

RECLAMATION

Managing Water in the West

Record of Decision

Mendota Pool Group 20-Year Exchange Program

January 2020



— BUREAU OF —
RECLAMATION
Interior Region 10 California-Great Basin
California*, Nevada*, Oregon*
*Partial
South-Central California Area Office

Mission Statements

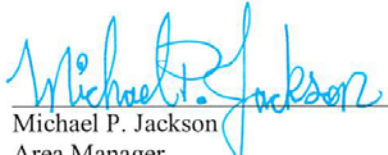
The Department of the Interior conserves and manages the Nation's natural resources and cultural heritage for the benefit and enjoyment of the American people, provides scientific and other information about natural resources and natural hazards to address societal challenges and create opportunities for the American people, and honors the Nation's trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities to help them prosper.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

Record of Decision

Mendota Pool Group 20-year Exchange Program

Recommended:



Michael P. Jackson
Area Manager
South-Central California Area Office
Interior Region 10 · California-Great Basin

Date 1/8/2020


Concur:



Anastasia T. Leigh
Regional Environmental Officer
Interior Region 10 · California-Great Basin

Date 1/10/2020

Approved:



Russell Callejo
Deputy Regional Director
Interior Region 10 · California-Great Basin

Date 1/10/2020

Introduction

The United States Department of the Interior, Bureau of Reclamation (Reclamation), as the Federal lead agency under the National Environmental Policy Act (NEPA), and Westlands Water District (Westlands), as the State of California (State) lead agency under the California Environmental Quality Act (CEQA), prepared the Mendota Pool Group 20-year Exchange Program (Project) Environmental Impact Statement/Environmental Impact Report (EIS/EIR) to assess impacts of the proposed Project.

Background

The Mendota Pool Group (MPG) was formed in 1989 with the overall purpose of providing an organization and framework to coordinate landowner responses to declining surface water supplies available to farms on the west side of California's Central Valley. Members of the MPG own or operate farmland served from the San Luis Canal in Westlands, as well as in the vicinity of the Mendota Pool in Farmers Water District and surrounding areas.

The MPG first started pumping groundwater for exchange in 1989 to make up for reduced Central Valley Project (CVP) water deliveries. The pumped groundwater was either exchanged with the California Department of Water Resources or Westlands for a portion of Westlands' CVP allocation. Beginning in 2005, Reclamation began issuing annual exchange agreements with the MPG, which allowed for the exchange of groundwater at the Mendota Pool for up to 25,000 acre-feet per year of CVP water during normal and dry years. As the current 10-year exchange program has expired, the MPG have requested approval from Reclamation to continue to annually exchange groundwater for CVP water over a 20-year period.

Purpose and Need

The Proposed Action is needed to allow the MPG to continue to exchange groundwater for CVP water in order to maintain agricultural production on their lands in Westlands regardless of the reductions of CVP water supplies from the Delta. The purpose of the Proposed Action is to ensure the continued availability of affordable, reliable, good quality irrigation water.

The Central Valley Project Improvement Act of 1992, Title 34 (of Public Law 102-575), Section 3408, Additional Authorities (c) authorizes the Secretary of the Interior to enter into contracts pursuant to Reclamation law and this title with any Federal agency, California water user or water agency, State agency, or private nonprofit organization for the exchange, impoundment, storage, carriage, and delivery of CVP and non-CVP water for domestic, municipal, industrial, fish and wildlife, and any other beneficial purpose, except that nothing in this subsection shall be deemed to supersede the provisions of section 103 of Public Law 99-546 (100 Stat. 3051).

Section 14 of the Reclamation Project Act of 1939 (53 Stat. 1197; 43 U.S.C., subsection 389) authorizes the Secretary, for the purpose of orderly and economical construction or operation and maintenance of any project, to enter into such contracts for exchange or replacement of water,

water rights, or electric energy or for the adjustment of water rights, as in his judgment are necessary and in the interests of the United States and the project.

The Warren Act (Act as of February 21, 1911; (36 STAT.925; 43 U.S.C., subsection 523) authorizes the Secretary to contract for use of available excess capacity in Reclamation facilities for the impoundment, storage, and conveyance of non-project irrigation water.

The purpose for the action by Reclamation, as the Federal Lead Agency, is to consider, under the above cited authorities, the request by the MPG to use federal facilities for the storage and conveyance of groundwater (non-CVP water) and the exchange of CVP surface water for non-CVP groundwater pumped by the MPG to meet existing water supply demands for their irrigated lands within Westlands. Reclamation's need for the action is to respond to MPG's request for use of federal facilities and the exchange of CVP water for non-CVP water under the above cited authorities.

The Decision

Reclamation's decision is to implement Alternative 2, the 20-Year Exchange Program and Additional Groundwater Recharge Facilities as described in Section 2.2.2 of the EIS/EIR. In making this decision, Reclamation reviewed the alternatives evaluated in the EIS/EIR, the effects analyses, and comments submitted by federal, state, and local agencies, interested parties, and the public. Of the alternatives considered, implementation of Alternative 2 fully meets the purpose and need and balances the ability to achieve the project objectives while minimizing environmental effects.

Alternatives Considered

The action alternatives for the EIS/EIR were developed to respond to the purpose and need, and refined as a result of comments received during the scoping process and public comment period for the Draft EIS/EIR. The No Action Alternative was developed to present a clear description of the environment in the absence of the action, and provides a basis for comparing effects of implementing either action alternative.

No Action Alternative

Under the No Action Alternative, Reclamation would not issue a series of exchange agreements over a 20-year period with the MPG or allow the storage and conveyance of non-CVP groundwater within federal facilities. Reclamation would continue to provide contractually obligated CVP water to Westlands and to its contractors around the Mendota Pool including the 25,000 acre-feet per year that was previously exchanged with the MPG.

The MPG would discontinue their association, and up to 25,000 acre-feet per year of groundwater exchanged for CVP water would no longer be available to farmers with lands in Westlands. MPG farmers in Westlands would continue to rely on their existing CVP allocations when available. However, there are two possible worst-case scenario responses for the

landowners in Westlands to the loss of the 25,000 acre-feet per year exchange water supply. These could include either a change in agricultural practices (i.e. crop types, short-term fallowing, or long-term retirement of farmland) or increased groundwater pumping (up to 25,000 acre-feet per year) to maintain existing irrigation and agricultural practices.

Additionally, the MPG estimate that approximately 33,395 acre-feet per year of groundwater around the Mendota Pool area would be pumped to support the following actions within the Mendota Pool area: (1) continued irrigation of existing cropland, (2) reactivation of fallowed farmland, and (3) continuation of crop conversion trends from row crops to permanent crops such as almonds and pistachios. Under the No Action, this pumping would not be managed through design constraints included under the previous exchange agreements; however, groundwater pumping would still require compliance with local and state regulations.

Action Alternatives

The alternatives that moved forward for more detailed analysis in the EIS/EIR were those that responded to the NEPA purpose and need and CEQA objectives, minimized negative effects, where potentially feasible, and represented a range of reasonable alternatives. As a result of initial alternatives screening, two action alternatives were selected to move forward for analysis in the EIS/EIR (in addition to the No Action Alternative) and eight were eliminated from detailed review.

Components Common to the Action Alternatives

Both Action Alternatives would include Reclamation issuing a series of annual exchange agreements based on review of the previous year's monitoring information over a 20-year period. The exchange agreements would also allow the storage and conveyance of non-CVP groundwater within federal facilities. The annual exchanges would be subject to design constraints, monitoring, and adaptive management as described in Section 2.2.1 of the EIS/EIR. In addition, both alternatives include the use of existing recharge facilities. The primary difference between the alternatives is the construction of additional recharge facilities under Alternative 2 to further offset groundwater pumping.

Proposed Action

Under the Proposed Action, the MPG would annually pump a not-to-exceed total of 38,316 acre-feet per year, which includes up to 26,316 acre-feet per year for exchange and the remainder for irrigation on their lands around the Mendota Pool. In a year where 26,316 acre-feet per year is pumped for exchange, pumping for use around the Mendota Pool would be limited to 12,000 acre-feet per year. Total groundwater pumping would be limited to a maximum of 421,053 acre-feet and the exchange would be limited to a maximum of 400,000 acre-feet over the 20-year period. Groundwater discharged into the Mendota Pool by MPG would be made available to Reclamation to satisfy existing CVP water contract obligations at the Mendota Pool. An equitable quantity of exchange water would then be conveyed by Reclamation from the San Luis Reservoir to MPG farms in Westlands via the San Luis Canal rather than being conveyed to the Mendota Pool via the Delta-Mendota Canal.

The Proposed Action includes a groundwater recharge component that would facilitate the percolation of surface water (primarily Kings River floodwaters) to increase the amount of recharge occurring in the groundwater basin. Groundwater recharge facilities would include use

of the existing Terra Linda Farms Recharge Canal, located to the west of the Fresno Slough, as well as four existing recharge ponds on New Columbia Ranch. However, recharge in these facilities is contingent upon the MPG obtaining formal agreements for use and needed conveyance with various groups, including but not limited to, Wonderful Orchards, Columbia Canal Company, and the San Joaquin River Water Authority Exchange Contractors. Use of the recharge ponds would also be limited to periods when Wonderful Orchards does not have need to use them. The total potential recharge attributable to the MPG during the 20-year exchange program is conservatively estimated to be 23,169 acre-feet.

Alternative 2: 20-Year Exchange Program and Additional Groundwater Recharge Facilities

Alternative 2 includes all the components of the Proposed Action plus the construction, maintenance, and operation by the MPG of a new approximately 85-acre recharge basin that would be located in the northern portion of the Terra Linda Farms' River Ranch property near the west bank of the Fresno Slough and immediately adjacent to the Terra Linda Farms Recharge Canal.

The new recharge basin would function solely for the purpose of recharging the local groundwater aquifer and would not be used as a water bank, i.e. no water recharged in the basin would be extracted for later use. Under this alternative, the MPG would maximize recharge with the goal of achieving over 43,000 acre-feet of recharge over the 20-year exchange period by constructing the new recharge basin in conjunction with the use of the existing recharge facilities described in the Proposed Action. Alternative 2 is the Preferred Alternative.

Environmentally Preferable Alternative

Section 1505.2(b) of the Council on Environmental Quality (CEQ) Regulations requires the NEPA lead agency to identify the environmentally preferable alternative in a Record of Decision. CEQ provides guidance in its 40 Most Asked Questions, answer to question 6a, stating that "the environmentally preferable alternative is the alternative that will promote the national environmental policy as expressed in NEPA's Section 101. Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources."

Alternative 2 has been identified as the environmentally preferable alternative because it balances the ability to achieve the project objectives with environmental effects.

Many of the environmental resource conditions would be similar under the Proposed Action as under Alternative 2. Although Alternative 2 may have potential adverse impacts to biological and cultural resources due to construction of the proposed recharge basin, conservation measures have been incorporated to avoid or minimize these impacts. The primary benefit of implementing Alternative 2 as compared to the Proposed Action is the additional recharge that could be maximized over the 20-year exchange period.

Basis for the Decision

The alternatives were evaluated on how well they met the Project's purpose and need and the magnitude of environmental effects. The Preferred Alternative (Alternative 2) was chosen as it would maximize available water supply and maintain existing agricultural production by allowing the MPG to continue exchanging water to maintain agricultural production on their lands in Westlands, while reducing groundwater pumping impacts through utilization of existing and new recharge facilities proposed by the MPG.

Information and analysis presented in Chapter 3 (Scope of Impact Analysis) of the EIS/EIR provide a description of resource features of the regional and local study area that may be affected by implementation of the action alternatives. The affected environment and environmental consequences descriptions are divided into two categories: the Primary Study Area and the Secondary Study Area. The Primary Study Area represents the area where most direct environmental impacts related to groundwater pumping activities under the action alternatives have the potential to occur. The Secondary Study Area encompasses Westlands and represents the larger area within which all potential direct and indirect impacts may occur.

The Project area does not include Federal land, and the nearest ITA is approximately 36 miles northeast of the Project area; therefore, there is no potential for Indian Trust Assets or Indian Sacred Sites to be affected by the Project.

Public involvement was considered throughout the process and contributed to the development of alternatives and the decision. The scoping process began on November 13, 2012 and comments were used in the development of a reasonable range of alternatives and identification of key issues.

Reclamation released the Draft EIS/EIR on November 30, 2018. As a result of public comments, the EIS/EIR was updated to further clarify the analysis provided in the draft. None of the revisions changed the determinations made in the Draft EIS/EIR.

Comments Received on the Final EIS

A Notice of Availability of the Final EIS/EIR was published by the U.S. Environmental Protection Agency on October 24, 2019. The Final EIS/EIR was posted on Reclamation's website and a press release was issued by Reclamation. Notices of the availability of the Final EIS/EIR were sent by Reclamation to interested parties. Electronic copies of the Final EIS/EIR on compact discs were distributed to cooperating agencies, stakeholders, and parties that submitted verbal and written comments on the Draft EIS/EIR.

A comment was received from the Environmental Protection Agency acknowledging that Reclamation had addressed their comments in the Final EIS/EIR. Reclamation received and considered a comment letter from James Irrigation District. The comment letter did not provide any new issues that were not already addressed in the response to comments in the Final EIS/EIR.

Section 7 of the Endangered Species Act

Reclamation consulted under Section 7 of the Endangered Species Act with the U.S. Fish and Wildlife Service (USFWS) for the Project. All action alternatives evaluated in the EIS/EIR considered impacts to listed species and effects to these species were a consideration in comparison with the No Action Alternative.

Reclamation initiated informal consultation with USFWS on September 6, 2018. USFWS concurred with Reclamation's determination that the Project may affect, but is not likely to adversely affect, giant garter snake on December 19, 2018.

Section 106 Compliance

Reclamation is responsible for complying with Section 106 of the National Historic Preservation Act. On March 7, 2018, Reclamation initiated consultation with the State Historic Preservation Officer on the Project. In a letter dated April 4, 2018, the State Historic Preservation Officer did not object to Reclamation's finding of no historic properties affected pursuant to 36 CFR §800.4(d)(1).

Mitigation Measures

Reclamation and Westlands have adopted all practicable means to avoid or minimize environmental harm for the Project, including during design and development, and are committed to implementing the measures identified in the EIS/EIR. Attachment A to this Record of Decision includes a detailed description of the mitigation measures and discussion of monitoring and enforcement programs where applicable.

Attachment A – Mitigation and Monitoring

Table A-1 lists the mitigation measures identified in the EIS/EIR, responsible parties, the time frame for implementation, and the monitoring parties. A column is provided for the monitoring party to sign-off on the implementation of each mitigation measure. Reclamation, as the NEPA lead agency, and Westlands, as the CEQA lead agency, are ultimately the agencies responsible to make sure that mitigation measures are implemented. Other parties, including the project proponents, will have a role in implementation.

Attachment A - Mendota Pool Group 20-Year Exchange Program
Mitigation Monitoring and Reporting

Measure No.	Mitigation Measure	Responsible Party	Monitoring Party	Method of Verification	Timing of Verification	Verification of Completion Initials	Date
MM-WQ-1	Sample groundwater from MPG wells on an annual basis for EC and TDS, and every other year for general minerals and trace elements (arsenic, boron, barium, copper, iron, manganese, molybdenum, selenium, and zinc).	MPG	Reclamation, Westlands	Documentation on file with Reclamation	Annually prior to approval of the next exchange agreement		
MM-WQ-2	Conduct monthly surface water quality monitoring during periods of exchange.	MPG	Reclamation, Westlands	Documentation on file with Reclamation	Monthly during periods of exchange, summarized in annual reports prior to approval of the next exchange agreement		
MM-WQ-3	Conduct sediment sampling every 3 years.	MPG	Reclamation, Westlands	Documentation on file with Reclamation	In the fall of the sampling year, summarized in annual report prior to next exchange agreement		
MM-WQ-4	During periods of exchange, monitor with field measurements the location, flow volume and EC for each MPG discharge point to the Mendota Pool on at least a monthly basis.	MPG	Reclamation, Westlands	Documentation on file with Reclamation	Monthly during periods of exchange, summarized in annual reports prior to approval of the next exchange agreement		
MM-WQ-5	Evaluate data from continuous EC recorders located at the DMC, the Exchange Contractors' intakes, MPG discharge points to the Mendota Pool, and the Mendota Wildlife Area. DMC EC would be monitored continuously by Reclamation at DMC Check 21 and by the Exchange Contractors' at their canal intakes. The EC levels would be monitored by MPG at MWA Sampling Location No. 9 by on a daily basis.	MPG	Reclamation, Westlands	Documentation on file with Reclamation	Monthly during periods of exchange, summarized in annual reports prior to approval of the next exchange		
MM-WQ-6	Pump MPG wells along the west side of the Fresno Slough only when flow in the Fresno Slough is to the south. Wells in FWD could pump irrespective of flow direction in the Mendota Pool.	MPG	Reclamation, Westlands	Documentation on file with Reclamation	Annually prior to approval of the next exchange agreement		

MM-WQ-7	Curtail MPG discharge into the Mendota Pool west of the Fresno Slough if EC measurements at the Exchange Contractors' canal intakes exceed that of the DMC by 90 µmhos/cm for a period of three consecutive days or more. If the MPG wells were 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 µmhos/cm above the DMC inflow	MPG	Reclamation, Westlands, Exchange Contractors, Wonderful Orchards	Documentation on file with Reclamation	Monthly during periods of exchange, summarized in annual reports prior to approval of the next exchange		
MM-WQ-8	Implement annual pumping programs to comply with monthly and annual surface water quality criteria for water flowing into the MWA and measured at Sample Location 9. The goal is to minimize overall surface water quality degradation, particularly with respect to salinity (TDS or EC) entering the MWA.	MPG	Reclamation, Westlands, CDFW	Documentation on file with Reclamation	Monthly during periods of exchange, summarized in annual reports prior to approval of the next exchange		
MM-WQ-9	The quality of water flowing into the MWA and measured at Sample Location shall not exceed a monthly average of 600 mg/L. If an exceedance is recorded at Sampling Location 9, Reclamation and the MPG will coordinate with other users around the Mendota Pool to determine the cause of the exceedance and any applicable remedial actions needed.	MPG	Reclamation, Westlands, CDFW	Documentation on file with Reclamation	Monthly during periods of exchange, summarized in annual reports prior to approval of the next exchange		
MM-WQ-10	During the Fall (September, October, and November) pumping period when water quality at the MWA is most critical, the quality of water flowing into the MWA and measured at Sample Location 9 shall not exceed a monthly average of 450 mg/L. If an exceedance is recorded at Sampling Location 9, Reclamation and the MPG will coordinate with other users around the Mendota Pool to determine the cause of the exceedance and any applicable remedial actions needed.	MPG	Reclamation, Westlands, CDFW	Documentation on file with Reclamation	September, October, and November during periods of exchange		
MM-WQ-11	The average quality of water flowing into the MWA and measured at Sample Location 9 in any given year shall not exceed an annual average of 450 mg/L. If an exceedance is recorded at Sampling Location 9, Reclamation and the MPG will coordinate with other users around the Mendota Pool to determine the cause of the exceedance and any applicable remedial actions needed.	MPG	Reclamation, Westlands, CDFW	Documentation on file with Reclamation	Monthly during periods of exchange, summarized in annual reports prior to approval of the next exchange		
MM-WQ-12	Shut off wells with selenium concentrations equal to or greater than the water quality criterion of 2 µg/L.	MPG	Reclamation, Westlands	Documentation on file with Reclamation	Annually prior to approval of the exchange agreement		
MM-WQ-13	Shut off wells with boron concentrations equal to or greater than the water quality criterion of 800 µg /L.	MPG	Reclamation, Westlands	Documentation on file with Reclamation	Annually prior to approval of the exchange agreement		
MM-WQ-14	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 (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. MPG discharge points into the Mendota Pool with TDS concentrations greater than 1,600 mg/L will not be pumped for exchange into the Pool (or greater than 1,200 mg/L during September, October, and November).	MPG	Reclamation, Westlands	Documentation on file with Reclamation	Annually prior to approval of the exchange agreement		

Attachment A - Mendota Pool Group 20-Year Exchange Program
Mitigation Monitoring and Reporting

MM-GW-1	Conduct flow meter calibration in accordance with manufacturer specifications.	MPG	Reclamation, Westlands	Documentation on file with Reclamation	Annually prior to approval of the next exchange agreement		
MM-GW-2	Groundwater pumping for exchange will be subject to a 5% leave in the Mendota Pool. Total exchange pumping shall not exceed 26,316 AFY (which is 25,000 AFY exchanged). Total exchange pumping over the life of the project shall not exceed 421,053 AF (which is 400,000 AF exchanged).	MPG	Reclamation, Westlands	Documentation on file with Reclamation	Annually prior to approval of the next exchange agreement		
MM-GW-3	Exchange pumping from the deep zone (of the upper aquifer) shall be conducted primarily during March, April, and May, and from September through November. No exchange pumping from the deep zone (of the upper aquifer) shall be conducted during June, July, and August of any year unless expressly permitted by the Exchange Contractors, Wonderful Orchards, and Reclamation.	MPG	Reclamation, Westlands, Exchange Contractors, Wonderful Orchards	Documentation on file with Reclamation	Annually prior to approval of the next exchange agreement		
MM-GW-4	Exchange pumping from the deep zone (of the upper aquifer) shall not exceed 12,000 AFY during any one year.	MPG	Reclamation, Westlands, Exchange Contractors, Wonderful Orchards	Documentation on file with Reclamation	Annually prior to approval of the next exchange agreement		
MM-GW-5	Exchange pumping shall not be conducted more than 10 months of any year.	MPG	Reclamation, Westlands, Exchange Contractors, Wonderful Orchards	Documentation on file with Reclamation	Annually prior to approval of the next exchange agreement		
MM-GW-6	Shallow zone pumping (of the upper aquifer) may be limited due to: 1) the quality of water pumped from these wells, 2) potential impacts to deep zone (of the upper aquifer) groundwater (e.g., a decline in groundwater level or groundwater quality), and 3) a potential decline in groundwater levels of the shallow zone (of the upper aquifer). Shallow zone pumping may also be limited due to San Joaquin River surface water flows as described in MM-SW-1 below, as determined by Reclamation.	MPG	Reclamation, Westlands, Exchange Contractors, Wonderful Orchards	Documentation on file with Reclamation	Annually prior to approval of the next exchange agreement		
MM-GW-7	During exchange years, the amount of groundwater pumped for use on Adjacent Overlying Lands shall not be greater than 12,000 AF in any year unless there is a corresponding reduction in the amount of exchange pumping that year.	MPG	Reclamation, Westlands, Exchange Contractors, Wonderful Orchards	Documentation on file with Reclamation	Annually prior to approval of the next exchange agreement		
MM-GW-8	Exchange pumping from the shallow zone (of the upper aquifer) shall be reduced if it is determined that exchange pumping from the shallow zone significantly affects the quality of water in the deep zone (of the upper aquifer) in the Exchange Contractor and Wonderful Orchard service areas due to the interception of good quality water that would otherwise reach the deep zone in the Exchange Contractor and Wonderful Orchards service areas.	MPG	Reclamation, Westlands, Exchange Contractors, Wonderful Orchards	Documentation on file with Reclamation	Annually prior to approval of the next exchange agreement		
MM-GW-9	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.	MPG	Reclamation, Westlands	Documentation on file with Reclamation	Annually prior to approval of the next exchange agreement		

MM-SUB-1	Measure groundwater levels on a bi-monthly basis (at a minimum of six times a year).	MPG	Reclamation, Westlands	Documentation on file with Reclamation	Annually prior to approval of the next exchange agreement		
MM-SUB-2	Conduct monitoring of compaction to estimate land subsidence in the vicinity of the Mendota Dam.	MPG	Reclamation, Westlands	Documentation on file with Reclamation	Annually prior to approval of the next exchange agreement		
MM-SUB-3	Exchange pumping from the deep zone (of the upper aquifer) shall not exceed an amount that will cause subsidence at the Mendota Dam from data collected from the Yearout Ranch and Fordel Extensometers due to exchange pumping to average more than 0.005 feet per year.	MPG	Reclamation, Westlands	Documentation on file with Reclamation	Annually prior to approval of the next exchange agreement		
MM-SUB-4	Before the end of the 20-year period of the Proposed Action, MPG would no longer withdraw water from the lower aquifer, having either successfully sealed the lower aquifer portion of the remaining composite wells or discontinuing production due to potential subsidence impacts	MPG	Reclamation, Westlands	Documentation on file with Reclamation	Once prior to end of the 20-year period		
MM-SW-1	Restoration Flows entering Mendota Pool will be determined by measurement at the San Joaquin River gauge downstream from the Chowchilla Bifurcation structure (SJB). Restoration Flows will be subject to a 5% loss factor between SJB and Sack Dam, then will continue downstream and out of the Project Area. The 5% loss factor may be revised after the SJRRP's Mendota Pool Bypass and Reach 2B Improvement project is constructed. Restoration Flows are protected under Reclamation's San Joaquin River water rights, and will be tracked and reported pursuant to conditions of said water rights. In accordance with Paragraphs 13(f) and 13(h) of the Stipulation of Settlement, Reclamation will work with the Settling Parties to identify surface or underground diversions and causes of any seepage losses above those assumed in Exhibit B of the Settlement and take steps to prevent or redress any unlawful diversions of or interference with Restoration Flows.	MPG	Reclamation, Westlands	Documentation on file with Reclamation	Annually prior to approval of the next exchange agreement		
MM-SW-2	Curtail MPG discharge into the Mendota Pool west of the Fresno Slough if EC measurements at the Exchange Contractors' canal intakes exceed that of the DMC by 90 µmhos/cm for a period of three consecutive days or more. If the MPG wells were 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 µmhos/cm above the DMC inflow.	MPG	Reclamation, Westlands, Exchange Contractors, Wonderful Orchards	Documentation on file with Reclamation	Monthly during exchange periods		

Attachment A - Mendota Pool Group 20-Year Exchange Program
Mitigation Monitoring and Reporting

MM-BIO-1	<p>Ground disturbance associated with construction of the proposed River Ranch Recharge Basin shall be set back a minimum of 750 feet from the Fresno Slough, and construction activities shall only occur between May 1st and October 1st, within the active season for the garter snake. Surveys prior to initiation of construction-related activities shall be undertaken on the site of the proposed River Ranch Recharge Basin to determine the presence/ absence of the following species according to accepted agency protocols:</p> <ul style="list-style-type: none"> • Burrowing owl • Swainson's hawk • Giant garter snake • Western pond turtle • American badger • San Joaquin kit fox • Special-status bats <p>Surveys shall cover areas of suitable habitat as defined in the Biological Resources Technical Report (Appendix H). In the event that special-status species are identified within the proposed basin site, the following would occur: 1) the appropriate agencies shall be notified; 2) the construction site shall be monitored by a qualified biologist who oversees all construction activities affecting sensitive habitat; 3) the site shall be relocated, if necessary; and/or 4) non-disturbance buffers shall be implemented. Pre-construction surveys shall conform to the appropriate CDFW- and/or USFWS-approved survey and monitoring protocols and guidelines for protection of threatened and endangered species, including but not limited to the U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance. To the maximum extent feasible, the removal of trees and other potential nest or roost sites shall occur outside of the avian breeding season (i.e., February through August) and bat maternal roost seasons (i.e., March through August). Contractor education regarding sensitive species that have the potential to occur on and adjacent to the site shall also be conducted.</p>	MPG	Reclamation, Westlands, USFWS, CDFW	Documentation on file with MPG	Prior to construction groundbreaking		
MM-BIO-2	<p>Maintenance activities (e.g., tilling and deep ripping of the basin) for the River Ranch Recharge Basin shall only occur between May 1st and October 1st, within the active season for the giant garter snake. Prior to initiation of maintenance tilling and deep ripping, MPG shall retain a qualified biologist to conduct surveys for the giant garter snake. If a giant garter snake is found, all work that could affect the snake(s) shall cease, and USFWS shall be notified within 24 hours.</p>	MPG	Reclamation, Westlands, USFWS, CDFW	Documentation on file with MPG	Prior to start of maintenance activities over the 20-year period		

<p>MM-CR-1</p>	<p>If subsurface deposits believed to be cultural or human in origin are discovered during ground-disturbing activities, then all work must halt within a 50-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeologist, shall be retained to evaluate the significance of the find. If the professional archaeologist determines that the find does not represent a cultural resource, then work may resume immediately, and no agency notifications are required. If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, they shall immediately notify Reclamation and applicable landowner. The agency shall consult on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be eligible for inclusion in the NRHP. Work cannot resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not eligible for the NRHP; or 2) that the treatment measures have been completed to their satisfaction.</p> <p>There are numerous California State laws and codes that direct treatment of inadvertently discovered Native American human remains. The laws and codes establish the procedures for protecting the human remains, and impose penalties and punishments for persons acting in violation of the legal code. Specifically, Section 7050.5 of the California Health and Safety Code deals with the discovery of human remains in any location other than a dedicated cemetery, and directs that in such cases the coroner of the county in which the remains are discovered be contacted and further excavation or disturbance in the location of discovery be discontinued until the coroner has examined the remains and made recommendations concerning their treatment and disposition. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, the coroner is required to contact the NAHC, by telephone, within 24 hours. Stipulations encouraging private landowners to work with the NAHC and the most likely descendant identified by the NAHC to establish and carry out appropriate treatment of the remains are established in Section 5097.98 of the California Public Resources Code.</p>	<p>MPG</p>	<p>California Office of Historic Preservation</p>	<p>Documentation on file with MPG</p>	<p>During construction</p>		
<p>MM-CR-2</p>	<p>If suspected paleontological resources are discovered during ground-disturbing activities, all work must halt within a 50-foot radius of the discovery. A qualified paleontologist shall be retained to evaluate the significance of the find. If the qualified paleontologist determines that the find does not represent a paleontological resource, then work may resume immediately and no agency notification is required. If the professional paleontologist determines that the find does represent a paleontological resource, they shall immediately notify Reclamation, County, and applicable landowner. The agency shall consult on a finding of importance and implement appropriate treatment measures. Fossils shall be recorded, recovered, and prepared in accordance with the Society of Vertebrate Paleontology Standard Guidelines. Microfossils shall also be collected via the collection of up to 6,000 pounds of matrix per fossil locality per the Society of Vertebrate Paleontology Standard Guidelines as many significant vertebrate fossils and non-vertebrate paleontological indicators, such as plant seeds and shells, are too small to be readily visible and can only be recovered via bulk matrix sampling. Work cannot resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction. Upon completion of construction monitoring, a Paleontological Resources Assessment Report shall be prepared with summary findings for submittal to the Bureau of Reclamation and the County.</p>	<p>MPG</p>	<p>County of Fresno, Reclamation</p>	<p>Documentation on file with MPG</p>	<p>During construction</p>		

