
CHAPTER 1

INTRODUCTION

This chapter provides background information on the Los Vaqueros Expansion Investigation (LVE), including the purpose, scope, and organization of this document.

BACKGROUND

Contra Costa Water District (CCWD) is the owner and operator of the Los Vaqueros Project. The existing Los Vaqueros Project includes a 100,000-acre-foot offstream reservoir, intake and pump station at Old River in the eastern Sacramento – San Joaquin Delta (Delta), and transmission pipelines to the reservoir and to the Contra Costa Canal. The dam and reservoir are located within an 18,500-acre watershed owned and maintained by CCWD. The project was completed in 1996 at a total cost of \$450 million, financed with local revenue bonds. The primary purposes of the existing project are to improve water quality and provide emergency storage.

In 2001, the U.S. Department of the Interior, Bureau of Reclamation (Reclamation), California Department of Water Resources (DWR), and CCWD began appraisal-level studies of the potential to expand Los Vaqueros Reservoir to address regional water quality and supply reliability needs. Expansion of Los Vaqueros was one of five potential surface water storage projects identified by the CALFED Bay-Delta Program (CALFED) as warranting further study. Appraisal-level studies indicated that expanding the reservoir by as much as 400,000 acre-feet was technically feasible and could provide water quality and supply reliability to agencies in the region, as well as providing potential benefits to fisheries sensitive to water management operations in the Delta.

Reclamation was directed in Public Law (PL) 108-7 (Omnibus Appropriations Act of 2003) to conduct a feasibility-level investigation of the potential expansion of Los Vaqueros Reservoir. Reclamation and DWR are the Federal and State agencies conducting the investigation, respectively. CCWD, as owner of the existing Los Vaqueros Project, also has an integral role in the LVE, and has worked under contract to DWR and Reclamation to perform engineering studies and environmental review.



Photo by Stephen Joseph

LOS VAQUEROS RESERVOIR

CCWD stores water in Los Vaqueros Reservoir that is diverted from the Delta when water quality is favorable, for later release and blending when Delta water quality is poor. The 100,000-acre-foot reservoir also provides important emergency water supply storage and, as secondary benefits, recreation and flood control.

Initial results of the first phase of the LVE were described in the *Initial Alternatives Information Report (IAIR)* of September 2005 (CALFED, 2005b). The IAIR identified technically feasible alternatives to meet project objectives within established criteria and constraints, but did not examine the economic feasibility of a project to expand Los Vaqueros Reservoir.

Study Area

The study area includes the Los Vaqueros Reservoir watershed and associated project facilities, the central and south Delta, and service areas of San Francisco Bay Area (Bay Area) water agencies that may choose to participate in an expansion project. The location of the study area is shown in **Figure 1.1**.

Los Vaqueros Reservoir is located in the Kellogg Creek watershed of Contra Costa County, California, in the foothills west of the Delta and east of the Bay Area. Los Vaqueros Project facilities and other relevant Delta facilities are shown in **Figure 1.2**.



FIGURE 1.1 - STUDY AREA

Mission Statement

The LVE has the following mission:

The purpose of the Los Vaqueros Expansion Investigation is to identify and evaluate opportunities to increase drought period water supply reliability for municipal and industrial water providers in the Bay Area; provide a less costly water supply to facilitate Environmental Water Account fish protection and recovery actions in the Delta; and, to the extent possible through exploring these opportunities, improve the quality of water delivered to Bay Area municipal and industrial water users.

PURPOSE AND SCOPE OF DOCUMENT

This report is not a Federal decision document and is not suitable for seeking Congressional authority to construct the project. The purpose of this initial economic evaluation is to provide information on study progress primarily in two key areas: economics and plan formulation.

This report will identify potential project benefits and describe methods available to estimate their monetary value. For the purpose of this initial economic evaluation, a single alternative will be selected for analysis; project benefits and costs for this alternative will then be estimated and compared. Based on these findings, an assessment will be made regarding whether an expansion of Los Vaqueros Reservoir is likely to be economically feasible. Selection of the alternative for evaluation in this report does not represent the identification of a recommended or preferred alternative for display in a Feasibility Report or for consideration by Congress.

A focus of the report is on economics related to one of the LVE primary objectives, to provide a less costly water supply for a long-term Environmental Water Account (EWA). Established by CALFED in 2001, the EWA facilitates pumping curtailments in the south Delta and other changes to Central Valley Project (CVP) and State Water Project (SWP) operations to protect at-risk fisheries. To date, the short-term EWA has relied on transfer market water purchases and short-term transfer agreements to secure water supplies for EWA actions.

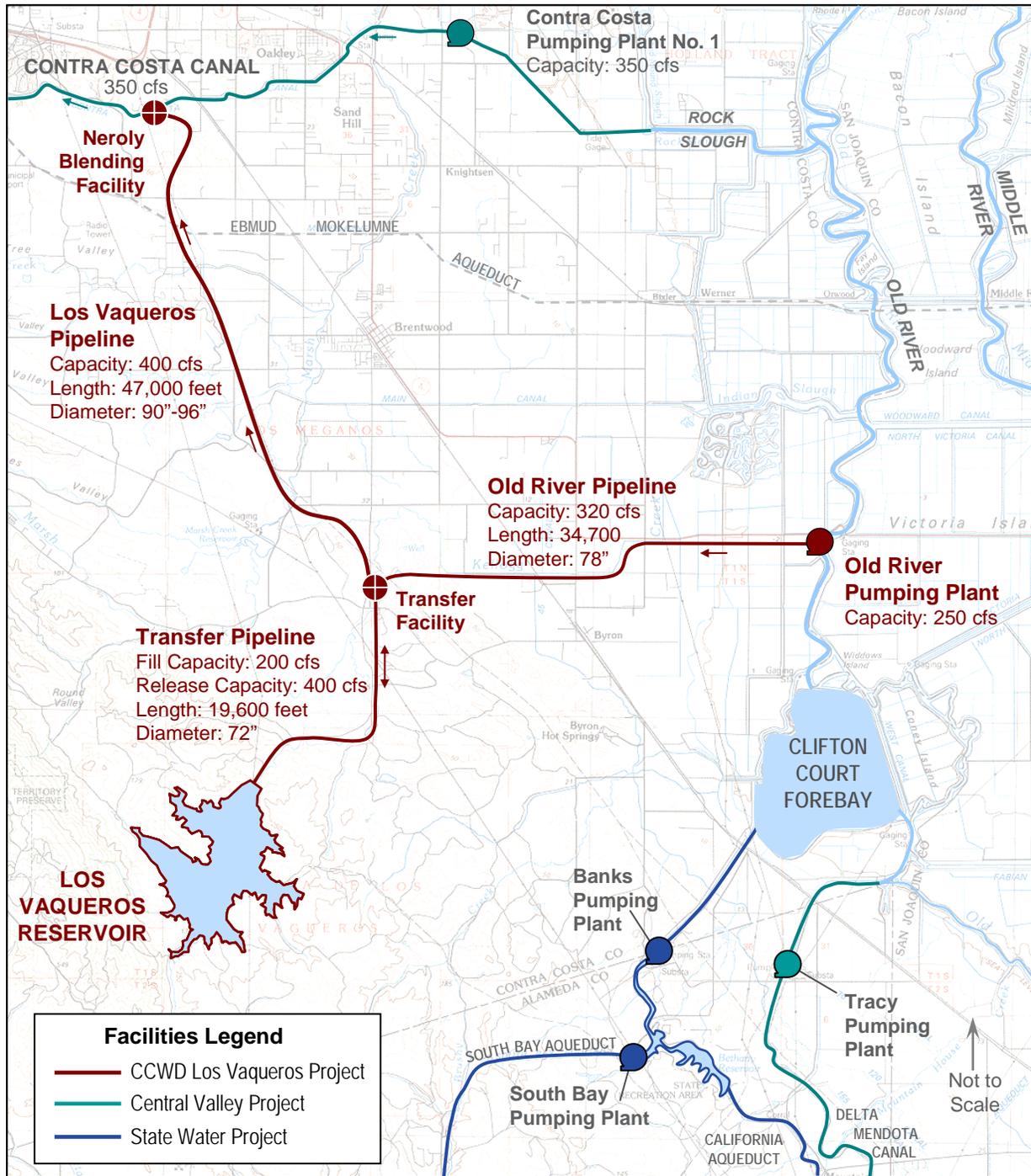


FIGURE 1.2 – LOS VAQUEROS PROJECT AND OTHER DELTA FACILITIES

A key future without-project condition for the study is that some form of the EWA will continue in the future with a primary focus on offsetting water delivery reductions resulting from regulatory actions that curtail Delta pumping to protect at-risk fish. However, a great deal of uncertainty exists regarding the cost of water for programs such as the EWA in the future. Because all of the CALFED surface storage projects have been asked to examine how they might contribute to a long-

term EWA, the CALFED Common Assumptions Economic Workgroup (CAEWG) is evaluating future transfer market water costs. CAEWG analyses are ongoing.

This document also will examine Federal economic principles and potential methods for calculating project benefits and allocating project costs to those benefits. Various methods are available to estimate or quantify the water supply reliability and quality benefits provided by the alternatives under consideration in the LVE. Methods for calculating project benefits and evaluating contributions to National Economic Development (NED) are identified.

This document also will highlight key issues affecting plan formulation. Ongoing feasibility studies for the LVE have identified new ways to formulate, configure, and operate an expansion project that differ from scenarios previously studied.

ORGANIZATION OF THIS DOCUMENT

This report is organized as follows:

- This chapter provides general background information on the current investigation.
- **Chapter 2** summarizes alternatives formulation for the LVE, including study objectives, criteria, constraints, and project baselines.
- **Chapter 3** describes Federal economic principles and recommends methods for calculating project benefits and identifying the plan that maximizes NED.
- **Chapter 4** examines the future cost of water transfers over the 100-year LVE planning horizon.
- **Chapter 5** provides a preliminary comparison of potential project benefits and costs.
- **Chapter 6** presents a method for allocating project costs to Federal and potential non-Federal sponsors.
- **Chapter 7** summarizes findings.