Upper San Joaquin River Basin Storage Investigation

Scoping Report

A Joint Study By:

Bureau of Reclamation
Mid-Pacific Region

California Department of
Water Resources

In Coordination With

The California Bay-
Delta Authority

December 2004

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Prepared By

MWH

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SCOPING REPORT

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ABBREVIATIONS AND ACRONYMS

Bay-Delta	San Francisco Bay/Sacramento-San Joaquin Delta
BLM	United States Department of the Interior, Bureau of Land Management
CALFED	CALFED Bay-Delta Program
CEQA	California Environmental Quality Act
CVP	Central Valley Project
CVPIA	Central Valley Project Improvement Act
Delta	Sacramento-San Joaquin Delta
DWR	Department of Water Resources
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EIS/R	Environmental Impact Statement and Environmental Impact Report
FR	Feasibility Report
FS	Feasibility Study
FWUA	Friant Water Users Authority
Investigation	Upper San Joaquin River Basin Storage Investigation
M&I	municipal and industrial
NEPA	National Environmental Policy Act
NOI	Notice of Intent
NOP	Notice of Preparation
NRDC	Natural Resources Defense Council
PEIS	Programmatic Environmental Impact Statement
PEIS/R	Programmatic Environmental Impact Statement and Environmental Impact Report
PG&E	Pacific Gas and Electric Company
Reclamation	Bureau of Reclamation
RNA	Research Natural Area
ROD	Record of Decision
SCE	Southern California Edison Company
SWP	California State Water Project
TAF	thousand acre-feet
USFS	United States Forest Service

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Chapter 1.
Introduction

The Department of the Interior, Bureau of Reclamation (Reclamation), and the California Department of Water Resources (DWR) have initiated environmental compliance documentation for the Upper San Joaquin River Basin Storage Investigation (Investigation). A joint Environmental Impact Statement and Environmental Impact Report (EIS/R) will be prepared in compliance with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) to evaluate proposed actions to increase storage of water from the San Joaquin River.

Potential uses of stored water include contributions to future restoration of the San Joaquin River, improvement of water quality in the San Joaquin River, and changes in water deliveries that could facilitate additional conjunctive management or exchanges that improve the quality of water to urban areas.

The Investigation is one of five recommended surface water storage studies identified in the CALFED Bay-Delta Program (CALFED) Programmatic Environmental Impact Statement and Environmental Impact Report (PEIS/R) Record of Decision (ROD) of August 2000.

The EIS/R will tier from the CALFED PEIS/R. Reclamation is the lead Federal agency for preparation of the Investigation EIS and DWR is the lead State agency for preparation of the EIR.

The Investigation is being developed in two phases. Phase 1 included problem definition, initial evaluation of potential water supplies that could be developed, and an initial screening of surface water storage options that will be considered in a feasibility report.

The Phase 1 Information Report was released in October 2003 and was available for public review prior to initiation of the environmental review process. Phase 2, which includes preparation of the Feasibility Report (FR) and EIS/R, is underway.

SCOPING PROCESS

An environmental review process consistent with NEPA and CEQA was initiated in January 2004 when Reclamation issued a Notice of Intent (NOI) and DWR issued a Notice of Preparation (NOP). During the week of March 15, 2004, Reclamation and DWR convened a set of public scoping meetings in Sacramento, Modesto, Friant, and Visalia, California, to inform interested groups and individuals about the Investigation and to solicit ideas and comments.

Scoping meetings were conducted in an “open house” format. Project team members from Reclamation and DWR and their consultants staffed informational displays and interacted with meeting participants to receive comments and answer questions. Participants provided comments on flip charts at each of the information stations and on comment cards provided by the project team. The opportunity for submitting additional written comments extended through April 16, 2004.

During the scoping phase, the public and agencies are asked to comment on the areas, issues, and groups affected by or involved in a potential action. Scoping allows stakeholders allows stakeholders and interested parties to suggest potential issues that may require environmental review, reasonable alternatives to consider, and potential mitigation (ways to reduce or avoid environmental impacts) if significant adverse effects are identified.

Scoping allows the lead agencies to clearly set the parameters of the environmental review process by determining which issues will or will not be addressed and rationale for those determinations. Scoping also provides decisionmakers with insight on the analyses that the public believes should be considered as part of the decisionmaking process.

This Scoping Report was prepared consistent with Reclamation guidance and in compliance with NEPA requirements. Although this report addresses issues that will be presented in a joint EIS/R, it focuses on Reclamation's approach to NEPA compliance.

This Report describes agency and public comments received on the scope of the EIS/R, describes the Investigation's approach to the environmental review process, and responds to questions and comments that will be addressed in the EIS/R. Comments received at the scoping meetings or submitted via letter, fax, and e-mail through April 16, 2004, are considered in this Scoping Report.

As the Investigation proceeds, Reclamation and DWR will conduct technical studies of storage options and identify a proposed action. A Draft FR/EIS/R is scheduled for public review during early 2008, followed by a Final FR/EIS/R in late 2008 and a ROD in 2009, as shown in **Figure 1-1**.

FIGURE 1-1. DOCUMENT DEVELOPMENT SCHEDULE

Criteria for Addressing Comments

An EIS/R identifies and assesses potential environmental impacts resulting from a proposed action and reasonable measures to mitigate those impacts. In developing an EIS/R, the lead agencies consider ideas and issues raised by other agencies, stakeholders, and the public that could be related to implementing the proposed action.

Issues related to environmental effects that may result from the proposed action are addressed in the EIS/R. Issues not related to the proposed action or issues that are more appropriately addressed in other environmental documents or programs will not be addressed in this EIS/R.

Other Public Involvement Processes

In addition to public meetings, a variety of other communication tools will provide timely information and opportunities for public comment during the FS and environmental review process. The public involvement program implemented during Phase 1 of the Investigation included the following interactive and outreach components:

- Seven stakeholder workshops
- Coordination with governmental agencies and non-governmental organizations
- Briefings for Tribal representatives
- Briefings for elected officials
- Coordination with local water resources planning and management groups
- Interviews with water management agency representatives
- Tours of Millerton Lake and the upper San Joaquin River
- Informative brochures, fact sheets, and documents that provided Investigation background and progress updates
- Distribution of Investigation documents via a Web site

The Phase 1 public involvement process engaged a large, diverse group of interested parties and established a foundation for public participation during the FS/EIS/R. As the FS progresses, other interests such as hydropower utilities and public agencies managing lands and flood operations likely will become more engaged in the process. Reclamation and DWR are committed to completing the FS and environmental documentation in a manner that is open to all concerned parties and fully discloses both the beneficial and adverse effects of increasing storage of water from the upper San Joaquin River basin.

ORGANIZATION OF THIS SCOPING REPORT

This report is organized into five chapters. Chapter 1 provides an overview of the Investigation and scoping process. Chapter 2 describes major issues identified during scoping and the approach to the environmental review process. Chapter 3 summarizes by topic all comments received during. Chapter 4 lists individuals and agencies that provided written scoping comments. Chapter 5 contains references cited in this report.

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Chapter 2.
Major Issues Raised and Scope of Environmental Review

This chapter describes major issues raised during scoping that will be considered during the environmental review process.

Reclamation and DWR received scoping comments from Federal and State agencies, public and private utilities, local residents, environmental groups, public advocacy groups, several Native American Tribes, and individuals.

Although the comments addressed a broad range of concerns, they can be grouped into the following categories:

- Project purposes and potential uses of stored water
- Consistency with CALFED ROD
- Alternatives development
- Affected resources and environmental impacts
- Other issues

The following sections provide brief descriptions of these issues and the approach that will be applied in preparing the EIS/R.

PROJECT PURPOSES AND POTENTIAL USES OF STORED WATER

Several comments addressed the project purposes and potential uses of new water supply that could be developed with additional storage. Many comments stated the need for additional releases from Friant Dam to contribute to ecosystem restoration and improve water quality in the San Joaquin River. Some comments indicated that restoration actions should be limited to the reach from Friant Dam to Mendota Pool whereas others suggested the restoration should continue further downstream to the Merced River or to the Sacramento-San Joaquin Delta (Delta).

Several comments questioned who would benefit from the additional water supply developed with increased storage and whether developed water would go towards expanding Central Valley Project (CVP) yield, municipal and industrial (M&I) export, or San Joaquin River restoration. Some comments stressed the need to increase water supplies for current CVP users, and others expressed concern that new water storage could primarily benefit non-local M&I interests.

Other comments addressed the potential that additional water supplies would serve urban development and could be growth-inducing. Many comments stated that Investigation purposes and beneficiaries should be well defined in subsequent environmental documentation.

One comment stated that a top priority for new water supply developed from the San Joaquin River should be to help the remaining private wetlands in the Tulare Lake basin. Other comments indicated that storage of additional water could provide additional water supplies for nearby Native American Tribes.

Response and Approach

The Phase 1 report describes three potential uses of water developed through storage of additional San Joaquin River water supplies. These uses derive from direction provided in the CALFED ROD:

> *…to contribute to restoration of and improve water quality for the San Joaquin River and facilitate conjunctive water management and water exchanges that improve the quality of water deliveries to urban communities.*

In addition to these water supply needs, other water resources related needs that could be addressed in an investigation of storage for San Joaquin River water were identified during Phase 1. These needs include additional flood protection, hydropower generation, and recreation.

Contribute to San Joaquin River Restoration

The reach of the San Joaquin River from Friant Dam to the Merced River confluence does not support a continuous natural riparian and aquatic ecosystem. Most of the water supply in the river is currently diverted for agricultural and urban uses. Consequently, portions of the river between Friant Dam and Mendota Pool, and the reach from Mendota Pool to the Merced River, are often dry.

The CALFED PEIS/R recognized that additional releases from Friant Dam would be needed to establish and support a sustainable ecosystem in the San Joaquin River. The ROD, however, did not establish specific restoration objectives. Development of additional water supplies through storage of surplus water could contribute to the water supply needed to support ecosystem restoration.

The alternatives evaluated in the EIS/R will include water management scenarios that will be used to evaluate how water supply developed with storage could contribute to river restoration.

Information developed by other studies and programs that are considering strategies and plans for restoring the San Joaquin River will be used in the Investigation. One information source is a restoration strategies report prepared by the Friant Water Users Authority (FWUA) and the Natural Resources Defense Council (NRDC) developed as part of a litigation settlement proceeding between Reclamation and a coalition of environmental organizations led by NRDC regarding the operation of Friant Dam. The restoration strategies report is currently under review by Reclamation and DWR in advance of public release. Another source of potential restoration information is a restoration planning study by the Resources Management Coalition.

These studies will identify water supply and quality requirements to support a range of ecosystem conditions downstream of Friant Dam. The studies also will summarize existing environmental conditions in the San Joaquin River downstream of Friant Dam and may include analytical tools for assessing water quantity and quality and ecosystem conditions.

Other sources of relevant information include the San Joaquin River Riparian Habitat Restoration Program, the San Joaquin River Management Program, and information available from Federal, State, and local agencies. The Investigation will monitor closely the progress of these efforts and will consider the information, as it becomes available, to assess how additional storage of San Joaquin River water could contribute to river restoration.

Improve San Joaquin River Water Quality

Water quality in portions of the San Joaquin River has been a problem for several decades due to low flow and discharges from agricultural areas, wildlife refuges, and municipal wastewater treatment plants. Water quality requirements in the San Joaquin River are becoming more stringent, and the number of locations along the river at which specific water quality objectives are identified may increase in the future.

Water quality of the San Joaquin River would improve if high-quality water is released from Friant Dam. The specific reach in which water quality would improve, and the extent of the improvement, would depend on how water released from Friant Dam is managed and how the introduction of additional water supplies to the San Joaquin Valley affects the operation of the CVP and the California State Water Project (SWP).

Many of the operational scenarios developed by other studies for San Joaquin River restoration objectives also would provide improvements in San Joaquin River water quality. As the Investigation proceeds, water management scenarios will include operations that focus on supporting restoration or improving river water quality and operations that support both objectives.

The water management scenarios will focus on the use of water after it is released from Friant Dam, and how different operational actions affect water quality conditions. For example, diverting water released from Friant Dam at Mendota Pool would reduce the reliance on Delta water for some lands that discharge to the San Joaquin River, thereby improving the quality of discharge water.

The diversion of additional San Joaquin River water at Mendota Pool also would reduce the amount of Delta water delivered to Mendota Pool, thereby affecting Delta operations and water delivery to other areas served by CVP and SWP facilities. Alternatively, water released from Friant Dam could flow past Mendota Pool, thereby providing water quality improvements through the addition of high-quality water to the river.

Increase Water Supply Reliability

The CALFED Program identified water supply reliability as a key problem, because of a mismatch between San Francisco Bay/Sacramento-San Joaquin Delta (Bay-Delta) supplies and beneficial uses that depend on the Bay-Delta system. Water supply reliability problems in the study area, which is served by Friant Dam, multiple other reservoirs in the San Joaquin River and Tulare Lake basins, and Delta export water, are evident as severe groundwater overdraft. Water management strategies will address a range of methods through which storage of additional water from the San Joaquin River could improve water supply reliability in the eastern San Joaquin Valley and elsewhere in the CALFED problem area.

Increasing surface water supply reliability to areas served by the Friant-Kern and Madera canals would reduce reliance on groundwater supplies, facilitate additional conjunctive management, and help facilitate exchanges that improve the quality of water delivered to urban areas.

The diversion of San Joaquin River water released from Friant Dam at Mendota Pool also would provide opportunities to increase water supply reliability to other Bay-Delta water users by reducing the demand for Delta water at Mendota Pool.

Increase Flood Protection

Flood operations at Friant Dam are based on anticipated precipitation, snowmelt runoff, and operations of upstream reservoirs. During flood operations, releases from Friant Dam are maintained when possible at flow levels that could be safely conveyed through downstream channels.

Major storms during the past two decades have demonstrated that Friant Dam, among many other dams in the Central Valley, may not provide the level of flood protection that was intended at the time the flood management system was designed.

Increasing water storage in the upper San Joaquin River basin would allow the capture of additional flood volume and reduce the frequency and magnitude of damaging flood releases from Friant Dam. Although more study is needed to quantify the benefits of additional flood regulation, an opportunity is present for flood damage reduction as part of new surface water storage development in the upper San Joaquin River basin.

Potential for Additional Hydropower Generation

Hydropower long has been an important element of power supply in California. In addition to supporting base power loads, hydropower often is used to support peak power loads due to the ability to rapidly increase and decrease hydropower generation rates. As reservoir operations have changed during the past two decades to accommodate environmental and changing water demands, the ability of hydropower to serve base and peak power loads has decreased.

The upper San Joaquin River basin upstream of Friant Dam is highly developed for hydropower generation, with large projects owned and operated by the South California Edison Company (SCE) and Pacific Gas and Electric Company (PG&E). Many of the storage options carried forward from Phase 1 would significantly affect the operation of power facilities and also provide opportunities for hydropower generation.

Electricity demands are expected to increase in the future. Although some new power generation capacity will be developed, it is reasonable to expect that new generation capacity still will be a limiting factor for several years.

An opportunity for additional hydropower generation may be provided through development of a multiple purpose water storage project.

Potential for Additional Recreational Opportunities

Demands for water-oriented recreational opportunities in the San Joaquin River basin are high. Some of these demands are served by reservoirs on the western slope of the Sierra Nevada Mountains. As population increases in the San Joaquin Valley, recreational demands are expected to increase.

Additional storage in the upper San Joaquin River basin could provide opportunities to increase water-oriented recreational facilities such as swimming areas, access points for various types of boating, and trails. In addition, the release of water from Friant Dam to the San Joaquin River for ecosystem restoration or water quality purposes also could increase recreational opportunities along the river.

CONSISTENCY WITH THE CALFED ROD

Many comments focused on the manner in which the Investigation is proceeding in relationship to the 2000 CALFED Programmatic ROD. Some comments questioned if the Investigation accurately follows the guidance and reflects the objectives described for upper San Joaquin River basin storage in the ROD. Other comments stated that a full range of alternatives has not been established or that project purposes that are not specifically mentioned in the ROD are being considered.

Specific concerns related to consideration of storage options located on the San Joaquin River and evaluation of how additional storage could increase water supply reliability. Some comments requested evaluation of a full range of surface water and groundwater storage alternatives and provision of clear Investigation objectives consistent with the CALFED ROD.

Response and Approach

The mission of the CALFED Bay-Delta Program is to develop a long-term comprehensive plan that will restore ecological health and improve water management for beneficial uses of the Bay-Delta system. The CALFED PEIS/R described a preferred alternative that includes several programs that, in combination, would address four CALFED Program goals.

The CALFED PEIS/R ROD presented a preferred alternative that was identified under NEPA as the "Environmentally Preferable Alternative" and under CEQA as the "Environmentally Superior Alternative." It includes eight broadly described actions and programs to attain the CALFED goals.

Specific projects to be further considered were identified for each action and program. The Storage Program identified five surface water storage investigations and goals for additional groundwater storage and conjunctive management north of the Delta and south of the Delta.

As described in the PEIS/R and ROD, developing additional surface water and groundwater storage can increase water supplies and regulate flows consistent with the four CALFED goals. Additional storage would be developed to improve water supply reliability, provide water for the environment when it is needed most, provide flows timed to maintain water quality, and protect levees through coordinated operation with existing flood control reservoirs. Total new or expanded surface water and groundwater storage evaluated in the preferred alternative ranges up to 6 million acre-feet. Surface water facilities to be considered are located in the Sacramento and San Joaquin valleys and in the Delta.

CALFED PROGRAM GOALS

- Provide good water quality for all beneficial uses.
- Improve aquatic and terrestrial habitats and ecological functions in the Bay-Delta to support sustainable populations of diverse and valuable plant and animal species.
- Reduce the mismatch between Bay-Delta water supplies and current and projected beneficial uses dependent on the Bay-Delta system.
- Reduce the risk to land use and associated economic activities, water supply, infrastructure, and the ecosystem from catastrophic breaching of Delta levees.

One of the five surface water storage projects recommended for further consideration is enlarging Millerton Lake or developing a functionally equivalent program for storage of San Joaquin River water. The PEIS/R and supporting documents indicate that an enlarged Millerton Lake would store flows normally released or spilled to the lower San Joaquin River and the Delta during periods of high flow. The Initial Surface Storage Screening Technical Memorandum to the CALFED PEIS/R indicated that storing additional San Joaquin River water could provide (1) greater flood control on the San Joaquin River, (2) additional water supplies to meet local needs, and (3) additional water supplies for water quality, agricultural, environmental, and urban uses in the eastern San Joaquin Valley or transfers to the South Coast.

Additional focus on the objectives for storage of upper San Joaquin River supplies is provided through the CALFED ROD:

> *… 250-700 [thousand acre-feet (TAF)] of additional storage in the upper San Joaquin watershed… would be designed to contribute to restoration of and improve water quality for the San Joaquin River and facilitate conjunctive water management and water exchanges that improve the quality of water deliveries to urban communities. Additional storage could come from enlargement of Millerton Lake at Friant Dam or a functionally equivalent storage program in the region.*

The ROD recognized that a storage project in the upper San Joaquin River watershed would need extensive technical work, significant additional environmental review, and development of cost-sharing agreements before a decision to implement the project as part of the CALFED program could be made.

Reclamation and DWR are studying surface water and groundwater storage options that would develop additional water supplies from the San Joaquin River to contribute to river restoration, improve river water quality, and facilitate conjunctive management and exchanges that improve the quality of water delivered to urban areas. These options include sites in the upper San Joaquin River basin, sites in the Friant Division service area, and groundwater options in the San Joaquin Valley. Environmental effects and the economic feasibility of each alternative will be evaluated in detail in the FR and EIS/R.

A set of operational scenarios will be developed for evaluating the range of potential effects that new water storage may have toward meeting CALFED goals. In Phase 1, preliminary operating scenarios were developed to assess the range of water supply that could be developed from additional surface water and groundwater storage for the individual purposes of river restoration, river water quality, and water supply reliability. These single-purpose evaluations were not alternative operating approaches, but did provide an estimate of the amount of new water supply that could be developed under a broad range of uses. Due to limited availability of information at the time, the potential to increase conjunctive management and exchanges was evaluated through an assessment of increased water supply reliability. As the Investigation proceeds, more specific operational scenarios will be developed to specifically represent additional conjunctive management and water quality exchanges with urban areas.

RANGE AND FORMULATION OF ALTERNATIVES

Many comments addressed the range and formulation of alternatives that will be considered in the Investigation. Comments suggested the FR and EIS/R should (1) conduct more thorough analysis of retained surface storage options than presented in the Phase 1 report, (2) include an analysis of specific additional surface storage options not yet considered, (3) consider conjunctive management and groundwater storage options in greater detail than in the Phase 1 report, (4) add consideration of demand reduction and other non-structural options, and (5) quantify restoration needs.

Response and Approach

Development of the future without-project conditions and No-Action Alternative will reflect CALFED Program guidance on other programs. The FR/EIS/R is being prepared in a parallel manner with similar documents for other actions recommended in the CALFED ROD. A consistent set of assumptions will be applied in the development of the No-Action Alternative for all ongoing studies through the CALFED Common Assumptions team. This effort will provide input on demand reduction actions described in the CALFED ROD.

As the Investigation proceeds, technical evaluations of surface and groundwater storage options will become more detailed. Site-specific information will be developed to describe physical and operational actions that would be required to implement a storage option and to evaluate the environmental impact of those actions. This will require more detailed information of environmental conditions in potential reservoir areas; refined simulations of water, power, and flood management operations; and more detailed engineering designs and cost estimates.

The selection of a preferred alternative will consider several sources of information. CALFED recommendations will provide guidance on some of the constraints that affect decisionmaking when selecting a preferred alternative. Many other constraints also will be considered in that decision, including conformance with existing laws, rules, and regulations. Consistent with Federal and State planning guidance, a thorough review of potential storage options will be needed to provide information regarding Federal and non-Federal interest in and cost sharing for the preferred alternative.

Surface Storage Options

During Phase 1, the Investigation began an evaluation of potential storage options that could, individually or in combination, contribute to meeting the objectives identified in the CALFED ROD. A review of previous studies by Reclamation, DWR, and others provided a list of potential surface storage sites for initial consideration. The initial list included enlarging existing facilities and creating new on-stream and off-stream reservoirs. The Investigation completed initial screening of these options based on preliminary review of major engineering and environmental issues.

During preparation of the FR and EIS/R, surface storage options retained from Phase 1 will be studied further, additional surface storage options will be reviewed, a process to identify and consider conjunctive management options will be completed, and alternatives will be formulated and evaluated. Initial alternatives will be formulated as combinations of storage options and operating scenarios. Following review of the costs and benefits of initial alternatives, a set of final alternatives will be defined that will be evaluated in detail in the FR and EIS/R.

Conjunctive Management/Groundwater Storage

The Friant Division of the CVP was designed and is operated to support conjunctive water management in an area that was subject to groundwater overdraft prior to construction of Friant Dam; the area remains in a state of overdraft today. Reclamation employs a two-class system of water allocation to maximize the delivery and recharge of water to the groundwater aquifer during wet years. The CALFED ROD and supporting documents indicate that developing additional storage could facilitate more conjunctive management of surface water and groundwater supplies in the region. This would be accomplished by increasing water supply reliability to the Friant Service Area or changing the manner in which surface water supplies are managed in coordination with groundwater supplies.

In addition to evaluating how surface water storage could facilitate additional conjunctive management, the Investigation also is considering groundwater storage options. DWR has initiated a regional investigation of groundwater storage and conjunctive management opportunities that could contribute to CALFED goals. Options will be considered in the FR that could provide storage of San Joaquin River flows and be operated to contribute to the objectives identified in the ROD for upper San Joaquin River basin storage.

Demand Reduction and Other Non-Structural Options

The Upper San Joaquin River Basin Storage Investigation is being implemented as part of the CALFED Storage Program. Other CALFED programs are addressing water quality, demand reduction, and other nonstructural actions. These programs are not considered as competing with storage but are complementary to storage. To provide consistency among all storage investigations, a Common Assumptions team will define the future without project conditions. The future without-project conditions, which will be used to define the No-Action Alternative, will reflect CALFED Program guidance regarding implementation assumptions about other near-term projects.

The Common Assumptions effort also may establish an “Alternative Future Condition” to represent the extent to which other actions described in the CALFED Preferred Alternative would be implemented prior to authorization for constructing additional storage. The “Alternative Future Condition” could be used to identify both structural and non-structural actions and resulting changes in demands and available water for development.

Restoration Requirements

During the development of Phase 1 studies, a legal decision regarding restoration releases from Friant Dam had not been made. Accordingly, Phase 1 evaluations did not include river restoration in the without-project conditions and did not consider specific restoration objectives. On August 27, 2004, the U.S. District Court, Eastern District of California, found that Friant Dam has been operated in violation of California Fish and Game Code Section 5937, which requires that water be released from a dam to maintain downstream fish in good condition. The ruling specified that a remedy to the violation will be determined at a later date.

The Investigation is not developing restoration plans, but will use publicly available information developed by other studies on historical and existing conditions and possible restoration objectives. The extent to which alternatives can support restoration will be examined, and the resulting environmental effects will be described.

The Investigation will continue to evaluate the manner in which additional storage of San Joaquin River water could contribute to restoration of the San Joaquin River. Until such time that a specific release from Friant Dam is established as an operating requirement, the future without-project conditions will assume continued operation of Friant Dam under existing operating practices.

AFFECTED RESOURCES

One of the primary purposes of scoping is to identify specific resources that should be evaluated in consideration of the alternatives. Several comments were provided regarding potential impacts to facilities and environmental resources that would be affected by development of the surface water storage options retained from Phase 1. Primary areas of concern include environmental resources around and upstream of Millerton Lake and existing hydropower facilities in the upper San Joaquin River watershed.

Much of the land upstream of Millerton Lake is owned by the United States and managed by either the Bureau of Land Management (BLM) or the United States Forest Service (USFS). These agencies provided considerable information on known environmental resources that would be affected by several storage options under consideration.

Comments from power utilities that own and operate hydropower projects in the upper San Joaquin River basin raised concerns about impacts of lost power generation and the ability of retained options to develop adequate replacement power. They suggested surface storage options not considered during Phase 1 that may provide water storage and new hydropower generation without adversely affecting existing facility operations.

Response and Approach

Reclamation and DWR recognize that adverse impacts will result from any of the actions being considered in the Investigation and intend to identify all types of impacts that would occur, address all significant impacts in the EIS/R, and develop necessary mitigation strategies through the environmental documentation process. To accomplish these objectives, cooperating agreements will be established with Federal agencies, State agencies, and regional organizations that can provide specific technical assistance in the development of the FR and EIS/R. Agencies such as BLM and USFS will participate in evaluating environmental impacts that would result to resources under their management.

SCOPE OF ENVIRONMENTAL IMPACT ANALYSIS

NEPA and CEQA identify resource areas for potential assessment in EIS and EIR documents and recognize that not every project will require environmental assessment of every resource area.

Scoping helps lead agencies identify which areas require major or minor analysis and which resources require no analysis. Scoping also helps lead agencies gauge the level of potential environmental impact to each resource area and focus analyses on those resources that are likely to be significantly affected.

Through the scoping effort, Reclamation and DWR identified several resource areas that will require focused analyses, based on the potential impacts of the proposed action and the comments received. Resources to be addressed include:

- Hydrological effects in reservoir and downstream areas
- Ecological effects in reservoir and downstream areas
- Energy resources
- Economics
- Land uses in reservoir areas, including effects of displacement and relocation
- Recreational resources and activities
- Social, cultural, historic, and tribal resources
- Growth-inducing/cumulative effects

Reclamation and DWR also recognize that the scoping comments were not comprehensive in identifying all potential adverse environmental impacts of possible Investigation alternatives. NEPA and CEQA guidance will be followed to identify other resource areas that could be potentially affected.

An initial list of additional issues that were not identified in scoping comments but will be addressed in EIS/R includes the following:

- Geologic hazards
- Groundwater and subsidence
- Air quality
- Noise
- Environmental justice
- Indian trust assets

Chapter 3.
Comments Received Through Scoping

Chapter 2 briefly summarized major issues raised in the scoping process and the Investigation's response to those issues, and summarized how the issues will be addressed during development of the FR and EIS/R. This chapter summarizes the range of scoping comments received through the scoping period. Comments are organized into three general categories: (1) alternatives development, (2) environmental impacts and affected resources, and (3) other comments.

ALTERNATIVES DEVELOPMENT

A substantial portion of the scoping comments raised questions regarding the range and formulation of alternatives for the Investigation. Some comments suggested that the Investigation consider additional surface storage options, more fully develop conjunctive management and groundwater storage options, and consider demand reduction and other non-structural options. Some comments also raised concerns regarding how San Joaquin River restoration needs would be considered. Each of these topics is discussed in greater detail in the following sections.

Surface Storage Options

Suggestions were provided in the scoping comments for additional surface storage in the upper San Joaquin River basin. The most commonly offered suggestion was to consider a tunnel or flume to transfer water from upstream, from either Kerckhoff or Redinger lakes, to Fine Gold Creek as an alternative to pumping water from Millerton Lake to Fine Gold Reservoir.

Some comments suggested that the Investigation consider additional surface storage sites upstream of Redinger Lake that would not inundate existing power facilities. Other comments suggested that additional storage may be possible through the partial restoration of Tulare Lake.

Conjunctive Management Groundwater Storage

Comments on conjunctive management and groundwater storage ranged from those requesting a more intensive evaluation of groundwater options to those requesting that the Investigation focus on surface water storage only. Several comments stated that the Phase 1 document discusses the problem of groundwater overdraft without analyzing the opportunity for increased groundwater storage and that the scope of the technical feasibility analysis should not be limited to surface storage. One comment suggested that, on the basis of preliminary reports and studies, viable groundwater storage and conjunctive management alternatives appear to exist in the San Joaquin Valley.

Other comments requested that the economic and environmental effects of surface water storage options be compared to groundwater storage options. It was suggested that Reclamation work with CALFED to ensure proper coordination and efficiency of conjunctive use and groundwater storage efforts. Another comment stated that evaluations clearly demonstrate that direct recharge facilities and groundwater storage are not functionally equivalent to surface storage.

Scoping comments offered suggestions for investigating the technical feasibility of reservoir re-operation at the Pine Flat (Kings River), New Exchequer (Merced River), New Don Pedro (Tuolumne River), and New Melones (Merced River) reservoirs, in combination with potential groundwater banking sites in the San Joaquin Valley. The comments suggested that reoperation of these facilities would support conjunctive management programs.

Demand Reduction and Other Non-Structural Options

Some comments stated that the Phase 1 report does not provide information on the environmental effects and economic feasibility of a full range of alternatives, such as demand reduction through water conservation and/or water reclamation. Specifically, comments stated that the Phase 1 report does not consider the effect of reoperating existing facilities in a way that could increase water yield and assist with CALFED reliability and restoration goals, water transfers, land retirement, pricing reform, reoperation, and desalination.

Additionally, one comment stated a preference for efforts in developing water conservation programs for urban users that are similar to those applied by agricultural users to conserve and recycle water.

Restoration Requirements

Some comments stated the EIS/R should include a significant discussion of the historical conditions on the San Joaquin River, the restoration needs of the river, and the project's contributions towards the restoration goals of the CALFED ROD. One comment stated that river restoration is required in the upper San Joaquin River through Fish and Game Code Section 5937and recommended that such restoration be included as a without-project condition. It also suggested that the Investigation identify how restoration releases could increase the yield of Friant Dam. Other comments suggested that development of additional storage should be coordinated with river restoration efforts underway in the upper San Joaquin River basin and stated that riparian and riverine restoration should be completed before a storage project.

One comment stated that the Investigation should include adequate restoration flows as a project objective and that the reports should identify the type of restoration benefits that can be expected to fish, native plants, and wildlife, including restoration needs of the river below Sack Dam and the Bay-Delta ecosystem.

ENVIRONMENTAL IMPACTS AND AFFECTED RESOURCES

Comments on environmental impacts to potentially affected resources addressed hydrology effects, ecology effects, energy resources, economics, land use, recreation resources, social impacts, and growth inducing and other cumulative effects. These topics are discussed in the following sections.

Hydrology Effects

All of the storage options under consideration would result in significant effects on the hydrologic conditions in the study area and potentially other areas that could be affected by changes in CVP and SWP operations. One comment requested the effects of climate change be considered in making water storage projections.

Surface Water Resources

Several of the options under consideration would inundate the San Joaquin River between Millerton and Redinger lakes. Many comments noted that flow requirements have been established in this portion of the river to support special status species. Other comments noted that hydrologic effects in the study area also would pertain to water quality and wetlands.

Water Quality

Effects to water quality, including nutrient loading, sedimentation, toxins, biological oxygen demand, and temperature in receiving waters, should be discussed in detail along with resultant effects on fish and aquatic invertebrates. One comment noted that raising Friant Dam and other upstream options under consideration might inundate abandoned mines and cause water quality impacts. Another comment noted that the Phase 1 report did not include substantial analysis of environmental mitigation requirements and that these issues should be addressed in the EIS/R.

Wetlands

It was suggested that wetlands in the project area be delineated and described to comply with the Federal requirement of no net loss of wetlands, and at least one alternative should be designed to avoid all impacts to wetlands, including riparian areas. Similarly, within each alternative, measures to minimize or avoid impacts to habitats (wetlands, riparian areas, grasslands, oak woodlands, etc.) should be included.

Groundwater Resources

One comment noted that significant groundwater recharge would result if restoration flows were released from Friant Dam to the San Joaquin River. Other comments stated that the alternatives should identify the effects that groundwater storage development could have in increasing the potential yield from new surface storage. This evaluation was not included in the Phase 1 report, which considered surface water storage and potential groundwater storage separately.

Ecology Effects

Development of additional water storage facilities would result in significant impacts to ecological resources in the study area. Many comments provided suggestions and specific information related to terrestrial and aquatic wildlife and fisheries and vegetation that would be affected. Some comments identified the types of impacts that could result from developing new storage, identified species of concern, and suggested potential mitigation strategies.

Wildlife

One comment suggested that the section of the EIS/R that addresses impacts to fish and wildlife should discuss impacts from vegetation removal (both permanent and temporary), filling or degradation of wetlands, interruptions of wildlife migration corridors, and disturbance from trucks and other machinery during construction and /or operation. Discussion of indirect impacts to fish, wildlife, and their habitats also should be addressed. The impacts of each alternative should be discussed in sufficient detail to allow comparison between alternatives. When projects impacting fish and wildlife resources are deemed acceptable, full mitigation for any impacts to fish and wildlife habitat is recommended. Some comments suggested that alternatives should be selected based on minimizing impacts to wildlife.

Aquatic

Evaluation of potential impacts should consider effects on aquatic habitat and availability, aquatic species behavior, macroinvertebrate community, native versus non-native fish species, and riparian habitat. One comment identified an area known as Horseshoe Bend, representing 6 miles of riverine habitat, as a Critical Aquatic Refuge, designated by the Sierra National Forest's Land and Resource Management Plan. The hardhead minnow, a USFS "sensitive" species, is of particular interest in this area. Another comment recommended coordination of operations and release of additional water to the San Joaquin River with the timing of salmonid migration to prevent further impacts to listed salmon species.

Terrestrial

Some comments identified Federally listed threatened or endangered species, management indicator species, State-listed sensitive and special status species within the project area, and other species potentially affected by the storage options under consideration. The species include the valley elderberry longhorn beetle, western pond turtle, and western mastiff bat. In connection with already existing reservoirs such as Millerton and Redinger lakes, a potential Temperance Flat Reservoir would likely affect north-south land animal movement and would significantly affect migration along 35 miles of the San Joaquin River.

Vegetation

One set of comments stated that the San Joaquin River Gorge represents 6,500 acres of chaparral, oak-foothill pine, and riparian habitat along the San Joaquin River. The chaparral is an unusually diverse and unique mix of plant species, including the rare shrub Carpenteria, a USFS sensitive plant, and State-listed as threatened. The primary vegetation type protected within the Research Natural Area (RNA), interior live-oak chaparral, is a common vegetation type in the lower Sierra Nevada foothills, but is not represented in any other RNA north of Los Angeles County. It was suggested that a detailed ecological survey of the RNA be carried out as soon as practical to document the biological effects of inundation within the RNA.

Energy Resources

Several comments addressed potential impacts to hydroelectric facilities in the upper San Joaquin River basin. Existing hydroelectric projects have implemented a series of mitigation measures that cover a wide array of resource values. In addition to the power generated by hydroelectric projects, current license conditions and current project mitigation measures should be evaluated in the context of the effects of the potential alternatives.

The USFS, licensees (SCE and PG&E), and the Federal Energy Regulatory Commission would need to be consulted when assessing changes to the hydroelectric projects that may affect the ability of the licensee to implement the current license conditions.

Economics

Many comments addressed the need for a full evaluation of economic costs and benefits of the alternatives. Some comments stated that cost estimates provided in the Phase 1 report were not adequate to assess the cost of the storage options and stated that a comparison of costs and benefits to other CALFED restoration projects is needed. Additional comments stated that analyses of surface storage in the basin by CALFED, Reclamation, and DWR suggest negative economic impacts.

Some comments suggested that other alternatives not under consideration may achieve similar benefits for lower costs. Some comments indicated that particular attention should be paid to impacts on grazing and livestock operators, decommissioning existing powerplants, and the arbitrage risk of newly developed water.

Land Use

Some comments noted that development of potential storage options could have significant impacts to public and private lands in the project area, including BLM- and USFS-managed lands, and the San Joaquin River Parkway. Some of the storage options would affect portions of the BLM-managed San Joaquin River Gorge Management Area, upstream of Millerton Lake. Resources that could be affected include regional trails, day-use recreation facilities, and the Millerton Lake Caves.

Some of the options could affect portions of the USFS Backbone Creek RNA, located between Kerckhoff and Redinger lakes. The RNA is part of a national network of ecological areas designated in perpetuity for research, education, and maintenance of biological diversity on National Forest System lands. USFS commented that rescinding RNA designation for Backbone Creek, if flooding necessitates, would be difficult, both politically and administratively.

An area known as Horseshoe Bend, representing 6 miles of riverine habitat, designated by Sierra National Forest's Land and Resource Management Plan as a Critical Aquatic Refuge, may be impacted by some of the storage options. One comment noted that some of the areas that would be inundated by the storage options are being considered for preservation by both State agencies and public groups.

Other comments expressed concern about the potential loss of private homes and property in potential reservoir inundation areas, and the significance of lands to the property owners.

Some comments noted that transportation facilities, such as Powerhouse Road bridge across the San Joaquin River at Kerckhoff Lake, would be affected by some storage options under consideration. Replacement and relocation options should be evaluated in the EIS/R. Other comments expressed concern that development of a reservoir upstream of Millerton Lake could result in the development of additional recreation sites, which would thereby increase transportation demands and potentially require expansion of transportation services in the region.

Recreational Resources and Activities

Many comments stated that some storage options under consideration would adversely affect current recreational activities and resources in the area, including whitewater runs above and below Kerckhoff Lake, recreation facilities and use at Millerton Lake, hiking trails, campgrounds, caves, mountain biking, rock climbing, canyoneering, horseback riding, hunting, and fishing.

Comments stated that the FR and EIS/R should assess the current recreational facilities and access points, identify recreational impacts for each storage option, identify what will need to be replaced, and recommend appropriate mitigation. Development of storage options also could open up public lands that are not currently accessible or only accessible by trail. The potential increase in public use of these lands should be expected, and new facilities and additional staffing needs should be identified.

Social Impacts

Comments on social impacts include addressed impacts to cultural and historic resources, and impacts to Tribal assets.

Cultural and Historic Resources

Potential impacts to cultural and historic resources were identified by Federal agencies managing lands that would be affected by storage options upstream of Friant Dam. USFS and BLM anticipate consulting with Reclamation on compliance with Section 106 of the National Historic Preservation Act.

Archaeological surveys and excavations conducted on National Forest lands will require Special Use Permits issued under the Archaeological Resources Protection Act. BLM stated that the San Joaquin River Gorge Management Area qualifies for National Register listing as a Cultural Resources District, although a nomination package has not been completed.

Tribal Assets

Federally recognized and non-Federally recognized Tribes potentially affected by the storage options were identified in the scoping comments. To date, none of the storage options considered would affect recognized Tribal lands; however, the upper San Joaquin River basin is of importance to several Native American Tribal groups and is used on a regular basis for gathering food and basketry materials, hunting and fishing, and religious ceremonies. Evaluations should consider the effects of inundating Tribal sacred areas. Other agencies indicated their interest in working with Reclamation in consultation with Federally recognized American Indian Tribes.

Growth-Inducing and Cumulative Impacts

Some comments stated that increased water storage in the upper San Joaquin River basin would encourage population growth and increase demand on resources. Comments provided suggestions to address indirect impacts to fish, wildlife, and their habitats, including impacts from growth induced by a potential storage project.

Other comments suggested that the EIS/R assess the impacts of any substantial increases in visitation and greater access to resources, particularly the potential for increased fire starts and resulting exposure of wildlife interface communities, such as Auberry and North Fork. One comment stated cumulative impacts of the proposed action, when viewed in conjunction with other past, existing, and foreseeable projects, should be addressed.

OTHER COMMENTS

Additional comments addressed collaboration, ownership of facilities, and funding of the Investigation.

Collaboration, Consultation, and Coordination

Some comments suggested that a collaborative planning approach be followed to provide opportunities to express concerns during development of project features and alternatives. This approach would enable other agencies to allow early recommendations on biological issues associated with alternatives. USFS and BLM expressed interest in entering into interagency agreements to provide a framework by which the agencies can assist each other in realizing mutually beneficial objectives.

Both USFS and BLM are interested in collaborating on Tribal consultation plans and cooperating in the preparation of the FR/EIS/R, including displaying the evaluation of proposed actions.

Additional comments suggested coordination with FWUA and NRDC restoration efforts, and collaboration with CALFED agencies in formulating conjunctive management options and assumptions regarding other CALFED programs.

Ownership of Facilities

One comment suggested that impacts to hydroelectric generation facilities could be most easily mitigated if the owner of the existing facilities were to own and operate any new or replacement hydroelectric facilities.

Project Funding

Most comments addressing funding focused on the question of who would pay for the project. Some comments questioned whether taxpayers would be unfairly burdened with costs. One comment stated a commitment to working with Reclamation and DWR to achieve the required funding levels through Federal, State, or local sources, if necessary.

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Chapter 4.
List of Commenters

TABLE 4-1
AGENCIES AND INDIVIDUALS PROVIDING WRITTEN SCOPING COMMENTS

NAME	ORGANIZATION
Anne and Stan Neal	Individual
Tom Meagher	U.S. Department of the Interior, Bureau of Land Management
Nick Woody	Property owner in Temperance Flat area
Gary E. Woody	Property owner in Temperance Flat area
Reggie Hill	Lower San Joaquin Levee District
Jacob Fry	Individual
Bennie Bloden	Individual
Helen George	Individual
Tom Meinholz	Individual
Jim Pitton	Individual
Davis Harlow	U.S. Department of the Interior, Fish and Wildlife Services Office
Marc E. Christopher	Friends of the River
John Dayton III	Southern California Edison Company
Paul Martzen	San Joaquin Paddlers/American Whitewater
David Koehler	San Joaquin River Parkway & Conservation Trust
Michael Clifton	Individual
Stepher H. Ottemoeller	Madera Irrigation District
Susan K. Exline	U.S. Forest Service
Warren Shaw	California Native Plant Society, Sequoia Chapter
Dennis Fox	Individual
Gregory A. Thomas	Natural Heritage Institute
Gary Bobker	Natural Resources Defense Council/The Bay Institute
Aileen D. Roder	Taxpayers for Common Sense
Nicholas J. Markevich	Pacific Gas & Electric Company
Barry Nelson	Natural Resources Defense Council
Ron Hutsinger	U.S. Department of the Interior, Bureau of Land Management
Rodney R. McInnis	U.S. Dept. of Commerce, National Marine Fisheries Service
Lisa Hanf	U.S. Environmental Protection Agency
Jack G. Thomson	Tulare Basin Wetlands Association
Urs Mader	Individual
Scott Schmitz	Individual

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Chapter 5.
References

CALFED. 2000. CALFED Bay-Delta Programmatic Record of Decision. August.

Reclamation and California Department of Water Resources. 2003. Upper San Joaquin River Basin Storage Investigation: Phase 1 Investigation Report. Prepared by MWH. October.

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