

RECLAMATION

Managing Water in the West

Environmental Assessment

Transfer of Base Supply and Central Valley Project Water by Glenn-Colusa Irrigation District to the Colusa Drain Mutual Water Company

EA-13-01- NCAO



**U.S. Department of the Interior
Bureau of Reclamation
Mid Pacific Region
Northern California Area Office
Shasta Lake City, California**

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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

In conformance with the National Environmental Policy Act of 1969 (NEPA), as amended, the Bureau of Reclamation (Reclamation) has prepared this draft Environmental Assessment (EA) to evaluate and disclose any potential impacts of approving a request by Glenn-Colusa Irrigation District (GCID) to transfer up to 45,000 acre-feet (af) of water to the Colusa Drain Mutual Water Company (Company)(Figure 1). The GCID believes it can meet this request with a combination of Base Supply and Project Water, as defined in Contract No. 14-06-200-855A-R-1 (Contract 855A) between GCID and Reclamation. In accordance with the terms of a transfer agreement or agreements (Transfer Agreement), GCID proposes to provide this water to the Company for lands outside GCID's boundaries, but that are within the same sub-basin as GCID's lands, and are either contiguous to GCID's boundaries, or otherwise conveniently served from the Colusa Basin Drain (Colusa Drain). Transfers would occur from June through September for a period of up to five years (2013 through 2017). Under the terms of Contract 855A, the GCID must obtain Reclamation written consent to such transfers.

1.1 Background

Since about 1999, Reclamation has approved similar transfers between GCID and the Company. Transfers of up to 30,000 af of water, comprised of up to 15,000 af of Base Supply and up to 15,000 af of Central Valley Project (CVP or Project) Water, were approved from 1999 through 2004. For the period 2005 through 2010 transfers of up to 35,000 af, comprised of up to 15,000 af of Base Supply and up to 20,000 af of Project water were approved. Contract 855A provides for the diversion of water from the Sacramento River for use within a defined service area and addresses GCID's diversion of both Base Supply and Project Water. Base Supply is the quantity of water that GCID may divert for its use within a defined service area each month, during the period April through October of each year without payment to the United States. Under Contract 855A, the Base Supply and Project Water supply is reduced during a critical year, which is defined in the contract. In non-critical years, GCID may divert its full contractual allocation of Base Supply and Project Water for use on the lands designated under the contract.

The Company's diversions from the Colusa Drain, which is hydrologically connected to the Sacramento River, are subject to payment for Project Water under the terms of its contract with the United States, Contract Number 8-07-20-W0693-R-1 (Contract W0693). Under this contract, Reclamation is paid for a percentage of all water diverted from the Colusa Drain during certain months (June through September) when most, if not all, of the flows in the Colusa Drain are comprised of irrigation return flows from upstream Sacramento River diversions, including those of GCID. Absent diversions from the Colusa Drain, such return flows, which represent a mixture of Project Water and Base Supply, would reach the Sacramento River and be used to satisfy the prior rights of senior downstream water right holders. Therefore, the Company would reimburse Reclamation for Project Water releases from Shasta Reservoir to replace that portion of the diverted water and used in accordance with Contract W0693. This protects downstream prior right holders along the Sacramento River below the confluence of the Drain and the Sacramento River, and in the Sacramento-San Joaquin Delta, one of which is the United States.

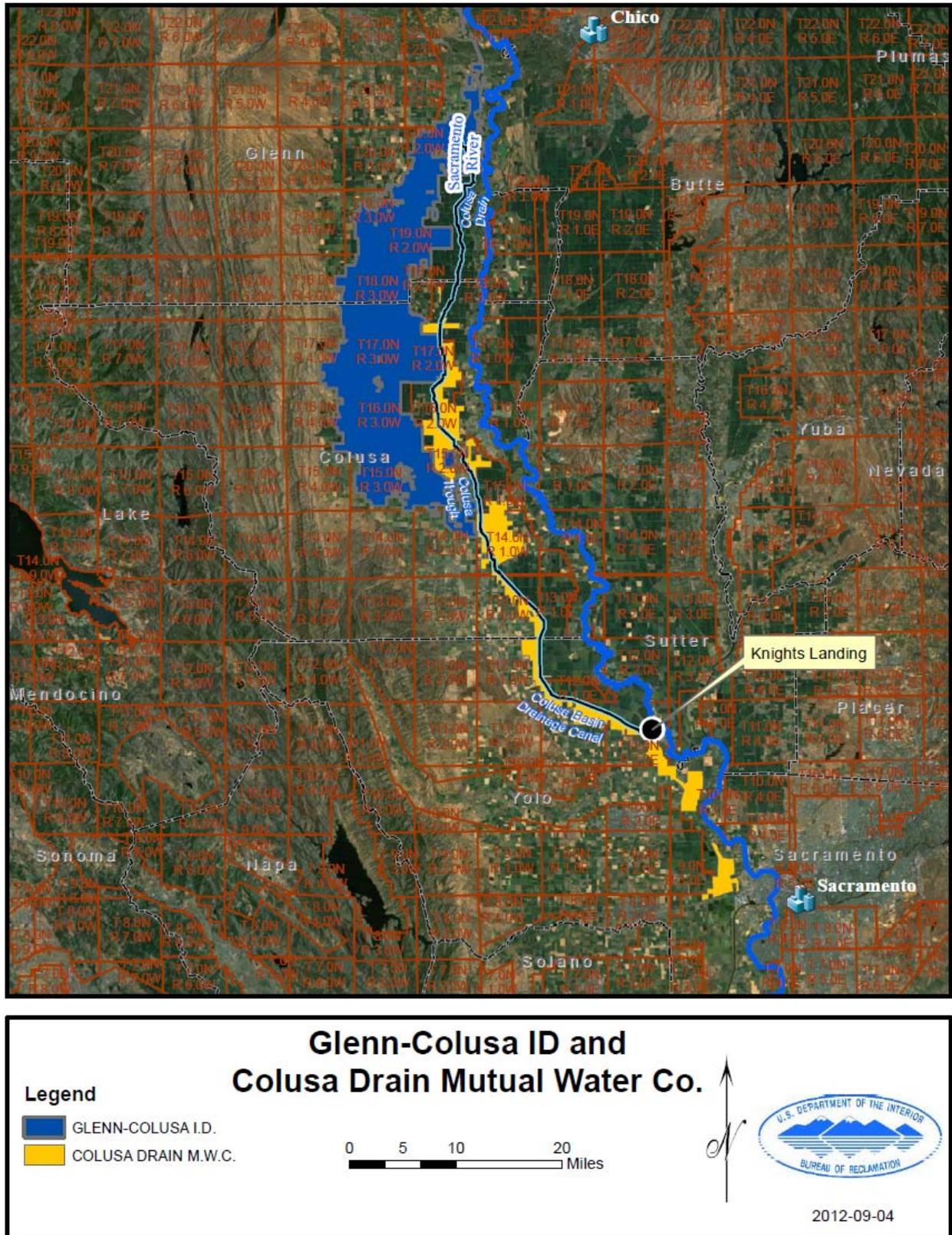


Figure 1. Service areas of the Colusa Drain MWC and the Glen Colusa Irrigation District.

Because the water the Company would divert under the proposed transfer would be water which was diverted from the Sacramento River as part of GCID's Base Supply and Project Water, no payment would be owed the United States for the consumptive use of such diversions under the terms of Contract W0693.

1.2 Need for the Proposal

The proposed Federal action is for Reclamation to consent to the annual transfer of Base Supply and Project Water from GCID for the present consumptive use of agriculture by landholders in the Company. Under Contract 855A, GCID is required to obtain Reclamation's prior written consent before it can transfer Base Supply and Project Water pursuant to the proposed Transfer Agreement with the Company.

Due to water management methods implemented by upstream districts that divert water from the Sacramento River, irrigation return flows in the Colusa Drain have decreased dramatically. The reductions in flow to Colusa Drain continue to result in deficiencies in water supply and water quality that negatively influence agricultural crop productivity on lands within the Company.

1.3 Resources Not Analyzed in Detail

Reclamation analyzed the affected environment of the No Action and Proposed Action Alternatives and has determined that there are no potential direct, indirect, or cumulative effects to the following resources:

- **Cultural Resources:** There would be no impacts to cultural resources under either the No Action or Proposed Action alternative as conditions would remain the same as existing conditions, and flow would continue to be transported from the Drain, through existing infrastructure where available. No new construction or ground disturbing activities would occur as part of the Proposed Action as only existing irrigable lands would be used. These activities have no potential to cause effects to historic properties pursuant to 36 CFR Part 800.3(a)(1).
- **Air Quality:** There would be no impacts to air quality under the No Action Alternative as conditions would remain the same as existing conditions. Groundwater pumping from wells would continue to be used in the absence of acquired surface water from GCID.

Under the Proposed Action, water supplies would move from GCID to the Company either via gravity or electric pumps which would not produce emissions that impact air quality. Therefore, a conformity analysis would not be required and there would be no effect as a result of the Proposed Action.

- **Global Climate:** Neither the Proposed Action nor the No Action Alternative would involve physical changes to the environment or construction activities and, therefore, would not impact global climate change. Greenhouse gases generated from implementation of the Proposed Action Alternative are expected to be small because gravity, and to a lesser extent electrical pumps that can produce carbon dioxide, would be used to transport transfer water from the river to canals and to lands to be irrigated. While

electrical pumps can generate carbon dioxide, the water being pumped for the transfer of up to 45,000 af of water would be. Consequently, the Proposed Action Alternative would not have an adverse affect to global climate change.

- **Indian Trust Assets:** Indian Trust Assets would not be affected by the proposed action. No Indian lands, public domain allotments, or other resources that could be considered Indian Trust Assets, are affected by the Proposed Action Alternative. The nearest ITA is the Santa Rosa Rancheria is located approximately 23 miles due east of the Proposed Action Alternative area.
- **Indian Sacred Sites:** Reclamation has determined that there would be no impacts to Indian sacred sites as a result of the Proposed Action Alternative because it would not affect the physical integrity of sacred sites or limit access to and ceremonial use of Indian sacred sites.

1.4 Resources Requiring Further Analysis

- Land Use Resources
- Water Resources
- Biological Resources
- Environmental Justice
- Socioeconomic Resources

Section 2 Alternatives Including the Proposed Action

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

2.1 No Action Alternative

The No Action Alternative would consist of Reclamation not consenting to GCID's transfer of Base Supply and Project Water to the Company. Under this alternative GCID may or may not choose to change its water management practices which results in two possible scenarios:

- Scenario 1: If GCID chose not to implement additional water management actions the flow in the Colusa Drain would remain at or near historical levels and the Company could make payment to Reclamation for its Supplemental water needs under Contract W0693.
- Scenario 2: Alternatively, if GCID chose to implement its proposed water management measures such as increased recycling of drainage water, it could result in less water available in the Colusa Drain requiring the Company to acquire water from local groundwater sources and/or purchase of water from willing sellers.

2.2 Proposed Action

The Proposed Action is to consent to GCID's proposal to the annual transfer of up to 45,000 af of water, comprised of up to 30,000 af of Project Water and up to 15,000 af of Base Supply water, to the Company annually from June through September, commencing with contract year 2013 and continuing through contract year 2017.

Under the proposed Transfer Agreement, each year GCID would inform the Company how much Base Supply and Project Water is expected to be available for purchase by the Company on a monthly basis during the upcoming irrigation season. Monthly quantities could change at the sole discretion of GCID at any time during the irrigation season. GCID would deliver transfer water through existing drainage locations to the Colusa Drain, pursuant to Contract 855A, and in accordance with water availability terms and conditions as identified in the Transfer Agreement between GCID and the Company.

The Proposed Action Alternative is subject to the following conditions:

- Transferred water, and runoff from Company lands, will comply with all federal, state, local and tribal law, and requirements imposed for protection of the environment and Indian Trust Assets;
- The water would not be used to place untilled (within three years) or new lands into agricultural production, or to convert undeveloped land to other uses;
- The existing drainage facilities are adequate for the transferred water;
- The Proposed Action Alternative will not interfere with the normal CVP operations;
- The Proposed Action Alternative will not require the construction of any new water conveyance, pumping, diversion, recharge, storage or recovery facilities;
- The Company will be prohibited from selling, exchanging, or otherwise disposing of the transferred water, except to a water user within the Company's Service Area, without the prior written consent of Reclamation; and
- This transfer action will be subject to CEQA review.

Section 3 Affected Environment & Environmental Consequences

This section identifies the potentially affected environment and the environmental consequences involved with the Proposed Action and the No Action alternatives.

3.1 Land Use Resources

Affected Environment

Glenn-Colusa Irrigation District

GCID is a public agency located in Glenn and Colusa Counties, California and is the largest water district in the Sacramento River Valley. Located approximately 80 miles north of Sacramento, the district boundaries cover approximately 175,000 acres (Figure 1). Of this total, approximately 153,000 acres are deeded property and of these, 138,800 are irrigable. An additional 22,500 acres of US Fish and Wildlife Service (FWS) Refuge land and 5,000 acres of private habitat exist within the service areas of the district. Rice is the predominant crop although irrigation supports other important crops including tomatoes, vineseeds, cotton, alfalfa, and irrigated pasture.

GCID holds a pre-1914 claim of water right to the natural flow of the Sacramento River. Changes in the place of use under a pre-1914 water right are not subject to approval by the State Water Resources Control Board, and are permitted under California law, provided other legal users of the water, or the environment, are not injured by such change. To ensure such injuries do not occur, in years when GCID transfers Base Supply to the Company, the total number of acres which can be irrigated by GCID with water diverted from the Sacramento River under Contract 855A-R-1 shall be limited to a total of not more than 126,918 acres. This acreage limitation is inclusive of all acreage irrigated within GCID's service area, acreage irrigated with Base Supply under GCID's transfer agreement with the Company, and all contiguous lands irrigated with Base Supply under GCID's In-Basin Water Transfer Program. If GCID irrigates more land than 126,918 acres, the amount of Base Supply available for transfer will be reduced. This limitation has been included in former transfer agreements with GCID to prevent injury to other legal water users and the environment.

Colusa Drain Mutual Water Company

The Company is located in the central portion of the Sacramento Valley, to the west of the Sacramento River. The boundaries of the Company encompass approximately 57,500 total acres within Glenn, Colusa, and Yolo Counties extending from approximately eight miles northeast of the town of Willows to the Yolo Causeway near West Sacramento (Figure 1). The boundaries include those lands which divert or may divert water from the Colusa Drain and its tributaries for irrigation purposes and that are not within the pre-existing boundaries of neighboring water districts. All of the lands are either served or are capable of being served water from the Colusa Drain or a tributary for irrigation. Water has been diverted for many years to these lands; therefore, the diversion and distribution facilities are currently in place. There will be no need

for the Company or its shareholder/members to construct any new facilities in order to deliver water under the Agreement.

The areas eligible to receive water for irrigation under the Proposed Action Alternative include all lands within the Company, and are either contiguous to GCID's service area or otherwise conveniently served from the Colusa Drain. The eligibility of lands within the Company to receive transfer water would be subject to the condition that the transfer water would not be used to place land untilled for up to three years or new lands into agricultural production, or to convert undeveloped land to other uses. It is expected that the acreage that would receive transfer water would be planted primarily to rice.

Environmental Consequences

No Action

The effects of the No-Action Alternative, if any, would depend if GCID changes any practices related to its historical use and diversion under its contract. If GCID chose not to implement additional water management actions that would reduce flow in the Colusa Drain, agricultural practices would remain at or near historical levels (Scenario 1). The result would be little if any change to historical land use.

Alternatively, if GCID chose to implement its proposed water management measures such as increased recycling of drainage water, it could result in less water available in the Colusa Drain (Scenario 2). In this case, the Company would acquire other water sources such as groundwater or purchase of water from other willing sellers. The cost to obtain and convey water from these alternative sources would likely be higher than under the proposed Transfer Agreement. Additionally, the use of this water could result in increased salinity of water and the lands to receive them. As a result, continued use of these alternative sources could decrease the productivity of the land or be cost prohibitive, which would result in land fallowing.

Proposed Action

Under the Proposed Action Alternative, there would be no new construction or excavation. Native or untilled land (fallow for three years or more) would not be cultivated and irrigated with transfer water. The Proposed Action Alternative would not increase or decrease water supplies that would result in a change in land development. Additionally, the Company would be prohibited from selling, exchanging, or otherwise disposing of the transferred water, except to a water user within the Company's Service Area, without the prior written consent of Reclamation. In summary, current land use would be maintained under the Proposed Action Alternative.

3.2 Water Resources

Affected Environment

Glenn-Colusa Irrigation District

GCID has a Settlement Contract with Reclamation for up to 720,000 af of Base Supply and 105,000 af of Project Water. In critical years as defined in Contract 855A, the total supply is reduced by 25%, to a total of 618,750 af. Project Water is typically diverted in July and August.

Groundwater wells within the Service Area of GCID can account for up to 85,000 af of water, of which 60,000 af are acquired from private wells and the remainder from GCID wells.

The GCID diverts up to 3,000 cubic feet per second of water at the Hamilton City pump station located approximately 100 miles north of Sacramento. Diverted flow passes through fish screens and is pumped into GCID's main canal. From the main canal, water flows through a variety of irrigation canals for eventual use on irrigable lands. Return flow from these irrigable lands eventually drain to the Colusa Drain for eventual recycling by downstream water users, including the Company.

Colusa Drain Mutual Water Company

The surface water supply available to the Company consists solely of the Colusa Drain and its tributaries. The Colusa Drain is an earthen drainage channel approximately 70 miles long beginning in Willows, California, near the Sacramento River (River) and extending southerly flowing into the Sacramento River via the Knights Landing outfall gates at the River and Yolo Bypass via the Knights Landing Ridge Cut. The Knights Landing Ridge Cut represents a 7-mile extension. The major water source during the irrigation season is return flow or drainage water from districts in the northern part of the Colusa Basin that divert water from the Sacramento River and discharge their return water to the Colusa Drain. Some natural runoff from tributaries to the Colusa Drain occurs, particularly in the early spring months. The water within the Colusa Drain is continually reused as it flows from the northern portion to the southern portion of the Company's Service Area. The increased use of this water typically results in higher salinities. The GCID is the largest single contributor of return flow to the Colusa Drain.

Environmental Consequences

No Action Alternative

The effects of the No-Action Alternative on water resources, if any, would depend wholly upon GCID's actions. If GCID chose not to implement additional water management actions, which allows additional return flow to the Colusa Drain, the flow in the Colusa Drain would remain at or near historical levels (Scenario 1). As a consequence, there would be no effect to water resources and the only thing that would change is that the Company could be liable for its payment to Reclamation for its "exchange supply" under Contract W0693.

Alternatively, if GCID chose to implement its proposed water management measures it could result in less water diverted from the Sacramento River (Scenario 2). Such measures also would likely result in a reduction in flow in the Colusa Drain. In this case, the Company would use other means of acquiring water to meet their needs that include use of groundwater from areas within the bounds of the Company's Service Area and/or purchasing water from other willing sellers. Continued use of these water sources, however, could increase salinity levels that would eventually lead to land fallowing.

Proposed Action

It is the underlying condition in the Transfer Agreement of the Proposed Action that, whenever transfers of Base Supply occurs, that there will be no increase in the total number of acres irrigated, or increase in the quantity of water used over what could have occurred within the district in any given year, absent the transfer. In complying with this limitation, there would be

no increase in irrigated acres, and therefore the quantity of water used within GCID's Service Area. Therefore, it is assumed there would be no change in the quantity of water diverted by GCID, or in the amount of return flows from such diversions whether the water is used within GCID or on other lands outside the district that may be eligible for transfer water. In summary, whether GCID uses the Base Supply within the district, or on eligible lands outside the district, the depletion of this water source, as a whole, would remain the same.

Under the Proposed Action there would be an increase in flow of the Colusa Drain. Assuming the full 45,000 af is transferred evenly over the June through September period, the proposed transfer would add about 186 cfs to the flow of the Colusa Drain. Accounting for evapo-transpiration and canal loss at 50%, the estimate of maximum flow that would enter the Sacramento River as return flow would be approximately 93 cfs. Additionally, some of the water in the Colusa Drain may continue southerly into the Knights Landing Ridge Cut and irrigate lands in this area or in part of the Yolo Bypass. In that case, even less water would return to the Sacramento River at Knights Landing. As a consequence, Reclamation believes that this volume of water constitutes a minor change to the volume of water that would return to the Sacramento River and there would be no identifiable impacts to the CVP operations, or the Sacramento River, as a result of the Transfer Agreement.

The transfer from GCID to the Company would help maintain or slightly improve water quality in Service Areas of the GCID and Company. Salinity reductions could occur as slightly higher volumes of flow of lower salinity dilute return water conveyed through GCID and the Colusa Drain. Changes in water volumes and water quality would be noticeable in the uppermost reaches of the Colusa Basin Drain but less so at the confluence. Again, the quantity of water entering the much larger Sacramento River would be very small and likely immeasurable. Additionally, the return water from the Drain is regulated for water quality by State and Federal Regulations. Therefore, no adverse affects of this return flow to the Sacramento River water quality would be anticipated.

Use of groundwater as a water source for irrigation within the Service Area of GCID would likely remain the same as the No Action Alternative, whereas a slight reduction in groundwater use on the Service Areas of the Company would likely. The reduction in use on Company land would primarily stem from greater water availability and lower salinities of transfer water in comparison to groundwater resources.

Additionally, as cropping patterns would remain the same as the No Action Alternative, the use of pesticides or fertilizers would be anticipated to be the same as the No Action Alternative. Therefore, there would be no change in the quality of the groundwater due to the Proposed Action.

3.3 Biological Resources

Affected Environment

A list of federal listed candidate, threatened, and endangered species that may occur within or near the Service Areas of GCID and the Company, and Knights Landing, where return water

reenters the Sacramento River was generated on August 2, 2012, by accessing the U.S. Fish and Wildlife Service's online database: http://www.fws.gov/sacramento/es/spp_list.htm. The list represents species that may occur in Glenn, Colusa, and Yolo counties, and is used to determine the effects of the Proposed Action and a summary of rationale supporting the determination (Table 1).

Many special-status species named on the species list have no potential to be present in the Action Area due to lack of suitable habitat. Federally protected plant and animal species with the potential to be in the Action Area include the California tiger salamander (*Ambystoma californiense*), giant garter snake (*Thamnophis gigas*), several anadromous salmon species (*Oncorhynchus* spp), green sturgeon (*Acipenser medirostris*), conservancy fairy shrimp (*Branchinecta conservancy*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), and vernal pool tadpole shrimp (*Lepidurus packardii*). Federal status plants that may be in the Action Area include Hoover's spurge (*Chamaesyce hooveri*), palmate-bracted bird's-beak (*Chloropyron palmatum*), Butte County (Shippee) meadowfoam (*Limnanthes floccosa* ssp. *californica*), Colusa grass (*Neostapfia colusana*), hairy Orcutt grass (*Orcuttia pilosa*), Keck's checker-mallow (checkerbloom) (*Sidalcea keckii*), Greene's tuctoria (*Tuctoria greenei*), and Crampton's tuctoria (*Tuctoria mucronata*).

Environmental Consequences

No Action

Under the No Action Alternative there are two scenarios that could have different environmental consequences to the biological resources of the Action Areas. Under Scenario 1, the quantity of water in the Colusa Drain would be similar to existing conditions and therefore, there would be anticipated effects to any of the existing biological resources.

In contrast, Scenario 2 of the No Action Alternative could lead to reductions of flow in the Colusa Drain, and consequently water for use on Service Areas of the Company. Additionally, the smaller volumes of water that would occur in the Colusa Drain would likely be higher in salinity as compared to Scenario 1. As a consequence, these reductions in water could lead to fallowing of rice fields that provide critical habitat for the giant garter snake or migratory birds. However, the extent of the aquatic habitat loss that would occur in this scenario is unknown. Therefore, the No Action Alternative could have a negative impact to biota of the Company's Service Areas.

Proposed Action

Under the Proposed Action Alternative, the water would be conveyed in existing facilities to established agricultural lands as in the No Action Alternative. In addition, no native lands or land fallowed and untilled for three or more years would be disturbed and no new construction would be implemented. Similarly, diversion points would be the same as the No Action Alternative and water surplus to GCID's needs would be moved to the Company's Service Area. As a consequence, the Proposed Action would provide greater certainty of maintaining water in existing conveyance facilities and irrigated farmland within the Company's Service Area and

Table 1. Federal Status Species Potentially Found in the Proposed Action Area.

Common Name	Scientific Name	Status	Effects	Summary Basis for ESA Determination
Amphibians / Reptiles				
California red-legged frog	<i>Rana draytonii</i>	T	NE (No Effect)	Absent: Species absent from Sacramento River Valley floor and from vicinity of the Proposed Action area. No suitable habitat in the Proposed Action area. No change to wetland or riparian habitat
California tiger salamander (Sonoma County Population)	<i>Ambystoma californiense</i>	T, X	NE	Possible. Found or believed to occur in Colusa, Glenn, and Yolo counties. No land use changes would occur to habitat for this species as a result of the action, no conversion of habitat, and no new facilities would be constructed.
giant garter snake	<i>Thamnophis gigas</i>	T	NE	Possible. Found or believed to occur in Colusa, Glenn, and Yolo counties. No land use changes would occur. Habitat would remain the same and no new facilities would be constructed.
Birds				
western snowy plover	<i>Charadrius alexandrinus nivosus</i>	T	NE	Absent. No land use changes would occur to habitat for this species as a result of the action, no conversion of habitat, and no new facilities would be constructed.
northern spotted owl	<i>Strix occidentalis caurina</i>	T	NE	Absent. Found or believed to occur in Colusa and Glenn counties but not believed to occur in the action area. No construction activities and existing land use practices would continue.
least Bell's vireo	<i>Vireo bellii pusillus</i>	E	NE	Absent. Only found or believed to occur in S. California regions. No land use changes would occur. Habitat would remain the same and no new facilities would be constructed.
Fish				
Delta smelt	<i>Hypomesus transpacificus</i>	T, X	NE	Absent. No natural waterways within the species range will be affected by the Proposed Action
Central Valley steelhead	<i>Oncorhynchus mykiss</i>	NMFS T, X	NE	Possible. No natural waterways within the species range will be affected by the Proposed Action
chinook salmon - Central Valley Various Races	<i>Oncorhynchus tshawytscha</i>	T, X	NE	Possible. No natural waterways within the species range will be affected by the Proposed Action
green sturgeon	<i>Acipenser medirostris</i>	NMFS - T	NE	Possible. No natural waterways within the species range will be affected by the Proposed Action
Coho salmon (So. Ori/No CA)	<i>Oncorhynchus kisutch</i>	NMFS - T	NE	Possible. No natural waterways within the species range will be affected by the Proposed Action
Invertebrates				
Conservancy fairy shrimp	<i>Branchinecta conservatio</i>	E	NE	Possible. Found or believed to occur in Colusa, Glenn, and Yolo counties. No land use changes would occur to habitat for this species as a result of the action, no conversion of habitat, and no new facilities would be constructed.
vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	T, X	NE	Absent. Use of lands north and south of the Action Area. No land use changes would occur to habitat for this species as a result of the action, no conversion of habitat, and no new facilities would be constructed.

Common Name	Scientific Name	Status	Effects	Summary Basis for ESA Determination
valley elderberry longhorn beetle	<i>Desmocerus californicus dimorphus</i>	T, X	NE	Possible. No land use changes would occur to habitat for this species as a result of the action, no conversion of habitat, and no new facilities would be constructed.
delta green ground beetle	<i>Elaphrus viridis</i>	T	NE	Absent. No land use changes would occur to habitat for this species as a result of the action, no conversion of habitat, and no new facilities would be constructed.
vernal pool tadpole shrimp	<i>Lepidurus packardii</i>	E, X	NE	Possible. Found or believed to be in Colusa, Glenn, and Yolo counties. No land use changes would occur to habitat for this species as a result of the action, no conversion of habitat, and no new facilities would be constructed.
Mammals				
fisher	<i>Martes pennanti</i>	C	NE	Absent. Found or believed to be in Colusa and Glenn counties but typically uses higher elevation habitat. No changes to land use and no new construction.
Plant				
Hoover's spurge	<i>Chamaesyce hooveri</i>	T	NE	Possible. Found or believed to be in Colusa and Glenn counties. No land use changes would occur to habitat for this species as a result of the action, no conversion of habitat, and no new facilities would be constructed.
palmate-bracted bird's-beak	<i>Chloropyron palmatum</i>	E	NE	Possible. Found or believed to be in Colusa and Glenn counties. No land use changes would occur to habitat for this species as a result of the action, no conversion of habitat, and no new facilities would be constructed.
Butte County (Shippee) meadowfoam	<i>Limnanthes floccosa ssp. californica</i>	E	NE	Possible. Found or believed to be in Glenn County. No land use changes would occur to habitat for this species as a result of the action, no conversion of habitat, and no new facilities would be constructed.
Colusa grass	<i>Neostapfia colusana</i>	T, X	NE	Possible. Found or believed to be in Yolo County. Occurs in vernal pools along the eastern side of the central Sierra Nevada foothills.
hairy Orcutt grass	<i>Orcuttia pilosa</i>	E	NE	Possible. Found or believed to be in Glenn and Colusa Counties. Occurs in vernal pools along the eastern side of the central Sierra Nevada foothills.
Keck's checker-mallow (checkerbloom)	<i>Sidalcea keckii</i>	E	NE	Possible. Found or believed to be in Colusa and Yolo counties. No land use changes would occur to habitat for this species as a result of the action, no conversion of habitat, and no new facilities would be constructed.
Greene's tuctoria	<i>Tuctoria greenei</i>	E	NE	Possible. Found or believed to be in the North of Delta Refuges. No land use changes would occur to habitat for this species as a result of the action, no conversion of habitat, and no new facilities would be constructed.
Crampton's tuctoria or Solano grass	<i>Tuctoria mucronata</i>	E, X	NE	Possible. Found or believed to be in Yolo County. No land use changes would occur to habitat for this species as a result of the action, no conversion of habitat, and no new facilities would be constructed.
<p>Key: (E) Endangered - Listed as being in danger of extinction. (T) Threatened - Listed as likely to become endangered within the foreseeable future. (NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. (C) Candidate - Candidate to become a proposed species. (X) Critical Habitat designated for this species</p>				

thus the aquatic habitats that currently exists. Aquatic habitat-dependent species that currently use these areas would be able to continue to use these areas much as they would under Scenario 1 of the No Action Alternative. Maintaining these aquatic habitats would be particularly important because the giant garter snake is known to occur in these areas and use the irrigated rice fields during the summer months (USFWS 2009).

Similarly, bird, invertebrates, and vertebrate species of special concern, as identified in Table 1, are not expected to be affected by the Proposed Action for all the same reasons provided above. Fish species would not be affected by the Proposed Action because there would be no significant changes to the quantity or quality of flow in the Sacramento River at either the point of diversion or return as compared to the No Action Alternative. In summary, the Proposed Action would not result in significant change in the surrounding environment and would not result in short-term or long term effects to biological resources.

In contrast, the biological resources of the Company Service Area would be expected to remain the same or benefit from the Proposed Action if compared to Scenario 2 of the No Action Alternative. In this case, the transferred water would be conveyed in existing facilities to established agricultural lands but unlike Scenario 2, the Proposed Action would provide greater assurance that aquatic habitats (e.g. canals and irrigated fields) are maintained at existing levels. In turn, this improved certainty of water to the Company's Service Area would translate to improved assurance that existing critical habitats of the biological resources, as identified above, are maintained.

Reclamation has determined that the Proposed Action would not affect any federal or state-listed species or any critical habitat. The Action being taken is to transfer water from one area to another subject to a number of agreed upon conditions that prevent harm to Federal and State-listed species of concern. These conditions include the acreage limitation concept being applied to the transfer of Base Supply, including the water to be transferred under this proposal, which has previously been circulated to NMFS, FWS, The Army Corps of Engineers and the California Department of Fish and Game (Reclamation 2005). As a result, no consultation with either the National Marine Fisheries Service or the FWS is required.

3.4 Socioeconomic Resources

Affected Environment

The agricultural industry significantly contributes to the overall economic stability of the Central Valley. The CVP allocations allow farmers to plan for the types of crops to grow and to secure loans to purchase supplies. The economic variances may include fluctuating agricultural crop prices, insect infestation, changing hydrology conditions, and increased fuel and power costs.

Environmental Consequences

No Action

If GCID implemented water management methods that reduce the water supply to the Colusa Drain, the Company would need to rely on alternative sources of water supply such as groundwater, or Project Water received through Contract W0693. These alternative sources

could increase costs to the lands served by the Company. If other sources of water are not available, or if the available supply is of unsuitable quality, a reduction in irrigated acreage could occur within the Company's Service Area and the demand for local labor and farm supplies could be reduced. Therefore, there could be temporary adverse impacts to socioeconomic resources due to potential fallowing of farmland.

Proposed Action

Implementation of the Proposed Action Alternative would allow continued farming practices on existing agricultural land. Improved quantities and quality of water would help to maintain agricultural productivity which in turn, is likely to help to maintain the local economy.

3.5 Environmental Justice

Affected Environment

Executive Order 12898 (February 11, 1994) mandates Federal agencies to identify and address disproportionately high and adverse human health and environmental effects of its programs, policies, and activities on minority and low-income populations.

The population of some small communities in the Sacramento River Valley typically increases during the late summer harvest. This Transfer would ensure that lands continue to be irrigated and farmed, maintaining the local and regional economy and employment.

Environmental Consequences

No Action

Under the No Action Alternative, the proposed transfers would not be implemented and other water sources would be sought to maintain irrigable crop lands. Central Valley Project contractors would continue to receive Project Water and the Company would divert from the Colusa Drain under the provisions of Contract W0693. If water is not available or is of unsuitable quality, a reduction in irrigated acreage could occur within the Company's Service Area that could result in a minor adverse affect to migrant workers.

Proposed Action

Implementation of the Proposed Action Alternative would help maintain agricultural production and farm worker employment. Very modest increases in seasonal labor might result, but the acreage is so small that the differences would be measured in terms of person-days of labor. Diversions from the Sacramento River would continue to be used on lands supporting the communities where it is now used. Modest increases in local income may result from the proposed action, although the effects would probably be negligible for most residents. Consequently, implementing the Proposed Action Alternative would likely benefit, rather than harm, any minority or disadvantaged populations within the Proposed Action area.

3.6 Cumulative Effects

According to the CEQ regulations for implementing the procedural provision of NEPA, a cumulative impact is defined as *the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonable foreseeable future actions regardless of the agency (Federal or non –Federal) or person undertakes such*

other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period do time.

The Proposed Action will not result in any additions to irrigated lands or otherwise induce land use changes. Rather, the intended effect is to maintain current land use and prevent deterioration of existing agricultural practices; therefore there are no anticipated cumulative effects from the Proposed Action.

Section 4 Consultation and Coordination

4.1 Public Review Period

Reclamation intends to sign a Finding of No Significant Impact for this proposal, and will make the EA available for a 30 day review, November 15 through December 14, 2012. All comments will be addressed in the FONSI. Additional analysis will be prepared if substantive comments identify impacts that were not previously analyzed or considered

Section 5 References

Bureau of Reclamation (Reclamation). 1999. Finding of No Significant Impact/ Environmental Assessment. Transfer of Base Supply and Central Valley Project Water by Glenn-Colusa Irrigation District to Parcels in Colusa Drain Mutual Water Company. Northern California Area Office.

Bureau of Reclamation (Reclamation). 2005. Consent for Long-Term Transfer of Base Supply Water and Central Valley Project Water to Colusa Drain Mutual Water Company by Glenn-Colusa Irrigation District Under Sacramento River Settlement Contract No. 14-06-200-855A-R-1. Letter. Kirk C. Rogers, Regional Director. 22 pp.

U.S. Fish and Wildlife Service (USFWS). 2009. Species Account. Giant Garter Snake. U.S. Fish and Wildlife Service. May 13, 2009.