



RMP Technical Review Committee Meeting

March 13th, 2012

San Francisco Estuary Institute
4911 Central Avenue Richmond, CA 94804
First Floor Conference Room
10:00 am-3:00 pm

Lunch will be provided. We will take a short break and then keep working through lunch.

DRAFT AGENDA

1.	Introductions and Approval of Agenda and Minutes (Attachment)	10:00 Chair
2.	Information: Steering Committee Minutes (Attachment)	10:05 Meg Sedlak
3.	Information: Planning Update The RMP Multi-year Plan was approved by the SC at the January 2012. The Plan will be revised annually to incorporate new priorities from the Planning Meeting.	10:20 Jay Davis
4.	Discussion: Small Tributary Loading Strategy Update The RMP is expending significant resources to evaluate storm water loadings. An update on the recently prepared STLS workplan will be given as well as results from recent stormwater monitoring.	10:40 Alicia Gilbreath and Lester McKee
5.	Information: Nitrification Studies Chris Francis' group at Stanford has collaborated with the RMP to study nitrification and denitrification processes in the Bay, which is one of the major uncertainties in nitrogen cycling. An update will be given on the results of their previous studies and upcoming plans to piggyback on the RMP sediment cruise.	11:30 Julian Damashek
LUNCH BREAK		12:00
6.	Information: Sediment Flux in the South Bay (Attachment) The USGS has recently completed a study evaluating sediment flux in the South Bay. The results of this study have been summarized in the attached fact sheet.	12:30 Greg Schellenbarger
7.	Action: Pulse and Annual Meeting Update (Handout) Based on input from the SC, we are moving to a Pulse Lite this year. Ideas for this document will be presented. In addition, TRC input is needed on the topics, location, date, and speakers for the Annual Meeting. Desired Outcome: Input on Pulse and Annual Meeting	1:00 Jay Davis
8.	Discussion: Approval of the CTAG-TRC Agenda (Attachment) The CTAG-TRC meeting is set for March 28th. A subcommittee has developed a preliminary agenda and a list of questions/ desired outcomes. Action: Approve Agenda and list of questions for Nutrients Session	1:20 Meg Sedlak

9.	Information: Sport Fish - Highlights from Year 2 of the SWAMP Coast Survey The draft SWAMP report on contaminants in fish along the California coast has recently been completed. Surprisingly high mercury concentrations were observed in fish along the relatively undeveloped Central and North Coast regions. Jay will also discuss plans for future RMP sport fish monitoring.	1:40 Jay Davis
10.	Information: Program Update and Laboratory Data Status (Attachments/Handouts)	2:00 Meg Sedlak
11.	Action: Set Agenda and Date for Next Meeting, Plus/Delta	2:20 Chair
	Adjourn	2:30

San Francisco Estuary Institute

7770 Pardee Lane, 2nd Floor • Oakland, CA 94621-1424
Office (510) 746-SFEI (7334) • Fax (510) 746-7300



**RMP Technical Review Committee
December 13th, 2011
10:00 AM to 3:00 PM
DRAFT Meeting Summary**

Meeting Participants

Nirmela Arsem (EBMUD)	Rachel Allen (SFEI)
Bridgette DeShields (Arcadis (WSPA))	Jay Davis (SFEI)
Eric Dunlavey (City of San Jose)	Amy Franz (SFEI)
Diane Griffin (GenOn Energy, Inc.)	Cristina Grosso (SFEI)
Mike Kellogg (City and County of San Francisco)	Susan Klosterhaus (SFEI)
Tom Hall (EOA, Inc. (South Bay Dischargers))	Lester McKee (SFEI)
Chris Sommers (EOA, Inc. (BASMAA))	Meg Sedlak (SFEI)
Karen Taberski (SFB RWQCB)	David Senn (SFEI)
Luisa Valiela (USEPA)	Don Yee (SFEI)

Paul Salop (Applied Marine Sciences)

Via Telephone:

Rob Lawrence (USACE)

1. Introductions and Approval of Agenda and Minutes

Bridgette DeShields commenced the meeting, and welcomed the new industry representative, Diane Griffin. She is currently representing GenOn Energy (formerly Mirant); Diane was formerly the TRC representative for EBMUD in early 2000.

Karen Taberski commented on the minutes from the September meeting, making a few corrections to the language. She motioned to approve the minutes, pending these corrections, which Mike Kellogg seconded. The minutes were approved.

Meg Sedlak reviewed the action items. She noted that item #4 regarding coordination of mussel sampling (from the September meeting) is not worth pursuing because the RMP and National Mussel Watch (NMW) sample different species (the RMP uses transplanted bivalves while NMW collects native mussels). Joining forces would not result in a reduction of effort; therefore follow up on this item is not necessary.

Regarding Sept 2011 item #5, the sport fish committee will be consulted (via conference call or in-person meeting) to determine whether the sampling will move to a 5-year cycle from the current 3-

Item 1 – TRC Summary Draft

year cycle. The group was consulted by e-mail in September and October, but there was some disagreement among the members that will be easier to address with a conversation. Jay Davis noted that he expects sport fish monitoring to move to a 5-year cycle, potentially including more species.

Meg Sedlak updated the TRC on the location of the 6 dissolved oxygen (DO) probes that Dave Schoellhamer's USGS group will be placing throughout the Bay. While these probes were not directly funded by the RMP, this funding was received by USGS in part due to work funded by the RMP (National Water Quality Monitoring Council inventory of monitoring in San Francisco Bay). Dave Schoellhamer is in the process of setting up the probes and data systems; if TRC members would like the data aggregated or collected in a specific manner they should make their recommendations now.. Chris Sommers asked if Dave Schoellhamer is coordinating with local agencies in determining the placement of the DO probes, noting that Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) collects DO data from Alviso Slough and the Guadalupe River. He offered to contact Dave Schoellhamer and share this data with him, as well as coordinate the placement of any DO probes in the South Bay. He will also mention this work at the next Bay Area Stormwater Management Agencies Association (BASMAA) meeting.

Action Items:

- Chris Sommers to work with Dave Schoellhamer to coordinate the placement of DO probes in the South Bay and share DO data from local agencies. (*Meg Sedlak contacted Dave via e-mail to initiate this discussion.*)

2. Steering Committee Report

Meg Sedlak noted that Tom Mumley was elected the new Steering Committee (SC) chair. Kirsten Struve was elected vice-chair, with plans that she will assume the position of chair once she becomes more familiar with SC operations. Meg Sedlak also noted that Dow Chemical no longer holds an NPDES permit, which affects the fees paid by the other industrial dischargers. Per SC instructions, Lawrence Leung will re-invoice the other industrial dischargers to cover the shortfall due to Dow Chemical. The SC also approved changes to the Status and Trends (S&T) Monitoring program. They will discuss increasing the program fees by 2% at the April 2012 SC meeting. Dave Schoellhamer submitted a draft fact sheet for publication by the RMP. The SC recommended investing some resources into improving the fact sheet before publishing, so the RMP has subcontracted with Chris Werme (who has worked on the Pulse for a number of years) to edit it.

3. Planning Update

Jay Davis distributed appendix 1 (the multi-year budget table) from the Master Plan (which has been renamed the "Multi-Year Plan"), noting that the table and the budget are still in flux. The annual planning cycle will begin in October, with an extended SC meeting, the Multi-Year Plan will be updated and finalized by the end of the year, and then be approved at the January SC meeting. The current version will be distributed for review by the SC members within the next few days.

Item 1 – TRC Summary Draft

Jay Davis walked the committee through the special studies (SS) plans for 2012 and beyond. Due to the reductions in S&T, more funding for SS was made available in 2012, so the planning meeting identified some immediate uses for this funding, even though the focus was on guidance for 2013. One suggestion was to hold a mercury workshop, based on the results from the 2011 mercury synthesis, to get input from experts on the next steps. This idea will be vetted with the mercury strategy team in the first quarter of 2012. Other updates coming out of the planning meeting included the Dioxin strategy, which will delay a synthesis effort to 2014, so that all of the matrices that have been analyzed in recent years can be incorporated. After the completion of the emerging contaminants synthesis in 2012, a strategy will be developed based on the conclusions from the synthesis, and \$15,000 was allocated from the 2012 budget for this purpose. The Exposure and Effects Workgroup (EEWG) suggested holding a workshop on the moderate toxicity seen throughout San Francisco Bay, either as a Pellston workshop through the Society of Environmental Toxicology and Chemistry (SETAC) or locally, as well as moving forward on the development of tools for benthic assessments in mesohaline portions of the Bay. The 2012 budget includes \$50,000 for each of these efforts, although the final scope will need to be vetted by the EEWG. Finally, an additional \$30,000 was allocated for analyzing the complete suite of nutrients in the 2012 stormwater samples, including QA, shipping, and reporting costs. Jay Davis noted that Brian Hubinger also requested additional selenium loading and speciation studies, and that this work may be considered for 2012 funding.

Luisa Valiela asked about the items listed in lines 131-136 of the appendix 1 table (trash, shellfish, pathogens, etc.). Jay Davis noted that these ideas had come up at previous planning workshops, but that no funding was currently allocated to them. Tom Hall asked about the shellfish survey and exotic species eradication effort that the RMP funded. Meg Sedlak noted that Andy Cohen wrote a report for the TRC and it was distributed to the TRC, but she indicated that she would get a more recent update on the status of these efforts for the TRC.

Action Items:

- Meg Sedlak will update the TRC on the status of the mussel eradication effort.

4. 2012 Pulse and Annual Meeting

Jay Davis noted that the SC will continue to discuss planning elements at the quarterly SC meetings. At the November meeting, they briefly discussed RMP communications, and decided to have a full discussion on how to continue the Pulse at the January SC meeting. They will consider whether to produce the Pulse every year, reduce it to every other year, or periodically reduce the scope. For the short term, the 2012 Pulse will be “full scale”, and will focus on emerging contaminants. However, Jay Davis noted that some deliverables are coming slower than expected, such as the state panel emerging contaminants report, which will now be released in May, and the broadscan screening special study, which was delayed due to the Gulf of Mexico oil spill.

However, even if the Pulse will not be released until later in 2012 or early 2013, Jay considered this a good topic for the next Annual Meeting, and will discuss this with the TRC at a later meeting. He suggested that the Annual Meeting broaden its scope slightly, and morph it into a forum for policy discussions, with outcomes that could affect the Bay. He noted that environmental monitoring does not get attention in the green chemistry movement, and this could be a forum for increasing the

Item 1 – TRC Summary Draft

profile of monitoring. Chris Sommers noted that this should be discussed with the SC, because while it would bring in more individuals and more press, it would decouple the Annual Meeting from the RMP.

Karen Taberski asked about the 2011 Pulse. Jay Davis noted that the “window” for producing it was missed in October as a result of the move, and therefore completing it in November or December was not feasible. The electronic version will be released in early January, and the hard copy will be available in late January or early February.

Action Items:

- Discuss the scope of the Annual Meeting with the SC.

5. 2012 Joint CTAG-TRC Meeting

Meg Sedlak indicated that SCCWRP has proposed the topic of “Regional Monitoring: Lessons Learned and Future Needs” for the next joint SCCWRP Commission's Technical Advisory Group (CTAG) and TRC meeting. This meeting is scheduled to be in Northern California. She asked if the TRC still finds this sort of interaction and the topic useful, and if it should be held at SFEI or another venue in the Bay Area.

Chris Sommers suggested that the meeting should be held at SFEI, to use and showcase the new building and conference room. He suggested that the desired outcome of this meeting be made clearer beforehand, and that if the goal is identifying ways to collaborate, then the agenda should lead towards that. Meg Sedlak noted that the strengths of SFEI and SCCWRP complement each other well, and that the first few joint meetings resulted in collaborations between the organizations.

Chris Sommers suggested that the meeting focus on just a few topics, so that the discussions can delve into the important details. Karen Taberski concurred, suggesting that nutrients would be a good element to focus on, as the Bay Area is currently developing a nutrients strategy, while the Southern California Bight has a lot of on-going nutrients work. Bridgette DeShields suggested that the other agenda item be similarly informative for SCCWRP as nutrients would be for the RMP. Chris Sommers noted that emerging contaminants would not be ready for this type of discussion, but that toxicity, including molecular methods for toxicity identification evaluations, might be an appropriate topic.

Mike Kellogg suggested that if the CTAG has meeting business to conduct, that the meeting be timed so that TRC members can arrive after this has concluded; Jay confirmed that the CTAG will not be conducting internal business at this meeting. Bridgette DeShields and Chris Sommers volunteered to work with Meg Sedlak and SCCWRP to flesh out the agenda, and then take it to the SC.

Action Items:

- Chris Sommers and Bridgette DeShields will work with Meg Sedlak to develop the agenda, with definite goals, for the CTAG-TRC meeting.

- The agenda will be reviewed by Steve Weisberg and Tim Stebbins, before submission for approval to the SC.

6. 2011 Highlights and 2012 Workplan

a. Nutrients

Dave Senn presented the status of the ongoing work on nutrients and development of the nutrient strategy, and outlined the plans for future work. A strategy for nutrients in the San Francisco Estuary is underway, building off of previous work and identifying near term management decisions. The nutrient work in the Bay is moving forward as a cooperative endeavor among the RWQCB and various partners/stakeholders including the RMP. In 2012, work will commence on projects funded by the RMP and the Region 2 Regional Water Quality Control Board. The RMP funded projects are a) conceptual model and scenario building, b) external nutrients loads and data gaps analysis, c) management of Nutrient Strategy Development, and d) stormwater nutrient loads. David Senn presented a model for how partners, funding, work elements, oversight, and coordination will combine in the nutrient strategy. The funding provided by the RMP for management will cover only a piece of the Nutrient strategy management, with the rest to be covered by other partners. He noted that the joint strategy will leave a lot of room for collaboration, and that the RMP will serve as a good model for how collaboration can lead to science addressing management questions.

Nirmela Arsem asked if the strategy will also be gathering nutrients data from the POTWs. Tom Hall added that most plants are only required to monitor for ammonia, but that they regularly report flow data. Tom also noted that several of the shallow water dischargers in the South Bay (e.g. Sunnyvale, San Jose, Palo Alto, etc.) were also collecting additional species such as nitrate. Dave Senn admitted that this is a daunting task, but that the process and strategy will be evolving. A draft organizational structure and strategy will be available in November 2012, and will be evaluated by the partners. Luisa Valiela noted that the Regional Board has been holding stakeholder meetings, and asked if these meetings would be passed off to Dave Senn, so that concurrent meetings could be avoided. He indicated that these players are all in communication and that that is the current plan.

b. Modeling

Dave Senn presented current plans for modeling. He suggested that nutrients could be a priority in the modeling strategy, and that if the underlying sediment transport model were built up first for nutrients, it could also be applied to other contaminants. Given the multiple modeling platforms for the Bay and the disagreement among regional scientists, he suggested that the RMP should play a role in defining the modeling needs for the Bay and moving the modeling and management communities towards a “consensus” platform. A modeling symposium, in the second half of 2012, could be a first step in moving this along.

Jay Davis noted that the Margins Conceptual Model and the Bioaccumulation Conceptual Model reports will be released to the Contaminant Fate Workgroup (CFWG) and the TRC for review within the next 2 to 4 weeks. He noted that the Regional Board was not certain that developing an open bay model for PCBs and Hg would be a “no-regrets” action, however they were more supportive of developing an open bay model for nutrients, which is the first step in model

development. Thus, the \$100,000 allocated for modeling in 2012 could be used in support of the nutrients work, including development of the box model or dynamic model. Lester McKee asked if the eventual margins components that would be added on to the open bay model would interact dynamically or if they would run independently. Don Yee indicated that they would likely be independent.

David Senn indicated that modeling will likely be an interest of BACWA's in the near future, and that he has proposed to them a numeric box modeling project for South Bay and Suisun Bay to begin in July 2011 if approved.

c. Sources, Pathways, and Loadings

Lester McKee updated the TRC on the Sources, Pathways, and Loadings (SPL) projects from 2011, including the regional watershed spreadsheet model and the 16 watersheds reconnaissance sampling effort. He noted that the Mallard Island and Zone 4 Line A technical reports were recently released, and will be submitted to journals for publication. Chris Sommers noted that a lot of hard work went into these successful projects, and both he and Lester McKee commended the watersheds team.

In 2012, sampling will occur at 4 watersheds over 4 storms, for an expanded list of analytes. The spreadsheet model will continue to be developed, in connection with a review of literature on event mean concentrations.

d. Hg and PCB Strategies

Jay Davis presented the slides he prepared for the International Mercury conference in Halifax summarizing the Hg synthesis report. He highlighted the “knobs” that managers may be able to use to affect mercury in the Bay, and distinguished between fast knobs (where a management change causes a quick response) and slow knobs. Chris Sommers pointed out that how hard it is to turn the knobs should also be a consideration. He noted that the fast knobs tended to be more habitat-related, while the slow knobs are regulated through discharge requirements. Given the goals of safe fish consumption and safe wildlife habitat, perhaps the Hg strategy team should re-focus how to get to these goals. The Hg synthesis is currently undergoing peer review, and will be published in Environmental Research as part of a special issue.

In 2012, the PCB synthesis draft will be available in April.

Rachel Allen reviewed the 2011 work on small fish, including the small fish technical report that is under review. The 2011 seasonal sampling focused on 4 locations within the Bay, and the results will be reviewed in January 2012.

e. Effects

Meg Sedlak reviewed the completed Exposure and Effects (EE) studies from 2011. This includes the investigation of BDE effects in terns, the effects of PAHs on flatfish, the causes of sediment toxicity study, the molecular TIE work, and the Exposure and Effects Pilot Study (EEPS) summary report, all of which are either complete or nearly complete. The EEPS summary report includes recommendations for birds, fish, and benthos, and the EEWG will have a meeting focused on effects on fish in the second part of 2012.

Item 1 – TRC Summary Draft

The copper and the olfactory nerve salmon study was delayed for a while because of difficulties getting NOAA to accept any external funding (including RMP funds), however it is started and results will be available by December 2012. Chris Sommers was disappointed with the delay and noted that there is a permit requirement, with a set timeframe, that relies on this work, with consequences for the permit holders if the dates are not met. Given this, he asked that the TRC (rather than the SC) be kept up to date when projects connected with permit requirements are delayed. He indicated that he would provide Meg/Jay with a list of permit requirements that the RMP was providing information for. Meg Sedlak requested that other TRC members provide her with similar requirements. Karen Taberski indicated that the water board would not penalize the discharger agencies for a permit requirement that was funded but delayed.

Action Items:

- Keep the TRC up to date on the progress of projects pertaining to permit requirements.
- Chris Sommers to provide Meg Sedlak with permit requirements from the discharger community, and how these are aligned with the RMP priorities.

f. Contaminants of Emerging Concern (CEC)

Susan Klosterhaus reviewed the progress on CECs made in 2011. This included the completion of profiles of a few CECs, a draft manuscript of alternative flame retardants, a draft manuscript on the AXYS/ Mussel Watch pilot study, and the first part of the non-target (broadscan) screening project, run by the National Institute of Standards and Technology (NIST). In 2012, the broadscan screening work will be completed, and the CEC synthesis report is now expected in the summer (due to delays in the State water panel report). After the synthesis report is complete, a CEC strategy will be prepared, bringing in other partners and funders, and will be followed by an ECWG meeting. Susan also promoted the SETAC 2012 meeting, which will be held in Long Beach, California (Susan is a co-chair of the science sub-committee).

g. Dioxins

Don Yee reviewed the dioxin work, which was presented at the October 2011 Dioxin Strategy meeting. This included surface sediment, surface water, bay and wetland core, and tributary loading data, as well as an estimate of atmospheric deposition to the water surface. In 2012, dioxin work will focus on more cores and watersheds loading. A synthesis report, scheduled for 2014, will bring together conceptual models for the food web and mass balance.

h. Status and Trends

Amy Franz updated the TRC on the 2011 S&T sampling. The RMP successfully completed the water and sediment cruises, with 22 and 47 sampling sites, respectively. The sediment cruise also hosted 4 piggyback studies, which will provide the RMP with a large amount of additional information. Drs. Schoellhamer and Cloern also continued their SSC and basic water quality monitoring efforts. In 2012, the S&T work will include the sediment and bivalve sampling, as well as bird eggs. In 2013, only water samples will be collected.

The 2010 Annual Monitoring Results was completed on time, and gives a summary of the 2010 water, sediment, and bivalve sampling efforts and results.

Item 1 – TRC Summary Draft

i. Data Management

Cristina Grosso reviewed the 2011 highlights in data management. Part of data management includes making it publically available, and she presented statistics on the use of the CD3 (Contaminant Data Display and Download – the new name for the Web Query Tool). There was a delay in grain size reporting, which Meg Sedlak clarified was due to using two different methods for sizing (sieving and light-scattering), and the difficulties in the light-scattering technique are still being ironed out. Cristina also presented goals for 2012, which include enhancing the web tools, developing a web tool for reporting of effluent loadings for fee calculations, and continuing to coordinate the San Francisco Bay Regional Data Center, as well as reporting the data within a year.

Chris Sommers motioned to approve the detailed workplan, and Eric Dunlavey seconded it. The 2012 detailed workplan was approved.

7. Date for next meeting, Plus/ Delta exercise

The joint CTAG-TRC meeting is set for March 28th, so the TRC agreed to hold the next TRC meeting on March 13th.

Bridgette DeShields praised the 2011 year-end update presentations, and was pleased to have Diane Griffin back on the TRC.



RMP Steering Committee Meeting

January 24th, 2012

San Francisco Estuary Institute

Draft Meeting Summary

Attendees:

Dave Allen, Industry (USS POSCO)
Peter Carroll, Refineries (Tesoro Golden Eagle Refinery)
Trish Mulvey, SFEI Board
Tom Mumley, SFB RWQCB
Karin North, Small POTWs (City of Palo Alto)
Adam Olivieri, BASMAA (EOA)
Kirsten Struve, Large POTWs/ BACWA (City of San Jose)
Dan Tafolla, Medium POTWs (Vallejo Sanitation and Flood Control District)

Others Present:

Rachel Allen, SFEI
Jay Davis, SFEI
Rainer Hoenicke, SFEI
Thomas Jabusch, SFEI
Lawrence Leung, SFEI
Meg Sedlak, SFEI

Via telephone:

Rob Lawrence, US Army Corps of Engineers
Mike Connor, EBDA

1) Approval of Agenda and Minutes

Kirsten Struve motioned to approve the minutes from the November 2011 SC meeting, and Karin North seconded it. The minutes were approved unanimously.

Meg Sedlak reviewed select action items from previous SC meetings. She noted that the RMP has submitted ideas for Supplemental Environmental Project (SEP) funding to the San Francisco

Estuary Partnership, in response to a corrective action for the Waste Management Guadalupe Rubbish Disposal Administrative Civil Liability. As broad ideas, the RMP suggested studying dioxins, perfluorinated compounds, and contaminants of emerging concern and effects on fish. If they are selected, RMP staff will work with the SC to develop them into full proposals. Tom Mumley noted that these proposals are reactive to existing corrective actions and funding opportunities. Trish Mulvey asked if RMP staff could work proactively with Regional Water Quality Control Board (Water Board) staff and staff from the Bay Area Clean Water Agencies (BACWA) to develop projects of interest to BACWA that would have a possibility of being funded. She admitted that the appropriate process is unclear, as all players need to have simultaneous buy-in; however, Tom Mumley and Kirsten Struve volunteered to meet with Meg Sedlak to develop ideas further, so that there is a better chance of these projects moving forward with the larger organizations.

Meg Sedlak also indicated that the RMP is creating a web tool for the waste water treatment plants (WWTPs) to be able to submit their metals loading data online. She will share this with the SC at the April meeting.

Action Items:

- Meg Sedlak to meet with Tom Mumley and BACWA (Kirsten Struve/ Amy Chastain) to discuss projects to submit for SEP funding of interest to BACWA and the Water Board.
- Demonstrate the new web tool for submitting WWTP metals data online at the April SC meeting.

2) Committee Member Updates

Peter Carroll joined the Steering Committee (SC) as the representative from the refineries, to replace Brian Hubinger, whose responsibilities changed in January 2012.

Kirsten Struve indicated that she has a new role with the City of San Jose. She is now the acting division manager of sustainability and compliance. However, this does not affect her duties pertaining to the RMP.

3) Technical Review Committee (TRC) Meeting Update

Meg Sedlak noted that the December TRC meeting focused on the highlights from 2011 and the plans for 2012, so discussions were limited and there were no noteworthy outcomes for the SC from the meeting. Kirsten Struve asked that the SC, as well as the TRC, be kept up to date regarding the progress of projects pertaining to permit requirements.

Action Items:

- Keep the SC up to date regarding the status of projects pertaining to permit requirements.

4) Budget Status

Lawrence Leung reported on the status of the RMP budget. Meg Sedlak noted that a memorandum was distributed as part of the SC meeting agenda package requesting \$23,500 from

the unencumbered reserve to cover the expected costs for renting a boat for the 2012 wet season sediment cruise. The program expected to continue to use the Bureau of Reclamation's boat *Endeavor*, which was free of charge. However, that vessel is no longer available. Meg Sedlak has identified the USGS *Turning Tide* as an appealing alternative. In response to a question, Ms. Sedlak confirmed that she has investigated private firms, but the vessels are generally more expensive, although she is open to suggestions of other possible boats. Kirsten Struve noted, for future reference, that the City of San Jose has a whaler. Ms. Sedlak indicated that they have used this vessel in the past for special studies, but that unfortunately it is woefully too small for the Status and Trends needs.

Adam Olivieri asked where the funding would come from: contingency funds, reserve funds, or other 2012 funding. He noted that the SC had previously agreed to limit the reserve to \$200,000, making the remainder of the funds available for use. Jay Davis suggested that the group use the terms "Unencumbered reserve" to refer to the \$200,000 that is closed to use, "unencumbered funds" to refer to any excess funding that is available for use, and "contingency" to refer to the \$50,000 that is available for immediate data needs (such as extremely large storm event sampling), which is replenished each year if spent.

MOTION. Adam Olivieri made a motion to approve up to \$28,000 out of the unencumbered funds for use on a boat for wet season sediment sampling. **SECOND.** Karin North seconded. **APPROVAL.** All approved.

Meg Sedlak also indicated that the Copper Development Association (CDA) is interested in contributing an additional \$38,000 to the special study on the effect of copper on the olfactory nerve of salmon. Preliminary results from the National Oceanic and Atmospheric Administration (NOAA) Northwest Fisheries Center conducting the study suggest that toxic effects in salt water are not seen below 10 µg/L, which is much higher than the levels that cause toxicity in fresh water. The CDA is proposing to augment these studies with more work focused on identifying toxicity levels in estuarine salinity ranges, and asking the RMP to vet the science. Adam Olivieri asked what the contractual obligations would be, and how the CDA is suggesting providing the funding. He suggested keeping contractual obligations to a minimum, and encouraged that SFEI accept the money as a grant rather than as a contract. He also asked if adding to the study would delay the initial work product, and indicated that the SC is looking for closure on this project as soon as possible because it is permit related. Meg Sedlak indicated that she would explore these questions and report back. Previous collaborations with the CDA (e.g., metals analyses in the sediment coring study) have shown that they are amenable to sharing data publically.

Lawrence Leung also indicated that the 2011 CalTrans fees have not yet been received, pending completion of the 2011 Pulse. Meg Sedlak clarified that the 2009-2011 budgets have not been closed largely due to delays in some projects and continued subcontracts. She indicated that it takes some of the larger and more bureaucratic partners years to invoice the RMP. With regard to labor delays, Tom Mumley suggested that this be addressed during the April SC discussion of program management, so that the SC can consider the process for deciding to stop a project.

Action Items:

- Update the budget memo (and the Annual Multi-Year Plan) to include consistent language to describe the reserve: “Unencumbered Reserve”, “Unencumbered Funds”, and “Contingency”.
- Meg Sedlak to explore the possibility of receiving a grant from the CDA for additional work on the copper and salmon study, instead of a detailed contract.

5) SC Meeting Calendar and Activities

Meg Sedlak outlined the proposed SC meeting calendar and general activities for 2012, noting that the meeting duration has increased to 5 hours. Karin North asked that the April meeting be set for April 30th instead of April 16th, and Dave Allen noted that he would likely be unable to attend the August meeting, but that he would send an alternate. Karin North suggested that the group revisit the date for the August meeting at the April meeting.

Tom Mumley noted that the agenda items for April will include a planning focus on program and data management, giving direction to the workgroups, and reporting on the progress with SEP projects. Meg Sedlak added that she will also update the SC on the cross-check between RMP book-keeping and SFEI book-keeping for RMP funds that is performed annually after the SFEI audit. Jay Davis indicated that the April meeting will also include follow-up items from the discussion on communication planning.

Action Items:

- Revisit the date for the August SC meeting at the April SC meeting.

6) Setting Fees for 2013

Adam Olivieri indicated that he was surprised by the 2.4% increase proposed in the updated version of the fee increase memo, compared to the previously proposed 2%. He noted that he all local agencies are facing the same situation that they have been facing for the last several years and that any increase is problematic. However, he noted that he has discussed the situation with the BASMAA representatives and has some buy-in from the stormwater agencies to commit to increase fees by 1.5 to 2% during the next 3 years, given a commitment by the RMP SC to prioritize stormwater and nutrients studies as the top items to be addressed by the RMP resources. He noted that the RMP resources used to address a portion of the stormwater loading question were an essential assumption in all stormwater agency budgets through the term of the MRP. Tom Mumley indicated that he was reluctant to call out earmarks for funding, but that he felt that the RMP could agree to commit to the priorities laid out in the Multi-Year Plan (MYP), which include stormwater and nutrients. Karin North suggested that the fees be increased by 1.5% in 2013, and 2% in 2014 and 2015, to make it more palatable to the funding agencies.

MOTION. Adam Olivieri made a motion to make a 3-year agreement to increase fees by 1.5% in 2013 and 2% in 2014 and 2015, with the highest strategic priorities to include stormwater and nutrients work, as designated in the MYP. **SECOND.** The motion was seconded by Kirsten Struve. **APPROVAL.** Unanimously approved.

7) Multi-Year Plan

Jay Davis noted that there are small notes to fix in the MYP, but that pending these additions, it is ready for approval by the SC. Adam Olivieri asked that the document clarify who the voting members of the TRC are, and that page 6 change “agencies” to “regulatory agencies”. He also asked that description of the “Unencumbered Reserve” on page 9 not include usage for fee shortfalls and that the language in the MYP be consistent with the SC discussion and decision under item 4. Jay Davis noted that the MYP will read “2012 Annual Update” and “approved by the SC on Jan 24th, 2012” to indicate that it is the final version for this year. Tom Mumley also asked that the funding tables (such as on page 17) use a modified system to indicate the future plans for funding specific areas. He suggested that

- TBD = discussion are underway and funding, of an unknown amount, is expected;
- another code (such as dollar amounts) = funding for this project is certain;
- white box = no funding planned, but the project is not necessarily closed;
- grey box = project is closed, no future funding expected

Jay Davis asked the BACWA representatives to clarify what modeling work was funded in 2011, and what numbers should be included in the box on page 17. Kirsten Struve will provide this answer by the close of business on Monday, Jan 30th.

Action Items:

- Update the MYP with the input from the SC members, and distribute the 2012 final version.
- BACWA members to provide Jay Davis with funding amounts for BACWA funded 2011 modeling work by close of business, January 30th.

8) Multi-Year Planning: Communications

Jay Davis presented the 2012 RMP communications plan, noting that the primary audience for external communications is RMP stakeholders. The RMP can also leverage other organizations, such as the San Francisco Estuary Partnership (SFEP), SFEI, and the California Water Quality Monitoring Council (CWQMC), for reaching some of the secondary audiences. Tom Mumley asked for clarification about some of the existing forms of communication, including the Annual Monitoring Results and the Estuary Insert. Jay Davis indicated that the Annual Monitoring Results are produced annually to document the methods and report results from the Status and Trends Monitoring, and is primarily for a technical audience. The Estuary Insert is produced for the interested public, and is distributed by SFEP inside their Estuary Newsletter. It goes out to a large audience, with little effort by the RMP. Karin North, Kirsten Struve, and Trish Mulvey all noted that they read the Estuary Insert. Jay Davis suggested that the USGS fact sheet currently being produced could work as a future Estuary Insert. Adam Olivieri and Kirsten Struve noted that the Estuary Insert has an advantage over fact sheets in that it does not have to be distributed, and suggested that the budgets be unified to reflect the combined work product. Kirsten Struve suggested that the link to the meeting web page be included on the agenda, so that the most recent version of the agenda package is available there. Karin North added that the workgroup updates should include brief abstracts from completed reports and electronic links to the documents.

The 2011 Pulse is being finished up this week, and will be distributed electronically by the end of January, with the printed version to follow 3 weeks later. Jay Davis proposed that the Pulse move to a biennial cycle, where a “Pulse Lite” is produced in even years and a full Pulse in odd years. This would enable the Contaminants of Emerging Concern theme for the next Pulse to be delayed to 2013, when a number of work products will be available and ready for prime time, and the 2012 Pulse to get back on schedule, following the delays of 2011. Karin North noted that the full version Pulse will now occur at the same time as the State of the Estuary (SOE) conference, and that producing it in communication with this conference will enable more coordination, larger distribution of the Pulse, and potential cost savings. The RMP Annual Meeting could even be part of the SOE conference. Jay Davis asked for a small group of SC members to help develop the plans for the “Pulse Lite”, and another group to help craft a survey to distribute to stakeholders that will accurately assess their communication needs. Trish Mulvey noted that she prefers a full Pulse to be distributed annually, as a Pulse Lite, focused on Status and Trends results, would likely not have information of interest to stakeholders. She proposed skipping a 2012 Pulse, and continuing to produce full annual Pulses. Karin North suggested that the Pulse Lite could also include sound bites or abstracts from recent publications, and Tom Mumley suggested including a page on key management decisions and key accomplishments of the RMP. He noted that the Pulse is also a significant draw on Water Board staff, as well as other local agency staff, and that he would prefer to move to the biennial Pulse to lessen this burden. He proposed piloting the Pulse Lite in 2012, with a full Pulse in 2013 to focus on Contaminants of Emerging Concern. Jay Davis clarified that the \$40,000 estimated to produce a Pulse Lite does not include printing costs, and Peter Carroll suggested that the document may not need to be printed, just published on the web. Karin North suggested that the 2012 Annual Meeting may not need to have a theme, but rather could highlight accomplishments from each of the workgroups. Jay Davis noted that an engaging key note speaker would also be needed, but that a hot item, like nutrients, could work for this. Rainer Hoenicke noted that the Bay-Delta Science Conference is October 16-18.

Kirsten Struve and Karin North volunteered for Pulse Lite and communications survey workgroups, and Tom Mumley volunteered for the Pulse Lite team. Adam Olivieri offered to test and review the survey before distribution. The plans will be vetted through the SC before they are distributed to a wider audience.

MOTION. Adam Olivieri made a motion to approve the MYP, pending the decisions made on communications and the edits from this meeting. **SECOND.** Karin North seconded it.

APPROVAL. The motion was approved.

Action Items:

- Post SC meeting materials on-line, with a link to the site included on the agenda. Include abstracts from completed reports, and links to the electronic versions, in the workgroup update.
- Draft an outline for the Pulse Lite (2012) and a communications survey to distribute to RMP stakeholders, with input from a SC workgroup.

9) Joint CTAG-TRC Meeting

Meg Sedlak noted that the joint meeting with the TRC and the Southern California Coastal Water Research Project (SCCWRP) Commission's Technical Advisory Group (CTAG) has a proposed agenda to cover regional monitoring, with a deep dive into the topics of nutrients and toxicity. The CTAG is meeting on February 1st, and more details will follow that meeting.

10) Program Update

Meg Sedlak distributed the workgroup update, noting that SFEI will be hosting the statewide panel meeting for Emerging Contaminants on March 22nd and 23rd, and Adam Olivieri indicated that a draft report will be distributed in the middle of February. The meeting on the 23rd is open to the public. Tom Mumley asked that the workgroup update be distributed ahead of the meeting with the agenda package. Meg Sedlak asked for feedback on the document in general, and Jay Davis indicated that it would be reviewed as part of the planning for Pulse Lite, as it may have a role in that document. Tom Mumley noted that the committee runs out of time to discuss the workgroup updates at every meeting, and suggested focusing instead on one workgroup each meeting.

Action Items:

- Meg Sedlak will distribute the workgroup update and deliverables scorecard electronically, and the SC and TRC members will give her feedback on them by February 15th.

11) Plus/ Delta

Trish Mulvey noted that the pre-meeting briefing with the committee chairs was helpful, and Kirsten Struve indicated that it should continue in the future. Kirsten Struve volunteered to serve as time keeper to keep the committee on track with the agenda.

Item 6 – Sediment Flux in the South Bay

FACT SHEET (February 29, 2012 draft)

Sediment Supply to Lower South San Francisco Bay

Studies of Water Flow and Suspended Sediment at the Dumbarton Bridge

- Sediment enters South San Francisco Bay from two major sources: inflow from rivers and southward transport from Central Bay.
- This study, the first to examine flux of suspended sediment between the main basin of South Bay and Lower South Bay, found that the net flow was southward, into Lower South Bay.
- Transport from north to south greatly exceeded inputs from the two major rivers entering Lower South Bay.
- These findings suggest that flux from the Bay will be a significant source of sediment for the major salt-marsh restoration projects underway in Lower South Bay.
- Because many contaminants adsorb to sediment particles, the findings will also inform studies of contaminant fate.

A Turbid Estuary

It takes just one look at San Francisco Bay to see that its waters are laden with particles suspended in the water column. Bay waters are usually turbid shades of dark blue, gray, brown, and gold rather than the pale swimming-pool blue of clear waters. This turbidity is caused by river runoff and by resuspension of bottom sediment from the shallow waters within the Bay by waves and tides. The northern stretches of the Bay receive large amounts of suspended sediment in river flow from the vast Central Valley watershed. The situation is different in the South Bay (Figure 1), which has a comparatively small watershed, bringing little river flow or direct runoff into its waters. Water flows from the South Bay rivers are almost negligible during California's summer dry season, when natural inflows are so limited that municipal wastewater discharges account for most of the freshwater input. To really understand the sources and pathways of suspended sediment in the South Bay, it is necessary to look not just at inputs from rivers but also at fluxes – inputs and outputs – from the rest of the Bay.

The U.S. Geological Survey (USGS), in conjunction with the Regional Monitoring Program for Water Quality in the San Francisco Estuary (RMP), has studied suspended sediment in the Bay since 1993. Since 2003, scientists have monitored suspended sediment inputs to the South Bay from two main tributaries, the Guadalupe River and Coyote Creek. This fact sheet reports on the first USGS measurements of in-Bay fluxes at the Dumbarton Bridge, the southernmost of the bridges across the Bay. The bridge links Dumbarton Point in Fremont to Ravenswood Point in East Palo Alto and is considered the boundary between the major basin of South Bay and the smaller basin known as Lower South Bay (Figure 1).

Item 6 – Sediment Flux in the South Bay

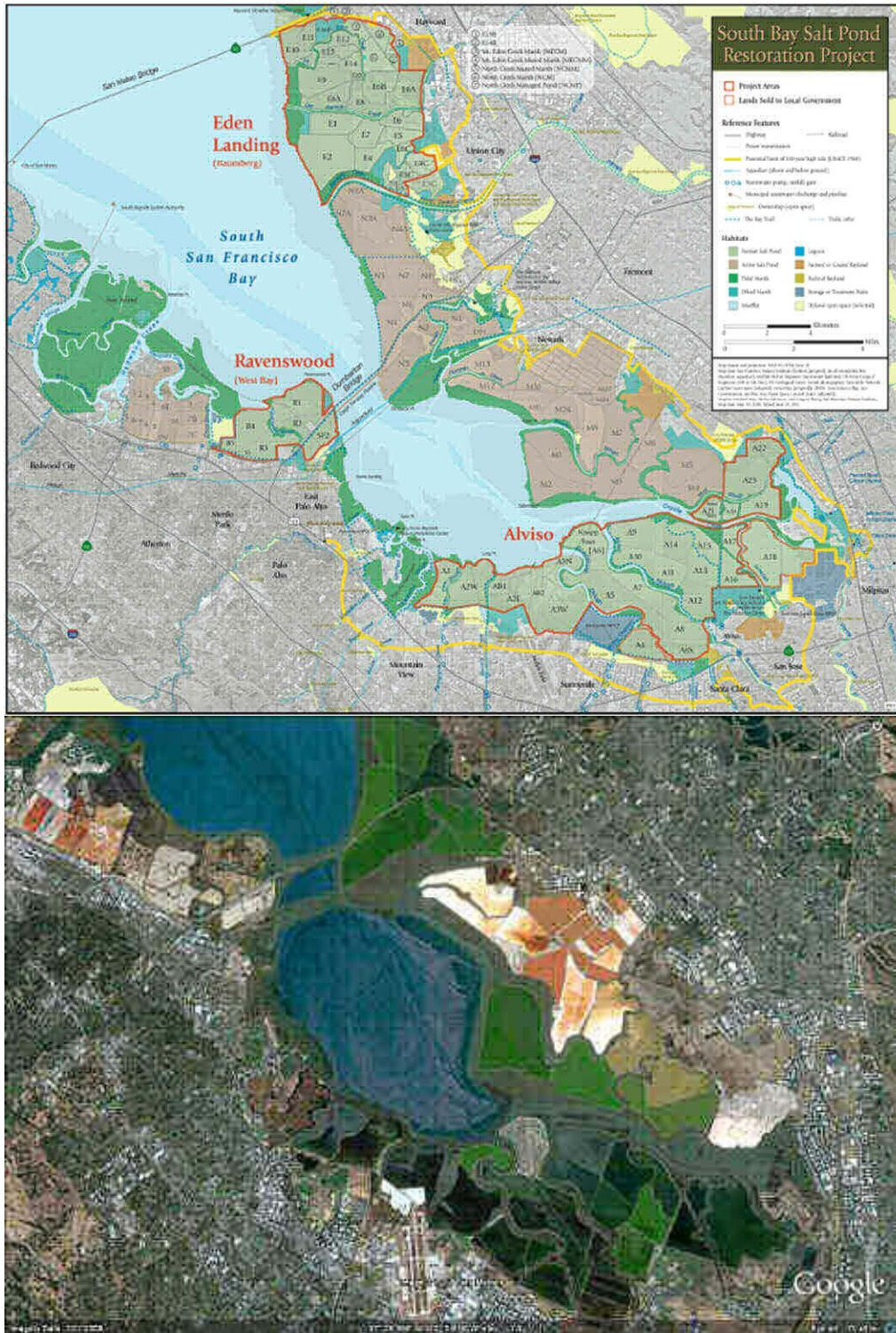


Figure 1. Lower South San Francisco Bay (here are a couple examples—we need a map with labels (South Bay, Lower South Bay, San Mateo Bridge, Dumbarton Bridge, Coyote Creek, Guadalupe River, Alviso, the pond and pond complexes slated for restoration, and maybe the ponds Cargill continues to own. Greg is planning to work with SFEI on this one)

Item 6 – Sediment Flux in the South Bay

The suspended sediment that makes the Bay turbid is important for many reasons. High turbidity limits sunlight penetration, which limits algal growth. Some fish in the region, such as the endangered delta smelt, prefer turbid waters. Others, such as the Pacific herring, may be harmed by excessive turbidity, which can hinder egg hatching success and larval development. The amount of sediment settling from the water to channel bottoms within ports and waterways determines how frequently those areas must be dredged. Conversely, sediment within the Bay has become a commodity, as large volumes of sediment are needed for wetland restoration projects. Many pollutants, particularly organic compounds such as pesticides and polychlorinated biphenyls (PCBs) and some metals such as mercury, adsorb to sediment particles, and sediment transport is a major pathway for contaminant movement in the Bay. These last two issues – the need for sediment in habitat-restoration projects and the relations between pollutants and sediment – have fueled increasing interest in suspended-sediment inputs to South Bay.

Sediment and the South Bay Restoration Project

Since the 1850s, San Francisco Bay has lost more than 85% of its tidal marshes, important losses of habitat for endangered species and migrating waterfowl, nursery areas for fishes, and protection against storm surges and sea-level rise. Restoration of tidal marshes fringing San Francisco Bay has become a priority, and the biggest tidal wetland restoration project on the West Coast is currently underway in the main basin of South Bay and in Lower South Bay. In 2003, California and the federal government purchased more than 15,000 acres of former commercial salt evaporation ponds, part of a 26,000-acre complex that surrounded much of the Bay shore south of the San Mateo Bridge. Diking off ponds for salt production in the Bay dated from the 1850s, and the brilliant greens and reds caused by the salt-tolerant flora and fauna in the ponds have long astonished visitors arriving to the Bay Area by air. The South Bay Salt Pond Restoration Project (www.southbayrestoration.org) is now breaching some of the salt-pond levees and working to create a mix of tidal marshes and managed ponds.

An adequate sediment supply is key to successful restoration of the ponds. Salt marsh vegetation can only take root when water depths are optimal, and in most of the salt ponds, waters are too deep. The hope is that natural waters flooding the ponds will deposit sufficient sediment to allow salt marsh plants to begin colonization.

The problem of water depth is exacerbated by subsidence, a process in which an excess of groundwater was pumped from the aquifer, and the overlying soils have compacted, settled, and sunk. Subsidence is a particular problem near the once-bustling port of Alviso, located at the southern end of the Bay in an area with many salt ponds included in the restoration effort (Figure 2).

Item 6 – Sediment Flux in the South Bay

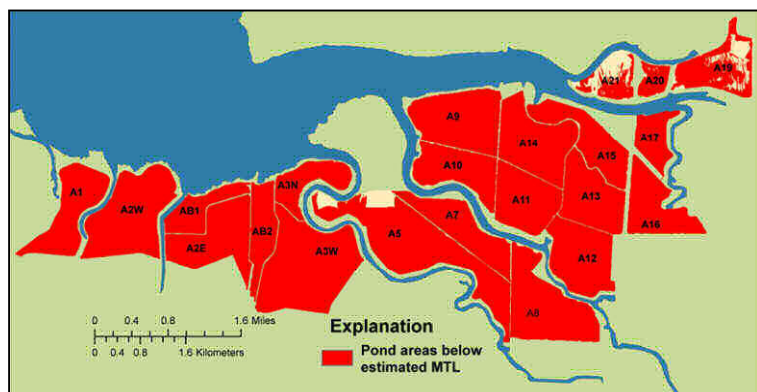


Figure 2. At the southern end of San Francisco Bay, in Alviso, salt evaporation ponds have subsided to depths below the mean tide level (MTL), the approximate depth at which salt marsh plants can begin to colonize. **Need to show location of Alviso, Greg, can you add?**

Planners for the restoration project estimated that it would take about 32 million cubic meters of sediment to bring the ponds slated for restoration to optimal depths, about 20 million metric tons of material. Those estimates did not account for sea-level rise, so the needs may be even greater. The sediment deficit is viewed as one of the greatest challenges to habitat restoration in the Bay, one that could take many decades to overcome.

Sediment Contaminants

Annual monitoring by the RMP has shown that the South Bay regions of San Francisco Bay have some of the most contaminated surface-sediment samples (Figure 3). Lower South Bay is especially at risk for contaminated sediment, as one of its major tributaries, the Guadalupe River, was home to the historic New Almaden Quicksilver Mining District, which was once the largest producing mercury mining area in North America. The Guadalupe River is also heavily contaminated with PCBs, a legacy of industrial activity from the 1950s through the 1970s.

Concentrations of the toxic form of mercury, methylmercury, have been consistently high in South Bay and Lower South Bay sediment, about 0.70 parts per billion (ppb) compared to a Bay-wide average of 0.30 ppb. High methylmercury levels are considered one of the greatest threats to South Bay wildlife and to people who eat fish from the Bay. PCB concentrations are especially high in Lower South Bay sediment samples, averaging about 9.8 ppb compared to a long-term Bay-wide average of 7.0 ppb. Environmental managers believe that sediment PCB concentrations should be less 1.0 ppb if people are to eat fish from the Bay safely.

Other contaminants also occur in relatively high concentrations in South Bay and Lower South Bay sediment samples. The contaminants are of concern because of the effects they can have on the fish and wildlife currently inhabiting South Bay waters. The concerns also complicate the prognosis for successful wetland restoration. The restoration projects are assessing how actions may improve or worsen conditions by, for example, burying contaminated sediment under new, cleaner layers of material, attracting new populations of birds or other wildlife that could be exposed to contaminated sediment, or creating conditions that promote conversion of contaminants to more toxic forms.

Item 6 – Sediment Flux in the South Bay

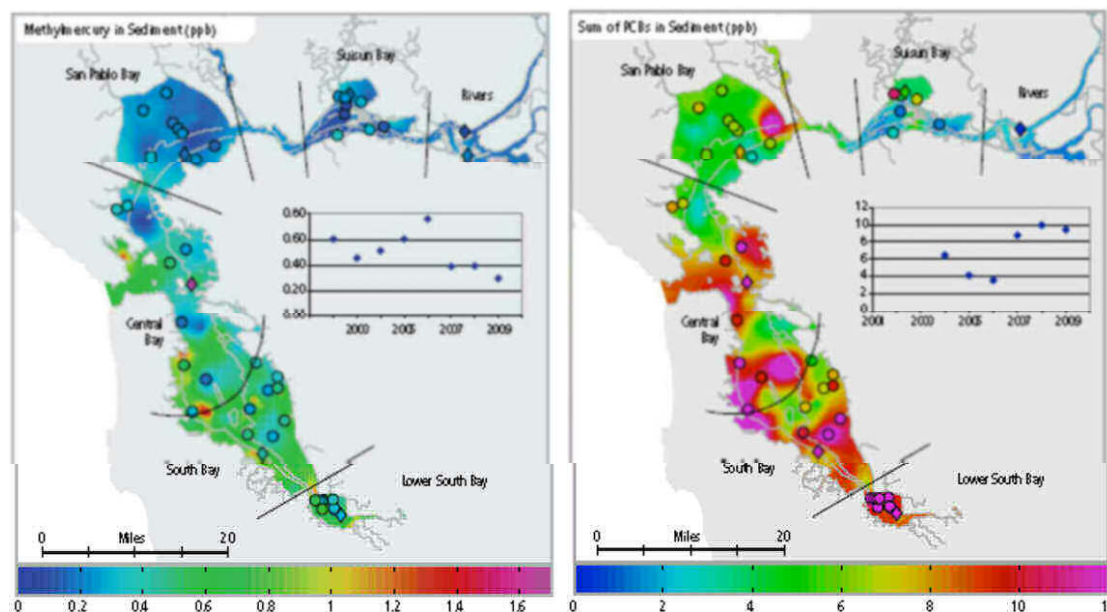


Figure 3. Concentrations of many pollutants, such as methylmercury (left) and PCBs (right) are higher in sediment samples from South Bay and Lower South Bay than in the northern portions of the Bay. (I copied these from the 2010 Pulse, and my last look at the 2011 draft included the same figures.)

Measurements at the Dumbarton Bridge

Continuous measurements of water flow and suspended sediment concentrations at the Dumbarton Bridge were made during water years 2009 and 2010. Studies of water and sediment flow are generally conducted over “water years,” which begin with the start of the California rainy season on October 1 and end at the end of the dry season on September 30. Water years are named for the years in which they end.

Water flow was measured with an acoustic Doppler current profiler (ADCP), an instrument that uses reflected sound waves and changes in frequency of those waves to determine the speed and direction of flow (Figure 4). Suspended sediment concentrations were determined from optical turbidity sensors, which measure the strength of light reflecting off particles suspended in the water column. The instrumentation is not sensitive to living phytoplankton, so their presence does not bias the results. The continuous light-based turbidity measurements were calibrated with direct measurements of suspended-sediment concentrations in water samples from the site. Direct measurements involved taking water samples, filtering them, and weighing the remaining material.

Item 6 – Sediment Flux in the South Bay



Figure 4. Left: An acoustic Doppler current profiler (ADCP) measured water speed and direction. Right: An optical turbidity probe measured turbidity, a surrogate for direct measurements of suspended sediment concentrations. **Greg is working on getting better pics.**

USGS established its ADCP water-flow monitoring station on one of the central bridge pilings. The ADCP was deployed at the water surface and measured flow throughout the water column. Two optical turbidity probes were deployed at the same site, one near the bottom and one at mid-depth. Scientists made periodic measurements taken from boats to calibrate both the flow and turbidity measurements. Together, the water flow and turbidity measurements were used to develop a time-series of the mass of suspended sediment passing either southward or northward under the bridge.

Water Flow Varies with Tide

The water-flow measurements clearly showed the flow of water under the Dumbarton Bridge, including the changes brought with the two high tides and two low tides that occur each day in San Francisco Bay (Figure 5). The slowest flows, slack water, occurred at high and low tides, and the maximum velocities occurred approximately at the midpoint between high and low tides. The measurements also documented the differences in flows between spring tides, those highest tides that occur during or just after the new and full moons, and the lower, neap tides, which occur at the first and last quarter moons.

Item 6 – Sediment Flux in the South Bay

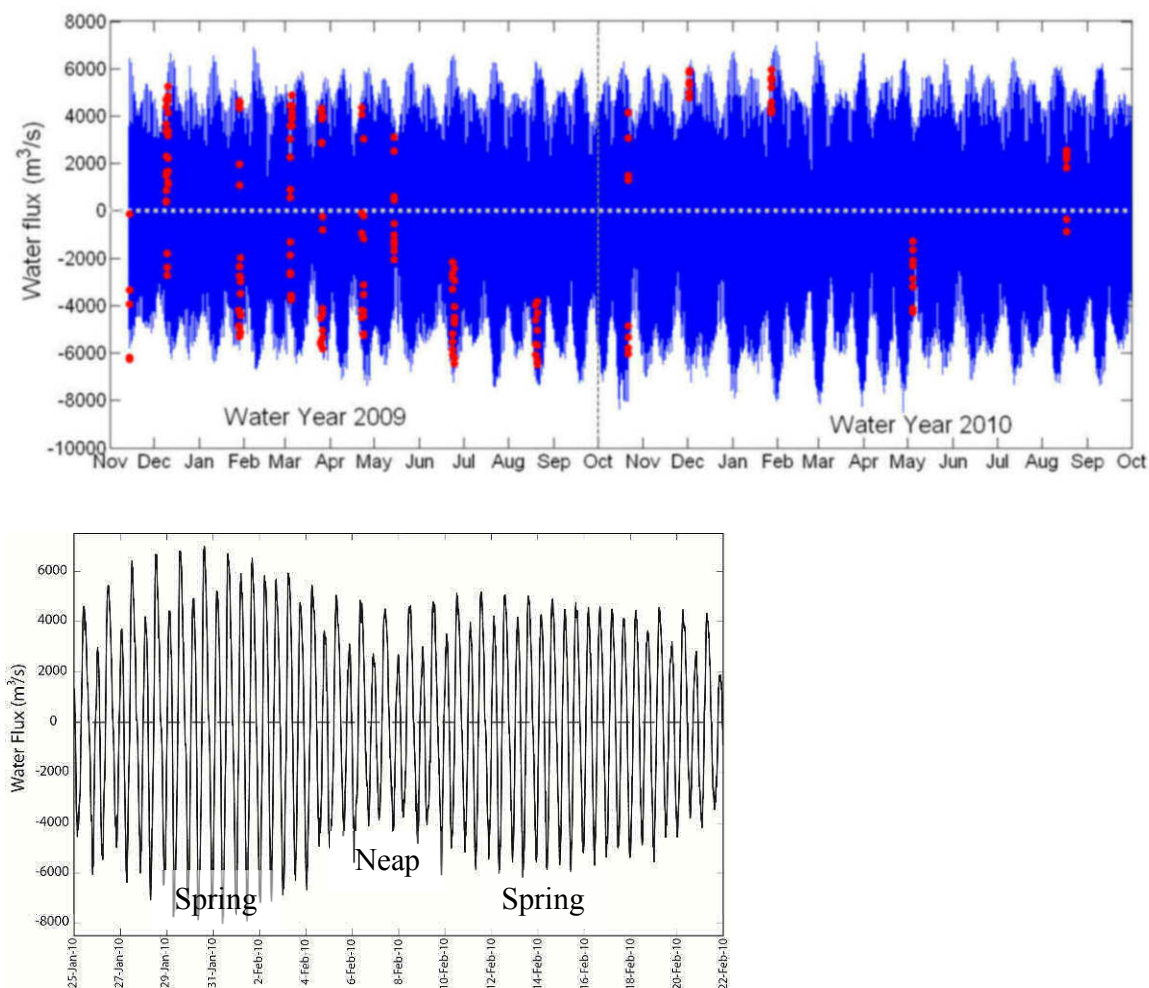


Figure 5. Water flow measurements showed the direction and amount of flow under the Dumbarton Bridge. Top: Positive values indicate flow from south to north, and negative values indicate flow from north to south into Lower South Bay. The blue field shows the continuous measurements made by the ADCP on the bridge piling, and the red dots show the boat-based calibration measurements. Bottom: A close-up of one month of data from early 2010, showing the greater water flows during spring tides. (Note: If we want to cut somewhere, we might consider deleting both or the bottom of these figures. Another note: None of the figures match a water year, as they didn't start collecting data until mid-November 2009. We should decide how to handle that.)

Suspended Sediment Concentrations are Highly Variable

The turbidity measurements showed highly varying concentrations of suspended sediment in the water column, with the highest concentrations in April of water year 2009 and late April and May of water year 2010 (Figure 6). Concentrations were higher during spring tides than neap tides and during periods of strong winds and suggested that winds and tides were more important than wet-season freshwater flows. In contrast, in the North Bay, turbidity is greatest during winter storms, when freshwater flow into the Bay is greatest, as well as during especially windy periods that resuspend sediment from the bottom.

Item 6 – Sediment Flux in the South Bay

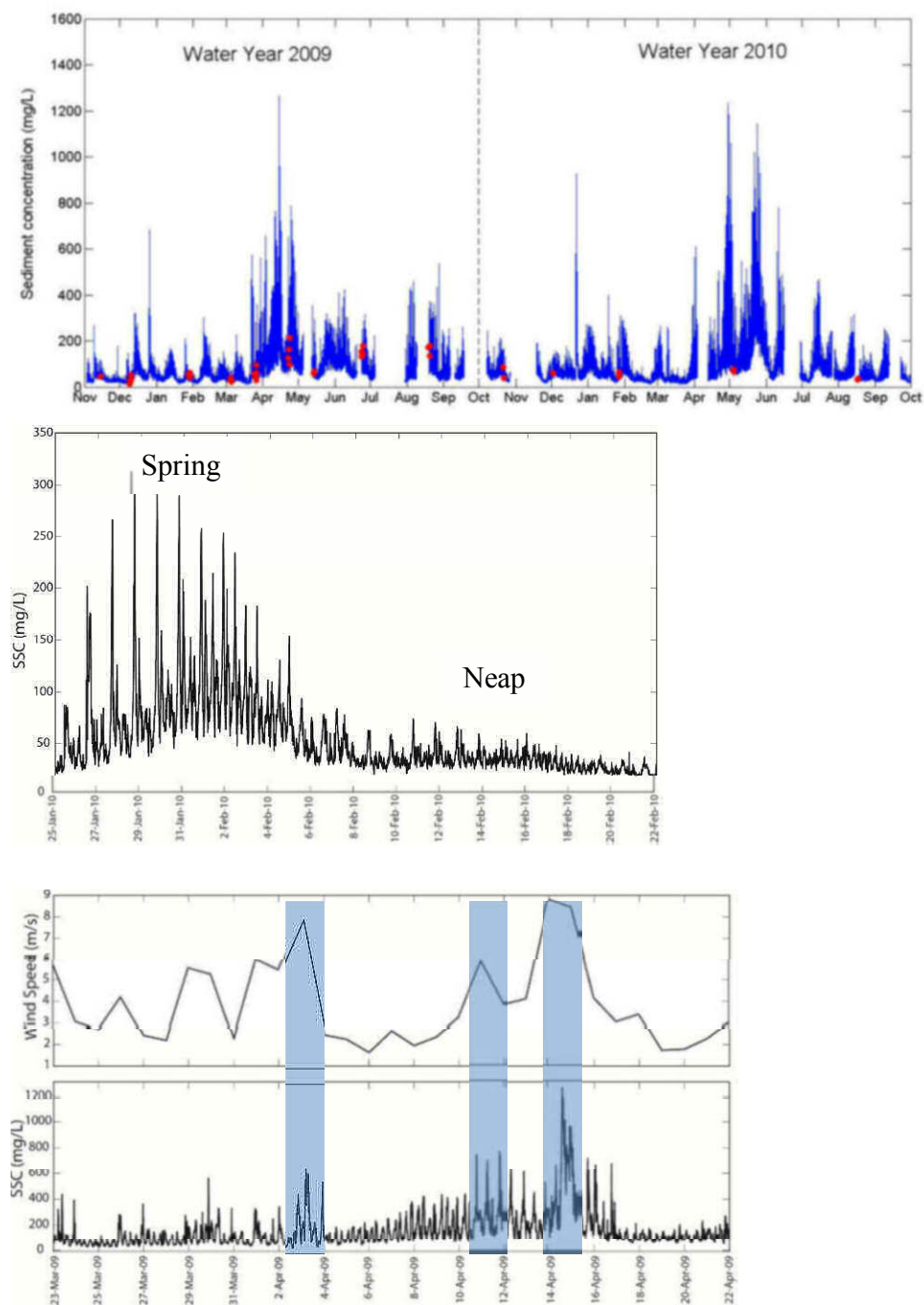


Figure 6. Turbidity measurements provided a record of suspended sediment concentrations at the Dumbarton Bridge. Top: Throughout water years 2009 and 2010, suspended sediment concentrations were variable, with highest concentrations in the spring. The blue line shows the continuous measurements and the red dots show data from the calibration samples. Middle: Suspended sediment concentrations were greater during spring tides than during neap tides, as seen in a series of measurements in January and February 2010. Bottom: Periods with especially strong winds (blue bands) corresponded to periods with higher concentrations of suspended sediment.

Item 6 – Sediment Flux in the South Bay

Net Sediment Flux

The USGS findings from both water years 2009 and 2010 showed a net southward flux of suspended sediment from the main body of South Bay to Lower South Bay (Figure 7). More sediment moved from north to south past the Dumbarton Bridge and into Lower South Bay than moved in the other direction, out of Lower South Bay. The results were particularly compelling in water year 2009, when the net movement to Lower South Bay totaled about 124,000 metric tons of sediment. In contrast, the net Lower South Bay sediment gain in water year 2010 was about 7,000 metric tons. In both years, the greatest fluxes occurred during a brief period in the spring, in April of water year 2009 and late April and May of water year 2010. Possibly, the direction of movement during these periods, southward in 2009 and northward in 2010, was influenced by differences in weather patterns. The spring of 2010 was unusually rainy, lowering the salinity in Central Bay, and creating a strong gradient from north to south. How changes in freshwater inputs and salinity may affect sediment flux in the Bay is not yet understood.

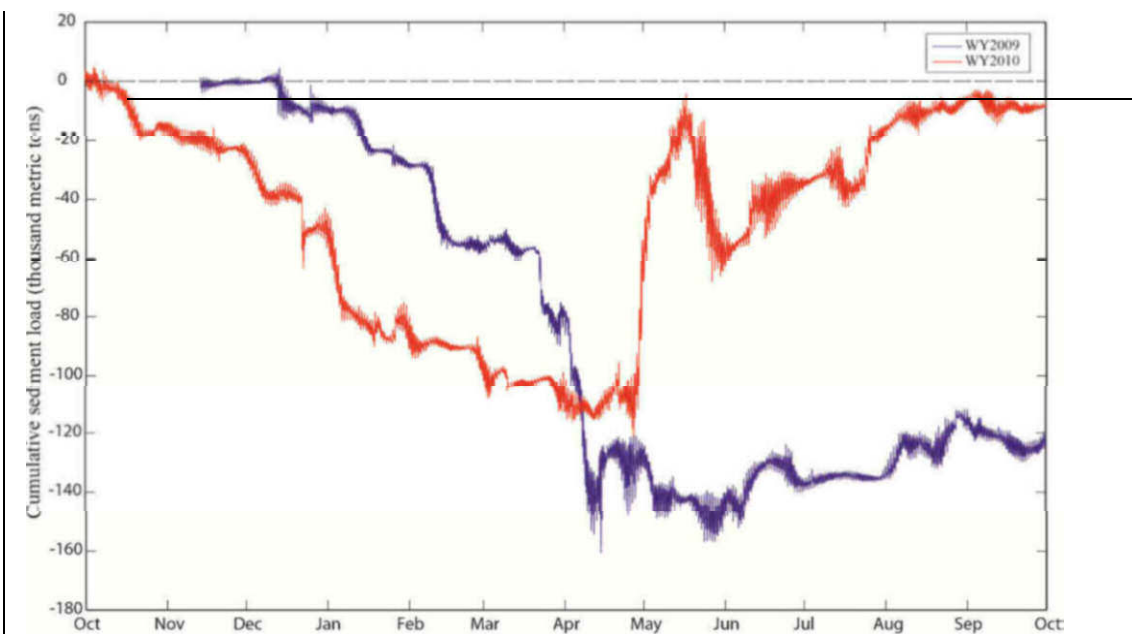


Figure 7. The cumulative flux of suspended sediment at the Dumbarton Bridge in water years 2009 and 2010. Net cumulative flux was negative, indicating that the net movement was landward, into the Lower South Bay.

Overall, the studies found that over the two years of study, considerably more sediment moved into Lower South Bay from the north than entered the area from the major tributaries, the Guadalupe River and Coyote Creek (Table 1). These findings are critically important to planning for the South Bay Salt Pond Restoration Project, and they may suggest that the sediment deficit can be rectified in a shorter time frame than some environmental managers have feared. The results are also important to understanding water quality trends in Lower South Bay, because suspended sediment entering South Bay from the Central Bay may have different contaminant concentrations than that entering from the local watersheds.

Item 6 – Sediment Flux in the South Bay

Table 1. Seasonal (October 1 through April 3) loads of sediment to Lower South Bay from the Guadalupe River, Coyote Creek, and the Dumbarton Bridge and annual net flux at the Dumbarton Bridge. (Data from the Guadalupe River and Coyote Creek are collected only during the rainy season. All values in metric tons.)

	Seasonal Load			Annual Load
	Guadalupe River	Coyote Creek	Dumbarton Bridge	Dumbarton Bridge
Water year 2009	2,280	2,856	125,622	124,195
Water year 2010	7,612	5,325	65,120	6,634

Looking Ahead

The long-term sediment budget continues to be a major question for habitat restoration in the South Bay Salt Ponds. Continuing study of sediment fluxes within the Bay will further inform the ongoing restoration project. While the data from water years 2009 and 2010 suggest that sediment influx from the Bay will be a significant source of sediment for the restoration, ongoing study will determine whether this trend will continue and will refine the understanding of year-to-year variability. Continued study will also address the questions about sea level rise, with a goal of determining the prognosis for salt-marsh habitat restoration and maintenance over extended time periods.

The results from studying sediment fluxes at the Dumbarton Bridge will be also be important for managing water quality in Lower South Bay. USGS and RMP scientists have already used studies of the relationships between suspended-sediment concentrations and contaminant concentrations to estimate contaminant inputs to the Bay from rivers. Developing similar understandings of the suspended sediment-contaminant relationships in South Bay will facilitate comparisons of contaminant inputs from rivers with fluxes within the Bay.

Investigators

Gregory Shellenbarger
David Schoellhamer
Scott Wright
Paul Buchanan

Acknowledgements

This project gratefully acknowledges support from the San Francisco Bay Pilot Study for the National Water Quality Monitoring Network for U.S. Coastal Waters and their Tributaries, USGS Science Support for Salt Pond Restoration, and the U.S. Army Corps of Engineers.

RMP TRC / SCCWRP CTAG Joint Meeting

March 28th, 2012

SFEI

10:00 AM – 6:00 PM

Lunch will be provided

AGENDA

1.	Welcome, Introductions, and Goals for the Meeting	10:00 Tim Stebbins/ Karen Taberski
2.	Regional Monitoring: Lessons Learned and Future Needs Introduction	10:15 Tim Stebbins
3.	Regional Monitoring: Lessons Learned and Future Needs Overview of the RMP Multi-year Plan (Attachment: RMP Multi-Year Plan for 2012) Articulation of the RMP Multi-year Plan; priorities for the next five years; the questions the RMP is trying to answer and highlights of what we have learned.	10:20 Jay Davis
4.	Regional Monitoring: Overview of Bight Monitoring and Future Directions (Attachment xx) Presentation of the Bight Monitoring plans, questions the monitoring program is trying to answer and lessons learned.	10:35 Steve Weisberg
5.	Discussion of Regional Monitoring <i>Tim Stebbins to develop a list of questions and action items to help focus the discussion (include in agenda package).</i> <i>Group to discuss how regional monitoring is (or is not) integrated with State-wide monitoring (e.g. RMP sport fish monitoring collaborative work with State-wide sport fish monitoring). How we can help to cross-pollinate efforts?</i>	10:50 Group
	Lunch (to be brought in): <i>Copies of Napa Eco Atlas (historical ecology), 2011 Pulse, and Estuary insert available for review in foyer. SCCWRP documents??</i>	12:30

6.	Nutrients: Introduction	1:30 Karen Taberski
7.	Nutrients: Southern California	1:40 Martha Sutula
	Break	2:00
8.	Nutrients: San Francisco Bay <i>Dave Senn to provide overview of all nutrients work underway in SF Bay including: USGS works, IEP, Dugdale group, and HABs, etc.</i>	2:20 David Senn
9.	Discussion of Nutrients <i>Karen to work with Naomi Feger and Dave Senn to develop a list of questions and action item to help focus discussion.</i>	2:40 Group
10.	Overview of Director's Reports <i>10 mins Steve and 10 mins Meg and 20 mins questions</i>	4:00 Steve Weisberg and Meg Sedlak
11.	Wrap-up and Identification of Action Items	4:40 Tim Stebbins, Karen Taberski
12.	Adjourn	5:00
	Social Hour in SFEI Foyer	5:00 to 6:00

Deliverable	Start Year	Lead	Original Due	Current Due (as of 6 Mar 2012)	Comments (as of 6 Mar 2012)	Months Overdue	Complete? (as of 6 Mar 2012)
STATUS AND TRENDS							
1 Pulse 2011	2011	JD	Sep-11	Feb-12	Triclosan Factsheet; Postponed due to special edition of Estuary Newsletter on the State of the Estuary Conference in October and December 2011		yes
2 Estuary Insert 2011	2011	RA	Oct-11	Feb-12			yes
3 QAPP	2011	DY/AF	Nov-11	Mar-12			
4 Sediment Cruise 2012	2012	AF	Mar-12	Apr-12			
5 S&T Bivalve Sampling 2012	2012	ND	Sep-12				
6 S&T Bird Egg Sampling 2012	2012	MS	May-12				
7 Estuary Insert 2012	2012	RA	Oct-12				
8 Annual Meeting (2012)	2012	RA	Oct-12				
9 Pulse 2012	2012	JD	Dec-12				
10 S&T Bird Egg Report 2012	2012	JH	May-13				
11 AMR 2011	2012	MS	Dec-12				
12 RMP Website Update	on-going	RA					
CONTAMINANT FATE							
13 2011 Mercury Food Web Uptake (Small Fish)	2011	RA	Aug-12				
14 PCB Conceptual Model Update	2011	JD	Mar-12				
15 Dioxins in Bird Eggs, Stormwater, and Sediment	2012	DY	Dec-12				
16 Contaminant Fate Modeling	2012	JD/DS	Dec-12				
EMERGING CONTAMINANTS							
17 Alternative Flame Retardants	2008	SK	Dec-08	Mar-12	Draft Submitted to Environment International		
18 PFC Sources	2009	MS	Jun-10	May-12	Draft underway		
19 AXYS Mussel Study	2010	SK	Jul-10	Apr-12	Draft under review - will be submitted to Env. Pollution		
20 PFCs in Bay Biota	2012	MS	Mar-13				
21 EC Synthesis	2012	SK	Mar-12	Jun-12	Pending Completion of State Panel Report		
22 Broadscan Screening of Biota for EC	2012	SK	Mar-12	Dec-12			
23 EC Strategy	2012	SK	Oct-12				
EXPOSURE AND EFFECTS							
24 S&T Bird Egg Report (2006/2009)	2009	JD	Oct-10	Aug-12	Delay in deliverables		
25 EEPS Summary Report	2009	MS	Jun-09	Apr-12	Outline presented to workgroup		
26 Effects of PAH on Flatfish	2009	MS	May-10	Apr-12	Delay due to Gulf Oil Spill		
27 Benthic Index Report	2010	MS	Dec-10		Delayed Pending Gold Standard workshop	15	
28 Effects of Copper on Salmon	2011	MS	Sep-12	Dec-12	Contract completed		
29 Hotspot Sediment Quality Followup Study	2011	SK	Oct-12		Sampling Completed		
30 Benthic Assessment for Mesohaline	2012	MS					
31 Moderate Toxicity Workshop	2012	MS			Not yet scheduled		
SOURCES, PATHWAYS, AND LOADINGS							
32 Zone 4 Linda A Small Tributary Loading Study	2007	AG	Aug-11	Mar-12	Draft submitted to journal		
33 Guadalupe River Model	2008	ML	Dec-10	Feb-12	Completed		yes
34 Land Use Classification Scheme	2010	ML	Jul-10	Mar-12	Draft distributed to SPLWG. Revising based on comments		
35 Stormwater Regional Model	2010	ML	Nov-10	Mar-12	Draft distributed to SPLWG. Revising based on comments		
36 Load Monitoring in Representative Watersheds (WY 2011)	2011	LM	May-12		Sampling and data management completed, reporting underway		
37 Regional Loading Spreadsheet Model (Y3 Update)	2012	AG	Oct-12				
38 Load Monitoring - EMC Development	2012	LM	Sep-12				
39 Load Monitoring in Representative Watersheds (WY 2012)	2012	LM	Oct-12				
NUTRIENTS							
40 Nutrients Stormwater Sampling	2012	DS	Apr-12				
41 Nutrients Conceptual Model and Scenario Building	2012	DS	Dec-12				