

# CV-SALTS – Strategy and Framework

CV-SALTS is developing a comprehensive regulatory and programmatic approach to the management of salt/nitrate (S/N) in the Central Valley that is consistent with the State Recycled Water Policy (SRWP). This work is being done with the Central Valley Regional Water Quality Control Board, the State Water Resources Control Board, the Central Valley Salinity Coalition and Stakeholders. The strategy to achieve this outcome is to adopt a Central Valley - Salt Nutrient Management Plan (CV-SNMP) and revise the Basin Plan to facilitate implementation of the CV-SNMP. Combined, these actions will establish:

- A revised regulatory structure (Beneficial Uses [BU] and Water Quality Objectives [WQO]) and policies to facilitate salt and nitrate management;
- Policies and procedures to evaluate compliance with Basin Plan uses and objectives and provide the regulatory flexibility needed to make salt and nitrate management decisions at the appropriate geographic or management scale; and
- The basis for short and long-term management of salt and nitrate across the Central Valley at appropriate geographic scales.

To implement the above strategy and achieve the intended outcome, CV-SALTS is executing work in three areas. These work areas comprise the CV-SALTS Framework:

1. *Regulatory Planning* - Establishes the regulatory structure and policies within the Basin Plan to support basin-wide S/N management;
2. *CV-SNMP Master Plan Development* – Creates the framework, technical studies, planning and procedures for a basin-wide and regional approach to S/N management through the adoption of a CV-SNMP and implementation of required elements including monitoring and reporting;
3. *SNMP Implementation* – Provides basis and process for future development of regional or site-specific S/N management plans or future modification of BUs or WQOs consistent with the adopted regulatory structure and policies.

Spatially, the scale or size of the geographic area at which S/N management occurs decreases from Regulatory Planning to SNMP Implementation. For example, Regulatory Planning will consider establishing large-scale Management Areas (MAs) to describe the existing large scale differences in watershed characteristics across the Central Valley. In contrast, within the realm of SNMP Implementation S/N management activities would occur within much smaller areas, depending on the specific S/N management needs of the area.

Temporally, the time frame associated with completion of activities to support the Regulatory Planning and CV-SNMP Master Plan areas is tied to the schedule imposed by the SRWP, which targets a CV-SNMP proposal by May 2014 and adoption of Basin Plan Amendments to support approval of a final CV-SNMP in the following year (by May 2015, see SRWP Section 6(b)(2)). The time frame associated with region or

site-specific SNMP Implementation activities extends well into the future. While it is anticipated that the approved CV-SNMP will include one or more completed Regional S/N Plans (which will serve as prototypes for future Regional S/N Plans), the CV-SNMP will include mechanisms and process for the development and adoption of additional Regional S/N Plans well beyond its initial adoption.

The following sections provide additional information regarding the CV-SALTS Framework (see summary in Table 1); the CV-SALTS Program Work Plan provides additional details regarding implementation activities designed to achieve the expected outcomes describe below.

## **Regulatory Planning**

Description - CV-SALTS will establish the overarching regulatory structure, process and policies that facilitate implementation of the CV-SNMP. Adoption of this structure, which is expected to require modifications to the Basin Plan, will focus on four key elements:

1. Revision of AGR, MUN and GWR BUs, where needed. Activities may include establishing sub-categories of these uses, better defining what constitutes an existing use, and, for AGR, determining what is the most sensitive use.
2. Revision of WQOs applicable to each of the established BUs (and subcategories of BUs), where needed. The final WQOs may be numeric or narrative. If the latter, the Basin Plan revisions will provide the basis for translating narrative WQOs into numeric values.
3. Establish policies that define the basis for assessing compliance with revised Basin Plan BUs and WQOs in surface water and groundwater (e.g., points of compliance, spatial and temporal averaging, threshold values and action triggers).
4. Identification of MAs for implementation of the regulatory structure. MAs provide a framework that acknowledges the existence of significant differences across the basin in baseline water quality (e.g., receiving waters and source waters for agriculture/municipal uses), land use, climate conditions, soil characteristics, existing infrastructure (e.g., areas with extensive agriculture vs. areas relatively undeveloped), and short and long-term S/N management needs (e.g., areas where elevated nitrate or salt are already problematic).

Expected Outcomes: Adoption of a Basin Plan Amendment (BPA) that results in a revised Basin Plan that facilitates implementation of the CV-SNMP.

Key Tasks (Note this list is only intended to describe the high level tasks):

1. Develop revised Basin Plan regulatory structure and policies:
  - a. Beneficial uses (including subcategories, where appropriate)
  - b. Water quality objectives
  - c. Implementation policies and procedures to support assessment of compliance with salt and nutrient management requirements
  - d. Monitoring and Evaluation
2. Technical tasks to support policy decisions:

- a. Mapping waterbodies (groundwater and surface water) and establishment of MAs
  - b. Identification of production zones
  - c. Map municipal supply intakes and effluent dischargers
  - d. Agricultural mapping (crop activities, sensitivity, limiting conditions, salt impacts)
  - e. Water quality assessment activities to support decisions on compliance determinations (spatial, temporal, points of compliance, etc.)
3. Develop BPA to modify Basin Plan to facilitate implementation of the CV-SNMP, including Staff Report with supporting attachments, CEQA Analysis, Antidegradation Analysis, and 13241 Analysis.

### **CV-SNMP Master Plan Development**

Description - CV-SALTS will develop the CV-SNMP with a two-tiered structure: (a) Basin-wide requirements or “master plan” for the S/N management in the Central Valley; and (b) placeholder for incorporation of area-specific Regional S/N Plans. The CV-SNMP will include “proofs of concept”. These proofs will be of two types: (a) archetypes, which provide examples of how to establish waterbody-specific uses or objectives; and (b) prototypes to provide examples of local or regional SNMP implementation. CV-SNMP development includes the following key elements:

1. Development of the CV-SNMP, which establishes (a) basin-wide S/N management requirements for the Central Valley consistent with the SRWP requirements and policy decisions developed under the Regulatory Planning portion of this Framework; and (b) short and long-term strategies to address areas not currently in compliance with WQOs (e.g., elevated nitrate or salt).
2. Completion of archetypes for modifications to BUs or WQOs that demonstrate application of the regulatory structure and policies developed under the Regulatory Planning area of this Framework.
3. Completion of prototypes for establishment of Regional S/N Plans within the tiered SNMP structure or local, specific projects to resolve local salt/nitrate issues.
4. Establishment of templates or methodologies based on the completed archetypes and prototypes to provide guidance for additional future SNMP implementation.

Expected Outcomes: (a) Adoption of a CV-SNMP that complies with SRWP; (b) completion of one or more archetypes for modifying BUs or WQOs relevant to S/N management in the Basin Plan; and (c) completion of one or more Regional S/N Plans or local demonstration projects that serve as prototypes for long-term CV-SNMP implementation.

Key Tasks (Note this list is only intended to describe the high level tasks):

1. Develop CV-SNMP, consistent with minimum requirements of SRWP and the work completed under the Regulatory Planning element of this Framework, including:
  - a. Water recycling and stormwater management goals/objectives
  - b. Conceptual Model, which provides basin-wide information regarding source identification, assimilative capacity, loading estimates, etc.

- c. Monitoring plan
  - d. Antidegradation analysis
  - e. Implementation methods, including templates for modifying BUs or WQOs and developing Regional S/N Plans
  - f. Management activities, that when implemented, provide reasonable assurance of compliance with SRWP requirements
2. Complete selected BU and WQO archetypes, using the policies and procedures developed under the Regulatory Planning portion of this Framework.
  3. Complete selected Regional S/N Plan prototypes, using the *Framework for Identification of Salt/Nitrate Sources* as a basis for plan development
  4. Establish templates/methodologies to support long term CV-SNMP implementation
  5. Complete studies that support development of management activities or implementation strategies for inclusion in the CV-SNMP, e.g. SSALTS
  6. Develop regulatory documentation, e.g., staff report, CEQA compliance, to support CV-SNMP adoption by the Regional Board

### **CV-SNMP Implementation**

Description – This portion of the Framework represents long-term implementation of the CV-SNMP. As described above, the CV-SNMP will include a Master Plan for S/N management in the Central Valley which serves as the default management approach, unless a more site-specific or regional approach has been adopted in a Regional S/N Plan. The CV-SNMP may be periodically updated to incorporate Regional S/N Plans developed in the future. These regional plans establish refined or area-specific S/N management activities within defined Study Areas. To support development of these regional plans, the CV-SNMP will include one or more Regional S/N Plans (developed as part of CV-SNMP Master Plan development) that serve as prototypes for development of future Regional Plans.

Regional S/N Plan development will be guided by the *Framework for Salt/Nitrate Source Identification Studies*. The information developed under this framework is expected to provide the basic information needed for any Regional Plan. An important consideration in the development of regional plans is the size or configuration of the area to be covered by each plan. As noted in the above-referenced document, regional Study Areas should be small enough to be effectively managed and modeled.

Development of a Regional S/N Plan would require, at a minimum, (a) consistency with adopted policies and procedures (as described under the Regulatory Planning portion of this Framework) and the CV-SNMP Master Plan and (b) completion of the following elements:

1. Delineation of the local planning area (or Study Area);
2. Data gathering and analysis to support plan development;
3. Development of implementation measures specific to the planning area; and

4. Participation in the regulatory process to incorporate a Regional S/N Plan into the CV-SNMP.

Development of a Regional S/N Plan could also include completion of studies to support recommendations for waterbody specific changes in BUs or WQOs that would facilitate implementation of the regional plan.

Expected Outcomes: Long-term implementation of the CV-SNMP that may result in (1) adoption of additional regional plans to address region-specific S/N management issues; it is anticipated that approximately 20-25 plans would ultimately be adopted; and (2) additional revisions to BUs or WQOs to facilitate CV-SNMP implementation.

Key Tasks: Tasks are variable and dependent on the regulatory planning and salt/nitrate issues applicable to a specific self delineated Study Area. Tasks could include the development of modified BUs, establishment of site-specific WQOs, refinement of S/N management objectives in the Study Area, or some combination of these activities appropriate to the area.

Framework Area	Primary Purpose	Expected Outcome	Spatial Dimension	Temporal Dimension	Key Tasks
<b>Regulatory Planning</b>	Establish the regulatory policies and Basin Plan structure to facilitate CV-SNMP implementation	<ul style="list-style-type: none"> <li>Revised BUs and WQOs, as needed</li> <li>Establishment of policies and procedures for evaluating compliance with S/N WQOs, considering differences across MAs</li> <li>Identification of MAs</li> </ul>	Entire Central Valley with identified MAs - MAs recognize basic differences in watershed characteristics across Central Valley	By May 2015 - BPA for adoption of changes to the Basin Plan to facilitate approval of the CV-SNMP proposal in accordance with the SRWP Section 6(b)(2)	<ul style="list-style-type: none"> <li>Develop revised Basin Plan regulatory structure and policies (BUs, WQOs, implementation requirements) to facilitate CV-SNMP implementation</li> <li>Technical tasks to support policy decisions, e.g., mapping waterbodies &amp; MAs, intakes &amp; discharges, agricultural activities, compliance determinations.</li> <li>Develop BPA supporting documentation</li> </ul>
<b>CV-SNMP Master Plan Development</b>	Establish the overall basin-wide approach to salt/nitrate management and the mechanisms for establishment of regional approaches to S/N management	<ul style="list-style-type: none"> <li>Adoption of CV-SNMP that complies with SRWP and is consistent with policies developed under Regulatory Planning activities</li> <li>Completion of archetypes for BU/WQO modification;</li> <li>Completion of prototypes for CV-SNMP implementation, e.g. example Regional S/N Plan(s)</li> <li>Established templates for development of future Regional S/N Plans or studies to make additional revisions to BU/WQO</li> </ul>	Master CV-SNMP applicable to entire Central Valley with select Regional S/N Plans applicable to smaller areas incorporated	Submittal of proposed CV-SNMP by May 2014; Board adoption by May 2015 (Section 6(b)(2) of the SWRP)	<ul style="list-style-type: none"> <li>Develop CV-SNMP Master Plan with required elements (see text)</li> <li>Complete BU/WQO archetypes</li> <li>Complete CV-SNMP implementation prototypes</li> <li>Establish templates for future efforts to modify uses or objectives or develop additional Regional S/N Plans</li> <li>Develop regulatory documentation to support Regional Board adoption of CV-SNMP</li> </ul>
<b>CV-SNMP Implementation</b>	Establish Regional S/N plans within Central Valley consistent with outcomes of Regulatory Planning activities and Master CV-SNMP	<ul style="list-style-type: none"> <li>Regional S/N Plans</li> </ul>	Regional S/N Plans for Study Areas delineated on a per project basis; size will vary, but maximum of 20-25 plans anticipated for the Central Valley	Long-term CV-SNMP implementation (post 2015 CV-SNMP adoption)	<ul style="list-style-type: none"> <li>Variable – dependent on regional needs and purpose of studies, e.g., to establish a Regional S/N Plan, to develop recommended revisions to BUs or WQOs, or some combination of activities.</li> </ul>

# CV-SALTS Program Work Plan

## Work Plan Goals

The State Recycled Water Policy requires the adoption of a Salt and Nutrient Management Plan (SNMP) for the Central Valley. To fulfill this requirement, CV-SALTS adopted a Strategy & Framework that (1) establishes a strategy for fulfilling this state requirement, and (2) a framework from within which work would be executed in the following three areas:

1. *Regulatory Planning* - Establishes the regulatory structure and policies within the Basin Plan to support basin-wide salt/nutrient management;
2. *CV-SNMP Master Plan Development* – Creates the framework, technical studies, planning and procedures for a basin-wide and regional approach to salt/nutrient management through the adoption of a CV-SNMP and implementation of required elements including monitoring and reporting;
3. *SNMP Implementation* – Provides basis and process for future development of regional or site-specific salt/nutrient management plans or future modification of beneficial uses (BUs) or water quality objectives (WQOs) consistent with the adopted regulatory structure and policies.

This CV-SALTS Work Plan identifies the specific milestones, tasks, and activities consistent with the CV-SALTS Strategy and Framework and consistent with the following Work Plan Goals:

1. Develop a stakeholder driven SNMP for a sustainable Central Valley;
2. Prepare a Basin Plan Amendment (BPA) that contains the policy changes needed to facilitate sustainable SNMPS and provide opportunities for economic and environmental improvements; and
3. Identify feasible plans for funding and implementing the practices, projects, and follow-up activities deemed necessary to demonstrate success in the management of salt and nutrients in the Central Valley.

## Major Work Plan Elements

With a program as large and diverse as CV-SALTS many participants struggle to understand the entirety of the program and to embrace a unified vision regarding program outcomes. For the most part, this struggle stems from stakeholder organizations having differing missions, priorities and program plans or needs. Moreover, given the time required to fulfill the goals of this effort, participants in CV-SALTS activities can change over the long term. To mitigate these factors, CV-SALTS developed the Strategy and Framework to help integrate the various moving parts of CV-SALTS and this Work Plan to provide a roadmap for completing the CV-SALTS vision.

The Work Plan contains seven key program elements which are color coded for use throughout the document according to the following:

1. Policy Development, Planning, Outreach, Funding and Program Management ■ ■ ■ ■
2. Technical Studies ■ ■ ■ ■
3. CV-SALTS Related Activities ■ ■ ■ ■
4. Implementation Planning ■ ■ ■ ■
5. Documentation for Regulatory Approval ■ ■ ■ ■
6. Initial Implementation ■ ■ ■ ■
7. Monitoring and Reporting ■ ■ ■ ■

## Integration of Work Plan Elements

The following summary describes how the key Work Plan Elements listed above are integrated to achieve CV-SALTS goals (see Figure 1 and Timeline as Table 1):

- **Program Development, Management, Planning and Policy Development** activities have been ongoing and will continue to support the CV-SALTS process and decision making. The Work Plan activities within this element will establish the policies and processes that will provide the foundation for a CV-SNMP and proposed revisions to the Basin Plan Amendment (BPA) to facilitate plan implementation.
- Technical work completed to date has provided preliminary information on BUs and WQOs, established a framework for salt/nitrate source identification studies and provided background information on data and methods for developing SNMPs. The **Technical Studies** element builds on this completed work. Scheduled activities include the implementing the Work Plan activities will the Initial Phase of the Conceptual Model <sup>1</sup> and continues in refinement through Phase 2 and final phases. Implementation of this effort will provide data to support policy decisions and be used to develop and illustrate the story of how salt and nitrate work in the Central Valley. In addition, the Conceptual Model will also be used to develop the management strategies for the CV-SNMP and provide support for preparation of documents to support CEQA, the BPA process and economics evaluations.
- **CV-SALTS Related Activities** involve regional projects that focus on addressing specific water quality issues that are related to the goals of CV-SALTS. For this element the Work Plan includes the efforts being led by the Lower San Joaquin River Committee that is working on salt-related issues in that watershed.
- The **Implementation Planning** element is coordinated with and occurs at the same time as the Conceptual Model work ongoing under the Technical Studies Element. This Work Plan element includes activities associated with the Strategic Salt Accumulation and Land Transportation Storage (SSALTS<sup>2</sup>) project and followed up with more refined studies to establish more effective management practices or development of local or regional implementation plans using the Conceptual Model tools to address specific water quality concerns.

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<sup>1</sup> Conceptual Model additional description is being developed with the Technical Committee the most recent version is located here [http://www.cvsalinity.org/index.php/documents/doc\\_download/862-conceptual-model-description-v-4-1-30-12](http://www.cvsalinity.org/index.php/documents/doc_download/862-conceptual-model-description-v-4-1-30-12)

<sup>2</sup> SSALTS Strategic SALT Accumulation Land and Transportation Storage Concept Description initially reviewed by Executive Committee, complete as an initial concept scope only.



## CV-SALTS PROGRAM ELEMENT INTEGRATION

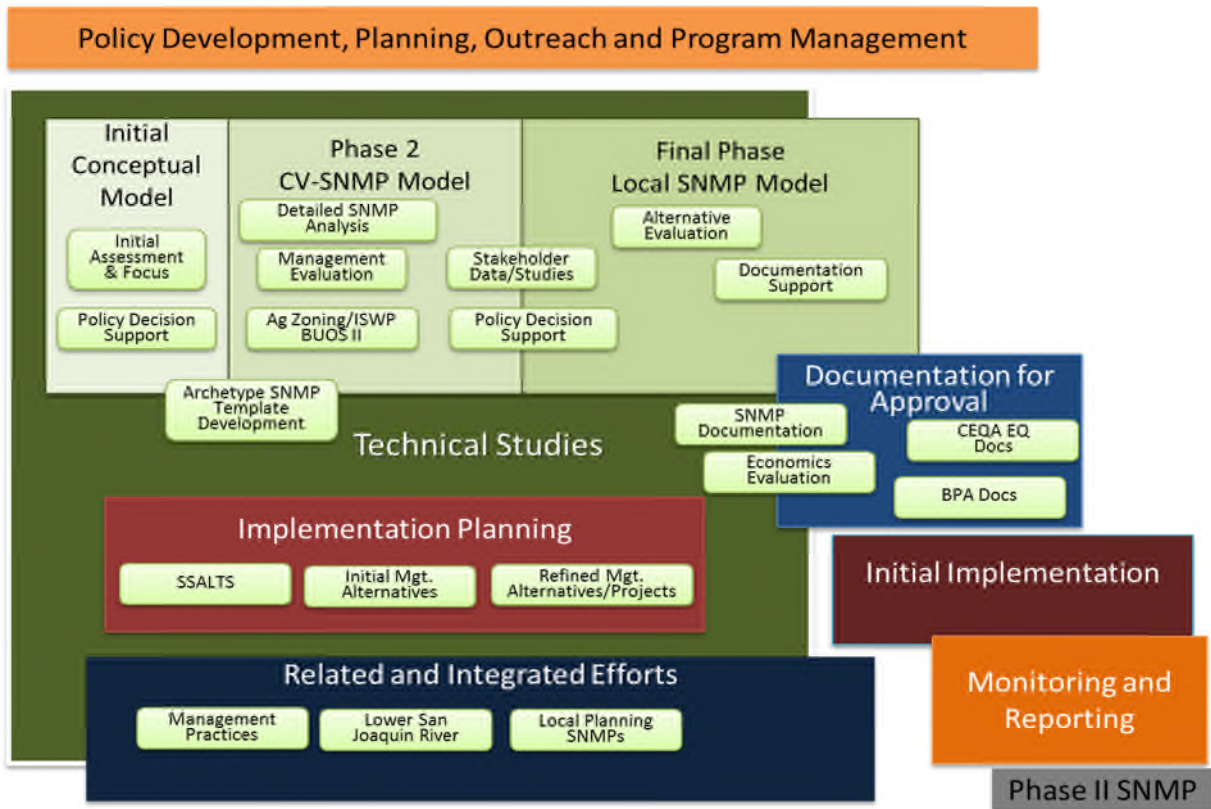


Figure 1 Program Element Integration

- The **Documentation for Regulatory Approval** element provides support to the BPA process which includes Regional Board adoption of the CV-SNMP and revisions to the Basin Plan to facilitate CV-SNMP implementation.
- Work Plan activities under the **Initial Implementation** element focus on the development of regional SNMPS under the framework of the CV-SNMP. These activities will occur after CV-SALTS adoption.
- **Monitoring and Reporting** activities, which are required as part of the CV-SNMP, will occur following adoption of the CV-SALTS SNMP.

### Schedule, Scope and Cost

The program time line is shown for the highest level major elements on the following page as Table 1. This top level summary schedule depicts the timeline of the elements which have been approved or which have been discussed but not yet approved by the CV-SALTS Executive Committee. CV-SALTS is constrained to propose an SNMP by May 2014, so the schedule is critical. This schedule is predicated on parallel efforts and many tasks will be needed following the SNMP and BPA for SNMP implementation. The project timeline and budget estimated have been extended to 2017 to include continued implementation projects and programs. Subtasks are tentatively identified, such as the Inland Surface Water Plan (ISWP) review, and Beneficial Use and Objective Study (BUOS) efforts in the Table 1 below. Attachment 2 shows a critical path schedule for the elements, phases and high level tasks identified for the program.

## CV-SALTS Summary Program Timeline

CV-SALTS Program Element	2011	2012	2013	2014	2015	2016	2017
<b>Program Management</b>							
Funding							
Policy Development and Planning							
Outreach and Scoping ❖ = Meetings		❖	❖	❖	❖		
<b>Technical Studies</b>							
Conceptual Model (Initial, Phase 2 and Final Phases)					Final SNMP		
BUOS Phase II, Ag Zoning, and ISWP Review							
BU & WQO Archetypes/Templates							
Implementation Prototypes							
Implementation evaluation							
SNMP Documentation							
Monitoring & Reporting Plan Development							
Economic Review							
Other Studies							
<b>Related/Integrated Efforts</b>							
Management Practices							
Lower San Joaquin River							
<b>Implementation Planning</b>							
<b>Documentation for Approval</b>							
CEQA Equivalent Documentation							
BPA Documentation and Support							
<b>Initial Implementation</b>							
Management Practices							
DAC Assistance - Nitrate							
Projects							
Templates							
Local SNMP							
<b>Monitoring and Reporting</b>							
Phase II SNMP							

Table 1 CV-SALTS Summary Program Timeline

The scopes of work for the CV-SALTS program tasks range from high level concept papers or outlines of the work needed to detailed scopes of work. The further scoping is dependent on decisions made by the Executive Committee and details provided or reviewed by the CV-SALTS Committees, contractors and staff. Attachment3 provides an outline of identified high level tasks and provide an expanded description and links to document with additional. This attachment identifies most critical tasks and some enhancement tasks which may be completed if funding, timing and cooperation is available. Attachment 4 provides detailed estimates of cost ranges by element and major task.

## Cost Estimates, Funding and Contracting

The five year cost estimate, excluding major project implementation, ranges from \$8.8M to \$16.4.M with the likely point estimated cost \$13.3M. The Figure 2 illustrates these costs at the single point likely estimated costs.

Implementation funding represents the largest funding need in the program. Most of this funding will be needed after the CV-SNMP and Basin Plan Amendment are completed. Preliminary estimates will be made of potential funding needed for implementation for 2016; however these estimates will require significant additional information and planning to be refined. These costs do not include Monitoring and Reporting or future salt and nutrient management planning.

Core funding for CV-SALTS is provided by State Water Resources Control Board Cleanup and Abatement Account (CAA) and Central Valley Salinity Coalition and its members. The State Water Resources Control Board has contracted with the San Joaquin Valley Drainage Authority for support of CV-SALTS. Current contracts total \$3.2 Million under two agreements. An additional \$1.8 million is dedicated by the State Water Resources Control Board to be contracted in 2012, if adequate progress is documented. The Salinity Coalition and its members have contributed over \$1 million in cash and contracted with various firms to provide studies and support for CV-SALTS. The Salinity Coalition has committed to continue to support CV-SALTS efforts with funding and in-kind services. Additional funding will be needed especially for implementation elements that may require additional stakeholder or grant funding. This funding may come from CV-SALTS partner agencies, Salinity Coalition members, regions and other stakeholders involved with studies as shown below.

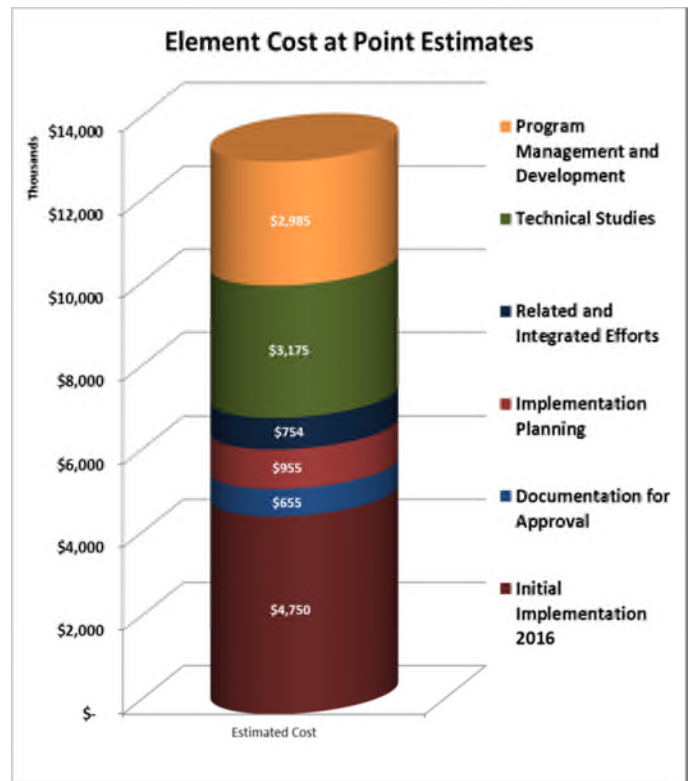


Figure 2 Element Cost at Point Estimates

These costs are allocated by the element funded and breakdown to approximately \$4.99 M from the CAA, \$250K from State and Regional Board in-kind support and \$1.52M from CVSC and its members with \$5.79M from participating stakeholders. The graph to the right shows this breakout visually.

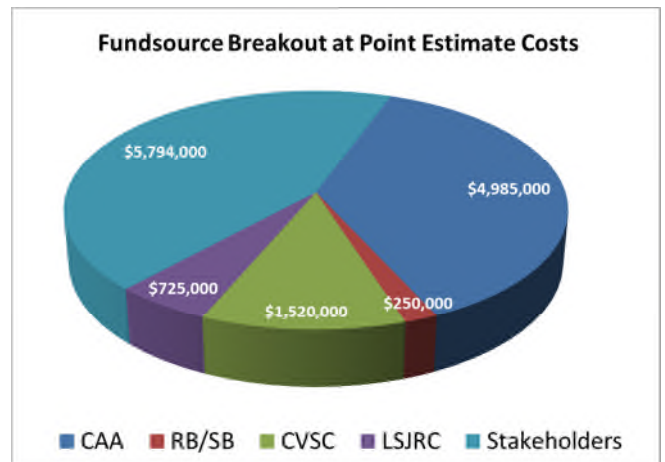


Figure 3 Fundsourc Breakout at Point Estimate Costs

Additional contract capacity is needed to perform and expend these funds to achieve the schedule indicated. This workplan was published in several drafts for review in January 2012. Informal comments provided to the consulting team were integrated into the text. Additionally, Attachment 5 provides a response to written comments on the draft version.

## Attachments

1. Multilevel Entry Parallel Archetype/Prototype Approach Table
2. Critical Path Schedule
3. High Level Task Descriptions
4. Summary of Element Scope and Cost Ranges
5. Responses to Comments on Draft Workplan Document

## Attachment 1 CV-SALTS Multi Level Entry Parallel Archetype/Prototype Approach

Tier	Description	Focal Areas	Technical Tasks	Policy Decisions
1	WATERBODIES	Surface Water	GIS Maps	
			Map Characteristics	
			Map Connectivity	
		Groundwater	Identify Aquifers	Define "Point of Use"
			Identify Production Zones	
2	STANDARDS	MUN Uses	Map Supply Intakes	88-63 Exceptions
			Map Effluent Discharges	Define Subcategories
		MUN Objectives	Quantify EC Impacts	Define EC Thresholds
			AG Uses	Map Crops
		Map Limiting Conditions		
		AG Objectives	Crop Sensitivity	Define Existing Use
				Define Most Sensitive Use
		3	ASSESSMENT	Attainment Metrics
Assess Data Quality	Spatial Averaging			
# Historic Quality	Temporal Averaging			
# Current Quality	Threshold Values			
Surveillance Plan	Water Quality Monitoring Program			Action Triggers
	Source Analysis			
4	IMPLEMENTATION	Anti-Degradation	# Assimilative Capacity	Define Thresholds for Degradation, Assimilative Capacity, & "Maximum Benefit"
			# Trend	
		Restoration	Source Control Projects	
			Treatment Projects	
		Offsets	ID Projects	Define Conditions
				Variances

Color Key	Program Mgt/Policy
5-Year	Conceptual Model/Technical Studies
Plan	Related/Integrated Efforts
	Implementation Planning
	Documentation for Approval
	Initial Implementation
	Monitoring and Reporting



## Attachment 3 High Level Task Descriptions

ID	Task Name	Scope Abstract	Critical/ Enhancement
2	<b>PROGRAM MANAGEMENT</b>		
3	Coordinate meetings, oversee financial administration, and manage project tasks	Level of effort for project duration	Critical
4	Maintain meeting minutes, CV-SALTS website, and records	Level of effort for project duration from Program Director and Staff	Critical
5	Establish administrative record for Basin Plan amendments	Coordinate with Regional Board to assist with their development of administrative record	Critical
6	<b>POLICY DISCUSSIONS ON BENEFICIAL USES AND WATER QUALITY OBJECTIVES (WQOs)</b>		
7	Examine Incidental MUN beneficial uses and WQOs for such use	Expanded description to be provided by Tim Moore	Critical
8	Assess effects of crop seasonality and economic viability, and drought on WQOs	Expanded description to be provided by Tim Moore	Critical
9	Review default parameters (e.g., leaching fractions) for salinity models	Expanded description to be provided by Tim Moore	Critical
10	Establish guidance on determining most sensitive crop to be protected in an2 area	Expanded description to be provided by Tim Moore	Critical
11	<b>CENTRAL VALLEY Conceptual Model/SNMP</b>		
12	Development and Approval of the Conceptual Model Approach	Scoping with Technical Committee by program director	Critical
13	Obtain CV-SALTS Executive Committee approval of conceptual model approach	Ongoing - Scoping by and coordination with Technical Committee and Executive Committee	Critical
14	Prepare final scope and retain consultant	Upon Approval of the Scope by EC	Critical
15	<b>Initial Conceptual Model</b>		Critical
16	Outreach and Engage Stakeholders for Conceptual Model and Data	Initial Conceptual model steps are generalized here. Prepare work plan and begin the acquisition of models and datasets of existing information on CV water supply and quality as detailed in the task work plan. Including the areas of management or assessment for review.	Critical
17	Gather existing water balance sources and quality info and data for Initial CM	Format and QC data and incorporated into Geodatabase for review assessment and use in CM	Critical
18	Assess data and format for model	Analyze data for CM and format for CM usage	Critical
19	Develop conceptual model and estimate initial salt and nitrate loads (i.e., Initial Studies)	Develop Initial CM and assessment coverages, interactions and other assessments to answer the questions for Initial CM, prepare documentation and presentation materials. Coordinate the completion of the Ag Water Quality Zone Maps as part of the Conceptual model.	Critical

ID	Task Name	Scope Abstract	Critical/ Enhancement
20	Develop Additional Data needs for SNMP Level	Based on review of CM and additional needs finalize the CM Report and including additional information and data needs for the SNMP Master Plan Model Phase	Critical
<b>21</b>	<b>SNMP Conceptual Model</b>		Critical
22	Gather additional sources and quality info/data	Prepare Workplan for SNMP Master Plan phase and with TAC approval gather information and data for the project integrating stakeholders. This plan will answer the question proposed for the SNMP.	Critical
23	Assess sustainable salt/nitrate balance/accumulation	With the updated information and analysis review the sustainability of the areas in the CV and loads/sources and temporal assessment of future trends	Critical
24	Refine conceptual model and salt and nitrate loads based on stakeholder input	Add additional information and stakeholder level plans as well as archetypes to the geodatabase to allow assessment	Critical
25	Model potential large-scale management practices and projects	From the identified scenarios review and estimate alternatives recommended for management of salt and Nitrate in priority areas. Work with industry and the stakeholders to assess projects and practices needed for future sustainability.	Critical
26	Incorporate Information from Archetypes and other proposed basin plan changes	Archetypes and prototypes, as well as other basin plan changes may be completed and need to be incorporated into the current assessment and future assessment of sustainability and assimilative capacity.	Critical
27	Prepare Initial Draft CV-SNMP including implementation Plan	Based on feedback and review of the interim products prepare an initial draft CV-SNMP for Review. This document will be used for evaluation of economics, CEQA and the basis of the Basin Plan Amendment drafting with incorporation of changes to the Draft Final.	Critical
<b>28</b>	<b>Final SNMP Concept Model</b>		Critical
29	Economics Evaluation support	support for assessment and editing of the SNMP	Critical
30	CEQA Evaluation Support		Critical
31	Basin Plan Support		Critical
32	Prepare Draft Central Valley SNMP with program of implementation	Based on feedback and review of the initial draft CV-SNMP, address any comments and Prepare the Draft Plan. This document will show significant progress and provide completion of the SNMP for Recycled Water Policy purposes. The final document will provide information for reviews of the plan and any final changes will be coordinated with the basin plan amendment final preparation.	Critical
33	Prepare Final CV- SNMP with Program of Implementation	The Final draft of the document will include all evaluation and be completed in conjunction with the basin plan amendment	Critical

ID	Task Name	Scope Abstract	Critical/ Enhancement
34	<b>ARCHETYPE PERTAINING TO APPROPRIATE BENEFICIAL USES OF GROUNDWATER</b>	Scope in Development Basin Planning Mgr. and TLDD and RWQCB Staff	Critical
35	<b>Conduct planning activities for Tulare Lake bed archetype, including scope of work</b>	Scope in Development Basin Planning Mgr. and TLDD and RWQCB Staff	Critical
40	Perform investigation obtain additional geologic and hydrologic data, if needed	Scope in Development Basin Planning Mgr. and TLDD and RWQCB Staff	Critical
41	Conduct economic/CEQA/Peer Review of proposed amendments	Scope in Development Basin Planning Mgr. and TLDD and RWQCB Staff	Critical
42	Prepare Report for Archetype	Scope in Development Basin Planning Mgr. and TLDD and RWQCB Staff	Critical
43	CV-SALTS and Public Comments	Scope in Development Basin Planning Mgr. and TLDD and RWQCB Staff	Critical
44	Regional Board Approvals	Unknown	Unknown
45	<b>ARCHETYPES PERTAINING TO APPROPRIATE BENEFICIAL USES OF RECEIVING WATERS</b>	Scope in Development Basin Planning Mgr. and RWQCB Staff	Critical
46	<b>Conduct planning activities for all discharge archetypes (Willows, Live Oak etc)</b>	Scope in Development Basin Planning Mgr. and RWQCB Staff	Critical
47	Coordinate with State Board, U.S. EPA and other agencies that may have jurisdiction	Scope in Development Basin Planning Mgr. and RWQCB Staff	Critical
48	Identify contributors and associated funding to be provided	Scope in Development Basin Planning Mgr. and RWQCB Staff	Critical
49	Prepare scope of work and retain consultant	Scope in Development Basin Planning Mgr. and RWQCB Staff	Critical
50	Compile and assess available water quality, hydrologic, and historical use data	Scope in Development Basin Planning Mgr. and RWQCB Staff	Critical
51	Conduct additional sampling and flow measurements, if needed	Scope in Development Basin Planning Mgr. and RWQCB Staff	Critical if needed
52	Perform Use Attainability Analysis, if needed	Scope in Development Basin Planning Mgr. and RWQCB Staff	Critical if needed
53	Conduct economic/CEQA/Peer Review of proposed amendments	Scope in Development Basin Planning Mgr. and RWQCB Staff	Critical
54	Prepare Report for Archetype	Scope in Development Basin Planning Mgr. and RWQCB Staff	Critical
55	CV-SALTS and Public Comments	Scope in Development Basin Planning Mgr. and RWQCB Staff	Critical
56	Regional Board Approvals	Unknown	Unknown
57	<b>Related and Integrated Efforts</b>		Enhancement
58	<b>LOWER SAN JOAQUIN RIVER (LSJR) SALT AND BORON WQOs</b>	Scope to be revised and provided by the LSJRC/BPM - Duration 30 mons	Critical
59	Update LSJR workplan	Scope to be revised and provided by the LSJRC/BPM	Critical
60	Identify existing beneficial uses	Scope to be revised and provided by the LSJRC/BPM	Critical
61	<b>Perform technical study related to WQOs for irrigation beneficial use</b>	Scope to be revised and provided by the LSJRC/BPM	Critical



ID	Task Name	Scope Abstract	Critical/ Enhancement
66	<b>Perform technical study related to WQOs for stock watering beneficial use</b>	Scope to be revised and provided by the LSJRC/BPM	Critical
70	<b>Perform technical study related to WQOs for aquatic life beneficial use</b>	Scope to be revised and provided by the LSJRC/BPM	Critical
75	Compile salt and boron data for LSJR, and estimate salt loads	Scope to be revised and provided by the LSJRC/BPM	Critical
76	Develop program of implementation	Scope to be revised and provided by the LSJRC/BPM	Critical
77	<b>Prepare CEQA equivalent documentation</b>	Scope to be revised and provided by the LSJRC/BPM	Critical
78	Prepare scope of work and retain consultant	Scope to be revised and provided by the LSJRC/BPM	Critical
79	Conduct economic analysis of program of implementation alternatives	Scope to be revised and provided by the LSJRC/BPM	Critical
80	Perform antidegradation policy analysis including Water Code §13241 factors	Scope to be revised and provided by the LSJRC/BPM	Critical
81	Hold public meetings and workshops	Scope to be revised and provided by the LSJRC/BPM	Critical
82	Complete Substitute Environmental Documentation	Scope to be revised and provided by the LSJRC/BPM	Critical
83	<b>Prepare Regional Board staff report and Basin Plan amendments</b>	Scope to be revised and provided by the LSJRC/BPM	Critical
87	Obtain necessary approvals of Basin Plan amendments adopted by Regional Board		Critical
88	<b>Implementation Planning</b>		
89	<b>DISADVANTAGED COMMUNITIES WITH NITRATE IMPAIRED DRINKING WATER</b>	Tasks included in this task are not on the project critical path but critical to its successful implementation. The Short Term Nitrate paper in in review and will be provided when complete.	Critical
96	<b>Strategic Salt Accumulation Land &amp; Transport Study</b>		Critical
97	Executive Committee Approval and Fund Allocation	Prepare Materials and update proposed paper for Committee Approval and Funding	Critical
98	Scope and retain consultant to accomplish SSALTS	Scope in development for Procurement based on SSALTS see link below and Initial implementation study	Critical
99	Data Collection and Analysis coordinated with Conceptual Plan	Working closely with the initial Conceptual Plan efforts collect in a common format and process GIS layers and other information to assess the areas where salt and nitrate are accumulating and the causes	Critical
100	Analysis for SSALTS	See SSALTS paper Attachment 2.	Critical
101	Coordinate SSALTS with evaluation of other management practices	With the MP Committee review efforts and practices that should be included or analyzed in the study	Critical

ID	Task Name	Scope Abstract	Critical/ Enhancement
102	Develop Initial Management Alternatives	From the analysis and coordinated with the Conceptual model assess the need and develop initial management alternatives that support a long term sustainable salinity and nitrate levels and lead to compliance with objectives. Work with stakeholders and all CV-SALTS participants to review and further develop alternatives.	Critical
103	Refine Management Alternatives/Economics	Based on the feedback from stakeholders and CV-SALTS Participants revise, amend and or expand the alternatives considering economics and feasibility for the refined Management alternatives report.	Critical
<b>104</b>	<b>EFFECTIVE MANAGEMENT PRACTICES EVALUATION FOR SALT AND NITRATE</b>		
105	Pilot Practice Review	This process and task is described in the MP Review Document link below. Review of Pilot practices will allow modification enhancement of the process.	Critical
106	Prepare scope of work and retain consultant or stakeholder assistance	Utilize support to assist in the review or formatting for Toolbox	Critical if needed
107	Perform sector review of significant salt sources	Committee practice review to add credible tools to the toolbox will continue, duration is initial review and does not include additional rounds	Critical
108	Conduct additional studies to assess new or developing management practices	OPTIONAL, Committee will work with participants and others for studies or other programs to assess practices for toolbox inclusion.	Enhancement
109	Add Management Practices to toolbox	Seek approval of recommended practices from TAC and Ec	Critical
110	Additional Sectors calls, Review and Toolbox Update	Repeat process for all industry sectors or groups	Critical
<b>111</b>	<b>CEQA EQUIVALENT DOCUMENTATION FOR CENTRAL VALLEY SNMP</b>	Scope of work from Basin Planning Manager	Critical
<b>112</b>	<b>Hold CEQA scoping sessions</b>		Critical
113	Hold CEQA scoping sessions 1	Session in Sacramento	Critical
114	Hold CEQA scoping sessions 2	Session in Fresno	Critical
115	Conduct economic analysis of program of implementation alternatives	Support for board required economics evaluation and CEQA equivalent documentation	Critical
116	Hold public meetings and workshops	Outreach and present public meetings	Critical
117	Complete Substitute Environmental Documentation	Support for board required economics evaluation and CEQA equivalent documentation	Critical
<b>118</b>	<b>Amendments and Documentation</b>		Critical
119	Prepare Regional Board staff report describing proposed Basin Plan amendments	Prepare Materials for Regional Water Board approval	Critical

ID	Task Name	Scope Abstract	Critical/ Enhancement
120	Conduct peer review of staff report and proposed Basin Plan amendments	Coordinate with Regional Board and stakeholders for the completion of the peer review using State Board contracting mechanism.	Critical
121	Circulate staff report and proposed Basin Plan amendments for public comment	Regional Board needed support for BPA and public comment	Critical
122	Obtain necessary approvals of Basin Plan amendments adopted by Regional Board	Regional Water Board, State Water Board, EPA and other approvals as appropriate	Critical
<b>123</b>	<b>Initial Implementation</b>		Critical
124	Conduct Follow-up Studies, if needed, to set salt and nitrate load reduction goals	If needed, conduct assessment to identify reduction goals and implementation which is needed to support implementation projects	Enhancement
125	Prioritize management practices to conform with Basin Plan program of implementation	Support practices which are required or included in Basin Plan Amendment and in the CV-SNMP.	Critical
126	Template Implementation	Implement Archetype and Prototype templates for users at all levels or Tiers in the CV-SALTS process	Enhancement
127	Initial Implementation Projects	Support and Construct Initial Implementation Projects in 2016-17	Enhancement
128	Monitoring and Reporting	Develop and implement appropriate scientifically based monitoring program with assessment and reporting on a triennial basis for Salts and Nutrients	Critical
129	Phase II SNMP	Phase II SNMP provides the opportunity for plans, prototypes and archetypes that do not make deadlines to be included and characterized for the next round of SNMP efforts for planning and implementation.	Enhancement

### Links to Conceptual Scope and Reference Documents

- Decisions Document [http://cvssalinity.org/index.php/agendas/doc\\_download/790-strategic-salt-accumulation-land-and-transportation-study-v-3](http://cvssalinity.org/index.php/agendas/doc_download/790-strategic-salt-accumulation-land-and-transportation-study-v-3)
- Knowledge Gained Document [http://www.cvssalinity.org/index.php/procurement/doc\\_download/813-knowledge-gained-final-report-presentation-to-tac-121611](http://www.cvssalinity.org/index.php/procurement/doc_download/813-knowledge-gained-final-report-presentation-to-tac-121611)
- SSALTS Implementation Planning [http://cvssalinity.org/index.php/agendas/doc\\_download/790-strategic-salt-accumulation-land-and-transportation-study-v-2](http://cvssalinity.org/index.php/agendas/doc_download/790-strategic-salt-accumulation-land-and-transportation-study-v-2)
- Water Quality Zoning [http://cvssalinity.org/index.php/agendas/doc\\_download/811-water-quality-zone-mapping-study](http://cvssalinity.org/index.php/agendas/doc_download/811-water-quality-zone-mapping-study)
- Management Practice Document [http://cvssalinity.org/index.php/agendas/doc\\_download/665-management-practices-evaluation-approach-for-salt-and-nutrients-v-10](http://cvssalinity.org/index.php/agendas/doc_download/665-management-practices-evaluation-approach-for-salt-and-nutrients-v-10)
- Conceptual Model Description [http://cvssalinity.org/index.php/agendas/doc\\_download/842-conceptual-model-description-v-1-1-4-12](http://cvssalinity.org/index.php/agendas/doc_download/842-conceptual-model-description-v-1-1-4-12)

Attachment 4

CV-SALTS 5-YEAR WORKPLAN MAJOR TASK COST ESTIMATE RANGES

FUND SOURCES AND POINT COST ESTIMATES

Task Description	Estimated Cost by Year in 2011 Dollars (a)					5-Year Total	Cost Assumption	Fundsources at Point Estimate					
	2012	2013	2014	2015	2016			CAA	RB/SB	CVSC	LSJRC	Stakeholders	Total
<b>Program Management and Development</b>													
<ul style="list-style-type: none"> <li>Coordinate meetings, oversee financial administration, and manage project tasks</li> <li>Basin Planning support</li> <li>Maintain meeting minutes, CV-SALTS website, etc.</li> <li>Technical Project Management</li> <li>Establish administrative record for Basin Plan A</li> <li>Implementation Funding Program and Outreach</li> </ul>	\$ 200,000 to \$ 300,000	\$ 200,000 to \$ 300,000	\$ 200,000 to \$ 300,000	\$ 200,000 to \$ 300,000	\$ 200,000 to \$ 300,000	\$ 1,000,000 to \$ 1,500,000		\$ 600,000		\$ 600,000			
	\$ 30,000 to \$ 50,000	\$ 30,000 to \$ 50,000	\$ 30,000 to \$ 50,000	\$ 30,000 to \$ 50,000	\$ 30,000 to \$ 50,000	\$ 90,000 to \$ 150,000	Contract \$58,050	\$ 90,000					
	\$ 20,000 to \$ 40,000	\$ 20,000 to \$ 40,000	\$ 20,000 to \$ 40,000	\$ 20,000 to \$ 40,000	\$ 20,000 to \$ 40,000	\$ 80,000 to \$ 160,000		\$ 80,000		\$ 80,000			
	\$ 100,000 to \$ 200,000	\$ 75,000 to \$ 100,000	\$ 100,000 to \$ 150,000	\$ 100,000 to \$ 150,000	\$ 100,000 to \$ 150,000	\$ 275,000 to \$ 450,000	Contract \$427,950	\$ 500,000					
	\$ 10,000 to \$ 30,000	\$ 10,000 to \$ 30,000	\$ 20,000 to \$ 30,000	\$ 5,000 to \$ 10,000	\$ 5,000 to \$ 10,000	\$ 45,000 to \$ 100,000			\$ 100,000				
	\$ 10,000 to \$ 50,000	\$ 100,000 to \$ 150,000	\$ 150,000 to \$ 200,000	\$ 250,000 to \$ 350,000	\$ 300,000 to \$ 350,000	\$ 810,000 to \$ 1,100,000	Includes CVSC Lobbying etc.	\$ 100,000		\$ 800,000			
	\$ 370,000 to \$ 670,000	\$ 435,000 to \$ 670,000	\$ 520,000 to \$ 770,000	\$ 475,000 to \$ 700,000	\$ 500,000 to \$ 650,000	\$ 2,300,000 to \$ 3,460,000		\$ 1,270,000	\$ 100,000	\$ 1,480,000	\$ -	\$ -	\$ 2,850,000
<b>POLICY DISCUSSIONS ON BENEFICIAL USES AND WQOs</b>													
<ul style="list-style-type: none"> <li>Examine "Incidental" MUN beneficial uses and WQOs for such use</li> <li>Policy Approach for effects of crop seasonality and economic viability, and drought on WQOs</li> <li>Review default Assumptions and parameters (e.g., leaching fractions) for salinity models etc.</li> <li>Establish guidance on determining most sensitive crop to be protected in an area</li> </ul>	\$ 15,000 to \$ 30,000	\$ 15,000 to \$ 30,000	\$ 5,000 to \$ 10,000			\$ 35,000 to \$ 70,000	These are example task for costing only	\$ 70,000					
	\$ 6,000 to \$ 15,000	\$ 6,000 to \$ 15,000				\$ 12,000 to \$ 30,000		\$ 20,000					
	\$ 6,000 to \$ 15,000	\$ 6,000 to \$ 15,000				\$ 12,000 to \$ 30,000		\$ 20,000					
	\$ 6,000 to \$ 20,000	\$ 2,000 to \$ 10,000				\$ 8,000 to \$ 30,000		\$ 25,000					
	\$ 33,000 to \$ 80,000	\$ 29,000 to \$ 70,000	\$ 5,000 to \$ 10,000			\$ 67,000 to \$ 160,000		\$ 135,000	\$ -	\$ -	\$ -	\$ -	\$ 135,000
<b>Technical Studies</b>													
<b>Initial Phase Conceptual Model</b>													
<ul style="list-style-type: none"> <li>Establish approach to developing conceptual model with CV-SALTS TAC</li> <li>Stakeholders Outreach Coordination to study Areas</li> <li>Prepare scope of work and retain consultant</li> <li>Gather existing data and develop Model</li> </ul>	\$ 150,000 to \$ 250,000					\$ 150,000 to \$ 250,000		\$ 200,000				\$ 200,000	
<b>Phase 2 SNMP Conceptual Model</b>													
<ul style="list-style-type: none"> <li>Refine conceptual model and salt and nitrate Loads</li> <li>Assess sustainable salt and nitrate balances</li> <li>Identify potential large-scale management practices and projects for analysis</li> <li>Incorporate changes to Beneficial uses and WQOs based on archetypes</li> <li>Prepare Central Valley SNMP Assessment</li> <li>Revise and Prepare SNMP Document</li> </ul>	\$ 50,000 to \$ 100,000	\$ 50,000 to \$ 100,000				\$ 100,000 to \$ 200,000		\$ 150,000				\$ 100,000	
		\$ 50,000 to \$ 100,000				\$ 50,000 to \$ 100,000		\$ 100,000				\$ 100,000	
		\$ 75,000 to \$ 150,000				\$ 75,000 to \$ 150,000		\$ 100,000				\$ 100,000	
		\$ 25,000 to \$ 50,000				\$ 25,000 to \$ 50,000		\$ 50,000				\$ 50,000	
		\$ 100,000 to \$ 300,000				\$ 100,000 to \$ 300,000		\$ 200,000				\$ 200,000	
	\$ 50,000 to \$ 100,000	\$ 50,000 to \$ 100,000	\$ 100,000 to \$ 200,000	\$ 100,000 to \$ 200,000		\$ 500,000 to \$ 1,100,000		\$ 600,000		\$ 100,000		\$ 700,000	
<b>Final Phase SNMP Conceptual Model</b>													
<ul style="list-style-type: none"> <li>Incorporate Regional SNMP Information assessment and update Conceptual plan</li> <li>Conduct economic analysis of proposed implementation alternatives and benefits</li> <li>Perform Antidegradation policy analysis including Water Code §13241 factors</li> </ul>		\$ 20,000 to \$ 150,000	\$ 75,000 to \$ 100,000			\$ 95,000 to \$ 250,000		\$ 100,000				\$ 100,000	
		\$ 100,000 to \$ 250,000	\$ 100,000 to \$ 250,000			\$ 200,000 to \$ 500,000		\$ 300,000				\$ 300,000	
		\$ 50,000 to \$ 100,000	\$ 50,000 to \$ 100,000			\$ 100,000 to \$ 200,000		\$ 125,000				\$ 125,000	
	\$ - to \$ -	\$ 150,000 to \$ 350,000	\$ 150,000 to \$ 350,000	\$ - to \$ -	\$ - to \$ -	\$ 300,000 to \$ 700,000		\$ 525,000	\$ -	\$ -	\$ -	\$ -	\$ 525,000
<b>BUOS PHASE 2 + GIS and other Studies</b>													
<ul style="list-style-type: none"> <li>Prepare scope of work and retain consultant</li> <li>Ag Water Quality Zoning Mapping</li> <li>Inland Surface Waters Validation</li> <li>Incorporate information and data into georeferenced database</li> <li>Summarize initial salt and nitrate loads into georeferenced data</li> </ul>	\$ 10,000 to \$ 20,000					\$ 10,000 to \$ 20,000	Scope Development Varies						
	\$ 40,000 to \$ 75,000					\$ 40,000 to \$ 75,000	State Board Contract \$75,000						
	\$ 20,000 to \$ 100,000					\$ 20,000 to \$ 100,000	Conceptual Scope by IPM						
	\$ 20,000 to \$ 40,000					\$ 20,000 to \$ 40,000							
	\$ 10,000 to \$ 20,000					\$ 10,000 to \$ 20,000							
	\$ 100,000 to \$ 255,000					\$ 100,000 to \$ 255,000		\$ 150,000				\$ 150,000	
<b>GROUNDWATER BENEFICIAL USE ARCHETYPE</b>													
<ul style="list-style-type: none"> <li>Conduct planning activities for Tulare Lake bed archetype, including scope of work</li> <li>Perform investigation obtain additional geologic and hydrologic data, if needed</li> <li>Conduct computer groundwater model simulations, if needed</li> <li>Prepare information for CEQA documentation</li> </ul>	\$ 50,000 to \$ 90,000					\$ 50,000 to \$ 90,000	Costs based on Planning-Level Scopes to Establish Appropriate Beneficial Uses for Selected Archetype Water Bodies by EKI, dated 14 October 2011.						
	\$ - to \$ 350,000					\$ - to \$ 350,000							
	\$ - to \$ 40,000					\$ - to \$ 40,000	Stakeholder working to provide updated costs						
	\$ 15,000 to \$ 25,000	\$ 15,000 to \$ 25,000				\$ 30,000 to \$ 50,000							
	\$ 65,000 to \$ 505,000	\$ 15,000 to \$ 25,000				\$ 80,000 to \$ 530,000		\$ 300,000		\$ 300,000		\$ 600,000	

Attachment 4

CV-SALTS 5-YEAR WORKPLAN MAJOR TASK COST ESTIMATE RANGES

FUND SOURCES AND POINT COST ESTIMATES

Task Description	Estimated Cost by Year in 2011 Dollars (a)					5-Year Total	Cost Assumption	Fundsources at Point Estimate					
	2012	2013	2014	2015	2016			CAA	RB/SB	CVSC	LSJRC	Stakeholders	Total
<b>SNMP POTW RECEIVING WATER BENEFICIAL USE ARCHETYPES</b>													
<ul style="list-style-type: none"> <li>Conduct planning activities for Colusa, Willows, and Live Oak archetypes</li> </ul>	\$ 20,000 to \$ 40,000					\$ 20,000 to \$ 40,000	Costs based on Planning-Level Scopes to Establish Appropriate Beneficial Uses for Selected Archetype Water Bodies prepared by EKI, dated 14 October 2011.  RWQCB working to provide Costs						
<ul style="list-style-type: none"> <li>Compile and assess available water quality, hydrologic, and historical use data</li> </ul>	\$ 70,000 to \$ 140,000					\$ 70,000 to \$ 140,000							
<ul style="list-style-type: none"> <li>Conduct additional sampling and flow measurements, if needed</li> </ul>	\$ - to \$ 480,000					\$ - to \$ 480,000							
<ul style="list-style-type: none"> <li>Perform Use Attainability Analysis, if needed</li> </ul>	\$ 60,000 to \$ 180,000					\$ 60,000 to \$ 180,000							
<ul style="list-style-type: none"> <li>Prepare information for CEQA documentation</li> </ul>	\$ 25,000 to \$ 40,000	\$ 10,000 to \$ 25,000				\$ 35,000 to \$ 65,000							
	\$ 175,000 to \$ 880,000	\$ 10,000 to \$ 25,000				\$ 185,000 to \$ 905,000		\$ 500,000			\$ 500,000	\$ 1,000,000	
<b>Related and Integrated Efforts</b>													
<b>LSJR SALT AND BORON WQOs</b>													
<ul style="list-style-type: none"> <li>Update LSJR workplan Sources of Salt and elements in Introduction chapter</li> </ul>	\$ - to \$ 10,000					\$ - to \$ 10,000	Based on Draft LSJR Workplan dated 19 Oct 2011						
<ul style="list-style-type: none"> <li>Identify existing beneficial uses</li> </ul>	\$ 10,000 to \$ 20,000					\$ 10,000 to \$ 20,000						\$ 20,000	
<ul style="list-style-type: none"> <li>Perform technical study related to WQOs for irrigation beneficial use</li> </ul>	\$ 50,000 to \$ 100,000					\$ 50,000 to \$ 100,000	Costs on preliminary scope document from EKI for Committee				\$ 75,000		
<ul style="list-style-type: none"> <li>Perform technical study related to WQOs for stock watering beneficial use</li> </ul>	\$ 29,000 to \$ 30,000					\$ 29,000 to \$ 30,000	Costs based on Request for Proposal (RFP) 2011-001 For Consulting Services to Conduct Water Quality Criteria Studies, prepared by the LSJR Committee, dated 6 May 2011			\$ 29,000			
<ul style="list-style-type: none"> <li>Perform technical study related to WQOs for aquatic life beneficial use</li> </ul>	\$ 50,000 to \$ 70,000					\$ 50,000 to \$ 70,000					\$ 60,000		
<ul style="list-style-type: none"> <li>Compile salt and boron data for LSJR and estimate salt loads Estimated Seasonality if needed</li> </ul>	\$ 50,000 to \$ 300,000					\$ 50,000 to \$ 300,000				\$ 250,000			
<ul style="list-style-type: none"> <li>Develop program of implementation</li> </ul>	\$ 15,000 to \$ 30,000	\$ 15,000 to \$ 60,000				\$ 30,000 to \$ 90,000				\$ 90,000			
<ul style="list-style-type: none"> <li>Prepare CEQA equivalent documentation</li> </ul>	\$ 75,000 to \$ 100,000	\$ 75,000 to \$ 100,000				\$ 150,000 to \$ 200,000	Task includes economic analysis,				\$ 150,000		
<ul style="list-style-type: none"> <li>Prepare Regional Board staff report and Basin Plan amendments</li> </ul>		\$ 50,000 to \$ 75,000				\$ 50,000 to \$ 75,000	Task includes peer review of Basin				\$ 50,000		
<ul style="list-style-type: none"> <li>Obtain necessary approvals of Basin Plan amendments adopted by Regional Board</li> </ul>			\$ 30,000 to \$ 60,000			\$ 30,000 to \$ 60,000	No costs included for Monitoring				\$ 30,000		
	\$ 279,000 to \$ 660,000	\$ 140,000 to \$ 235,000	\$ 30,000 to \$ 60,000			\$ 449,000 to \$ 955,000		\$ -	\$ -	\$ -	\$ 725,000	\$ 29,000	\$ 754,000
<b>Implementation Planning</b>													
<b>SSALTS AND IMPLEMENTATION PLANNING</b>													
<ul style="list-style-type: none"> <li>Conduct planning activities for SSALTS</li> </ul>	\$ 10,000 to \$ 30,000					\$ 10,000 to \$ 30,000	Costs based on memorandum titled Strategic Salt Accumulation Land and Transportation Study (SSALTS), contained in CV-SALTS Executive Committee materials for 17 November 2011 meeting. From State Board Annual Rpt	\$ 10,000					
<ul style="list-style-type: none"> <li>Identify locations where salt is accumulating</li> </ul>	\$ 30,000 to \$ 50,000					\$ 30,000 to \$ 50,000		\$ 50,000					
<ul style="list-style-type: none"> <li>Determine locations that can act as appropriate salt storage areas</li> </ul>	\$ 80,000 to \$ 150,000					\$ 80,000 to \$ 150,000		\$ 150,000					
<ul style="list-style-type: none"> <li>Coordinate SSALTS with evaluation of other management practices</li> </ul>		\$ 50,000 to \$ 125,000				\$ 50,000 to \$ 125,000		\$ 125,000					
<ul style="list-style-type: none"> <li>Develop Initial Management Alternatives</li> </ul>		\$ 125,000 to \$ 200,000				\$ 125,000 to \$ 200,000		\$ 200,000					
<ul style="list-style-type: none"> <li>Refine Management Alternatives</li> </ul>		\$ 50,000 to \$ 100,000	\$ 125,000 to \$ 150,000			\$ 175,000 to \$ 250,000	\$ 250,000						
	\$ 120,000 to \$ 230,000	\$ 225,000 to \$ 425,000	\$ 125,000 to \$ 150,000			\$ 470,000 to \$ 805,000		\$ 685,000	\$ -	\$ -	\$ -	\$ -	\$ 685,000
<b>EFFECTIVE MANAGEMENT PRACTICES EVALUATION</b>													
<ul style="list-style-type: none"> <li>Conduct planning activities for management practices evaluation</li> </ul>	\$ - to \$ 10,000					\$ - to \$ 10,000	Cost assumes Management Practices Committee complete planning activities with limited assistance.	\$ -					
<ul style="list-style-type: none"> <li>Perform sector review of significant salt sources</li> </ul>	\$ 5,000 to \$ 10,000					\$ 5,000 to \$ 10,000		\$ 10,000					
<ul style="list-style-type: none"> <li>Conduct additional studies to assess new or developing management practices</li> </ul>	\$ 50,000 to \$ 100,000					\$ 50,000 to \$ 100,000				\$ 100,000			
<ul style="list-style-type: none"> <li>Screen management practices for inclusion in "toolbox" and assess Valley Wide Impacts</li> </ul>	\$ 20,000 to \$ 30,000	\$ 20,000 to \$ 30,000	\$ 20,000 to \$ 45,000			\$ 60,000 to \$ 105,000	Task assumes 200 to 400 hour effort from technical consultant.	\$ 105,000					
	\$ 75,000 to \$ 150,000	\$ 20,000 to \$ 30,000	\$ 20,000 to \$ 45,000			\$ 115,000 to \$ 225,000		\$ 115,000	\$ -	\$ -	\$ -	\$ 100,000	\$ 215,000
<b>ECONOMICALLY-DISADVANTAGED COMMUNITIES</b>													
<ul style="list-style-type: none"> <li>Conduct planning activities to assist economically-disadvantaged communities with nitrate impaired drinking water</li> </ul>	\$ - to \$ 10,000					\$ - to \$ 10,000	Task assumes CVSC members approve, initial concept IPM			\$ 10,000			
<ul style="list-style-type: none"> <li>Provide technical expertise to facilitate project design and implementation</li> </ul>	\$ 20,000 to \$ 40,000					\$ 20,000 to \$ 40,000	Task assumes 100 to 200 hour effort			\$ 20,000			
<ul style="list-style-type: none"> <li>Assess regulatory incentives and impediments for possible program improvements</li> </ul>	\$ 15,000 to \$ 30,000					\$ 15,000 to \$ 30,000	Task assumes 50 to 100 hour effort			\$ 10,000	\$ 15,000		
	\$ 35,000 to \$ 80,000					\$ 35,000 to \$ 80,000		\$ -	\$ -	\$ 40,000	\$ -	\$ 15,000	\$ 55,000

Attachment 4 CV-SALTS 5-YEAR WORKPLAN MAJOR TASK COST ESTIMATE RANGES							FUNDSOURCES AND POINT COST ESTIMATES						
Task Description	Estimated Cost by Year in 2011 Dollars (a)					5-Year Total	Cost Assumption	Fundsources at Point Estimate					
	2012	2013	2014	2015	2016			CAA	RB/SB	CVSC	LSJRC	Stakeholders	Total
<b>Documentation for Approval</b>													
<b>CEQA EQUIVALENT DOCUMENTATION</b>													
<ul style="list-style-type: none"> <li>Hold CEQA scoping sessions</li> <li>Incorporate CEQA economic analysis</li> <li>Hold public meetings and workshops</li> <li>Prepare Substitute Environmental</li> <li>Documentation of all CV-SALTS Elements</li> </ul>	\$ 15,000 to \$ 30,000		\$ 25,000 to \$ 50,000			\$ 15,000 to \$ 30,000		\$ 30,000				\$ 30,000	
		\$ 15,000 to \$ 30,000	\$ 20,000 to \$ 30,000			\$ 25,000 to \$ 50,000		\$ 50,000				\$ 50,000	
			\$ 250,000 to \$ 500,000			\$ 35,000 to \$ 60,000		\$ 50,000				\$ 50,000	
						\$ 250,000 to \$ 500,000		\$ 300,000				\$ 300,000	
	\$ 15,000 to \$ 30,000	\$ 15,000 to \$ 30,000	\$ 295,000 to \$ 580,000			\$ 325,000 to \$ 640,000		\$ 430,000	\$ -	\$ -	\$ -	\$ -	\$ 430,000
<b>AMENDMENTS AND DOCUMENTATION</b>													
<ul style="list-style-type: none"> <li>Prepare Regional Board staff report describing proposed Basin Plan amendments</li> <li>Conduct peer review of staff report and proposed Basin Plan amendments</li> <li>Circulate staff report and proposed Basin Plan amendments for public comment</li> <li>Obtain necessary approvals of Basin Plan amendments adopted by Regional Board</li> </ul>			\$ 50,000 to \$ 150,000			\$ 50,000 to \$ 150,000		\$ 75,000				\$ 75,000	
			\$ 30,000 to \$ 50,000	\$ 30,000 to \$ 50,000		\$ 60,000 to \$ 100,000		\$ 100,000				\$ 100,000	
				\$ 20,000 to \$ 30,000		\$ 20,000 to \$ 30,000		\$ 20,000				\$ 20,000	
				\$ 20,000 to \$ 30,000		\$ 20,000 to \$ 30,000	Task assumes costs of obtaining approvals are not significant	\$ 30,000				\$ 30,000	
			\$ 80,000 to \$ 200,000	\$ 70,000 to \$ 110,000		\$ 150,000 to \$ 310,000		\$ 75,000	\$ 150,000	\$ -	\$ -	\$ -	\$ 225,000
<b>Initial Implementation 2016</b>													
<b>REGIONAL SNMPS</b>													
<ul style="list-style-type: none"> <li>Conduct Follow-up Studies, if needed, to set salt and nitrate load reduction goals</li> <li>Prioritize management practices to conform with Basin Plan program of implementation</li> <li>Template Implementation</li> <li>Initial Implementation Projects</li> <li>Monitoring and Reporting</li> <li>Phase II SNMP</li> </ul>							Assumed entities will prepare and implement regional SNMPS					\$ 250,000	\$ 250,000
						\$ 100,000 to \$ 500,000	Costs to local entities not estimated.	\$ 500,000				\$ 500,000	
						\$ 4,000,000 to \$ 7,000,000		\$ 4,750,000				\$ 4,750,000	
				TBD to TBD		TBD to TBD							
						TBD to TBD							
<b>TOTALS</b>	\$ 1,317,000 to \$ 3,640,000	\$ 1,239,000 to \$ 2,310,000	\$ 1,175,000 to \$ 2,015,000	\$ 545,000 to \$ 810,000	\$ 4,500,000 to \$ 7,650,000	\$ 8,776,000 to \$ 16,425,000		\$ 4,985,000	\$ 250,000	\$ 1,520,000	\$ 725,000	\$ 5,794,000	\$ 13,274,000

**Notes:**  
(a) Estimated cost to complete major tasks specified in CV-SALTS 5-Year Workplan is for planning purposes only. Actual costs may vary as work on the Central Valley Salt and Nutrient Management Plan ("SNMP") and Basin Plan amendments progresses and tasks are refined. The estimated cost is expressed in 2011 dollars that have not been adjusted for inflation or the time value of money.  
(b) Costs in contracts are from the State Board SJVDA Contract

**Color Key**  
Funding Sources undecided  
Regional Board Staff and Internal Costs

# Attachment 5

## CV-SALTS Draft 5-Year Work Plan

### Response to Comments on Draft Versions

Informal comments and committee recommendations were incorporated in to the documents in drafts 1-5. Written comments were addressed and detailed in this response document.

Comments from Central Valley Regional Water Quality Control Board – Transmitted February 3, 2012

#### **Overall Comments emailed from Jeanne Chilcott**

Comment:

1) The Board will not consider a SNMP for approval until CEQA is complete (also noted as a requirement in the Recycled Water Policy). The timeline does not reflect that requirement.

Response:

The Consulting Team has adjusted the schedule to provide a draft final Proposed CV-SNMP to the Regional Board to comply with the section 6(b)(1)(d) which requires the plans shall be completed and proposed to the Regional Water Board within five years unless the Regional Water Board finds the stakeholder are making substantial progress. This plan in compliance with section 6(b)(2) within one year of receipt must be considered for adoption by the Regional water Board consistent with CWC section 12342. We believe the schedule is in full alignment with these requirements and allows the Board to consider the plan with the Basin Plan Amendments implementing it.

Comment:

2) By moving backward from 2014, many of the tasks that must be completed appear to have unrealistic timelines if anticipated to provide sound scientific evidence.

Response: Due to the available time the scope of the planning, archetypes and prototypes undertake will be limited to that which can be accomplished with sound scientific evidence in the time available.

Comment:

3) Does the timeline account for processing contracts and conducting peer review?

Response: Yes, it is shown for the first two tasks on the critical path, it is assumed in this summary schedule for all other tasks and a more detailed schedule completed with the detailed technical scopes of work are prepared will include procurement. The procurement duration scheduled for these tasks is based on the existing SOQ from 2011 and should the skills not be available or this process not appropriate other solutions may be needed to maintain schedule compliance.

Comment:

4) Under Heading Schedule, Scope and Cost: 2nd paragraph, 3rd sentence, it describes content in Attachment 4. From its description Attachment 4 appears to be a critical document that will inform our review and evaluation of the workplan and allow us to better assess the costs identified. When will Attachment 4 be distributed for review?

Response:

Attachment 4 is attached to the revised document. It provides links to other documents and summarizes in some detail the tasks listed. The development of Technical scope documents was not completed in fall 2012 as contracted and so several of these tasks will be further defined in the future when Technical scopes are completed.

### **CV-SALTS Program Work Plan Detailed Comments**

Comment:

- 1) Under heading Element Development: page 1, 3<sup>rd</sup> Sentence "To date several useful elements of the program have been developed"

I think it is important to identify what the "useful elements" are. My assumption is that the "useful elements" are such things as Knowledge Gained document, BUOS etc. Recommend a separate attachment with a list of useful elements and links to them.

Response:

Changes in the document were made to address this comment and links to documents were added in Attachment 4 of the document.

Comment:

- 2) Under heading Integration of Elements: page 1, 2<sup>nd</sup> Paragraph.

The first sentence cites "pilot activities". I am not sure what those pilot activities are. It would be helpful to call out what they are.

The description of the Conceptual Model GIS tool seems like this one tool will be able to do everything, "illustrate the story of how salt and nitrate work", "develop management strategies", and "in the final phases provided alternative evaluations and supports the preparation of documentation for CEQA Documents, Basin Plan Amendments and economics evaluations". I think a more clear description or explanation of what it will take to build this model is needed.

Response:

Changes in the document were made to clarify the paragraph. Additional information on the Conceptual Model is included in the description document and will also be developed in the methodology addendum by Technical Committee at its March Meeting.



Comment:

- 3) Page 2, 1<sup>st</sup> paragraph last sentence "The Major Elements and their contributing constituent parts are shown below as Attachment 1."

Recommend changing "Attachment 1" to Figure 1 since it is a figure imbedded in the document. Also identify CV-SALTS Program Element Integration as Figure 1.

Response:

Changes in the document were made to address this comment.

Comment:

- 4) Under heading Schedule, Scope and Cost: 1<sup>st</sup> sentence references Attachment 2.

Recommend changing "Attachment 2" title as Table 1.

Response:

Changes in the document were made to address this comment.

Comment:

- 5) Under Heading Schedule, Scope and Cost: 1<sup>st</sup> paragraph, last sentence references Attachment 3.

Not sure if Attachment 3 has been provided. Make sure each attachment, table, or figure is identified with number along with title.

Response:

Changes in the document were made to address this comment.

Comment:

- 6) Under Heading Schedule, Scope and Cost: 2<sup>nd</sup> paragraph, 3<sup>rd</sup> sentence, "Attachment 4 provides an outline of all tasks identified and the level of detail available for each task. This attachment identified critical tasks and enhancement tasks which may be completed if funding, timing and cooperation is available."

From its description Attachment 4 is what we really need to evaluate the workplan and assess the costs identified in the next section when will this be distributed for review?

Response:

Additional Scoping of the technical tasks is needed for this document to be complete; however the outlines of element descriptions are attached to the revised workplan document.

Comment:

- 7) Under Heading Schedule, Scope and Cost: 2<sup>nd</sup> paragraph, last sentence, “Attachment 5 provides a more detailed estimate of costs by element and task.”

Is Attachment 5 CV-SALTS Workplan Major Task Cost Estimate Ranges? Attachment # or Table # should be included somewhere in the header of the table.

Response:

Changes in the document were made to address this comment.

Comment:

- 8) Page 3 “Attachment 2 Summary Program Timeline”

I think this should be labeled as Table 1.

Explain or foot note diamond figures in the Outreach and Scoping Meeting line.

Abbreviations/acronyms under the Technical Studies should be defined somewhere, such as ISWP and POI.

Concerned about CEQA documentation time line occurring after SNMP goes to Board May 2014.

Response:

Changes in the document were made to address this comment. See Response to overall comment 1.

Comment:

- 9) Figure titled Element Cost at Point Estimates

Recommend consistency throughout the document by either identifying all figures with Title and Figure #. If so this would be Figure 2.

Response:

Changes in the document were made to address this comment.

Comment:

- 10) Under heading Cost Estimates, Funding and Contracting: 2<sup>nd</sup> paragraph, 2<sup>nd</sup> sentence.

Is reference to BMP a typo? If not I’m not clear what BMP will be completed.

Response:

Changes in the document were made clarify this is the Basin Plan Amendment.

Comment:

11) Page 4 Fund source Breakout at Point Estimate Costs figure.

Recommend consistency throughout the document by either identifying all figures with Title and Figure #. If so this would be Figure 3.

Response:

Changes in the document were made to address this comment.

Comment:

12) Page 4, 2<sup>nd</sup> paragraph end of first sentence cites “participating stakeholders”.

It is unclear how participating stakeholders differ from CVSC – Recommend explaining this.

Response:

Not all Stakeholders are currently CVSC members, this designation is intended recognize not all who fund CV-SALTS work may be members of CVSC.

Comment:

13) Page 4 under heading Attachments

To avoid confusing the reader I recommend these be titled as Figures or Tables since they are imbedded in the document not necessarily attachment to it.

Make sure title under this section is the same as title on the figure or table.

Response:

Changes in the document were made to address this comment.

Comment:

14) CV-SALTS 5-Year Workplan Major Task Cost Estimate Ranges table

Recommend color key be changed for the red and orange fonts. The red and orange when printed are so close it is hard to distinguish.

Response:

Changes in the document were made to address this comment.

Comment:

15) CV-SALTS 5-Year Workplan Major Task Cost Estimate Ranges table

Task description – Policy Discussions on Beneficial Uses and WQOs, subtasks described under orange heading seem more like they fit in the green Policy Decision Support in the Program Element Integration (figure on p2). I don't have any recommended edits, but think this needs some clarity.

Response:

The technical elements of these efforts are in the "green" technical section the Policy Discussions are in the Orange as part of the Facilitation and Management contract.

Comment:

16) CV-SALTS 5-Year Workplan Major Task Cost Estimate Ranges table

Task description – Technical Studies, the three phases and subtasks seem over simplified for the level of output you describe on page 1 Integration of Elements. Perhaps a more detailed discussion under the Integration of Elements to describe the Conceptual Model phases would then better support the task descriptions.

Response:

Changes in the document were made to address this comment. Also see response to Overall Comment 2.

Comment:

17) CV-SALTS 5-Year Workplan Major Task Cost Estimate Ranges table

Task description – Archetype on both the Groundwater and POTW archetypes - you have deleted the staff report, BPA process and approvals. See comment #18 below on Documentation for Approval tasks.

Response:

See response to Overall Comment 1.

Comment:

18) CV-SALTS 5-Year Workplan Major Task Cost Estimate Ranges table

Task description – SNMP POTW Receiving Water...subtasks and timelines need to be refined to match Regional Board workplan

Response:

Changes will be made when received.

Comment:

19) CV-SALTS 5-Year Workplan Major Task Cost Estimate Ranges table

Task description – Documentation for Approval. The bulk of these subtasks appear to be after the development of the SNMP May 2014 due date. Due to the various subtasks that will have to feed into the CEQA documentation it may be necessary to add some CEQA subtasks back into the individual Technical Studies (green) tasks.

Response:

See response to Overall Comment 1.

Comment:

20) CV-SALTS 5-Year Workplan Major Task Schedule

Schedule will need to be adjusted in final version lines 12 and 96 due dates have past.

Response:

Changes in the schedule were made to address this comment.

Comment:

21) CV-SALTS 5-Year Workplan Major Task Schedule

This chart is a great start, however, I think the duration of the tasks listed need to be evaluated many are too compressed to accomplish the work tasks identified.

Response:

See response to Overall Comment 2.