

Chapter 8

Findings and Future Actions

This chapter summarizes major findings regarding storage site selection, Federal and State interest, and uncertainties and refinements. Future actions and the schedule for the Investigation are also summarized in this chapter.

Storage Site Selection

The Temperance Flat RM 274 Reservoir grouping of alternative plans is retained for further evaluation in the feasibility phase of the Investigation, and the Temperance Flat RM 279 Reservoir grouping of alternative plans will not be retained for further evaluation for the following major reasons:

- Temperance Flat RM 274 Reservoir alternative plans have greater benefits, greater net benefits, and a higher benefit-cost ratio compared to the Temperance Flat RM 279 Reservoir alternative plans.
- Most of the Temperance Flat RM 274 Reservoir alternative plans provide positive net benefits, but Temperance Flat RM 279 Reservoir alternative plans do not provide positive net benefits.
- Temperance Flat RM 274 Reservoir alternative plans address the planning objectives of enhancing water temperature and flow conditions in the San Joaquin River, and increasing water supply reliability and operational flexibility to a greater degree than Temperance Flat RM 279 Reservoir alternative plans.
- Based on comparing the alternative plans according to the four P&G criteria, Temperance Flat RM 274 Reservoir alternative plans ranked higher than Temperance Flat RM 279 Reservoir alternative plans.

The Trans Valley Canal will also not be retained for further evaluation in the feasibility phase of the Investigation. The ranking of alternative plans and benefit-cost ratios are not substantially affected by including the Trans Valley Canal with the Temperance Flat reservoirs, and the canal is not needed to achieve a positive benefit-cost ratio. The Trans Valley Canal is a potentially beneficial increment that could be added to an alternative at a later time.

Federal and State Interest

This PFR concludes there is a Federal and State interest to continue the Investigation to determine the feasibility of a potential project in the Upper San Joaquin River Basin to meet objectives associated with M&I, agricultural, and environmental water supply reliability; anadromous fish survival; power; incremental flood damage reduction; and recreation. The degree and magnitude of the Federal and State interest in a potential project will be refined and quantified in the Feasibility Report, EIS/EIR, and supporting documentation.

Alternative plans have been identified that result in positive net NED benefits and significant positive regional economic effects. To date, there has been strong interest at the local, regional, State, and Federal levels in a potential project to address the identified planning objectives and opportunities. Much support has been expressed by CVP Friant Division contractors, and other statewide water supply and political interests.

The next major steps in the Investigation will be to refine and evaluate alternative plans for further consideration in the Draft and Final Feasibility Report and EIS/EIR. The following sections describe various uncertainties associated with the Investigation, and likely refinements to alternative plans.

Uncertainties

Further definition and resolution of concerns and uncertainties will be a substantial effort in upcoming studies for the Investigation. Certain assumptions were made for aspects of this report based on engineering and scientific judgment. Various uncertainties associated with the Investigation are discussed below. Uncertainties will be addressed further in the feasibility phase of the Investigation, to the extent practicable, as evaluations are refined.

Hydrology and Climate Change

The potential for climate change poses a major hydrologic uncertainty, which could possibly produce conditions that are different from those for which current water management operations were designed. The potential for, and magnitude of, climate change is widely debated. Climate change could cause warmer winters with less snow and more rain, resulting in more late winter and early spring runoff but less late spring and early summer runoff. This change in precipitation timing, frequency, and magnitude may require changes in reservoir operation and evacuation of storage to maintain the flood storage space. Less summer moisture available for crops would increase the need for more irrigation water during the growing season, and additional water deliveries may be required to support agriculture. Climate change is also expected to raise sea levels, which would increase Bay-Delta vulnerability to sea water intrusion, impact water quality and deliveries, and increase levee failure and flooding risk.

The State is investing substantial resources in studying how global climate changes could affect the way California receives and stores water. Results indicate that climate changes in the State could affect hydrology, water temperatures for fish, and future operations for both flood damage reduction and water supply deliveries. The effects of climate change on the Investigation will be considered in the feasibility phase as data sets for climate change sensitivity analyses become available.

System Operations

Water operations modeling performed for this PFR was completed assuming that current system facilities and operational constraints would not change for the without-project conditions. Federal planning guidance was used to make assumptions about which future projects and plans may or may not be implemented; and correspondingly included or excluded from these models and evaluations. Assumptions made for the PFR evaluations may change during feasibility evaluations, and may affect the findings. The most up-to-date information and assumptions is used for the operations modeling at each phase of the Investigation.

Some key areas of uncertainty potentially affecting operational analyses for the Investigation include implementation of the SJRRP on the operations of Friant Dam and the San Joaquin River, and changes in Delta export regulations or policies resulting from the pending OCAP biological opinions, new ESA listings, or recommendations from various planning processes for the Delta, including the Delta Vision and the BDCP.

As uncertainties regarding some of these plans and policies are resolved, operational assumptions will be refined, which may change the basis of comparison for or magnitude of the accomplishments of the alternative plans. The timing for potential resolution of any of these uncertainties relative to the Investigation schedule is unknown. It is expected that OCAP consultations will be completed by spring 2009. For the SJRRP, Congressional action is required to authorize Federal participation in the Settlement and to appropriate funds to support implementation goals. According to the schedule provided in the Settlement, full Restoration Flows will begin in 2014, and river facility construction will be completed by 2016. A program of Interim Flows will commence no later than October 1, 2009, and continue until full Restoration Flows begin. Details regarding the Water Management Goal are being developed and are not available at this time. The Investigation will make refinements to relevant planning assumptions as new information becomes available during the feasibility phase.

Cost Estimates

Cost estimates developed for alternative plans included in this report are based on September 2006 price levels. Varying uncertainties are associated with the material and unit costs used to develop the estimates, including the price of construction materials, the proximity of materials to the project site, and labor costs. Trends from the past few years were used to try to reliably estimate the cost of materials, but outside factors could further influence price changes. Cost estimates will be reevaluated and updated in the feasibility phase.

Alternatives Refinements

Plan formulation is an iterative process with the intent to lead to identification of a recommended plan for Federal and/or State consideration. As mentioned, the alternative plans described in this report are likely to evolve as the Investigation progresses toward completion. In addition to some of the other areas of uncertainty described herein, potential adjustments in the alternatives could result from assumptions and estimates concerning project scope, magnitude of accomplishments and benefits, environmental impacts, types and extent of potential mitigation, necessary physical features, and external projects and programs. This iterative process is important in refining alternatives to ensure that the plan ultimately chosen as the recommended plan best addresses the planning objectives and Federal and/or State criteria.

Future Actions

As described above, further refinement and evaluation of the alternative plans addressed in this PFR will be completed during the feasibility phase of the Investigation and documented in the Draft and Final Feasibility Report and EIS/EIR. As the Investigation progresses, Temperance Flat RM 274 Reservoir (1,260 TAF) alternative plans will likely evolve as technical studies are refined and additional information related to potential benefits, impacts, and estimated costs is obtained, developed, and evaluated. Further, additional environmental analyses will be completed, which will inform the nature of potential mitigation and/or enhancement measures included in this grouping of alternative plans. Additional comparisons will be conducted for the alternative plans during the feasibility study and included in the Draft and Final Feasibility Report and accompanying EIS/EIR. The comparisons in the next phase of the Investigation will provide the basis for selection of a recommended plan. At that time, implementation responsibilities and an allocation of estimated costs will be developed and identified for the Recommended Plan.

All of the alternative plans would require some portion of their estimated costs to be reimbursed by the non-Federal sponsor(s). The magnitude of estimated cost assigned to each potential project purpose would vary depending on the plan ultimately chosen for implementation. Accordingly, an important focus in upcoming studies would not only be placed on defining a recommended plan, but also on refining project participation, including reimbursement requirements.

Many of these issues or concerns will become better defined and more appropriate for resolution once the alternative plans, and later the recommended plan, are defined. Additional and important related future actions include the following:

- Completing environmental studies, including a detailed comparison of the environmental impacts of the alternative plans with the No-Action/No-Project Alternative for NEPA and CEQA, process documentation, agency coordination, and consultation.
- Completing identification of potential effects (adverse and beneficial) and mitigation features of the alternative plans.
- Developing detailed designs, cost estimates, potential benefits, and cost allocation, and defining the rationale for, and selection of, a Recommended Plan.
- Identifying a non-Federal cost share partner.
- Determining financial feasibility through ability-to-pay analyses of Federal and non-Federal project partners.
- Preparing and completing a Federal decision document that will incorporate the NEPA and CEQA compliance documentation by reference.

Schedule and Status of the Feasibility Study

Table 8-1 summarizes major activities that either have occurred, or are planned to occur, as a part of the feasibility study. A Draft Feasibility Report and EIS/EIR are currently scheduled for release to the public for review in late 2009. A schedule of major actions to complete the feasibility study and future milestones leading to project implementation are shown in Figure 8-1. The Final Feasibility Report and EIS/EIR are scheduled for Washington-level review through Reclamation in 2010.

Table 8-1. Time Line and Status of Feasibility Study

Activity	Description	Date
Federal authorization	Federal authorization for the Investigation was initially provided in Public Law 108-7, Division D, Title II, Section 215, the omnibus appropriations legislation for fiscal year 2003, enacted in February 2003. This act authorized the Secretary of the Interior to conduct feasibility studies for several storage projects identified in the CALFED ROD (2000a), including the Investigation. Subsequent authorization for the Investigation was provided in Public Law 108 361, Title I, Section 103, Subsection (d)(1)(A)(ii), the Water Supply, Reliability, and Environmental Improvement Act, signed October 25, 2004.	Authorization February 2003, subsequent authorization October 2004
Phase I Investigation	Evaluated 17 possible reservoir sites in the eastern San Joaquin Valley and selected 6 for continued study, as documented in the Phase I report.	Report issued October 2003
Formal initiation of environmental compliance processes (NOI/NOP)	Formal initiation of environmental compliance processes began with the NOI/NOP, consistent with Federal and State regulations.	February 2004
Public Scoping	Results of the public scoping process were documented in the Scoping Report. This document reports the results of a series of public scoping meetings held throughout California for the Investigation.	Report issued December 2004
Initial Alternatives Information Report	The six reservoir sites retained from Phase 1 were evaluated, and other reservoir storage sites added in response to comments received during public scoping, and identified potential groundwater storage measures, as documented in the Initial Alternatives Information Report (IAIR).	Report issued June 2005
Plan Formulation Report	This report outlines the formulation, comparison, and evaluation of comprehensive alternative plans that address Investigation planning objectives and opportunities.	Report issued October 2008
Draft Feasibility Report	The Draft Feasibility Report will be a Federal decision document that describes the study process, major results, potential recommended plan, Federal/non-Federal responsibilities and sponsorship, and future actions.	Scheduled for 2009
Draft EIS/EIR	The Draft EIS/EIR will provide environmental compliance documentation consistent with NEPA and CEQA for the alternatives presented in the Draft Feasibility Report, which will be incorporated by reference.	Scheduled for 2009
Final Feasibility Report	Following agency review, the Final Feasibility Report will incorporate revisions based on comments made on the draft report, and include a plan for recommended implementation.	Release for public review scheduled for mid-2010
Final EIS/EIR	Following public and agency review, the Final EIS/EIR will incorporate responses to comments made on the Draft EIS/EIR.	Release for public review scheduled for mid-2010
Washington D.C.-level review	Following additional public review, the Final Feasibility Report and accompanying EIS/EIR will be released by Reclamation staff in Washington, D.C., for State and agency review and processing.	Scheduled for mid-2010
Record of Decision	Following responses to comments from public review, Reclamation staff will issue a ROD for the Investigation and release to Congress for action.	Scheduled for late 2010
Congressional Authorization	Congress will review, and vote on whether to authorize, the project. Authorization would be included in a Conference Report, which would be sent to the President for final approval.	After project recommendation and ROD

Key:

CALFED = CALFED Bay-Delta Program
 CEQA = California Environmental Quality Act
 EIR = Environmental Impact Report
 EIS = Environmental Impact Statement
 Investigation = Upper San Joaquin River Basin Storage Investigation
 NEPA = National Environmental Policy Act
 NOI/NOP = Notice of Intent/Notice of Preparation
 Reclamation = U.S. Department of the Interior, Bureau of Reclamation
 ROD = Record of Decision
 State = State of California

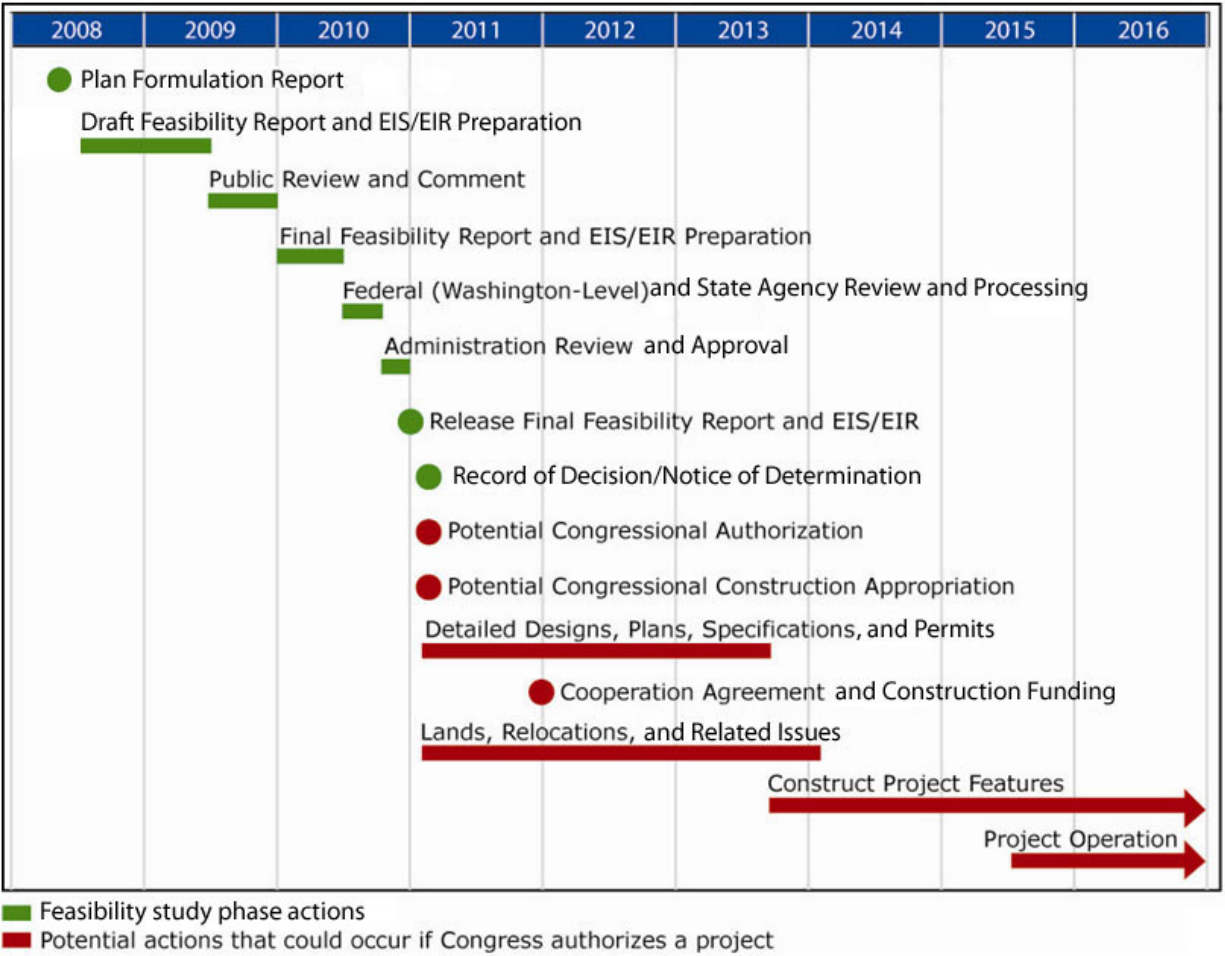


Figure 8-1. Upper San Joaquin River Basin Storage Investigation Schedule

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