RECLAMATION

Managing Water in the West

Record of Decision

Water Transfer Program for the San Joaquin River Exchange Contractors Water Authority, 2014 – 2038

Sacramento, California
Mid-Pacific Region

Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitment to island communities.

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

Water Transfer Program for the San Joaquin River Exchange Contractors Water Authority, 2014 - 2038

Recommended:

Richard M. Stevenson
Acting Regional Resources Manager
Mid-Pacific Region

Date July 24, 2013

Concur:

Anastasia T. Leigh
Regional Environmental Officer
Mid-Pacific Region

Date 7/25/2013

Approved:

David G. Murillo
Regional Director
Mid-Pacific Region

Date 7/30/2013

I. Background

The U.S. Department of the Interior (Interior), Bureau of Reclamation (Reclamation) and the San Joaquin River Exchange Contractors Water Authority (Exchange Contractors) prepared a joint Environmental Impact Statement/Environmental Impact Report (EIS/EIR) on the proposed program to annually transfer up to 150,000 acre feet (af) of water over a 25-year time frame (25-Year Water Transfer Program [25-Year WTP]) to other South of Delta (SOD) water users. The Exchange Contractors are the state lead agency for the EIR pursuant to the California Environmental Quality Act, and Reclamation is the Federal lead agency for the EIS pursuant to the National Environmental Policy Act. The Final EIS/EIR was issued in January 2013 and subsequently the Exchange Contractors certified the EIR, made specific findings, and prepared a Notice of Determination on March 1, 2013.

The water made available through the 25-Year WTP would be transferred to San Joaquin Valley wildlife refuges (i.e., the wildlife and wetland habitat areas located in the San Joaquin River Basin) and Tulare Lake Basin wildlife refuges, to Friant Division and San Luis Unit CVP contractors, and/or to SWP contractors west and south of the Sacramento-San Joaquin River Delta (Delta), specifically Kern County Water Agency (KCWA) (SWP water), Santa Clara Valley Water District (SCVWD) (CVP/SWP water), East Bay Municipal Utility District (EBMUD) (CVP water), Contra Costa Water District (CCWD) (CVP water), and Pajaro Valley Water Management Agency (PVWMA) (CVP water). All transfers would be consistent with CVP place of use requirements.

Under the current 10-Year (2005-2014) Water Transfer Program (10-Year Program), the Exchange Contractors are allowed to annually transfer up to 130,000 af of water. Under this existing program, the Exchange Contractors could develop up to 80,000 af of water through conservation measures such as tailwater recovery and groundwater pumping, and up to 50,000 af of water from temporary land fallowing. In recent years, up to 88,000 af have been developed from conservation, temporary land fallowing, and groundwater pumping. Water made available under the 10-Year Program has been transferred to San Joaquin Valley wildlife refuges (i.e., the wildlife and wetland habitat areas located in the San Joaquin River Basin) and Tulare Lake Basin wildlife refuges; and to Friant Division and San Luis Unit CVP contractors. The existing 10-Year Program was subject to environmental review and all the project impacts were identified and mitigated.

The Exchange Contractors consist of the following member agencies: Central California Irrigation District, San Luis Canal Company, Firebaugh Canal Water District, and Columbia Canal Company. These agencies exchanged the use of their pre-1914 water rights with Reclamation for a substitute water supply from the Delta-Mendota Canal. The seniority of these water rights means that this water would be available when many other SOD contractors have their water supplies curtailed because of water supply shortages or when full contract deliveries cannot otherwise be made due to conveyance limitations or environmental concerns. This water supply benefits SOD CVP and SWP contractors by already being south of the Delta, which means it is subject to fewer conveyance constraints and is more reliable than north of Delta water supplies considered for transfer. The Exchange Contractors propose to make a portion of this water available for transfer and/or exchange to either the refuges, CVP contractors for existing

municipal and industrial (M&I) and/or agricultural uses, and other potential SWP contractors for agricultural and/or M&I uses, or to some combination of these users and uses.

II. Summary of Action

Reclamation's Federal Action is: (1) acquire water for the San Joaquin River Basin and the Tulare Lake Basin wildlife refuges (Incremental Level 4 under the Central Valley Project Improvement Act [CVPIA]) and/or (2) approve transfers and/or exchanges of Exchange Contract/CVP water from the Exchange Contractors to other CVP and SWP contractors. This ROD supports Reclamation's decision to approve (subject to annual monitoring review) the annual water transfers and/or exchanges described within the Final EIS/EIR. Under the executed agreements and transfer/exchange approvals, the 25-Year WTP develops water supplies from member agencies within the Exchange Contractors' service area through water conservation measures, tailwater recovery, and crop idling/fallowing activities. The major features associated with the action are as follows:

- The Exchange Contractors would continue to employ their tailwater recovery efforts[1] and supplement their tailwater recapture program with other conserved water.[2] Assuming a maximum of 150,000 af total from all sources; up to 100,000 af would be made available by tailwater recapture (80,000 af) and by other conservation efforts (20,000) (including reduced conveyance losses, reduced spillage, lined canal, and improved on-farm irrigation efficiencies), and up to 50,000 af would be made available through temporary land fallowing[3] in any year. Up to 150,000 af of water annually during any noncritical Exchange Contract year could be developed for transfer and/or exchange.
- There would be no groundwater pumping to make water available for transfer and/or exchange.
- The action consists of a range of acquisitions by Reclamation's Refuge Water Supply Program (RWSP) for the wildlife refuges and by CVP/SWP contractors (agriculture and M&I users identified in the EIS/EIR, not to exceed Contract supplies) in any given year.
- A multiple year agreement with any of the transferees is possible, including the option of a specific quantity of water in each year of the agreement. Agreements may contain exceptions for critical years when Exchange Contractors' CVP supply deliveries are reduced.

---

[1] Tailwater recovery is defined as the reuse of tailwater flows in the act or act(s) of reclaiming surface water from irrigated lands into a surface supply system. This reclamation can be achieved either by gravity or by low lift pumps. The water is reused within the political boundaries of the agency or agencies from which it originated. The tailwater recovery effort by the Exchange Contractors is their tailwater recapture program.

[2] Conserved water is defined as water made available from canal lining, changes in irrigation practices (such as drip irrigation and other microsystems), spill reductions projects, reductions in percolation to saline sinks, and other water management practices excluding land fallowing. Land fallowing that normally occurs is the non-application of water for 1 year on selected areas.

[3] Crop idling/land fallowing beyond normal practices is for the purpose of developing water. Lands to be fallowed would be temporary, i.e., not occur on same lands for more than 3 consecutive years.

- The 25-Year WTP begins March 1, 2014 and continues through February 28, 2039. Activities by the Exchange Contractors would occur from January 1, 2014, through December 31, 2038.

The transfers would be monitored, reviewed, and annually reported by Reclamation to calculate the cumulative transfer activity of the 25-Year WTP. The monitoring reports for the 25-Year WTP would be based on the format of reports currently submitted on an annual basis and is discussed in detail in Section 14.5 of the EIS/EIR.

III. Decision

Reclamation's decision is to proceed with Alternative D as proposed by the Exchange Contractors, identified in the EIS/EIR (page 2-27). This alternative allows Reclamation to sign an agreement with the Exchange Contractors to support water acquisitions by the RWSP for wildlife refuges. This alternative also provides for continued and expanded water transfers and exchanges of water from the Exchange Contractors to several potential water users over a 25-year timeframe.

In making this decision, Reclamation will a) work with the Exchange Contractors to execute an agreement for refuge water acquisitions, and b) streamline the time it takes to approve water transfer and/or exchange proposals that fall within the scope of those analyzed in the EIS/EIR. The scope of the action and the impact analysis is described in detail in the EIS/EIR in Sections 1, 2 and 3. This decision does not extend to any future Refuge water acquisitions, transfers, or exchanges that do not fall within the action and scope captured in the EIS/EIR. The "Water Receiving Areas" analysis included in the EIS/EIR (in Section 3.3) relies on multiple other environmental documents that may expire over the next 25 years. Reclamation's decision recognizes that supplemental environmental documents may be needed prior to approving certain future annual transfers and/or exchanges under the 25-Year WTP.

IV. Alternatives Considered

No-Action Alternative

The No-Action Alternative represents the projection of current conditions to reasonably foreseeable future conditions that could occur if the proposed activity would not take place. The No Action Alternative would result in no transfer or exchange of water from the Exchange Contractors to either Interior or to any of the other potential water users at the conclusion of the existing Program on February 28, 2014 (through water year 2013). The response of the entities directly involved with the 25-Year WTP to no transfer from the Exchange Contractors would be:

- No temporary land fallowing would occur in the absence of a transfer program. Under existing conditions, enough land is fallowed to conserve 8,000 af of water. If this land were returned to agricultural production a negligible increase in tailwater of less than 0.1 cubic feet per second of flow per month would result.

- The Exchange Contractors would recover and reuse within their own operations the water previously transferred and generate approximately the same amount of tailwater flows. The reused tailwater would be integrated into the Exchange Contractors' water supply

and reduce groundwater pumping that currently helps meet irrigation demands and capacity constraints.

- The Exchange Contractors would not modify their operations relative to the San Joaquin River because the amounts of return flow would remain approximately the same.

- Deliveries to the wildlife refuges would consist of Level 2 Water and Replacement Water[4] quantities plus a portion of the Incremental Level 4 Water need that could reasonably be obtained from other sources.

- Agricultural and M&I water users would get their CVP and SWP contractual supplies subject to the limitations in their contracts. Under the No Action/No Project Alternative, the CVP and SWP water users may obtain water from other sources or they would continue to experience shortages.

Action Alternatives

The four action alternatives are based on the quantity of water and sources of supply. Each action alternative has a range of sub-alternatives or scenarios based not only on the source of supply but also on potential water users and whether these users are hydraulically connected to the San Joaquin River. Any or all of the available water could be provided to the refuges, agriculture, and M&I users. The EIS/EIR considered four action alternatives:

- **Alternative A: 50,000 Acre-Feet.** Although at the discretion of the Exchange Contractors a zero transfer amount may occur in any year, Alternative A is the smallest level of program implementation framed as an alternative. All of the water would be developed from crop idling/temporary land fallowing; however, it could occur in any type of water year under the Exchange Contract. Assuming a transferable quantity of 2.5 af per acre, the maximum amount of land to be temporarily crop idled (or fallowed) is approximately 20,000 acres, 8.3 percent of the irrigable land (240,000 acres) in the Exchange Contractors' service area. The affected land would be rotated to avoid crop idling the same land year after year, and fallowing on any parcel would be limited to not more than 3 consecutive years. Of the maximum amount of 50,000 af per year, 8,000 af occurred in 2009, while 42,000 af would be additional water development not yet experienced.

- **Alternative B: 88,000 Acre-Feet.** Alternative B represents an intermediate level of program implementation and is in essence the existing condition currently underway and experienced in both critical (2008–2009) and noncritical years. For this action alternative, the Exchange Contractors would provide up to 88,000 af of water during any noncritical Exchange

[4] Replacement Water is the amount of water that the San Luis Unit, Freitas, and Kesterson national wildlife refuges, and Volta and Mendota wildlife management areas had historically received and used, which is more than Level 2 amounts but may be less than or equal to their Level 4 amounts. Replacement Water was originally provided by groundwater and tailwater, but due to water quality concerns, Reclamation entered into agreements to provide Replacement Water to the wildlife areas. When willing sellers and funds are available, Reclamation acquires water to supplement supplies to minimize the impact to CVP contractors south of the Delta.

Contract year through a combination of conservation and crop idling/land fallowing sources. Conservation measures are defined as tailwater recapture, recovery of irretrievable losses to a saline sink, and reductions in operational spills for up to 80,000 af of the total developed supply. Temporary land fallowing would contribute up to 8,000 af of developed water. Flexibility exists in the development of 88,000 af of water for transfer. The Exchange Contractors have indicated the availability of up to 50,000 af of water from temporary crop idling/land fallowing. This source of water in combination with tailwater and other conservation opportunities can provide flexibility in the source of transfer water.

- **Alternative C: 130,000 Acre-Feet.** Alternative C makes available up to 130,000 af of water annually during any noncritical Exchange Contract year similar to the level of maximum transfer contemplated by the Exchange Contractors under the existing 10-Year (2005–2014) Water Transfer Program. Under this alternative, up to 80,000 af of water is made available through conservation, including tailwater recovery, and up to 50,000 af of water is made available through crop idling/temporary land fallowing.

- **Alternative D: 150,000 Acre-Feet, Preferred Alternative.** Alternative D expands upon Alternative C water of 130,000 af (from conservation and crop idling) with an additional 20,000 af from conservation measures not already considered in the other alternatives. These measures include the lining of canals and implementation of on-farm irrigation or district conveyance system improvements that would not have a hydrologic effect on the San Joaquin River. Alternative D represents the maximum water transfer by adding an additional increment of conservation water above existing capabilities.

V. Basis of Decision, Issues Evaluated, and Factors Considered

The alternatives were evaluated on how well they met the project's purpose and need, environmental effects, and compliance with the Endangered Species Act (ESA).

Purpose and Need

The overall purpose of the 25-Year WTP is to allow the annual development and transfer of CVP water from the Exchange Contractors to continue after February 28, 2014, and to provide for the delivery of transfer and/or exchange water to additional areas and contractors not included in the 10-Year Program EIS/EIR. The purposes of the proposed 25-Year WTP are the transfer and/or exchange of CVP water from the Exchange Contractors to:

- The RWSP to meet water supply needs (Incremental Level 4) for San Joaquin River Basin wildlife refuges and the Tulare Lake Basin wildlife areas

- Other CVP contractors and SWP contractors to meet demands of agricultural and M&I uses

The continuation of a program of temporary annual water transfers and/or exchanges is needed to maximize the use of limited water resources for agriculture, fish and wildlife resources, and M&I purposes with the following objectives:

- Develop supplemental water supplies from willing seller agencies within the Exchange Contractors' service area through water conservation measures/tailwater recovery and crop idling/fallowing activities consistent with agency policies.

- Assist in providing water supplies to meet the Incremental Level 4 requirements for the San Joaquin River Basin and Tulare Lake Basin wildlife refuges.

- Assist Friant Division CVP repayment contractors or water service contractors to obtain additional water for the production of agricultural crops or livestock and/or M&I uses because of water supply shortages or when full contract deliveries cannot otherwise be made.

- Assist SWP (KCWA and SCVWD) and other CVP agricultural service and M&I contractors (San Luis Unit, SCVWD, EBMUD, CCWD, PVWMA) to obtain supplemental water supplies.

- Promote seasonal flexibility of deliveries to the Exchange Contractors through exchange with CVP and SWP agricultural service and M&I contractors wherein water would be delivered and then returned at a later date within the year.

All action alternatives meet the proposed action's purposes. While Alternative B (up to 88,000 af) is the most similar alternative to the current 10-Year Program, Alternative D (up to 150,000 af) has greater potential to maximize water development from all sources for use by a broad range of transferees, without additional environmental impact. The No Action Alternative would not meet the purpose and need nor the objectives of the proposed project.

Environmental Issues Evaluated

Environmental issues in several resource areas were evaluated. A synopsis of the issues associated with transfer water development by the Exchange Contractors identified during scoping and subsequently analyzed in the EIS/EIR are presented below:

- effects on flow and water quality in the San Joaquin River at Vernalis,

- effects on New Melones Reservoir operations and Stanislaus River water users,

- effects on the CVP/SWP's Delta water supply,

- effects on groundwater levels and/or flow patterns,

- effects on wetlands, special-status species, and aquatic habitat,
- effects on land use and agriculture,

- effects on socioeconomic and environmental justice,
- effects on air quality,
- effects on climate change/greenhouse gas effects, and
- effects on Indian Trust Assets.

For all four action alternatives the effects would be the same for the following resource issues:

- Regarding water quality at Vernalis, New Melones Reservoir operation/storage, and Delta water supply; Alternatives A, B, C, and D have the same minimal effects.
- The impacts from temporary land fallowing are the same for all of the action alternatives.
- Changes in flows to Mud and Salt sloughs and the San Joaquin River that could affect habitat for aquatic resources are minimal for all four action alternatives
- Transfers to CVP and SWP agriculture and M&I contractors will not result in deliveries of water in excess of full contract amounts, and therefore, adverse impacts are not anticipated beyond those identified and analyzed in long-term contract renewal environmental documentation.
- None of the four action alternatives would affect Indian Trust Assets.

Environmentally Preferred Alternative

Section 13.5 Environmentally Preferred/Superior Alternative of the EIS/EIR and in this ROD, Alternative D has been identified as the environmentally preferable alternative. Alternative D was selected as the Environmentally Preferred Alternative due to benefits to water quality, the regional economy, and minority and low income minority populations. For additional details see Section 13.5 of the EIS/EIR.

ESA Consultations

On August 3, 2012, the U.S. Bureau of Reclamation (Reclamation) requested concurrence from the U.S. Fish and Wildlife Service (Service) that the proposed action may affect, but is not likely to adversely affect (NLAA), the Federally-listed threatened giant garter snake (*Thamnophis gigas*). The EIS/EIR includes a full analysis of the effects of the proposed action (Alternative D) on listed species, designated critical habitat, proposed species and proposed critical habitat that may be present in the action area. The specific biological analysis related to listed species is included in Chapter 6 of the EIS/EIR and in an attachment to the August letter to the Service. The Service was provided copies of the Draft EIS/EIR in May 2012, and the Final EIS/EIR was provided in January 2013.

For the action area, Reclamation determined that there would be no effect on all but one Federally-listed species, the giant garter snake. Based on their historic range, this species potentially occurs in Salt and Mud Sloughs, which provides habitat for the giant garter snake in the vicinity of the project. A reduction in flows to Salt and Mud Sloughs resulting from Alternative D may occur. The change in hydrologic effect on giant garter snakes due to the reduction of return flows in the San Joaquin River, Salt and Mud Slough would not be substantial, as these flow reductions would be small (< 2 cubic feet per second). As such, these waterways would continue to provide suitable habitat for prey species for giant garter snake, as well as provide the same migratory corridors that currently exist. These changes in flow would not substantially affect giant garter snakes or their habitat; therefore, it is not likely to adversely affect this species.

The Service sent a letter on November 20, 2012 concurring with Reclamation's NLAA determination on the giant garter snake. The Service recommended that Reclamation commit to continue to monitor and/or compile water quality and flow data for stations L2, M2, and F for the life of the 25-Year WTP and to post this data on the web as either part of the Grassland Bypass Project or a separate effort. Therefore, unless new information reveals that the 25-Year WTP may affect listed species in a manner or to an extent not considered, or it may affect a new species or critical habitat not currently designated, no further action pursuant to the Act is required. A copy of the Service's letter of concurrence is attached as Exhibit A.

Socioeconomics

Generally, land fallowing and conservation water transfers have distinct effects on the regional economy. Land fallowing generates adverse economic effects due to the lost production value on fallowed lands, which indirectly affects agriculture-support industries, farm labor, and other related sectors. These effects are mitigated to some extent in the case of water transfer sales, which brings money back into the regional economy in the form of income to agricultural landowners. These offsetting effects are highest under Alternative D, where transfer prices are assumed to be the highest. Conversely, conservation transfers bring new revenues into the regional economy and generate economic benefits to those industries and labor that support water district operations. In all alternatives, except Alternative D, investment in conservation projects is sufficient to meet the 25-Year WTP's conservation needs; therefore, no additional capital outlays are necessary. In Alternative D, new capital investment would be required, but would be funded through conservation transfer revenues.

Alternative D would have varying effects on the regional economy depending on how the water is made available for transfer. The total economic impacts include an annual loss of $7.3 million in total output and 20 jobs, but an increase in $6.6 million in labor income, considering landowner-to-landowner transfers only. In the case of water transfer sales, the total effects in the four-county economy include annual increases of $3.4 million in output, $7.9 million in labor income, and 55 jobs.

Section 106 Compliance

Reclamation is responsible for complying with Section 106 of the National Historic Preservation Act (NHPA). The water development activities associated with Alternative D would not result in any construction or land-altering/ground-disturbing activities beyond normal agricultural practices, including temporary land fallowing, or in any significant changes in reservoir operations that would expose buried resources, if present. Changes in water levels due to water quality releases from New Melones Reservoir (to mitigate for potential effects on water quality at Vernalis) would be within the range of drawdowns experienced in recent years.

V. Implementing the Decision and Environmental Commitments

The EIS/EIR identifies no potentially significant impacts or substantial adverse effects to physical and biological resources from implementing Alternative D, and no mitigation is required. However, the Exchange Contractors and Reclamation will continue to monitor both surface and groundwater resources to avoid the development of substantial adverse effects and meet existing environmental commitments.

On-going Monitoring

The primary mechanism for monitoring groundwater resources is implementation of the Exchange Contractors' *Updated AB 3030 Groundwater Management Plan* (KDSA 2008) which provides for conjunctive use of surface and groundwater to meet peak crop water demands during June, July, and August. Well pumpage in each district is measured annually and estimated for both upper and lower aquifers. Water-level elevation maps are prepared every 5 years with the upper aquifer map completed in Spring 2006. Water quality is evaluated from samples taken at least every 5 years from both aquifers (KDSA 2008). Even though transfers will not be through groundwater pumping, monitoring of groundwater will continue and the Exchange Contractors will continue to manage groundwater pumping in accordance with their AB 3030 plan.

Monitoring of the San Joaquin River flows and surface water supplies is proposed and the results will continue to be used as part of Reclamation's transfer approval process. This annual accounting process evaluates if any actual water supply impacts occurred from the current water transfer and through mutual agreement determines if any limitations on the sources of water developed by the Exchange Contractors as well as any limitations on the disposition of water by the parties to whom the transfer is made in a subsequent year are necessary. The monitoring requirements of the transfer approval process will continue to ensure that any impacts that may accrue to the CVP, or to the affected environment will be identified and appropriate action taken.

Reclamation is responsible, through the transfer approval process, for ensuring that the transfer is consistent with applicable monitoring requirements.

Existing Environmental Commitments

The Exchange Contractors and its member agencies have adopted a Mitigation Monitoring and Reporting Plan (MMRP) for the Preferred Alternative under CEQA. Section 14 of the EIS/EIR includes the complete MMRP.

Additional Environmental Commitments

Pursuant to the Service's recommendation in their letter of concurrence, Reclamation will continue to monitor and/or compile water quality and flow data for stations L2, M2, and F for the life of the 25-Year WTP and to post this data on the web as either part of the Grassland Bypass Project or a separate effort, as long as these sites continue to be monitored as part of the Grasslands Bypass Project monitoring effort.

VI. Summary of Comments Received on the Final EIS/EIR

Following the publication of the Final EIS/EIR in January 2013, comment letters were received from AquAlliance, California Water Impact Network, and Center for Biological Diversity, on February 11, 2013, Stanislaus County Environmental Review Committee on February 13, 2013 and United States Environmental Protection Agency on March 11, 2013.

These three letters reiterated many of the comments made on the Draft EIS/EIR and the agencies response to specific issues submitted during public review can be found in the Final EIS/EIR, Appendix G. The comments received on the Final EIS/EIR focus on the project impacts to groundwater supplies, land subsidence, and habitat in Mud and Salt Sloughs for the giant garter snake in large part because the commenters believe the environmental baseline and scope of analysis were not correctly defined.

Impacts to Groundwater Supplies and Land Subsidence

Agency Response: There is no groundwater extraction proposed in any of the alternatives, so there is no obligation to focus on groundwater extraction in the EIS/EIR. The issues are the impacts of proposed reduction in deep percolation from both fallowing and conservation actions on groundwater levels and groundwater quality which are addressed in Section 5.2 of the EIS/EIR. The extent that the transfer and/or exchange water is used by the receiving areas instead of groundwater supplies, meeting one of the original purposes of the CVP (i.e. to bring surface water to areas relying substantially on groundwater supplies), will help to reduce the problems associated with over-reliance on groundwater supplies including subsidence.

Impacts to Habitat in Mud and Salt Slough for Giant Garter Snake

Agency Response: The USFWS letter of concurrence of Not likely to Adversely Affect the giant garter snake corrects the misunderstanding of environmental impacts embedded in the EIS/EIR comments received on the reduction in return flows to the sloughs and giant garter snake habitat (see Exhibit A).

Incorrect Environmental Baseline and Scope of Analyses

Agency Response: The description of the future 25-Year WTP as a continuation of an existing 10-Year Program with some changes is appropriate and accurate. The previous 10-Year Program has worked well, without impact to nonparticipating water users being identified during the annual transfer approval process and with water being put to beneficial use under periods of supply shortages. Furthermore, the order of the alternatives from the smallest program to the largest enables the impacts analysis to proceed in a logical manner. Alterative B was designed to reflect the most recent transfer activity, and the physical environment has adjusted to that activity. In any event, the No Action alternative is a discontinuation of the 10-Year Program, and each alternative is compared to the No Action alternative to provide a quantitative analysis of the impacts of not approving the project. Even in comparison to a discontinuation of the 10-Year Program, Alternative D does not have any substantial adverse impacts.

The process of setting parameters for water transfers and/or exchanges needs to provide for flexibility in supplies and adaptive management for changing environmental conditions and water market economics that culminate in a negotiation process to determine the precise amounts of water in any year. In every water year since 1999, the Exchange Contractors and Reclamation have successfully negotiated water acquisitions for transfer to the wildlife refuges. Water allocations under CVP contracts vary from year to year based on hydrologic conditions. Years in which the participating contractors do not receive their full contract amounts are when the transfers become an important source of supply. Just as Reclamation cannot predict years in advance their precise water allocations to contractors, neither can the Exchange Contractors make precise commitments on water for transfer. But the parameters of maximum amount of water to be developed under the methods of conservation, including tailwater recovery and temporary land fallowing, ensure that the environmental impacts are addressed in the EIS/EIR.

EXHIBIT "A"

LETTER OF CONCURRENCE FROM

U.S. FISH AND WILDLIFE SERVICE

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In Reply Refer To:
81420-2011-I-0701-3

30 November 2012

Memorandum

To: Richard Woodley, Regional Resources Manager, U.S. Bureau of Reclamation, Mid-Pacific Regional Office, Sacramento, California

From: Ken Sanchez, Assistant Field Supervisor, Sacramento Fish and Wildlife Office, Sacramento, California

Subject: Water Transfer Program for the San Joaquin River Exchange Contractors Water Authority 2014-2038

This memorandum transmits the U.S. Fish and Wildlife Service's (Service) concurrence with the U.S. Bureau of Reclamation's (Reclamation) August 3, 2012 determination that the proposed water transfer program (Transfer Program) for the San Joaquin River Exchange Contractors Water Authority (SJRECWA) from 2014 through 2038 may affect, but is not likely to adversely affect (NLAA) the federally-listed giant garter snake (*Thamnophis gigas*). Reclamation as the federal lead agency, and the SJRECWA as the California Environmental Quality Act (CEQA) lead agency, prepared a draft EIS/EIR (DEIS/R) pursuant to the National Environmental Policy Act (NEPA) and CEQA that was released for public comment in May 2012. A copy of the DEIS/R was provided as supporting documentation with your request for concurrence memorandum. The DEIS/R examines the environmental effects of the transfer and/or exchange of up to 150,000 acre-feet annually of substitute water from the SJRECWA to several potential users over a 25-year period.

The Proposed Action would extend the timeframe and expand the geographic scope of an existing 10-Year water transfer program. The Transfer Program would allow the exchange and/or transfer of up to 150,000 acre-feet of water annually for 25 years from the SJRECWA to San Joaquin Valley public and private wetlands, and south of Delta agricultural, municipal and industrial users in Alameda, Contra Costa, Fresno, Kern, Kings, Madera, Merced, Monterey, San Joaquin, San Benito, Santa Clara, Santa Cruz, Stanislaus, and Tulare counties. The water for the Transfer Program would be developed by the SJRECWA by means of a suite of actions consisting of the following: tailwater recapture, temporary land fallowing, reductions in deep water percolation and applied water efficiency improvements. The SJRECWA service area is made up of the Central California Irrigation District (CCID), the San Luis Canal Company

(SLCC), the Firebaugh Canal Water District (FCWD), and the Columbia Canal Company in Fresno, Madera, Merced, and Stanislaus counties.

This response is provided pursuant to section 7(a)(2) of the Endangered Species Act of 1973 (Act) (16 U.S.C. 1531 *et seq).* We received your memorandum requesting informal consultation under the Act on August 10, 2012. Our concurrence with your effects determination is based on the information and commitments provided by Reclamation and the SJRECWA in the DEIS/R, mail and e-mails, and meetings between the Service, Reclamation and the SJRECWA and their consultants.

Consultation History

June 20, 2011: The Service receives a Notice of Preparation of a DEIS/R for the Transfer Program from the SJRECWA and Reclamation.

July 22, 2011: The Service transmits scoping comments on the Transfer Program to Reclamation and the SJRECWA.

September 12, 2011: Representatives of the Service meet with Reclamation, the SJRECWA and their consultants to discuss issues raised in the Service's July 22, 2011 scoping comments on the Transfer Program.

December 1, 2011: Reclamation provides a copy of the DEIS/R for the Transfer Program to the Service for review and comments.

January 11, 2012: The Service transmits draft comments to Reclamation on the DEIS/R for the Transfer Program.

January 18, 2012: Representatives of the Service met with Reclamation, the SJRECWA and their consultants to discuss the Service's draft comments on the DEIS/R.

February 13, 2012: The Service transmits final comments on the DEIS/R for the Transfer Program. The Service's two main concerns provided in the comments on the DEIS for the 25-Year Transfer Program pertained to whether the water transfers would result in a detrimental loss of summer water for giant garter snakes or a detrimental increase in water-borne contaminants.

March 13, 2012: Representatives of the Service met with Reclamation, the SJRECWA and their consultants to go over revisions to the DEIS/R and be briefed on a new analysis the consultants had completed addressing flow impacts in the Grasslands wetland channels.

August 10, 2012: Reclamation transmits to the Service a copy of the DEIS/R for the Transfer Program, and a request for concurrence with the determination that the proposed Transfer Program for the SJRECWA from 2014 through 2038 may affect, but is NLAA the federally-listed giant garter snake.

Background

The Service previously completed informal consultations pursuant to section 7(a)(2) of the Endangered Species Act, as amended (16 U.S.C. 153 1 *et seq.*) and in accordance with the regulations governing interagency consultations (50 CFR §402), on the 10-Year Transfer Program of the SJRECWA from March 1, 2005 to February 28, 2014 (Service File Nos., 04-I-2162 and 06-I-1131). Those memos are incorporated here by reference. The 25-Year Transfer Program being considered in this consultation is an extension of the existing 10-Year Program when it ends in 2014. Our consultation on the 10-Year Transfer Program concurred with Reclamation's determination that the proposed action may affect, but is NLAA the federally-listed as threatened giant garter snake. Our concurrence with a NLAA determination was based on a number of criteria including the following: 1) there would be no loss of listed species habitat as a result of these transfers, and 2) Reclamation will track the monitoring of water quality and selenium levels in Salt Slough to assist in identifying factors that could affect giant garter snake habitat and the ongoing effect of the tailwater recapture program.

Project Description

The proposed project considered in this informal consultation is defined in the DEIS/R as Alternative D. The proposed action involves the development of water by the SJRECWA of up to 150,000 acre-feet per year (AFY) and an exchange and/or transfer of that water or a portion of that water to public and private wetlands in the San Joaquin Valley (refuges), agricultural, and municipal and industrial (M&I) users listed below. The agricultural and M&I users that are eligible to purchase water from the Transfer Program include the Friant Division and San Luis Unit Central Valley Project (CVP) contractors, State Water Project (SWP) contractors west and south of the Sacramento-San Joaquin River Delta, specifically Kern County Water Agency (SWP water), Santa Clara Valley Water District (CVP and/or SWP water), East Bay Municipal Utility District (CVP water), Contra Costa Water District (CVP water), and Pajaro Valley Water Management Agency (CVP water). All transfers would be consistent with CVP place of use requirements. The proposed Federal action is to (1) acquire water for the San Joaquin River Basin and the Tulare Lake Basin refuges (Incremental Level 4 under the Central Valley Project Improvement Act [CVPIA]) and/or (2) approve transfers and/or exchanges of CVP water from the SJRECWA to other CVP and SWP contractors. The SJRECWA prepared the DEIS/R document to examine the environmental impacts of:

1. Continuing the existing transfer of their CVP water (up to 130,000 AFY with up to 80,000 AFY from conservation and up to 50,000 AFY from temporary land fallowing) in the same manner that was documented in the 10-Year Water Transfer Program Environmental (EIS/EIR) (prepared prior to 2005) and extending it past the period studied in the 10-Year Water Transfer Program EIS/EIR for water years 2014 to 2038 in the San Joaquin Valley, San Benito County, and Santa Clara County, and,
2. Expanding the transfer by up to 20,000 AFY of conserved water under certain specified conditions (up to a total of 100,000 AFY of conserved water and up to a total of 50,000 AFY of water from temporary land fallowing or a total of up to 150,000 AFY) for 2014 to 2038, and allowing for an exchange, and,
3. Including authorization to transfer and/or exchange portions of the transferred water described in numbers 1 and 2 above to not only those CVP contractors who were included

in the current SJRECWA 10-Year Transfer Program but also to other CVP and SWP contractors in Alameda, Contra Costa, Monterey, Santa Cruz, and Kern counties.

The SJRECWA proposes to make the water described above available for transfer and/or exchange of substitute water to either the refuges, CVP contractors for existing M&I and/or agricultural uses, and other potential SWP contractors for existing agricultural and/or M&I uses, or to some combination of these users and uses on an annual basis. The duration of the Transfer Program is for 25 consecutive years beginning March 1, 2014 and going through February 28, 2039. Specifically, the proposed actions implemented by the SJRECWA to develop water for the Transfer Program would occur from January 1, 2014, through December 31, 2038.

The SJRECWA would continue to develop the water for the Transfer Program from within their service area. The SJRECWA service area covers 240,000 acres of agricultural land in Fresno, Madera, Merced, and Stanislaus counties, and is shown in Figure 1. Recipient districts of the Transfer Program water include CVP contractors north, west, and south of the Delta. The Transfer Program would expand the Project Area from Fresno, Kern, Kings, Madera, Merced, San Benito, San Joaquin, Santa Clara, Stanislaus, and Tulare counties for the existing 10-Year Transfer Program to include an additional four counties (Contra Costa, Alameda, Monterey, and Santa Cruz) in California (14 counties total). The locations of the SJRECWA Water Transfer Program's potential recipients (transferees) are shown in Figures 2 and 3. The public and private wetland habitat areas that would receive the Transfer Program water are located in Merced, Fresno, Tulare, and Kern counties as shown in Figure 2. The agricultural and/or M&I water users that would be potential recipients of the Transfer Program water are located in Stanislaus, San Joaquin, Merced, Madera, Fresno, San Benito, Santa Clara, Tulare, Kern, Kings, Contra Costa, Alameda, Monterey, and Santa Cruz counties, as shown in Figure 3.

EXHIBIT "A"

LETTER OF CONCURRENCE FROM

U.S. FISH AND WILDLIFE SERVICE

Figure 1. Service Area of the SJRECWA for the 25-Year Transfer Program.

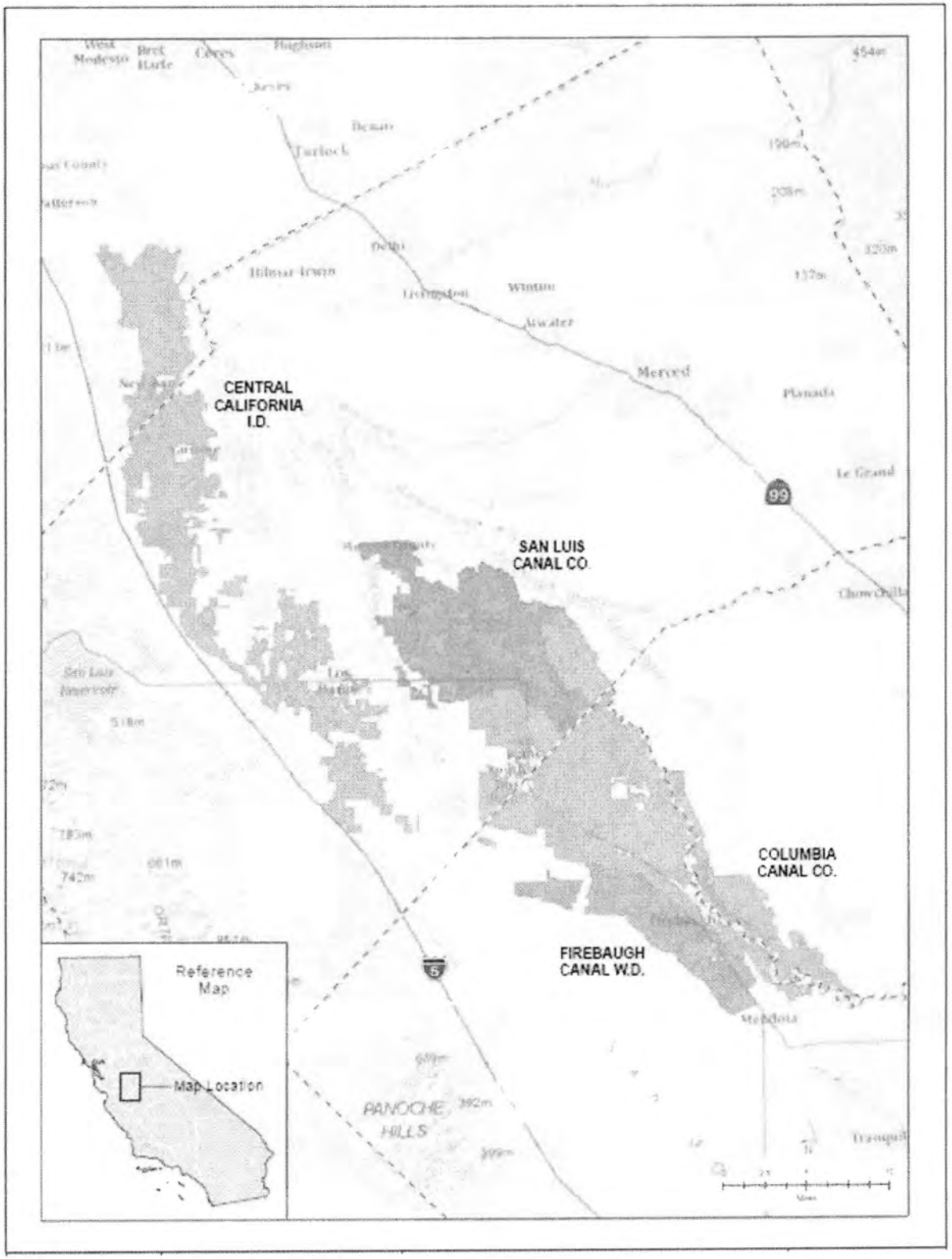


Figure 2. Potential Public and Private Wetlands that could Receive Water from the 25-Year Transfer Program.

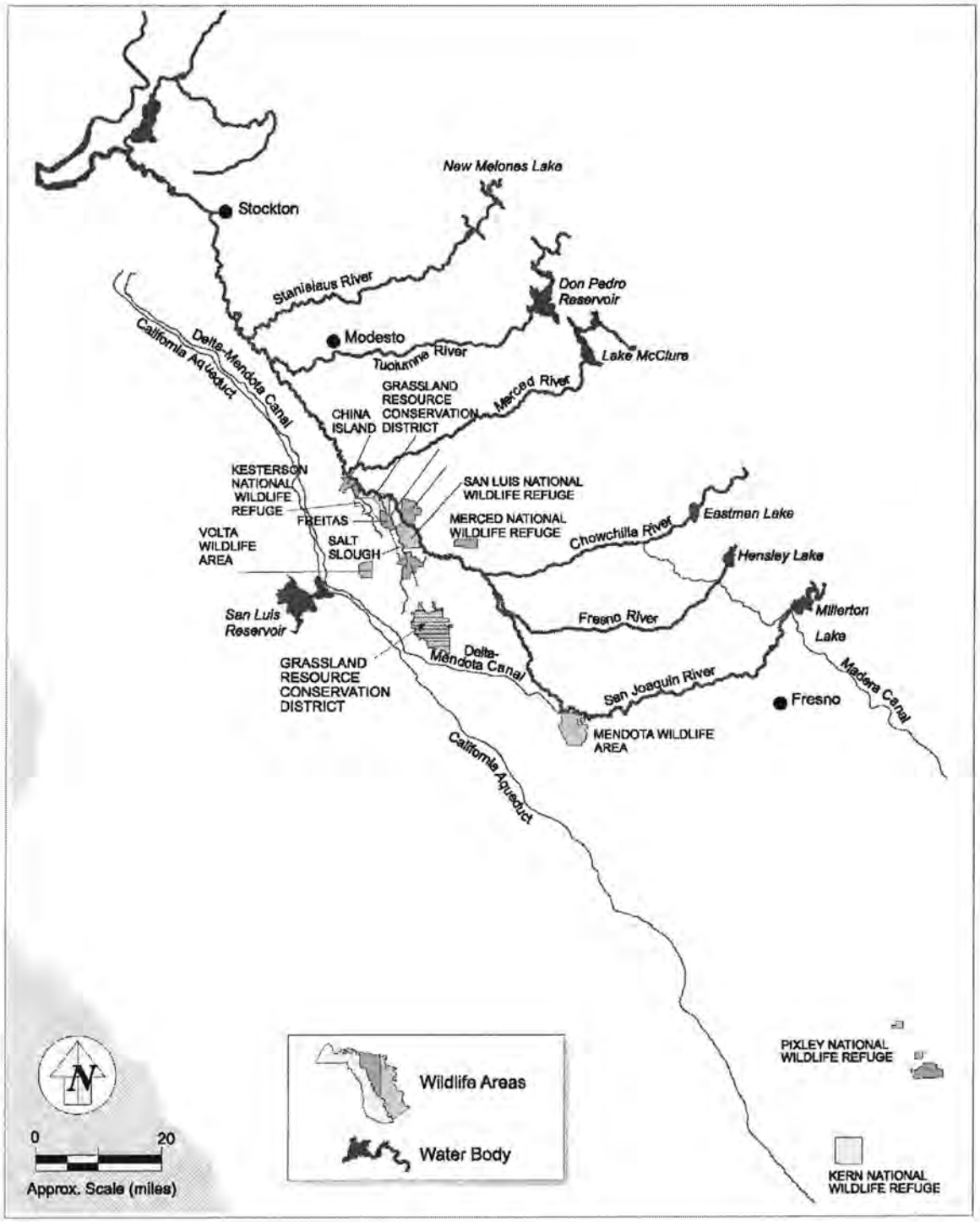
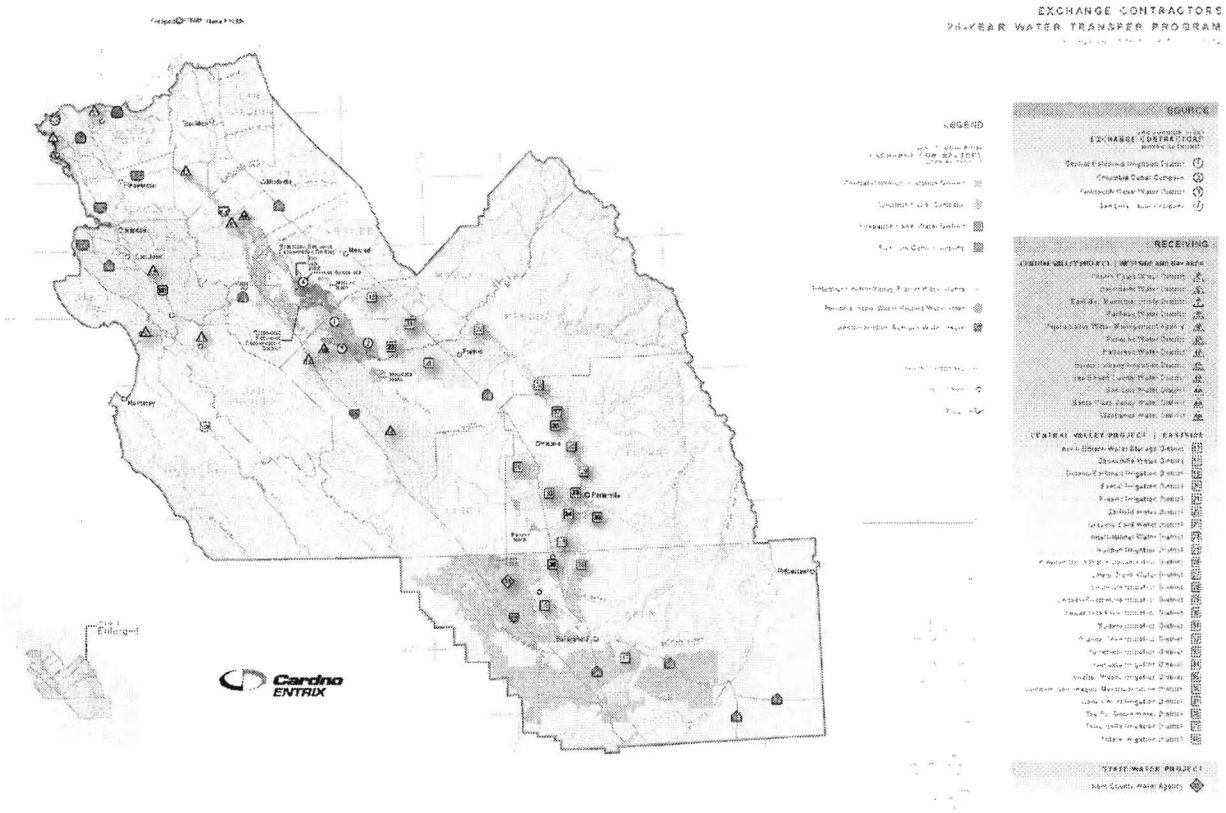


Figure 3. Potential Ag and M&I Districts that could Receive Water from the 25-Year Transfer Program.



Effects Analysis

A comparison of the methods used to develop water under existing conditions and the Transfer Program is provided in Table 1 below. As part of the Transfer Program, the SJRECWA will continue to use conserved water developed from reductions in seepage and evaporation of tailwater, reductions of spills to non-district lands, reductions of tailwater otherwise discharged to Mud and Salt Sloughs (or other watercourses connected to the San Joaquin River), and reductions in tailwater that otherwise would discharge to the San Joaquin River above Sack Dam. The SJRECWA will expand its use of temporary land fallowing to develop water for the Transfer Program. The Transfer Program will also develop water through reduction of deep percolation (reduction of seepage from canals) and/or applied water efficiency improvements (conversion from surface or surface/sprinkler irrigation to micro or micro/sprinkler systems). Groundwater substitution will not be used to develop water for the Transfer Program.

Table 1 shows the average volume of tailwater recapture exercised by the SJRECWA from 2003 thru 2010. The 80,000 AFY of developed water from "tailwater recapture" under the 10-Year and 25-Year Transfer Programs (as shown in Table 1 below) is only a portion of the water conserved by the SJRECWA's tailwater recapture facilities. The SJRECWA has invested in over 250 low lift stations for the purpose of tailwater recapture that has resulted in the recapture and reuse of about 135,000 AFY of tailwater (i.e., average volume of 80,000 AFY for the Transfer Program and an additional 54,161 AFY for reuse within the SJRECWA Service Area during the 10-Year Transfer Program). Additional tailwater recapture facilities could be installed during the 25-Year Transfer Program that could increase the cumulative capacity of tailwater recapture in the SJRECWA Service Area. This stated capacity does not include the on-farm facilities controlled by individual landowners. The tailwater recapture facilities result in the following effects: 1) less water will evaporate, or seep to the groundwater basin, 2) less water will be inadvertently discharged to non-district lands, and 3) less water will be discharged to Salt Slough and Mud Slough or other runoff escape locations (DEIS/R Appendix B, page 6).

Hydrologic Effects: For the proposed Transfer Program, any water developed through the continuation of existing tailwater recapture measures (up to 80,000 acre-feet) will cause no change in current hydrologic conditions in waterways. Water developed through improvements in applied water efficiency, or improvements to conveyance structures that reduce seepage will result in reductions to deep percolation with little, if no hydrologic effect on waterway hydrology. The only potential hydrologic effects identified in the DEIS/R occur in the full development of proposed temporary land fallowing.

The historical-review analysis in the DEIS/R indicated that land fallowing that has occurred under the current Transfer Program has likely resulted in very little, if any hydrologic effects to San Joaquin River hydrology or overland discharges to adjacent areas. Assumptions were made in the DEIS/R concerning the amount of fallowed land that may have hydrologic connection to the San Joaquin River or spills to non-district lands or waterways. The maximum 50,000 acre-feet of transfer water that would be developed by the Transfer Program from fallowing is assumed to be developed within FCWD, CCID and SLCC. To develop the full 50,000 acre-feet of water through fallowing, 20,000 acres of agricultural land would need to be fallowed. Based on a review of the lands representing the downslope boundary of CCID and SLCC, and the assumed distribution of potential fallowed land within the districts, the DEIS/R concluded that

little, if any potential exists for fallowing under the proposed Transfer Program to occur on parcels that would have provided tailwater runoff to adjacent uncultivated lands. The parcels at the district's boundary are typically surrounded by several additional farmed fields, or immediately bounded by roads, canals or ditches.

Table 1. Comparison of No Action/No Project Alternative with Transfer Program DEIS/R Action Alternative D (quantities of water in acre-feet/year).

Method used to Develop Water for Transfer/Exchange	Included in 10-Year Transfer Program	25-year Transfer Program (Proposed Action)	Not Included in 10-Year Transfer Program or Proposed Action but part of Existing Conditions in DEIS/R
Tailwater Recapture:	80,000	80,000	54,161[1]
Temporary Land Fallowing	8,000	50,000	
Deep Water Percolation & Applied Water Efficiency	0	20,000	
Total (acre-feet/year)	88,000	150,000	

[1]Derived from Table 5 of Appendix B from the DEIS/R as Average Total (134,161) minus 80,000 from existing conditions = 54,161 AFY.

Effects to flows in Mud and Salt Sloughs: It is assumed for the purposes of this consultation that Reclamation will continue to acquire water from the Transfer Program for the San Joaquin Basin refuges in amounts similar to, but not less than quantities acquired under the 10-Year Transfer Program. As denoted in the materials provided by Reclamation for this consultation, the Transfer Program has the potential to affect the giant garter snake. The historic range of the snake includes Mud and Salt Sloughs which are in the vicinity of the project. Mud Slough (South) and Salt Slough provide suitable habitat for the snake. The full range of potential hydrologic effects associated with the Transfer Program was analyzed in Appendix B of the DEIS/R. The effects of the hydrologic changes associated with the Transfer Program on garter snake were further assessed in the Attachment to the Transmittal Memo for this consultation titled, "Information Concerning Effects on Giant Garter Snake" (Attachment). The assessment in the Attachment concludes that the reduction of flows in the San Joaquin River, and Salt and Mud Sloughs from the Transfer Program would not be substantial as these reductions would be small (<2 cubic feet per second). Under a worst-case scenario, this amount would correspond to about a 6 percent reduction in the total flow under the driest conditions, if all of the flow reduction occurred in a single channel, which the Attachment concludes is unlikely. Even under the worst-case scenario, the predicted reductions in flow associated with the Transfer Program are not expected to substantially affect giant garter snakes or their habitat.

Effects to rice acreage in the SJRECWA service area: There is a limited area devoted to rice production in the SJRECWA service area, averaging about 3,009 acres per year. The existing

10-Year Transfer Program has not resulted in fallowing of much rice acreage. For the existing Transfer Program, only the 2010 transfer had any fallowed parcel associated with a history of rice planting within a 3-year period prior to fallowing. The 25-Year Transfer Program includes up to 20,000 acres of fallowing that could be used to develop water for transfer. It is possible that some lands previously planted in rice could be fallowed, but this is expected to represent a small proportion of the acreage fallowed and crop rotation schedules do not result in the same fields being planted in rice from one year to the next or even in every third year. Further, the acreage used to grow rice within the SRECWA service area is spread over a wide area and separated by other crops that do not provide habitat for the giant garter snake. These parcels are not adjacent to the refuges or natural waterways where the snake is known to occur. Much of the SJRECWA service area does not provide appropriate habitat for the giant garter snake. The canal sides and levees are continuously maintained and kept free of vegetation. A minor amount of emergent vegetation grows in the canals but it is insufficient to provide for basking and cover needs of the snake. In most of the service area, upland areas near the canals are not appropriate for cover and refuge as they are highly managed to prevent vegetation or encroachment by burrowing animals.

Cumulative Effects

The Transfer Program operates in a regional context in which the following factors affect surface hydrology:

- Substantially reduced water availability
- Regulatory requirements to increase water use efficiency
- Regulatory requirements to reduce the amount of constituents in water including selenium boron, and pesticides in agricultural runoff.

In response to these challenges, the agricultural community has improved irrigation efficiency and reduced runoff containing constituents as required by regulatory authorities. To meet these regulatory requirements, however, less water is allowed to run off the farms and into Mud Slough (South), Salt Slough, other waterways, and ultimately, the San Joaquin River. These combined water conservation and water quality improvement efforts have the potential to contribute to the cumulative loss of habitat for aquatic species such as the giant garter snake. However, the decreases in flow in aquatic habitat from the Transfer Program are not likely to be significant because of the offsetting effects of Reclamation's Refuge Water Acquisition Program and the San Joaquin River Restoration Program. The 10-Year Transfer Program has been an important source of water to the Grasslands Area refuges. The 25-Year Transfer Program includes the Grasslands Area refuges as potential recipients of transferred water.

Mitigation and Monitoring

As noted above, one of the potential effects of the Transfer Program is a small reduction in flows to the San Joaquin River and Salt and Mud Sloughs. The SJRECWA has installed over 250 low lift stations for the purpose of tailwater recapture that has resulted in the recapture and reuse of about 135,000 AFY of tailwater (80,000 AFY developed for the Transfer Program and about 54,000 AFY developed for use within the SJRECWA service area). One of the key assumptions in the DEIS/R for the Transfer Program is that the methods used to develop water for transfer (as highlighted in Table 1) will cause no change in current hydrologic conditions in waterways.

Reclamation has committed in the DEIS/R to conduct a formal coordination process to identify other programs that could significantly affect the assumption, implementation, or effectiveness of the SJRECWA Transfer Program. Programs included in the DEIS/R were the following:

- The Westside Integrated Resources Plan
- Various CVP yield improvement studies
- Land retirement studies and implementation
- San Luis Drainage Feature Re-evaluation Drainage Program implementation
- Grassland Bypass Project and related studies
- All components of the San Joaquin River Restoration Program, as described in the San Joaquin River Settlement Act and related Stipulation for Settlement, including but not limited to Restoration Flow releases and measures taken for the protection, recirculation, and recapture of Restoration Flows.

Subsequent to the time that Reclamation initiated consultation on the Transfer Program, the Service became aware of potential revisions to the Grassland Bypass Project Monitoring Program that would eliminate monitoring and reporting of two stations in the Grasslands wetland channels (Station L2 – San Luis Canal, and Station M2 – Santa Fe Canal) and on the San Joaquin River (Station F - Fremont Ford). These revisions are still in draft form and have not yet been finalized, although a final revised monitoring plan is expected to be completed by the end of 2012. The Service believes that continued monitoring and reporting of these sites is necessary to verify one of the key assumptions in the DEIS/R, that the Transfer Program will cause no change in current hydrologic conditions in waterways. These three monitoring stations have been monitored since the mid-1990s and provide useful baseline data for comparison. As there are numerous actions being implemented in the vicinity of these monitoring stations, the Service recommends that Reclamation continue to monitor and/or compile water quality and flow data at these stations for the life of the Transfer Program and to post this data on the web as either part of the Grassland Bypass Project or a separate effort. The Grassland Bypass Project monitoring data is all archived and maintained by the San Francisco Estuary Institute and available for viewing at their website: http://www.sfei.org/gbp.

Conclusion and Recommendations

The Service appreciates the early coordination efforts made by Reclamation and the Exchange Contractors and their consultants to help facilitate the environmental documentation process and the interagency consultation process. We believe the early coordination was very useful in addressing our questions and concerns. Although not explicitly addressed in the DEIS/R, we recommend that Reclamation commit to continue monitor and/or compile water quality and flow data for stations L2, M2 and F for the life of the Transfer Program and to post this data on the web as either part of the Grassland Bypass Project or a separate effort. As previously noted, the Grassland Bypass Project has a long history of monitoring water quality and flow at these sites, and reporting their findings and posting their reports on the web.

Our concurrence with your NLAA determination for the giant garter snake concludes this consultation. Therefore, unless new information reveals effects of the Transfer Program that may affect listed species in a manner or to an extent not considered, or a new species or critical habitat

is designated that may be affected by the Transfer Program, no further action pursuant to the Act is necessary. If you have questions regarding this action, please contact Thomas Leeman or Joy Winckel at (916) 414-6600.

cc: Michael C. S. Eacock, U.S. Bureau of Reclamation, Fresno, CA
Stephanie Skophammer, U.S Environmental Protection Agency, San Francisco, CA
Theresa Presser, U.S. Geological Survey, Menlo Park, CA
Leslie Mirise and Joe Dillon, National Marine Fisheries Service, Sacramento, CA
Kim Forrest, U.S. Fish and Wildlife Service, San Luis NWRC, Los Banos, CA
Rudy Schnagl, Central Valley Regional Water Quality Control Board
Julie Vance, California Department of Fish and Game, Fresno, CA
Bill Cook, California Department of Fish and Game, Los Banos, CA
Rick Ortega, Grassland Water District, Los Banos, CA