This environmental impact statement (EIS) evaluates the proposed exchange of up to 25,000 acre-feet of water per year over a 10-year period between the U.S. Bureau of Reclamation (Reclamation) and the farmers comprising an unincorporated association known as the Mendota Pool Group (MPG). Reclamation will issue a series of annual exchange agreements over the 10-year period based on review of the annual monitoring data. The MPG owns property and groundwater wells in the vicinity of the Mendota Pool in western Fresno County (Figure 1-1). A list of the current members of the MPG is provided in Appendix A.

The MPG proposes to pump non-Central Valley Project groundwater from their wells into the Mendota Pool and exchange the groundwater with water from the Central Valley Project (CVP), which is administered by Reclamation. This exchanged water will be delivered to land owned by MPG members elsewhere within the CVP service area. The action is needed to make up for shortfalls in the contracted amounts of water delivered via the CVP.

1.1 NEED FOR THE ACTION

Reclamation's purpose in authorizing this action is to facilitate the efficient delivery and re-allocation of water to facilitate environmental and economic benefits as authorized by the Central Valley Project Improvement Act (CVPIA). The need for the proposed authorization is to facilitate improvements in the reliability of irrigation water delivery to the San Luis Canal (SLC) [at Check 13 on the Delta-Mendota Canal (DMC)] without affecting CVP water deliveries at Mendota Pool. The proposed action will offset cutbacks in CVP irrigation water supplies as a more balanced distribution of water among competing uses is sought.

Since 1989, water supplies to CVP agricultural users have been drastically reduced in a mandatory effort to balance competing nonagricultural benefits of the CVP. Between 1980 and 1989, water deliveries to Wetlands Water District (WWD) averaged 103 percent of the District's entitlements (Table 1-1). However, since that time deliveries have averaged 63.8 percent. Full water allocations (> 90 percent) were only provided during 1995 through 1998, which were hydrologically wet years. This reduction in water deliveries from the CVP has required that agricultural users obtain a large portion of their water requirements from supplemental sources such as groundwater.

MPG members own approximately 50,000 acres of historically irrigated farmland in WWD and San Luis Water District (SLWD) (Figure 1-2). These lands are not adjacent to the Pool and depend on deliveries from the SLC (California Aqueduct) to WWD and SLWD for irrigation water. There are no other supplemental sources of surface water that can be used for these lands. However, groundwater resources are available and could potentially be used.

WWD has taken numerous steps to obtain additional sources of irrigation water and to ensure that comprehensive water conservation practices are being followed (see Section 3.3.1.6; WWD 2001). Similarly, SLWD has instituted water conservation actions. Nevertheless, water supplies are still inadequate to provide reliable and cost-effective irrigation water to historically irrigated lands within WWD's service area. The MPG members need to supplement their water deliveries with affordable water in order to maintain production on historically irrigated lands.

Groundwater has long been an important water source for farmers within the WWD and SLWD service area. Prior to the construction of the CVP in 1963, groundwater was the primary source of irrigation water (WWD 1999). To make up for the shortfall in surface irrigation water since 1989, landowners and water users within the districts have drilled wells to obtain supplemental water. In 1990, WWD adopted a short-term program of groundwater conveyance through the Mendota Pool for emergency relief. It adopted similar programs in 1991, 1992, 1993, and 1994.

1.2 PROPOSED ACTION OBJECTIVES

The objective of the proposed action is to enable the MPG to maintain production on historically irrigated lands (Figure 1-2) by obtaining sufficient water at cost-effective prices to offset cutbacks in CVP deliveries. The action is not intended to increase the amount of water for farming activities but would replace water allocated for other CVP purposes. This program would enable participants to:

- Replace water no longer available because of restrictions on the export of water from the Delta.
- Deliver water to farms for an average cost that approximates the cost of contract water and does not exceed the costs of supplemental water on the open market.
- Maintain production on lands with long-term water supply contracts that have regularly produced agricultural commodities.

1.3 SCOPE OF THIS ENVIRONMENTAL IMPACT STATEMENT

This EIS analyzes the environmental effects of the 10-year proposed action and related MPG adjacent use pumping, and two No Action alternatives on the quantity and quality of groundwater and surface water resources in the Mendota area, WWD, and SLWD, and surface water resources delivered to users via the Mendota Pool.

The EIS evaluates the potential for future effects of the proposed action given existing conditions in the project vicinity. The EIS does not evaluate factors that resulted in the current environmental conditions. The proposed action and alternatives are described in detail in Section 2. This EIS is based on the analyses presented in the Phase I and Phase II technical reports (KDSA and LSCE 2000a, b), the 2000 to 2002 Annual Report (LSCE & KDSA 2001, 2002, 2003), and other available monitoring data.

1.3.1 BACKGROUND

The farms owned or operated by MPG members lie within WWD and SLWD, which are located on the west side of the San Joaquin Valley. These districts receive water from the CVP through the DMC and the SLC, both of which are administered by Reclamation. Water from the CVP is delivered directly to farmlands or stored temporarily in San Luis Reservoir (SLR) for later delivery.

1.3.1.1 Historical Water Supply to WWD

WWD has water service contracts with Reclamation to receive 1.15 million acre-feet per year of water from the CVP. The water is used to irrigate lands in Priority Areas I and II of the WWD service area. The WWD water supply consists of 900,000 acre-feet per year of water under a 1963 contract with Reclamation and 250,000 acre-feet per year of provisional supply. The provisional supply resulted from the judgment in the Barcellos lawsuit, which reaffirmed the validity of the 1963 contract and directed the federal government to provide 250,000 acre-feet per year at cost-of-service rates.

Prior to 1988, irrigation needs in the WWD were satisfied by the water that Reclamation delivered from the Sacramento-San Joaquin River Delta, as well as by water transfers and groundwater extracted by farmers for use on their own lands. However, between 1988 and 2000, several regulatory decisions, such as the biological opinions for winter-run Chinook salmon and Delta smelt, have imposed conditions on exports from the Delta and have influenced reservoir storage and supply operations, thereby reducing the water available from the Delta and SLR (Table 1-1). As a result, future allocations from the

CVP have become more uncertain. The future WWD water supply depends on the allocation of contract water from Reclamation.

Total exports from the Delta have been reduced from an average of 3.3 million acre-feet per year prior to 1988 to an average of 2.5 million acre-feet per year after 1988, or a reduction of approximately 25 percent (L. Johnson 2001, pers. comm.). However, these reductions are not apportioned equally among all users. Currently, allocation of CVP water follows a hierarchical structure in which agricultural water service contractors (e.g., WWD) are provided water only after all other obligations (approximately 1.5 million acre-feet) are met. As a result, cutbacks in water availability primarily affect agricultural water service contractors, while other users receive their full allocation. For example, 1993 was hydrologically an above normal year with rainfall at 150 percent of normal, yet Reclamation allocated only 50 percent of the contracted water to WWD (Table 1-1). Runoff in 1994 was about 50 percent of normal, but Reclamation only allocated about 490,000 acre-feet of contracted supplies to WWD, or about 43 percent of its CVP allocation.

Estimates of future federal water supply range from 0 percent to as much as 80 percent of WWD's contracted amounts of 1.15-million acre-feet per year, depending on precipitation and export constraints from the Delta. Assuming that WWD had access to a long-term average of 60 percent of the maximum water supply or 690,000 acre-feet per year and had a sustainable groundwater yield of 200,000 acre-feet per year, the District would still be approximately 260,000 acre-feet per year short of the 1.15 million acre-feet per year specified in its water service contract.

Even at the full contract amount, WWD supplies would still be inadequate to maintain production, and District water users would require supplemental irrigation water supplies. If a suitable source of supplemental water is not found, currently farmed lands would have to be removed from production or planted with crops with lower water requirements. As noted above, farmers within the WWD service area have relied on groundwater since the late 1980s to make up for the shortfall in surface water. Pumpage by the MPG since 1997 is shown in Table 1-2, as well as the volume exchanged with Reclamation each year.

1.3.1.2 History of Planning

The action evaluated in this EIS has evolved over an extended period since the early 1990s. This section describes the development of the proposed action starting with the initial efforts to develop a long-term solution to reductions in water deliveries. Numerous changes in the scope and duration of the program have been made since a groundwater pumping program was originally

conceived. In 1995, the MPG and WWD completed a draft Environmental Impact Report (EIR) entitled "Conveyance of Nonproject Groundwater from the Mendota Pool Area Using the California Aqueduct" (Jones and Stokes 1995); and in December 1998, a Final Environmental Impact Report (FEIR) was completed (Jones and Stokes and LSCE 1998). The FEIR outlined a mitigated project that would allow the MPG to pump up to a total of 620,000 acre-feet over a 20-year period for transfer to WWD, or an average of 31,000 acre-feet per year.

After the FEIR was certified by WWD (the lead agency for the project), the San Joaquin River Exchange Contractors Water Authority (SJREC) and Newhall Land and Farming (NLF) filed a lawsuit against WWD and the MPG alleging that the FEIR failed to comply with the requirements of the California Environmental Quality Act (CEQA). The SJREC also filed a lawsuit against the MPG and others alleging that MPG pumping created a nuisance for the SJREC. The SJREC is a group of four water districts and companies located primarily north of Mendota; these are the Central California Irrigation District (CCID), the Firebaugh Canal Water District (FCWD), the Columbia Canal Company (CCC), and the San Luis Canal Company (SLCC) (Figure 1-3). NLF operates the 12,500-acre New Columbia Ranch north of the San Joaquin River.

During the spring of 1999, representatives from the SJREC and NLF met with representatives from the MPG and agreed to delay the lawsuits pending the results of a test pumping and monitoring program conducted in 1999 to determine the impacts of MPG transfer pumping on the SJREC and NLF. The results of these discussions were formalized in the "Settlement Agreement for the Mendota Pool Transfer Pumping Program" (see Section 1.3.3.2). The test pumping and monitoring program was conducted jointly by Luhdorff and Scalmanini Consulting Engineers (LSCE) of Woodland, consultants to the MPG, and Kenneth D. Schmidt and Associates (KDSA) of Fresno, consultants to the SJREC and NLF. In addition to determining the impacts of the proposed MPG transfer pumping, the consultants were to make recommendations for mitigation measures to reduce these impacts as appropriate. The initial study involved a test-pumping period during 1999 when the MPG wells were pumped at approximately the same rate as proposed in the FEIR for a normal year. Monitoring of groundwater levels, surface water quality, and compaction was conducted prior to, during, and after this test-pumping period. Groundwater sampling was also conducted during the test-pumping period. The monitoring program was designed to allow determination of the following potential impacts of pumping the MPG wells:

- Water level declines in other wells in the area, especially the NLF wells, and other wells along the San Joaquin River branch of the Pool.
- Groundwater quality changes.
- Changes in surface water quality at the SJREC intakes from the Mendota Pool.
- Land surface subsidence.

Throughout the development of this program, several different pumping programs have been proposed and evaluated. A summary of the different proposed pumping programs is provided in Table 1-3.

After the impact analysis for the 1999 transfer pumping program (KDSA and LSCE 2000a, b) was complete, modifications were made to the program in 2000 to reduce these impacts. Transfer pumping in 2000 was conducted from June 6 to October 31 and included both exchanges with Reclamation and trade with other users. Approximately 19,000 acre-feet were pumped during this period, of which about 7,200 acre-feet were exchanged with Reclamation (Table 1-2).

Additional modifications were made to the MPG transfer pumping program for 2001 to further reduce impacts. These included shutting off the deep wells between July 1 and September 15 to reduce deep zone drawdowns and selecting wells to be pumped during the fall months based on water quality criteria. Transfer pumping in 2001 occurred between May 1 and November 20. Approximately 27,400 acre-feet were pumped during this period, of which 16,400 acre-feet were exchanged with Reclamation.

Improved planning tools, including surface water mixing models, were developed based on the results of the 2000 and 2001 monitoring programs. These tools were used to design the transfer pumping program for 2002 and will be used in the development of all subsequent programs.

The design of the 2000 transfer pumping program focused on reducing the potential impacts due to groundwater drawdowns and salinity increases in surface water in the northern portion of the Pool. During the development of the 2001 pumping program, the potential impacts due to selenium concentrations in groundwater and salinity increases in surface water in the southern portion of the Pool were also incorporated into the analysis. A sediment sampling program was also implemented during the 2001 pumping program.

1.3.2 SUMMARY OF SCOPING PROCESS

As part of the preparation of the environmental documentation for the 2001 and 2002 transfer pumping programs, Reclamation and the MPG entered into discussions with interested parties including the SJREC, NLF, California Department of Fish and Game (CDFG), the Regional Water Quality Control Board (RWQCB), and U. S. Fish and Wildlife Service (USFWS). The pumping programs and related environmental documents were reviewed by these entities and the public prior to being finalized. Monitoring data have been provided to SJREC, NLF, CDFG, and USFWS.

Prior to the initiation of the preparation of this EIS, a series of letters were sent out to 28 interested parties and State and Federal agencies asking for input into the EIS planning process. A Notice of Intent (NOI) to prepare the EIS was published in the Federal Register on January 3, 2002. Concurrently, a notice was placed in the "Public Notices" section of the Fresno Bee (the local newspaper) summarizing the NOI and requesting input from the public. A Public Scoping Meeting was held on January 14, 2002 at the Mendota City Council Chambers. Thirty-three persons attended this meeting. Written comments on the scope of the EIS were received and accepted through January 28, 2002. Thirteen comment letters were received. A summary report on the scoping process was prepared and submitted to Reclamation (ENTRIX 2002b).

1.3.3 RELATED ENVIRONMENTAL DOCUMENTS

The following environmental documents and studies were prepared as part of the evaluation of the FEIR and subsequent pumping programs.

1.3.3.1 EIR for WWD

WWD published a Notice of Preparation (NOP) on August 24, 1994 describing the intent of the original project. To continue the conveyance program as a long-term solution to managing water supplies, the Department of Water Resources (DWR) requested that WWD prepare an EIR on the effects of the project. DWR legal and technical staff assisted in determining the scope of the EIR. Eleven comment letters were received during the NOP process.

Based on the initial study responses and comments generated during the NOP process, the EIR focused on three key technical areas: (1) groundwater resources, including subsidence issues, water levels, groundwater quality, and groundwater overdraft; (2) surface water quality; and (3) biological resources. The draft EIR (Jones and Stokes 1995) for this project was submitted for

public review in October 1995. The draft EIR described the proposed project and five project alternatives.

The Final EIR (Jones and Stokes and LSCE 1998) was released in December 1998. Based on comments received on the draft EIR, the Final EIR identified three mitigation measures:

F-1 Reduce transfer pumpage to an average of 31,000 acre-feet per year

F-2 Maintain water quality at Exchange Contractors' intakes

F-3 No introduction of groundwater into the California Aqueduct

1.3.3.2 Settlement Agreement

Subsequent to the release of the Final EIR and the decision to proceed with the project, the SJREC and the NLF filed suit in California Superior Court to stop implementation of the project. Representatives of SJREC and NLF met with the MPG to develop a mutually agreeable alternative to the pumping program in the Final EIR. The "Settlement Agreement for Mendota Pool Transfer Pumping Project" describes the agreed upon pumping program and mitigation measures and incorporates the findings of the Phase I and Phase II technical reports described below.

The Settlement Agreement outlined a 10-year pumping program. The 10-year program assumed that MPG transfer pumping would vary from year to year depending on whether the year was classified as normal, wet, or dry. The MPG would determine the classification of each year before the start of each irrigation season based on the expected level of surface water deliveries. If the MPG pumped the maximum allowable under the Settlement Agreement, the total quantity of water to be pumped for transfer would average 27,000 acre-feet per year over a 10-year period; the quantity of water exchanged with Reclamation would be less. The pumping program for a 10-year period is based on six "normal" years during which up to 31,600 acre-feet would be pumped for transfer, two "dry" years during which transfer pumping could increase to 40,000 acre-feet per year, and two "wet" years when no transfer pumping would occur. Pumping of up to 14,000 acre-feet of water per year would be allowed for use on MPG lands adjacent to the Pool (Figure 1-4). If pumping for adjacent use exceeds 14,000 acre-feet in any year, the volume of transfer pumping would be reduced accordingly.

The 10-year program would limit deep zone pumping to a maximum of 12,000 acre-feet per year because groundwater level and subsidence impacts

are considered to be due almost entirely to pumping below the A-clay layer. The MPG would be able to make up for some of the deep zone pumpage reductions by increasing pumpage above the A-clay. The Settlement Agreement defined a series of pumping program design constraints to minimize effects to the SJREC and NLF. In addition, the Settlement Agreement specified that an annual monitoring program be conducted and that annual reports be submitted to the parties to the agreement. As described in Appendix B, the annual monitoring reports will be submitted to Reclamation for their review.

1.3.3.3 1999 Test Pumping Program

As a result of the legal challenges to the Final EIR, a joint study was initiated in 1999 to determine the impacts of proposed MPG pumping on the SJREC and NLF. The 1999 test program consisted of two MPG pumping periods (July 19 to October 1 and November 1 to 16). Monitoring of water levels, water quality, and subsidence was conducted before, during, and after these pumping periods. This test-pumping program resulted in the preparation of the following reports:

- Results of 1999 Test Pumping Program for MPG Wells (Phase I report; KDSA and LSCE 2000a)

- Long-Term Impacts of Transfer Pumping by the MPG (Phase II report; KDSA and LSCE 2000b)

The Phase II report contains recommended mitigation measures to reduce the impacts observed in 1999 and modifications to the MPG monitoring program initiated in 1999. Some of these measures were incorporated into the 2000 pumping program, which was conducted while negotiations proceeded with the SJREC and NLF on a long-term agreement. These reports and subsequent negotiations resulted in the development of the 2001 pumping program for the MPG.

1.3.3.4 2000 Test Pumping and Transfer Pumping Program

A transfer pumping program was conducted during the summer and fall of 2000 to provide supplemental water for MPG crops and to collect additional data on the impacts of the MPG pumping. The data collected in 2000 were used along with the 1999 data to develop a long-term plan for MPG pumping that did not have significant impacts on the SJREC or NLF. The summer test pumping program was authorized under a Categorical Exclusion Checklist, and the MPG received credit for water pumped into the Pool between June 6, 2000 and July 21, 2000. Water pumped between August 1, 2000 and

September 19, 2000 was conveyed to WWD via Lateral 6 or traded with other water districts near the Pool. An exchange agreement with Reclamation was needed in the fall so that the MPG could receive credit for water pumped after September 19, 2000. In November 2000, Reclamation issued a Finding of No Significant Impact (FONSI) that allowed the MPG to pump for a three-and-a-half-month period (September 19, 2000 to January 1, 2001) while the monitoring program and negotiations between the parties continued. Reclamation provided water to the MPG at Check 13 of the DMC. The actual fall transfer pumping period ended on October 31, 2000. The results of the 2000 monitoring program are presented in the "Mendota Pool Group Pumping and Monitoring Program: 2000 Annual Report" (LSCE and KDSA 2001).

1.3.3.5 2001 Transfer Pumping Program

The 2001 transfer pumping program was the subject of the "Environmental Assessment for the Mendota Pool 2001 Exchange Agreement" (EA) prepared by Reclamation and finalized in August 2001. The program was based on negotiations utilizing the results of the 1999 and 2000 test-pumping programs. The EA for the 2001 pumping program included a monitoring program for groundwater levels, groundwater and surface water quality, sediment quality, and subsidence. The results of the 2001 monitoring program are presented in the "Mendota Pool Group Pumping and Monitoring Program: 2001 Annual Report" (LSCE and KDSA 2002). Relevant data from this monitoring program are included in this EIS.

1.3.3.6 2002 Transfer Pumping Program

The 2002 transfer pumping program was the subject of the "Environmental Assessment (EA Number 01-83) for the Mendota Pool 2002 Exchange Agreements" prepared by Reclamation and finalized in May 2002. The program was based on the results of the 1999, 2000, and 2001 transfer pumping programs. Improved predictive models for groundwater drawdown and surface water quality were developed and used to predict effects of the pumping program. The EA for the 2002 pumping program included a monitoring program for groundwater levels, groundwater and surface water quality, sediment quality, and subsidence. The results of the 2002 monitoring program are presented in the "Mendota Pool Group Pumping and Monitoring Program: 2002 Annual Report" (LSCE and KDSA 2003). Relevant data from this monitoring program are included in this EIS.

No MPG transfer pumping occurred in 2003.

1.3.4 ISSUES STUDIED IN DETAIL

Identification of the issues to be studied in detail in this EIS was based on the results in the 1998 FEIR, the Settlement Agreement, the Phase I and Phase II reports, the EAs for the 2001 and 2002 pumping programs, and evaluation of environmental data collected as part of the 1999 through 2002 monitoring programs.

1.3.4.1 Potential Effects

Five primary resource areas were identified in previous environmental documents: groundwater levels, land subsidence, groundwater quality, surface water quality, and biological resources. This EIS addresses those five resource areas and includes an evaluation of potential impacts to sediments and historical and societal resources. Resource areas evaluated in this EIS for potential impacts include:

- Groundwater levels
- Land subsidence
- Groundwater quality
- Surface water quality
- Sediment quality
- Biological resources
- Central Valley Project operations
- Land use
- Air quality
- Noise

1.3.4.2 Area of Interest

The primary area of interest for this EIS includes portions of western Fresno County and southwestern Madera County. Because the No Action alternatives would take place in WWD and SLWD, these regions are also considered relative to the No Action alternatives. The area of interest for the evaluation of potential effects is dependent on which primary environmental issue of concern is being addressed and which action alternative is being evaluated: the proposed action or the No Action alternatives. This EIS evaluates action-

related groundwater impacts within at least a 6-mile radius of Farmers Water District (FWD), which is the center of deep zone drawdowns caused by MPG transfer pumping (Figure 1-3). Specific areas of interest include the Mendota Pool and associated canals and surface water bodies, areas potentially affected by groundwater pumping, lands irrigated by the MPG, and nearby communities in which the landowners and workers live. Data from recent monitoring programs have provided information with which to assess the magnitude of the potential effects and to define the areas likely to be affected. Additional areas in WWD and SLWD are also included for evaluation of impacts due to the No Action alternatives.

1.4 REQUIRED DECISIONS

The National Environmental Policy Act (NEPA) requires federal agencies to analyze the potential environmental impacts of proposed actions and alternatives to decide on whether to proceed with the proposed action or an alternative. This EIS is intended to provide the information required by Reclamation to select between the alternative actions based on a consideration of their effects on the groundwater, surface water, sediment, biological, and socioeconomic resources in the vicinity of the Mendota Pool.

1.4.1 APPLICABLE REGULATORY REQUIREMENTS AND REQUIRED COORDINATION

Reclamation is the lead federal agency in the preparation of this EIS. The proposed action will not require any State permits to be implemented. The federal action contemplated in this EIS has the potential to affect federally protected species. The federal Endangered Species Act (ESA) requires Reclamation to consult with the USFWS to determine if the proposed action would affect protected species. This consultation may be on an informal or formal basis.

This EIS is intended to meet the requirements under NEPA for Reclamation to permit and implement the proposed water exchange. In addition, the following laws, regulations, and executive orders may be applicable to the action.

Endangered Species Act of 1973, as Amended, and the California Endangered Species Act

A list of Federal and State threatened, endangered, proposed listed, candidate, rare, species of concern, and/or species of special concern that may occur in the study area was requested from the USFWS on August 29, 2001. On October 24, 2001, the USFWS provided a list of protected species in the eleven 7.5-minute USGS quadrangles in the vicinity of the proposed action.

Also, a list of state endangered, threatened, proposed listed, candidate, rare, and species of special concern was obtained from a query of the California Natural Diversity Database (CNDDB). In addition, a letter from W. Loudermilk, Regional Manager San Joaquin Valley and Southern Sierra Region CDFG, dated July 13, 2001, identified protected species in the vicinity of the proposed action.

Reclamation informally consulted with USFWS on the effects of the 2002 pumping program under Section 7 of the ESA. Reclamation (Young 2002) summarized the conclusions and agreements of this informal consultation on May 9, 2002.

In other actions in the region, Reclamation initiated formal consultation with the USFWS pursuant to Section 7 of the ESA on several refuge water supply conveyance projects within the San Joaquin Valley in January 1999. This consultation included projects at the Mendota Wildlife Area (MWA). The USFWS subsequently issued a Biological Opinion on these conveyance projects (dated June 28, 1999).

Executive Order 11988, Floodplain Management (EO 11988)

This Executive Order requires federal agencies to prepare floodplain assessments for proposals located within or affecting floodplains. If any agency proposes to conduct an action within a floodplain, it must consider alternatives to avoid adverse effects and incompatible development. If the only practicable alternative involves siting in a floodplain, the agency must minimize potential harm to or within the floodplain and explain why the action is there. No impacts are anticipated to floodplain areas.

Executive Order 11990, Protection of Wetlands (EO 11990)

This Executive Order requires federal agencies to prepare wetlands assessments for proposals located within or affecting wetlands. Agencies must avoid undertaking new construction located in wetlands unless no practicable alternative is available, and the Action Alternatives include all practicable measures to minimize harm to wetlands. The proposed action and alternatives do not involve construction activities within wetlands.

Executive Order 12898, Environmental Justice (EO 12898)

This Executive Order requires each federal agency to achieve environmental justice as part of its mission by identifying and addressing disproportionately high and adverse human health or environmental effects, including social and economic effects, of its programs, policies, and activities on minority

populations and low-income populations of the United States. Reclamation has determined that none of the alternatives would disproportionately affect minority or low-income populations. Impacts identified in the socioeconomic and environmental justice sections of Section 4 are anticipated to be less than significant, in addition to being shared across income levels.

Fish and Wildlife Coordination Act (16 U.S.C. 661-666c)

Under the Fish and Wildlife Coordination Act, any federal agency that proposes to control or modify any body of water must first consult with the USFWS or National Marine Fisheries Service (NMFS), as appropriate, and with the head of the appropriate state agency exercising administration over the wildlife resources of the affected state.

Reclamation informally consulted with USFWS on the effects of the 2002 pumping program under Section 7 of the ESA. Reclamation (Young 2002) summarized the conclusions and agreements of this informal consultation on May 9, 2002. The CDFG has been encouraged to participate in the review of this EIS and previous documents.

Delta Protection Act (Water Code section 12,200 et seq.)

This Act enumerates guidelines necessary to ensure the sufficiency of the Delta's water supply. To the extent that diversion or use of water within the Delta would contribute to the inability to provide a supply of water necessary to maintain all current functions of the water housed therein, such diversion or use is prohibited.

The proposed action and alternatives would not result in increased diversions of water from the Delta. Under the proposed action, water already diverted from the Delta would be redirected from the DMC into the SLC.

National Historic Preservation Act (NHPA) of 1966

The NHPA, as amended, requires the lead construction agency to identify significant cultural resources that may be affected by a project and to consult with the Advisory Council on Historic Preservation and State Historic Preservation Officer concerning significant cultural resources.

No construction activities are included in the proposed action. Installation of new wells is part of normal agricultural practices in active farmlands.

San Joaquin River Act (Water Code section 12;200 et seq.)

This Act prohibits actions that may cause or contribute to the further degradation of the San Joaquin River. This act also deems unlawful the diversion of water to which users along certain enumerated stretches of River are entitled.

The proposed action and alternatives do not involve diversion of water from the San Joaquin River, and would not result in further degradation of the San Joaquin River.

Indian Trust Assets

It is Reclamation's policy to protect Indian Trust Assets from adverse impacts of its programs and activities whenever possible. Types of actions that could affect Indian Trust Assets include an interference with the exercise of a reserved water right, degradation of water quality where there is a water right, impacts on fish and wildlife where there is a hunting or fishing right, or noise near a land asset where it adversely affects uses of the reserved land (Reclamation 1997). There are no Indian Trust Assets in the vicinity of the proposed action.

Central Valley Project Improvement Act (CVPIA) (Public Law 102-575, Title XXXIV)

The CVPIA amends the previous authorizations of the California CVP to include fish and wildlife protection, restoration, and mitigation as project purposes having equal priority with irrigation and domestic water supply uses, and power generation.

Warren Act

The Warren Act specifies that any entity wishing to use Reclamation facilities to transfer non-project water may do so, subject to certain conditions. These conditions include the provision that there is sufficient excess capacity available in the system to effect the transfer and the cost is representative for the use of the facility. Reclamation policy additionally requires a Warren Act contract to provide that any power to transfer the water be arranged and paid for by the entity and that the quality of water pumped into the Delta-Mendota Canal meet certain water quality standards.

Table 1-1. Westlands Water District CVP Supply Allocation History, 1980-2001

Year	Allocation	Percentage of Full Entitlement	Water Year Classification
1980	1,150,000	100%	Above Normal
1981	1,151,935	100%	Dry
1982	1,150,000	100%	Wet
1983	1,150,000	100%	Wet
1984	1,150,000	100%	Above Normal
1985	1,150,000	100%	Dry
1986	1,433,102	125%	Wet
1987	1,150,000	100%	Dry
1988	1,150,000	100%	Critically Dry
1989	1,150,000	100%	Dry
1990	575,000	50%	Critically Dry
1991	315,298	27%	Critically Dry
1992	305,072	27%	Critically Dry
1993	617,391	54%	Above Normal
1994	488,878	43%	Critically Dry
1995	1,150,000	100%	Wet
1996	1,092,500	95%	Wet
1997	1,035,000	90%	Wet
1998	1,150,000	100%	Wet
1999	805,000	70%	Wet
2000	747,500	65%	Above Normal
2001	517,500	45%	Dry

Avg.	935,644	81%
Max	1,433,102	125%
Min	305,072	27%
St. Dev.	325,790	28%

Source: Westlands Water District

Table 1-2. Annual Mendota Pool Group Pumpage and Exchange with USBR

Year	Pumpage by wells along Fresno Slough		Pumpage by wells south of San Joaquin River		Total		Total Pumpage (af)	Total Exchanged with USBR (af/y)
	Transfer (af)	Adjacent (af)	Transfer (af)	Adjacent (af)	Transfer (af)	Adjacent (af)		
1997	19,977	3,323	6,604	6,301	26,581	9,624	**36,205**	N/A
1998	1,000	1,268	0	5,593	1,000	6,861	**7,861**	**0**
1999	14,871	5,701	4,850	7,946	19,721	13,647	**33,368**	**5,797**
2000	14,974	9,104	4,021	7,061	18,995	16,165	**35,160**	**7,162**
2001	18,520	9,519	8,017	4,013	26,537	13,532	**40,069**	**17,280**
2002	10,963	10,117	1,534	5,806	12,497	15,923	**28,420**	**7,325**
2003	0	11,185	0	3,054	0	14,239	**14,239**	**0**

Table 1-3. Previously Proposed Mendota Pool Group Pumping Programs

Proposal	Annual Volume (acre-feet)	Pumping Period	Duration (years)	Total Volume (acre-feet)	Mitigation Actions
Draft EIR (Jones and Stokes 1995)	78,000	year round	20	1.56 million	1) Various
Final EIR (Jones and Stokes and LSCE 1998)	31,600 - normal year (12) 60,000 - dry year (4) 0 - wet year (4)	5 months 10 months -	20	620,000	1) Reduce pumpage to average of 31,000 af/y 2) Maintain water quality at SJREC intakes 3) No introduction of water to California Aqueduct
10-year Mitigated Pumping Program (KDSA and LSCE 2000b)	31,600 - normal year (6) 40,000 - dry year (2) 0 - wet year (2)	9.5 months 10 months -	10	269,600	1) Reduce pumpage to average of 27,000 af/y 2) Reduce and schedule deep zone pumping 3) Maintain water quality at SJREC intakes 4) No introduction of water to California Aqueduct 5) Reimbursement for increased pumping and other costs 6) Limit total subsidence to 0.05 ft at Yearout Ranch
2001 Pumping Program (implemented)	31,000	6.5 months	1	31,000	1) Reduce pumpage to 31,000 af/y 2) Reduce and schedule deep zone pumping 3) Maintain water quality at SJREC intakes 4) No introduction of water to California Aqueduct 5) Reimbursement for increased pumping and other costs 6) Limit subsidence to 0.005 ft/y at Yearout and Fordel extensometers
2002 Pumping Program (implemented)	31,600	9 months	1	31,600	1) Limit pumpage to 31,600 af/y 2) Reduce and schedule deep zone pumping 3) Maintain water quality at SJREC intakes 4) No introduction of water to California Aqueduct 5) Reimbursement for increased pumping and other costs 6) Limit subsidence to 0.005 ft/y at Yearout and Fordel extensometers 7) Maintain water quality at Mendota Wildlife Area

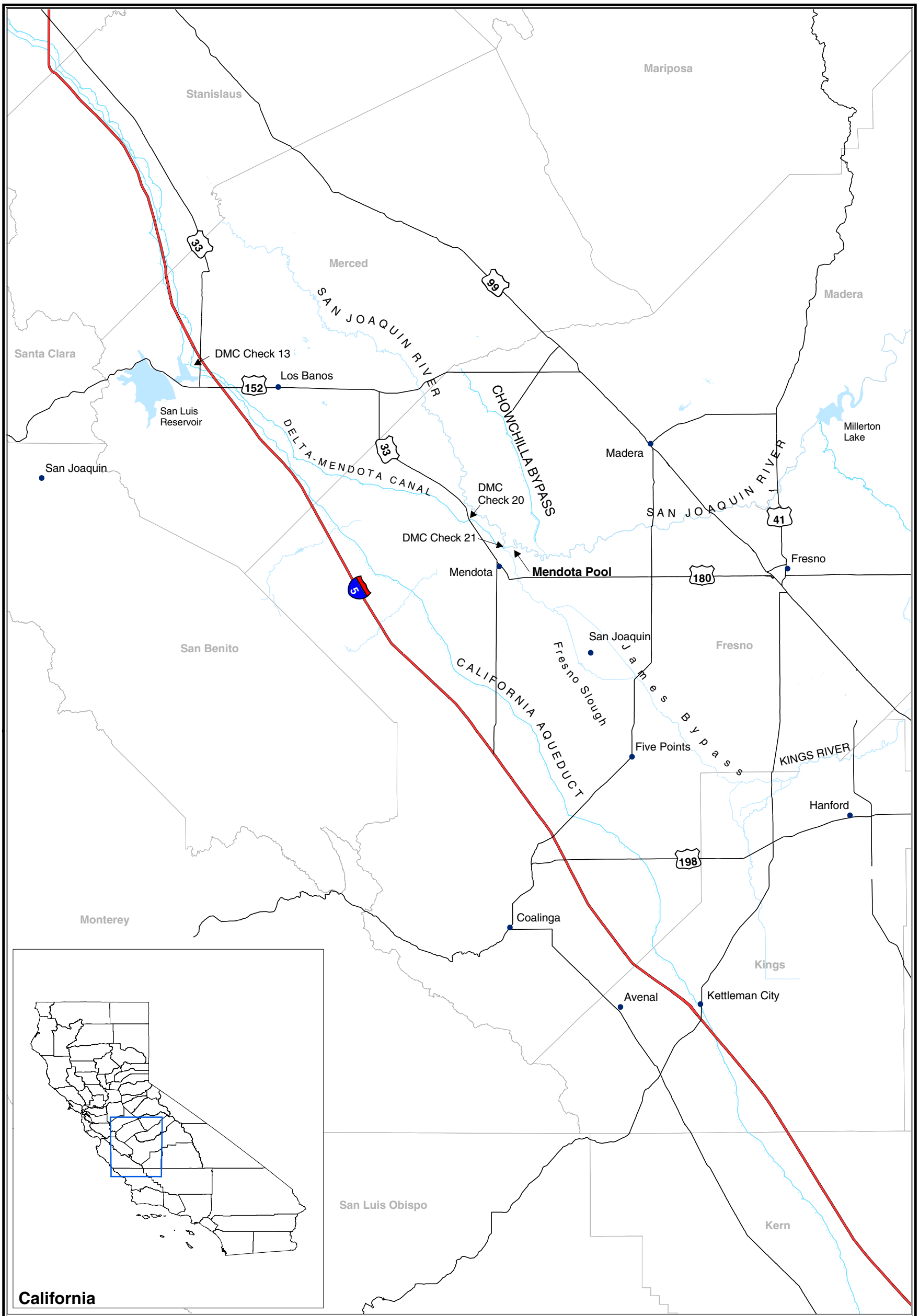

Figure 1-1
Location Map

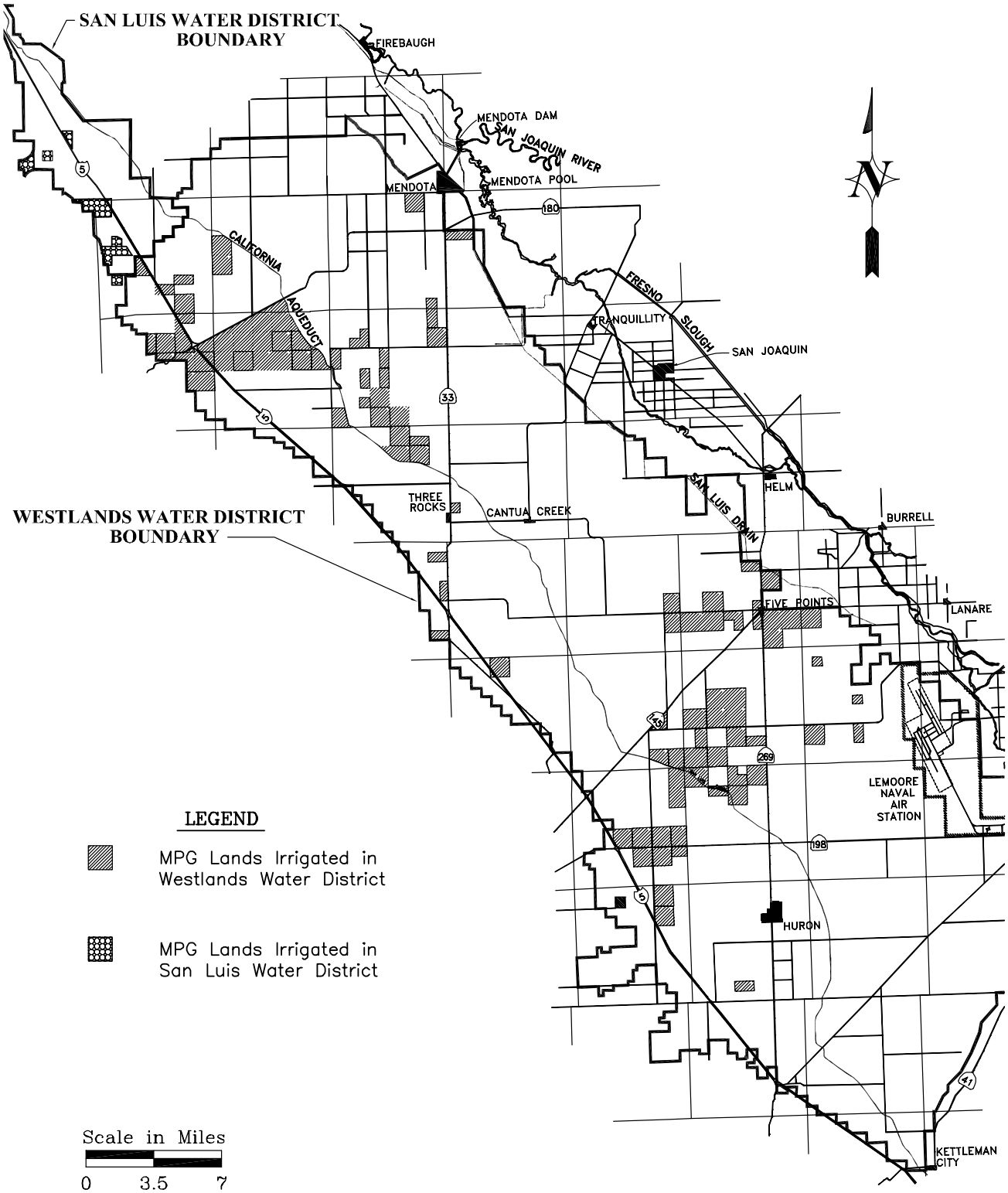

Figure 1-2. Lands Irrigated by the Mendota Pool Group in Westlands Water District and San Luis Water District

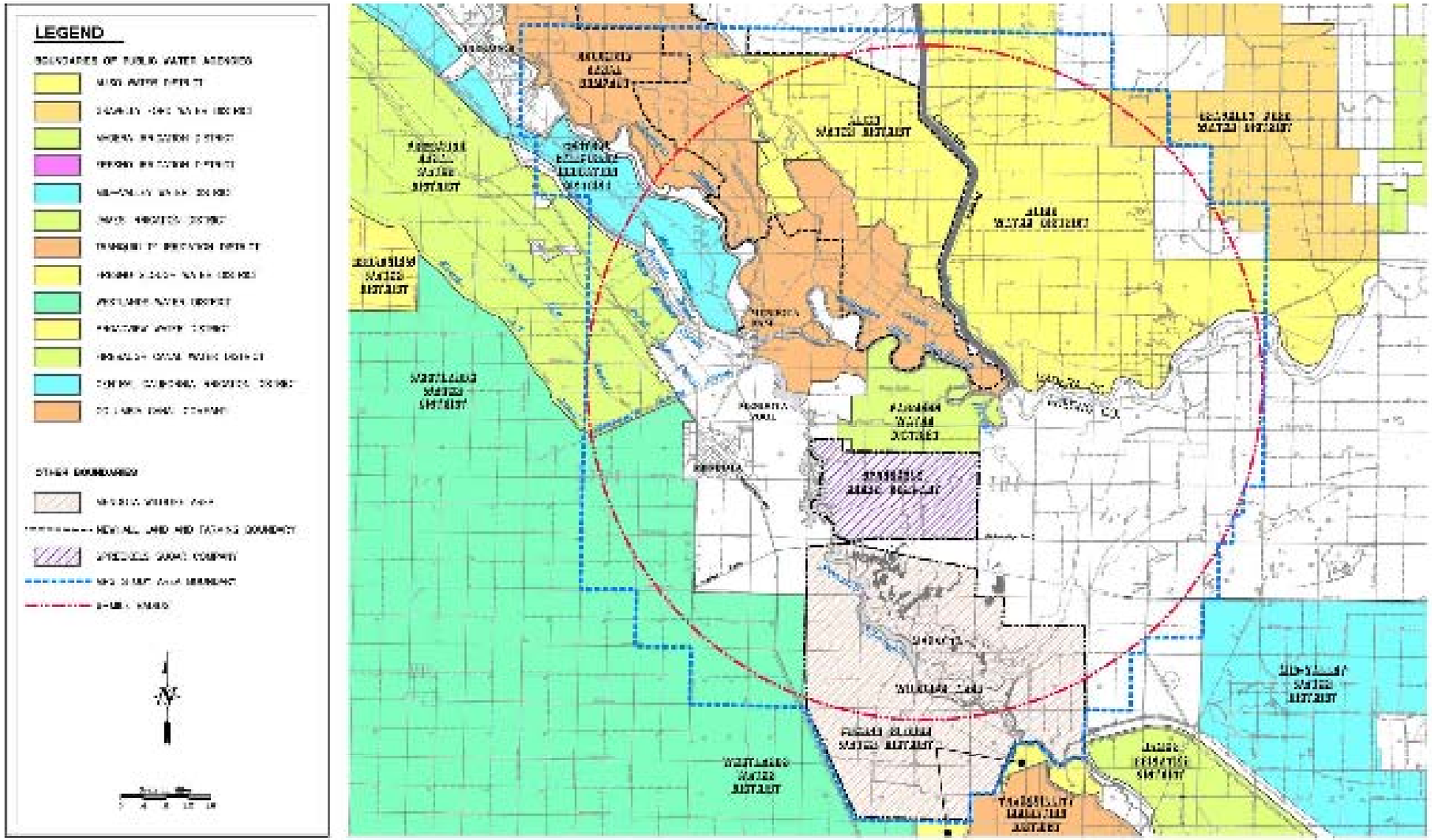

Figure 1-3. Study Area for Evaluation of Water Level Drawdowns Due to MPG Pumping Along Mendota Pool

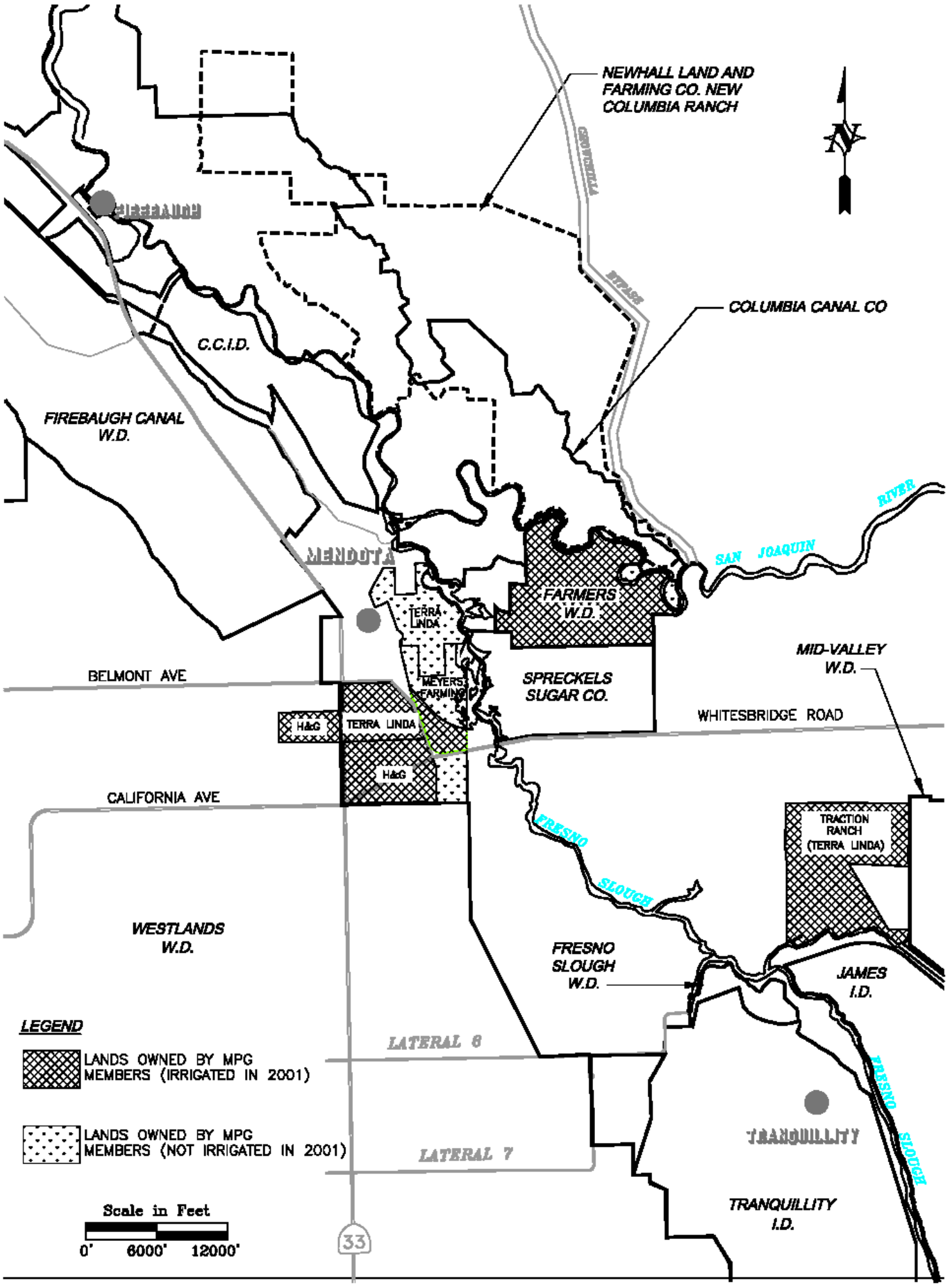

Figure 1-4. Mendota Pool Group Land Adjacent to the Pool