Estuary Algal Biomass Monitoring

Background and Need

- Benthic algal biomass is likely to be the key water quality metric for evaluating eutrophication
- Benthic algal biomass monitoring was conducted in the estuary on two occasions
  - SCCWRP - four index periods 2009-2010
  - SSC Pacific - two index periods 2010-2011
- Current datasets were collected at three northern shoreline transect locations
- The spatially and temporally limited dataset for a key metric leads to large uncertainty in how the estuary is evaluated for compliance
- Work has been proposed as a Camp Pendleton stand alone project – Funding Status Is Unknown

Key Questions

1) Can we enhance the spatial and temporal coverage of the benthic algal biomass dataset that will be used to evaluate compliance with eutrophication goals?
2) Can we develop additional methods to better quantify benthic algal biomass that improves certainty?

Design

Two components:

1. Conduct benthic, floating, and *in situ* algal biomass at six along-shore locations in the estuary
   - Adds three additional transects on the southern shoreline
   - Conduct monitoring bimonthly for 18 months
2. Test out new methods for subtidal collection and quantification of floating and benthic algae
   - Collaborate with SCCWRP on new approaches to quantification
   - Assess how well shore-line methods represent overall biomass

Budget and Collaborators

	Tasking	Cost	Man Days
1	**Project Planning and Management**	34,452	33
	Task Subtotal	34,452	33
2	**Macroalgae Transects and Floating macroalgae**		
	Field Mob/Demob	28,188	27
	Field Sampling	18,792	18
	Consumables	2,600	na
	Chlorophyll a/Grain analysis	21,440	na
	Data Analysis	20,880	20
	Task Subtotal	91,900	65
3	**Intertidal Submerged Aquatic Vegetation**		
	Methodology development	20,880	20
	Field Mob/Demob	18,792	18
	Field Sampling	9,396	9
	Field Equipment and Consummables	5,000	na
	Data Analysis	20,880	20
	Task Subtotal	74,948	47
4	**Data Evaluation and Reporting**		
	Develop Final Report	31,320	30
	Total Tasking	232,620	175
	Total w/ 10% Indirect Fees (rounded)	256,000	

Work with SCCWRP on new methodology for subtidal quantification

Products

Technical:

- More certainty in algal biomass values for the estuary

Institutional:

- New methods that can be applied to future eutrophication evaluations