

**Sources, Pathways and Loading Workgroup Meeting
May 6th, 2010
San Francisco Estuary Institute
DRAFT Meeting Summary**

In attendance:

Carrie Austin (Water Board)	Eric Stein (SCCWRP)
Dale Bowyer (Water Board)	Michael Stenstrom (UCLA)
Chris Campbell (Geosyntec)	Rachel Allen (SFEI)
Dave Drury (SCVWD)	Nicole David (SFEI)
Eric Dunlavey (CSJ)	Jay Davis (SFEI)
Rand Eads (River Metrics)	Alicia Gilbreath (SFEI)
Arleen Feng (ACCWP / BASMAA)	Ben Greenfield (SFEI)
JR Flanders (URS)	Jen Hunt (SFEI)
Ryan Heacock (SCVWD)	Michelle Lent (SFEI)
Richard Looker (Water Board)	Lester McKee (SFEI)
Barbara Mahler (USGS)	Aroon Melwani (SFEI)
Ryan Mayfield (CSJ)	John Oram (SFEI)
Trish Mulvey (SFEI Board)	Meredith Williams (SFEI)
Greg Schellenbarger (USGS)	Don Yee (SFEI)
Chris Sommers (EOA / SCVURPPP)	

0. Introductions and Review of Agenda – Lester McKee

Lester stated the two main meeting objectives: 1) review existing projects of the Small Tributary Loading Strategy (STLS), and 2) provide supporting material for ranking future projects. He noted that a closed session with stakeholders and peer reviewers was planned at the end of the meeting to rank the project proposals.

Lester recommended having three SPLWG meetings per year to avoid packed agendas, and suggested that Oct 2010 and Jan 2011 meetings be planned. He noted that there is currently no room on the agenda to bring in external presenters to learn about other appropriate technical work, but with three meetings a year there would be time. Arlene Feng suggested that we should set up a separate meeting for information sharing rather than integrate them into the WG meeting.

Action items:

Bay margins model – John Oram will schedule a meeting to discuss this report.
Previous meeting summary will be posted on the web site

1. Small Tributaries Loading Strategy – Lester McKee

Lester presented a matrix showing how small tributaries loading strategy (STLS) elements work together and with the Municipal Regional Permit (MRP). The RMP and MRP management questions are the same to maximize coordination between RMP and the MRP efforts. Lester

pointed out that there are tight timelines in 2010 to be in compliance with the MRP to help support management decisions.

He also noted that this table will assist deliberations on ranking studies in the last hour of the meeting during the close session .

Comments/Questions:

- Arleen Feng noted that there is a separate STLS workgroup that is also looking at creek stations that require monitoring beginning in Oct 2010.
- Chris Sommers pointed out that we need to have confirmation on the sites to be monitored by summer at the latest.
- Chris Sommers noted that funding for STLS monitoring are available in the calendar year following start of project.

1a. STLS Element 3a: Develop Criteria and Rank Watersheds – Ben Greenfield

Summary:

Ben Greenfield presented findings and progress on the task to develop criteria and rank watersheds. This project aims to provide a statistical classification of watersheds to help inform the selection of watersheds for load monitoring in relation Provision c.8 of the MRP. The project compiled GIS data, converted these data to numeric information, and performed a cluster analysis, as well as a Nonmetric Multidimensional Scaling (NMDS) to characterize the sources of variation in the watershed attributes. Eighteen metrics were used, based on land use, precipitation, population, watershed area, spatial coordinates, and selected features expected to be associated with trace pollutants. STLS management questions were used to aid in this classification. The categorization is intended to produce a subset of different watershed classes (n<10) that can be used for ranking potential monitoring sites.

Comments/Questions:

- Arleen Feng noted that there has been an implicit scope revision on this task because input from the Bay Margins Model is not yet available (ideally this analysis would include information on watershed drainage outlets, e.g. does a watershed drain to a biologically sensitive bay margin area).
- Arleen Feng noted that the RMP can monitor outside of the MRP requirements if the Bay Margins report shows high contaminant levels or other causes for concern in these areas.
- Arleen Feng noted that Lester is trying to organize a STLS meeting. Today's meeting is an opportunity to get feedback going into the STLS meeting. In WY 2011, we need to monitor 4 of 8 watersheds listed in the MRP for long term monitoring. We also need to consider other factors for deciding on watersheds to monitor e.g. feasibility, representative, addressing management questions.
- Chris Sommers noted that the 8 watersheds listed in the MRP were selected due to previous monitoring at those sites.
- Trish Mulvey asked if funding for the long term watershed monitoring is a combination of BASMAA and RMP monies. She recommended that the first 4 sites focus on previous monitoring sites to leverage continuity of monitoring.
- Barbara Mahler asked how do we plan to use what we've learned from this exercise and apply to other clusters and extend loads estimate to other watersheds.

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- Ben Greenfield noted that this is a comparative study of many watersheds monitored less extensively to see if the sites are representative. This type of analysis is not the right one to extrapolate loads to other watersheds.
- Lester McKee noted that the STLS recommended to develop a spreadsheet model and to use the spreadsheet to determine how and where to monitor. This will bring us better baseline data for improved estimates of loading. This would also provide spatially explicit data as input for WQ models to understand impacts to biota.
- Arleen Feng noted that we are ultimately looking at Bay impacts not watershed impacts.
- Chris Sommers questioned how we will use the monitoring at 4 sites and extrapolate to all sites.
- Mike Stenstrom asked if the clusters give better information on land uses than using single indicators, such as imperviousness, and whether cluster analysis provided information beyond what was currently known.
- Chris Sommers noted that we assume land use as surrogate for pollutant concentrations but that the validity of this assumption is pollutant dependent.
- Eric Stein noted that the analysis is missing existing management actions such as BMPs and water diversion.
- Eric Stein indicated that the purpose of the classification exercise was not clearly outlined in the presentation. He indicated that possible objectives could include: classifying watersheds into distinct groups; trying to ID a range of different watersheds; trying to determine watersheds that would exhibit the largest loads; or trying to determine watersheds that would have the greatest effects on endpoints?
- Arleen Feng noted that there are multiple pollutants and that monitoring needs to inform adaptive management of other pollutants.
- Dale Bowyer noted that we are going to invest a lot of money for many years and that small watersheds may not have beneficial regional information. We need to limit monitoring of static watersheds where change will not occur, and not solely be tied to sites with previous monitoring. Ultimately we need to get it right. We need to pick watersheds to monitor that are representative of large areas.
- Arleen Feng noted that certain parts of the Bay are seen as high impact.

Action Item:

Ben et al to complete the draft report ready for STLS team review and WG review. Final results and decisions will be presented at the October 2010 WG meeting.

1b. STLS Element 3b: Optimize Sampling Methods for Loads and Trends – Aroon Melwani

Summary:

Aroon Melwani presented findings and progress on the task to optimize sampling methods for loads estimation and trend detection in watershed monitoring. This task used statistical subsampling of existing data to compare sampling strategies ability to estimate contaminant loads and detect trends over time. For the loads estimation analysis, within-storm and among-storm sampling designs were tested, as well as the turbidity surrogate regression (TSR) method. The metrics used to compare across methods were the precision and bias relative to the “published” or best estimate load. Numerous sampling designs were compared for their ability to

estimate contaminant (SS, Hg, PCBs) loads on a per storm basis. The optimal within-storm sampling design was found to be 12 discrete flow-triggered samples with their concentrations extrapolated to the entire storm using linear interpolation. The optimal TSR sampling design, found from sub-sampling the grab sample data record, was 7 to 10 samples per wet season. The among-storm analysis compared the annual load estimates resulting from using a variable number of storms and storm types (e.g. seasonal first flush). The optimal among-storm design was 10 storms including the first flush of the wet season. For the trends analysis, the power to reach regulatory targets in 10 – 40 years was calculated for a variable number of samples. The trend analysis found that the annual sample number could be reduced to 7-10 and the power to detect the trend toward the regulatory targets would remain high.

Comments/Questions:

- Arleen Feng stated that she does not want to see STLS reports written in the style of peer-reviewed manuscripts and that associated documents need to refer to STLS elements and state that it is a working/planning document.
- Eric Stein noted that it is easy to detect a large change but more difficult to detect a smaller 15% change which may be more important to managers.
- Eric Stein requested to add a plot that shows % change over the time period and what sampling intensity is required.
- Ben Greenfield noted that we did not emphasize the power analysis as much.
- Richard Looker noted that it is not a regulatory imperative to detect small changes in pollutant loads.
- Chris Sommers noted that the frequency and number of samples is not focused on a 5-10 year change and at the end of the 10 years can say something. The MRP gives 20 years to reach load allocations.
- Dale Bowyer asked how much power do you need to see the positive trend.
- Chris Sommers noted that we can produce this table but don't want it to drive sampling regime.
- Eric Stein suggested that we don't do the analysis unless it is needed. Monitoring and sampling should not be designed around certain pollutants – need to consider all.
- Richard Looker noted that we can't do the power analysis until we have the data.
- Chris Sommers noted that GR and Z4LA are being used as representative watersheds and that we need to explicitly state that.
- Barbara Mahler noted that if you cut off use of a contaminant is generally see ½ life in 15- 20 years.
- Chris Sommers noted that some contaminants show much shorter ½ lives and that half-lives are pollutant specific.
- Lester McKee asked how do we move forward and complete these reports?
- Arleen Feng noted that the STLS workgroup can also help guide revision of these tasks.
- Eric Stein noted that there is a lot of international work on this topic – maybe do a lit review to help place findings in context. Eric – (and Mike Stenstrom) during the meeting sent us a number of articles via email (8 in total – some of which we already had)
- Lester responded that he and Aroon had been discussing including a summary table in the discussion component of the report comparing our results with other published work.

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Action Items:

- Re-evaluate variability estimation for within-storm scenarios
- Run power analysis for smaller effect sizes (e.g. 20 – 30%)
- Include standard errors for best estimates of loads in final report
- Aroon et al to complete the draft report ready for STLS team review and WG review. Final results and outcomes will be presented at the October 2010 WG meeting.

2. STLS Activities Planned – Lester McKee

Summary:

Lester briefly discussed the STLS tasks have not yet begun: 1) reconnaissance of sites to sample and 2) development of a framework for representative land use. He noted that the 2nd of these is planned to begin in June/early July. The need for reconnaissance will be discussed at the STLS team meeting on June 14th. As there was not time on the agenda to discuss the Mallard Island sampling study, he passed out a handout Nicole David prepared which summarized Mallard Island research activities and the achievements to date. Reporting on this study is slated to for the 3rd quarter.

Action Item:

- Lester to plan for a stakeholder “kickoff meeting” for the land use specific loads task to approve the work plan for this task perhaps after July 1st.
- Draft report to be prepared 1 month before next Workgroup meeting.

3. STLS Proposed Study Elements for 2011 – Lester McKee

Summary:

Lester briefly discussed the projects proposed for 2011 and their associated budgets (shown in table below). Jay Davis noted that the WG should arrive at a prioritized project list with a budget of approximately \$360K.

STLS Element	Description	Budget (k\$)
3c	Spreadsheet model	10
4	Loads monitoring in representative watersheds	300
4e	Land use specific loads monitoring	100
5	Dynamic model (Guadalupe)	55
-	Rainfall tool	50
	Total	515

Comments/Questions:

These proposed projects were discussed in greater depth in the Closed Ranking (4).

3a. STLS Element 3c: Develop/Update Spreadsheet Model for Regional Loading and Trends – Michelle Lent

Summary:

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Michelle Lent presented preliminary progress on the spreadsheet model and a request for guidance from stakeholders and the peer review panel. The model is a simple rainfall/runoff model, with loads generation based on land use categories' event mean concentrations (EMCs).

Comments/Questions:

Michelle presented several questions regarding the model parameters and development to the WG:

- What should spatial extent be?
 - Several Stakeholders indicated that the spatial extent should include the Region II area that drains into SF Bay.
 - Mike Stenstrom noted that it is better to start on a small section first, and train yourself on it, then scale up in spatial extent.
 - Mike Stenstrom created a similar model and found that in Ballona Creek 70% of zinc comes from roads. He noted that if model development is mainly a matter of adding in the land use categories, then go ahead with developing the model for the full spatial extent.
 - Outcome: use full Region 2 Boundary. Resolution will be different.
- Should temporal resolution be increased? For example, calibrate runoff coefficients by month to account for antecedent conditions.
 - Mike Stenstrom noted that a major criticism of spreadsheet models is that they are not good for predicting runoff at a specific point in time because they don't take into account antecedent conditions. Accordingly, he suggested keeping the model at an annual scale. Chris Sommers agreed.
 - Michelle Lent responded that we would calibrate the runoff coefficients based on real time rainfall and runoff on a monthly basis. Eric Stein stated that runoff coefficients are developed based on long-term average runoff behavior, and there is simply too much variability in rainfall year to year to calibrate the runoff coefficients to non-averaged rainfall and runoff data.
 - Mike Stenstrom said that the land use specific POC concentration term is what you need to calibrate but you don't have data for that.
 - Outcome is that temporal resolution is not a high priority. One year time step was agreed upon.
- Should spatial resolution be increased?
 - Michelle noted that model output would need to be aggregated for reporting purposes if the spatial resolution were increased to 500 watersheds.
 - Mike Stenstrom stated that he thought that higher spatial resolution is useful. WG agreed that high watershed resolution is preferable but that generated output should be aggregated for purposes of communication.
- What is the priority – base model development vs. add more pollutants?
 - Jay Davis stated that the main question is whether effort should continue at \$10K level in 2011.
 - Mike Stenstrom asked: is \$10K enough? This is a valuable tool.
 - Arleen Feng said to look at the Brake Pad Partnership efforts with Cu, and the modeling approaches therein.
 - Chris Sommers said this is a land-use based spreadsheet model, but how does the bottom-of-the-watershed monitoring at Z4LA and Guadalupe go on to inform

- loadings estimates? He said we should project how the model and monitoring will feed into each other.
- Mike Stenstrom noted that this is a tool to scale up loading from specific watersheds. It can be used to calculate what the changes in loading would be in relation to management.
 - Chris Sommers noted that we need real data to account for variability.
 - Arleen Feng noted that if we are not going to use the model until we have monitoring data, then this time frame stretches way out and there is no need to rush model refinements.
 - Mike Stenstrom noted that his group was able to determine how much road retrofitting needed using just a graduate student salary for a few years.
 - Chris Sommers noted that we will have diminishing returns by end of 2010. At that point, we'll need EMC data to populate and calibrate the model, so we have time.
 - Eric Stein noted that the model is good for providing annual regional loads estimates, but it is not a reliable way to test BMP options or monthly estimates.
 - Mike Stenstrom said that the spreadsheet model gives you a sense of the magnitude of problem and the extent of BMPs needed, and shows the value of approaching TMDLs as a group, rather than piecemeal.
 - Eric Stein asked what do you want 10 years from now? He noted that it is hard to prioritize technical work products without articulating whether it gets us towards our goal. The WG agreed that is a TRC and SC question.

Action Item:

- Meet with the local STLS team (Feng, Sommers, Looker) to develop final recommendations with regards to model development including the POC list to include. Email WG (probably mid June) for approval.

3b. STLS Element 4a: POC Loads Monitoring (Guadalupe River) – Jen Hunt

Summary:

Jen Hunt presented an overview of pollutant monitoring at two sites on the Guadalupe River during water year 2010. This project was primarily funded by the SCVWD (Hg sampling) in response to permit provisions and supported by additional funds from the RMP to complete PCB and dioxins sampling. This project helps in determining high priority tributaries, loads, and provides model calibration data. Preliminary mercury, PCB, and PFC data were presented to show how data will be analyzed. The contrast between Hg and PCBs at the upper and lower stations were highlighted and reaffirmed the hypothesis that PCBs are mainly derived from the urban area and that Hg is mainly derived from upstream. PFOA concentrations in stormwater were found to be comparable to WWTP effluent concentrations sampled outside of this study. Jen noted that the October 13, 2009 rain event was higher than a one in 100 year event at the Almaden (lower watershed) site but it was only a one in 2 or 3 year event in terms of runoff.

Comments/Questions:

- Carrie Austin and Chris Sommers asked if there was reservoir release during October 13 storm. Ryan Heacock stated that there was no reservoir release. They then asked how rare

the event was in the urban area. Lester McKee responded that he didn't calculate the urban rainfall event so we don't know if it was a rare urban event but it was rare in other parts of the Bay Area characterized by long duration less than high intensity. Post meeting, Lester completed this analysis. Analysis of preliminary data recorded at the San Jose gage (RF 131), shows that rainfall in the downtown area was not remarkable – the event was about or less than a 1:1 year return at all durations (1 – 24 hour).

3c. STLS Element 4b: POC Loads Monitoring (Zone 4 Line A) – Alicia Gilbreath & Rand Eads

Summary:

Alicia Gilbreath and Rand Eads presented an update on Z4LA monitoring. They noted that a major data gap for this site is monitoring data from a very wet season and a truly large storm. The same total rainfall fell in WY2009 and W2007 at this site, but loads were two times higher in WY2007 because the largest storm peaks dominate loading. They presented loads for Hg, Cu and PCBs for WY2007 to WY2009 and estimated a preliminary long-term average based on a very simple rainfall based extrapolation. They discussed how hysteresis makes it difficult to use flow to estimate loads (turbidity peak and flow peak being different). They have not managed to sample at very high turbidity since the system is so flashy (often miss turbidity peak by several minutes). They showed side-by-side Hg sampling (automated ISCO pumping from close to channel bed vs. depth integrated grab sample), demonstrating that samples taken at same time are generally pretty similar, but a few minutes difference can make a big difference in concentration measured. They noted, in the past, they have had problems with turbidity spikes during low flow/turbidity conditions, but no longer probably because since the channel modification, base flow is now so low that low-flow sampling using the boom mounted turbidity probe is no longer possible.

Comments/Questions:

- Eric Stein noted that given Z4LA data, he was surprised that flow-weighted mean performed worse than linear interpolation in optimizing sampling analysis.
- Arleen Feng brought up the question of how many ISCOs were needed to do this sampling, which would be useful information to have for MRP sampling stations.
- Lester commented that we will be testing this through several other projects (this coming wet season) and that we would have to think this through conceptually to develop the cost estimates for the STLS multi-year sampling plan.

3d. STLS Element 4c: POC Loads Monitoring (Another watershed) – Lester McKee

Summary:

The purpose of this agenda item was to discuss small tributaries loads monitoring in WY 2011. The previous two items (Guadalupe and Zone 4 Line A) were mainly to provide background for this umbrella topic. Jay Davis needs WG recommendations to take to the TRC/Steering Committee on budget to monitor two sites. There is currently \$250k allocated for monitoring, which is not enough money for two sites being monitored for the entire MRP analyte list. After discussing the breakdown of Z4LA budget (cost of fieldwork, data management, lab analysis) the WG came to a consensus of \$300k.

Comments/Questions:

- Lester McKee noted that the Optimizing Sampling scenarios have not yet been priced out for MRP analytes.
- Chris Sommers explained reporting mechanism of MRP and he suggested that funds for RMP reporting should come from sources outside the RMP.
- Chris Sommers recommended over-budgeting by 10-20% to avoid running out, which brought the estimate up to \$300k. Trish Mulvey agreed.
- Ben Greenfield brought up potential savings implied by the turbidity surrogate regression power analysis results, i.e. fewer samples needed per year.
- Arleen Feng and Jay Davis indicated strong support to put two stations (Guadalupe and Z4LA) in S&T program.
- Barbara Mahler asked where will the four later MRP watershed (i.e., beginning in 2011) funding come from? Arleen Feng noted that funding would most likely come from stormwater agencies. Dale Bowyer noted that nested sites within a watershed would not be a substitute (in response to question from Chris Sommers) for the required 4 sites.
- Arleen Feng and Dale Bowyer suggested that 2 intensively studied watersheds could possibly be adequate substitute for 8 less intensively studied watersheds

3e. STLS Element 4e: POC Loads Monitoring at Representative Land Use Sites – Lester McKee

Summary:

Lester referred to the workgroup package work plan for this year and reminded the workgroup that this component is one of the supporting tasks for increased modeling effort. This year (2010) with funding from S/P studies RMP funds, the objective is to develop a rationale and framework and then complete a reconnaissance of potential sites for field sampling. Given several other STLS tasks (characterize and rank watersheds and refine sampling methods for loads and trends) were given higher priority, the land use specific task for 2010 is not yet started and will start in late June/July. This agenda item is to discuss allocation of funding for subsequent years.

Comments/Questions:

- Chris Sommers asked if monitoring within a watershed that you already have mainstem monitoring data for (e.g., GR, Z4) is better than looking at additional sites? He noted that additional monitoring sites could be set up in a current watershed instead of monitoring other watersheds.
 - Mike Stenstrom noted that, for modeling, what's important is that other factors be similar (same region, amount of rainfall) to allow for regional extrapolation.
- Eric Stein noted that there are 3 alternative ways to extrapolate.
 - Statistical modeling approach - use statistics on water/land use/loading data to scale up monitored data from a subset of watersheds.
 - Static modeling approach - use the spreadsheet model to get annual loadings for whole region based on rainfall and land use.

- Dynamic modeling approach – use a mechanistic, temporally dynamic model such as that developed for Guadalupe River watershed. He noted that, in long term, this approach gives you more utility.
 - Chris Sommers suggested a focus on specific watersheds where there are BMPs and management actions occurring.
 - Mike Stenstrom noted that a fully implemented dynamic model would be orders of magnitude more expensive than the spreadsheet model approach.
 - Lester McKee and Chris Sommers noted that the spreadsheet model is a near term priority; dynamic model is longer term priority but both require land use specific monitoring data (EMCs).
 - Eric Stein asked what are data gaps for spreadsheet model?
 - Land use specific pollutant concentrations (have rainfall and land use attributes).
 - Mike Stenstrom added that a spreadsheet model could be used to select monitoring stations – i.e. better elucidate data gaps.
 - Eric Stein noted that literature values could be used to determine appropriate starting points for EMCs.
 - Chris Sommers noted that there are not literature EMC values for many of the MRP analytes.
 - Mike Stenstrom reemphasized that using model and performing sensitivity analysis can aid in determining which EMCs are most important.
- Mike Stenstrom and Chris Sommers suggested that we use money available to determine priority land-use specific monitoring that is needed for spreadsheet model to work better (e.g., sensitivity analyses).
- John Oram noted that the four watersheds proposed have relatively different land uses.
- Eric Stein noted that we can also use a spreadsheet model to evaluate priorities for estimating annual loading. However, we should not focus on smaller time scales (e.g., monthly or seasonally).

3f. STLS Element 5: Dynamic Modeling in a Representative Watershed (Guadalupe) – Michelle Lent

Summary:

Michelle Lent gave a status update on the Guadalupe River watershed model, which was put on hold in 2009, and provided a timeline for finishing phase 2. Additionally, she presented a proposal for extending and refining the model further. The proposal included a menu of options: model timeframe extension, differentiation of PCB homologue groups, running land use change scenarios and running climate change scenarios.

Comments/Questions:

- Arleen Feng asked if anyone finds climate change scenarios useful? She noted that she has not seen specific scenarios with stakeholder desired outcomes. She said that the budget for the land use change scenarios is inadequate.

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- Carrie Austen noted that the timeframe extension is useful. Chris Sommers agreed.
- Mike Stenstrom noted that it is useful to break PCBs out into homologs for source identification, i.e. what comes from highways, vehicles, China fallout, etc.
- Richard Looker noted that there are two potential uses of model (helpful with land management scenarios and timeframe extension):
 - What it indicates about this watershed.
 - Initial learning step for dynamic modeling through time.
- Eric Stein suggested that it is probably not appropriate to do climate change forecasting at this spatial scale. He also noted that watershed landuse change could outweigh climate change impacts. Others agreed.
- Trish Mulvey proposed \$10–\$15K for timeframe extension and recalibrating to additional data, without expectation of additional reporting.

Action Item:

- Guadalupe Watershed Model Phase 2 report due by next WG meeting.

3g. Regional Rainfall Tool – Lester McKee

Summary:

Lester gave background on the development of the idea for this proposal. I described how this proposal had developed from conversations he and Mike Connor had had during the early season storms. Mike had expressed an interest in developing some kind of easily accessible tool so that all people studying storms could regionally communicate about the character of a particular storm. This idea had also come up at a TRC meeting (although Lester was absent). Subsequently, Lester wrote up a place holder proposal with his ideas of sub-tasks and a budget as a starting point for workgroup discussion. If the workgroup generally agreed that it was a useful tool, then with input from the workgroup and stakeholders, he would facilitate it being developed further ready for TRC review. To stimulate discussion Lester included the following concepts in the preliminary proposal:

1. Project management
2. An updated regional isohyetal map
3. a magnitude-frequency-duration tool
4. a user manual to show how to use the tool
5. a web based interface for using the tool

Comments/Questions:

- Arleen Feng stated that BASMAA has no use for tasks 2-5, and also brought up that rainfall data can become a litigation issue.
- Chris Sommers suggested re-developing scope to meet Mike Connor's needs.
- There was generally not much WG support for this proposal.

Action Items:

- Lester to call Mike Connor to determine if BACWA would like to continue to pursue this concept through another avenue

4. Closed Session – Project Ranking

- Individual member suggestions on proposals.
 - Spreadsheet model
 - Consider building further elements – test land use scenarios
 - Perform more outreach with potential end users on how model could be used
 - Increase budget to \$20K
 - POC loads monitoring
 - Consensus – overwhelming stakeholder support due to management considerations
 - Two participants indicated uncertainty as to how Z4LA monitoring dovetails with other projects – for example, will it be used to support model calibration activities? Doesn't appear to be a clear strategy for using Z4LA data
 - Suggestion – focus routine POC monitoring on other stations; maintain turbidity monitoring at Z4LA, and sample Z4LA more extensively during a high rainfall and flow year
 - Monitoring at land use sites
 - Need these data before spreadsheet model would be useful, but can use spreadsheet model sensitivity analysis to prioritize monitoring
 - A 2010 funded \$30K RMP task (Task 4d) could be used to prioritize future monitoring efforts for this task
 - Consensus – this project should be considered for a later year (e.g., 2012)
 - Dynamic modeling of Guadalupe
 - Three participants recommended the dynamic modeling add on should be only to include timeframe extension
 - Consensus – fund at the \$7.5K level
 - Regional rainfall tool
 - Discussion centered on litigious nature of rainfall data, and the lack of buy in by most potential end users
 - Consensus was not to proceed with this task
- A new task was added – land use monitoring coordination and spreadsheet outreach. Considered a high priority.
- One participant suggested spending time assembling short document or having a workgroup discussion to elucidate connections within program components and with other programs. Also to clarify larger vision and objectives (and how SPLWG is working towards them). Topics to include:
 - Permit compliance
 - Connection between SPLWG and CFWG – e.g., how SPLWG pollutant loads monitoring and dynamic modeling relevant to CFWG lines of inquiry
 - Expected outcomes and information/knowledge gained by SPLWG activities

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- There was general support of this activity and it will be picked up by the Small Tributaries Strategy Team (action item).
- Other watersheds for consideration to replace Z4LA in MRP
 - San Lorenzo Creek – has USGS gauging station
 - Coyote Creek – has USGS gauging station
 - But both of these are not high in PCBs in soils.

Action Item:

The priority ranking to bring before the TRC is as follows:

STLS Element	Description	Suggested 2010 Budget (K\$)	Priority	Recommendations
3c	Spreadsheet model	40 20	High	Consider funding at higher level (20 K)
4	Loads monitoring in representative watersheds	300	High	Overwhelming stakeholder need
4e	Land use specific loads monitoring	400	Low	Should be funded in 2012 after interpreting results of 2010 activities and spreadsheet model
5	Dynamic model (Guadalupe)	55 8	High	Fund at a reduced level, to extend the timeframe only
-	Rainfall tool	50	Rejected	High risk due to litigious nature of data. Sufficient appropriate stakeholder buy-in lacking.
	Original Total	<u>515</u>		
	Revised Total	<u>328</u>		