 72 hours for technical staff, 40 hours for Program Manager, and 40 hours for SF Bay Nutrient Program Director).

Total Budget

The total budget for the task is \$50,000.

Deliverables

The deliverable for this task will be a final report that synthesizes information from recent studies and workgroup meetings and makes recommendations for the Delta RMP nutrient monitoring program. A draft of the report will be prepared by April 30, 2016 so that the recommendations can be considered for funding in the FY16/17 Workplan. The final report will be completed by June 30, 2016.

Draft Outline of Final Report

1. Introduction
2. Goals of the Delta RMP Nutrient Monitoring Program
3. Approach and Timeline for Program Development
4. Past and Ongoing Monitoring Activities in the Delta
 - a. Inventory
 - b. Results of Synthesis Studies
5. Inventory of Potential Monitoring Elements
6. Initial Recommendations
 - a. Recommendations for FY16/17 Monitoring
 - b. Recommendations for Ongoing Monitoring Program Development
7. Coordination Opportunities
 - a. Delta Nutrient Research Plan and Management Questions
 - b. Nutrient Management Strategy for San Francisco Bay
8. Next Steps
9. References

A similar type of report was produced in 2014 for the Nutrient Management Strategy for San Francisco Bay, which can be downloaded from:

<http://sfbaynutrients.sfei.org/sites/default/files/MonitoringProgramAug2014.pdf>.

Pathogens Study – Year 2

The Central Valley Regional Water Quality Control Board adopted a Basin Plan Amendment to establish a Drinking Water Policy (Policy) to protect source water quality on July 26, 2013. The Policy includes a narrative water quality objective for two pathogens, *Cryptosporidium* and *Giardia*, with associated implementation and monitoring provisions, as well as language addressing other constituents of potential concern to drinking water. The Pathogen Study is intended to satisfy the data needs and monitoring for any follow-up required if Basin Plan trigger values are exceeded.

The Delta RMP funded Year One of the Pathogen Study (April 2015 to March 2016) from its FY14/15 budget.

Year Two of the study, which will start in April 2016, will continue to focus on characterizing pathogen (*Cryptosporidium* and *Giardia*) levels throughout the Delta. The study includes monitoring at drinking water intakes and at ambient sites throughout the Delta. Sampling at drinking water intake location will be conducted and analyses of samples paid for by the water agencies. Sampling at ambient sites will be conducted by Department of Water Resources' Municipal Water Quality Investigations (MWQI) program at no cost to the RMP. The RMP will pay for analyses of ambient samples, data management, and reporting.

A primary and a secondary laboratory certified for EPA Method 1623 for *Cryptosporidium* and *Giardia* will be contracted to perform the analyses. The primary laboratory (BioVir) will analyze all samples, and the secondary laboratory (Eurofins) will analyze inter-laboratory quality control samples. A justification for selecting the primary lab contractor is provided in Appendix A.

The total cost for this task is \$82,000. \$72,000 of these funds will be subcontracted to the primary and secondary laboratories. Data management costs for ASC are budgeted at \$10,000. These data management costs are for receiving, formatting, and quality-assuring the raw data from the laboratories. There is no duplication of effort with the data analysis tasks to be performed by Larry Walker and Associates.

Mercury

Due to limited funding, mercury studies will not start until FY16/17. Details of the scope of these studies will be included in the FY16/17 Delta RMP Detailed Workplan and Budget

OVERALL DELTA RMP FY15/16 BUDGET AND PHASING PLAN

The programmatic and scientific budgets for the Delta RMP are shown together in Table 5. The total planned expenses for the program in FY15/16 are \$892,938. The total expenses are slightly less than expected revenue (\$895,826).

The FY15/16 Workplan will be phased over two half-year periods as shown in Table 6. Programmatic activities and CUP monitoring will begin in first half of the year. The nutrients synthesis and pathogens tasks will begin in the second half of the year after confirming in October that the expected revenue is secure. In addition, if there is higher than expected revenue, it may be possible for the Steering Committee to authorize additional high-priority nutrients synthesis tasks.

Some of the Delta RMP tasks funding by the FY14/15 budget will continue concurrently with the FY15/16 tasks. For example, the entire first year of the Pathogens Study was funded from the FY14/15 budget. Sampling for the first year of the Pathogens Study will not conclude until the spring of 2016. Similarly, a nutrients synthesis study of sensor data will extend through December 2015. Figure 1 shows how the approved tasks for FY15/16 fit with the ongoing tasks from the FY14/15 budget.

FY15/16 Delta RMP Detailed Workplan and Budget
Approved 7/22/15

Table 5: Delta RMP FY15/16 Overall Budget.

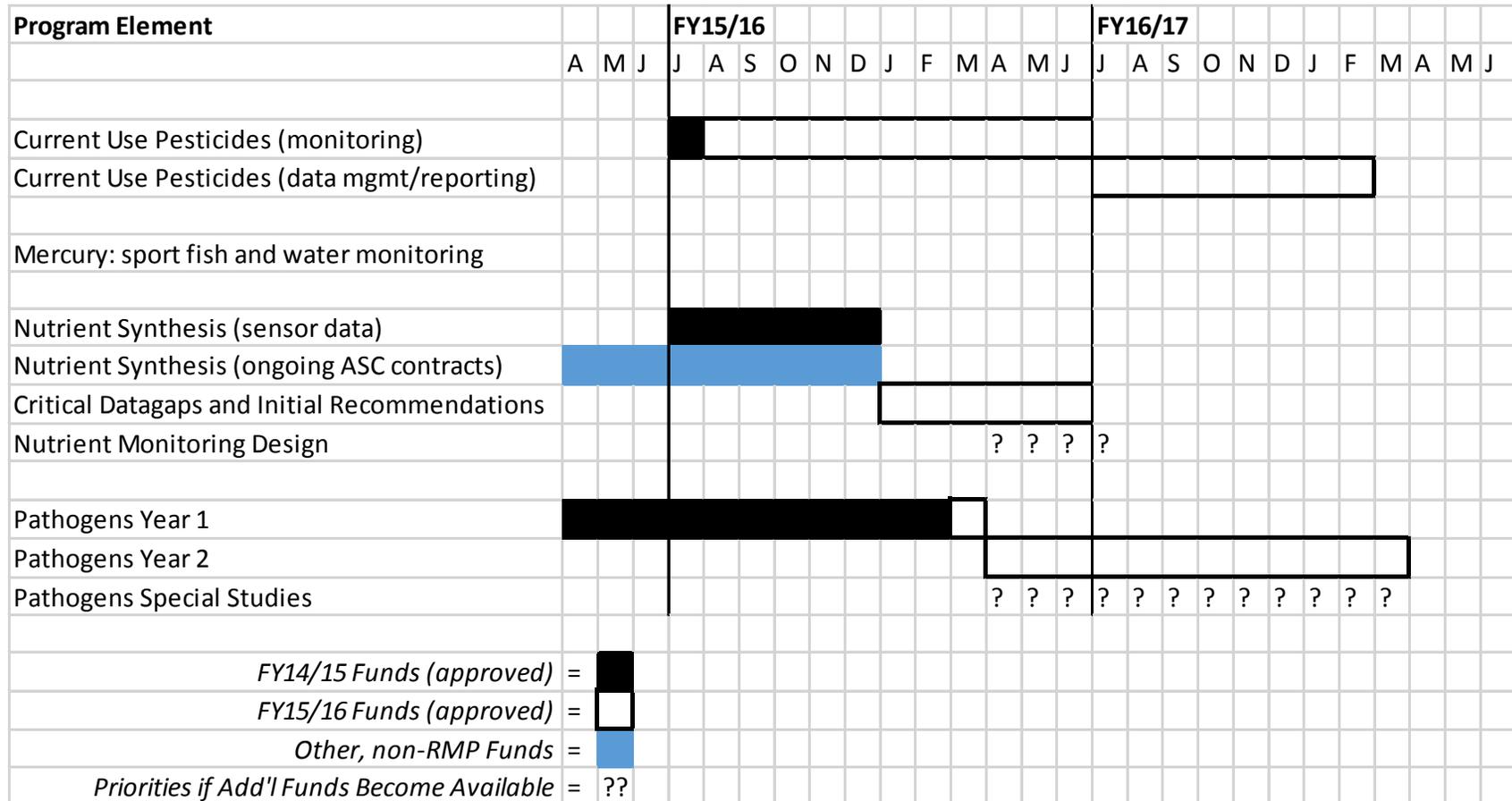
		Labor	Sub-contract	Direct Cost	In-Kind Service	Total
1. Program Management	A. Program Planning	\$45,000				\$45,000
	B. Contract and Financial Management	\$42,000		\$5,000		\$47,000
2. Governance	A. SC meetings	\$40,000	\$5,400	\$500		\$45,900
	B. TAC meetings	\$39,300	\$19,200	\$500		\$59,000
3. Quality Assurance	A. Quality Assurance System	\$10,000				\$10,000
	B. Technical Oversight and Coordination	\$11,000				\$11,000
4. Communications	A. Communications Plan	\$16,000				\$16,000
	B. Communications Product	\$4,000				\$4,000
5. Pathogen Study (Year 1)	A. Data Management	\$10,000				\$10,000
6. CUP Monitoring	B. Pesticide Laboratory Work		\$189,208			\$189,208
	C. Toxicity Laboratory Work		\$87,830		\$200,000	\$287,830
	D. Data Management	\$21,000				\$21,000
	E. Reporting	\$15,000				\$15,000
7. Nutrients Synthesis	A. Synthesis Report - Monitoring Data Gaps	\$30,000		\$20,000		\$50,000
8. Pathogen Study-Year 2	A. Monthly Pathogen Sampling		\$72,000			\$72,000
	B. Data Management	\$10,000				\$10,000
Totals		\$293,300	\$373,638	\$26,000	\$200,000	\$892,938

Table 6: Phased Implementation Plan for the Delta RMP FY15/16 Budget. The budget and workplan will be implemented in two half-year periods. Activities for the second half of the year will be confirmed in October based on updated revenue projections.

Funding Plan to Achieve the Priorities Set by the Steering Committee					
Time Period	7/1/15-12/31/15		1/1/16-6/30/16		Total
Revenue Type	Cash	SWAMP	Cash	SWAMP	
Revenue					
FY15/16 Revenue	\$345,000	\$200,000	\$310,000	\$0	\$855,000
FY14/15 Revenue for CUP monitoring	\$41,000				\$41,000
<i>TOTAL</i>					<i>\$896,000</i>
Expense					
Programmatic Budget	\$131,950	\$0	\$115,950	\$0	\$247,900
Pesticide/Toxicity Monitoring (1A)	\$254,050	\$200,000	\$58,950	\$0	\$513,000
Pathogens Year 2 Ambient Monitoring (4A)			\$82,000	\$0	\$82,000
Identify critical nutrient data gaps (3C)			\$50,000	\$0	\$50,000
<i>TOTAL</i>					<i>\$892,900</i>
Program Reserve					
Unused FY15/16 Funds	\$0	\$0	\$3,100	\$0	\$3,100
FY14/15 Carryover Funds			\$50,000 ??		
FY15/16 Additional Contributions			??		
Additional Studies that Could be Completed if there is Sufficient Program Reserve by 1/1/16					
Nutrient monitoring design (3D)			\$65,000	\$0	
Pathogens MST/Infectivity Studies (4B)			\$47,500	\$0	

FY15/16 Delta RMP Detailed Workplan and Budget
 Approved 7/22/15

Figure 1: Gantt Chart of Delta RMP Activities Funded from the FY14/15 and FY15/16 Budgets.



Appendix A

Vendor Justification Forms



Vendor Selection Form

In order to provide open and free competition and to obtain the maximum value for each dollar expended, SFEI-ASC has a competitive bidding policy for purchasing services or goods greater than or equal to \$50,000. In addition, positive efforts shall be made by SFEI-ASC to utilize small business, minority owned firms, and women business enterprises, whenever possible. Such efforts, as outlined in 45 CFR Part 74.44 will allow these sources the maximum feasible opportunity to compete for contracts. SFEI-ASC will use, but not be limited to, the State of California DBE online directory as a source for possible references:
http://www.dot.ca.gov/hq/bep/find_certified.htm

Submit this form, along with original quotes, to the Program Director or Executive Director for review. Original documents go to the Contracts Manager for retention. An electronic copy will be made available on the shared drive.

Date: 6/23/15 Requestor: Philip Trowbridge

Stage of funding for vendor: Proposal In negotiations Contracted

Program: Delta RMP Project/Task # (if known): 8111.16

I have obtained at least three (3) competitive quotes and have chosen the supplier based on price, reliability, delivery, service, or other factors (attach quotes). If chosen vendor is not lowest cost bidder, detail the reason(s) why the vendor was selected on the next page.

VENDOR	Date of Quote	Total \$	Comments
USGS		\$189,208	USGS will contribute \$41,708 in match

Vendor Selected:

Vendor Name: U.S. Geological Survey, Pesticide Fate Research Group
 Contact: James Orlando and Joe Domagalski
 Address: 6000 J. Street, Sacramento, CA 95819
 Phone: 916-278-3271 Fax: _____ Email: jorlando@usgs.gov and joed@usgs.gov

Reason for Selection (explanation required below):

- Vendor is the lowest cost provider Vendor is sole acceptable provider
 Vendor provided best overall offer Emergency/Urgency

Vendor is sole provider

Other

Explanation (attach additional information if necessary):

The Delta Regional Monitoring Program (Delta RMP) was initiated by the Central Valley Regional Water Quality Control Board with the primary goal of tracking and documenting the effectiveness of beneficial use protection and restoration efforts through comprehensive monitoring of water quality constituents and their effects in the Delta. In addition, the Delta RMP reflects an increasing desire among water quality and resource managers throughout the state for more integrated information about patterns and trends in ambient conditions across watersheds and regions.

Research on Current Use Pesticides (CUPs) in the Delta is one of four focus areas for the Delta RMP. The Delta RMP Steering Committee agreed to fund monitoring for CUPs in FY15/16. ASC staff recommend a **sole source** subcontract with the U.S. Geological Survey (USGS) for this work because of the following:

- The specialized nature of the proposed work, which is research outside the domain of typical contractors.
- The USGS' unique technical capability to monitor a large list of CUPs. The USGS has an extensive publication record on pesticide analysis (see <http://ca.water.usgs.gov/projects/PFRG/Publications.html>) and measures more pesticides than other laboratories. In addition to doing the pesticide analyses, USGS will collect the samples and measure field parameters. Having USGS involved in the field and lab work ensures good coordination and chain of custody for the samples. ASC obtained a second quote for the field sampling work and found that the USGS was the lower cost option.
- Matching funds offered by USGS. The USGS has agreed to provide matching funds of at least \$41,708. These funds will be used to cover labor costs associated with project administration, formatting of pesticide analysis results for CEDEN database entry, and preparation of reports to the cooperator.

At its meeting on January 22, 2015, the Steering Committee generally agreed that there was sufficient justification for this subcontract on a sole source basis. However, the Steering Committee asked for a sole source justification and confirmation that the subcontract would be in compliance with applicable laws or ordinances for spending public monies. There was also concern about an actual or apparent conflict of interest since USGS staff serve as one of the two co-chairs of the Delta RMP Technical Advisory Committee, which had recommended USGS for this work. Each of these concerns are addressed below:

- Sole Source Justification: The reasons why USGS is the sole acceptable provider are outlined in the paragraph above.
- Legality: The Delta RMP is not required to follow the State Contracting Manual because the Delta RMP is not funded by state monies. However, the State Contracting Manual provides a reasonable guide to follow since the alternative is attempting to comply with dozens of different municipal ordinances and individual institutional requirements. Per the Manual under Section 3.06, "Agreements for services and consultant services do not require competitive bids or proposals if the contract is with...The Federal Government". Yet to provide further protection, ASC still must follow internal procedures to justify and

receive approval from its Executive Director for any sole source contracts in the amount of \$50,000 or more, which is the purpose of this memo.

- **Conflict of Interest:** It was recognized, after the fact, that the USGS Co-Chair of the Technical Advisory Committee should have recused himself from the discussion that recommended USGS for this work. This process oversight was openly acknowledged and discussed by the Steering Committee. Going forward, the Steering Committee agreed that the Technical Advisory Committee should not recommend specific contractors to avoid the appearance of a conflict of interest.

The Delta RMP must begin its work to monitor water quality in the Delta in FY15/16. The Steering Committee identified the CUP monitoring task as a priority for implementation. Staff recommend a sole source contract with USGS because this agency is the sole acceptable provider for the work. Solicitation of more competitive bids would delay implementation of the program.

We respectfully request your approval.

To be completed by Program Director or Executive Director

Yes No The vendor quote(s)/explanation have been reviewed and appear reasonable for the proposed work.

Philip Trowbridge, P.E.
Requestor's Printed / Typed Name

Requestor's Signature

Date

Program Director or Executive Director's Signature

Date

Contracts Manager's Signature

Date



Vendor Selection Form

In order to provide open and free competition and to obtain the maximum value for each dollar expended, SFEI-ASC has a competitive bidding policy for purchasing services or goods greater than or equal to \$50,000. In addition, positive efforts shall be made by SFEI-ASC to utilize small business, minority owned firms, and women business enterprises, whenever possible. Such efforts, as outlined in 45 CFR Part 74.44 will allow these sources the maximum feasible opportunity to compete for contracts. SFEI-ASC will use, but not be limited to, the State of California DBE online directory as a source for possible references:
http://www.dot.ca.gov/hq/bep/find_certified.htm

Submit this form, along with original quotes, to the Program Director or Executive Director for review. Original documents go to the Contracts Manager for retention. An electronic copy will be made available on the shared drive.

Date: 6/23/15 Requestor: Philip Trowbridge

Stage of funding for vendor: Proposal In negotiations Contracted

Program: Delta RMP Project/Task # (if known): 8111.16

I have obtained at least three (3) competitive quotes and have chosen the supplier based on price, reliability, delivery, service, or other factors (attach quotes). If chosen vendor is not lowest cost bidder, detail the reason(s) why the vendor was selected on the next page.

VENDOR	Date of Quote	Total \$	Comments
BioVir		\$66,000	Value based on FY14/15 contract amt

Vendor Selected:

Vendor Name: BioVir Laboratories
 Contact: Elizabeth Mamo
 Address: 685 Stone Road, Benecia, CA 94510
 Phone: (707) 747-5906 Fax: _____ Email: elizabeth.mamo@iehinc.com

Reason for Selection (explanation required below):

- Vendor is the lowest cost provider
- Vendor is sole acceptable provider
- Vendor provided best overall offer
- Emergency/Urgency
- Vendor is sole provider
- Other

Explanation (attach additional information if necessary):

The Delta Regional Monitoring Program (Delta RMP) was initiated by the Central Valley Regional Water Quality Control Board with the primary goal of tracking and documenting the effectiveness of beneficial use protection and restoration efforts through comprehensive monitoring of water quality constituents and their effects in the Delta. In addition, the Delta RMP reflects an increasing desire among water quality and resource managers throughout the state for more integrated information about patterns and trends in ambient conditions across watersheds and regions.

Research on pathogens in the Delta is one of four focus areas for the Delta RMP. On January 22, 2015, the Delta RMP Steering Committee agreed to fund monitoring for pathogens in FY 14/15 and FY 15/16. ASC staff recommend a **sole source** subcontract with the BioVir Laboratories for this work because of the following:

- The ASC subcontract will implement a part of a much larger Long Term 2 Enhanced Surface Water Treatment Rule (LT2) monitoring plan developed by the Drinking Water Policy Work Group and the DWR Municipal Water Quality Investigations section to monitor pathogens in the Delta. BioVir Laboratories is part of this existing program and will provide the most comparability to other data, since BioVir will already be handling and analyzing other samples from this study. The ASC Purchasing Policy is that competitive bids are not required for a project that is a joint venture already specified in a proposal or a regular participant in existing monitoring programs, such as this case.
- BioVir is on the list of laboratories that may be used by public water systems for LT2 monitoring.
(<http://water.epa.gov/lawsregs/rulesregs/sdwa/lt2/upload/lt2cryptolablist150123.pdf>).

The Delta RMP must begin its work to monitor water quality in the Delta during the spring of 2015. The Steering Committee identified the pathogens monitoring task as a priority for implementation. Staff recommend a sole source contract with BioVir because this vendor is the sole acceptable provider for the work. Solicitation of more competitive bids would delay implementation of the program.

We respectfully request your approval.

To be completed by Program Director or Executive Director

Yes No The vendor quote(s)/explanation have been reviewed and appear reasonable for the proposed work.

Philip Trowbridge, P.E.
Requestor's Printed / Typed Name

Requestor's Signature

Date

Program Director or Executive Director's Signature

Date

Contracts Manager's Signature

Date