RECLAMATION
Managing Water in the West

Final
ENVIRONMENTAL ASSESSMENT/FONSI

Grassland Incremental Level 4 Groundwater Acquisition Pilot Project - Water Years 2008-2010

United States Bureau of Reclamation

In cooperation with:
Grassland Water District

U.S. Department of the Interior
Bureau of Reclamation
Mid Pacific Region
Sacramento, California

August 2008

United States Department of Interior
Bureau of Reclamation
Mid-Pacific Region
Sacramento, CA

FINDING OF NO SIGNIFICANT IMPACT

GRASSLAND INCREMENTAL LEVEL 4 GROUNDWATER ACQUISITION PILOT PROJECT- WATER YEARS 2008-2010

Recommended: _____ 8/14/2008
Natural Resources Specialist — Date
Mid-Pacific Regional Office

Concur: _____ 8/14/08
Program Management Branch Chief — Date
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Concur: _____ for Mike Hestm, 8/15/08
Resource Projects Coordinator — Date
Mid-Pacific Regional Office

Approved: _____ 8/15/08
Regional Resources Manager — Date
Mid-Pacific Regional Office

Finding of No Significant Impact

GRASSLAND INCREMENTAL LEVEL 4 GROUNDWATER ACQUISITION PILOT PROJECT- WATER YEARS 2008-2010

In 2008, 2009, and 2010 water years (July 1, 2008, to February 28, 2011), there is a need to purchase water for critical wetland habitats to benefit migratory waterfowl, other migratory birds, and wetland dependant wildlife. Reclamation obtains refuge water supplies from willing sellers, pursuant to Section 3406(d)(2) of the Central Valley Project Improvement Act (CVPIA

The proposed action is the Bureau of Reclamation's purchase of up to approximately 10,000 acre-feet (AF) of water per year (through February 28, 2011) from the Grassland Water District (GWD) to meet refuge water needs. All water will be provided from existing wells, previously used for irrigation by local landowners. Water would be conveyed using existing infrastructure. No new water conveyance construction would occur.

Reclamation, in coordination with GWD, prepared a draft environmental assessment (EA) that evaluates the potential beneficial and adverse environmental impacts associated with the proposed action and a no action alternative. The draft EA is attached for reference. In accordance with the National Environmental Policy Act of 1969, as amended, Reclamation has found that the acquisition of water from, and conveyance to GWD will not result in a significant adverse impact on the environment. Therefore, an Environmental Impact Statement is not required.

Reclamation's finding that implementation of the proposed action will result in no significant impact to the quality of the human environment is supported by the following factors:

1. Surface water and groundwater - The proposed action will result in no substantial change or impact to Central Valley Project (CVP) operations, nor to Delta pumping by the CVP. The acquired water will be delivered to the refuges using existing conveyance facilities. The conveyance of water will not impact existing water supplies. Implementation of groundwater pumping monitoring and management measures will ensure that the proposed action will not result in any significant adverse effect to existing water quality or groundwater levels.

2. Land Use – The proposed action will not adversely impact land management or agricultural practices within the Grassland Resource Conservation District (GRCD) or GWD.

3. Biological resources - The proposed action will not result in any physical changes to the environment resulting in significant adverse impacts to biological resources.

4. Threatened and endangered species – Implementation of the monitoring plan will ensure that conditions in GWD and GRCD that support biological resources would not change. No natural waterways containing sensitive fishes will be affected. Reclamation has determined the proposed action would have no effect on federally proposed or listed threatened and endangered species or their proposed or designated critical habitat. No further consultation is required under Section 7 of the Endangered Species Act. Habitat types and conditions that support biological resources in GWD would not change. The proposed action would support existing land uses and conditions.

5. Cultural resources – Based on the information presented in the draft EA, there would be no impact to cultural resources.

6. Indian Trust Assets - The absence of Indian Trust Assets in areas affected by the proposed action precludes any impact to this resource.

7. Environmental justice - Minority or disadvantaged populations or communities will not be adversely impacted by the proposed action.

8. Cumulative effects - The proposed action will not contribute to a cumulatively significant adverse impact when added to other past, present and reasonably foreseeable future actions, given the relatively small amount of water involved and the short-term and temporary nature of the water acquisition.

DRAFT ENVIRONMENTAL ASSESSMENT
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DRAFT ENVIRONMENTAL ASSESSMENT

1. INTRODUCTION

In conformance with the National Environmental Policy Act (NEPA), this Environmental Assessment (EA) has been prepared to evaluate and disclose any potential environmental impacts associated with the Bureau of Reclamation's (Reclamation) temporary acquisition of water from the Grassland Water District (GWD). Reclamation proposes to purchase water supplies from GWD during water years (July 1, 2008 through February 28, 2011) 2008 through 2010. Federal acquisition of this water is authorized under Section 3406(d)(2) and 3406(b)(3) of the Central Valley Project Improvement Act (CVPIA). In conformance with the California Environmental Quality Act (CEQA), GWD is preparing a draft initial study in coordination with this draft EA.

A *Report on Refuge Water Supply Investigations* (Reclamation 1989) describes water needs and delivery requirements for National Wildlife Refuges (NWR), State Wildlife Management Areas, and the Grassland Resource Conservation District in the Central Valley of California. In this report, the average annual historical water supplies were termed "Level 2", and the supplies needed for optimum habitat management were termed "Level 4". Section 3406(d)(1) of the CVPIA requires the Secretary of the Interior to provide firm delivery of Level 2 water supplies to certain wildlife refuges in the Central Valley of California. Section 3406(d)(2) of the CVPIA further directs the Secretary to provide additional water supplies to meet Level 4 needs through the acquisition of water from willing providers. The water to be acquired is known as "Incremental Level 4" supplies. Incremental Level 4 supplies when added to Level 2 supplies make up full Level 4 supplies. This EA focuses on the potential impacts of purchasing up to 30,000 acre-feet (AF) of water supplies from GWD during water years 2008-2010 (up to 10,000 AF annually) to meet Level 4 water needs.

The Grassland Resource Conservation District (GRCD) is one of the wetland areas in the San Joaquin Valley that is an authorized recipient of CVPIA Level 4 water supplies. GWD manages and delivers water to landowners within the GRCD. The combined area of the GWD and GRCD contains approximately 60,000 acres of privately owned wetlands located north, east and south of the City of Los Banos in Merced County, California (Figure A). The GWD and GRCD together with the adjacent federal wildlife refuges, state wildlife areas and state park make up the Grassland Ecological Area (GEA). The GWD works closely with the Central Valley Habitat Joint Venture and is an active partner in the implementation of CVPIA wetland water supply provisions for the GEA. (See Figure A for the location of GWD and GRCD)

Environmental documentation has been previously prepared that addresses the overall impacts of acquiring full Level 4 supplies for the refuges, the conveyance of water to the refuges, and use of water on the refuges (see attached references). The overall impacts of implementing the CVPIA, including providing Level 4 water supplies to the refuges, is

addressed in a Final Programmatic Environmental Impact Statement (PEIS) (Interior 1999).

1.1 PURPOSE AND NEED

There is a need to acquire water, from July 1, 2008 to February 28, 2011, to meet the Water Acquisition Program requirements to deliver water to critical wetland habitats for the benefit of migratory waterfowl, other migratory birds, and wetland-dependent wildlife. The purpose of the proposed action is to fulfill the need for reliable Level 4 water supplies by purchasing up to 30,000 AF (up to 10,000 AF annually) from GWD. Level 4 water is needed to optimally manage Central Valley wetland habitat areas as identified in the *Report on Refuge Water Supply Investigations* (Reclamation 1989). The three-year Pilot Project would allow the GWD to purchase privately held groundwater supplies to assist Reclamation in meeting its water supply obligations under CVPIA.

2. ALTERNATIVES

2.1 No Action Alternative

The no action alternative is not likely to affect any appreciable change in refuge water management operations or cause any measurable effects. It should be noted, however that Reclamation does have an obligation to provide Level 4 water under CVPIA and an MOU with the U.S. Fish and Wildlife Service (Service). Absent this water purchase, water available for acquisition from GWD would likely be sold or used for irrigation. Under the no action alternative, no changes would occur to the operations or water supply for GWD.

2.2 Proposed Action/Project Description

Water Acquisition

The proposed action consists of Reclamation purchasing up to approximately 10,000 AF of water per year (through February 28, 2011) from GWD to meet refuge water needs within the refuges identified in the CVPIA. The Pilot Project would last three full water years (July 1, 2008 to February 28, 2011). The targeted amount of water supplies to be made available under this pilot project is a maximum of 10,000 acre-feet per year. The general parameters of the pilot project are listed in Table 1 - Summary of Pilot Project Parameters.

Under the Pilot Project, GWD would purchase groundwater from landowners with four existing wells that are adjacent to the GWD conveyance facilities. The well locations are identified in Table 2, Figure B, and Figure C . Three of the wells are located on the Old Flyway Ranch and one well is located on Rooney Ranch. All of the wells are presently operated as agricultural wells. The wells are located in an area that has been disturbed by

ongoing agricultural activities. Each well is located more than 250 feet from wetlands.

The owner of the Old Flyway Ranch would supply a maximum of 7,500 acre-feet of water per year from three wells near the northern boundary of the GWD/GRCD. The three Old Flyway Ranch wells are identified as Menezes Well #3, Menzes Well #4, and Menzes Well #5. These wells are located in close proximity to the Santa Fe Canal, a GWD conveyance facility. The wells' location is identified in Figure B. Water from these wells would extracted from the ground and pumped to the Santa Fe Canal for delivery.

The owner of the Rooney Ranch will supply a maximum of 2,500 acre-feet of water from one well near the southern boundary of GWD/GRCD. This well is directly adjacent to a concrete lined ditch that discharges directly into a GRCD facility. Water supplied from the Rooney Ranch would be conveyed via a concrete lined ditch to a GWD/GRCD facility known as the Almond Drive Ditch. The Rooney Ranch well location is identified in Figure C.

GWD staff has inspected and obtained samples from the wells, as shown in Table 2 - Well Information. A surface water and groundwater monitoring program (Appendix A) would be underataken by GWD during the entire life of the project to regularly test the water quality and water quantity of the water supplies purchased under this Pilot Project. All testing results would be provided to Reclamation for review.

Groundwater Pumping

Each well will be equipped with the following prior to the start of the Pilot Project.

1. Electric pump;
2. Continuous flow meter with totalizer; and,
3. Connections needed to convey water to GWD/GRCD lands.

The well owner would be responsible for all well maintenance and for pumping groundwater into GWD's facilities at times when GWD requests such water. GWD would have access to the wells in order to test water quality or monitor flow. If water quality parameters are unacceptable to GWD, GWD would cease water purchases until water quality improved.

Table 1
Summary of Pilot Project Parameters

Amount of Water	Up to 10,000 acre feet per water year
Duration	3 full water years beginning in July 2008
Location of Wells	Old Flyway Ranch: In vicinity of GWD and GRCD, Within Delta-Mendota District of San Joaquin Groundwater Basin, and proximate to GWD's existing Conveyance system. Individual well locations are shown on Figure B. Rooney Ranch: Northwest portion of Sec. 5, T11S, R11E, MDBM. The well location is shown on Figure C.
Type of Wells	Existing/already constructed.
Pump power source	Electricity.
Well output	See Table 2 – Well Information.
Water quality at wells	See Table 2 – Well Information.
Conveyance route (s)	Santa Fe Canal. Reclamation and/or State facilities not needed. See Figure B – Well Locations and Monitoring Points. Also, See Figure C for Almond Drive Ditch and concrete lined ditches throughout GCRD.
Construction	No construction planned or required.
Use for water	Provide a portion of the Level 4 supplies for use in wetland habitat areas served by GWD.
Monitoring	Well water volume, well water quality, and upstream and downstream water quality. See Appendix A.
Purposes	Test whether GWD can find suitable water to help meet Level 4 water needs. Use data collected during pilot to plan for longer-range Level 4 groundwater acquisition project.

Table 2: Well Information

GWD Groundwater Project										
						Water Quality			24 hour	24-hour
	Estimated	Output	GPS	Merced	TDS	Boron	Selenium	Standing	Drawdown	Recovery
	Well Depth	Cu/Ft/Sec.	Location	Co. Location	mg/L	mg/L	ug/L	Water Level	Level	Level
Menezes Well #3	270'	2.5	37 10'55.79N	Sec. 35, T9S	1500	1.6	ND	17'	-	-
APN# 70-19-33			120 83'94.15W	R10E, MDBM						
Menezes Well #4	270'	3	37 10'982.30N	Sec. 35, T9S	1620	1.4	3.6	1'	-	-
APN# 70-19-33			120 83'94.15W	R10E, MDBM						
Menezes Well #5	270'	3	37 06'51.58N	Sec. 26, T9S	1100	1	ND	20.5'	-	-
APN# 70-19-13			120 50"37.64W	R10E, MDBM						
Rooney Ranch Well	NA	3.5	37 00'37.77N	Sec. 5, T11S,	814	1.2	3.9	33'	-	-
APN# 88-13-45			120 47'58.91W	R11E, MDBM						
								6/10/2008		

3. AFFECTED ENVIRONMENT/ENVIRONMENTAL SETTING AND ENVIRONMENTAL CONSEQUENCES

GWD and GRCD are located in Merced County (Figure A). The county is bounded by the Sierra Nevada Mountains to the east and the Pacific coastal range to the west. The project region is characterized by flat valley lowland wetlands and agricultural lands, with a climate that is cool and moist in the winter and hot and dry in the summer.

A list of prior environmental documentation related to this project is located in the attached references section. This environmental documentation was used in preparing this EA and is incorporated into this document by reference.

3.1 Surface Water Resources

Affected Environment

The areas to be irrigated with water from the Pilot Project ultimately drain to the San Joaquin River, a 303(d)-listed waterway under the Clean Water Act. Within GWD and GCRD, a large network of surface water conveyance facilities exists to provide water to private and public lands. The primary canals and ditches in the vicinity of the proposed action are all depicted on Figure B and Figure C. The Santa Fe Canal, which flows north, would be utilized as the primary conveyance facility to deliver most of the water from the 3 Menezes Wells. The canal typically flows at approximately 40 cubic feet per second (cfs). At the Rooney Ranch, several ditches, including the Almond Drive Ditch would be utilized to transport pumped groundwater to a variety of locations.

Environmental Consequences

No Action

The no action alternative would have no impact on surface water resources.

Proposed Action

The proposed action would result in no substantial change or impact to CVP operations, nor to Delta pumping by the CVP. The acquired water would be delivered to the refuges using existing conveyance facilities. Implementation of the monitoring program (Appendix A) would ensure that conveyance of water under this Pilot Project would not impact existing water supplies or water quality. The proposed action would not adversely impact water conveyance facilities or activities within GWD. For additional information related to the potential water quality effects associated with the proposed action please see Section 3.2 Groundwater Resources.

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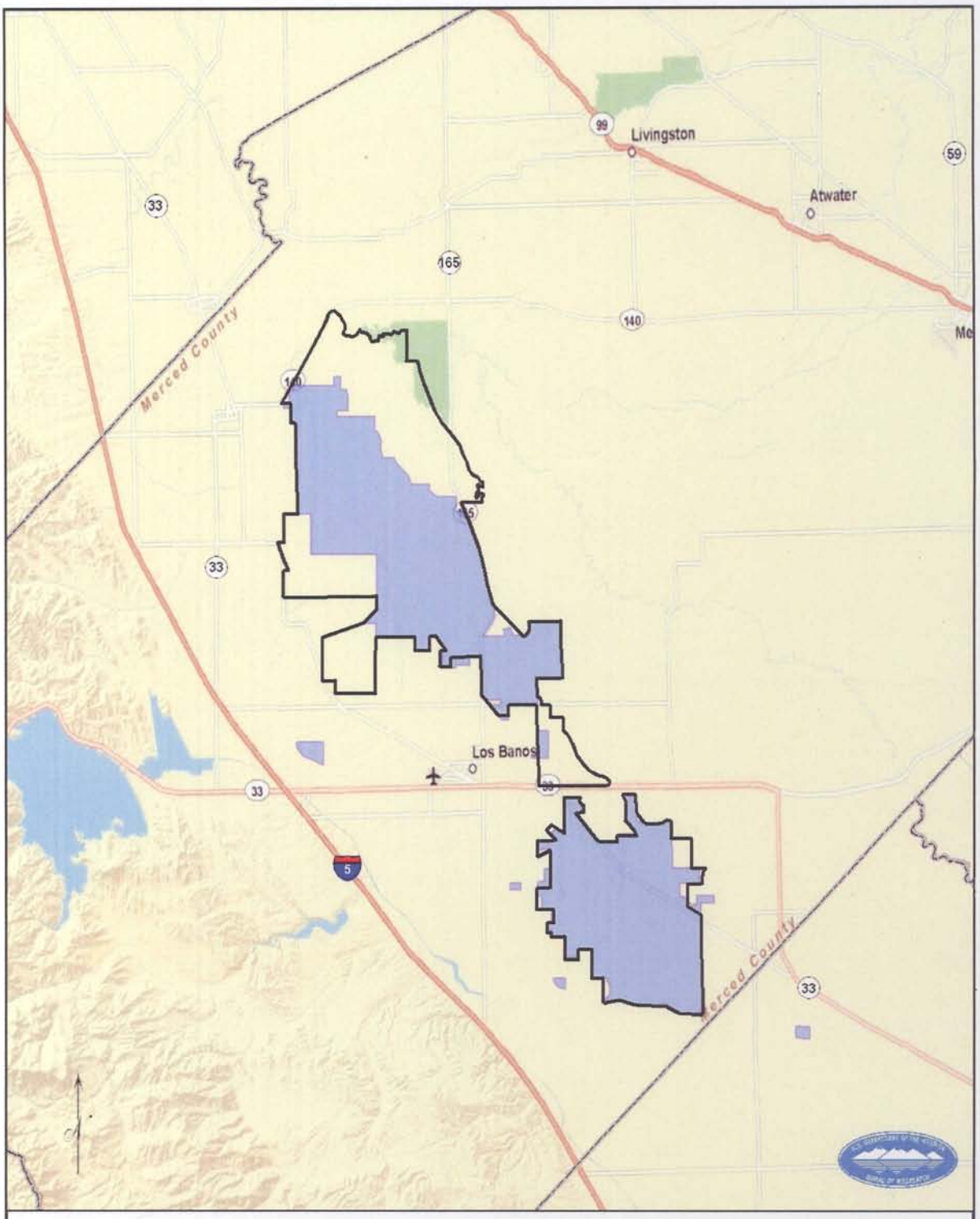
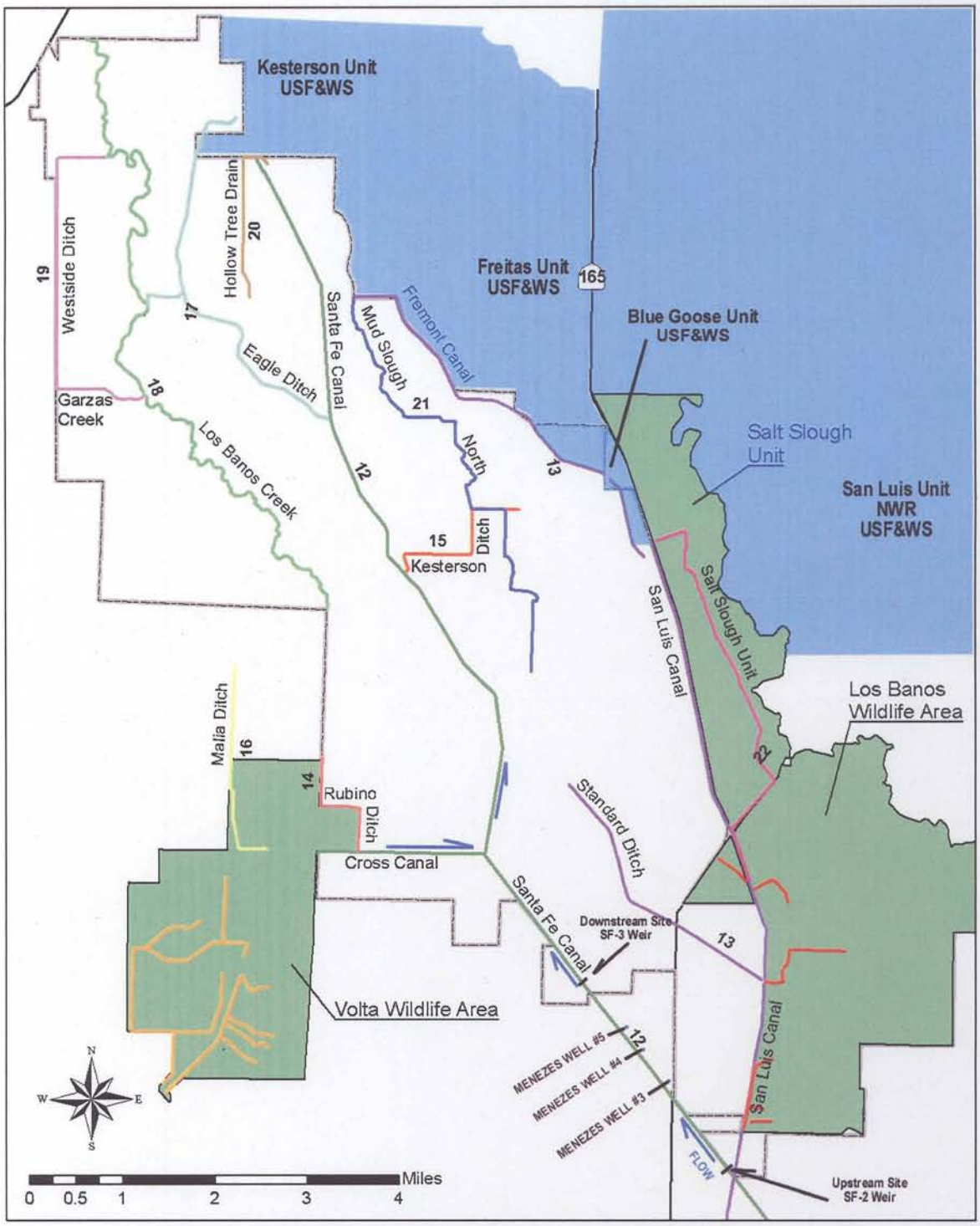


Figure A General Location Map
Grasslands Incremental Level 4 Groundwater Acquisition Pilot Project



GRASSLAND WATER DISTRICT
GROUNDWATER PUMPING PLAN

FIGURE B: Old Flyway Ranch Well Location and Monitoring Points

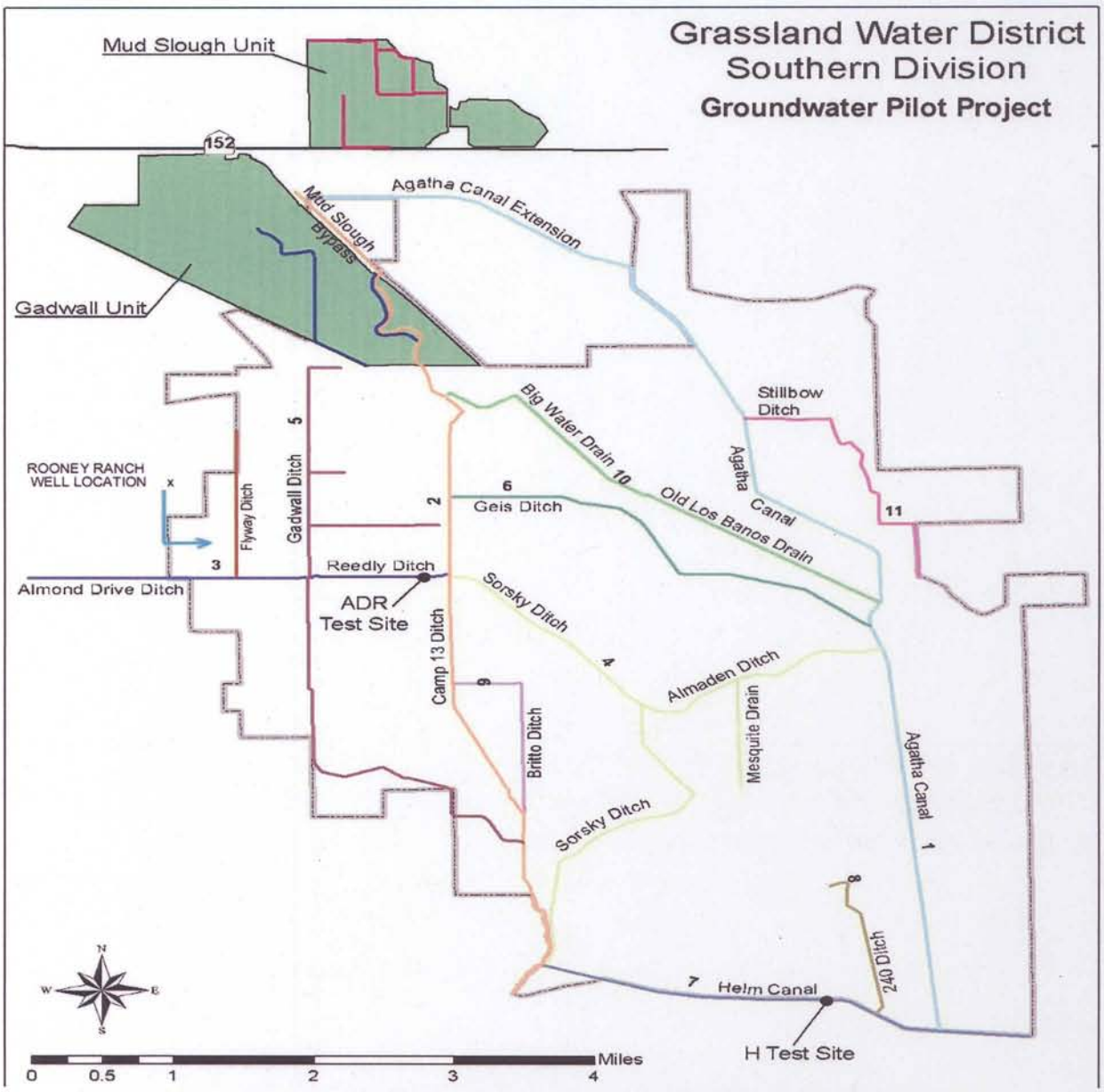


FIGURE C: Rooney Ranch Well Location and Monitoring Points

3.2 Groundwater Resources

Affected Environment

The wells are located in the Delta-Mendota subbasin of the San Joaquin Groundwater Basin. Groundwater in the Delta-Mendota subbasin occurs in three water-bearing zones. These include the lower zone, which contains confined fresh water in the lower section of the Tulare Formation, an upper zone which contains confined, semi-confined, and unconfined water in the upper section of the Tulare Formation and younger deposits, and a shallow zone which contains unconfined water within about 25 feet of the land surface (Davis 1959). The estimated specific yield of this subbasin is 11.8 percent (based on DWR San Joaquin District internal data and Davis 1959). (DWR Bulliten 118)

Groundwater flow was historically northwestward parallel to the San Joaquin River (Hotchkiss 1971). Recent data (DWR 2000) show flow to the north and eastward, toward the San Joaquin River. Based on current and historical groundwater elevation maps, groundwater barriers do not appear to exist in the subbasin. (DWR Bulliten 118)

Changes in groundwater levels are based on annual water level measurements by DWR and cooperators. Water level changes were evaluated by quarter township and computed through a custom DWR computer program using geostatistics (kriging). On average, the subbasin water level has increased by 2.2 feet from 1970 through 2000. The period from 1970 through 1985 showed a general increase, topping out in 1985 at 7.5 feet above the 1970 water level. The nine-year period from 1985 to 1994 saw general declines in groundwater levels, reaching back down to the 1970 groundwater level in 1994. Groundwater levels rose in 1995 to about 2.2 feet above the 1970 groundwater level. Water levels fluctuated around this value until 2000. (DWR Bulliten 118)

The groundwater in this subbasin is characterized by mixed sulfate to bicarbonate types in the northern and central portion with areas of sodium chloride and sodium sulfate waters in the central and southern portion. Total Dissolved Solids (TDS) values range from 400 to 1,600 mg/L in the northern portion of the subbasin and from 730 to 6,000 mg/L in the southern portion of the subbasin (Hotchkiss 1971). The Department of Health Services (DHS), which monitors Title 22 water quality standards, reports TDS values in 44 public supply wells to range from 210 to 1,750 mg/L, with an average value of 770 mg/L. A typical range of water quality in wells is 700-1,000 mg/L. (DWR Bulliten 118)

Environmental Consequences

No Action
The no action alternative would have no effect on groundwater.

Proposed Action

The three major constituents of concern are salinity, measured in total dissolved solids

("TDS"), boron and selenium. A primary objective of the Pilot Project is to determine whether long-term use of supplemental groundwater for irrigated wetlands may impact overall water quality.

Old Flyway Ranch

The State Water Resources Control Board's ("SWRCB") threshold standard for total dissolved solids ("TDS") is 1000 mg/L. The SWRCB's threshold standard for boron is 2ppm from March 15 through September 15, and 2.5 parts per million (ppm) from September 16 through March 14. The selenium threshold standard is 2 parts per billion (ppb). Recent testing conducted by the District of waters sampled from the wellheads shows that TDS values for the three Old Flyway Ranch wells range from 1100 - 1620 mg/L. (See Table 2 – Well Information). These sampling values will not significantly impact overall water quality because water pumped from the Old Flyway Ranch wells will be blended and diluted with Central Valley Project water. Recent test samples for boron and selenium indicated levels in the well water safely below the SWRCB's thresholds; with the exception of one well that has a slightly elevated selenium level. This one well can be easily blended down to within the threshold standards.

The Santa Fe Canal typically has a flow of 40 cfs. With all three Old Flyway Ranch pumps operating, an additional 10.5 cfs of groundwater will flow into the system. Testing in the Santa Fe Canal downstream of the discharge point for the waters to be pumped from Old Flyway Ranch wells indicated an existing TDS level of approximately 560 mg/L. With the additional water from the three Old Flyway Ranch wells, the GWD has calculated that overall TDS levels will increase from approximately 560 TDS mg/L to 685 mg/L. These values are well within the SWRCB's TDS threshold levels. Thus, given the dilution action, existing water quality with respect to TDS levels will not materially change within the conveyance system or in the waters discharged into the San Joaquin River. The same is true with respect to boron and selenium given that the testing shows these constituents to fall far below SWRCB standards with the exception of the one well that can be easily blended to meet selenium standards.

Even though the testing of the Old Flyway Ranch well water and the blending with the receiving waters demonstrates that the Project will not have a significant effect on water quality, the GWD will incorporate two measures into the Pilot Project to further protect the quality of the District's water supply. First, the GWD will not accept water from any of the subject wells if any of the wells exceed the following values:

Maximum of 2000 parts per million total dissolved solids
Maximum of 2.5 parts per million for boron
Maximum of 5.0 parts per billion for selenium

Second, in the event that the water from the Old Flyway Ranch wells increase TDS levels in the Santa Fe Canal by more than 200 mg/L, GWD will either increase the volume of upstream waters to further dilute the Old Flyway Ranch well water and reduce TDS levels, or it will terminate pumping from the wells.

In order to implement this second protective measure, the GWD will establish the base inflow water quality at Santa Fe Canal weir ("SF-2"). SF-2 is approximately one mile upstream from the Old Flyway Ranch wells. Flow will be measured daily and TDS samples taken weekly and will coincide with the downstream measurements. The blended water will be measured approximately one-half miles downstream at the SF-3 weir. Flow will be measured daily and TDS samples taken each week to coincide with upstream data. GWD will also take independent samples semi-annually at each wellhead to monitor any change in boron or selenium, as well. GWD will undertake the TDS sampling using GWD electro conductivity meters, which will be verified by a laboratory semi-iannually. A laboratory will test boron and selenium samples, as these tests are more complicated technically. GWD will provide Reclamation with a monthly report on water flow and TDS.

Rooney Ranch

Recent sampling conducted by the District shows that TDS values for the Rooney Ranch well is 814 mg/L. (See Table 2 – Well Information) GWD's tests did not detect any selenium or boron at the Rooney Ranch well.

The Rooney Ranch well will not involve any blending with Central Valley Project water for TDS or boron, however, it will require blending to keep the selenium elevation within the threshold of 2 ppb. The well is within the State Water Resources Control Board's standard of 1000 mg/L TDS. GWD will monitor the Rooney Ranch wellhead weekly for TDS. GWD will monitor flow on a continuous basis by an existing meter. GWD will also conduct semi-annual testing for boron and selenium. GWD will undertake the TDS sampling using GWD electro conductivity meters, which will be verified by a laboratory semi-annually. A laboratory will test boron and selenium samples, as these tests are more complicated technically. In order to protect the overall water quality of the GRCD supply, the GWD will install monitoring checks at the upstream point of well discharge and also at the downstream point, one half mile, below the discharge. GWD will provide Reclamation with a monthly report on water flow and TDS.

Groundwater Levels

The GWD will monitor groundwater depths at all four wells. GWD will measure groundwater depths 24 hours prior to pumping, and then measured again at the end of the pumping period. GWD will then take another measure of groundwater depth 24 hours after the pumping period ends to evaluate the recovery time of the groundwater. GWD staff will conduct the tests.

GWD will provide an annual report to the Bureau of Reclamation for each of the Pilot Project's three years. GWD will provide the Bureau of Reclamation with the annual report on March 10th of each year. The report will describe, among other things, the results of GWD's monitoring efforts. If monitoring results indicate that GWD's assumptions that the new water sources will not degrade overall water quality are

incorrect, the Pilot Project can be adjusted accordingly, or if necessary, GWD will halt the Pilot Project. (See Appendix A – Monitoring Program)

One of GWD's main objectives for the Pilot Project is to test whether groundwater supplies are reliable and of adequate quality to effectively meet a portion of the GWD's long-term Level 4 water supply needs. The data collected for the Pilot Project will also help establish baseline environmental conditions in the Delta-Mendota District of the San Joaquin Groundwater Basin and document other environmental information pertinent to groundwater pumping. This information could be used in any later environmental review process for a long-term groundwater supply project.

The water quality analyses for all four wells indicated that there will be no degradation of water quality on GRCD lands or in water discharged to the San Joaquin River. Nevertheless, in an abundance of caution, the GWD has built several protections into the Pilot Project to ensure water quality values will not exceed the SWRCB's threshold levels. First, the GWD will closely monitor water quality at all four wells throughout the three-year Pilot Project. Should the Pilot Project pumping lead to exceedences in SWRCB's water quality standards, the District will cease or reduce pumping until water quality improves. In addition, the Pilot Project will monitor water quality in the Santa Fe Canal, a GWD conveyance facility, to ensure that Old Flyway Ranch well water blended with Central Valley Project water will not significantly degrade water quality in the canal. Specifically, if the TDS of the source water is increased by 200 ppm, because of the project, GWD will either cease pumping or increase the supply of better quality source water until the increase is under 200 ppm.

3.3 Land Use

Affected Environment

Private wetland areas in GCRD consist of over 150 separate ownerships. These lands are managed primarily as waterfowl habitat, but provide a wide variety of wildlife benefits. Specific land uses include seasonally flooded wetlands, moist soil impoundments, permanent wetlands, and irrigated pasture and croplands. Perpetual easements have been purchased by the U.S. Fish and Wildlife Service (USFWS) on about 31,000 acres serviced by GWD to help preserve wetland-dependent migratory bird habitat. These easements authorize USFWS to restrict land uses that would diminish wetland habitat values. (Reclamation January 2001)

Environmental Consequences

No Action
The no action alternative would have no direct impact on land management or agricultural practices.

Proposed Action
The proposed action would not adversely impact land management or agricultural practices within GWD.

3.3 Fish and Wildlife Resources

Affected Environment

GWD is dominated by wetland habitats. The habitats present at GWD are natural valley grasslands and developed marsh. GWD is managed primarily for migratory waterfowl, shorebirds, marsh and water birds and their associated habitat types as well as for listed species.

The GEA wetlands provide habitat for more than 550 species of plants and animals, including 47 plant and animal species that are endangered, threatened or candidate species under state or federal law, including San Joaquin kit fox, Aleutian Canada [cackling] geese, sandhill cranes, California tiger salamander, vernal pool fairy shrimp, tadpole shrimp, California red-legged frog, the giant garter snake, Swainson's hawks and tri-colored blackbirds. In addition to providing critical biological habitat, the Grasslands area also provide a wide range of other benefits to the area, including flood control and educational and recreational opportunities. This concentration of wetlands and wildlife is a unique feature of the area, attracting hunters and other recreational visitors who make significant contributions to the local economy.

Potentially Affected Special Status Species for Grassland Water District and Grassland Resource Conservation District

The following list of federally listed, proposed and candidate species potentially occurring in Grassland Water District was obtained on June 16, 2008 by accessing the U.S. Fish and Wildlife (FWS) Database:
http://www.fws.gov/sacramento/es/spp_lists/auto_list_form.cfm
(document number 080616120650). The database was last updated by FWS January 31, 2008. The list also includes State listed, proposed and candidate species potentially occurring in GWD area obtained by accessing the California Department of Fish and Game California Natural Diversity Database/Rarefind (CNDDB/Rarefind) on June 16, 2008. The CNDDB/Rarefind database was last updated in March, 2007.

The list is for the Justine, Stevinson, Ingomar, San Luis Ranch, Volta, Los Banos, Delta Ranch, Charleston School, Dos Palos, and Oxalis 7 ½ minute U.S. Geological Survey quadrangles, which are overlapped by GCRD and GWD.

Invertebrates
Branchinecta conservatio
Conservancy fairy shrimp (FE)

Critical habitat, Conservancy fairy shrimp (X)

Branchinecta longiantenna
Critical habitat, longhorn fairy shrimp (X)
longhorn fairy shrimp (FE)

Branchinecta lynchi
Critical habitat, vernal pool fairy shrimp (X)
vernal pool fairy shrimp (FT)

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (FT)

Lepidurus packardi
Critical Habitat, vernal pool tadpole shrimp (X)
Vernal pool tadpole shrimp (FE)

Fish
Acipenser medirostris
green sturgeon (FT) (NMFS)

Hypomesus transpacificus
delta smelt (FT) (ST)

Oncorhynchus mykiss
Central Valley steelhead (FT) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhyncus tshawytscha
Central Valley spring-run Chinook salmon (FT) (NMFS)
winter-run chinook salmon, Sacramento River (FE) (NMFS)

Amphibians
Ambystoma californiense
California tiger salamander, central population (FT)

Rana aurora draytonii
California red-legged frog (FT)

Reptiles
Gambelia (=Crotaphytus) *sila*
blunt-nosed leopard lizard (FE) (SE)

Thamnophis gigas
giant garter snake (FT) (ST)

Birds
Buteo swainsoni
Swainson's hawk (ST)

Mammals
Ammospermophilus nelsoni
Nelson's antelope squirrel (ST)

Dipodomys ingens
giant kangaroo rat (FE) (SE)

Dipodomys nitratoides exillis
Fresno kangaroo rat (FE)

Vulpes macrotis mutica
San Joaquin kit fox (FE) (ST)

Plants
Caulanthus californicus –California jewel-flower (SE)

Chamaesyce hooveri
Critical habitat, Hoover's spurge (X)
Hoover's spurge (FT)

Eryngium racemosum
Delta button celery (SE)

Neostapfia colusana
Colusa grass (FT) (SE)
Critical Habitat, Colusa grass (X)

Opuntia treleasei -Bakersfield cactus (SE)

Pseudobahia peirsonii -San Joaquin adobe sunburst (SE)

FE: Listed as Endangered under the ESA.
FT: Listed as Threatened under the ESA.
X: Critical Habitat designated for this species
SE: Listed as Endangered under the CESA
ST: Listed as Threatened under the CESA

Environmental Consequences

No Action
The no action alternative is not anticipated to have an impact on fish and wildlife resources.

Proposed Action
The proposed action will have no effect on any special status species. Biological impacts of the use of Level 4 water on GWD wetlands have been previously addressed in other NEPA documentation (Reclamation 2001 and 2004). The proposed action would not change how water is managed. Also, with implementation of the proposed action, CVP operations would be consistent with existing operating and conveyance agreements. The proposed action is consistent with the actions covered by previous analyses and would not result in any changes from existing operations or conditions.

3.4 Recreation

Affected Environment

Public recreational use of GCRD includes interpretive wildlife observation programs, hiking, and waterfowl and pheasant hunting.

Environmental Consequences

No Action
The no action alternative would not affect recreation resources.

Proposed Action
The water to be provided under the proposed action would be managed for the benefit of waterfowl and wildlife habitats within GWD. The impacts associated with use of the water in GWD have been addressed in prior environmental documents (Reclamation, 2001 and Reclamation, 1997).

3.5 Cultural Resources

Affected Environment

Cultural resources is a term used to describe both 'archaeological sites' depicting evidence of past human use of the landscape and the 'built environment' which is represented in structures such as dams, roadways, and buildings. The National Historic Preservation Act (NHPA) of 1966 is the primary Federal legislation which outlines the Federal Government's responsibility to cultural resources. Section 106 of the NHPA requires the Federal Government to take into consideration the effects of an undertaking on cultural resources listed on or eligible for inclusion in the National Register of Historic Places (National Register). Those resources that are on or eligible for inclusion in the National Register are referred to as historic properties.

The Section 106 process is outlined in the Federal regulations at 36 CFR Part 800. These regulations describe the process that the Federal agency (Reclamation) takes to identify

cultural resources and the level of effect that the proposed undertaking will have on historic properties. In summary, Reclamation must first determine if the action is the type of action that has the potential to affect historic properties. If the action is the type of action to affect historic properties, Reclamation must identify the area of potential effects (APE), determine if historic properties are present within that APE, determine the effect that the undertaking will have on historic properties, and consult with the State Historic Preservation Office (SHPO), to seek concurrence on Reclamation's findings. In addition, Reclamation is required through the Section 106 process to consult with Indian Tribes concerning the identification of sites of religious or cultural significance, and consult with individuals or groups who are entitled to be consulting parties or have requested to be consulting parties.

Cultural resources in this area are generally archaeological in nature and are often found in association with water courses. It is possible that some cultural resources lie undiscovered across the San Joaquin valley, but there has been no systematic study. Much of the area has been cultivated for decades and routinely tilled and irrigated. Any archaeological resources that may be present have been impacted by these agricultural practices.

Los Banos Creek (Historic and Prehistoric Transit Route) is a resource that had been recorded, which is within 1 mile of the proposed project area. However, Los Banos Creek does not lie within the proposed project area.

Environmental Consequences

No Action

The no action alternative would result in no Reclamation assistance or guarantee to purchase water. GWD and Reclamation would continue to operate as they always have with no change, thus resulting in no undertaking. Without a Federal undertaking, Reclamation would not initiate the Section 106 process of the NHPA.

Proposed Action

The proposed action is administrative in nature and will result in the transfer of water from existing facilities through existing facilities. The water will be used to supplement water supplies in an existing wildlife refuge for wetlands within that refuge. The transfer of water to refuge through existing facilities has no potential to affect historic properties pursuant to the regulations at 36 CFR Part 800.3(a)(1). This determination concludes the Section 106 process. The proposed action will have no impacts to cultural resources.

3.6 Air Quality

Affected Environment

The proposed action is located in the San Joaquin Valley Air Basin (Basin), which is federally and state designated as a non-attainment area for ozone, PM10 and PM2.5. The

Basin is federally and state designated as unclassified or attainment for all other criteria pollutants. The project area is sparsely populated, with no known sensitive receptors in the vicinity.

Environmental Consequences

No Action
The no action alternative would not affect air quality in the project area.

Proposed Action
The pumping portion of the proposed action could result in short term increases in emissions near the wells. Due to the short duration of pumping activities, the proposed action is not anticipated to exceed de minimus emission levels specified in the General Conformity rules as established in by the Clean Air Act.

4. OTHER CONSIDERATIONS

4.1 Indian Trust Assets

Indian Trust Assets are legal interests in property or rights held in trust by the United States for Indian Tribes or individuals. Trust status originates from rights imparted by treaties, statutes, or executive orders. These rights are reserved for or granted to tribes. A defining characteristic of an Indian Trust Asset is that such assets cannot be sold, leased, or otherwise alienated without Federal approval.

Indian reservations, rancherias, and allotments are common Indian Trust Assets. Allotments can occur both within and outside of reservation boundaries and are parcels of land where title is held in trust for specific individuals. Additionally, Indian Trust Assets include the right to access certain traditional use areas and perform certain traditional activities.

It is Reclamation 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. No Indian Trust Assets occur within GWD or San Joaquin Valley Refuges, and there would be no alterations of existing water rights.

Environmental Consequences

Due to the absence of Indian Trust Assets within the project area, no impacts would occur as a result of the no action or proposed action alternatives.

4.2 Environmental Justice

Executive Order 12898 requires each Federal agency to achieve environmental justice as part of its mission, by identifying and addressing disproportionately high adverse human health or environmental effects, including social and economic effects, of its programs and activities on minority populations and low-income populations of the United States.

Environmental Consequences

No Action
The no action alternative would have no effect on low-income or minority individuals within the project area

Proposed Action
No significant changes in agricultural communities or practices would result from this acquisition. Accordingly, the proposed action would not have any significant or disproportionately negative impact on low-income or minority individuals within the project area.

5. CUMULATIVE IMPACTS

According to the Council on Environmental Quality (CEQ) regulations for implementing the procedural provisions of NEPA and CEQA Guidelines section 15065(a)(3), a cumulative impact is defined as the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

The proposed action is for Reclamation to purchase up to 30,000 (up to 10,000 annually) AF of water over a 3-year period from GWD to meet Water Acquisition Program water supply requirements for water years 2008 through 2010 to manage wetland habitats. The proposed action would be implemented pursuant to the requirements of the CVPIA that requires water acquisition to maintain enhanced water supplies for wildlife refuges and wildlife management areas in the Central Valley. The overall impacts of implementing the CVPIA, including Level 4 acquisitions, are evaluated in the PEIS (Interior 1999), which was prepared pursuant to NEPA requirements.

The PEIS includes analysis of Level 4 water acquisitions for wildlife refuges and wildlife management areas in the Central Valley (i.e., acquisition of 160,000 AF per year above firm Level 2 water supplies), in addition to other programs mandated by CVPIA. These other programs include, but are not limited to:

- Water contract renewals
- Water acquisitions

- Tiered water pricing
- CVP operations
- Fish and wildlife water acquisition
- Fish and wildlife habitat restoration
- Land retirement
- Facility modifications
- Water Conservation

The PEIS addresses the region-wide and cumulative impacts of CVPIA. The following is a summary of the preferred alternative. The PEIS identifies overall beneficial impacts pertaining to fish, wildlife and special-status species and recreation opportunities through CVPIA programs that include habitat acquisition, riparian restoration, and water acquisition for wildlife refuges. As a result of CVPIA, average annual CVP deliveries are anticipated to diminish and average annual Delta outflows are expected to increase. Water deliveries to water rights contractors and exchange contractors are not expected to change. Also as a result of CVPIA, there is expected to be an increase in the depth to groundwater in the Sacramento region (1%), San Joaquin region (3%) and the north Tulare region (5%) due to changes in surface and groundwater use, crop mix, irrigation techniques, and stream flows. CVPIA was found to result in a reduction of irrigated agricultural acreage and gross revenues from agricultural products due to water management for fish and wildlife, water acquired for stream flows and refuges, water pricing, restoration payments, water conservation, land retirement, and water acquisitions. CVPIA programs may affect cultural resources, although the impacts cannot be quantified at the programmatic level. CVPIA was not found to have disproportionate impacts to minorities and low-income populations, or to adversely affect Indian Trust Assets.

The potential for adverse cumulative effects associated with water acquisition primarily pertains to water management within the Central Valley and allocation of existing water supplies. In addition to CVPIA, other Federal and State activities include CALFED and on-going CVP operations. These are all highly adaptable programs that must meet Federal and State Endangered Species Acts and Delta pumping requirements and are therefore subject to substantial change as hydrologic and environmental conditions change. Consequently, any analysis of cumulative impacts with regards to effect on water allocations is based on currently available information, but will be updated, annually, if necessary.

6. CONSULTATION/COORDINATION

This EA has been prepared in accordance with the requirements of NEPA. Reclamation is also complying with other applicable laws including the Clean Water Act of 1977, Clean Air Act of 1970, Endangered Species Act, Fish and Wildlife Coordination Act, National Historic Preservation Act of 1966, Executive Order 11988 - Flood Plain Management, Executive Order 11990 - Protection of Wetlands, the Council of Environmental Quality Memorandum - Analysis of Prime or Unique Farmlands, and the Wild and Scenic Rivers Act.

7. LIST OF PREPARERS AND REVIEWERS

Brad Hubbard, Natural Resources Specialist
Becky Victorine, Natural Resources Specialist
Mike Heaton, Resource Projects Coordinator

8. PUBLIC INVOLVEMENT

The draft EA was circulated to interested parties for a 20-day public review period that began July, 9 2008 and ended July 29, 2008. The draft EA is posted on Reclamation's Mid-Pacific (MP) Region NEPA website and the MP Region Water Acquisition website. One comment letter was received by Reclamation on the draft EA. The California Regional Water Quality Control Board, Central Valley Region provided a comment letter dated 21 July 2008. Reclamation provided a response to the California Regional Water Quality Control Board in a letter signed by Richard J. Woodley.

9. References

California Department of Fish and Game, California Natural Diversity Database/Rarefind. Accessed June, 2008.

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United States Bureau of Reclamation and the California Department of Fish and Game, 2003. *Conveyance of Refuge Water Supply Environmental Assessment and Initial Study--South San Joaquin Valley Study Area.*

United States Department of the Interior, Bureau of Reclamation, U.S. Fish and Wildlife Service, 1999. *Central Valley Improvement Act, Final Programmatic Environmental Impact Statement.*

U.S. Fish and Wildlife Service, 1999. *Memorandum on the Programmatic Biological Opinion on National Wildlife Refuge and Wildlife Area Water Conveyance Projects, Within Tulare, Kern , Fresno, Madera, and Merced Counties, California.*

United States Fish and Wildlife Service. Federal Endangered and Threatened Species that Occur in Merced County. http://www.fws.gov/sacramento/es/spp_list.htm . Accessed June, 2008.

The above information was used in preparing this EA and is incorporated into this document by reference. Sources for the referenced documentation may be obtained by contacting the Lead Agency.

Appendix A: Monitoring Program

Water Quality Monitoring (Menezes Wells)

Monitoring will include sampling from an upstream location (SF-2 weir, Figure 1) to determine the base flow and establish TDS. Tests will be conducted on a daily basis during the pumping duration. Boron and selenium testing will be conducted semi-annually and samples will be sent to BSK Laboratories, Fresno, CA. TDS and flow measurements will be taken by GWD staff and recorded in the daily log.

Each well, as it is operated, will be monitored for TDS and flow at its discharge point into the Santa Fe Canal. This monitoring will be in concurrence with the upstream and downstream monitoring. Flow will be measured by a flow meter capable of recording total flow in acre-feet. Semi-annual boron and selenium tests will be conducted on each well.

Monitoring of a downstream location (SF-3 weir, Figure 1) will determine the combined flow and TDS of the operation. This site is located approximately ½ mile downstream of the last well. There are no additional sources of water that could compromise the project results. This site provides a reasonable flow measurement and is far enough away from the well discharges to assure proper blending of TDS.

All water quality data will be kept at the GWD office. GWD will provide copies of the TDS test results to the Bureau of Reclamation (Reclamation) on a monthly basis. Copies of the boron and selenium test results will be provided to Reclamation on a semi-annual basis.

Water Quality Monitoring (Rooney Ranch Well)

Since the Rooney Ranch well does not require blending for boron or TDS, it does appear that the selenium level will be above the threshold required by the SWRCB. Calculations indicate that the selenium level can be brought within the threshold. This can be easily done by blending the water with CVP water from the Almond Drive Ditch. The District proposes to monitor the upstream water just above the discharge point into the Almond Drive Ditch and a sample will be taken at the next control structure, approximately ½ mile downstream of the well's discharge point into the Almond Drive Ditch. It is anticipated that the selenium level will fall well within the maximum 2 parts per billion threshold as mandated by the SWRCB. Semi-annual testing for boron and selenium will be taken at the well head and the two test sites. Results of selenium and boron test will be provided in the annual report. Weekly TDS samples will be taken and a monthly report will be provided to the Bureau that will contain all flow and TDS data.

All water quality data will be kept at the GWD office.

Groundwater Monitoring

Groundwater depths, at all well site, will be measured 24 hours in advance of pumping. Each site will again be monitored 24 hours after pumping begins. Each well site will be monitored at the end of the pumping session with a follow up test 24 hours after the pumping period has ended to evaluate the recovery time of the groundwater. Test will be conducted by Grassland Water District staff. GWD will provide copies of all groundwater testing results to Reclamation on a monthly basis.