



— BUREAU OF —
RECLAMATION

Arvin-Edison Water Storage District Transfers and Exchanges with Kings River Districts and Kern County Districts (2025 -2034)

CGB-ED-2025-030

Final Environmental Assessment

Mission Statements

The U.S. Department of the Interior protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated Island Communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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Section 1. Introduction

In conformance with the National Environmental Policy Act (NEPA), Council on Environmental Quality¹ regulations (40 CFR 1500-1508), and Department of the Interior Regulations (43 CFR Part 46), the Bureau of Reclamation (Reclamation) prepared this Environmental Assessment (EA) to evaluate and disclose potential environmental impacts associated with a proposed 10-year transfer and/or exchange programs between Arvin-Edison Water Storage District (Arvin-Edison) and various Kings River Area Agencies and Kern County Districts. Completion of the NEPA process does not constitute approval of a proposal. Actual approval would be done through a separate process once environmental review is complete.

Reclamation provided the public with an opportunity to comment on the Draft Environmental Assessment between December 16, 2024 and January 14, 2025. No comments were received. Changes between this Final EA and the Draft EA, which are not minor editorial changes, are indicated by vertical lines in the left margin of this document.

1.1 Background

Arvin-Edison contracts with Reclamation for water from the Central Valley Project (CVP) and currently has an irrigation demand of about 150,000 acre-feet of water per year. Arvin-Edison holds a contract for an annual Friant Division CVP water supply of up to 40,000 acre-feet of Class 1² supplies and up to 311,675 acre-feet of Class 2³ supplies delivered via the Friant-Kern Canal, which is owned by Reclamation and operated and maintained by the Friant Water Authority. Arvin-Edison's available CVP supplies may also include prior year carryover/rescheduled water, San Joaquin River Restoration Program (SJRRP) Unreleased Restoration Flows, Recovered Water Account and Recapture/Recirculation, and Section 215 water.

¹ 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.

² Friant Division Class 1 water is considered as the first 800,000 acre-feet supply of CVP water stored in Millerton Lake, which would be available for delivery from the Friant-Kern Canal and/or Madera Canals as a dependable water supply during each Contract Year.

³ Class 2 water is considered as the next approximately 1,401,475 acre-feet supply of non-storable CVP water which becomes available in addition to the Class 1 supply and, due to the uncertainty of its availability, is considered to be undependable in character and is furnished only if and when it can be made available as determined by Reclamation per Contract Year.

Because of conveyance restrictions resulting from subsidence on the Friant-Kern Canal, Reclamation is unable to fully deliver Arvin-Edison's Friant Division CVP contract supply during wet periods/years. To maximize the use of its contractual water supplies made available by Reclamation, Arvin-Edison is proposing a 10-year extension of a program to transfer up to 100,000 acre-feet of its available Friant Division CVP supplies through existing infrastructure to water agencies that can take delivery of water from the Kings River or to various agencies in Kern County, including but not limited to, Kern Delta Water District, City of Bakersfield, and Wheeler Ridge-Maricopa Water Storage District.

1.2 Purpose and Need for the Proposed Action

Pursuant to the Central Valley Project Improvement Act, Reclamation is required to facilitate transfers of CVP water from willing sellers to willing buyers. Arvin-Edison needs to maximize available water supplies due to fluctuating hydrological years in order to have a reliable water supply to sustain existing agricultural operations. The purpose of the Proposed Action is to provide Arvin-Edison with operational flexibility and facilitate better management of available water supplies to meet existing water supply needs. This has become important due to impacts of subsidence to the Friant-Kern Canal as a result of overextraction of groundwater in its vicinity. The Middle Reach of the Friant-Kern Canal has lost over 50 percent of its original design capacity which has resulted in water delivery impacts on Friant Contractors, especially that overlie the Tule and Kern groundwater subbasins (Reclamation 2020). Friant Water Authority continues to experience subsidence upstream and downstream of the Middle Reach and additional investigations have been initiated.

The Kings River Area Agencies and Kern County Districts are located within the critically over-drafted Kings and Kern County groundwater subbasins. With the passage of the Sustainable Groundwater Management Act (SGMA) and the implementation of Groundwater Sustainability Plans (GSPs) that commenced in 2020, there is a need to reduce groundwater overdraft and achieve a sustainable groundwater supply. This goal can be achieved through a combination of maximizing surface water deliveries for on-farm use and/or recharge as well as conservation through reduced groundwater pumping as needed. Full compliance with SGMA by 2040 could restrict groundwater pumping and preclude the ability of Friant Division Contractors and the property owners within their jurisdiction to offset curtailed Friant-Kern Canal water deliveries with additional supplemental groundwater supplies.

Section 2. Alternatives Including Proposed Action

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

2.1 No Action Alternative

Under the No Action Alternative, Reclamation would not approve a 10-year extension of the existing transfer and/or exchange program that would allow Arvin-Edison to provide up to 100,000 acre-feet of its available contracted or acquired CVP water supplies to Kings River Area Agencies (Table 1) or the various Kern County Districts (Table 2). Instead, upon expiration of the existing program, Arvin-Edison would need to request separate approvals from Reclamation as each water management action opportunity becomes available. Arvin-Edison would continue to receive their CVP water supplies pursuant to their CVP contract.

2.2 Proposed Action

Reclamation proposes to approve a 10-year (extending March 1, 2025 to February 28, 2034) transfer and exchange program that would allow Arvin-Edison to provide up to 100,000 acre-feet of its available contracted or acquired Friant Division CVP water supply⁴ to the Kings River Area Agencies (Table 1 and Figure 1) or various Kern County Districts (Table 2 and Figure 2) through existing infrastructure consistent with Arvin-Edison’s 9(d) Repayment Contract.

Proceeds from the transfer of CVP water to Kings River Area Agencies or Kern County Districts would be used to acquire substitute water supplies that can ultimately be delivered to Arvin-Edison in order to continue meeting its customers’ needs and/or increase groundwater recharge opportunities.

Arvin-Edison could also exchange CVP supplies with Kings River Area Agencies (Table 1) provided that the return water is from Millerton Lake. For example, a Kings River agency could exchange its Kings River supplies with Fresno Irrigation District and/or City of Fresno, both of which have Reclamation contracts for CVP water service with water supplies delivered via the Friant-Kern Canal.

Table 1. List of Kings River Area Agencies

Name	Kings River Water Association Member	Groundwater Sustainability Agency Affiliation
Alta Irrigation District	Yes	Kings River East GSA
Burrel Ditch Company	Yes	North Fork Kings GSA
Clarks Fork Reclamation District	Yes	North Fork Kings GSA
Consolidated Irrigation District	Yes	Central Kings GSA
Corcoran Irrigation Company	Yes	El Rico GSA
Corcoran Irrigation District		El Rico GSA
Crescent Canal Company	Yes	North Fork Kings GSA
Empire West Side Irrigation District	Yes	South Fork Kings GSA
Fresno Irrigation District ¹	Yes	North Kings GSA
City of Fresno ¹		North Kings GSA

⁴ Arvin-Edison’s CVP water supplies that would be available to the Kings River Area Agencies or Kern County Districts under the Proposed Action do not include Section 215 water.

Name	Kings River Water Association Member	Groundwater Sustainability Agency Affiliation
James Irrigation District	Yes	James GSA
John Heinlen Mutual Water Company	Yes	South Fork Kings
Kings County Water District		Mid-Kings River, Greater Kaweah, Central Kings
Kings River Water District	Yes	Kings River East GSA
Laguna Irrigation District	Yes	North Fork Kings GSA
Lakeside Irrigation Water District		Greater Kaweah GSA
Last Chance Water Ditch Company	Yes	Mid-Kings River GSA
Lemoore Canal & Irrigation Company	Yes	South Fork Kings GSA
Liberty Canal Company	Yes	North Fork Kings GSA
Liberty Millrace Company	Yes	North Fork Kings GSA
Liberty Water District		North Fork Kings GSA
Lovelace Water Corporation	Yes	South Fork Kings GSA
Melga Water District		El Rico GSA
Mid-Valley Water District		McMullin Area GSA
Peoples Ditch Company	Yes	Mid-Kings River GSA
Raisin City Water District		McMullin Area GSA
Reed Ditch Company	Yes	North Fork Kings GSA
Riverdale Irrigation District	Yes	North Fork Kings GSA
Salyer Water District		El Rico GSA
Southeast Lake Water Company	Yes	El Rico GSA
Stinson Canal and Irrigation Company	Yes	North Fork Kings GSA
Stinson Water District		North Fork Kings GSA
Stratford Irrigation District	Yes	South Fork Kings GSA
Tranquillity Irrigation District	Yes	Central Delta-Mendota GSA
Tulare Lake Basin Water Storage District	Yes	Southwest Kings GSA, El Rico GSA
Tulare Lake Canal Company	Yes	El Rico GSA
Tulare Lake Reclamation District #761	Yes	Southwest Kings GSA
Upper San Jose Water Company	Yes	North Fork Kings GSA

Table 2. List of Kern County Districts

Name	Groundwater Sustainability Agency Affiliation
Belridge Water Storage District	Westside Districts Water Authority GSA
Berrenda Mesa Water District	Westside Districts Water Authority GSA
Buena Vista Water Storage District	Buena Vista Water Storage District GSA
Cawelo Water District	Cawelo Water District GSA
City of Bakersfield	Kern River GSA
Henry Miller Water District	Henry Miller Water District GSA
Kern County Water Agency Improvement District No. 4	Kern River GSA
Kern-Tulare Water District	Kern Tulare GSA
Kern-Delta Water District	Kern River GSA
Lost Hills Water District	Westside Districts Water Authority GSA
North Kern Water Storage District	North Kern Water Storage District GSA

Name	Groundwater Sustainability Agency Affiliation
Olcese Water District	Olcese Water District GSA
Rosedale-Rio Bravo Water Storage District	Rosedale-Rio Bravo Water Storage District GSA
Semitropic Water Storage District	Semitropic Water Storage District GSA
Shafter-Wasco Irrigation District	Shafter-Wasco Irrigation District GSA
Southern San Joaquin Municipal Water District	Southern San Joaquin Municipal Water District GSA
Tehachapi Cummings County Water District	No GSA
Tejon-Castac Water District	Tejon-Castac Water District GSA
West Kern Water District	West Kern Water District GSA
Wheeler Ridge-Maricopa Water Storage District	Wheeler Ridge-Maricopa GSA

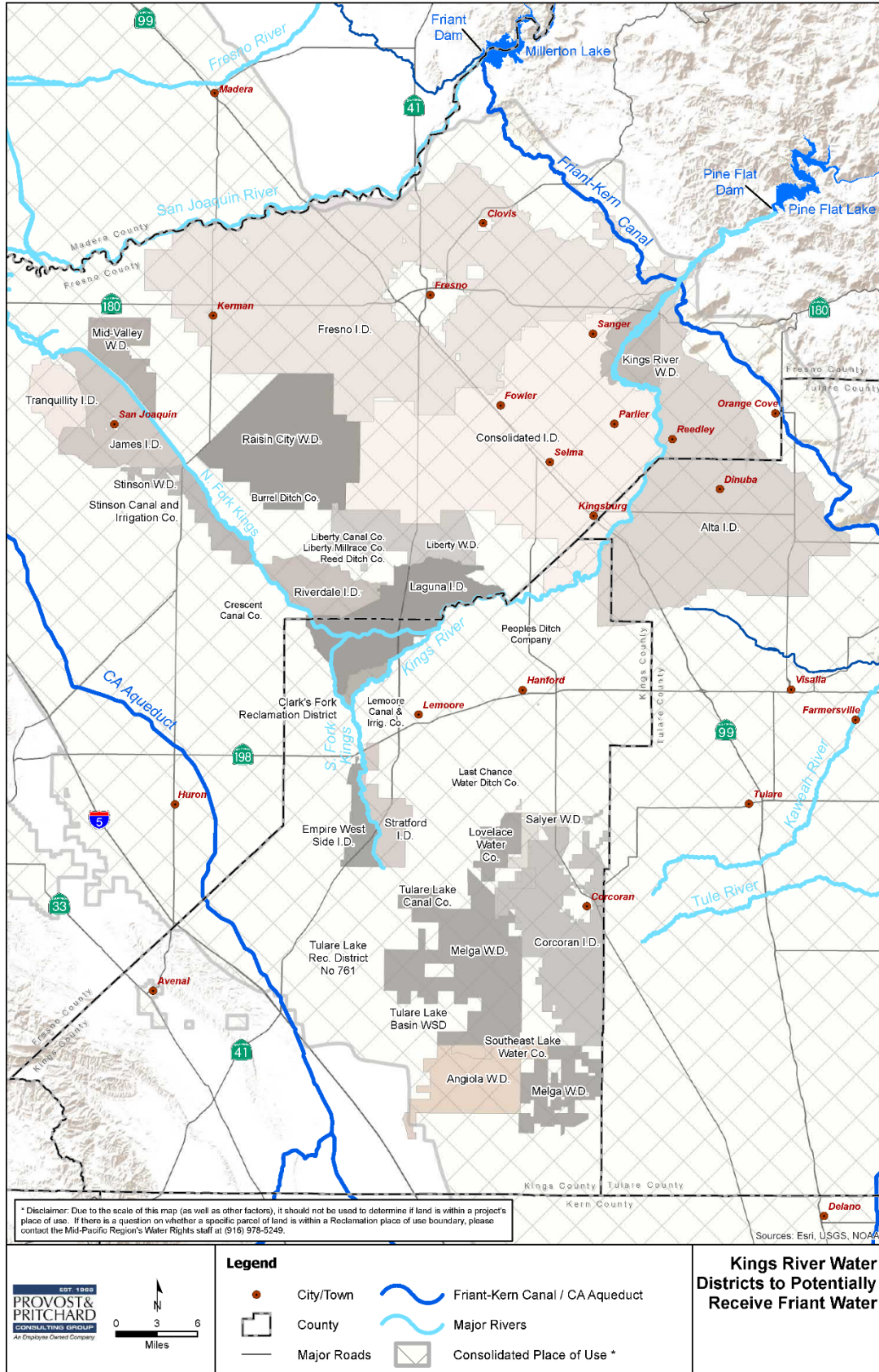


Figure 1. Map of Kings River Area Agencies

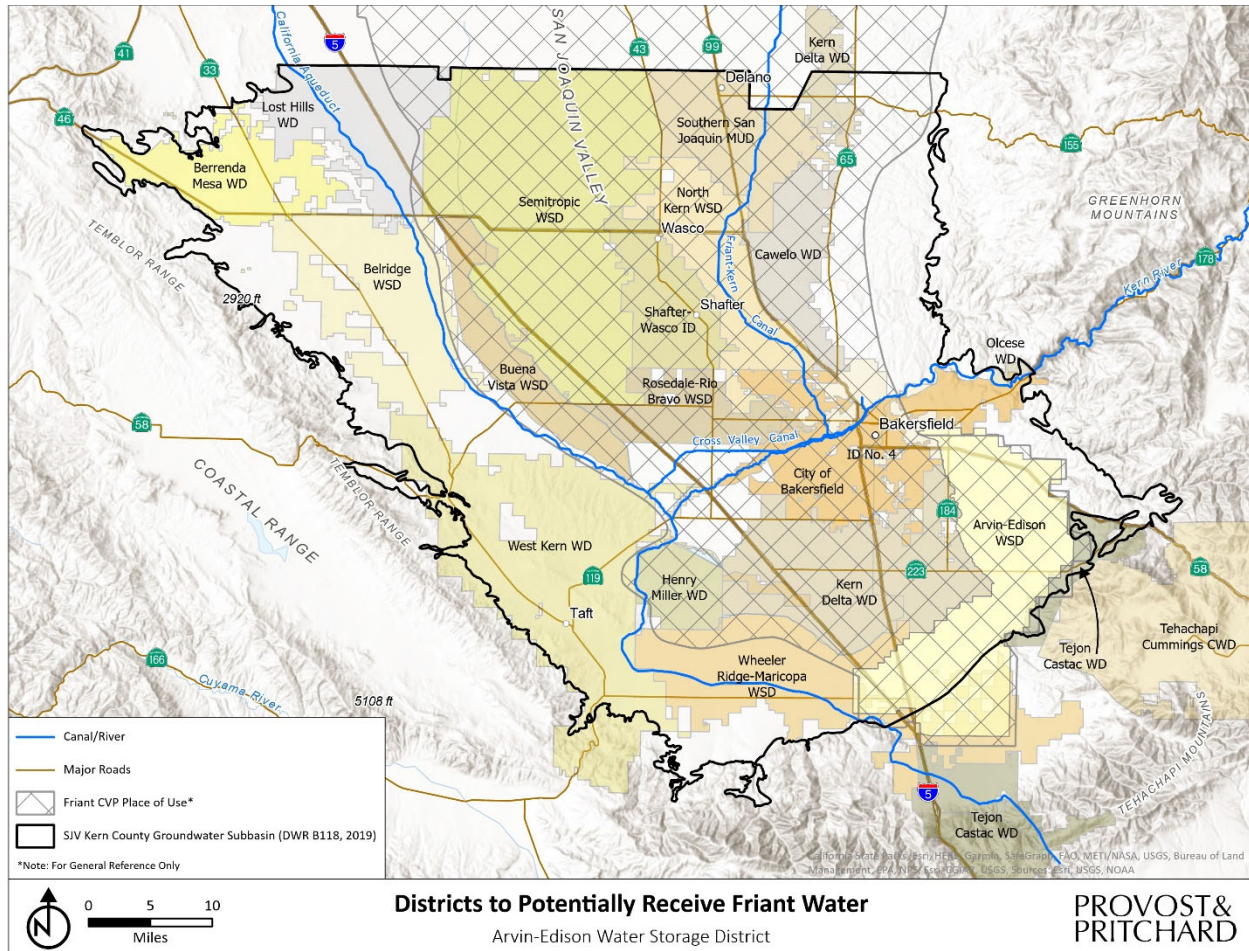


Figure 2. Map of Kern County Districts

The Kern County Districts could also propose to return (“exchange”) to Arvin-Edison up to 50,000 acre-feet per year of other supplies consisting of CVP, Kern River, and State Water Project (SWP) water supplies during the same 10-year period. The 10-year transfer and/or exchange programs would allow Arvin-Edison to fully utilize their contracted Friant Division CVP supply and allow the Kern County Districts to deliver additional surface water into their service areas to help reduce groundwater extractions and therefore assist in achieving sustainable groundwater conditions. It is noted that the Kern Delta Water District, City of Bakersfield, and Wheeler Ridge-Maricopa Water Storage District are all similarly located south of Kern River with Arvin-Edison and each agency is covered by a GSP pursuant to SGMA.

In order to deliver water into Wheeler Ridge-Maricopa Water Storage District and other Kern County Districts within the CVP consolidated place-of-use for in-district use to meet irrigation demands or recharge sites, Arvin-Edison would deliver the CVP supply to the California Aqueduct via the Cross Valley Canal and/or Arvin-Edison’s Aqueduct Turnout.

During the 10-year period and following the transfer of Friant CVP water supplies to Kern County Districts from Arvin-Edison, the Kern County Districts could deliver during certain times to instead exchange CVP, Kern River, and/or SWP Water. The return exchange water to Arvin-Edison would be conveyed in existing facilities and utilize other existing facilities to

established agricultural lands or recharge areas, and no native, untilled, or similar habitat lands would be disturbed as a result of the transfer and exchange program.

Upon notice from Arvin-Edison of the desire to receive exchange water, the Kern County Districts could deliver their water in the following ways:

- Intake Canal from the Cross Valley Canal.
- Intake Canal from the Carrier Canal.
- Intake Canal from the Kern Island Canal, Central Branch or Eastside Canal.
- South Canal from the California Aqueduct.

Various Kern County Districts (i.e., Southern San Joaquin Municipal Utility District, Shafter-Wasco Irrigation District, Kern Tulare Water District, etc.) could effectuate additional exchanges⁵ within the CVP that would make water available in Millerton Lake for direct delivery into the Friant-Kern Canal.

The following requirements for the program must be met:

- All transfers of CVP water are required to be consistent with Reclamation's then-current transfer guidelines, this EA, the related FONSI, Arvin-Edison's CVP water service contract, or any amendments thereto that have been reviewed by Arvin-Edison and authorized by Reclamation.
- Any use of Federal facilities will require coordination and approval from Reclamation and its respective Operating Non-Federal Entity (e.g., Friant Water Authority, San Luis Delta-Mendota Water Authority, etc.).
- Any use of State facilities will require coordination and approval by California Department of Water Resources. Copies of approvals will be provided to Reclamation.
- Any use of the Kern River channel will require coordination and approval by the Kern River Watermaster. Any use of the Cross Valley Canal will require coordination and approval by the Kern County Water Agency. Copies of approvals will be provided to Reclamation.
- Previously banked water shall meet Reclamation's then-current water quality standards prior to introduction into federal facilities, including introduction into the Friant-Kern Canal and San Luis Canal. Previously banked water introduced into non-federal facilities must meet the then-current water quality standards of those facilities. The Friant-Kern

⁵ The City of Bakersfield retains storage rights of 34% of Isabella Reservoir per a 1964 agreement between Kern County Canal & Water Company and North Kern Water Storage District. Under a separate contract with Bakersfield, Kern Delta Water District retains storage rights to a portion of Bakersfield's storage capacity. Kern Delta Water District also has a SWP contract supply as a member unit of the Kern County Water Agency. The City of Bakersfield and Kern Delta Water District have storage rights along the Kern River with existing groundwater recharge/banking facilities.

Canal will not be used to convey any South-of-Delta CVP water, SJRRP recaptured Restoration flows, or non-Project water under this program.

- Delivery of CVP water outside the respective place of use cannot occur without issuance of a temporary change in place-of-use from the State Water Resources Control Board (SWRCB) or otherwise consistent with State Law. Of the Kings River Area Agencies and Kern County Districts, it is noted that Angiola Water District (Figure 1), as well as portions of Wheeler Ridge-Maricopa Water Storage District and the City of Bakersfield (Figure 2) have boundaries that extend outside of the Friant CVP place-of-use.

2.2.1 Environmental Commitments

Arvin-Edison and any transfer/exchange participant under this program shall implement the environmental protection measures included in Table 3 to avoid and/or reduce environmental consequences associated with the Proposed Action.

Table 3. Environmental Protection Measures and Commitments

Resource	Protection Measure
Biological Resources	No native or untilled land (fallowed and untilled for three years or more) may be cultivated with the water conveyed under the Proposed Action.
Biological Resources	The Proposed Action shall not alter land use patterns of the cultivated or fallowed lands that do have some value to listed species protected under the Endangered Species Act of 1973, as amended (16 U.S.C. §1531 et seq.) or for birds protected under the Migratory Bird Treaty Act (16 U.S.C. § 703 et seq.).
Biological Resources	The Proposed Action shall not alter the flow regime of natural waterways, such as rivers, streams, creeks, ponds, pools, wetlands, etc., in a manner that would have a detrimental effect on fish, wildlife, or their habitats.
Water Resources	The water would be used for beneficial purposes and in accordance with Federal Reclamation law and guidelines as applicable.
Water Resources	No water would be used outside of the currently authorized place of use without prior approval from the State Water Resources Control Board and Reclamation.
Various Resources	No land conversions would occur as a result of the Proposed Action.

Environmental consequences for resource areas assume the measures specified would be fully implemented.

Section 3. Affected Environment and Environmental Consequences

3.1 Resources Eliminated from Further Analysis

Reclamation analyzed the affected environment and determined that the Proposed Action does not have the potential to cause adverse effects to the following resources:

3.1.1 Air Quality

The Proposed Action would not require construction or modification of facilities to move the transferred and/or exchanged water supplies. Exchanged water would be moved via gravity which would not produce emissions that impact air quality. As such, no impacts to air quality would occur and a determination of general conformity under the Clean Air Act is not required.

3.1.2 Climate Change

Every five years, Reclamation submits a report to Congress in accordance with Section 9503(c) of the SECURE Water Act of 2009 (Public Law 111-11). The *Water Reliability in the West – 2021 SECURE Water Act Report* (Reclamation 2021) assesses expected changes to water supplies, uses, and demands in the Central Valley, including the Sacramento and San Joaquin River Basins, as well as the Tulare Lake Basin, which encompasses the Kings and Kern Rivers. Notably, the report highlights a significant imbalance between water supplies and demands in the Central Valley.

The report evaluates future climate and hydrology projections at specific locations for the 2020s, 2050s, and 2070s. These projections indicate patterns consistent with those observed across the western U.S., including increasing temperatures, declining snowpack, and earlier streamflow—all of which are expected to become more pronounced in later decades.

By mid-century, climate change is anticipated to cause more short-duration, high-rainfall events during the winter and early spring months, along with reduced snowpack runoff in the summer and early fall in the Central Valley compared to recent historical conditions (Reclamation 2021). Additionally, drought conditions are expected to be more severe regarding both length and magnitude. These shifts in runoff timing, extended growing seasons, and greater reliance on limited water storage may increase the likelihood of water supply shortages. However, it is important to note that CVP water allocations depend on hydrologic conditions and environmental requirements. Reclamation's operations are flexible, and any changes in hydrologic conditions due to climate change would be managed within this operational flexibility. Therefore, the Proposed Action is anticipated to remain largely unaffected by climate change.

The amount of greenhouse gas emitted into the atmosphere is a key factor influencing climate change and contributing to future water supply uncertainty. The Proposed Action does not involve the construction of new facilities or modifications to existing ones. While pumping may be necessary to deliver CVP water, there would be no additional electrical production beyond baseline conditions. Furthermore, the power plant generating electricity for the pumps operates

under permits regulated for greenhouse gas emissions. Consequently, the Proposed Action is expected to have minimal additional impacts on global climate change.

3.1.3 Cultural Resources

There would be no impacts to cultural resources as a result of implementing the Proposed Action as the Proposed Action would facilitate the flow of water through existing facilities to existing users. No new construction or ground disturbing activities would occur as part of the Proposed Action. Reclamation has determined that these activities have no potential to cause effects to historic properties pursuant to 36 CFR Part 800.3(a)(1).

3.1.4 Indian Sacred Sites

Executive Order 13007 (May 24, 1996) requires that federal agencies accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and avoids adversely affecting the physical integrity of such sacred sites. The Proposed Action would not limit access to and ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners or affect the physical integrity of such sacred sites. There would be no impacts to Indian sacred sites as a result of the Proposed Action.

3.1.5 Indian Trust Assets

Indian Trust Assets are legal interests in assets that are held in trust by the United States for federally recognized Indian tribes or individuals. The nearest Indian Trust Asset is the Santa Rosa Indian Community of the Santa Rosa Rancheria which is within the Proposed Action Area, approximately 3 miles south of the City of Lemoore, within the Tulare Lake subbasin and the South Fork Kings GSA. Potable water for the Santa Rosa Rancheria, including the Tachi Palace Casino Resort and the other facilities, is obtained primarily through on-site groundwater wells (Tachi-Yokut Tribe 2020). As the Proposed Action only involves transfer/exchange of existing water supplies through existing infrastructure for existing uses, the Proposed Action does not have a potential to adversely affect Indian Trust Assets. As CVP water would potentially be used by Kings River Area Agencies to help sustain existing crops and maintain farming and reducing groundwater extraction within the Kings River watershed, including the Tulare Lake subbasin, the Proposed Action would have potential beneficial impacts on the associated Indian Trust Assets within the Proposed Action Area.

3.1.6 Land Use and Planning

The Proposed Action would not change historic land and water management practices. Transferred CVP water or Arvin-Edison's return supplies would move through existing facilities for delivery to lands within the consolidated CVP place-of-use for existing purposes. The water would not be used to place untilled or new lands into production, or to convert undeveloped land to other uses (Table 3).

3.1.7 Socioeconomic Resources

The Proposed Action would have beneficial impacts on socioeconomic resources with Arvin-Edison and the participating Kern County Districts and Kings River Agencies, as the exchanged water would be used to help sustain existing crops and maintain farming practices.

3.2 Analyzed Resources

3.2.1 Biological Resources

Affected Environment

An official list of federally listed threatened and endangered species and critical habitat that occur within project area and/or may be affected as a result of the Proposed Action was obtained on November 21, 2024, by accessing the U.S. Fish and Wildlife Service (USFWS) database: <https://ecos.fws.gov/ipac/>, as well as the California Natural Diversity Database (CNDDDB 2024) and other information in Reclamation’s files. The list is summarized in Table 4 and was generated for a polygon that encompassed the entire Proposed Action Area.

Most of the lands in the affected environment are agricultural lands, or urban areas. Of the federally listed species included in Table 4 most cannot use this type of land. Agricultural lands are generally not suitable for long-term occupation by kit foxes, although lands adjacent to natural habitats may be used for occasional foraging (Warrick et al. 2007). The City of Bakersfield is known to have a San Joaquin kit fox population (CNDDDB 2024). A variety of birds that are not Federally listed, or proposed for listing, are nonetheless protected by the Migratory Bird Treaty Act, and occur in the Proposed Action Area.

Table 4 below contains the above list and includes common and scientific names, current federal listing status, and critical habitats. Also included are species under the jurisdiction of the National Marine Fisheries Service (NMFS). Critical habitat exists in the affected environment for the following species: California Condor, Buena Vista Lake shrew, California tiger salamander, Hoover’s spurge, San Joaquin Valley Orcutt grass, fleshy owl’s-clover, vernal pool fairy shrimp, and vernal pool tadpole shrimp.

Table 4. Federally Listed and Endangered Species

Species	Status ¹	Effects ²	Potential to occur and summary basis for ESA determination
Amphibians			
California red-legged frog (<i>Rana draytonii</i>)	T, X	No effect	Extirpated from this portion of its range.
California tiger salamander, central population (<i>Ambystoma californiense</i>)	T, X	No effect	This species is known from in and around the northeastern portion of the Proposed Action Area. However, there would be no construction and no conversion of habitat as a result of the Proposed Action.
Foothill yellow-legged frog (<i>Rana boylei</i>)	E	No effect	This species may occur around the outer edges of the Proposed Action Area. However, there would be no construction and no conversion of habitat as a result of the Proposed Action.
Western spadefoot (<i>Spea hamondii</i>)	PT	No effect	This species may occur around the outer edges of the Proposed Action Area. However, there would be no construction and no conversion of habitat as a result of the Proposed Action.
Birds			

California Condor (<i>Gymnogyps californianus</i>)	E, X	No effect	Occurs in the very east of the central portion of the Proposed Action Area. Native lands and lands fallowed and untilled for three or more years would not be brought into production as part of the Proposed Action.
Southwestern Willow Flycatcher (<i>Empidonax trailli extimus</i>)	E, X	No effect	The species could fly over during migration but nesting habitat is absent.
Western Snowy Plover (<i>Charadrius alexandrinus nivosus</i>)	T, X	No effect	This species could fly over during migration but nesting habitat is absent.
Yellow-billed Cuckoo (<i>Coccyzus americanus</i>)	T, X	No effect	This species could fly over during migration but nesting habitat is absent. Extensive cottonwood-willow habitat is needed for nesting, and this no longer occurs within the Proposed Action Area.
Fish			
Central Valley steelhead (<i>Oncorhynchus mykiss</i>)	T, X	No effect	The Proposed Action Area does not include the Sacramento-San Joaquin Delta and would not alter flows in the San Joaquin River.
Central Valley spring-run chinook salmon (<i>Oncorhynchus tshawytscha</i>)	T, X	No effect	The Proposed Action Area does not include the Sacramento-San Joaquin Delta and would not alter flows in the San Joaquin River.
Delta smelt (<i>Hypomesus transpacificus</i>)	T, X	No effect	The Proposed Action Area does not include the Sacramento-San Joaquin Delta.
North American green sturgeon (<i>Acipenser medirostris</i>)	T, X	No effect	The Proposed Action Area does not include the Sacramento-San Joaquin Delta and would not alter flows in the San Joaquin River.
Sacramento River winter-run chinook salmon (<i>Oncorhynchus tshawytscha</i>)	E, X	No effect	The Proposed Action Area does not include the Sacramento-San Joaquin Delta or the Sacramento River.
Invertebrates			
Conservancy fairy shrimp (<i>Branchinecta conservatio</i>)	E, X	No effect	Potential for vernal pools is limited to the northeastern portion of the Proposed Action Area. No conversion of native lands or lands fallowed and untilled for three or more years as part of the Proposed Action.
Monarch butterfly (<i>Danaus plexippus</i>)	C	No effect	Native lands and lands fallowed and untilled for three or more years would not be converted as part of the Proposed Action.
Valley elderberry longhorn beetle (<i>Desmocerus californicus dimorphus</i>)	T, X	No effect	Although suitable habitat may be present in Fresno County (Kings, Kern, and Tulare Counties are outside the species' range), no land use change, conversion of habitat, construction or modification of existing facilities would occur as a result of the Proposed Action.
Vernal pool fairy shrimp (<i>Branchinecta lynchi</i>)	T, X	No effect	Potential for vernal pools and similar habitat is limited to the northeastern portion of the Proposed Action Area. No conversion of native

			lands or lands fallowed and untilled for three or more years as part of the Proposed Action.
Vernal pool tadpole shrimp (<i>Lepidurus packardii</i>)	E, X	No effect	Potential for vernal pools is limited to the northeastern portion of the Proposed Action Area. No conversion of native lands or lands fallowed and untilled for three or more years as part of the Proposed Action.
Mammals			
Buena Vista Lake shrew (<i>Sorex ornatus relictus</i>)	E, X	No effect	May be present in and around wetlands/riparian areas within the Proposed Action Area. However, no land use change would occur as a result of the Proposed Action.
Fisher, West Coast DPS (<i>Pekania pennanti</i>)	E, PX	No effect	Species' range is outside (to the east) of the Proposed Action Area.
Fresno kangaroo rat (<i>Dipodomys nitratooides exilis</i>)	E, X	No effect	Species' range is outside (northwest) of the Proposed Action Area.
Giant kangaroo rat (<i>Dipodomys ingens</i>)	E	No effect	Suitable habitat for this species is no longer found in the Proposed Action Area.
San Joaquin kit fox (<i>Vulpes macrotis mutica</i>)	E	No effect	Present within the Proposed Action Area. However, no construction or land use change would occur as a result of the Proposed Action.
Tipton kangaroo rat (<i>Dipodomys nitratooides nitratooides</i>)	E	No effect	May occur within the southern portion of the Proposed Action Area. No land use change would occur as a result of the Proposed Action.
Plants			
Bakersfield cactus (<i>Opuntia treleasei</i>)	E	No effect	Suitable habitat not present.
California jewelflower (<i>Caulanthus californicus</i>)	E	No effect	Suitable habitat not present.
Fleshy owl's-clover (<i>Castilleja campestris</i> ssp. <i>succulenta</i>)	T, X	No effect	Occurs in vernal pool habitat. No land use change would occur as a result of the Proposed Action.
Greene's tuctoria (<i>Tuctoria greenei</i>)	E, X	No effect	Proposed Action Area is outside the species' range.
Hairy Orcutt grass (<i>Orcuttia pilosa</i>)	E, X	No effect	Proposed Action Area is outside the species' range.
Hartweg's golden sunburst (<i>Pseudobahia bahiifolia</i>)	E	No effect	Suitable habitat not present.
Hoover's spurge (<i>Chamaesyce hooveri</i>)	T, X	No effect	Occurs in vernal pool habitat. No land use change would occur as a result of the Proposed Action.
Keck's checker-mallow (<i>Sidalcea keckii</i>)	E, X	No Effect	Potentially present within the Proposed Action Area. However, no construction or land use change would occur as a result of the Proposed Action.
Kern mallow (<i>Eremalche kernensis</i>)	E	No effect	Potentially present within the Proposed Action Area. However, no construction or land use

			change would occur as a result of the Proposed Action.
palmate-bracted bird's-beak (<i>Cordylanthus palmatus</i>)	E	No effect	Suitable habitat not present.
San Joaquin adobe sunburst (<i>Pseudobahia peirsonii</i>)	T	No effect	Suitable habitat not present.
San Joaquin Valley Orcutt grass (<i>Orcuttia inaequalis</i>)	T, X	No effect	Occurs in vernal pool habitat. No land use change would occur as a result of the Proposed Action.
San Joaquin woolly-threads (<i>Monolopia congdonii</i>)	E	No effect	Potentially present within the Proposed Action Area. However, no construction or land use change would occur as a result of the Proposed Action.
Reptiles			
Blunt-nosed leopard lizard (<i>Gambelia sila</i>)	E	No effect	Suitable habitat not present.
Giant garter snake (<i>Thamnophis gigas</i>)	T	No effect	No longer occurs in the southern portion of the Proposed Action Area. In the northern portion, suitable habitat not present.
Northwestern pond turtle (<i>Actinemys marmorated</i>)	PT	No effect	Potentially present within the Proposed Action Area. However, no construction or land use change would occur as a result of the Proposed Action.

¹ Status = Status of federally protected species protected under the ESA.

E: Listed as Endangered

T: Listed as Threatened

PT: Proposed for listing as Threatened

C: Candidate for listing under the ESA

X: Critical Habitat designated for this species

PX: Critical Habitat is proposed for this species

² Effects = ESA Effect determination

No effect: No Effect anticipated from the Proposed Action to federally listed species or designated critical habitat

Environmental Consequences

No Action

Under the No Action Alternative, Reclamation would not approve the 10-year transfer and exchange program between Arvin-Edison and the Kern County Districts or Kings River Area Agencies. Instead, each action would require separate approval and environmental review. In the ten-year period, changes in abundance and distribution or to habitat are not expected for Federally listed species and migratory birds. The few such species that could use the Proposed Action Area would continue to do so.

Proposed Action

Under the Proposed Action, no direct or indirect impacts to Federally listed or candidate species, critical habitat, or migratory birds would occur. No construction and no conversion of habitat

that has never been tilled or that has been fallowed and untilled for three or more years would occur (Table 3). Flows in streams and wetlands would not be adversely impacted. Land use changes would not occur as a result of the Proposed Action. Furthermore, the short-term nature of the action would prevent impacts.

Cumulative Impacts

Because the Proposed Action would have no direct or indirect impacts to Federally listed or candidate species, critical habitat, or migratory birds, there would be no cumulative impacts.

3.2.2 Water Resources

Affected Environment

The affected environment includes all conveyance facilities and transferring and receiving districts located in the CVP place-of-use, as well as those outside of the CVP place-of-use which have approved orders from the SWRCB.

Friant Division

The Friant Division was authorized by Congress under the concept of conjunctive use where CVP water was meant to be a supplemental supply to alleviate groundwater overdraft in the area. Based on the conjunctive use concept within the Friant Division, contractors are expected to continue mixed use of CVP and other surface water supplies and groundwater, with greater emphasis on groundwater use during dry periods when surface water is limited or expensive and percolate excess surface water in wet years. The Friant Division is an integral part of the CVP, but is hydrologically independent and therefore operated separately from the other divisions of the CVP. Major facilities of the Friant Division include Friant Dam and Millerton Lake, the Madera Canal and the Friant-Kern Canal. As shown in Table 5, Arvin-Edison (along with the other Friant Division contractors) has recently experienced reduced water supply allocations due to hydrologic conditions, regulatory actions, and other requirements.

Table 5. Arvin-Edison's Friant Division CVP Water Supply Deliveries

Contract Year	Class 1 Water ¹ (acre-feet)	Class 2 Water ² (acre-feet)	Class 1 Deliveries (% of Contract Amount)	Class 2 Deliveries (% of Contract Amount)	SJRRP Water ³
24-25	33,930	47,245	85	0	48,146
23-24	40,000	63,282	100	20	131,104
22-23	26,809	0	67	0	14,046
21-22	23,611	0	59	0	45,515
20-21	32,579	0	81	0	11,507
19-20	40,000	150,614	100	48	97,826
18-19	52,559	41,143	131	13	29,953
17-18	40,000	54,187	100	17	100,053
16-17	39,342	22,239	98	7	61,965
15-16	4,743	0	12	0	0
14-15	30,291	0	76	0	489
13-14	28,427	0	71	0	0
Average	32,691	31,559	82	10	45,050

Contract Year	Class 1 Water ¹ (acre-feet)	Class 2 Water ² (acre-feet)	Class 1 Deliveries (% of Contract Amount)	Class 2 Deliveries (% of Contract Amount)	SJRRP Water ³
(approx.)					

¹ Includes rescheduled and uncontrolled season Class 1 water supplies.

² Includes uncontrolled season and pre-use Class 2 water supplies.

³ Numbers are approximate and subject to reconciliation with the District and the SJRRP. Includes unreleased restoration flows (URF), Recovered Water Account (RWA), recaptured and recirculated water, and rescheduled flows.

Arvin-Edison Water Storage District

Arvin-Edison is a Friant Division CVP contractor with a water service contract (Contract No. 14-06-200-229AD) for up to 40,000 acre-feet per year of Class 1 and 311,675 acre-feet per year of Class 2 Friant Division CVP supplies for irrigation and municipal purposes. Arvin-Edison has historically made available a portion of its Friant Division CVP water supply to other CVP contractors located on the eastside of the San Joaquin Valley in exchange for alternate CVP supplies originating from the Delta, diverted and wheeled through the California Aqueduct for ultimate delivery to Arvin-Edison. Due to a decrease in supply reliability, cost increases, and water quality concerns, several of these exchanges are no longer feasible to the extent they once were. As a result, it has been necessary for Arvin-Edison to identify and implement additional programs to manage its highly variable CVP water supplies. Other surface water supplies available to Arvin-Edison include water from the SWP, Kern River, and flood flows when available. Arvin-Edison manages these surface water supplies by using an underlying groundwater aquifer to regulate water availability and to stabilize water reliability by percolating water through spreading basins in addition to water management programs (i.e. transfers/exchanges) with other water agencies outside its service area. Arvin-Edison owns and operates spreading/percolation/recharge basins and groundwater extraction wells, which are used to supply previously banked groundwater to its landowners within its service area when surface water supplies are deficient.

Friant-Kern Canal Subsidence

Portions of the Friant-Kern Canal have lost over 50 percent of original design capacity due to regional land subsidence and design deficiency. This has resulted in water delivery impacts on Friant Contractors, reduced ability of the Friant-Kern Canal to convey flood waters during wet years, reduced ability to implement provisions of the San Joaquin River Restoration Settlement Act (PL 111-11, Title X, Part 1), and a reduced ability to store and manage the timing and volume of Restoration Flows in Millerton Lake and flood flows at Friant Dam. The first phase of the Friant-Kern Canal Middle Reach Capacity Correction Project was completed in June 2024 (Reclamation 2024). Phase 2 of the project will address subsidence-related deficiencies in the portion of the Middle Reach section not addressed in Phase 1.

Environmental Consequences

No Action

Under the No Action alternative, Reclamation would not approve the 10-year transfer and exchange program between Arvin-Edison and the Kern County Districts or Kings River Area

Agencies. Instead, each action would require separate approval and environmental review. Since the request to transfer water is usually driven by time-sensitive needs and requires coordination between multiple parties, delays in the approval process could render some transfers unfeasible. Arvin-Edison would continue to receive its available CVP supplies, which continue to be constrained by Friant-Kern Canal subsidence until completion of Phase 2 of the Friant-Kern Canal Middle Reach Capacity Correction Project.

Proposed Action

Under the Proposed Action, Reclamation would approve a 10-year program of transfers and/or exchanges of up to 100,000 acre-feet of Arvin-Edison's available CVP water supplies to Kings River Area Agencies (Table 1 and Figure 1) or Kern County Districts (Table 2 and Figure 2). This would improve Arvin-Edison's and the participating districts' water supply reliabilities and operational efficiency, especially for recharge of surface water supplies during wet years. This efficiency improvement is necessary to normalize water supplies in a very volatile water supply market. Also, the Proposed Action would allow for better water management by helping to alleviate the need to pump additional groundwater. This could have a beneficial impact to those areas where there are subsidence issues, as well as adhering to SGMA GSPs.

As the water supplies would be from existing CVP allocations, the Proposed Action would not alter CVP operations, water storage or release patterns from CVP facilities, or the maximum volume of water delivered to the contractors. The delivery of CVP water from Arvin-Edison would not affect water supply diversions from the Delta or along Friant facilities, as these water supplies are already allocated to the contractors located along the facilities and no additional diversions would be needed. Finally, CVP water would be delivered through existing infrastructure and would not require additional construction or modification of facilities for delivery. Thus, there would be no impact to CVP operations, facilities, or supplies. The program would utilize existing facilities and not require new infrastructure, modifications of existing facilities, or ground disturbing activities. The water would be used for existing agricultural and municipal uses. No native or untilled land (fallowed for three years or more) would be cultivated with water involved with these actions.

Water previously banked within the groundwater banks that hold agreements with Arvin-Edison would be made available under existing contracts. Of the banked water, 10% to 50% percent (depending on the facility) is required to remain in the groundwater bank to aid in overdraft reduction, avoid land subsidence and groundwater quality issues. Water delivered from groundwater banks to farms would minimize the need for those farmers to pump their local groundwater supplies. Because the program would operate within the requirements established for the banking facilities, groundwater levels would not be depleted such that the operations of local groundwater wells would be unable to support existing permitted uses while depletion of groundwater in the areas receiving transferred or exchanged supplies would be minimized.

Any water returned from banking facilities or transferred from non-CVP sources will need to meet Reclamation's then-current water quality standards and monitoring requirements, which conform with federal and state drinking water standards. This is required for all projects that introduce water into Reclamation facilities and has thus far been shown to prevent substantial degradation of water quality. Water delivered into the Cross Valley Canal or other facilities will need to meet the then-current water quality standards of those facilities. As mentioned in Section

2.2, the Friant-Kern Canal will not be used to convey any South-of-Delta CVP water, SJRRP recaptured Restoration flows, non-Project water, or previously banked CVP water under this program.

As such, the Proposed Action would not affect CVP or SWP operations and would not change existing diversion points from the Delta under Reclamation's or the California Department of Water Resource's water rights permits. The Proposed Action would not interfere with Reclamation's obligations to deliver water to other contractors, wetland habitat areas, or for other environmental purposes.

Cumulative Impacts

The incremental effect of the Proposed Action was examined with impacts from past, present, and reasonably foreseeable future actions in the same geographic area in order to determine whether cumulatively significant impacts could occur. Reclamation and CVP contractors have been working on various water management projects, including this one, in order to better manage limited water supplies due to changing hydrologic conditions and regulatory requirements. This and similar projects would have a cumulative beneficial effect on water supply during dry years.

It is likely that, over the course of the Proposed Action, water management districts within the Central Valley will request to exchange water supplies amongst themselves. Capacity within the conveyance facilities is limited, and if many water actions were scheduled to take place concurrently, they could cumulatively compete for space. However, water banking and transfers under the Proposed Action would not involve construction or modification of facilities and would only be allowed to take place within those facilities where capacity is available, during times when conveyance would not interfere with other deliveries, and by the direction of the operating entities. The Proposed Action and other similar projects would not hinder the normal operations of the CVP, California Aqueduct, or Cross Valley Canal, and would not cause disruption to Reclamation's obligation to deliver water to its contractors or to local fish and wildlife habitat. The Proposed Action and similar projects would not cumulatively interfere with water deliveries, facility operation, or cause substantial adverse changes to the conveyance facilities.

The cumulative total of transferred water under the Proposed Action would not exceed 150,000 acre-feet (up to 100,000 acre-feet of Arvin-Edison's CVP contract supply and up to 50,000 of return water from Kern County Districts) and would be conveyed through existing infrastructure for existing purposes. Arvin-Edison's CVP water supply is allocated in accordance with their contract with Reclamation, and with this transfer and/or exchange program with the Kings River Area Agencies (Table 1) or Kern County Districts (Table 2), there would be no cumulative impacts on CVP supplies.

Section 4. Consultation and Coordination

4.1 Agencies and Persons Consulted

Reclamation coordinated on the Proposed Action with Arvin-Edison in the preparation of this EA. If necessary, Reclamation will coordinate with the following regarding the Proposed Action:

- California Department of Water Resources
- State Water Resources Control Board

4.2 Public Involvement

Reclamation provided the public with an opportunity to comment on the Draft Environmental Assessment between December 16, 2024 and January 14, 2025. No comments were received.

Section 5. References

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