# Appendix L
# Responses to Comments

# Contents



# Tables

# Acronyms

| | |
|---|---|
| AF | acre-feet |
| BMO | basin management objective |
| CEQ | Council of Environmental Quality |
| CEQA | California Environmental Quality Act |
| CFR | Code of Federal Regulations |
| Cfs | cubic foot per second |
| CVP | Central Valley Project |
| CVPIA | Central Valley Project Improvement Act |
| DWR | California Department of Water Resources |
| EA | Environmental Assessment |
| EIR | Environmental Impact Report |
| EIS | Environmental Impact Statement |
| EO | Executive Order |
| GCID | Glenn-Colusa Irrigation District |
| GDEs | groundwater-dependent ecosystems |
| GSP | Groundwater Sustainability Plan |
| IS | Initial Study |
| ITA | Indian Trust Assets |
| NEPA | National Environmental Policy Act |
| NMFS | National Marine Fisheries Service |
| Reclamation | Bureau of Reclamation |
| RMS | Representative Monitoring Site |
| SACFEM2013 | Sacramento Valley Groundwater Model |
| SLDMWA | San Luis & Delta-Mendota Water Authority |
| SWP | State Water Project |
| WTIMS | Water Transfers Information Management System |

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# Appendix L Responses to Comments

This appendix contains responses to all comments received on the 2026-2027 North to South Water Transfers Draft Environmental Assessment/Initial Study (EA/IS), including all written comments received during the comment period for the Draft EA/IS. The Draft EA/IS NEPA public comment period was from April 11, 2025, through May 12, 2025, which was extended through May 19, 2025. The Draft EA/IS CEQA public comment period (for informational purposes only) was from April 18, 2025, through May 19, 2025. Table L-1 presents commenters and associated agencies or groups that submitted comments on the Draft EA/IS.

**Table L-1. List of Commenters**

| Commenter | Agency/Group | Letter ID |
|---|---|---|
| Ian Buck-Macleod | Friant Water Authority | 1 |
| Andy Chu | California Department of Water Resources | 2 |
| Barbara Vlamis, Chris Shutes, Carolee Krieger, Jason Flanders, Patrick Soluri | AquAlliance, California Sportfishing Protection Alliance, California Water Impact Network, and Aqua Terra Aeris Law Group | 3 |
| Barbara Vlamis, Chris Shutes, Carolee Krieger, Jason Flanders, Patrick Soluri | AquAlliance, California Sportfishing Protection Alliance, California Water Impact Network, and Aqua Terra Aeris Law Group | 4 |
| Patrick Soluri | Central Delta Water Agency | 5 |

The comment letters (numbers 3 and 4) from AquAlliance, California Sportfishing Protection Alliance, California Water Impact Network, and Aqua Terra Aeris Law Group included multiple exhibits. The exhibits from these letters are references or contain information on related projects, and do not require individual responses.

# L.1 Comments and Responses

## Comment Letter 1, Ian Buck-Macleod, Friant Water Authority

Comment ID: 1



854 N. Harvard Ave.
Lindsay, CA 93247
(559) 562-6305

May 13, 2025

*Sent Via Email Only*

Melissa Dekar
U.S. Bureau of Reclamation
2800 Cottage Way
Sacramento, California 93835

**Re: Comments on 2026-2027 North to South Water Transfers Draft Environmental Assessment/Initial Study**

Dear Ms. Dekar:

On behalf of the Friant Water Authority (FWA), and each of its member agencies, thank you for the opportunity to review and provide comments on the Draft Environmental Assessment and Initial Study (EA/IS) for the 2026-2027 North to South Water Transfers (Transfers).

**Background:**
FWA is a joint powers authority of Friant Division contractors of the CVP, which span the eastside of the lower San Joaquin Valley and are served by surface water that is diverted from the upper San Joaquin River watershed at Millerton Lake. The Friant Division encompasses over 1 million acres of farmland, and more than 1 million people, including 54 disadvantaged communities, which rely on some form of groundwater.

The Friant Division's key facilities include Friant Dam on the San Joaquin River, which impounds Millerton Lake; the Friant-Kern Canal, which diverts water from Friant Dam and conveys it south to the Kern River, serving portions of Fresno, Tulare, Kings, and Kern Counties; and the Madera Canal, which diverts water from Friant Dam and carries it north to the Chowchilla River to serve areas of Madera and Merced Counties. The Friant Division's water supply was made possible by purchase and exchange agreements between Reclamation and the original riparian and pre-1914 water users, the San Joaquin River Exchange Contractors (Exchange Contractors), who agreed not to exercise their remaining San Joaquin River water rights in exchange for a different water supply to be delivered by the United States from the Sacramento River and Sacramento-San Joaquin Delta (Delta), and other sources delivered to them via Jones Pumping Plant and through the Delta-Mendota Canal and Mendota Pool.

1-1

So long as there is sufficient water to meet the Exchange Contract, the United States stores and delivers the waters of the San Joaquin River to Friant Contractors. Thus, although Friant Contractors are not direct users of Sacramento River and Delta water,

Delta operations can significantly affect Friant Division water supplies. FWA members depend on consistent and predictable implementation of CVP water rights and allocations. Any re-diversion or operational change that affects CVP water availability, timing, or contract administration has the potential to injure Friant Division contractors and affect compliance with legal requirements for CVP operations.

1-1

In the Draft EA/IS Reclamation and SLDMWA propose to transfer up to 250,000 acre-feet annually from willing water sellers upstream of the Delta to willing buyers of that water primarily located south of the Delta and in the San Francisco Bay Area. The document analyzes transfers of water made available from groundwater substitution and reservoir releases. FWA is supportive of actions that create greater water supply flexibility to South of Delta (SOD) water contractors. We recognize that the Draft EA/IS employs a suite of models to identify key impacts and identifies mitigation measures to reduce impacts associated with the proposed Transfers. FWA offers the following comments emphasizing that identified impacts to surface water supplies present a risk to Central Valley Project (CVP) Contractors including Friant Division Contractors.

***Response to Comment 1-1***

The comment provides a summary of the operation of the Friant Division and the Proposed Action. No response is required.

1. **Methods described to make water available to transfer, groundwater-substitution and reservoir-release transfers, may reduce available surface water supplies and cause impacts to CVP contractors.** FWA is concerned that transfers from north to south of the Delta could affect in-stream flows and reservoir operations, thereby imposing unintended costs or shortages on CVP contractors. We recognize the draft EA/IS employs numerical models (e.g., SACFEM2013) to assess groundwater–surface-water interactions in major north-of-Delta tributaries. The draft EA/IS identifies that due to groundwater substitution actions, instream flow reductions occur and the implementation of a streamflow depletion factor described in mitigation measure WS-1 is necessary. The document states:

> *"The streamflow depletion factor may not change every year, but will be refined as new information becomes available…The streamflow depletion factor will be not less than 20 percent. However, this factor may be adjusted, either higher or lower, based on additional information on local conditions if new information indicates a substantial difference in local conditions that warrants a change" (page 3-5).*

1-2

FWA recommends that this mitigation measure, or a new mitigation measure, includes and describes an interconnected surface waters monitoring network that will be employed to verify numerical modeling results and local groundwater and surface water dynamics to ensure the minimum 20% depletion factor is appropriate and that applied, localized streamflow depletion factors are in fact protective. Additionally, Reclamation should confirm that the carriage water losses applied also include south of the Delta conveyance and storage losses.

Further, the draft EA/IS also identifies that transfer water may be made available via reservoir releases and states that "when the willing Seller releases stored reservoir water for transfer, these reservoirs are drawn down to levels lower than they would have been without the water transfer" (page 2-6) and goes on to state that Reclamation will enter into refill agreements with the Seller to ensure the reservoir is refilled to ensure less than significant impacts to downstream water users. FWA recognizes the intention of the refill agreements and requests that refill agreements are established through a transparent and

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Melissa Dekar
May 13, 2025

public process and that all necessary water supply and storage accounting is completed to ensure no impacts to CVP contractors.

1-2

### *Response to Comment 1-2*

As noted in Section 3.3.3 of the Draft EA/IS, Mitigation Measure GW-1 requires the identification of suitable monitoring wells and monitoring and data collection for participation in groundwater substitution transfers. Friant Water Authority's suggestion of a broader monitoring network to verify the results of numerical modeling of the effects of groundwater pumping on streams is understood; however, analyzing the effects of groundwater pumping on streams is a topic of considerable technical challenge and debate. It is widely accepted among experts that it is not possible to directly measure the location, quantity, and timing of depletions to interconnected surface water due to groundwater pumping (California Department of Water Resources [DWR] 2024). Therefore, it is unclear what additional information may be gained from the proposed monitoring network. It should be noted that the groundwater models

developed for the analysis were calibrated against a wide network of monitoring wells and observed data throughout the Sacramento Valley. Additionally, it is important to recognize that groundwater substitution transfers must be in conformity with local groundwater sustainability plans that include monitoring and measurable objectives to avoid depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of surface water.

Regarding the comment related to applying conveyance and storage losses to transfer water after export from the South Delta, Reclamation currently applies a carriage loss to transfer water south of the Delta each month.

Regarding the comment related to refill agreements, these agreements are worked out individually between parties with knowledge and expertise of operations, specifically the individual seller, Reclamation and DWR. The agreements are based on the specific location and operations of the seller relative to the Central Valley Project (CVP) and State Water Project (SWP) and are therefore unique, as is the accounting to determine when refill occurs. It is the role of Reclamation and DWR to ensure the agreements and the accounting eliminates any risk to CVP/SWP water supplies due to refill.

2. **Reclamation needs to ensure that single-year transfer operations do not have a long-term impact on CVP water supplies.**
The Proposed Action was evaluated utilizing a single, critical-dry water year, 1977, to represent a conservative bookend and the driest condition to simulate the largest impact to groundwater levels and streamflow under the Proposed action. FWA understands this approach, however we are concerned that other year types were not considered and analyzed to confirm that the driest condition represents the most conservative condition to evaluate potential impacts. Is it possible that in water year types that are less dry and that may have different regulatory requirements or actions, local water use patterns including surface water demands and groundwater pumping may cause impacts to analyzed resource areas that are greater than what is disclosed in the draft EA/IS?

Further, we are concerned that as transfers continue to be proposed and approved in subsequent years, Reclamation needs to perform quantitative modeling to better understand how transfers over multiple years and with varying hydrology, including multiple-year drought periods may impact CVP operations and water users. We are concerned that mitigation measures identified as part of these transfers, primarily the surface water depletion factor, may not be sufficiently protective under an extended period.

1-3

### *Response to Comment 1-3*

Significant technical work informed the development and ultimate adoption of the minimum streamflow depletion factor of 20 percent identified in Mitigation Measure WS-1. The analysis did not rely on a single year of transfer pumping, rather it considered and incorporated analyses under a range of hydrologic and operational conditions. The effects of groundwater substitution pumping on stream flows, and the operation of the CVP and SWP, were analyzed for multiple years of pumping. Analyses including groundwater substitution pumping in multiple, different years and simulated effects on the CVP/SWP for at least nine years for each analysis. These extended analyses demonstrate how hydrologic conditions in the years that follow groundwater substitution transfers have a significant influence on the potential effects to the CVP and SWP. The full range of these effects were considered in development of the minimum streamflow depletion factor. Additionally, prior analyses considered the effects of transfers over multiple years and with varying hydrology, including multi-year droughts. Results of these analyses were shared with a Technical Advisory Group that includes representatives from Reclamation, DWR, the

California Department of Fish and Wildlife, the State Water Resources Control Board, water transfer buyers, and water transfer sellers.

**3. Transfer may not cause injury to other South-of Delta water users**
Section 2.2.3 states that any transfer approval by Reclamation will not cause injury to third parties and will not impact the ability of the CVP to deliver CVP Project Water. It is essential that any proposed transfer is thoroughly evaluated to ensure that water made available for transfer is truly in-lieu substitution or surplus above existing operations, and increased south of Delta pumping would actually occur and not impact existing operations.

In conclusion, FWA has concerns with identified impacts to water supplies in the draft EA/IS. We recognize there are components identified as part of the Proposed Action (e.g., establishment of refill agreements) or mitigation measures developed (e.g., WS-1) that are intended to be protective of CVP operations and CVP contract supply. We also recognize that if these actions are not implemented, monitored, or accounted for appropriately, unintended impacts to the CVP will occur.

Thank you for your consideration of our comments and perspective. If you have any questions, please contact me at ibuckmacleod@friantwater.org.

1-4

### *Response to Comment 1-4*

Requirements for participation in water transfers, associated monitoring and accounting, and mitigation identified in the Draft EA/IS ensure water made available for transfer is real water and can be provided without subsequent impacts to Reclamation or DWR in the operation of the CVP and SWP to deliver water to non-transfer parties.

## Comment Letter 2, Andy Chu, Department of Water Resources



Comment ID: 2

STATE OF CALIFORNIA – CALIFORNIA NATURAL RESOURCES AGENCY

GAVIN NEWSOM, Governor

**DEPARTMENT OF WATER RESOURCES**
715 P Street, P.O. BOX 942836
SACRAMENTO, CA 94236-0001
(916) 653-5791

**VIA-EMAIL**

May 19, 2025

Pablo Arroyave
San Luis & Delta-Mendota Water Authority
P.O. Box 2157
Los Banos, California 93635
pablo.arroyave@sldmwa.org

Subject: Draft Initial Study and Draft Addendum to the Final Long-Term Water Transfers EIR for Evaluation of 2026-2027 North to South Water Transfers

Dear Mr. Arroyave,

The California Department of Water Resources (Department) has reviewed the Draft 2026-2027 North to South Water Transfers Environmental Assessment/Initial Study (EA/IS) jointly prepared by U.S. Bureau of Reclamation (Reclamation) and the San Luis & Delta-Mendota Water Authority and the Draft Addendum to the Final Long-Term Water Transfers EIR (Addendum) for the potential transfer of water made available through groundwater substitution and/or stored reservoir release actions in 2026 and 2027.

2-1

Please find attached a copy of the Department's comment letter to Reclamation regarding the EA/IS for your consideration as the issues addressed remain directly relevant to the Addendum.

The Department appreciates the opportunity to provide this comment letter. If you have any questions or need additional information, please contact me at SWPWaterTransfers@water.ca.gov.



Attachment:
*Attachment A: The Department's Comment Letter to Reclamation on Draft Environmental Assessment/Initial Study for the 2026-2027 North-to-South Water Transfers*

2-1

***Response to Comment 2-1***

The comment provides an introduction to the comment letter. No response is required.

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STATE OF CALIFORNIA – CALIFORNIA NATURAL RESOURCES AGENCY **GAVIN NEWSOM**, Governor

**DEPARTMENT OF WATER RESOURCES**
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**VIA-EMAIL**

May 19, 2025

Melissa Dekar
United States Department of the Interior
Bureau of Reclamation
Sacramento, California
mdekar@usbr.gov

Subject: Draft 2026-2027 North to South Water Transfers Environmental Assessment /Initial Study (CGB-ED-2024-025)

Dear Ms. Dekar,

The California Department of Water Resources (Department) has reviewed the Draft 2026-2027 North to South Water Transfers Environmental Assessment/Initial Study (EA/IS) for the potential transfer of water made available through groundwater substitution and/or stored reservoir release actions in 2026 and 2027. The Department values its ongoing collaboration with U.S. Bureau of Reclamation (Reclamation) and, with that in mind, provides the following comments and recommendations.

2-2

**Project Description**

This joint EA/IS document was prepared by Reclamation and the San Luis & Delta-Mendota Water Authority (SLDMWA) for SLDMWA's obligations under the California Environmental Quality Act statute and guidelines and Reclamation's requirements of the National Environmental Policy Act. This EA/IS document describes the potential direct, indirect, and cumulative effects of transferring water in contract years 2026 and 2027 from willing Sellers to the SLDMWA, its member agencies, Contra Costa Water District, and East Bay Municipal Utility District (collectively referred to as the Buyers). The proposed action includes a range of potential transfers of up to 250,000 acre-feet annually from Sellers to Buyers. The methods by which water may be made available for transfer include groundwater substitution and reservoir releases. The proposed transfer program is needed by Buyers that are at risk of experiencing water shortages and who require these supplemental water supplies to meet the level of anticipated annual existing demands.

***Response to Comment 2-2***

The comment provides a summary of the Project Description from the Draft EA/IS. No response is required.

**Continue Close Coordination**

The Department seeks to continue and maintain close coordination with Reclamation in the review and approval to convey and facilitate proposed water transfers in 2026 and 2027. That includes, but not limited to, the following items.

1. Continue utilizing the Water Transfers Information Management System (WTIMS; https://info.water.ca.gov/wtims/) as the platform for water transfer proposal submittal and review. The Department and Reclamation (collectively referred to as Project Agencies) have been utilizing WTIMS online database to facilitate and track transfer proposal submittal and review since 2018. The use of WTIMS has improved coordination among Project Agencies, Sellers, Buyers, public, and other agencies to ensure the latest information is available in a timely manner and provide accurate communication. The Department works ceaselessly to improve WTIMS to enhance user experience and provide trust in this transfer process.

2-3

***Response to Comment 2-3***

As noted in Section 1.1 of the Draft EA/IS, Reclamation and DWR would review and approve, as appropriate, proposed water transfers in accordance with a Seller's Sacramento River Settlement Contract, repayment, or other water service contracts with Reclamation, the *DRAFT Technical Information for Preparing Water Transfer Proposals*, and local, state and federal law.

Reclamation supports the use of the Water Transfers Information Management System (WTIMS) as the platform for water transfer proposal submittal and review. The text in the Draft EA/IS on Page 3-18 is revised to state:

> "Potential Sellers are encouraged to electronically submit their water transfer proposal through DWR's online web application."

2. The Project Agencies continue to coordinate the review, implementation, and monitoring of all transfers by using the best available data, information, guidance, and regulations. In particular, the Department notes that:

    a. Groundwater Sustainability Plans (GSP) and the corresponding annual reports developed by Groundwater Sustainability Agencies pursuant to the 2014 Sustainable Groundwater Management Act have superseded the references to Basin Management Objectives and Groundwater Management Plans. While GSPs serve as the primary regulatory tools for all Seller groundwater basins and subbasins, the Project Agencies' review is still needed to understand and assess impacts from groundwater pumping associated with groundwater substitution transfers through a higher spatial resolution.

2-4

***Response to Comment 2-4***

Terminology in the Draft EA/IS on Page 3-20 and Page 3-24 is updated to reflect the Groundwater Sustainability Plans (GSPs) and corresponding annual reports as the primary regulatory tool to establish groundwater level triggers. As stated in the Draft EA/IS, Reclamation (in coordination with DWR) will review water transfer proposals and those groundwater substitution pumping transfers cannot start prior to Reclamation's approval.

b. Historical land subsidence records are important to understand how certain transfers cause or affect elastic and inelastic subsidence. This understanding is needed if elastic and inelastic subsidence is to be avoided. 2-5

***Response to Comment 2-5***

Section 3.3.1 of the Draft EA/IS includes a summary of historical land subsidence in the Redding Area Groundwater Basin and Sacramento Valley Groundwater Basin. For the Sacramento Valley Groundwater Basin, a review of DWR subsidence monitoring extensometers and GSPs is included on Page 3-10 and 3-11 in the Draft EA/IS. No changes to the Draft EA/IS are required.

c. To ensure that sufficient information is developed to demonstrate transfers will result in no injury to other users of water and no unreasonable impacts to the environment, the Project Agencies will continue to rely on the 2019 DRAFT Technical Information for Preparing Water Transfer Proposals and update it as necessary, and applicable local, state, and federal laws. 2-6

***Response to Comment 2-6***

As noted in Section 1.1 and Section 2.2 of the Draft EA/IS, Reclamation (and potentially DWR, as necessary) would review and approve, as appropriate, proposed water transfers in accordance with a Seller's Sacramento River Settlement Contract (Settlement Contract), repayment, or other water service contracts with Reclamation, the *DRAFT Technical Information for Preparing Water Transfer Proposals*, underlying water rights, and local, state and federal law. Section 3.3.3 of the Draft EA/IS notes, "The Water Transfers White Paper is updated by Reclamation and DWR when necessary and the version of that governing document and the Water Transfers Information Checklist it includes shall be used by Sellers to develop their water transfer proposals" (footnote on Page 3-18). No changes to the Draft EA/IS are required.

d. The Project Agencies will work with Sellers to ensure that recent and adequate reservoir data and information is provided to establish baseline

2-7



Ms. Dekar

Page 3

conditions and support the development of the proposed transfer release pattern.

2-7

***Response to Comment 2-7***

As noted in Response to Comment 2-6, proposed water transfers would be reviewed in accordance with the *DRAFT Technical Information for Preparing Water Transfer Proposals*. Clarifying text is added on Page 2-7 in Section 2.2 of the Draft EA/IS that water transfer proposals must include the information requirements in the Water Transfers Information Checklist. Consistent with the *Water Transfer White Paper* Appendix B Water Transfer Information Checklists (included as Appendix E3 of the Draft EA/IS), Sellers must provide a minimum of 5 years of reservoir operating data in their water transfer proposal.

3. The Project Agencies work together to ensure proper implementation of mitigation measures to minimize any potential impacts from transfer, including but not limited to the following:

    a. Streamflow Depletion Factor (SDF) and other equivalent measures through Sacramento Valley-wide coordination and cooperation: an appropriate SDF is essential to mitigate potential water supply impacts to the State Water Project and Central Valley Project (collectively referred to as Projects) operations resulting from increased groundwater pumping associated with groundwater substitution transfers. Reclamation and the Department have been coordinating regularly to evaluate and determine an appropriate SDF, in coordination with Buyers and Sellers, using the best available technical data and tool at the time.

2-8

***Response to Comment 2-8***

Significant technical work informed the development and identification of the minimum streamflow depletion factor of 20 percent using the best available technical data and tools. However, this factor may be adjusted, either higher or lower, based on additional information on local conditions if new information indicates a substantial difference in local conditions that warrants a change of equal or better effectiveness.. Therefore, if Reclamation and DWR identify a different streamflow depletion factor and it is

determined to be appropriate, that streamflow depletion factor may be adjusted. No changes to the Draft EA/IS are required.

b. Carriage water: when the Projects export transfer water that third parties make available to the south of the Delta, it could result in incremental impacts on Delta water quality due to increased disruption to natural flow patterns. Since the Projects must manage export operations in compliance with applicable regulatory requirements, including Delta salinity standards, proper application of carriage water is necessary to address the potential increases in Delta salinity. 2-9

***Response to Comment 2-9***

Carriage water is described in Section B.2.2.3 in Appendix B of the Draft EA/IS. Carriage water (a portion of the transfer that is not diverted in the Delta and becomes Delta outflow) is a required component of water transfers that is used to maintain water quality in the Delta. Clarifying text describing carriage water is added on Page 2-1 in Section 2.2 of the Draft EA/IS:

> "Carriage water (a portion of the transfer that is not diverted in the Delta and becomes Delta outflow) is a required component of water transfers that is used to maintain water quality in the Delta. Carriage water is calculated to reflect conveyance losses as the water moves from the point at which it is made available for transfer, to the Delta export pumps, and is conveyed from the Delta to Buyers (see Section B.2.2.3 in Appendix B)."

c. Reservoir refill agreement development, execution, implementation, and coordination: refilling the space vacated by additional reservoir releases to make water available for transfers may impact the Projects operations. Therefore, any transfer involving a reservoir release must include in its approval process an executed refill agreement that signed by both the Department and Reclamation. The refill agreement shall include conditions, criteria, and procedures to account for and avoid injuries to Projects operations due to refill at a seller's reservoir following the release of the transfer water. 2-10

***Response to Comment 2-10***

As stated in Section 2.2.3 of the Draft EA/IS, each reservoir release transfer would include a refill agreement between the Seller, Reclamation, and DWR, to prevent impacts to downstream users following a transfer. No changes to the Draft EA/IS are required.

**Technical Comments on the EA/IS**

In addition to the above, the Department has included some comments and recommendations in Attachment 1.

The Department appreciates the opportunity to provide this comment letter and looks forward to working closely with Reclamation to facilitate water transfers, which are

2-11

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Ms. Dekar

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critically important to California's water supply reliability. If you have any questions or need additional information, please contact me at SWPWaterTransfers@water.ca.gov.

2-11

***Response to Comment 2-11***

The comment includes concluding remarks. No response is required.

**Technical Comments**

*3.3 Groundwater Resources*

*3.3.1 Affected Environment/Environmental Setting*

The groundwater levels discussion under Seller Service Area, Sacramento Valley Groundwater Basin claims: "Past groundwater measurements suggest groundwater levels decline moderately during extended droughts and recover to pre-drought levels after subsequent wet periods (DWR 2021)." This statement does not fully capture the findings of the cited reference as there are areas in the Sacramento Valley Groundwater Basin that are not experiencing the same level of recovery. The Department recommends that the areas in the Sacramento Valley Groundwater Basin that are experiencing less recovery and may even be experiencing continued decline be noted and more accurately described.

2-12

***Response to Comment 2-12***

The text in the Draft EA/IS has been updated to consider the different levels of recovery and Page 3-10 is revised to state:

> "A review of spring 2024 trend data shows that groundwater levels have not yet fully recovered from the past drought years, but levels began to rebound in WY 2023 and wet conditions in WY 2024 continued to help stabilize groundwater levels (DWR 2024h). In general, long-term trends

show groundwater level declines along the western edge of the Sacramento Valley in the Sacramento River Hydrologic Region with notable increases in groundwater levels in the basins in the southeastern portion of the Sacramento Valley (DWR 2024h)."

The groundwater quality discussion in this section provides a broad, generalized overview of groundwater quality across the entire Sacramento Valley Groundwater Basin. This section would benefit from clearly linking this information to the groundwater quality criteria for the proposed project. Groundwater quality is highly site-specific and varies significantly by well location and depth. General summaries at the basin scale would not provide the level of detail needed to assess potential water quality impacts from groundwater substitution transfers at specific transfer wells. 2-13

### *Response to Comment 2-13*

As noted by the commenter, groundwater quality is highly site-specific and varies significantly by well location and depth. As described in Section 3.3.1 of the Draft EA/IS, some localized groundwater quality issues exist in the Sacramento Valley Groundwater Basin including occurrences of saltwater intrusion, elevated levels of nitrates, naturally occurring boron, and other introduced chemicals. Section 3.3.1 of the Draft EA/IS also includes a review of groundwater quality at different wells throughout the Sacramento Valley Groundwater Basin. As analyzed in Section 3.3.2 of the Draft EA/IS, in areas with reduced groundwater quality, extraction would not be expected to result in a permanent change to groundwater quality conditions due to the expected groundwater recharge in the winter months. The overview of groundwater levels and groundwater quality across the Sacramento Valley Groundwater Basin presented in Section 3.3.1 of the Draft EA/IS support the impact discussion presented in Section 3.3.2 of the Draft EA/IS. No changes to the Draft EA/IS are required.

*3.3.3 Environmental Commitments/Mitigation Measures*

The Department noted that Mitigation Measure GW-1: Monitoring Program and Mitigation Plan (Plan) would benefit from additional clarity regarding the approach to monitor land subsidence in transfer proposals. The Plan should clearly identify the monitoring locations and methods to enable monitoring land subsidence using quantitative metrics. In the Plan, groundwater level triggers and thresholds are described as the primary tools to prevent irreversible land subsidence. While this is an important component, the section may oversimplify the issue by suggesting that irreversible subsidence only occurs when groundwater levels fall below historic lows, which does not fully reflect the findings from USGS (2018). It is recommended that the Plan includes additional methods to measure subsidence, such as through InSAR, extensometers, CGPS, or other appropriate tools, and not solely rely on groundwater levels as a proxy. Also, the use of inelastic land subsidence measurements may not 2-14

### *Response to Comment 2-14*

Mitigation Measure GW-1 requires participating transfer pumping well(s) or the associated suitable monitoring well(s) stop transfer-related pumping when the groundwater level trigger is reached. Monitoring and operating to these groundwater level triggers and thresholds are the best available tools shown to be effective to avoid irreversible subsidence from proposed groundwater substitution pumping. As noted in Aquifer Compaction due to Groundwater Pumping (USGS 2018a) [emphasis added]:

> *Fine-grained sediments (clays and silts) within an aquifer system are the main culprits in land subsidence due to groundwater pumping. Fine-grained sediments are special because they are composed of platy grains (imagine the shape of dinner plates). When fine-grained sediments are originally deposited, they tend to be deposited in random orientations (imagine haphazardly placing your dinner plates in the sink). These randomly oriented sediment grains have a lot of room between them to store water.* ***However, when groundwater levels decline to historically low levels, those randomly oriented sediments are rearranged into stacks (imagine plates stacked in the cupboard).*** *These stacks occupy less space and also have less space between them to store water.*
>
> *While more focus has been placed on the highly visible infrastructure damage from subsidence, which generally can be repaired, compaction of the aquifer system, sight unseen, may permanently decrease its capacity to store water; subsidence occurring today is a legacy for all tomorrows. Even if water levels rose, compacted sediments would remain as-is;* ***most compaction that occurs as a result of historically low groundwater levels is irreversible****.*

Mitigation Measure GW-1 also requires potential Sellers to submit subsidence information, which is available from DWR's InSAR data, best available subsidence information from their local DWR-approved GSP(s), or other available data relative to subsidence in their transfer proposal. Sellers must demonstrate that substantial land subsidence is not occurring within the area of a proposed participating transfer pumping well in accordance with minimum thresholds identified in their local DWR approved GSP(s), subject to Reclamation's verification; and if it is occurring, the participating transfer pumping well would not be allowed to participate in groundwater substitution transfers, ensuring adverse effects of the Proposed Action would not occur in areas vulnerable to land subsidence.

In summary, while groundwater level triggers and thresholds are an important component of preventing/avoiding irreversible subsidence as required under Mitigation Measure GW-1, another key component of Mitigation Measure GW-1 is the restriction of groundwater substitution transfers in areas vulnerable to land subsidence, which eliminates the risk of land subsidence in these areas..

| | |
|---|---|
| levels as a proxy. Also, the use of inelastic land subsidence measurements may not always be a practical metric to manage, measure, or mitigate the impacts of short-term water transfers. It is recommended to eliminate the use of the term 'inelastic' when defining metrics to manage, measure, or mitigate land subsidence impacts. | 2-15 |

### *Response to Comment 2-15*

The text in Section 3.3.3 in the Draft EA/IS on Page 3-18 is revised to remove "inelastic" and state:

> "Sellers must demonstrate that substantial land subsidence is not occurring within the area of a proposed participating transfer pumping well in accordance with minimum thresholds identified in their local DWR approved GSP(s), subject to Reclamation's verification; and if it is occurring, the participating transfer pumping well would not be allowed to participate in groundwater substitution transfers, ensuring adverse effects of the Proposed Action would not occur in areas vulnerable to land subsidence."

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The groundwater quality mitigation under Mitigation Measure GW-1 is intended to prevent potential impacts from the migration of reduced-quality groundwater during transfer pumping. To support this objective more effectively, it may be helpful to include additional details, such as sample locations, well depths, construction information, and their proximity to Sellers' transfer wells, that would allow reviewers to better assess whether groundwater pumping at individual sites could degrade water quality locally or regionally. Presenting this information in both map and table formats, with an explanation of how the data supports the project analysis, would strengthen the evaluation. Groundwater quality testing has been a requirement in past transfer programs, as outlined in the 2019 DRAFT Technical Information for Preparing Water Transfer Proposals. To enhance the evaluation, the following recommendations are provided: (1) The Sellers should demonstrate that previous groundwater substitution transfers did not result in the migration of degraded groundwater quality; (2) Including groundwater quality sampling results in the final summary reports, in addition to the other evaluation metrics listed on under Evaluation and Reporting, would provide a more complete understanding; and (3) Including well-specific groundwater quality data and proper analysis would enable a thorough evaluation of any potential impact on groundwater quality.

2-16

***Response to Comment 2-16***

As noted in Section 3.3.3 of the Draft EA/IS, Effectiveness of Mitigation Measure GW-1, the Proposed Action would not result in prolonged groundwater drawdown periods, as groundwater pumping would be limited to the irrigation season, migration of reduced quality groundwater is not anticipated. As noted in Section 3.3.2 of the Draft EA/IS, the Proposed Action would have a less than significant impact on groundwater quality, however, Mitigation Measure GW-1 imposes restrictions on groundwater pumping that would further reduce the likelihood of the migration of reduced quality groundwater and therefore, further avoids or substantially reduces the potential for impacts to groundwater quality.

As noted by the commenter, groundwater quality monitoring is required under Mitigation Measure GW-1. Additionally, the text in the Draft EA/IS has been updated to include the following:

> "Sellers shall provide details such as sample location(s), sample well depth, sample well construction information, and distance from sample location(s) to the participating transfer pumping well."

*Additional Recommendations for 3.3 Groundwater Resources*

- The EA/IS refers to various types of wells. It would be helpful to clearly define and describe the different well types used in the water transfer program, including its specific purpose. The recommended definitions are as follows: Transfer Well: A production well used to pump groundwater as part of a groundwater substitution transfer.
- Suitable Monitoring Well: A monitoring well used to assess the effects of pumping from a designated Transfer Well.
- Other Monitoring Well: A designated well used to measure groundwater levels before, during, and after the transfer period, but not necessarily linked to a specific Transfer Well.
- SGMA Representative Monitoring Site (RMS): A well identified in a Groundwater Sustainability Plan (GSP) under Sustainable Groundwater Management Act (SGMA) for monitoring the sustainability indicator chronic lowering of groundwater levels. RMS wells include defined quantitative thresholds: Minimum Threshold (MT) and Measurable Objective (MO).

It is noted that SGMA GSP sustainability indicators are not designed to assess impact resulting from short-term water transfers, although GSPs can inform the development of groundwater level triggers and mitigation actions.

2-17

***Response to Comment 2-17***

Recommended definitions for transfer pumping well, suitable monitoring well, and SGMA Representative Monitoring Site (RMS) are added as footnotes to Section 3.3 of the Draft EA/IS.

Page 7

It is recommended that the process of incorporating SGMA RMS wells be revised. Identifying only the nearest RMS well to a Transfer Well may be impractical or unreliable. Instead, all RMS wells within the Seller's service area and within a two-mile radius of the service area boundary should be identified. An RMS well should be used as a Monitoring Well and included in the transfer monitoring well network, or as a Suitable Monitoring Well if they meet the suitable monitoring well requirements.

2-18

***Response to Comment 2-18***

The text in the Draft EA/IS has been updated to (1) include the identification of SGMA RMS wells within the Seller service area and within a two-mile radius of the service area boundary in the transfer proposal; and (2) to designate the SGMA RMS wells as a suitable monitoring wells if they meet the requirements of suitable monitoring well(s) as described in Mitigation Measure GW-1.

## Comment Letter 3, Barbara Vlamis, Chris Shutes, Carolee Krieger, Jason Flanders, Patrick Soluri, AquAlliance National Environmental Policy Act (NEPA)

Comment ID: 3

AQUALLIANCE
DEFENDING NORTHERN CALIFORNIA WATERS

May 14, 2025

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**Re:** Environmental Assessment/Initial Study *2026-2027 North to South Water Transfers*

Dear Ms. Dekar and Mr. Arroyave:

AquAlliance, the California Sportfishing Protection Alliance, and the California Water Impact Network (hereinafter "AquAlliance") submit the following comments and questions for the Environmental Assessment/Initial Study ("EA/IS") for 2026-2027 *North to South Water Transfers* ("Project" or "Action") created by the Bureau of Reclamation ("Bureau") and San Luis Delta Mendota Water Authority ("SLDMWA") ("Lead Agencies"). This letter relies significantly on, references, and incorporates by reference as though fully stated herein, for which we expressly request that a response to each comment contained therein be provided, the following comments submitted on behalf of AquAlliance for the Environmental Assessment for the *Sacramento River Settlement Contractors Water Reduction Program* (Appendix A).

3-1

"The Proposed Action includes a range of potential transfers of up to 250,000 acre-feet (AF) annually."[1] "This EA/IS describes the potential direct, indirect, and cumulative effects [2] of transferring water from willing Sellers, resulting from actions taken by the Sellers to make water available for transfer through groundwater substitution and/or reservoir release, to SLDMWA, its member agencies, Contra Costa Water District (WD), and East Bay Municipal Utility District (MUD). The Sellers hold water rights on Northern California waterways or contracts with the United States (U.S.) (for Base Supply [3] and Central Valley Project [CVP] Water [4] ["Project Water"])."[2]

Under NEPA, agencies are required to take a "hard look" at the potential consequences of the action at issue. *Nw. Envtl. Advocates v. NMFS*, 460 F.3d 1125, 1133 (9th Cir. 2006). And NEPA requires that the agency provide the data on which it bases its environmental analysis. *Lands Council v. McNair*, 537 F.3d 981, 987 (9th Cir. 2008) (en banc). Here, the EA/IS does not contain sufficient information to support its conclusion for many resource areas, including, but not limited to, land subsidence, threatened and endangered species, groundwater-dependent ecosystems, and water supply.

For example, the EA/IS acknowledges that the Project area has a history of significant subsidence, including a recent trend towards adverse subsidence-related impacts, and that the Project area includes important habitat for several threatened and endangered species, including winter-run and spring-run Chinook salmon, Central Valley steelhead, green sturgeon, longfin smelt, yellow-legged frog, northwestern pond turtle, and giant garter snake. EA/IS at 3-9; *id*. at 3-37. It further acknowledges that Project-related impacts on groundwater extraction could lead to adverse impacts on subsidence and threatened and endangered species. *Id*. at 3-15, 3-37. However, the Lead Agencies state in the EA/IS, arbitrarily and summarily and without explanation or citation to supportive data, that such impacts will be insignificant, especially given GW-1, the mitigation measure discussed *infra*. *Id*. at 3-15, 3-47. This violates NEPA. First, these conclusions are unsupported. *Lands Council*, 537 F.3d at 987. Second, to the extent that the Bureau bases its assertion that Project-related impacts on threatened and endangered species will be less-than-significant based on its review of the impacts associated with changed or reduced surface water flows associated with Project-related transfers, this conclusion unlawful insofar as it relies on averaging environmental impacts across a large project area so as to "dilute the effects of [Project-related] activities." *Or. Nat. Res. Council Fund v. Brong*, 492 F.3d 1120, 1129-30 (9th Cir. 2007); *accord Env't Def. Ctr. v. Bureau of Ocean Energy Mgmt.*, 36 F.4th 850, 882 (9th Cir. 2022). Third, and critically, the Lead Agencies' decision in the EA/IS to declare the Project's potential impacts on land subsidence and biological resources insignificant based on its reliance on GW-1 deviates from NEPA; agencies cannot rely on proposed mitigation measures to conclude that Project-related impacts are less-than-significant. *N. Plains Res. Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1084-1085 (9th Cir. 2011) ("We recognize the Board's extensive mitigation efforts. However, such mitigation measures, while necessary, are not alone sufficient to meet the Board's NEPA obligations to determine the projected extent of the environmental harm to enumerated resources *before* a project is approved. Mitigation measures may help alleviate impact *after* construction, but do not help to evaluate and understand the impact before construction. In a way, reliance on mitigation measures presupposes approval. It assumes that—regardless of what effects construction may have on resources—there are mitigation measures that might counteract the effect without first understanding the extent of the problem."); *Great Basin Res. Watch v. Bureau of Land Mgmt.*, 844 F.3d 1095, 1104 (9th Cir. 2016).

3-1

### ***Response to Comment 3-1***

Comment 3-1 provides context for AquAlliance's following questions and comments; no further response is required. See the responses to the detailed comments below. In regard to the request that the comments submitted on behalf of AquAlliance for the Environmental Assessment for the *Sacramento Settlement Contractors Water Reduction Program* be responded to, the comment letter was reviewed for comments relevant to the Proposed Action and none were found.

The following presents a non-exhaustive accounting of concerns.

### A. The Stated Purpose and Need For The Project Obscures the Causes Driving Water Transfers

In describing the "purpose and need" for the Project, the EA/IS states that the Project is needed to meet existing demand for downstream water users (Buyers) stating that "the objectives sought by the proposed project" include the goal to "[d]evelop supplemental water supply for willing Buyers from willing Sellers during times of [] shortages to meet *existing* demands" (emphasis added) (p. 1-

3-2



3). Not only is this statement – that the Project is intended to meet buyers' existing demands – unsupported in the EA/IS by any analysis or data, in clear contravention of NEPA, but it obscures a significant implication of this Project. *Lands Council*, 537 F.3d at 987 (holding that an agency must support its conclusions with studies that the agency deems reliable). Without accurate data accounting for the buyers' annual, total water usage, the Bureau (and the public) cannot assess whether the water being transferred as part of the Project is needed or if the buyers are gaming the system by relying on transferred water to meet increasing water demands in their regions.
The EA/IS's description of the project need omits significant causes of the strain on Sacramento River Watershed hydrology that has already caused groundwater to drop, subsidence to expand, the collapse of myriad species including listed species, and the over allocation of surface water. The average unimpaired flow of the Sacramento River Watershed alone reveals that average annual unimpaired flow in the Sacramento River basin is 21.6 MAF, but the consumptive use claims are an extraordinary 120.6 MAF.[3] Informing the public about water rights claims would necessarily show that the Buyers, the Bureau, and California Department of Water Resources ("DWR") clearly possess junior water rights as compared with those of many willing Sellers. Full disclosure of these disparate water right claims and their priority is needed to help explain the actions and motivations of Buyers and Sellers in the 2026-2027 water transfer program. Without it, the public and decision makers have insufficient information on which to reach informed conclusions.

3-2

As stated in the EA/IS, the purpose of the Project is to deal with the unpredictability of water available for human uses.[4] However, AquAlliance is not persuaded that the *Bureau* has a need for the Project – just the Buyers. The EA/IS, however, continues a destructive pattern throughout the Central Valley – exploiting water in areas of origin to allow mostly agricultural gambling in areas with little to no healthy water supply. "The Proposed Action/Proposed Project is needed because hydrologic conditions and precipitation are unpredictable," which is true in the Golden State, but Buyers' wish for the Project is due to agricultural and urban speculation – choices made without adequate acceptance of the hydrologic and water rights reality in California.

Also undisclosed here are the legal constraints that will be circumvented if groundwater substitution is used in the process. Any of the Project's transfers, which are based on substituting groundwater (or any other source) are prohibited under the Central Valley Project Improvement Act, commonly known as "CVPIA" or Public Law I 02-575. Section 3405 (a)(1)(I) limits the transfers to "water that would have been consumptively used or irretrievably lost to beneficial use during the year or years of the transfer." The purpose of this provision is to ensure that a transfer of water ***does not increase the total amount of water consumed***, rather it allows for the shifting of water use from one party to another — an important point. The Project specifically allows the Sellers to replace the transferred

water through groundwater substitution, thus violating the CVPIA by authorizing transfers that result in increased consumptive use of water.

Concurrent with this Project is the Sacramento River Settlement Contractors' *Water Reduction Program Agreement* with the Bureau to assuage the Sellers' drought concerns, which will potentially cause massive impacts by itself.[5] Does it not occur to the Lead Agencies and their contractors that excess demand is the elephant in the theoretical room? Over allocation of California's water through the operations of the junior Central Valley Project ("CVP") and the State Water Project ("SWP") are the drivers of so-called water shortages during all water-year types, with climate change an exacerbating condition. Instead of addressing the root causes, the Project and the *Water Reduction Program Agreement* both propose to significantly exploit another water source: Sacramento Valley groundwater. Without the ability to capture an accurate description of the "need" for the Project, the EA/IS and addendum are wholly inadequate to enable a full understanding of the proposed project, its potentially significant environmental effects, and potential alternatives that could attain most project objectives while reducing environmental impacts. 3-2

Considering the omissions and inadequacies brought forward in this comment letter, the EA/IS could easily result in widespread damage to area-of-origin communities, streams, all manner of species, private and/or public groundwater wells, and infrastructure, giving rise to potentially significant health and safety concerns and necessitating a DEIS/EIR. See, 40 C.F.R. § 1501.3(b)(2)(iii))

### *Response to Comment 3-2*

In response to the comment that the stated purpose and need for the project obscures the causes driving water transfers, Reclamation, the NEPA Lead Agency, developed the purpose and need for this project consistent with the requirements of). Section 107(d) of the National Environmental Policy Act (NEPA). The Draft EA/IS contains a brief discussion of the purpose and need for the Proposed Action. No changes to the Draft EA/IS are required.

Regarding the comment that substituting groundwater is prohibited under the Central Valley Project Improvement Act (CVPIA), Section 2.2.3 of the Draft EA/IS states: "the water made available for transfer will be limited to water that would have been consumptively used or irretrievably lost to beneficial use […]" (Page 2-6). Under groundwater substitution transfers Sellers exchange Project Water, which would have been consumptively used and irretrievably lost to a beneficial use by the Sellers without the transfer; therefore, these actions meet the provision of Section 3405(a)(1)(I) of the CVPIA.

Regarding the comment that the "EA/IS could easily result in widespread damage to area-of-origin communities, streams, all manner of species, private and/or public groundwater wells, and infrastructure, giving rise to potentially significant health and safety concerns and necessitating a DEIS/EIR," the Draft EA/IS presents an evaluation of all resource effects that could result from implementation of the Proposed Action. The document was developed consistent with 43 CFR 46.310 and presents the magnitude and potential significance of any impact specific to each potential resource effect. For all of those potential resource effects, the Draft EA/IS identifies potential impacts that are less than significant or that for some resource effects would be reduced to a less than significant level with the implementation of mitigation detailed in the Draft EA/IS.

**B. Descriptions of the Project Area are Replete with Outdated and/or Incorrect Information**

1) Section 3.11, Surface Water, Affected Environment/Environmental Setting, begins with a description of what entails a water year and what the Lead Agencies deem is the role of the CVP. There is little discussion of precipitation in the area of origin about both drought years, of which there have been many in the last 25 years, and the robust years in the same period. The EA/IS intentionally omits data easily available to the Bureau, such as the Northern Sierra Precipitation: 8-Station Index, which better informs the reader (Figure 1).Writing generally about the most recent period obfuscates the serious changes in the hydrology of the Project area: 'In 2021, a critical year, deliveries were cut back to five percent of Contract Total for South-of-Delta agricultural contractors. In 2022, another critical year, South-of-Delta agricultural contractors received a "0 percent" allocation. Allocations for South-of-Delta agricultural contractors occasionally improve, with a 100 percent allocation in 2023 and 50 percent allocation in 2024 (Bureau 2024a)."[6]

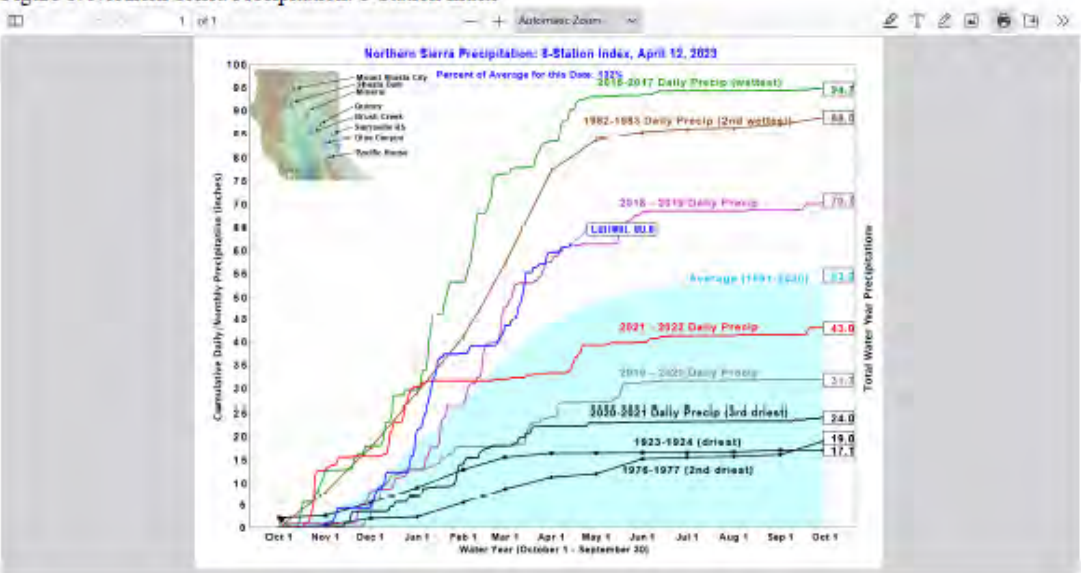
3-3

DWR's comments on the Draft Colusa Subbasin Groundwater Sustainability Plan provided damning information about the state of the Colusa Subbasin that should have affected this Project's analysis and disclosure: "Since the GSP submittal, annual report data submitted to the Department

demonstrates that groundwater storage within the Subbasin has ***dramatically decreased***, deviating from the values reported in the GSP for the historical and projected water budgets. Specifically, the overdraft reported for water year (WY) 2021 (which represents change between October 1, 2020, and September 30, 2021) was -418,000 acre-feet and -377,170 acre-feet for WY 2022.45 Combined, these values represent ***a loss of storage of over 795,000 acre-feet in just a two-year period, which is more than double the anticipated overdraft predicted over the 50-year implementation horizon.*** Department staff recognize WY 2021 and WY 2022 were critically dry years; however, the magnitude of the loss of storage observed during these two years is significantly greater than the average value provided in the historical water budget of -166,000 acre-feet for the previous critically dry water year types, indicating that overdraft is increasing.[46]" [emphases added]. Exhibits K and L contain 2024 hydrographs that demonstrate the seriousness of the overdraft occurring in the Sacramento Valley and Redding subbasins, but not disclosed in the EA/IS or addendum.

The lack of a robust discussion of historic and current hydrologic conditions leaves the reader and policy makers without a sufficient understanding of the purported need for the Project and the potentially serious ramifications of the Project.[7]

Figure 1. Northern Sierra Precipitation: 8-Station Index[8]




2) The EA/IS' discussion of water quality impacts provides a general summary of current conditions, but without localized specifics on the relationship between the proposed groundwater substitution pumping and poor water quality areas: "[g]roundwater quality in the area is generally

3-3

good and sufficient for municipal, agricultural, domestic, and industrial uses."[9] However the EA/IS discloses at a basin level that the Redding Area Groundwater Basin has constituent issues: "Areas of high salinity (i.e., poor water quality) are generally found on the western basin margins where the groundwater is in contact with marine sedimentary rock. Elevated levels of iron, manganese, nitrate, and TDS have been detected in some areas throughout the basin (SWRCB 2022). Localized high concentrations of boron have been detected in the northern portion of the basin (SWRCB 2022)."[10]

The EA/IS continues with a general summary of groundwater quality at an even larger scale in the entire Sacramento Valley, stating that it "[i]s sufficient for municipal, agricultural, domestic, and industrial uses. However, some localized groundwater quality issues exist in the basin including occurrences of saltwater intrusion, elevated levels of nitrates, naturally occurring boron, and other introduced chemicals (Northern California Water Association 2022)…The GAMA study found one or more inorganic constituents present at high concentrations in about ten percent of the sampled groundwater wells, with arsenic present in high concentrations and hexavalent chromium present in moderate concentrations (U.S. Geological Survey and SWRCB 2019). In addition, manganese and iron were present at high concentrations in about 16 percent of the groundwater wells and about 12 percent of the sampled wells had moderate concentrations of nitrate."[11] First, is "sufficient" the goal for groundwater dependent residents, farms, and businesses? Second, domestic use of groundwater has the highest priority under SGMA. How is the cursory and inadequate discussion of water quality in keeping with that mandate? 3-3

The EA/IS fails to provide information that was included in the *Water Reduction Program Agreement* (aka Drought Resiliency Plan) ("WRP Agreement"), which is essential for CEQA and NEPA disclosure with this Project. The following is from the 2024 AquAlliance et al. comments on that agreement:

> The EA states that the western portion of the Sutter GWSB has groundwater with high concentrations of arsenic, boron, calcium magnesium bicarbonate, chloride, fluoride, iron, manganese, sodium, and TDS. In the southern portion of the Sutter GWSB, groundwater in the upper aquifer system tends to be high in salinity. (p. 29)
>
> The North American GWSB in areas along the Sacramento River from Sacramento International Airport northward to the Bear River contains high levels of arsenic, bicarbonate, chloride, manganese, sodium, and TDS. High TDS concentrations occur between Reclamation District 1001 and the Sutter Bypass. The deeper portions of the aquifer system have high concentrations that indicate the occurrence of connate water from the marine sediments mixing with the overlying fresh water. High water quality concerns of arsenic, bicarbonate, boron, chloride, fluoride, iron, manganese, nitrate, sodium, and TDS occur in the North American GWSB. (p. 30)

The EA states that "[g]roundwater substitution transfers under both the Proposed Action and the No Action Alternative could introduce contaminants that could enter surface waters from irrigation return flows." (p. 36) The EA then makes an unsupported statement that "[t]he amount of groundwater substituted for surface water under the Proposed Action would be relatively small compared to the amount of surface water used to irrigate agricultural fields. Groundwater would mix with surface water in agricultural drainages prior to irrigation return flow reaching the rivers. Constituents of concern that may be present in the groundwater could enter the surface water as a result of mixing with irrigation return flows. Constituents of concern, however, would be greatly diluted when mixed with the existing surface waters applied because a much higher volume of surface water is used for irrigation purposes. Additionally, groundwater quality in the area is generally good and sufficient for municipal, agricultural, domestic, and industrial uses." (p. 36) The EA's assertion that dilution-will-be-the-solution isn't backed up with any quantitative analysis of the potential for groundwater substitution irrigation to result in high concentrations of contaminants of concern from natural or anthropogenic sources being discharged to surface waters. The leap-of-faith that the quality of the groundwater being pumping "[i]s generally good and sufficient for municipal, agricultural, domestic, and industrial uses" contrasts with the discussion given in the EA about known areas of poor water quality.

The EA is deficient in the assessment of water quality impacts because of the lack of specifics on the locations and quantities of the proposed groundwater substitution pumping relative to the areas of poor water quality in the SRSC service area subbasins. The lack of specific information on the locations and quantities of groundwater substitution pumping, including the locations of the proposed 30 new deep wells, and the failure to analyze the Program's pumping impacts on known areas of poor water quality, to non-SRSC users' beneficial uses, and Public Trust resources must be corrected. The EA must also be revised to provide Mitigation Measures that monitor and protect the beneficial uses of the groundwater resources in the SCRC service area subbasins, including water quality triggers for the cessation of groundwater pumping.

3-3

The comments for the WRP Agreement's EA also apply here, but the Lead Agencies provide even less information regarding water quality. The minimal, but important disclosure of groundwater quality problems in the Project Area should also have been accompanied by very detailed maps. As the Lead Agencies are aware, but it is not analyzed here, groundwater pumping may produce very localized impacts. All parties potentially vulnerable to impacts from the expansive groundwater pumping with this Project are therefore unaware of the possible threats to their water quality and health. Reviewers of the EA/IS are also in the dark. Nonetheless, for the purposes of CEQA, the EA/IS asserts "[g]roundwater quality in the area is generally good and sufficient for municipal, agricultural, domestic, and industrial use. Section 3.3, Groundwater Resources, provides additional

discussion of groundwater quality. The Proposed Action would have a less-than-significant impact on water quality from groundwater substitution transfers (CEQA Conclusion)."[12]

Lastly, the Project can't rely on the now approved 2024 revised Colusa Subbasin GSP, which has more time to implement actions and to reset the baseline for subsidence (more discussed below). The creation of a domestic well mitigation program isn't expected until January 2026 and a demand management program will be further delayed until January 2027 "if undesirable results are still occurring in the Subbasin" (Revised Colusa Subbasin GSP, p. 6-2). DWR's conclusion that "The GSAs do not appear to have an urgency to implement the necessary projects and management actions to mitigate overdraft and Department staff are concerned that continued overdraft will exacerbate the current problems the basin is experiencing, which include dry wells and worsening land subsidence" was correct when it was written October 16, 2023, and it is still true 19 months later. The GSAs are failing under SGMA, so the Lead Agencies can't rely on their products or oversight for mitigation or monitoring. 3-3

The conclusory CEQA statement above is not supported by the extremely inadequate EA/IS, which must be withdrawn.

### *Response to Comment 3-3*

In regard to the comment that "descriptions of the project area are replete with outdated and/or incorrect information," the Draft EA/IS presents information in the Affected Environment subsections of each resource area in Section 3 at a level of detail sufficient for establishing current conditions. Each Affected Environment subsection description of existing conditions in the Draft EA/IS presents information sufficient to support the comparison of the No Action Alternative to the Proposed Action Alternative evaluated in the Draft EA/IS.

In response to the comments related to the analysis of potential contaminants discharged to surface water from groundwater substitution transfers and the need for detailed maps to capture localized impacts, the existing conditions presented in the Draft EA/IS are sufficient to establish the current condition of groundwater quality across the area of analysis. The Draft EA/IS also evaluates potential changes to those conditions in the future with implementation of either the Proposed Action or the No Action Alternative. This comparison establishes the potential for changes in existing and future groundwater quality. The amount of transfer water that would be provided is minimal compared to existing applied irrigation water in the area. The small incremental supply would not be sufficient to change drainage patterns or existing water quality, particularly given drainage management, water conservation actions, and existing regulatory compliance efforts already implemented in the area. Therefore, the Proposed Action would not result in impacts to water quality or provide a substantial source of polluted runoff.

In response to the comment that the project cannot rely on the now approved 2024 revised Colusa GSP for mitigation or monitoring, Mitigation Measure GW-1 requires the implementation of monitoring regardless of the availability of monitoring data from other sources. Each Seller's monitoring well network shall include the participating transfer pumping well and a suitable groundwater-level monitoring well(s) in the vicinity of the participating transfer pumping well(s). Implementation of the specific response actions detailed in Mitigation Measure GW-1 by the Sellers are also required regardless of the implementation status of the GSP covering their specific subbasin.

### C. The Public Trust and Reasonable Use Doctrines Are Ignored

The Delta Reform Act mandates, "The longstanding constitutional principle of reasonable use and the public trust doctrine shall be the foundation of state water management policy and are particularly important and applicable to the Delta." (Water Code § 85023) With respect to the public trust doctrine, "no one has a vested right to use water in a manner harmful to the state's waters." (*United States v. State Water Resources Control Bd.* (1986) 182 Cal.App.3d 82, 106 (1986). As the California Supreme Court determined in the Mono Lake case, "Once the state has approved an appropriation, the public trust imposes a duty of continuing supervision over the taking and use of the appropriated water. In exercising its sovereign power to allocate water resources in the public interest, the state is not confined by past allocation decisions which may be incorrect in light of current knowledge or inconsistent with current needs." (*National Audubon Society v. Superior Court* (1983) 33 Cal.3d 419, 447.)

Regarding the reasonable use requirement, the California Constitution establishes that the right to water or the use or flow of water "does not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water… ." (Cal. Const. art. X, § 2.) "The mandates of section 2 "are plain, they are positive, and admit of no exception." (*Peabody*, at p. 367.) They "apply to the use of all water, under whatever right the use may be enjoyed" and to "every method of diversion." (*Ibid.*) Indeed, section 2's reasonable use requirement "is now 'the overriding principle governing the use of water in California.'" (*Light v. State Water Resources Control Bd.* (2014) 226 Cal.App.4th 1463, 1479 [173 Cal. Rptr. 3d 200] (*Light*).)" *Bring Back the Kern v. City of Bakersfield*, (2025) 110 Cal. App. 5th 322, 347.

"The fact that a diversion of water may be for a purpose 'beneficial' in some respect … does not make such use 'reasonable' when compared with demands, or even future demands, for more important uses." (*Imperial Irrigation Dist. v. State Wat. Resources Control Bd.* (1990) 225

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[12] *Id.* p. 3-7, pdf 25.



Cal.App.3d 548, 570–571 [275 Cal. Rptr. 250] (*Imperial*).)" *Bring Back the Kern* at 347. "Such a determination looks to the totality of the circumstances, which include effects on fish and other wildlife (Wat. Code, § 1243, subd. (a)), recreation (*ibid.*), water quality and the transportation of adequate water supplies where needed (*United States, supra*, 182 Cal.App.3d at p. 130), water supplies for the domestic needs of people such as the residents served by the City of Bakersfield (Wat. Code, § 106), irrigation (Wat. Code, § 106), effects on other users of the watercourse (*In re Waters of Long Valley Creek Stream System* (1979) 25 Cal.3d 339, 354 [158 Cal. Rptr. 350, 599 P.2d [656]), and any effects on "appropriations essential to the economic development of this state" (*Audubon, supra*, 33 Cal.3d at p. 445; see also *Gin S. Chow, supra*, 217 Cal. at pp. 701–702). *Bring Back the Kern* at 356-7.

3-4

The IS/EA fails to undertake these analyses at all. Reasonable use alternatives such as conservation, recycling, and drip irrigation have been ignored in the effort to enshrine water transfers from northern California, without due consideration of alternatives, nor whether continuing to support high intensity water demand crops in the arid Sellers' regions is reasonable.

***Response to Comment 3-4***

In regard to the comment that the public trust and reasonable use doctrines are not considered in the Draft EA/IS, as stated in Section 1.1 of the Draft EA/IS: "Reclamation (and potentially DWR, as necessary) would review and approve, as appropriate, proposed water transfers in accordance with a Seller's Sacramento River Settlement Contract (Settlement Contract), repayment, or other water service contracts with Reclamation, the *DRAFT Technical Information for Preparing Water Transfer Proposals (Water Transfer White Paper)* (Reclamation and DWR 2019), and local, state and federal law" (Page 1-2). All transfers are subject to the California Water Code, including Section 100 which "requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such water is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare". California Water Code Section 1244 states that transfer of water in itself shall not constitute evidence of waste or unreasonable use. The transfer of water for agricultural use meets the definition of beneficial use (California State Water Resources Control Board 2014).

In response to the comment that reasonable use alternatives such as conservation, recycling, and drip irrigation have been ignored, these measures are currently implemented in the Buyer Service Area and are included under the No Action Alternative. As stated in Section 2.1 of the Draft EA/IS, if supplies are constrained, water users may take alternative water supply actions in response to shortages, including increased groundwater pumping, cropland idling, reduction of landscape irrigation or permanent crop irrigation, or water rationing under the No Action Alternative. The effects associated with the No Action Alternative are presented in Section 3 of the Draft EA/IS. See Response to Comment 3-9 for additional discussion of alternatives.

**D. The EA/IS Presents the Project's Impacts to Biological Resources Superficially and Relies on Legally Deficient Mitigation and Monitoring Measures to Remediate Impacts Thereto.**

*Groundwater Dependent Ecosystems*

It is clear that the EA/IS and addendum's groundwater substitution biological impacts analysis doesn't provide any information on the relationship between potential pumping wells and biological habitats. The analysis defers to the "[N]ature Conservancy's Natural Communities Commonly Associated with Groundwater Dataset Version 2.0 (NCCAG 2.0) (The Nature Conservancy 2021) data set or [] an approved GSP"[13] and further deflects disclosure to a later date outside the public's review where a seller "[w]ould be required to identify if monitoring for shallow-rooted and/or deep-rooted vegetation associated with a GDE is a requirement." The lack of supporting documentation makes the EA/IS and addendum's analysis of groundwater substitution pumping impacts inadequate under NEPA and CEQA. *Lands Council*, 537 F.3d at 987; (14 C.C.R. § 15126.4(a)(1)(B). The Lead Agencies must use the tools available to ***them*** to identify the location of shallow-rooted vegetation and develop a monitoring network to prevent impacts, which should be shared with the public in subsequent environmental review.

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Further, it appears that only desk surveys were or will be conducted for the Project (pp. 3-46 and Appendix I) using the California Natural Diversity Database ("CNDDB"), the U.S. Fish and Wildlife Service ("USFWS") Information for Planning and Consultation list of federally listed and proposed endangered, threatened, and candidate species, the California Native Plant Society ("CNPS") online Inventory of Rare and Endangered Vascular Plants of California, and the National Marine Fisheries Service ("NMFS") West Coast Region's species list of endangered and threatened species and critical habitat. More is required; reliance only on online resources is insufficient especially where, as here, federally threatened species are known to be present in and around the project area.

The 2026-2027 EA/IS doesn't provide, and neither did the 2020 LTWT EIS/EIR, any maps of the known GDEs within the transfer subbasins or maps that show the spatial relationship between GDEs and the transfer wells shown in the maps of Appendix E1, Figures E2-a to E2-c and E3-a to E3-c (pp. E1-5 to E1-10, pdf 151-156). For example, Exhibit A is a map that combines the shallow aquifer zone drawdown map, Figure E-2a from Appendix E1 (p. E1-5, pdf 151), with a screen shot taken of the NCCAG2.0 GDEs for a portion of the Sacramento Valley. Because many these transfer wells have been used in past groundwater substitution transfers, see Appendices F1 (2020), F2 (2021), and F3 (2022), documentation of each well's relationship to surrounding GDEs should already be available from previous transfer proposals, as well as reports submitted with the results of the past monitoring programs. This historical GDE monitoring documentation should be presented in the 2026-2027 EA/IS to demonstrate how effective the GDE monitoring programs have been during past groundwater substitution transfers and to allow for review and comment by the public and responsible wildlife agencies.

The 2026-2027 EA/IS requires that the Bureau determine that the Seller(s) groundwater substitution transfers monitoring program:

> *"....accurately characterize groundwater levels from the appropriate aquifers and their response in the area before, during, and after transfer-related substitution pumping takes place. Depending on local conditions, additional groundwater-level monitoring may be required near ecological resource areas such as areas with mapped groundwater dependent ecosystems. Sellers must identify, in the transfer proposal, suitable monitoring wells as defined below for review and approval by Reclamation (in coordination with DWR). If a suitable monitoring well(s) is not identified for a participating transfer pumping well, the well will not be allowed to participate in a water transfer until a suitable monitoring well(s) is identified, ensuring adverse effects of the Proposed Action are not occurring undetected."* (p. 3-19, pdf 37)

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The 2026-2027 EA/IS defines the groundwater dependent ecosystems (GDEs) that need to be monitored as areas of *shallow-rooted or deep-rooted vegetation*, but places specific limits on the areas and distances from the transfer wells and the maximum rooting depths of GDE vegetation that need to be monitored:

> *"This monitoring is only required in areas that have been identified as GDEs in the Nature Conservancy's Natural Communities Commonly Associated with Groundwater Dataset Version 2.0 (NCCAG 2.0) (The Nature Conservancy 2021) data set or by an approved GSP and either (1) contain shallow-rooted (i.e., groundwater dependent vegetation, such as riparian phreatophytes that have roots extending up to 30 feet deep) within a 0.5-mile radius of the participating transfer pumping well and areas where groundwater levels are less than 30 feet below ground surface prior to starting transfer-related pumping; or (2) contain deep-rooted vegetation (i.e., primarily valley oak trees that could have roots up to 80 feet deep) within a 0.5-mile radius of the participating transfer pumping well and areas where groundwater levels are less than 80 feet below ground surface prior to starting transfer-related pumping. This monitoring is not required in areas with no GDEs with shallow-rooted and/or deep-rooted vegetation within 0.5-mile of the participating transfer pumping well(s) or in areas where vegetation is located along waterways or irrigated fields that will continue to have water during the period of transfer."*

*"If a GDE comprised of shallow-rooted and/or deep-rooted vegetation is identified near the participating transfer pumping well, a groundwater level monitoring well with the following requirements would need to be identified and monitored: (1) monitoring well is within a 0.5-mile radius of the GDE containing shallow-rooted and/or deep-rooted vegetation; and (2) monitoring well would measure shallow groundwater level changes (typically less than 80 feet below ground surface). For each GDE monitoring well, a minimum groundwater threshold would be identified by the Seller using hydrologic data and expert opinion based on the ecological function and value of the GDE, and on the maximum rooting depth of its dominant vegetation type. If monitoring data at the monitoring well indicate that groundwater levels have dropped below the groundwater threshold within the GDE, the Seller must implement actions set forth in the mitigation plan. However, if a qualified plant ecologist/arborist determines that the GDE is in relatively healthy condition, and historical data show that groundwater levels in the area have typically fluctuated by more than this amount annually during the proposed transfer period, then the transfer may be allowed to proceed without any monitoring requirements. Prior to transfer pumping, the Seller must submit to Reclamation historical data showing groundwater fluctuations in the vicinity of the GDE."* (p. 3-22, pdf 40)

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The 2026-2027 EA/IS GDE monitoring program has several requirements that likely limit the efficacy of the monitor to protect critical vegetation and wildlife.

A. The distance limit from pumping transfer well(s) to the GDEs area appears arbitrary because there is no requirement that the Seller(s) analyze and document that the pumping can't produce drawdown beneath the GDE area(s) beyond a 0.5-mile radius. As discussed below in Comment F, if there is no groundwater monitoring well, the GDE monitoring program requires biological assessments before and biological monitoring during transfer pumping out to a distance of 5 miles. The requirement to extend monitoring 10 times farther whenever there is no monitoring wells suggests that the impacts from transfer pumping should be assumed for all GDEs within a 5-mile radius, with or without a monitoring well. If there is a monitoring well(s), the Seller must be required to analyze and document how the groundwater level measurements in the monitoring well determine the groundwater level beneath the GDE area and compliance with the GDE area thresholds and triggers.

B. The only GDEs that require monitoring are those with *shallow-rooted or deep-rooted vegetation.* There may be other types of GDEs in the Sacramento Valley that require protection, such as wetlands, streams, lakes, swamps, springs, or caverns because they all rely on the groundwater remaining near and/or discharging to the ground surface, see Exhibit B[14]. These additional types of GDEs likely provide habitat for wildlife species, some of which may be threatened or endangered, i.e., the giant garter snake (Thamnophis gigas).

C. The monitoring program isn't required in areas where vegetation is located along waterways or irrigated fields that will continue to have water during the period of transfer. This blanket exemption appears to assume without analysis and documentation that transfer pumping

drawdown can't detrimentally alter the hydrologic conditions in those GDE areas. This exemption presumes that pumping won't prevent the discharge of groundwater to the surface and/or increase the seepage rate of surface waters that results in the habitat and/or wetlands drying or degrading, or cause a decline in the groundwater level that can fully recover once the pumping stops, etc.

D. The monitoring well, if there is one, is required to measure shallow groundwater levels changes, *"typically less than 80 feet below the ground surface."* This appears to conflict with the requirement to monitor deep-rooted vegetation whose roots can grow up to 80 feet deep. The monitoring program needs to document that the transfer pumping can't and didn't cause a decline in groundwater level below 80 feet from the ground surface and the full range of the natural seasonal groundwater level fluctuation, in particular if it drops below an 80 feet depth, and document that levels will fully recover after pumping stops. The screened intervals of a monitoring well(s) needed to protect GDEs from transfer pumping should include all of the groundwater zone(s) where fluctuations in the water level could cause an impact. Any exemption from monitoring the groundwater level near GDEs should be based on comprehensive site-specific data and analyses of the full historical range of natural groundwater level fluctuations and the added decline from the transfer pumping drawdown, which should then be used to develop site-specific thresholds and triggers, and mitigation measures needed to protect the GDE's vegetation and/or wildlife.

E. The GDE monitoring program allows for a *"qualified plant ecologist/arborist"* to decide to override the requirement for monitoring and mitigation measures when the GDE(s) is in *"relatively healthy condition"* **and** the *"typical"* historical fluctuations in the groundwater level have been more than the *"amount annually during the proposed transfer period."* The Seller must submit to the Bureau the historical data showing groundwater fluctuations in the vicinity of the GDE. This monitoring and mitigation measure exemption ignores the issue of whether the decline in groundwater level caused by transfer pumping will fully recover to the natural condition when the pumping stops. Analysis of the historical hydrological conditions that result in the groundwater fluctuations and the subsequent recover following transfer pumping may require more expertise than just that of a plant ecologist/arborist. The Bureau shouldn't give blanket approval for any exemption to monitor and mitigate the impacts to GDEs from groundwater substitution transfer pumping without a full and complete hydrological and biological report with site-specific historical and pre- through post-pumping period measurements by multiple professionals qualified in the sciences of plant ecology, hydrology, and hydrogeology. 3-5

F. An additional qualified plant ecologist/certified arborist exemption to monitoring transfer pumping groundwater level at GDEs can occur based on visual observations when there is no monitoring well and with:

> *"…pre-pumping vegetation assessment of GDEs within a 5-mile radius of the pumping well followed by monthly assessments during transfers and assessment near the end of the pumping season but prior to fall/autumn leaf-drop. The assessment of post-pumping impacts on deep-rooted vegetation will be conducted by a qualified plant ecologist/arborist and will take into account the existing health conditions of the vegetation prior to pumping, species present, size-class of trees, and rainfall data from the previous WYs. Photographs from the assessment must be provided to Reclamation as part of the annual transfers reports."*

*If the qualified plant ecologist/certified arborist determines, based on site-specific circumstances, that groundwater pumping has caused any loss of the shallow-rooted or deep-rooted vegetation the Seller must implement restoration actions set forth in the mitigation plan.*

*Findings from the pre-pumping assessment, during transfers pumping assessment and post-pumping assessment will be reported to Reclamation in monthly transfers reports.* (p. 3-23, pdf 41)

*In areas where visual monitoring is conducted to monitor health of shallow-rooted and deep-rooted vegetation, the Seller must stop transfer-related pumping at the participating transfer pumping well if the qualified plant ecologist/arborist, determines a loss or substantial risk of loss of vegetation.* (p. 3-25, pdf 43)

The requirement for visual observation by either a plant ecologist or certified arborist out to a radius of 5-miles when there is no monitoring well within 0.5 miles seems to conflict with the default assumption that impacts from transfer pumping don't occur beyond a 0.5-mile radius (p. 3-22, pdf 40). The GDEs monitoring program requirements should be revised to require the evaluation of groundwater level changes from the groundwater substitution transfer program out to a radius of 5 miles from the GDEs, and require monitoring wells near the GDEs that provide accurate information on the changes in groundwater level that occur beneath the GDEs area(s).

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In summary, the discussion above demonstrates that the 2026-2027 EA/IS GDEs monitoring program has several significant limitations that will prevent protection of critical vegetation and wildlife during and after the periods of groundwater substitution transfer pumping. The GDEs monitoring and mitigation measure program must be revised to require: 1) thorough documentation of the relationship between each of the transfer pumping wells and the known GDEs at least out to a 5 mile radius for the well; 2) estimates of transfer pumping groundwater level seasonal change and pumping decline out to a radius of at least 5 miles; 3) written documentation of how the groundwater level measurements at a monitoring well represent the groundwater levels beneath the GDEs area(s); 4) that all the documentation reports be prepared as necessary by multiple professionals qualified in the sciences of plant ecology, hydrology, and hydrogeology; 5) that all pre-pumping well drawdown and environmental assessment reports be included with the Seller's transfer proposal and these documents be made easily available to the public, at no cost (i.e., the Bureau's website), and responsible regulatory agencies, at least 60 days prior to the transfer proposal's approval by the Bureau, so that the Bureau will have all of the third-party(s) comments when making a decision to approve or not approve the transfer proposal; and 6) that monthly GDEs monitoring reports and any mitigation measure design and/or status reports be noticed to interested parties and made available to the public within 48 hours of submittal to Bureau via its website.

*Aquatic Species*

The Project appears to have no intention to protect listed species; therefore, the EA/IS' reliance on all biological mitigation and monitoring measures is unlawful. This is significant because the populations of several species in the Project area that are either currently listed as "endangered" or "threatened" under the federal Endangered Species Act are in decline. For example, the population of Sacramento River Winter-Run Chinook Salmon has declined considerably since 2016 and is at a high risk of extinction. NOAA, *2024 5-Year Review: Summary & Evaluation of Sacramento River Winter-Run Chinook Salmon* (Jan. 12, 2024), at 17 (attached hereto as Exhibit C). Likewise, the

regional population of Delta Smelt is in serious decline; the federal government has stated that the species is declining so rapidly that reclassifying it from "threatened" to "endangered" is warranted, but that such reclassification has been deferred as a result of other, competing species-related priorities. 87 Fed. Reg. 85, 26171-26172 (2022) (attached hereto as Exhibit D).

*Stream Depletion*

Section 3.1.2 of the 2026-2027 EA/IS, Environmental Consequences/Environmental Impacts, states that groundwater substitution transfers may impact surface water supply in the Seller Service Area by "[d]ecreasing flows in neighboring surface water bodies following a transfer while groundwater basins recharge, which could decrease pumping at Jones and Banks Pumping Plants and/or require additional water releases from upstream CVP reservoirs. Groundwater substitution …pumping may capture some groundwater that would otherwise discharge to streams as baseflow. Once pumping ceases, stream depletion continues, replacing the pumped groundwater slowly over time until the depleted storage is fully recharged. If the recharge occurs during dry periods, then the recharge would decrease river flows at times when it would affect the Bureau and DWR." (p. 3-4, pdf 22). If the groundwater substitution pumping causes a reduction in river flow or water quality, the Bureau of Reclamation and the Department of Water Resources (DWR) would need to take actions to meet river flow and water quality standards on the Sacramento River, its tributaries, and within the Delta, which could affect the Central Valley Project (CVP) and the State Water Project (SWP) water supplies. The 2026-2027 EA/IS provides Mitigation Measure WS-1 (WS-1) to address these potential impacts to the CVP and SWP, which includes using a "streamflow depletion factor" (SDF) in groundwater substitution transfers to account for the potential water supply impacts to the CVP and SWP (p. 3-4 and 3-5, pdf 22-23). 3-5

The SDF equates to a percentage of the total groundwater substitution transfer that will not physically be available for transfer to the Buyer (transferee) to offset potential water supply effects and reduce them to a less than significant level. Calculation of the SDF for the 2026-2027 EA/IS is based on regional modeling whose results are provided in Appendix E4, Streamflow Modeling Results (pp. E4-1 to E4-32, pdf 423-456). The SDF will be re-assessed on a regular basis by the Bureau and DWR, in consultation with buyers and sellers. This additional site-specific data, analysis, and groundwater modeling may result in different, local SDFs. An SDF of no less than 20 percent is proposed for the 2026-2027 groundwater substitution transfers (p. 3-5, pdf 23). Note that this SDF percentage differs from the minimum SDF of 13% used by DWR in the Water Transfer Information Checklist (Appendix E3, pdf 415-422). While the SDF is slightly more protective than the 13% used in the LTWT Program and other transfers, it remains inadequate according the DWR's own consultant:

> "The effect of groundwater substitution transfer pumping on stream flow, when considered as a percent of the groundwater pumped for the program, is significant. The impacts were shown to vary as the hydrology of the periods following the transfer program varied. The three scenarios presented here estimated effects of transfer pumping on stream flow when dry, normal, and wet conditions followed transfer pumping. Estimated stream flow losses in the five-

year period following each scenario were 44, 39, and 19 percent of the amount of groundwater pumped during the four month transfer period."[15]

Appendix E4 provides tables of monthly streamflow model simulation results using the Sacramento Valley Finite Element Groundwater Model (SACFEM2013). The SACFEM2013 model can simulate groundwater and surface water interactions in the Sacramento Valley and was therefore used to estimate groundwater pumping and recharge effects on surface water bodies. The modeled volume of water made available by groundwater substitution transfer was 297,155 acre-feet, which is more than the proposed maximum transfer of 250,000 acre-feet per year for the 2026-2027 transfers. The model simulated streamflow during groundwater substitution transfers for waterbodies in the Sellers' service areas listed in Table 3-1 (EA/IS main report, pp. 3-43 and 3-44, pdf 61- 62).

The Bureau considers this SACFEM2013 modeling to be a conservative analysis of potential environmental impacts. (Appendix E4, p. E4-1, pdf 425). The simulation period ran from Water Year (WY) 1970 to WY 2003, which included WY 1977, a critically dry year that followed a critically dry water year, WY1976. Potential water transfers were simulated under September 1977 hydrologic conditions. The groundwater model was unconstrained (i.e., it does not consider stopping the transfer-related pumping when the Mitigation Measure GW-1 (MM GW-1) trigger is reached (EA/IS main report, p. 3-42, pdf 60). Therefore, the modeling presents a worst-case scenario that could occur under very dry conditions.

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The streamflow modeling results are presented in Tables E4-1, E4-3, and E4-3, for the simulate streamflow in the Lower Sycamore Slough, Colusa Basin Drain, and Eastside/Cross Canal, the three waterbodies that model calculated reductions of greater than the thresholds of one cubic-feet-per-second (cfs) and/or ten percent of average monthly flows. The one cfs threshold is the model's lowest accurately measurable changes in streamflow depletion, and the ten percent threshold is the margin of error of the SACFEM2013 model based on model calibration (EA/IS main report, pp. 3-41, pdf 59).

Appendix Tables E4-1 to E4-3 list the monthly modeled streamflow changes from September 1969 through September 2003. Streamflow depletions from the proposed groundwater substitution transfers were greater than either the one cfs or ten percent thresholds in some but not all of the months between the May 1977 through October 1993 in the Lower Sycamore Slough (Table E4-1), August 1977 through March 2002 in the Colusa Basin Drain (Table E4-2), and May 1977 through June 1980 in the Eastside/Cross Canal (Table E4-3). The SACFEM2013 simulation compared the potential transfers of water in the two contract years 2026-2027 to the No Action/No Project Alternative with groundwater substitution transfer pumping simulated in WY 1977 (October 1976 through September 1977) (p. 3-15, pdf 33) and possibly again in WY 1978. The streamflow depletions that exceed either of the two thresholds are highlighted and boldfaced in the tables. In reviewing the streamflow depletion in the Lower Sycamore Slough, Tables E4-1 (pp. E4-2 to E4-12, pdf 426-436) an interesting modeling result is observed. The monthly percent change during WY 1978 is calculated as being both positive and negative with values often greater than the minimum 20% SDF prescribed in MM GW-1. The streamflow modeling discussion in Appendix E4

doesn't explain the significance of the positive percent change versus negative percent change when the streamflow losses are always listed as negative cfs values. This positive versus negative percent change is likely significant and should be explained so that any instream flow monitoring measures can be properly designed and timed. Several of the percent changes are in fact greater than 100 percent. During three months in WY 1978, the percent change is greater than 100 percent in the negative for one month and greater in the positive for two months. A greater than 100 percent negative change also occurred in February 1980, but this time the monthly cfs reduction was less than the one cfs threshold. Another interesting model outcome for the Lower Sycamore Slough is simulated results for monthly percent change being greater than the ten percent threshold in ten months from October 1979 through October 1993, while the monthly flow low was less than one cfs.

The physical reasons that caused the SACFEM2013 model to report both positive and negative percent changes, and to report percent changes when the flow losses are less than one cfs need to be explained. In addition, the model results need to be shown on a map that depicts where and when the losses listed in the Appendix E4 tables occur. These spatial and temporal data are needed to determine the locations and times to conduct monitoring of stream and river flows, surface water quality, and biological and wildlife resources before, during, and after the 2026-2027 groundwater substitution transfer pumping.

As discussed below (*Relying on Groundwater Sustainability Plans Fails to Mitigate*), DWR evaluated the monitoring networks and sustainability management criteria for the Interconnected Surface Water provided by the GSAs in their subbasin's GSP. DWR's conclusion was that the analysis and monitoring network for Interconnected Surface Water has data gaps and needs additional justification. DWR therefore required in the approvals of each GSP that the GSAs revise the plans by the next periodic review. The data gaps and incomplete analysis of general groundwater pumping in the subbasin likely still apply to the groundwater substitution transfer pumping analysis and mitigation measures, because the transfer Sellers are among the GSAs that prepared the GSPs. The lack of specifics in the 2026-2027 EA/IS in the documentation of the actual transfer pumping rates, well locations, and well drawdown characteristics, suggests that the deficiencies in the GSPs haven't been corrected and therefore will likely still affect the sustainable management of the subbasins. 3-5

This mitigation measure violates NEPA in at least two ways. First, it constitutes unlawfully deferred mitigation. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 353 (1989) (NEPA requires that proposed mitigation measures "be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated"); *S. Fork Band Council of W. Shoshone of Nev. v. U.S. Dep't of Interior*, 588 F.3d 718, 727 (9th Cir. 2009) (discussion of mitigation measures must include "an assessment of whether the proposed mitigation measures can be effective"); *Laguna Greenbelt v. United States Dep't of Transp.*, 42 F.3d 517, 529 (9th Cir. 1994) (NEPA review cannot omit a reasonably thorough discussion of mitigation measures because to do so would undermine the action-forcing goals of NEPA). The Bureau has not provided sufficient detail, as described above, including but not limited to the "triggers" that will catalyze management intervention or the "plans" that seller will be have to prepare under GW-1, nor where groundwater-dependent ecosystems are located, what thresholds make sense to monitor for adverse impacts thereto, or how sellers can mitigate for such impacts pursuant to the unnamed mitigation measure for offsetting impacts on groundwater-dependent ecosystems. And the Bureau has not identified the "streamflow

factor" under WS-1, another mitigation measure meant to limit the Project's impacts on interconnected surface waters, which sets a target of 20% providing that it may be adjusted, upward or downward, without limitation, "based on additional information on local conditions." Absent more information, AquAlliance and the public cannot adequately comment on the efficacy of these proposed measures.

Second, this mitigation measure unlawfully relies on post-NEPA monitoring and data collection that will not be subject to public input and commenting. *Great Basin Res., 844 F.3d at 1104* ("[A] post-[NEPA] analysis—conducted without any input from the public—cannot cure deficiencies in [a NEPA document].") This is particularly concerning because it does not appear that the sellers' obligations to prepare and the Bureau's obligation to review and approve the "plans" associated with GW-1 and the unnamed mitigation measure for offsetting impacts on groundwater-dependent ecosystems would be enforceable.

Because the EA/IS's impacts analyses rely on groundwater monitoring networks, programs, and systems that have not been identified, specified, or established, and because the EA/IS's analyses rely so heavily on vague, undefined, deferred, and unenforceable mitigation measures, its analyses of Project-related impacts on surface water flows, groundwater supply, subsidence, and biological resources are unlawfully speculative and conclusory. *Greenpeace Action v. Franklin*, 14 F.3d 1324, 1335-36 (9th Cir. 1992). The EA/IS just says that because Project-related transfers may not reduce surface flows in interconnected surface waters by more than ten cubic-feet-per-second; it does not provide any analysis, expert citation, or other information to support that conclusion. EA/IS at 42-47. Its conclusion is a hope in the dark, especially considering that, by the Bureau's own admission, the monitoring network needed to make GW-1 and the as-of-yet unnamed mitigation measure for offsetting impacts on groundwater-dependent ecosystems function is not yet certain, this is particularly concerning. *Id.* at 3-18-23. Indeed, rather than actually analyzing the site-specific impacts of Project-related transfers on groundwater-dependent ecosystems and the species they support, the Bureau places its hope on unidentified biologists and arborists to visually inspect hundreds, potentially thousands, of whole ecosystems to make sure that Project-related transfers do not significantly harm groundwater-dependent ecosystems or the species that rely on them. *Id.* at 3-23.

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Moreover, because the EA/IS acknowledges that federally listed species are present in the Project area and will be impacted by Project-related transfers, the Bureau is obligated to consult with the relevant federal agencies pursuant to the federal Endangered Species Act. Where federally endangered species may be present within the site of a project that requires authorization under other federal laws, such as this Project, the agency authorizing the project (here the Bureau) must prepare a "Biological Assessment" to determine whether the species or its critical habitat may be adversely affected. 16 U.S.C. § 1536(c)(1). If the Biological Assessment concludes that the project will not adversely affect the species at issue or its critical habitat, the agency authorizing the project (here the Bureau) must obtain a concurrence letter attesting to that from the relevant federal expert agency (either the National Marine Fisheries Service ("NMFS") or the U.S. Fish and Wildlife Service ("FWS"), depending on the species at issue). 50 C.F.R. 402.12(j). Where the Biological Assessment concludes that the relevant project will adversely affect the species at issue or its critical habitat, the agency managing the project's authorization must "formally consult" with the relevant federal expert agency to determine whether the project will jeopardize the continued

existence of the affected species. 16 U.S.C. § 1536. The Bureau must therefore prepare a Biological Assessment.

To the extent that the Bureau seeks to rely on the 2024 Biological Opinion for Long-Term Operations of the Central Valley Project and State Water Project, such reliance is misplaced. EA/IS at B-16 (referencing the 2024 Biological Opinion). That Biological Opinion expressly states that "actions taken by contractors to make water available for transfers (i.e., reducing consumptive use by crop idling, contractor reservoir releases or groundwater substitution) … are not addressed in this consultation[.]" U.S. Fish and Wildlife Service, *Programmatic Biological Opinion for the Reinitiation of Consultation of the Long-Term Operations of the Central Valley Project and State Water Project* (Nov. 8, 2024), at 117 (hereinafter "2024 Biological Opinion") (attached hereto as **Exhibit E**). The 2024 Biological Opinion goes on to say that the actions to be taken by water sellers to make water available to downstream buyers as part of transfer programs (here increased groundwater extraction) are "addressed under separate consultation as described in the Environmental Baseline" section of that document, which references several biological opinions, most of which are outdated and many of which are from the early- to mid-2010s. *See generally* Exhibit E at 42-318. Such consultations cannot cover the Project within the ambit of the Endangered Species Act; the Bureau must therefore reinitiate consultation for this Project and prepare a Biological Assessment evaluating the potential impacts on federally listed species of the actions to be taken by sellers to make water available for transfer to downstream buyers (i.e., the increased groundwater extraction contemplated herein). 16 U.S.C. § 1536. (Such analysis may be conducted as part of the Bureau's NEPA review, but the analysis provided in the EA/IS as drafted plainly fails to carry this burden and may even trigger the need for formal consultation. *Id.* § 1536(c)(1).)

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### *Response to Comment 3-5*

The groundwater substitution biological impacts analysis includes a discussion of the potential for impacts to groundwater-dependent ecosystems (GDEs) from groundwater pumping in Section 3.7.2 of the Draft EA/IS. As stated in that section (Page 3-47), while impacts on GDEs may occur, the impacts of groundwater substitution on GDEs would be mitigated by implementation of Mitigation Measure GW-1 (see Section 3.3, Groundwater Resources). Specific to where GDEs are located, the locations of GDEs, including areas with shallow-rooted vegetation, within the project area are available to the public through the Nature Conservancy's Natural Communities Commonly Associated with Groundwater Dataset Version 2.0 (The Nature Conservancy 2021). Mitigation Measure GW-1 in the Draft EA/IS, Section 3.3.3 (Page 3-22), provides a clear and specific method that the Sellers would use to identify GDEs and monitoring thresholds based on local conditions. This is an appropriate approach as the mitigation measure provides precise criteria and performance standards along with potential actions to achieve those standards (14 C.C.R. Section 15126.4(a)(1)(B)). No changes to the Draft EA/IS are required.

The Draft EA/IS incorporates the best available information on the distribution of plant, fish, and wildlife resources within the project area. Due to the size of the project area and various locations, a full analysis of the entire project area was completed using online sources. Information on the precise locations of species occurrences within and around the project area is not needed to conduct an analysis of potential project impacts in compliance with CEQA and NEPA. No changes to the Draft EA/IS are required.

Maps showing the relationship between GDEs and transfer wells and monitoring documentation are not required to evaluate the environmental impacts of the project. The GDE monitoring requirements under Mitigation Measure GW-1 in the Draft EA/IS have been shown to be effective and were developed using the best available information. No changes to the Draft EA/IS are required.

The requirements for monitoring GDEs located within 0.5-mile of the pumping well were based on a conservative estimate of the distance from the pumping well that GDEs may be affected by groundwater pumping. Groundwater level declines due to pumping occur initially at the pumping well and then propagate outward from that location with the magnitude of groundwater level declines caused by pumping decreasing with increasing distance from the pumping well. Impacts on GDEs located more than 0.5-mile from pumping wells are therefore not anticipated. The Draft EA/IS incorrectly indicated that monitoring of vegetation associated with GDEs in areas where no suitable monitoring wells exist would be required within a 5-mile radius of the pumping well. Edits have been made to correct this error and revised the requirement to a 0.5-mile radius. As required by Mitigation Measure GW-1, the Seller would identify in their proposal a suitable groundwater level monitoring well that would indicate the groundwater level beneath the GDE.

Although the Draft EA/IS does not identify unvegetated portions of creeks, streams, and rivers that receive inputs from groundwater as GDEs, the potential effects of the project on these ecosystems are included in the Rivers and Creeks sections of the Draft EA/IS (See Section 3.7.2). Other GDEs such as seeps, springs, and wetlands typically provide indirect benefits to wildlife through the presence of shallow or deep-rooted vegetation. For example, emergent and bankside vegetation that provides cover from predators and aids in thermoregulation is a critical component of aquatic habitat for the giant garter snake, therefore impacts to GDEs that do not include vegetation would not significantly affect that species. By ensuring the survival and overall health of vegetation communities commonly associated with GDEs, the measures in the Draft EA/IS protect the GDEs and habitat for wildlife species that rely on them. Special status wildlife species that are known to occur in the project area and vicinity are not known to use habitat provided by GDEs associated with caverns that do not have a surface expression of groundwater and that do not support shallow or deep-rooted vegetation. Appendix I includes a complete list of special status wildlife species with potential to occur in the project area. No changes to the Draft EA/IS are required.

The Draft EA/IS correctly stated that monitoring is not required in locations where vegetation is located along waterways or irrigated fields that will continue to have water during the period of transfer. This approach is supported by substantial evidence based on the best available science. GDEs in these areas would remain stable with the expectation of a consistent water source in the area through surface water supply and irrigation. No changes to the Draft EA/IS are required.

The Draft EA/IS correctly states that the rooting depth, and therefore the monitoring requirements, of vegetation communities commonly associated with GDEs is less than 80 feet. It further states that "For each GDE monitoring well, a minimum groundwater threshold would be identified by the Seller using hydrologic data and expert opinion based on the ecological function and value of the GDE, and on the maximum rooting depth of its dominant vegetation type" (Page 3-22). Under conditions where the rooting depth of the dominant vegetation type in a GDE extends up to 80 feet, the appropriate minimum groundwater threshold might require a monitoring well with a depth greater than 80 feet. Since the rooting depth of most vegetation commonly associated with GDEs in California is far less than 80 feet (valley oak [*Quercus lobata*] being an exception within the project area) it is accurate to state that groundwater monitoring wells will need to measure shallow groundwater level changes that occur "typically less than 80 feet below the ground surface." This does not preclude the need to monitor groundwater changes at greater depths under certain conditions, which would be identified in the water transfer proposal; therefore, the statement is not in conflict with the need to monitor groundwater levels at greater depths. No changes to the Draft EA/IS are required.

Mitigation Measure GW-1 does not ignore the issue of whether the decline in groundwater level caused by transfer pumping will fully recover to the natural condition when pumping stops. It is reasonable to conclude that if typical historical fluctuations in the groundwater level beneath the GDE are greater than the established minimum groundwater threshold and no impacts to the health condition of overlying vegetation are observed, that groundwater levels have historically returned to depths suitable to support the existing vegetation. No changes to the Draft EA/IS are required.

Regarding the comment related to the 5-mile radius, as previous discussed, the distance in the Draft EA/IS has been revised from 5-miles to 0.5-mile to correct a typographic error. The assessment of vegetation of all GDEs within 0.5-mile of the pumping well is meant to serve as a proxy for a monitoring well within a 0.5-mile radius and both distances were intended be the same.

The potential effects of the project on listed species were carefully analyzed in Section 3.7.2 of the Draft EA/IS. The species referenced in the comment were included in the analysis of potential effects and a discussion of each was included in Appendix I. The section on the Sacramento River Winter-Run Chinook Salmon states that the species is "Known to spawn in the mainstem Sacramento River…", and that the "Lower Sacramento River is likely only used by adults as a migration corridor. Habitat would not be affected by groundwater withdrawals since streamflow would not be significantly affected or would remain within the range of flows as under existing conditions. Potential impacts would not occur on the mainstem Sacramento River where flows are conducted in compliance with the 2024 USFWS and NMFS Long-Term Operation of the Central Valley Project and State Water Project Biological Opinions. Impacts on this species and its habitat would be less than significant" (Appendix I, Page I-36). A discussion of the delta smelt was also included in Appendix I and states that "Potential impacts would not occur in the Delta as the operating requirements specified in the Biological Opinions and D1641 would be met. Minor changes in flow could occur in the Delta as a result of water transfers, but these flows would be small. Principal rearing areas during the summer and fall are in and around Suisun Bay and in the Cache Slough region. Impacts on this species and its habitat would be less than significant" (Appendix I, Page I-38). The potential for project-related impacts to listed species with potential to occur in the project area, including the two species referenced in the comment, were fully addressed in the Draft EA/IS. No changes to the Draft EA/IS are required.

Regarding the statements related to calculation of the streamflow depletion factor and reference to the Lawson 2010 analysis, the results presented in Appendix E4 are not the results that the streamflow depletion factor was based on. As noted in Response to Comment 1-3, significant technical work informed the development of the streamflow depletion factor and did not rely on modeling of a single year of transfers pumping; rather, it considered and incorporated analyses under a range of hydrologic and operational conditions. Results of these analyses were shared with a Technical Advisory Group that includes representatives from Reclamation, DWR, the California Department of Fish and Wildlife, the State Water Resources Control Board, water transfer buyers, and water transfer sellers. Appendix E4 focuses on the streamflow modeling results for Lower Sycamore Slough, Colusa Basin Drain, and Eastside/Cross Canal analyzing streamflow depletion impacts on biological resources and does not analyze impacts on water supply. No changes to the Draft EA/IS are required.

Regarding the comment related to the positive percent change versus negative percent change and the percent change presented when flow losses are less than one cubic foot per second (cfs) presented in Appendix E4 of the Draft EA/IS, the negative percent change is an error due to the model's use of both positive and negative numbers. As shown in Table E4-1, Table E4-2, and Table E4-3, depletions shown in column "Proposed Action in Comparison to No Action/No Project Alternative (cfs)" are all negative values, which all result in a percent decrease. Table E4-1, Table E4-2, and Table E4-3 in Appendix E4 of the Draft

EA/IS have been revised to correctly reflect the streamflow depletion and percent decrease of the streamflow. The percent change presented when flow losses are less than one cfs are from the small changes in streamflow. Despite the small change in cfs, the percent change is large.

Regarding the comment asserting a need for the model results to be shown on a map, a map of the location of the streams is not required to evaluate the environmental impacts of the project. Further analysis of the three streams was completed in the Draft EA/IS in Section 3.7.2 (Pages 3-43 through 3-47), which supports the determination that the effects of groundwater pumping substitution on biological resources, including special status species, occurring in and around rivers and creeks within the Sellers Service Area would be less than significant. Therefore, monitoring of stream and river flows before, during, and after groundwater substitution transfer pumping is not required. No changes to the Draft EA/IS are required.

Consistent with CFR 43 Part 46.310(e), the level of detail provided in the Draft EA/IS is focused on what is needed to determine whether there would be significant environmental effects. The GSPs are the best available guidance for assessing and managing groundwater conditions and are appropriate to use to determine groundwater level triggers and thresholds. No changes to the Draft EA/IS are required. See further discussion in Response to Comment 3-8.

The Draft EA/IS, Section 3.3.3 thoroughly describes groundwater level triggers and thresholds and states, "As part of a Seller's transfer proposal subject to Reclamation's (in coordination with DWR) review and approval, the Seller will need to identify a proposed groundwater level trigger for each pumping well and each suitable monitoring well (established through the local GSP or the historical low groundwater level for that well)" (Page 3-20). In response to DWR Comment 2-4, GSPs have superseded the basin management objectives (BMOs) and groundwater management plan (GMPs) and the text in the Draft EA/IS has been revised accordingly, as noted in Response to Comment 2-4. Specific to the assertion that details related to the plans that Sellers will have to prepare under Mitigation Measure GW-1 were not identified, the Draft EA/IS, Section 3.3.3 thoroughly describes the mitigation plan that must be prepared and implemented by the Seller and states, "This plan must document the intended actions if the potential arises for unanticipated impacts to groundwater resources or groundwater-dependent vegetation" (Page 3-24). The Draft EA/IS describes these actions under the following subsections, "Groundwater Resource Mitigation" and "GDE Shallow-Rooted and Deep-Rooted Vegetation Mitigation." No changes to the Draft EA/IS are required.

The Draft EA/IS, Section 3.3.3 (Page 3-22) provides a clear and specific method for Sellers to identify GDEs and monitoring thresholds based on local conditions. For GDE identification, the Draft EA/IS states in Section 3.3.3, "Best available information such as the NCAAG 2.0, GDE Pulse 2.3 (https://gde.codefornature.org/#/home) or GSA collected data/information could be used to identify GDEs containing shallow and/or deep rooted vegetation near the participating transfer pumping well" (Page 3-22). For monitoring thresholds, the Draft EA/IS states, "for each GDE monitoring well, a minimum groundwater threshold would be identified by the Seller using hydrologic data and expert opinion based on the ecological function and value of the GDE, and on the maximum rooting depth of its dominant vegetation type" (Page 3-22). Sellers would develop a mitigation plan, described in the Draft EA/IS, Section 3.3.3 (Page 3-24), outlining actions if shallow groundwater-level monitoring indicates that groundwater levels at a GDE have dropped below the minimum threshold. Regarding the statement related to how Sellers can mitigate impacts on groundwater, Mitigation Measure GW-1 was developed to avoid potentially significant adverse impacts by limiting groundwater level declines. Under Mitigation Measure GW-1, Reclamation will verify that sellers implement the monitoring program and mitigation

plan to avoid potentially significant adverse effects of transfer-related groundwater extraction. No changes to the Draft EA/IS are required.

As previously discussed, the Draft EA/IS, Section 3.3.3 thoroughly describes the groundwater monitoring and data collection methods that would be implemented through Mitigation Measure GW-1 under the Proposed Action, which was made available for public input and commenting. Implementation of a monitoring program and mitigation plan is an appropriate mitigation measure under NEPA to reduce impacts on groundwater resources from the Proposed Action. No changes to the Draft EA/IS are required.

Adopted mitigation measures, such as the requirements identified in Mitigation Measure GW-1, are legally enforceable by Reclamation as the agency with authority to review, condition, and approve proposed water transfer activities. The Draft EA/IS in Section 3.3.3 states, "Sellers are required to submit monitoring reports to Reclamation and Reclamation will verify that participating Sellers implement the Monitoring Program and Mitigation Plan to avoid potentially significant adverse effects of transfer-related groundwater extraction" (Page 3-18). Enforcement would be tracked as part of the Mitigation Monitoring and Reporting Program. No changes to the EA/IS are required.

The screening thresholds for further analysis of potential impacts to biological resources is an (average) monthly flow reduction of one cfs as compared to the modeled flows under the No Action/No Project Alternative and a ten percent decrease in modeled Proposed Action flows compared to the No Action/No Project flows. The Draft EA/IS explains that these thresholds were used because the streamflow depletion results from SACFEM2013 are reported in a monthly timestep and in cubic meters per day, consequently, less than one cfs flow reduction is outside of the model precision and beyond the model's ability to measure actual changes. The ten percent threshold was based on margin of error of the SACFEM2013 model based on model calibration and on several major environmental documents completed in the Central Valley related to fisheries (Trinity River Mainstem Fishery Restoration Record of Decision, December 19, 2000; San Joaquin River Agreement Record of Decision in March 1999; Freeport Regional Water Project Record of Decision, January 4, 2005; Lower Yuba Accord EIR/EIS). In these documents, there is consensus that differences in modeled flows of less than ten percent would be within the noise of the model outputs and beyond the ability to measure actual changes (Section 3.7.2, Pages 3-41 and 3-42). No changes to the Draft EA/IS are required.

Regarding the comment that Reclamation is required to prepare a Biological Assessment and consult with the National Marine Fisheries Service and/or the U.S. Fish and Wildlife Service, Reclamation assessed the potential for the Proposed Action to affect federally listed and proposed species within the Draft EA/IS. Three waterbodies within the area of analysis exceeded the NEPA/CEQA thresholds used to determine the potential for effects in rivers and creeks: Lower Sycamore Slough, Colusa Basin Drain, and Eastside/Cross Canal. Federally listed giant garter snake (*Thamnophis gigas*) and Central Valley DPS steelhead (*Oncoryhnchus mykiss*), and the proposed threatened western pond turtle (*Actinemys marmorata*), may be present within one or more of these waterbodies. The modeled reductions in flow in these water bodies are small compared to historical flow data, would be short term and infrequent, and would have no effect on these species' ability to feed, breed, shelter, or migrate within the sloughs and canals. A detailed analysis is included in Section 3.7.2 of the Draft EA/IS. Consistent with the Endangered Species Act, if a federal agency determines a project will have no effect on listed species or designated critical habitat, then consultation with the National Marine Fisheries Service or the U.S. Fish and Wildlife Service is not required. No changes to the Draft EA/IS are required.

Regarding the assertion that the 2024 Biological Opinion for Long-Term Operations of the Central Valley Project and State Water Project does not address actions taken by contractors to make water available for

transfers, the Draft EA/IS does not seek to rely on the Biological Opinion for coverage under the Endangered Species Act. As described in the Draft EA/IS, the Proposed Action would comply with the regulatory requirements of the Biological Opinions and the Draft EA/IS states in Section 2.2, "The Proposed Action would correlate with the approach and analyses included in the 2024 Long-Term Operations of the CVP and SWP Environmental Impact Statement and biological opinions" (Page 2-1). Section 3.7.2 of the Draft EA/IS provides a comprehensive review of the potential impacts to listed species under the Proposed Action and does not rely on the Biological Opinion for such an analysis. Further, as noted above, consultation is not required for the project because no effects to federally listed species are anticipated to occur. No changes to the Draft EA/IS are required.

**E. Subsidence is Discussed Poorly**

The objective of MM GW-1 in the 2026-2027 EA/IS and addendum is to avoid potentially significant adverse environmental effects from the decline of groundwater levels, which includes land subsidence impacts. The groundwater level monitoring program in MM GW-1 is the primary strategy to prevent significant impacts and requires periodic monitoring of groundwater levels when the transfer wells are being pumped and cessation of pumping when groundwater levels drop to the triggers set in the transfer proposal (p. 3-18, pdf 36). The EA/IS provides in Appendix D, Figures D-48 though D-51, maps that show the subsidence in the Sacramento Valley in WYs 2019 through 2023 using the TRE Altamira InSAR Dataset (Appendix D, pp. D-56 to D-59, pdf 134-137).

3-6

These maps show *"[s]ubsidence focused on the west side of the valley, and to the greatest extent in the eastern portion of Yolo County, the southern portion of Colusa County, the eastern portion of Glenn County, and western portion of Sutter County. Subsidence in these regions is generally related to excessive groundwater pumping and subsequent consolidation of sediments."* (p. 3-10, pdf 28). The maps also show subsidence concentrated in the southwestern portion of Colusa County in multiple years. The EA/IS states that "*[i]n Colusa County, approximately 2.1 feet of subsidence was measured in the Arbuckle area between 2008 and 2017 (Figure D-55 in Appendix D) (DWR 2024j). The annual rate of subsidence in Colusa County for WY 2023 was between 0.2 and 0.4 foot per year (DWR 2024f).*" Note that Figure D-54 (p. D-62, pdf 140) is identified as the Arbuckle extensometer (16N02W05B001M) and Figure D-55 (p. D-63, pdf 141) is identified as Sutter extensometer (11N04E04N005M). The units of the left axis of these extensometer graphs are

Ground Surface Displacement Daily Means Ending Midnight (FOOT). Crucially, the cumulative subsidence cited in the EA/IS isn't documented in these graphs.

The Arbuckle subsidence graph, Figure D-54, suggests that historically there have been cycles of increases and decreases in the daily rate of subsidence, but ***since approximately 2010 the cyclic subsidence rates have all remained negative***. Some additional information about the cumulative subsidence in the Sacramento Valley can be obtained from DWR's SGMA Data Viewer[16] website. AquAlliance Attachments 5a through 5f (Exhibit F) are screen shots taken from the DWR SGMA Data Viewer website showing TRE Altamira InSAR subsidence data for the southern Colusa County area.

Attachments 5a through 5c are WYs 2020, 2021 and 2022 vertical displacement raster data. Attachment 5d is the WY 2022 raster data with the TRE Altamira InSAR Dataset point grid overlain. Attachments 5e and 5f are graphs of the vertical displacement at one of the InSAR grid points within the highest subsidence red area southwest of Arbuckle marked in Attachment 5d. Attachments 5e and 5f show that the cumulative subsidence at this point since January 2015 has been ***steadily downward*** with only one period of rebounding in late 2020. The rate of subsidence increased significantly starting in early 2021 and leveled off mid-year 2023 but continues to subside at a rate similar to the rate prior to the 2021 increase. In January 2023, the cumulative subsidence since 2015 was -2.36 feet, and by January 2025, the land surface elevation had dropped -2.63 feet since January 2015. It is unclear from the data in the 2026-2027 EA/IS or the DWR Data Viewer website if the …"*approximately 2.1 feet of subsidence was measured in the Arbuckle area between 2008 and 2017*"... is factored into the -2.36 feet of subsidence from 2015 to 2025, but one could assume that at least a large portion of the 2008-2017 subsidence occurred before 2015 because there is less than 0.5 feet of subsidence in 2017 in Figure D-54.

3-6

The readily available point specific TRE Altamira InSAR subsidence data in the Sacramento Valley is an important data set that was not utilized by the Bureau and SLDMWA in the preparation of the 2026-2027 EA/IS impact analysis. The Agencies do provide a general summary about subsidence from a review of GSPs for the subbasins within the Sacramento Valley Basin of the Seller Service Area. Stating that ..."*while multiple subbasins have the potential for inelastic (i.e. permanent) land subsidence, the Yolo subbasin is the only subbasin with recorded inelastic land subsidence (Yolo Subbasin GSA 2022). Subsidence in the Arbuckle area of Colusa County has been observed, but further evaluation would be needed to determine if subsidence is elastic or inelastic (Glenn Groundwater Authority GSA and Colusa Groundwater Authority GSA 2024*") (p. 3-11, pdf 29). Based on the subsidence data provided in AquAlliance Attachments 5e and 5f, it is clear that Colusa County likely has a ***record of inelastic land subsidence***, at least in the area southwest of Arbuckle, which should prevent the transfer wells in the area from participating in any future groundwater substitution transfers because MM GW-1 states that:

> *In the water transfer proposal, potential Sellers must also include subsidence information, which is available from DWR's InSAR data, best available subsidence information from their local DWR-approved GSP(s), or other available data relative to subsidence. Sellers must demonstrate that substantial inelastic land subsidence is not occurring within the area*

> *of a proposed participating transfer pumping well in accordance with minimum thresholds identified in their local DWR approved GSP(s), subject to Reclamation's verification; and if it is occurring, the participating transfer pumping well would not be allowed to participate in groundwater substitution transfers, ensuring adverse effects of the Proposed Action would not occur in areas vulnerable to land subsidence.* (p. 3-18, pdf 36).

The easy availability of the point TRE Altamira InSAR data makes an evaluation of the historical subsidence since 2015 at each of the groundwater substitution transfer wells an easy task that should have been done for the 2026-2027 EA/IS and addendum. The 2026-2027 EA/IS should be revised to include an analysis of the nearest TRE Altamira InSAR data points at each of the 426 groundwater substitution transfer wells to demonstrate that they can comply with MM GW-1 and to demonstrate that previous 2020-2022 groundwater substitution transfer pumping didn't result in inelastic subsidence in the area of each transfer wells. Without this current historical analysis of previous transfer pumping impacts on land elevation, the 2026-2027 EA/IS and addendum are seriously deficient.

*Redding Subbasin*

The EA/IS points out that the Redding Area Groundwater Basin west of the Sacramento River is vulnerable to subsidence and has experienced some: "The portion of the Redding Area Groundwater Basin west of the Sacramento River is within the Tehama Formation, which has exhibited subsidence in Yolo County. The Tehama Formation could be susceptible to subsidence where it occurs in the Redding Area Groundwater Basin. Therefore, there is potential for subsidence in some areas of the Redding Area Groundwater Basin if groundwater levels were lowered below the historical lowest groundwater level." (p. 3-9, pdf 27). The document goes on to say that there was "[0].2 feet of subsidence between 2008 and 2017 in the Redding Area Groundwater Basin (DWR 2018). The total vertical displacement measured from June 2015 to July 2024 for the Redding Area Groundwater Basin was less than 0.5 feet (DWR 2024g)." (*Id.*) With the known vulnerabilities to subsidence in the Redding Area Groundwater Basin, the placement of extensometers there must be mandatory for participation in any groundwater substitution project. 3-6

*Corning and Colusa Subbasins*

a) AquAlliance incudes relevant comments on subsidence below that we submitted on the Revised 2024 Colusa and Corning subbasins' GSPs (see Appendices C and D). The fact that substantial subsidence has occurred and continues to occur throughout the project area is proof positive that applicable land use plans, oversight during water transfers, SGMA, and other regulatory considerations have not prevented significant effects and are not appropriate as a backstop for mitigation for the Project.

> **AquAlliance 2024 Colusa GSP Comments on Subsidence**
>
> a) The Revised GSP indicates that the Focus RMS wells were selected in part because of the ongoing subsidence in the area (see **Figure 5-4 attached as Exhibit 3A**). Maps of the Colusa Subbasin area show categories of measured benchmark subsidence from 2008 to 2017 in the Revised GSP Figure 3-31 (p. 3-77, pdf p. 247) and the October 2018-2019 to October 2022-2023 InSAR measurements also show subsidence in Figure 3-32 (p. 3-78, pdf p. 248).

The Revised GSP states that the subsidence MT would trigger an undesirable result when the cumulative and rate of subsidence minimum thresholds exceed the following (p. 5-56, pdf p. 328):

- *The average cumulative subsidence exceeds two feet over a single PLSS section starting from January 2024, or*
- *The average rate of subsidence in ten or more contiguous PLSS sections, in any configuration, exceeds 0.1 foot per year ft/yr in two consecutive years.*

The Revised GSP's proposed management of subsidence in the Artois and Arbuckle areas is shown in Figures 5-2 and 5-3 (pp. 5-22 and 5-23, pdf pp. 350 and 351). These graphs suggest that the rate of subsidence in these areas will keep exceeding the 0.1 feet/year MT until 2032. The cumulative subsidence since 2015 is estimated to be from 3.0 feet to 3.9 feet by 2042. These graphs also suggest that the setting of the IM elevations in the Focus RMS well areas below the MT elevations could cause the rate of subsidence to be up to -0.3 feet/year.

3-6

The Revised GSP also notes that:

*While the sensitivity of local infrastructure to inelastic land subsidence is not well understood at this time, the Subbasin has extensive infrastructure consisting of pipelines and open canals (lined and unlined) and drains owned by various surface water suppliers that are used to convey water for urban and agricultural uses. A GSP Study is proposed in Chapter 7 that would evaluate the sensitivity of local infrastructure to potential subsidence in the Subbasin. Should additional information be developed on the vulnerability of this infrastructure to subsidence, these minimum thresholds may be refined. The GSAs will continue monitoring to improve the understanding of the causes of inelastic land subsidence in the Subbasin during GSP implementation. Refinement of minimum thresholds and an improved understanding of subsidence in the Subbasin will be reported in the annual reports and periodic evaluations.* (p. 5-47, pdf p. 375)

The Revised GSP infrastructure study for subsidence impacts is described in Chapter 7, 7.1.2.15 - Evaluate Infrastructure Sensitivity to Subsidence (pp. 7-16 and 7-17, pdf pp. 525 and 526).

*The study would be a cooperative effort with infrastructure owners and operators of critical infrastructure and land uses, as well as other stakeholders in the Subbasin. The GSAs could, but do not necessarily need to, lead the assessment.*

*In addition to the sensitivity evaluation, the GSAs and involved entities will form a Critical Infrastructure Working Group to report on suspected impacts to critical infrastructure and land uses suspected to be due to land subsidence caused by groundwater withdrawal, report on progress of PMAs and GSP Study implementation, and provide information vital for refining subsidence sustainable management criteria. The Critical Infrastructure Working Group will meet at least*

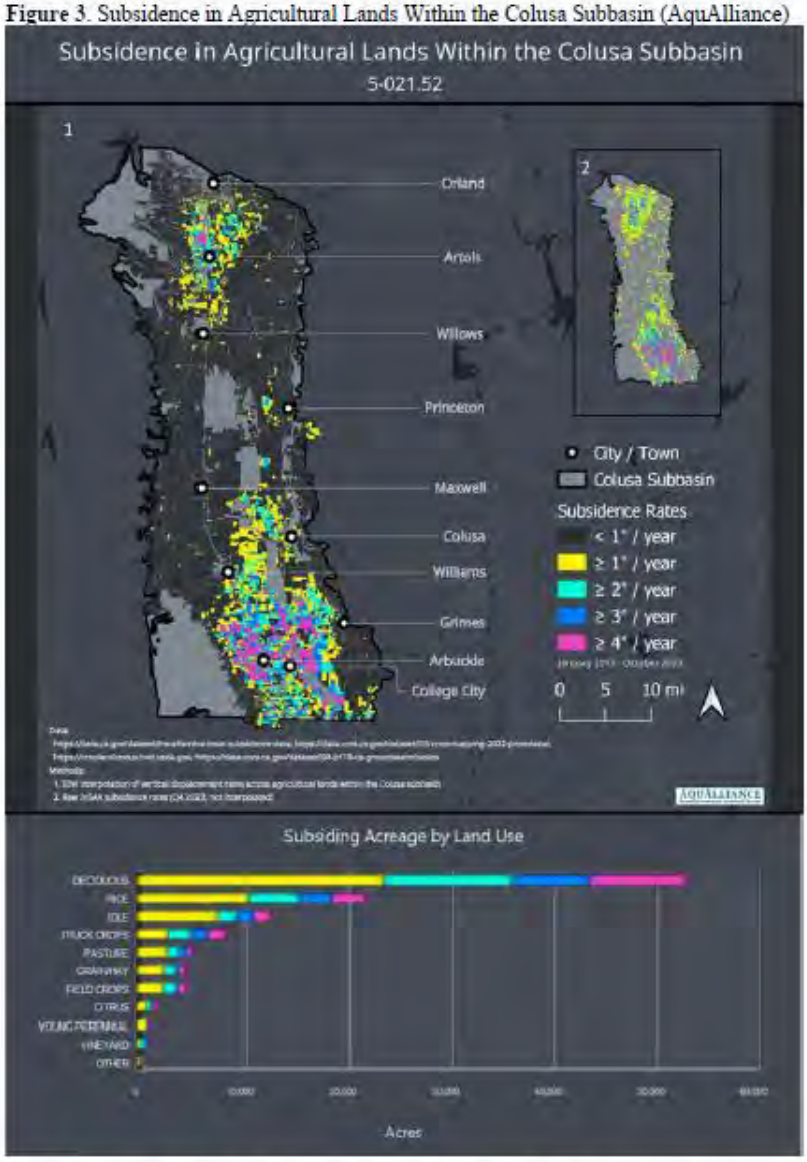
*annually at the conclusion of the water year to assess critical infrastructure in the Subbasin. The Critical Infrastructure Working Group will meet more frequently if subsidence conditions warrant additional meetings, as described in Section 5.4.5. The Critical Infrastructure Working Group be open to entities owning or operating critical infrastructure in the Subbasin.*[sic]

*It is expected that data collection and analysis in this study would be grant-funded, though local funding sources could also be used.*

While it is crucial that critical infrastructure in the Subbasin be protected from the impacts of subsidence, those structures aren't the only ones that need protection from pumping induced subsidence and settlement. Local landowners' homes, barns, and wells can also be impacted by subsidence. The Revised GSP should provide procedures for local landowners to register their properties that have been damaged due to subsidence or settlement, and the Revised GSP should provide a mechanism for mitigating those impacts, like the Domestic Well Mitigation Program, only done more comprehensively. In addition, the Revised GSP should provide a mechanism for the public to have transparent and readily available electronic file access to the engineering analyses and data that are collected on subsidence, so that they can independently evaluate whether the stress observed in their buildings or wells may be due to subsidence. 3-6

b) Figure 3 clearly illustrates the subsidence in the Colusa Subbasin. How does it compare with the GSP material? As one can see in the magenta areas, the land is collapsing at 4 inches per year, or a foot every three years. Knowing the land uses overlying the subsidence paints an interesting picture. What will the GSAs consider doing to stop the actors causing it?

**Figure 3.** Subsidence in Agricultural Lands Within the Colusa Subbasin (AquAlliance)




3-6

c) During the years of the Bureau of Reclamation / San Luis Delta-Mendota Water Authority's Long Term Water Transfer Program (2015-2024), significant damage has been wrought with widespread active and potential subsidence as well as sink holes caused by groundwater pumping throughout the project area.

Example one reveals GCID well pumping impacts to local resident Mike Billiou demonstrate this potential effect. Mr. Billiou documented subsidence on Billiou Well #35 pad (June 2015), GCID owned production wells, and the areas of influence in the vicinity of Billiou Ranch, and an 11 year

history of the 4 aquifer levels as reported by State monitoring well 22N01W29N00M (Figures 4, 5, and 6)

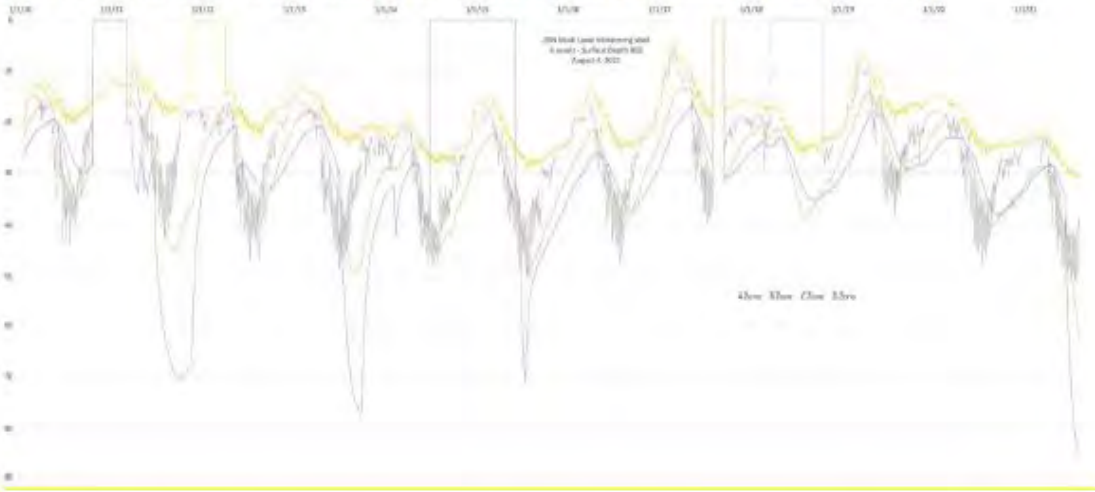
**Figure 4**. Subsidence on Billiou Well #35 pad. June 2015 (by Billiou).

3-6

**Figure 5.** GCID owned production wells, and their areas of influence in the vicinity of Hamilton City (by Billiou).


3-6

**Figure 6**. 11 year history of the 4 aquifer levels as reported by State monitoring well 22N01W29N00M.



Example two illustrates the sink hole problem found in Glenn County around Hamilton City and toward Orland (Figure 6).

3-6

Figure 6. Sink Holes east of Orland in 2021 per DWR Public Record Act response.

Reports, maps, and groundwater level data in the area, include: GCID's 2009[17], 2012[18], and 2014[19] aquifer testing and water transfer reports; Butte County's 2013[20] and 2019[21] reports on the hydrogeologic framework in Butte and Glenn Counties; and public websites of the California Department of Water Resources (DWR) for Periodic Groundwater Level Measurements[22], the DWR Water Data Library[23], and CASGEM Online System[24]. The Lead Agencies have all and more of these resources available to them to analyze potential subsidence impacts; its failure to do so is fatal to the EA/IS and addendum.

*Sacramento Valley Subsidence*

However inadequate the disclosure in the EA/IS and addendum, there is acknowledgement that there is subsidence in the Sacramento Valley. AquAlliance wishes to help the Lead Agencies by providing maps using DWR data to illustrate what should have been in the EA/IS (see AquAlliance Appendix B). These maps (as well as Figure 3) show that there is subsidence occurring more broadly than is known and **very significantly** in certain geographic areas such as along the Interstate 5 freeway corridor. The EA/IS must disclose the accurate existing conditions for subsidence and sink holes in the SRSC area (see Exhibit G), discuss the current and potential for future impacts to infrastructure, and analyze the actual effects of the Project in an EIS/EIR.

3-6

As discussed repeatedly here, GW-1 fails to include any relevant performance standards to ensure subsidence effects could be mitigated to less than significant, nor any analysis of how the prescribed activities themselves would attain any such (nonexistent) performance standards. (*See, AquAlliance v. United States Bureau of Reclamation*, 287 F. Supp. 3d 969, 1042-43 (E.D. Cal. 2018) [collecting cases, and noting that "'[a]n EIR is inadequate if [t]he success or failure of mitigation efforts . . . may largely depend upon management plans that have not yet been formulated, and have not been subject to analysis and review within the EIR.' *CBE v. Richmond*, 184 Cal. App. 4th 70, 92, 108 Cal. Rptr. 3d 478 (internal citations and quotations omitted); *compare Pres. Wild Santee v. City of Santee*, 210 Cal. App. 4th 260, 281-82, 148 Cal. Rptr. 3d 310 (2012) (EIR providing for post-approval formulation of habitat plan to mitigate impacts to butterfly insufficient where EIR failed to include any performance standards or other measures to demonstrate that project's significant effects would be mitigated) *with Rialto*, 208 Cal. App. 4th at 942 (mitigation measure that included specific performance standards sufficient to ensure potential impact would be mitigated)."]) The subsidence mitigation measures at issue in *AquAlliance v. United States Bureau of Reclamation* were far more robust than those presented here, yet were still invalidated by the court. (*See id.* at 1042-1049.)

### *Response to Comment 3-6*

In regard to the assertion that subsidence is discussed poorly, the Draft EA/IS describes historical changes in groundwater levels and the occurrence of inelastic subsidence across the Seller Area.. This discussion includes details on the cumulative change in land subsidence in this area. The commenter asserts that cumulative subsidence cited in the Draft EA/IS was not documented in the extensometer subsidence figures presented in the Draft EA/IS. The title of the left axis in the extensometer subsidence figures (Figure D-52 through D-55 of the Draft EA/IS) from DWR, shown as "Ground Surface Displacement Daily Means Ending Midnight (FOOT)" has been misconstrued by the commenter. The values provided in these figures are a net displacement (i.e., change) in ground surface elevation (in feet) from the beginning of the data record for that extensometer. The "Daily Means Ending Midnight" portion of the title refers to the fact that multiple displacement values may have been taken the same day. The value plotted on the chart for a specific day is the mean (i.e., average) of all values measured that day. For example, the Zamora extensometer period of record starts October 20, 1992. The ground surface displacement from the start of the record measured on January 1, 2024, is -1.308 feet (DWR 2025). Given that each value recorded is a displacement (i.e., change) in elevation from the start of the data record, these figures show the cumulative subsidence from the start of the data record.

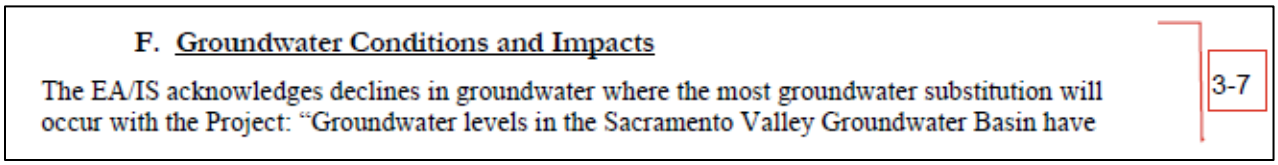
The existing conditions presented in the Draft EA/IS, including the information presented in Appendix D, are sufficient to establish a comparison of potential future conditions under the alternatives evaluated in the Draft EA/IS. Consistent with CFR 43 Part 46.310(e), the level of detail provided in the Draft EA/IS is limited to what is needed to determine whether there would be significant environmental effects. In addition, the approach provided in the Draft EA/IS is consistent with the guidance presented in the *CEQ Memorandum to Agencies: Forty Most Asked Questions Concerning CEQ's NEPA Regulations*, in which it states, "Since the EA is a concise document, it should not contain long descriptions or detailed data which the agency may have gathered" (CEQ 1981).

The commenter references GCID well pumping impacts and subsidence noted by Mr. Mike Billiou at his Well #35. As noted in the Draft EA/IS, GCID will not participate in out of basin groundwater substitution transfers. Therefore, groundwater substitution transfers from GCID are not anticipated under Proposed Action.

As required under mitigation measure GW-1 any damages believed to be caused by past transfer pumping should be submitted as third-party claims to Reclamation and the Seller. GCID reviewed a past third-party report submitted by Mr. Billiou on July 24, 2013, and conducted additional review and groundwater level monitoring. At that time GCID prepared a formal response letter that was included in Attachment 1 to Appendix S of the 2019 Long-Term Water Transfers Final EIS/EIR.

The commenter references sinkholes in Glenn County around Hamilton City. While the reported sinkholes could have been formed by groundwater pumping (USGS 2018b), DWR has not identified the cause of the recent observations of sink holes in Glenn County referenced in Comment 3-6; the sinkhole information is under investigation by DWR (Bishop 2022).

In response to the assertion that "GW-1 fails to include any relevant performance standards to ensure subsidence effects could be mitigated to less than significant," see Comment Response 3-8. Additionally, Mitigation Measure GW-1 states that Reclamation, in coordination with DWR, would review each Sellers' groundwater substitution pumping proposal as part of the well review process. To participate in water transfers, a seller's proposal "must also include subsidence information, which is available from DWR's InSAR data, best available subsidence information from their local DWR-approved GSP(s) or other available data relative to subsidence. Sellers must demonstrate that substantial land subsidence is not occurring within the area of a proposed participating transfer pumping well in accordance with minimum thresholds identified in their local DWR approved GSP(s), subject to Reclamation's verification; and if it is occurring, the participating transfer pumping well would not be allowed to participate in groundwater substitution transfers, ensuring adverse effects of the Proposed Action would not occur in areas vulnerable to land subsidence," (Page 3-18).


F. Groundwater Conditions and Impacts

The EA/IS acknowledges declines in groundwater where the most groundwater substitution will occur with the Project: "Groundwater levels in the Sacramento Valley Groundwater Basin have

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declined over the last 10 years (Spring 2013 to Spring 2023) coinciding with the persistent dry weather conditions. Agricultural land use changes since the mid-1980s, including the crop mix shift from annual crops to permanent perennial orchards and vineyards, and the groundwater pumping associated with this change, have also contributed to the decline in groundwater levels in the Sacramento Valley Groundwater Basin, especially in areas without access to surface water on the west side of the Sacramento Valley in Colusa, Glenn, and Tehama counties (Cole et al. 2024)" (EA/IS p. 3-9, pdf 27). Unfortunately, the Lead Agencies fail to conclude that serious groundwater level declines and increased subsidence are problems requiring less groundwater use – not more, particularly during dry years, as proposed with the Project.

The EA/IS and addendum also fail to provide the public with site specific details, which are crucial for groundwater dependent homes, farms, businesses and reviewers of the Project, although it is helpful that Appendix D at least provides *some* general information. The limited general discussion regarding groundwater decline from 2013 to 2023 clearly neglects to discuss the ramifications of the declines, with most of the time post January 1, 2015 when Groundwater Sustainability Agencies became responsible for impacts. Where are the answers to the following questions about the historic and current impacts to third parties, including the environment? The public, policy makers, and regulatory agencies deserve to have a consolidated presentation of the negative impacts from lax oversight by the Bureau, DWR, Groundwater Sustainability Agencies ("GSAs"), and all Project proponents in the Redding and Sacramento Valley subbasins. 3-7

1. How many domestic wells have been repaired, replaced, or abandoned? Where?
2. How many agricultural wells have been repaired, replaced, or abandoned? Where?
3. How many new wells have been installed, omitting replacement wells? Where?
4. Where are sink holes located? Why are sink holes not discussed in the EA/IS?
5. How many complaints have been received regarding sink holes and subsidence? Where?
6. Where are written responses by Colusa or Glenn counties and/or the GSAs to complaints of sink holes and subsidence?
7. Has any assistance been given to landowners with sink holes and/or subsidence damage?
8. Will the GSA compensate well owners who have had to replace or repair wells since January 1, 2015?[25]
9. How many residents and/or small farmers have lost their land and how is it tracked?
10. What are the environmental impacts of increased transfer pumping added to the existing overdraft?

The Lead Agencies are complicit with the GSAs and state and local governments that have not only allowed significant damage to take place in the subbasins pre and post 2015, but also continue to

enthusiastically promote more groundwater abuse with the Project (fallowing land is remarkably omitted as an option).

*Groundwater Elevation*

The EA/IS talks about average changes in groundwater elevation in the Redding Area and the Sacramento Valley as an indication of historical change since Spring 2013 in three time-intervals: the last 10 years, last 5 years, and last year (Appendix D3, pp. D-5 to D-11, pdf 83 to 89). Table D-2 through D-7 give maximum increase, maximum decrease, and average change in spring groundwater elevation in the Redding Area and Sacramento Valley groundwater basins for the three time-intervals, and three aquifer zones, shallow, intermediate, and deep. The use of subbasin averages doesn't accurately represent the potential for impacts due to the historical groundwater level changes because impacts from the decline in groundwater levels and the loss in groundwater storage are generally greatest in the local area surrounding the pumping well, as is clearly seen in Appendix D, Figures D-3, D-4 and D-5 (pp. D-6, D-8 and D-10, pdf 84, 86 and 88, respectively), and Appendix E1, Figures E2 through E9 (pp. E1-5 to E1-26, pdf 151-172). When multiple wells pump in the same area, the averaging of the overall decline is informative, but doesn't document impacts caused by pumping a specific well, such as a groundwater substitution transfer well.

The maximum historical decrease in groundwater elevations since 2013 in the Redding Area ranges from -0.3 feet to -60.7 feet (Table D-6), both occurred in the last year from Spring 2022 to Spring 2023. For the other time-intervals, maximum decrease in the Redding Area ranges from -17.5 feet to -11.9 feet from Spring 2013 to Spring 2023, and Spring 2018 to Spring 2023, respectively (Tables D-2 and D-4). The maximum historical decrease groundwater elevations since 2013 in the Sacramento Valley groundwater elevations ranges from -5.6 feet to -42.7 feet from Spring 2022 to Spring 2023, while the average changes during that time were all positive (Table D-7). The maximum decrease in Sacramento Valley during the other two time-intervals ranged from -41.6 feet to -78.2 feet (Tables D-5 and D-3, respectively). In both the Redding Area and Sacramento Valley, the maximum decreases in groundwater elevation during all three time-intervals were in the intermediate depth wells, well screen depths greater than 200 feet but less than 600 feet.

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The historical measured changes in groundwater elevation over time are an important metric in evaluating the trends in sustainability of a groundwater subbasin, but the drawdowns from the 2020, 2021 and 2022 Groundwater Substitution Transfer Program are much greater than the averages. Appendices F-1, F-2 and F-3, (pdf pp. 457 to 549) provide what is titled *Water Transfer Data Reports*, which are hydrographs of the groundwater elevations from a reference point that we assume to be at or near the ground surface for transfer pumping wells, and possibly the associated monitoring wells, for each of the three transfer years. This is a serious CEQA and NEPA omission that must be corrected. The changes in groundwater elevations in these transfer wells often exceed -100 feet, and sometimes declining nearly 200 feet, which is significantly greater than the average changes in groundwater level and greater than the maximum decreases listed in Tables D-2 through D-7.

Unfortunately, the *Water Transfer Data Reports* don't indicate the pumping aquifer zones, well screened intervals on the hydrographs, nor the pumping times, rates and volumes for the transfer wells that resulted in the drawdowns. The hydrographs do have a note that states:

*The groundwater well(s) may have been pumping at the time of measurement (i.e., pumping water level). See Groundwater Electronic Reporting Form submitted to Reclamation for additional information.*

This note, along with a possible file name and date at the left bottom of the graph, suggests that the information on each transfer well is available and could easily be made available to the public through the Bureau's web site. Unfortunately, there is no other reference(s) to where the water level and/or pumping data can be obtained and/or downloaded. Because the 2026-2027 EA/IS only provides the local well names but no other identification information, such as a State Well Number (SWN), the Department of Water Resources' (DWR) CASGEM database can't be searched with any certainty to find the historical information on these groundwater substitution transfer wells and/or the associated monitoring wells. The only wells with SWNs in the 2026-2027 EA/IS are shown in Figures D-5 and D-14, which are selected groundwater wells near potential Sellers in Redding Area and Sacramento Valley groundwater basins, respectively. The identifiers and distances to link the wells in Figures D-4 and D-14 to the groundwater substitution transfer wells and/or associated monitoring wells aren't provided. The agency has a duty to investigate all reasonably available information to determine the proposed action's effects. Its failure to include—and indeed obscure—this otherwise readily available information is fatal to the Bureau's NEPA compliance.

Without specific location and identification information on the historical groundwater substitution transfer wells, the pumped and monitored intervals, the hydrogeologic and hydraulic characteristic surrounding the groundwater substitution transfer wells, along with the associated rates, volumes, times of pumping, and the resulting drawdowns, it is not possible for a third party (i.e., the public) to evaluate the actual pumping drawdown impacts from the past transfers or estimate the future groundwater substitution transfer pumping impacts to a third party's well, buildings or lands. If this information was available to the public, at no cost, the actual historical transfer drawdown data could then be compared to the predicted drawdowns provided in the water transfer proposal and the "Water Transfer Information Checklist" (Appendix E3, pdf 415 - 422) that must be submitted for approval to the Bureau and DWR, see "Well Review Process" in MM GW-1 (p. 3-18, pdf 36). For this reason, it is critical that the Bureau make the groundwater substitution transfer proposals easily available to the public at no cost at least 60 days prior to approving a proposal, so that the public can make an informed assessment and time to comment on whether the proposed transfer might injure them. The Bureau and DWR must be responsive to potential injury and be willing to modify the transfer pumping plan.

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Again, all impacts are local to the area surrounding the pumping well. When specific transfer well information is not easily available in a timely manner to the general public at no cost, including the hydrogeologic characteristics of the area surrounding the well, the well's pumping hydraulic characteristics, such as the design of the well, distance-drawdown graphs, the radius of the area or zone of influence (the distance to zero drawdown), the outline of the pumping zone of capture for the well, along with the rates, volumes and times of the proposed groundwater substitution pumping, it is nearly impossible for an injured third-party to make a claim for any of the compensatory mitigation that is being suggested (maybe) in MM GW-1(p. 3-23, pdf 41). Mitigation Measure GW-1 describes the remedy for groundwater substitution transfer pumping injury as:

*The mitigation plan under GW-1 also includes other compensatory mitigation actions such as (1) reimbursement to non-transferring third parties for significant increases in their*

*groundwater pumping costs owing to the groundwater substitution pumping action, as compared with their costs absent the transfer; and (2) reimbursement to non-transferring third parties for modifications to infrastructure that may be affected.*

*The mitigation plan under GW-1 also includes compensatory mitigation action if a loss of vegetation occurs, the Seller will perform restoration activities by replanting similar vegetation at a 1:1 ratio at the location where loss occurs.* (p. 3-26, pdf 44)

From this description of the MM GW-1 compensatory mitigation measure and the narrow focus of the monitoring program (pp. 3-19 to 3-23, pdf 37 to 41), it appears that the mitigation measure places the burden on the injured third-party to document and prove that groundwater level, groundwater quality, and land elevation (subsidence) changes that occurred during and after the period(s) of transfer were caused in whole or in part by the groundwater substitution pumping. Not only does this impermissibly permit the impact to occur, and place the burden on the injured party to make the project's effects known, but also the EA/IS lacks any reliable and transparent mechanism to ensure this occurs. Following a report of harm from a third-party, how will the Seller be accountable to independently and fully investigate the cause? What happens when the cause is multi-factoral, as discussed in the cumulative impact comments herein? No guarantees are or can be made, and this mitigation measure fails. As presented in the MM GW-1, the Seller doesn't appear to have any role or responsibility in monitoring a third-party's wells, building or lands, or in reporting to the public any pumping and/or drawdown data, or any impacts from the pumping to third parties, if identified. There is however language under the Coordination Plan section (p. 3-23, pdf 41) of the discussion on Shallow Groundwater Level Monitoring for Groundwater Dependent Ecosystems (GDEs) supporting Shallow-Rooted and Deep-Rooted Vegetation (p. 3-22 to 3-24, pdf 40-42) that describes the monitoring program needing to include how input from third party well owners will be "*incorporated*" into the monitoring program. The Coordination Plan under the GDEs section states that: 3-7

*Additionally, Reclamation and potential Seller(s) will coordinate closely with potentially affected third parties to collect and monitor groundwater data. If a third party expects that it may be affected by a proposed transfer, that party should contact Reclamation and the Seller with its concern. The burden of collecting groundwater data will be the Seller's responsibility with oversight by Reclamation. If warranted, additional groundwater-level monitoring to address the third party's concern may be incorporated into the monitoring and mitigation plans (which may include compensatory mitigation) required by Mitigation Measure GW-1. No significant adverse impacts to third parties are anticipated from implementation of the Proposed Action as mitigated because Mitigation Measure GW-1 is designed to avoid impacts related to groundwater pumping.*

Although this language provided in the GDEs discussion appears to require collecting transfer project wide groundwater level monitoring data for third party well owners, it appears to leave the decision to contact a third party about a potential for an impact(s) to the Seller(s). However, Coordination Plan language doesn't clearly state how a third party(s) will be identified by the Seller(s). Without the Seller(s) contacting the third party(s), how will a third party(s) know of and then obtain within the necessary time, at no cost, the transfer proposal(s) in order to then contact, if necessary, the Bureau prior to the approval and start of the transfer pumping? How will a third party evaluate the transfer proposal(s) without having all the necessary transfer well's pumping

characteristics and pumping schedule, along with all past reports of the historical changes in groundwater levels with and without past transfer pumping? The Coordination Plan then appears to make it optional that the Seller(s) will monitor to address third party's concerns with the language: "*if warranted*," "*may be incorporated*," and "*may include*." The use of "*may*" language indicates that someone other than the third party will make the decision to monitor and therefore make in advance of the transfer pumping the determination for the third party that they will or will not be impacted.

This lack of reporting and transparency in the groundwater substitution transfer program must be corrected so that the 2026-2027 EA/IS prevents significant impacts, allows impacts to be accurately evaluated and monitored by the public, and allows non-transferring third parties that might be harmed by the transfer pumping to verify that there were no significant impacts or make a claim for compensatory mitigation reimbursements.

*Groundwater Age is Lacking*

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The importance of groundwater age is of paramount importance. The EA/IS and addendum fail to provide recharge data for the aquifers. Professor Karin Hoover, Assistant Professor of hydrology, hydrogeology, and surficial processes from CSU Chico, found in 2008 that, "Although regional measured groundwater levels are purported to 'recover' during the winter months (Technical Memorandum 3), data from Spangler (2002) indicate that recovery levels are somewhat less than levels of drawdown, suggesting that, in general, water levels are declining." According to Dudley, "Test results indicate that the 'age' of the groundwater samples ranges from less than 100 years to tens of thousands of years. In general, the more shallow wells in the Lower Tuscan Formation along the eastern margin of the valley have the 'youngest' water and the deeper wells in the western and southern portions of the valley have the 'oldest' water," adding that "the youngest groundwater in the Lower Tuscan Formation is probably nearest to recharge areas." (2005). "This implies that there is currently no active recharge to the Lower Tuscan aquifer system (M.D. Sullivan, personal communication, 2004)," explains Dr. Hoover. "If this is the case, then water in the Lower Tuscan system may constitute fossil water with no known modern recharge mechanism, and, once it is extracted, it is gone as a resource" (Hoover 2008).[26]

Most Sellers withdraw groundwater from the deep portion of groundwater basins. Notwithstanding the absence of disclosure in the EA/IS regarding the age of groundwater or recharge anywhere locally or regionally, research by the academic community exists. For example, according to Professor Jean Moran regarding the mid Sacramento Valley, "Wells with top perforations below 300 ft bgs do not contain tritium. The large volume of old groundwater produced at drinking water wells has implications for groundwater management since recharge to these wells takes place over

periods greater than 50 years. Relatively rapid groundwater flow is limited to the shallow regime in localized areas near the major streams and in fan sediments."[27]

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Dr. Moran's *Groundwater Ambient Monitoring Assessment* report also demonstrated that except for fairly rapid recharge near streams in Chico, "Drinking water wells that back up to the foothills to the east, and wells to the north of Lindo Channel produce almost exclusively pre-modern groundwater."[28] This was also the case for "[d]eep monitoring wells, especially to the west of the Sacramento River, [that] produce paleowater that recharged more than ten thousand years ago."[29]

The EA/IS fails to account for this in its description of existing conditions and its Project impacts from increased groundwater use. A DEIS/EIR is required to address this.

***Response to Comment 3-7***

Consistent with CFR 43 Part 46.310(e), the level of detail provided in the Draft EA/IS is focused on what is needed to determine whether there would be significant environmental effects. In addition, the approach provided in the Draft EA/IS is consistent with the guidance presented in the *CEQ Memorandum to Agencies: Forty Most Asked Questions Concerning CEQ's NEPA Regulations*, in which it states (CEQ 1981):

> Since the EA is a concise document, it should not contain long descriptions or detailed data which the agency may have gathered. {Excerpt}

The discussion of existing conditions in the Draft EA/IS follows this guidance and presents adequate groundwater existing conditions in the Seller Service Area for those making water available through groundwater substitution in Appendix D and provides groundwater level hydrographs in Appendix F1, F2, and F3.

The existing conditions presented in the Draft EA/IS, including the information presented in Appendix D, are sufficient to establish a comparison of potential future conditions under the alternatives and determine whether there would be significant environmental effects. No changes to the Draft EA/IS are required.

Regarding groundwater elevation data presented in the Draft EA/IS, Appendix D (Section D.3) presents general groundwater elevation trends in the groundwater substitution Seller Service Area. The commenter alleges that "the use of subbasin averages doesn't accurately represent the potential for impacts due to the historical groundwater level changes because impacts from the decline in groundwater levels and the loss in groundwater storage are generally greatest in the local area surrounding the pumping well." However, as stated in Section D.4 of Appendix D, seasonal groundwater level changes involve a wide variety of factors including rainfall, wetting of streams, and irrigation pumping. Past groundwater trends are indicative of groundwater levels declining moderately during extended droughts and recovering to pre-drought levels after subsequent wet periods. As such, Table D-2 through D-7 in Appendix D of the Draft EA/IS presents the maximum increase, maximum decrease, and average change of groundwater elevation in the groundwater substitution seller service area. The information regarding existing conditions presented in the Draft EA/IS, including the information presented in Appendix D, is sufficient to determine whether there would be significant environmental effects. No changes to the Draft EA/IS are required.

Regarding specific location and identification information for historical groundwater substitution transfer wells, the Water Transfer Data Reports in Appendices F1, F2, and F3 of the Draft EA/IS were provided to show groundwater levels at the participating transfer pumping wells and nearby monitoring wells, and illustrate the groundwater level trends during past transfer seasons. Contrary to the commenter's assertion that no identification information is provided in the Water Transfer Data Reports, the State Well Number and Local Well Name of the historical groundwater substitution transfer wells are provided in Appendices F1, F2, and F3 of the Draft EA/IS. This identification information can be searched within the Department of Water Resources' (DWR) CASGEM database. In addition, State Well Numbers are provided in Figures D-5 through Figure D-47 in Appendix D of the Draft EA/IS. This allows the reader to link the historic groundwater substitution transfer wells presented in Appendices F1, F2, and F3 with the monitoring wells presented in Appendix D. No changes to the Draft EA/IS are required.

Reclamation and potential sellers will coordinate closely with potentially affected third parties to collect and monitor groundwater data. If a third party expects that it may be affected by a proposed transfer, that

party should contact Reclamation and the seller with its concern, as described in Mitigation Measure GW-1. The burden of collecting groundwater data will not be the responsibility of the third party. If warranted, additional groundwater level monitoring to address the third-party's concern may be incorporated into the monitoring and mitigation plans required by Mitigation Measure GW-1. The burden of collecting groundwater data will be the Seller's responsibility with oversight by Reclamation. Third parties can use the State Water Resources Control Board's transfer noticing system or DWRs water transfers online web application to identify potential transfers that may impact them. No changes to the Draft EA/IS are required.

Regarding groundwater age and recharge data for aquifers requested by the commenter, as noted above, the information presented in the Draft EA/IS is sufficient to establish a comparison of potential future conditions under the Proposed Action and determine whether there would be significant environmental effects. No changes to the Draft EA/IS are required.

As shown in the Draft EA/IS, there is not substantial evidence that any significant environmental impacts may occur as a result of the Proposed Action, as mitigated. Preparation of additional environmental review therefore is not warranted or required.

**G. Mitigation Measures**

The EA/IS' discussion of mitigation measures is flawed and unlawful for several reasons. For example, the EA/IS relies on a mitigation measure – GW-1 – to offset its anticipated impacts on groundwater. EA/IS at 3-18. This mitigation measure violated NEPA. Per GW-1, the Bureau will monitor groundwater levels in the period during which groundwater is being pumped to offset Project-related transfers and cease pumping when the groundwater level reach as-of-yet unspecified triggers. *Id.* GW-1 further requires sellers to prepare plans addressing how their transfers will "avoid potentially significant adverse effects of transfer-related groundwater extraction[.]" including by explaining how their transfers will comply with the Sustainable Groundwater Management Act. *Id.*

Likewise, the EA/IS relies on another, unnamed mitigation measure to reduce the Project's impacts on groundwater-dependent ecosystems. EA/IS at 3-22. Pursuant to the mitigation measure, sellers would be required to identify if monitoring for shallow-rooted and/or deep-rooted vegetation associated with groundwater-dependent ecosystems is required. *Id.* If groundwater-dependent ecosystems are identified near the groundwater pumping well, a monitoring well meeting specific criteria would need to be identified and "a minimum groundwater threshold would be identified by the Seller using hydrologic data and expert opinion" such that if "monitoring data at the monitoring well indicate that groundwater levels have dropped below the groundwater threshold [], the Seller must implement actions set forth in [as-of-yet-unprepared] mitigation plan[s]" unless an ecologist or arborist determines that the groundwater-dependent ecosystems are healthy and can tolerate the proposed transfer. *Id.* If no monitoring wells are in the area, then the whole process would "be based on visual observations by a qualified plant ecologist [or] certified arborist of the health of these areas of shallow- or deep-rooted vegetation until it is feasible to obtain or install shallow groundwater monitoring." *Id.* at 3-23.

Similarly, the EA/IS relies on a third mitigation measure – referred to as WS-1 – to offset the Project's impacts on interconnected surface waters. *Id.* at 3-4. According to WS-1, "Reclamation will apply a streamflow depletion factor to mitigate potential water supply impacts from the additional groundwater pumping due to groundwater substitution transfers" that "equates to a

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percentage of the total groundwater substitution transfer that will not physically be available for transfer to the Buyer (transferee) and is intended to offset the streamflow effects of the added groundwater pumping due to transfer." *Id*. The actual factor has not yet been identified and will not be subject to notice and comment under NEPA although a 20% SDF is inferred, but subject to change.

As explained *supra*, these mitigation measures violate NEPA in at least two ways. First, they constitute unlawfully deferred mitigation. *Methow Valley Citizens Council*, 490 U.S. at 353 (NEPA requires that proposed mitigation measures "be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated"); *S. Fork Band Council of W. Shoshone of Nev.*, 588 F.3d at 727 (discussion of mitigation measures must include "an assessment of whether the proposed mitigation measures can be effective"); *Laguna Greenbelt,* 42 F.3d at 529 (NEPA review cannot omit a reasonably thorough discussion of mitigation measures because to do so would undermine the action-forcing goals of NEPA). The Bureau has not identified the "triggers" that will catalyze management intervention or the "plans" that seller will have to prepare under GW-1. Neither has it identified where groundwater-dependent ecosystems are located, what thresholds make sense to monitor for adverse impacts thereto, or how sellers can mitigate for such impacts pursuant to the unnamed mitigation measure for offsetting impacts on groundwater or explained how it will prevent impacts on interconnected surface waters, in violation of NEPA. Absent more information, AquAlliance and the public cannot adequately comment on the efficacy of these proposed measures.

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Second, these mitigation measures unlawfully rely on post-NEPA monitoring and data collection that will not be subject to public input and commenting. *Great Basin Res. Watch*, 844 F.3d, at 1104 ("[A] post-[NEPA] analysis — conducted without any input from the public — cannot cure deficiencies in [a NEPA document].") This is particularly concerning because it does not appear that the sellers' obligations to prepare and the Bureau's obligation to review and approve the "plans" associated with GW-1 and the unnamed mitigation measure for offsetting impacts on groundwater-dependent ecosystems would be enforceable.

*Relying on Groundwater Sustainability Plans Fails to Mitigate*

The 2026-2027 EA/IS doesn't provide or require the transfer proposal to specifically identify how the groundwater substitution transfer wells and associated monitoring wells are linked to the subbasin's GSP Representative Monitoring Site (RMS) (or RMP in the EA/IS) monitoring well network, or how the transfer well thresholds and triggers are consistent and in compliance with the GSP's sustainable management criteria and sustainability goals, i.e., MO, MTs, IMs, and sustainable yield. Mitigation Measure GW-1 does require that:

> *Sellers must demonstrate that substantial inelastic land subsidence is not occurring within the area of a proposed participating transfer pumping well in accordance with minimum thresholds identified in their local DWR approved GSP(s), subject to Reclamation's verification; and if it is occurring, the participating transfer pumping well would not be allowed to participate in groundwater substitution transfers, ensuring adverse effects of the Proposed Action would not occur in areas vulnerable to land subsidence.* (p. 3-18, pdf 36)

> *Sellers will also monitor the RMPs from the DWR approved GSPs in the Seller Service Area monthly.* (p. 3-20, pdf 38)
>
> *In addition to monitoring at the participating transfer pumping well and suitable monitoring well(s), Sellers must also identify the nearest required representative monitoring wellpoints (RMPs) and measurable objective for chronic lowering of groundwater levels from the GSP(s) in the Seller Service Area. Monitoring wells in the DWR approved GSPs may be miles away from the participating transfer pumping well and may have a delayed detection of impacts related to third parties and conditions which may cause land subsidence.* (p. 3-19, pdf 37)

The point that MM GW-1 makes that the GSP's RMS (RMP) wells may be distant from the transfer pumping well is valid, but without the transfer well's specific design, and hydrogeologic and hydraulic characteristics discussed above, the importance and role of the historical data from the nearby RMS (RMP) well(s) to the evaluation and monitoring of the groundwater substitution transfer pumping drawdowns and associated potential impacts would be poorly documented and result in a minimal evaluation that produces a large uncertainty in its conclusions.
Although the design and location information about the GSP's RMS wells is known and provided in each GSP, we find that crucial information on transfer and monitoring wells is lacking in the EA/IS and addendum, such as State Well IDs, well locations (latitude and longitude), and screened intervals as examples. 3-8

The 2026-2027 EA/IS doesn't specifically state in MM GW-1 that review and approval of the Sellers' groundwater substitution transfer proposal by the governing GSAs are required (pp. 3-14, 3-15, and 3-18, pdf 32, 33, and 36). This is done through the use of the "Water Transfer Information Checklist" in Appendix E3 (p. 3-18, pdf 36; and pdf 415 to 422), which requires that GSAs provide a "written concurrence" on the water transfer proposal. It is unclear in MM GW-1 if a GSA(s) is required to conduct a detailed independent analysis of the transfer pumping impacts to make a determine determination that the transfer thresholds and triggers are compliant with all of the GSP's relevant sustainability criteria. The failure of the 2026-2027 EA/IS to require that the Seller(s) should be the one to perform this detailed compliance assessment places the burden to show GSP compliance on someone other than the project's proponents. In addition, the EA/IS and addendum fail to require the Sellers provide an evaluation of compliance with the GSP in a timely manner and free of cost to the subbasin's public members, so that they can make an informed review and provide comments, as needed. The failure to require that the Sellers develop and provide a written report that demonstrates compliance with the GSP will result in all three agencies — the Bureau, DWR and the GSA(s) — being responsible for placing the burden on the third parties in the subbasin to demonstrate that the transfer pumping might or did result in harm or injury to those parties or the general public trust of the subbasin resources.

2. Mitigation Measure GW-1 in the 2026-2027 EA/IS appears to assume that DWR's approvals of the subbasin GSPs provide sufficient technical information, analysis and monitoring measures to eventually create a sustainable groundwater basin that prevents undesirable results. Mitigation Measure GW-1 states:

> *Sellers are required to submit monitoring reports to Reclamation and Reclamation will verify that participating Sellers implement the Monitoring Program and Mitigation Plan to*

*avoid potentially significant adverse effects of transfer-related groundwater extraction. In addition, each entity making surface water available for transfer through groundwater substitution actions must confirm that the proposed groundwater pumping will be compatible with applicable state and local regulations and county groundwater management plans (GMPs), as well as GSPs. Most GSPs in the Seller Service Area have been reviewed and approved by DWR; and all of the GSAs are required to meet the sustainability objectives identified under SGMA, thus providing a regulatory backstop to prevent substantial adverse effects.* (p. 3-18, pdf 36)

There is a problem with assuming that the current DWR approved GSPs are fully compliant with SGMA. In the letter of determination by DWR that approved each of the current GSPs for the Redding area and Sacramento Valley (see list of GSAs and GSPs in Appendix D, Table D-1; pp. D-3 and D-4, pdf 81 and 82), DWR made multiple recommendations for Corrective Actions to remedy deficiencies in the data and/or analyses presented in the GSP, even though DWR gave approval. DWR required that some of the deficiencies identified be corrected "as soon as possible," but all need to be corrected by the first periodic assessment of the GSP, which is at least every five years after initial submission of a plan (Water Code § 10733.8, 23 CCR § 356.4 et seq.). Based on the adoption dates given in Table D-1, the first periodic reviews will be undertaken sometime in 2026 or 2027, which is the time frame for the groundwater substitution transfer being evaluated in this EA/IS.

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DWR's review of GSPs take some time, possibly a year or more, based on the adopted versus approved dates listed in Table D-1. Therefore, it is likely that the GSP deficiencies identified by DWR might still be occurring and might have a negative effect on preventing significant impacts from the groundwater pumping during the 2026-2027 transfers. The Corrective Actions required by DWR for approval of the GPSs are listed by correction number under the various general topics in Exhibit I, Table of Corrective Actions Required as Part of the Final Groundwater Sustainability Plan Approval.

AquAlliance Exhibit I lists by DWR Bulletin 118 subbasin name and number the seven approved GSPs listed in Table D-1 and two additional approved GSPs for the Vina and Butte subbasins. The attached table lists the DWR Corrective Action numbers given in each subbasin's approval letter under eleven general types of corrective action and four types of monitoring networks. Exhibit J is a compilation of the Recommended Corrective Actions from each of the listed subbasin GSP's approval letter.

The attached Table of Corrective Actions shows that even though DWR approved the GSPs, there are numerous areas of deficiency and data gaps in the GSPs. DWR used similar language in each GSP approval to describe these deficiencies and data gaps. The following language is a general example of the corrective actions, which are taken from the recent February 27, 2025, Colusa GSP Letter of Determination. The language for Recommended Corrective Actions on subsidence (no. 3), groundwater conditions (no. 6), interconnected surface waters (no. 8), and monitoring networks (no. 9) are given below:

Colusa GSP Recommended Corrective Action 3 on Subsidence
*The GSAs should address the following recommended corrective actions for the sustainable management criteria for subsidence by the next periodic evaluation:*

*a) GSP Regulations require GSAs to describe potential effects on land uses and property interests that may occur from undesirable results.[454] The GSAs should provide clear and detailed information showing and describing the infrastructure it has considered while establishing the undesirable result. Department staff recommend providing this information with maps and tables that identify specific infrastructure the GSAs have considered. Staff also recommend the GSAs collect formal correspondence from the agencies they contacted indicating the infrastructure's susceptibility or lack of susceptibility to subsidence. The GSAs should provide an explanation of how the Agencies have determined and considered land uses and property interests.[455]*

*b) Identify the spatial extent and rate with the spatial extent and cumulative limit of subsidence that represents an undesirable result in a manner that considers the beneficial uses and users,[456] including the functional impacts to infrastructure.*

*c) Identify the spatial extent and rate with the spatial extent and cumulative limit of subsidence that represents the minimum threshold in a manner that considers the beneficial uses and users [457] and shows how the Agencies' rationale has considered those uses and interests,[458] including the functional impacts to infrastructure.*

*d) Redefine undesirable results conditions so that they occur with subsidence that substantially interferes with surface land uses and may lead to undesirable results,[459] and manages the Subbasin to minimize or avoid subsidence.[460]*

*e) Redefine conditions for Yellow- and Red-Light Triggers to take action so that the actions feasibly may prevent reaching an undesirable result condition, so that the GSAs may manage the Subbasin to minimize or avoid subsidence.[461]*

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Colusa GSP Recommended Corrective Action 6 on Groundwater Conditions

*The GSAs should address the following related to groundwater conditions:*

*a) Consider sulfate a constituent of concern in future GSP updates or provide additional reasoning for excluding it as a constituent of concern.*

*b) Provide an estimate of the quantity and timing of the depletion of interconnected surface water for surface water bodies in the Subbasin.[464] Provide the reasoning and analysis that was used if any surface water bodies are excluded from this analysis.*

*c) Identify groundwater dependent ecosystems throughout the Subbasin.[465] Include figures showing the areas in the NCCAG dataset that were removed from consideration. This may be accomplished by implementing the "Development of a Dedicated Network of Shallow Monitoring Wells for GDE Monitoring" management action or other means as determined by the GSAs.*

Colusa GSP Recommended Corrective Action 8 on Interconnected Surface Waters

*Department staff understand that estimating the location, quantity, and timing of stream depletion due to ongoing, Subbasin-wide pumping is a complex task and that developing suitable tools may take additional time; however, it is critical for the Department's ongoing and future evaluations of whether GSP implementation is on track to achieve sustainable groundwater management. The Department plans to provide guidance on methods and approaches to evaluate the rate, timing, and volume of depletions of interconnected surface water and support for establishing specific sustainable management criteria in the near future. This guidance is intended to assist GSAs to sustainably manage depletions of interconnected surface water. In addition, the GSAs should work to address the following items by the first periodic evaluation:*

*a) Revise sustainable management criteria to meet GSP regulatory requirements. Establish sustainable management criteria that considers the location, quantity, and timing of depletions of interconnected surface water.*[467] *Do not use groundwater levels as a proxy for depletions of interconnected surface water without demonstrating that the representative value is a reasonable proxy as supported by adequate evidence.*[468]

*b) Consider utilizing the interconnected surface water guidance, as appropriate, when issued by the Department to establish quantifiable minimum thresholds, measurable objectives, and management actions.*

*c) Continue to fill data gaps, collect additional monitoring data, and implement the current strategy to manage depletions of interconnected surface water and define segments of interconnectivity and timing.*

*d) Prioritize collaborating and coordinating with local, state, and federal regulatory agencies as well as interested parties to better understand the full suite of beneficial uses and users that may be impacted by pumping induced surface water depletion within the GSAs' jurisdictional area.*

Colusa GSP Recommended Corrective Action 9 on Monitoring Networks

*The GSAs should address the following related to the monitoring networks and provide updates on progress in annual reports:*

*a) Revise the monitoring network for degraded water quality to include constituents of concern in the Subbasin identified in the GSP or demonstrate how total dissolved solids as a representative value is a reasonable proxy for other constituents as supported by adequate evidence.*[469]

*b) Update the degraded water quality monitoring network and representative monitoring network to include the sampling frequency and data review frequency for each of the wells identified. The frequency of monitoring must collect sufficient spatial and temporal data to determine groundwater quality trends for water quality indicators, as determined by the Agencies, to address known water quality issues.*[470] *Department staff recommend the GSP includes the monitoring data collection frequency in tabular format as required by the GSP Regulations.*[471]

*c) Monitor surface water and groundwater, where interconnected surface water conditions exist, to characterize the spatial and temporal exchanges between surface water and groundwater, and to calibrate and apply the tools and methods necessary to calculate depletions of surface water caused by groundwater extractions, so that the GSAs may characterize flow conditions, ephemeral or intermittent streams, and temporal changes in regional conditions* due to groundwater extraction.[472]

*d) Provide a detailed plan to fill data gaps so that the GSAs are sufficiently monitoring for depletions of interconnected surface water and may characterize the spatial and temporal exchanges between surface water and groundwater and to calibrate and apply the tools and methods necessary to calculate depletions of surface water caused by groundwater extractions.*[473]

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The requirements in the Recommended Corrective Actions listed above and included in Exhibits I and J are just brief summaries of the deficiencies identified by DWR in the GSPs. More detailed explanations of the scope and reasoning for requiring that a GSP must be corrected by the first periodic review are given in the body of each GSP Letter of Determination Approval. It is clear from the details for each Recommended Corrective Action that compliance with the current

sustainability criteria in each GSP does not assure that there will be no significant impacts or injury from the groundwater substitution transfers to non-transferring third parties or environmental impacts to the wildlife, vegetation, groundwater dependent ecosystems, and public trust resources in the areas surrounding the pumped transfer wells. **The assessments being required by the Bureau in the 2026-2027 EA/IS mitigation and monitoring plan don't appear to be designed to fill in the known GSP data gaps and therefore the water transfer proposal's mitigation measures WS-1 and GW-1 will likely not be adequate to prevent significant impacts to beneficial users and uses of water, water rights, interconnected surface waters, groundwater dependent ecosystems, or land surface elevation (i.e., subsidence), and have a negative effect on the sustainability of each subbasin participating in the transfers. This leaves the EA/IS and so-called addendum wholly inadequate under NEPA and CEQA, so the documents must be withdrawn.**

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***Response to Comment 3-8***

The Draft EA/IS appropriately includes the commitment to Mitigation Measure GW-1 which reduces or compensates for potential impacts and avoids potentially significant adverse environmental impacts. The CEQ recognizes the appropriateness, value, and efficacy of providing for mitigation to reduce the significance of environmental impacts. No changes to the Draft EA/IS are required.

Regarding the comment that groundwater level triggers were not identified, the Draft EA/IS, Section 3.3.3 thoroughly describes groundwater level triggers and thresholds and states, "As part of a Seller's transfer proposal subject to Reclamation's (in coordination with DWR) review and approval, the Seller will need to identify a proposed groundwater level trigger for each pumping well and each suitable monitoring well (established through the local GSP or the historical low groundwater level for that well)" (Page 3-20). In response to DWR Comment 2-4, GSPs have superseded the BMOs and GMPs and the text in the Draft EA/IS has been revised accordingly, as noted in Response to Comment 2-4.

Regarding the assertion that the plans that the Sellers will have to prepare were not identified, Mitigation Measure GW-1 identifies a monitoring program and mitigation plan that the potential Sellers are required to implement if they participate in groundwater substitution transfers. Section 3.3.3 (Page 3-24) of the Draft EA/IS thoroughly describes the mitigation plan to be implemented by the Sellers. As part of a water transfer proposal, Sellers would identify the appropriate actions under the mitigation plan described in Mitigation Measure GW-1 that would apply to their water transfers action (i.e., identify if monitoring for shallow-rooted and/or deep-rooted vegetation associated with a GDE is required at the proposed transfer well based on the requirements described in Mitigation Measure GW-1). As noted in Section 3.3.3 of the Draft EA/IS, potential Sellers are required to prepare and submit a water transfer proposal to Reclamation a minimum of one month prior to the initiation of groundwater substitution pumping transfers. Reclamation (in coordination with DWR) will review water transfer proposals and those groundwater substitution pumping transfers cannot start prior to Reclamation's approval. Mitigation Measure GW-1 is consistent with the requirements under 43 CFR 46.310 and CEQA Guidelines Section 15126.4(a). No changes to the Draft EA/IS are required.

Regarding the location of groundwater-dependent ecosystems and thresholds to monitor for adverse impacts on GDEs, the Draft EA/IS, Section 3.3.3 (Page 3-22), provides a clear and specific method for Sellers to identify GDEs and monitoring thresholds based on local conditions. For GDE identification, the Draft EA/IS states in Section 3.3.3, "Best available information such as the NCAAG 2.0, GDE Pulse 2.3 (https://gde.codefornature.org/#/home) or GSA collected data/information could be used to identify GDEs containing shallow and/or deep rooted vegetation near the participating transfer pumping well" (Page 3-22). For monitoring thresholds, the Draft EA/IS states in Section 3.3.3, "for each GDE monitoring

well, a minimum groundwater threshold would be identified by the Seller using hydrologic data and expert opinion based on the ecological function and value of the GDE, and on the maximum rooting depth of its dominant vegetation type" (Page 3-22). Sellers would implement a mitigation plan, described in the Draft EA/IS, Section 3.3.3 (Page 3-24), which outlines the actions that will be taken if shallow groundwater-level monitoring indicates that groundwater levels at a GDE have dropped below the minimum threshold. No changes to the Draft EA/IS are required.

Mitigation Measure GW-1 was developed to avoid potentially significant adverse impacts by limiting groundwater level declines through the implementation of the monitoring program and mitigation plan. Under Mitigation Measure GW-1, Reclamation will verify that Sellers implement the monitoring program and mitigation plan to avoid potentially significant adverse effects of transfer-related groundwater extraction. No changes to the Draft EA/IS are required.

Mitigation Measure WS-1 was developed to address potential impacts related to interconnected surface waters, including streamflow depletion effects to CVP and SWP water supply. As discussed in Section 3.1.3 of the Draft EA/IS, Reclamation will apply a streamflow depletion factor to mitigate potential water supply impacts from the additional groundwater pumping due to groundwater substitution transfers. Related to the impact of streamflow depletion impacts on biological resources in rivers and creeks, as discussed and analyzed in Section 3.7.2 of the Draft EA/IS, the effects of groundwater pumping substitution within the Sellers Service Area would be less than significant. Related to the impact of streamflow depletion impacts on GDEs, as discussed and analyzed in Section 3.7.2 of the Draft EA/IS, impacts of groundwater substitution on flows in small streams and associated GDEs would be mitigated by implementation of Mitigation Measure GW-1. No changes to the Draft EA/IS are required.

As previously discussed, the Draft EA/IS, Section 3.3.3 thoroughly describes the groundwater monitoring and data collection methods that would be implemented through Mitigation Measure GW-1 under the Proposed Action, which was made available for public input and commenting. Implementation of a monitoring program and mitigation plan is an appropriate mitigation measure under NEPA and CEQA to avoid or substantially reduce impacts on groundwater resources from the Proposed Action. No changes to the Draft EA/IS are required.

Adopted mitigation measures, such as the requirements identified in Mitigation Measure GW-1, are legally enforceable by Reclamation as the agency with authority to review, condition, and approve proposed water transfer activities. The Draft EA/IS in Section 3.3.3 states, "Sellers are required to submit monitoring reports to Reclamation and Reclamation will verify that participating Sellers implement the Monitoring Program and Mitigation Plan to avoid potentially significant adverse effects of transfer-related groundwater extraction" (Page 3-18). Enforcement would be tracked as part of the Mitigation Monitoring and Reporting Program. No changes to the Draft EA/IS are required.

Regarding the comment related to the subbasin's GSP Representative Monitoring Site (RMS) (or RMP in the Draft EA/IS) monitoring well network, the identification of the GSP Representative Monitoring Sites is supplemental to the identification and monitoring of a suitable groundwater-level monitoring well(s). No changes to the Draft EA/IS are required.

Regarding the comment related to consistency and compliance with the GSPs, all of the GSAs are required to meet the sustainability objectives identified under SGMA and, as noted in Section 3.3.3 of the Draft EA/IS, "each entity making surface water available for transfer through groundwater substitution actions must confirm that the proposed groundwater pumping will be compatible with applicable state and local

regulations and county groundwater management plans (GMPs), as well as GSPs" (Page 3-18). No changes to the Draft EA/IS are required.

Regarding the comment asserting a lack of information on transfer and monitoring wells (State Well IDs, well locations, and screened intervals), the level of detail provided in the Draft EA/IS is focused on what is needed to determine whether there would be significant environmental effects, consistent with CFR 43 Part 46.310(e),.. The existing potential transfer wells are located within the Seller Service Area, depicted in Figure 2-1 (Page 2-2) in the Draft EA/IS and potential transfer well locations are shown in Appendix E1 and Appendix G of the Draft EA/IS. Potential existing monitoring wells would be between 500 feet and 2-miles from a Seller's groundwater substitution well. The additional well details requested by the commenter are beyond the scope of analysis required for an EA. No changes to the Draft EA/IS are required.

Regarding the comment related to the review and approval of the Sellers' groundwater substitution transfer proposal by the governing GSAs, as noted in Section 3.3.3 (Page 3-18) of the Draft EA/IS, each entity making surface water available for transfer through groundwater substitution actions must confirm that the proposed groundwater pumping will be compatible with applicable state and local regulations and county GMPs, as well as GSPs. As noted by the commenter, review and approval of the Sellers' groundwater substitution transfer proposal by the governing GSAs are required through the use of the Water Transfer Information Checklist, which is included as Appendix E3 of the Draft EA/IS. As noted in Section 3.3.3 of the Draft EA/IS, "Water transfer proposals must include well data collected by potential sellers consistent with the data requirements identified in the Water Transfers Information Checklist that is included in Reclamation and DWR's Water Transfer White Paper" (Page 3-18), which includes written concurrence from the corresponding GSAs on the proposal. No changes to the Draft EA/IS are required.

The GSPs are the best available guidance for assessing and managing groundwater conditions and are appropriate to use to determine groundwater level triggers and thresholds. As noted in DWR Comment 2-4, GSPs have superseded the BMOs and GMPs and GSPs are the primary regulatory tools for all Seller groundwater basins and subbasins. As transfers are proposed, the historical low groundwater level (trigger) would be determined based on the best available information.). The proposed groundwater level trigger for each pumping well and each suitable monitoring well would be subject to review and approval by Reclamation and DWR. No changes to the Draft EA/IS are required.

## H. The Alternatives Analysis Is Flawed

The most fundamental EA/IS and addendum deficiency is the lack of alternatives considered: a No Action alternative and the Proposed Project. NEPA's implementing regulations call analysis of alternatives "the heart of the environmental impact statement," 40 C.F.R. §1502.14, and they require an analysis of alternatives within an EA. *Id.* §1408.9. The statute itself specifically requires federal agencies to: "[s]tudy, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning available uses of resources."42 U.S.C. §4332(2)(E). The range of alternatives that agencies must consider is "dictated by the nature and scope of the proposed action." *Friends of Yosemite Valley v. Kempthorne*, 520 F.3d 1024, 1038 (9th Cir. 2008). Agencies may not define the project's purpose and need of a project in terms so "unreasonably narrow," that only one alternative would accomplish the goals of the project. *Nat'l Parks & Conservation Ass'n v. Bureau of Land Mgmt.*, 606 F.3d 1058, 1070 (9th Cir. 2010).

The EA/IS for the Project fails to comply with this requirement. The EA/IS only considers "transfers of water made available from groundwater substitution and reservoir release actions" and does not analyze "other methods of making water available for transfer[.]" (EA/IS at 2-6). The EA/IS never explains this decision or otherwise justifies it, in clear violation of NEPA. *California v. Block*, 690 F.2d 753, 767 (9th Cir. 1982) (holding that the touchstone for NEPA alternatives analysis is whether the alternatives analysis fosters informed decision-making and informed public participation); *Pac. Coast Fedn. of Fishermen's Ass'ns v. Blank*, 693 F.3d 1084, 1099 (9th Cir. 2012) (explaining that agencies are required "to set forth only those alternatives necessary to permit a reasoned choice"). The EA/IS could have, but did not, consider cropland idling, conservation programs, or other means of reducing water demand upstream to allow for additional downstream transfers. This is concerning, particularly because similar programs are being and were considered in other, similar circumstances, including as part of the 2019-2024 Water Transfer Program that predates and precedes the Project. Relying on cropland idling and conservation programs to reduce upstream demand to make water available for downstream transfers instead of relying on increased groundwater extraction would reduce or remove much of the negative impacts the Project will have on land subsidence, groundwater-dependent ecosystems, and threatened and endangered species discussed *supra*. The Bureau should amend the EA/IS to analyze methods of producing additional water supply to accommodate increased downstream transfers that do not rely on groundwater extraction or increased reliance on reservoir releases and instead reduce upstream demand via

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increased investment in cropland idling, crop shifting (to less water intensive crops), and conservation and retention programs.

The case law makes clear that an adequate analysis of alternatives is an essential element of an EA, and is designed to allow the decision-maker and the public to compare the environmental consequences of the proposed action with the environmental effects of other options for accomplishing the agency's purpose. The Ninth Circuit has explained that "[i]nformed and meaningful consideration of alternatives … is … an integral part of the statutory scheme."[30] An EA must consider a reasonable range of alternatives, and courts have not hesitated to overturn EAs that omit consideration of a reasonable and feasible alternative.[31]

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Here, there are only two alternatives presented: the No Action and the Proposed Action. The lack of *any* alternative action proposal is unreasonable and is by itself a violation of NEPA's requirement to consider a reasonable range of alternatives. 42 U.S.C. § 4332(2)(E).

***Response to Comment 3-9***

The commenter incorrectly asserts that the Draft EA/IS did not consider cropland idling, conservation programs, or other means of reducing water demand upstream to allow for additional downstream transfers. Such water management options are considered in the Draft EA/IS under the No Action Alternative. As stated in Section 2.1 of the Draft EA/IS, for the No Action Alternative, the Buyers, during contract years 2026 and 2027, would not buy water from willing Sellers who require Reclamation approval in order to transfer water to the interested Buyers. Therefore, agricultural water users could experience shortages in contract years 2026 and 2027. If supplies are constrained, water users may take alternative water supply actions in response to shortages, including increased groundwater pumping, cropland idling, reduction of landscape irrigation or permanent crop irrigation, or water rationing under the No Action Alternative. The effects associated with the No Action Alternative are presented in Section 3 of the Draft EA/IS.

Regarding the presentation of two alternatives in the Draft EA/IS, as stated in Section 1.2 of the Draft EA/IS, Reclamation's primary purpose for this project is to review and consider whether or not to approve proposals for the voluntary transfer of water from willing Sellers to willing Buyers. Given this purpose, Reclamation, through the development of this Draft EA/IS, reviewed SLDMWA's Proposed Action of making water available through groundwater substitution and reservoir release transfers. Cropland idling, crop shifting, and conservation and retention programs were not included in the Proposed Action developed by SLDMWA as these methods do not fulfill the project objective, defined in Section 1.2 of the Draft EA/IS, of providing a water supply to willing Buyers that is immediately implementable and flexible. The Draft EA/IS is consistent with section 102(2)(C)(iii) of NEPA, as the document evaluates a reasonable range of alternatives that meet the purpose and need of the proposal. As such, no changes to the Draft EA/IS are required.

I. Cumulative Impacts

"The Proposed Action has the potential to make a cumulatively considerable contribution to impacts related to surface water supply, surface water quality, groundwater resources, air quality, and biological resources…" (p. 4-1/pdf 73)

In assessing the significance of a project's impact, the Bureau must consider "[c]umulative actions, which when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact statement." 40 C.F.R. § 1508.25(a)(2). A "cumulative impact" includes "the impact on the environment which results from the incremental impact of the action when added to *other past, present and reasonably foreseeable future actions* regardless of what agency (Federal or non-Federal) or person undertakes such other actions." *Id.* §1508.7. The regulations warn that "[s]ignificance cannot be avoided by terming an action temporary or by breaking it down into small component parts" as the Bureau has done with this EA. *Id.* § 1508.27(b)(7)

As discussed numerous times in these comments, the Bureau should have produced an environmental impact statement to consider "[c]onnected actions." *Id.* §1508.25(a)(1). Actions are connected where they "[a]re interdependent parts of a larger action and depend on the larger action for their justification." *Id.* §1508.25(a)(1)(iii). Further, an environmental impact statement should consider "[s]imilar actions, which when viewed together with other *reasonably foreseeable or proposed agency actions*, have similarities that provide a basis for evaluating their environmental consequences together, such as common timing or geography." *Id.* §1508.25(a)(3). The EA/IS fails to analyze the cumulative effects of past transfers, and probable future projects, that have cumulatively contributed to significant basin-wide overdraft, and subsidence. The cumulative effect of groundwater use, including transfer related pumping, has caused numerous site specific adverse effects including well failure, property damage, and damage to natural systems and species . To the

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extent the agencies believe they lack the regulatory scope to prevent these effects from continuing and recurring with additional groundwater pumping, the effects must be considered cumulatively considerable and unavoidable.

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***Response to Comment 3-10***

NEPA requires federal agencies to prepare a detailed Environmental Impact Statement (EIS) on all major Federal actions significantly affecting the quality of the human environment (42 U.S.C. 4332 (2)(c)). Based on the analysis presented in Section 3 of the Draft EA/IS, as supported by substantial evidence provided therewith, impacts associated with the Proposed Action would be less than significant. The Draft EA/IS provides a thorough and systematic evaluation of a broad range of environmental issues and demonstrates that – with the commitment to and implementation of mitigation measures – no potentially significant impacts would occur over the transfer period as a result of the Proposed Action. The commenter incorrectly asserts that the "EA/IS fails to analyze the cumulative effects of past transfers, and probable future projects." However, past transfers and probable future projects are included in the analysis of potential cumulative impacts (Section 4 and Appendix K of the Draft EA/IS). The cumulative effects of this project in combination with past, present, and foreseeable future projects have been evaluated. As such, no changes to the Draft EA/IS are required.

The whole of the record associated with the Draft EA/IS does not indicate there is substantial evidence that any significant environmental impacts may occur as a result of the Proposed Action, as mitigated. Preparation of additional environmental review therefore is not warranted or required.

**J. Additional Comments and Questions**

1) The EA/IS water transfer proposal is clearly involved with the *Water Reduction Program Agreement* (aka Drought Resiliency Plan) ("WRP Agreement"). The WRP Agreement's DEIR stated that the "[r]eduction to SRSC contract supply is responsive to shortages in water supplies due to normal hydrologic conditions, climatic variability, and climate change." (p.2) Yet during the same conditions when "shortages in water supplies due to normal hydrologic conditions, climatic variability, and climate change" occur, demand for water transfers is likely to take place. Unexplained in the EA/IS is how the two related projects may operate in tandem. For example, will any of the non-delivered SRSC water be transferred to non-SRSC water users? The lack of clarity is glaring and must be corrected.

2) The EA/IS blithely concludes that there are no threats to Indian Trust Assets ("ITAs") although "Groundwater substitution is the only method of making water available, under the Proposed Action, that could affect ITAs." (p. 5-1 pdf 77) In one instance the EA/IS acknowledges that "The Colusa Rancheria is near an area of potential drawdown; however, the changes in groundwater levels near the Colusa Rancheria would be negligible and would not affect groundwater pumping within Colusa Rancheria (Figure E-9 in Appendix E1)." How this conclusion was reached is a mystery that must be corrected. In the Redding area, the EA/IS concludes that based on past pump data and ACID's creation of a "[M]onitoring Program and Mitigation Plan because of the uncertainty of changes in groundwater levels in a Critical Year" that there will be "no effects" to the Redding Rancheria. There appear to be no supporting data to support the conclusion of negligible impacts to ITAs. 3-11

In addition, the cumulative impact from the potential operation of the WRP Agreement and the Project could easily exacerbate negative groundwater conditions for ITAs including, but not limited to, interference with the exercise of a reserved water right, degradation of water quality where there is a water right, impacts to fish or wildlife where there is a hunting or fishing right, and/or noise near reservation resources. Data and analysis should be provided in a DEIS/EIR.

3) The EA/IS fails to address potential Environmental Justice. Even the WRP Agreement EA acknowledged on page 87 that its project may have a cumulative effect on environmental justice: "Past, present, and reasonably foreseeable projects may have cumulative effects on environmental justice to the extent that they could affect minority and/or low-income populations. The Proposed Action may result in impacts and/or beneficial effects on minority and/or low-income populations; however, these effects would not be disproportionately high or adverse." There wasn't any analysis that demonstrated the effects wouldn't be "disproportionately high or adverse," but at least it brought up the topic. What reason prevented the Lead Agencies from addressing environmental Justice?

### *Response to Comment 3-11*

The Water Reduction Program Agreement is included in the cumulative projects listed in Appendix K (Section K.1.6) of the Draft EA/IS. The cumulative effects of this project in combination with the Proposed Action have been evaluated in Section 4 of the Draft EA/IS. Questions regarding operations of the Water Reduction Program Agreement are outside the scope of this 2026-2027 Water Transfers Project. No changes to the Draft EA/IS are required.

In regard to the Indian Trust Assets (ITAs) effects analysis presented in the Draft EA/IS, Figure E-9 in Appendix E1 has been revised to include select hydrograph locations (depicted as pink triangles). This edit has been made to assist the public in reviewing simulated groundwater elevation at select hydrographs closest to ITAs and to reiterate that no effects to ITAs under the Proposed Action are anticipated. The nearest hydrograph locations to Chico Rancheria and Paskenta Rancheria are locations 1 and 2,

respectively. Appendix E2 presents simulated groundwater elevation for hydrograph locations 1-34. As shown in Appendix E2, at both hydrograph location 1 and hydrograph location 2, there would be no change in drawdown under the Proposed Action compared to the No Action Alternative. Therefore, as described in Section 5.1 of the Draft EA/IS, there would be essentially no effect to groundwater elevations from groundwater substitution pumping near Chico Rancheria and Paskenta Rancheria sites. Hydrograph location 12 is the nearest to Colusa Rancheria. As shown in Appendix E2, there would be no change in drawdown under the Proposed Action compared to the No Action Alternative at location 12. Therefore, as described in Section 5.1 of the Draft EA/IS, the change in groundwater levels near the Colusa Rancheria would be negligible and would not affect groundwater pumping within Colusa Rancheria.

Regarding cumulative effects discussion associated with ITAs, Executive Order (E.O.)14154, Unleashing American Energy (Jan. 20, 2025), and E.O.14173, Ending Illegal Discrimination and Restoring Merit-Based Opportunity (Jan. 21, 2025), require Reclamation to strictly adhere to the National Environmental Policy Act (NEPA), 42 U.S.C. §§ 4321 et seq. Reclamation has voluntarily considered the Council on Environmental Quality's rescinded 2020 regulations implementing NEPA, previously found at 40 C.F.R. Parts 1500–1508, as guidance to the extent appropriate and consistent with the requirements of NEPA and Executive Orders 14154 and 14173. As stated in Section 1508.1(g)(3) (2020):

"cumulative impact, defined in 40 C.F.R. 1508.7 (1978), is repealed."

In regard to addressing Environmental Justice in the Draft EA/IS, E.O. 14173 was signed into law on January 21, 2025, revoking E.O. 12898 "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" and its associated requirements of identifying and addressing adverse effects to minority and low-income populations. As such, analysis of Environmental Justice effects is not presented in the Draft EA/IS, consistent with E.O. 14173. The following footnote, detailing Reclamation's compliance with NEPA and E.O. 14173, has been added to Section 1 of the Draft EA/IS:

> *"Executive Order 14154, Unleashing American Energy (Jan. 20, 2025), and a Presidential Memorandum, Ending Illegal Discrimination and Restoring Merit-Based Opportunity (Jan. 21, 2025), require the Department to strictly adhere to the National Environmental Policy Act (NEPA), 42 U.S.C. §§ 4321 et seq. Further, such Order and Memorandum repeal Executive Orders 12898 (Feb. 11, 1994) and 14096 (Apr. 21, 2023). Because Executive Orders 12898 and 14096 have been repealed, complying with such Orders is a legal impossibility. The Bureau of Reclamation verifies that it has complied with the requirements of NEPA, including the Department's regulations and procedures implementing NEPA at 43 C.F.R. Part 46 and Part 516 of the Departmental Manual, consistent with the President's January 2025 Order and Memorandum. The Bureau of Reclamation has also voluntarily considered the Council on Environmental Quality's rescinded regulations implementing NEPA, previously found at 40 C.F.R. Parts 1500–1508, as guidance to the extent appropriate and consistent with the requirements of NEPA and Executive Order 14154."*

**K. Conclusion**

NEPA requires all agencies of the federal government to prepare a "detailed statement" that discusses the environmental effects of, and reasonable alternatives to, all "major Federal actions

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significantly affecting the quality of the human environment." 42 U.S.C. § 4332(2)(C). The NEPA process is designed to "ensure that the agency . . . will have available, and will carefully consider, detailed information concerning significant environmental impacts; it also guarantees that the relevant information will be made available to the larger [public] audience." *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1212 (9th Cir. 1998) (quoting *Methow Valley Citizens Council*, 490 U.S. at 349). "NEPA emphasizes the importance of coherent and comprehensive up-front environmental analysis to ensure informed decision-making to the end that the agency will not act on incomplete information, only to regret its decision after is it too late to correct." *Center for Biological Diversity v. U.S. Forest Serv.*, 349 F.3d 1157, 1166 (9th Cir. 2003). Complete analysis under NEPA assures that the public has sufficient information to challenge the agency's decision. *Methow Valley Citizens Council*, 490 U.S. at 349. Accordingly, a lead agency violates NEPA by "failing to provide the public with 'sufficient information to . . . generate meaningful comment'" *Sierra Club v. Flowers*, 423 F.Supp.2d 1273, 1329 (S.D. Fla. 2006).

3-12

Here, the EA/IS is disorganized, relevant information is inaccessible, and the analysis is incomplete. The EA/IS does not identify any of the actual water transfers to be undertaken or any of the monitoring triggers it insists will be used to prevent adverse impacts on land subsidence, groundwater-dependent ecosystems, or sensitive and endangered species. It references analyses and information provided in appendices frequently and thereby requires the public to cross reference between the two documents in manner that impedes meaningful review. And, perhaps most significantly, the EA/IS does not make it obvious to the public whether or to what extent it is related to the addendum being prepared by SLDMWA for the Project or how it is related to the previous NEPA analyses undertaken for past iterations of this Project. As a result, it is not clear to the public whether the EA/IS is intended to tier off of past NEPA documents or the addendum being prepared by SLDMWA under the California Environmental Quality Act. Commenters have thus been left without adequate means of interpreting, commenting on, or challenging the EA/IS, in violation of NEPA.

### *Response to Comment 3-12*

Comment noted. The EA and the NEPA analysis presented within is a standalone document that was prepared pursuant to Reclamation's duties under federal law for the purpose of evaluating the potential environmental effects of a range of potential single-year water transfers in 2026 and 2027. The Draft EA does not tier off any previous NEPA analysis.

In regard to the Draft Initial Study and CEQA addendum prepared pursuant to SLDMWA's duties under state law, please refer to Responses to Comments 4-1 and 4-2.

## Comment Letter 4, Barbara Vlamis, Chris Shutes, Carolee Krieger, Jason Flanders, Patrick Soluri, AquAlliance CEQA

Comment ID: 4

AQUALLIANCE
DEFENDING NORTHERN CALIFORNIA WATERS

May 19, 2025

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**Re:** Environmental Assessment/Initial Study *2026-2027 North to South Water Transfers*

Dear Ms. Dekar and Mr. Arroyave:

AquAlliance, the California Sportfishing Protection Alliance, and the California Water Impact Network (hereinafter "AquAlliance") along with Central Delta Water Agency submit the following comments and questions for the Environmental Assessment/Initial Study ("EA/IS") for 2026-2027 *North to South Water Transfers* ("Project") prepared by the Bureau of Reclamation ("Bureau") and San Luis Delta Mendota Water Authority ("SLDMWA") ("Lead Agencies").

4-1

### *Response to Comment 4-1*

See responses to individual comments below.

**I. Subsequent CEQA Review Is Inappropriate for the Project**

Subsequent review under CEQA is wholly inappropriate for the Project. Subsequent California Environmental Quality Act ("CEQA") review, whether a supplemental Environmental Impact Report ("EIR") or CEQA Addendum, is only appropriate "[w]hen an EIR has been certified or a negative declaration adopted for a project." (14 C.C.R. § 15162.) Here, however, no prior EIR or negative declaration or mitigated negative declaration ("MND") has been prepared for the Project.

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In the absence of a previously-certified EIR for the Project, the Lead Agencies purport to base their supplemental review on an EIR for a different project, namely the Long Term Water Transfers EIR ("LTWT EIR"). This violates CEQA because, as the Lead Agencies know full well, the Long Term Water Transfers Project ("LTWT") was a separate project that terminated in 2024. The Project is not a mere modification or revision to the LTWT. Indeed, the Project's Addendum makes no attempt to argue that the Project is a modification to the LTWT. Further,

any such argument would be without merit because the LTWT and its EIR make clear that the LTWT was defined as a project for a fixed term of years, which terminated in 2024. (LTWT EIR at E-9 ["SLDMWA has developed the following objectives for long-term water transfers through 2024".].) The LTWT expired on its own terms; the Project is a new and different project involving additional buyers, additional sellers, and even a whole new seller area ("Stanislaus River Area").

The Lead Agencies will likely point to *Friends of the College of San Mateo Gardens v. San Mateo County Community College Dist.* (2016) 1 Cal.5th 937, 949 (*San Mateo Gardens*) as somehow supporting their use of an addendum here. *San Mateo Gardens* is unavailing. *San Mateo Gardens* addresses a situation where an existing, approved project is changed in some way following initial CEQA review. (*Id* at 951.) The court declined to agree that those revisions to the existing project were so significant as to constitute a new project for CEQA review. Here, by contrast, the LTWT expired on its own terms as plainly represented by the Bureau and SLDMWA, and these agencies correctly make no attempt to even argue that Project represents a "change" or "revision" to the LTWT. Thus, *San Mateo Gardens* in no way supports subsequent review here based on the LTWT EIR.

4-2

In fact, the Bureau and SLDMWA affirmatively represented to a federal district court that the LTWT project ended in 2024, which served the basis for their argument that any challenge to the LTWT EIR was moot. SLDMWA represented to the federal district court, "The environmental documents at issue in this case analyzed the potential environmental impacts of a defined range of potential water transfer activities over a period of years. 2024 is the final year in that period. Federal Defendants explain why that moots the claims brought under federal law." (*See* **Exhibit 1** [SLDMWA brief]; *see also* **Exhibit 2** [federal defendants' brief]; **Exhibit 3** [declaration of the Bureau's representative].) Indeed, the Bureau official could not have been more clear:

> ***The 2019-2024 Long Term Water Transfer Project has concluded, and no further agency action will occur under the Project***. Therefore, Reclamation will not rely upon the 2019-2024 LTWT EIS/R or the 2019 BiOp when analyzing future similar actions. Should there be future similar transfers of water in 2025 or later that require Reclamation approval, Reclamation will perform new environmental analyses under NEPA and the ESA before any such transfers are approved. Such environmental analyses will include new data, such as ongoing monitoring of the Giant Garter Snake and up-to-date studies of regional conditions. ***Moreover, it is likely that future transfer projects will be different in appreciable ways***. For example, such projects may be for shorter or longer period of time than the 2019-2024 LTWT project, and some could involve approval only of certain types of water transfers (e.g., some short-term transfer projects may not allow for crop-idling/shifting transfers).

(Exhibit 3 [emphasis added].)

After having benefitted from their representations to the federal court, the Lead Agencies are now implicitly arguing exactly the opposite, namely that the LTWT somehow continues as

modified by the Project. But the law does not allow them to speak out of both sides of their mouth. (*Jackson v. County of Los Angeles* (1997) 60 Cal.App.4th 171, 183 [judicial estoppel].)

Finally, if there was any reasonable argument that the Project was somehow a modification of the LTWT, the Bureau would have prepared a supplemental environmental assessment. (*See Supplemental Environmental Assessment for Arroyo Canal Fish Screen and Sack Dam Fish Passage Project,* https://www.usbr.gov/mp/nepa/ ["Reclamation prepared this supplemental environmental assessment (SEA) in accordance with the National Environmental Policy Act of 1969, as amended (NEPA), Council on Environmental Quality regulations1 (40 CFR 1500-1508), and Department of the Interior Regulations (43 CFR Part 46) to analyze and disclose any potential impacts to the human environment of the design refinements to the Project beyond those in the 2013 EA/IS, which is hereby incorporated by reference"].) The Bureau's commonsense decision not to prepare supplemental National Environmental Polich Act ("NEPA") review is strong evidence that the Project is not a revision or modification to the LTWT. 4-2

In summary, a reviewing court will very likely reject this effort by the Lead Agencies to misuse CEQA by purporting to prepare supplemental CEQA review for the Project.

### *Response to Comment 4-2*

The comment asserts that subsequent environmental review pursuant to CEQA is not appropriate and no previously certified EIR exists for the Project. These comments mischaracterize CEQA's requirements and misrepresent the nature of the Project and the circumstances in which it is undertaken. The CEQA lead agency for this 2026-2027 North to South Water Transfers Initial Study/Addendum, San Luis Delta Mendota Water Authority (SLDMWA), certified the 2019 Long-Term Water Transfers Final EIR in April 2020 ("LTWT Final EIR"). The LTWT Final EIR evaluated a broad range of potential north to south water transfers and presented analyses designed to conservatively identify potential impacts of such transfers over time, using the period from 2019 through 2024 (updated from the initial period of analysis from 2009 through 2024). SLDWA has determined that the LTWT Final EIR retains its relevance and informational value regarding the potential impacts of the Project's range of north to south water transfers and therefore is properly proceeding under CEQA's subsequent review provisions.

Accordingly, the 2026-2027 North to South Water Transfers Initial Study evaluated the potential environmental effects of the modified Project, which is comprised of a range of potential groundwater substitution and reservoir release transfers that may occur from 2026 to 2027. Based on the evaluation presented in the Initial Study and in light of substantial evidence in the record as a whole, SLDMWA has determined that neither the changes in the Project nor in the circumstances in which it is undertaken would have any new significant impacts or substantially more severe effects than were previously evaluated and identified in the LTWT Final EIR, and an Addendum therefore is appropriate under CEQA. (Pub. Resources Code, § 21166; CEQA Guidelines, §§ 15162-15164; *Friends of the College of San Mateo Gardens v. San Mateo County Community College District* (2016) 1 Cal.5th 937; see also *Friends of Davis v. City of Davis* (2000) 83 Cal.App.4th 1004, 1018 [lead agency determines whether a CEQA addendum is appropriate on the basis of the entire record].)

The comment further asserts that the LTWT Final EIR "expired on its own terms" and that NEPA's provisions, and Reclamation's application of them, supersede SLDMWA's duties and procedures under CEQA. These comments mischaracterize CEQA and NEPA as well as the record of these proceedings. Under CEQA, neither a project nor its EIR "expires" as the comments contend. CEQA's policies and procedures favor finality and direct lead agencies to avoid redundant analyses. SLDMWA made no

contrary representations in federal court or elsewhere. Reclamation's position concerning mootness of federal NEPA and ESA claims accurately reflected that agency's interpretation of its role pursuant to federal law. Challenges to SLDMWA's compliance with CEQA and California state law were and are subject to fundamentally different legal standards and were not dismissed by the federal district court as moot. Rather, because the federal NEPA and ESA claims were moot, the federal court lacked subject matter jurisdiction over the remaining CEQA/state law claims, which were dismissed for that reason. Whether to prepare a supplemental environmental assessment or other NEPA document is a matter of Reclamation's discretion under that statute and has no bearing on SLDMWA's determination of the appropriate document for CEQA compliance under state law.

**II. The Addendum Does Not Actually Provide Supplemental CEQA Review**

Setting aside that supplemental CEQA review is inappropriate for this Project as described in detail above, a review of the Addendum and its appendices reveals that it does not even provide supplemental review under CEQA.

As a threshold matter, we note that the EA/IS's actual initial study checklist is relegated to Appendix C. This violates the rule prohibiting CEQA lead agencies from scattering their CEQA analysis here and there in appendices. (*Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 442.) The Lead Agencies provide no explanation for why the EA/IS buries its substantive analysis of environmental impacts in Appendix C.

4-3

A review of the Appendix C checklist, however, reveals that it is simply not providing analysis required to support a determination under Public Resources Code section 21166 and CEQA Guidelines section 15062. A CEQA lead agency's supplemental analysis (in whatever form) must support a conclusion that project revisions do not result in new significant or exacerbated environmental impacts. (14 C.C.R. §§ 15164, subd. (a); 15162, subd. (a)(3).) The Lead Agencies attempt to rely on an initial study checklist for this task, but have not modified the initial study in order to provide supplemental CEQA review. As explained in one authoritative CEQA treatise:

> The initial study checklist form contained in Appendix G of the CEQA Guidelines is not suitable for use in evaluating whether subsequent environmental review is required under Pub. Resources C § 21166 and 14 Cal Code Regs § 15162, unless the form is tailored to reflect the nature of such determination.

(Kostka & Zischke, Practice Under CEQA, § 19.44.)

Here, the initial study set forth in Appendix C has not been tailored to provide information required for supplemental CEQA review. As examples, the initial study does not identify the significance standards and resulting significance determinations for the LTWT in each resource area, much less disclose whether the Project's impact for each resources area is the same, greater or less than for the LTWT.[1] The initial study also does not identify the LTWT's mitigation measures, and disclose whether those same mitigation measures remain adequate to reduce the Project's potentially significant impacts to less than significant. The initial study checklist therefore does not provide substantial evidence supporting a conclusion that "revisions" to the LTWT result is the same or reduced impacts as the LTWT, which is required in order to rely on a CEQA Addendum. (14 C.C.R. § 15164, subd. (e).) The Appendix C initial study also in no way addresses whether the other triggers for supplemental review are implicated, such as changes in surrounding circumstances or new information. (*Id.* § 15162, subd. (a)(2), (3).)

4-3

The same analysis applies to the Appendix I list of special-status species. The document purports to identify special-status species having a potential to occur in the Project area. However, the list provides no documentation regarding which of these species were previously identified in the LTWT EIR and, if so, the associated mitigation. It is therefore not possible to determine whether there are now more special-status species likely to occur than before, and, if so, whether the previously-approved mitigation is adequate to address impacts to these species. Appendix I simply does not support supplemental CEQA analysis.

In short, supplemental CEQA review is inappropriate for the Project because it was not analyzed in a prior CEQA document. Even if the Project is somehow considered a revision to the LTWT, and thus potentially subject to supplemental CEQA review, the Addendum and its initial study checklist fail to provide substantial evidence that the triggers for a supplemental EIR have not been met.

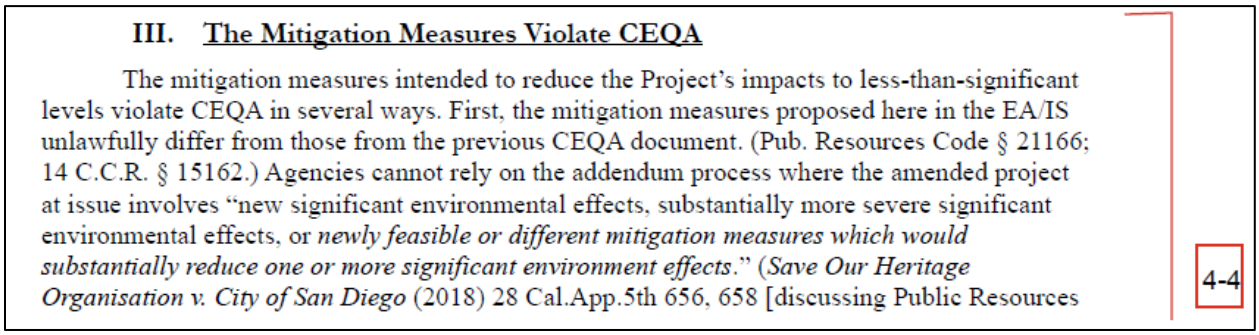
### *Response to Comment 4-3*

The comment asserts that the Addendum and its appendices "do[] not even provide supplemental review under CEQA." These comments mischaracterize CEQA's requirements and rely on selective quotation of a treatise's "practice tip" that the comment has taken out of context. A CEQA addendum need not take any particular form and is not itself "supplemental CEQA review." Rather, the CEQA lead agency's role in this situation is to determine whether to require further environmental review and may – but is not required to – make a technical evaluation, such as in an initial study, of whether supplemental or subsequent CEQA review is needed. (*Friends of the College of San Mateo Gardens v. San Mateo County Community College District* (2016) 1 Cal.5th 937, 953, fn. 4 [no explicit finding required to proceed under Public Resources Code section 21166].) Under CEQA, any procedure that results in a fact-based determination is sufficient, such as a staff report or a statement in a resolution explaining why further environmental analysis is not needed. (CEQA Guidelines, § 15164(e).) SLDMWA exceeded its CEQA duties by providing an Initial Study and supporting technical documentation and circulating that information for public review.

As the same treatise cited in the comment explains, "CEQA and the CEQA Guidelines do not mandate a procedure that agencies must follow to make a determination of whether a subsequent or supplemental EIR is required." (2 Kostka & Zischke, Practice Under the Cal. Environmental Quality Act (Cont.Ed.Bar 2025) § 19.38, see also *id.* at § 19.41 ["public agencies may use a variety of vehicles for making such a decision"]; *id.* at § 19.45 ["[t]he method used to determine whether a subsequent or supplemental EIR is required is not important," citing CEQA Guidelines, § 15164(e)]; *Committee for Re-Evaluation of the T-Line Loop v. San Francisco Municipal Transportation Agency* (2016) 6 Cal.App.5th 1237, 1256.) The CEQA Guidelines provide simply that the lead agency should give a "brief explanation" of its decision to proceed by way of an

addendum, which need not be circulated for public review and comment. (CEQA Guidelines, §§ 15164(d), (e).)

Appendix C, Section 3 of the Initial Study presents an overview of the physical environment and existing conditions that could be affected by the Project. Section 3 also presents the analyses of potential impacts associated with implementation of the Project to determine whether the changes in the Project or its circumstances trigger requirements for supplemental or subsequent CEQA review. The Environmental Checklist Form presented in Appendix G of the CEQA Guidelines was used to ensure completeness of the evaluation in connection with all potentially affected resources categories. Additionally, a completed CEQA Guidelines Appendix G Environmental Checklist Form is presented in Appendix C of the Initial Study. The evaluation provides information explaining the disposition of the relevant issues under Public Resources Code section 21166, in compliance with CEQA. (CEQA Guidelines, § 15164(e).)



**III. The Mitigation Measures Violate CEQA**

The mitigation measures intended to reduce the Project's impacts to less-than-significant levels violate CEQA in several ways. First, the mitigation measures proposed here in the EA/IS unlawfully differ from those from the previous CEQA document. (Pub. Resources Code § 21166; 14 C.C.R. § 15162.) Agencies cannot rely on the addendum process where the amended project at issue involves "new significant environmental effects, substantially more severe significant environmental effects, or *newly feasible or different mitigation measures which would substantially reduce one or more significant environment effects*." (*Save Our Heritage Organisation v. City of San Diego* (2018) 28 Cal.App.5th 656, 658 [discussing Public Resources

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Code Section 21166] [emphasis added].) Mitigation measures adopted when a project was originally approved may only be changed or deleted if the agency states a legitimate reason for making the changes and the reason is supported by substantial evidence. (*Napa Citizens for Honest Government v. Napa County Bd. of Supervisors* (2001) 91 Cal.App.4th 342, 359.)

Here, the EA/IS modifies all of the mitigation measures from the previous CEQA document. For example, the EA/IS uses a streamflow depletion factor of twenty percent (though it allows for adjustment upward or downward "based on additional information on local conditions if new information indicates a substantial difference in local conditions that warrants a change[.]" (EA/IS at 3.) This differs significantly from what was provided in the previous LTWT EIR, which provided for a streamflow depletion factor of thirteen percent, though that too could be adjusted "based on additional information on local conditions if new information indicates a substantial difference in local conditions that warrants a change." (LTWT EIR at 3.1-20.) This is an increase of over fifty percent, and it indicates either that substantially more water is available to offset these water transfers or their impact is more severe, as a result of changed circumstances, such that more water is required to offset their impacts on stream flows. This change itself demonstrates the fact that even assuming arguendo that the Project were an extension or modification of the LTWT , reliance on the addendum process is inappropriate, *Save Our Heritage Organisation,* 28 Cal.App.5th at 658, and that the Lead Agencies have not provided a reason to support this decision, as required (*Napa Citizens for Honest Government*, 91 Cal.App.4th at 359).

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Likewise, both the EA/IS and the previous LTWT EIR provide for another, apparently unnamed mitigation measure to reduce the Project's impacts on groundwater-dependent ecosystems. (EA/IS at 7-9; LTWT EIR at 3.3-27.) However, this mitigation measure in the LTWT EIR was based on data provided by the California Department of Water Resources ("DWR") and Google Maps, whereas the analogous mitigation measure from the EA/IS relies on data provided by The Nature Conservancy. (*Cf.* EA/IS at 7 *with* LTWT EIR at 3.3-28.) This too constitutes a substantial change that demonstrates why it is unlawful for the Lead Agencies to rely on the addendum process here, *Save Our Heritage Organisation,* 28 Cal.App.5th at 658, and that the Lead Agencies have not provided a reason to support this decision, as required. (*Napa Citizens for Honest Government*, 91 Cal.App.4th at 359.)

Second, and critically, the mitigation measures proposed in the EA/IS are unlawfully deferred. (*Preserve Wild Santee v. City of Santee* (2012) 210 Cal.App.4th 260, 272 [holding EIR improperly deferred formulating mitigation measures because it did not describe specific actions or specify performance standards].) "Formulation of mitigation measures [can] not be deferred until some future time. The specific details of a mitigation measure, however, may be developed after project approval when it is impractical or infeasible to include those details during the project's environmental review provided that the agency (1) commits itself to the mitigation, (2) adopts specific performance standards the mitigation will achieve, and (3) identifies the type(s) of potential action(s) that can feasibly achieve that performance standard and that will considered, analyzed, and potentially incorporated in the mitigation measure." (14 C.C.R. § 15126.4(a)(1)(B).) The mitigation measures provided here to offset the Project's impacts do not meet these standards.

According to the mitigation measure referred to as GW-1, for instance, the Lead Agencies will monitor groundwater levels in the period during which groundwater is being pumped to offset Project-related transfers and cease pumping when the groundwater level reach as-of-yet unspecified triggers. (Addendum at 3-6.) GW-1 further requires sellers to prepare plans addressing how their transfers will "avoid potentially significant adverse effects of transfer-related groundwater extraction[,]" including by explaining how their transfers will comply with the Sustainable Groundwater Management Act. (*Id.*) Likewise, the EA/IS's mitigation measure to reduce the Project's impacts on groundwater-dependent ecosystems requires sellers to identify if monitoring for shallow-rooted and/or deep-rooted vegetation associated with groundwater-dependent ecosystems is required. (*Id.* at 7-9.) If groundwater-dependent ecosystems are identified near the groundwater pumping well, a monitoring well meeting specific criteria would need to be identified and a minimum groundwater threshold would be identified by the Seller using hydrologic data and expert opinion such that if monitoring data at the monitoring well indicate that groundwater levels have dropped below the groundwater threshold, the Seller must implement actions set forth in the as-of-yet-unprepared mitigation plans unless an ecologist or arborist determines that the groundwater-dependent ecosystems are healthy and can tolerate the proposed transfer. (*Id.*) If no monitoring wells are in the area, then the whole process would be based on visual observations by a qualified plant ecologist or certified arborist of the health of these areas of shallow- or deep-rooted vegetation until it is feasible to obtain or install shallow groundwater monitoring. (*Id.*) And the Lead Agencies have not identified the "streamflow factor" under SW-1, another mitigation measure meant to limit the Project's impacts on interconnected surface waters, which sets a target of 20% providing that it may be adjusted, upward or downward, without limitation, "based on additional information on local conditions." (*Id.* at 3-5.)

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These mitigation measures are unlawfully deferred. (*Preserve Wild Santee,* 210 Cal.App.4th at 272; 14 C.C.R. § 15126.4(a)(1)(B).) The Lead Agencies have not provided the requisite management standards, including but not limited to the "triggers" that will catalyze management intervention or the "plans" that seller will be have to prepare under GW-1, nor where groundwater-dependent ecosystems are located, what thresholds make sense to monitor for adverse impacts thereto, or how sellers can mitigate for such impacts pursuant to the unnamed mitigation measure for offsetting impacts on groundwater-dependent ecosystems. Neither have the Lead Agencies explained why it is "impractical or infeasible" to develop the requisite management standards now, before the CEQA process is over, as required. (14 C.C.R. § 15126.4(a)(1)(B).)

Further, to the extent the Lead Agencies rely on these measures to undertake the groundwater monitoring and ecosystem evaluation necessary to actually and accurately assess the Project's impacts, they violate CEQA. (*Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 311 [holding that CEQA places the burden of environmental investigation on government rather than the public, so a public agency cannot rely on its own lack of investigation].) Before the Lead Agencies greenlight these transfers and rely on Sellers to monitor for and mitigate against their impacts, they must actually, meaningfully evaluate the Project's likely impacts and cannot defer that analysis until some later date when more data may be available.

Moreover, these mitigation measures are unenforceable. (14 C.C.R. § 15126.4 ["Mitigation measures must be fully enforceable[.]"]; *Woodward Park Homeowners Assn., Inc. v. City of Fresno* (2007) 2007 Cal.App. LEXIS 714, at *12 ["The Guidelines state that mitigation measures must be enforceable."].) For example, the Addendum and EA/IS do not provide for mechanisms by which the public can monitor the plans to be prepared pursuant to GW-1 or explain how the Lead Agencies will do so with sufficient scrutiny. And the EA/IS does not provide a mechanism whereby compliance with these plans will be monitored by anyone other than the Sellers themselves. Likewise, rather than actually analyzing the site-specific impacts of Project-related transfers on groundwater-dependent ecosystems and the species they support, the Lead Agencies place their hope on unidentified biologists and arborists to visually inspect hundreds, potentially thousands, of whole ecosystems to make sure that Project-related transfers do not significantly harm groundwater-dependent ecosystems or the species that rely on them and fails to provide any means for the public (or the State for that matter) to ground-truth their findings or enforce the Addendum's mitigation measure to protect groundwater-dependent ecosystems. This violates CEQA. (14 C.C.R. § 15126.4.)

In addition, one of the mitigation measures provided in the EA/IS – GW-1 – unlawfully relies on Groundwater Sustainability Plans prepared and issued pursuant to the Sustainable Groundwater Management Act. (EA/IS at 3.) Reliance on these plans as a backstop instead of actually analyzing the Project's impacts to determine if they are significant violates CEQA. (*Ebbetts Pass Forest Watch v. California Dept. of Forestry & Fire Protection* (2008) 43 Cal.4th 936, 957 [if agency "had relied entirely on the . . . regulatory program . . . we would agree that [it] failed in its duty to consider and disclose information"].) This is particularly problematic because some of these Groundwater Sustainability Plans fail to adequately conserve groundwater resources. For instance, the Groundwater Sustainability Plan for the Vina Subbasin provides monitoring thresholds that permit groundwater levels in already over-drafted areas to drop below historic lows. (Vina Groundwater Sustainability Agency, *Vina Groundwater Subbasin Groundwater Sustainability Plan* (December 2021) [attached hereto as **Exhibit 4**].) Likewise, in its letter approving the Groundwater Sustainability Plans for the Redding area and Sacramento Valley, DWR made multiple recommendations for "Corrective Actions" to remedy deficiencies in the Groundwater Sustainability Plans. (**Exhibit 5** hereto provides an accounting both DWR's corrections in that one letter and of its proposed "corrective actions" for many Groundwater Sustainability Plans.) These "corrective actions" show that even though DWR approved the Groundwater Sustainability Plans, there are numerous deficiencies and data gaps therein, and therefore reliance on these plans will not guarantee that Project-related transfers will not cause significant environmental harm. Rather than defer to other agencies' Groundwater Sustainability Plans, the Lead Agencies should review the Project's impacts and evaluate Project-specific mitigation measures that do not rely on these plans, many of which are insufficiently protective. If GW-1 continues to rely on Groundwater Sustainability Plans, which it should not, it should require sellers to prepare compliance assessments and submit those to Groundwater Sustainability Agencies to evaluate whether proposed transfers comply with Groundwater Sustainability Plans. (Pub. Resources Code § 21002; *Grossmont-Cuyamaca Community College Dist.*, 141 Cal.App.4th at 98.) Likewise, sellers should be required to submit proposed transfers to DWR for compliance with their white paper regarding "Technical Information for Preparing Water Transfer Proposals."

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Finally, the mitigation measures provided in the EA/IS are unlawfully weak. (Pub. Resources Code § 21002; *Grossmont-Cuyamaca Community College Dist.*, 141 Cal.App.4th at 98.) For instance, the monitoring program for groundwater-dependent ecosystems is inadequate for the following reasons. The distance limit from pumping transfer wells to groundwater-dependent ecosystems is arbitrary insofar as there is no requirement that sellers analyze and document that the pumping cannot produce drawdown beneath the groundwater-dependent ecosystems beyond a 0.5-mile radius. Given that where there is no monitoring well nearby, the EA/IS requires monitoring out to a distance of 5 miles, this 0.5-mile limitation seems needlessly unprotective. (Pub. Resources Code § 21002; *Grossmont-Cuyamaca Community College Dist.*, 141 Cal.App.4th at 98.) Similarly, the EA/IS unlawfully limits monitoring for groundwater-dependent ecosystems to those with shallow-rooted or deep-rooted vegetation when there are other ecosystems in the Project area that require protection and that are connected to groundwater systems, including wetlands, streams, lakes, swamps, springs, and caverns. (D. Eamus et al., *Groundwater Dependent Ecosystems: Classification, Identification Techniques and Threats*, Chapter 13, pp. 313-346 [attached hereto as **Exhibit 6**; Pub. Resources Code § 21002; *Grossmont-Cuyamaca Community College Dist.*, 141 Cal.App.4th at 98.) It also violates CEQA to not require monitoring in areas where vegetation is located along waterways or irrigated fields that will continue to have water during the period of transfer. (Pub. Resources Code § 21002; *Grossmont-Cuyamaca Community College Dist.*, 141 Cal.App.4th at 98.) This blanket exemption appears to assume without analysis and documentation that transfer pumping cannot detrimentally alter the hydrologic conditions in those groundwater-dependent ecosystems. (Pub. Resources Code § 21080(e)(2).)

4-4

The monitoring well, if there is one, is required to measure shallow groundwater levels changes, "typically less than 80 feet below the ground surface." This appears to conflict with the requirement to monitor deep-rooted vegetation whose roots can grow up to eighty feet deep. The monitoring program needs to document that the transfer pumping cannot and did not cause a decline in groundwater level below 80 feet from the ground surface and the full range of the natural seasonal groundwater level fluctuation, in particular if it drops below an 80 feet depth, and document that levels will fully recover after pumping stops. The screened intervals of a monitoring well(s) needed to protect groundwater-dependent ecosystems from transfer pumping should include all of the groundwater zones where fluctuations in the water level could cause an impact. Any exemption from monitoring the groundwater level near groundwater-dependent ecosystems should be based on comprehensive site-specific data and analyses of the full historical range of natural groundwater level fluctuations and the added decline from the transfer pumping drawdown, which should then be used to develop site-specific thresholds and triggers, and mitigation measures needed to protect the groundwater-dependent ecosystem's vegetation and/or wildlife.

Furthermore, the groundwater-dependent ecosystem monitoring program allows for a "qualified plant ecologist/arborist" to decide to override the requirement for monitoring and mitigation measures when the groundwater-dependent ecosystem at issue is in "relatively healthy condition" and the "typical" historical fluctuations in the groundwater level have been more than the "amount annually during the proposed transfer period." (EA/IS at 3-22.) This ignores the issue of whether the decline in groundwater level caused by transfer pumping will fully recover to the natural condition when the pumping stops and that analysis of the historical hydrological

conditions may require more expertise than just that of a plant ecologist/arborist. The Lead Agencies should not give blanket approval for any exemption to monitor and mitigate the impacts to groundwater-dependent ecosystems without a full and complete hydrological and biological report with site-specific historical and pre- through post-pumping period measurements by multiple professionals qualified in the sciences of plant ecology, hydrology, and hydrogeology. (Pub. Resources Code § 21002; *Grossmont-Cuyamaca Community College Dist.*, 141 Cal.App.4th at 98.)

4-4

***Response to Comment 4-4***

The commenter mischaracterizes the record of proceedings and the requirements of CEQA. Specifically, CEQA Guidelines Section 15162 states that supplemental or subsequent environmental review shall be prepared if "[m]itigation measures…which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, *but the project proponents decline to adopt the mitigation measure*…" (emphasis added). CEQA Guidelines Section 15164 provides that a lead agency may prepare an addendum if none of the conditions described in Section 15162 have occurred. In this case, as explained below, there are no new significant effects on the environment and no newly feasible or different mitigation measures that the lead agency has declined to adopt.

As noted in the Addendum to the Final Long-Term Water Transfers EIR, based on the evaluation presented in the Draft IS and in light of the record as a whole, the project would not have any new or substantially more significant direct, indirect, or cumulative impact on the existing environment. This conclusion is supported by, among other factors, the following findings:

- The project would result in beneficial impacts on water supply, geology and soils, air quality, noise, and agricultural land use in the Buyer Service Area.
- The project would result in less than significant impacts on water quality in the Seller Service Area and Buyer Service Area and less than significant impacts on greenhouse gas emissions, noise and vibration, agricultural land use, visual resources, recreation, and energy in the Seller Service Area.
- The project would result in less than significant impacts after mitigation to surface water supply, groundwater resources, air quality, biological resources, and geology and soils.

Regarding the comment that the mitigation measures differ significantly from the previous LTWT EIS/EIR, Mitigation Measure SW-1, GW-1 and AQ-1 presented in the Draft EA/IS include modifications to the previously adopted mitigation measures (MMRP to the 2019 Long-Term Water Transfers Final EIR). However, all modifications to the mitigation measures are refinements to the measures and would result in lesser environmental impacts than previously disclosed. Additionally, all the adopted mitigation measures from the previously certified EIR that would mitigate impacts associated with groundwater substitution transfers and reservoir release transfers are included in the project as modified and are reflected in the Initial Study and Addendum to the Final Long-Term Water Transfers EIR.

Regarding the comments asserting the mitigation measure being deferred and unenforceable, see Response to Comment 3-8. As noted in that response, all mitigation measures would be enforced by Reclamation as conditions of consideration and approval of proposed water transfer activities, and enforcement is monitored through implementation of the Mitigation Monitoring and Reporting Program.

## IV. The Conditions Facing Impacted Species Have Changed Considerably

As noted, even assuming *arguendo* that the Project is an extension or modification of the LTWT, which it is not for the reasons provided *supra*, reliance on the addendum process is inappropriate where "[s]ubstantial changes are proposed in the project which will require major revisions of the environmental impact report[.]" "[s]ubstantial changes occur with respect to the circumstances under which the project is being undertaken which will require major revisions in the environmental impact report[.]" or "[n]ew information, which was not known and could not have been known at the time the environmental impact report was certified as complete, becomes available." (Pub. Resources Code § 21166.) Here, the populations several species in the Project area that are either currently listed as "endangered" or "threatened" under the federal Endangered Species Act, including Winter-Run Sacramento River Chinook Salmon and Delta Smelt, have declined considerably since the last CEQA review occurred. (*See* National Oceanic and Atmospheric Administration, *2024 5-Year Review: Summary & Evaluation of Sacramento River Winter-Run Chinook Salmon* (Jan. 12, 2024), at 17 [attached hereto as **Exhibit 7**]; 87 Fed. Reg. 85, 26171-26172 (2022) [attached hereto as **Exhibit 8**].) This constitutes "[n]ew information, which was not known and could not have been known at the time the environmental impact report was certified as complete, [that has] become[] available." (Pub. Resources Code § 21166.) The decline in these species in the area means that the Project's impacts on these species may be more significant than what was previously considered in prior CEQA processes. Thus, even assuming for the sake of argument that this Project is an extension of the LTWT, which it is not, use of the addendum process is therefore inappropriate, and the Lead Agencies must at a minimum prepare a Supplemental EIR. (*Mira Monte Homeowners Assn.* v. *County of Ventura* (1985) 165 Cal.App.3d 357 [discovery of previously unknown project encroachment on wetlands four days before certification required supplemental EIR].)

4-5

Moreover, an updated Programmatic Biological Opinion for the Reinitiation of Consultation of the Long-Term Operations of the Central Valley Project and State Water Project was issued in November 2024 that substantially amends the management regime for the infrastructure at issue here and with respect to many of the threatened and endangered species present within the Project area. (National Oceanic and Atmospheric Administration, *Programmatic Biological Opinion for the Reinitiation of Consultation of the Long-Term Operations of the Central Valley Project and State Water Project* (November 8, 2024) [attached hereto as **Exhibit 9**].) Although this Biological Opinion does not address the additional groundwater extraction contemplated herein to offset the transfers at issue, it does impact the transfers themselves. (Exhibit 9 at 117 ["[A]ctions taken by contractors to make water available for transfers (i.e., reducing consumptive use by crop idling, contractor reservoir releases or groundwater substitution) … are not addressed in this consultation[.]"].) This constitutes "substantial changes [that have] occur[ed] with respect to the circumstances under which the



project is being undertaken which will require major revisions in the environmental impact report" and thereby precludes reliance on the addendum process as well. (Pub. Resources Code § 21166.)

4-5

### *Response to Comment 4-5*

The commenter mischaracterizes the record of proceedings and the requirements of CEQA. Under CEQA, the requirements for subsequent or supplemental environmental review are established by Public Resources Code section 21166 and CEQA Guidelines Sections 15162-15164. As summarized in the Addendum to the 2019 Final Long-Term Water Transfers EIR, based on the analysis presented in the 2026-2027 North to South Water Transfers IS and in light of the record as a whole, neither, changes to the project nor changes in the circumstances in which it is undertaken would result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects, and none of the conditions triggering the need for subsequent or supplemental environmental review have occurred. (Pub. Resources Code, § 21166; CEQA Guidelines, §§ 15162-15164.). Therefore, the addendum process is appropriate.

Regarding the comment that an updated Programmatic Biological Opinion for the Reinitiation of Consultation of the Long-Term Operations of the Central Valley Project and State Water Project was issued in November 2024, as noted in Section 2.2 of the Draft EA/IS, the approach and analyses presented in the Draft EA/IS correlate to the analysis included in the 2024 Long-Term Operations of the CVP and SWP Environmental Impact Statement and biological opinions. Water diversions from the Delta through the Banks and Jones Pumping Plants would be subject to the existing BOs on the Long-Term Operation of the CVP and SWP, which include transfers in excess of the size considered in this EA/IS.

V. The Alternatives Analysis is Flawed

CEQA requires that "governmental agencies … consider alternatives to proposed actions affecting the environment." (Pub. Resources Code § 21001(g).) And it mandates that "agencies [] not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects[.]" (*Id.* § 21002; *Grossmont-Cuyamaca Community College Dist.*, 141 Cal.App.4th at 98.) The Act defines "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors." (Pub. Resources Code § 21061.1; *Citizens of Goleta Valley v. Board of Supervisors* (1988) 197 Cal.App.3d 1167, 1181 [holding that an environmentally superior alternative cannot be deemed infeasible absent evidence the additional costs or lost profits are so severe the project would become impractical].)

Here, the EA/IS only considers "transfers of water made available from groundwater substitution and reservoir release actions" and does not analyze "other methods of making water available for transfer[.]" (EA/IS at 2-6.) It could have, but did not, consider cropland idling, conservation programs, or other means of reducing water demand upstream to allow for additional downstream transfers, in clear violation of CEQA. (Pub. Resources Code § 21002; *Grossmont-Cuyamaca Community College Dist.*, 141 Cal.App.4th at 98; *see also Banning Ranch Conservancy v. City of Newport Beach* (2017) 2 Cal.5th 918, 936-937 [requiring consideration of alternative sites that may lessen impacts on endangered species, wherever possible].) This is concerning, particularly because similar programs are being and were considered in other, similar circumstances, including as part of the LTWT project, and because relying on cropland idling and conservation programs to reduce upstream demand to make water available for downstream transfers instead of relying on increased groundwater extraction would reduce or remove much of the negative impacts the Project will have on land subsidence, third parties, groundwater-dependent ecosystems, and threatened and endangered species.

The Lead Agencies cannot approve the Project before meaningfully evaluating other potential alternatives to make water available for transfers without relying on increased groundwater extraction and it cannot approve the Project as described until determining that such alternatives are infeasible. (*Citizens of Goleta Valley,* 197 Cal.App.3d at 1181; Pub. Resources Code § 21002.)

4-6

***Response to Comment 4-6***

Regarding the statement that CEQA requires governmental agencies to consider alternatives to proposed actions affecting the environment, as noted in Section 2 of the Draft EA/IS, Public Resources Code Section 21166 and Sections 15162-15164 of the CEQA Guidelines do not require the evaluation of alternatives to the Proposed Project. While not required under CEQA, the Draft EA/IS provides an evaluation of No Action for informational purposes.

VI. Buyers' Water Demands Have Changed

In describing the "purpose and need" for the Project, the EA/IS states that the Project is needed to meet existing demand for downstream water users (buyers). (EA/IS at 1-3 [stating that "the objectives sought by the proposed project" include the goal to "[d]evelop supplemental water supply for willing Buyers from willing Sellers during times of [] shortages to meet *existing* demands"] [emphasis added].) This statement – that the Project is intended to meet buyers' existing demand – is unsupported in the EA/IS by any analysis or data in clear contravention of CEQA. (Pub. Resources Code § 21080(e)(2); *City of Long Beach v. Los Angeles Unified School*

4-7

*Dist.* (2009) 176 Cal.App.4th 889, 903 [conclusory statements unsupported by factual information are not substantial evidence]; *Pfeiffer v. City of Sunnyvale City Council* (2011) 200 Cal.App.4th 1552, 1567 [same]; *Rio Vista Farm Bureau Center v. County of Solano* (1992) 5 Cal.App.4th 351, 375 ["Speculative possibilities are not substantial evidence[.]"].) Without accurate data accounting for the buyers' annual, total water usage, the Lead Agencies (and the public) cannot assess whether the water being transferred as part of the Project is needed, or if the buyers are gaming the system by relying on transferred water to meet increasing water demands in their regions.

This is particularly concerning because at least some of the buyers' water supply requirements are increasing. (*See, e.g.*, San Benito County Water District, North San Benito Annual Groundwater Report 2024 (March 2025), at 52 [attached hereto as **Exhibit 10**].) For example, the amount of water supplied by the San Benito County Water District, a member agency of the San Luis & Delta Mendota Water Authority and a Buyer in this Project, (EA/IS at 2-5) has increased each year since 2019. (Exhibit 10 at 52.) Indeed, as populations increase, industries expand, groundwater stores dwindle, and the climate crisis worsens, demand for water will continue to increase. The average unimpaired flow of the Sacramento River Watershed alone reveals that average annual unimpaired flow in the Sacramento River basin is 21.6 million-acre-feet ("MAF"), but the consumptive use claims are an extraordinary 120.6 MAF.[2]

Moreover, EA/IS's unsubstantiated claim that this Project is needed to meet *existing* demand obscures a significant implication of this Project. AquAlliance is not persuaded that the *Bureau* has a need for the Project, just that the *Buyers* have a desire for it. The EA/IS continues a destructive pattern throughout the Central Valley: exploiting water in areas of origin to allow mostly agricultural gambling in areas with little to no healthy water supply. The Project places no safeguards requiring downstream buyers to limit the water they receive from Project-related transfers to emergency uses. Rather, buyers are able to rely on these transfers to supply water on an annual basis such that the water they supply to end users may increase year-to-year while still receiving water from Project-related transfers. (Exhibit 10 at 52 [showing reliance on transfer water from Project-related transfers annually for many years].)

4-7

Concurrent with this Project is the Sacramento River Settlement Contractors' r *Water Reduction Program Agreement* with the Bureau to assuage the Sellers' drought concerns, which will potentially cause massive impacts by itself. Over allocation of California's water through the operations of the junior Central Valley Project ("CVP") and the State Water Project ("SWP") are the drivers of so-called water shortages during all water-year types, with climate change an exacerbating condition. Rather than addressing this issue, the Project and Water Reduction Program Agreement propose to significantly exploit Sacramento Valley groundwater.

Also undisclosed here are the legal constraints that will be circumvented if groundwater substitution is used in the process. Project-related transfers, which are based on substituting groundwater, are prohibited under the Central Valley Project Improvement Act (Public Law I 02-575). Section 3405 (a)(1)(I) thereof limits transfers like those at issue here to "water that would

have been consumptively used or irretrievably lost to beneficial use during the year or years of the transfer." The purpose of this provision is to ensure that a transfer of water does not increase the total amount of water consumed, but rather provides for the shifting of water use from one party to another. The Project violates this provision and the EA/IS does not address this.

4-7

***Response to Comment 4-7***

The lead agencies established the purpose and need and project objectives to best describe their underlying reasons for considering the Proposed Action. The objective to "develop supplemental water supply for willing Buyers from willing Sellers during times of CVP shortages to meet existing demands" reflects the water shortages felt by transfer recipients and their desire to receive additional water during these shortages.

Water transfers are not a reliable source of water to service new demands. As discussed in Section 2 of the Draft EA/IS, transfer water is a supplemental supply to help meet existing demands during a water shortage. Additionally, as noted in the Draft EA/IS, actual purchase/implementation of water transfers depend on several factors, including, but not limited to, hydrology, water demands, availability of other supplies, and transfer costs. Water transfers would not occur each year, as would be necessary if they were servicing new demands. Water transfers would not meet new Municipal and Industrial (M&I) demands or be used to plant new permanent crops.

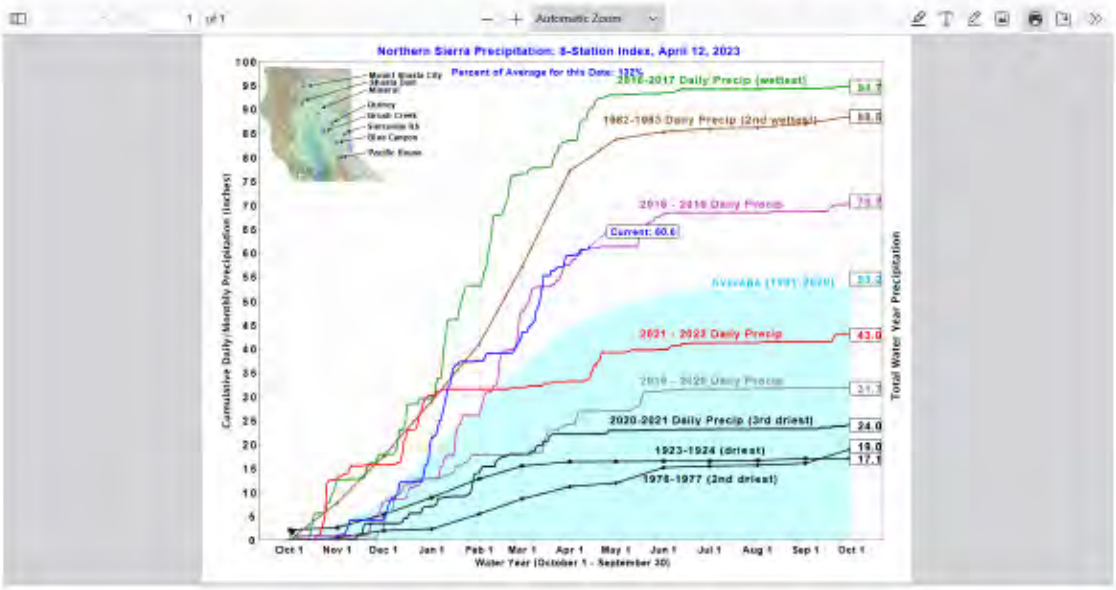
Regarding the comment on the impacts caused by the concurrent Sacramento River Settlement Contractors Water Reduction Program Agreement, the Water Reduction Program Agreement is included in the cumulative projects listed in Appendix K (Section K.1.6) of the Draft EA/IS. The cumulative effects of this project in combination with the Proposed Action have been evaluated in Section 4 of the Draft EA/IS.

The commenter's assertion that project-related transfers, which are based on substituting groundwater, are prohibited under the CVPIA is incorrect. Under groundwater substitution transfers Sellers exchange Project Water, which would have been consumptively used and irretrievably lost to a beneficial use by the Sellers without the transfer; therefore, these actions meet the provision of Section 3405(a)(1)(I) of the CVPIA.

## VII. The EA/IS's Description of the Project Area is Replete with Outdated and Incorrect Information

The EA/IS's description of the Project area includes outdated and inaccurate information. For example, section 3.11 thereof, which discusses affected surface waters, begins with a description of what entails a water year and what the Lead Agencies deem is the role of the CVP. There is little discussion of precipitation in the area of origin about both drought years, of which there have been many in the last twenty-five years, and the robust years in the same period. The EA/IS intentionally omits data easily available to the Lead Agencies, such as the Northern Sierra Precipitation: 8-Station Index (Figure 1 below). Writing so generally about the most recent period obfuscates the serious changes in the hydrology of the Project area; the lack of a robust discussion of historic and current hydrologic conditions leaves the reader and policy makers without a sufficient understanding of the purported need for the Project and the potentially serious ramifications of the Project.

**Figure 1. Northern Sierra Precipitation: 8-Station Index**




4-8

Likewise, the EA/IS's discussion of water quality impacts provides a general summary of current conditions, but without localized specifics regarding the relationship between the proposed groundwater substitution pumping and poor water quality areas. (EA/IS at 3-7.) However the EA/IS discloses at a basin level that the Redding Area Groundwater Basin has constituent issues. (*Id.* at 3-9.) The EA/IS continues with a general summary of groundwater quality at an even larger scale in the entire Sacramento Valley, stating that it "[i]s sufficient for

municipal, agricultural, domestic, and industrial uses." (*Id.*) First, is "sufficient" the goal for groundwater dependent residents, farms, and businesses? Second, domestic use of groundwater has the highest priority under the State law. How is the cursory and inadequate discussion of water quality in keeping with that mandate?

The EA/IS fails to provide information that was included in the *Water Reduction Program Agreement* (also known as the Drought Resiliency Plan) ("WRP Agreement"), which is essential for this Project. The following is from AquAlliance's 2024 comments on that agreement:

> The EA states that the western portion of the Sutter GWSB has groundwater with high concentrations of arsenic, boron, calcium magnesium bicarbonate, chloride, fluoride, iron, manganese, sodium, and TDS. In the southern portion of the Sutter GWSB, groundwater in the upper aquifer system tends to be high in salinity. (p. 29)
>
> The North American GWSB in areas along the Sacramento River from Sacramento International Airport northward to the Bear River contains high levels of arsenic, bicarbonate, chloride, manganese, sodium, and TDS. High TDS concentrations occur between Reclamation District 1001 and the Sutter Bypass. The deeper portions of the aquifer system have high concentrations that indicate the occurrence of connate water from the marine sediments mixing with the overlying fresh water. High water quality concerns of arsenic, bicarbonate, boron, chloride, fluoride, iron, manganese, nitrate, sodium, and TDS occur in the North American GWSB. (p. 30)
>
> The EA states that "[g]roundwater substitution transfers under both the Proposed Action and the No Action Alternative could introduce contaminants that could enter surface waters from irrigation return flows." (p. 36) The EA then makes an unsupported statement that "[t]he amount of groundwater substituted for surface water under the Proposed Action would be relatively small compared to the amount of surface water used to irrigate agricultural fields. Groundwater would mix with surface water in agricultural drainages prior to irrigation return flow reaching the rivers. Constituents of concern that may be present in the groundwater could enter the surface water as a result of mixing with irrigation return flows. Constituents of concern, however, would be greatly diluted when mixed with the existing surface waters applied because a much higher volume of surface water is used for irrigation purposes. Additionally, groundwater quality in the area is generally good and sufficient for municipal, agricultural, domestic, and industrial uses." (p. 36) The EA's assertion that dilution-will-be-the-solution isn't backed up with any quantitative analysis of the potential for groundwater substitution irrigation to result in high concentrations of contaminants of concern from natural or anthropogenic sources being discharged to surface waters. The leap-of-faith that the quality of the groundwater being pumping "[i]s generally good and

4-8

sufficient for municipal, agricultural, domestic, and industrial uses" contrasts with the discussion given in the EA about known areas of poor water quality.

The EA is deficient in the assessment of water quality impacts because of the lack of specifics on the locations and quantities of the proposed groundwater substitution pumping relative to the areas of poor water quality in the SRSC service area subbasins. The lack of specific information on the locations and quantities of groundwater substitution pumping, including the locations of the proposed 30 new deep wells, and the failure to analyze the Program's pumping impacts on known areas of poor water quality, to non-SRSC users' beneficial uses, and Public Trust resources must be corrected. The EA must also be revised to provide Mitigation Measures that monitor and protect the beneficial uses of the groundwater resources in the SCRC service area subbasins, including water quality triggers for the cessation of groundwater pumping.

The comments for the WRP Agreement's Environmental Assessment also apply here, but the Lead Agencies provide even less information regarding water quality. The minimal, but important disclosure of groundwater quality problems in the Project Area should also have been accompanied by detailed maps. As the Lead Agencies are aware, though it is not analyzed here, groundwater pumping may produce localized impacts. All parties potentially vulnerable to impacts from the expansive groundwater pumping contemplated herein are, as a result, unaware of the possible threats to their water quality and health. Reviewers of the EA/IS are also in the dark. Nonetheless, for the purposes of CEQA, the EA/IS asserts "[g]roundwater quality in the area is generally good and sufficient for municipal, agricultural, domestic, and industrial use. Section 3.3, Groundwater Resources, provides additional discussion of groundwater quality. The Proposed Action would have a less-than-significant impact on water quality from groundwater substitution transfers (CEQA Conclusion)." (*Id.* at 3-7.) This is wholly unsupported and violates CEQA. (Pub. Resources Code § 21080(e)(2).) 4-8

Lastly, the Project cannot rely on the now-approved 2024 revised Colusa Subbasin Groundwater Sustainability Plan, which has more time to implement actions and to reset the baseline for subsidence. The creation of a domestic well mitigation program as part of that plan is not expected until January 2026 and a demand management program will be further delayed until January 2027. Moreover, for the reasons discussed infra and as provided in AquAlliance's comments on that plan (which are attached hereto), that plan is inadequate to protect groundwater resources and groundwater-dependent ecosystems.

***Response to Comment 4-8***

See Response to Comment 3-3.

VIII. The EA/IS Failes to Analyze or Comply with Either the Public Trust Doctrine or the Reasonable Use Doctrine

The California Constitution states expressly that the right to water or the use or flow of water "does not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water[.]" (Cal. Const. art. X, § 2.) This mandate applies to all water use in California and is the "overriding principle governing the use of water in California." (*Light v. State Water Resources Control Bd.* (2014) 226 Cal.App.4th 1463, 1479; *see also People ex rel. State Water Resources Control Bd. v. Forni* (1976) 54 Cal.App.3d 743, 750; Wat. Code § 85023 [the Deltas Reform Act of 2009 mandates that "[t]he longstanding 4-9

constitutional principle of reasonable use and the public trust doctrine shall be the foundation of state water management policy and are particularly important and applicable to the Delta"].) "The fact that a diversion of water may be for a purpose 'beneficial' in some respect … does not make such use 'reasonable' when compared with demands, or even future demands, for more important uses." (*Imperial Irrigation Dist. v. State Wat. Resources Control Bd.* (1990) 225 Cal.App.3d 548, 570–571.) Such a determination looks to the totality of the circumstances, including the use's effects on fish and other wildlife, recreation, water quality, the transportation of adequate water supplies where needed, water supplies for the domestic needs, irrigation, effects on other users of the watercourse, and economic impacts. (Wat. Code §§ 1243(a), 106; *In re Waters of Long Valley Creek Stream System* (1979) 25 Cal.3d 339, 354; *National Audubon Society v. Superior Court* (1983) 33 Cal.3d 419, 445.)

Here, the EA/IS never even mentions the reasonable use doctrine, let alone undertakes the requisite analysis to evaluate whether the transfers being contemplated here are "reasonable" under established caselaw. This is not surprising, given that the Project proposes to increase groundwater extraction in already over-drafted groundwater basins to supply additional water for water-intensive agricultural operations in areas wholly inappropriate to support such farming. The EA/IS's failure in this respect is a *per se* violation of the Reasonable Use Doctrine. (Cal. Const. art. X, § 2; *Light,* 226 Cal.App.4th at 1479; *Forni*, 54 Cal.App.3d at 750.)

4-9

Likewise, the EA/IS completely fails to discuss the Public Trust Doctrine, as required. Pursuant to the Public Trust Doctrine, "no one has a vested right to use water in a manner harmful to the state's waters." (*United States v. State Water Resources Control Bd*. (1986) 182 Cal.App.3d 82, 106.) As the California Supreme Court has explained, "the public trust [doctrine] imposes a duty of continuing supervision over the taking and use of the appropriated water" and "[i]n exercising its sovereign power to allocate water resources in the public interest, the state is not confined by past allocation decisions which may be incorrect in light of current knowledge or inconsistent with current needs." (*National Audubon Society,* 33 Cal.3d 447.) The Public Trust Doctrine predates the founding of this country and derives from English common law (and thereby Roman law). (*Id*. at 434.) Accordingly, the State of California acquired title as trustee to such lands and waterways upon its admission to the union. (*Id*.) The Public Trust Doctrine applies to waters at issue herein. (*People* v. *Gold Run D. & M. Co*. (1884) 66 Cal. 138 [Sacramento River].) Like the Reasonable Use Doctrine, the EA/IS fails to mention the Public Trust Doctrine or analyze how the Project complies therewith, in clear violation of the Public Trust Doctrine. This is problematic given that the Lead Agencies have already stated that Project-related groundwater pumping and Project-related transfers will have impacts on endangered species, land subsidence, and groundwater-dependent ecosystems.

***Response to Comment 4-9***

In regard to the comment that the public trust and reasonable use doctrines are not considered in the Draft EA/IS, see Response to Comment 3-4.

**IX. The EA/IS Fails to Sufficiently Analyze the Project's Environmental Affects**

For the reasons discussed *supra*, the Lead Agencies cannot rely on past NEPA or CEQA analyses and cannot take advantage of the addendum process. Rather, the Lead Agencies must prepare a Environmental Impact Report before authorizing the Project. And in so doing, the Lead Agencies cannot rely on the "analysis" (if it can be called that) in the EA/IS, as that such analysis is woefully inadequate under CEQA. The following is a non-exhaustive accounting of the EA/IS's deficiencies in this respect.

4-10

A. Biological Resources.

The EA/IS acknowledges that the Project area includes important habitat for several threatened and endangered species, including winter-run and spring-run Chinook salmon, Central Valley steelhead, green sturgeon, longfin smelt, yellow-legged frog, northwestern pond turtle, and giant garter snake. (EA/IS at 3-37.) It further acknowledges that Project-related impacts on groundwater extraction could lead to adverse impacts on threatened and endangered species by reducing surface water supply in interconnected surface waters and by reducing groundwater supply in groundwater-dependent ecosystems. (*Id.*) (The above-referenced species rely on these ecosystems within the Project area.) However, the Lead Agencies in the EA/IS state, arbitrarily and summarily and without explanation or citation to supportive data, that such impacts will be insignificant, especially given GW-1, the mitigation measure discussed *supra.* (*Id.* 3-47.) This violates CEQA for several reasons. First, this conclusion is unsupported. (Pub. Resources Code § 21080(e)(2); *City of Long Beach,* 176 Cal.App.4th at 903; *Pfeiffer,* 200 Cal.App.4th at 1567.) Second, to the extent that the Lead Agencies base their assertion that Project-related impacts on threatened and endangered species will be less-than-significant based on their review of the impacts associated with changed or reduced surface water flows associated with Project-related transfers, this conclusion is unlawful insofar as it relies on averaging environmental impacts across a large project area so as to dilute the effects of Project-related activities. (*Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 660-661 ["The DEIR concludes the project's contributions to ozone levels in the area would be immeasurable and, therefore, insignificant because the plant would emit relatively minor amounts of precursors compared to the total volume of precursors emitted in Kings County. The EIR's analysis uses the magnitude of the current ozone problem in the air basin in order to trivialize the project's impact. In simple terms, the EIR reasons the air is already bad, so even though emissions from the project will make it worse, the impact is insignificant. The point is not that, in terms of ozone levels, the proposed Hanford project will result in the ultimate collapse of the environment into which it is to be placed. The significance of an activity depends upon the setting. The relevant question to be addressed in the EIR is not the relative amount of precursors emitted by the project when compared with preexisting emissions, but whether any additional amount of precursor emissions should be considered significant in light of the serious nature of the ozone problems in this air basin."].)

4-10

Finally, the EA/IS's actual analysis is flawed and ignores important aspects of the problems facing affected species. (Pub. Resources Code § 21080(e)(2).) For example, the EA/IS analysis does not provide any information on the relationship between potential pumping wells and biological habitats. (EA/IS at 3-46.) The EA/IS defers to The Nature Conservancy's "Natural Communities Commonly Associated with Groundwater Dataset Version 2.0" (or NCCAG 2.0) and approved groundwater sustainability plans to determine where groundwater-dependent ecosystems are located and how to monitor them. (*Id.*) It further defers analysis until sometime in the future, outside of the public review period, when sellers would identify if monitoring for impacts on groundwater-dependent ecosystems is appropriate or required. (*Id.*) The EA/IS does not provide, and neither did the LTWT EIR, any maps of known groundwater-dependent ecosystems within the transfer subbasins or maps showing the spatial relationship between groundwater-dependent ecosystems and known transfer wells. This violates CEQA; agencies

cannot defer analysis and must undertake the requisite studies to obtain the data required to meaningfully evaluate the impacts of their projects before approving such projects. (*Sundstrom,* 202 Cal.App.3d at 311.) Much of this information is already available, as evidenced by **Exhibit 11** hereto.

Further, it appears that only desk surveys were or will be conducted for the Project using online resources. (EA/IS at 3-46.) More is required. Reliance only on online resources is insufficient especially where, as here, federally threatened species are known to be present in and around the project area. (*Sundstrom,* 202 Cal.App.3d at 311.)

B. Land Subsidence.

The EA/IS's discussion of the Project's impacts on land subsidence is flawed for many of the same reasons. The EA/IS acknowledges that the Project area has a history of significant subsidence, including a recent trend towards adverse subsidence-related impacts. (EA/IS at 3-9.) It states further that since 2010, the cycle of subsidence in the area has remained negative. (*Id.* at Appendix D, Figure 54d.) And it acknowledges that Project-related impacts on groundwater extraction could lead to adverse impacts on subsidence. (*Id.* at 3-15.) However, the Lead Agencies state in the EA/IS, arbitrarily and summarily and without explanation or citation to supportive data, that such impacts will be insignificant, especially given GW-1, the mitigation measure discussed *infra.* (*Id.*) This violates CEQA in several ways. First, this conclusion is unsupported. (Pub. Resources Code § 21080(e)(2); *City of Long Beach,* 176 Cal.App.4th at 903; *Pfeiffer,* 200 Cal.App.4th at 1567.) Second, to the extent that the Lead Agencies base their assertion that Project-related impacts on land subsidence will be less-than-significant based on their review of the impacts associated with changed or reduced surface water flows associated with Project-related transfers, this conclusion is unlawful insofar as it relies on averaging environmental impacts across a large project area so as to dilute the effects of Project-related activities. (*Kings County Farm Bureau,* 221 Cal.App.3d at 660-661.)

4-10

Moreover, and critically, the EA/IS understates the significance of the subsidence problem in the area. **Exhibit 12** hereto provides additional data that demonstrates the severity of the subsidence issues in the area that have not been included in the EA/IS's analysis. The EA/IS should be revised to include an analysis of the data provided therein; failure to incorporate that data would violate CEQA. (Pub. Resources Code § 21080(e)(2).) In addition, given the severity of recent and historical subsidence in the area, the EA/IS should be amended to prohibit groundwater pumping in subbasins with severe subsidence unless extensometers are installed. (Pub. Resources Code § 21002.) This should apply to the Redding, Corning, Yolo, and Colusa Subbasins and the Sacramento Valley as a whole. (Attached hereto as **Exhibit 13** are AquAlliance's comments on the Groundwater Sustainability Plan for the Colusa and Corning Subbasins, which apply equally here and demonstrate that reliance on Groundwater Sustainability Plans is naïve, given that such plans fail to prevent subsidence issues. These comments are incorporated herein by reference.) Indeed, during the process for reviewing the Groundwater Sustainability Plan for the Colusa Subbasin, DWR stated that groundwater storage in that area had decreased by over 795,000 acre-feet in just a two-year period, which more than doubled the anticipated overdraft predicted over a fifty-year period for the implementation of that plan. (Exhibit 13 at 44.)

Further, and relatedly, DWR evaluated the monitoring networks and sustainability management criteria for the interconnected surface waters provided by the groundwater sustainability agencies in their subbasins' groundwater sustainability plans, and it concluded that there were considerable data gaps in those agencies monitoring networks. Accordingly, it required those agencies, in the next review period, to present DWR with revised plans with better, more comprehensive monitoring networks. The lack of specifics in the EA/IS regarding the documentation of the actual transfer pumping rates, well locations, and well drawdown characteristics suggests that the deficiencies in these groundwater sustainability plans have not been corrected and therefore will likely still affect the sustainable management of the subbasins.

Indeed, the EA/IS's failure to provide site-specific details, which are crucial for groundwater dependent homes, farms, businesses, and reviewers of the Project, evades any discussion of the real ramifications of groundwater declines in the Project area since 2013. Where are the answers to the following questions about the historic and current impacts to third parties? The public, policy makers, and regulatory agencies deserve to have a consolidated presentation of the negative impacts from lax oversight by the Bureau, DWR, Groundwater Sustainability Agencies, and all Project proponents in the Redding and Sacramento Valley subbasins.

4-10

1. How many domestic wells have been repaired, replaced, or abandoned? Where?
2. How many agricultural wells have been repaired, replaced, or abandoned? Where?
3. How many new wells have been installed, omitting replacement wells? Where?
4. Where are sink holes located? Why are sink holes not discussed in the EA/IS?
5. How many complaints have been received regarding sink holes and subsidence? Where?
6. Where are written responses by Colusa or Glenn counties and/or the GSAs to complaints of sink holes and subsidence?
7. Has any assistance been given to landowners with sink holes and/or subsidence damage?
8. Will the GSA compensate well owners who have had to replace or repair wells since January 1, 2015?[3]
9. How many residents and/or small farmers have lost their land and how is it tracked?
10. What are the environmental impacts of increased transfer pumping added to the existing overdraft?

Further, the EA/IS uses average changes in groundwater elevation in the Redding area and Sacramento Valley to analyze historical changes in groundwater elevation and estimate

Project-related impacts. (*See generally* EA/IS at Appendix D.) This is problematic because impacts from the decline in groundwater levels and the loss in groundwater storage are generally greatest in the local area surrounding a pumping well, as is clearly seen in Figures D-3, D-4 and D-5 of Appendix D to the EA/IS. Moreover, this ignores the fact that the maximum historical decrease in groundwater elevations since 2013 in the Redding Area occurred between Spring 2022 to Spring 2023 and that the maximum historical decrease in groundwater elevations since 2013 in the Sacramento Valley occurred between Spring 2022 to Spring 2023. In both the Redding Area and Sacramento Valley, the maximum decreases in groundwater elevation during all three time-intervals were in the intermediate depth wells, well screen depths greater than 200 feet but less than 600 feet. The historical measured changes in groundwater elevation over time are an important metric in evaluating the trends in sustainability of a groundwater subbasin, but recent drawdowns are much greater than the averages the EA/IS provides. This is a serious CEQA and NEPA omission that must be corrected. The changes in groundwater elevations in these transfer wells often exceed -100 feet, and sometimes decline nearly 200 feet, which is significantly greater than the average changes in groundwater level and greater than the maximum decreases provided in the EA/IS.

The data provided in the EA/IS (from "Water Transfer Data Reports") does not indicate the pumping aquifer zones, well screened intervals on the hydrographs, or the pumping times, rates, and volumes for the transfer wells that resulted in the drawdowns. However, these documents state that this information may have been submitted to the Bureau. This note, along with a possible file name and date at the left bottom of the graphs, suggests that the information on each transfer well is available and could easily be made available to the public through the Bureau. Unfortunately, there is no other reference to where the water level and pumping data can be obtained or downloaded. 4-10

**Exhibit 14** hereto provides vertical displacement raster data from 2020-2022. Information therein demonstrates that subsidence in the area has been steadily going downward for years. This data was not used in the EA/IS. Based on this data, it is clear that Colusa County likely has a ***record of inelastic land subsidence,*** at least in the area southwest of Arbuckle, which should prevent the transfer wells in the area from participating in any future groundwater substitution transfers because of GW-1. (EA/IS at 3-18.) The EA/IS should be revised to include an analysis of the nearest TRE Altamira InSAR data points at each of the 426 groundwater substitution transfer wells to demonstrate that they can comply with GW-1 and to demonstrate that previous 2020-2022 groundwater substitution transfer pumping did not result in inelastic subsidence in the area of each transfer wells.

Given these issues, it is critical that the Lead Agencies make the groundwater substitution transfer proposals easily available to the public at no cost at least sixty (60) days prior to approving a proposal, so that the public can make an informed assessment and so that the public has time to comment on whether the proposed transfer might injure them. This is critical because GW-1, the mitigation measure discussed *supra*, describes the remedy for groundwater substitution transfer pumping injury as "compensatory mitigation actions such as (1) reimbursement to non-transferring third parties for significant increases in their groundwater pumping costs owing to the groundwater substitution pumping action, as compared with their costs absent the transfer; and (2) reimbursement to non-transferring third parties for

modifications to infrastructure that may be affected." (EA/IS at 3-26.) GW-1 therefore places the burden on the injured third-party to document and prove that groundwater level, groundwater quality, and subsidence changes that occurred during and after the period(s) of transfer were caused in whole or in part by the groundwater substitution pumping. Not only does this impermissibly permit the impact to occur and place the burden on the injured party to make the project's effects known, but also the EA/IS lacks any reliable and transparent mechanism to ensure this occurs. Following a report of harm from a third-party, how will the Seller be accountable to independently and fully investigate the cause? What happens when the cause is multi-factorial? No guarantees can be made based on the EA/IS as written, in violation of CEQA. (Pub. Resources Code § 21002; *Grossmont-Cuyamaca Community College Dist.*, 141 Cal.App.4th at 98.)

During the years the LTWT program occurred (2015-2024), significant damage was wrought with widespread active and potential subsidence as well as sink holes caused by groundwater pumping throughout the project area. For example, a local resident within the Glenn Colusa Irrigation District's region – Mike Billiou – demonstrates this potential effect. Figure 2 below shows his well pad #35, which experienced subsidence-related damage as a result of that program.

**Figure 2. Billiou Well.**

4-10

Another example of this issue can be seen in and around Hamilton City in Glenn County, where sink holes have developed. Figure 3 below shows these sink holes. Publicly available data shows that these sink holes are located nearby to groundwater pumping wells used as part of the LTWT program. AquAlliance wishes to help the Lead Agencies by providing maps using DWR data to illustrate what should have been in the EA/IS. (*See* **Exhibit 14**.) These maps show that there is subsidence occurring more broadly than is known and that subsidence is **very significant** in certain geographic areas such as along the Interstate 5 freeway corridor. The EA/IS must disclose the accurate existing conditions for subsidence and sink holes in the SRSC area, discuss the current and potential for future impacts to infrastructure, and analyze the actual effects of the Project in an EIR.

**Figure 3. Sink Holes east of Orland in 2021 per DWR Public Record Act response.**


4-10

The EA/IS also fails to account for groundwater age. It fails to provide recharge data for the aquifers. Professor Karin Hoover, Assistant Professor of hydrology, hydrogeology, and surficial processes from California State University Chico, found in 2008 that recovery levels are generally less than drawdown and that shallower wells in the Lower Tuscan Formation along the eastern margin of the Sacramento Valley have the youngest water and the deeper wells in the western and southern portions of the Valley have the oldest water, adding that the youngest groundwater in the Lower Tuscan Formation is probably nearest to recharge areas. (*See* **Exhibit 15** hereto.) This implies that there is currently no active recharge to the Lower Tuscan aquifer. The Lower Tuscan system may therefore constitute fossil water with no known modern recharge mechanism. Most Sellers withdraw groundwater from the deep portion of groundwater basins. The EA/IS fails to account for this in its description of existing conditions and its Project impacts from increased groundwater use.

C. Cumulative Impacts.

In assessing the significance of a project's impact, the Lead Agencies must consider analyze the cumulative impacts associated with the Project in relation to like projects recently approved and under consideration. (14 C.C.R. § 15130(b)(1)(B); *Citizens Assn. for Sensible Development of Bishop Area v. County of Inyo* (1985) 172 Cal.App. d 151, 168 [agencies must interpret this requirement in such a way as to "afford the fullest possible protection of the environment"]; *Friends of the Eel River v. Sonoma County Water Agency*, 108 Cal.App.4th 859, 870-872 [holding that EIRs must be inclusive in conducting cumulative impacts analyses and requiring the instant EIR to consider other, proposed water curtailments being considered by other agencies when evaluating the project's cumulative water supply impacts].) Here, however, the Lead Agencies fail to analyze the cumulative effects of past transfers and probable future projects, that have cumulatively contributed to significant basin-wide overdraft and subsidence.

The cumulative impact of the Lead Agencies and other regulatory entities permitting the increased and repeated over-extraction of groundwater from Northern California for use by agriculture elsewhere in the state has resulted in the significant over-drafting and subsidence we see now in the area. This Project only exacerbates this issue. Future projects requiring increased groundwater pumping in the Project area must be analyzed and addressed or these crises will continue to worsen.

4-10

### *Response to Comment 4-10*

See Responses to Comments 4-2 and 4-3 regarding the CEQA lead agency's use of the addendum process for the Proposed Project. With respect to NEPA, the 2026-2027 North to South Water Transfers EA evaluates the potential environmental effects of groundwater substitution and reservoir release transfers in 2026-2027 independently of the Long-Term Water Transfer EIS. The NEPA analysis included in the Draft EA does not rely on the previously completed Long-Term Water Transfers EIS.

Specific to the comment related to the reliance on averaging environmental impacts across a large project area, Section 3.7.2 of the Draft EA/IS includes an analysis of surface water flow impacts on threatened and endangered species in individual streams. While the analysis relied on the average monthly change in streamflow, a separate review for each waterbody listed in Table 3-6 in the Draft EA/IS was completed. In addition, further biological effects analysis was completed for waterbodies where the modeled reduction in flow resulted in both a reduction greater than one cfs and ten percent of average monthly flows between the Proposed Action and the No Action/No Project Alternative. For this additional analysis, the monthly flow reductions between the Proposed Action and the No Action/No Project Alternative were reviewed, which are presented in Appendix E4. In regard to the other comments on potential evaluation of impacts to biological resources in the Draft EA/IS, see Response to Comment 3-5.

In regard to the comment asserting that the subsidence analysis is flawed, see Response to Comment 3-6.

## X. The EA/IS Fails to Consider or Ensure Compliance with California's System of Water Rights

All water in California is "the property of the people[.]" (*Nat'l Audubon Soc'y,* 33 Cal.3d at 441 [quoting Water Code § 102].) "Rights in water in an underground basin are classified as overlying, appropriative and prescriptive." (*California Water Service Co. v. Edward Sidebotham & Son* (1964) 224 Cal.App.2d 715, 724.) Many of the Sellers here are owners of land, and as such, possess a right to pump water from the aquifer beneath their property. "An overlying right, analogous to that of the riparian owner in a surface stream, is the owner's right to take water from the ground underneath *for use on his land within the basin* or watershed; it is based on the ownership of the land and is appurtenant thereto." (*Id.* at 725 [emphasis added]; *City of Barstow v. Mojave Water Agency* (2000) 23 Cal.4th 1224, 1240-41; *see also Antelope Valley Groundwater Cases* (2020) 59 Cal.App.5th 241, 271 [rights to water from aquifers "can be held by an overlying landowner (who has paramount priority to use the water *to benefit the owned land* analogous to a riparian owner) . . . ."] [emphasis added].) The only evidence needed to prove an overlying right is evidence of title to the overlying land. (*City of Santa Maria v. Adam* (2012) 211 Cal. App. 4th 266, 298.)

4-11

Here, for example, the Glenn-Colusa Irrigation District holds title to approximately 35.93 acres of land within its district. EA/IS Table 2-1 anticipates it will pump up to 23,600 acre feet of groundwater in April-September to substitute for transfer water sold. How will GCID use 23,600 acre feet of water on approximately thirty-six (36) acres of land in six months? If the groundwater substitution water is only to be used on property owned by the Glenn-Colusa Irrigation District, what will the environmental effects be to other water users in the district who may have received surface water delivered by the Glenn-Colusa Irrigation District that was



instead sold and transferred? If all of the groundwater to be pumped is used onsite by the Glenn-Colusa Irrigation District, other water users in the district would be left with less water for their own uses, which could result in impacts to groundwater-dependent ecosystems and species and impacts on agriculture.

4-11

The EA/IS does not make clear whether the groundwater to be pumped to offset the transfers in the Glenn-Colusa Irrigation District's region will be used only onsite by the Glenn-Colusa Irrigation District itself. It is not even clear to the public (or to decision-makers, seemingly) whether the groundwater to be pumped will be pumped by the Glenn-Colusa Irrigation District itself or by other water users in its district (or some combination thereof). The EA/IS must be amended to provide more information to assess the legality and effect of this action for each covered seller. The public and decision-makers need to be made aware of where the groundwater will be pumped, so that other users in each seller's region are aware of the impacts of this extra pumping on their operations and on their local environment.

***Response to Comment 4-11***

As described in the Draft EA/IS, water transfers may not violate any federal or state law, including water rights. Regarding the comment on potential impacts to other water users and impacts to groundwater dependent ecosystems, as described in Section 3 of the Draft EA/IS, implementation of Mitigation Measure GW-1 would avoid potentially significant adverse environmental effects from groundwater-level declines due to groundwater substitution pumping.

Regarding the comment about the public and decision-makers being made aware of the location of groundwater pumping, Reclamation supports the use of DWRs online web application (WTIMS) as the platform for water transfer proposal submittal and review. The text in the Draft EA/IS is revised to state, "Potential Sellers are encouraged to electronically submit their water transfer proposal through DWR's online web application" However, it should be noted that individual well location may not be shared due to privacy considerations.

**XI. Additional Comments and Questions**

1. The EA/IS water transfer proposal is clearly involved with WRP Agreement. The WRP Agreement's draft EIR stated that the "[r]eduction to SRSC contract supply is responsive to shortages in water supplies due to normal hydrologic conditions, climatic variability, and climate change." Yet during the same conditions when "shortages in water supplies due to normal hydrologic conditions, climatic variability, and climate change" occur, demand for water transfers is likely to take place. Unexplained in the EA/IS is how the two related projects may operate in tandem. For example, will any of the non-delivered Sacramento River Settlement Contractors' ("SRSC") water be transferred to non-SRSC water users? The lack of clarity is glaring and must be corrected.
2. The EA/IS blithely concludes that there are no threats to Indian Trust Assets ("ITAs") even though it states that "[g]roundwater substitution is the only method of making water available, under the Proposed Action, [and that] that could affect ITAs." (EA/IS at 5-1.) Elsewhere the EA/IS states that the Project may have impacts on the Colusa and Redding Rancherias, but that such impacts will be negligible because of the monitoring programs discussed *supra*. How this conclusion was reached is a mystery; as there appear to be no supporting data to support the conclusion of negligible impacts to ITAs. (Pub. Resources Code § 21080(e)(2).)
3. The EA/IS fails to address potential environmental justice impacts. Even the WRP Agreement's Environmental Assessment acknowledged that that project may have a cumulative effect on environmental justice impacts. Here, there is no discussion or analysis of environmental justice impacts. What reason prevented the Lead Agencies from addressing this issue?

4-12

***Response to Comment 4-12***

Regarding the discussion of the Water Reduction Program Agreement and ITAs in the Draft EA/IS as well as addressing environmental justice impacts under NEPA, see Response to Comment 3-11. CEQA Guidelines Section 15131(a) outlines that economic or social effects of a project shall not be treated as significant effects on the environment. Consistent with this, analysis of Environmental Justice effects is not presented in the Draft EA/IS.

**XII. Conclusion**

For the aforementioned reasons, the EA/IS violates CEQA in myriad ways. Not only have the Lead Agencies unlawfully and pitifully attempted to utilize the addendum process where doing so is inappropriate, but they have failed to sufficiently analyze Project-related impacts, feasible alternatives and mitigation measures, or the mandates of California law. The Lead Agencies must therefore prepare an EIR for the Project. 4-13

***Response to Comment 4-13***

See Responses to Comments 4-1 through 4-12.

## Comment Letter 5, Central Delta Water Agency

Comment ID: 5

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May 19, 2025

SENT VIA EMAIL

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**RE: 2026-2027 North to South Water Transfers**
**Draft Environmental Assessment/Initial Study**

Dear Ms. Dekar and Mr. Arroyave:

Central Delta Water Agency hereby joins in the NEPA and other comments submitted by AquAlliance, the California Sportfishing Protection Alliance, and the California Water Impact Network in their letter dated May 14, 2025, regarding the Environmental Assessment/Initial Study for the 2026-2027 North to South Water Transfers created by the Bureau of Reclamation and San Luis Delta Mendota Water Authority. 5-1

***Response to Comment 5-1***

See the Responses to Comment letters 3 and 4.

## L.2 References

Bishop, Todd. 2022. "Sinkholes in Orland area raise new water concerns", ChicoSol News. April 20, 2022. Available at: https://chicosol.org/2022/04/20/sinkholes-orland-area-raise-new-water-concerns/. [Accessed June 2, 2025].

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# Appendix M
# Errata Sheets

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# Appendix M Errata Sheets

This appendix contains all text changes to the Draft Environmental Assessment/ Initial Study (EA/IS). Deleted text is shown in strikethrough and denoted with [Deleted Text Start] and [Deleted Text End] at the beginning and end of the deleted section. Added text is shown in red and bolded and denoted with an asterisk (*) at the beginning and end of the addition.

## M.1 Title Page

The title page of the Draft EA/IS has been revised as follows:

> ***Central Valley Project, California***
> **2026–2027 North to South Water Transfers**
> ***California Great-Basin***
> **CGB-ED-2024-025**

## M.2 Contents

### *Page iii*

The list of appendices on page iii of the Draft EA/IS is revised as follows:

> Appendix K Cumulative Projects
>
> ***Appendix L Responses to Comments**
>
> **Appendix M Errata**
>
> **Appenidx N Mitigation Monitoring and Reporting Plan***

## M.3 Section 1

### *Page 1-1*

The second sentence on page 1-1 of the Draft EA/IS is revised and the following footnote is added:

> This joint EA/IS document satisfies (1) ***Reclamation's requirements of the National Environmental Policy Act (NEPA) (42 United States Code [USC] §4231 et seq.) and the Department of the Interior's NEPA regulations (43 CFR Part 46)[2]; and (2)*** SLDMWA's obligations under the California Environmental Quality Act (CEQA) and the Guidelines for Implementation of the California Environmental Quality Act (Cal. Code Regs., tit. 14) [CEQA Guidelines] [Deleted Text Start] ~~); and (2) Reclamation's requirements of the National~~

~~Environmental Policy Act (NEPA) (42 United States Code [USC] §4231 et seq.) and the Department of the Interior's NEPA regulations (43 CFR Part 46).]).~~ [Deleted Text End]

***[2] Executive Order 14154, Unleashing American Energy (Jan. 20, 2025), and a Presidential Memorandum, Ending Illegal Discrimination and Restoring Merit-Based Opportunity (Jan. 21, 2025), require the Department to strictly adhere to the National Environmental Policy Act (NEPA), 42 U.S.C. §§ 4321 et seq. Further, such Order and Memorandum repeal Executive Orders 12898 (Feb. 11, 1994) and 14096 (Apr. 21, 2023). Because Executive Orders 12898 and 14096 have been repealed, complying with such Orders is a legal impossibility. The Bureau of Reclamation verifies that it has complied with the requirements of NEPA, including the Department's regulations and procedures implementing NEPA at 43 C.F.R. Part 46 and Part 516 of the Departmental Manual, consistent with the President's January 2025 Order and Memorandum. The Bureau of Reclamation has also voluntarily considered the Council on Environmental Quality's rescinded regulations implementing NEPA, previously found at 40 C.F.R. Parts 1500–1508, as guidance to the extent appropriate and consistent with the requirements of NEPA and Executive Order 14154.***

The first two sentences of the second paragraph on page 1-1 of the Draft EA/IS is revised as follows:

This EA/IS describes the potential direct, indirect, and cumulative effects of transferring water from willing Sellers, resulting from actions taken by the Sellers to make water available for transfer through groundwater substitution and/or reservoir release, to SLDMWA, [Deleted Text Start] ~~its~~ [Deleted Text End] member agencies, Contra Costa Water District (WD), and East Bay Municipal Utility District (MUD). The Sellers hold water rights on Northern California waterways or contracts with the United States (U.S.) (for Base Supply and***/or*** Central Valley Project [CVP] Water ["Project Water"]).

The last sentence on page 1-1 of the Draft EA/IS is revised as follows:

The range of potential transfers evaluated in this EA/IS includes some of the same water sources ***as those in TCCA's draft EA/IS***, but the water would be transferred to different potential Buyers; that is, the Sellers have only the amounts of water listed in Chapter 2 available for transfer, but the water could be purchased by SLDMWA member agencies, Contra Costa WD, East Bay MUD, or TCCA [Deleted Text Start] ~~members~~ [Deleted Text End] ***Member Units.***

The fourth footnote under Section 1 on page 1-1 of the Draft EA/IS is revised as follows:

[4] Article 1 of the Sacramento River Settlement Contracts defines Base Supply as the quantity of Surface Water established in Articles 3 and 5 which may be diverted by the Contractor from the Sacramento River each month during the period April through October of each Year without payment to the United States for such quantities diverted. [Deleted Text Start] ~~The Glenn-Colusa Irrigation District Contract No. 14-06-200-855A-R-1, however, states "Source of Supply" instead of "Sacramento River."~~ [Deleted Text End]

***Page 1-2***

The first sentence on page 1-2 of the Draft EA/IS is revised as follows:

> SLDMWA, [Deleted Text Start] ~~its~~ [Deleted Text End] member agencies, Contra Costa WD, and East Bay MUD (collectively referred to as the Buyers) may experience water shortages in 2026 and 2027 and are soliciting willing Sellers that may transfer surface water to them.

The first sentence of the second paragraph on page 1-2 of the Draft EA/IS is revised as follows:

> To facilitate the transfer of water throughout the state consistent with state and federal water management policies, Reclamation is considering whether it should approve [Deleted Text Start] ~~and facilitate~~ [Deleted Text End] water transfers between willing Sellers and Buyers when Base Supply and/or CVP Project Water or CVP facilities are involved.

The third paragraph on page 1-2 of the Draft EA/IS is revised and the following footnotes added:

> Transfers of water would occur from Sellers primarily upstream of the [Deleted Text Start] ~~Sacramento-San Joaquin~~ [Deleted Text End] Delta [Deleted Text Start] ~~(Delta)~~ [Deleted Text End]to Buyers that primarily receive water conveyed through the Delta. Most of the transfer water would be conveyed using CVP or SWP facilities under Joint Point of Diversion permitting or wheeling agreements. Water would also be conveyed using water intakes in the Delta and through the Freeport Regional Water Authority's intake on the Sacramento River. To deliver transferred water to the Buyers, [Deleted Text Start] ~~Reclamation may reoperate~~ [Deleted Text End] CVP facilities***[6]*** [Deleted Text Start] ~~to change the pattern of water releases from storage~~ [Deleted Text End] and [Deleted Text Start] ~~may also request that DWR reoperate~~ [Deleted Text End] SWP facilities***[7]** would be operated consistent with the 2024 Biological Opinions (BOs) or the governing BO(s), as well as, any other operating agreements, authorizing documents, or any other applicable legal obligations in place at the time a transfer is implemented.*** Reclamation (and potentially DWR, as necessary) would review and ***consider whether or not to*** approve, as appropriate, proposed water transfers in accordance with a Seller's Sacramento River Settlement Contract (Settlement Contract), repayment, or other water service contracts with Reclamation, the DRAFT Technical Information for Preparing Water Transfer Proposals (Water Transfer White Paper) (Reclamation and DWR 2019), ***underlying water rights[8]***, and local, state and federal law.

> *** [6] Any non-CVP water that would use CVP facilities would need a Warren Act contract, which is subject to NEPA compliance. The Warren Act of February of February 21, 1911, authorized the United States to execute contracts for the**

**conveyance and storage of non-project water in federal facilities when excess capacity exists.***

** [7] Agreements with DWR may be required for use of SWP facilities to facilitate the transfer of water.***

** [8] If water rights need to be changed to accomplish the transfer, the transferring water right holder must petition the State Water Resource Control Board for a temporary change in water rights (SWRCB 2013).***

The second sentence of the last paragraph on page 1-2 of the Draft EA/IS is revised as follows:

> Conditions as of September 30, 2024, the end of Water Year 2024, resulted in an [Deleted Text Start] ~~average~~ [Deleted Text End] ***above normal*** water year.

***Page 1-3***

The first sentence on page 1-3 of the Draft EA/IS is revised as follows:

> Reclamation's primary purpose for this project is to [Deleted Text Start] ~~facilitate and~~ [Deleted Text End] ***review and consider whether or not to*** approve, in accordance with applicable federal law, policy, rules, regulations and contracts, then in effect, the voluntary transfer of water from willing Sellers located primarily upstream of the Delta, to willing Buyers located primarily south of the Delta, and in the San Francisco Bay Area.

## M.4 Section 2

***Page 2-1***

The first sentence of Section 2.2 on page 2-1 of the Draft EA/IS is revised as:

> The Proposed Action includes a range of potential transfers of up to 250,000 acre-feet (AF) annually ***(cumulative of all transfers)*** from Sellers identified in Figure 2-1 to the Buyers listed in Section

The first sentence of the second paragraph in Section 2.2 on page 2-1 of the Draft EA/IS is revised as follows:

> For analytical purposes, the full 250,000 AF of potential water made available for transfer is assumed to be available annually; however, it is not possible to determine which negotiations would be successful, what combination of Sellers would ultimately transfer water to the Buyers, or how much water would ultimately be transferred to the Buyers due to demand and export capacity at the ***CVP or SWP*** [Deleted Text Start] ~~Project~~ [Deleted Text End] pumps.

The last sentence on page 2-1 of the Draft EA/IS is revised as follows:

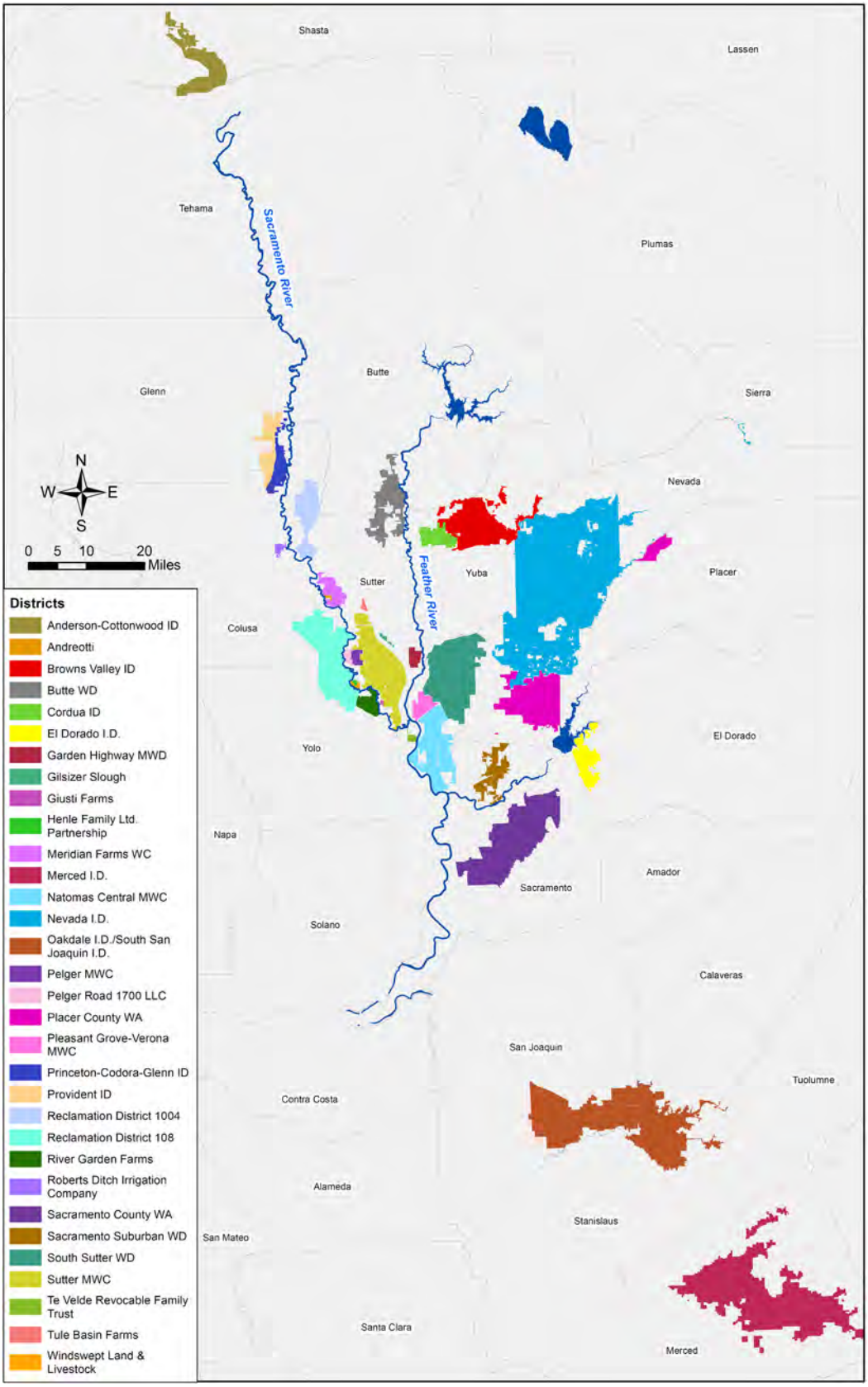
> Transfers of water would only occur when the Delta is in balanced conditions (i.e., when Delta inflows are equal to Sacramento Valley in-basin needs, Delta outflows, and Delta exports). ***Carriage water (a portion of the transfer that is not diverted in the Delta and becomes Delta outflow) is a required component of water transfers that is used to maintain water quality in the Delta.*** [Deleted Text Start] ~~Water transfers would only be used to help meet existing demands and would not serve any new demands in the Buyers' Service Areas. The Proposed Action would correlate with the approach and analyses included in the 2024 Long-Term Operations of the CVP and SWP Environmental Impact Statement and biological opinions (BOs).~~ [Deleted Text End].

***Page 2-2***

Figure 2-1 on page 2-2 of the Draft EA/IS was revised to remove Glenn-Colusa Irrigation District and replaced with the following:

***Page 2-3 and 2-4***

Table 2-1 on page 2-3 of the Draft EA/IS is revised to remove Glenn-Colusa Irrigation District and the second table note for Table 2-1 on page 2-4 of the Draft EA/IS is revised as follows:


Shasta
Lassen
Tehama
Sacramento River
Plumas
Butte
Glenn
Sierra
Nevada
N
W
E
S
0 5 10 20
Miles
Sutter
Yuba
Placer
Feather River
Colusa
Yolo
El Dorado
Napa
Amador
Sacramento
Solano
Calaveras
San Joaquin
Tuolumne
Contra Costa
Alameda
Stanislaus
San Mateo
Santa Clara
Merced
Districts
Anderson-Cottonwood ID
Andreotti
Browns Valley ID
Butte WD
Cordua ID
El Dorado I.D.
Garden Highway MWD
Gilsizer Slough
Giusti Farms
Henle Family Ltd. Partnership
Meridian Farms WC
Merced I.D.
Natomas Central MWC
Nevada I.D.
Oakdale I.D./South San Joaquin I.D.
Pelger MWC
Pelger Road 1700 LLC
Placer County WA
Pleasant Grove-Verona MWC
Princeton-Codora-Glenn ID
Provident ID
Reclamation District 1004
Reclamation District 108
River Garden Farms
Roberts Ditch Irrigation Company
Sacramento County WA
Sacramento Suburban WD
South Sutter WD
Sutter MWC
Te Velde Revocable Family Trust
Tule Basin Farms
Windswept Land & Livestock

*

**Table 2-1. Potential Methods of Making Water Available for Transfer by Seller (Upper Volume Limits)[1]**

| Potential Seller (Transferor) | Maximum Annual Potential Transfer (acre-feet) | April-June Groundwater Substitution (acre-feet) | April-June Reservoir Release (acre-feet) | July-Sep Groundwater Substitution (acre-feet) | July-Sep Reservoir Release (acre-feet) | Oct-Nov Reservoir Release (acre-feet) |
|---|---|---|---|---|---|---|
| **Sacramento River Area of Analysis** | | | | | | |
| Anderson-Cottonwood Irrigation District | 4,900 | 2,450 | | 2,450 | | |
| Andreotti | 2,500 | 1,000 | | 1,500 | | |
| Giusti Farms | 1,000 | 500 | | 500 | | |
| [Deleted Text Start] ~~Glenn-Colusa Irrigation District~~[2] [Deleted Text End] | [Deleted Text Start] ~~23,600~~ [Deleted Text End] | [Deleted Text Start] ~~11,800~~ [Deleted Text End] | | [Deleted Text Start] ~~11,800~~ [Deleted Text End] | | |
| Henle Family Ltd. Partnership | 600 | 325 | | 275 | | |
| Meridian Farms Water Company | 6,000 | 3,000 | | 3,000 | | |
| Natomas Central Mutual Water Company | 30,000 | 10,000 | | 20,000 | | |
| Pelger Mutual Water Company | 4,750 | 3,151 | | 1,599 | | |
| Pelger Road 1700 LLC | 5,600 | 2,600 | | 3,000 | | |
| Pleasant Grove-Verona Mutual Water Company | 18,000 | 8,000 | | 10,000 | | |
| Princeton-Codora-Glenn Irrigation District | 8,000 | 3,000 | | 5,000 | | |
| Provident Irrigation District | 11,500 | 4,500 | | 7,000 | | |
| Reclamation District 108 | 15,000 | 7,500 | | 7,500 | | |
| Reclamation District 1004 | 7,175 | 3,588 | | 3,588 | | |
| Roberts Ditch Irrigation Company | 3,460 | 1,700 | | 1,760 | | |
| RRG Garden Properties LLC | 10,000 | 4,400 | | 5,600 | | |
| Sutter Mutual Water Company | 50,000 | 20,000 | | 30,000 | | |
| Te Velde Revocable Family Trust | 7,094 | 2,700 | | 4,394 | | |
| Windswept Land and Livestock | 1,775 | 775 | | 1,000 | | |
| **American River Area of Analysis** | | | | | | |
| El Dorado Irrigation District | 8,000 | | | | 8,000 | 8,000 |
| Placer County Water Agency | 47,000 | | | | 47,000 | 47,000 |
| Sacramento County Water Agency | 15,000 | | | 15,000 | | |

| Potential Seller (Transferor) | Maximum Annual Potential Transfer (acre-feet) | April-June Groundwater Substitution (acre-feet) | April-June Reservoir Release (acre-feet) | July-Sep Groundwater Substitution (acre-feet) | July-Sep Reservoir Release (acre-feet) | Oct-Nov Reservoir Release (acre-feet) |
|---|---|---|---|---|---|---|
| Sacramento Suburban Water District | 30,000 | 15,000 | | 15,000 | | |
| **Yuba River Area of Analysis** | | | | | | |
| Browns Valley Irrigation District | 5,000 | | | | 5,000 | 5,000 |
| Cordua Irrigation District | 12,000 | | | 12,000 | | |
| **Feather River Area of Analysis** | | | | | | |
| Butte Water District | 6,000 | 3,000 | | 3,000 | | |
| Garden Highway Mutual Water Company | 14,000 | 6,500 | | 7,500 | | |
| Gilsizer Slough Ranch | 3,200 | 1,600 | | 1,600 | | |
| Nevada Irrigation District | 15,000 | | | | 15,000 | 15,000 |
| South Sutter Water District | 15,000 | | | | 15,000 | 13,500 |
| Tule Basin Farms | 6,000 | 3,000 | | 3,000 | | |
| **Stanislaus River Area of Analysis** | | | | | | |
| Oakdale Irrigation District / South San Joaquin Irrigation District | 50,000 | | | | 50,000 | |
| **Merced River Area of Analysis** | | | | | | |
| Merced Irrigation District | 30,000 | | | | 30,000 | 30,000 |
| **TOTAL[2~~3~~]** | **467,154** | **120,089** | **0** | **177,066** | **170,000** | **118,500** |

Notes:

[1] The total transfers combined for the Buyers evaluated in this EA/IS, would be limited to no more than 250,000 AF in any one year. The sum of transfers in Table 2-1 equals more than this amount, but the Buyers (SLDMWA member agencies, Contra Costa WD, and East Bay MUD) would not purchase transfer water from all of these parties for the full amount.

[~~2~~] [Deleted Text Start] ~~Glenn-Colusa Irrigation District will not participate in out of basin groundwater substitution transfers.~~ [Deleted Text End]

[*2] **The refill agreement required for this proposed source would require amendment of their water rights settlement agreement with Reclamation (Agreement No. 8-07-20-W0714), agreement on water rights accounting, and approval by the State Water Resources Control Board (SWRCB).***

[3] These totals cannot be added together. Agencies could make water available through groundwater substitution, reservoir release transfers, or a combination of the two; however, they will not make the full quantity available through both methods. Table 2-1 reflects the total upper limit for each agency.

Key: LLC= Limited Liability Company

***Page 2-5***

The following paragraph has been added to the beginning of page 2-5 of the Draft EA/IS:

> ***Carriage water is calculated to reflect conveyance losses as the water moves from the point at which it is made available for transfer, to the Delta export pumps, and is conveyed from the Delta to Buyers (see Section B.2.2.3 in Appendix B). Water transfers would only be used to help meet existing demands and would not serve any new demands in the Buyers' Service Areas. The 2024 Long-Term Operation of the CVP and SWP Draft Environmental Impact Statement includes the transfer window from July through November, and maximum transfer amounts of up to 600,000 AF in critical years and dry years (following dry or critical years) and 360,000 AF in all other years (Reclamation 2024). The Proposed Action would correlate with the approach and analyses included in the 2024 Long-Term Operations of the CVP and SWP Environmental Impact Statement and BOs, if and as amended.***

The first paragraph on page 2-5 of the Draft EA/IS is revised as follows and the following footnote is added:

> Reclamation would evaluate each proposal on an individual basis, as it is received, to determine if it meets the terms of the Settlement Contract or other water service or repayment contract [Deleted Text Start] ~~s~~ [Deleted Text End] with Reclamation, ***Sellers' underlying water rights, the*** *Water Transfer White Paper* (Reclamation and DWR 2019), and applicable federal and state law. ***Water transfer proposals must include the information requirements for groundwater substitution and reservoir reoperation identified in the Water Transfers Information Checklist that is included in Reclamation and DWR's Water Transfer White Paper.** [11]***** Reclamation has followed this process in past years when reviewing and subsequently approving the transfer of water (such as when approving the transfer of water in 2013, 2014, 2015, 2020, and 2021). ***Reclamation also ensures that all transfers under post-1914 water rights, including all proposed reservoir storage water transfers, obtain approval for a change in place of use and point(s) of rediversion from the State Water Resources Control Board (SWRCB) and enter into a reservoir reoperation agreement with Reclamation, which in the case of the proposed transfer in New Melones Reservoir would also require amendment of the existing water rights settlement agreement.** [Deleted Text Start] ~~Reclamation may reoperate CVP facilities and the State may reoperate SWP facilities to change the pattern of water releases from storage~~ [Deleted Text End] ***CVP and SWP facilities would be operated consistent with the 2024 BOs or the governing BO(s), as well as, any other operating agreements, authorizing documents, or any other applicable legal obligations in place at the time a transfer is implemented,*** to deliver water made available for transfer to potential Buyers. ***In addition, a Buyer or Seller would not be allowed to participate in an exchange within the CVP if that exchange results in Reclamation not meeting applicable laws, regulations, BOs, court orders, or any other applicable legal obligations in**

**place at the time of the exchange. Any such exchange would be at the sole discretion of Reclamation. A Buyer or Seller would not be allowed to participate in an exchange within the SWP if that exchange results in DWR not meeting applicable laws, regulations, BOs and incidental take permits, court orders, or any other applicable legal obligations in place at the time of the exchange. Any such exchange would be at the sole discretion of DWR.*** A detailed description of the Proposed Action is included in Appendix B.

***[11]At the time of development of this EA/IS, the 2019 Water Transfers White Paper (Reclamation and DWR 2019) document governs the water transfers evaluated in this EA/IS. The Water Transfers White Paper is updated by Reclamation and DWR when necessary and the version of that governing document and the Water Transfers Information Checklist it includes shall be used by Sellers to develop their water transfer proposals. See Appendix E3 for the current Water Transfers Information Checklist (Reclamation and DWR 2019).***

The second paragraph under Section 2.2.1 on page 2-5 of the Draft EA/IS is revised as follows:

Surface water made available through groundwater substitution actions would be made available for transfer between July and September and subject to contract limitations. [Deleted Text Start] ~~Under certain conditions and with prior approval by Reclamation, water could be "backed up" into Shasta Reservoir between April and June and delivered during the transfer window between July and November.~~ [Deleted Text End] If water is conveyed in October and November, the overall totals from April through November would still stay within the upper limits provided in Table 2 1.

The last paragraph on page 2-5 of the Draft EA/IS is revised as follows:

Not all of these potential Buyers may end up actually purchasing water from the Sellers. Purchase decisions depend on several factors, including, but not limited to, hydrology, water demands, availability of other supplies, and transfer costs. [Deleted Text Start] ~~Reclamation may be asked to reoperate the CVP to deliver the water made available for transfer, and the reoperation~~ [Deleted Text End] ***CVP and SWP facilities would be operated consistent with the 2024 BOs or the governing BO(s), as well as, any other operating agreements, authorizing documents, or any other applicable legal obligations in place at the time a transfer is implemented. Operational flexibility*** could be limited based on specific hydrologic conditions, biological conditions, or water quality issues. Reclamation [Deleted Text Start] ~~cannot guarantee that it will be able to reoperate the CVP at specific times to~~ [Deleted Text End] ***can only*** accommodate water transfers ***and would only consider proposals that may require the reoperation of CVP when it does not adversely impact CVP operations.***

***Page 2-6***

The last sentence in the second paragraph of Section 2.2.3 on page 2-6 of the Draft EA/IS is revised as follows:

> Also, [Deleted Text Start] ~~Settlement Contractors~~ [Deleted Text End] ***the Sellers*** must transfer water consistent with [Deleted Text Start] ~~their Settlement Contracts~~ [Deleted Text End] ***the Sellers' underlying water rights***. Reclamation would not approve water transfers for which these basic principles have not been met.

The last sentence in the second paragraph under "Reservoir Release" on page 2-6 of the Draft EA/IS is revised as follows:

> Each reservoir release transfer would include a refill agreement between the Seller [Deleted Text Start] ~~and~~ [Deleted Text End], Reclamation, [Deleted Text Start] ~~developed in coordination with~~ [Deleted Text End] ***and*** DWR to prevent impacts to downstream users following a transfer.

The last sentence on page 2-6 of the Draft EA/IS is revised as follows:

> The Seller could request that Reclamation store the non-CVP water in the CVP reservoir until Delta capacity is available, which would require an excess capacity contract with Reclamation ***and approval by the SWRCB for any water transferred under post-1914 water rights to be re-diverted to storage in Folsom Reservoir or San Luis Reservoir if the transferred water would be held in either location for greater than 30 days.***

## M.5 Section 3

***Page 3-1***

The first sentence of the first paragraph on page 3-1 of the Draft EA/IS is revised as follows:

> This section presents an overview of the physical environment and existing conditions that could be affected by the Proposed Action, as required by ***516 Departmental Manual 1- U.S. Department of the Interior Handbook of National Environmental Policy Act Implementing Procedures Section 1.2(b) and*** [Deleted Text Start] ~~43 CFR 46.310~~ [Deleted Text End] CEQA Guidelines Section 15063(d)(2).

The last sentence of the first paragraph on page 3-1 of the Draft EA/IS is revised as follows:

> Thus, ***bolded*** determinations of significance in the EA/IS are for SLDMWA's CEQA purposes only.

The second row in Table 3-1 on page 3-1 of the Draft EA/IS is revised as follows:

**Table 3-1. Resources Considered and Dismissed from Detailed Evaluation**

| Resource Topic | Reason for No Effect/No Impact Determination |
|---|---|
| Tribal Cultural Resources | The Proposed Action would not include ground-disturbing activities, land alteration, or construction [Deleted Text Start] ~~proposed~~ [Deleted Text End] that could disturb tribal cultural resources. |

***Page 3-2***

The first sentence of the first paragraph on page 3-2 of the Draft EA/IS is revised as follows:

> [Deleted Text Start] ~~The State Water Resources Control Board~~ [Deleted Text End] ***The SWRCB*** developed a water year (WY) classification system for the Sacramento Valley and San Joaquin Valley to annually assess the amount of water originating in each basin.

The last two sentences of the second paragraph on page 3-2 of the Draft EA/IS is revised as follows:

> In 2021 ***and 2022, both*** [Deleted Text Start] ~~a~~ [Deleted Text End] critical year***s***, [Deleted Text Start] ~~deliveries were cut back to five percent of Contract Total for South-of-Delta agricultural contractors. In 2022, another critical year, S~~ [Deleted Text End] ***s***outh-of-Delta agricultural contractors received a "0 percent" allocation. Allocations for [Deleted Text Start]~~S~~ [Deleted Text End] ***s***outh-of-Delta agricultural contractors occasionally improve, with a 100 percent allocation in 2023 and 50 percent allocation in 2024 (Reclamation 2024a).

The first sentence of the third paragraph on page 3-2 of the Draft EA/IS is revised as follows:

> Sellers (shown in Figure 2-1) include water rights holders on the Sacramento and San Joaquin rivers or their tributaries, including the Feather, Yuba, American, ***Stanislaus,*** and Merced [Deleted Text Start]~~r~~ [Deleted Text End] ***R*** ivers.

The last sentence of the third paragraph on page 3-2 of the Draft EA/IS is revised as follows:

> On the American River, Reclamation's Folsom Reservoir [Deleted Text Start] ~~captures and holds up to 1,010,000 AF of CVP water. The reservoir provides~~ [Deleted Text End] ***is managed for*** flood control for downstream areas, water supply, hydropower, flows for American River fisheries and helps to meet water quality needs in the Delta (Reclamation 2024c).

The second sentence of the second last paragraph on page 3-2 of the Draft EA/IS is revised as follows:

> Water from Lake Oroville is released to meet ***downstream water supply,*** export demands, generate power at the Hyatt Powerplant beneath Oroville Dam and at the

Thermalito Powerplant and support downstream fisheries and water quality objectives (DWR 2023a).

***Page 3-3***

The first sentence on page 3-3 of the Draft EA/IS is revised as follows:

With the exception of East Bay MUD, any transferred water ***from Sellers north of the Delta*** would need to be moved through the Delta to be delivered to these potential Buyers.

***Page 3-5***

The second sentence of the first paragraph on page 3-5 of the Draft EA/IS is revised as follows:

The exact percentage of the streamflow depletion factor will be assessed and determined on a regular basis by Reclamation and DWR, in consultation with [Deleted Text Start] ~~b~~ [Deleted Text End] ***B***uyers and [Deleted Text Start] ~~s~~ [Deleted Text End] ***S***ellers, based on the best technical information available at that time.

The first sentence of the third last paragraph on page 3-5 under Section 3.2.1 of the Draft EA/IS is revised as follows:

The [Deleted Text Start] ~~L~~ [Deleted Text End] ***l***ower Feather River extends from Lake Oroville down to its confluence with the Sacramento River. Water quality in the lower Feather River is substantially affected by agriculture and urbanization (Sacramento River Watershed Program 2024a).

***Page 3-6***

The first incomplete sentence on page 3-6 of the Draft EA/IS is revised as follows:

impairing the lower American [Deleted Text Start] ~~r~~ [Deleted Text End] ***R***iver include pesticides (bifenthrin and pyrethroids), indicator bacteria, PCBs, and water temperature (SWRCB 2022).

The following paragraph is added to the end of the "Seller Service Area" subsection on page 3-6 of the Draft EA/IS:

***Water released from New Melones Reservoir into the lower Stanislaus River provides water for water quality improvement (water temperature and instream dissolved oxygen). Upon entering the San Joaquin River, the water contributes to flow and water quality conditions at Vernalis (Reclamation 2005).***

***Page 3-7***

The first incomplete sentence on page 3-7 of the Draft EA/IS is revised as follows:

> relatively small compared to the amount of surface water used to irrigate agricultural fields in the Seller Service Area ***under the No Action/No Project Alternative***.

The first sentence of the second paragraph on page 3-7 of the Draft EA/IS is revised as follows:

> Under the Proposed Action, CVP and SWP reservoirs within the Seller Service Area would experience small changes in storage ***compared to the No Action/No Project Alternative***. which would not be of sufficient magnitude and frequency to result in substantive changes to water quality.

The following sentences of the third paragraph on page 3-7 of the Draft EA/IS is revised as follows:

> Under the Proposed Action, transfer water would largely flow through the Sacramento River, American River, Yuba River, Feather River, and San Joaquin River in the Seller Service Area. [Deleted Text Start] ~~In addition, water made available for transfer from May through September could be backed up in Shasta Reservoir for release in October and November. This operation would increase flows in these rivers later in the water year.~~ [Deleted Text End] The largest increase in flow could be approximately [Deleted Text Start]~~1,070~~[Deleted Text End] ***1,040*** cubic [Deleted Text Start] ~~foot~~ [Deleted Text End] ***feet*** per second (cfs) in [Deleted Text Start] ~~June~~ [Deleted Text End] ***August***. For comparison, flows in the Sacramento River near the [Deleted Text Start]~~I Street~~ [Deleted Text End] ***Freeport*** bridge from 2009 to [Deleted Text Start]~~2023~~ [Deleted Text End] ***2024*** averaged [Deleted Text Start]~~35,732~~ [Deleted Text End] ***15,265*** cfs in [Deleted Text Start] ~~June~~ [Deleted Text End] ***August*** (DWR 2024a). Changes in flows in the Seller Service Area from water transfers (slight increases [Deleted Text Start]~~April to May and~~ [Deleted Text End] July to ***November*** [Deleted Text Start]~~September, and slight decreases October to June~~[Deleted Text End]) ***compared to the No Action/No Project Alternative*** would not be at a frequency and magnitude large enough to affect water quality.

The second-to-last sentence of the third paragraph on page 3-7 of the Draft EA/IS is revised as follows:

> Under the Proposed Action, the maximum amount of water transferred would be limited to 250 TAF ***annually***, which is under the maximum water transfer volume limits and would be consistent with the water quality impacts analyzed in the *Long-Term Operations of the Central Valley Project and State Water Project Final Environmental Impact Statement* (Reclamation 2024e).

The first sentence of the last paragraph on page 3-7 of the Draft EA/IS is revised as follows:

> Storage in San Luis Reservoir may fluctuate due to [Deleted Text Start] ~~CVP and SWP exports associated with streamflow depletion from groundwater substitution transfers or due to~~ [Deleted Text End] additional water storage opportunities based on regulation of the delivery schedule of transfer water.

***Page 3-8***

The first sentence of third paragraph on page 3-8 of the Draft EA/IS is revised as follows:

> *Groundwater Levels.* Recent weather conditions in the Redding Area Groundwater basin have varied, with ***WY*** 2023 classified as a wet year and WY 2017 [Deleted Text Start] ~~was~~ [Deleted Text End] classified as the wettest year since 1983 (DWR 2017).

***Page 3-9***

The first complete sentence on page 3-9 of the Draft EA/IS is revised as follows:

> However, groundwater levels have shown some recovery during ***the*** recent wet years [Deleted Text Start] ~~in~~ [Deleted Text End] WY 2017, WY 2019, and WY 2023, and ***the*** below normal year [Deleted Text Start] ~~in~~ [Deleted Text End] WY 2018.

***Page 3-10***

The first sentence on page 3-10 of the Draft EA/IS is revised as follows:

> Recent weather conditions ***have*** varied, with WY 2023 classified as a wet year and WY 2017 classified as the wettest year since 1983 (DWR 2017).

The second paragraph on page 3-10 of the Draft IS/EA is revised to include the following sentences:

> Overall, Sacramento Valley Groundwater Basin average groundwater levels have declined since 2013, with some recovery in the past year since 2022. Past groundwater measurements suggest groundwater levels decline moderately during extended droughts and recover to pre-drought levels after subsequent wet periods (DWR 2021). ***A review of spring 2024 trend data shows that despite recent wet conditions, groundwater levels have not yet fully recovered from the past drought years (DWR 2024). Long-term trends show groundwater level declines along the western edge of the Sacramento Valley in the Sacramento River Hydrologic Region with notable increases in groundwater levels in the basins in the southeastern portion of the Sacramento Valley (DWR 2024).*** Appendix D (Figures D-16 through D-48) includes groundwater-level monitoring data to further characterize groundwater levels in the Sacramento Valley Groundwater Basin near the potential groundwater substitution Sellers. These figures show the groundwater level recorded over time (hydrograph) at

> specific wells. The hydrographs typically show a drop in groundwater levels in the summer/irrigation season and an increase in the winter/wet season.

The references cited in third, fifth and last sentences of the last paragraph on page 3-10 of the Draft EA/IS are revised as follows:

> Between 0.5 to 1.5 feet of land subsidence has been recorded east of the town of Zamora between 2008 and 2022 (DWR 2024 [Deleted Text Start] ~~h~~ [Deleted Text End] ***i***) due to groundwater withdrawal over several decades. At the Conaway Ranch extensometer in Yolo County, ground surface elevation decreased sharply in 2013 and 2014, a dry period (Figure D-54 in Appendix D). There was little to no recovery of ground surface elevation in the following years. DWR measured land subsidence of approximately 0.2 foot from 2012 to 2013 and an additional 0.6 foot from 2013 to 2014 (DWR 2024 [Deleted Text Start] ~~i~~ [Deleted Text End] ***j***). Ground surface elevation trends at these two locations suggest inelastic (i.e., permanent) land subsidence may have occurred. In Colusa County, approximately 2.1 feet of subsidence was measured in the Arbuckle area between 2008 and 2017 (Figure D-55 in Appendix D) (DWR 2024 [Deleted Text Start] ~~j~~ [Deleted Text End] ***k***).

***Page 3-11***

The reference cited in the second sentence of the first paragraph on page 3-11 of the Draft EA/IS is revised as follows:

> At the Sutter extensometer, ground surface elevation decreased between 2008 and 2016, a period of dry conditions (Figure D-56 in Appendix D) (DWR 2024 [Deleted Text Start] ~~j~~ [Deleted Text End] ***k***).

***Page 3-12***

The reference cited in the last sentence of the third paragraph on page 3-12 of the Draft EA/IS is revised as follows:

> DWR has prioritized the western portion of the San Joaquin Valley (Tracy, Delta-Mendota and Westside subbasins) as having a high potential for subsidence (DWR 2020). A continuous Global Position station near Los Banos has recorded over 2.15 feet of subsidence since 2005 (DWR 2024 [Deleted Text Start] ~~k~~ [Deleted Text End] ***m***).

The reference cited in the last sentence of the last paragraph on page 3-12 of the Draft EA/IS is revised as follows:

> Valley Water manages its groundwater use to avoid subsidence and has established subsidence thresholds equal to the current acceptable rate of 0.01 feet per year (Valley Water 2016). DWR has categorized the Santa Clara Valley subbasin as having a low potential for future land subsidence (DWR 2024 [Deleted Text Start] ~~k~~ [Deleted Text End] ***l***).

***Page 3-16***

The second to last sentence of the first paragraph on page 3-16 of the Draft EA/IS is revised as follows:

> Because the same volume of groundwater substitution pumping may occur over a longer period of time, when compared to the shorter groundwater modeling period, impacts ***related*** to groundwater levels, interaction with surface water, and land subsidence would be less than those modeled and described below.

***Page 3-18***

The second sentence of the second paragraph on page 3-18 of the Draft EA/IS is revised as follows:

> In addition, each entity making surface water available for transfer through groundwater substitution actions must confirm that the proposed groundwater pumping will be compatible with applicable state and local regulations and county groundwater management plans [Deleted Text Start] ~~(GMPs)~~ [Deleted Text End], as well as GSPs. Most GSPs in the Seller Service Area have been reviewed and approved by DWR; and all of the GSAs are required to meet the sustainability objectives identified under SGMA, thus providing a regulatory backstop to prevent substantial adverse effects.

The third paragraph on page 3-18 of the Draft EA/IS is revised to include the following sentence:

> Potential Sellers are required to prepare and submit a water transfer proposal to Reclamation a minimum of one month prior to the initiation of groundwater substitution pumping transfers. ***Potential Sellers are encouraged to electronically submit their water transfer proposal through the DWR's online web application. *** Reclamation (in coordination with DWR) will review water transfer proposals and those groundwater substitution pumping transfers cannot start prior to Reclamation's approval. Water transfer proposals must include well data collected by potential [Deleted Text Start] ~~s~~ [Deleted Text End] ***S***ellers consistent with the data requirements identified in the Water Transfers Information Checklist that is included in Reclamation and DWR's *Water Transfer White Paper*.[15]

The second sentence of the last paragraph on page 3-18 of the Draft EA/IS is revised, and a footnote is added as follows:

> Sellers must demonstrate that substantial [Deleted Text Start] ~~inelastic~~ [Deleted Text End] land subsidence is not occurring within the area of a proposed participating transfer pumping well***[16]*** in accordance with minimum thresholds identified in their local DWR approved GSP(s), subject to Reclamation's verification; and if it is occurring, the participating transfer pumping well would not be allowed to participate in groundwater substitution transfers, ensuring adverse effects of the Proposed Action would not occur in areas vulnerable to land subsidence.

*** [16] A transfer pumping well is a production well used to pump groundwater as part of a groundwater substitution transfer under the Proposed Action.***

***Page 3-19***

The third sentence of the second paragraph on page 3-19 of the Draft EA/IS is revised, and a footnote is added as follows:

> Depending on local conditions, additional groundwater-level monitoring may be required near ecological resource areas such as areas with mapped groundwater dependent ecosystems. Sellers must identify, in the transfer proposal, suitable monitoring wells***[17] that meet the requirements *** [Deleted Text Start] ~~as defined~~ [Deleted Text End] below for review and approval by Reclamation (in coordination with DWR).
>
> ***[17] A suitable monitoring well is used to monitor effects from groundwater substitution transfer pumping. A suitable monitoring well must meet the three requirements stated in the next paragraph.***

The third and fourth paragraphs on page 3-19 of the Draft EA/IS are revised and the following footnote is added:

> The monitoring well network shall include the participating transfer pumping well and a suitable groundwater-level monitoring well(s) in the vicinity of the participating transfer pumping well(s). Suitable monitoring well(s) are required to: (1) be within a radius of between 500 feet and 2 miles from a Seller's groundwater substitution well; (2) be located within the same Bulletin 118 subbasin as the groundwater substitution pumping well; and (3) have a screen depth(s) similar to the groundwater substitution pumping well(s). The suitable monitoring well may be established at a different radius if more well-specific data can be presented to Reclamation demonstrating a suitable monitoring well that is outside the radius established above. The request to use a different radius for the suitable monitoring well should be submitted with the water transfer proposal for review and approval by Reclamation (in coordination with DWR). ***If any SGMA representative monitoring sites (RMSs)[19] meet the suitable monitoring well requirements presented above, then the RMS shall be included as the suitable monitoring well.*** At least one suitable monitoring well must be paired with a participating transfer pumping well. More than one participating transfer pumping well may be paired with a suitable monitoring well, provided the requirements above are met. Suitable monitoring wells with short historical records could be considered, but short records could limit the transfer because the measured historical low groundwater level (described below) may not reflect persistent drier conditions. In this situation, the lowest groundwater level for the short period of record would [Deleted Text Start] ~~be used because the lowest groundwater level recorded in a short period of record would~~ [Deleted Text End] likely be higher than the historical low during a prior drought period [Deleted Text Start], ~~the~~ [Deleted Text End]. ***A*** groundwater level trigger[Deleted Text

Start]~~s~~ [Deleted Text End] (described below) [Deleted Text Start] ~~would~~ [Deleted Text End] ***based on the lowest groundwater level for a short period of record would*** be more restrictive [Deleted Text Start] ~~(i.e.,~~ [Deleted Text End] ***than a trigger based on a historical low because*** the lowest [Deleted Text Start] ~~recorded~~ [Deleted Text End] groundwater level ***for the short period*** could be reached more quickly during transfer-related groundwater substitution pumping than [Deleted Text Start] ~~occurred in the short period of record when~~ [Deleted Text End] ***the historically low*** groundwater [Deleted Text Start] ~~levels were higher).~~ [Deleted Text End] ***level*.**

In addition to monitoring at the participating transfer pumping well and suitable monitoring well(s), Sellers must also identify [Deleted Text Start] ~~the nearest required representative monitoring wellpoints (RMPs) and measurable objective for chronic lowering of groundwater levels from the GSP(s) in the Seller Service Area. Monitoring wells in the DWR approved GSPs may be miles away from the participating transfer pumping well and may have a delayed detection of impacts related to third parties and conditions which may cause land subsidence.~~ [Deleted Text End] ***all RMS wells within the Sellers' Service Area and within a two-mile radius of the service area boundary should be identified in their transfer proposal.***

***[19] A SGMA representative monitoring site (RMS) is a well identified in a GSP under SGMA for monitoring the sustainability indicator chronic lowering of groundwater levels. RMS wells include defined quantitative thresholds: minimum threshold and measurable objective.***

***Page 3-19 and Page 3-20***

The last sentence on page 3-19, continuing onto page 3-20 of the Draft EA/IS is revised as follows:

Sellers will collect measurements of groundwater levels in the participating transfer pumping wells (those wells being used in-lieu of diverting surface water that is being made available for transfer [Deleted Text Start] ~~),~~ [Deleted Text End] ***) and*** the suitable monitoring well( [Deleted Text Start]s)~~, and any other monitoring wells~~ [Deleted Text End] in the monitoring network.

***Page 3-20***

The third bullet on page 3-20 of the Draft EA/IS was deleted as follows:

- [Deleted Text Start] ~~Additionally, Sellers will also monitor the RMPs from the DWR approved GSPs in the Seller Service Area monthly.~~ [Deleted Text End]

The second to last paragraph on page 3-20 of the Draft EA/IS is revised as follows:

The primary criteria used to identify ***and avoid*** potentially significant impacts ***related*** to groundwater levels are [Deleted Text Start] ~~the basin management~~

~~objectives (BMOs) set by county GMPs and GSPs. The Sacramento Valley, and Shasta, Tehama, Glenn, Butte, Colusa, Sutter, Yuba, Nevada, Placer, Sacramento, and Yolo counties have established GMPs to provide guidance in managing groundwater resources. GSPs have been developed~~ [Deleted Text End] ***historical low groundwater levels** *for the [Deleted Text Start] ~~Anderson, Enterprise, Colusa, Sutter, Yolo, North American, South American, and Solano~~ [Deleted Text End] ***participating transfer pumping wells and the suitable monitoring wells. Other criteria that may be used, if the RMS is selected as a suitable monitoring well and, therefore, the RMS meets the suitable monitoring well criteria presented above, are minimum thresholds for*** groundwater [Deleted Text Start] ~~subbasins. In areas where quantitative BMO groundwater level triggers exist,~~ [Deleted Text End] ***levels at RMSs set by GSAs and identified in the DWR approved GSPs.*** Sellers will manage groundwater levels to [Deleted Text Start] ~~these triggers and~~ [Deleted Text End] ***maintain them above the identified historical low groundwater level (trigger). Sellers*** will initiate the increased frequency of monitoring (discussed in a later subsection) if groundwater levels reach the threshold. [Deleted Text Start] ~~In areas where quantitative BMOs do not exist, Sellers will manage groundwater levels to maintain them above the identified historical low groundwater level (trigger)~~ [Deleted Text End] and will initiate the mitigation plan (discussed in a later subsection) if groundwater levels reach the trigger. [Deleted Text Start] ~~Most of the quantitative BMOs within the Seller Service Area are tied to historical low groundwater levels. Therefore, the use of historical low groundwater levels in areas without quantitative BMOs is consistent with the approach for areas with quantitative BMOs~~. [Deleted Text End] ***Monitoring and operating to these groundwater level triggers and thresholds are the best available tools to avoid potential impacts to the environment as well as to third parties, and to avoid irreversible subsidence. The potential for irreversible subsidence would only occur when groundwater levels are below historic low levels (U.S. Geological Survey 2018); therefore, this measure would also avoid any potential irreversible (permanent) subsidence. ***

The first sentence of the last paragraph on page 3-20 of the Draft EA/IS is revised as follows:

As part of a Seller's transfer proposal subject to Reclamation's (in coordination with DWR) review and approval, the Seller will need to identify a proposed groundwater level trigger for each pumping well and each suitable monitoring well (established through [Deleted Text Start] ~~the local BMO or~~ [Deleted Text End] the historical low groundwater level for that well).

***Page 3-21***

The third paragraph on page 3-21 of the Draft EA/IS is revised to include the following sentence:

Agricultural Sellers shall measure specific conductance in samples from each participating transfer pumping well. Samples shall be collected when the Seller first initiates pumping, monthly during the pumping period, and at the termination of transfer-related pumping. ***Sellers shall provide details such as sample location(s),**

**sample well depth, sample construction information and distance from sample location(s) to the participating transfer pumping well.***

***Page 3-23***

The second sentence on page 3-23 of the Draft EA/IS is revised as follows:

> Monitoring of these areas would include a pre-pumping vegetation assessment of GDEs within a ***0***.5-mile radius of the pumping well followed by monthly assessments during transfers and assessment near the end of the pumping season but prior to fall/autumn leaf-drop.

***Page 3-24***

The first sentence and fourth sentence of the third paragraph on page 3-24 of the Draft EA/IS are revised as follows:

> If groundwater level triggers are reached at the participating transfer pumping well(s) or the associated suitable monitoring well (s) (***established through the*** [Deleted Text Start] ~~either BMO triggers or~~ [Deleted Text End] historical low groundwater levels), transfer-related pumping would stop from the participating transfer pumping well for which the trigger was reached. Transfer-related pumping could not continue from this well (in the same year or a future year) until groundwater levels recovered to above the groundwater level trigger. Any volume of water pumped at a participating transfer pumping well while a groundwater level is at or below a trigger, for that participating transfer pumping well or associated suitable monitoring well, would not be credited in the groundwater substitution transfer. If groundwater level thresholds (i.e., ten feet above the groundwater level trigger [identified historical low groundwater level [Deleted Text Start] ~~or quantitative BMO if it exists~~ [Deleted Text End]]) are reached or exceeded at the participating transfer pumping well(s) or the associated suitable monitoring well(s), the monitoring frequency would increase in order to evaluate and predict the reduction in groundwater levels, and the transfer-related pumping would stop from the participating transfer pumping when the trigger is reached.

***Page 3-25***

The second and the third sentence of the last paragraph on page 3-25 of the Draft EA/IS is revised as follows:

> Mitigation Measure GW-1 implements a monitoring program, through a sufficient monitoring well network that includes the participating transfer pumping well ***(s)*** and a suitable groundwater-level monitoring well(s) in the vicinity of the participating transfer pumping well(s). Groundwater level triggers (identified historical low groundwater level [Deleted Text Start] ~~or quantitative BMO if it exists~~) [Deleted Text End] and thresholds (established at ten feet above the trigger) would be established for wells in the monitoring well network.

***Page 3-26***

The second complete sentence on page 3-26 of the Draft EA/IS is revised as follows:

> [Deleted Text Start] ~~Irreversible~~ [Deleted Text End] ***The potential for irreversible*** subsidence would only occur when groundwater levels are below historic low levels ([Deleted Text Start] ~~USGS 2017~~ [Deleted Text End] ***U.S. Geological Survey 2018***); therefore, this measure would also avoid any potential irreversible (permanent) subsidence.

***Page 3-31***

The second last sentence of the second paragraph on page 3-31 of the Draft EA/IS is revised as follows:

> [Deleted Text Start] ~~In addition to only using electric wells~~ [Deleted Text Start] ***Additionally***, Sutter Mutual Water Company must either reduce the requested transfer volume to 40,000 AF per year or must convert existing fossil-fuel fired pumps to electric to meet demand. Mitigated emissions for VOC and NOx are provided in Tables G-79 and G-80 of Appendix G.

***Page 3-33***

Table 3-5 on page 3-33 is revised as follows:

**Table 3-5. Cumulative Mitigated Emissions in Attainment Areas**

| Air District | VOC (tpy) | NOx (tpy) | CO (tpy) | SOx (tpy) | $PM_{10}$ (tpy) | $PM_{2.5}$ (tpy) |
|---|---|---|---|---|---|---|
| Colusa County APCD | [Deleted Text Start]~~8~~ [Deleted Text End]***5*** | [Deleted Text Start]~~77~~[Deleted Text End]***42*** | [Deleted Text Start]~~28~~[Deleted Text End]***14*** | [Deleted Text Start]~~7~~[Deleted Text End]***3*** | [Deleted Text Start]~~5~~[Deleted Text End]***3*** | [Deleted Text Start]~~5~~[Deleted Text End]***3*** |
| Feather River AQMD[1] | [Deleted Text Start]~~3~~[Deleted Text End]***2*** | [Deleted Text Start]10 [Deleted Text End]***4*** | [Deleted Text Start]~~15~~[Deleted Text End] ***7*** | ***<***1 | <1 | <1 |
| Glenn County APCD | 4 | [Deleted Text Start]~~54~~[Deleted Text End]***44*** | [Deleted Text Start]~~13~~[Deleted Text End]***11*** | 4***3*** | 4***3*** | 4***3*** |
| Yolo/Solano AQMD | 1 | 9 | 3 | 1 | <1 | <1 |

The first sentence of the last paragraph on page 3-33 of the Draft EA/IS is revised as follows:

> Any selling agency with potentially significant emissions, as determined by this EA/IS, will be required to submit information ***in the water transfer proposal***, prior to making water available for transfer through groundwater substitution actions, that documents the wells that would be utilized to support those groundwater substitution actions to stay below the thresholds.

***Page 3-35***

The first sentence of the fourth paragraph on page 3-35 of the Draft EA/IS is revised as follows:

> Emissions from groundwater substitution would be up to [Deleted Text Start] ~~17,705~~ [Deleted Text End] ***14,746 *** metric tons $CO_2e$ per year (detailed calculations are provided in Appendix H), which is lower than the CARB cap-and-trade threshold of 25,000 metric tons $CO_2e$ per year.

***Page 3-39***

The second sentence on page 3-39 of the Draft EA/IS is revised as follows:

> Under the No Action/No Project Alternative, the rate and timing of flows in rivers and creeks in the Sacramento and San Joaquin [Deleted Text Start]~~r~~ [Deleted Text End] ***R***iver watersheds would be similar to existing conditions.

***Page 3-40***

The second sentence of the third paragraph on page 3-40 of the Draft EA/IS is revised as follows:

> Under the No Action/No Project Alternative, the rate and timing of flows in rivers and creeks in the Sacramento and San Joaquin [Deleted Text Start] ~~r~~ [Deleted Text End] ***R***iver watersheds would be similar to existing conditions.

***Page 3-44***

The third row of Table 3-6 on page 3-44 of the Draft EA/IS is revised as follows:

**Table 3-6. Summary of Modeled Flow Reduction in Seller Service Area Creek under Proposed Action in Comparison to No Action/No Project Alternative (No Action)**

| Waterbody | >1cfs depletion compared to the modeled No Action Streamflow threshold exceeded? | >10% average monthly flow reduction compared to the modeled No Action Streamflow threshold exceeded? | Summary of Effects |
|---|---|---|---|
| Little Chico Creek, Wilkins Slough Canal, and Spring Valley Creek | No | Yes | Although modeled reductions are greater ***than*** ten percent of the monthly averages under the Proposed Action in comparison to the No Action/No Project Alternative, these changes are less than one cfs which is within the model precision and beyond the model's ability to measure actual changes. Therefore, the range of flows modeled under the Proposed Action are within the range of flows under the No Action/No Project Alternative. Consequently, flow changes are not of sufficient magnitude to affect fish or wildlife species. |

***Page 3-46***

The first sentence of the second paragraph on page 3-46 of the Draft EA/IS is revised as follows:

> Giant garter snake ***s*** (*Thamnophis gigas*) have been observed in Colusa Basin Drain and Lower Sycamore Slough, and may be present in Lower Sycamore Slough and East Side/Cross Canal.

***Page 3-47***

The third sentence of the first paragraph on page 3-47 under Section 3.7.2 is revised as follows:

> Therefore, substantial impacts to riverine or riparian habitat conditions ***that would,*** hinder fish or wildlife movement or limit access to spawning areas ***are not expected. ***

## M.6 Section 4

***Page 4-1***

The second sentence on page 4-1 of the Draft EA/IS is revised as follows:

> Appendix K summarizes the cumulative projects analyzed in this EA/IS, which include other potential water transfers, ***the*** Healthy Rivers and Landscapes Program, the Coordinated Operations Agreement, the Lower Yuba River Accord, ***the*** Central Valley Salinity Alternatives for Long-term Sustainability, and ***the*** Water Reduction Program Agreement.

The second sentence on page 4-1 of the Draft EA/IS is revised as follows:

> The impacts [Deleted Text Start] ~~for~~ [Deleted Text End] ***on*** these resources would be less than significant under the Proposed Action and the cumulative project considered would also not have a significant impact on these resources and, therefore, would not result in a cumulatively considerable impact.

The fifth sentence in Section 4.1 on page 4-1 of the Draft EA/IS is revised as follows:

> Other groundwater substitution transfers [Deleted Text Start] ~~facilitated~~ [Deleted Text End] ***considered for approval*** by Reclamation and DWR using federal and state facilities would be required to have measures similar to Mitigation Measure WS-1 to protect river flows and, therefore, would not result in a cumulatively considerable impact.

The third sentence in Section 4.2 on page 4-1 of the Draft EA/IS is revised as follows:

> As described in Section K.1.1. and summarized in Table K-1, cumulative water transfers are well below the 600***,000*** [Deleted Text Start] ~~T~~ [Deleted Text End] AF maximum transfer amount in critical and dry years and typically below the 360***,000*** [Deleted Text Start] ~~T~~ [Deleted Text End] AF ***maximum transfer amount*** for all other years, with the largest transfer in 2015 of 344,000 AF.

***Page 4-2***

The second sentence of the first paragraph on page 4-2 of the Draft EA/IS is revised as follows:

> Other groundwater substitution transfers [Deleted Text Start] ~~facilitated~~ [Deleted Text End] ***considered for approval*** by Reclamation and DWR using federal and state facilities would be required to have measures similar to Mitigation Measure GW-1 to protect groundwater resources.

The last paragraph of Section 4.3 on page 4-2 of the Draft EA/IS is revised as follows:

> The Water Reduction Program Agreement, discussed in Appendix K, would also occur during the same time as the Proposed Action ***and includes the Sacramento River***

**Settlement Contractor service area which overlaps with the Proposed Action project area. Under the Water Reduction Program Agreement, the Sacramento River Settlement Contractors would enter into an Agreement with Reclamation to forego a larger percentage of their contracted supply in certain drought years under two phases: from 2025 to 2035 and from 2036 to 2045 (Glenn-Colusa Irrigation District 2024). Water reduction activities would be implemented in response to the water reductions, including groundwater substitution pumping, cropland idling, cropland shifting, and conservation, as well as the implementation of drought-resiliency projects. It is anticipated an additional 167,100 AF of groundwater would be pumped under Phase 1 and 33,420 AF of groundwater would be pumped during Phase 2 (Glenn-Colusa Irrigation District 2024). As part of the Agreement, there would be an increased use of groundwater to irrigate crops, which could potentially result in reduced groundwater levels in the vicinity of the groundwater pumps. The EIR prepared for the Agreement includes Mitigation Measure HYD-2, which requires all new groundwater well installation and all groundwater well operation to occur in accordance with targets and requirements set by applicable GSA-managed GSPs, or where there are no GSPs, in accordance with SGMA. The EIR concluded that operation of groundwater wells in accordance with applicable GSA-managed GSPs and SGMA would reduce groundwater impacts to less than significant with mitigation. With implementation of Mitigation Measure GW-1 under the Proposed Action and the operation of groundwater wells in accordance with applicable GSA-managed GSPs and SGMA under the Agreement, the Proposed Action's incremental contribution to groundwater resources impacts is insubstantial and would not result in a cumulatively considerable contribution to effects on groundwater.*** [Deleted Text Start]~~The Water Reduction Program Agreement would implement activities in response to water reductions but would not include groundwater substitution pumping. Therefore, there would be no additional groundwater pumping from the Water Reduction Program Agreement and would not result in a cumulatively considerable impact.~~ [Deleted Text End]

***Page 4-3***

The second sentence in the last paragraph of Section 4.7 on page 4-3 is revised as follows:

[Deleted Text Start] ~~Additionally, the Proposed Action would result in a slight decrease in Sacramento River flows if water made available for transfer is backed up into Shasta Reservoir and delivered between July and November (this operation would only occur with Reclamation's prior approval).~~ [Deleted Text End]

The sixth sentence in the last paragraph of Section 4.7 on page 4-3 of the Draft EA/IS is revised as follows:

Other water transfers [Deleted Text Start] ~~facilitated~~ [Deleted Text End] ***considered for approval*** by Reclamation and DWR using federal and state facilities would be required

to have similar conservation measures in place to protect special-status species, as shown in the *Water Transfer White Paper* (Reclamation and DWR 2019).

## M.7 Appendix A

***Page A-5***

The acronym list on page A-5 of the Draft EA/IS is revised as follows:

[Deleted Text Start] ~~BMO basin management objective~~ [Deleted Text End]

BOs Biological Opin***i***ons

[Deleted Text Start] ~~GMP Groundwater Management Plan~~ [Deleted Text End]

***Page A-6***

The acronym list on page A-6 of the Draft EA/IS is revised as follows:

***RMS representative monitoring site***

SOx sulf***u***[Deleted Text Start]~~e~~[Deleted Text End]r

***Page A-8***

The following reference was added to Section 1 on page A-8 of the Draft EA/IS:

***State Water Resources Control Board (SWRCB). 2013. Water Transfer Program Information. Available at: https://www.waterboards.ca.gov/waterrights/water_issues/programs/water_transfers/docs/transproginfo.pdf. [Accessed on June 24, 2025].***

The following reference was added to Section 2 on page A-8 of the Draft EA/IS:

***Bureau of Reclamation (Reclamation). 2024. Long-Term Operations of the Central Valley Project and State Water Project Draft Environmental Impact Statement. Appendix E – Draft Alternatives. pp E-26. July. Available at: https://www.usbr.gov/mp/nepa/includes/documentShow.php?Doc_ID=54797. [Accessed on October 22, 2024].***

The following reference was added to Section 3 on page A-8 of the Draft EA/IS:

Bureau of Reclamation (Reclamation). ***2005. Plan of Action New Melones Revised Plan of Operations, October 2005. Available at: https://www.usbr.gov/mp/ccao/nmrpo/docs/plan-action-10-25-05.pdf [Accessed on July 24, 2021]**

———. *2015. SACFEM2013: Sacramento Valley Finite Element Groundwater Flow Model User's Manual. Prepared by CH2M HILL and MBK Engineers, Inc. February.

***Page A-10***

The following California Department of Water Resources (DWR) references on page A-10 of the Draft EA/IS is revised as follows:

2024a. Sacramento River at [Deleted Text Start] ~~I Street~~ [Deleted Text End] ***Freeport*** ([Deleted Text Start] ~~IST~~ [Deleted Text End] ***FPT***) Mean Daily Flow. Available at: https://cdec.water.ca.gov/dynamicapp/selectQuery. [Accessed on [Deleted Text Start] ~~August 12, 2024~~[Deleted Text End] ***July 7, 2025***].

***Page A-11***

The following California Department of Water Resources (DWR) references on page A-11 of the Draft EA/IS is revised as follows:

* **2024h. California's Groundwater Conditions: Semi-Annual Update. Available at: https://data.cnra.ca.gov/dataset/ae160cf2-51d8-450d-82cc-2708e63ccd95/resource/7dec17f2-6674-42bc-a743-24b4edce9261/download/finaldraft_oct_2024_semi_annual_groundwater_conditions_report.pdf. [Accessed on May 22, 2025]. ***

2024[Deleted Text Start] ~~h~~ [Deleted Text End] ***i***. Zamora Extensometer 11N01E24Q008M Land Subsidence Extensometer Plot. Available at: ***https://wdl.water.ca.gov/waterdatalibrary/StationDetails.aspx?dateFrom2=01%2f01%2f1900&StationTypeCode=&Station=11N01E24Q008M&IncludeVarData=False&SelectedAll=False&dateTo2=01%2f01%2f1900&source=search.*** [Accessed on August 12, 2024].

2024[Deleted Text Start]~~i~~ [Deleted Text End] ***j***. Conaway Ranch Extensometer 09N03E08C004M Land Subsidence Extensometer Plot. Available at: https://wdl.water.ca.gov/WaterDataLibrary/StationDetails.aspx?dateFrom2=01%2f01%2f1900&StationTypeCode=&Station=09N03E08C004M&IncludeVarData=False&SelectedAll=False&dateTo2=01%2f01%2f1900&source=search. [Accessed on August 12, 2024].

2024[Deleted Text Start]~~j~~ [Deleted Text End] ***k*** . Arbuckle Extensometer 16N02W05B001M Land Subsidence Extensometer Plot. Available at: https://wdl.water.ca.gov/WaterDataLibrary/StationDetails.aspx?dateFrom2=01%2f01%2f1900&StationTypeCode=&Station=16N02W05B001M&IncludeVarData=False&SelectedAll=False&dateTo2=01%2f01%2f1900&source=search. [Accessed on August 12, 2024].

2024[Deleted Text Start]~~k~~ [Deleted Text End] ***l***. Sutter Extensometer 11N04E04N005M Land Subsidence Extensometer Plot. Available at: https://wdl.water.ca.gov/WaterDataLibrary/StationDetails.aspx?dateFrom2=01%2f01%2f1900&StationTypeCode=&Station=11N04E04N005M&IncludeVarData=False&SelectedAll=False&dateTo2=01%2f01%2f1900&source=search. [Accessed on August 12, 2024].

2024[Deleted Text Start]~~l~~ [Deleted Text End] ***m*** . SGMA Data Viewer- Land Subsidence. GPS Stations - Station ID - P303. 37.05438314,-120.7052952. Available at: https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer#currentconditions [Accessed on August 12, 2024]

***Page A-16***

The following reference is added to Section 4 on page A-16 of the Draft EA/IS:

***Glenn-Colusa Irrigation District. 2024. Water Reduction Program Agreement Between the Sacramento River Settlement Contractors Nonprofit Mutual Benefit Corporation, Individual Sacramento River Settlement Contractors, and the U.S. Bureau of Reclamation Project Final Environmental Impact Report. December 2024. Available at: https://files.ceqanet.opr.ca.gov/300312-3/attachment/ZA0DFKkmA1Sc-arF-OgnGp1CtdKH5H8sb2ToFlZFnnik7l6CprQu24mkvOJpA6uYaGhqBnuyx3-O1qVE0. [Accessed on June 23, 2025].***

## M.8 Appendix B

***Page B-1***

The third sentence in Section B.1.2 on page B-1 of the Draft EA/IS is revised as follows:

[Deleted Text Start] ~~Reclamation may be asked to reoperate the CVP to deliver the water made available by reservoir release for transfer, and the reoperation~~ [Deleted Text End] ***CVP and SWP facilities would be operated consistent with the 2024 Biological Opinions (BOs) or the governing BO(s), as well as, any other operating agreements, authorizing documents, or any other applicable legal obligations in place at the time a transfer is implemented. Operational flexibility*** could be limited based on specific hydrologic conditions, biological conditions, or water quality issues.

The last sentence in Section B.1.2 on page B-1 of the Draft EA/IS is revised as follows:

[Deleted Text Start] ~~Reclamation cannot guarantee that it will be able to reoperate the CVP at specific times to accommodate water transfers.~~ [Deleted Text End] ***Reclamation can only accommodate water transfers and would only consider proposals that***

**may require the reoperation of CVP when it does not adversely impact CVP operations.***

***Page B-3***

The following sentences in the third paragraph of Section B.1.2.1 on page B-3 of the Draft EA/IS are revised as follows:

> In 2021, deliveries were cut back to five percent of Contract Total for [Deleted Text Start]S[Deleted Text End]***s***outh-of-Delta agricultural contractors. In 2022 ***and 2022, both critical years, s***[Deleted Text Start]S[Deleted Text End]outh-of-Delta agricultural contractors received a "0 percent" allocation. Allocations for [Deleted Text Start]S[Deleted Text End]***s***outh-of-Delta agricultural contractors occasionally improve, with a 100 percent allocation in 2023 and 50 percent allocation in 2024 (Reclamation 2024a).

***Page B-8***

The second sentence in Section B.2.2 on page B-8 of the Draft EA/IS is revised as follows:

> The Proposed Action would involve a range of potential transfers of up to 250,000 AF ***annually (cumulative of all transfers)*** to SLDMWA member agencies, Contra Costa WD, and East Bay MUD.

***Page B-9***

The first incomplete sentence on page B-9 of the Draft EA/IS is revised as follows:

> potential transfers is assumed to be available; however, it is not possible to determine which negotiations would be successful, what combination of Sellers would ultimately transfer water to the Buyers, or how much water would ultimately be transferred to the Buyers due to demand and export capacity at the [Deleted Text Start]~~Project~~[Deleted Text End] ***CVP or SWP*** pumps.

The last paragraph in Section B.2.2 on page B-9 of the Draft EA/IS is revised and footnotes are added as follows:

> Reclamation would evaluate each proposal individually, as it is received, to determine if it meets the terms of the Settlement Contract or other water service or repayment contracts with Reclamation, ***the Sellers' underlying water rights[3]***, the *DRAFT Technical Information for Preparing Water Transfer Proposals* (Reclamation and DWR 2019), and local, state, and federal law. ***Water transfer proposals must include the information requirements for groundwater substitution and reservoir reoperation identified in the Water Transfers Information Checklist that is included in Reclamation and DWR's Water Transfer White Paper[4].*** Reclamation has followed this process in past years when reviewing and subsequently approving the transfer of water (such as when approving the transfer of water in 2013, 2014, 2015, 2020, and 2021).

***Reclamation also ensures that all transfers under post-1914 water rights, including all proposed reservoir storage water transfers, obtain approval for a change in place of use and point(s) of rediversion from the SWRCB and enter into a reservoir reoperation agreement with Reclamation, which in the case of the proposed transfer in New Melones Reservoir would also require amendment of the existing water rights settlement agreement.*** [Deleted Text Start]~~Reclamation may reoperate~~ [Deleted Text End] CVP facilities***[5]*** [Deleted Text Start]~~and the State may reoperate~~ [Deleted Text End] SWP facilities***[6] would be operated consistent with the 2024 BOs or the governing BO(s), as well as, any other operating agreements, authorizing documents, or any other applicable legal obligations in place at the time a transfer is implemented*** [Deleted Text Start]~~to change the pattern of water releases from storage~~ [Deleted Text End] to deliver water made available for transfer to potential Buyers. ***In addition, a Buyer or Seller would not be allowed to participate in an exchange within the CVP if that exchange results in Reclamation not meeting applicable laws, regulations, BOs, court orders, or any other applicable legal obligations in place at the time of the exchange. Any such exchange would be at the sole discretion of Reclamation. A Buyer or Seller would not be allowed to participate in an exchange within the SWP if that exchange results in DWR not meeting applicable laws, regulations, BOs and incidental take permits, court orders, or any other applicable legal obligations in place at the time of the exchange. Any such exchange would be at the sole discretion of DWR.***

***[3]If water rights need to be changed to accomplish the transfer, the transferring water right holder must petition the State Water Resource Control Board for a temporary change in water rights (SWRCB 2013).***

***[4]At the time of development of this EA/IS, the 2019 Water Transfers White Paper (Reclamation and DWR 2019) document governs the water transfers evaluated in this EA/IS. The Water Transfers White Paper is updated by Reclamation and DWR when necessary and the version of that governing document and the Water Transfers Information Checklist it includes shall be used by Sellers to develop their water transfer proposals. See Appendix E3 for the current Water Transfers Information Checklist (Reclamation and DWR 2019).***

***[5]Any non-CVP water that would use CVP facilities would need a Warren Act contract, which is subject to NEPA compliance. The Warren Act of February of February 21, 1911, authorized the United States to execute contracts for the conveyance and storage of non-project water in federal facilities when excess capacity exists.***

***[6]Agreements with DWR may be required for use of SWP facilities to facilitate the transfer of water.***

The third sentence of the last paragraph under Section B.2.2.1 on page B-9 of the Draft EA/IS is revised as follows:

> [Deleted Text Start]~~***Under certain conditions and with prior approval by Reclamation, water could be "backed up" into Shasta Reservoir between April and June and delivered during the transfer window between July and November.***~~
> [Deleted Text End]

***Page B-10***

Figure B-5 on page B-10 of the Draft EA/IS is revised to remove Glenn-Colusa Irrigation District as follows:

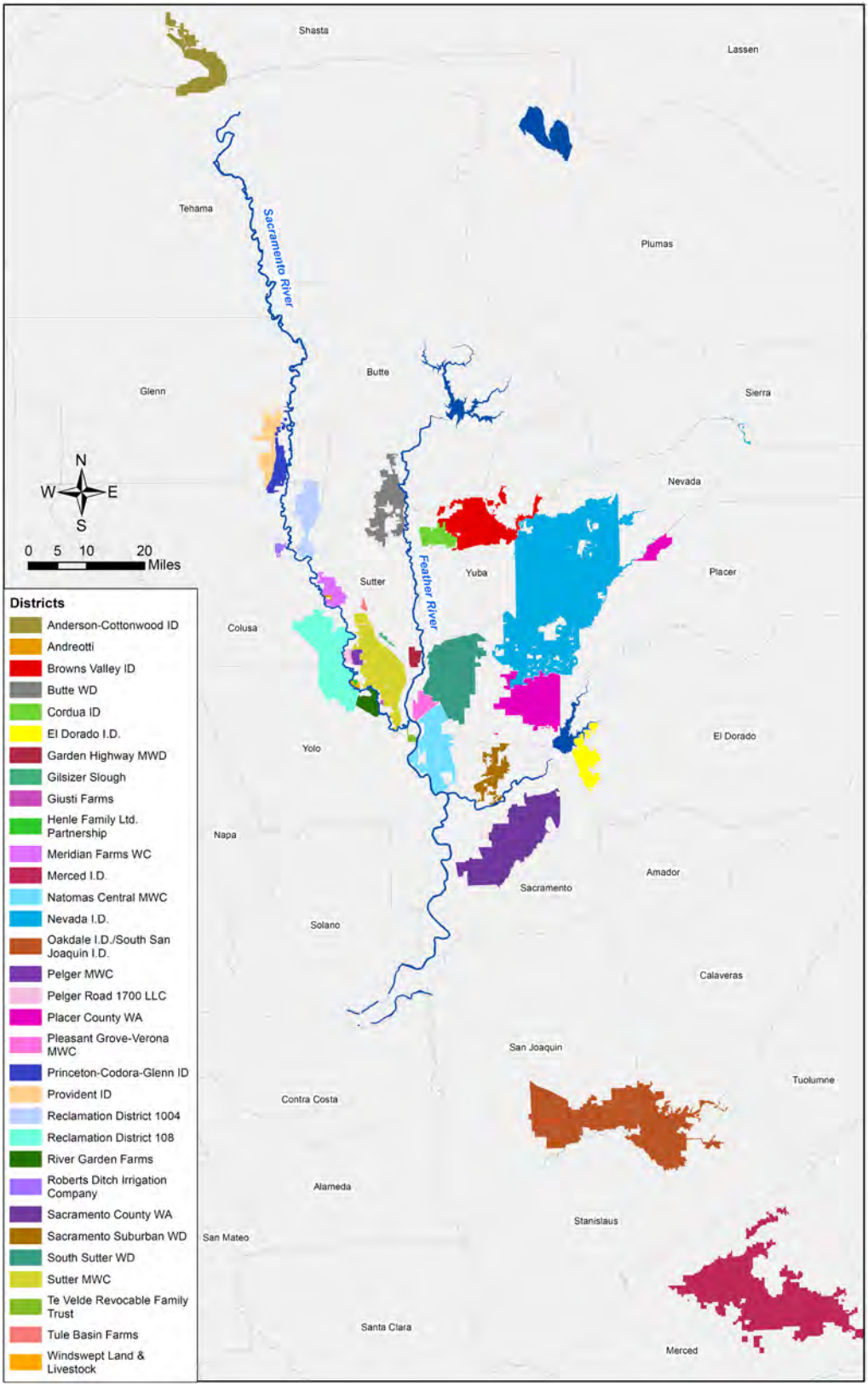



**Figure B-5. Locations of Potential Sellers**

***Page B-11 and B-12***

Table B-2 on page B-11 is revised to remove Glenn-Colusa Irrigation District. The second note for Table B-2 on page B-12 is revised as follows:

**Table B-2. Proposed Action Potential Sellers (Upper Limits)**

| Water Agency | Maximum Potential Transfer (acre-feet per year)[1] |
|---|---|
| **Sacramento River Area of Analysis** | |
| Anderson-Cottonwood Irrigation District | 4,900 |
| Andreotti | 2,500 |
| Giusti Farms | 1,000 |
| [Deleted Text Start] ~~Glenn-Colusa Irrigation District~~[2] [Deleted Text End] | [Deleted Text Start] ~~23,600~~ [Deleted Text End] |
| Henle Family Limited Partnership | 600 |
| Meridian Farms Water Company | 6,000 |
| Natomas Central Mutual Water Company | 30,000 |
| Pelger Mutual Water Company | 4,750 |
| Pelger Road 1700 LLC | 5,600 |
| Pleasant Grove-Verona Mutual Water Company | 18,000 |
| Princeton-Codora-Glenn Irrigation District | 8,000 |
| Provident Irrigation District | 11,500 |
| Reclamation District 108 | 15,000 |
| Reclamation District 1004 | 7,175 |
| Roberts Ditch Irrigation Company | 3,460 |
| River Garden Farms | 10,000 |
| Sutter Mutual Water Company | 50,000 |
| Te Velde Revocable Family Trust | 7,094 |
| Windswept Land and Livestock | 1,775 |
| **American River Area of Analysis** | |
| El Dorado Irrigation District | 8,000 |
| Placer County Water Agency | 47,000 |
| Sacramento County Water Agency | 15,000 |
| Sacramento Suburban Water District | 30,000 |
| **Yuba River Area of Analysis** | |
| Browns Valley Irrigation District | 5,000 |
| Cordua Irrigation District | 12,000 |
| **Feather River Area of Analysis** | |
| Butte Water District | 6,000 |
| Garden Highway Mutual Water Company | 14,000 |
| Gilsizer Slough Ranch | 3,200 |
| Nevada Irrigation District | 15,000 |

| Water Agency | Maximum Potential Transfer (acre-feet per year)[1] |
|---|---|
| South Sutter Water District | 15,000 |
| Tule Basin Farms | 6,000 |
| **Stanislaus River Area of Analysis** | |
| Oakdale Irrigation District / South San Joaquin Irrigation District | 50,000 |
| **Merced River Area of Analysis** | |
| Merced Irrigation District | 30,000 |
| ***Total*** | ***467,154*** |

Notes:

[1] The total transfers would be limited to no more than 250,000 acre-feet in any one year, based on the Buyers' demands for transfers. The sum of transfers in Table B-2 equals more than this amount, but the Buyers (SLDMWA member agencies, Contra Costa WD, and East Bay MUD) would not purchase transfer water from all of these parties for the full amount.

[Deleted Text Start] [2] ~~Glenn-Colusa Irrigation District will not participate in out of basin groundwater substitution transfers.~~ [Deleted Text End]

### *Page B-13 and B-14*

Table B-3 on page B-13 is revised to remove Glenn-Colusa Irrigation District. The second note for Table B-3 on page B-14 is revised as follows:

**Table B-3. Proposed Action Transfer Types (Upper Limits)**

| Water Agency | April-June Groundwater Substitution (acre-feet) | April-June Stored Reservoir Release (acre-feet) | July-Sep Groundwater Substitution (acre-feet) | July-Sep Stored Reservoir Release (acre-feet) | Oct-Nov Reservoir Release (acre- feet) |
|---|---|---|---|---|---|
| **Sacramento River Area of Analysis** | | | | | |
| Anderson-Cottonwood Irrigation District | 2,450 | | 2.450 | | |
| Andreotti | 1,000 | | 1.500 | | |
| Giusti Farms | 500 | | 500 | | |
| [Deleted Text Start] ~~Glenn-Colusa Irrigation District~~[2][Deleted Text End] | [Deleted Text Start] ~~11,800~~ [Deleted Text End] | | [Deleted Text Start] ~~11,800~~ [Deleted Text End] | | |
| Henle Family Ltd. Partnership | 325 | | 275 | | |
| Meridian Farms Water Company | 3,000 | | 3.000 | | |
| Natomas Central Mutual Water Company | 10,000 | | 20,000 | | |
| Pelger Mutual Water Company | 3,151 | | 1,599 | | |
| Pelger Road 1700 LLC | 2,600 | | 3,000 | | |
| Pleasant Grove-Verona Mutual Water Company | 8,000 | | 10,000 | | |
| Princeton-Codora-Glenn Irrigation District | 3,000 | | 5,000 | | |
| Provident Irrigation District | 4,500 | | 7,000 | | |
| Reclamation District 108 | 7,500 | | 7,500 | | |
| Reclamation District 1004 | 3,588 | | 3,588 | | |
| Roberts Ditch Irrigation Company | 1,700 | | 1,760 | | |
| RRG Garden Properties LLC | 4,400 | | 5,600 | | |
| Sutter Mutual Water Company | 20,000 | | 30,000 | | |
| Te Velde Revocable Family Trust | 2,700 | | 4,394 | | |
| Windswept Land and Livestock | 775 | | 1,000 | | |

| Water Agency | April-June Groundwater Substitution (acre-feet) | April-June Stored Reservoir Release (acre-feet) | July-Sep Groundwater Substitution (acre-feet) | July-Sep Stored Reservoir Release (acre-feet) | Oct-Nov Reservoir Release (acre- feet) |
|---|---|---|---|---|---|
| **American River Area of Analysis** | | | | | |
| El Dorado Irrigation District | | | | 8,000 | 8,000 |
| Placer County Water Agency | | | | 47,000 | 47,000 |
| Sacramento County Water Agency | | | 15,000 | | |
| Sacramento Suburban Water District | 15,000 | | 15,000 | | |
| **Yuba River Area of Analysis** | | | | | |
| Browns Valley Irrigation District | | | | 5,000 | 5,000 |
| Cordua Irrigation District | | | 12,000 | | |
| **Feather River Area of Analysis** | | | | | |
| Butte Water District | 3,000 | | 3,000 | | |
| Garden Highway Mutual Water Company | 6,500 | | 7,500 | | |
| Gilsizer Slough Ranch | 1,600 | | 1,600 | | |
| Nevada Irrigation District | | | | 15,000 | 15,000 |
| South Sutter Water District | | | | 15,000 | 13,500 |
| Tule Basin Farms | 3,000 | | 3,000 | | |
| **Stanislaus River Area of Analysis** | | | | | |
| Oakdale Irrigation District / South San Joaquin Irrigation District | | | | 50,000 | |
| **Merced River Area of Analysis** | | | | | |
| Merced Irrigation District | | | | 30,000 | 30,000 |
| **Area of Analysis (all areas)** | | | | | |
| **Total**[1] | **120,089** | **0** | **177,066** | **170,000** | **118,500** |

Notes:

[1] These totals cannot be added together. Agencies could make water available through groundwater substitution, reservoir release transfers, or a combination of the two; however, they will not make the full quantity available through both methods. Table B-2 reflects the total upper limit for each agency. The total amount of water transferred under Proposed Action would not exceed 250,000 acre-feet.

[2] ***The refill agreement required for this proposed source would require amendment of their water rights settlement agreement with Reclamation (Agreement No. 8-07-20-W0714), agreement on water rights accounting, and approval by the State Water Resources Control Board (SWRCB). *** [Deleted Text Start] ~~Glenn-Colusa Irrigation District will not participate in our of basin groundwater substitution transfers.~~ [Deleted Text End]

***Page B-17***

The last sentence in the first paragraph on page B-17 of the Draft EA/IS is revised as follows:

> Each reservoir release transfer would include a refill agreement between the Seller [Deleted Text Start]~~and~~[Deleted Text End], Reclamation, [Deleted Text Start]~~(developed in coordination with~~ [Deleted Text End]***and*** and the California Department of Water Resources [Deleted Text Start]~~‡~~[Deleted Text End]***(***DWR***)***[Deleted Text Start]~~‡~~[Deleted Text End] to prevent impacts to downstream users following a transfer.

The third sentence in the second paragraph on page B-17 of the Draft EA/IS is revised as follows:

> ***The Seller could request that Reclamation store the non-CVP water in the CVP reservoir until Delta capacity is available, which would require an excess capacity contract with Reclamation *and approval by the SWRCB for any water transferred under post-1914 water rights to be re-diverted to storage in Folsom Reservoir or San Luis Reservoir if the transferred water would be held in either location for greater than 30 days.****

The fourth sentence under Section B.2.2.2 on page B-15 of the Draft EA/IS is revised as follows:

> Transfers involving water diverted through the Delta are governed by existing Delta water quality standards (D-1641 requirements) and existing or future regulatory flow requirements as specified by the NMFS and USFWS [Deleted Text Start] ~~Biological Opinions (~~[Deleted Text End] BOs [Deleted Text Start]~~)~~ [Deleted Text End] for the Long-Term Operation of the CVP and SWP.

***Page B-18***

The second paragraph on page B-18 of the Draft EA/IS is revised and footnotes are added as follows:

> The timing of water made available for transfer by potential agricultural Sellers upstream from the Delta through groundwater substitution would be dictated by the irrigation season. At the start of the irrigation season, usually April, the Delta pumps cannot pump water made available for transfer because the current BOs on CVP and SWP operations typically only allow for conveyance of water made available for transfer from July through November. ***To deliver transferred water to the Buyers, CVP facilities[8] and SWP facilities[9] would be operated consistent with the 2024 BOs or the governing BO(s), as well as, any other operating agreements, authorizing documents, or any other applicable legal obligations in place at the time a transfer is implemented.**** [Deleted Text Start] ~~Water made available for transfer prior to July would either bypass the pumps or may be stored in upstream reservoirs for later release in the July through November period, if CVP operations can account for the storage. However, as described in subsequent sections, Shasta Reservoir is operated to meet mandated temperature and~~

~~flow requirements in the Sacramento River, which could limit its ability to store water to support transfers.~~ [Deleted Text End]

***[8] Any non-CVP water that would use CVP facilities would need a Warren Act contract, which is subject to NEPA compliance. The Warren Act of February of February 21, 1911, authorized the United States to execute contracts for the conveyance and storage of non-project water in federal facilities when excess capacity exists.**

**[9] Agreements with DWR may be required for use of SWP facilities to facilitate the transfer of water.***

The last paragraph on page B-18 of the Draft EA/IS is revised as follows:

[Deleted Text Start] ~~Conveyance capacity in the Delta would be available when conditions for sensitive species are acceptable to NMFS and USFWS, typically from July through November, but water made available through groundwater substitution would be available from April through September. Storing water in Shasta Reservoir from April through June would help facilitate these types of transfers; however, Shasta Reservoir has a very limited opportunity to store water made available for transfer during the April through June period because of downstream temperature requirements. Reclamation is required by SWRCB Water Rights Orders 90-05/91-01 to meet average daily temperature objectives as far downstream as practical when temperatures could affect fish. To meet these objectives, Reclamation must carefully manage the cold-water pool in Shasta Reservoir. Backing up water in Shasta Reservoir allows for additional storage, which can help Reclamation maintain the cold-water pool. Reclamation would only consider storing water made available for transfer if it would not affect releases for temperature, or if it could be "backed up" into another reservoir (by reducing releases from that reservoir). Backing up water may be possible if the Delta is in balanced conditions (see footnote 3 above) and instream standards are being met. The decision to back up water made available for transfer would be made on a case-by-case basis, but storage is analyzed so that the analysis is complete in the event Reclamation determines that storage is possible in a specific year.~~ [Deleted Text End]

***Page B-31***

The following reference is added to page B-31 of the Draft EA/IS:

***State Water Resources Control Board (SWRCB). 2013. Water Transfer Program Information. Available at: https://www.waterboards.ca.gov/waterrights/water_issues/programs/water_transfers/docs/transproginfo.pdf. [Accessed on June 24, 2025].***

# M.9 Appendix E1

***Page E1-3***

Table E-1 on page E1-3 of the Draft EA/IS is revised to remove Glenn-Colusa Irrigation District as follows:

**Table E-1. Water Transfers through Groundwater Substitution under the Proposed Action (Potential 2026/2027 Wells)**

| Potential Seller | Number of Wells | Pumping Rate or Range of Rates (gpm) | Range of Screened Interval(s) (feet bgs) |
|---|---|---|---|
| **Redding Area Groundwater Basin[1]** | | | |
| Anderson-Cottonwood Irrigation District | 2 | 1,200-5,500 | 150-455 |
| **Sacramento Valley Groundwater Basin** | | | |
| Andreotti | 1 | 6,000 | 200-400 |
| Butte Water District | 3 | 3,600-4,150 | 463-906 |
| Cordua Irrigation District | 37 | 800-3,100 | 60-430 |
| Garden Highway Mutual Water Company | 9 | 1,500-4,000 | 80-200 |
| Gilsizer Slough Ranch | 1 | 4,000 | 220-640 |
| Giusti Farms | 2 | 1,500-3,500 | 160-410 |
| [Deleted Text Start] ~~Glenn-Colusa Irrigation District~~ [Deleted Text End] | [Deleted Text Start] ~~18~~ [Deleted Text End] | [Deleted Text Start] ~~400-3,500~~ [Deleted Text End] | [Deleted Text Start] ~~20-760~~ [Deleted Text Start] |
| Henle Family Farms | 2 | 2,600-3,600 | 155-480 |
| Meridian Farms Water Company | 13 | 1,200-3,000 | 115-310 |
| Natomas Central Mutual Water Company | 51 | 1,000-3,200 | 80-921 |
| Pelger Mutual Water Company | 5 | 2,500-4,400 | 101-485 |
| Pelger Road 1700 LLC | 4 | 3,500-5,000 | 200-720 |
| Pleasant Grove-Verona Mutual Water Company | 41 | 800-3,600 | 90-520 |
| Princeton-Codora-Glenn Irrigation District | 17 | 2,000-4,000 | 100-570 |
| Provident Irrigation District | 26 | 2,000-6,000 | 73-580 |
| Reclamation District 108 | 26 | 1,250-4,950 | 100-1,020 |
| Reclamation District 1004 | 3 | 4,500 | 380-730 |
| RRG Garden Properties LLC | 10 | 1,500-3,400 | 170-686 |
| Roberts Ditch Irrigation Company | 10 | 500-5,500 | 79-790 |
| Sacramento County Water Agency | 34 | 600-1,915 | 150-1,456 |
| Sacramento Suburban Water District | 64 | 400-3,500 | 145-810 |
| Sutter Mutual Water Company | 31 | 1,300-5,500 | 40-668 |
| Te Velde Revocable Family Trust | 10 | 2,500-4,500 | 56-415 |
| Tule Basin Farms | 4 | 2,500-3,600 | 100-480 |
| Windswept Land & Livestock | 4 | 2,500-3,500 | 120-580 |

***Page E1-5***

Figure E-2a on page E1-5 of the Draft EA/IS is revised to remove Glenn-Colusa Irrigation District:

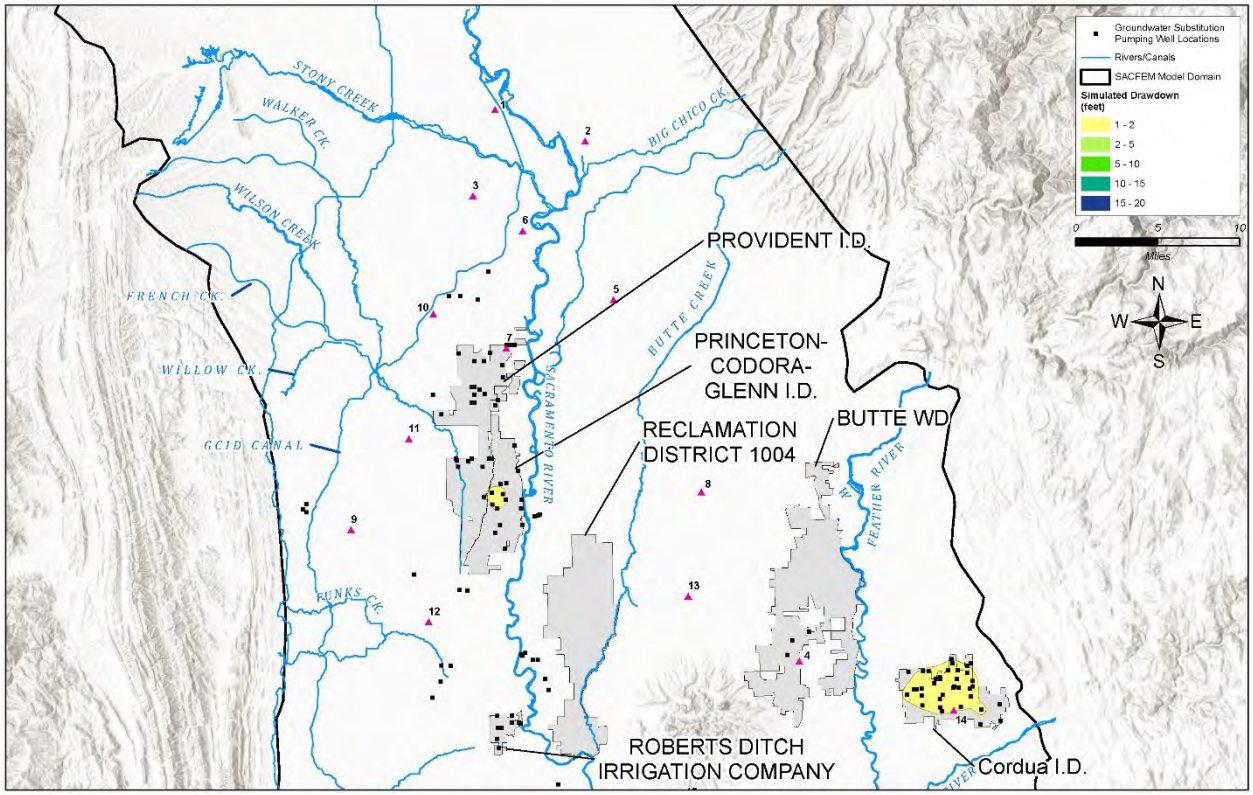



**Figure E-2a. Simulated Drawdown in Water Table Elevation (0 to approximately 35 feet bgs), Based on September 1977 Hydrologic Conditions**

***Page E1-6***

Figure E-2b on page E1-6 of the Draft EA/IS is revised to remove Glenn-Colusa Irrigation District:

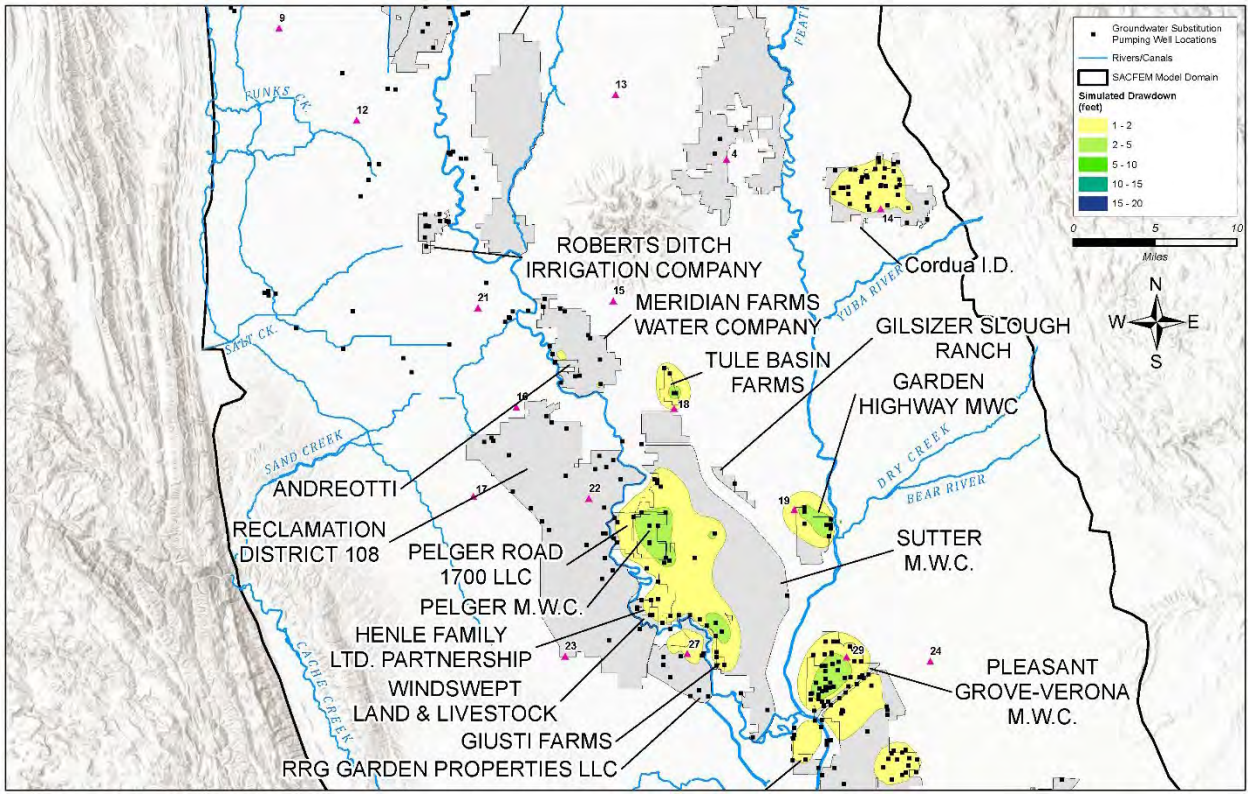



**Figure E-2b. Simulated Drawdown in Water Table Elevation (0 to approximately 35 feet bgs), Based on September 1977 Hydrologic Conditions**

***Page E1-8***

Figure E-3a on page E1-8 of the Draft EA/IS is revised to remove Glenn-Colusa Irrigation District:

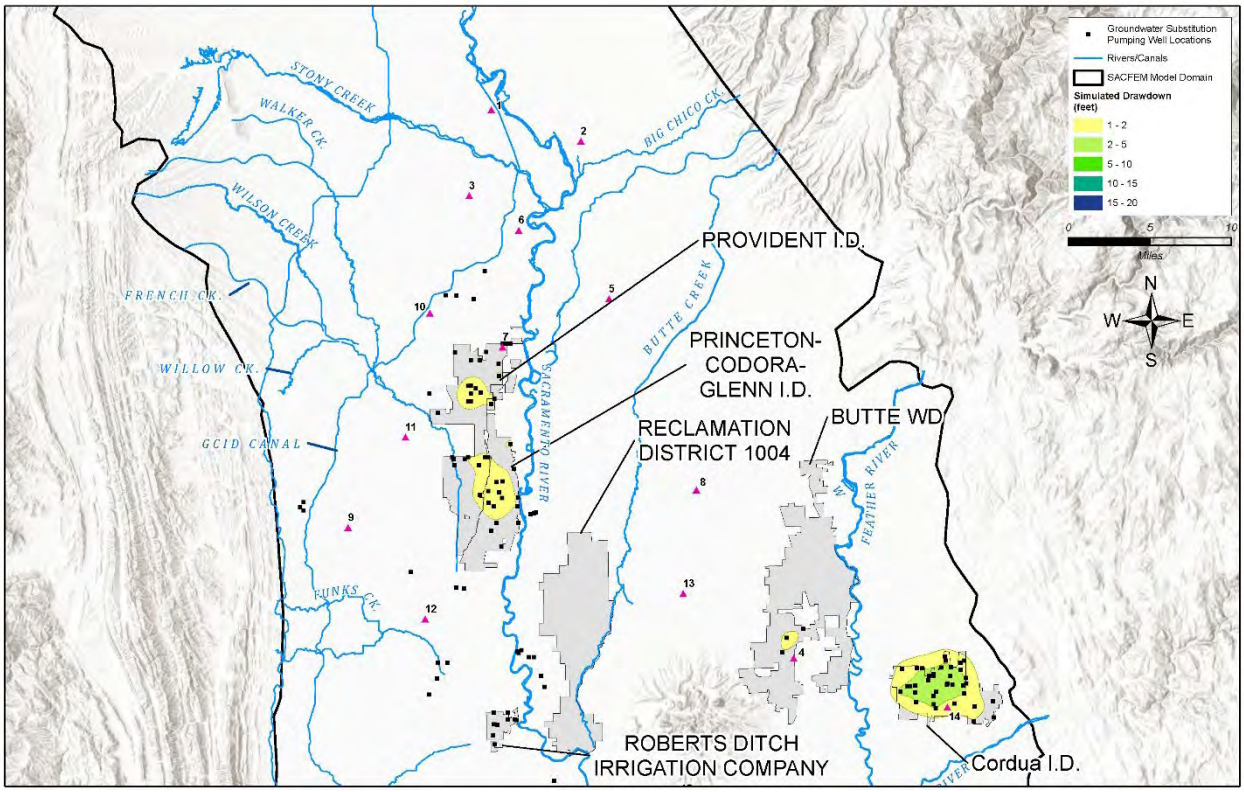



**Figure E-3a. Simulated Drawdown in Water Table Elevation (approximately 35 to 200 feet bgs), Based on September 1977 Hydrologic Conditions**

***Page E1-9***

Figure E-3b on page E1-9 of the Draft EA/IS is revised to remove Glenn-Colusa Irrigation District:

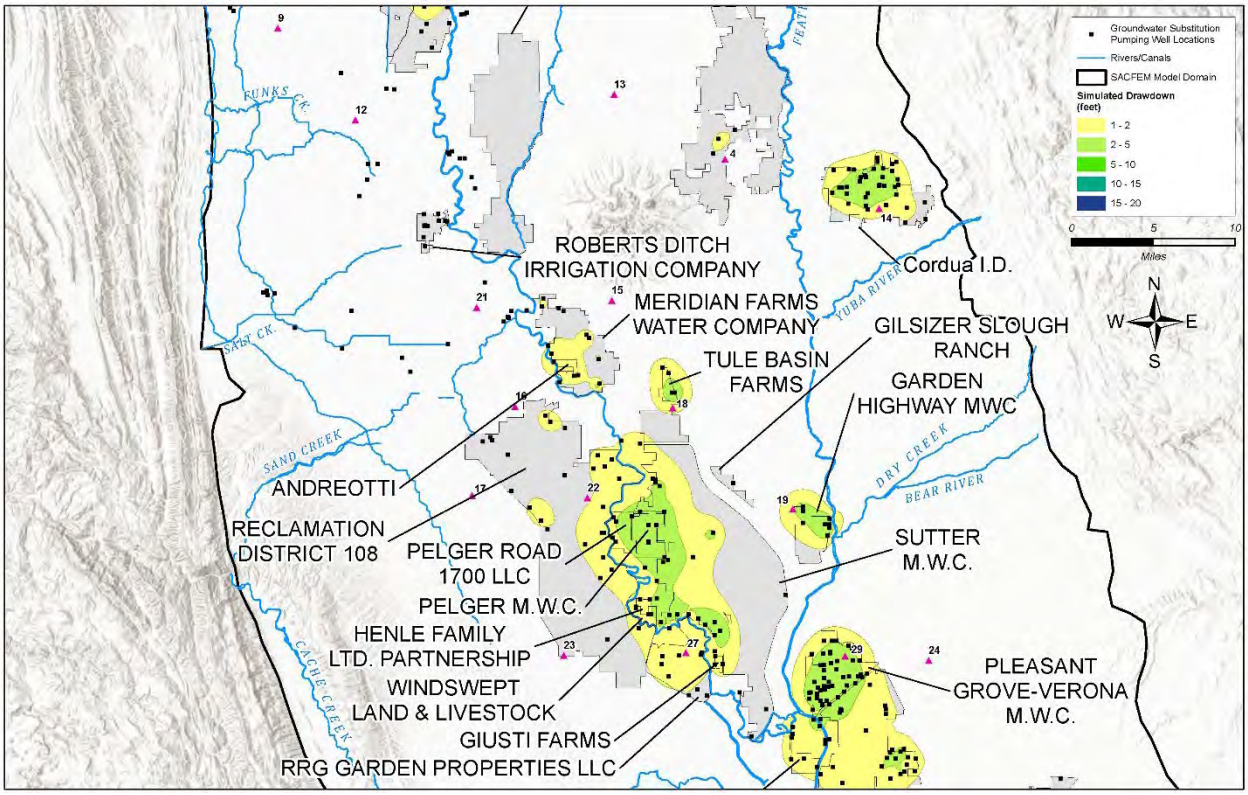



**Figure E-3b. Simulated Drawdown in Water Table Elevation (approximately 35 to 200 feet bgs), Based on September 1977 Hydrologic Conditions**

***Page E1-11***

Figure E-4a on page E1-11 of the Draft EA/IS is revised to remove Glenn-Colusa Irrigation District:

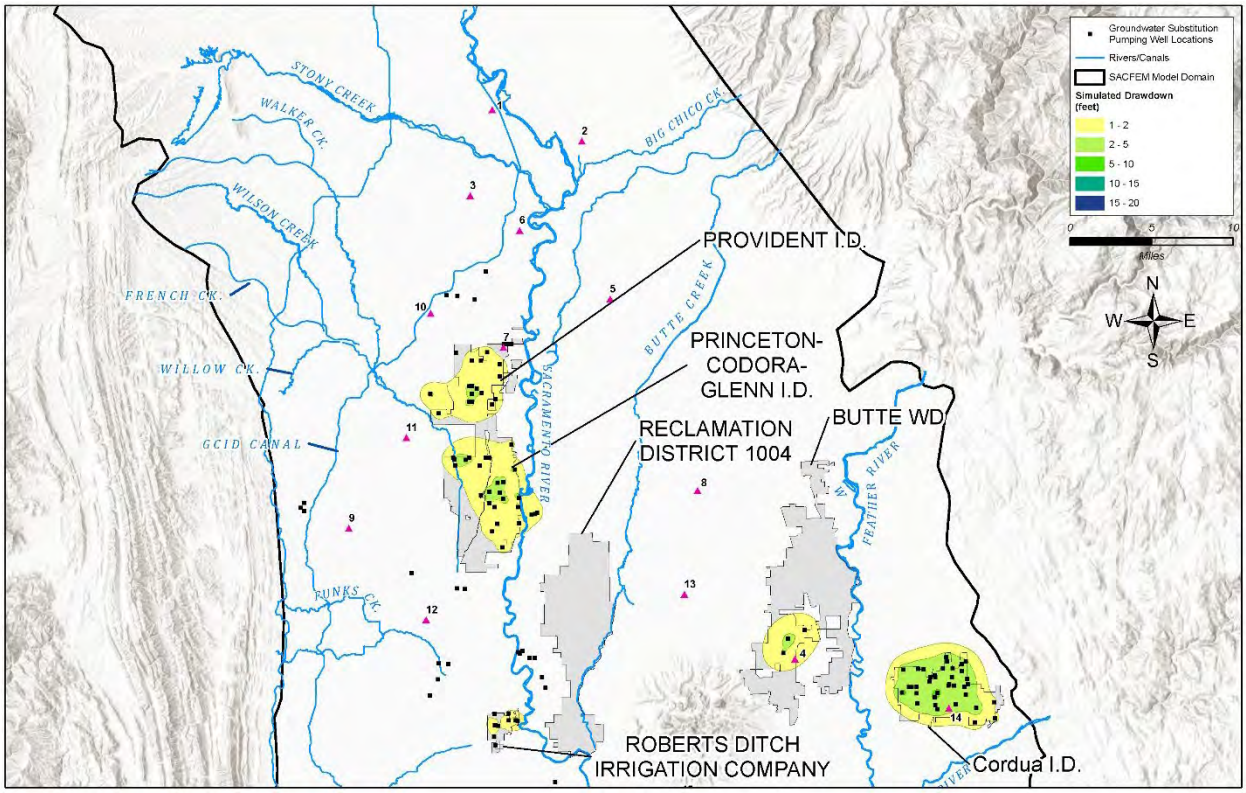



**Figure E-4a. Simulated Drawdown in Groundwater Head (approximately 200 to 300 feet bgs), Based on September 1977 Hydrologic Conditions**

***Page E1-12***

Figure E-4b on page E1-12 of the Draft EA/IS is revised to remove Glenn-Colusa Irrigation District:

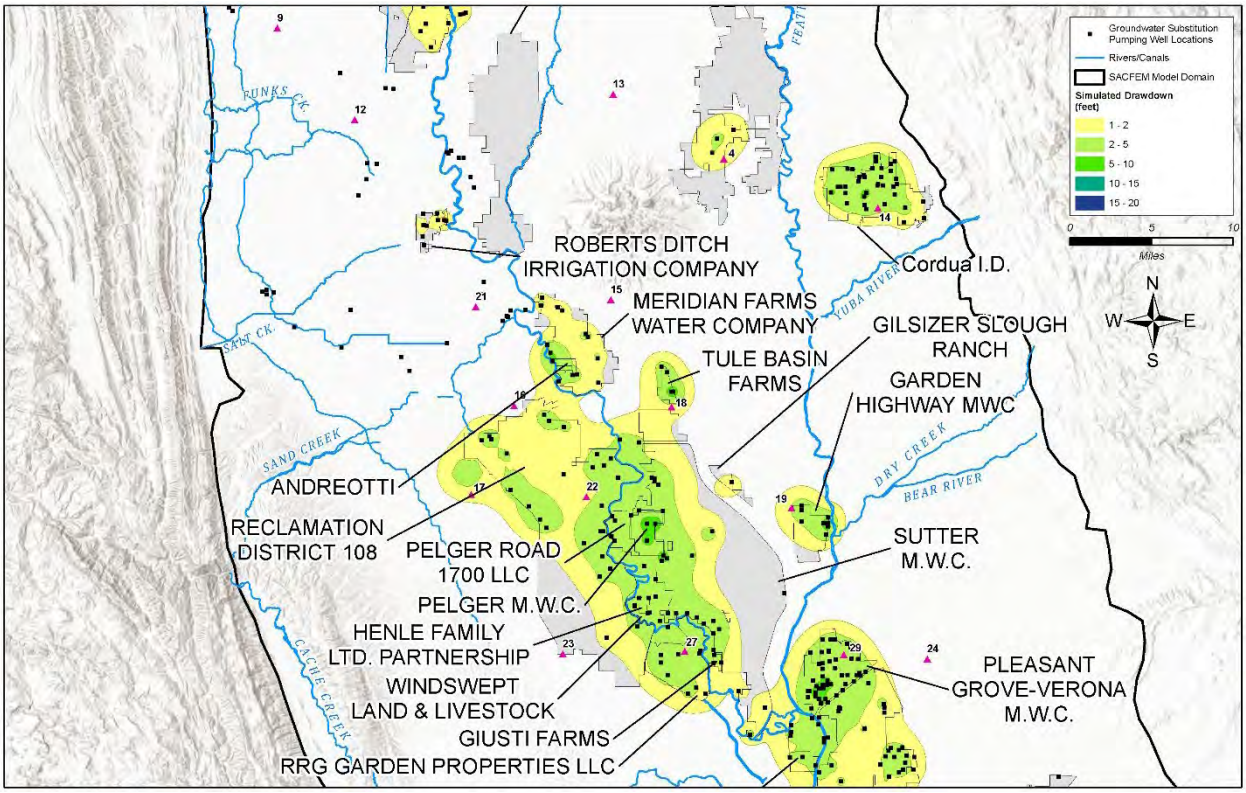



**Figure E-4b. Simulated Drawdown in Groundwater Head (approximately 200 to 300 feet bgs), Based on September 1977 Hydrologic Conditions**

***Page E1-14***

Figure E-5a on page E1-14 of the Draft EA/IS is revised to remove Glenn-Colusa Irrigation District:

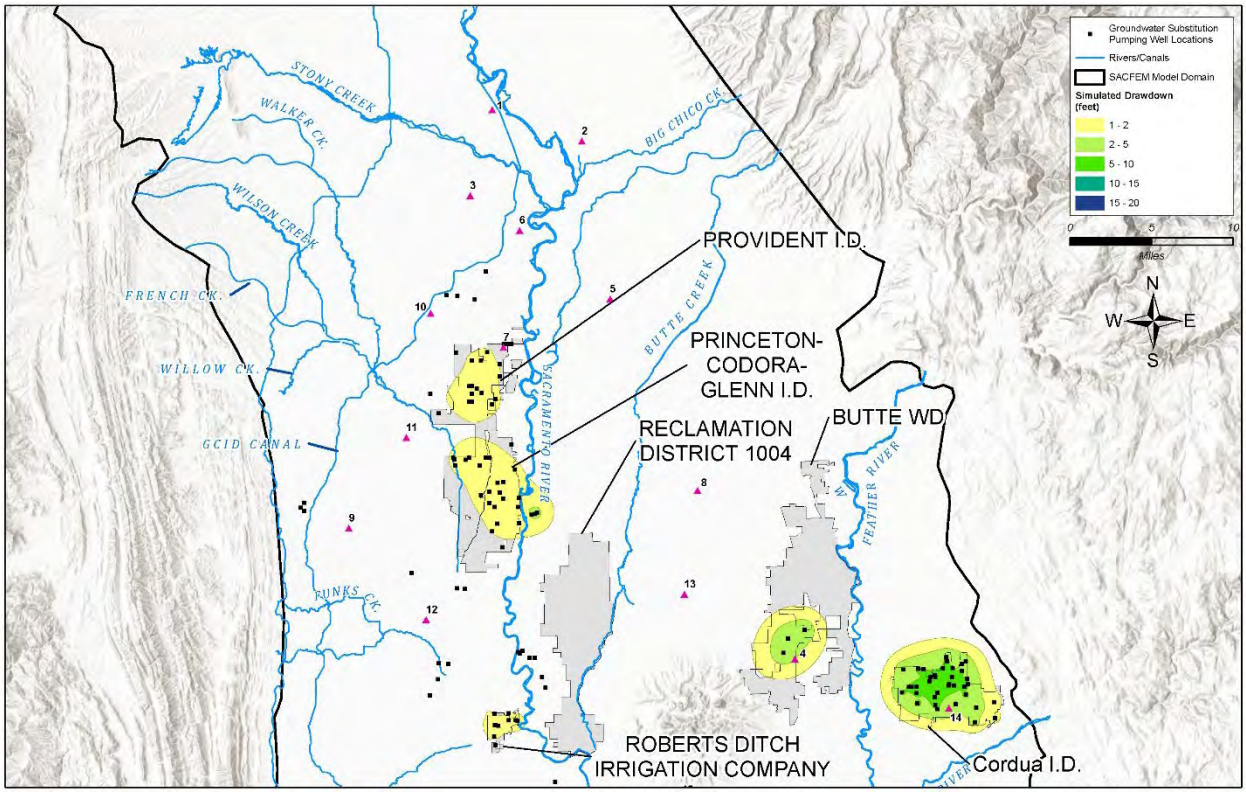



**Figure E-5a. Simulated Drawdown in Groundwater Head (approximately 300 to 400 feet bgs), Based on September 1977 Hydrologic Conditions**

***Page E1-15***

Figure E-5b on page E1-15 of the Draft EA/IS is revised to remove Glenn-Colusa Irrigation District:

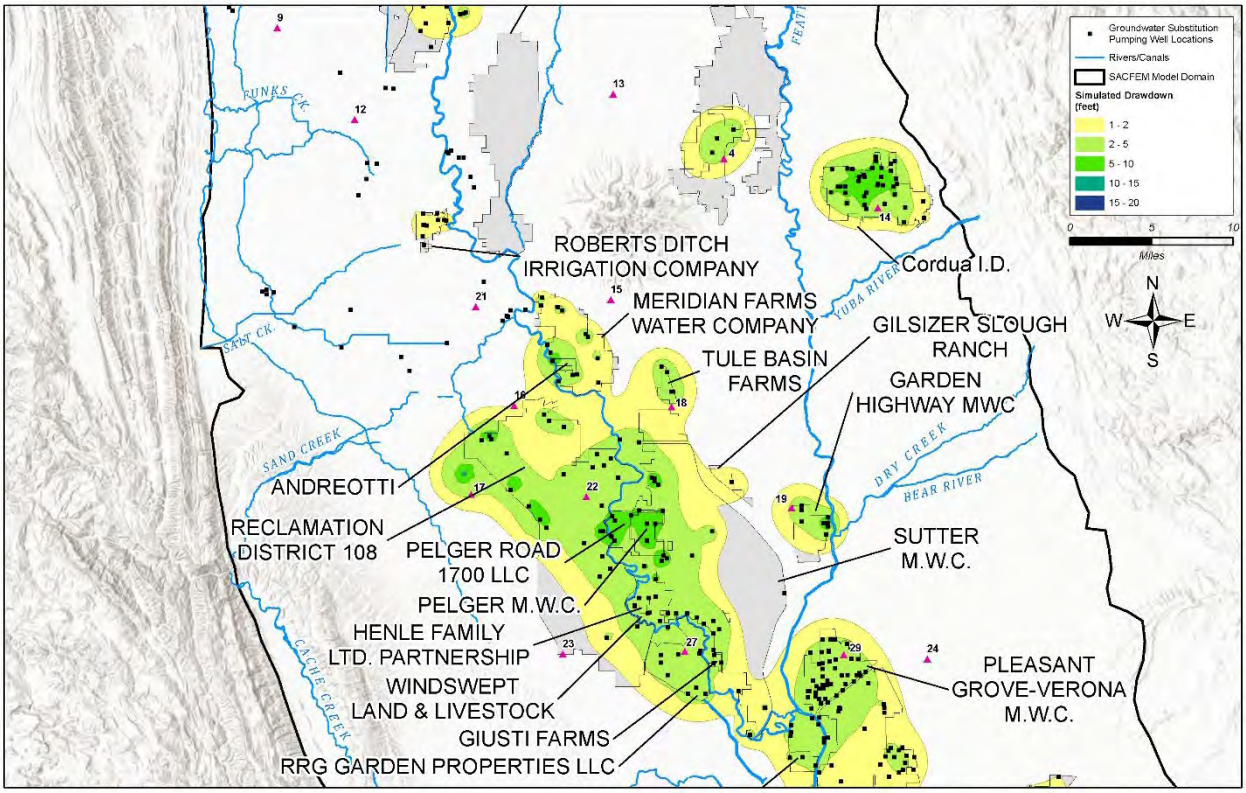



**Figure E-5b. Simulated Drawdown in Groundwater Head (approximately 300 to 400 feet bgs), Based on September 1977 Hydrologic Conditions**

***Page E1-17***

Figure E-6a on page E1-17 of the Draft EA/IS is revised to remove Glenn-Colusa Irrigation District:

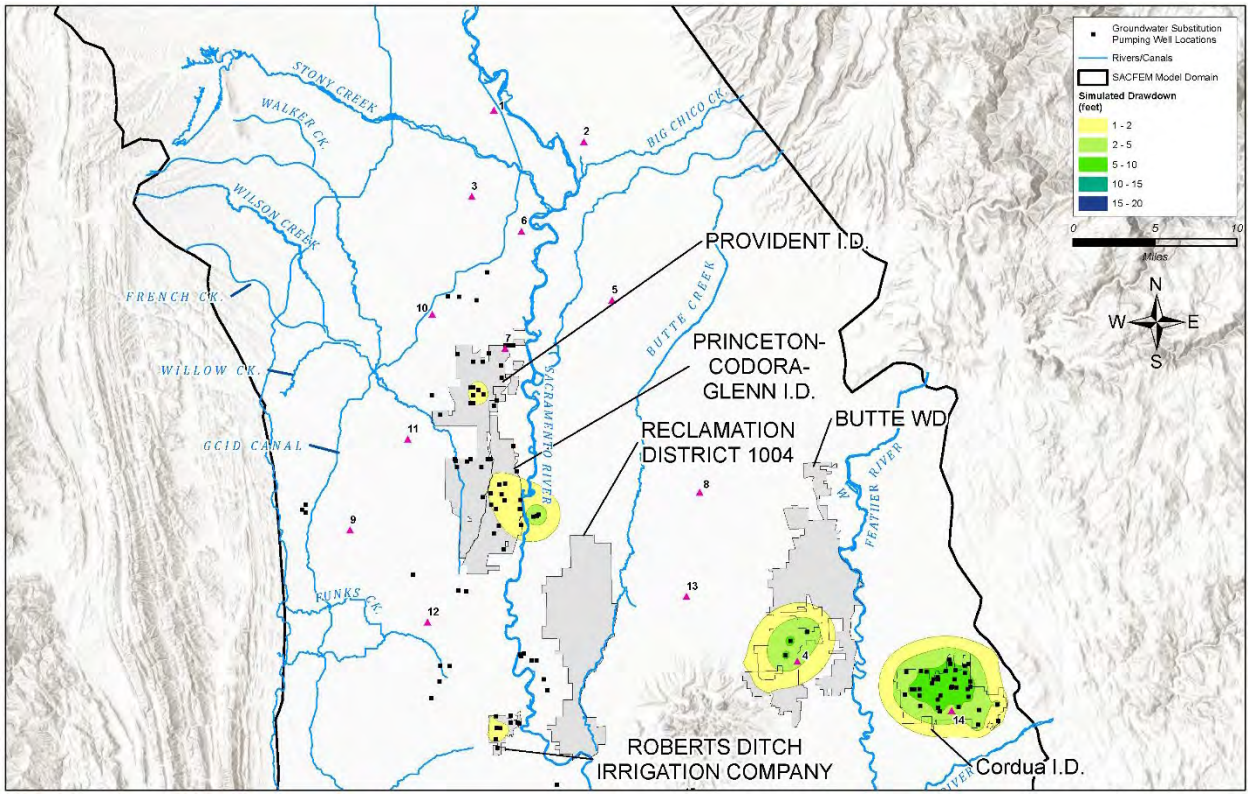



**Figure E-6a. Simulated Drawdown in Groundwater Head (approximately 500 to 700 feet bgs), Based on September 1977 Hydrologic Conditions**

***Page E1-18***

Figure E-6b on page E1-18 of the Draft EA/IS is revised to remove Glenn-Colusa Irrigation District:

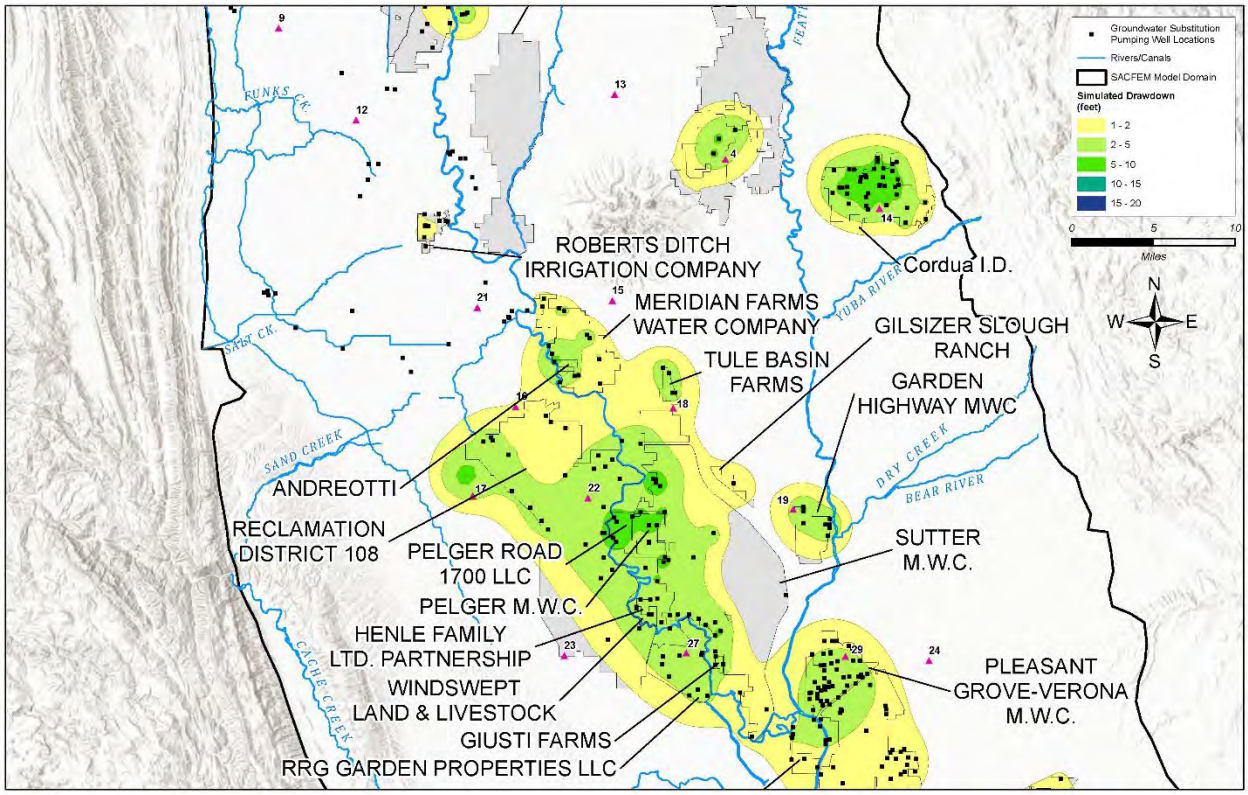



**Figure E-6b. Simulated Drawdown in Groundwater Head (approximately 500 to 700 feet bgs), Based on September 1977 Hydrologic Conditions**

***Page E1-20***

Figure E-7a on page E1-20 of the Draft EA/IS is revised to remove Glenn-Colusa Irrigation District:

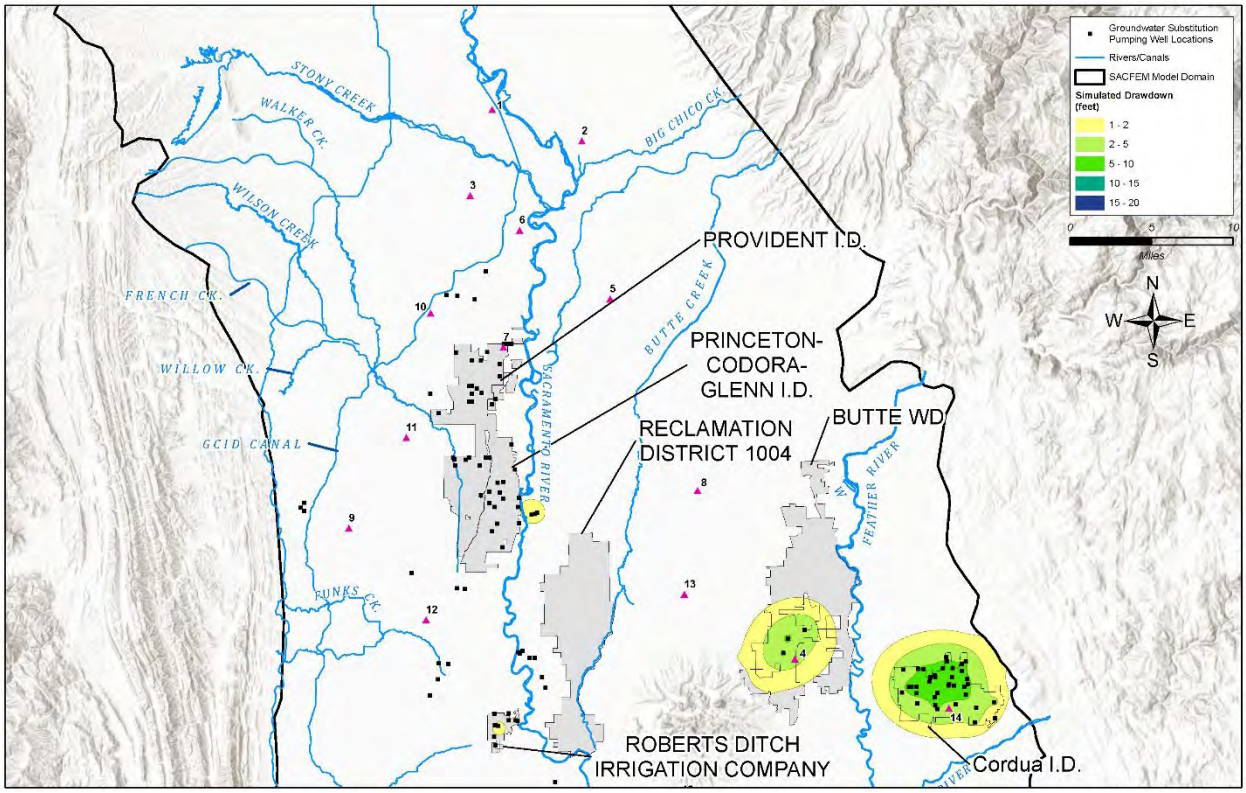



**Figure E-7a. Simulated Drawdown in Groundwater Head (approximately 700 to 900 feet bgs), Based on September 1977 Hydrologic Conditions**

***Page E1-21***

Figure E-7b on page E1-21 of the Draft EA/IS is revised to remove Glenn-Colusa Irrigation District:

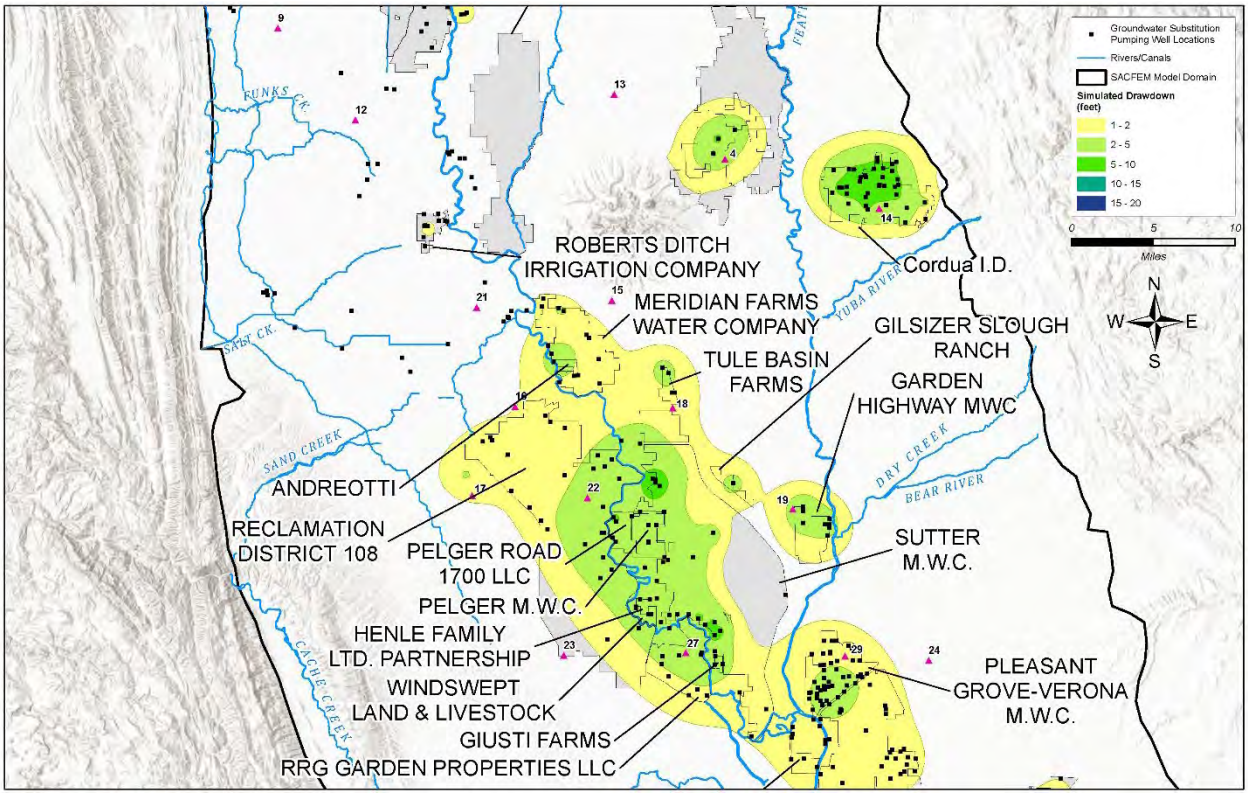



**Figure E-7b. Simulated Drawdown in Groundwater Head (approximately 700 to 900 feet bgs), Based on September 1977 Hydrologic Conditions**

***Page E1-23***

Figure E-8a on page E1-23 of the Draft EA/IS is revised to remove Glenn-Colusa Irrigation District is revised as follows:

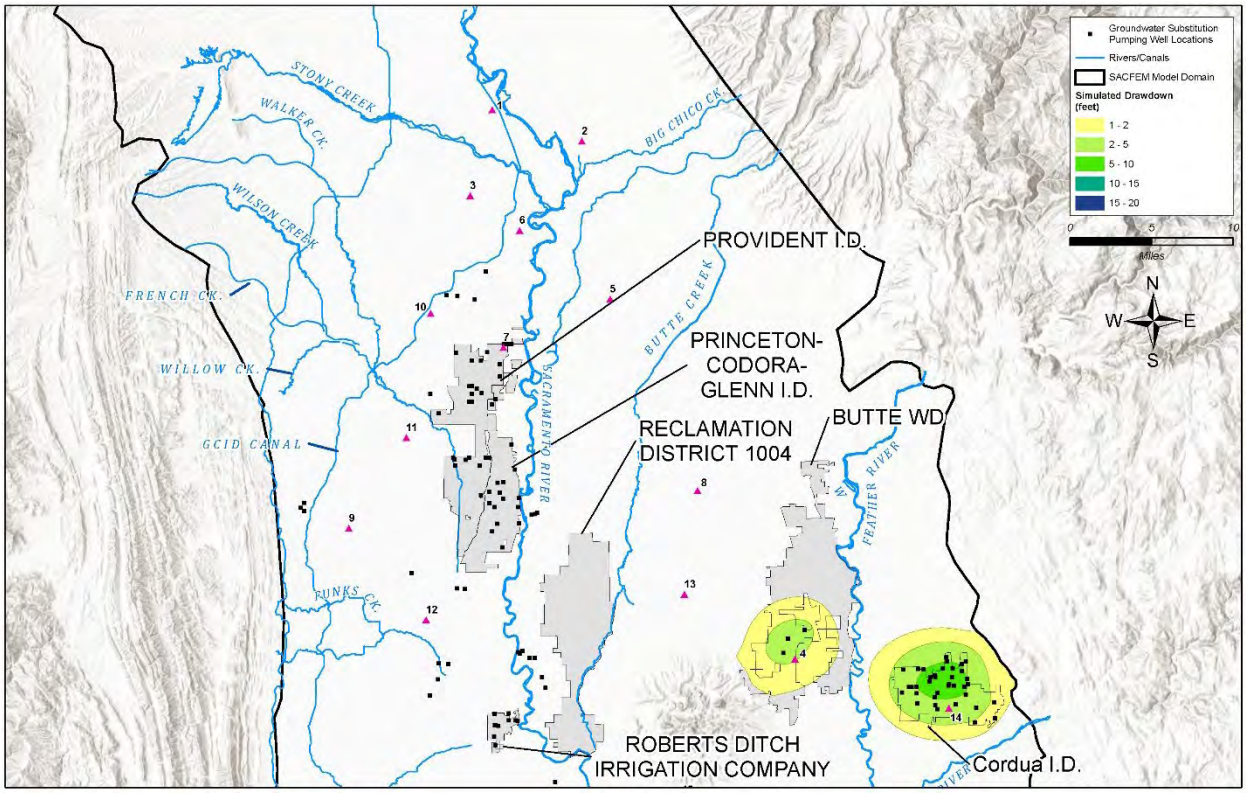



**Figure E-8a. Simulated Drawdown in Groundwater Head (approximately 900 to 1,300 feet bgs), Based on September 1977 Hydrologic Conditions**

***Page E1-24***

Figure E-8b on page E1-24 of the Draft EA/IS is revised to remove Glenn-Colusa Irrigation District is revised as follows:

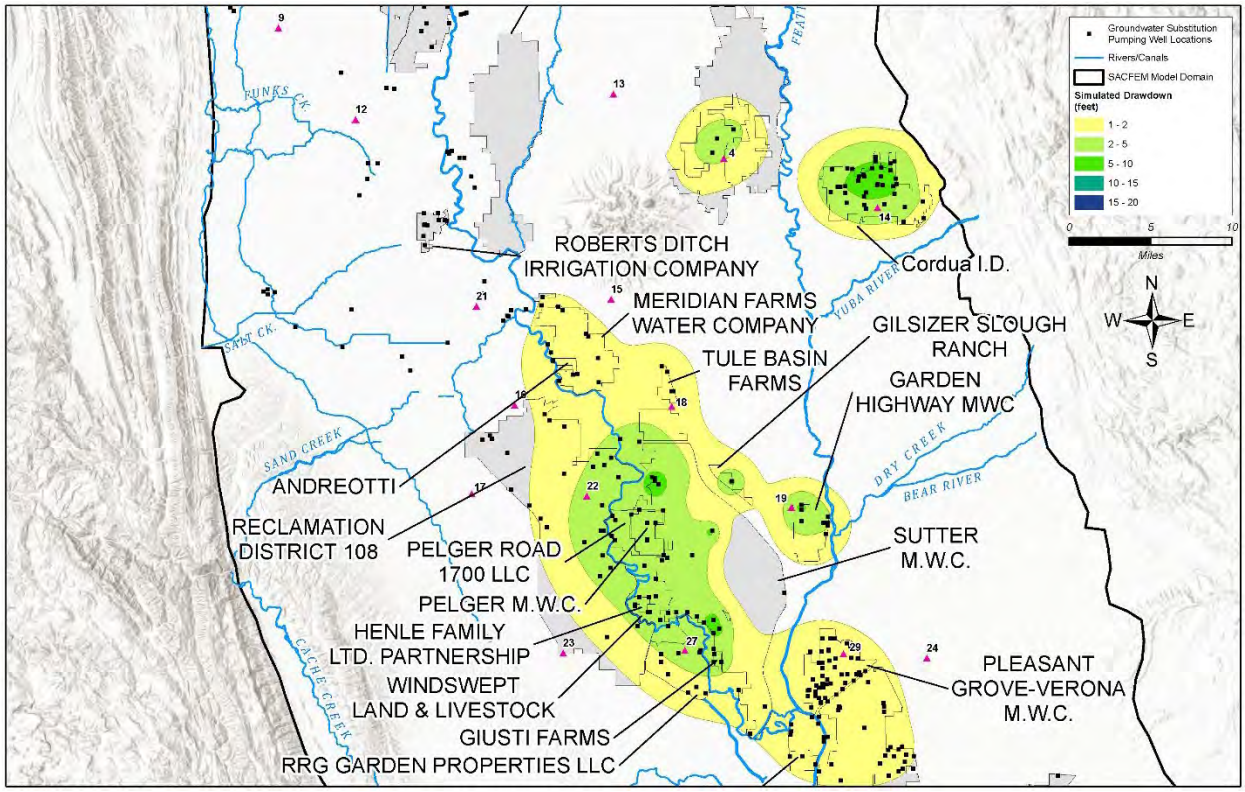



**Figure E-8b. Simulated Drawdown in Groundwater Head (approximately 900 to 1,300 feet bgs), Based on September 1977 Hydrologic Conditions**

***Page E1-26***

Figure E-9 on page E1-26 of the Draft EA/IS is revised as follows:

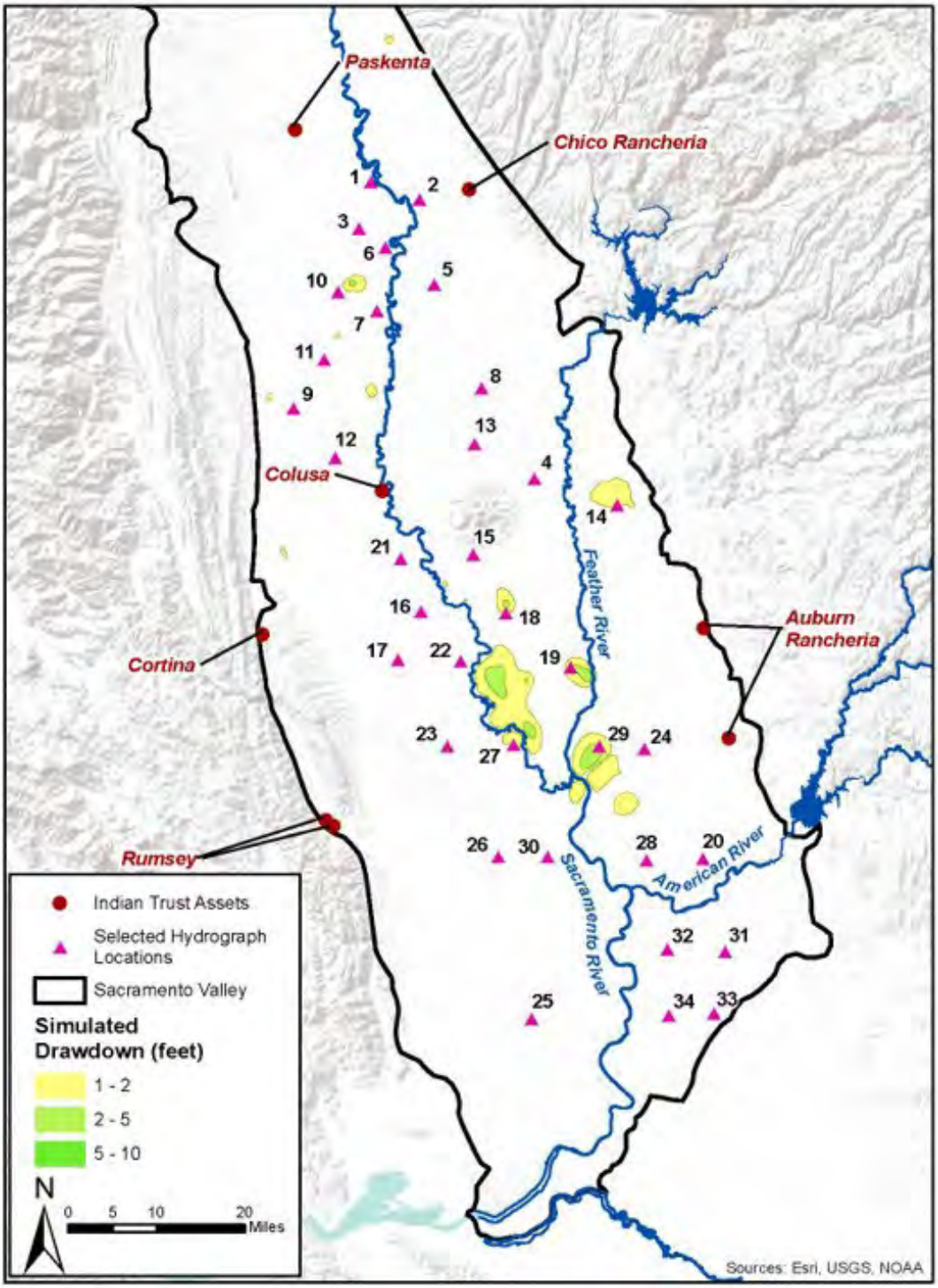



**Figure E-9. Groundwater Effects to ITAs in the Sacramento Valley Groundwater Basin (simulated drawdown at the water table)**

# M.10 Appendix E2

The figures for locations 10 and 11 on pages 66 through 79 of the Draft EA/IS are revised to add the following note under the figures:

> ***Note: Simulated groundwater elevations at this location include other transfers not part of this project.***

# M.11 Appendix E4

***Page E4-1***

The first sentence of the last paragraph on page E4-1 under Section E4.2 of the Draft EA/IS is revised as follows:

> As discussed in Section 3.[Deleted Text Start]~~3~~ [Deleted Text End]***7***.2 of the EA/IS, the threshold for the potential for flow-related effects was identified as both a minimum decrease in mean (average) monthly flow of one cfs as compared to the modeled Proposed Action flows under the No Action/No Project Alternative and a ten percent decrease in modeled Proposed Action flows compared to the No Action/No Project flows.

***Page E4-2***

Table E4-1 on page E4-2 of the Draft EA/IS is revised as follows:

**Table E4-1. Modeled Streamflow in Lower Sycamore Slough under Proposed Action in Comparison to No Action/No Project Alternative**

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| September 1969 | 0.00 | 0.0% |
| October 1969 | 0.00 | 0.0% |
| November 1969 | 0.00 | 0.0% |
| December 1969 | 0.00 | 0.0% |
| January 1970 | 0.00 | 0.0% |
| February 1970 | 0.00 | 0.0% |
| March 1970 | 0.00 | 0.0% |
| April 1970 | 0.00 | 0.0% |
| May 1970 | 0.00 | 0.0% |
| June 1970 | 0.00 | 0.0% |
| July 1970 | 0.00 | 0.0% |
| August 1970 | 0.00 | 0.0% |

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| September 1970 | 0.00 | 0.0% |
| October 1970 | 0.00 | 0.0% |
| November 1970 | 0.00 | 0.0% |
| December 1970 | 0.00 | 0.0% |
| January 1971 | 0.00 | 0.0% |
| February 1971 | 0.00 | 0.0% |
| March 1971 | 0.00 | 0.0% |
| April 1971 | 0.00 | 0.0% |
| May 1971 | 0.00 | 0.0% |
| June 1971 | 0.00 | 0.0% |
| July 1971 | 0.00 | 0.0% |
| August 1971 | 0.00 | 0.0% |
| September 1971 | 0.00 | 0.0% |
| October 1971 | 0.00 | 0.0% |
| November 1971 | 0.00 | 0.0% |
| December 1971 | 0.00 | 0.0% |
| January 1972 | 0.00 | 0.0% |
| February 1972 | 0.00 | 0.0% |
| March 1972 | 0.00 | 0.0% |
| April 1972 | 0.00 | 0.0% |
| May 1972 | 0.00 | 0.0% |
| June 1972 | 0.00 | 0.0% |
| July 1972 | 0.00 | 0.0% |
| August 1972 | 0.00 | 0.0% |
| September 1972 | 0.00 | 0.0% |
| October 1972 | 0.00 | 0.0% |
| November 1972 | 0.00 | 0.0% |
| December 1972 | 0.00 | 0.0% |
| January 1973 | 0.00 | 0.0% |
| February 1973 | 0.00 | 0.0% |
| March 1973 | 0.00 | 0.0% |
| April 1973 | 0.00 | 0.0% |
| May 1973 | 0.00 | 0.0% |
| June 1973 | 0.00 | 0.0% |
| July 1973 | 0.00 | 0.0% |
| August 1973 | 0.00 | 0.0% |
| September 1973 | 0.00 | 0.0% |
| October 1973 | 0.00 | 0.0% |
| November 1973 | 0.00 | 0.0% |
| December 1973 | 0.00 | 0.0% |

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| January 1974 | 0.00 | 0.0% |
| February 1974 | 0.00 | 0.0% |
| March 1974 | 0.00 | 0.0% |
| April 1974 | 0.00 | 0.0% |
| May 1974 | 0.00 | 0.0% |
| June 1974 | 0.00 | 0.0% |
| July 1974 | 0.00 | 0.0% |
| August 1974 | 0.00 | 0.0% |
| September 1974 | 0.00 | 0.0% |
| October 1974 | 0.00 | 0.0% |
| November 1974 | 0.00 | 0.0% |
| December 1974 | 0.00 | 0.0% |
| January 1975 | 0.00 | 0.0% |
| February 1975 | 0.00 | 0.0% |
| March 1975 | 0.00 | 0.0% |
| April 1975 | 0.00 | 0.0% |
| May 1975 | 0.00 | 0.0% |
| June 1975 | 0.00 | 0.0% |
| July 1975 | 0.00 | 0.0% |
| August 1975 | 0.00 | 0.0% |
| September 1975 | 0.00 | 0.0% |
| October 1975 | 0.00 | 0.0% |
| November 1975 | 0.00 | 0.0% |
| December 1975 | 0.00 | 0.0% |
| January 1976 | 0.00 | 0.0% |
| February 1976 | 0.00 | 0.0% |
| March 1976 | 0.00 | 0.0% |
| April 1976 | 0.00 | 0.0% |
| May 1976 | 0.00 | 0.0% |
| June 1976 | 0.00 | 0.0% |
| July 1976 | 0.00 | 0.0% |
| August 1976 | 0.00 | 0.0% |
| September 1976 | 0.00 | 0.0% |
| October 1976 | 0.00 | 0.0% |
| November 1976 | 0.00 | 0.0% |
| December 1976 | 0.00 | 0.0% |
| January 1977 | 0.00 | 0.0% |
| February 1977 | 0.00 | 0.0% |
| March 1977 | 0.00 | 0.0% |
| April 1977 | -0.16 | 5.2% |

| Date | **Proposed Action in Comparison to No Action/No Project Alternative (cfs)** | **Proposed Action in Comparison to No Action/No Project Alternative (Percent** [Deleted Text Start] ~~**Change**~~ [Deleted Text End] ***Reduction****) |
|---|---|---|
| May 1977 | **-1.83** | **10.9%** |
| June 1977 | **-2.09** | **12.4%** |
| July 1977 | **-1.98** | **10.8%** |
| August 1977 | **-1.98** | **10.5%** |
| September 1977 | **-1.13** | 7.2% |
| October 1977 | -0.23 | 3.8% |
| November 1977 | -0.33 | 3.3% |
| December 1977 | -0.50 | 5.3% |
| January 1978 | **-7.47** | **28.7%** |
| February 1978 | **-6.04** | **47.9%** |
| March 1978 | **-4.78** | **263.4%** |
| April 1978 | **-3.89** | [Deleted Text Start]-[Deleted Text End] **51.9%** |
| May 1978 | **-3.29** | **124.5%** |
| June 1978 | **-2.87** | **70.0%** |
| July 1978 | **-2.56** | **34.9%** |
| August 1978 | **-2.34** | **19.3%** |
| September 1978 | **-2.15** | **24.4%** |
| October 1978 | **-1.95** | [Deleted Text Start]-[Deleted Text End] **199.4%** |
| November 1978 | **-1.83** | **47.0%** |
| December 1978 | **-1.55** | **89.4%** |
| January 1979 | **-1.75** | **22.9%** |
| February 1979 | **-1.67** | **36.6%** |
| March 1979 | **-1.50** | [Deleted Text Start]-[Deleted Text End] **43.4%** |
| April 1979 | **-1.36** | [Deleted Text Start]-[Deleted Text End] **84.7%** |
| May 1979 | **-1.23** | **18.2%** |
| June 1979 | **-1.13** | **26.1%** |
| July 1979 | **-1.04** | **11.7%** |
| August 1979 | -0.97 | 7.3% |
| September 1979 | -0.91 | 9.5% |
| October 1979 | -0.85 | [Deleted Text Start]-[Deleted Text End] **46.0%** |
| November 1979 | -0.81 | **13.9%** |
| December 1979 | -0.78 | **14.2%** |
| January 1980 | -0.73 | 8.5% |
| February 1980 | -0.63 | [Deleted Text Start]-[Deleted Text End] **105.4%** |

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| March 1980 | -0.53 | [Deleted Text Start]-[Deleted Text End] 7.7% |
| April 1980 | -0.45 | [Deleted Text Start]-[Deleted Text End] 3.7% |
| May 1980 | -0.40 | **13.5%** |
| June 1980 | -0.36 | [Deleted Text Start]-[Deleted Text End] **27.1%** |
| July 1980 | -0.33 | 7.6% |
| August 1980 | -0.32 | 3.0% |
| September 1980 | -0.30 | 4.9% |
| October 1980 | -0.29 | [Deleted Text Start]-[Deleted Text End] 6.7% |
| November 1980 | -0.28 | [Deleted Text Start]-[Deleted Text End] **122.5%** |
| December 1980 | -0.28 | **31.9%** |
| January 1981 | -0.27 | 3.9% |
| February 1981 | -0.25 | 7.8% |
| March 1981 | -0.24 | [Deleted Text Start]-[Deleted Text End] 6.8% |
| April 1981 | -0.22 | [Deleted Text Start]-[Deleted Text End] 7.3% |
| May 1981 | -0.21 | 2.5% |
| June 1981 | -0.20 | 6.3% |
| July 1981 | -0.19 | 1.7% |
| August 1981 | -0.19 | 1.3% |
| September 1981 | -0.18 | 2.0% |
| October 1981 | -0.18 | [Deleted Text Start]-[Deleted Text End] 6.9% |
| November 1981 | -0.18 | 2.7% |
| December 1981 | -0.16 | 6.8% |
| January 1982 | -0.15 | 4.1% |
| February 1982 | -0.13 | [Deleted Text Start]-[Deleted Text End] 1.0% |
| March 1982 | -0.12 | [Deleted Text Start]-[Deleted Text End] 1.0% |
| April 1982 | -0.11 | [Deleted Text Start]-[Deleted Text End] 1.4% |
| May 1982 | -0.10 | [Deleted Text Start]-[Deleted Text End] 2.4% |
| June 1982 | -0.09 | 9.5% |
| July 1982 | -0.09 | 3.4% |
| August 1982 | -0.09 | 1.0% |

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| September 1982 | -0.08 | 1.4% |
| October 1982 | -0.08 | [Deleted Text Start]-[Deleted Text End] 1.4% |
| November 1982 | -0.08 | [Deleted Text Start]-[Deleted Text End] 9.6% |
| December 1982 | -0.08 | [Deleted Text Start]-[Deleted Text End] **26.1%** |
| January 1983 | -0.07 | [Deleted Text Start]-[Deleted Text End] 2.1% |
| February 1983 | -0.06 | 1.7% |
| March 1983 | -0.05 | 7.4% |
| April 1983 | -0.05 | [Deleted Text Start]-[Deleted Text End] 0.3% |
| May 1983 | -0.04 | [Deleted Text Start]-[Deleted Text End] 0.4% |
| June 1983 | -0.04 | [Deleted Text Start]-[Deleted Text End] 0.8% |
| July 1983 | -0.04 | [Deleted Text Start]-[Deleted Text End] 1.0% |
| August 1983 | -0.04 | 4.6% |
| September 1983 | -0.04 | 2.6% |
| October 1983 | -0.04 | [Deleted Text Start]-[Deleted Text End] 0.4% |
| November 1983 | -0.04 | 1.5% |
| December 1983 | -0.04 | 0.7% |
| January 1984 | -0.03 | [Deleted Text Start]-[Deleted Text End] 0.3% |
| February 1984 | -0.03 | [Deleted Text Start]-[Deleted Text End] 0.2% |
| March 1984 | -0.03 | [Deleted Text Start]-[Deleted Text End] 0.2% |
| April 1984 | -0.03 | [Deleted Text Start]-[Deleted Text End] 0.4% |
| May 1984 | -0.03 | 1.0% |
| June 1984 | -0.03 | [Deleted Text Start]-[Deleted Text End] 1.6% |
| July 1984 | -0.03 | 0.5% |
| August 1984 | -0.03 | 0.4% |
| September 1984 | -0.03 | [Deleted Text Start]-[Deleted Text End] 7.8% |
| October 1984 | -0.03 | [Deleted Text Start]-[Deleted Text End] 0.4% |

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| November 1984 | -0.03 | 1.0% |
| December 1984 | -0.03 | [Deleted Text Start]-[Deleted Text End] 0.4% |
| January 1985 | -0.03 | [Deleted Text Start]-[Deleted Text End] 0.2% |
| February 1985 | -0.03 | [Deleted Text Start]-[Deleted Text End] 0.2% |
| March 1985 | -0.03 | [Deleted Text Start]-[Deleted Text End] 0.3% |
| April 1985 | -0.03 | [Deleted Text Start]-[Deleted Text End] 0.8% |
| May 1985 | -0.02 | 0.4% |
| June 1985 | -0.02 | 1.1% |
| July 1985 | -0.03 | 0.3% |
| August 1985 | -0.03 | 0.2% |
| September 1985 | -0.03 | 0.3% |
| October 1985 | -0.03 | [Deleted Text Start]-[Deleted Text End] 0.5% |
| November 1985 | -0.03 | 0.8% |
| December 1985 | -0.03 | 1.5% |
| January 1986 | -0.03 | [Deleted Text Start]-[Deleted Text End] 5.7% |
| February 1986 | -0.02 | 0.2% |
| March 1986 | -0.02 | [Deleted Text Start]-[Deleted Text End] 0.3% |
| April 1986 | -0.02 | [Deleted Text Start]-[Deleted Text End] 0.1% |
| May 1986 | -0.02 | [Deleted Text Start]-[Deleted Text End] 0.6% |
| June 1986 | -0.02 | [Deleted Text Start]-[Deleted Text End] 0.8% |
| July 1986 | -0.02 | 0.7% |
| August 1986 | -0.02 | 0.3% |
| September 1986 | -0.02 | 0.4% |
| October 1986 | -0.02 | [Deleted Text Start]-[Deleted Text End] 0.3% |
| November 1986 | -0.02 | [Deleted Text Start]-[Deleted Text End] 1.1% |
| December 1986 | -0.02 | [Deleted Text Start]-[Deleted Text End] 0.4% |
| January 1987 | -0.02 | [Deleted Text Start]-[Deleted Text End] 0.6% |

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| February 1987 | -0.02 | [Deleted Text Start]-[Deleted Text End] 0.7% |
| March 1987 | -0.02 | [Deleted Text Start]-[Deleted Text End] 3.2% |
| April 1987 | -0.02 | [Deleted Text Start]-[Deleted Text End] 2.4% |
| May 1987 | -0.02 | 0.3% |
| June 1987 | -0.02 | 0.6% |
| July 1987 | -0.02 | 0.2% |
| August 1987 | -0.02 | 0.2% |
| September 1987 | -0.02 | 0.2% |
| October 1987 | -0.02 | [Deleted Text Start]-[Deleted Text End] 0.8% |
| November 1987 | -0.02 | 0.4% |
| December 1987 | -0.02 | [Deleted Text Start]-[Deleted Text End] 7.8% |
| January 1988 | -0.02 | 0.5% |
| February 1988 | -0.02 | [Deleted Text Start]-[Deleted Text End] 0.2% |
| March 1988 | -0.02 | [Deleted Text Start]-[Deleted Text End] 0.5% |
| April 1988 | -0.02 | 1.4% |
| May 1988 | -0.02 | 0.4% |
| June 1988 | -0.02 | 0.9% |
| July 1988 | -0.02 | 0.4% |
| August 1988 | -0.02 | 0.2% |
| September 1988 | -0.02 | 0.2% |
| October 1988 | -0.02 | [Deleted Text Start]-[Deleted Text End] 3.6% |
| November 1988 | -0.02 | 0.3% |
| December 1988 | -0.02 | 2.0% |
| January 1989 | -0.02 | 3.2% |
| February 1989 | -0.02 | [Deleted Text Start]-[Deleted Text End] 1.4% |
| March 1989 | -0.02 | 1.9% |
| April 1989 | -0.02 | 1.5% |
| May 1989 | -0.02 | 0.4% |
| June 1989 | -0.02 | 0.3% |
| July 1989 | -0.02 | 0.2% |
| August 1989 | -0.02 | 0.1% |
| September 1989 | -0.02 | 0.1% |

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| October 1989 | -0.02 | [Deleted Text Start]-[Deleted Text End] 0.7% |
| November 1989 | -0.02 | 0.9% |
| December 1989 | -0.02 | [Deleted Text Start]-[Deleted Text End] 1.5% |
| January 1990 | -0.02 | 0.8% |
| February 1990 | -0.02 | [Deleted Text Start]-[Deleted Text End] 1.3% |
| March 1990 | -0.02 | [Deleted Text Start]-[Deleted Text End] 3.1% |
| April 1990 | -0.02 | 0.4% |
| May 1990 | -0.02 | 0.2% |
| June 1990 | -0.02 | 0.2% |
| July 1990 | -0.02 | 0.2% |
| August 1990 | -0.02 | 0.1% |
| September 1990 | -0.02 | 0.2% |
| October 1990 | -0.02 | 0.6% |
| November 1990 | -0.02 | 0.2% |
| December 1990 | -0.02 | 0.5% |
| January 1991 | -0.01 | 0.3% |
| February 1991 | -0.02 | 0.3% |
| March 1991 | -0.02 | 0.2% |
| April 1991 | -0.02 | 0.9% |
| May 1991 | -0.02 | 0.2% |
| June 1991 | -0.02 | 0.1% |
| July 1991 | -0.02 | 0.1% |
| August 1991 | -0.01 | 0.1% |
| September 1991 | -0.01 | 0.1% |
| October 1991 | -0.01 | 0.1% |
| November 1991 | -0.01 | 0.1% |
| December 1991 | -0.01 | 0.1% |
| January 1992 | -0.01 | 0.1% |
| February 1992 | -0.02 | 0.1% |
| March 1992 | -0.02 | 0.4% |
| April 1992 | -0.02 | 1.7% |
| May 1992 | -0.02 | 0.2% |
| June 1992 | -0.02 | 0.1% |
| July 1992 | -0.01 | 0.1% |
| August 1992 | -0.01 | 0.1% |
| September 1992 | -0.01 | 0.1% |

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| October 1992 | 0.00 | 0.1% |
| November 1992 | 0.00 | 0.0% |
| December 1992 | -0.01 | 0.1% |
| January 1993 | -0.03 | 0.1% |
| February 1993 | -0.02 | 0.2% |
| March 1993 | -0.02 | [Deleted Text Start]-[Deleted Text End] 0.3% |
| April 1993 | -0.02 | [Deleted Text Start]-[Deleted Text End] 0.2% |
| May 1993 | -0.02 | 1.3% |
| June 1993 | -0.02 | 0.6% |
| July 1993 | -0.01 | 0.3% |
| August 1993 | -0.01 | 0.3% |
| September 1993 | -0.01 | 0.2% |
| October 1993 | -0.01 | **10.4%** |
| November 1993 | -0.01 | 0.3% |
| December 1993 | -0.01 | 0.3% |
| January 1994 | -0.01 | 0.9% |
| February 1994 | -0.01 | 0.2% |
| March 1994 | -0.01 | [Deleted Text Start]-[Deleted Text End] 1.7% |
| April 1994 | -0.01 | 0.6% |
| May 1994 | -0.01 | 0.1% |
| June 1994 | -0.01 | 0.1% |
| July 1994 | -0.01 | 0.1% |
| August 1994 | -0.01 | 0.1% |
| September 1994 | -0.01 | 0.1% |
| October 1994 | -0.01 | 0.1% |
| November 1994 | -0.01 | 0.1% |
| December 1994 | -0.01 | 0.1% |
| January 1995 | -0.02 | 0.1% |
| February 1995 | -0.01 | [Deleted Text Start]-[Deleted Text End] 2.2% |
| March 1995 | -0.01 | 0.5% |
| April 1995 | -0.01 | [Deleted Text Start]-[Deleted Text End] 0.1% |
| May 1995 | -0.01 | [Deleted Text Start]-[Deleted Text End] 0.2% |
| June 1995 | -0.01 | [Deleted Text Start]-[Deleted Text End] 0.3% |

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| July 1995 | -0.01 | [Deleted Text Start]-[Deleted Text End] 1.5% |
| August 1995 | -0.01 | 1.0% |
| September 1995 | -0.01 | 0.2% |
| October 1995 | -0.01 | 2.4% |
| November 1995 | -0.01 | 0.3% |
| December 1995 | -0.01 | 0.2% |
| January 1996 | -0.01 | 0.4% |
| February 1996 | -0.01 | 0.1% |
| March 1996 | -0.01 | [Deleted Text Start]-[Deleted Text End] 0.1% |
| April 1996 | -0.01 | [Deleted Text Start]-[Deleted Text End] 0.1% |
| May 1996 | -0.01 | [Deleted Text Start]-[Deleted Text End] 0.2% |
| June 1996 | -0.01 | [Deleted Text Start]-[Deleted Text End] 0.2% |
| July 1996 | -0.01 | [Deleted Text Start]-[Deleted Text End] 0.4% |
| August 1996 | -0.01 | 0.3% |
| September 1996 | -0.01 | 0.1% |
| October 1996 | -0.01 | [Deleted Text Start]-[Deleted Text End] 0.3% |
| November 1996 | -0.01 | 0.2% |
| December 1996 | -0.01 | [Deleted Text Start]-[Deleted Text End] 3.1% |
| January 1997 | -0.01 | 0.1% |
| February 1997 | -0.01 | [Deleted Text Start]-[Deleted Text End] 0.1% |
| March 1997 | -0.01 | [Deleted Text Start]-[Deleted Text End] 0.1% |
| April 1997 | -0.01 | [Deleted Text Start]-[Deleted Text End] 0.1% |
| May 1997 | -0.01 | [Deleted Text Start]-[Deleted Text End] 0.2% |
| June 1997 | -0.01 | [Deleted Text Start]-[Deleted Text End] 0.3% |
| July 1997 | -0.01 | 0.3% |
| August 1997 | -0.01 | 0.1% |
| September 1997 | -0.01 | 0.2% |
| October 1997 | -0.01 | [Deleted Text Start]-[Deleted Text End] 0.4% |

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| November 1997 | -0.01 | 0.1% |
| December 1997 | 0.00 | 0.2% |
| January 1998 | 0.00 | 0.3% |
| February 1998 | 0.00 | 0.1% |
| March 1998 | 0.00 | 0.0% |
| April 1998 | 0.00 | 0.0% |
| May 1998 | 0.00 | 0.0% |
| June 1998 | 0.00 | [Deleted Text Start]-[Deleted Text End] 0.1% |
| July 1998 | 0.00 | 0.0% |
| August 1998 | 0.00 | 1.5% |
| September 1998 | 0.00 | 0.3% |
| October 1998 | 0.00 | 0.0% |
| November 1998 | 0.00 | [Deleted Text Start]-[Deleted Text End] 0.4% |
| December 1998 | 0.00 | [Deleted Text Start]-[Deleted Text End] 0.1% |
| January 1999 | 0.00 | 0.0% |
| February 1999 | 0.00 | [Deleted Text Start]-[Deleted Text End] 0.1% |
| March 1999 | 0.00 | 0.0% |
| April 1999 | 0.00 | 0.0% |
| May 1999 | 0.00 | [Deleted Text Start]-[Deleted Text End] 0.1% |
| June 1999 | 0.00 | [Deleted Text Start]-[Deleted Text End] 0.2% |
| July 1999 | 0.00 | 0.3% |
| August 1999 | 0.00 | 0.1% |
| September 1999 | 0.00 | 0.1% |
| October 1999 | 0.00 | [Deleted Text Start]-[Deleted Text End] 0.1% |
| November 1999 | 0.00 | 0.1% |
| December 1999 | 0.00 | [Deleted Text Start]-[Deleted Text End] 0.3% |
| January 2000 | 0.00 | 0.8% |
| February 2000 | 0.00 | 0.1% |
| March 2000 | 0.00 | 0.0% |
| April 2000 | 0.00 | 0.0% |
| May 2000 | 0.00 | [Deleted Text Start]-[Deleted Text End] 0.1% |

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| June 2000 | 0.00 | [Deleted Text Start]-[Deleted Text End] 0.1% |
| July 2000 | 0.00 | 0.5% |
| August 2000 | 0.00 | 0.1% |
| September 2000 | 0.00 | 0.1% |
| October 2000 | 0.00 | [Deleted Text Start]-[Deleted Text End] 0.2% |
| November 2000 | 0.00 | 0.4% |
| December 2000 | 0.00 | 0.4% |
| January 2001 | 0.00 | 0.1% |
| February 2001 | 0.00 | [Deleted Text Start]-[Deleted Text End] 0.2% |
| March 2001 | 0.00 | [Deleted Text Start]-[Deleted Text End] 0.1% |
| April 2001 | 0.00 | 0.0% |
| May 2001 | 0.00 | [Deleted Text Start]-[Deleted Text End] 0.2% |
| June 2001 | 0.00 | 0.3% |
| July 2001 | 0.00 | 0.1% |
| August 2001 | 0.00 | 0.0% |
| September 2001 | 0.00 | 0.1% |
| October 2001 | 0.00 | 0.4% |
| November 2001 | 0.00 | 0.0% |
| December 2001 | 0.00 | 0.1% |
| January 2002 | 0.00 | 0.4% |
| February 2002 | 0.00 | 0.0% |
| March 2002 | 0.00 | 0.0% |
| April 2002 | 0.00 | [Deleted Text Start]-[Deleted Text End] 0.1% |
| May 2002 | 0.00 | 0.2% |
| June 2002 | 0.00 | 0.5% |
| July 2002 | 0.00 | 0.1% |
| August 2002 | 0.00 | 0.0% |
| September 2002 | 0.00 | 0.2% |
| October 2002 | 0.00 | [Deleted Text Start]-[Deleted Text End] 2.0% |
| November 2002 | 0.00 | 0.0% |
| December 2002 | 0.00 | 0.0% |
| January 2003 | 0.00 | 0.1% |
| February 2003 | 0.00 | 0.0% |
| March 2003 | 0.00 | 0.0% |

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| April 2003 | 0.00 | 0.0% |
| May 2003 | 0.00 | 0.0% |
| June 2003 | 0.00 | [Deleted Text Start]-[Deleted Text End] 0.1% |
| July 2003 | 0.00 | 0.5% |
| August 2003 | 0.00 | 0.0% |
| September 2003 | 0.00 | 0.3% |

***Page E4-12***

Table E4-2 on page E4-12 of the Draft EA/IS is revised as follows:

**Table E4-2. Modeled Streamflow Depletion in Colusa Basin Drain under Proposed Action in Comparison to No Action/No Project Alternative**

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| September 1969 | 0.00 | 0.0% |
| October 1969 | 0.00 | 0.0% |
| November 1969 | 0.00 | 0.0% |
| December 1969 | 0.00 | 0.0% |
| January 1970 | 0.00 | 0.0% |
| February 1970 | 0.00 | 0.0% |
| March 1970 | 0.00 | 0.0% |
| April 1970 | 0.00 | 0.0% |
| May 1970 | 0.00 | 0.0% |
| June 1970 | 0.00 | 0.0% |
| July 1970 | 0.00 | 0.0% |
| August 1970 | 0.00 | 0.0% |
| September 1970 | 0.00 | 0.0% |
| October 1970 | 0.00 | 0.0% |
| November 1970 | 0.00 | 0.0% |
| December 1970 | 0.00 | 0.0% |
| January 1971 | 0.00 | 0.0% |
| February 1971 | 0.00 | 0.0% |
| March 1971 | 0.00 | 0.0% |
| April 1971 | 0.00 | 0.0% |
| May 1971 | 0.00 | 0.0% |

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| June 1971 | 0.00 | 0.0% |
| July 1971 | 0.00 | 0.0% |
| August 1971 | 0.00 | 0.0% |
| September 1971 | 0.00 | 0.0% |
| October 1971 | 0.00 | 0.0% |
| November 1971 | 0.00 | 0.0% |
| December 1971 | 0.00 | 0.0% |
| January 1972 | 0.00 | 0.0% |
| February 1972 | 0.00 | 0.0% |
| March 1972 | 0.00 | 0.0% |
| April 1972 | 0.00 | 0.0% |
| May 1972 | 0.00 | 0.0% |
| June 1972 | 0.00 | 0.0% |
| July 1972 | 0.00 | 0.0% |
| August 1972 | 0.00 | 0.0% |
| September 1972 | 0.00 | 0.0% |
| October 1972 | 0.00 | 0.0% |
| November 1972 | 0.00 | 0.0% |
| December 1972 | 0.00 | 0.0% |
| January 1973 | 0.00 | 0.0% |
| February 1973 | 0.00 | 0.0% |
| March 1973 | 0.00 | 0.0% |
| April 1973 | 0.00 | 0.0% |
| May 1973 | 0.00 | 0.0% |
| June 1973 | 0.00 | 0.0% |
| July 1973 | 0.00 | 0.0% |
| August 1973 | 0.00 | 0.0% |
| September 1973 | 0.00 | 0.0% |
| October 1973 | 0.00 | 0.0% |
| November 1973 | 0.00 | 0.0% |
| December 1973 | 0.00 | 0.0% |
| January 1974 | 0.00 | 0.0% |
| February 1974 | 0.00 | 0.0% |
| March 1974 | 0.00 | 0.0% |
| April 1974 | 0.00 | 0.0% |
| May 1974 | 0.00 | 0.0% |
| June 1974 | 0.00 | 0.0% |
| July 1974 | 0.00 | 0.0% |
| August 1974 | 0.00 | 0.0% |
| September 1974 | 0.00 | 0.0% |

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| October 1974 | 0.00 | 0.0% |
| November 1974 | 0.00 | 0.0% |
| December 1974 | 0.00 | 0.0% |
| January 1975 | 0.00 | 0.0% |
| February 1975 | 0.00 | 0.0% |
| March 1975 | 0.00 | 0.0% |
| April 1975 | 0.00 | 0.0% |
| May 1975 | 0.00 | 0.0% |
| June 1975 | 0.00 | 0.0% |
| July 1975 | 0.00 | 0.0% |
| August 1975 | 0.00 | 0.0% |
| September 1975 | 0.00 | 0.0% |
| October 1975 | 0.00 | 0.0% |
| November 1975 | 0.00 | 0.0% |
| December 1975 | 0.00 | 0.0% |
| January 1976 | 0.00 | 0.0% |
| February 1976 | 0.00 | 0.0% |
| March 1976 | 0.00 | 0.0% |
| April 1976 | 0.00 | 0.0% |
| May 1976 | 0.00 | 0.0% |
| June 1976 | 0.00 | 0.0% |
| July 1976 | 0.00 | 0.0% |
| August 1976 | 0.00 | 0.0% |
| September 1976 | 0.00 | 0.0% |
| October 1976 | 0.00 | 0.0% |
| November 1976 | 0.00 | 0.0% |
| December 1976 | 0.00 | 0.0% |
| January 1977 | 0.00 | 0.0% |
| February 1977 | 0.00 | 0.0% |
| March 1977 | 0.00 | 0.0% |
| April 1977 | -0.43 | 4.0% |
| May 1977 | -0.80 | 0.8% |
| June 1977 | -0.69 | 2.1% |
| July 1977 | -0.87 | 1.9% |
| August 1977 | **-1.13** | 1.3% |
| September 1977 | **-1.32** | 1.8% |
| October 1977 | **-1.24** | 5.4% |
| November 1977 | **-1.20** | 2.9% |
| December 1977 | **-1.16** | 3.0% |
| January 1978 | **-4.06** | 1.9% |

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| February 1978 | **-5.08** | 3.0% |
| March 1978 | **-4.99** | 4.7% |
| April 1978 | **-4.22** | **19.6%** |
| May 1978 | **-3.83** | 5.0% |
| June 1978 | **-2.68** | 4.4% |
| July 1978 | **-2.49** | 2.7% |
| August 1978 | **-2.74** | 2.2% |
| September 1978 | **-2.69** | 2.6% |
| October 1978 | **-1.20** | 7.7% |
| November 1978 | **-1.17** | 3.1% |
| December 1978 | **-1.07** | 7.4% |
| January 1979 | **-1.76** | 2.2% |
| February 1979 | **-3.09** | 3.5% |
| March 1979 | **-2.74** | 8.4% |
| April 1979 | **-2.53** | 6.8% |
| May 1979 | **-2.75** | 2.9% |
| June 1979 | **-1.85** | 3.1% |
| July 1979 | **-1.82** | 1.8% |
| August 1979 | **-2.10** | 1.5% |
| September 1979 | **-1.95** | 1.7% |
| October 1979 | -1.00 | 7.5% |
| November 1979 | **-1.35** | 2.1% |
| December 1979 | **-1.58** | 2.2% |
| January 1980 | **-2.22** | 1.6% |
| February 1980 | **-2.20** | 2.0% |
| March 1980 | **-2.20** | 3.1% |
| April 1980 | **-1.98** | **32.5%** |
| May 1980 | **-1.85** | 1.9% |
| June 1980 | **-1.54** | 2.6% |
| July 1980 | **-1.40** | 1.5% |
| August 1980 | **-1.32** | 1.0% |
| September 1980 | **-1.29** | 1.3% |
| October 1980 | **-1.11** | 9.2% |
| November 1980 | -0.94 | 3.3% |
| December 1980 | -0.93 | 2.9% |
| January 1981 | **-1.25** | 1.5% |
| February 1981 | **-1.30** | 1.8% |
| March 1981 | **-1.26** | 5.1% |
| April 1981 | **-1.14** | 5.0% |
| May 1981 | **-1.13** | 1.1% |

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| June 1981 | -0.91 | 1.6% |
| July 1981 | -0.91 | 0.7% |
| August 1981 | -0.88 | 0.6% |
| September 1981 | -0.85 | 0.7% |
| October 1981 | -0.72 | 3.9% |
| November 1981 | -0.82 | 0.9% |
| December 1981 | -0.82 | 1.0% |
| January 1982 | -0.92 | 0.7% |
| February 1982 | -0.86 | 7.6% |
| March 1982 | -0.87 | 6.2% |
| April 1982 | -0.85 | 1.9% |
| May 1982 | -0.80 | 1.4% |
| June 1982 | -0.75 | 0.9% |
| July 1982 | -0.71 | 0.8% |
| August 1982 | -0.71 | 0.5% |
| September 1982 | -0.75 | 0.7% |
| October 1982 | -0.64 | 3.3% |
| November 1982 | -0.62 | 1.1% |
| December 1982 | -0.66 | 0.9% |
| January 1983 | -0.74 | 1.1% |
| February 1983 | **-1.03** | 0.7% |
| March 1983 | **-1.03** | 0.7% |
| April 1983 | -0.87 | [Deleted Text Start]-[Deleted Text End] **12.5%** |
| May 1983 | -0.67 | 4.2% |
| June 1983 | -0.59 | 1.2% |
| July 1983 | -0.52 | 1.0% |
| August 1983 | -0.50 | 0.6% |
| September 1983 | -0.50 | 0.6% |
| October 1983 | -0.39 | [Deleted Text Start]-[Deleted Text End] **10.7%** |
| November 1983 | -0.53 | 0.6% |
| December 1983 | -0.63 | 0.5% |
| January 1984 | -0.56 | 1.8% |
| February 1984 | -0.44 | [Deleted Text Start]-[Deleted Text End] 1.1% |
| March 1984 | -0.38 | [Deleted Text Start]-[Deleted Text End] 1.1% |
| April 1984 | -0.37 | 4.1% |
| May 1984 | -0.40 | 0.5% |

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| June 1984 | -0.35 | 0.8% |
| July 1984 | -0.36 | 0.4% |
| August 1984 | -0.38 | 0.3% |
| September 1984 | -0.33 | 0.6% |
| October 1984 | -0.27 | **16.1%** |
| November 1984 | -0.34 | 0.4% |
| December 1984 | -0.32 | 1.3% |
| January 1985 | -0.26 | [Deleted Text Start]-[Deleted Text End] 2.1% |
| February 1985 | -0.24 | [Deleted Text Start]-[Deleted Text End] 1.1% |
| March 1985 | -0.23 | [Deleted Text Start]-[Deleted Text End] 1.9% |
| April 1985 | -0.24 | 1.3% |
| May 1985 | -0.28 | 0.3% |
| June 1985 | -0.23 | 0.4% |
| July 1985 | -0.26 | 0.2% |
| August 1985 | -0.25 | 0.2% |
| September 1985 | -0.25 | 0.2% |
| October 1985 | -0.19 | 4.0% |
| November 1985 | -0.20 | 0.3% |
| December 1985 | -0.20 | 0.4% |
| January 1986 | -0.21 | 0.4% |
| February 1986 | -0.38 | 0.2% |
| March 1986 | -0.33 | 0.5% |
| April 1986 | -0.25 | [Deleted Text Start]-[Deleted Text End] 1.5% |
| May 1986 | -0.24 | 0.5% |
| June 1986 | -0.22 | 0.4% |
| July 1986 | -0.21 | 0.3% |
| August 1986 | -0.21 | 0.2% |
| September 1986 | -0.21 | 0.2% |
| October 1986 | -0.17 | **16.3%** |
| November 1986 | -0.16 | 0.6% |
| December 1986 | -0.15 | 4.0% |
| January 1987 | -0.15 | 1.7% |
| February 1987 | -0.15 | 1.0% |
| March 1987 | -0.16 | 0.5% |
| April 1987 | -0.16 | 0.5% |
| May 1987 | -0.18 | 0.2% |

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| June 1987 | -0.15 | 0.2% |
| July 1987 | -0.14 | 0.2% |
| August 1987 | -0.14 | 0.1% |
| September 1987 | -0.14 | 0.1% |
| October 1987 | -0.13 | 0.7% |
| November 1987 | -0.13 | 0.2% |
| December 1987 | -0.13 | 0.3% |
| January 1988 | -0.15 | 0.2% |
| February 1988 | -0.14 | [Deleted Text Start]-[Deleted Text End] 7.3% |
| March 1988 | -0.13 | 0.5% |
| April 1988 | -0.14 | 0.3% |
| May 1988 | -0.13 | 0.2% |
| June 1988 | -0.12 | 0.2% |
| July 1988 | -0.11 | 0.1% |
| August 1988 | -0.12 | 0.1% |
| September 1988 | -0.12 | 0.1% |
| October 1988 | -0.11 | 0.3% |
| November 1988 | -0.11 | 0.2% |
| December 1988 | -0.10 | 0.3% |
| January 1989 | -0.10 | 0.3% |
| February 1989 | -0.09 | 0.4% |
| March 1989 | -0.11 | 0.2% |
| April 1989 | -0.10 | 0.2% |
| May 1989 | -0.11 | 0.1% |
| June 1989 | -0.10 | 0.1% |
| July 1989 | -0.11 | 0.1% |
| August 1989 | -0.11 | 0.1% |
| September 1989 | -0.11 | 0.1% |
| October 1989 | -0.10 | 0.4% |
| November 1989 | -0.08 | 0.2% |
| December 1989 | -0.07 | 0.4% |
| January 1990 | -0.08 | 0.2% |
| February 1990 | -0.08 | 0.4% |
| March 1990 | -0.08 | 0.3% |
| April 1990 | -0.08 | 0.2% |
| May 1990 | -0.09 | 0.1% |
| June 1990 | -0.07 | 0.1% |
| July 1990 | -0.07 | 0.1% |
| August 1990 | -0.08 | 0.1% |

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| September 1990 | -0.08 | 0.1% |
| October 1990 | -0.06 | 0.2% |
| November 1990 | -0.07 | 0.1% |
| December 1990 | -0.05 | 0.2% |
| January 1991 | -0.04 | 0.2% |
| February 1991 | -0.04 | 0.1% |
| March 1991 | -0.10 | 0.1% |
| April 1991 | -0.09 | 0.2% |
| May 1991 | -0.07 | 0.1% |
| June 1991 | -0.05 | 0.1% |
| July 1991 | -0.04 | 0.1% |
| August 1991 | -0.04 | 0.0% |
| September 1991 | -0.06 | 0.1% |
| October 1991 | -0.04 | 0.1% |
| November 1991 | -0.04 | 0.1% |
| December 1991 | -0.03 | 0.1% |
| January 1992 | -0.03 | 0.1% |
| February 1992 | -0.08 | 0.1% |
| March 1992 | -0.08 | 0.1% |
| April 1992 | -0.06 | 0.2% |
| May 1992 | -0.03 | 0.1% |
| June 1992 | -0.03 | 0.1% |
| July 1992 | -0.02 | 0.1% |
| August 1992 | -0.02 | 0.0% |
| September 1992 | -0.03 | 0.0% |
| October 1992 | -0.03 | 0.1% |
| November 1992 | -0.03 | 0.1% |
| December 1992 | -0.03 | 0.1% |
| January 1993 | -0.11 | 0.0% |
| February 1993 | -0.11 | 0.1% |
| March 1993 | -0.09 | 0.1% |
| April 1993 | -0.08 | 0.3% |
| May 1993 | -0.07 | 0.2% |
| June 1993 | -0.05 | 0.1% |
| July 1993 | -0.04 | 0.1% |
| August 1993 | -0.05 | 0.1% |
| September 1993 | -0.06 | 0.1% |
| October 1993 | -0.04 | 0.1% |
| November 1993 | -0.05 | 0.1% |
| December 1993 | -0.06 | 0.1% |

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| January 1994 | -0.05 | 0.1% |
| February 1994 | -0.07 | 0.1% |
| March 1994 | -0.06 | 0.2% |
| April 1994 | -0.05 | 0.1% |
| May 1994 | -0.04 | 0.1% |
| June 1994 | -0.02 | 0.1% |
| July 1994 | -0.02 | 0.1% |
| August 1994 | -0.03 | 0.0% |
| September 1994 | -0.03 | 0.0% |
| October 1994 | -0.02 | 0.1% |
| November 1994 | -0.03 | 0.0% |
| December 1994 | -0.04 | 0.1% |
| January 1995 | -0.09 | 0.0% |
| February 1995 | -0.09 | 0.1% |
| March 1995 | -0.09 | 0.1% |
| April 1995 | -0.08 | 0.3% |
| May 1995 | -0.06 | 0.2% |
| June 1995 | -0.05 | 0.1% |
| July 1995 | -0.05 | 0.1% |
| August 1995 | -0.05 | 0.1% |
| September 1995 | -0.05 | 0.0% |
| October 1995 | -0.05 | 0.1% |
| November 1995 | -0.05 | 0.1% |
| December 1995 | -0.06 | 0.1% |
| January 1996 | -0.07 | 0.1% |
| February 1996 | -0.06 | 0.0% |
| March 1996 | -0.06 | 0.1% |
| April 1996 | -0.06 | 0.1% |
| May 1996 | -0.06 | 0.1% |
| June 1996 | -0.05 | 0.1% |
| July 1996 | -0.05 | 0.1% |
| August 1996 | -0.05 | 0.1% |
| September 1996 | -0.05 | 0.1% |
| October 1996 | -0.05 | 0.1% |
| November 1996 | -0.05 | 0.1% |
| December 1996 | -0.05 | 0.1% |
| January 1997 | -0.05 | 0.0% |
| February 1997 | -0.06 | 0.1% |
| March 1997 | -0.05 | 0.3% |
| April 1997 | -0.05 | 0.2% |

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| May 1997 | -0.05 | 0.1% |
| June 1997 | -0.04 | 0.1% |
| July 1997 | -0.04 | 0.1% |
| August 1997 | -0.04 | 0.0% |
| September 1997 | -0.04 | 0.1% |
| October 1997 | -0.04 | 0.1% |
| November 1997 | -0.04 | 0.0% |
| December 1997 | -0.04 | 0.1% |
| January 1998 | -0.06 | 0.1% |
| February 1998 | -0.07 | 0.0% |
| March 1998 | -0.06 | 0.2% |
| April 1998 | -0.05 | 0.2% |
| May 1998 | -0.05 | 0.3% |
| June 1998 | -0.04 | 0.1% |
| July 1998 | -0.04 | 0.1% |
| August 1998 | -0.04 | 0.0% |
| September 1998 | -0.04 | 0.0% |
| October 1998 | -0.03 | 0.7% |
| November 1998 | -0.04 | 0.1% |
| December 1998 | -0.03 | 0.1% |
| January 1999 | -0.03 | **34.1%** |
| February 1999 | -0.04 | 0.1% |
| March 1999 | -0.04 | 0.8% |
| April 1999 | -0.03 | 0.5% |
| May 1999 | -0.03 | 0.1% |
| June 1999 | -0.03 | 0.1% |
| July 1999 | -0.03 | 0.0% |
| August 1999 | -0.03 | 0.0% |
| September 1999 | -0.04 | 0.0% |
| October 1999 | -0.03 | 0.1% |
| November 1999 | -0.03 | 0.1% |
| December 1999 | -0.03 | 0.1% |
| January 2000 | -0.03 | 0.1% |
| February 2000 | -0.04 | 0.0% |
| March 2000 | -0.04 | 0.1% |
| April 2000 | -0.03 | [Deleted Text Start]-[Deleted Text End] 0.9% |
| May 2000 | -0.03 | 0.1% |
| June 2000 | -0.03 | 0.1% |
| July 2000 | -0.03 | 0.0% |

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| August 2000 | -0.03 | 0.0% |
| September 2000 | -0.03 | 0.0% |
| October 2000 | -0.03 | 0.1% |
| November 2000 | -0.03 | 0.1% |
| December 2000 | -0.03 | 0.1% |
| January 2001 | -0.03 | 0.0% |
| February 2001 | -0.03 | 0.1% |
| March 2001 | -0.03 | 0.1% |
| April 2001 | -0.03 | 0.2% |
| May 2001 | -0.03 | 0.1% |
| June 2001 | -0.03 | 0.1% |
| July 2001 | -0.03 | 0.0% |
| August 2001 | -0.03 | 0.0% |
| September 2001 | -0.03 | 0.0% |
| October 2001 | -0.03 | 0.1% |
| November 2001 | -0.03 | 0.0% |
| December 2001 | -0.03 | 0.0% |
| January 2002 | -0.03 | 0.0% |
| February 2002 | -0.03 | [Deleted Text Start]-[Deleted Text End] 0.1% |
| March 2002 | -0.03 | **2.3%** |
| April 2002 | -0.03 | 0.1% |
| May 2002 | -0.03 | 0.0% |
| June 2002 | -0.02 | 0.0% |
| July 2002 | -0.02 | 0.0% |
| August 2002 | -0.02 | 0.0% |
| September 2002 | -0.02 | 0.0% |
| October 2002 | -0.02 | 0.1% |
| November 2002 | -0.02 | 0.0% |
| December 2002 | -0.03 | 0.0% |
| January 2003 | -0.03 | 0.0% |
| February 2003 | -0.03 | 0.2% |
| March 2003 | -0.02 | [Deleted Text Start]-[Deleted Text End] 0.2% |
| April 2003 | -0.02 | 0.2% |
| May 2003 | -0.02 | 0.1% |
| June 2003 | -0.02 | 0.1% |
| July 2003 | -0.02 | 0.0% |
| August 2003 | -0.02 | 0.0% |
| September 2003 | -0.02 | 0.0% |

***Page E4-22***

Table E4-3 on page E4-22 of the Draft EA/IS is revised as follows:

**Table E4-3. Modeled Streamflow Depletion in Eastside/Cross Canal under Proposed Action in Comparison to No Action/No Project Alternative**

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| September 1969 | 0.00 | 0.0% |
| October 1969 | 0.00 | 0.0% |
| November 1969 | 0.00 | 0.0% |
| December 1969 | 0.00 | 0.0% |
| January 1970 | 0.00 | 0.0% |
| February 1970 | 0.00 | 0.0% |
| March 1970 | 0.00 | 0.0% |
| April 1970 | 0.00 | 0.0% |
| May 1970 | 0.00 | 0.0% |
| June 1970 | 0.00 | 0.0% |
| July 1970 | 0.00 | 0.0% |
| August 1970 | 0.00 | 0.0% |
| September 1970 | 0.00 | 0.0% |
| October 1970 | 0.00 | 0.0% |
| November 1970 | 0.00 | 0.0% |
| December 1970 | 0.00 | 0.0% |
| January 1971 | 0.00 | 0.0% |
| February 1971 | 0.00 | 0.0% |
| March 1971 | 0.00 | 0.0% |
| April 1971 | 0.00 | 0.0% |
| May 1971 | 0.00 | 0.0% |
| June 1971 | 0.00 | 0.0% |
| July 1971 | 0.00 | 0.0% |
| August 1971 | 0.00 | 0.0% |
| September 1971 | 0.00 | 0.0% |
| October 1971 | 0.00 | 0.0% |
| November 1971 | 0.00 | 0.0% |
| December 1971 | 0.00 | 0.0% |
| January 1972 | 0.00 | 0.0% |
| February 1972 | 0.00 | 0.0% |
| March 1972 | 0.00 | 0.0% |
| April 1972 | 0.00 | 0.0% |
| May 1972 | 0.00 | 0.0% |
| June 1972 | 0.00 | 0.0% |

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| July 1972 | 0.00 | 0.0% |
| August 1972 | 0.00 | 0.0% |
| September 1972 | 0.00 | 0.0% |
| October 1972 | 0.00 | 0.0% |
| November 1972 | 0.00 | 0.0% |
| December 1972 | 0.00 | 0.0% |
| January 1973 | 0.00 | 0.0% |
| February 1973 | 0.00 | 0.0% |
| March 1973 | 0.00 | 0.0% |
| April 1973 | 0.00 | 0.0% |
| May 1973 | 0.00 | 0.0% |
| June 1973 | 0.00 | 0.0% |
| July 1973 | 0.00 | 0.0% |
| August 1973 | 0.00 | 0.0% |
| September 1973 | 0.00 | 0.0% |
| October 1973 | 0.00 | 0.0% |
| November 1973 | 0.00 | 0.0% |
| December 1973 | 0.00 | 0.0% |
| January 1974 | 0.00 | 0.0% |
| February 1974 | 0.00 | 0.0% |
| March 1974 | 0.00 | 0.0% |
| April 1974 | 0.00 | 0.0% |
| May 1974 | 0.00 | 0.0% |
| June 1974 | 0.00 | 0.0% |
| July 1974 | 0.00 | 0.0% |
| August 1974 | 0.00 | 0.0% |
| September 1974 | 0.00 | 0.0% |
| October 1974 | 0.00 | 0.0% |
| November 1974 | 0.00 | 0.0% |
| December 1974 | 0.00 | 0.0% |
| January 1975 | 0.00 | 0.0% |
| February 1975 | 0.00 | 0.0% |
| March 1975 | 0.00 | 0.0% |
| April 1975 | 0.00 | 0.0% |
| May 1975 | 0.00 | 0.0% |
| June 1975 | 0.00 | 0.0% |
| July 1975 | 0.00 | 0.0% |
| August 1975 | 0.00 | 0.0% |
| September 1975 | 0.00 | 0.0% |
| October 1975 | 0.00 | 0.0% |

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| November 1975 | 0.00 | 0.0% |
| December 1975 | 0.00 | 0.0% |
| January 1976 | 0.00 | 0.0% |
| February 1976 | 0.00 | 0.0% |
| March 1976 | 0.00 | 0.0% |
| April 1976 | 0.00 | 0.0% |
| May 1976 | 0.00 | 0.0% |
| June 1976 | 0.00 | 0.0% |
| July 1976 | 0.00 | 0.0% |
| August 1976 | 0.00 | 0.0% |
| September 1976 | 0.00 | 0.0% |
| October 1976 | 0.00 | 0.0% |
| November 1976 | 0.00 | 0.0% |
| December 1976 | 0.00 | 0.0% |
| January 1977 | 0.00 | 0.0% |
| February 1977 | 0.00 | 0.0% |
| March 1977 | 0.00 | 0.0% |
| April 1977 | -0.87 | 3.9% |
| May 1977 | **-7.42** | 9.9% |
| June 1977 | **-2.02** | 4.5% |
| July 1977 | **-2.38** | 4.3% |
| August 1977 | **-15.00** | **17.1%** |
| September 1977 | **-13.72** | **17.8%** |
| October 1977 | -0.62 | 2.0% |
| November 1977 | **-2.12** | 4.3% |
| December 1977 | **-3.04** | 6.7% |
| January 1978 | **-16.05** | **15.2%** |
| February 1978 | **-9.74** | **14.1%** |
| March 1978 | **-7.57** | **16.4%** |
| April 1978 | **-5.70** | **20.7%** |
| May 1978 | **-5.33** | **10.2%** |
| June 1978 | **-4.56** | 8.5% |
| July 1978 | **-4.26** | 6.3% |
| August 1978 | **-3.95** | 5.0% |
| September 1978 | **-3.72** | 5.3% |
| October 1978 | -0.99 | 2.9% |
| November 1978 | **-2.80** | 6.2% |
| December 1978 | -0.84 | 3.5% |
| January 1979 | **-3.65** | 7.1% |
| February 1979 | **-2.99** | 6.9% |

| Date | **Proposed Action in Comparison to No Action/No Project Alternative (cfs)** | **Proposed Action in Comparison to No Action/No Project Alternative (Percent** [Deleted Text Start] ~~**Change**~~ [Deleted Text End] ***Reduction***) |
|---|---|---|
| March 1979 | **-2.53** | **10.6%** |
| April 1979 | **-2.25** | 7.8% |
| May 1979 | **-2.24** | 4.4% |
| June 1979 | **-1.92** | 4.2% |
| July 1979 | **-1.80** | 2.8% |
| August 1979 | **-1.92** | 2.6% |
| September 1979 | **-1.75** | 2.7% |
| October 1979 | -0.85 | 2.8% |
| November 1979 | **-1.57** | 3.3% |
| December 1979 | **-1.47** | 3.4% |
| January 1980 | **-1.60** | 3.4% |
| February 1980 | **-1.39** | 4.5% |
| March 1980 | **-1.28** | 6.3% |
| April 1980 | **-1.07** | 7.7% |
| May 1980 | **-1.16** | 2.7% |
| June 1980 | **-1.01** | 2.5% |
| July 1980 | -0.97 | 1.8% |
| August 1980 | -0.99 | 1.5% |
| September 1980 | -0.88 | 1.6% |
| October 1980 | -0.71 | 2.4% |
| November 1980 | -0.72 | 2.1% |
| December 1980 | -0.77 | 2.4% |
| January 1981 | -0.81 | 2.0% |
| February 1981 | -0.74 | 2.4% |
| March 1981 | -0.70 | 4.5% |
| April 1981 | -0.61 | 2.9% |
| May 1981 | -0.66 | 1.3% |
| June 1981 | -0.57 | 1.3% |
| July 1981 | -0.63 | 0.9% |
| August 1981 | -0.59 | 0.8% |
| September 1981 | -0.58 | 0.9% |
| October 1981 | -0.45 | 1.2% |
| November 1981 | -0.55 | 1.1% |
| December 1981 | -0.54 | 1.4% |
| January 1982 | -0.54 | 1.5% |
| February 1982 | -0.48 | 5.3% |
| March 1982 | -0.46 | 4.7% |
| April 1982 | -0.48 | 3.1% |
| May 1982 | -0.45 | 1.8% |
| June 1982 | -0.44 | 1.2% |

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| July 1982 | -0.43 | 0.9% |
| August 1982 | -0.42 | 0.7% |
| September 1982 | -0.41 | 0.8% |
| October 1982 | -0.37 | 1.3% |
| November 1982 | -0.38 | 1.2% |
| December 1982 | -0.39 | 1.5% |
| January 1983 | -0.37 | 2.0% |
| February 1983 | -0.36 | 1.4% |
| March 1983 | -0.34 | 1.8% |
| April 1983 | -0.33 | [Deleted Text Start]-[Deleted Text End] 4.7% |
| May 1983 | -0.32 | 4.2% |
| June 1983 | -0.31 | 1.4% |
| July 1983 | -0.30 | 1.1% |
| August 1983 | -0.30 | 0.7% |
| September 1983 | -0.30 | 0.8% |
| October 1983 | -0.26 | 1.5% |
| November 1983 | -0.30 | 0.9% |
| December 1983 | -0.28 | 1.0% |
| January 1984 | -0.28 | 6.4% |
| February 1984 | -0.27 | [Deleted Text Start]-[Deleted Text End] 3.6% |
| March 1984 | -0.27 | [Deleted Text Start]-[Deleted Text End] 4.9% |
| April 1984 | -0.26 | 2.5% |
| May 1984 | -0.25 | 0.9% |
| June 1984 | -0.25 | 1.0% |
| July 1984 | -0.25 | 0.6% |
| August 1984 | -0.24 | 0.5% |
| September 1984 | -0.24 | 0.7% |
| October 1984 | -0.23 | 1.0% |
| November 1984 | -0.24 | 0.7% |
| December 1984 | -0.23 | 1.6% |
| January 1985 | -0.22 | 2.7% |
| February 1985 | -0.20 | 6.7% |
| March 1985 | -0.20 | 3.8% |
| April 1985 | -0.22 | 1.1% |
| May 1985 | -0.23 | 0.5% |
| June 1985 | -0.21 | 0.5% |
| July 1985 | -0.22 | 0.4% |

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| August 1985 | -0.22 | 0.3% |
| September 1985 | -0.21 | 0.4% |
| October 1985 | -0.18 | 0.6% |
| November 1985 | -0.20 | 0.4% |
| December 1985 | -0.20 | 0.6% |
| January 1986 | -0.20 | 0.7% |
| February 1986 | -0.21 | 0.5% |
| March 1986 | -0.20 | 1.6% |
| April 1986 | -0.19 | 4.2% |
| May 1986 | -0.19 | 0.7% |
| June 1986 | -0.19 | 0.6% |
| July 1986 | -0.19 | 0.4% |
| August 1986 | -0.18 | 0.3% |
| September 1986 | -0.18 | 0.4% |
| October 1986 | -0.16 | 0.7% |
| November 1986 | -0.16 | 0.5% |
| December 1986 | -0.16 | 0.8% |
| January 1987 | -0.16 | 0.8% |
| February 1987 | -0.16 | 0.9% |
| March 1987 | -0.18 | 0.9% |
| April 1987 | -0.17 | 0.7% |
| May 1987 | -0.16 | 0.4% |
| June 1987 | -0.16 | 0.3% |
| July 1987 | -0.16 | 0.3% |
| August 1987 | -0.16 | 0.2% |
| September 1987 | -0.16 | 0.2% |
| October 1987 | -0.12 | 0.3% |
| November 1987 | -0.15 | 0.3% |
| December 1987 | -0.14 | 0.4% |
| January 1988 | -0.18 | 0.4% |
| February 1988 | -0.14 | 0.9% |
| March 1988 | -0.14 | 0.5% |
| April 1988 | -0.16 | 0.4% |
| May 1988 | -0.15 | 0.3% |
| June 1988 | -0.14 | 0.3% |
| July 1988 | -0.14 | 0.2% |
| August 1988 | -0.14 | 0.2% |
| September 1988 | -0.15 | 0.2% |
| October 1988 | -0.10 | 0.2% |
| November 1988 | -0.13 | 0.2% |

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| December 1988 | -0.11 | 0.3% |
| January 1989 | -0.12 | 0.3% |
| February 1989 | -0.08 | 0.3% |
| March 1989 | -0.14 | 0.4% |
| April 1989 | -0.13 | 0.4% |
| May 1989 | -0.13 | 0.2% |
| June 1989 | -0.13 | 0.2% |
| July 1989 | -0.12 | 0.2% |
| August 1989 | -0.13 | 0.2% |
| September 1989 | -0.14 | 0.2% |
| October 1989 | -0.10 | 0.2% |
| November 1989 | -0.11 | 0.2% |
| December 1989 | -0.07 | 0.2% |
| January 1990 | -0.11 | 0.3% |
| February 1990 | -0.10 | 0.4% |
| March 1990 | -0.10 | 0.4% |
| April 1990 | -0.10 | 0.2% |
| May 1990 | -0.13 | 0.2% |
| June 1990 | -0.11 | 0.2% |
| July 1990 | -0.12 | 0.2% |
| August 1990 | -0.12 | 0.1% |
| September 1990 | -0.12 | 0.2% |
| October 1990 | -0.06 | 0.1% |
| November 1990 | -0.11 | 0.2% |
| December 1990 | -0.02 | 0.1% |
| January 1991 | -0.02 | 0.1% |
| February 1991 | -0.05 | 0.1% |
| March 1991 | -0.18 | 0.3% |
| April 1991 | -0.12 | 0.3% |
| May 1991 | -0.11 | 0.2% |
| June 1991 | -0.09 | 0.2% |
| July 1991 | -0.08 | 0.1% |
| August 1991 | -0.09 | 0.1% |
| September 1991 | -0.11 | 0.1% |
| October 1991 | -0.01 | 0.0% |
| November 1991 | -0.07 | 0.1% |
| December 1991 | -0.06 | 0.1% |
| January 1992 | -0.05 | 0.1% |
| February 1992 | -0.16 | 0.2% |
| March 1992 | -0.12 | 0.2% |

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| April 1992 | -0.08 | 0.2% |
| May 1992 | -0.01 | 0.0% |
| June 1992 | -0.02 | 0.0% |
| July 1992 | 0.00 | 0.0% |
| August 1992 | -0.01 | 0.0% |
| September 1992 | -0.09 | 0.1% |
| October 1992 | 0.00 | 0.0% |
| November 1992 | -0.01 | 0.0% |
| December 1992 | -0.04 | 0.1% |
| January 1993 | -0.21 | 0.2% |
| February 1993 | -0.15 | 0.2% |
| March 1993 | -0.12 | 0.3% |
| April 1993 | -0.09 | 0.3% |
| May 1993 | -0.08 | 0.2% |
| June 1993 | -0.07 | 0.1% |
| July 1993 | -0.04 | 0.1% |
| August 1993 | -0.08 | 0.1% |
| September 1993 | -0.11 | 0.1% |
| October 1993 | -0.04 | 0.1% |
| November 1993 | -0.09 | 0.2% |
| December 1993 | -0.08 | 0.2% |
| January 1994 | -0.08 | 0.2% |
| February 1994 | -0.10 | 0.2% |
| March 1994 | -0.08 | 0.3% |
| April 1994 | -0.07 | 0.2% |
| May 1994 | -0.04 | 0.1% |
| June 1994 | -0.01 | 0.0% |
| July 1994 | 0.00 | 0.0% |
| August 1994 | -0.06 | 0.1% |
| September 1994 | -0.08 | 0.1% |
| October 1994 | 0.00 | 0.0% |
| November 1994 | -0.07 | 0.1% |
| December 1994 | -0.10 | 0.1% |
| January 1995 | -0.13 | 0.1% |
| February 1995 | -0.11 | 0.2% |
| March 1995 | -0.10 | 0.2% |
| April 1995 | -0.09 | 0.4% |
| May 1995 | -0.08 | 0.2% |
| June 1995 | -0.08 | 0.2% |
| July 1995 | -0.06 | 0.1% |

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| August 1995 | -0.07 | 0.1% |
| September 1995 | -0.08 | 0.1% |
| October 1995 | -0.07 | 0.1% |
| November 1995 | -0.08 | 0.1% |
| December 1995 | -0.08 | 0.2% |
| January 1996 | -0.08 | 0.2% |
| February 1996 | -0.08 | 0.2% |
| March 1996 | -0.08 | 0.4% |
| April 1996 | -0.08 | 0.3% |
| May 1996 | -0.07 | 0.2% |
| June 1996 | -0.07 | 0.2% |
| July 1996 | -0.06 | 0.1% |
| August 1996 | -0.07 | 0.1% |
| September 1996 | -0.07 | 0.1% |
| October 1996 | -0.07 | 0.2% |
| November 1996 | -0.07 | 0.1% |
| December 1996 | -0.07 | 0.2% |
| January 1997 | -0.07 | 0.2% |
| February 1997 | -0.07 | 0.3% |
| March 1997 | -0.07 | 0.6% |
| April 1997 | -0.07 | 0.3% |
| May 1997 | -0.07 | 0.2% |
| June 1997 | -0.06 | 0.2% |
| July 1997 | -0.06 | 0.1% |
| August 1997 | -0.06 | 0.1% |
| September 1997 | -0.06 | 0.1% |
| October 1997 | -0.06 | 0.1% |
| November 1997 | -0.06 | 0.1% |
| December 1997 | -0.07 | 0.2% |
| January 1998 | -0.06 | 0.2% |
| February 1998 | -0.06 | 0.2% |
| March 1998 | -0.06 | 1.2% |
| April 1998 | -0.06 | 0.6% |
| May 1998 | -0.06 | 0.4% |
| June 1998 | -0.06 | 0.2% |
| July 1998 | -0.06 | 0.2% |
| August 1998 | -0.06 | 0.1% |
| September 1998 | -0.06 | 0.1% |
| October 1998 | -0.05 | 0.2% |
| November 1998 | -0.06 | 0.2% |

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| December 1998 | -0.05 | 0.3% |
| January 1999 | -0.05 | 0.5% |
| February 1999 | -0.06 | 0.5% |
| March 1999 | -0.05 | 2.0% |
| April 1999 | -0.05 | 0.5% |
| May 1999 | -0.05 | 0.2% |
| June 1999 | -0.05 | 0.2% |
| July 1999 | -0.05 | 0.1% |
| August 1999 | -0.05 | 0.1% |
| September 1999 | -0.05 | 0.1% |
| October 1999 | -0.05 | 0.2% |
| November 1999 | -0.05 | 0.1% |
| December 1999 | -0.05 | 0.2% |
| January 2000 | -0.05 | 0.2% |
| February 2000 | -0.05 | 0.2% |
| March 2000 | -0.05 | 0.8% |
| April 2000 | -0.05 | 0.8% |
| May 2000 | -0.05 | 0.2% |
| June 2000 | -0.05 | 0.1% |
| July 2000 | -0.05 | 0.1% |
| August 2000 | -0.05 | 0.1% |
| September 2000 | -0.05 | 0.1% |
| October 2000 | -0.05 | 0.1% |
| November 2000 | -0.05 | 0.1% |
| December 2000 | -0.05 | 0.1% |
| January 2001 | -0.05 | 0.2% |
| February 2001 | -0.05 | 0.2% |
| March 2001 | -0.05 | 0.3% |
| April 2001 | -0.05 | 0.2% |
| May 2001 | -0.04 | 0.1% |
| June 2001 | -0.04 | 0.1% |
| July 2001 | -0.04 | 0.1% |
| August 2001 | -0.05 | 0.1% |
| September 2001 | -0.04 | 0.1% |
| October 2001 | -0.04 | 0.1% |
| November 2001 | -0.05 | 0.1% |
| December 2001 | -0.05 | 0.1% |
| January 2002 | -0.05 | 0.1% |
| February 2002 | -0.04 | 0.3% |
| March 2002 | -0.04 | 0.2% |

| Date | Proposed Action in Comparison to No Action/No Project Alternative (cfs) | Proposed Action in Comparison to No Action/No Project Alternative (Percent [Deleted Text Start] ~~Change~~ [Deleted Text End] *Reduction*) |
|---|---|---|
| April 2002 | -0.04 | 0.1% |
| May 2002 | -0.04 | 0.1% |
| June 2002 | -0.04 | 0.1% |
| July 2002 | -0.04 | 0.1% |
| August 2002 | -0.04 | 0.1% |
| September 2002 | -0.04 | 0.1% |
| October 2002 | -0.04 | 0.1% |
| November 2002 | -0.04 | 0.1% |
| December 2002 | -0.04 | 0.1% |
| January 2003 | -0.04 | 0.1% |
| February 2003 | -0.04 | 0.2% |
| March 2003 | -0.04 | 0.2% |
| April 2003 | -0.04 | 0.1% |
| May 2003 | -0.04 | 0.1% |
| June 2003 | -0.04 | 0.1% |
| July 2003 | -0.04 | 0.1% |
| August 2003 | -0.04 | 0.1% |
| September 2003 | -0.04 | 0.1% |

# M.12 Appendix G

### *Page G-2*

The following table row in Table G-3 of the Draft EA/IS is removed:

| Water Agency | Daily VOC Emissions (pounds per day) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Colusa** | **Glenn** | **Sacramento** | **Shasta** | **Sutter** | **Yolo** | **Yuba** | **Total** |
| [Deleted Text Start] ~~Glenn-Colusa Irrigation District~~ [Deleted Text End] | [Deleted Text Start] ~~32.73~~ [Deleted Text End] | [Deleted Text Start] ~~2.82~~ [Deleted Text End] | | | | | | [Deleted Text Start] ~~35.54~~ [Deleted Text End] |

The following table rows in Table G-3 of the Draft EA/IS are revised as follows:

| Water Agency | Daily VOC Emissions (pounds per day) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Colusa** | **Glenn** | **Sacramento** | **Shasta** | **Sutter** | **Yolo** | **Yuba** | **Total** |
| Windswept Land and Livestock | | | | | All Electric | | | [Deleted Text Start] ~~325.20~~ [Deleted Text End] ***0.00*** |
| Total | [Deleted Text Start] ~~83.56~~ [Deleted Text End] ***50.83*** | [Deleted Text Start] ~~52.72~~ [Deleted Text End] ***49.90*** | **6.25** | **0.00** | 172.52 | 10.16 | **0.00** | [Deleted Text Start] ~~650.40~~[ Deleted Text End] ***289.66*** |

The following table row in Table G-4 of the Draft EA/IS is removed:

| Water Agency | Daily NOx Emissions (pounds per day) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Colusa** | **Glenn** | **Sacramento** | **Shasta** | **Sutter** | **Yolo** | **Yuba** | **Total** |
| [Deleted Text Start] ~~Glenn-Colusa Irrigation District~~ [Deleted Text End] | [Deleted Text Start] ~~371.71~~ [Deleted Text End] | [Deleted Text Start] ~~53.49~~ [Deleted Text End] | | | | | | [Deleted Text Start] ~~425.20~~ [Deleted Text End] |

The following table rows in Table G-4 of the Draft EA/IS are revised as follows:

| Water Agency | Daily NOx Emissions (pounds per day) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Colusa** | **Glenn** | **Sacramento** | **Shasta** | **Sutter** | **Yolo** | **Yuba** | **Total** |
| Windswept Land and Livestock | | | | | All Electric | | | [Deleted Text Start] ~~2,379.78~~ -[Deleted Text End] ***0.00*** |
| **Total** | [Deleted Text Start] ~~847.88~~ [Deleted Text End**]** ***476.17*** | [Deleted Text Start] ~~643.93~~ [Deleted Text End] ***590.44*** | **12.63** | **0.00** | **783.82** | **91.51** | **0.00** | [Deleted Text Start] ~~4,759.55~~ [Deleted Text End] ***1,954.58*** |

***Page G-3***

The following table row in Table G-5 of the Draft EA/IS is removed:

| Water Agency | Daily CO Emissions (pounds per day) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Colusa** | **Glenn** | **Sacramento** | **Shasta** | **Sutter** | **Yolo** | **Yuba** | **Total** |
| [Deleted Text Start] ~~Glenn-Colusa Irrigation District~~ [Deleted Text End] | [Deleted Text Start] ~~146.12~~ [Deleted Text End] | [Deleted Text Start] ~~17.62~~ [Deleted Text End] | | | | | | [Deleted Text Start] ~~163.74~~ [Deleted Text End] |

The following table rows in Table G-5 of the Draft EA/IS are revised as follows:

| Water Agency | Daily CO Emissions (pounds per day) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Colusa** | **Glenn** | **Sacramento** | **Shasta** | **Sutter** | **Yolo** | **Yuba** | **Total** |
| Windswept Land and Livestock | | | | | All Electric | | | [Deleted Text Start] ~~1,321.17~~ [Deleted Text End] ***0.00*** |
| **Total** | [Deleted Text Start] ~~300.77~~ [Deleted Text End] ***154.64*** | [Deleted Text Start] ~~188.04~~ [Deleted Text End] ***170.42*** | 48.05 | 0.00 | 752.94 | 31.38 | 0.00 | [Deleted Text Start] ~~2,642.34~~ [Deleted Text End] ***1,157.43*** |

The following table row in Table G-6 of the Draft EA/IS is removed:

| Water Agency | Daily SOx Emissions (pounds per day) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Colusa** | **Glenn** | **Sacramento** | **Shasta** | **Sutter** | **Yolo** | **Yuba** | **Total** |
| [Deleted Text Start] ~~Glenn-Colusa Irrigation District~~ [Deleted Text End] | [Deleted Text Start] ~~44.58~~ [Deleted Text End] | [Deleted Text Start] ~~7.24~~ [Deleted Text End] | | | | | | [Deleted Text Start] ~~51.82~~ [Deleted Text End] |

The following table rows in Table G-6 of the Draft EA/IS are revised as follows:

| Water Agency | Daily SOx Emissions (pounds per day) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Colusa** | **Glenn** | **Sacramento** | **Shasta** | **Sutter** | **Yolo** | **Yuba** | **Total** |
| Windswept Land and Livestock | | | | | All Electric | | | [Deleted Text Start] ~~216.25~~ [Deleted Text End] ***0.00*** |
| **Total** | [Deleted Text Start] ~~74.15~~ [Deleted Text End] ***29.57*** | [Deleted Text Start] ~~52.95~~ [Deleted Text End] ***45.70*** | 8.61 | 0.00 | 74.92 | 5.62 | 0.00 | [Deleted Text Start] ~~432.49~~ [Deleted Text End**]** ***164.43*** |

***Page G-4***

The following table row in Table G-7 of the Draft EA/IS is removed:

| Water Agency | Daily PM10 Emissions (pounds per day) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Colusa** | **Glenn** | **Sacramento** | **Shasta** | **Sutter** | **Yolo** | **Yuba** | **Total** |
| [Deleted Text Start] ~~Glenn-Colusa Irrigation District~~ [Deleted Text End] | [Deleted Text Start] ~~26.24~~ [Deleted Text End] | [Deleted Text Start] ~~0.08~~ [Deleted Text End] | | | | | | [Deleted Text Start] ~~26.32~~ [Deleted Text End] |

The following table rows in Table G-7 of the Draft EA/IS is revised as follows:

| Water Agency | Daily PM10 Emissions (pounds per day) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Colusa** | **Glenn** | **Sacramento** | **Shasta** | **Sutter** | **Yolo** | **Yuba** | **Total** |
| Windswept Land and Livestock | | | | | All Electric | | | [Deleted Text Start] ~~106.39~~ [Deleted Text End] ***0.00*** |
| **Total** | [Deleted Text Start] ~~57.97~~ [Deleted Text End] ***31.72*** | [Deleted Text Start] ~~40.06~~ [Deleted Text End] ***39.98*** | 0.14 | 0.00 | 7.32 | 0.91 | 0.00 | [Deleted Text Start] ~~212.79~~ [Deleted Text End] ***80.08*** |

The following table row in Table G-8 of the Draft EA/IS is removed:

| Water Agency | Daily PM2.5 Emissions (pounds per day) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Colusa** | **Glenn** | **Sacramento** | **Shasta** | **Sutter** | **Yolo** | **Yuba** | **Total** |
| [Deleted Text Start] ~~Glenn-Colusa Irrigation District~~ [Deleted Text End] | [Deleted Text Start] ~~25.61~~ [Deleted Text End] | [Deleted Text Start] ~~7.59~~ [Deleted Text End] | | | | | | [Deleted Text Start] ~~33.20~~ [Deleted Text End] |

The following table rows in Table G-8 of the Draft EA/IS is revised as follows:

| Water Agency | Daily PM2.5 Emissions (pounds per day) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Colusa** | **Glenn** | **Sacramento** | **Shasta** | **Sutter** | **Yolo** | **Yuba** | **Total** |
| Windswept Land and Livestock | | | | | All Electric | | | [Deleted Text Start] ~~104.66~~ [Deleted Text End] ***0.00*** |
| **Total** | [Deleted Text Start] ~~56.58~~ [Deleted Text End] ***30.96*** | [Deleted Text Start] ~~46.31~~ [Deleted Text End] ***38.72*** | 0.14 | 0.00 | 7.15 | 0.89 | 0.00 | [Deleted Text Start] ~~209.32~~ [Deleted Text End] ***71.46*** |

***Page G-5***

The following table row in Table G-9 of the Draft EA/IS is removed:

| Water Agency | Annual VOC Emissions (tons per year) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Colusa** | **Glenn** | **Sacramento** | **Shasta** | **Sutter** | **Yolo** | **Yuba** | **Total** |
| [Deleted Text Start] ~~Glenn-Colusa Irrigation District~~ [Deleted Text End] | [Deleted Text Start] ~~3.04~~ [Deleted Text End] | [Deleted Text Start] ~~0.26~~ [Deleted Text End] | | | | | | [Deleted Text Start] ~~3.31~~ [Deleted Text End] |

The following table rows in Table G-9 of the Draft EA/IS are revised as follows:

| Water Agency | Annual VOC Emissions (tons per year) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Colusa** | **Glenn** | **Sacramento** | **Shasta** | **Sutter** | **Yolo** | **Yuba** | **Total** |
| Windswept Land and Livestock | | | | | All Electric | | | [Deleted Text Start] ~~28.35~~ [Deleted Text End] ***0.00*** |
| **Total** | [Deleted Text Start] ~~7.62~~ [Deleted Text End] ***4.57*** | [Deleted Text Start] ~~4.04~~ [Deleted Text End] ***3.78*** | 0.44 | 0.00 | 15.31 | 0.94 | 0.00 | [Deleted Text Start] ~~56.70~~ [Deleted Text End] ***25.05*** |

The following table row in Table G-10 of the Draft EA/IS is removed:

| Water Agency | Annual NOx Emissions (tons per year) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Colusa** | **Glenn** | **Sacramento** | **Shasta** | **Sutter** | **Yolo** | **Yuba** | **Total** |
| [Deleted Text Start] ~~Glenn-Colusa Irrigation District~~ [Deleted Text End] | [Deleted Text Start] ~~34.57~~ [Deleted Text End] | [Deleted Text Start] ~~4.97~~ [Deleted Text End] | | | | | | [Deleted Text Start] ~~39.54~~ [Deleted Text End] |

The following table rows in Table G-10 of the Draft EA/IS are revised as follows:

| Water Agency | Annual NOx Emissions (tons per year) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Colusa** | **Glenn** | **Sacramento** | **Shasta** | **Sutter** | **Yolo** | **Yuba** | **Total** |
| Windswept Land and Livestock | | | | | All Electric | | | [Deleted Text Start] ~~206.71~~ [Deleted Text End] ***0.00*** |
| **Total** | [Deleted Text Start] ~~76.96~~ [Deleted Text End] ***42.39*** | [Deleted Text Start] ~~49.73~~ [Deleted Text End] ***44.76*** | 0.88 | 0.00 | 70.63 | 8.51 | 0.00 | [Deleted Text Start] ~~413.43~~ [Deleted Text End] ***167.17*** |

***Page G-6***

The following table row in Table G-11 of the Draft EA/IS is removed:

| Water Agency | Annual CO Emissions (tons per year) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Colusa** | **Glenn** | **Sacramento** | **Shasta** | **Sutter** | **Yolo** | **Yuba** | **Total** |
| Deleted Text Start] ~~Glenn-Colusa Irrigation District~~ [Deleted Text End] | [Deleted Text Start] ~~13.59~~ [Deleted Text End] | [Deleted Text Start] ~~1.64~~ [Deleted Text End] | | | | | | [Deleted Text Start] ~~15.23~~ [Deleted Text End] |

The following table rows in Table G-11 of the Draft EA/IS is revised as follows:

| Water Agency | Annual CO Emissions (tons per year) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Colusa** | **Glenn** | **Sacramento** | **Shasta** | **Sutter** | **Yolo** | **Yuba** | **Total** |
| Windswept Land and Livestock | | | | | All Electric | | | [Deleted Text Start] ~~114.81~~ [Deleted Text End] ***0.00*** |
| **Total** | [Deleted Text Start] ~~27.56~~ [Deleted Text End**]** ***13.97*** | [Deleted Text Start] ~~14.53~~ [Deleted Text End] ***12.89*** | 3.35 | 0.00 | 66.45 | 2.92 | 0.00 | [Deleted Text Start] ~~229.61~~ [Deleted Text End] ***99.58*** |

The following table row in Table G-12 of the Draft EA/IS is removed:

| Water Agency | Annual SOx Emissions (tons per year) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Colusa** | **Glenn** | **Sacramento** | **Shasta** | **Sutter** | **Yolo** | **Yuba** | **Total** |
| Deleted Text Start] ~~Glenn-Colusa Irrigation District~~ [Deleted Text End] | [Deleted Text Start] ~~4.15~~ [Deleted Text End] | [Deleted Text Start] ~~0.67~~ [Deleted Text End] | | | | | | [Deleted Text Start] ~~4.82~~ [Deleted Text End] |

The following table rows in Table G-12 of the Draft EA/IS is revised as follows:

| Water Agency | Annual SOx Emissions (tons per year) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Colusa** | **Glenn** | **Sacramento** | **Shasta** | **Sutter** | **Yolo** | **Yuba** | **Total** |
| Windswept Land and Livestock | | | | | All Electric | | | [Deleted Text Start] ~~18.77~~ [Deleted Text End] ***0.00*** |
| **Total** | [Deleted Text Start] ~~6.77~~ [Deleted Text End] ***2.62*** | [Deleted Text Start] ~~4.14~~ [Deleted Text End] ***3.46*** | 0.60 | 0.00 | 6.74 | 0.52 | 0.00 | [Deleted Text Start] ~~37.54~~ [Deleted Text End] ***13.95*** |

***Page G-7***

The following table row in Table G-13 of the Draft EA/IS is removed:

| Water Agency | Annual PM10 Emissions (tons per year) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Colusa** | **Glenn** | **Sacramento** | **Shasta** | **Sutter** | **Yolo** | **Yuba** | **Total** |
| Deleted Text Start] ~~Glenn-Colusa Irrigation District~~ [Deleted Text End] | [Deleted Text Start] ~~2.44~~ [Deleted Text End] | [Deleted Text Start] ~~0.01~~ [Deleted Text End] | | | | | | [Deleted Text Start] ~~2.45~~ [Deleted Text End] |

The following table rows in Table G-13 of the Draft EA/IS have been revised as follows:

| Water Agency | Annual PM10 Emissions (tons per year) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Colusa** | **Glenn** | **Sacramento** | **Shasta** | **Sutter** | **Yolo** | **Yuba** | **Total** |
| Windswept Land and Livestock | | | | | All Electric | | | [Deleted Text Start] ~~9.05~~ [Deleted Text End] ***0.00*** |
| Total | [Deleted Text Start] ~~5.26~~ [Deleted Text End] ***2.82*** | [Deleted Text Start] ~~3.04~~ [Deleted Text End] ***3.03*** | 0.01 | 0.00 | 0.65 | 0.08 | 0.00 | [Deleted Text Start] ~~18.09~~ [Deleted Text End] ***6.60*** |

The following table row in Table G-14 of the Draft EA/IS is removed:

| Water Agency | Annual PM2.5 Emissions (tons per year) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Colusa** | **Glenn** | **Sacramento** | **Shasta** | **Sutter** | **Yolo** | **Yuba** | **Total** |
| Deleted Text Start] ~~Glenn-Colusa Irrigation District~~ [Deleted Text End] | [Deleted Text Start] ~~2.38~~ [Deleted Text End] | [Deleted Text Start] ~~0.01~~ [Deleted Text End] | | | | | | [Deleted Text Start] ~~2.39~~ [Deleted Text End] |

The following table rows in Table G-14 of the Draft EA/IS is revised as follows:

| Water Agency | Annual PM2.5 Emissions (tons per year) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Colusa** | **Glenn** | **Sacramento** | **Shasta** | **Sutter** | **Yolo** | **Yuba** | **Total** |
| Windswept Land and Livestock | | | | | All Electric | | | [Deleted Text Start] ~~8.83~~ [Deleted Text End] ***0.00*** |
| **Total** | [Deleted Text Start] ~~5.13~~ [Deleted Text End] ***2.75*** | [Deleted Text Start] ~~2.97~~ [Deleted Text End] ***2.96*** | 0.01 | 0.00 | 0.64 | 0.08 | 0.00 | [Deleted Text Start] ~~17.66~~ [Deleted Text End] ***6.44*** |

***Page G-15***

Tables G-29 and G-30 on page G-15 of the Draft EA/IS are deleted as follows:

**[Deleted Text Start] ~~Groundwater Substitution Greenhouse Gas Emissions (Unmitigated)~~**

~~Agency~~ ~~Glenn-Colusa Irrigation District~~
~~Transfer Volume~~ ~~11,800 acre-feet~~ ~~(Apr-Jun)~~
~~11,800 acre-feet~~ ~~(Jul-Sep)~~
~~**23,600 acre-feet/year**~~ ~~**Maximum**~~ *ok*

**~~Table G-29. Glenn-Colusa Irrigation District Summary of Engines by Fuel Type and Location~~**

| ~~County~~ | ~~Diesel~~ | ~~Electric~~ | ~~Natural Gas~~ | ~~Propane~~ | ~~Total~~ | ~~Remotely-Located?~~ |
|---|---|---|---|---|---|---|
| ~~Colusa~~ | ~~4~~ | ~~6~~ | ~~0~~ | ~~0~~ | ~~10~~ | ~~Yes~~ |
| ~~Glenn~~ | ~~1~~ | ~~7~~ | ~~0~~ | ~~0~~ | ~~8~~ | ~~Yes~~ |
| ~~Total~~ | ~~5~~ | ~~13~~ | ~~0~~ | ~~0~~ | ~~18~~ | |

**~~Table G-30. Glenn-Colusa Irrigation District Criteria Pollutant Emissions~~**

| ~~Well ID~~ | ~~Well Location (County)~~ | ~~Fuel Tyoe~~ | ~~Model Year~~ | ~~Power Rating (hp)~~ | ~~Diesel Emission Tier~~ | ~~Pump Rate (gpm)~~ | ~~Pump Rate (% of Total)~~ | ~~Transfer Volume (AF/month)~~ | ~~Transfer Volume (AF/year)~~ | ~~Operations (hours/day)~~ | ~~Operations (hours/year)~~ | ~~Fuel Consumption (gal/yr) - diesel (MMBtu/yr) - propane or NG~~ | ~~Emission Factors (g/bhp-hr) VOC~~ | ~~NOx~~ | ~~CO~~ | ~~SOx~~ | ~~PM10~~ | ~~PM2.5~~ | ~~Daily Emissions (pounds per day) VOC~~ | ~~NOx~~ | ~~CO~~ | ~~SOx~~ | ~~PM10~~ | ~~PM2.5~~ | ~~Annual Emissions (tons per year) VOC~~ | ~~NOx~~ | ~~CO~~ | ~~SOx~~ | ~~PM10~~ | ~~PM2.5~~ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ~~17-2-6B-1~~ | ~~Colusa~~ | ~~Electric~~ | ~~Unknown~~ | ~~250~~ | ~~n/a~~ | ~~2,050~~ | ~~7%~~ | ~~276~~ | ~~1,654~~ | ~~24~~ | ~~4,382~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ |
| ~~GRS-34N-1~~ | ~~Glenn~~ | ~~Diesel~~ | ~~Unknown~~ | ~~150~~ | ~~T1~~ | ~~1,350~~ | ~~5%~~ | ~~182~~ | ~~1,089~~ | ~~24~~ | ~~4,382~~ | ~~36,874~~ | ~~0.4~~ | ~~6.9~~ | ~~2.3~~ | ~~0.9~~ | ~~0.0~~ | ~~0.01~~ | ~~2.82~~ | ~~53.49~~ | ~~17.62~~ | ~~7.24~~ | ~~0.08~~ | ~~0.08~~ | ~~0.26~~ | ~~4.97~~ | ~~1.64~~ | 0.67 | 0.01 | 0.01 |
| ~~GRS-35A-2~~ | ~~Glenn~~ | ~~Electric~~ | ~~Unknown~~ | ~~125~~ | ~~n/a~~ | ~~3,500~~ | ~~12%~~ | ~~471~~ | ~~2,824~~ | ~~24~~ | ~~4,382~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | n/a | n/a | n/a |
| ~~GRS-84A-1~~ | ~~Glenn~~ | ~~Electric~~ | ~~Unknown~~ | ~~125~~ | ~~n/a~~ | ~~2,500~~ | ~~9%~~ | ~~336~~ | ~~2,017~~ | ~~24~~ | ~~4,382~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | n/a | n/a | n/a |
| ~~Haymen~~ | ~~Colusa~~ | ~~Diesel~~ | ~~Unknown~~ | ~~250~~ | ~~T0~~ | ~~2,000~~ | ~~7%~~ | ~~269~~ | ~~1,614~~ | ~~24~~ | ~~4,382~~ | ~~61,456~~ | ~~1.1~~ | ~~14.1~~ | ~~3.0~~ | ~~0.9~~ | ~~1.0~~ | ~~0.97~~ | ~~14.81~~ | ~~182.58~~ | ~~39.34~~ | ~~12.07~~ | ~~12.96~~ | ~~12.65~~ | ~~1.38~~ | ~~16.98~~ | ~~3.66~~ | 1.12 | 1.20 | 1.18 |
| ~~LaCroix-1~~ | ~~Glenn~~ | ~~Electric~~ | ~~Unknown~~ | ~~100~~ | ~~n/a~~ | ~~400~~ | ~~1%~~ | ~~54~~ | ~~323~~ | ~~24~~ | ~~4,382~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | n/a | n/a | n/a |
| ~~LaCroix-2~~ | ~~Glenn~~ | ~~Electric~~ | ~~Unknown~~ | ~~100~~ | ~~n/a~~ | ~~400~~ | ~~1%~~ | ~~54~~ | ~~323~~ | ~~24~~ | ~~4,382~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | n/a | n/a | n/a |
| ~~LaCroix-3~~ | ~~Glenn~~ | ~~Electric~~ | ~~Unknown~~ | ~~100~~ | ~~n/a~~ | ~~400~~ | ~~1%~~ | ~~54~~ | ~~323~~ | ~~24~~ | ~~4,382~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | n/a | n/a | n/a |
| ~~Lagrande~~ | ~~Colusa~~ | ~~Diesel~~ | ~~2012~~ | ~~250~~ | ~~T4~~ | ~~2,800~~ | ~~10%~~ | ~~377~~ | ~~2,259~~ | ~~24~~ | ~~4,382~~ | ~~61,456~~ | ~~0.1~~ | ~~0.3~~ | ~~2.6~~ | ~~0.9~~ | ~~0.0~~ | ~~0.01~~ | ~~1.84~~ | ~~3.88~~ | ~~33.91~~ | ~~12.07~~ | ~~0.19~~ | ~~0.19~~ | ~~0.17~~ | ~~0.36~~ | ~~3.15~~ | 1.12 | 0.02 | 0.02 |
| ~~Reister-1~~ | ~~Colusa~~ | ~~Electric~~ | ~~Unknown~~ | ~~100~~ | ~~n/a~~ | ~~500~~ | ~~2%~~ | ~~67~~ | ~~403~~ | ~~24~~ | ~~4,382~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | n/a | n/a | n/a |
| ~~Reister-2~~ | ~~Colusa~~ | ~~Electric~~ | ~~Unknown~~ | ~~100~~ | ~~n/a~~ | ~~500~~ | ~~2%~~ | ~~67~~ | ~~403~~ | ~~24~~ | ~~4,382~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | n/a | n/a | n/a |
| ~~Reister-4~~ | ~~Colusa~~ | ~~Electric~~ | ~~Unknown~~ | ~~100~~ | ~~n/a~~ | ~~900~~ | ~~3%~~ | ~~121~~ | ~~726~~ | ~~24~~ | ~~4,382~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | n/a | n/a | n/a |
| ~~Vann-1~~ | ~~Colusa~~ | ~~Diesel~~ | ~~2014~~ | ~~173~~ | ~~T4~~ | ~~1,500~~ | ~~5%~~ | ~~202~~ | ~~1,210~~ | ~~24~~ | ~~4,382~~ | ~~42,528~~ | ~~0.1~~ | ~~0.3~~ | ~~3.7~~ | ~~0.9~~ | ~~0.0~~ | ~~0.01~~ | ~~1.27~~ | ~~2.68~~ | ~~33.53~~ | ~~8.35~~ | ~~0.13~~ | ~~0.13~~ | ~~0.12~~ | ~~0.25~~ | ~~3.12~~ | 0.78 | 0.01 | 0.01 |
| ~~Vann-2~~ | ~~Colusa~~ | ~~Electric~~ | ~~Unknown~~ | ~~300~~ | ~~n/a~~ | ~~2,500~~ | ~~9%~~ | ~~336~~ | ~~2,017~~ | ~~24~~ | ~~4,382~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | n/a | n/a | n/a |
| ~~322N~~ | ~~Colusa~~ | ~~Diesel~~ | ~~Unknown~~ | ~~250~~ | ~~T0~~ | ~~2,000~~ | ~~7%~~ | ~~269~~ | ~~1,614~~ | ~~24~~ | ~~4,382~~ | ~~61,456~~ | ~~1.1~~ | ~~14.1~~ | ~~3.0~~ | ~~0.9~~ | ~~1.0~~ | ~~0.97~~ | ~~14.81~~ | ~~182.58~~ | ~~39.34~~ | ~~12.07~~ | ~~12.96~~ | ~~12.65~~ | ~~1.38~~ | ~~16.98~~ | ~~3.66~~ | 1.12 | 1.20 | 1.18 |
| ~~S2-36T~~ | ~~Glenn~~ | ~~Electric~~ | ~~Unknown~~ | ~~100~~ | ~~n/a~~ | ~~2,800~~ | ~~10%~~ | ~~377~~ | ~~2,259~~ | ~~24~~ | ~~4,382~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | n/a | n/a | n/a |
| ~~Reister-3~~ | ~~Colusa~~ | ~~Electric~~ | ~~Unknown~~ | ~~100~~ | ~~n/a~~ | ~~850~~ | ~~3%~~ | ~~114~~ | ~~686~~ | ~~24~~ | ~~4,382~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | n/a | n/a | n/a |
| ~~GRS-22H-1~~ | ~~Glenn~~ | ~~Electric~~ | ~~Unknown~~ | ~~125~~ | ~~n/a~~ | ~~2,300~~ | ~~8%~~ | ~~309~~ | ~~1,856~~ | ~~24~~ | ~~4,382~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ | ~~n/a~~ |
| | | | | | ~~**Total**~~ | ~~**29,250**~~ | ~~**100%**~~ | ~~**3,933**~~ | ~~**23,600**~~ | ~~**424**~~ | ~~**78,873**~~ | - | - | - | - | - | - | - | ~~**35.54**~~ | ~~**425.20**~~ | ~~**163.74**~~ | ~~**51.82**~~ | ~~**26.32**~~ | ~~**25.69**~~ | ~~**3.31**~~ | ~~**39.54**~~ | ~~**15.23**~~ | ~~**4.82**~~ | ~~**2.45**~~ | ~~**2.39**~~ |
| | | | | | ~~**Colusa County Subtotal**~~ | ~~**15,600**~~ | ~~**53%**~~ | ~~**2,098**~~ | ~~**12,587**~~ | ~~**236**~~ | ~~**43,818**~~ | - | - | - | - | - | - | - | ~~**32.73**~~ | ~~**371.71**~~ | ~~**146.12**~~ | ~~**44.58**~~ | ~~**26.24**~~ | ~~**25.61**~~ | ~~**3.04**~~ | ~~**34.57**~~ | ~~**13.59**~~ | ~~**4.15**~~ | ~~**2.44**~~ | ~~**2.38**~~ |
| | | | | | ~~**Glenn County Subtotal**~~ | ~~**13,650**~~ | ~~**47%**~~ | ~~**1,836**~~ | ~~**11,013**~~ | ~~**188**~~ | ~~**35,055**~~ | - | - | - | - | - | - | - | ~~**2.82**~~ | ~~**53.49**~~ | ~~**17.62**~~ | ~~**7.24**~~ | ~~**0.08**~~ | ~~**0.08**~~ | ~~**0.26**~~ | ~~**4.97**~~ | ~~**1.64**~~ | ~~**0.67**~~ | ~~**0.01**~~ | ~~**0.01**~~ |

~~Key:~~
~~AF = acre-feet~~
~~CO = carbon monoxide~~
~~g/bhp-hr = grams per brake-horsepower hour gal/yr = gallons per year~~
~~gpm = gallons per minute hp = horsepower~~
~~NOx = nitrogen oxides~~
~~PM10 = inhalable particulate matter Peak Month~~
~~PM2.5 = fine particulate matter 3,933 AF/month~~
~~SOx = sulfur oxides 28,711 gallons/minute~~
~~VOC = volatile organic compound 98% peak pump rate~~

~~Conversion Factors~~
~~1 day = 24 hours~~
~~1 month = 31 days~~
~~1 hour = 60 minutes~~
~~1 acre-foot = 325,851 gallons~~

~~Diesel Engine Fuel Consumption~~
~~0.4 lb/hp-hr *(Based on spec sheet for John Deere 6068H, 6.8L Engine, 173 HP)*~~
~~0.855 g/mL *(Based on MSDS for Hess Diesel Fuel All Types)*~~
~~7.13 lb/gal~~ [Deleted Text End]

***Page G-16 through Page G-62***

The following tables on pages G-16 through G-62 of the Draft EA/IS are renumbered:

**Table G-[Deleted Text Start]~~31~~[Deleted Text End]*29*. Henle Family Ltd. Partnership Summary of Engines by Fuel Type and Location**

**Table G-[Deleted Text Start]~~32~~[Deleted Text End]*30*. Henle Family Ltd. Partnership Criteria Pollutant Emissions**

**Table G-[Deleted Text Start]~~33~~[Deleted Text End]*31*. Meridian Farms Water Company Summary of Engines by Fuel Type and Location**

**Table G-[Deleted Text Start]~~34~~[Deleted Text End]*32*. Meridian Farms Water Company Criteria Pollutant Emissions**

**Table G-[Deleted Text Start]~~35~~[Deleted Text End]*33*. Natomas Central Mutual Water Company Summary of Engines by Fuel Type and Location**

**Table G-[Deleted Text Start]~~36~~[Deleted Text End]*34*. Natomas Central Mutual Water Company Criteria Pollutant Emissions**

**Table G-[Deleted Text Start]~~37~~[Deleted Text End]*35*. Pelger Mutual Water Company Summary of Engines by Fuel Type and Location**

**Table G-[Deleted Text Start]~~38~~[Deleted Text End]*36*. Pelger Mutual Water Company Criteria Pollutant Emissions**

**Table G-[Deleted Text Start]~~39~~[Deleted Text End]*37*. Pelger Road 1700 LLC Summary of Engines by Fuel Type and Location**

**Table G-[Deleted Text Start]~~40~~[Deleted Text End]*38*. Pelger Road 1700 LLC Criteria Pollutant Emissions**

**Table G-[Deleted Text Start]~~41~~[Deleted Text End]*39*. Pleasant Grove-Verona Mutual Water Company Summary of Engines by Fuel Type and Location**

**Table G-[Deleted Text Start]~~42~~[Deleted Text End]*40*. Pleasant Grove-Verona Mutual Water Company Criteria Pollutant Emissions**

**Table G-[Deleted Text Start]~~43~~[Deleted Text End]*41*. Princeton-Codora-Glenn Irrigation District Summary of Engines by Fuel Type and Location**

**Table G-[Deleted Text Start]~~44~~[Deleted Text End]*42*. Princeton-Codora-Glenn Irrigation District Criteria Pollutant Emissions**

**Table G-[Deleted Text Start]~~45~~[Deleted Text End]*43*. Provident Irrigation District Summary of Engines by Fuel Type and Location**

**Table G-[Deleted Text Start]~~46~~[Deleted Text End]*44*. Provident Irrigation District Criteria Pollutant Emissions**

**Table G-[Deleted Text Start]~~47~~[Deleted Text End]*45*. Reclamation District 1004 Summary of Engines by Fuel Type and Location**

**Table G-[Deleted Text Start]~~48~~[Deleted Text End]*46*. Reclamation District 1004 Criteria Pollutant Emissions**

**Table G-[Deleted Text Start]~~49~~[Deleted Text End]*47*. Reclamation District 108 Summary of Engines by Fuel Type and Location**

**Table G-[Deleted Text Start]~~50~~[Deleted Text End]*48*. Reclamation District 108 Criteria Pollutant Emissions**

**Table G-[Deleted Text Start]~~51~~[Deleted Text End]*49*. Roberts Ditch Irrigation Company Summary of Engines by Fuel Type and Location**

**Table G-[Deleted Text Start]~~52~~[Deleted Text End]*50*. Roberts Ditch Irrigation Company Criteria Pollutant Emissions**

**Table G-[Deleted Text Start]~~53~~[Deleted Text End]*51*. RRG Garden Properties LLC Summary of Engines by Fuel Type and Location**

**Table G-[Deleted Text Start]~~54~~[Deleted Text End]*52*. RRG Garden Properties LLC Criteria Pollutant Emissions**

**Table G-[Deleted Text Start]~~55~~[Deleted Text End]*53*. Sacramento County Water Agency Summary of Engines by Fuel Type and Location**

**Table G-[Deleted Text Start]~~56~~[Deleted Text End]*54*. Sacramento County Water Agency Criteria Pollutant Emissions**

**Table G-[Deleted Text Start]~~57~~[Deleted Text End]*55*. Sacramento Suburban Water District Summary of Engines by Fuel Type and Location**

**Table G-[Deleted Text Start]~~58~~[Deleted Text End]*56*. Sacramento Suburban Water District Criteria Pollutant Emissions**

**Table G-[Deleted Text Start]~~59~~[Deleted Text End]*57*. Sutter Mutual Water Company Summary of Engines by Fuel Type and Location**

**Table G-[Deleted Text Start]~~60~~[Deleted Text End]*58*. Sutter Mutual Water Company Criteria Pollutant Emissions**

**Table G-[Deleted Text Start]~~61~~[Deleted Text End]*59*. Te Velde Revocable Family Trust Summary of Engines by Fuel Type and Location**

**Table G-[Deleted Text Start]~~62~~[Deleted Text End]*60*. Te Velde Revocable Family Trust Criteria Pollutant Emissions**

**Table G-[Deleted Text Start]~~63~~[Deleted Text End]*61*. Tule Basin Farms Summary of Engines by Fuel Type and Location**

**Table G-[Deleted Text Start]~~64~~[Deleted Text End]*62*. Tule Basin Farms Criteria Pollutant Emissions**

**Table G-[Deleted Text Start]~~65~~[Deleted Text End]*63*. Windswept Land and Livestock Summary of Engines by Fuel Type and Location**

**Table G-[Deleted Text Start]~~66~~[Deleted Text End]*64*. Windswept Land and Livestock Criteria Pollutant Emissions**

**Table G-[Deleted Text Start]~~67~~[Deleted Text End]*65*. Diesel Engine Tier Matrix**

**Table G-[Deleted Text Start]~~68~~[Deleted Text End]*66*. Emission Standards for New Stationary Diesel-Fueled CI Engines (> 50 bhp) Used in Agricultural Operations**

**Table G-[Deleted Text Start]~~69~~[Deleted Text End]*67*. Emission Standards for Noncertified Greater than 50 BHP In-Use Stationary Diesel-Fueled Engines Used in Agricultural Operations**

**Table G-[Deleted Text Start]~~70~~[Deleted Text End]*68*. Emission Standards Tier 1- and Tier 2-Certified Greater than 50 BHP In-Use Stationary Diesel-Fueled Engines Used in Agricultural Operations**

**Table G-[Deleted Text Start]~~71~~[Deleted Text End]*69*. Tier 1, Tier 2, and Tier 3 Exhaust Emission Standards**

**Table G-[Deleted Text Start]~~72~~[Deleted Text End]*70*. Tier 4 Exhaust Emission Standards**

**Table G-[Deleted Text Start]~~73~~[Deleted Text End]*71*. Emission Factors for Uncontrolled Gasoline and Diesel Industrial Engines**

**Table G-[Deleted Text Start]~~74~~[Deleted Text End]*72*. Uncontrolled Emission Factors for Natural Gas-Fired 4-Stroke Lean-Burn Engines [a]**

**Table G-[Deleted Text Start]~~75~~[Deleted Text End]*73*. Emission Standards for Stationary Spark Ignition Engines**

**Table G-[Deleted Text Start]~~76~~[Deleted Text End]*74*. Engine Power Rating Summary by Fuel Type**

**Table G-[Deleted Text Start]~~77~~[Deleted Text End]*75*. General Conformity Applicability Evaluation (Mitigated Emissions)**

**Table G-[Deleted Text Start]~~78~~[Deleted Text End]*76*. Emissions Outside of 8-Hour Ozone Nonattainment Area (tons per year)**

**Table G-[Deleted Text Start]~~79~~[Deleted Text End]*77*. Daily VOC Emissions (Mitigated)**

**Table G-[Deleted Text Start]~~80~~[Deleted Text End]*78*. Daily NOx Emissions (Mitigated)**

**Table G-[Deleted Text Start]~~81~~[Deleted Text End]*79*. Daily CO Emissions (Mitigated)**

**Table G-[Deleted Text Start]~~82~~[Deleted Text End]*80*. Daily SOx Emissions (Mitigated)**

**Table G-[Deleted Text Start]~~83~~[Deleted Text End]*81*. Daily PM10 Emissions (Mitigated)**

**Table G-[Deleted Text Start]~~84~~[Deleted Text End]*82*. Daily PM2.5 Emissions (Mitigated)**

**Table G-[Deleted Text Start]~~85~~[Deleted Text End]*83*. Annual VOC Emissions (Mitigated)**

**Table G-[Deleted Text Start]~~86~~[Deleted Text End]*84*. Annual NOx Emissions (Mitigated)**

**Table G-[Deleted Text Start]~~87~~[Deleted Text End]*85*. Annual CO Emissions (Mitigated)**

**Table G-[Deleted Text Start]~~88~~[Deleted Text End]*86*. Annual SOx Emissions (Mitigated)**

**Table G-[Deleted Text Start]~~89~~[Deleted Text End]*87*. Annual PM10 Emissions (Mitigated)**

**Table G-[Deleted Text Start]~~90~~[Deleted Text End]*88*. Annual PM2.5 Emissions (Mitigated)**

**Table G-[Deleted Text Start]~~91~~[Deleted Text End]*89*. Meridian Farms Water Company Summary of Engines by Fuel Type and Location**

**Table G-[Deleted Text Start]~~92~~[Deleted Text End]*90*. Meridian Farms Water Company Criteria Pollutant Emissions**

**Table G-[Deleted Text Start]~~93~~[Deleted Text End]*91*. Natomas Central Mutual Water Company Summary of Engines by Fuel Type and Location**

**Table G-[Deleted Text Start]~~94~~[Deleted Text End]*92*. Natomas Central Mutual Water Company Criteria Pollutant Emissions**

**Table G-[Deleted Text Start]~~95~~[Deleted Text End]*93*. Pleasant Grove-Verona Mutual Water Company Summary of Engines by Fuel Type and Location**

**Table G-[Deleted Text Start]~~96~~[Deleted Text End]*94*. Pleasant Grove-Verona Mutual Water Company Criteria Pollutant Emissions**

**Table G-[Deleted Text Start]~~97~~[Deleted Text End]*95*. Sutter Mutual Water Company Summary of Engines by Fuel Type and Location**

**Table G-[Deleted Text Start]~~98~~[Deleted Text End]*96*. Sutter Mutual Water Company Criteria Pollutant Emissions**

**Table G-[Deleted Text Start]~~99~~[Deleted Text End]*97*. Diesel Engine Tier Matrix**

**Table G-[Deleted Text Start]~~100~~[Deleted Text End]*98*. Emission Standards for New Stationary Diesel-Fueled CI Engines (> 50 bhp) Used in Agricultural Operations**

**Table G-[Deleted Text Start]~~101~~[Deleted Text End]*99*. Emission Standards for Noncertified Greater than 50 BHP In-Use Stationary Diesel-Fueled Engines Used in Agricultural Operations**

**Table G-[Deleted Text Start]~~102~~[Deleted Text End]*100*. Emission Standards Tier 1- and Tier 2-Certified Greater than 50 BHP In-Use Stationary Diesel-Fueled Engines Used in Agricultural Operations**

**Table G-[Deleted Text Start]~~103~~[Deleted Text End]*101*. Tier 1, Tier 2, and Tier 3 Exhaust Emission Standards**

**Table G-[Deleted Text Start]~~104~~[Deleted Text End]*102*. Tier 4 Exhaust Emission Standards**

**Table G-[Deleted Text Start]~~105~~[Deleted Text End]*103*. Emission Factors for Uncontrolled Gasoline and Diesel Industrial Engines**

**Table G-[Deleted Text Start]~~106~~[Deleted Text End]*104*. Uncontrolled Emission Factors for Natural Gas-Fired 4-Stroke Lean-Burn Engines [a]**

**Table G-[Deleted Text Start]~~107~~[Deleted Text End]*105*. Emission Standards for Stationary Spark Ignition Engines**

**Table G-[Deleted Text Start]~~108~~[Deleted Text End]*106*. Engine Power Rating Summary by Fuel Type**

### *Page G-63*

The figure title on page G-63 of the Draft EA/IS is revised as follows:

**Figure [Deleted Text Start] ~~F~~ [Deleted Text End]*G*-1. Location of CO Maintenance Area in Seller Service Area**

***Page G-64***

The figure title on page G-64 of the Draft EA/IS is revised as follows:

**Figure [Deleted Text Start] ~~F~~ [Deleted Text End]*G*-2. Location of O3 Nonattainment Area in Seller Service Area**

***Page G-65***

The figure title on page G-65 of the Draft EA/IS is revised as follows:

**Figure [Deleted Text Start] F [Deleted Text End]*G*-3. Location of PM10 Maintenance Area in Seller Service Area**

***Page G-66***

The figure title on page G-66 of the Draft EA/IS is revised as follows:

**Figure [Deleted Text Start] F [Deleted Text End]*G*-4. Location of PM2.5 Nonattainment and Maintenance Areas in Seller Service Area**

## M.13 Appendix H

***Page H-1***

The following table row in Table H-1 of the Draft EA/IS is removed:

| Water Agency | Annual GHG Emissions (metric tons per year) | | | |
|---|---|---|---|---|
| | CO2 | CH4 | N2O | CO2e |
| [Deleted Text Start] ~~Glenn-Colusa Irrigation District~~ [Deleted Text End] | [Deleted Text Start] ~~2,945~~ [Deleted Text End] | [Deleted Text Start] ~~0.19~~ [Deleted Text End] | [Deleted Text Start] ~~0.03~~ [Deleted Text End] | [Deleted Text Start] ~~2,959~~ [Deleted Text End] |

The following table row in Table H-1 of the Draft EA/IS is revised as follows:

| Water Agency | Annual GHG Emissions (metric tons per year) | | | |
|---|---|---|---|---|
| | CO2 | CH4 | N2O | CO2e |
| **Total** | [Deleted Text Start] ~~17,621~~ [Deleted Text End] ***14,676*** | [Deleted Text Start] ~~1.17~~ [Deleted Text End] ***0.98*** | [Deleted Text Start] ~~0.19~~ [Deleted Text End] ***0.16*** | [Deleted Text Start] ~~17,705~~ [Deleted Text End] ***14,746*** |

***Page H-9***

Tables H-16 and H-17 on page H-9 of the Draft EA/IS are deleted as follows:

**[Deleted Text Start]** ~~**Groundwater Substitution Greenhouse Gas Emissions (Unmitigated)**~~

~~Agency~~ ~~Glenn-Colusa Irrigation District~~
~~Transfer Volume~~ ~~11,800 acre-feet~~ ~~(Apr-Jun)~~
~~11,800 acre-feet~~ ~~(Jul-Sep)~~
~~**23,600 acre-feet/year**~~ ~~**Maximum**~~ ~~ok~~

~~**Table H-16. Glenn-Colusa Irrigation District Summary of Engines by Fuel Type and Location**~~

| ~~County~~ | ~~Diesel~~ | ~~Electric~~ | ~~Natural Gas~~ | ~~Propane~~ | ~~Total~~ |
|---|---|---|---|---|---|
| ~~Colusa~~ | ~~4~~ | ~~6~~ | ~~0~~ | ~~0~~ | ~~10~~ |
| ~~Glenn~~ | ~~1~~ | ~~7~~ | ~~0~~ | ~~0~~ | ~~8~~ |
| ~~Total~~ | ~~5~~ | ~~13~~ | ~~0~~ | ~~0~~ | ~~18~~ |

~~**Table H-17. Glenn-Colusa Irrigation District GHG Emissions**~~

| ~~**Well ID**~~ | ~~**Well Location (County)**~~ | ~~**Fuel Type**~~ | ~~**Model Year**~~ | ~~**Power Rating (hp)**~~ | ~~**Pump Rate**~~ | | ~~**Transfer Volume**~~ | ~~**Operations**~~ | | ~~**Fuel Consumption**~~ | ~~**Emission Factors**~~ | | | | | | ~~**Annual Emissions (metric tons per year)**~~ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | ~~**(gpm)**~~ | ~~**(% of Total)**~~ | ~~**(AF/year)**~~ | ~~**(hours/year)**~~ | ~~**(kWh/yr)**~~ | ~~**(gal/yr) – diesel (MMBtu/yr) – propane or NG**~~ | ~~**$CO_2$**~~ | ~~**Units**~~ | ~~**$CH_4$**~~ | ~~**Units**~~ | ~~**$N_2O$**~~ | ~~**Units**~~ | ~~**$CO_2$**~~ | ~~**$CH_4$**~~ | ~~**$N_2O$**~~ | ~~**$CO_2e$**~~ |
| ~~17-2-6B-1~~ | ~~Colusa~~ | ~~Electric~~ | ~~Unknown~~ | ~~250~~ | ~~2,050~~ | ~~7%~~ | ~~1,654~~ | ~~4,382~~ | ~~816,880~~ | ~~n/a~~ | ~~98.47~~ | ~~lbs/MWh~~ | ~~0.0300~~ | ~~lbs/MWh~~ | ~~0.0040~~ | ~~lbs/MWh~~ | ~~36.49~~ | ~~0.01~~ | ~~0.00~~ | ~~37.19~~ |
| ~~GRS-34N-1~~ | ~~Glenn~~ | ~~Diesel~~ | ~~Unknown~~ | ~~150~~ | ~~1,350~~ | ~~5%~~ | ~~1,089~~ | ~~4,382~~ | ~~n/a~~ | ~~36,874~~ | ~~10.21~~ | ~~kg/gal~~ | ~~0.0030~~ | ~~kg/MMBtu~~ | ~~0.0006~~ | ~~kg/MMBtu~~ | ~~376.48~~ | ~~0.02~~ | ~~0.00~~ | ~~377.73~~ |
| ~~GRS-35A-2~~ | ~~Glenn~~ | ~~Electric~~ | ~~Unknown~~ | ~~125~~ | ~~3,500~~ | ~~12%~~ | ~~2,824~~ | ~~4,382~~ | ~~408,440~~ | ~~n/a~~ | ~~98.47~~ | ~~lbs/MWh~~ | ~~0.0300~~ | ~~lbs/MWh~~ | ~~0.0040~~ | ~~lbs/MWh~~ | ~~18.24~~ | ~~0.01~~ | ~~0.00~~ | ~~18.60~~ |
| ~~GRS-84A-1~~ | ~~Glenn~~ | ~~Electric~~ | ~~Unknown~~ | ~~125~~ | ~~2,500~~ | ~~9%~~ | ~~2,017~~ | ~~4,382~~ | ~~408,440~~ | ~~n/a~~ | ~~98.47~~ | ~~lbs/MWh~~ | ~~0.0300~~ | ~~lbs/MWh~~ | ~~0.0040~~ | ~~lbs/MWh~~ | ~~18.24~~ | ~~0.01~~ | ~~0.00~~ | ~~18.60~~ |
| ~~Haymen~~ | ~~Colusa~~ | ~~Diesel~~ | ~~Unknown~~ | ~~250~~ | ~~2,000~~ | ~~7%~~ | ~~1,614~~ | ~~4,382~~ | ~~n/a~~ | ~~61,456~~ | ~~10.21~~ | ~~kg/gal~~ | ~~0.0030~~ | ~~kg/MMBtu~~ | ~~0.0006~~ | ~~kg/MMBtu~~ | ~~627.47~~ | ~~0.03~~ | ~~0.01~~ | ~~629.54~~ |
| ~~LaCroix-1~~ | ~~Glenn~~ | ~~Electric~~ | ~~Unknown~~ | ~~100~~ | ~~400~~ | ~~1%~~ | ~~323~~ | ~~4,382~~ | ~~326,752~~ | ~~n/a~~ | ~~98.47~~ | ~~lbs/MWh~~ | ~~0.0300~~ | ~~lbs/MWh~~ | ~~0.0040~~ | ~~lbs/MWh~~ | ~~14.59~~ | ~~0.00~~ | ~~0.00~~ | ~~14.88~~ |
| ~~LaCroix-2~~ | ~~Glenn~~ | ~~Electric~~ | ~~Unknown~~ | ~~100~~ | ~~400~~ | ~~1%~~ | ~~323~~ | ~~4,382~~ | ~~326,752~~ | ~~n/a~~ | ~~98.47~~ | ~~lbs/MWh~~ | ~~0.0300~~ | ~~lbs/MWh~~ | ~~0.0040~~ | ~~lbs/MWh~~ | ~~14.59~~ | ~~0.00~~ | ~~0.00~~ | ~~14.88~~ |
| ~~LaCroix-3~~ | ~~Glenn~~ | ~~Electric~~ | ~~Unknown~~ | ~~100~~ | ~~400~~ | ~~1%~~ | ~~323~~ | ~~4,382~~ | ~~326,752~~ | ~~n/a~~ | ~~98.47~~ | ~~lbs/MWh~~ | ~~0.0300~~ | ~~lbs/MWh~~ | ~~0.0040~~ | ~~lbs/MWh~~ | ~~14.59~~ | ~~0.00~~ | ~~0.00~~ | ~~14.88~~ |
| ~~Lagrande~~ | ~~Colusa~~ | ~~Diesel~~ | ~~2012~~ | ~~250~~ | ~~2,800~~ | ~~10%~~ | ~~2,259~~ | ~~4,382~~ | ~~n/a~~ | ~~61,456~~ | ~~10.21~~ | ~~kg/gal~~ | ~~0.0030~~ | ~~kg/MMBtu~~ | ~~0.0006~~ | ~~kg/MMBtu~~ | ~~627.47~~ | ~~0.03~~ | ~~0.01~~ | ~~629.54~~ |
| ~~Reister-1~~ | ~~Colusa~~ | ~~Electric~~ | ~~Unknown~~ | ~~100~~ | ~~500~~ | ~~2%~~ | ~~403~~ | ~~4,382~~ | ~~326,752~~ | ~~n/a~~ | ~~98.47~~ | ~~lbs/MWh~~ | ~~0.0300~~ | ~~lbs/MWh~~ | ~~0.0040~~ | ~~lbs/MWh~~ | ~~14.59~~ | ~~0.00~~ | ~~0.00~~ | ~~14.88~~ |
| ~~Reister-2~~ | ~~Colusa~~ | ~~Electric~~ | ~~Unknown~~ | ~~100~~ | ~~500~~ | ~~2%~~ | ~~403~~ | ~~4,382~~ | ~~326,752~~ | ~~n/a~~ | ~~98.47~~ | ~~lbs/MWh~~ | ~~0.0300~~ | ~~lbs/MWh~~ | ~~0.0040~~ | ~~lbs/MWh~~ | ~~14.59~~ | ~~0.00~~ | ~~0.00~~ | ~~14.88~~ |
| ~~Reister-4~~ | ~~Colusa~~ | ~~Electric~~ | ~~Unknown~~ | ~~100~~ | ~~900~~ | ~~3%~~ | ~~726~~ | ~~4,382~~ | ~~326,752~~ | ~~n/a~~ | ~~98.47~~ | ~~lbs/MWh~~ | ~~0.0300~~ | ~~lbs/MWh~~ | ~~0.0040~~ | ~~lbs/MWh~~ | ~~14.59~~ | ~~0.00~~ | ~~0.00~~ | ~~14.88~~ |
| ~~Vann-1~~ | ~~Colusa~~ | ~~Diesel~~ | ~~2014~~ | ~~173~~ | ~~1,500~~ | ~~5%~~ | ~~1,210~~ | ~~4,382~~ | ~~n/a~~ | ~~42,528~~ | ~~10.21~~ | ~~kg/gal~~ | ~~0.0030~~ | ~~kg/MMBtu~~ | ~~0.0006~~ | ~~kg/MMBtu~~ | ~~434.21~~ | ~~0.02~~ | ~~0.00~~ | ~~435.64~~ |
| ~~Vann-2~~ | ~~Colusa~~ | ~~Electric~~ | ~~Unknown~~ | ~~300~~ | ~~2,500~~ | ~~9%~~ | ~~2,017~~ | ~~4,382~~ | ~~980,255~~ | ~~n/a~~ | ~~98.47~~ | ~~lbs/MWh~~ | ~~0.0300~~ | ~~lbs/MWh~~ | ~~0.0040~~ | ~~lbs/MWh~~ | ~~43.78~~ | ~~0.01~~ | ~~0.00~~ | ~~44.63~~ |
| ~~322N~~ | ~~Colusa~~ | ~~Diesel~~ | ~~Unknown~~ | ~~250~~ | ~~2,000~~ | ~~7%~~ | ~~1,614~~ | ~~4,382~~ | ~~n/a~~ | ~~61,456~~ | ~~10.21~~ | ~~kg/gal~~ | ~~0.0030~~ | ~~kg/MMBtu~~ | ~~0.0006~~ | ~~kg/MMBtu~~ | ~~627.47~~ | ~~0.03~~ | ~~0.01~~ | ~~629.54~~ |
| ~~S2-36T~~ | ~~Glenn~~ | ~~Electric~~ | ~~Unknown~~ | ~~100~~ | ~~2,800~~ | ~~10%~~ | ~~2,259~~ | ~~4,382~~ | ~~326,752~~ | ~~n/a~~ | ~~98.47~~ | ~~lbs/MWh~~ | ~~0.0300~~ | ~~lbs/MWh~~ | ~~0.0040~~ | ~~lbs/MWh~~ | ~~14.59~~ | ~~0.00~~ | ~~0.00~~ | ~~14.88~~ |
| ~~Reister-3~~ | ~~Colusa~~ | ~~Electric~~ | ~~Unknown~~ | ~~100~~ | ~~850~~ | ~~3%~~ | ~~686~~ | ~~4,382~~ | ~~326,752~~ | ~~n/a~~ | ~~98.47~~ | ~~lbs/MWh~~ | ~~0.0300~~ | ~~lbs/MWh~~ | ~~0.0040~~ | ~~lbs/MWh~~ | ~~14.59~~ | ~~0.00~~ | ~~0.00~~ | ~~14.88~~ |
| ~~GRS-22H-1~~ | ~~Glenn~~ | ~~Electric~~ | ~~Unknown~~ | ~~125~~ | ~~2,300~~ | ~~8%~~ | ~~1,856~~ | ~~4,382~~ | ~~408,440~~ | ~~n/a~~ | ~~98.47~~ | ~~lbs/MWh~~ | ~~0.0300~~ | ~~lbs/MWh~~ | ~~0.0040~~ | ~~lbs/MWh~~ | ~~18.24~~ | ~~0.01~~ | ~~0.00~~ | ~~18.60~~ |
| | | | ~~**Total**~~ | ~~**29,250**~~ | ~~**100%**~~ | ~~**23,600**~~ | ~~**78,873**~~ | ~~**5,636,469**~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~**2,944.84**~~ | ~~**0.19**~~ | ~~**0.03**~~ | ~~**2,958.61**~~ |

~~Key:~~
~~AF = acre-feet~~
~~CH4 = methane~~
~~CO2 = carbon dioxide~~
~~gal/yr = gallons per year~~
~~GHG = greenhouse gas~~
~~gpm = gallons per minute~~
~~hp = horsepower~~
~~kW/yr = kilowatt hours per year~~
~~MTCO2e = metric tons carbon dioxide equivalent~~
~~N2O = nitrous oxide~~

~~Conversion Factors~~
~~1 acre-foot = 325,851 gallons~~

~~Global Warming Potential (AR6)~~
~~CO2 1~~
~~CH4 27~~
~~N2O 273~~
~~Source: The Climate Registry. 2024. 2024 Default Emission Factors. Accessed July 24, 2024, https://theclimateregistry.org/wp-content/uploads/2024/03/2024-Emission-Factor-Document_FINAL.pdf.~~

~~Diesel Engine Fuel Consumption~~
~~0.4 lb/hp-hr *(Based on spec sheet for John Deere 6068H, 6.8L Engine, 173 HP)*~~
~~0.855 g/mL *(Based on MSDS for Hess Diesel Fuel All Types)*~~
~~7.13 lb/gal~~ [Deleted Text End]

***Page H-10 through Page H-30***

The following tables on pages H-10 through H-30 of the Draft EA/IS are renumbered:

**Table H-[Deleted Text Start]~~18~~[Deleted Text End]*16*. Henle Family Ltd. Partnership Summary of Engines by Fuel Type and Location**

**Table H-[Deleted Text Start]~~19~~[Deleted Text End]*17*. Henle Family Ltd. Partnership GHG Emissions**

**Table H-[Deleted Text Start]~~20~~[Deleted Text End]*18*. Meridian Farms Water Company Summary of Engines by Fuel Type and Location**

**Table H-[Deleted Text Start]~~21~~[Deleted Text End]*19*. Meridian Farms Water Company GHG Emissions**

**Table H-[Deleted Text Start]~~22~~[Deleted Text End]*20*. Natomas Central Mutual Water Company Summary of Engines by Fuel Type and Location**

**Table H-[Deleted Text Start]~~23~~[Deleted Text End]*21*. Natomas Central Mutual Water Company GHG Emissions**

**Table H-[Deleted Text Start]~~24~~[Deleted Text End]*22*. Pelger Mutual Water Company Summary of Engines by Fuel Type and Location**

**Table H-[Deleted Text Start]~~25~~[Deleted Text End]*23*. Pelger Mutual Water Company GHG Emissions**

**Table H-[Deleted Text Start]~~26~~[Deleted Text End]*24*. Pelger Road 1700 LLC Summary of Engines by Fuel Type and Location**

**Table H-[Deleted Text Start]~~27~~[Deleted Text End]*25*. Pelger Road 1700 LLC GHG Emissions**

**Table H-[Deleted Text Start]~~28~~[Deleted Text End]*26*. Pleasant Grove-Verona Mutual Water Company Summary of Engines by Fuel Type and Location**

**Table H-[Deleted Text Start]~~29~~[Deleted Text End]*27*. Pleasant Grove-Verona Mutual Water Company GHG Emissions**

**Table H-[Deleted Text Start]~~30~~[Deleted Text End]*28*. Princeton-Codora-Glenn Irrigation District Summary of Engines by Fuel Type and Location**

**Table H-[Deleted Text Start]~~31~~[Deleted Text End]*29*. Princeton-Codora-Glenn Irrigation District GHG Emissions**

**Table H-[Deleted Text Start]~~32~~[Deleted Text End]*30*. Provident Irrigation District Summary of Engines by Fuel Type and Location**

**Table H-[Deleted Text Start]~~33~~[Deleted Text End]*31*. Provident Irrigation District GHG Emissions**

**Table H-[Deleted Text Start]~~34~~[Deleted Text End]*32*. Reclamation District 1004 Summary of Engines by Fuel Type and Location**

**Table H-[Deleted Text Start]~~35~~[Deleted Text End]*33*. Reclamation District 1004 GHG Emissions**

**Table H-[Deleted Text Start]~~36~~[Deleted Text End]*34*. Reclamation District 108 Summary of Engines by Fuel Type and Location**

**Table H-[Deleted Text Start]~~37~~[Deleted Text End]*35*. Reclamation District 108 GHG Emissions**

**Table H-[Deleted Text Start]~~38~~[Deleted Text End]*36*. Roberts Ditch Irrigation Company Summary of Engines by Fuel Type and Location**

**Table H-[Deleted Text Start]~~39~~[Deleted Text End]*37*. Roberts Ditch Irrigation Company GHG Emissions**

**Table H-[Deleted Text Start]~~40~~[Deleted Text End]*38*. RRG Garden Properties LLC Summary of Engines by Fuel Type and Location**

**Table H-[Deleted Text Start]~~41~~[Deleted Text End]*39*. RRG Garden Properties LLC GHG Emissions**

**Table H-[Deleted Text Start]~~42~~[Deleted Text End]*40*. Sacramento County Water Agency Summary of Engines by Fuel Type and Location**

**Table H-[Deleted Text Start]~~43~~[Deleted Text End]*41*. Sacramento County Water Agency GHG Emissions**

**Table H-[Deleted Text Start]~~44~~[Deleted Text End]*42*. Sacramento Suburban Water District Summary of Engines by Fuel Type and Location**

**Table H-[Deleted Text Start]~~45~~[Deleted Text End]*43*. Sacramento Suburban Water District GHG Emissions**

**Table H-[Deleted Text Start]~~46~~[Deleted Text End]*44*. Sutter Mutual Water Company Summary of Engines by Fuel Type and Location**

**Table H-[Deleted Text Start]~~47~~[Deleted Text End]*45*. Sutter Mutual Water Company GHG Emissions**

**Table H-[Deleted Text Start]~~48~~[Deleted Text End]*46*. Te Velde Revocable Family Trust Summary of Engines by Fuel Type and Location**

**Table H-[Deleted Text Start]~~49~~[Deleted Text End]*47*. Te Velde Revocable Family Trust GHG Emissions**

**Table H-[Deleted Text Start]~~50~~[Deleted Text End]*48*. Tule Basin Farms Summary of Engines by Fuel Type and Location**

**Table H-[Deleted Text Start]~~51~~[Deleted Text End]*49*. Tule Basin Farms GHG Emissions**

**Table H-[Deleted Text Start]~~52~~[Deleted Text End]*50*. Windswept Land and Livestock Summary of Engines by Fuel Type and Location**

**Table H-[Deleted Text Start]~~53~~[Deleted Text End]*51*. Windswept Land and Livestock GHG Emissions**

**Table H-[Deleted Text Start]~~54~~[Deleted Text End]*52*. GHG Emission Factors for Electric Pumps**

**Table H-[Deleted Text Start]~~55~~[Deleted Text End]*53*. Utility-Specific CO2 Emission Factors**

**Table H-[Deleted Text Start]~~56~~[Deleted Text End]*54*. Diesel Emission Factors**

**Table H-[Deleted Text Start]~~57~~[Deleted Text End]*55*. Natural Gas Emission Factors**

**Table H-[Deleted Text Start]~~58~~[Deleted Text End]*56*. Propane Emission Factors**

**Table H-[Deleted Text Start]~~59~~[Deleted Text End]*57*. Subregion Output Emission Rates (eGRID2022)**

**Table H-[Deleted Text Start]~~60~~[Deleted Text End]*58*. Engine Power Rating Summary by Fuel Type**

# M.14 Appendix K

***Page K-8***

The second to last sentence on page K-8 of the Draft EA/IS is revised as follows:

> In response to the reduced contract supply, the SRSC are expected to engage in activities in response to water reductions, including*** groundwater substitution,*** cropland idling, cropland shifting, conservation, and the implementation of the drought-resiliency projects (Glenn-Colusa Irrigation District 2024).

# Appendix N
# Mitigation Monitoring and Reporting Plan

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# Appendix N Mitigation Monitoring and Reporting Plan

## N.1 Introduction

The proposed 2026–2027 North to South Water Transfers (Project) has the potential for significant environmental impacts associated with surface water supply, groundwater resources, and air quality. Mitigation measures have been incorporated into the Project to reduce impacts to less than significant levels. The mitigation measures for the Project must be adopted by the U.S. Department of the Interior, Bureau of Reclamation (Reclamation) and the San Luis & Delta-Mendota Water Authority (SLDMWA), in conjunction with adoption of the Environmental Assessment/Initial Study (EA/IS). Reclamation is the federal lead agency responsible for NEPA review, through the EA, for the potential transfers of water in contract years 2026–2027, and the SLDMWA is the California public agency serving as lead agency for CEQA review, through the IS, for the potential transfers of water in contract years 2026–2027.

## N.2 Mitigation and Monitoring

Table N-1 lists the mitigation measures identified, responsible parties, and the time frame for implementation.

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## Table N-1. Mitigation Measures

| Measure No. | Mitigation Measure | Responsible Party | Method of Verification | Timing of Verification |
|---|---|---|---|---|
| WS-1 | ***Mitigation Measure WS-1: Streamflow Depletion Factor***<br><br>The purpose of Mitigation Measure WS-1 is to address potential streamflow depletion effects to CVP and SWP water supply. Reclamation will apply a streamflow depletion factor to mitigate potential water supply impacts from the additional groundwater pumping due to groundwater substitution transfers. The streamflow depletion factor equates to a percentage of the total groundwater substitution transfer that will not physically be available for transfer to the Buyer (transferee) and is intended to offset the streamflow effects of the added groundwater pumping due to transfer.<br><br>As described in the impact analysis, the magnitude of the potential water supply impact depends on hydrologic conditions surrounding the transfer period (both before and after). The exact percentage of the streamflow depletion factor will be assessed and determined on a regular basis by Reclamation and DWR, in consultation with Buyers and Sellers, based on the best technical information available at that time. The percentage will be determined based on hydrologic conditions, groundwater and surface water modeling, monitoring information, and past transfer data. Application of the streamflow depletion factor will offset potential water supply effects and reduce them to a less than significant level. The streamflow depletion factor may not change every year but will be refined as new information becomes available. Analysis relied upon for this document was based on regional modeling; and more site-specific data, analysis, and groundwater modeling may result in different, local streamflow depletion factors. The streamflow depletion factor will be not less than 20 percent. However, this factor may be adjusted, either higher or lower, based on additional information on local conditions if new information indicates a substantial difference in local conditions that warrants a change. | Reclamation and DWR, in consultation with Buyers and Sellers | CVP and SWP operations reporting. | During project implementation |

| Measure No. | Mitigation Measure | Responsible Party | Method of Verification | Timing of Verification |
|---|---|---|---|---|
| | Reclamation and DWR require the imposition of a streamflow depletion factor to ensure transfers do not violate the no injury rule (Water Code § 1702, 1706, and 1725), and other applicable laws, regulations and policies. This process to evaluate and determine the streamflow depletion factor will help verify that the factor reduces potential impacts to avoid injury to CVP or SWP water supplies and a substantial impact or injury. | | | |
| GW-1 | ***Mitigation Measure GW-1: Monitoring Program and Mitigation Plan***<br><br>The objective of Mitigation Measure GW-1 is to avoid potentially significant adverse environmental effects from groundwater-level declines such as (1) impacts to other legal users of water; (2) land subsidence; (3) adverse effects to groundwater-dependent vegetation; or (4) migration of reduced quality groundwater. The measure accomplishes this by monitoring groundwater levels in the period during which groundwater is being pumped, in-lieu of diverting surface water, to cease groundwater pumping when the groundwater level reaches the established groundwater trigger. As described in the Mitigation Plan section below, the mitigation measure also requires prompt intervention, including the cessation of groundwater pumping, if groundwater level triggers are reached during transfer-related pumping or if, in the unlikely event, that a potential impact is detected to ensure it will be reduced to less than significant. Additionally, the mitigation measure requires preventative actions if monitoring shows that identified groundwater-level triggers are reached during transfer-related pumping. Potential Sellers are required to prepare a Monitoring Program and Mitigation Plan to address the required elements of the mitigation measure for review and approval by Reclamation prior to initiation of groundwater substitution pumping.<br><br>Sellers are required to submit monitoring reports to Reclamation and Reclamation will verify that participating Sellers implement the Monitoring Program and Mitigation Plan to avoid potentially significant adverse effects of transfer-related groundwater extraction. In addition, each entity making surface water available for transfer through groundwater substitution actions | Participating Sellers; Verification by Reclamation in coordination with DWR | Seller transfer proposal and monitoring reports. | Prior, during, and after water transfers |

| Measure No. | Mitigation Measure | Responsible Party | Method of Verification | Timing of Verification |
|---|---|---|---|---|
| | must confirm that the proposed groundwater pumping will be compatible with applicable state and local regulations and county groundwater management plans, as well as GSPs. Most GSPs in the Seller Service Area have been reviewed and approved by DWR; and all of the GSAs are required to meet the sustainability objectives identified under SGMA, thus providing a regulatory backstop to prevent substantial adverse effects. | | | |
| GW-1 | ***Well Review Process***<br><br>Potential Sellers are required to prepare and submit a water transfer proposal to Reclamation a minimum of one month prior to the initiation of groundwater substitution pumping transfers. Potential Sellers are encouraged to electronically submit their water transfer proposal through DWR's online web application. Reclamation (in coordination with DWR) will review water transfer proposals and those groundwater substitution pumping transfers cannot start prior to Reclamation's approval. Water transfer proposals must include well data collected by potential Sellers consistent with the data requirements identified in the Water Transfers Information Checklist that is included in Reclamation and DWR's *Water Transfer White Paper*.[1]<br><br>In the water transfer proposal, potential Sellers must also include subsidence information, which is available from DWR's InSAR data, best available subsidence information from their local DWR-approved GSP(s), or other available data relative to subsidence. Sellers must demonstrate that substantial land subsidence is not occurring within the area of a proposed participating transfer pumping well[2] in accordance with minimum thresholds | Participating Sellers; Review and approval by Reclamation in coordination with DWR | Seller transfer proposal. | Prior to water transfers |

[1] At the time of development of this EA/IS, the 2019 Water Transfers White Paper (Reclamation and DWR 2019) document governs the water transfers evaluated in this EA/IS. The Water Transfers White Paper is updated by Reclamation and DWR when necessary and the version of that governing document and the Water Transfers Information Checklist it includes shall be used by Sellers to develop their water transfer proposals. See Appendix E3 for the current Water Transfers Information Checklist (Reclamation and DWR 2019).

[2] A transfer pumping well is a production well used to pump groundwater as part of a groundwater substitution transfer under the Proposed Action.

| Measure No. | Mitigation Measure | Responsible Party | Method of Verification | Timing of Verification |
|---|---|---|---|---|
| | identified in their local DWR approved GSP(s), subject to Reclamation's verification; and if it is occurring, the participating transfer pumping well would not be allowed to participate in groundwater substitution transfers, ensuring adverse effects of the Proposed Action would not occur in areas vulnerable to land subsidence. | | | |
| GW-1 | **Monitoring Program**<br><br>Potential Sellers must complete and implement a monitoring program subject to Reclamation's approval (in coordination with DWR) that shall include, at a minimum, the following components: | Participating Sellers; Review and approval by Reclamation in coordination with DWR | Seller transfer proposal and monitoring reports. | Transfer proposal submitted prior to water transfers; monitoring reports submitted during and after transfer. |
| GW-1 | *Monitoring Well Network*<br><br>The monitoring program, as determined by Reclamation, shall accurately characterize groundwater levels from the appropriate aquifers and their response in the area before, during, and after transfer-related substitution pumping takes place. Depending on local conditions, additional groundwater-level monitoring may be required near ecological resource areas such as areas with mapped groundwater dependent ecosystems. Sellers must identify, in the transfer proposal, suitable monitoring wells[3] that meet the requirements below for review and approval by Reclamation (in coordination with DWR). If a suitable monitoring well(s) is not identified for a participating transfer pumping well, the well will not be allowed to | Participating Sellers; Review and approval by Reclamation in coordination with DWR | Seller transfer proposal and monitoring reports. | Transfer proposal submitted prior to water transfers; monitoring reports submitted during and after transfer. |

[3] A suitable monitoring well is used to monitor effects from groundwater substitution transfer pumping. A suitable monitoring well must meet the three requirements stated in the next paragraph.

| Measure No. | Mitigation Measure | Responsible Party | Method of Verification | Timing of Verification |
|---|---|---|---|---|
| | participate in a water transfer until a suitable monitoring well(s) is identified, ensuring adverse effects of the Proposed Action are not occurring undetected.<br><br>The monitoring well network shall include the participating transfer pumping well and a suitable groundwater-level monitoring well(s) in the vicinity of the participating transfer pumping well(s). Suitable monitoring well(s) are required to: (1) be within a radius of between 500 feet and 2 miles from a Seller's groundwater substitution well; (2) be located within the same Bulletin 118[4] subbasin as the groundwater substitution pumping well; and (3) have a screen depth(s) similar to the groundwater substitution pumping well(s). The suitable monitoring well may be established at a different radius if more well-specific data can be presented to Reclamation demonstrating a suitable monitoring well that is outside the radius established above. The request to use a different radius for the suitable monitoring well should be submitted with the water transfer proposal for review and approval by Reclamation (in coordination with DWR). If any SGMA representative monitoring sites (RMSs)[5] meet the suitable monitoring well requirements presented above, then the RMS shall be included as the suitable monitoring well. At least one suitable monitoring well must be paired with a participating transfer pumping well. More than one participating transfer pumping well may be paired with a suitable monitoring well, provided the requirements above are met. Suitable monitoring wells with short historical records could be considered, but short records could limit the transfer because the measured historical low groundwater level (described below) may not reflect persistent drier conditions. In this situation, the lowest groundwater level for the short period of record would likely be higher than the historical low during a prior | | | |

[4] Bulletin 118 is the State's official publication on the occurrence and nature of groundwater in California. DWR updated Bulletin 118 in 2020, the next update will be published in 2025.
[5] A SGMA representative monitoring site (RMS) is a well identified in a GSP under SGMA for monitoring the sustainability indicator chronic lowering of groundwater levels. RMS wells include defined quantitative thresholds: minimum threshold and measurable objective.

| Measure No. | Mitigation Measure | Responsible Party | Method of Verification | Timing of Verification |
|---|---|---|---|---|
| | drought period. A groundwater level trigger (described below) based on the lowest groundwater level for a short period of record would be more restrictive than a trigger based on a historical low because the lowest groundwater level for the short period could be reached more quickly during transfer-related groundwater substitution pumping than the historically low groundwater level.<br><br>In addition to monitoring at the participating transfer pumping well and suitable monitoring well(s), Sellers must also identify all RMS wells within the Sellers' Service Area and within a two-mile radius of the service area boundary should be identified in their transfer proposal. | | | |
| GW-1 | *Groundwater Level Monitoring*<br><br>Sellers will collect measurements of groundwater levels in the participating transfer pumping wells (those wells being used in-lieu of diverting surface water that is being made available for transfer) and the suitable monitoring well(s) in the monitoring network. Groundwater level measurements will be used to avoid both third-party impacts and inelastic (irreversible) subsidence based on the identified groundwater level triggers (described below). Measurements in the participating transfer pumping well(s) will be taken while the well is pumping in order to record the lowest levels reached. Measurements at the suitable monitoring well(s) will be static (non-pumping) groundwater levels. Groundwater-level monitoring will include measurements before, during, and after transfer-related substitution pumping. The Seller will measure groundwater levels as follows:<br><br>• Prior to transfer: Groundwater levels will be measured in all wells in the monitoring network, monthly from March in the year of the proposed transfer-related substitution pumping until the start of the transfer pumping. Monitoring will also be conducted on the day that the transfer pumping begins, prior to the pump being turned on. | Participating Sellers; Review by Reclamation in coordination with DWR | Seller transfer proposal and monitoring reports. | Transfer proposal submitted prior to water transfers; monitoring reports submitted during and after transfer. |

| Measure No. | Mitigation Measure | Responsible Party | Method of Verification | Timing of Verification |
|---|---|---|---|---|
| | • During transfer-related substitution pumping: Groundwater levels will be measured in all wells in the monitoring network, weekly throughout the pumping period unless the groundwater level threshold (described in the next subsection) is reached. Measurements will be required once every three days if a groundwater level threshold (described in the next subsection) is reached at the participating pumping well(s) or the suitable monitoring well(s).<br><br>• Post-transfer pumping: Groundwater levels will be measured in all wells in the monitoring well network, weekly for one month after the end of transfer-related pumping, after which groundwater levels will be measured monthly through March of the year following the end of the transfer pumping. | | | |
| GW-1 | *Groundwater Level Triggers and Thresholds*<br><br>The primary criteria used to identify and avoid potentially significant impacts related to groundwater levels are the historical low groundwater levels for the participating transfer pumping wells and the suitable monitoring wells. Other criteria that may be used, if the RMS is selected as a suitable monitoring well and, therefore, the RMS meets the suitable monitoring well criteria presented above, are minimum thresholds for groundwater levels at RMSs set by GSAs and identified in the DWR approved GSPs. Sellers will manage groundwater levels to maintain them above the identified historical low groundwater level (trigger). Sellers will initiate the increased frequency of monitoring (discussed in a later subsection) if groundwater levels reach the threshold and will initiate the mitigation plan (discussed in a later subsection) if groundwater levels reach the trigger. Monitoring and operating to these groundwater level triggers and thresholds are the best available tools to avoid potential impacts to the environment as well as to third parties, and to avoid irreversible subsidence. The potential for irreversible subsidence would only occur when groundwater levels are below historic low levels (U.S. | Participating Sellers; Review and approval by Reclamation in coordination with DWR | Seller transfer proposal and monitoring reports. | Transfer proposal submitted prior to water transfers; monitoring reports submitted during and after transfer. |

| Measure No. | Mitigation Measure | Responsible Party | Method of Verification | Timing of Verification |
|---|---|---|---|---|
| | Geological Survey 2018); therefore, this measure would also avoid any potential irreversible (permanent) subsidence.<br><br>As part of a Seller's transfer proposal subject to Reclamation's (in coordination with DWR) review and approval, the Seller will need to identify a proposed groundwater level trigger for each pumping well and each suitable monitoring well (established through the historical low groundwater level for that well). The historical low groundwater level at a participating transfer pumping well will likely have occurred when the well was operating (e.g., pumping water level); and similarly, the historical low at a suitable monitoring well will likely have occurred when the associated participating transfer pumping well was operating. However, the identified trigger for a suitable monitoring well cannot be from a measurement made while the suitable monitoring well was operating. Any pumping taking place at the participating transfer pumping well at the time when the historical low groundwater level is identified must represent normal operations and not periods of heavy pumping for well development or testing.<br><br>Based on the groundwater level trigger, a groundwater level threshold for each pumping well and each suitable monitoring well is established at ten feet above the trigger. When groundwater monitoring at the frequency identified above (e.g., weekly during transfer pumping) indicates the groundwater level declined to or below the threshold, the frequency of groundwater-level monitoring shall increase to once every three days for that well (participating transfer pumping well or suitable monitoring well). The groundwater level threshold may be established at a different level if a more well specific threshold can be identified based on past groundwater level trends at the participating transfer pumping well or suitable monitoring well. The groundwater level trigger and threshold for each participating transfer pumping well and each suitable monitoring well is required in the water transfer proposal submitted to Reclamation (in coordination with DWR) for review and approval. | | | |

| Measure No. | Mitigation Measure | Responsible Party | Method of Verification | Timing of Verification |
|---|---|---|---|---|
| | Groundwater level declines due to pumping occur initially at the pumping well and then propagate outward from that location. The magnitude of groundwater level decline caused by pumping also decreases with increasing distance from the pumping well. Therefore, groundwater level declines caused by transfer-related substitution pumping would be observed first at the pumping well and subsequently at the suitable monitoring well. The decline would be greatest at the participating transfer pumping well and lower at the suitable monitoring well. Therefore, it is likely that groundwater levels in the participating transfer pumping well would decline to the historical low groundwater level trigger or groundwater level threshold sooner than at the suitable monitoring well(s). The groundwater level measurements at the suitable monitoring well(s) would provide information surrounding the participating transfer pumping well to avoid potential significant or cumulative impacts. | | | |
| GW-1 | *Other Monitoring*<br><br>**Groundwater Quality.** For municipal Sellers, the comprehensive water quality testing requirements of CCR Title 22. Chapter 15. Domestic Water Quality and Monitoring Regulations (SWRCB 2024) are considered sufficient for the water transfer monitoring program. Agricultural Sellers shall measure specific conductance in samples from each participating transfer pumping well. Samples shall be collected when the Seller first initiates pumping, monthly during the pumping period, and at the termination of transfer-related pumping. Sellers shall provide details such as sample location(s), sample well depth, sample well construction information, and distance from sample location(s) to the participating transfer pumping well. | Participating Sellers | Seller transfer proposal and monitoring reports. | Transfer proposal submitted prior to water transfers; monitoring reports submitted during and after transfer. |

| Measure No. | Mitigation Measure | Responsible Party | Method of Verification | Timing of Verification |
|---|---|---|---|---|
| GW-1 | **Groundwater Pumping Measurements.** All wells pumping groundwater to replace surface water made available for transfer shall be configured with a permanent instantaneous and totalizing flowmeter capable of accurately measuring well discharge rates and volumes. Flowmeters will be installed and calibrated in accordance with manufacturer's recommendations and the relevant documentation will be submitted by the Seller to Reclamation. Flowmeter readings will be recorded in a similar frequency as groundwater level monitoring, as follows:<br><br>Prior to transfer: Readings will be recorded on the day that the transfer pumping begins, prior to the pump being turned on.<br><br>During transfer-related substitution pumping: Flowmeter readings will be recorded weekly throughout the pumping period. If the measured groundwater levels meet or decline below the groundwater level threshold (described in the subsection above), flowmeter readings shall be recorded every three days.<br><br>Post-transfer pumping: Flowmeter readings will be recorded immediately following cessation of transfer-related pumping. | Participating Sellers; Review by Reclamation in coordination with DWR | Seller transfer proposal and monitoring reports. | Transfer proposal submitted prior to water transfers; monitoring reports submitted during and after transfer. |
| GW-1 | **Shallow Groundwater Level Monitoring for Groundwater Dependent Ecosystems (GDEs)[6] supporting Shallow-Rooted and Deep-Rooted Vegetation.** To avoid significant effects to GDEs and allow Sellers to modify actions before significant effects occur, Sellers will monitor groundwater level data to verify that significant adverse effects to GDEs with shallow-rooted or deep-rooted vegetation are avoided. This monitoring is only required in areas that have been identified as GDEs in the Nature Conservancy's Natural Communities Commonly Associated with Groundwater Dataset Version 2.0 | Participating Sellers; Visual monitoring by a qualified plant ecologist/ arborist | Seller transfer proposal and monitoring reports. | Transfer proposal submitted prior to water transfers; monitoring reports submitted |

[6] Groundwater dependent ecosystems (GDEs) are plant communities that solely or partially depend on the availability of groundwater to maintain their structure and function. Evaluation of impacts to GDEs from proposed action are discussed under Section 3.7, Biological Resources, of the EA/IS.

| Measure No. | Mitigation Measure | Responsible Party | Method of Verification | Timing of Verification |
|---|---|---|---|---|
| | (NCCAG 2.0) (The Nature Conservancy 2021) data set or by an approved GSP and either (1) contain shallow-rooted (i.e., groundwater dependent vegetation, such as riparian phreatophytes that have roots extending up to 30 feet deep) within a 0.5-mile radius of the participating transfer pumping well and areas where groundwater levels are less than 30 feet below ground surface prior to starting transfer-related pumping; or (2) contain deep-rooted vegetation (i.e., primarily valley oak trees that could have roots up to 80 feet deep) within a 0.5-mile radius of the participating transfer pumping well and areas where groundwater levels are less than 80 feet below ground surface prior to starting transfer-related pumping. This monitoring is not required in areas with no GDEs with shallow-rooted and/or deep-rooted vegetation within 0.5-mile of the participating transfer pumping well(s) or in areas where vegetation is located along waterways or irrigated fields that will continue to have water during the period of transfer.<br><br>In their transfer proposal, the Seller would be required to identify if monitoring for shallow-rooted and/or deep-rooted vegetation associated with a GDE is a requirement. Best available information such as the NCAAG 2.0, GDE Pulse 2.3 (https://gde.codefornature.org/#/home) or GSA[7] collected data/information could be used to identify GDEs containing shallow and/or deep rooted vegetation near the participating transfer pumping well and to determine the health and maximum rooting depth of dominant vegetation in the GDE. The proposal would require the distance between participating transfer pumping well and the GDE, as well as the dominant vegetation type (e.g., shallow-rooted vegetation such as cottonwood, willows or deep-rooted vegetation such as valley oaks), and photographs from a pre-season vegetation assessment. | | | during and after transfer. |

[7] Groundwater sustainability agencies (GSAs) are local agencies required to form as a requirement of SGMA for high and medium priority basins and implement GSPs to avoid undesirable results and mitigate overdraft within groundwater basins (DWR 2024).

| Measure No. | Mitigation Measure | Responsible Party | Method of Verification | Timing of Verification |
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| | If a GDE comprised of shallow-rooted and/or deep-rooted vegetation is identified near the participating transfer pumping well, a groundwater level monitoring well with the following requirements would need to be identified and monitored: (1) monitoring well is within a 0.5-mile radius of the GDE containing shallow-rooted and/or deep-rooted vegetation; and (2) monitoring well would measure shallow groundwater level changes (typically less than 80 feet below ground surface). For each GDE monitoring well, a minimum groundwater threshold would be identified by the Seller using hydrologic data and expert opinion based on the ecological function and value of the GDE, and on the maximum rooting depth of its dominant vegetation type. If monitoring data at the monitoring well indicate that groundwater levels have dropped below the groundwater threshold within the GDE, the Seller must implement actions set forth in the mitigation plan. However, if a qualified plant ecologist/arborist determines that the GDE is in relatively healthy condition, and historical data show that groundwater levels in the area have typically fluctuated by more than this amount annually during the proposed transfer period, then the transfer may be allowed to proceed without any monitoring requirements. Prior to transfer pumping, the Seller must submit to Reclamation historical data showing groundwater fluctuations in the vicinity of the GDE.<br><br>If no monitoring wells with the requirements discussed in the previous paragraph exist, monitoring would be based on visual observations by a qualified plant ecologist/certified arborist of the health of these areas of shallow- or deep-rooted vegetation until it is feasible to obtain or install shallow groundwater monitoring. Monitoring of these areas would include a pre-pumping vegetation assessment of GDEs within a 0.5-mile radius of the pumping well followed by monthly assessments during transfers and assessment near the end of the pumping season but prior to fall/autumn leaf-drop. The assessment of post-pumping impacts on deep-rooted vegetation will be conducted by a qualified plant ecologist/arborist and will take into account the existing health conditions of the vegetation prior to pumping, species present, size-class of trees, and rainfall data from the | | | |

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| | previous WYs. Photographs from the assessment must be provided to Reclamation as part of the annual transfers reports. If the qualified plant ecologist/certified arborist determines, based on site-specific circumstances, that groundwater pumping has caused any loss of the shallow-rooted or deep-rooted vegetation the Seller must implement restoration actions set forth in the mitigation plan. Findings from the pre-pumping assessment, during transfers pumping assessment and post-pumping assessment will be reported to Reclamation in monthly transfers reports. | | | |
| GW-1 | *Coordination Plan*<br><br>The monitoring program will include a plan to coordinate the collection and organization of monitoring data. This plan will describe how input from third party well owners will be incorporated into the monitoring program and will include a plan for communication with Reclamation as well as other decision makers and third parties.<br><br>Additionally, Reclamation and potential Seller(s) will coordinate closely with potentially affected third parties to collect and monitor groundwater data. If a third party expects that it may be affected by a proposed transfer, that party should contact Reclamation and the Seller with its concern. The burden of collecting groundwater data will be the Seller's responsibility with oversight by Reclamation. If warranted, additional groundwater-level monitoring to address the third party's concern may be incorporated into the monitoring and mitigation plans (which may include compensatory mitigation) required by Mitigation Measure GW-1. No significant adverse impacts to third parties are anticipated from implementation of the Proposed Action as mitigated because Mitigation Measure GW-1 is designed to avoid impacts related to groundwater pumping. | Participating Sellers and Reclamation | Seller transfer proposal and monitoring reports. | Transfer proposal submitted prior to water transfers; monitoring reports submitted during and after transfer. |

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| GW-1 | *Evaluation and Reporting*<br><br>The monitoring program will describe the method of reporting monitoring data.<br><br>• Potential Sellers are encouraged to prepare and submit a water transfers proposal by March 1 of transfers years for Reclamation (in coordination with DWR) review and approval.<br><br>• Sellers will provide monthly spreadsheets of data collected (such as groundwater levels at a participating transfer pumping well and suitable monitoring well, flowmeter readings at the participating well, and groundwater quality monitoring data at the participating transfer pumping well) and where applicable, photographs from the shallow-rooted or deep-rooted vegetation assessment to Reclamation during transfers.<br><br>• If the groundwater level threshold is reached at the participating transfer pumping well(s) or suitable monitoring well(s), weekly reporting would be required for the well(s). If the groundwater level threshold is reached, then increased frequency of reporting will be required and summarized in the transfer proposal and subject to Reclamation (in coordination with DWR) review and approval.<br><br>• Post-transfer reporting will continue monthly through March of the year following the transfer.<br><br>Sellers will provide a final summary report to Reclamation evaluating the effects of the water transfer. The final report will identify transfer-related effects on groundwater and surface water (both during and after pumping), and the extent of effects, if any, on local groundwater users. It shall include hydrographs for each well in the monitoring network, showing pre-transfer groundwater levels, groundwater levels at the end of the transfer period, and | Participating Sellers; Review and approval by Reclamation in coordination with DWR | Seller transfer proposal and monitoring reports. | Transfer proposal submitted prior to water transfers; monitoring reports submitted during and after transfer. |

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| | recovered groundwater levels in March of the year following the transfer. The final summary report shall also identify the extent of transfer-related effects, if any, to ecological resources such as fish, wildlife, and vegetation resources. The final summary report will be subject to Reclamation (in coordination with DWR) review and approval and will determine if the Seller (or one or more of the Seller's wells) would be allowed to participate in future transfers. Reclamation will consider the potential for adverse impacts to subsidence, third-party sellers or GDEs from future transfers pumping. Reclamation will coordinate with the Seller in order to obtain, review, and analyze any additional data to assess the removal of a well from a future transfer prior to making such a determination. | | | |
| GW-1 | **Mitigation Plan**<br><br>Potential Sellers must complete and implement a mitigation plan to avoid groundwater-related adverse impacts and ensure prompt intervention to avoid unanticipated adverse effects. This plan must document the intended actions if the potential arises for unanticipated impacts to groundwater resources or groundwater-dependent vegetation. This plan must be submitted to Reclamation (in coordination with DWR) for review and approval as part of the water transfer proposal, prior to initiating groundwater substitution pumping. | Participating Sellers; Review and approval by Reclamation in coordination with DWR | Seller transfer proposal and monitoring reports. | Transfer proposal submitted prior to water transfers; monitoring reports submitted during and after transfer. |
| GW-1 | *Groundwater Resource Mitigation*<br><br>If groundwater level triggers are reached at the participating transfer pumping well(s) or the associated suitable monitoring well(s) (established through the historical low groundwater levels), transfer-related pumping would stop from the participating transfer pumping well for which the trigger was reached. Transfer-related pumping could not continue from this well (in the same year or a future year) until groundwater levels recovered to above the groundwater level trigger. Any volume of water pumped at a participating transfer pumping well while a groundwater level is at or below a trigger, for that participating transfer pumping well or associated suitable | Participating Sellers; Review and approval by Reclamation in coordination with DWR | Seller transfer proposal and monitoring reports. | Transfer proposal submitted prior to water transfers; monitoring reports submitted during and after transfer. |

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| | monitoring well, would not be credited in the groundwater substitution transfer. If groundwater level thresholds (i.e., ten feet above the groundwater level trigger [identified historical low groundwater level]) are reached or exceeded at the participating transfer pumping well(s) or the associated suitable monitoring well(s), the monitoring frequency would increase in order to evaluate and predict the reduction in groundwater levels, and the transfer-related pumping would stop from the participating transfer pumping when the trigger is reached. Implementation of the mitigation plan thus avoids any potentially significant groundwater impacts. Other interventions that could be used in conjunction with stopping transfer-related pumping and that could assist in avoidance of potentially significant groundwater impacts could include:<br><br>• Sellers would be responsible for reimbursement to non-transferring third parties for significant increases in their groundwater pumping costs owing to the groundwater substitution pumping action, as compared with their costs absent the transfer<br><br>• Sellers would be responsible for reimbursement to non-transferring third parties for modifications to infrastructure that may be affected<br><br>• Other appropriate actions based on local conditions as proposed by the Sellers and subject to review/approval by Reclamation (in coordination with DWR). | | | |
| GW-1 | *GDE Shallow-Rooted and Deep-Rooted Vegetation Mitigation*<br><br>If shallow groundwater-level monitoring indicates that groundwater levels at a GDE have dropped below the minimum threshold that was identified taking into account the maximum rooting depth of shallow-rooted or deep-rooted vegetation, the Seller must stop transfer-related pumping at the participating transfer pumping well and cannot resume pumping until groundwater levels have recovered to levels above the root zones. However, if historical data at the location indicate shallow groundwater levels typically | Participating Sellers; Monitoring by a qualified plant ecologist/ arborist | Seller transfer proposal and monitoring reports. | Transfer proposal submitted prior to water transfers; monitoring reports submitted |

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| | declined during the transfer period and remained below the root zone then the transfer may be allowed to proceed.<br><br>In areas where visual monitoring is conducted to monitor health of shallow-rooted and deep-rooted vegetation, the Seller must stop transfer-related pumping at the participating transfer pumping well if the qualified plant ecologist/arborist, determines a loss or substantial risk of loss of vegetation.<br><br>If a loss of vegetation occurs, the Seller will perform restoration activities by replanting similar vegetation at a 1:1 ratio at the location where loss occurs (for every 1-inch diameter at breast height [dbh] lost, 1-inch dbh will be planted). For example, if 12-inch dbh of oak is lost, then the Seller would have to plant twelve 15-gallon oak saplings at around 1-inch dbh each. Therefore, the Seller would plant more trees than lost. The Seller will plant, irrigate, maintain, and monitor restoration of vegetation for three years to replace the loss(es). All plantings will be fitted with exclusion cages or other suitable protection from herbivores. Plantings will be irrigated for three years or until the survival criterion is met. If 75 percent of the plants survive at the end of the three-year monitoring period, the revegetation will be considered successful. If the survival criterion is not met at the end of the monitoring period, planting and monitoring will be repeated after mortality causes have been identified and corrected. Annual monitoring reports, prepared by a qualified plant ecologist/arborist, will document the status of the plantings and recommendations for remediation as necessary. The monitoring reports will be provided to the Seller and Reclamation by August 31 following each year of monitoring (generally beginning July 1 through June 30 of the following year) to allow time for additional planting activities, if necessary.<br><br>Transfer-related pumping could not continue at the subject well while vegetation restoration activities consistent with the requirements above are ongoing (i.e., three years or until the survival criterion is met). Transfer-related pumping at the subject well could not resume after restoration unless the Seller provides evidence that resuming pumping will not affect GDE | | | during and after transfer. |

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| | vegetation (such as data from the installation of a new shallow groundwater-level monitoring well within a 0.5-mile radius of the vegetation that indicates stable shallow groundwater levels at less than the rooting depth of the dominant plant species that comprises the GDE). | | | |
| AQ-1 | ***Mitigation Measure AQ-1: Reduced Pumping***<br><br>Selling agency would reduce pumping at diesel and propane wells to reduce emissions to below the thresholds. Agencies may also decide to replace old diesel wells with cleaner (i.e., higher emission tier) diesel pumps or electric wells to reduce emissions to below the thresholds.<br><br>Any selling agency with potentially significant emissions, as determined by this EA/IS, will be required to submit information in the water transfer proposal, prior to making water available for transfer through groundwater substitution actions, that documents the wells that would be utilized to support those groundwater substitution actions to stay below the thresholds. The selling agency must also maintain recordkeeping logs that document the specific engine to be used for making water available for transfer through groundwater substitution actions, the power rating (hp), and applicable emission factors. Calculations for daily emissions will be completed for comparison to the significance thresholds determined for each selling agency. In the annual report, the selling agencies will be required to submit documentation specifying that the wells would only be pumped in accordance with the transfer proposals. | Participating Sellers | Seller transfer proposal and monitoring reports including Daily recordkeeping logs specifying the engines operated by each selling agency with potentially significant emissions and calculated criteria pollutant emissions. | Transfer proposal submitted prior to water transfers; monitoring reports submitted during and after transfer. |

## N.3 List of Acronyms

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| CCR | California Code of Regulations |
| CEQA | California Environmental Quality Act |
| CVP | Central Valley Project |
| dbh | diameter at breast height |
| DWR | California Department of Water Resources |
| EA/IS | Environmental Assessment/Initial Study |
| GDEs | groundwater-dependent ecosystems |
| GSA | Groundwater Sustainability Agency |
| GSP | Groundwater Sustainability Plan |
| hp | horse power |
| InSAR | Interferometric Synthetic Aperture Radar |
| MMRP | Mitigation and Monitoring Reporting Plan |
| PRC | Public Resources Code |
| Reclamation | U.S. Department of the Interior, Bureau of Reclamation |
| RMS | representative monitoring site |
| SGMA | Sustainable Groundwater Management Act |
| SLDMWA | San Luis & Delta-Mendota Water Authority |
| SWP | State Water Project |
| SWRCB | State Water Resources Control Board |
| § | Section |

# N.4 References

Bureau of Reclamation and California Department of Water Resources (Reclamation and DWR). 2019. DRAFT Technical Information for Preparing Water Transfer Proposals (Water Transfer White Paper) Information for Parties Preparing Proposals for Water Transfers Requiring Department of Water Resources or Bureau of Reclamation Approval. December 2019. Available at: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/State-Water-Project/Management/Water-Transfers/Files/Draft_2019WTWhitePaper-012324.pdf. [Accessed on August 21, 2024].

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