

RECORD OF DECISION

FINAL ENVIRONMENTAL IMPACT STATEMENT
MENDOTA POOL 10-YEAR EXCHANGE AGREEMENTS

MARCH 2005

Department of the Interior
Bureau of Reclamation
Mid-Pacific Region
Sacramento, California

RECOMMEND:

 Date: 3/15/05
Frank Michny
Regional Environmental Officer

APPROVED:

 Date: 3/30/05
Kirk Rodgers
Regional Director

1. INTRODUCTION

This document constitutes the Record of Decision (ROD), of the U.S. Department of the Interior, Bureau of Reclamation, for the implementation of our federally proposed and planned exchange agreement with individuals and/or entities that are Members of the Mendota Pool Group (MPG). Specifically the exchange agreement consists of annual temporary contracts with members of the MPG, that allow them to pump groundwater into the Mendota Pool (Pool) in exchange for Reclamation making a like amount of Central Valley Project (CVP) water from San Luis Reservoir, hereinafter referred to as “Exchange Project Water”. The Exchange Project Water will then be available to Westlands Water District (WWD) or to San Luis Water District (SLWD) for delivery to lands the MPG farms in those two districts. Reclamation would implement the action annually for a period of ten years.

The environmental impacts of the proposed action were addressed in a Draft Environmental Impact Statement (DEIS) announced in a Notice of Availability by the U.S. Environmental Protection Agency (EPA) dated July 29, 2003, and a Final Environmental Impact Statement (FEIS) dated December 3, 2004, and announced in a Notice of Availability by EPA dated December 10, 2004. The DEIS and FEIS were developed in compliance with the National Environmental Policy Act (NEPA). Reclamation is the NEPA lead agency.

1.1 Background Information

The Mendota Pool ten-Year Exchange Agreements (Project) is located in the Pool east of the City of Mendota, California. The Project consists of: (1) delivery of up to 25,000 acre-feet of non-Central Valley Project groundwater to the Pool from wells located adjacent to the Pool; (2) exchange of the groundwater with a like amount of water from the CVP; and (3) delivery of the exchanged water via the San Luis Canal (SLC) to the project proponents’ lands located in WWD and/or SLWD. Reclamation would issue a series of annual exchange agreements over the ten-year period after review of the annual monitoring data and submittal of a proposed pumping program. The FEIS addresses the direct and indirect impacts of the proposed action and two no-action alternatives as well as cumulative impacts associated with the proposed action and alternatives.

The CVP was constructed starting in the 1940’s, in large part to provide irrigation water to farmers in the Central Valley of California. Prior to 1988, irrigation needs in WWD and SLWD were satisfied by water that Reclamation delivered from the Sacramento-San Joaquin River Delta (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 for delivery for irrigation especially south of the Delta. 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. 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 and SLWD) 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. Since 1989 water deliveries to agricultural users south of the Delta have averaged 64 percent of their contractual allocations. 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.

1.2 Early Planning Efforts

Initial efforts to develop a long-term solution to reductions in water deliveries began in the 1990's through the development of a groundwater pumping program. In 1995, the MPG and WWD completed a Draft Environmental Impact Report (DEIR) entitled "Conveyance of Non-Project Groundwater from the Mendota Pool Area Using the California Aqueduct"; and in December 1998, a Final Environmental Impact Report (FEIR) was completed. The FEIR outlined a mitigated project that would allow the MPG to pump up to a total of 620,000 acre-feet (or an average of 31,000 acre-feet) over a 20-year period for transfer to WWD.

After the FEIR was certified by WWD (the lead agency for the project), the San Joaquin River Exchange Contractors Water Authority (SJRECWA) and Newhall Land and Farming (NLF) filed a lawsuit alleging that the FEIR failed to comply with the requirements of the California Environmental Quality Act (CEQA). The SJRECWA also filed a lawsuit against the MPG and others alleging that the MPG pumping created a nuisance for the SJRECWA. The SJRECWA is a group of four water districts and companies located primarily north of Mendota; are members of 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 (SJR).

1.3 Lawsuit

During the spring of 1999, representatives from the SJRECWA 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 SJRECWA and NLF. The results of these discussions were formalized in the "Settlement Agreement for the Mendota Pool Transfer Pumping Program" (Settlement Agreement) (See Section 1.3.3.2 of the FEIS). In addition to determining the impacts of the proposed transfer pumping, recommendations were made for mitigation measures to reduce impacts. A Negative Declaration and Initial Study that involved a test-pumping program during 1999 was made to approximate 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 from the MPG's wells:

- Water level declines in other wells in the area, especially the NLF wells, and other wells along the SJR branch of the Pool.
- Groundwater quality changes.

- Changes in surface water quality at the SJRECWA 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 of the FEIS.

After the impact analysis for the 1999 transfer pumping program was complete, modifications were made to the program in 2000 to reduce these impacts. 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. 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 of the FEIS).

Additional modifications were made to the transfer pumping program for 2001 to further reduce impacts. 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. Other modifications 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 26,537 acre-feet were pumped during this period, of which 17,820 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.

1.4 Settlement Agreement

Subsequent to the release of the FEIR in 1998 and the decision to proceed with the project, the SJRECWA and the NLF filed suit in California Superior Court to stop implementation of the project. Representatives of SJRECWA and NLF met with the MPG to develop a mutually agreeable alternative to the pumping program in the FEIR. The Settlement Agreement describes the agreed upon pumping program and mitigation measures and incorporated the findings of the Phase I and Phase II technical reports.

The Settlement Agreement outlined a ten-year pumping program. The Settlement Agreement assumed that the 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 contracted with Reclamation and other factors. The ten-year pumping program is based on the assumption of 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. 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 ten-year period; the quantity of water exchanged with Reclamation would be less. 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 of the FEIS). If pumping for adjacent use exceeds 14,000 acre-feet in any year, the volume of transfer pumping would be reduced accordingly.

The ten-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 SJRECWA 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 of the FEIS, the annual monitoring reports will be submitted to Reclamation for their review.

1.5 Test Pumping Program

As a result to legal challenges to the FEIR, a Test Pumping Program (TPP) was initiated starting in 1999 and continuing through 2002. The purpose of the TPP was to monitor water levels, water quality, and subsidence. Data from the TPP is included in the FEIS.

1.6 Purpose and Need

The purpose of the Project is to facilitate the efficient delivery and re-allocation of water and to facilitate environmental and economic benefits as authorized by the Central Valley Project Improvement Act (CVPIA). The need for the Project is to facilitate improvements in the reliability of irrigation water delivery to the SLC [at Check 13 on the Delta-Mendota Canal (DMC)] without affecting CVP water deliveries at the Pool.

The statement was supplemented and further expanded by the following objectives, also presented in the FEIS: "The objective of the proposed action is to enable the MPG to maintain production on historically irrigated lands by obtaining sufficient water at cost-effective prices to offset cutbacks in CVP deliveries." The Project would enable the MPG 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.

2. RECOMMENDED DECISION

Reclamation's recommended decision is to implement the Proposed Action as described in Section 2.1.2 of the FEIS with the following clarifications:

- The monitoring program, described in Appendix B of the FEIS will be implemented.
- Two types of surface water monitoring will occur: continuous recording, and grab sampling. These data are included in the annual monitoring reports.
- Under the terms of the Settlement Agreement, the SJRECWA is to notify the project proponents if the Electrical Conductivity (EC) measurements from these recorders exceed that at the terminus of the DMC (Check 21) by 90 $\mu\text{mhos/cm}$ or more for three consecutive days. The MPG is to discontinue pumping until EC measurements at the SJRECWA recorders are no more than 30 $\mu\text{mhos/cm}$ greater than the DMC terminus. As part of the annual exchange agreements, the MPG will be required to immediately notify Reclamation should this occur.
- During the pumping period, the MPG will collect monthly surface water grab samples at four locations: DMC terminus, Mendota Wildlife Area (MWA), James Irrigation District (JID) Booster Plant, JID and Lateral 6 & 7 Intake. The MPG will also collect surface water grab samples at nine other locations throughout the Pool in June and October. These nine locations include: Columbia Canal, Mendota Dam, CCID Main Canal, Mowry Bridge, CCID Outside Canal, Firebaugh Intake Canal, West of Fordel, Etchegoinberry, and Tranquillity Irrigation District Intake.

3. SELECTED ALTERNATIVE

3.1 Overview of the Selected Alternative

The federal action that requires the preparation of this FEIS is the proposed exchange of up to 25,000 acre-feet of the water pumped during any given year to make up for a portion of the annual shortfall in the contract water delivered via the CVP. Reclamation would issue a series of one year exchange agreements based on review of the environmental monitoring data. A maximum of 200,000 acre-feet of water would be exchanged with Reclamation over the ten-year period.

The project proponents or the MPG propose to pump up to 269,600 acre-feet of groundwater for transfer over a ten-year period from wells located adjacent to the Pool into the Pool. The maximum volume of water to be pumped each year would be based on hydrologic supply

conditions and would be subject to the design constraints specified in Section 2.1.2.3 of the FEIS.

The water pumped into the Pool would be made available to Reclamation to offset existing water contract obligations at the Pool. Reclamation would reduce deliveries to the Pool by an amount corresponding to the quantity exchanged with the MPG. In exchange, Reclamation would make an equivalent amount of CVP water (up to 25,000 acre-feet per year) available to the members of the MPG for irrigation purposes at Check 13 of the DMC.

Any quantity of water pumped by the MPG beyond the 25,000 acre-feet exchanged with Reclamation each year would be available for exchange or trade between the MPG and other users for use on lands that are presently under irrigation around the Pool. This additional water is outside of the scope of the federal action. However, all water pumped by the MPG as part of this program is evaluated in this FEIS.

As part of this program, a maximum of 12,000 acre-feet of groundwater would be pumped for transfer from deep wells (i.e., perforated interval one greater than 130 feet deep), with the remainder coming from shallow wells (i.e., perforated interval less than 130 feet deep) on an annual basis.

The maximum allowable quantity of water to be pumped in a given year would depend on whether the year is classified as wet (zero acre-feet per year), normal (up to 31,600 acre-feet per year), or dry (up to 40,000 acre-feet per year) (Table 2-1). The MPG will propose the water year classification during the spring, based on a number of factors, including the estimated water demands and the projected allocations of contract water for that year.

Factors that would be considered in defining the water year type include:

- The projected demand for water,
- The relative cost of water on the open market,
- The distribution of water-year types defined in the Settlement Agreement, which states that two years out of ten must be classified as wet, no more than two years can be classified as dry, and no two consecutive years can be classified as dry, and
- The previous history of MPG pumping and exchange with Reclamation,
- Program Design Constraints,
- Program Monitoring Data,
- Issues raised by other local diverters.

The projected allocations of contract water will be based primarily on the April 15 estimate of agricultural water allocations made by Reclamation. This projection will be used as a guide to determine the classification of each year as follows:

- Years with projected allocations greater than 60 percent of full contract allocations would be initially considered as wet years;
- Years with projected allocations between 30 percent and 60 percent of the full contract allocation would initially be considered to be normal years; and
- Years with projected allocations at 30 percent or less of the full contract allocation would be considered dry years.
- Reclamation will consider all of these factors in determining whether to enter into annual exchange agreements and to specify the maximum quantity of water that would be accepted for exchange.

3.2 Pumping Program

The groundwater pumping program will be adaptively managed to minimize any potential environmental impacts. Pumping programs will be developed and reviewed on an annual basis to allow for year-to-year variations in hydrologic conditions. The pumping program will be defined in the spring, prior to the start of pumping. The pumping program would be based on consideration of several parameters including the design constraints (Section 2.1.2.3 of the FEIS), the results of the previous year's monitoring program, the extent of groundwater level recovery, hydrologic conditions, and any Reclamation contractor's rescheduling of CVP deliveries from the previous water year. Rescheduled deliveries may occur between March 1 and April 15 each year. During the period that rescheduled deliveries are being made, no pumping into the Pool would be allowed.

Table 2-2 of the FEIS provides a typical pumping program for a normal year in which 31,000 acre-feet would be pumped. Transfer pumping would be conducted over a maximum of a nine month period each year, between March 1 and November 30. The annual pumping programs would consist of three seasonal components: spring, summer, and fall. During the spring (March through May), both shallow and deep wells would be pumped. During the summer (June through mid-September), only shallow wells would be pumped. However, during years when the program does not begin until after April 1, deep wells would be pumped during the month of June. During the fall (mid-September through November), both shallow and deep wells would be pumped. Additional constraints on groundwater quality would be implemented during the fall season to ensure that water delivered to the MWA meets California Department of Fish and Game's (CDF&G) water quality criteria. Furthermore, during a given year, adjustments may be made to the pumping program if the monitoring program indicates that actions need to be taken to maintain water quality in the Pool.

During a dry year, up to 40,000 acre-feet of water would be pumped for transfer. However, a maximum of 25,000 would be exchanged with Reclamation. The remainder of the water would

be exchanged with other users around the Pool. The dry year pumping program would conform to all the design constraints imposed on the normal year pumping program.

During a wet year, no transfer pumping would be conducted. No water would be exchanged with Reclamation.

Wells included in the MPG pumping and monitoring wells are mapped in Figure 2-1 of the FEIS. Water quality of production wells used in 2002 is provided in Table 2-3 of the FEIS. No additional wells or other facilities would be constructed as part of this action. However, normal irrigation practices may require refurbishing or replacement of existing wells. Some wells may be taken out of service during this program due to water quality impacts. These wells may be replaced by others with better water quality.

3.3 Water Distribution

Once the water has been pumped into the Pool, it would be provided to farmlands owned or operated by MPG members in the following three ways (M. Carpenter 2001, personal communication):

- Exchange of up to 25,000 acre-feet with Reclamation for water at Check 13 of the DMC (i.e., the O'Neill Forebay) and conveyed via the SLC for delivery to MPG farmlands in WWD and SLWD. This is the proposed action evaluated in this EIS.
- Delivery from the Pool to irrigated farmlands in WWD via Lateral 6, and possibly Lateral 7. Since most of the MPG lands are not served by these laterals, some of this water would be exchanged with WWD for other water delivered to MPG lands via the SLC; or
- Exchange with other water districts for water delivered to MPG lands via the SLC.

The exchanged water would be used on farmlands owned or operated by MPG members within WWD and/or the SLWD (Figure 1-2 of the FEIS). Although less than 25 percent of the MPG lands are in drainage-impaired areas, the amount of water to be delivered to these lands is not likely to worsen existing drainage problems. Farmers in these areas use drainage control practices to maintain historical production. Use of local groundwater would impact crop production and groundwater quality due to accumulation of salts in the soil profile. The MPG will not translocate water from the Pool to the California Aqueduct for transfer to the southern Central Valley or southern California.

3.4 Program Design Constraints

The proposed action incorporates several design constraints intended to prevent adverse environmental effects. Some of these constraints were initially specified in the Settlement Agreement between the MPG, the SJRECWA, and NLF. Additional constraints were developed based on the results of previous monitoring efforts and to address concerns of other water users around the Pool. These constraints were intended to minimize the potential environmental impacts of the proposed pumping program. The constraints apply to the initial design of the

annual pumping programs and to triggers based on the results of the annual monitoring program. These design constraints include:

- Pump MPG wells along the Fresno Slough only when flow in the Fresno Slough is to the south. Wells in Farmers Water District could pump irrespective of flow direction.
- Shut off MPG wells if EC measurements at the Exchange Contractors' canal intakes exceed that of the DMC by 90 $\mu\text{mhos/cm}$ for a period of three days or more. If the MPG wells are shut off for this reason, they would not be turned back on until the EC at the canal intakes returns to a level that is no more than 30 $\mu\text{mhos/cm}$ above the DMC inflow.
- Minimize deep zone drawdowns by reducing MPG deep zone transfer pumping during the summer months when the majority of non-MPG irrigation pumping occurs in the Mendota area.
- Limit deep zone drawdowns throughout the pumping program to limit subsidence at the Yearout Ranch and Fordel extensometers caused by transfer pumping to less than an average of 0.005 foot per year over the ten-year period. Compaction data collected from the extensometers will be used along with model results to estimate the amount of subsidence cause by MPG pumping each year.
- Reduce transfer pumping if there is evidence that transfer pumping is causing long-term overdraft.
- Modify the pumping program based on the results of the surface water monitoring program to reduce overall surface water quality degradation, particularly with respect to salinity [total dissolved solids (TDS) or EC]. This will ensure that the quality of water supplied to the MWA and other users in the southern portion of the Pool will meet applicable water quality criteria. Wells with TDS concentrations greater than 2,000 mg/L will not be pumped as part of the proposed action. During the fall pumping period, when there is reduced flow in the Pool and water quality at the MW A is most critical, wells with TDS higher than 1,200 mg/L will not be pumped for transfer.
- Shut off wells with selenium concentrations equal to or greater than the water quality criterion of 2 $\mu\text{g/L}$.
- Minimize groundwater quality degradation by modifying the pumping program, based on the results of predictive modeling of the effects of the pumping program and the results of the groundwater monitoring program, and by minimizing drawdowns.

Total transfer pumping from the deep zone would be limited to 12,000 acre-feet per year. The purpose of this limit on deep zone pumpage is to reduce the average subsidence caused by transfer pumping to less than 0.005 foot per year and to reduce water level impacts and the rate of groundwater quality degradation that would otherwise occur.

If 12,000 acre-feet of water are pumped from the deep zone, shallow zone pumping would be limited to 19,600 acre-feet during a normal year and 28,000 acre-feet per year in a dry year. Shallow zone pumpage may also be limited due to: (1) the quality of water pumped from these wells, (2) potential impacts to deep zone groundwater (e.g., overdraft or groundwater quality), and (3) potential overdraft of the shallow aquifer.

There are five MPG wells located in Madera County, adjacent to the East and West Loops of the SJR. These five wells (referred to in the FEIS as Farmers Water District WL-1, WL-2, WL-3, EL-2, and EL-3) will not be pumped for exchange and will not constitute part of the exchanged waters.

Additional mitigation actions are included in the proposed action. Beginning with the 2001 irrigation season, the MPG has offered to compensate the other major groundwater pumpers in the Mendota area for increased power and other additional costs due to drawdowns estimated to have been caused by the MPG transfer pumping.

3.5 Monitoring Program

The MPG, in cooperation with other interested parties, has designed a surface water, groundwater, and subsidence monitoring program to assess the impacts of this action. The current monitoring program was developed with input from the U.S. Fish & Wildlife Service (USFWS), the U.S. Geological Survey, and the CDF&G. The monitoring program was initiated in 1999 and is planned to last for the duration of the action. In 2001, the MPG implemented a sediment sampling program to assess accumulation of selenium, boron, arsenic, and molybdenum in Pool sediments. The complete monitoring program is described in Appendix B of the FEIS. The monitoring program consists of the following components:

- Monitor pumpage of the MPG wells on at least a monthly basis.
- Measure groundwater levels on a bimonthly basis throughout the year.
- Conduct continuous monitoring at the Yearout Ranch and Fordel extensometers to estimate compaction and land subsidence.
- Sample groundwater quality on an annual basis.
- Evaluate data from continuous EC recorders located at the DMC, the SJRECWA intakes, and the MWA at regular intervals.
- Conduct surface water quality sampling during the pumping season.
- Conduct sediment sampling at eight locations in the fall of each year.

A quality assurance/quality control program is in place to verify accuracy of monitoring data. The monitoring data are provided to Reclamation to verify full implementation of the pumping

and monitoring plan. In addition, monitoring data are provided to USFWS, CDF&G, SJRECWA, and NLF, among others.

The monitoring program involves the participation of the MPG and several entities around the Pool (Table 2-4). The entities that have contributed to the monitoring program in the past include the SJRECWA, NLF, SLWD and Delta-Mendota Water Authority (SLDMW A), City of Mendota, and Spreckels Sugar Company. The participation of the MPG, SJRECWA, and NLF in the monitoring program is required under the terms of the Settlement Agreement. Data that are obtained by the SLDMWA as part of its responsibilities to manage the flow of water in the Pool are provided to the MPG. The City of Mendota and Spreckels Sugar Company are not obligated to participate in the monitoring program and have intermittently provided data when requested. Other entities that provided data for the monitoring program in 2002 include Reclamation, California Department of Water Resources, Mendota Biomass, James Irrigation District (JID), Aliso Water District, and Gravelly Ford Water District. Data collected by these entities are provided to the MPG for compilation and analysis.

The data are summarized in an annual monitoring report prepared jointly by the MPG, SJRECWA and NLF at the conclusion of the pumping season. The results of the monitoring program will be used in the design of the subsequent year's pumping program.

3.6 Implementation

The Proposed Action would be implemented by Reclamation and the MPG. Each year the MPG would enter into a one-year exchange agreement with Reclamation.

4. ENVIRONMENTALLY PREFERRED ALTERNATIVE

Based on a full consideration of the impact analyses and the comparison of the alternatives in the FEIS, Reclamation concluded that the Proposed Action as described in the FEIS Section 2.0 and as modified by program constraints from the EIS Section 2.1.2.3, is considered the environmentally preferred alternative (per NEPA requirements) and the least environmentally damaging practical alternative. The Proposed Action would avoid significant impacts to the maximum extent feasible while fully meeting the purpose and need, and Project objectives.

5. ALTERNATIVES CONSIDERED IN THE EIS

In addition to the Proposed Project Alternative, the FEIS evaluated two no-action alternatives: the "New Well Construction Alternative" and the "Land Fallowing Alternative". Under either of these no-action alternatives, Reclamation would not issue annual exchange agreements with the project proponents. The project proponents would seek to obtain supplemental water from other sources.

New Well Construction Alternative

Under the New Well Construction Alternative, the project proponents would install new wells on their properties in WWD and SLWD to provide 25,000 acre-feet of groundwater from below the Corcoran Clay each year. Implementation of this alternative would involve construction of between 55 and 125 new wells that would be completed below the Corcoran Clay, and associated piping to irrigated lands or to connect to existing distribution systems.

Land Fallowing Alternative

Under the Land Fallowing Alternative, the project proponents would fallow approximately 10,000 acres of active farmland each year to make up for the 25,000 acre-feet of water that would not be available under the proposed project.

6. PUBLIC PARTICIPATION

6.1 Scoping

As part of the preparation of the NEPA document, Reclamation and the MPG entered into discussions with interested parties including the SJRECWA, NLF, CDF&G, the Central Valley Regional Water Quality Control Board (CVRWQCB) and the USFWS.

Prior to initiation of the preparation of this FEIS, a series of letters were sent out to 28 interested parties and State and Federal agencies asking for input into the planning process. A Notice of Intent (NOI) to prepare an 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.

Extensive efforts were undertaken to identify interested parties, and to obtain their input into the EIS scoping process. An initial list of interested parties was developed from those persons and agencies that had commented on previous environmental documents related to this project, and from public agencies that were expected to have an interest due to their regulatory mandate.

To notify the public and obtain input on the scope and alternatives to the project, the following activities were undertaken:

EIS Announcement Letter	July 31, 2001
Scoping Meeting Letter	December 11, 2001
Public Notice (Fresno Bee)	January 2, 2002
Federal Register NOI	January 3, 2002
Public Meeting	January 14, 2002
Written Comments	January 28, 2002

The EIS announcement letter notified interested parties that Reclamation and the MPG were planning to prepare an EIS for a ten-year groundwater pumping program. This letter requested input on the proposed project, information on other projects that could have cumulative effects with this project, and that the interested parties identify any data that would be relevant to the project.

The scoping meeting letter was sent to known interested parties to inform them of the Public Meeting. The public notice in the Fresno Bee, and the NOI in the Federal Register were intended to notify the general public and regulatory agencies of the meeting.

Issues raised during the Scoping Meeting and subsequently addressed in the DEIS and FEIS include:

- Role of Reclamation and the MPG
- Area of Impact
- Definition of Water Year Types
- Water Quality/Water Levels
- Water Use
- CVP Power Usage

A summary report on the Scoping process was prepared and issued on April 3, 2003. This report identified all issues raised during the scoping process and how they would be addressed in the EIS.

6.2 Public Comments on the Draft EIS

Reclamation also gave serious consideration to comments received on the DEIS. Significant issues raised included:

- Water quality effects (primarily Total Dissolved Solids and selenium) in the Pool and at CVP contractors intakes
- Groundwater quality degradation
- Overdraft
- Subsidence

Reclamation believes that all reasonable actions have been incorporated into the Project to address the issues raised. The design constraints included in the proposed project were arrived

through extensive negotiations between Reclamation, the project proponents, and affected parties. Reclamation believes that the design constraints and monitoring program will ensure that environmental effects are minimized. Reclamation believes that the proposed project is the environmentally preferred alternative.

Although the cooperation of other interested parties would be required to provide data and information as part of the monitoring program, existing obligations with the project proponents are already in place, or the interested party is a public agency that is already collecting the required data as part of its current operations.

Subsequent to the issuance of the DEIS, Reclamation solicited additional input from the SJRECWA, the CVRWRCB and CVP contractors on the water quality and supply impacts. These concerns are fully addressed in the body of the FEIS and in the responses to comments provided as an appendix to the FEIS.

6.3 Public Comments on the Final EIS

In response to the Notice of Availability of the FEIS, Reclamation received comments from the following agencies: EPA, CVRWQCB, City of Mendota, and SJRECWA. Comments received on the FEIS generally relate to the following issues:

- Groundwater monitoring frequency; and
- Groundwater quality degradation; and
- Protection of beneficial uses of the Pool (surface water quality); and
- Subsidence; and
- Responsibility to ensure that monitoring occurs.

These issues were extensively addressed in the FEIS and represent issues raised in the review of the DEIS and responses to comments thereto. In addition, the project proponents modified the project description and implemented design constraints to mitigate for impacts associated with the project associated with these issues.

Reclamation has considered the need for quarterly, as opposed to annual monitoring, of MPG production wells for salinity and selenium as recommended by the CVRWQCB, EPA, and the USFWS. As discussed in the FEIS and in the responses to comments provided in Appendix F to the FEIS, groundwater quality in the Pool region changes slowly. Short-term changes in groundwater quality of sufficient magnitude to result in exceedance of surface water quality criteria or guidelines for these parameters are unlikely to occur. For the reasons specified in the FEIS and Appendix F, Reclamation believes that annual monitoring is sufficient to protect surface water resources. In addition, upgradient wells are included in the monitoring program, and will provide advance indication of potential changes in the water quality of MPG production wells.

The surface water quality monitoring program will also detect changes in water quality that would trigger a re-evaluation of the monitoring program. During the annual pumping periods, the MPG will collect monthly surface water grab samples at 4 locations: DMC terminus, MWA, JID Booster Plant, and Lateral 6 & 7 Intake. The MPG will also collect surface water grab samples at nine other locations throughout the Pool in June and October. These nine locations include: Columbia Canal, Mendota Dam, CCID Main Canal, Mowry Bridge, CCID Outside Canal, Firebaugh Intake Canal, West of Fordel, Etchegoinberry, and Tranquillity ID Intake. Continuous EC recorders are also in operation at the SJRECWA canal intakes, the mouth of the DMC, at the northern portion of the MWA, and at the JID Booster Plant.

Reclamation reserves the right to require additional monitoring as part of the conditions for issuance of annual exchange agreements. This change in monitoring requirements would be based on consideration of all previous monitoring results.

Reclamation recognizes that the proposed Project will have an effect on the rate of groundwater quality degradation. This impact has been extensively analyzed in the FEIS and in the responses to comments. All pumping activities near the trough of the Central Valley have the potential to increase lateral groundwater gradients and thereby the rate of degradation. Reclamation has weighed these effects against the benefits of increased water supply at the Pool. The proposed Project includes mitigation and monitoring components to both minimize the Project's effect and to characterize the rate of degradation in the vicinity of the Pool.

Beneficial uses of water in the Pool and applicable water quality standards are discussed in Section 3.3 and project effects in Section 4.4 of the FEIS. Numerous pumping program design constraints have been incorporated into the Project to ensure that beneficial uses are met. The monitoring program is designed to verify that beneficial uses are met. The procedure used to develop annual pumping programs seeks to maintain an annual average TDS concentration of 450 mg/l or less throughout the pumping program. Prior to the issuance of annual exchange contracts, Reclamation will review the proposed pumping program and predicted water quality effects to ensure that beneficial uses are not impaired. Based on the analyses presented in the FEIR, Reclamation has determined that applicable water quality standards will be met and that beneficial uses will be maintained.

The CDF&G expressed concerns that subsidence at Mendota Dam could impact water levels in the MWA. Compaction is monitored by extensometers at two locations near the Pool: Fordel and Yearout Ranch. The cumulative compaction from all factors from January 2000 to January 2004 was 0.006 foot at Fordel and 0.06 foot at Yearout Ranch. This level of subsidence is not enough to have measurable effect on the water distribution system.

As discussed in the FEIS, especially Appendix B, numerous parties in addition to the MPG, conduct monitoring of surface water and groundwater at the Pool, and contribute these data to the MPG for analysis as part of its annual monitoring program. Reclamation has no standing to require these other entities to conduct monitoring or provide their data to the MPG or Reclamation for analysis. However, as discussed in Sections 6 and 7 of this decision document, Reclamation will require, as part of the annual exchange contracts, that monitoring be conducted by the MPG, and that an annual monitoring report and proposed pumping program be submitted

before a subsequent exchange contract could be issued. Failure to meet this contractual requirement, or to meet water quality criteria or guidelines, would be cause for suspending issuance of exchange agreements. Reclamation will provide an annual data summary report to the USFWS at the completion of each annual monitoring program for review.

Comments supplied by the City of Mendota are primarily of informational nature and do not substantially affect the conclusions of the FEIS. Reclamation has reviewed these comments and will consider their ramifications in the issuance of the annual exchange agreements.

The SJRECWA comment letter identified eight concerns related to the interpretation of the available data. Reclamation recognizes that there are differences in professional interpretation of the available data. Previous comments from SJRECWA that raised the same or similar issues have been extensively addressed in the FEIS, Appendix F (Responses to Comments), and in discussions between Reclamation, the project proponents, and SJRECWA. Reclamation has determined that the FEIS adequately discusses these issues, and will accept the findings presented in the FEIS as the basis for this decision.

Reclamation has determined that these comments need not be addressed further, and that the FEIS fully meets the requirements of NEPA.

7. BASIS OF DECISION AND ISSUES EVALUATED

7.1 Reasons for the Recommended Decision

Reclamation recommends approval of the Proposed Action as modified by the EIS mitigation measures for the following reasons:

Environmental Benefits

The exchange program will result in the following benefits:

- 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.

Fully meets the Purpose and Need Statement and Project Objectives

The exchange program will fully meet the purpose and need and project objectives. All other alternatives will either not meet them or will only partially meet them. Hence, the most effective approach to accomplish the project purpose and objectives will be implemented.

Compliance with the Federal Endangered Species Act

USFWS has concurred with Reclamation's determination that the Project may affect but will not likely adversely affect federally listed threatened or endangered species within its jurisdiction, specifically the giant garter snake (*Thamnophis gigas*).

7.2 Issues Evaluated

Reclamation carefully evaluated and considered the following key issues when preparing the ROD. Reclamation determined that there would be no effect on any species under the jurisdiction of the National Marine Fisheries Service as there would be no changes in CVP operations in areas where listed salmonids occur.

Based on the issues raised during the Scoping Meeting, the requirements of NEPA, and issues previously raised on previous project, a total of eleven environmental issues were evaluated in Sections 3 and 4 of the DEIS and FEIS.

- Groundwater Levels
- Land Subsidence
- Groundwater Quality
- Surface Water Quality
- Sediment Quality
- Biological Resources
- CVP Operations
- Land Use
- Noise
- Traffic
- Environmental Justice

8. IMPLEMENTING THE DECISION AND ENVIRONMENTAL COMMITMENTS

Project planning, as described in the FEIS, included all practicable means of avoiding adverse environmental impacts. Where this was not possible, the Project proponents have committed to the environmental mitigation actions described in the FEIS, which are part of this ROD, by reference. The project proponents will implement the monitoring and reporting program as

described in Appendix B of the FEIS, and will submit an annual report summarizing the previous years monitoring program. The project proponents will project potential water quality effects and submit a proposed annual pumping program to Reclamation. Both the annual monitoring report and the proposed pumping program will be submitted to Reclamation prior to Reclamation issuing the annual exchange agreement.