

**MANAGEMENT SUPPORT FOR SPREADSHEET MODEL OUTREACH AND
"LAND USE" BASED MONITORING**

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ESTIMATED COST: **\$20,000**

OVERSIGHT GROUP: Small Tributaries Loadings Strategy Team (STLS)

PROPOSED DELIVERABLES AND TIMELINE

Deliverables		Due date
Task 1	Local STLS meetings	Jan 2011 – Jun 2011
Task 2	Agenda development for Full STLS stakeholder meeting	Mar 2011
Task 3	Full STLS stakeholder meeting	Mar 2011
Task 4	Expert review (Stein and Stenstrom)	Mar 2011

BACKGROUND

The RMP Small Tributaries Loading Strategy (STLS) provides a framework for improving loads information over the next 5 years. It includes planning elements (e.g. literature review, meeting coordination and peer-review), monitoring elements (e.g. wet season field work), and modeling elements (e.g. spreadsheet model and Guadalupe model). The elements together provide assurances that the most cost effective information is generated that directly answers our key loading questions.

In 2010, work has begun on a number of elements including element 3c, the development of a new version of a GIS based “spreadsheet model” based on the published work by Ha and Stenstrom (2008). This will provide a framework for organizing recent local data on land use based concentrations collected in the Bay Area and event mean concentration (EMC) data from stormwater literature. It is envisioned that once such a model is up and running it will be updated annually as more and more data become available through implementation of the STLS and MRP. The specific objective is to calculate mass emissions by storm event for the local watersheds draining into the San Francisco Bay, to provide the basis for refined annual load estimates at a watershed scale summed to a regional scale and to link these mass emissions to areas on the Bay margin that are showing impairment. Future iterations of the model may also be used to assess BMP implementation options.

In addition, work is just beginning on element 4d of the STLS. In this element, we will complete a scoping effort to formally identify the need for the development of land use specific EMCs for pollutants of concern. This element is directly linked to the spreadsheet model as it will provide the rationale for the choice of “land use” classes in the model and provide support for selecting EMC data for model input. We aim to answer several key groups of questions:

1. How should “land use” classes be designed for category 1 pollutants? Should the definition of class be broadened to include not just land uses but specific sources or source categories? Which cat 1 and cat 2 pollutants can be grouped together according to classes?

2. Based on literature review and discussions with experts, what is the range of EMCs of each “land use category”? For which categories and cat 1 pollutants are local or literature data lacking?
3. Do we have sufficient mapping or knowledge developed in the Bay Area to locate monitoring locations in relation to the identified classification scheme for each pollutant? After reconnaissance of possible locations, what is the proposed list of locations for sampling?
4. What field or “desktop” methods should be employed to fill data gaps?

Findings from this study will directly inform design and implementation of any possible “land use” specific monitoring. One outcome could be that there is sufficient EMC data for the spreadsheet model effort to improve loads estimates or that other data gaps are more significant. If this is the case, no field monitoring will be proposed for 2011/12 but methods to fill other data gaps may be proposed instead.

At the May 2010 SPLWG it was recognized that in order to communicate and discuss the findings of these two products in the context of other data and information (e.g. the outcomes of the proposed winter loadings monitoring study and ongoing BASMAA studies), a series of meetings including regular local STLS team meetings and at least one full STLS meeting is needed. The full STLS meeting is where stakeholders would review the outcomes of the first version of the spreadsheet model (element 3c) and vet the rationale presented in the 4d report along with results of preliminary reconnaissance and justification for an initial list of candidate "land use" monitoring sites. To carry out this outreach, \$20k was proposed recognizing that if tasks 3c and 4d do not produce recommendations for further "land use" based EMC development, the \$20k would not need to be spent in 2011.

APPLICABLE RMP MANAGEMENT QUESTIONS

- Level I RMP, Q3: What are the sources, pathways, loadings, and processes leading to contaminant-related impacts in the Estuary?
- Level II RMP, Q3C: What is the effect of management actions on loads from the most important sources, pathways, and processes?
- Level III SPL Q2: What is the watershed-specific and regional total water flow, load of sediment, and load contaminants entering the Bay from the urbanized small tributaries and non-urban areas draining to the Bay from the nine-county Bay Area and are there trends through time?
- Level IV STLS Q1: Which are the “high-leverage” small tributaries that contribute or potentially contribute most to Bay impairment by pollutants of concern?
- Level IV STLS Q2: What are the annual loads or concentrations of pollutants of concern from small tributaries to the Bay?

BUDGET

Proposed Cost		
Task 1	Local STLS meetings	\$5,000
Task 2	Agenda development for Full STLS stakeholder meeting	\$4,000
Task 3	Full STLS stakeholder meeting	\$7,000
Task 4	Expert review (Stein and Stenstrom)	\$4,000
Total		\$20,000