

# RECLAMATION


## *Managing Water in the West*

### FINDING OF NO SIGNIFICANT IMPACT

## Contra Costa Water District Transfer to Byron Bethany Irrigation District

FONSI-14-041

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Date: 08/27/2014

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Date: 8/29/14





# Introduction

In accordance with section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969, as amended, the South-Central California Area Office of the Bureau of Reclamation (Reclamation), has determined that an environmental impact statement is not required for the approval of a transfer of up to 4,000 acre-feet (AF) of Contra Costa Water District's (Contra Costa's) Central Valley Project (CVP) water to Byron Bethany Irrigation District (Byron Bethany). This Finding of No Significant Impact (FONSI) is supported by Reclamation's Environmental Assessment (EA)-14-041, *Contra Costa Water District Transfer to Byron Bethany Irrigation District*, and is hereby incorporated by reference.

Reclamation provided the public with an opportunity to comment on the Draft FONSI and Draft EA between August 21, 2014 and August 26, 2014. No comments were received.

## Background

This year, due to extraordinarily dry hydrologic conditions, Byron Bethany's CVP allocation has been set to zero for agriculture and 50 percent for municipal and industrial (M&I). In addition, the State Water Resources Control Board has notified pre-1914 water rights holders that curtailments of pre-1914 and riparian diversions are likely to occur this year. Consequently, Byron Bethany and Contra Costa are working together to share resources and facilities as part of an integrated regional water management plan to the mutual benefit of their collective customers.

As part of the plan, Byron Bethany and Contra Costa entered into an agreement to undertake a one-time demonstration project to evaluate the feasibility of a longer-term partnership for the improvement of regional water supply reliability. Under the agreement, Byron Bethany purchased 4,000 AF of Contra Costa's water stored in Los Vaqueros Reservoir for use during this drought year. Since there is no direct conveyance mechanism to deliver water from Los Vaqueros to Byron Bethany's distribution system, Byron Bethany and Contra Costa have proposed a transfer similar to a groundwater substitution-based transfer, except Contra Costa will be substituting water stored in Los Vaqueros Reservoir. Contra Costa would make use of the 4,000 AF of water stored in Los Vaqueros instead of taking their CVP supply from the San Joaquin-Sacramento Delta (Delta), which would then be transferred to Byron Bethany. Contra Costa has requested approval from Reclamation to transfer a portion (up to 4,000 AF) of Contra Costa's CVP water that would have been diverted by Contra Costa from the Delta to Byron Bethany. Byron Bethany has requested approval from Reclamation to apply this transfer water outside of its CVP service area.

## Proposed Action

Reclamation proposes to approve the transfer of up to 4,000 AF of water that would be facilitated by a storage substitution transfer between Contra Costa and Byron Bethany. The transfer facilitated by storage substitution would be executed as described in Section 2.2 of EA-14-041.

## **Environmental Commitments**

Contra Costa and Byron Bethany will implement the environmental protection measures listed in Table 2-1 of EA-14-041 to reduce environmental consequences associated with the Proposed Action. Environmental consequences for resource areas assume the measures specified would be fully implemented.

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 findings:

## **Findings**

### **Water Resources**

Under the Proposed Action, Contra Costa would take delivery of up to 4,000 AF of its non-CVP water purchased by Byron Bethany that is currently stored in Los Vaqueros Reservoir. Contra Costa would then transfer up to 4,000 AF of its CVP supply (previously scheduled for delivery from the Delta) to Byron Bethany. The portion of CVP water that Contra Costa would have diverted at its Old River Intake or Middle River Intake at Victoria Canal would instead be diverted at Byron Bethany's point of diversion on the Banks Intake Channel. As such, no additional overall Delta pumping would be needed for the transfer.

The transfer would result in a lower water level in the Los Vaqueros Reservoir than would have existed absent the Proposed Action. As such, a refill agreement was required in order to address operational concerns by Reclamation, the Department of Water Resources, and other legal users of Delta water (see Appendix A - Refill Agreement). The refill agreement was executed in coordination with California Department of Water Resources and Reclamation and attached to Contra Costa's Los Vaqueros water right for the duration of the transfer and refill period. Pursuant to the refill agreement Contra Costa is required to keep track of the vacated storage amount in Los Vaqueros resulting from the transfer, and operate the reservoir to ensure that the refill of the reservoir does not injure other legal users of water or the environment.

When Byron Bethany takes the transferred water from the Banks Intake Channel, the overall pumping from the south Delta would not be increased from what would have occurred absent the transfer. In addition, the Old and Middle River flows north of Contra Costa's Old River and Middle River intakes would not change as a result of the Proposed Action. As such, the Proposed Action would not affect CVP or State Water Project (SWP). The Proposed Action would not interfere with Reclamation's obligations to deliver water to other contractors, wetland habitat areas, or for other environmental purposes.

The transferred water would be brought into Byron Bethany's existing infrastructure for either direct delivery to its customers or for introduction into the DMC pursuant to its existing Warren Act contract for conveyance to other customers within the district. The amount of water introduced into the DMC under the Proposed Action would be within the amount previously approved for introduction into the DMC. No additional water would be introduced due to the Proposed Action.

The transfer would utilize existing facilities and not require new infrastructure, modifications of existing facilities, or ground disturbing activities. The transferred water would be used for existing purposes. No native or untilled land (fallow for three years or more) would be cultivated with water involved with these actions.

### **Land Use**

The exchanged water would be used for M&I purposes by Byron Bethany's customers to support current land uses. No conversion of undeveloped/native land is proposed.

### **Biological Resources**

Reclamation has determined the Proposed Action would have no effect to threatened or endangered species or designated critical habitats under the jurisdiction of either the U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS). This decision is based on no native or untilled land (fallow for three years or more) would be cultivated with water involved with these actions. The flow regime of natural waterways or natural watercourses such as rivers, streams, creeks, ponds, pools, wetlands, etc., would not be altered as a result of the Proposed Action. The Proposed Action would not involve the conversion of any land fallowed and untilled for three or more years. As such, Reclamation has determined there would be no effect to proposed or listed species or critical habitat under the Endangered Species Act of 1973, as amended (16 U.S.C. §1531 et seq.) beyond those previously covered. Therefore, no consultation with the USFWS or NMFS is necessary. Reclamation has also determined that there would be no take of birds protected under the Migratory Bird Treaty Act (16 U.S.C. §703 et seq.) as none would be affected by the Proposed Action.

### **Cultural Resources**

The Proposed Action would not involve physical changes to the environment or construction activities that could impact cultural resources. As the Proposed Action would facilitate the flow of water through existing facilities to existing users and no construction or modification of these facilities would be needed in order to complete the Proposed Action, Reclamation has determined that these activities have no potential to cause effects to historic properties pursuant to 36 Code of Federal Regulations Part 800.3(a)(1). See Appendix B of EA-14-041 for Reclamation's determination.

### **Indian Sacred Sites**

The Proposed Action would not limit access to ceremonial use of Indian Sacred Sites on federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites. Therefore, there would be no impacts to Indian Sacred Sites as a result of the Proposed Action.

### **Indian Trust Assets**

The Proposed Action would not impact Indian Trust Assets as there are none in the Proposed Action area. See Appendix C of EA-14-041 for Reclamation's determination.

### **Socioeconomic Resources**

The transferred water would support existing land uses within Byron Bethany's service area. The needs of Contra Costa's customers would be met with an equivalent volume of water from

Los Vaqueros Reservoir. As such, no change in socioeconomic conditions is expected from the Proposed Action.

### **Environmental Justice**

The Proposed Action would not cause dislocation, changes in employment, or increase flood, drought, or disease nor would it disproportionately impact economically disadvantaged or minority populations.

### **Air Quality**

The Proposed Action would not cause dislocation, changes in employment, or increase flood, drought, or disease nor would it disproportionately impact economically disadvantaged or minority populations.

### **Global Climate and Energy Use**

No construction or modification of facilities is proposed. Some pumping would be required to move water under the Proposed Action, but power usage would be within the typical range for the facilities involved. No greenhouse gas emissions are anticipated outside normal operational fluctuations.

### **Cumulative Impacts**

Cumulative impacts result from incremental impacts of the Proposed Action or No Action alternative when added to other past, present, and reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. To determine whether cumulatively significant impacts are anticipated from the Proposed Action or the No Action alternative, the incremental effect of both alternatives were examined together with impacts from past, present, and reasonably foreseeable future actions in the same geographic area.

Reclamation has reviewed existing or foreseeable projects in the same geographic area that could affect or could be affected by the Proposed Action as Reclamation and CVP contractors have been working on various drought-related projects, including this one, in order to manage limited water supplies due to current hydrologic conditions and regulatory requirements. This and similar projects would have a cumulative beneficial effect on water supply during this critically dry year.

As in the past, hydrological conditions and other factors are likely to result in fluctuating water supplies which drive requests for water service actions. Water districts provide water to their customers based on available water supplies and timing, while attempting to minimize costs. Farmers irrigate and grow crops based on these conditions and factors, and a myriad of water service actions are approved and executed each year to facilitate water needs. It is likely that in 2014, more districts will request exchanges, transfers, and Warren Act contracts (conveyance of non-CVP water in CVP facilities) due to hydrologic conditions. Each water service transaction involving Reclamation undergoes environmental review prior to approval.

The Proposed Action and other similar projects would not hinder the normal operations of the CVP and Reclamation's obligation to deliver water to its contractors or to local fish and wildlife habitat. Since the Proposed Action would not involve construction or modification of facilities, there would be no cumulative impacts to existing facilities or other contractors.

Withdrawals from Los Vaqueros Reservoir and the subsequent refill, in combination with other water actions, have the potential to affect other users of water. The refill agreement is anticipated to avoid cumulative impacts from the proposed withdrawal and transfer.

As the Proposed Action is not expected to result in any direct or indirect adverse impacts to land use, biological resources, cultural resources, Indian Sacred Sites, Indian Trust Assets, socioeconomics, minority or disadvantaged populations, air quality or global climate and energy use, there would be no cumulative adverse impacts to these resources.

# RECLAMATION

*Managing Water in the West*

**Final Environmental Assessment**

## **Contra Costa Water District Transfer to Byron Bethany Irrigation District**

**EA-14-041**



**U.S. Department of the Interior  
Bureau of Reclamation  
Mid Pacific Region  
South-Central California Area Office  
Fresno, California**

**August 2014**



## **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 commitments 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.

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# Section 1 Introduction

The Bureau of Reclamation (Reclamation) provided the public with an opportunity to comment on the Draft Finding of No Significant Impact (FONSI) and Draft Environmental Assessment (EA) between August 21, 2014 and August 26, 2014. No comments were received. Changes between this Final EA and the Draft EA, which are not minor editorial changes, are indicated by vertical lines in the left margin of this document.

## 1.1 Background

Contra Costa Water District (Contra Costa) is a federal Central Valley Project (CVP) contractor located in central and eastern Contra Costa County (see Figure 1-1). Los Vaqueros Reservoir is located within Contra Costa and stores water from the Sacramento-San Joaquin River Delta (Delta), under Reclamation's CVP water rights (redirection of CVP storage releases) and Contra Costa's Los Vaqueros water rights water (hereafter referred to as non-CVP water). Los Vaqueros Reservoir currently holds approximately 31,000 acre-feet (AF) of water diverted under Contra Costa's water right, previously stored under Delta surplus conditions. A portion of this water (up to 5,000 AF) has been recently approved by Reclamation for transfer to Alameda County Water District.

Byron Bethany Irrigation District (Byron Bethany) is a Delta Division CVP contractor that receives its CVP supply from the Delta-Mendota Canal for agricultural and municipal and industrial (M&I) purposes. Byron Bethany also diverts water from the Delta at milepost (MP) 1.83 of the intake channel to the Harvey O. Banks Pumping Plant under its own pre-1914 water rights (see Figure 1-1). This year, due to extraordinarily dry hydrologic conditions, Byron Bethany's CVP allocation has been set to zero for agriculture and 50 percent for M&I. In addition, the State Water Resources Control Board has notified pre-1914 water rights holders that curtailments of pre-1914 and riparian diversions are likely to occur this year. Consequently, Byron Bethany and Contra Costa are working together to share resources and facilities as part of an integrated regional water management plan to the mutual benefit of their collective customers.

As part of the plan, Byron Bethany and Contra Costa entered into an agreement to undertake a one-time demonstration project to evaluate the feasibility of a longer-term partnership for the improvement of regional water supply reliability. Under the agreement, Byron Bethany purchased 4,000 AF of Contra Costa's water stored in Los Vaqueros Reservoir for use during this drought year. Since there is no direct conveyance mechanism to deliver water from Los Vaqueros to Byron Bethany's distribution system, Byron Bethany and Contra Costa have proposed a transfer similar to a groundwater substitution-based transfer, except Contra Costa will be substituting water stored in Los Vaqueros Reservoir. Contra Costa would make use of the 4,000 AF of water stored in Los Vaqueros instead of taking their CVP supply from the Delta, which would then be transferred to Byron Bethany. Contra Costa has requested approval from Reclamation to transfer a portion (up to 4,000 AF) of Contra Costa's CVP water that would have been diverted by Contra Costa from the Delta to Byron Bethany. Byron Bethany has requested approval from Reclamation to apply this transfer water outside of its CVP service area.

## 1.2 Need for the Proposed Action

Byron Bethany has a need to deliver water to support existing agricultural and M&I uses within its service area. They have purchased 4,000 AF of water stored in Los Vaqueros Reservoir, but there is no direct conveyance method to deliver it to its customers. The purpose of the proposed transfer facilitated by a storage substitution is to provide a means to deliver an equivalent volume of water to Byron Bethany.



Figure 1-1 Proposed Action Area

## Section 2 Alternatives Including the Proposed Action

This EA considers two possible actions: the No Action Alternative and the Proposed Action. The No Action Alternative reflects future conditions without the Proposed Action and serves as a basis of comparison for determining potential effects to the human environment.

### 2.1 No Action Alternative

Under the No Action Alternative, the proposed transfer would not take place. Byron Bethany's water would remain in Los Vaqueros reservoir, and Contra Costa would take delivery of its CVP water from the Delta as scheduled.

### 2.2 Proposed Action

Reclamation proposes to approve the transfer of up to 4,000 AF of water that would be facilitated by a storage substitution transfer between Contra Costa and Byron Bethany. The transfer facilitated by storage substitution would be executed as follows:

Contra Costa would take delivery of up to 4,000 AF of its water rights water purchased by Byron Bethany that is currently stored in Los Vaqueros Reservoir. The water rights water would be delivered in-district for use by Contra Costa's customers. Byron Bethany would then take delivery of up to 4,000 AF of Contra Costa's CVP water from the Delta previously scheduled for delivery to Contra Costa.

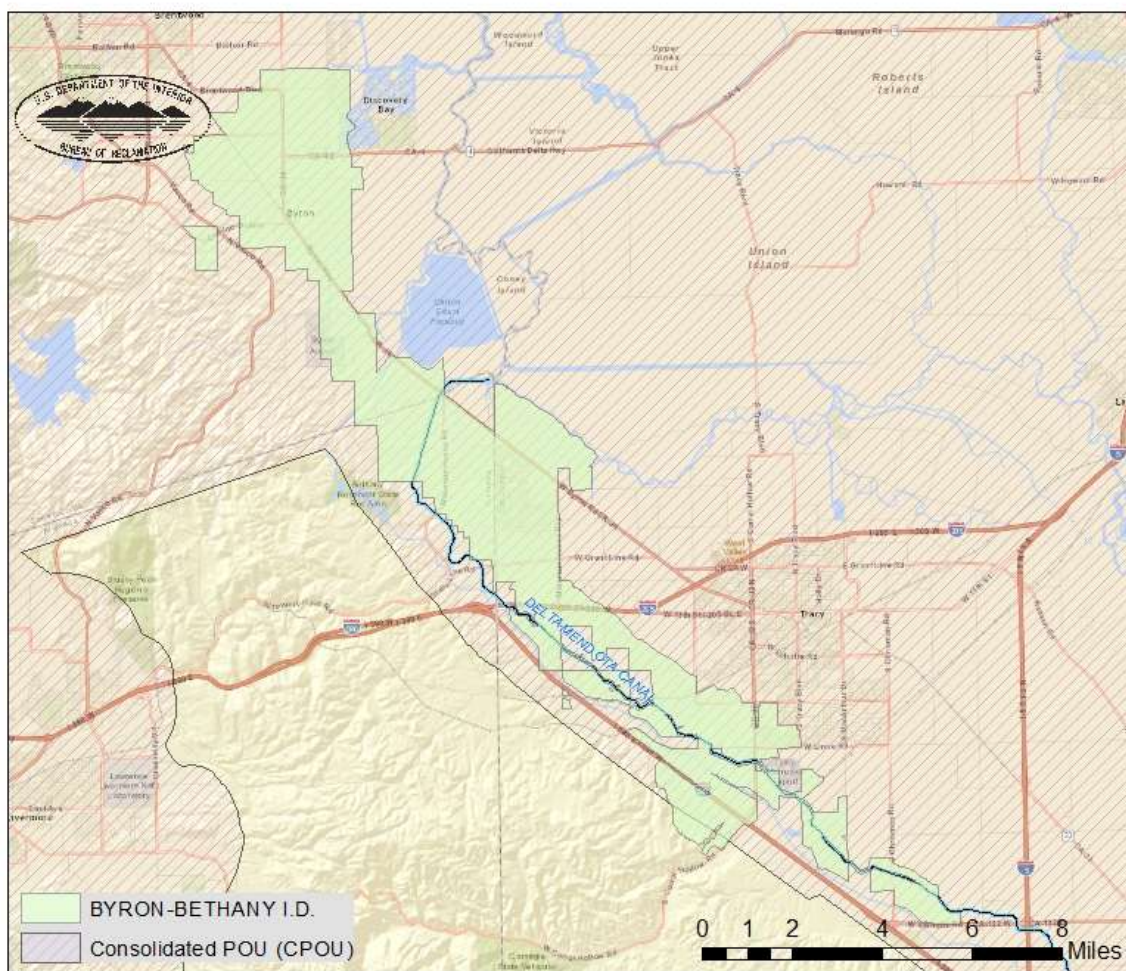
Contra Costa's normal points of diversion for its CVP water are at its Old River Intake and Middle River Intake at the Victoria Canal<sup>1</sup>. Under the Proposed Action, the transferred water would instead be diverted from the Delta by Byron Bethany at Byron Bethany's point of diversion on the intake channel of the Harvey O. Banks Pumping Plant (Banks Intake Channel). This intake is downstream of and is protected by the John E. Skinner Fish Protective Facility. Once the transferred water enters Byron Bethany's facilities, it would be conveyed to its customers directly or introduced into the DMC for conveyance to customers that receive their supplies from the DMC. As the transfer was facilitated by an exchange of non-CVP water (Contra Costa's water rights water in Los Vaqueros), the transferred water would require a Warren Act contract for introduction into the DMC. Byron-Bethany currently has an existing five-year Warren Act contract that allows for the introduction of non-CVP water into the DMC. Under the Proposed Action, the Warren Act contract would be updated to allow the introduction and conveyance of the transferred water.

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<sup>1</sup> Contra Costa's other normal point of diversion (Rock Slough) for CVP water will be shut down for construction during the period of the Proposed Action.

The transferred water would be delivered to customers within Byron Bethany as shown in Figure 2-1, except for the Tracy Hills area which is outside the CVP place of use. A temporary transfer petition is required to add Byron Bethany's point of diversion on the Banks Intake Channel as a point of diversion/redirection for CVP water rights. As such, Contra Costa and Reclamation have submitted State Water Resources Control Board petitions for a temporary change in point of diversion/redirection for the transfer.

The proposed transfer would occur in 2014, and could take anywhere from fifteen days to three months to complete consistent with the State Water Resources Control Board petitions. The timing and rate of the water transfer would be determined in close coordination among Byron Bethany, Contra Costa, Reclamation and the Department of Water Resources (DWR). No construction or modification of facilities would be required.



**Figure 2-1 Byron Bethany and Consolidated Place of Use**

### 2.2.1 Environmental Commitments

Contra Costa and Byron Bethany shall implement the following environmental protection measures to avoid or reduce environmental consequences associated with the Proposed Action (Table 2-1). Environmental consequences for resource areas assume the measures specified

would be fully implemented. Copies of all reports and monitoring shall be submitted to Reclamation.

**Table 2-1 Environmental Protection Measures and Commitments**

| <b>Resource</b>      | <b>Protection Measure</b>  |
|----------------------|--|
| Water Resources      | Water under the Proposed Action may only be served within the Consolidated Place of Use.   |
|                      | A refill agreement between Contra Costa, Reclamation and DWR is required before water may be taken from Los Vaqueros Reservoir for the purpose of this transfer.   |
| Biological Resources | No native or untilled land (fallow for three consecutive years or more) may be cultivated with CVP water without additional environmental analysis and approval.   |
|                      | No new construction or modification of existing facilities may occur in order to complete the Proposed Action.   |
|                      | The Proposed Action cannot alter the flow regime of natural waterways or natural watercourses such as rivers, streams, creeks, ponds, pools, wetlands, etc., so as to have a detrimental effect on fish or wildlife or their habitats. |
| Various Resources    | The Proposed Action must comply with all applicable Federal, State and local laws, regulations, permits, guidelines and policies.  |
|                      | The Proposed Action would not increase or decrease water supplies that would result in development.  |



## Section 3 Affected Environment and Environmental Consequences

This section identifies the potentially affected environment and the environmental consequences involved with the Proposed Action and the No Action Alternative, in addition to environmental trends and conditions that currently exist.

### 3.1 Resources Eliminated from Further Analysis

Reclamation analyzed the affected environment and determined that the Proposed Action did not have the potential to cause direct, indirect, or cumulative adverse effects to the resources listed in Table 3-1.

**Table 3-1 Resources Eliminated from Further Analysis**

| Resource                | Reason Eliminated  |
|-------------------------|--|
| Cultural Resources      | The Proposed Action would not involve physical changes to the environment or construction activities that could impact cultural resources. As the Proposed Action would facilitate the flow of water through existing facilities to existing users and no construction or modification of these facilities would be needed in order to complete the Proposed Action, Reclamation has determined that these activities have no potential to cause effects to historic properties pursuant to 36 Code of Federal Regulations Part 800.3(a)(1). See Appendix B for Reclamation's determination. |
| Indian Sacred Sites     | The Proposed Action would not limit access to ceremonial use of Indian Sacred Sites on federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites. Therefore, there would be no impacts to Indian Sacred Sites as a result of the Proposed Action.  |
| Indian Trust Assets     | The Proposed Action would not impact Indian Trust Assets as there are none in the Proposed Action area. See Appendix C for Reclamation's determination.  |
| Land Use                | The exchanged water would be used for M&I purposes by Byron Bethany's customers to support current land uses. No conversion of undeveloped/native land is proposed.  |
| Socioeconomic Resources | The transferred water would support existing land uses within Byron Bethany's service area. The needs of Contra Costa's customers would be met with an equivalent volume of water from Los Vaqueros Reservoir. As such, no change in socioeconomic conditions is expected from the Proposed Action.  |
| Environmental Justice   | The Proposed Action would not cause dislocation, changes in employment, or increase flood, drought, or disease nor would it disproportionately impact economically disadvantaged or minority populations.  |
| Air Quality             | No construction or modification of facilities is proposed. Some pumping would be required to move water under the Proposed Action, but power usage would be within the typical range for the facilities involved. No air emissions are anticipated outside normal operational fluctuations.  |
| Global Climate          | No construction or modification of facilities is proposed. Some pumping would be required to move water under the Proposed Action, but power usage would be within the typical range for the facilities involved. No greenhouse gas emissions are anticipated outside normal operational fluctuations.   |

## 3.2 Water Resources

### 3.2.1 Affected Environment

#### ***Contra Costa Water District***

Contra Costa is a federal CVP contractor located in central and eastern Contra Costa County. Contra Costa relies completely on the Delta for its water supply, and diverts water at its four intakes in the Delta: Rock Slough, Mallard Slough, Old River and Middle River at Victoria Canal. Using these last two intakes, Contra Costa can also divert water to storage in Los Vaqueros Reservoir for later use. Contra Costa diverts water under its own rights (Mallard Slough, Los Vaqueros Reservoir) and under a CVP contract (all but Mallard Slough).

#### ***Los Vaqueros Reservoir***

Los Vaqueros Reservoir is a 160,000 AF off-stream Reservoir operated by Contra Costa. The storage capacity provided by the Reservoir allows Contra Costa to manage water quality for its customers and adjust timing of Delta diversions to accommodate the life cycles of Delta aquatic species. Water is diverted to storage under water rights held by Reclamation or Contra Costa.

#### ***Byron Bethany Irrigation District***

Byron Bethany is a federal CVP contractor serving agricultural, residential and industrial customers in Alameda, Contra Costa, and San Joaquin Counties. Byron Bethany also diverts pre-1914 water right from the Delta at its point of diversion on the Banks Intake Channel under a settlement agreement with DWR.

In 2010, Reclamation executed a Warren Act contract with Byron Bethany for the introduction, conveyance, and/or storage of up to 5,000 AFY of its pre-1914 water rights water from the Delta into the DMC through February 28, 2015. The environmental effects of the Warren Act contract was analyzed in Environmental Assessment-09-156, *Five-year Warren Act Contracts for Banta-Carbona Irrigation District, Byron Bethany Irrigation District, Patterson Irrigation District, and West Stanislaus Irrigation District* and a Finding of No Significant Impact was signed on March 2, 2010, which is hereby incorporated by reference.

### 3.2.2 Environmental Consequences

#### ***No Action***

Under the No Action Alternative, Reclamation would not approve the transfer of Contra Costa's CVP water for non-CVP water purchased by Byron Bethany. The non-CVP water would remain in storage and Contra Costa would divert its CVP water from the Delta as previously scheduled. Due to extraordinarily dry hydrologic conditions, the State Water Resources Control Board has notified pre-1914 water rights holders that curtailments of pre-1914 and riparian diversions are likely to occur this year. Byron Bethany's CVP allocation has already been set to zero for agricultural uses and 50 percent for M&I. Byron Bethany has imposed mandatory conservation measures in response to the drought this year, eliminating surface furrow irrigation and operational spilling and converting to drip irrigation. Even so, the Byron area in Contra Costa County would lose its entire water supply if Byron Bethany's diversions under its pre-1914 water right are curtailed. The timing of the curtailment is uncertain, so approval of this transfer is

needed as soon as possible to ensure an uninterrupted supply of irrigation water to crops that have already been planted, in order to avoid severe economic impacts to the region.

***Proposed Action***

Under the Proposed Action, Contra Costa would take delivery of up to 4,000 AF of its non-CVP water purchased by Byron Bethany that is currently stored in Los Vaqueros Reservoir. Contra Costa would then transfer up to 4,000 AF of its CVP supply (previously scheduled for delivery from the Delta) to Byron Bethany. The portion of CVP water that Contra Costa would have diverted at its Old River Intake or Middle River Intake at Victoria Canal would instead be diverted at Byron Bethany's point of diversion on the Banks Intake Channel. As such, no additional overall Delta pumping would be needed for the transfer.

The transfer would result in a lower water level in the Los Vaqueros Reservoir than would have existed absent the Proposed Action. As such, a refill agreement was required in order to address operational concerns by Reclamation, the Department of Water Resources, and other legal users of Delta water (see Appendix A - Refill Agreement). The refill agreement was executed in coordination with DWR and Reclamation and attached to Contra Costa's Los Vaqueros water right for the duration of the transfer and refill period. Pursuant to the refill agreement Contra Costa is required to keep track of the vacated storage amount in Los Vaqueros resulting from the transfer, and operate the reservoir to ensure that the refill of the reservoir does not injure other legal users of water or the environment.

When Byron Bethany takes the transferred water from the Banks Intake Channel, the overall pumping from the south Delta would not be increased from what would have occurred absent the transfer. In addition, the Old and Middle River flows north of Contra Costa's Old River and Middle River intakes would not change as a result of the Proposed Action. As such, the Proposed Action would not affect CVP or State Water Project (SWP). The Proposed Action would not interfere with Reclamation's obligations to deliver water to other contractors, wetland habitat areas, or for other environmental purposes.

The transferred water would be brought into Byron Bethany's existing infrastructure for either direct delivery to its customers or for introduction into the DMC pursuant to its existing Warren Act contract for conveyance to other customers within the district. The amount of water introduced into the DMC under the Proposed Action would be within the amount previously approved for introduction into the DMC. No additional water would be introduced due to the Proposed Action.

The transfer would utilize existing facilities and not require new infrastructure, modifications of existing facilities, or ground disturbing activities. The transferred water would be used for existing purposes. No native or untilled land (fallow for three years or more) would be cultivated with water involved with these actions.

***Cumulative Impacts***

Cumulative impacts result from incremental impacts of the Proposed Action or No Action alternative when added to other past, present, and reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. Significance exists if it is reasonable to anticipate a cumulatively

significant impact on the environment. To determine whether cumulatively significant impacts are anticipated from the Proposed Action or the No Action alternative, the incremental effect of both alternatives were examined together with impacts from past, present, and reasonably foreseeable future actions in the same geographic area.

Reclamation has reviewed existing or foreseeable projects in the same geographic area that could affect or could be affected by the Proposed Action as Reclamation and CVP contractors have been working on various drought-related projects, including this one, in order to manage limited water supplies due to current hydrologic conditions and regulatory requirements. This and similar projects would have a cumulative beneficial effect on water supply during this critically dry year.

As in the past, hydrological conditions and other factors are likely to result in fluctuating water supplies which drive requests for water service actions. Water districts provide water to their customers based on available water supplies and timing, while attempting to minimize costs. Farmers irrigate and grow crops based on these conditions and factors, and a myriad of water service actions are approved and executed each year to facilitate water needs. It is likely that in 2014, more districts will request exchanges, transfers, and Warren Act contracts (conveyance of non-CVP water in CVP facilities) due to hydrologic conditions. Each water service transaction involving Reclamation undergoes environmental review prior to approval.

The Proposed Action and other similar projects would not hinder the normal operations of the CVP and Reclamation's obligation to deliver water to its contractors or to local fish and wildlife habitat. Since the Proposed Action would not involve construction or modification of facilities, there would be no cumulative impacts to existing facilities or other contractors.

Withdrawals from Los Vaqueros Reservoir and the subsequent refill, in combination with other water actions, have the potential to affect other users of water. The refill agreement is anticipated to avoid cumulative impacts from the proposed withdrawal and transfer.

### **3.3 Biological Resources**

#### **3.3.1 Affected Environment**

Reclamation requested an official species list from the U.S. Fish and Wildlife Service (Service) via the Sacramento Field Office's website, [http://www.fws.gov/sacramento/ES\\_Species/Lists/es\\_species\\_lists-form.cfm](http://www.fws.gov/sacramento/ES_Species/Lists/es_species_lists-form.cfm), on July 29, 2014 (document number: 140729033449). The list is for Contra Costa, Alameda, and San Joaquin Counties (Service 2014). Reclamation further queried the California Department of Fish and Wildlife California Natural Diversity Database (CNDDB) for records of protected species within 10 miles of the Proposed Action Area (CNDDB 2014). Table 3-2 lists critical habitat that identified on the species list, as well as critical habitat for the North American green sturgeon, which occurs in the Proposed Action Area but was not included on the list. Table 3-2 also includes the southern resident killer whale, due to its inclusion in the 2009 biological opinion from the National Marine Fisheries Service (NMFS) for the coordinated long-term operations of the CVP and SWP.

**Table 3-2 Federally Protected Species List for the Proposed Action Area**

| COMMON NAME                                | CRITICAL HABITAT | LISTING STATUS      | EFFECT DETERMINATIONS  |
|--|------------------|---------------------|--|
| <b>Invertebrates</b>                       |                  |                     |  |
| bay checkerspot butterfly                  | designated       | threatened          | no effect; no effect on critical habitat   |
| California freshwater shrimp               | no               | endangered          | no effect  |
| callippe silverspot butterfly              | no               | endangered          | no effect  |
| Conservancy fairy shrimp                   | designated       | endangered          | no effect  |
| delta green ground beetle                  | no               | threatened          | no effect  |
| Lange's metalmark butterfly                | no               | endangered          | no effect  |
| longhorn fairy shrimp                      | designated       | endangered          | no effect; no effect on critical habitat   |
| valley elderberry longhorn beetle          | no               | threatened          | no effect  |
| vernal pool fairy shrimp                   | designated       | threatened          | no effect; no effect on critical habitat   |
| vernal pool tadpole shrimp                 | designated       | endangered          | no effect; no effect on critical habitat   |
| <b>Fish</b>                                |                  |                     |  |
| Central California Coast coho salmon       | designated       | endangered          | no effect; no effect on critical habitat   |
| Central California Coastal steelhead       | designated       | threatened          | no effect; no effect on critical habitat   |
| Central Valley spring-run chinook salmon   | designated       | threatened          | any effects on this species and its critical habitat have already been addressed |
| Central Valley steelhead                   | designated       | threatened          | any effects on this species and its critical habitat have already been addressed |
| delta smelt                                | designated       | threatened          | any effects on this species and its critical habitat have already been addressed |
| North American green sturgeon              | designated       | threatened          | any effects on this species and its critical habitat have already been addressed |
| Sacramento River winter-run chinook salmon | designated       | endangered          | any effects on this species and its critical habitat have already been addressed |
| tidewater goby                             | no               | endangered          | no effect  |
| <b>Amphibians</b>                          |                  |                     |  |
| California red-legged frog                 | designated       | threatened          | no effect; no effect on critical habitat   |
| California tiger salamander, Central DPS   | designated       | threatened          | no effect; no effect on critical habitat   |
| <b>Reptiles</b>                            |                  |                     |  |
| Alameda whipsnake                          | designated       | threatened          | no effect; no effect on critical habitat   |
| giant garter snake                         | no               | threatened          | no effect  |
| San Francisco garter snake                 | no               | endangered          | no effect  |
| <b>Birds</b>                               |                  |                     |  |
| California Brown Pelican                   | no               | endangered          | no effect  |
| California Clapper Rail                    | no               | endangered          | no effect  |
| California Least Tern                      | no               | endangered          | no effect  |
| Least Bell's Vireo                         | no               | endangered          | no effect  |
| Marbled Murrelet                           | no               | threatened          | no effect  |
| Northern Spotted Owl                       | no               | threatened          | no effect  |
| Western Snowy Plover                       | no               | threatened          | no effect  |
| Western Yellow-billed Cuckoo               | no               | proposed threatened | no effect  |
| <b>Mammals</b>                             |                  |                     |  |
| riparian brush rabbit                      | no               | endangered          | no effect  |
| riparian woodrat                           | no               | endangered          | no effect  |
| salt marsh harvest mouse                   | no               | endangered          | no effect  |
| San Joaquin kit fox                        | no               | endangered          | no effect  |
| southern resident killer whales            | no               | endangered          | any effects on this species have already been addressed                          |
| <b>Plants</b>                              |                  |                     |  |
| Antioch Dunes evening-primrose             | designated       | endangered          | no effect; no effect on critical habitat   |
| beach layia                                | no               | endangered          | no effect  |

| COMMON NAME                 | CRITICAL HABITAT | LISTING STATUS | EFFECT DETERMINATIONS                    |
|-----------------------------|------------------|----------------|--|
| California sea blite        | no               | endangered     | no effect                                |
| Colusa grass                | no               | threatened     | no effect                                |
| Contra Costa goldfields     | designated       | endangered     | no effect; no effect on critical habitat |
| Contra Costa wallflower     | designated       | endangered     | no effect; no effect on critical habitat |
| fountain thistle            | no               | endangered     | no effect                                |
| Greene's tuctoria           | no               | endangered     | no effect                                |
| lone manzanita              | no               | threatened     | no effect                                |
| Keck's checker-mallow       | no               | endangered     | no effect                                |
| large-flowered fiddleneck   | no               | endangered     | no effect                                |
| Marin dwarf-flax            | no               | threatened     | no effect                                |
| Metcalf Canyon jewelflower  | no               | endangered     | no effect                                |
| pallid manzanita            | no               | threatened     | no effect                                |
| palmete-bracted bird's-beak | no               | endangered     | no effect                                |
| Presidio clarkia            | no               | endangered     | no effect                                |
| robust spineflower          | no               | endangered     | no effect                                |
| Sacramento Orcutt grass     | designated       | endangered     | no effect; no effect on critical habitat |
| San Mateo thornmint         | no               | endangered     | no effect                                |
| Santa Clara Valley dudleya  | no               | endangered     | no effect                                |
| Santa Cruz tarplant         | designated       | threatened     | no effect; no effect on critical habitat |
| showy Indian clover         | no               | endangered     | no effect                                |
| soft bird's-beak            | designated       | endangered     | no effect; no effect on critical habitat |
| succulent owl's-clover      | designated       | threatened     | no effect; no effect on critical habitat |
| Tiburon jewelflower         | no               | endangered     | no effect                                |
| Tiburon mariposa lily       | no               | threatened     | no effect                                |
| white-rayed pentachaeta     | no               | endangered     | no effect                                |

### ***Migratory Birds***

There are CNDDDB records of migratory birds in the Proposed Action Area. In addition to the federally-listed species in Table 3-2, there are records of Swainson's Hawks and Western Burrowing Owls. These species would typically only fly over the developed areas that would be receiving the transferred water involved in the Proposed Action, and would not otherwise use these lands.

### ***Federally-listed Species***

With the exception of the fish species that occur in the Delta (which includes all the listed fishes in Table 3-2 except the tidewater goby), the other species do not occur in developed areas. The southern resident killer whales are on the list due to possible effects on their chinook salmon prey base as a result of pumping in the South Delta.

Essential Fish Habitat for chinook salmon also occurs in the Delta.

### ***Critical Habitat***

As with the case for the federally listed species, the only critical habitat in the Proposed Action Area is that for several of the fish species, as indicated in Table 3-2.

## **3.3.2 Environmental Consequences**

### ***No Action***

Under the No Action Alternative, Contra Costa would take delivery of its previously scheduled CVP water supply, pumped at the Old and Middle River Intakes, for existing uses. Expansions of the service area (referred to as inclusions) involve separate environmental review, and would

only proceed once all applicable federal environmental laws have been complied with (e.g. the Endangered Species Act and Migratory Bird Treaty Act). Any effects of pumping CVP water on federally listed fishes and their critical habitat have been addressed by biological opinions issued to Reclamation for the coordinated long-term operations of the CVP and SWP (NMFS 2009; Service 2008).

NMFS determined that long term SWP and CVP operations were likely to jeopardize several species and result in adverse modification of their critical habitat. The Service found that operations as proposed were likely to jeopardize the continued existence of delta smelt and adversely modify its critical habitat. The Service provided a Reasonable and Prudent Alternative (RPA) with five components. On December 15, 2008, Reclamation submitted a memo provisionally accepting the RPAs developed by the Service and included in the biological opinion. The provisional acceptance of the RPA was conditioned upon the further development and evaluation of the two RPA components directed at habitat. Reclamation stated that the two RPA components, RPA Component 3 – the fall action, and RPA Component 4 – the tidal habitat restoration action, both needed additional review and refinement before Reclamation would be able to determine whether implementation of these actions by the CVP and SWP is reasonable and prudent. On June 4, 2009, Reclamation sent a similar provisional acceptance letter to NMFS.

Reclamation also consulted under the Magnusson-Stevens Fishery Conservation and Management Act with NMFS on adverse impacts to Essential Fish Habitat for chinook salmon as a result of the pumping (NMFS 2009).

However, following the provisional acceptance, the District Court for the District of Eastern California remanded the biological opinions, and Reclamation was ordered by the Court to comply with the National Environmental Policy Act (NEPA) before accepting the RPAs. Reclamation is currently preparing environmental documentation to comply with the Court's decision. In early 2014, the biological opinion issued by the Service was upheld by a new Ninth Circuit Court of Appeals ruling, although certain requirements (such as an obligation for Reclamation to follow a NEPA process) were left in place. In the meantime, Reclamation continues to comply with the existing biological opinions and current Court orders.

### ***Proposed Action***

Under the Proposed Action Alternative, there would be no impacts to migratory birds, federally listed species or their critical habitat, or to Essential Fish Habitat, other than the pumping effects that have already been addressed (see No Action Alternative section above). Under the Proposed Action, there would be no net change in deliveries of CVP and SWP water, and the water would move only through existing facilities and be put to existing uses (or inclusions that have gone through proper environmental review beforehand). Due to the exchange, water that would normally be pumped at the Old and Middle River intakes would instead be pumped at the Banks Pumping Plant Intake Channel. Water actions associated with the SWP and CVP of this nature were addressed by the Service (2008) and by NMFS (2009). Reclamation has determined that the Proposed Action would have no effect on any federally listed or proposed species or their critical habitat beyond those previously covered. Therefore, no further consultation is required.

***Cumulative Impacts***

As the Proposed Action would result in no impacts that have not already been previously addressed, it would also not contribute cumulatively to any impacts to biological resources that would not otherwise occur.



## **Section 4 Consultation and Coordination**

### **4.1 Public Review Period**

Reclamation provided the public with an opportunity to comment on the Draft FONSI and Draft EA between August 21, 2014 and August 26, 2014. No comments were received.

## **Section 5 Preparers and Reviewers**

### **Bureau of Reclamation**

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Shauna McDonald, Wildlife Biologist, SCCAO

BranDee Bruce, Architectural Historian, MP-153

Patricia Rivera, Native American Affairs Specialist, MP-400

Ned Gruenhagen, Acting Supervisory Wildlife Biologist, SCCAO – reviewer

David E. Hyatt, Acting Resources Management Division Chief, SCCAO – reviewer

Eileen Jones, Repayment Specialist, SCCAO – reviewer

Rena Ballew, Supervisory Repayment Specialist, SCCAO – reviewer

### **Contra Costa Water District**

Lucinda Shih, Senior Water Resources Specialist – reviewer

### **Byron Bethany Irrigation District**

Rick Gilmore, General Manager – reviewer

## Section 6 References

California Natural Diversity Database (CNDDB). 2014. California Department of Fish and Wildlife. Government Edition. March 1, 2014.

National Marine Fisheries Service (NMFS). 2009. Final biological opinion and conference opinion on the long-term operations of the Central Valley Project and State Water Project. June 4, 2009.

U.S. Fish and Wildlife Service (Service). 2008. Formal Endangered Species Act consultation on the coordinated operations of the Central Valley Project and State Water Project. December 15, 2008.

U.S. Fish and Wildlife Service (Service). 2014. Federal Species List (document No. 140501073121). Website: [http://www.fws.gov/sacramento/ES\\_Species/Lists/es\\_species\\_lists-form.cfm](http://www.fws.gov/sacramento/ES_Species/Lists/es_species_lists-form.cfm).

# **Appendix A**

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## Refill Agreement

**REFILL AGREEMENT FOR  
2014 WATER TRANSFER  
FROM CONTRA COSTA WATER DISTRICT  
TO BYRON BETHANY IRRIGATION DISTRICT**

This Agreement is made as of the 28<sup>th</sup> day of August, 2014, by and between the United States Bureau of Reclamation ("Reclamation"), the California Department of Water Resources ("DWR"), and the Contra Costa Water District ("CCWD"), a public agency in the state of California.

The following refill criteria pertain to the temporary transfer of up to 4,000 acre-feet (AF) of Central Valley Project (CVP) water to Byron Bethany Irrigation District (BBID) from Contra Costa Water District (CCWD).

**RECITALS**

A. Los Vaqueros Reservoir is an off-stream reservoir owned and operated by CCWD that is filled from Delta diversions under CCWD's CVP Contract water or CCWD's Los Vaqueros water rights issued in State Water Resources Control Board Decision 1629 and Water Right orders issued on July 8, 2010.

B. CCWD is a CVP water supply contractor. CVP water can be diverted through Rock Slough, Old River, and Middle River intakes and stored in Los Vaqueros Reservoir to supply its annual CVP allocation. CVP water consists of water rediverted from upstream storage releases and direct diversions from the Delta under United States Bureau of Reclamation CVP and Orland Project water rights.

C. Los Vaqueros Project is used to manage salinity in CCWD's delivered water and to provide for an emergency supply.

D. CCWD currently maintains a monthly accounting of CVP and CCWD diversions and storage and provides them to Reclamation within 15 days of end of each month. This accounting is titled "Contra Costa Water District WATER CONTRACT MEASUREMENTS [I75r-3401, Articles 5(d) and 17(e)]."

E. In the Cooperative Agreement for the Use of Los Vaqueros Reservoir for a One-Time Storage and Exchange Demonstration Project between Byron Bethany Irrigation District and Contra Costa Water District dated June 13, 2014, BBID purchased the use of up to 4,000 acre-feet of water already held in storage in CCWD's Los Vaqueros Reservoir, previously stored under CCWD's Los Vaqueros water right.

F. There is currently no direct conveyance between Los Vaqueros Reservoir and BBID's service area.

G. The water is therefore being made available to BBID through a substitution-type transfer. In 2014 CCWD submitted a CVP delivery schedule in accordance with its annual allocation that is a combination of diversions from the Delta and releases of CVP water from Los Vaqueros Reservoir. CCWD will substitute up to 4,000 AF of this diversion from the Delta with up to 4,000 AF of releases of CCWD water from Los Vaqueros Reservoir. The 4,000 AF of CCWD's scheduled CVP diversion from the Delta water will instead be diverted by BBID at the BBID point of diversion on the intake channel to the Harvey O. Banks (Banks) pumping plant for delivery to the BBID service area. This reduction at CCWD intakes will occur on the same schedule and of the same quantity as the diversion by BBID.

H. In July 2014, Reclamation approved a transfer of up to 5,000 AF of water previously stored in Los Vaqueros Reservoir from CCWD to Alameda County Water District (ACWD). The ACWD transfer is subject to a Refill Agreement, signed July 10, 2014 by Reclamation, CCWD, and DWR.

I. The proposed transfer will result in a reduction in storage in Los Vaqueros Reservoir beyond what would have existed absent the transfer. Maximum storage in Los Vaqueros Reservoir absent transfers is 160,000 AF under normal CCWD operations. The maximum storage in Los Vaqueros Reservoir will be decreased by the amount of water transferred from storage until the conditions for refill of the vacated storage have been met. As described in the Refill Agreement for the ACWD transfer, maximum storage in Los Vaqueros Reservoir after the release of 5,000 AF for the ACWD transfer will be 155,000 AF until the conditions for refill of the storage vacated for the ACWD transfer have been met. As a result of the release of up to 4,000 AF for the transfer to BBID, maximum Los Vaqueros Reservoir storage will be further reduced by the amount of the transfer until the conditions for refill of the storage vacated for the transfer provided in this agreement have been met. To avoid impacting other water users, including the SWP and CVP, refill of the storage vacated for the transfer must occur at times when the Delta is in excess conditions, as specified in the refill criteria described below. The storage vacated by this transfer will be refilled after the storage vacated by the ACWD transfer.

J. Delta excess conditions occur when DWR and Reclamation releases from upstream reservoirs plus unregulated flow exceed the water supply needed to meet Sacramento Valley in-basin uses, Delta water quality and outflow requirements, and Delta exports, as defined in Article 3b of the Agreement Between the United States of America and the State of California for Coordinated Operations of the Central Valley Project and the State Water Project dated November 24, 1986.

K. The biological opinions on the coordinated operations of the CVP and SWP, issued to DWR and Reclamation by the United States Fish and Wildlife Service for delta smelt on December 15, 2008, and the National Marine Fisheries Service for anadromous fishes and marine mammal species on June 4, 2009 (BiOps) include restrictions on Old and Middle River flows (OMR) at certain times of the year. OMR restrictions may control CVP and SWP exports from the Delta from late December through June of each year. Additional diversions from the Delta may affect OMR flows and could impact SWP and CVP



operations.

**NOW, THEREFORE, the parties have agreed as follows:**

1. CCWD agrees to maintain an accounting of the vacated storage amount in Los Vaqueros Reservoir resulting from this transfer and the ACWD transfer.

2. For the duration of the transfer and refill period, CCWD will modify "Contra Costa Water District WATER CONTRACT MEASUREMENTS [I75r-3401, Articles 5(d) and 17(e)]" to include accounting of the transfer and refill operations in accordance with this agreement (see Exhibits 1 and 2) and the ACWD transfer refill agreement. The accounting will include separate tracking of daily storage releases substituted for reduced CVP diversions from the Delta and Los Vaqueros storage volumes absent and with this transfer and the ACWD transfer through the end of cumulative refill. Monthly accounting will be transmitted to both Reclamation and DWR.

3. CCWD agrees to refill storage vacated for this transfer and the ACWD transfer only under its Los Vaqueros water rights in compliance with term 5 on page 94 of D1629, during periods when the Delta is in excess conditions, subject to the approval of DWR and USBR. CCWD will cease refill of the vacated storage if its diversions will result in a shift from excess into balanced conditions.

4. CCWD will not refill the storage vacated for this transfer and the ACWD transfer at times when OMR flow restrictions are controlling CVP and SWP exports, or at any time when CCWD diversions to storage in Los Vaqueros Reservoir would impair the export capability at either Jones Pumping Plant or Banks Pumping Plant.

5. CCWD, Reclamation, and DWR will continue to coordinate their operations to resolve any outstanding issues of concern and to meet the operational goals of all three agencies to the maximum extent possible, pursuant to the April 28, 2011 Coordinated Operations Agreement (10-XC-20-0400) by and between U.S. Department of the Interior, Bureau of Reclamation, Mid-Pacific Region and the Contra Costa Water District for the Los Vaqueros Reservoir.

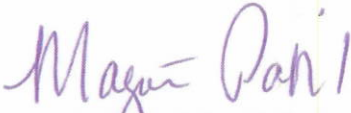
Refill Agreement for CCWD Water Transfer to BBID

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement on the date first written.

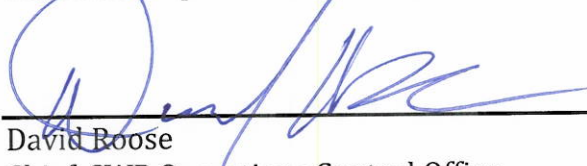
United States Bureau of Reclamation

*for*   
\_\_\_\_\_  
Ron Milligan  
Operations Manager

Contra Costa Water District

  
\_\_\_\_\_  
Marguerite Patil  
Special Assistant to the General Manager

California Department of Water Resources

  
\_\_\_\_\_  
David Roose  
Chief, SWP Operations Control Office

**EXHIBIT 1**  
**RESERVOIR RELEASE AND REFILL CRITERIA**

Seller is located in Contra Costa County and will make Transfer Water available to Buyer in 2014 by release of previously stored water in Los Vaqueros. Los Vaqueros Reservoir is an off-stream reservoir owned and operated by CCWD that is filled from Delta diversions under CCWD's CVP Contract water or CCWD's Los Vaqueros water rights issued in State Water Resources Control Board Decision 1629 and Water Right orders issued on July 8, 2010.

The following definitions and criteria apply to Seller's water transfer to Buyer:

**1. DEFINITIONS**

As used in Exhibit 1 and Exhibit 2, the following terms have the meanings set forth below.

- a. "ACWD transfer" is the transfer of up to 5,000 AF of water previously stored in Los Vaqueros Reservoir from CCWD to Alameda County Water District (ACWD). The State Water Resources Control Board issued an order approving the ACWD transfer on July 11, 2014. The ACWD transfer was approved by Reclamation in a July 31, 2014 letter to CCWD and is subject to a Refill Agreement, signed July 10, 2014 by Reclamation, CCWD, and DWR.
- b. "Actual Storage" is the observed end of day storage Los Vaqueros as reported in the Contra Costa Water District, Water Contract Measurements.
- c. "Allowable Storage" is the top of conservation storage in Los Vaqueros Reservoir, which is 160,000 acre-feet.
- d. "Balanced Conditions" means those periods when the Department of Water Resources (DWR) and US Department of the Interior's Bureau of Reclamation (Reclamation) agree that releases from upstream reservoirs plus unregulated flow approximately equals the water supply needed to meet Sacramento Valley in-basin uses plus exports, as defined in Article 3b of the "Agreement Between The United States of America And The State of California For Coordinated Operations Of The Central Valley Project And The State Water Project" (COA) dated November 24, 1986.
- e. "Baseline Release" means the mean daily release from Los Vaqueros Reservoir that would have been made by Contra Costa Water District absent this transfer and the ACWD transfer.
- f. "Delta E/I Ratio" is identified in the State Water Resources Control Board's (SWRCB) Decision 1641 (D1641) and may be controlling Project exports from the Delta.



**EXHIBIT 1**  
**RESERVOIR RELEASE AND REFILL CRITERIA**

- g. "Excess Conditions" means periods when releases from upstream reservoirs plus unregulated flow exceed the water supply needed to meet Sacramento Valley in-basin uses, Delta water quality and outflow requirements and Delta exports, as defined in the COA.
- h. "OMR Flow Criteria" is identified in the Biological Opinions for Salmon and Delta Smelt and may be controlling Project exports from the Delta during the months of December through June of each year.
- i. "Point of Transfer" refers to the location where CVP makes available the Transfer Water to BBID.
- j. "Projects" means the federal Central Valley Project (CVP) and the California State Water Project (SWP).
- k. "Refill Impacts" mean the quantity of water accumulated in the storage vacated by the transfer during periods when the Delta is in Balanced Conditions or the Delta is in Restricted Conditions that would not have been diverted to storage by Seller had the transfer not occurred.
- l. "Refill Period" means the period extending from the cessation of Seller releases of Transfer Water until the Transfer and Cumulative Refill Impact Account Balances (End of Day) equal zero.
- m. "Restricted Conditions" means periods when the Delta is in Excess Conditions but Projects' operations are constrained by the following circumstances included in the Biological Opinions and the SWRCB's D1641 governing the Projects' operations in the Delta:
  - (1) during December through June, when OMR Flow Criteria is limiting Project exports from the Delta (for the purpose of this Exhibit 1 and Exhibit 2, it is assumed that 50% of the flow in the San Joaquin River tracks into the Old River and the Middle River),
  - (2) during April and May, when the daily flow measured in the San Joaquin River at Vernalis is between 6,000 cfs and 21,750 cfs, and Project exports from the Delta are limited by the San Joaquin River I/E Ratio ranging between 1:1 and 4:1 or
  - (3) during February through June, when the Delta E/I Ratio is 35%, and during July through January, when the Delta E/I Ratio is 65% or such variations in percentages as provided for in the SWRCB's D1641.

**EXHIBIT 1**  
**RESERVOIR RELEASE AND REFILL CRITERIA**

- n. "San Joaquin River I/E Ratio" is identified in the Biological Opinion for Salmon and may be controlling Project exports from the Delta during the months of April and May of each year.
  - o. "Theoretical Storage" is the sum of Actual Storage plus the Transfer Account Balance.
  - p. "Transfer Period" means when Seller will make Transfer Water available to Buyer at the Point of Transfer. Export of the Transfer Water will begin approximately 1 day from the date the Seller makes water available at the Point of Transfer.
  - q. "Transfer Account Balance" reflects the quantity of Transfer Water released and the vacated storage refill as provided in Exhibit 2. Transfer Account Balance shall distinguish Transfer Water and Refill Impacts by individual transfer implemented by Seller
  - r. "Vacated Storage" refers to the amount of storage in Los Vaqueros Reservoir that is vacated as a result of this transfer and the ACWD transfer.
- 2. The Point of Transfer will be CCWD's Old River Intake or Middle River Intake on Victoria Canal, and will be measured as releases from Los Vaqueros Reservoir made in lieu of direct diversions to CCWD's service area.
  - 3. Seller shall make up to 4,000 acre-feet of Transfer Water available for release from Los Vaqueros Reservoir during the Transfer Period. The Maximum Transfer Amount is 4,000 acre-feet. The schedule of releases by Seller will be provided to DWR and Reclamation prior to the Transfer Period. Any change to the schedule will be provided to DWR and Reclamation, together with the reason for the change. The effect of the change upon the transfer releases, if any, shall be agreed upon by DWR, Reclamation, and Seller. By the 10th day of every month, Seller will submit to DWR and Reclamation the actual release data for the previous month. No losses will be applied to this transfer water conveyed under this agreement. The amount of Transfer Water made available to Buyer shall be the gross amount measured at the Point of Transfer on the Old or Middle River, up to 4,000 acre-feet. For example, if the maximum quantity of 4,000 acre-feet is made available at the Point of Transfer, and with no loss, this results in a net amount of Transfer Water of 4,000 acre-feet at the points of rediversion.
  - 4. The release of Transfer Water shall be in addition to amounts otherwise scheduled to be released by Seller from Los Vaqueros Reservoir including, but not limited to required in-stream flows in the Kellogg Creek, water provided under the terms of any settlement agreements, regulatory requirements and any other water transfers made by Seller.

**EXHIBIT 1**  
**RESERVOIR RELEASE AND REFILL CRITERIA**

5. The amounts of Transfer Water made available shall be the difference between the measured releases from Los Vaqueros Reservoir and the Baseline Release, computed as a volume of water during the Transfer Period, up to 4,000 acre-feet as measured at the Point of Transfer.
6. For purposes of verification of Transfer Water made available and to receive full credit, Seller will draw down Los Vaqueros to a storage of 4,000 acre-feet or less below the storage absent this transfer and the ACWD transfer, subject to the terms of this Exhibit 1 and Exhibit 2.



**EXHIBIT 2**  
**RESERVOIR REFILL IMPACTS ACCOUNTING PROCEDURES**

Contra Costa Water District agrees that the refilling of Los Vaqueros storage vacated for water transfers may adversely impact the operations of the CVP and SWP. Refill occurs when the daily Theoretical Storage goes above the Allowable Storage. The refilling of Los Vaqueros Reservoir for this transfer and the ACWD transfer will impact the Projects if it occurs when either 1) the Delta is in Balanced Conditions; or, 2) the Delta is in Restricted Conditions.

1. In the event DWR and/or Reclamation determine that there is a refill impact to the CVP and/or the SWP, CCWD agrees to not divert water to refill the Vacated Storage in Los Vaqueros Reservoir. Such a cessation of diversion to storage shall occur as soon as practicable, and on a schedule coordinated with Reclamation and DWR to avoid impacts. When there is a change in the Projects' operating conditions and CCWD is not filling Los Vaqueros Reservoir to avoid refill impacts associated with the quantity of Transfer Water released, then DWR and/or Reclamation shall notify CCWD of the changed conditions by telephone followed by written notice, electronic mail, or facsimile; and CCWD shall be allowed to divert water to storage within 48 hours of telephone notification.
2. DWR and Reclamation coordinate operations under the terms of the COA.
3. The accounting procedure provided below, incorporating the concepts in this Exhibit, is to be used in tracking the refill of Vacated Storage in Los Vaqueros Reservoir in order to avoid impacts on the Projects. General principles in this Exhibit are to be applied in accounting for any unusual operational conditions not set forth in the application example.
4. CCWD will not conduct another water transfer that could impair CCWD's ability to fully comply with this Agreement.

The following columnar description sets forth the format, criteria, and procedures to be used for the determination of combined impacts to the Projects due to changes in refilling Los Vaqueros caused by the water transfer under this Agreement and the ACWD transfer. An example of the application is attached.

**COLUMNAR DESCRIPTION<sup>1</sup>**

Column 1 – Date

Column 2 – Actual Storage: observed end-of-day storage as reported

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<sup>1</sup> Where the Current Day's computation is dependent upon the Previous Day's data: <sub>i</sub> signifies the Current Day and <sub>i-1</sub> signifies the Previous Day.

**EXHIBIT 2**  
**RESERVOIR REFILL IMPACTS ACCOUNTING PROCEDURES**

- Column 3 – ACWD Transfer Account Balance, End of Day: Transfer Account Balance at end of current day.  
**Column 3<sub>i</sub> = Column 3<sub>i-1</sub> - Column 7<sub>i</sub> if Column 3<sub>i-1</sub> is greater than zero, and Column 3<sub>i</sub> = zero otherwise**
- Column 4 – BBID Transfer Account Balance, End of Day: Transfer Account Balance at end of current day.  
**Column 4<sub>i</sub> = Column 4<sub>i-1</sub> - Column 7<sub>i</sub> if Column 3<sub>i-1</sub> is zero, and Column 4<sub>i</sub> = Column 4<sub>i-1</sub> otherwise**
- Column 5 – Theoretical Storage, With Daily Refill Volume: end of day storage as would have occurred absent the water transfers.  
**Column 5<sub>i</sub> = Column 2<sub>i</sub> + Column 3<sub>i</sub> + Column 4<sub>i</sub>**
- Column 6 – Baseline Daily Filling: filling in the current day that would have occurred absent the transfers.  
**Column 6<sub>i</sub> = Column 2<sub>i</sub> - Column 2<sub>i-1</sub> but not less than zero when Column 2<sub>i</sub> is less than or equal to 160,000 acre-feet - (Column 3<sub>i-1</sub> + Column 4<sub>i-1</sub>), and Column 6<sub>i</sub> = 160,000 acre-feet - Column 5<sub>i-1</sub> otherwise**
- Column 7 – Daily Refill Volume: amount of Transfer Water refilled on the current day.  
**Column 7<sub>i</sub> = Column 2<sub>i</sub> - Column 2<sub>i-1</sub> - Column 6<sub>i</sub> but not less than zero**
- Column 8 – Cumulative Refill Volume: total volume of Transfer Water that has been refilled through end of current day.  
**Column 8<sub>i</sub> = Column 8<sub>i-1</sub> + Column 7<sub>i</sub>**
- Column 9– Delta Condition: “B” indicates that the Delta is in Balanced Conditions, “R” indicates that the Delta is in Restricted Conditions, “E” indicates that the Delta is in Excess Conditions. (Source: Reclamation, DWR, <http://www.usbr.gov/mp/cvo/vungvari/coanew.pdf>, and <http://www.water.ca.gov/swp/operationscontrol/docs/delta/DeltaWQ.pdf>)  
Note: this information need only be included in table when refill is occurring.



**EXHIBIT 2**  
**RESERVOIR REFILL IMPACTS ACCOUNTING PROCEDURES**

Hypothetical example of accounting of CCWD Refill of Vacated Storage

| 1          | 2                               | 3  | 4  | 5  | 6                           | 7                        | 8                             | 9                |
|------------|---------------------------------|--|--|--|-----------------------------|--------------------------|-------------------------------|------------------|
| Date       | Actual Storage, End of Day (AF) | ACWD Transfer Account Balance, End of Day (AF) | BBID Transfer Account Balance, End of Day (AF) | Theoretical Storage, With Daily Refill Volume, End of Day (AF) | Baseline Daily Filling (AF) | Daily Refill Volume (AF) | Cumulative Refill Volume (AF) | Delta Condition  |
| 12/23/2016 | 152,700                         | 5,000  | 2,000  | 159,700  | 300                         | 0                        | 0                             |                  |
| 12/24/2016 | 153,000                         | 5,000  | 2,000  | 160,000  | 300                         | 0                        | 0                             |                  |
| 12/25/2016 | 153,000                         | 5,000  | 2,000  | 160,000  | 0                           | 0                        | 0                             | Balanced         |
| 12/26/2016 | 153,000                         | 5,000  | 2,000  | 160,000  | 0                           | 0                        | 0                             | Restricted (OMR) |
| 12/27/2016 | 153,000                         | 5,000  | 2,000  | 160,000  | 0                           | 0                        | 0                             | Restricted (OMR) |
| 12/28/2016 | 153,300                         | 4,700  | 2,000  | 160,000  | 0                           | 300                      | 300                           | Excess           |
| 12/29/2016 | 153,600                         | 4,400  | 2,000  | 160,000  | 0                           | 300                      | 600                           | Excess           |
| 12/30/2016 | 153,900                         | 4,100  | 2,000  | 160,000  | 0                           | 300                      | 900                           | Excess           |
| 12/31/2016 | 154,200                         | 3,800  | 2,000  | 160,000  | 0                           | 300                      | 1,200                         | Excess           |
| 1/1/2017   | 154,500                         | 3,500  | 2,000  | 160,000  | 0                           | 300                      | 1,500                         | Excess           |
| 1/2/2017   | 154,800                         | 3,200  | 2,000  | 160,000  | 0                           | 300                      | 1,800                         | Excess           |
| 1/3/2017   | 155,100                         | 2,900  | 2,000  | 160,000  | 0                           | 300                      | 2,100                         | Excess           |
| 1/4/2017   | 155,400                         | 2,600  | 2,000  | 160,000  | 0                           | 300                      | 2,400                         | Excess           |
| 1/5/2017   | 155,700                         | 2,300  | 2,000  | 160,000  | 0                           | 300                      | 2,700                         | Excess           |
| 1/6/2017   | 156,000                         | 2,000  | 2,000  | 160,000  | 0                           | 300                      | 3,000                         | Excess           |
| 1/7/2017   | 156,000                         | 2,000  | 2,000  | 160,000  | 0                           | 0                        | 3,000                         |                  |
| 1/8/2017   | 156,000                         | 2,000  | 2,000  | 160,000  | 0                           | 0                        | 3,000                         |                  |
| 1/9/2017   | 155,800                         | 2,000  | 2,000  | 159,800  | 0                           | 0                        | 3,000                         |                  |
| 1/10/2017  | 155,600                         | 2,000  | 2,000  | 159,600  | 0                           | 0                        | 3,000                         |                  |
| 1/11/2017  | 155,400                         | 2,000  | 2,000  | 159,400  | 0                           | 0                        | 3,000                         |                  |
| 1/12/2017  | 155,200                         | 2,000  | 2,000  | 159,200  | 0                           | 0                        | 3,000                         |                  |
| 1/13/2017  | 155,000                         | 2,000  | 2,000  | 159,000  | 0                           | 0                        | 3,000                         |                  |
| 1/14/2017  | 155,300                         | 2,000  | 2,000  | 159,300  | 300                         | 0                        | 3,000                         | Excess           |
| 1/15/2017  | 155,600                         | 2,000  | 2,000  | 159,600  | 300                         | 0                        | 3,000                         | Excess           |
| 1/16/2017  | 155,900                         | 2,000  | 2,000  | 159,900  | 300                         | 0                        | 3,000                         | Excess           |
| 1/17/2017  | 156,200                         | 1,800  | 2,000  | 160,000  | 100                         | 200                      | 3,200                         | Excess           |
| 1/18/2017  | 156,500                         | 1,500  | 2,000  | 160,000  | 0                           | 300                      | 3,500                         | Excess           |
| 1/19/2017  | 156,800                         | 1,200  | 2,000  | 160,000  | 0                           | 300                      | 3,800                         | Excess           |
| 1/20/2017  | 157,100                         | 900  | 2,000  | 160,000  | 0                           | 300                      | 4,100                         | Excess           |
| 1/21/2017  | 157,400                         | 600  | 2,000  | 160,000  | 0                           | 300                      | 4,400                         | Excess           |
| 1/22/2017  | 157,700                         | 300  | 2,000  | 160,000  | 0                           | 300                      | 4,700                         | Excess           |
| 1/23/2017  | 158,000                         | 0  | 2,000  | 160,000  | 0                           | 300                      | 5,000                         | Excess           |
| 1/24/2017  | 158,300                         | 0  | 1,700  | 160,000  | 0                           | 300                      | 5,300                         | Excess           |
| 1/25/2017  | 158,600                         | 0  | 1,400  | 160,000  | 0                           | 300                      | 5,600                         | Excess           |
| 1/26/2017  | 158,900                         | 0  | 1,100  | 160,000  | 0                           | 300                      | 5,900                         | Excess           |
| 1/27/2017  | 159,200                         | 0  | 800  | 160,000  | 0                           | 300                      | 6,200                         | Excess           |
| 1/28/2017  | 159,500                         | 0  | 500  | 160,000  | 0                           | 300                      | 6,500                         | Excess           |
| 1/29/2017  | 159,800                         | 0  | 200  | 160,000  | 0                           | 300                      | 6,800                         | Excess           |
| 1/30/2017  | 160,000                         | 0  | 0  | 160,000  | 0                           | 200                      | 7,000                         | Excess           |

## **Appendix B**

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### Reclamation's Cultural Resources Determination

# **CULTURAL RESOURCE COMPLIANCE**

## **Reclamation Division of Environmental Affairs**

### **MP-153**

**MP-153 Tracking Number:** 14-SCAO-260

**Project Name:** Contra Costa Water District (CCWD) Transfer to Byron Bethany Irrigation District (BBID)

**NEPA Document:** EA-14-041

**NEPA Contact:** Rain Emerson, Natural Resource Specialist

**MP 153 Cultural Resources Reviewer:** BranDee Bruce, Architectural Historian

**Date:** 07/28/2014

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Reclamation proposes to authorize the transfer of up to 4,000 acre-feet (AF) of Central Valley Project (CVP) water from CCWD to BBID. This is the type of undertaking that does not have the potential to cause effects to historic properties, should such historic properties be present, pursuant to the National Historic Preservation Act (NHPA) Section 106 regulations codified at 36 CFR Part 800.3(a)(1).

The Proposed Action is for Reclamation to authorize the transfer of 4,000 AF of CVP water from CCWD to BBID. BBID purchased 4,000 AF of CCWD's water stored in Los Vaqueros Reservoir for use during this drought year. Since there is no direct conveyance mechanism to deliver water from Los Vaqueros to BBID's distribution system, CCWD will take up to 4,000 AF of CVP water stored in Los Vaqueros Reservoir and BBID, in return, will take up to 4,000 AF of CCWD's CVP water from the Delta through an existing diversion point at Harvey O. Banks Pumping Plant (Banks Intake Channel). Existing facilities will be used to transfer the water and no ground disturbance, new construction, or modification to existing facilities of any type will occur for this undertaking.

After reviewing the materials submitted by SCAO, I concur with EA-14-041 that the Proposed Action would not have significant impacts on properties listed, or eligible for listing, on the National Register of Historic Places as determined by Reclamation. With this determination, Reclamation has no further NHPA Section 106 obligations. This memorandum is intended to convey the completion of the NHPA Section 106 process for this undertaking. Please retain a copy in the administrative record for this action. Should changes be made to this project, additional NHPA Section 106 review, possibly including consultation with the State Historic Preservation Officer, may be necessary. Thank you for providing the opportunity to comment.

CC: Cultural Resources Branch (MP-153), Anastasia Leigh – Regional Environmental Officer (MP-150)



## **Appendix C**

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### Reclamation's Indian Trust Assets Determination



Emerson, Rain &lt;remerson@usbr.gov&gt;

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**Fwd: EA-14-041 for Review**

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**RIVERA, PATRICIA** <privera@usbr.gov>  
To: Rain Emerson <remerson@usbr.gov>

Mon, Jul 28, 2014 at 3:29 PM

Please use this determination-had a clerical error in the typing and needed to correct previous email of seconds ago. Sorry for the inconvenience.

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Rain,

I reviewed the proposed action to authorize the transfer of up to 4,000 acre-feet (AF) of Central Valley Project (CVP) water from Contra Costa Water District (Contra Costa) to Byron-Bethany Irrigation District (Byron-Bethany). The transfer would be executed as follows:

Contra Costa would take delivery of up to 4,000 AF of CVP water currently stored in Los Vaqueros Reservoir. The water would be delivered to in-district customers for use and would count towards its CVP allocation. In return, Byron-Bethany would take delivery of up to 4,000 AF of Contra Costa's CVP water from the Delta.

Contra Costa's normal points of diversion for its CVP water are at its Old River Intake and Middle River Intake at Victoria Canal. Under the Proposed Action, the water would instead be diverted by Byron-Bethany to its CVP service area (excepting the Tracy Hills area) at Byron-Bethany's point of diversion on the intake channel of the Harvey O. Banks Pumping Plant (Banks Intake Channel).

Contra Costa's other normal point of diversion of CVP water, Rock Slough, will be shut down for construction during the period of the transfer.

The proposed action does not have a potential to impact Indian Trust Assets.

Patricia Rivera  
Native American Affairs Program Manager  
US Bureau of Reclamation  
Mid-Pacific Region  
2800 Sacramento, California 95825