

Initial Conceptual Model (ICM) Workplan

Executive Summary

In May 2012, the Central Valley Salinity Coalition (CVSC) sought technical assistance to guide the development of the Initial Conceptual Model (ICM) for the Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) Initiative. The Larry Walker Associates (LWA) Team was authorized to provide the ICM Technical Services in August 2012.

The ICM is the first of several phases of work that needs to be completed in order to fully develop the Central Valley Salt and Nitrate Management Plan (CV-SNMP) by May 2014 (**Figure 1**). The knowledge base, technical analyses, and associated documentation developed as a part of the CV-SNMP will form the basis for amendments to the Water Quality Control Plans for the Sacramento/San Joaquin Valleys and Tulare Lake Basin. The work will also be foundational for the more detailed, sub-regional analyses that will be undertaken later by local stakeholder groups when they develop the local SNMPs.

Phase I of the CV-SNMP, the development of the ICM, is on a critical path since Phase 2 of the CV-SNMP, the development of a Master Plan, cannot be initiated until the ICM work is completed. Similarly, Phase 3, finalizing the CV-SNMP, cannot be initiated until Phase 2 is well underway. Therefore, to meet the May 2014 regulatory deadline, it is critical that the ICM work be completed pursuant to the approach and schedule outlined in the Workplan. Delays in the development of the ICM will have a corresponding impact on the future phases of work. The goals and objectives of each Phase of work for the CV-SNMP are detailed below:

- The goal of the ICM is to produce a 30,000 foot level, ‘*Concept Level*’ analysis of the Central Valley water balance, and to estimate salt and nitrate load balances in the Initial Analysis Zones (IAZs).
- Phase 2, the development of the CV-SNMP Master Plan, will utilize the data collected and/or organized, the methods, and the results developed as a part of the ICM. Phase 2 will provide refined, interconnected spatial detail for the water balance, salt, and nitrate modeling of the Central Valley in particular the valley floor, which will result in the development of the ‘*Central Valley SNMP Level or Master Plan*’.
- During Phase 3, a final CV-SNMP Master Plan Document will be prepared and will include a program of implementation and proofs of concept. Phase 3 will also include an economic analysis of proposed implementation alternatives, an antidegradation analysis and support for drafting the proposed Basin Plan Amendment (BPA). Phase 3 will have a similar level of detail as Phase 2.
- Upon adoption of the comprehensive, CV-SNMP Master Plan, local-scale SNMPs will be developed and implemented, informed by prototype and archetype methods and implementation measures recommended in the CV-SNMP. This local scale effort is the ‘*Local SNMP Level*’

The Workplan describes the approach, milestones, and deliverables that will be used to develop the ICM over the next six-seven months. The Tasks in the Workplan include:

- Task 1 Project Management Plan - Management and Coordination Activities (see below)
- Task 2 ICM Workplan (submitted to CV-SALTS)

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Task 3 Data Development

This task provides appropriate inputs and checks for the 30,000 foot level conceptual modeling effort. Data will be developed to lay the best practicable foundation for future phases of the Central Valley SNMP. Data will ultimately be housed and available under the GIS data framework.

Task 4 Establish Initial Analysis Zones (IAZ)

For the ICM, the IAZ is proposed to be hydrologically based. For Phases 2 and 3 the zones can be readily defined to any dimension that suits the objectives of later SNMP efforts at the Central Valley wide scale, the regional scale or the local scale. This Task also explores the characteristics that may influence the delineation of future Management Zones.

Task 5 Establish Methods for Salt and Nitrate Water Quality Analyses

This task develops methods for analyzing surface and groundwater data and estimating salt and nitrate source loading coupled with groundwater/ surface water interaction to answer questions about analysis at different geographic scales in later tasks.

Task 6 Complete High Level Salt and Nitrate Analyses for Central Valley

This task performs a high-level analysis of salt and nitrate conditions throughout the Central Valley coverage of the CVHM. Findings will be provided in the ICM report. This involves a coarse analysis for all IAZs comprising the Central Valley.

Task 7 Salt and Nitrate Analyses in Selected Subareas of the Central Valley

This task develops prototype templates for the use of the data analysis methods developed under Task 5 to characterize salt and nitrate at finer scale than Task 6. The prototypes will provide the foundation and methods that can be applied to the Phase 2 CV-SNMP Master Plan.

Task 8 Prepare Initial Conceptual Model Report

This Report will summarize the relevant findings and will provide recommendations for the development of the Phase 2 CV-SNMP Master Plan and the Final CV-SNMP (Phase 3).

PROJECT MANAGEMENT PLAN

The Project Management Plan identifies the approach that the LWA Team will utilize in managing the ICM and GIS work and coordinating and communicating internally as well as with CV-SALTS management and committees. The Project Management Plan will be employed to maintain a clear focus on the assignments, to clearly communicate progress on the necessary technical information, to receive early feedback from CV-SALTS, and to apply the knowledge gained most effectively. The overall project coordination between the LWA Team and CV-SALTS is illustrated in **Figure 2**.

Given the aggressive schedule for the development of the ICM (as well as the need to complete the CV-SNMP by May 14, 2014), the LWA Team *strongly* recommends that the CV-SALTS Executive Committee establish a Project Committee and delegate the authority necessary to this Committee so that they can approve key work products so that the ICM can be developed efficiently and effectively within the timeframe necessary. The close coordination between the LWA Team and the Project Committee will allow the LWA Team to receive necessary feedback in a timely manner so that the aggressive schedule can be met.

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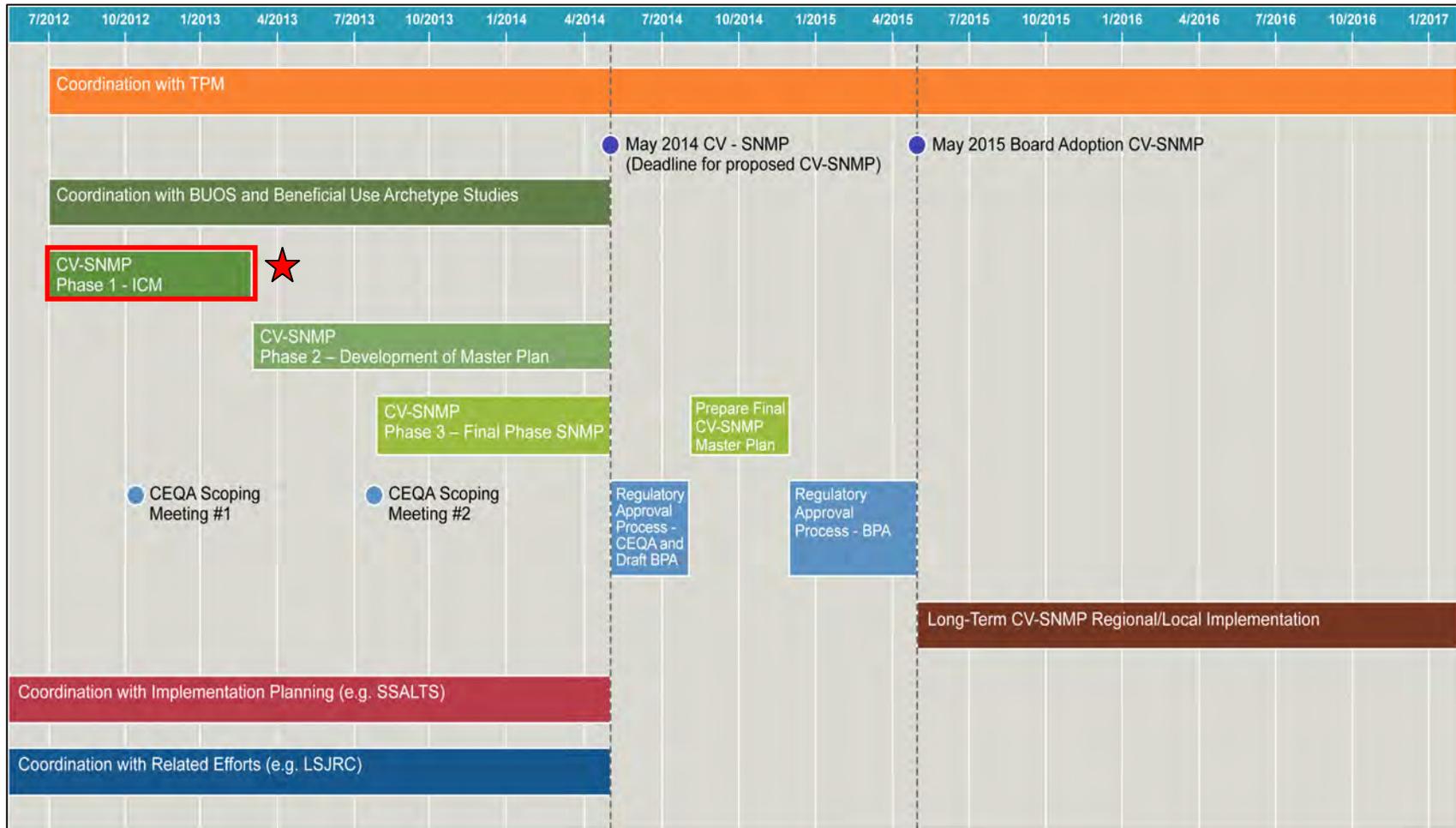


Figure 1. CV-SALTS Timeline for Development of CV-SNMP

