



Delta Regional Monitoring Program

Funding

Strawman Proposal

November 23, 2009

List of Acronyms

ASC	Aquatic Science Center
CWA	Clean Water Act
DWR	California Department of Water Resources
IEP	Interagency Ecological Program
ILRP	Irrigated Lands Regulatory Program
LACSD	Los Angeles County Sanitation District
MOA	Memorandum of Agreement
NAWQA	National Water Quality Assessment Program
NPDES	National Pollution Discharge Elimination System
POD	pelagic organism decline
POTW	publicly owned treatment work
PY	personnel year
RMP	regional monitoring program
SFEI	San Francisco Estuary Institute
SGRRMP	San Gabriel River Regional Monitoring Program
SWAMP	Surface Water Ambient Monitoring Program
UC	University of California
U.S.	United States (of America)
WDR	Waste Discharge Requirements

STRAWMAN PROPOSAL TO FUND THE DELTA REGIONAL MONITORING PROGRAM

This strawman proposal describes funding options for the Delta RMP. Its purpose is to serve as raw material for work group discussions. It was developed by a planning team that includes staff from the Central Valley and State Water Boards, the Aquatic Science Center (ASC)¹, and Dr. Brock Bernstein. Although specific options are described, different options are not necessarily excluded.

Development of the **Delta RMP** will proceed in a phased approach. The first phase of program development will focus on mechanisms for regularly compiling, assessing and reporting data from existing, ongoing monitoring efforts. The goal is to complete Phase I with a visible, tangible product such as a “Pulse of the Delta” type of synthesis report that addresses an initial set of program questions. The second phase will serve to define and implement the long-term structure and goals of a Delta RMP that is fully integrated and coordinated among all programs. Funding options for Phases I and II are described separately.

The following three objectives for funding the Delta RMP apply to all funding options described below:

1. Find efficiencies that could fund new, regional-scale efforts. Opportunities to create efficiencies and achieve cost-neutrality will be examined in each of the possible funding arrangements. They would apply to all types of current monitoring and every attempt will be made to do this first. For example, the exchange of a portion of individual, end-of-pipe/ditch/storm drain or diversion point requirements for participation in regional monitoring may serve as one means of attaining cost-neutrality for participating permit holders. Existing data will be reviewed to assess whether and where there are opportunities for cost-savings that could be achieved by eliminating monitoring redundancies or reducing the sampling frequency or number of parameters analyzed. Another approach for achieving cost neutrality is for the Water Boards (and other regulatory agencies) to allow periodic shifts in required local monitoring to support regional efforts.

2. Make monitoring more cost-effective for all participants. One of the goals of the Delta RMP is to focus existing resources on answering important management questions. This goal could be achieved by combining monitoring, special studies, and coordinated assessment/reporting. A more complete picture of current conditions in Delta waterways will help track the success of regional programs and policies and identify where available resources, including monitoring, are best spent for addressing the greatest surface water management challenges in the Delta. It will also make local efforts more cost-effective, for example, by informing the priorities for focused local monitoring and special cause-effect studies. The underlying assumption is that a more complete picture of current conditions in Delta waterways will also inform priorities for focused local monitoring and special studies to investigate cause-

¹ The ASC is a Joint Powers Agency with representation from the State, San Francisco Bay, and Central Valley Water Boards; the Bay Area Clean Water Agencies; and the U.S. Environmental Protection Agency. It was created to promote and deliver science support functions and information management for governmental and non-governmental organizations with roles in water quality protection, policy development, and assessment. ASC is staffed and managed by the San Francisco Estuary Institute (SFEI).

and-effect relationships.

3. *Develop flexible funding arrangements that combine cash and/or in-kind support.* All agencies could make in-kind contributions.

PROPOSED APPROACH FOR FUNDING AND SUPPORTING PHASE I (SHORT-TERM)

During the initial Governance Working Group meeting (20 November 2008), there was general consensus among the stakeholders present that the first phase of the Delta RMP should be led by the Central Valley Regional Water Quality Control Board (Central Valley Water Board), provided stakeholders were given the opportunity to provide input. Serving as the lead, the Central Valley Water Board, in cooperation with the San Francisco Bay Regional Water Quality Control Board and State Water Resources Control Board (collectively Water Boards), would be responsible for coordinating and funding this phase. The ASC and researchers at UC Davis would provide technical and administrative support during this effort, through existing and future contracts, provided sufficient contract funds are available. At present, the Water Boards have dedicated approximately 0.5 personnel year (PY) of Regional Board staff time to the regional monitoring program (RMP) planning process.

In the absence of supplemental funding from outside sources (e.g., permitted dischargers, other State/federal agencies), the level of effort directed towards compiling, analyzing, and reporting on water quality data would be constrained by the availability of resources within the Water Boards and would likely require redirecting or augmenting existing resources.

One means of supporting the Delta RMP during this phase, on the part of those entities currently monitoring in the Delta, would be to provide, or make available through a publicly accessible database, copies of their data to the Water Boards in an electronic format (e.g., Access, Excel). This type of in-kind support would result in a reduction in Water Board resources that would need to be directed towards compiling the existing data. Data provided in a standardized format would considerably reduce the amount of additional resources needed for data management. If possible at all, data should therefore be provided in a [SWAMP comparable format](#).

PHASE II (LONG-TERM)

Based on existing models, there are five basic funding options:

1. Creating efficiencies
2. Negotiated fee structure
3. Pay-to-play
4. Auction process
5. Negotiated budget based on an interagency Memorandum of Agreement (MOA)

They are described here as separate options to make the different funding mechanisms clear, but several or all of them can be combined in a funding model for the Delta RMP. All

options are flexible and can combine mandatory and voluntary participation:

- (1) Permit conditions could require National Pollution Discharge Elimination System (NPDES) permittees, agricultural coalitions and commodity groups, and entities complying with water rights decisions to participate. Wherever efficiencies are found, certain monitoring requirements that are currently written into permits could be waived in lieu of contributions to the RMP. Monitoring and Reporting Plans of groups monitoring under permits could be required to be integrated with regional monitoring, as appropriate.
 - (a) All regulated dischargers in the Delta region.
 - Wastewater and stormwater dischargers that are regulated under the NPDES
 - Dredging operations regulated under Waste Discharge Requirements (WDRs)
 - Clean Water Act (CWA) Section 401 and 404 permittees (e.g., dredge and fill operations)
 - Agricultural groups monitoring under the [Irrigated Lands Regulatory Program \(ILRP\)](#)
 - (b) Water supply agencies regulated by water rights decisions:
 - Department of Water Resources (DWR) and U.S. Bureau of Reclamation (Reclamation) maintain large regional monitoring efforts in the Delta with annual expenditures exceeding \$5M for water right permits and water supply related monitoring alone.
- (2) Others agencies and groups that either generate or depend on data related to water quality or water rights decisions can opt to participate by means of a self-organizing process. This group of prospective participants includes
 - Other state and federal agencies, e.g., Department of Public Health, Department of Pesticide Regulation, U.S. Geological Survey;
 - Water contractors, e.g., California Urban Water Agencies, Metropolitan Water District of Southern California, Santa Clara Valley Water District;
 - Reclamation districts, e.g., Reclamation District 2064; and
 - Overlapping regional monitoring program efforts (existing [RMP for San Francisco Bay](#) and planned [RMP for the Sacramento River Watershed](#)).

OPTION 1

Create efficiencies: use cost-savings from existing monitoring to fund regional monitoring

Regional monitoring will be funded through cost-savings that are achieved by eliminating stations and parameters or reducing sampling frequencies from existing monitoring requirements or overlapping monitoring efforts. The basis will be a comprehensive review of

existing long-term monitoring efforts and a fairly detailed analysis of sampling locations, parameters, and monitoring data. The funding level of the Delta RMP would depend entirely on creating efficiencies. At a minimum, the following monitoring programs should be invited to participate in the review:

(1) Regulated dischargers

- Wastewater and stormwater dischargers regulated under NPDES permits
- Dredging operations regulated under WDRs
- CWA Section 401 and 404 permittees
- Agricultural groups monitoring under the ILRP

(2) Water supply monitoring

- [Municipal Water Quality Investigations](#) (implemented by DWR)
- State Water Project Water Quality Monitoring (implemented by DWR)
- Contra Costa Water District Source Water Monitoring

(3) Regional programs

- [Interagency Ecological Program \(IEP\)](#)
- San Francisco Bay RMP
- [Sacramento Coordinated Monitoring Program](#)
- Sacramento Regional Wastewater Treatment Plant Priority Pollutant Prevention Program

(4) State programs

- [Surface Water Ambient Monitoring Program \(SWAMP\)](#)
- Agricultural Subsurface Drainage Program

(5) Federal monitoring programs

- [National Water Quality Assessment Program \(NAWQA\)](#)

Once opportunities for cost-savings have been identified, there will need to be a decision for how the freed resources will contribute to regional monitoring. Options should be flexible and include

- a. Cash contributions
- b. In-kind contributions

As stated before, opportunities to create efficiencies will be examined in each of the possible long-term funding arrangements, but are also a stand-alone option for funding the Delta RMP.

Example for Option 1: San Gabriel River RMP

The development of the [San Gabriel River RMP](#) is a direct response to a NPDES permit requirement established by the Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) for the Los Angeles County Sanitation District (LACSD). A diverse multi-stakeholder workgroup was convened to develop the program plan with funding by LACSD. The final plan describes three specific adjustments to LACSD's compliance monitoring that would improve efficiency and free up funds to support the regional monitoring program. These include

- Shifting from weekly to monthly monitoring at 24 receiving water stations based on a review of parameter trends: the workgroup agreed unanimously that monthly data provided just as much insight into patterns in receiving water chemistry as did weekly monitoring data.
- Removing one station from the monitoring program: the workgroup unanimously agreed that continued monitoring at the eliminated station does not provide any additional information not already provided by a neighboring station.
- Removing a parameter (chlorophyll a) from the list of monitored constituents: the workgroup agreed that this parameter provides no useful management or scientific information.

Despite the presence of some unavoidable costing assumptions, LACSD, Los Angeles Water Board, and the other members of the workgroup all agreed that projected cost savings from each of these actions would form the basis for calculating the resource exchange to the San Gabriel River Watershed Council (the institution who is in charge of managing the SGRRMP). The projected cost savings are provided below as examples.

The actual transfer of funds from LACSD to the Watershed Council is accomplished under the terms of a cooperative agreement between the Watershed Council and LACSD, subject to approval by the Board of Directors for both agencies.

Moving to monthly sampling

(estimated costs vary with constituent monitoring frequencies)

Station Type	Monthly Analysis Cost		Monthly Staging Cost		Monthly Station Total		Monthly Savings
	Weekly	Monthly	Weekly	Monthly	Weekly	Monthly	
WRP (11)	3053	1726	613	141	3666	1867	19789
Estuary/R9E (5)	2245	1209	613	141	2858	1350	7540
POM (3)	2135	2135	613	141	2748	2276	1416
SJC (6)	1153	1153	613	141	1766	1294	2832
Total (25)							31577

Removing a parameter (chlorophyll a)

Chlorophyll a costs \$54.68 per sample. Cost savings from removing chlorophyll a from all the stations was estimated as follows, assuming a monthly monitoring frequency:

$$\$54.68 \times 19 \text{ stations sampled} \times 12 \text{ months} = \$12,467$$

Deleting a redundant station

The cost savings from removing s receiving water station, assuming a monthly sampling frequency and that chlorophyll a has been removed from the parameter list, are estimated as: [\$1,154 (analysis cost) + \$141 (staging cost)] x 12 = \$15,540

Total annual cost savings

The total annual cost savings from implementing these three adjustments thus are: \$378,924 + \$12,467 + \$15,540 = \$406,931

This amount is more than adequate to cover the estimated costs (about \$349,165) of the SGRRMP. These include the random and targeted watershed monitoring, along with bacteria monitoring at key swimming and sentinel sites, and the pilot program for fish tissue monitoring.

Given that the actual scope and cost of these four program elements may change as they are implemented on a routine basis, all stakeholders agree that the original cost estimate may increase.

In addition to estimated monitoring costs, the SGRRMP budget includes routine administrative and other program costs, and some funds to support additional periodic intensive watershed assessments.

OPTION 2

A negotiated fee structure similar to that of the San Francisco Bay RMP

Funding for the Delta RMP could be done as a fixed relative contribution for each participant or stakeholder group. There are different means of assessing the contributions for each participant, but the basic model is a negotiated fixed fee structure similar to that of the San Francisco Bay RMP.

Example for Option 2: San Francisco Estuary RMP

(from 2008 Target RMP Budget Year)

Each participating stakeholder group contributes a fixed fraction of the total budget:

Participant	Percent of Allocation:
Municipal	44%
Industrial	11%
Stormwater	23.5%
Cooling Water	4%
Dredgers	17.5%
TOTAL	100%

Each group determines how to allocate the fees within their group. For example, the municipal dischargers determine their contributions using a formula based on annual measured loads of metals. The breakdown for Publicly Owned Treatment Works (POTWs)

for 2005 was as follows (from Draft 2005 POTW Fee Allocation):

Total of 2005 Fees:	\$2,990,241
Total Number of Program Participants:	67
Number of Municipal Participants (POTWs):	34
2005 Fees for Municipal Participants:	\$1,315,706 (44% of total)
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Contributions of individual participants:	
Base Charge	\$4,463 ¹⁾
Additional Fee for Load Factor	²⁾
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Total Fee = Base Charge + Additional Fee for Load Factor	

¹⁾BASE CHARGE = [10% of total program costs / total number of RMP Program participants]

²⁾ADDITIONAL FEE FOR LOAD FACTOR = [(total municipal costs - base charges) / total load of POTWs] * individual POTW's metals load

OPTION 3

“Pay to play” arrangement similar to that used by the Southern California Bight program.

Agencies and groups that either generate or depend on data related to water quality or water rights decisions can opt to participate by means of a “pay-to-play” arrangement that would combine financial and in-kind contributions. The financial contributions could be a negotiated fee structure, or any of a number of other approaches. The scale of contributions will be reciprocal to the various incentives of different stakeholders to participate. For this funding arrangement to work, one may have to expect that stakeholders with the largest existing monitoring programs will also want to be the biggest contributors. In terms of supporting the program through offsets or tradeoffs with compliance monitoring, those discussions would be between the permittee and the regulator and the regional program would not get involved.

The funding principle of the [Southern California Bight Program](#) combines “pay-to-play”, where programs come in at different levels of support (Option 3), with an auction process (Option 4).

Example for Option 3: Southern California Bight Program

There are not really any strict financial requirements for participation, but a general rule of thumb is that participants have to at least buy one site, which is considered the minimum level of meaningful interest. For example, funding the sampling of a coastal ecology site is about \$10K. The threshold for participation is low by design, to encourage as many interests as possible to participate.

Based on the level of interest and commitments (either financial or more frequently in-kind), participation is tiered at three levels:

- (1) Technical Working Groups: hands-on folks based on discipline;
- (2) Planning Committees: includes all participating agencies in a specific Bight Element (e.g., water column, sediment chemistry, there are six in total). Overall, program planning is a self organizing process, based on interest and the willingness to provide funding (see Option 4).
- (3) Steering Committee: integrates Planning Committee designs and results. The threshold for membership on this committee is involvement in more than one planning committee. The mission of the Steering Committee is to integrate the different parts of the program.

Tiering based on commitments is only loosely applied and serves as a mechanism to streamline meetings at the highest levels of authority (i.e., Steering Committee). Contributions are reciprocated by the scale of access to program resources, in that the level of interest and commitments weigh in to the types of assessments that will be done. In addition, access to data is restricted to active participants prior to publishing the assessment results to the public in the form of the final report.

OPTION 4

Auction process

The allocation of resources to issues and questions will be based on a combination of how much parties are contributing and how much they can influence others.

Example for Option 4: Funding principle for Southern California Bight Program

To explain how the funding principle for the Southern California Bight Program works, program manager Ken Schiff provided the following example: “Let’s say one entity wants to target sites around stormwater outfalls, while another wants to target sites in marinas. Both parties are interested in sampling 50 sites. Those interested in monitoring stormwater are capable and willing to finance all of the outfall sites; however, the marinas are unable to cover all of their sites (e.g., insufficient funds). Therefore, the marinas will either have to locate additional funding or reduce the number of marina sites. With respect to the former, one option is to convince the stormwater party of the merits of monitoring additional marina sites, such that they are willing to provide funding for marina samples. For example, during the last survey, there was interest in monitoring the ports, but the ports did not want to participate, so ports, bays, and marinas were lumped into one stratum, which meant that we would not be able to say something separate about ports. The results were bad enough (in terms of levels of contamination/impact) that now there’s more funding to do the ports separately. And that’s the way it should be. People who care will pay for data and if they aren’t interested in funding an assessment, then we will not have data on that separate issue.”

OPTION 5

Negotiated budget based on interagency MOA

Similar to the IEP, agencies would enter a MOA and negotiate/determine self-funding levels and funding transfers each year based on their program commitments and agency budgets.

There may be an option to build on the existing IEP funding structure.

Example for Option 5: IEP Organizational and Funding Structure

The IEP for the San Francisco Estuary is a cooperative effort on the part of its nine member agencies, which include DWR, Department of Fish and Game, State Water Resources Control Board, Reclamation, U.S. Fish and Wildlife Service, U.S. Geological Survey, U.S. Army Corps of Engineers, National Marine Fisheries Service, and the U.S. Environmental Protection Agency. One of the goals of IEP is to provide an organizational structure and program resources to assist in planning, coordination, and integration of estuarine studies by other units of member agencies or by other agencies. Monitoring activities are supported through a combination of financial and in-kind contributions (e.g., laboratory, research vessels) from member agencies, with DWR and Reclamation being responsible for the most significant contributions.

The IEP monitoring program currently allocates funds from two budgets, the Core budget and the Pelagic Organism Decline (POD) and Coordinated budget, both of which are approved on an annual basis by the IEP Directors. The Core budget represents long-term funding primarily for mandated monitoring (e.g., requirements set forth in Water Right Decision 1641 and the Operating Criteria and Plan biological opinions), information dissemination, and administrative support. The POD and Coordinated budget represents short-term funding provided for POD investigations, most of which are special studies, and funding provided by other programs to supplement IEP monitoring activities and special studies, or for which IEP is providing substantial technical oversight. The annual POD and Coordinated budget varies by year based on available funds, and research needs and priorities. Research (e.g., special studies) conducted under this budget is driven by work teams who submit recommendations to the IEP Coordinators, who in-turn seek final approval from the IEP Directors.