

Geographic Information Systems (GIS) Workplan

Executive Summary

In May 2012 the Central Valley Salinity Coalition (CVSC) sought technical assistance in providing Geographic Information System (GIS) Technical Services for the Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) Initiative. The Larry Walker Associates (LWA) Team was authorized to provide the GIS Technical Services in August 2012.

The objective of the GIS Technical Services is to continue the development of a GIS to organize information pertaining to the beneficial uses, water quality objectives, and water quality of surface water and groundwater in the Central Valley. The development of a comprehensive geodatabase and efficient GIS tools are central to the utilization of these data in analyzing water, land-use, and water quality information and for identifying areas of concern and assessing management alternatives. This project will build off of the Phase 1 Beneficial Use Objectives Study (BUOS) GIS data gathering effort that has already incorporated much data pertaining to water quality objectives and beneficial uses.

The GIS Workplan describes the approach, milestones, and deliverables for Tasks 1, 3, and 4 over the next eight months. Tasks 5 to 8 will be scoped in a future date. The Tasks included in this Workplan include the following:

Task 1 Project Management Plan - Management and Coordination Activities (see below)

Task 2 Develop GIS Technical Services Workplan (submitted to CV-SALTS)

Task 3 Address Identified Data Gaps in Existing BUOS System

This task updates the existing Beneficial Use Objectives Study (BUOS) GIS with the March 2012 National Hydrography Dataset (NHD 2012). The updated GIS will be used as a baseline for additional GIS layers (i.e., Tasks 4, 5 and other CV-SALTS projects that rely on the GIS layers) and to examine areas that may require more focused data gap filling efforts. The updated data will be accessible and downloadable in the web-enabled data repository GIS viewer.

Task 4 Incorporate Additional GIS Map Layers into Existing System

This task enhances the existing BUOS GIS by incorporating eight (8) additional data layers that will be developed based on readily available datasets. The data layers include the following:

- Municipal water supply intakes from surface streams;
- Discharges from POTWs to surface streams;
- Agricultural intakes;
- Municipal water supply wells;
- Other water supply wells used primarily for agriculture irrigation;
- Other water supply wells used primarily for domestic supply to individual residences and/or small farms;
- Municipal or domestic water supply wells where nitrate-nitrogen concentration exceeds 10 mg/L; and
- Municipal or domestic water supply wells where the total dissolved solids (TDS) concentration exceeds 3,000 mg/L, or the electrical conductivity (EC) exceeds 5,000 $\mu\text{S}/\text{cm}$, in groundwater

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The Data Source Matrix table will be developed as a representative subset of data sources for identifying datasets that can potentially expedite creating the GIS layers. The updated GIS data layers will be accessible and downloadable in the web-enabled data repository GIS viewer.

PROJECT MANAGEMENT PLAN

The GIS Workplan includes a Project Management Plan that 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. Given the compressed schedule and budget for this work, it will be critical to streamline the project management approach and deliverable approval process, track progress closely, communicate frequently, and support the sharing of information and advice needed to complete the project. The overall project coordination between the LWA Team and CV-SALTS is illustrated in **Figure 1**.

Given the amount of work that needs to be completed and the aggressive schedule for the development of the GIS work, 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 GIS work can be developed 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. Throughout the duration of the project and in coordination with the various deliverables, the LWA Team will have conference calls with the Project Committee to discuss and receive early feedback on the approach for the tasks as well as any interim work products, draft and final memos, reports, and/or other documents developed as a part of this project.

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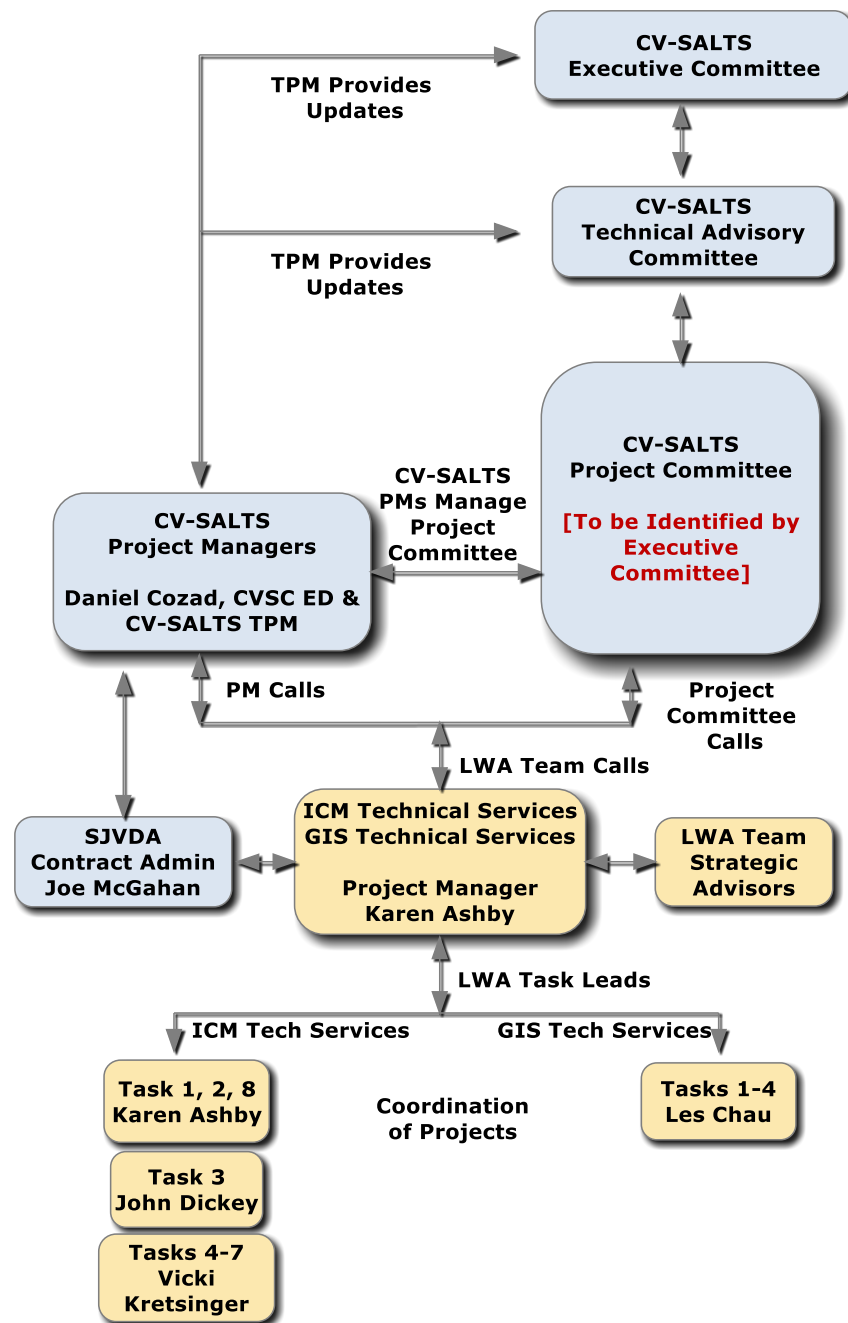


Figure 1. CV-SALTS ICM & GIS Organizational and Communication Structure