Appendix N

GSA Operational Water Budgets

- GSA Operational Water Budget Supporting Information
- GSA Operational Water Budget Tables
- Water Banking Account Balance Summaries

GSA OPERATIONAL WATER BUDGET
SUPPORTING INFORMATION

The development of GSA scale water budgets provides a means to assess the net groundwater use from GSA water management operations. The GSA Operational Water Budgets are a checkbook-style analysis used to develop an applied water balance for each of the GSAs. This process consistent with checkbook water budgets presented in prior Subbasin GSP coordination agreements. These local water budgets support the GSAs in their sustainability planning including the development of Projects and Management Actions (P/MAs). The following discussion provides a description of the data fields presented on the attached GSA Operational Water Budget Tables.

Data for the GSA operational water budgets are based on updated Basin Study data in spreadsheet format while model calibration is being finalized. Therefore, these are considered interim results as additional future local scale water budget analysis is currently underway and is anticipated to be ongoing process throughout SGMA implementation.

MANAGED SURFACE WATER INFLOWS AND OUTFLOWS

Surface water inflows/outflows to the basin were developed based on data entered into the Subbasin Data Management System (DMS) by local agencies. All major surface inflows/outflows were quantified primarily based on measured data. Flows that have not been entered into the DMS were manually entered into the analysis. This data was based on either previous work on the basin groundwater model or provided directly by local agencies. In the future, it is envisioned that all data required for the groundwater model and/or the checkbook would be fully incorporated into the DMS.

Surface inflows/outflows were broken down into the sources/types listed and defined below.

- **Managed Surface Water Inflows**
    - **DWR State Water Project (SWP)** – State Water Project water volume diverted into the Subbasin by the California Aqueduct. The Kern County Water Agency (KCWA) was created in 1961 by a special act of the California State legislature to serve as the local contracting entity for the State Water Project (SWP).
    - **USBR Central Valley Project (CVP)** – Center Valley Project water volume diverted into the Subbasin primarily via the Friant-Kern Canal. The Central Valley Project (CVP), operated by the U.S. Bureau of Reclamation (USBR), has provided water supply to CVP contractors in the Subbasin since 1951 with the completion of the Friant-Kern Canal.

- **Kern River** – Kern River flows consist of regulated and managed releases from Lake Isabella, which was constructed by the U.S. Army Corp of Engineers (USACE) in 1953. Since that time, Isabella Dam has been operated for flood control, hydroelectric power, water supply, and conservation storage. Reservoir storage and Kern River flow management are coordinated by the Kern River Watermaster, working with the USACE, participating water districts, and the City of Bakersfield. Except for periods of high runoff, releases from Lake Isabella are regulated through requests, or “calls” for water by the City on behalf of the Kern River Watermaster.
- **CVC** – Water transfers that may be of local or undifferentiated sources that are diverted from Cross Valley Canal water volume to the GSA.
- **Poso Creek** – Poso Creek water volume diverted under SWRCB-approved *Agreement Regarding Operation And Monitoring Of Poso Creek Flows* (date May 23, 1997) among Cawelo Water District ("CWD"), Semitropic Water Storage District (SWSD), and North Kem Water Storage District ("NKWSD") for maximizing "in-lieu" groundwater recharge through direct deliveries for irrigation and groundwater recharge.
- **Transfers In** – Transfers of water from one GSA to another to account for water volumes diverted into the GSA from outside agency
- **Recycled, Produced, Reclaimed, Other** – Water volumes from wastewater treatment facilities that percolates or is applied to land for irrigation; Water volumes produce during oil extraction process from oil fields that is reused for agriculture; Any other volume that doesn’t fit into the other inflow categories above.

- **Managed Surface Water Outflows**
  - **Transfers Out –** Water volume diverted out of the GSA to another GSA.
  - **Pump-In –** Recovery of banked water within the Subbasin that is delivered, or pumped in, to the California Aqueduct or Friant-Kern Canal for delivery to an entity outside of the Subbasin representing a return of a banking obligation to a banking partner.
  - **Exports –** Diversion of water within the Subbasin that is exported to an area outside of the Subbasin for use. In most cases, this represents a water district that overlies areas both inside and outside of the Subbasin.

The total surface water supply that remains in the area is calculated as the sum of the inflows minus the sum of the outflows. A summary table of these volumes for the subbasin excluding the major banking areas is displayed below in Table 1.

OPERATIONAL WATER USAGE

The operational water usage accounts for agricultural crop demand, urban usage and water surface evaporation. The following discussion provides additional information on how these were derived.

GSA Land Area

Land use is not a direct water use, but it is a component in calculating components of the operational water budget, so it is presented here. The following land use categories are used in the GSA Operational Water Budgets. Definitions for each of the land use categories are listed below.

- **GSA Land Area**
    - Total area of the GSA for all land uses
- **Developed Land Area**
    - Irrigated Area- Lands that were cropped and irrigated at any time during the year, including a fall crop or a spring crop or both fall and spring crop.
    - Urban Lands - cities, industrial, roads, railroads, farmhouses, etc.
    - Fallow Lands – Lands that were not cropped and were not irrigated for the entire year, but have been previously cropped.
    - Recharge Basin – area of dedicated recharge basins for water banking and conjunctive use operations.

Land uses developed for the Basin Study model were used to identify the irrigated area within the basin for each year. The ET volume for the irrigated area was used in the analysis to quantify the ET of applied water for irrigated agriculture.

A complete coverage of land use for Kern Subbasin for each year for the 1995 through 2023 period were developed by merging together the various sources of spatial data as shown on Table N-1. Priority was given to the DWR Statewide Crop Mapping Data and the DWR Land Use Surveys. Kern County Agricultural Commissioner's data was used where DWR data was unavailable. Land use data was quality controlled by extracting an ET value for each polygon/field in the land use coverage and comparing the ET to the land use type.

Agricultural Water Usage

Evapotranspiration (ET) and evaporation volumes were taken directly from the Basin Study groundwater model that is currently in development. This section will describe the data sets and processes related to ET that were used in the groundwater model. More detailed documentation will be released early next year as part of the Basin Study. The Basin Study model has not been fully calibrated at this time. The ET results from

the model are subject to change during model calibration, however changes are expected to be small.

Table N-1. Data Sources used for Land Use in the Basin Study model

Data Source	Data Type	Extent	Years Available	Land Use Types Covered
California Department of Water Resources (DWR) Land Use Survey	Spatial	Kern County	1990, 1998, 2006	Full Coverage
California Department of Water Resources (DWR) Statewide Crop Mapping (LandIQ)	Spatial	California	2014, 2016	Full Coverage, no fallow/idle or native vegetation
California Department of Water Resources (DWR) Statewide Crop Mapping (LandIQ)	Spatial	California	2018-2022	All Irrigated Agriculture, Dairy Farms, and Urban
Kern County Department Of Agriculture And Measurement Standards (Spatial Data)	Spatial	Kern County	1997-2024	All Irrigated Agriculture, Dairy Farms
Land IQ Kern Subbasin Crop Mapping	Spatial	Kern Subbasin	2022, 2023	All Irrigated Agriculture, Dairy Farms
Cawelo Water District (CWD) Crop Data	Spatial	CWD	2015-2023	Full Coverage
Henry Miller Water District (HMWD) Crop Data	Spatial	HMWD	1999-2024	All Irrigated Ag, Fallow/Idle
Semitropic Water Storage District (SWSD) Crop Data	Spatial	SWSD	2011-2017, 2019-2023	Full Coverage
US Census Bureau Topologically Integrated Geographic Encoding and Referencing (TIGER)	Spatial	USA	All Model Years	Roads
California Geologic Energy Management (CalGEM) Inland Well Data	Spatial	California	All Model Years	Wells/Oil Fields

Crop Evapotranspiration

Actual crop ET (ETc) data was provided by the Irrigation Training Research Center at California Polytechnic State University. ITRC uses a modified Mapping of EvapoTranspiration with Internal Calibration (ITRC - METRIC) procedure to compute actual evapotranspiration using LandSAT Thematic Mapper (LandSAT) data. Raster results from the process were provided to the basin for the 1993 through 2022 period. ETc data for 2023 was developed and provided to the basin by LandIQ .

A comparison of the overlap period between the LandIQ and the ITRC-METRIC data was reviewed. Results from the analysis show that the ITRC-METRIC data is likely underestimating ETc particularly in the winter months. An adjustment was performed on the data to correct the underestimation of winter ETc. This analysis on the ETc is part of the ongoing Basin Study (Section 9.4.1). General analysis steps are listed below.

- Estimate idle land ET using the IWFM-IDC model to perform a monthly rootzone water balance; reference ET was used as model input for the idle land ET and the model applied water stress when precipitation was depleted.

- Compare idle land ET to ITRC-METRIC ET on a field-by-field basis for each month.
- If the idle land ET was greater than the ITRC-METRIC ET than the idle land ET was used for that month otherwise the ITRC-METRIC ET was used for that month

An example of the adjustments on a 127-acre field of cotton is displayed in Figure 3. The idle land ET was greater than the ITRC-METRIC during the winter months and the ITRC-METRIC was greater than the idle land ETc during the summer months.

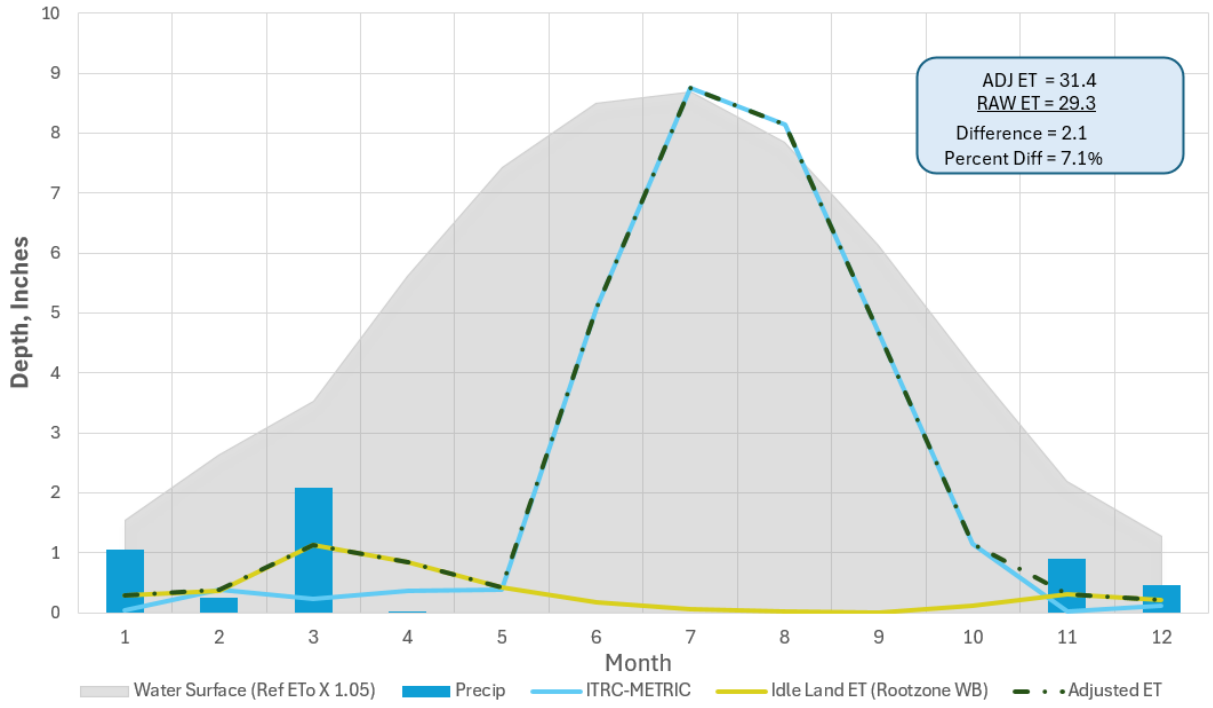

Figure N-1. ET Adjustment Example

This general trend was seen across the subbasin and resulted in a 7% (1.3 inches) increase in basin wide ET over the 1995-2022 period (Table N-2). A methodology change in the ITRC-METRIC processing occurred around 2013. This resulted in a higher increase during the 2013 through 2022 period. No adjustments were made to the 2023 LandIQ ETc.

Table N-2. Subbasin Results of ETc Adjustment

Period	ITRC-METRIC Average ETc (inches)	Adjusted Average ETc (inches)	Difference (inches)	Percent Difference
1995-2010	19.1	19.6	0.6	3%
2013-2022	15.6	17.8	2.2	14%
1995-2022	17.7	19.0	1.3	7%

The adjusted ET values for each field were averaged by land use and model subregion for use as input to the groundwater model. The model was used to partition the ETc into ET of applied water and ET of precipitation. ETc and ET of precipitation outputs from the model for the irrigated areas were used for the GSA Operational Water Budgets (Table N-2). The total subbasin-wide ET output from the model was compared to the ITRC-METRIC data clipped to the subbasin boundary as a final validation of the model ET setup (Figure N-2). During the early period, wet years show an increase in ETc and the dry years show no change in ETc. During the later period all year were increased indicating that the ITRC-METRIC methodology changed for this period.

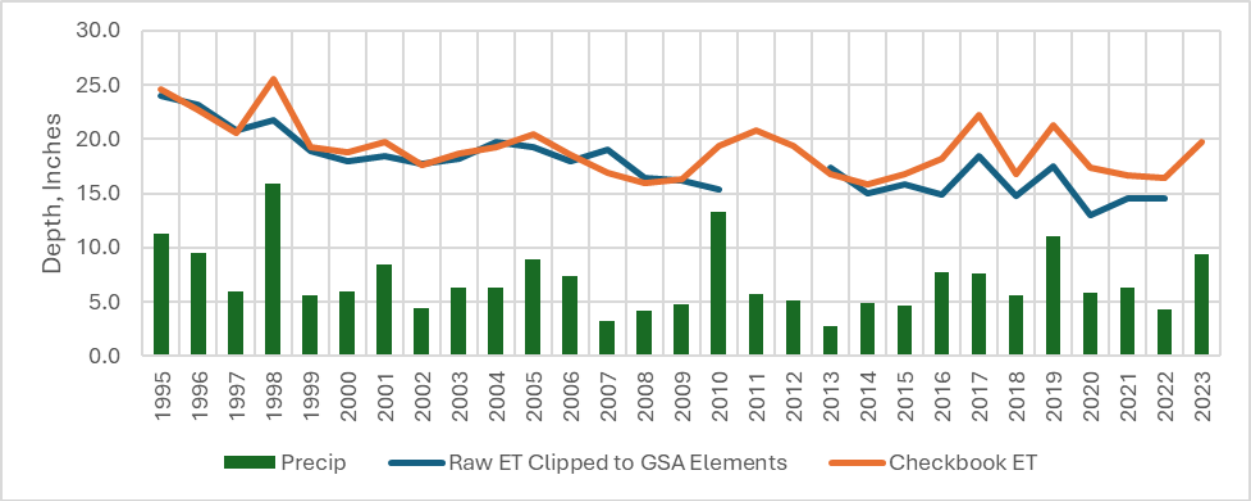

Figure N-2. Basin wide ET Validation

The following GSAs have purchased one or more additional years of Land IQ ETc independent from the Basin Study. The additional years provided a period of overlap between the LandIQ data and the ITRC-METRIC data.

- North Kern GSA (2021-2023)
- Shafter-Wasco GSA (2020-2022)
- South San Joaquin MUD GSA (2021-2023)
- Cawelo GSA (2021-2022)
- Kern River GSA (2022)
- Semitropic Water Storage District (2017-2022)

This general trend was seen across the subbasin and resulted in a 7% (1.3 inches) increase in basin wide ET over the 1995-2022 period (Table N-1). A methodology change in the ITRC-METRIC processing occurred around 2013. This resulted in a higher increase during the 2013 through 2022 period. No adjustments were made to the 2023 LandIQ ETc.

Effective Precipitation

Effective precipitation is the volume of precipitation that meets part of the agricultural crop demand. The spatial distribution of precipitation for 1995 through 2022 was developed using PRISM data. A precipitation timeseries was developed for each element of the model based on the PRISM spatial data set. The 2023 model precipitation was developed using monthly raster provide by LandIQ.

Applied Water Demand

The applied water demand is the fraction of the ETc that is met by applied water following the application of effective precipitation.

Urban Water Use

The urban water use is to account for residential, commercial and industrial water usage within the Subbasin.

Municipal and Industrial Water Use

List of major water purveyors whose historical water use is included under the *Municipal and Industrial Water Use* category.

- Arvin CSD
- Bakersfield Municipal
- California Water Service
- City of Delano
- City of Shafter
- City of Wasco
- East Niles CSD
- Greenfield CWD
- Kern Valley State Prison
- Lamont PUD
- Lerdo County Jail
- Lost Hills Utility District
- McFarland MWC
- North of the River MWD
- Oildale MWC
- Vaughn WC
- Wasco State Prison
- West Kern WD

Water supply and use data for these are derived from the Subbasin DMS and other sources including data compiled by GSAs, KCWA Water Supply Reports (1977-2011) and data provided by the cities.

Domestic, Industrial and Small Water System Water Use

The majority of the population resides within the major urban areas that are served by one the major water purveyors listed above. Limited data are available for determining the water use in areas outside of these major water purveyors. A GIS spatial analysis was applied to determine the population located outside if the major water purveyor areas are based on the 1990, 2000, 2010 and 2020 US Census tract maps.

Table N-3 summarizes the results of this preliminary analysis which indicates that a very high percentage of the population within the Subbasin resides in municipal areas with water service. The population trends show that the Subbasin population has grown by over 350,000 people whereas the population outside of the municipal areas with water service has decreased. This represents an overall trend of urban expansion over this period.

The water use was calculated based on an estimated per capita water use that is consistent with urban uses and shows a decreasing trend over time to account for statewide efforts for water conservation. The estimated water use for this population has declined proportionally to the decreasing population and per capita water use. The GIS spatial analysis applied this water use to the various GSAs.

Table N-3. Estimated Population and Water Use for areas outside of the major water purveyors

Data Source	Estimated Population with the Subbasin	Estimated Population Outside of Major Water Purveyors	Estimated Per Capita Water Use (AFY)	Estimated Water Use (AFY)
1990 Census	454,507	41,325	0.40	16,530
2000 Census	571,448	33,369	0.375	12,513
2010 Census	741,385	38,860	0.34	13,212
2020 Census	810,259	33,703	0.30	10,111

In addition, seventy-three small water systems were identified from state and county agencies the provide water supply to industries or institutions. These are calculated separately because their water use is not population based. At this time, only limited water use data is available for this systems. To account for this water use, a conservative assumption of 30 AFY per year as assumed for each of the seventy-three small water systems, resulting in 2,190 AFY of additional water use in the Subbasin.

These water use estimates should be considered as a preliminary screening level analysis to incorporate this water use in the GSA Operational Water Budgets. Future work will be necessary to improve these estimates.

Water Surface Evaporation

Evaporation of water surfaces for open channel conveyance systems and recharge basins was estimated for the operational water budgets. Evaporation from conveyance

systems was estimated by multiplying the average water surface areas by reference ET and then by a water surface evaporation coefficient of 1.05. Evaporation from recharge basins was estimated from 3 to 6 percent of the recharge basin delivery volume to the GSA. Refinement of these initial estimates should be considered in future updates..

OPERATIONAL WATER BUDGET CALCULATION

The GSA Operational Water Budgets provides a summation of total annual supplies and demands. The result is shown as the net groundwater deficit within each GSA as shown be the following relationships:

$$\textit{Net Groundwater Deficit} = \textit{Outflows} - \textit{Inflows}$$

$$\textit{Net Groundwater Deficit} = \textit{TD} + \textit{WBA} - \textit{SW} - \textit{EP} - \textit{NYA}$$

Since the result is shown as a deficit, a positive number represents the total net use of groundwater beyond the native yield whereas a negative number represents the net surface water surplus to meet demand. A surplus indicates a higher reliance on surface water resources where deep percolation of applied surface water to groundwater and water banking/conjunctive use operations exceed groundwater pumping. Conversely, a deficit indicates a higher reliance of groundwater resources.

Operational Water Budget Calculation Components

The following summarize the components shown on the following GSA Operational Water Budget Tables

- **Total Water Demand (TD)**: The total water demand is the summation of the managed water uses including agriculture, managed refuge, municipal, industrial, small water systems and domestic water demands within the Subbasin. Evaporative losses from surface conveyance and recharge basins are also included as part of the total demand. Water use for water banking, conjunctive use operations, and deep percolation of applied surface water are not included as part of the demand because their net effect is groundwater recharge.
- **Total Surface Water Supplies (SW)**: Summation of surface water inflows and outflows shown under the *Managed Surface Water Inflows And Outflows* Section.
- **Effective precipitation (EP)**: Volume of precipitation that meets part of the agricultural crop demand as shown under *Operational Water Usage* Section.
- **Native Yield on Developed Area (NYA)**: The volume of groundwater based on natural recharge sources, deep percolation of precipitation to groundwater and groundwater recharge from small watersheds surrounding the Subbasin. The native yield, discussed Section 9.4.2, is an estimate of the sustainable

volume of groundwater that can be used in the Subbasin to meet total demand. Additional work on deriving the native and sustainable yields of the Subbasin is ongoing. As a preliminary, planning level assumption, the native yield is applied as 0.15 feet of water for each acre of developed agricultural and urban land in the GSA. This method accounts for about 58 percent of the estimated 280,754 AFY native yield discussed in Section 9.4.2.

- **Water Banking Adjustment (WBA)**: An adjustment to account for water banking activities based on change in the overall bank accounts (Appendix N). For bank operators, an increase in the overall account balances represents an increase in bank storage which has a future return obligation; therefore, the adjustment is to decrease the water supply to meet the total demand. Conversely, a decrease in the overall account balances represents an decrease in water in bank storage representing a lowering of future return obligations.
- **Net Subbasin Operational Deficit:** Sum of the Net GSA Operational Deficit and the Water Banking Adjustment. This includes the effects of the water banking operations by the GSA that are not restricted to the geographic boundaries of the GSA. This is the deficit that is utilized for developing the P/MA targets for future planning. The GSA operational water budgets are also used to develop the P/MA targets used in Section 14.

GSA Operational Water Budget Data Tables

The following data tables provide an annual summary of the operational water budget is calculated for each GSA.

WATER BANKING ACCOUNT BALANCE SUMMARY

Kern County entities have been involved in water banking for several decades.

Water Bank Account Balance Tables

To integrate the water banking operations into the GSA Operational Water Budgets, each water bank operator provided a summary table of the account balances at the end of each water year from 1994 to 2023. Water bank account balances are provided for the following categories:

- **Out-of-Subbasin Return Obligation** - Account balances of remaining return obligations of surface water stored at the water bank facility for banking partners located outside of the Subbasin.
- **In Subbasin Return Obligation** - Account balances of remaining return obligations of surface water stored at the water bank facility for banking partners at specified GSAs located inside of the Subbasin.

- **Other Return Obligations** - Account balances of remaining return obligations of surface water stored at the water bank facility for banking partners where the location of use by the receiving entity is unspecified and may be located either within the Subbasin and/or outside of the Subbasin.
- **Storage Account Balances** – Account balances of remaining return obligations of surface water stored on behalf of Subbasin GSAs that have storage accounts at one or more Subbasin water banking operations.

Tables of these account balances is providing in the tables attached following the GSA Operational Water Budget Tables.

Project and Management Action (P/MA) Target Methodology

The P/MA targets presented in Section 14 are based on the Net Subbasin Operational Deficit from the GSA Operational Water Budgets. A deficit adjustment is added to the Net Subbasin Operational Deficit that to distribute the difference with the 2030 Climate Change Scenario planning deficit to calculate the Adjusted Subbasin Planning Deficit. GSAs with an Adjusted Subbasin Planning Deficit that is negative represent a negative deficit are set to zero. GSAs with an Adjusted Subbasin Planning Deficit that is positive are rounded to the nearest ten to develop the Proposed P/MA Target used in Section 14.

The exclusive water bank GSAs and projects (Kern Water Bank GSA, Pioneer GSA and Berrenda Mesa Spreading Grounds) are shown with a zero P/MA target in Table N-4 because their total supplies and demands are banking related, and as such are operated in a manner to maintain a positive banking balance over time as is demonstrated by the account balances shown in Table 9-7 and Appendix N Water Bank Account Balance Tables.

Table N-4. Project and Management Action (P/MA) Target

GSA	Net Subbasin Operational Deficit (AFY)	Deficit Adjustment (AFY)	Adjusted Subbasin Planning Deficit (AFY)	Proposed PMA Target Rounded (AFY)
Arvin GSA	27,604	-781	26,823	26,820
Buena Vista WSD GSA	-20,937	-456	-21,394	0
Berrenda Mesa Spreading Ground	*n/a*	*n/a*	*n/a*	0
Cawelo WD GSA	847	-320	526	530
Eastside Water Management Area	3,336	-10	3,326	3,330
Henry Miller WD GSA	6,057	-104	5,953	5,950
Kern River GSA	63,608	-1,391	62,217	62,220
Kern Water Bank GSA	*n/a*	*n/a*	*n/a*	0
Kern-Tulare WD GSA	-3,687	-101	-3,788	0
North Kern WSD GSA	-28,961	-805	-29,766	0
Olcese WD GSA	181	-4	177	180
Pioneer GSA	*n/a*	*n/a*	*n/a*	0
Rosedale-Rio Bravo WSD GSA	10,304	-450	9,853	9,850
Semitropic WSD GSA	164,031	-1,087	162,944	162,940
Kern National Wildlife Refuge	-8	-73	-81	0
Shafter-Wasco ID GSA	22,489	-304	22,185	22,190
7th Standard	17,287	-39	17,249	17,250
Southern San Joaquin MUD GSA	26,541	-468	26,073	26,070
Tejon-Castac WD GSA	-1,751	0	-1,751	0
West Kern WD GSA	-2,534	-81	-2,615	0
Westside DWA GSA	-89,527	-1,339	-90,866	0
Wheeler Ridge-Maricopa GSA	14,990	-629	14,361	14,360
Kern Non-Districted Land Authority	23,949	-29	23,920	23,920
TOTAL	**233,819**	**-8,471**	**225,346**	**375,610**

GSA Operational Water Budget Tables

Arvin GSA - GSA Operational Water Budget Summary

Kern River Percent of Average Natural Flow at First Point	San Joaquin Valley Water Year Index	Water Year	Managed Surface Water Inflows and Outflows											Operational Water Usage									Operational Water Budget Calculation						
			Managed Surface Water Inflows (acre-feet)							Managed Surface Water Outflows (acre-feet)			Net Inflow (acre-feet)	GSA Land Area (acre-feet)		Agricultural Usage (acre-feet)			Urban Water Use (acre-feet)		Water Surface Evaporation (acre-feet)								
			DWR State Water Project (SWP)	USBR Central Valley Project (CVP)	Kern River	Cross Valley Canal Local Supply	Poso Creek	Transfers Into GSA	Recycled, Produced, Reclaimed , Other Water Inflows	Transfers Out of GSA	Aqueduct or Friant-Kern Canal Pumpins	Water Export out of the Subbasin	Total Surface Water Supply	Developed Land Area [1]	GSA Land Area	Crop Evapotranspiration [2] (ETc)	Effective Precipitation (ETpr)	Applied Water Demand (ETaw)	Municipal & Industrial Water Use [3]	Domestic, Industrial and Small System Water Use [4]	Conveyance System Evaporation	Recharge Basin Evaporation	Total Demand [5] (acre-feet)	Total Surface Water Supply (acre-feet)	Effective Precipitation (ETpr) (acre-feet)	Native Yield Supply [6] (acre-feet)	Net GSA Operational Deficit [7] (SUBTOTAL) (acre-feet)	Water Banking Adjustment [8, 9] (acre-feet)	Net Subbasin Operational Deficit [10] (acre-feet)
190%	W	1995	0	203,813	9,441	16,435	0	7,128	1,063	0	0	-22,833	215,047	98,589	107,605	224,854	60,451	164,403	1,959	1,777	1,046	0	229,636	215,047	60,451	14,788	**-60,651**	-13,010	**-73,661**
136%	W	1996	0	207,698	30,548	19,460	0	8,875	1,122	0	0	-27,186	240,517	98,492	107,605	230,353	30,898	199,455	1,959	1,685	1,302	0	235,300	240,517	30,898	14,774	**-50,889**	-34,531	**-85,420**
175%	W	1997	0	155,874	79,127	1,768	0	10,320	1,181	0	0	-24,060	224,210	99,531	107,605	194,866	24,793	170,074	1,959	1,594	1,514	1,914	201,848	224,210	24,793	14,930	**-62,085**	-18,385	**-80,470**
237%	W	1998	0	149,995	65,326	20,311	0	6,470	1,240	0	0	-19,394	223,948	100,869	107,605	179,956	56,078	123,879	1,832	1,503	949	5,826	190,066	223,948	56,078	15,130	**-105,090**	23,410	**-81,680**
70%	AN	1999	0	77,790	58,243	101,359	0	7,852	1,299	0	0	-22,577	223,966	101,554	107,605	199,354	38,887	160,467	2,602	1,411	1,225	4,884	209,476	223,966	38,887	15,233	**-68,610**	113,565	**44,955**
67%	AN	2000	0	104,806	3,663	150,957	0	8,406	1,358	0	0	-26,416	242,774	102,055	107,605	196,906	27,088	169,819	2,738	1,320	1,232	5,747	207,943	242,774	27,088	15,308	**-77,226**	76,436	**-791**
53%	D	2001	0	40,650	2,520	57,624	0	6,315	1,348	0	0	-23,759	84,698	102,172	107,605	198,428	31,673	166,755	2,578	1,299	1,284	2,326	205,914	84,698	31,673	15,326	**74,217**	34,670	**108,888**
51%	D	2002	2,772	34,716	1,693	41,008	0	6,639	1,339	0	0	-25,561	62,606	102,165	107,605	217,451	18,418	199,033	2,593	1,278	1,260	266	222,848	62,606	18,418	15,325	**126,499**	-7,610	**118,889**
83%	BN	2003	12,894	92,993	1,154	62,810	0	6,101	1,329	0	-12,380	-24,587	140,314	101,905	107,605	193,024	33,275	159,749	2,848	1,257	1,087	2,642	200,858	140,314	33,275	15,286	**11,983**	19,861	**31,843**
57%	D	2004	9,092	39,878	0	50,736	0	6,965	1,320	0	-11,573	-26,613	69,804	102,290	107,605	230,110	28,590	201,519	2,885	1,235	1,220	430	235,879	69,804	28,590	15,344	**122,141**	5,271	**127,412**
157%	W	2005	4,467	208,155	8,846	5,870	0	6,097	1,310	0	-13,939	-21,959	198,847	101,852	107,605	181,173	44,746	136,427	2,747	1,214	1,088	6,019	192,241	198,847	44,746	15,278	**-66,629**	-64,252	**-130,881**
153%	W	2006	5,719	182,882	16,367	35,185	0	6,518	1,330	0	0	-22,421	225,580	102,065	107,605	188,001	34,775	153,226	3,011	1,193	1,115	5,443	198,762	225,580	34,775	15,310	**-76,902**	3,296	**-73,606**
39%	C	2007	4,122	22,132	300	57,535	0	7,702	1,350	0	-7,609	-24,628	60,903	102,051	107,605	208,005	21,285	186,719	3,330	1,172	1,262	1,201	214,969	60,903	21,285	15,308	**117,472**	3,152	**120,624**
71%	C	2008	156	31,039	14,955	21,795	0	6,114	1,369	0	-42,615	-25,532	7,281	101,633	107,605	190,385	13,819	176,566	2,903	1,151	1,260	265	195,963	7,281	13,819	15,245	**159,618**	-33,444	**126,174**
64%	BN	2009	1,280	73,088	18,209	2,811	0	6,195	1,389	0	-43,080	-23,857	36,036	101,714	107,605	188,398	22,128	166,270	3,189	1,129	1,151	2,040	195,908	36,036	22,128	15,257	**122,486**	-41,094	**81,392**
113%	AN	2010	19,419	163,675	1,547	69,725	0	5,742	1,409	0	-56,229	-22,588	182,700	101,604	107,605	168,059	31,688	136,371	2,946	1,108	1,041	6,096	179,251	182,700	31,688	15,241	**-50,378**	-25,657	**-76,035**
203%	W	2011	25,427	194,718	0	26,521	0	5,698	1,371	0	-16,065	-22,318	215,351	101,695	107,605	167,113	45,359	121,754	2,817	1,102	1,075	5,974	178,082	215,351	45,359	15,254	**-97,883**	-18,913	**-116,796**
53%	D	2012	38,430	32,013	0	75,534	0	6,669	1,326	0	-10,010	-24,712	119,250	101,750	107,605	240,988	37,974	203,014	2,866	1,097	1,224	1,668	247,843	119,250	37,974	15,262	**75,356**	97,720	**173,076**
30%	C	2013	12,499	19,925	868	16,048	0	6,629	1,282	0	-15,111	-26,479	15,661	102,050	107,605	206,109	17,720	188,389	3,008	1,091	1,268	237	211,712	15,661	17,720	15,308	**163,024**	-6,079	**156,946**
25%	C	2014	0	11,918	11,666	16,668	0	4,920	1,238	0	-45,195	-24,090	-22,875	102,075	107,605	194,843	19,440	175,404	2,808	1,085	1,156	211	200,104	-22,875	19,440	15,311	**188,228**	-7,014	**181,214**
18%	C	2015	0	2,001	31,003	12,489	0	4,478	1,194	0	-67,142	-16,633	-32,611	102,250	107,605	201,414	30,038	171,377	1,949	1,080	932	40	205,416	-32,611	30,038	15,338	**192,651**	-30,405	**162,246**
51%	D	2016	799	58,814	18,189	10,217	0	5,648	1,099	0	-53,134	-16,996	24,637	102,151	107,605	185,043	35,571	149,472	2,523	1,074	951	347	189,938	24,637	35,571	15,323	**114,407**	-26,612	**87,795**
275%	W	2017	8,083	206,292	25,346	25,737	0	6,973	1,188	0	-5,963	-18,656	249,001	102,175	107,605	203,107	45,173	157,934	2,612	1,068	1,189	7,980	215,956	249,001	45,173	15,326	**-93,544**	9,207	**-84,338**
60%	BN	2018	26,927	104,869	827	44,113	0	6,345	1,122	0	-13,893	-20,542	149,768	102,196	107,605	199,135	26,880	172,256	2,339	1,063	1,106	3,507	207,150	149,768	26,880	15,329	**15,173**	32,995	**48,168**
177%	W	2019	3,661	174,115	4,594	38,908	0	7,196	1,163	0	-6,393	-18,169	205,075	102,272	107,605	201,995	45,222	156,773	2,547	1,057	1,068	5,877	212,544	205,075	45,222	15,341	**-53,094**	-24,779	**-77,873**
55%	D	2020	0	50,053	3,056	22,150	0	5,985	1,197	0	0	-20,064	62,377	102,121	107,605	168,104	37,952	130,152	2,569	1,051	1,034	562	173,320	62,377	37,952	15,318	**57,673**	10,000	**67,673**
22%	C	2021	0	2,307	5,624	8,067	0	5,688	1,260	0	0	-18,391	4,554	102,099	107,605	195,464	19,259	176,205	2,690	1,051	1,014	106	200,325	4,554	19,259	15,315	**161,197**	7,280	**168,477**
29%	C	2022	0	41,328	10,000	420	0	5,714	1,199	0	-3,574	-19,571	35,516	101,901	107,605	196,681	22,313	174,368	2,561	1,051	873	99	201,265	35,516	22,313	15,285	**128,151**	-10,656	**117,495**
320%	W	2023	349	221,071	48,281	6,922	0	5,446	1,019	0	-17,694	-19,117	246,277	102,156	107,605	197,893	49,712	148,180	2,175	1,051	957	9,764	211,840	246,277	49,712	15,323	**-99,472**	-28,190	**-127,662**
Average (1995-2014)			**6,814**	**102,388**	**16,224**	**42,508**	**0**	**6,868**	**1,299**	**0**	**-13,690**	**-24,079**	**138,331**	**101,406**	**107,605**	**199,919**	**31,954**	**167,965**	**2,679**	**1,285**	**1,188**	**2,659**	**207,730**	**138,331**	**31,954**	**15,211**	**22,234**	**5,370**	**27,604**
Average (2015-2023)			**4,424**	**95,650**	**16,324**	**18,780**	**0**	**5,942**	**1,160**	**0**	**-18,644**	**-18,682**	**104,955**	**102,147**	**107,605**	**194,315**	**34,680**	**159,635**	**2,440**	**1,061**	**1,014**	**3,143**	**201,973**	**104,955**	**34,680**	**15,322**	**47,016**	**-6,796**	**40,220**
Average (1995-2023)			**6,072**	**100,297**	**16,255**	**35,144**	**0**	**6,580**	**1,256**	**0**	**-15,228**	**-22,404**	**127,973**	**101,636**	**107,605**	**198,180**	**32,800**	**165,380**	**2,605**	**1,215**	**1,134**	**2,809**	**205,943**	**127,973**	**32,800**	**15,245**	**29,925**	**1,594**	**31,519**
Wet (W, AN)			**5,163**	**173,145**	**27,025**	**39,935**	**0**	**7,132**	**1,235**	**0**	**-8,945**	**-22,130**	**222,561**	**101,147**	**107,605**	**194,895**	**41,144**	**153,751**	**2,454**	**1,314**	**1,139**	**5,040**	**204,842**	**222,561**	**41,144**	**15,172**	**-74,035**	**-139**	**-74,174**
Dry (D, BN)			**10,244**	**58,564**	**5,072**	**40,778**	**0**	**6,318**	**1,274**	**0**	**-16,008**	**-22,966**	**83,277**	**102,052**	**107,605**	**202,298**	**30,274**	**172,024**	**2,710**	**1,165**	**1,146**	**1,532**	**208,851**	**83,277**	**30,274**	**15,308**	**79,993**	**13,911**	**93,904**
Critically Dry (C)			**2,397**	**18,664**	**10,631**	**19,003**	**0**	**5,892**	**1,270**	**0**	**-25,892**	**-22,189**	**9,776**	**102,008**	**107,605**	**198,986**	**20,553**	**178,432**	**2,750**	**1,097**	**1,109**	**308**	**204,250**	**9,776**	**20,553**	**15,301**	**158,620**	**-11,024**	**147,597**
Percent of Total			**5%**	**78%**	**13%**	**27%**	**0%**	**5%**	**1%**	**0%**	**-12%**	**-18%**	**100%**	**94%**	**100%**		**17%**	**83%**	**68%**	**32%**			**100%**	**62%**	**16%**	**7%**	**15%**	**-1%**	**15%**

[1] Developed Land Area includes Irrigated and Fallow Agriculture, Urban, and Recharge Basins

[2] ETc Demand developed as the average of raw METRIC ITRC and adjusted METRIC ITRC - adjusted to account for a low bias in the ITRC METRIC data compared to LandIQ ET data

[3] Municipal and Industrial Water Supply is the total reported surface and groundwater supplied to major water purveyors

[4] Domestic, Industrial and Small Water System Supply is an estimated water use based on population outside of major water purveyor servide areas plus estimated water use from reported industrial water systems

[5] Total Demand = Crop Evapotranspiration + Urban Water Use + Water Surface Evaporation

[6] Native Yield Supply applies a planning-level assumption of 0.15 feet of sustainable groundwater use per developed acre within GSA.

[7] Net GSA Operational Deficit is a subtotal of the total water demands minus water supplies within the GSA used to estimate the GSA groundwater deficit for planning purposes.

[8] Water Banking Adjustment provides an accounting for Banking Return Obligations stored in the GSA and the Stored Surface Water at water banks in the Subbasin outside of the GSA

[9] The Water Bank Adjustment does not include surface water stored in the GSA for use by that GSA, which are considered conjunctive use projects and stored conjunctive usewater is already accounted for in the Total Water Supply.

[10] Net Subbasin Operational Deficit is an estimate the Subbasin groundwater deficit that includes the adjustment of GSA water banking operations within the Subbasin.

Buena Vista Water Storage District GSA - GSA Operational Water Budget Summary

Kern River Percent of Average Natural Flow at First Point	San Joaquin Valley Water Year Index	Water Year	Managed Surface Water Inflows and Outflows										Operational Water Usage									Operational Water Budget Calculation						
			Managed Surface Water Inflows (acre-feet)							Managed Surface Water Outflows (acre-feet)			Net Inflow (acre-feet)	GSA Land Area (acre-feet)		Agricultural Usage (acre-feet)			Urban Water Use (acre-feet)		Water Surface Evaporation (acre-feet)							
			DWR State Water Project (SWP)	USBR Central Valley Project (CVP)	Kern River	Cross Valley Canal Local Supply	Poso Creek	Transfers Into GSA	Recycled, Produced, Reclaimed , Other Water Inflows	Transfers Out of GSA	Aqueduct or Friant-Kern Canal Pumpins	Water Export out of the Subbasin	Total Surface Water Supply	Developed Land Area[1]	GSA Land Area	Crop Evapotranspiration[2] (ETc)	Effective Precipitation (ETpr)	Applied Water Demand (ETaw)	Municipal & Industrial Water Use[3]	Domestic, Industrial and Small System Water Use[4]	Conveyance System Evaporation	Recharge Basin Evaporation	Total Demand[5] (acre-feet)	Total Surface Water Supply (acre-feet)	Effective Precipitation (ETpr) (acre-feet)	Native Yield Supply[6] (acre-feet)	Net GSA Operational Deficit[7] (SUBTOTAL) (acre-feet)	Water Banking Adjustment[8, 9] (acre-feet)	Net Subbasin Operational Deficit[10] (acre-feet)
190%	W	1995	98,350	0	116,086	0	0	0	88	-41,850	0	0	172,674	43,135	51,035	145,947	28,935	117,012	486	470	1,592	1,422	149,917	172,674	28,935	6,470	**-58,162**	-7,083	**-65,245**
136%	W	1996	107,098	0	131,650	0	0	27,142	88	-43,976	0	0	222,002	43,283	51,035	150,088	16,580	133,508	486	456	1,666	587	153,283	222,002	16,580	6,493	**-91,791**	4,455	**-87,336**
175%	W	1997	77,897	0	143,671	0	0	0	88	-49,815	0	0	171,841	43,303	51,035	139,972	15,942	124,030	486	441	1,552	859	143,310	171,841	15,942	6,495	**-50,968**	-3,738	**-54,706**
237%	W	1998	53,339	0	133,292	0	0	9,273	88	-44,815	0	0	151,177	43,154	51,035	128,451	30,939	97,513	473	427	1,448	1,338	132,137	151,177	30,939	6,473	**-56,451**	-8,167	**-64,618**
70%	AN	1999	79,245	0	103,222	0	0	14,267	88	-35,852	0	0	160,970	43,270	51,035	129,194	19,314	109,880	466	413	1,549	178	131,801	160,970	19,314	6,491	**-54,974**	0	**-54,974**
67%	AN	2000	92,720	0	59,784	0	0	0	88	-31,026	0	0	121,566	43,359	51,035	135,551	14,751	120,800	460	399	1,530	5	137,944	121,566	14,751	6,504	**-4,877**	0	**-4,877**
53%	D	2001	52,469	0	39,740	0	0	0	88	-10,394	0	0	81,903	43,312	51,035	131,978	15,251	116,727	453	398	1,571	2	134,402	81,903	15,251	6,497	**30,752**	-17	**30,735**
51%	D	2002	63,341	0	35,368	0	0	0	88	-6,021	0	0	92,776	43,289	51,035	127,231	9,435	117,796	446	398	1,548	21	129,645	92,776	9,435	6,493	**20,941**	2,134	**23,075**
83%	BN	2003	74,714	0	45,836	0	0	0	88	-13,421	0	0	107,217	43,425	51,035	119,792	13,477	106,315	440	398	1,504	25	122,159	107,217	13,477	6,514	**-5,048**	2,781	**-2,267**
57%	D	2004	63,552	0	45,204	0	0	0	88	-11,534	0	0	97,310	43,193	51,035	125,516	11,185	114,332	433	397	1,579	0	127,926	97,310	11,185	6,479	**12,953**	0	**12,953**
157%	W	2005	74,177	0	82,193	0	0	0	88	-15,374	0	0	141,084	43,326	51,035	129,360	21,054	108,306	427	397	1,517	663	132,364	141,084	21,054	6,499	**-36,273**	-22,359	**-58,632**
153%	W	2006	76,416	0	109,791	0	0	0	88	-27,673	0	0	158,622	43,345	51,035	124,279	17,490	106,789	420	397	1,558	459	127,113	158,622	17,490	6,502	**-55,500**	-884	**-56,384**
39%	C	2007	63,999	0	65,916	0	0	9,854	88	-16,092	0	0	123,765	43,404	51,035	123,059	8,800	114,259	413	397	1,568	0	125,438	123,765	8,800	6,511	**-13,638**	0	**-13,638**
71%	C	2008	49,609	0	39,540	0	0	0	88	-5,561	0	0	83,676	43,100	51,035	116,296	6,332	109,963	407	396	1,579	0	118,678	83,676	6,332	6,465	**22,205**	0	**22,205**
64%	BN	2009	72,608	0	21,463	0	0	0	88	-1,712	0	0	92,447	43,078	51,035	116,793	9,039	107,754	400	396	1,617	60	119,266	92,447	9,039	6,462	**11,319**	0	**11,319**
113%	AN	2010	60,454	0	67,673	0	0	0	88	-7,518	0	0	120,697	43,225	51,035	103,098	13,610	89,488	400	396	1,538	410	105,843	120,697	13,610	6,484	**-34,948**	-3,600	**-38,548**
203%	W	2011	66,437	0	98,987	0	0	0	88	-22,300	0	0	143,212	43,059	51,035	101,674	20,404	81,271	390	379	1,498	1,749	105,690	143,212	20,404	6,459	**-64,384**	-29,249	**-93,633**
53%	D	2012	71,615	0	48,106	0	0	0	88	-17,158	0	0	102,651	43,016	51,035	105,035	14,214	90,821	380	363	1,651	0	107,428	102,651	14,214	6,452	**-15,889**	5,000	**-10,889**
30%	C	2013	55,200	0	2,174	0	0	0	88	-4,460	0	0	53,002	43,212	51,035	95,570	7,427	88,143	370	347	1,657	0	97,944	53,002	7,427	6,482	**31,033**	0	**31,033**
25%	C	2014	14,287	0	0	0	0	0	88	0	0	0	14,375	43,153	51,035	79,056	4,913	74,143	359	330	1,694	0	81,439	14,375	4,913	6,473	**55,679**	0	**55,679**
18%	C	2015	9,337	0	0	0	0	0	88	0	0	0	9,425	43,056	51,035	77,868	8,310	69,558	349	314	1,632	0	80,163	9,425	8,310	6,458	**55,970**	8,886	**64,856**
51%	D	2016	46,517	0	3,442	0	0	0	88	-681	0	0	49,366	43,052	51,035	83,847	16,458	67,389	339	297	1,672	0	86,156	49,366	16,458	6,458	**13,874**	3,100	**16,974**
275%	W	2017	60,564	0	191,398	0	0	4,511	88	-41,833	0	0	214,728	43,170	51,035	99,273	21,998	77,275	329	281	1,634	2,870	104,386	214,728	21,998	6,476	**-138,815**	-33,861	**-172,676**
60%	BN	2018	69,868	0	7,486	0	0	0	88	-3,152	0	0	74,290	43,153	51,035	85,539	12,309	73,230	318	264	1,670	312	88,104	74,290	12,309	6,473	**-4,968**	0	**-4,968**
177%	W	2019	107,096	0	60,395	0	0	0	88	-18,366	0	0	149,213	43,160	51,035	96,401	18,991	77,410	308	248	1,629	1,248	99,834	149,213	18,991	6,474	**-74,843**	-20,211	**-95,054**
55%	D	2020	40,859	0	2,866	0	0	0	88	-1,233	0	0	42,580	43,214	51,035	76,361	17,122	59,239	298	232	1,628	58	78,577	42,580	17,122	6,482	**12,394**	6,404	**18,798**
22%	C	2021	25,162	0	1,716	0	0	0	89	0	0	0	26,967	43,216	51,035	85,520	11,920	73,600	296	232	1,728	72	87,847	26,967	11,920	6,482	**42,478**	99	**42,577**
29%	C	2022	7,574	0	942	0	0	0	90	0	0	0	8,606	43,219	51,035	85,143	13,061	72,082	262	232	1,676	51	87,364	8,606	13,061	6,483	**59,214**	4,362	**63,576**
320%	W	2023	74,818	0	147,582	0	0	0	84	-7,118	0	0	215,366	43,402	51,035	110,734	26,934	83,800	251	232	1,545	7,332	120,093	215,366	26,934	6,510	**-128,717**	-159,666	**-288,383**
Average (1995-2014)			**68,376**	**0**	**69,485**	**0**	**0**	**3,027**	**88**	**-20,328**	**0**	**0**	**120,648**	**43,232**	**51,035**	**121,397**	**14,955**	**106,442**	**430**	**400**	**1,571**	**389**	**124,186**	**120,648**	**14,955**	**6,485**	**-17,901**	**-3,036**	**-20,937**
Average (2015-2023)			**49,088**	**0**	**46,203**	**0**	**0**	**501**	**88**	**-8,043**	**0**	**0**	**87,838**	**43,182**	**51,035**	**88,965**	**16,345**	**72,620**	**306**	**259**	**1,646**	**1,327**	**92,503**	**87,838**	**16,345**	**6,477**	**-18,157**	**-21,210**	**-39,367**
Average (1995-2023)			**62,390**	**0**	**62,259**	**0**	**0**	**2,243**	**88**	**-16,515**	**0**	**0**	**110,466**	**43,217**	**51,035**	**111,332**	**15,386**	**95,946**	**391**	**356**	**1,594**	**680**	**114,354**	**110,466**	**15,386**	**6,483**	**-17,980**	**-8,676**	**-26,657**
Wet (W, AN)			**79,124**	**0**	**111,210**	**0**	**0**	**4,246**	**87**	**-29,809**	**0**	**0**	**164,858**	**43,246**	**51,035**	**122,617**	**20,534**	**102,083**	**414**	**380**	**1,558**	**1,471**	**126,440**	**164,858**	**20,534**	**6,487**	**-65,439**	**-21,874**	**-87,313**
Dry (D, BN)			**61,727**	**0**	**27,723**	**0**	**0**	**0**	**88**	**-7,256**	**0**	**0**	**82,282**	**43,192**	**51,035**	**108,010**	**13,166**	**94,845**	**390**	**349**	**1,605**	**53**	**110,407**	**82,282**	**13,166**	**6,479**	**8,481**	**2,156**	**10,637**
Critically Dry (C)			**32,167**	**0**	**15,755**	**0**	**0**	**1,408**	**88**	**-3,730**	**0**	**0**	**45,688**	**43,194**	**51,035**	**94,645**	**8,680**	**85,964**	**351**	**321**	**1,648**	**18**	**96,982**	**45,688**	**8,680**	**6,479**	**36,134**	**1,907**	**38,041**
Percent of Total			**56%**	**0%**	**56%**	**0%**	**0%**	**2%**	**0%**	**-15%**	**0%**	**0%**	**100%**	**85%**	**100%**		**14%**	**86%**	**52%**	**48%**			**100%**	**97%**	**13%**	**6%**	**-16%**	**8%**	**-23%**

[1] Developed Land Area includes Irrigated and Fallow Agriculture, Urban, and Recharge Basins

[2] ETc Demand developed as the average of raw METRIC ITRC and adjusted METRIC ITRC - adjusted to account for a low bias in the ITRC METRIC data compared to LandIQ ET data

[3] Municipal and Industrial Water Supply is the total reported surface and groundwater supplied to major water purveyors

[4] Domestic, Industrial and Small Water System Supply is an estimated water use based on population outside of major water purveyor servide areas plus estimated water use from reported industrial water systems

[5] Total Demand = Crop Evapotranspiration + Urban Water Use + Water Surface Evaporation

[6] Native Yield Supply applies a planning-level assumption of 0.15 feet of sustainable groundwater use per developed acre within GSA.

[7] Net GSA Operational Deficit is a subtotal of the total water demands minus water supplies within the GSA used to estimate the GSA groundwater deficit for planning purposes.

[8] Water Banking Adjustment provides an accounting for Banking Return Obligations stored in the GSA and the Stored Surface Water at water banks in the Subbasin outside of the GSA

[9] The Water Bank Adjustment does not include surface water stored in the GSA for use by that GSA, which are considered conjunctive use projects and stored conjunctive usewater is already accounted for in the Total Water Supply.

[10] Net Subbasin Operational Deficit is an estimate the Subbasin groundwater deficit that includes the adjustment of GSA water banking operations within the Subbasin.

Cawelo Water District GSA - GSA Operational Water Budget Summary

Kern River Percent of Average Natural Flow at First Point	San Joaquin Valley Water Year Index	Water Year	Managed Surface Water Inflows and Outflows										Operational Water Usage										Operational Water Budget Calculation						
			Managed Surface Water Inflows (acre-feet)							Managed Surface Water Outflows (acre-feet)			Net Inflow (acre-feet)	GSA Land Area (acre-feet)		Agricultural Usage (acre-feet)			Urban Water Use (acre-feet)		Water Surface Evaporation (acre-feet)									
			DWR State Water Project (SWP)	USBR Central Valley Project (CVP)	Kern River	Cross Valley Canal Local Supply	Poso Creek	Transfers Into GSA	Recycled, Produced, Reclaimed , Other Water Inflows	Transfers Out of GSA	Aqueduct or Friant-Kern Canal Pumpins	Water Export out of the Subbasin	Total Surface Water Supply	Developed Land Area [1]	GSA Land Area	Crop Evapotranspiration [2] (ETc)	Effective Precipitation (ETpr)	Applied Water Demand (ETaw)	Municipal & Industrial Water Use [3]	Domestic, Industrial and Small System Water Use [4]	Conveyance System Evaporation	Recharge Basin Evaporation	Total Demand [5] (acre-feet)	Total Surface Water Supply (acre-feet)	Effective Precipitation (ETpr) (acre-feet)	Native Yield Supply [6] (acre-feet)	Net GSA Operational Deficit [7] (SUBTOTAL) (acre-feet)	Water Banking Adjustment [8, 9] (acre-feet)	Net Subbasin Operational Deficit [10] (acre-feet)
190%	W	1995	32,577	0	35,751	0	18,444	0	5,135	-5,637	0	0	86,270	42,625	62,802	128,503	29,811	98,692	341	445	1,007	0	130,295	86,270	29,811	6,394	**7,821**	-3,050	**4,771**
136%	W	1996	38,456	0	39,602	0	13,013	0	12,418	-2,007	0	0	101,482	42,632	62,802	121,267	16,369	104,898	274	455	1,264	0	123,261	101,482	16,369	6,395	**-985**	-1,880	**-2,865**
175%	W	1997	41,596	0	33,853	0	8,442	0	20,525	0	0	0	104,416	42,539	62,802	109,378	17,797	91,581	273	466	1,248	451	111,816	104,416	17,797	6,381	**-16,778**	0	**-16,778**
237%	W	1998	22,795	0	34,953	0	8,967	0	21,434	0	0	0	88,149	42,743	62,802	117,864	35,778	82,086	317	477	983	548	120,189	88,149	35,778	6,411	**-10,150**	0	**-10,150**
70%	AN	1999	42,484	0	29,310	0	9,568	227	21,061	-1,875	0	0	100,775	43,170	62,802	98,490	17,478	81,012	341	487	1,202	367	100,887	100,775	17,478	6,475	**-23,841**	-5,291	**-29,132**
67%	AN	2000	36,612	0	29,711	0	7,970	592	24,909	0	0	0	99,794	42,475	62,802	107,028	14,856	92,172	357	498	1,307	207	109,396	99,794	14,856	6,371	**-11,625**	305	**-11,320**
53%	D	2001	21,325	2,146	16,593	0	598	9,296	24,690	-488	0	0	74,160	42,343	62,802	107,403	14,489	92,914	396	496	1,169	161	109,624	74,160	14,489	6,351	**14,624**	15,107	**29,731**
51%	D	2002	25,296	573	12,501	0	406	16,242	23,446	0	0	0	78,464	42,268	62,802	109,005	11,190	97,815	392	494	1,227	156	111,273	78,464	11,190	6,340	**15,279**	0	**15,279**
83%	BN	2003	28,080	1,270	29,434	0	3,405	0	20,566	0	0	0	82,755	42,562	62,802	103,487	14,208	89,279	318	491	1,172	199	105,667	82,755	14,208	6,384	**2,319**	2,279	**4,598**
57%	D	2004	27,774	5,071	18,275	0	256	9,600	23,266	-2,910	0	0	81,332	42,564	62,802	115,559	12,563	102,996	280	489	1,243	310	117,882	81,332	12,563	6,385	**17,602**	2,154	**19,756**
157%	W	2005	21,819	0	36,113	0	9,187	4,636	23,698	-1,344	0	0	94,109	42,465	62,802	99,966	23,846	76,120	313	487	1,147	473	102,386	94,109	23,846	6,370	**-21,939**	600	**-21,339**
153%	W	2006	26,203	0	38,990	0	5,601	12,108	14,918	-12,094	0	0	85,726	42,486	62,802	95,797	19,968	75,829	289	485	1,217	253	98,041	85,726	19,968	6,373	**-14,026**	3,064	**-10,962**
39%	C	2007	38,997	4,788	3,898	0	0	9,679	15,409	-4,065	0	0	68,706	42,548	62,802	100,288	10,991	89,297	362	483	1,114	314	102,561	68,706	10,991	6,382	**16,482**	1,426	**17,908**
71%	C	2008	8,698	1,361	28,115	0	0	1,732	27,950	-2,416	0	0	65,440	42,287	62,802	96,503	8,596	87,907	388	481	1,143	304	98,819	65,440	8,596	6,343	**18,440**	2,533	**20,973**
64%	BN	2009	8,061	841	30,538	0	0	2,000	31,475	0	0	0	72,915	41,786	62,802	93,896	10,290	83,605	373	478	1,025	314	96,086	72,915	10,290	6,268	**6,613**	1,320	**7,933**
113%	AN	2010	18,142	0	31,269	0	5,082	891	32,639	0	0	0	88,023	42,278	62,802	102,931	19,549	83,382	378	476	1,151	375	105,311	88,023	19,549	6,342	**-8,602**	4,080	**-4,522**
203%	W	2011	39,133	1,666	37,419	0	27,408	8,325	29,762	0	0	0	143,713	42,190	62,802	101,758	25,501	76,257	457	476	1,320	1,778	105,788	143,713	25,501	6,329	**-69,754**	4,669	**-65,085**
53%	D	2012	39,965	0	20,598	0	7,568	2,083	34,699	0	0	0	104,913	41,848	62,802	121,686	16,230	105,456	485	475	1,305	430	124,381	104,913	16,230	6,277	**-3,040**	10,936	**7,896**
30%	C	2013	17,367	0	2,619	0	0	4,000	35,801	-874	0	0	58,913	43,437	62,802	99,794	10,409	89,385	513	475	1,094	561	102,437	58,913	10,409	6,516	**26,599**	1,419	**28,018**
25%	C	2014	9,198	0	679	0	0	1,291	32,975	-6,546	0	0	37,597	43,192	62,802	90,184	7,786	82,397	541	475	934	126	92,259	37,597	7,786	6,479	**40,397**	-8,173	**32,224**
18%	C	2015	6,551	0	0	0	0	5,938	32,110	-11,293	0	0	33,306	43,910	62,802	84,824	11,571	73,254	569	474	849	354	87,070	33,306	11,571	6,587	**35,607**	2,022	**37,629**
51%	D	2016	24,058	3,174	0	0	3,398	0	29,744	-500	0	0	59,875	43,568	62,802	93,077	17,770	75,307	597	474	991	269	95,408	59,875	17,770	6,535	**11,228**	4,100	**15,328**
275%	W	2017	42,340	4,452	28,724	0	34,251	7,093	26,620	-545	0	0	142,934	44,181	62,802	112,171	22,597	89,574	625	474	1,131	1,964	116,365	142,934	22,597	6,627	**-55,794**	15,477	**-40,317**
60%	BN	2018	14,277	0	4,939	0	6,880	7,870	27,020	0	0	0	60,986	43,778	62,802	97,111	12,029	85,082	625	473	1,023	430	99,663	60,986	12,029	6,567	**20,081**	600	**20,681**
177%	W	2019	48,697	0	22,356	0	20,175	0	31,992	0	0	0	123,220	44,238	62,802	101,515	21,917	79,597	625	473	1,106	2,342	106,061	123,220	21,917	6,636	**-45,712**	5,600	**-40,112**
55%	D	2020	10,548	3,045	5,582	0	11,386	0	31,556	0	0	0	62,117	44,233	62,802	85,490	17,901	67,589	625	473	956	396	87,940	62,117	17,901	6,635	**1,286**	1,252	**2,538**
22%	C	2021	2,558	0	1,483	0	0	0	30,260	0	0	0	34,301	44,308	62,802	92,945	9,368	83,577	625	473	772	166	94,981	34,301	9,368	6,646	**44,666**	-1,310	**43,356**
29%	C	2022	551	0	0	0	0	0	31,901	-7,744	0	0	24,708	43,494	62,802	92,278	12,562	79,716	625	473	712	320	94,408	24,708	12,562	6,524	**50,613**	-10,583	**40,030**
320%	W	2023	21,553	0	71,271	0	15,339	0	29,460	-28,930	0	0	108,693	44,200	62,802	88,794	21,975	66,819	625	473	1,011	1,395	92,297	108,693	21,975	6,630	**-45,001**	600	**-44,401**
Average (1995-2014)			**27,229**	**886**	**25,511**	**0**	**6,296**	**4,135**	**23,839**	**-2,013**	**0**	**0**	**85,883**	**42,522**	**62,802**	**106,039**	**16,885**	**89,154**	**369**	**479**	**1,164**	**366**	**108,418**	**85,883**	**16,885**	**6,378**	**-728**	**1,575**	**847**
Average (2015-2023)			**19,015**	**1,186**	**14,928**	**0**	**10,159**	**2,322**	**30,074**	**-5,446**	**0**	**0**	**72,238**	**43,990**	**62,802**	**94,245**	**16,410**	**77,835**	**616**	**473**	**950**	**848**	**97,132**	**72,238**	**16,410**	**6,599**	**1,886**	**1,973**	**3,859**
Average (1995-2023)			**24,680**	**979**	**22,227**	**0**	**7,495**	**3,573**	**25,774**	**-3,078**	**0**	**0**	**81,648**	**42,978**	**62,802**	**102,379**	**16,738**	**85,641**	**446**	**477**	**1,097**	**516**	**104,916**	**81,648**	**16,738**	**6,447**	**83**	**1,698**	**1,782**
Wet (W, AN)			**33,262**	**471**	**36,102**	**0**	**14,111**	**2,606**	**22,659**	**-4,033**	**0**	**0**	**105,177**	**42,940**	**62,802**	**106,574**	**22,111**	**84,463**	**401**	**475**	**1,161**	**781**	**109,392**	**105,177**	**22,111**	**6,441**	**-24,337**	**1,860**	**-22,478**
Dry (D, BN)			**22,154**	**1,791**	**15,384**	**0**	**3,766**	**5,232**	**27,385**	**-433**	**0**	**0**	**75,280**	**42,772**	**62,802**	**102,968**	**14,074**	**88,894**	**455**	**483**	**1,123**	**296**	**105,325**	**75,280**	**14,074**	**6,416**	**9,555**	**4,194**	**13,749**
Critically Dry (C)			**11,989**	**878**	**5,256**	**0**	**0**	**3,234**	**29,487**	**-4,705**	**0**	**0**	**46,139**	**43,311**	**62,802**	**93,831**	**10,183**	**83,647**	**518**	**476**	**946**	**306**	**96,076**	**46,139**	**10,183**	**6,497**	**33,258**	**-1,809**	**31,448**
Percent of Total			**30%**	**1%**	**27%**	**0%**	**9%**	**4%**	**32%**	**-4%**	**0%**	**0%**	**100%**	**68%**	**100%**		**16%**	**84%**	**48%**	**52%**			**100%**	**78%**	**16%**	**6%**	**0%**	**-2%**	**2%**

[1] Developed Land Area includes Irrigated and Fallow Agriculture, Urban, and Recharge Basins

[2] ETc Demand developed as the average of raw METRIC ITRC and adjusted METRIC ITRC - adjusted to account for a low bias in the ITRC METRIC data compared to LandIQ ET data

[3] Municipal and Industrial Water Supply is the total reported surface and groundwater supplied to major water purveyors

[4] Domestic, Industrial and Small Water System Supply is an estimated water use based on population outside of major water purveyor servide areas plus estimated water use from reported industrial water systems

[5] Total Demand = Crop Evapotranspiration + Urban Water Use + Water Surface Evaporation

[6] Native Yield Supply applies a planning-level assumption of 0.15 feet of sustainable groundwater use per developed acre within GSA.

[7] Net GSA Operational Deficit is a subtotal of the total water demands minus water supplies within the GSA used to estimate the GSA groundwater deficit for planning purposes.

[8] Water Banking Adjustment provides an accounting for Banking Return Obligations stored in the GSA and the Stored Surface Water at water banks in the Subbasin outside of the GSA

[9] The Water Bank Adjustment does not include surface water stored in the GSA for use by that GSA, which are considered conjunctive use projects and stored conjunctive usewater is already accounted for in the Total Water Supply.

[10] Net Subbasin Operational Deficit is an estimate the Subbasin groundwater deficit that includes the adjustment of GSA water banking operations within the Subbasin.

Eastside Water Management Area - GSA Operational Water Budget Summary

Kern River Percent of Average Natural Flow at First Point	San Joaquin Valley Water Year Index	Water Year	Managed Surface Water Inflows and Outflows											Operational Water Usage										Operational Water Budget Calculation						
			Managed Surface Water Inflows (acre-feet)							Managed Surface Water Outflows (acre-feet)			Net Inflow (acre-feet)	GSA Land Area (acre-feet)		Agricultural Usage (acre-feet)			Urban Water Use (acre-feet)		Water Surface Evaporation (acre-feet)									
			DWR State Water Project (SWP)	USBR Central Valley Project (CVP)	Kern River	Cross Valley Canal Local Supply	Poso Creek	Transfers Into GSA	Recycled, Produced, Reclaimed , Other Water Inflows	Transfers Out of GSA	Aqueduct or Friant-Kern Canal Pumpins	Water Export out of the Subbasin	Total Surface Water Supply	Developed Land Area[1]	GSA Land Area	Crop Evapotranspiration[2] (ETc)	Effective Precipitation (ETpr)	Applied Water Demand (ETaw)	Municipal & Industrial Water Use[3]	Domestic, Industrial and Small System Water Use[4]	Conveyance System Evaporation	Recharge Basin Evaporation	Total Demand[5] (acre-feet)	Total Surface Water Supply (acre-feet)	Effective Precipitation (ETpr) (acre-feet)	Native Yield Supply[6] (acre-feet)	Net GSA Operational Deficit[7] (SUBTOTAL) (acre-feet)	Water Banking Adjustment[8, 9] (acre-feet)	Net Subbasin Operational Deficit[10] (acre-feet)
190%	W	1995	0	0	0	0	0	0	0	0	0	0	0	2,472	39,266	6,293	2,181	4,112	0	108	0	0	6,401	0	2,181	371	**3,849**	0	**3,849**
136%	W	1996	0	0	0	0	0	0	0	0	0	0	0	2,492	39,266	5,433	1,181	4,252	0	103	0	0	5,536	0	1,181	374	**3,981**	0	**3,981**
175%	W	1997	0	0	0	0	0	0	0	0	0	0	0	3,178	39,266	6,293	1,808	4,485	0	99	0	0	6,392	0	1,808	477	**4,108**	0	**4,108**
237%	W	1998	0	0	0	0	0	0	0	0	0	0	0	4,271	39,266	7,142	2,858	4,285	0	95	0	0	7,237	0	2,858	641	**3,739**	0	**3,739**
70%	AN	1999	0	0	0	0	0	0	0	0	0	0	0	3,807	39,266	6,726	2,210	4,516	0	91	0	0	6,816	0	2,210	571	**4,036**	0	**4,036**
67%	AN	2000	0	0	0	0	0	0	0	0	0	0	0	3,020	39,266	4,319	934	3,385	0	86	0	0	4,405	0	934	453	**3,018**	0	**3,018**
53%	D	2001	0	0	0	0	0	0	0	0	0	0	0	2,951	39,266	4,603	1,001	3,602	0	91	0	0	4,694	0	1,001	443	**3,250**	0	**3,250**
51%	D	2002	0	0	0	0	0	0	0	0	0	0	0	3,040	39,266	4,740	831	3,908	0	96	0	0	4,835	0	831	456	**3,548**	0	**3,548**
83%	BN	2003	0	0	0	0	0	0	0	0	0	0	0	3,063	39,266	5,204	1,398	3,806	0	100	0	0	5,304	0	1,398	459	**3,447**	0	**3,447**
57%	D	2004	0	0	0	0	0	0	0	0	0	0	0	3,135	39,266	6,139	1,300	4,839	0	105	0	0	6,244	0	1,300	470	**4,474**	0	**4,474**
157%	W	2005	0	0	0	0	0	0	0	0	0	0	0	3,084	39,266	5,403	1,796	3,608	0	109	0	0	5,513	0	1,796	463	**3,254**	0	**3,254**
153%	W	2006	0	0	0	0	0	0	0	0	0	0	0	3,079	39,266	4,898	1,616	3,282	0	114	0	0	5,012	0	1,616	462	**2,934**	0	**2,934**
39%	C	2007	0	0	0	0	0	0	0	0	0	0	0	3,073	39,266	4,773	991	3,783	0	119	0	0	4,892	0	991	461	**3,441**	0	**3,441**
71%	C	2008	0	0	0	0	0	0	0	0	0	0	0	3,076	39,266	4,370	815	3,555	0	123	0	0	4,493	0	815	461	**3,217**	0	**3,217**
64%	BN	2009	0	0	0	0	0	0	0	0	0	0	0	3,088	39,266	3,611	657	2,955	0	128	0	0	3,739	0	657	463	**2,619**	0	**2,619**
113%	AN	2010	0	0	0	0	0	0	0	0	0	0	0	3,173	39,266	4,382	1,373	3,009	0	133	0	0	4,515	0	1,373	476	**2,666**	0	**2,666**
203%	W	2011	0	0	0	0	0	0	0	0	0	0	0	3,182	39,266	3,523	1,340	2,183	0	131	0	0	3,654	0	1,340	477	**1,837**	0	**1,837**
53%	D	2012	0	0	0	0	0	0	0	0	0	0	0	3,326	39,266	6,962	2,447	4,516	0	129	0	0	7,092	0	2,447	499	**4,146**	0	**4,146**
30%	C	2013	0	0	0	0	0	0	0	0	0	0	0	4,036	39,266	4,349	1,124	3,226	0	128	0	0	4,477	0	1,124	605	**2,748**	0	**2,748**
25%	C	2014	0	0	0	0	0	0	0	0	0	0	0	3,955	39,266	3,670	787	2,882	0	126	0	0	3,796	0	787	593	**2,415**	0	**2,415**
18%	C	2015	0	0	0	0	0	0	0	0	0	0	0	4,657	39,266	4,910	1,642	3,268	0	125	0	0	5,035	0	1,642	698	**2,694**	0	**2,694**
51%	D	2016	0	0	0	0	0	0	0	0	0	0	0	4,748	39,266	4,857	2,145	2,712	0	123	0	0	4,981	0	2,145	712	**2,123**	0	**2,123**
275%	W	2017	0	0	0	0	0	0	0	0	0	0	0	5,892	39,266	7,555	3,889	3,666	0	122	0	0	7,676	0	3,889	884	**2,904**	0	**2,904**
60%	BN	2018	0	0	0	0	0	0	0	0	0	0	0	6,413	39,266	4,633	1,657	2,975	0	120	0	0	4,753	0	1,657	962	**2,134**	0	**2,134**
177%	W	2019	0	0	0	0	0	0	0	0	0	0	0	7,112	39,266	7,256	3,684	3,572	0	119	0	0	7,375	0	3,684	1,067	**2,624**	0	**2,624**
55%	D	2020	0	0	0	0	0	0	0	0	0	0	0	7,225	39,266	8,241	4,370	3,871	0	117	0	0	8,358	0	4,370	1,084	**2,905**	0	**2,905**
22%	C	2021	0	0	0	0	0	0	1,646	0	0	0	1,646	7,290	39,266	8,883	2,639	6,244	0	117	0	0	9,000	1,646	2,639	1,093	**3,622**	0	**3,622**
29%	C	2022	0	0	0	0	0	0	1,000	0	0	0	1,000	7,290	39,266	10,221	2,937	7,283	0	117	0	0	10,338	1,000	2,937	1,094	**5,307**	0	**5,307**
320%	W	2023	0	0	0	0	0	0	871	0	0	0	871	7,635	39,266	11,700	4,635	7,065	0	117	0	0	11,817	871	4,635	1,145	**5,166**	0	**5,166**
Average (1995-2014)			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3,225**	**39,266**	**5,142**	**1,432**	**3,709**	**0**	**111**	**0**	**0**	**5,252**	**0**	**1,432**	**484**	**3,336**	**0**	**3,336**
Average (2015-2023)			**0**	**0**	**0**	**0**	**0**	**0**	**391**	**0**	**0**	**0**	**391**	**6,474**	**39,266**	**7,584**	**3,066**	**4,518**	**0**	**120**	**0**	**0**	**7,704**	**391**	**3,066**	**971**	**3,275**	**0**	**3,275**
Average (1995-2023)			**0**	**0**	**0**	**0**	**0**	**0**	**121**	**0**	**0**	**0**	**121**	**4,233**	**39,266**	**5,900**	**1,939**	**3,960**	**0**	**113**	**0**	**0**	**6,013**	**121**	**1,939**	**635**	**3,317**	**0**	**3,317**
Wet (W, AN)			**0**	**0**	**0**	**0**	**0**	**0**	**67**	**0**	**0**	**0**	**67**	**4,031**	**39,266**	**6,225**	**2,269**	**3,955**	**0**	**110**	**0**	**0**	**6,334**	**67**	**2,269**	**605**	**3,393**	**0**	**3,393**
Dry (D, BN)			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4,110**	**39,266**	**5,443**	**1,756**	**3,687**	**0**	**112**	**0**	**0**	**5,555**	**0**	**1,756**	**616**	**3,183**	**0**	**3,183**
Critically Dry (C)			**0**	**0**	**0**	**0**	**0**	**0**	**378**	**0**	**0**	**0**	**378**	**4,768**	**39,266**	**5,882**	**1,562**	**4,320**	**0**	**122**	**0**	**0**	**6,005**	**378**	**1,562**	**715**	**3,349**	**0**	**3,349**
Percent of Total			**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**100%**	**0%**	**0%**	**0%**	**100%**	**11%**	**100%**		**33%**	**67%**	**0%**	**100%**			**100%**	**2%**	**32%**	**11%**	**55%**	**0%**	**55%**

[1] Developed Land Area includes Irrigated and Fallow Agriculture, Urban, and Recharge Basins

[2] ETc Demand developed as the average of raw METRIC ITRC and adjusted METRIC ITRC - adjusted to account for a low bias in the ITRC METRIC data compared to LandIQ ET data

[3] Municipal and Industrial Water Supply is the total reported surface and groundwater supplied to major water purveyors

[4] Domestic, Industrial and Small Water System Supply is an estimated water use based on population outside of major water purveyor servide areas plus estimated water use from reported industrial water systems

[5] Total Demand = Crop Evapotranspiration + Urban Water Use + Water Surface Evaporation

[6] Native Yield Supply applies a planning-level assumption of 0.15 feet of sustainable groundwater use per developed acre within GSA.

[7] Net GSA Operational Deficit is a subtotal of the total water demands minus water supplies within the GSA used to estimate the GSA groundwater deficit for planning purposes.

[8] Water Banking Adjustment provides an accounting for Banking Return Obligations stored in the GSA and the Stored Surface Water at water banks in the Subbasin outside of the GSA

[9] The Water Bank Adjustment does not include surface water stored in the GSA for use by that GSA, which are considered conjunctive use projects and stored conjunctive usewater is already accounted for in the Total Water Supply.

[10] Net Subbasin Operational Deficit is an estimate the Subbasin groundwater deficit that includes the adjustment of GSA water banking operations within the Subbasin.

Henry Miller Water District GSA - GSA Operational Water Budget Summary

Kern River Percent of Average Natural Flow at First Point	San Joaquin Valley Water Year Index	Water Year	Managed Surface Water Inflows and Outflows										Operational Water Usage								Operational Water Budget Calculation						
			Managed Surface Water Inflows (acre-feet)							Managed Surface Water Outflows (acre-feet)			Net Inflow (acre-feet)	GSA Land Area (acre-feet)		Agricultural Usage (acre-feet)			Urban Water Use (acre-feet)		Water Surface Evaporation (acre-feet)							
			DWR State Water Project (SWP)	USBR Central Valley Project (CVP)	Kern River	Cross Valley Canal Local Supply	Poso Creek	Transfers Into GSA	Recycled, Produced, Reclaimed , Other Water Inflows	Transfers Out of GSA	Aqueduct or Friant-Kern Canal Pumpins	Water Export out of the Subbasin	Total Surface Water Supply	Developed Land Area [1]	GSA Land Area	Crop Evapotranspiration [2] (ETc)	Effective Precipitation (ETpr)	Applied Water Demand (ETaw)	Municipal & Industrial Water Use [3]	Domestic, Industrial and Small System Water Use [4]	Conveyance System Evaporation	Recharge Basin Evaporation	Total Demand [5] (acre-feet)	Total Surface Water Supply (acre-feet)	Effective Precipitation (ETpr) (acre-feet)	Native Yield Supply [6] (acre-feet)	Net GSA Operational Deficit [7] (SUBTOTAL) (acre-feet)	Water Banking Adjustment [8, 9] (acre-feet)	Net Subbasin Operational Deficit [10] (acre-feet)
190%	W	1995	12,072	0	18,433	0	0	0	0	0	0	0	30,505	23,287	26,051	63,032	13,210	49,822	0	30	305	0	63,367	30,505	13,210	3,493	**16,159**	-8,607	**7,552**
136%	W	1996	20,268	0	16,940	0	0	0	0	-27,142	0	0	10,066	23,287	26,051	68,279	10,660	57,620	0	30	372	0	68,681	10,066	10,660	3,493	**44,463**	3,413	**47,876**
175%	W	1997	16,112	0	34,472	0	0	0	0	0	0	0	50,584	23,487	26,051	56,454	6,569	49,885	0	30	506	0	56,990	50,584	6,569	3,523	**-3,686**	-12,928	**-16,614**
237%	W	1998	7,642	0	22,618	0	0	0	0	-9,273	0	0	20,987	23,489	26,051	58,237	15,836	42,401	0	30	295	0	58,562	20,987	15,836	3,523	**18,216**	-10,345	**7,871**
70%	AN	1999	20,163	0	33,695	0	0	0	0	-14,267	0	0	39,591	23,503	26,051	56,090	10,570	45,520	0	30	530	0	56,650	39,591	10,570	3,525	**2,963**	-2,099	**864**
67%	AN	2000	19,397	0	24,905	0	0	0	0	0	0	0	44,302	23,470	26,051	53,441	7,072	46,369	0	30	443	0	53,914	44,302	7,072	3,520	**-980**	-316	**-1,296**
53%	D	2001	14,726	0	16,653	0	0	0	0	0	0	0	31,379	23,497	26,051	54,017	7,399	46,618	0	30	314	0	54,361	31,379	7,399	3,525	**12,058**	-1,778	**10,280**
51%	D	2002	13,371	0	18,353	0	0	0	0	0	0	0	31,724	23,471	26,051	57,150	5,673	51,478	0	30	317	0	57,497	31,724	5,673	3,521	**16,580**	9,752	**26,332**
83%	BN	2003	12,544	0	21,397	0	0	0	0	0	0	0	33,941	23,348	26,051	50,660	6,744	43,916	0	30	339	0	51,029	33,941	6,744	3,502	**6,842**	-283	**6,559**
57%	D	2004	11,741	0	27,360	0	0	0	0	0	0	0	39,101	23,347	26,051	57,919	5,627	52,292	0	30	391	0	58,340	39,101	5,627	3,502	**10,110**	-3,289	**6,821**
157%	W	2005	11,547	0	27,701	0	0	0	0	0	0	0	39,248	23,324	26,051	51,307	9,496	41,810	0	30	392	0	51,729	39,248	9,496	3,499	**-514**	-9,717	**-10,231**
153%	W	2006	14,024	0	32,514	0	0	0	0	0	0	0	46,538	23,329	26,051	49,361	7,948	41,413	0	30	465	0	49,857	46,538	7,948	3,499	**-8,129**	-4,159	**-12,288**
39%	C	2007	19,057	0	29,425	0	0	0	0	-9,854	0	0	38,628	23,332	26,051	57,750	4,840	52,910	0	30	444	0	58,224	38,628	4,840	3,500	**11,257**	-1,285	**9,972**
71%	C	2008	7,304	0	10,852	0	0	0	0	0	0	0	18,156	23,331	26,051	47,689	2,908	44,780	0	30	182	0	47,900	18,156	2,908	3,500	**23,336**	-1,031	**22,305**
64%	BN	2009	8,887	0	3,242	0	0	0	0	0	0	0	12,129	23,331	26,051	34,895	3,457	31,438	0	30	121	0	35,046	12,129	3,457	3,500	**15,961**	-3,536	**12,425**
113%	AN	2010	11,909	0	17,785	0	0	0	0	0	0	0	29,694	23,277	26,051	41,982	7,479	34,503	0	30	297	0	42,309	29,694	7,479	3,491	**1,644**	0	**1,644**
203%	W	2011	11,357	0	28,285	0	0	0	0	0	0	0	39,642	23,297	26,051	40,476	8,799	31,677	0	30	396	0	40,902	39,642	8,799	3,495	**-11,033**	-806	**-11,839**
53%	D	2012	21,657	0	19,896	0	0	0	0	0	0	0	41,553	23,345	26,051	42,391	7,029	35,363	0	30	416	0	42,837	41,553	7,029	3,502	**-9,247**	-8,817	**-18,064**
30%	C	2013	11,787	0	6,746	0	0	0	0	0	0	0	18,533	23,405	26,051	40,783	4,726	36,056	0	30	185	0	40,998	18,533	4,726	3,511	**14,228**	998	**15,226**
25%	C	2014	1,394	0	852	0	0	0	0	0	0	0	2,246	23,405	26,051	26,662	2,352	24,310	0	30	22	0	26,715	2,246	2,352	3,511	**18,606**	-2,867	**15,739**
18%	C	2015	0	0	0	0	0	0	0	0	0	0	0	23,417	26,051	20,329	2,979	17,350	0	30	0	0	20,359	0	2,979	3,513	**13,867**	4,999	**18,866**
51%	D	2016	1,012	0	1,123	0	0	0	0	0	0	0	2,135	23,394	26,051	19,824	4,854	14,970	0	30	21	0	19,875	2,135	4,854	3,509	**9,377**	0	**9,377**
275%	W	2017	1,540	0	38,048	0	0	0	0	-4,511	0	0	35,077	23,437	26,051	18,720	3,836	14,884	0	30	396	0	19,146	35,077	3,836	3,516	**-23,282**	-15,815	**-39,097**
60%	BN	2018	3,330	0	93	0	0	0	0	0	0	0	3,423	23,463	26,051	8,599	1,785	6,814	0	30	23	0	8,652	3,423	1,785	3,519	**-76**	17,000	**16,924**
177%	W	2019	7,999	0	2,497	0	0	0	0	0	0	0	10,496	23,429	26,051	10,147	3,115	7,032	0	30	105	0	10,282	10,496	3,115	3,514	**-6,844**	-5,391	**-12,235**
55%	D	2020	382	0	2,329	0	0	0	0	0	0	0	2,711	23,410	26,051	9,076	3,871	5,204	0	30	27	0	9,133	2,711	3,871	3,511	**-961**	-6,869	**-7,830**
22%	C	2021	1,109	0	137	0	0	0	0	0	0	0	1,246	23,403	26,051	4,904	2,175	2,729	0	30	12	0	4,947	1,246	2,175	3,510	**-1,985**	-132	**-2,117**
29%	C	2022	1,731	0	399	0	0	0	0	0	0	0	2,130	23,281	26,051	5,947	2,516	3,431	0	30	21	0	5,998	2,130	2,516	3,492	**-2,140**	-4,354	**-6,494**
320%	W	2023	11,845	0	247	0	0	31,922	0	0	0	0	44,014	23,375	26,051	26,650	7,392	19,258	0	30	440	0	27,120	44,014	7,392	3,506	**-27,793**	-64,034	**-91,827**
Average (1995-2014)			**13,348**	**0**	**20,606**	**0**	**0**	**0**	**0**	**-3,027**	**0**	**0**	**30,927**	**23,378**	**26,051**	**50,429**	**7,420**	**43,009**	**0**	**30**	**337**	**0**	**50,795**	**30,927**	**7,420**	**3,507**	**8,942**	**-2,885**	**6,057**
Average (2015-2023)			**3,216**	**0**	**4,986**	**0**	**0**	**3,547**	**0**	**-501**	**0**	**0**	**11,248**	**23,401**	**26,051**	**13,799**	**3,614**	**10,186**	**0**	**30**	**116**	**0**	**13,946**	**11,248**	**3,614**	**3,510**	**-4,426**	**-8,288**	**-12,715**
Average (1995-2023)			**10,204**	**0**	**15,759**	**0**	**0**	**1,101**	**0**	**-2,243**	**0**	**0**	**24,820**	**23,385**	**26,051**	**39,061**	**6,238**	**32,823**	**0**	**30**	**268**	**0**	**39,359**	**24,820**	**6,238**	**3,508**	**4,793**	**-4,562**	**231**
Wet (W, AN)			**12,760**	**0**	**22,934**	**0**	**0**	**2,456**	**0**	**-4,246**	**0**	**0**	**33,903**	**23,384**	**26,051**	**45,706**	**8,614**	**37,092**	**0**	**30**	**380**	**0**	**46,116**	**33,903**	**8,614**	**3,508**	**91**	**-10,062**	**-9,971**
Dry (D, BN)			**9,739**	**0**	**12,272**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**22,011**	**23,401**	**26,051**	**37,170**	**5,160**	**32,010**	**0**	**30**	**219**	**0**	**37,419**	**22,011**	**5,160**	**3,510**	**6,738**	**242**	**6,981**
Critically Dry (C)			**6,055**	**0**	**6,916**	**0**	**0**	**0**	**0**	**-1,408**	**0**	**0**	**11,563**	**23,368**	**26,051**	**29,152**	**3,214**	**25,938**	**0**	**30**	**124**	**0**	**29,306**	**11,563**	**3,214**	**3,505**	**11,024**	**-525**	**10,500**
Percent of Total			**41%**	**0%**	**63%**	**0%**	**0%**	**4%**	**0%**	**-9%**	**0%**	**0%**	**100%**	**90%**	**100%**		**16%**	**84%**	**0%**	**100%**			**100%**	**63%**	**16%**	**9%**	**12%**	**12%**	**1%**

[1] Developed Land Area includes Irrigated and Fallow Agriculture, Urban, and Recharge Basins

[2] ETc Demand developed as the average of raw METRIC ITRC and adjusted METRIC ITRC - adjusted to account for a low bias in the ITRC METRIC data compared to LandIQ ET data

[3] Municipal and Industrial Water Supply is the total reported surface and groundwater supplied to major water purveyors

[4] Domestic, Industrial and Small Water System Supply is an estimated water use based on population outside of major water purveyor servide areas plus estimated water use from reported industrial water systems

[5] Total Demand = Crop Evapotranspiration + Urban Water Use + Water Surface Evaporation

[6] Native Yield Supply applies a planning-level assumption of 0.15 feet of sustainable groundwater use per developed acre within GSA.

[7] Net GSA Operational Deficit is a subtotal of the total water demands minus water supplies within the GSA used to estimate the GSA groundwater deficit for planning purposes.

[8] Water Banking Adjustment provides an accounting for Banking Return Obligations stored in the GSA and the Stored Surface Water at water banks in the Subbasin outside of the GSA

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[10] Net Subbasin Operational Deficit is an estimate the Subbasin groundwater deficit that includes the adjustment of GSA water banking operations within the Subbasin.

Kern River GSA - GSA Operational Water Budget Summary

Kern River Percent of Average Natural Flow at First Point	San Joaquin Valley Water Year Index	Water Year	Managed Surface Water Inflows and Outflows											Operational Water Usage									Operational Water Budget Calculation						
			Managed Surface Water Inflows (acre-feet)							Managed Surface Water Outflows (acre-feet)			Net Inflow (acre-feet)	GSA Land Area (acre-feet)		Agricultural Usage (acre-feet)			Urban Water Use (acre-feet)		Water Surface Evaporation (acre-feet)								
			DWR State Water Project (SWP)	USBR Central Valley Project (CVP)	Kern River	Cross Valley Canal Local Supply	Poso Creek	Transfers Into GSA	Recycled, Produced, Reclaimed , Other Water Inflows	Transfers Out of GSA	Aqueduct or Friant-Kern Canal Pumpins	Water Export out of the Subbasin	Total Surface Water Supply	Developed Land Area [1]	GSA Land Area	Crop Evapotranspiration [2] (ETc)	Effective Precipitation (ETpr)	Applied Water Demand (ETaw)	Municipal & Industrial Water Use [3]	Domestic, Industrial and Small System Water Use [4]	Conveyance System Evaporation	Recharge Basin Evaporation	Total Demand [5] (acre-feet)	Total Surface Water Supply (acre-feet)	Effective Precipitation (ETpr) (acre-feet)	Native Yield Supply [6] (acre-feet)	Net GSA Operational Deficit [7] (SUBTOTAL) (acre-feet)	Water Banking Adjustment [8, 9] (acre-feet)	Net Subbasin Operational Deficit [10] (acre-feet)
190%	W	1995	13,533	0	348,178	0	0	2,438	34,940	0	0	0	399,089	201,910	232,403	377,437	83,164	294,273	129,814	5,272	1,198	160	513,880	399,089	83,164	30,287	**1,340**	-91,576	**-90,236**
136%	W	1996	29,175	0	320,942	0	0	1,885	32,668	0	0	0	384,670	202,221	232,403	375,788	44,382	331,406	143,517	4,916	1,247	292	525,759	384,670	44,382	30,333	**66,374**	-68,096	**-1,722**
175%	W	1997	26,170	0	360,808	0	0	0	33,424	0	0	0	420,402	202,634	232,403	338,372	43,246	295,126	131,766	4,560	1,448	225	476,370	420,402	43,246	30,395	**-17,673**	-10,318	**-27,991**
237%	W	1998	13,622	0	335,759	0	0	411	36,065	0	0	0	385,857	201,767	232,403	324,122	92,322	231,800	106,646	4,204	1,063	663	436,698	385,857	92,322	30,265	**-71,745**	-50,324	**-122,069**
70%	AN	1999	30,053	0	251,470	0	0	302	30,657	0	0	0	312,482	202,298	232,403	320,452	49,370	271,082	143,736	3,847	1,031	280	469,346	312,482	49,370	30,345	**77,150**	-55,939	**21,211**
67%	AN	2000	32,774	0	241,505	0	0	1,018	37,596	0	0	0	312,893	207,334	232,403	327,337	37,469	289,868	148,425	3,491	1,038	551	480,842	312,893	37,469	31,100	**99,379**	-254,369	**-154,990**
53%	D	2001	10,284	0	193,031	0	0	2,221	33,523	0	0	0	239,059	207,065	232,403	312,235	38,134	274,101	150,452	3,547	947	129	467,310	239,059	38,134	31,060	**159,057**	290,276	**449,333**
51%	D	2002	14,322	0	203,778	0	0	729	34,783	0	0	0	253,612	206,774	232,403	325,976	26,139	299,837	155,322	3,602	1,020	43	485,963	253,612	26,139	31,016	**175,196**	31,579	**206,775**
83%	BN	2003	32,038	0	229,041	0	0	1,519	33,955	0	0	0	296,553	207,002	232,403	316,993	37,814	279,179	152,560	3,658	1,254	198	474,662	296,553	37,814	31,050	**109,246**	15,421	**124,667**
57%	D	2004	27,947	0	235,567	0	0	0	34,807	0	0	0	298,320	207,275	232,403	333,599	29,992	303,607	177,323	3,713	991	444	516,070	298,320	29,992	31,091	**156,666**	-5,326	**151,340**
157%	W	2005	16,566	0	357,287	0	0	558	35,305	0	0	0	409,716	205,765	232,403	297,724	57,380	240,344	152,646	3,769	1,151	417	455,706	409,716	57,380	30,865	**-42,255**	-31,694	**-73,949**
153%	W	2006	20,843	0	346,279	0	0	353	36,577	0	0	0	404,052	205,504	232,403	291,969	43,714	248,255	155,352	3,824	1,062	384	452,592	404,052	43,714	30,826	**-26,000**	-93,193	**-119,193**
39%	C	2007	14,521	0	203,506	0	0	574	36,750	0	0	-1,418	253,933	207,060	232,403	323,786	25,875	297,911	182,749	3,879	846	150	511,410	253,933	25,875	31,059	**200,544**	9,822	**210,366**
71%	C	2008	9,123	0	250,438	0	0	0	36,194	0	0	-9,140	286,614	205,472	232,403	314,604	17,308	297,296	188,496	3,935	923	51	508,009	286,614	17,308	30,821	**173,267**	33,031	**206,298**
64%	BN	2009	8,965	0	225,851	0	0	406	37,407	0	0	-14,697	257,932	205,746	232,403	304,510	26,115	278,394	176,191	3,990	746	51	485,488	257,932	26,115	30,862	**170,579**	9,709	**180,288**
113%	AN	2010	28,716	0	358,483	0	0	0	36,836	0	0	-4,466	419,569	205,005	232,403	269,520	39,292	230,228	173,923	4,046	1,218	528	449,235	419,569	39,292	30,751	**-40,377**	59,192	**18,815**
203%	W	2011	81,636	0	482,592	0	0	0	36,622	0	0	0	600,850	205,413	232,403	270,510	54,924	215,586	183,638	3,954	1,488	2,082	461,672	600,850	54,924	30,812	**-224,914**	47,739	**-177,175**
53%	D	2012	113,578	0	250,976	0	0	0	39,607	0	0	0	404,161	204,911	232,403	289,821	34,392	255,429	205,999	3,862	1,919	489	502,090	404,161	34,392	30,737	**32,801**	8,388	**41,189**
30%	C	2013	26,377	0	189,040	0	0	115	53,930	0	0	-1,500	267,962	209,164	232,403	302,750	26,283	276,467	183,686	3,770	1,066	50	491,322	267,962	26,283	31,375	**165,703**	25,085	**190,788**
25%	C	2014	1,000	0	172,954	0	0	0	45,295	0	0	-24,498	194,751	208,352	232,403	287,013	19,559	267,455	184,563	3,679	864	3	476,122	194,751	19,559	31,253	**230,559**	7,853	**238,412**
18%	C	2015	100	0	174,637	0	0	0	45,241	0	0	-33,527	186,451	208,596	232,403	266,587	29,909	236,678	152,894	3,587	704	2	423,774	186,451	29,909	31,289	**176,125**	-11,975	**164,150**
51%	D	2016	11,664	0	214,233	0	0	126	45,784	0	0	-4,139	267,668	208,864	232,403	248,500	38,157	210,344	151,862	3,495	1,099	1	404,958	267,668	38,157	31,330	**67,804**	-12,175	**55,629**
275%	W	2017	50,431	0	521,327	0	0	0	48,067	0	0	0	619,825	209,677	232,403	272,455	49,346	223,110	160,845	3,403	1,738	1,384	439,825	619,825	49,346	31,452	**-260,798**	-35,880	**-296,677**
60%	BN	2018	26,981	0	307,898	0	0	279	41,422	0	0	-1,634	374,945	209,517	232,403	256,339	30,687	225,652	155,441	3,312	1,448	276	416,816	374,945	30,687	31,428	**-20,244**	6,943	**-13,301**
177%	W	2019	62,649	0	411,017	0	0	0	42,382	0	0	0	516,048	209,973	232,403	276,697	51,290	225,407	140,152	3,220	1,303	2,963	424,335	516,048	51,290	31,496	**-174,499**	39,347	**-135,152**
55%	D	2020	15,485	0	295,186	0	0	0	47,843	0	0	-3,845	354,669	209,714	232,403	239,264	46,738	192,525	141,238	3,128	1,096	1,164	385,890	354,669	46,738	31,457	**-46,975**	-9,763	**-56,738**
22%	C	2021	3,593	0	142,223	0	0	0	66,051	-49,888	0	-5,623	156,355	209,975	232,403	272,400	23,969	248,431	139,264	3,128	683	45	415,520	156,355	23,969	31,496	**203,700**	3,083	**206,783**
29%	C	2022	0	0	152,871	0	0	0	43,961	-1,115	0	-10,155	185,562	208,991	232,403	275,706	29,286	246,421	141,054	3,128	892	284	421,064	185,562	29,286	31,349	**174,868**	-5,079	**169,789**
320%	W	2023	56,839	0	514,783	0	0	0	33,911	0	0	0	605,533	210,209	232,403	281,699	60,214	221,485	137,761	3,128	1,385	3,548	427,520	605,533	60,214	31,531	**-269,759**	-96,384	**-366,143**
Average (1995-2014)			**27,562**	**0**	**277,874**	**0**	**0**	**626**	**36,847**	**0**	**0**	**-2,786**	**340,124**	**205,434**	**232,403**	**315,226**	**41,344**	**273,882**	**161,340**	**3,976**	**1,126**	**359**	**482,027**	**340,124**	**41,344**	**30,815**	**69,745**	**-6,137**	**63,608**
Average (2015-2023)			**25,305**	**0**	**303,797**	**0**	**0**	**45**	**46,074**	**-5,667**	**0**	**-6,547**	**363,006**	**209,502**	**232,403**	**265,516**	**39,955**	**225,561**	**146,723**	**3,281**	**1,150**	**1,074**	**417,744**	**363,006**	**39,955**	**31,425**	**-16,642**	**-13,542**	**-30,184**
Average (1995-2023)			**26,862**	**0**	**285,919**	**0**	**0**	**446**	**39,710**	**-1,759**	**0**	**-3,953**	**347,225**	**206,696**	**232,403**	**299,799**	**40,913**	**258,886**	**156,804**	**3,760**	**1,133**	**581**	**462,078**	**347,225**	**40,913**	**31,004**	**42,935**	**-8,435**	**34,500**
Wet (W, AN)			**35,616**	**0**	**373,110**	**0**	**0**	**536**	**36,542**	**0**	**0**	**-344**	**445,461**	**205,362**	**232,403**	**309,545**	**54,316**	**255,228**	**146,786**	**3,972**	**1,259**	**1,037**	**462,598**	**445,461**	**54,316**	**30,804**	**-67,983**	**-49,346**	**-117,328**
Dry (D, BN)			**29,029**	**0**	**239,507**	**0**	**0**	**587**	**38,792**	**0**	**0**	**-2,702**	**305,213**	**207,430**	**232,403**	**291,915**	**34,241**	**257,674**	**162,932**	**3,590**	**1,169**	**311**	**459,916**	**305,213**	**34,241**	**31,114**	**89,348**	**37,228**	**126,576**
Critically Dry (C)			**7,816**	**0**	**183,667**	**0**	**0**	**98**	**46,774**	**-7,286**	**0**	**-12,266**	**218,804**	**208,230**	**232,403**	**291,835**	**24,598**	**267,237**	**167,529**	**3,587**	**854**	**84**	**463,889**	**218,804**	**24,598**	**31,234**	**189,252**	**8,831**	**198,083**
Percent of Total			**8%**	**0%**	**82%**	**0%**	**0%**	**0%**	**11%**	**-1%**	**0%**	**-1%**	**100%**	**89%**	**100%**		**14%**	**86%**	**98%**	**2%**			**100%**	**75%**	**9%**	**7%**	**9%**	**2%**	**7%**

[1] Developed Land Area includes Irrigated and Fallow Agriculture, Urban, and Recharge Basins

[2] ETc Demand developed as the average of raw METRIC ITRC and adjusted METRIC ITRC - adjusted to account for a low bias in the ITRC METRIC data compared to LandIQ ET data

[3] Municipal and Industrial Water Supply is the total reported surface and groundwater supplied to major water purveyors

[4] Domestic, Industrial and Small Water System Supply is an estimated water use based on population outside of major water purveyor servide areas plus estimated water use from reported industrial water systems

[5] Total Demand = Crop Evapotranspiration + Urban Water Use + Water Surface Evaporation

[6] Native Yield Supply applies a planning-level assumption of 0.15 feet of sustainable groundwater use per developed acre within GSA.

[7] Net GSA Operational Deficit is a subtotal of the total water demands minus water supplies within the GSA used to estimate the GSA groundwater deficit for planning purposes.

[8] Water Banking Adjustment provides an accounting for Banking Return Obligations stored in the GSA and the Stored Surface Water at water banks in the Subbasin outside of the GSA

[9] The Water Bank Adjustment does not include surface water stored in the GSA for use by that GSA, which are considered conjunctive use projects and stored conjunctive usewater is already accounted for in the Total Water Supply.

[10] Net Subbasin Operational Deficit is an estimate the Subbasin groundwater deficit that includes the adjustment of GSA water banking operations within the Subbasin.

Kern-Tulare Water District GSA - GSA Operational Water Budget Summary

Kern River Percent of Average Natural Flow at First Point	San Joaquin Valley Water Year Index	Water Year	Managed Surface Water Inflows and Outflows										Operational Water Usage								Operational Water Budget Calculation						
			Managed Surface Water Inflows (acre-feet)							Managed Surface Water Outflows (acre-feet)			Net Inflow (acre-feet)	GSA Land Area (acre-feet)		Agricultural Usage (acre-feet)			Urban Water Use (acre-feet)		Water Surface Evaporation (acre-feet)							
			DWR State Water Project (SWP)	USBR Central Valley Project (CVP)	Kern River	Cross Valley Canal Local Supply	Poso Creek	Transfers Into GSA	Recycled, Produced, Reclaimed , Other Water Inflows	Transfers Out of GSA	Aqueduct or Friant-Kern Canal Pumpins	Water Export out of the Subbasin	Total Surface Water Supply	Developed Land Area [1]	GSA Land Area	Crop Evapotranspiration [2] (ETc)	Effective Precipitation (ETpr)	Applied Water Demand (ETaw)	Municipal & Industrial Water Use [3]	Domestic, Industrial and Small System Water Use [4]	Conveyance System Evaporation	Recharge Basin Evaporation	Total Demand [5] (acre-feet)	Total Surface Water Supply (acre-feet)	Effective Precipitation (ETpr) (acre-feet)	Native Yield Supply [6] (acre-feet)	Net GSA Operational Deficit [7] (SUBTOTAL) (acre-feet)	Water Banking Adjustment [8, 9] (acre-feet)	Net Subbasin Operational Deficit [10] (acre-feet)
190%	W	1995	0	24,585	0	0	0	0	380	-307	0	0	24,659	10,897	11,270	33,358	9,635	23,723	0	66	290	0	33,715	24,659	9,635	1,635	**-2,213**	0	**-2,213**
136%	W	1996	0	25,876	0	0	0	0	378	-307	0	0	25,946	10,897	11,270	32,700	5,340	27,359	0	61	383	0	33,144	25,946	5,340	1,635	**223**	0	**223**
175%	W	1997	0	27,686	0	0	0	0	351	-307	0	0	27,730	11,111	11,270	27,989	5,422	22,567	0	56	373	0	28,419	27,730	5,422	1,667	**-6,400**	0	**-6,400**
237%	W	1998	0	22,591	0	0	0	0	307	-307	0	0	22,591	11,080	11,270	30,761	10,465	20,296	0	52	278	0	31,090	22,591	10,465	1,662	**-3,627**	0	**-3,627**
70%	AN	1999	0	24,987	0	0	0	1,781	237	-307	0	0	26,699	10,974	11,270	27,182	5,738	21,444	0	47	344	0	27,572	26,699	5,738	1,646	**-6,510**	0	**-6,510**
67%	AN	2000	0	26,991	0	0	0	2,299	265	-307	0	0	29,248	10,934	11,270	30,450	5,765	24,686	0	42	376	0	30,867	29,248	5,765	1,640	**-5,785**	0	**-5,785**
53%	D	2001	0	29,117	0	0	0	209	251	-307	0	0	29,271	10,996	11,270	30,757	5,015	25,743	0	41	384	0	31,182	29,271	5,015	1,649	**-4,752**	-782	**-5,535**
51%	D	2002	0	25,004	0	0	0	0	251	-307	0	0	24,948	10,995	11,270	31,370	4,327	27,043	0	40	324	0	31,734	24,948	4,327	1,649	**810**	0	**810**
83%	BN	2003	0	22,405	0	0	0	1,898	172	-307	0	0	24,168	10,968	11,270	29,239	4,967	24,272	0	39	311	0	29,589	24,168	4,967	1,645	**-1,191**	0	**-1,191**
57%	D	2004	0	25,179	0	0	0	0	278	-307	0	0	25,150	10,979	11,270	30,029	4,192	25,838	0	38	336	0	30,403	25,150	4,192	1,647	**-585**	0	**-585**
157%	W	2005	0	20,087	0	0	0	1,749	230	-307	0	0	21,759	10,938	11,270	26,356	7,560	18,796	0	37	288	0	26,681	21,759	7,560	1,641	**-4,279**	-32,029	**-36,308**
153%	W	2006	0	21,493	0	0	0	1,730	184	-307	0	0	23,100	10,947	11,270	26,943	7,057	19,885	0	36	304	0	27,282	23,100	7,057	1,642	**-4,517**	-2,820	**-7,337**
39%	C	2007	0	23,208	0	0	0	219	311	-307	0	0	23,430	10,931	11,270	28,969	4,276	24,693	0	35	315	0	29,320	23,430	4,276	1,640	**-27**	9,855	**9,828**
71%	C	2008	0	24,319	0	0	0	0	591	-655	0	0	24,255	10,889	11,270	26,286	3,531	22,754	0	34	335	0	26,654	24,255	3,531	1,633	**-2,765**	0	**-2,765**
64%	BN	2009	0	21,435	0	0	0	1,745	658	-293	0	0	23,545	10,881	11,270	22,973	3,386	19,587	0	33	306	0	23,312	23,545	3,386	1,632	**-5,252**	-2,238	**-7,489**
113%	AN	2010	0	19,909	0	0	0	134	645	-389	0	0	20,298	10,872	11,270	25,593	6,094	19,499	0	32	274	0	25,899	20,298	6,094	1,631	**-2,124**	-13,689	**-15,813**
203%	W	2011	0	20,236	0	0	0	0	789	-301	0	0	20,724	10,862	11,270	26,277	8,294	17,983	0	32	273	0	26,581	20,724	8,294	1,629	**-4,066**	-4,241	**-8,307**
53%	D	2012	0	21,660	0	0	0	0	1,120	-314	0	0	22,466	10,870	11,270	34,858	6,006	28,852	0	31	289	0	35,178	22,466	6,006	1,630	**5,076**	-5,293	**-217**
30%	C	2013	0	22,342	0	0	0	0	423	-242	0	0	22,523	10,973	11,270	23,956	3,420	20,536	0	30	299	0	24,285	22,523	3,420	1,646	**-3,304**	11,400	**8,096**
25%	C	2014	0	14,273	0	0	0	0	824	-193	0	0	14,904	10,976	11,270	25,216	2,866	22,351	0	29	197	0	25,443	14,904	2,866	1,646	**6,026**	11,363	**17,390**
18%	C	2015	0	8,951	0	0	0	0	1,568	-45	0	0	10,473	10,991	11,270	25,253	3,923	21,330	0	29	122	0	25,405	10,473	3,923	1,649	**9,360**	10,537	**19,897**
51%	D	2016	0	16,885	0	0	0	0	1,494	-114	0	0	18,264	10,991	11,270	28,146	6,142	22,004	0	28	244	0	28,418	18,264	6,142	1,649	**2,362**	5,984	**8,346**
275%	W	2017	0	19,925	0	0	0	0	1,804	-9	0	0	21,720	11,070	11,270	35,176	8,166	27,009	0	27	292	0	35,495	21,720	8,166	1,660	**3,948**	-16,123	**-12,175**
60%	BN	2018	0	20,069	0	0	0	0	2,481	-19	0	0	22,532	11,047	11,270	28,412	4,069	24,344	0	27	293	0	28,732	22,532	4,069	1,657	**475**	-16,544	**-16,069**
177%	W	2019	0	19,922	0	0	0	0	2,726	-48	0	0	22,600	11,047	11,270	30,921	7,709	23,212	0	26	296	0	31,242	22,600	7,709	1,657	**-724**	-23,808	**-24,532**
55%	D	2020	0	16,913	0	0	0	0	2,629	-42	0	0	19,500	11,048	11,270	24,291	5,779	18,512	0	25	255	0	24,571	19,500	5,779	1,657	**-2,365**	8,646	**6,281**
22%	C	2021	0	10,717	0	0	0	364	2,575	-8	0	0	13,648	11,041	11,270	27,003	3,222	23,781	0	25	157	0	27,185	13,648	3,222	1,656	**8,659**	10,518	**19,177**
29%	C	2022	0	11,886	0	0	0	408	2,725	-48	0	0	14,971	11,039	11,270	29,317	4,530	24,787	0	25	183	0	29,526	14,971	4,530	1,656	**8,369**	9,717	**18,086**
320%	W	2023	0	15,674	0	0	0	165	2,755	-8	0	0	18,586	11,045	11,270	27,640	8,080	19,560	0	25	228	0	27,893	18,586	8,080	1,657	**-430**	-8,204	**-8,634**
Average (1995-2014)			**0**	**23,169**	**0**	**0**	**0**	**588**	**432**	**-319**	**0**	**0**	**23,871**	**10,949**	**11,270**	**28,563**	**5,668**	**22,895**	**0**	**41**	**314**	**0**	**28,918**	**23,871**	**5,668**	**1,642**	**-2,263**	**-1,424**	**-3,687**
Average (2015-2023)			**0**	**15,660**	**0**	**0**	**0**	**104**	**2,306**	**-38**	**0**	**0**	**18,033**	**11,035**	**11,270**	**28,462**	**5,736**	**22,727**	**0**	**26**	**230**	**0**	**28,719**	**18,033**	**5,736**	**1,655**	**3,295**	**-2,142**	**1,153**
Average (1995-2023)			**0**	**20,839**	**0**	**0**	**0**	**438**	**1,014**	**-232**	**0**	**0**	**22,059**	**10,976**	**11,270**	**28,532**	**5,689**	**22,843**	**0**	**36**	**288**	**0**	**28,856**	**22,059**	**5,689**	**1,646**	**-538**	**-1,647**	**-2,185**
Wet (W, AN)			**0**	**22,305**	**0**	**0**	**0**	**604**	**850**	**-247**	**0**	**0**	**23,512**	**10,975**	**11,270**	**29,334**	**7,333**	**22,001**	**0**	**41**	**307**	**0**	**29,683**	**23,512**	**7,333**	**1,646**	**-2,808**	**-7,763**	**-10,571**
Dry (D, BN)			**0**	**22,074**	**0**	**0**	**0**	**428**	**1,037**	**-223**	**0**	**0**	**23,316**	**10,975**	**11,270**	**28,897**	**4,876**	**24,022**	**0**	**33**	**305**	**0**	**29,235**	**23,316**	**4,876**	**1,646**	**-602**	**-1,136**	**-1,739**
Critically Dry (C)			**0**	**16,528**	**0**	**0**	**0**	**142**	**1,288**	**-214**	**0**	**0**	**17,743**	**10,977**	**11,270**	**26,572**	**3,681**	**22,890**	**0**	**30**	**230**	**0**	**26,831**	**17,743**	**3,681**	**1,647**	**3,760**	**9,056**	**12,815**
Percent of Total			**0%**	**94%**	**0%**	**0%**	**0%**	**2%**	**5%**	**-1%**	**0%**	**0%**	**100%**	**97%**	**100%**		**20%**	**80%**	**0%**	**100%**			**100%**	**76%**	**20%**	**6%**	**-2%**	**6%**	**-8%**

[1] Developed Land Area includes Irrigated and Fallow Agriculture, Urban, and Recharge Basins

[2] ETc Demand developed as the average of raw METRIC ITRC and adjusted METRIC ITRC - adjusted to account for a low bias in the ITRC METRIC data compared to LandIQ ET data

[3] Municipal and Industrial Water Supply is the total reported surface and groundwater supplied to major water purveyors

[4] Domestic, Industrial and Small Water System Supply is an estimated water use based on population outside of major water purveyor servide areas plus estimated water use from reported industrial water systems

[5] Total Demand = Crop Evapotranspiration + Urban Water Use + Water Surface Evaporation

[6] Native Yield Supply applies a planning-level assumption of 0.15 feet of sustainable groundwater use per developed acre within GSA.

[7] Net GSA Operational Deficit is a subtotal of the total water demands minus water supplies within the GSA used to estimate the GSA groundwater deficit for planning purposes.

[8] Water Banking Adjustment provides an accounting for Banking Return Obligations stored in the GSA and the Stored Surface Water at water banks in the Subbasin outside of the GSA

[9] The Water Bank Adjustment does not include surface water stored in the GSA for use by that GSA, which are considered conjunctive use projects and stored conjunctive usewater is already accounted for in the Total Water Supply.

[10] Net Subbasin Operational Deficit is an estimate the Subbasin groundwater deficit that includes the adjustment of GSA water banking operations within the Subbasin.

North Kern Water Storage District GSA - GSA Operational Water Budget Summary

Kern River Percent of Average Natural Flow at First Point	San Joaquin Valley Water Year Index	Water Year	Managed Surface Water Inflows and Outflows										Operational Water Usage										Operational Water Budget Calculation						
			Managed Surface Water Inflows (acre-feet)							Managed Surface Water Outflows (acre-feet)			Net Inflow (acre-feet)	GSA Land Area (acre-feet)		Agricultural Usage (acre-feet)			Urban Water Use (acre-feet)		Water Surface Evaporation (acre-feet)									
			DWR State Water Project (SWP)	USBR Central Valley Project (CVP)	Kern River	Cross Valley Canal Local Supply	Poso Creek	Transfers Into GSA	Recycled, Produced, Reclaimed , Other Water Inflows	Transfers Out of GSA	Aqueduct or Friant-Kern Canal Pumpins	Water Export out of the Subbasin	Total Surface Water Supply	Developed Land Area[1]	GSA Land Area	Crop Evapotranspiration[2] (ETc)	Effective Precipitation (ETpr)	Applied Water Demand (ETaw)	Municipal & Industrial Water Use[3]	Domestic, Industrial and Small System Water Use[4]	Conveyance System Evaporation	Recharge Basin Evaporation	Total Demand[5] (acre-feet)	Total Surface Water Supply (acre-feet)	Effective Precipitation (ETpr) (acre-feet)	Native Yield Supply[6] (acre-feet)	Net GSA Operational Deficit[7] (SUBTOTAL) (acre-feet)	Water Banking Adjustment[8, 9] (acre-feet)	Net Subbasin Operational Deficit[10] (acre-feet)
190%	W	1995	0	21,111	245,017	6,324	18,429	52,576	10,535	-25,917	0	-3,262	324,813	64,542	67,400	191,813	40,860	150,953	1,226	473	1,152	8,997	203,660	324,813	40,860	9,681	**-171,693**	17,190	**-154,503**
136%	W	1996	0	3,419	236,282	796	9,076	53,532	8,339	-5,728	0	-4,726	300,990	64,749	67,400	195,539	21,060	174,479	1,226	414	1,082	6,197	204,457	300,990	21,060	9,712	**-127,305**	-5,224	**-132,529**
175%	W	1997	0	3,871	212,264	0	19,656	56,831	2,649	0	0	-4,261	291,010	64,592	67,400	169,046	24,061	144,985	1,226	355	972	6,123	177,721	291,010	24,061	9,689	**-147,039**	4,957	**-142,082**
237%	W	1998	0	3,877	301,281	0	25,761	40,725	2,491	-8,265	0	-318	365,552	64,518	67,400	170,038	49,692	120,346	1,534	296	810	11,788	184,466	365,552	49,692	9,678	**-240,456**	-238	**-240,694**
70%	AN	1999	0	5,175	112,478	59,650	11,027	38,821	2,248	-2,081	0	-1,128	226,190	64,531	67,400	152,801	23,986	128,815	1,771	237	815	4,145	159,769	226,190	23,986	9,680	**-100,087**	56,131	**-43,956**
67%	AN	2000	0	0	94,676	30,140	3,693	33,953	4,071	-24,938	0	-902	140,693	64,790	67,400	166,556	19,414	147,142	1,854	178	888	10	169,486	140,693	19,414	9,718	**-339**	2,390	**2,051**
53%	D	2001	0	0	65,312	0	0	29,913	3,564	-19,084	0	-820	78,885	64,740	67,400	179,463	21,996	157,467	1,901	208	859	0	182,431	78,885	21,996	9,711	**71,839**	-12,400	**59,439**
51%	D	2002	0	0	64,555	10,053	0	28,407	2,048	-38,191	0	-3,141	63,731	64,747	67,400	176,813	14,333	162,481	1,948	237	801	0	179,800	63,731	14,333	9,712	**92,024**	-26,446	**65,578**
83%	BN	2003	0	2,779	105,203	7,397	0	35,543	913	-40,739	0	-458	110,638	64,574	67,400	163,782	17,659	146,123	2,039	267	881	22	166,992	110,638	17,659	9,686	**29,009**	-11,124	**17,885**
57%	D	2004	0	0	89,338	6,567	0	22,397	1,313	-13,445	0	-1,131	105,039	64,842	67,400	180,942	15,114	165,828	1,967	297	989	182	184,377	105,039	15,114	9,726	**54,498**	-14,676	**39,822**
157%	W	2005	0	61,467	170,041	14,886	0	51,801	1,740	-22,097	0	0	277,838	64,437	67,400	161,362	32,580	128,782	1,962	326	1,415	4,454	169,519	277,838	32,580	9,666	**-150,564**	41,651	**-108,913**
153%	W	2006	0	31,089	238,217	20,308	0	49,126	6,016	-8,331	0	-723	335,702	64,415	67,400	166,642	30,154	136,488	2,033	356	1,034	8,322	178,386	335,702	30,154	9,662	**-197,132**	103,691	**-93,441**
39%	C	2007	0	58,033	69,775	16,052	0	37,219	3,523	-21,951	0	-2,869	159,782	64,502	67,400	167,136	13,044	154,092	2,004	386	858	4,828	175,211	159,782	13,044	9,675	**-7,290**	13,834	**6,544**
71%	C	2008	0	0	80,017	0	0	23,729	1,193	-17,218	0	-10,317	77,404	64,305	67,400	168,556	11,610	156,946	2,197	415	801	0	171,970	77,404	11,610	9,646	**73,310**	-44,380	**28,930**
64%	BN	2009	0	688	85,201	0	0	21,675	1,249	-23,967	0	-9,885	74,961	64,493	67,400	166,585	13,297	153,287	1,932	445	865	156	169,983	74,961	13,297	9,674	**72,051**	-19,279	**52,772**
113%	AN	2010	0	33,970	163,167	0	0	26,860	1,248	-23,804	0	-2,468	198,973	64,380	67,400	180,104	26,850	153,255	1,960	474	1,645	1,103	185,286	198,973	26,850	9,657	**-50,194**	952	**-49,242**
203%	W	2011	0	14,399	316,840	165	9,859	33,329	1,220	-25,857	0	-471	349,484	64,257	67,400	181,584	37,533	144,051	2,107	483	1,632	8,855	194,661	349,484	37,533	9,639	**-201,994**	17,925	**-184,069**
53%	D	2012	0	21,022	139,835	2,759	0	667	1,174	-13,870	0	-19,491	132,096	64,464	67,400	210,388	21,609	188,779	2,064	491	1,425	3,637	218,005	132,096	21,609	9,670	**54,631**	-17,744	**36,887**
30%	C	2013	0	0	35,936	10,533	0	2,977	1,147	-9,327	0	-15,394	25,872	64,799	67,400	182,957	14,038	168,919	2,018	499	1,505	305	187,284	25,872	14,038	9,720	**137,654**	-20,139	**117,515**
25%	C	2014	0	0	15,302	698	0	2,454	1,138	968	0	-16,026	4,534	64,790	67,400	180,018	10,034	169,984	1,955	507	1,171	0	183,651	4,534	10,034	9,718	**159,365**	-16,576	**142,789**
18%	C	2015	0	0	13,897	0	0	1,839	1,574	1,901	0	-9,286	9,925	64,926	67,400	165,888	15,443	150,445	1,900	516	1,278	286	169,868	9,925	15,443	9,739	**134,761**	-11,284	**123,477**
51%	D	2016	0	0	49,136	0	256	3,470	9,978	0	0	-2,273	60,567	64,799	67,400	170,827	24,165	146,662	1,846	524	1,026	613	174,836	60,567	24,165	9,720	**80,384**	2,155	**82,539**
275%	W	2017	0	33,441	224,149	0	36,617	99,586	3,723	-20,668	0	-5,922	370,926	64,824	67,400	203,787	31,411	172,376	2,011	532	2,096	9,868	218,294	370,926	31,411	9,724	**-193,767**	46,935	**-146,832**
60%	BN	2018	0	0	101,009	0	0	45,567	10,447	-5,751	0	-7,843	143,429	64,810	67,400	172,255	13,864	158,391	2,025	540	1,671	1,170	177,661	143,429	13,864	9,721	**10,647**	41,933	**52,580**
177%	W	2019	0	0	178,285	0	10,014	139,062	9,942	-25,363	0	-2,040	309,900	64,793	67,400	172,268	29,557	142,711	2,019	548	1,363	8,632	184,831	309,900	29,557	9,719	**-164,345**	56,376	**-107,969**
55%	D	2020	0	0	72,380	0	0	20,592	10,389	0	0	-18,090	85,271	64,814	67,400	147,945	25,508	122,437	2,043	557	1,092	1,759	153,396	85,271	25,508	9,722	**32,895**	-16,127	**16,768**
22%	C	2021	0	0	22,258	0	0	914	10,023	-726	0	-17,783	14,686	64,791	67,400	169,091	12,605	156,486	2,095	557	1,074	293	173,109	14,686	12,605	9,719	**136,099**	-17,363	**118,736**
29%	C	2022	0	0	20,296	0	0	16,505	10,543	0	0	-15,192	32,152	64,791	67,400	165,212	17,008	148,204	1,978	557	1,449	1,054	170,249	32,152	17,008	9,719	**111,371**	-24,430	**86,941**
320%	W	2023	0	0	141,808	0	6,298	175,282	9,130	0	0	-1,354	331,164	64,811	67,400	166,236	33,335	132,900	1,978	557	1,433	613	170,816	331,164	33,335	9,722	**-203,405**	29,036	**-174,369**
Average (1995-2014)			**0**	**13,045**	**142,037**	**9,316**	**4,875**	**32,127**	**2,891**	**-17,192**	**0**	**-4,890**	**182,209**	**64,573**	**67,400**	**175,606**	**22,946**	**152,660**	**1,846**	**367**	**1,080**	**3,456**	**182,356**	**182,209**	**22,946**	**9,686**	**-32,486**	**3,525**	**-28,961**
Average (2015-2023)			**0**	**3,716**	**91,469**	**0**	**5,909**	**55,869**	**8,417**	**-5,623**	**0**	**-8,865**	**150,891**	**64,818**	**67,400**	**170,390**	**22,544**	**147,846**	**1,988**	**543**	**1,387**	**2,699**	**177,007**	**150,891**	**22,544**	**9,723**	**-6,151**	**11,915**	**5,763**
Average (1995-2023)			**0**	**10,150**	**126,343**	**6,425**	**5,196**	**39,495**	**4,606**	**-13,602**	**0**	**-6,123**	**172,490**	**64,649**	**67,400**	**173,987**	**22,821**	**151,166**	**1,890**	**422**	**1,175**	**3,221**	**180,696**	**172,490**	**22,821**	**9,697**	**-24,313**	**6,128**	**-18,184**
Wet (W, AN)			**0**	**16,294**	**202,654**	**10,175**	**11,572**	**65,499**	**4,873**	**-14,850**	**0**	**-2,121**	**294,095**	**64,588**	**67,400**	**175,214**	**30,807**	**144,406**	**1,762**	**402**	**1,257**	**6,085**	**184,719**	**294,095**	**30,807**	**9,688**	-149,871	**28,598**	-121,273
Dry (D, BN)			**0**	**2,721**	**85,774**	**2,975**	**28**	**23,137**	**4,564**	**-17,227**	**0**	**-7,015**	**94,957**	**64,698**	**67,400**	**174,333**	**18,616**	**155,717**	**1,974**	**396**	**1,068**	**838**	**178,609**	**94,957**	**18,616**	**9,705**	**55,331**	**-8,190**	**47,141**
Critically Dry (C)			**0**	**8,290**	**36,783**	**3,898**	**0**	**12,234**	**4,163**	**-6,622**	**0**	**-12,410**	**46,336**	**64,700**	**67,400**	**171,265**	**13,397**	**157,868**	**2,021**	**491**	**1,162**	**966**	**175,906**	**46,336**	**13,397**	**9,705**	**106,467**	**-17,191**	**89,276**
Percent of Total			**0%**	**6%**	**73%**	**4%**	**3%**	**23%**	**3%**	**-8%**	**0%**	**-4%**	**100%**	**96%**	**100%**		**13%**	**87%**	**82%**	**18%**			**100%**	**95%**	**13%**	**5%**	**-13%**	**-3%**	**-10%**

[1] Developed Land Area includes Irrigated and Fallow Agriculture, Urban, and Recharge Basins

[2] ETc Demand developed as the average of raw METRIC ITRC and adjusted METRIC ITRC - adjusted to account for a low bias in the ITRC METRIC data compared to LandIQ ET data

[3] Municipal and Industrial Water Supply is the total reported surface and groundwater supplied to major water purveyors

[4] Domestic, Industrial and Small Water System Supply is an estimated water use based on population outside of major water purveyor servide areas plus estimated water use from reported industrial water systems

[5] Total Demand = Crop Evapotranspiration + Urban Water Use + Water Surface Evaporation

[6] Native Yield Supply applies a planning-level assumption of 0.15 feet of sustainable groundwater use per developed acre within GSA.

[7] Net GSA Operational Deficit is a subtotal of the total water demands minus water supplies within the GSA used to estimate the GSA groundwater deficit for planning purposes.

[8] Water Banking Adjustment provides an accounting for Banking Return Obligations stored in the GSA and the Stored Surface Water at water banks in the Subbasin outside of the GSA

[9] The Water Bank Adjustment does not include surface water stored in the GSA for use by that GSA, which are considered conjunctive use projects and stored conjunctive usewater is already accounted for in the Total Water Supply.

[10] Net Subbasin Operational Deficit is an estimate the Subbasin groundwater deficit that includes the adjustment of GSA water banking operations within the Subbasin.

Olcese Water District GSA - GSA Operational Water Budget Summary

Kern River Percent of Average Natural Flow at First Point	San Joaquin Valley Water Year Index	Water Year	Managed Surface Water Inflows and Outflows										Operational Water Usage								Operational Water Budget Calculation						
			Managed Surface Water Inflows (acre-feet)							Managed Surface Water Outflows (acre-feet)			Net Inflow (acre-feet)	GSA Land Area (acre-feet)		Agricultural Usage (acre-feet)			Urban Water (acre-feet)		Water Surface Evaporation (acre-feet)							
			DWR State Water Project (SWP)	USBR Central Valley Project (CVP)	Kern River	Cross Valley Canal Local Supply	Poso Creek	Transfers Into GSA	Recycled, Produced, Reclaimed , Other Water Inflows	Transfers Out of GSA	Aqueduct or Friant-Kern Canal Pumpins	Water Export out of the Subbasin	Total Surface Water Supply	Developed Land Area[1]	GSA Land Area	Crop Evapotranspiration[2] (ETc)	Effective Precipitation (ETpr)	Applied Water Demand (ETaw)	Municipal & Industrial Water Use[3]	Domestic, Industrial and Small System Water Use[4]	Conveyance System Evaporation	Recharge Basin Evaporation	Total Demand[5] (acre-feet)	Total Surface Water Supply (acre-feet)	Effective Precipitation (ETpr) (acre-feet)	Native Yield on Developed Area[6] (acre-feet)	Net GSA Operational Deficit[7] (SUBTOTAL) (acre-feet)	Water Banking Adjustment[8, 9] (acre-feet)	Net Subbasin Operational Deficit[10] (acre-feet)
190%	W	1995	0	0	2,681	0	0	0	0	-229	0	-759	1,693	1,308	3,203	3,481	1,049	2,432	490	0	0	0	3,971	1,693	1,049	196	**1,033**	0	**1,033**
136%	W	1996	0	0	3,314	0	0	0	0	-420	0	-721	2,173	1,308	3,203	3,173	542	2,631	490	0	0	0	3,663	2,173	542	196	**752**	0	**752**
175%	W	1997	0	0	2,952	0	0	0	0	-346	0	-588	2,018	1,362	3,203	2,655	478	2,177	490	0	0	0	3,145	2,018	478	204	**445**	0	**445**
237%	W	1998	0	0	1,536	0	0	0	0	-123	0	-679	734	1,370	3,203	2,514	1,004	1,511	490	0	0	0	3,004	734	1,004	206	**1,061**	0	**1,061**
70%	AN	1999	0	0	1,972	0	0	0	254	-278	0	-748	1,200	1,372	3,203	2,160	673	1,487	490	0	0	0	2,650	1,200	673	206	**571**	0	**571**
67%	AN	2000	0	0	2,864	0	0	0	218	-326	0	-756	2,001	1,445	3,203	1,835	406	1,429	643	0	0	0	2,478	2,001	406	217	**-145**	0	**-145**
53%	D	2001	0	0	3,392	0	0	0	69	-365	0	-775	2,321	1,443	3,203	1,803	429	1,374	775	0	0	0	2,578	2,321	429	216	**-389**	0	**-389**
51%	D	2002	0	0	3,495	0	0	0	112	-384	0	-793	2,431	1,441	3,203	2,207	308	1,899	793	0	0	0	3,001	2,431	308	216	**46**	0	**46**
83%	BN	2003	0	0	3,396	0	0	0	574	-413	0	-778	2,779	1,428	3,203	1,858	487	1,371	778	0	0	0	2,636	2,779	487	214	**-845**	0	**-845**
57%	D	2004	0	0	3,470	0	0	0	265	-398	0	-979	2,358	1,435	3,203	2,418	412	2,007	825	0	0	0	3,243	2,358	412	215	**259**	0	**259**
157%	W	2005	0	0	3,001	0	0	0	768	-368	0	-802	2,600	1,436	3,203	2,071	739	1,332	762	0	0	0	2,834	2,600	739	215	**-721**	0	**-721**
153%	W	2006	0	0	2,898	0	0	0	1,009	-368	0	-775	2,763	1,438	3,203	2,423	735	1,688	774	0	0	0	3,197	2,763	735	216	**-517**	0	**-517**
39%	C	2007	0	0	3,161	0	0	0	264	-417	0	-821	2,187	1,438	3,203	2,571	464	2,107	821	0	0	0	3,392	2,187	464	216	**525**	0	**525**
71%	C	2008	0	0	3,343	0	0	0	432	-441	0	-910	2,424	1,438	3,203	2,448	407	2,041	826	0	0	0	3,274	2,424	407	216	**227**	0	**227**
64%	BN	2009	0	0	3,410	0	0	0	400	-527	0	-824	2,459	1,438	3,203	2,506	392	2,114	806	0	0	0	3,312	2,459	392	216	**245**	0	**245**
113%	AN	2010	0	0	3,292	0	0	0	248	-452	0	-715	2,373	1,438	3,203	2,441	651	1,790	715	0	0	0	3,156	2,373	651	216	**-83**	0	**-83**
203%	W	2011	0	0	3,146	0	0	0	0	-414	0	-654	2,078	1,438	3,203	2,499	1,017	1,481	654	0	0	0	3,152	2,078	1,017	216	**-159**	0	**-159**
53%	D	2012	0	0	3,465	0	0	0	245	-445	0	-788	2,477	1,438	3,203	2,194	371	1,822	788	0	0	0	2,982	2,477	371	216	**-83**	0	**-83**
30%	C	2013	0	0	3,813	0	0	0	196	-504	0	-820	2,684	1,464	3,203	2,545	634	1,911	820	0	0	0	3,365	2,684	634	220	**-172**	0	**-172**
25%	C	2014	0	0	3,861	0	0	0	64	-516	0	-1,836	1,573	1,464	3,203	2,995	431	2,564	792	0	0	0	3,787	1,573	431	220	**1,563**	0	**1,563**
18%	C	2015	0	0	3,071	0	0	0	10	-419	0	-649	2,013	1,464	3,203	2,676	443	2,233	649	0	0	0	3,325	2,013	443	220	**650**	0	**650**
51%	D	2016	0	0	3,104	0	0	0	0	-418	0	-679	2,007	1,464	3,203	2,352	649	1,703	679	0	0	0	3,031	2,007	649	220	**156**	0	**156**
275%	W	2017	0	0	3,006	0	0	0	483	-335	0	-714	2,441	1,464	3,203	2,567	832	1,735	700	0	0	0	3,267	2,441	832	220	**-227**	0	**-227**
60%	BN	2018	0	0	2,985	0	0	0	14	-367	0	-684	1,948	1,464	3,203	2,576	601	1,974	684	0	0	0	3,259	1,948	601	220	**490**	0	**490**
177%	W	2019	0	0	3,245	0	0	0	14	-403	0	-622	2,235	1,464	3,203	2,932	1,011	1,921	622	0	0	0	3,554	2,235	1,011	220	**89**	0	**89**
55%	D	2020	0	0	3,229	0	0	0	14	-398	0	-611	2,234	1,427	3,203	2,204	800	1,404	611	0	0	0	2,815	2,234	800	214	**-433**	0	**-433**
22%	C	2021	0	0	3,700	0	0	0	0	-445	0	-717	2,538	1,430	3,203	2,564	343	2,222	717	0	0	0	3,281	2,538	343	214	**185**	0	**185**
29%	C	2022	0	0	3,548	0	0	0	14	-441	0	-646	2,476	1,430	3,203	2,629	398	2,231	646	0	0	0	3,274	2,476	398	214	**186**	0	**186**
320%	W	2023	0	0	3,088	0	0	0	848	-368	0	-644	2,925	1,430	3,203	3,096	753	2,342	644	0	0	0	3,740	2,925	753	214	**-153**	0	**-153**
Average (1995-2014)			**0**	**0**	**3,123**	**0**	**0**	**0**	**256**	**-387**	**0**	**-826**	**2,166**	**1,417**	**3,203**	**2,440**	**581**	**1,858**	**701**	**0**	**0**	**0**	**3,141**	**2,166**	**581**	**213**	**181**	**0**	**181**
Average (2015-2023)			**0**	**0**	**3,220**	**0**	**0**	**0**	**155**	**-399**	**0**	**-663**	**2,313**	**1,449**	**3,203**	**2,622**	**648**	**1,974**	**661**	**0**	**0**	**0**	**3,283**	**2,313**	**648**	**217**	**105**	**0**	**105**
Average (1995-2023)			**0**	**0**	**3,153**	**0**	**0**	**0**	**225**	**-391**	**0**	**-775**	**2,212**	**1,427**	**3,203**	**2,496**	**602**	**1,894**	**689**	**0**	**0**	**0**	**3,185**	**2,212**	**602**	**214**	**157**	**0**	**157**
Wet (W, AN)			**0**	**0**	**2,846**	**0**	**0**	**0**	**296**	**-341**	**0**	**-706**	**2,095**	**1,406**	**3,203**	**2,604**	**761**	**1,843**	**613**	**0**	**0**	**0**	**3,216**	**2,095**	**761**	**211**	**150**	**0**	**150**
Dry (D, BN)			**0**	**0**	**3,327**	**0**	**0**	**0**	**188**	**-413**	**0**	**-768**	**2,335**	**1,442**	**3,203**	**2,235**	**494**	**1,741**	**749**	**0**	**0**	**0**	**2,984**	**2,335**	**494**	**216**	**-62**	**0**	**-62**
Critically Dry (C)			**0**	**0**	**3,500**	**0**	**0**	**0**	**140**	**-455**	**0**	**-914**	**2,271**	**1,447**	**3,203**	**2,633**	**446**	**2,187**	**753**	**0**	**0**	**0**	**3,385**	**2,271**	**446**	**217**	**452**	**0**	**452**
Percent of Total			**0%**	**0%**	**143%**	**0%**	**0%**	**0%**	**10%**	**-18%**	**0%**	**-35%**	**100%**	**45%**	**100%**		**24%**	**76%**	**100%**	**0%**			**100%**	**69%**	**19%**	**7%**	**5%**	**0%**	**5%**

[1] Developed Land Area includes Irrigated and Fallow Agriculture, Urban, and Recharge Basins

[2] ETc Demand developed as the average of raw METRIC ITRC and adjusted METRIC ITRC - adjusted to account for a low bias in the ITRC METRIC data compared to LandIQ ET data

[3] Municipal and Industrial Water Supply is the total reported surface and groundwater supplied to major water purveyors

[4] Domestic, Industrial and Small Water System Supply is an estimated water use based on population outside of major water purveyor servide areas plus estimated water use from reported industrial water systems

[5] Total Demand = Crop Evapotranspiration + Urban Water Use + Water Surface Evaporation

[6] Native Yield Supply applies a planning-level assumption of 0.15 feet of sustainable groundwater use per developed acre within GSA.

[7] Net GSA Operational Deficit is a subtotal of the total water demands minus water supplies within the GSA used to estimate the GSA groundwater deficit for planning purposes.

[8] Water Banking Adjustment provides an accounting for Banking Return Obligations stored in the GSA and the Stored Surface Water at water banks in the Subbasin outside of the GSA

[9] The Water Bank Adjustment does not include surface water stored in the GSA for use by that GSA. This type of water storage is considered a conjunctive use project, and this stored water is already accounted for in the Total Water Supply.

Rosedale-Rio Bravo Water Storage District GSA - GSA Operational Water Budget Summary

Kern River Percent of Average Natural Flow at First Point	San Joaquin Valley Water Year Index	Water Year	Managed Surface Water Inflows and Outflows										Operational Water Usage									Operational Water Budget Calculation						
			Managed Surface Water Inflows (acre-feet)							Managed Surface Water Outflows (acre-feet)			Net Inflow (acre-feet)	GSA Land Area (acre-feet)		Agricultural Usage (acre-feet)			Urban Water Use (acre-feet)		Water Surface Evaporation (acre-feet)							
			DWR State Water Project (SWP)	USBR Central Valley Project (CVP)	Kern River	Cross Valley Canal Local Supply	Poso Creek	Transfers Into GSA	Recycled, Produced, Reclaimed , Other Water Inflows	Transfers Out of GSA	Aqueduct or Friant-Kern Canal Pumpins	Water Export out of the Subbasin	Total Surface Water Supply	Developed Land Area [1]	GSA Land Area	Crop Evapotranspiration [2] (ETc)	Effective Precipitation (ETpr)	Applied Water Demand (ETaw)	Municipal & Industrial Water Use [3]	Domestic, Industrial and Small System Water Use [4]	Conveyance System Evaporation	Recharge Basin Evaporation	Total Demand [5] (acre-feet)	Total Surface Water Supply (acre-feet)	Effective Precipitation (ETpr) (acre-feet)	Native Yield Supply [6] (acre-feet)	Net GSA Operational Deficit [7] (SUBTOTAL) (acre-feet)	Water Banking Adjustment [8, 9] (acre-feet)	Net Subbasin Operational Deficit [10] (acre-feet)
190%	W	1995	22,940	16,152	85,838	0	0	0	0	0	0	0	124,930	44,266	49,024	108,024	23,120	84,904	2,580	781	168	3,580	115,133	124,930	23,120	6,640	**-39,557**	12,251	**-27,306**
136%	W	1996	38,327	37,024	57,153	0	0	0	0	0	0	0	132,504	44,349	49,024	113,726	11,858	101,868	2,942	836	474	3,501	121,479	132,504	11,858	6,652	**-29,535**	19,946	**-9,589**
175%	W	1997	27,353	43,319	54,687	0	0	0	0	0	0	0	125,359	44,407	49,024	100,426	12,303	88,123	2,942	890	499	3,261	108,019	125,359	12,303	6,661	**-36,304**	24,177	**-12,127**
237%	W	1998	88,625	2,770	62,397	0	0	0	0	0	0	0	153,792	44,420	49,024	98,153	27,711	70,441	2,745	945	526	4,088	106,457	153,792	27,711	6,663	**-81,709**	-17,285	**-98,994**
70%	AN	1999	82,353	3,187	10,200	0	0	0	0	0	0	0	95,740	44,512	49,024	95,234	13,021	82,213	3,353	1,000	504	2,368	102,460	95,740	13,021	6,677	**-12,978**	-26,566	**-39,544**
67%	AN	2000	15,821	24,938	10,758	0	0	0	0	0	0	0	51,517	44,825	49,024	98,877	10,699	88,178	3,547	1,055	210	1,335	105,025	51,517	10,699	6,724	**36,085**	5,245	**41,330**
53%	D	2001	402	2,775	2,878	0	0	0	0	0	0	0	6,055	44,884	49,024	101,255	11,707	89,548	8,148	1,122	12	170	110,707	6,055	11,707	6,733	**86,213**	-3,520	**82,693**
51%	D	2002	0	0	1,404	0	0	0	0	0	0	0	1,404	44,838	49,024	101,180	7,288	93,892	3,864	1,189	0	42	106,275	1,404	7,288	6,726	**90,857**	-23,874	**66,983**
83%	BN	2003	7,186	16,037	7,407	0	0	0	0	0	0	0	30,630	44,868	49,024	94,276	10,121	84,154	3,973	1,256	104	815	100,423	30,630	10,121	6,730	**52,941**	-9,940	**43,001**
57%	D	2004	8,959	0	3,342	0	0	0	0	0	0	0	12,301	44,826	49,024	102,124	8,034	94,089	4,201	1,323	80	289	108,017	12,301	8,034	6,724	**80,958**	-92,933	**-11,975**
157%	W	2005	6,718	45,057	114,841	0	0	0	0	0	0	0	166,616	44,845	49,024	90,818	17,418	73,400	4,208	1,390	464	4,534	101,414	166,616	17,418	6,727	**-89,346**	36,417	**-52,929**
153%	W	2006	112,894	6,115	64,559	0	0	0	0	0	0	0	183,568	44,648	49,024	86,431	14,228	72,203	4,551	1,457	286	5,222	97,946	183,568	14,228	6,697	**-106,548**	41,183	**-65,365**
39%	C	2007	23,320	0	0	0	0	0	0	0	0	0	23,320	44,723	49,024	89,452	6,596	82,857	4,940	1,523	89	610	96,615	23,320	6,596	6,708	**59,991**	-19,003	**40,988**
71%	C	2008	0	0	0	0	0	0	0	0	0	0	0	44,569	49,024	83,957	4,995	78,962	5,002	1,590	0	0	90,550	0	4,995	6,685	**78,869**	-23,244	**55,625**
64%	BN	2009	0	2,354	0	0	0	0	0	0	0	0	2,354	44,533	49,024	86,840	7,178	79,662	4,875	1,657	0	71	93,443	2,354	7,178	6,680	**77,231**	-14,807	**62,424**
113%	AN	2010	16,508	49,733	10,816	0	0	0	0	0	0	0	77,057	44,624	49,024	81,162	12,117	69,044	4,875	1,724	373	1,939	90,073	77,057	12,117	6,694	**-5,795**	78,680	**72,885**
203%	W	2011	59,708	72,033	115,524	0	0	0	0	0	0	0	247,265	44,653	49,024	85,975	17,792	68,183	4,604	1,682	667	6,751	99,679	247,265	17,792	6,698	**-172,076**	115,203	**-56,873**
53%	D	2012	60,935	24,923	7,569	0	0	0	0	0	0	0	93,427	44,481	49,024	96,738	10,514	86,224	5,013	1,639	155	2,648	106,193	93,427	10,514	6,672	**-4,420**	-1,024	**-5,444**
30%	C	2013	3,885	1,737	0	0	0	0	0	0	0	-14,277	-8,655	44,740	49,024	90,536	6,619	83,918	5,054	1,596	0	0	97,187	-8,655	6,619	6,711	**92,512**	-44,655	**47,857**
25%	C	2014	0	0	0	0	0	0	0	0	0	-38,942	-38,942	44,765	49,024	91,659	5,098	86,562	4,914	1,554	0	0	98,128	-38,942	5,098	6,715	**125,257**	-52,823	**72,434**
18%	C	2015	0	0	0	0	0	0	0	0	0	-33,627	-33,627	44,887	49,024	95,570	8,945	86,625	3,840	1,511	0	0	100,921	-33,627	8,945	6,733	**118,870**	-39,059	**79,811**
51%	D	2016	0	4,117	0	0	0	0	0	0	0	-15,140	-11,023	44,732	49,024	87,597	13,305	74,292	4,172	1,469	0	0	93,238	-11,023	13,305	6,710	**84,246**	-24,798	**59,448**
275%	W	2017	44,813	57,798	187,308	0	0	0	0	0	0	-2,560	287,359	44,980	49,024	107,007	17,555	89,451	4,547	1,426	539	8,082	121,601	287,359	17,555	6,747	**-190,060**	65,877	**-124,183**
60%	BN	2018	60,946	18,822	10,122	0	0	0	0	0	0	-11,129	78,761	44,823	49,024	95,234	9,069	86,165	4,729	1,383	144	2,219	103,710	78,761	9,069	6,723	**9,156**	-12,206	**-3,050**
177%	W	2019	19,349	88,227	62,453	0	0	0	0	0	0	0	170,029	44,830	49,024	98,308	16,811	81,497	4,625	1,341	388	4,713	109,375	170,029	16,811	6,724	**-84,190**	123,073	**38,883**
55%	D	2020	23,544	0	16,193	0	0	0	0	0	0	-41,485	-1,748	44,697	49,024	77,327	14,537	62,791	4,981	1,298	76	0	83,683	-1,748	14,537	6,705	**64,189**	-68,855	**-4,666**
22%	C	2021	0	12,424	0	0	0	49,888	0	0	0	-55,702	6,610	44,729	49,024	90,015	7,129	82,887	5,109	1,298	7	191	96,621	6,610	7,129	6,709	**76,173**	-77,135	**-962**
29%	C	2022	0	0	0	0	0	1,115	0	0	0	-40,333	-39,218	44,610	49,024	88,418	8,767	79,650	4,700	1,298	0	0	94,416	-39,218	8,767	6,692	**118,175**	-52,136	**66,039**
320%	W	2023	70,592	50,833	135,597	0	0	0	0	0	0	-1,533	255,489	44,885	49,024	84,590	17,657	66,933	5,057	1,298	333	7,148	98,427	255,489	17,657	6,733	**-181,452**	46,629	**-134,823**
Average (1995-2014)			**28,797**	**17,408**	**30,469**	**0**	**0**	**0**	**0**	**0**	**0**	**-2,661**	**74,012**	**44,639**	**49,024**	**94,842**	**11,921**	**82,921**	**4,317**	**1,310**	**231**	**2,061**	**102,761**	**74,012**	**11,921**	**6,696**	**10,132**	**171**	**10,304**
Average (2015-2023)			**24,360**	**25,802**	**45,741**	**0**	**0**	**5,667**	**0**	**0**	**0**	**-22,390**	**79,181**	**44,797**	**49,024**	**91,563**	**12,642**	**78,921**	**4,640**	**1,369**	**165**	**2,484**	**100,221**	**79,181**	**12,642**	**6,720**	**1,679**	**-4,290**	**-2,611**
Average (1995-2023)			**27,420**	**20,013**	**35,208**	**0**	**0**	**1,759**	**0**	**0**	**0**	**-8,784**	**75,616**	**44,688**	**49,024**	**93,824**	**12,145**	**81,680**	**4,417**	**1,329**	**210**	**2,192**	**101,973**	**75,616**	**12,145**	**6,703**	**7,509**	**-1,213**	**6,296**
Wet (W, AN)			**46,615**	**38,245**	**74,779**	**0**	**0**	**0**	**0**	**0**	**0**	**-315**	**159,325**	**44,634**	**49,024**	**96,056**	**16,330**	**79,726**	**3,891**	**1,217**	**418**	**4,348**	**105,930**	**159,325**	**16,330**	**6,695**	**-76,420**	**40,372**	**-36,049**
Dry (D, BN)			**17,997**	**7,670**	**5,435**	**0**	**0**	**0**	**0**	**0**	**0**	**-7,528**	**23,573**	**44,742**	**49,024**	**93,619**	**10,195**	**83,424**	**4,884**	**1,371**	**63**	**695**	**100,632**	**23,573**	**10,195**	**6,711**	**60,152**	**-27,995**	**32,157**
Critically Dry (C)			**3,886**	**2,023**	**0**	**0**	**0**	**7,286**	**0**	**0**	**0**	**-26,126**	**-12,930**	**44,718**	**49,024**	**89,944**	**6,878**	**83,066**	**4,794**	**1,482**	**14**	**115**	**96,348**	**-12,930**	**6,878**	**6,708**	**95,692**	**-44,008**	**51,685**
Percent of Total			**36%**	**26%**	**47%**	**0%**	**0%**	**2%**	**0%**	**0%**	**0%**	**-12%**	**100%**	**91%**	**100%**		**13%**	**87%**	**77%**	**23%**			**100%**	**74%**	**12%**	**7%**	**7%**	**1%**	**6%**

[1] Developed Land Area includes Irrigated and Fallow Agriculture, Urban, and Recharge Basins

[2] ETc Demand developed as the average of raw METRIC ITRC and adjusted METRIC ITRC - adjusted to account for a low bias in the ITRC METRIC data compared to LandIQ ET data

[3] Municipal and Industrial Water Supply is the total reported surface and groundwater supplied to major water purveyors

[4] Domestic, Industrial and Small Water System Supply is an estimated water use based on population outside of major water purveyor servide areas plus estimated water use from reported industrial water systems

[5] Total Demand = Crop Evapotranspiration + Urban Water Use + Water Surface Evaporation

[6] Native Yield Supply applies a planning-level assumption of 0.15 feet of sustainable groundwater use per developed acre within GSA.

[7] Net GSA Operational Deficit is a subtotal of the total water demands minus water supplies within the GSA used to estimate the GSA groundwater deficit for planning purposes.

[8] Water Banking Adjustment provides an accounting for Banking Return Obligations stored in the GSA and the Stored Surface Water at water banks in the Subbasin outside of the GSA

[9] The Water Bank Adjustment does not include surface water stored in the GSA for use by that GSA, which are considered conjunctive use projects and stored conjunctive usewater is already accounted for in the Total Water Supply.

[10] Net Subbasin Operational Deficit is an estimate the Subbasin groundwater deficit that includes the adjustment of GSA water banking operations within the Subbasin.

Semitropic Water Storage District GSA - GSA Operational Water Budget Summary

Kern River Percent of Average Natural Flow at First Point	San Joaquin Valley Water Year Index	Water Year	Managed Surface Water Inflows and Outflows											Operational Water Usage									Operational Water Budget Calculation						
			Managed Surface Water Inflows (acre-feet)							Managed Surface Water Outflows (acre-feet)			Net Inflow (acre-feet)	GSA Land Area (acre-feet)		Agricultural Usage (acre-feet)			Urban Water Use (acre-feet)		Water Surface Evaporation (acre-feet)								
			DWR State Water Project (SWP)	USBR Central Valley Project (CVP)	Kern River	Cross Valley Canal Local Supply	Poso Creek	Transfers Into GSA	Recycled, Produced, Reclaimed , Other Water Inflows	Transfers Out of GSA	Aqueduct or Friant-Kern Canal Pumpins	Water Export out of the Subbasin	Total Surface Water Supply	Developed Land Area[1]	GSA Land Area	Crop Evapotranspiration[2] (ETc)	Effective Precipitation (ETpr)	Applied Water Demand (ETaw)	Municipal & Industrial Water Use[3]	Domestic, Industrial and Small System Water Use[4]	Conveyance System Evaporation	Recharge Basin Evaporation	Total Demand[5] (acre-feet)	Total Surface Water Supply (acre-feet)	Effective Precipitation (ETpr) (acre-feet)	Native Yield Supply[6] (acre-feet)	Net GSA Operational Deficit[7] (SUBTOTAL) (acre-feet)	Water Banking Adjustment[8, 9] (acre-feet)	Net Subbasin Operational Deficit[10] (acre-feet)
190%	W	1995	195,723	0	0	0	5,427	0	9,067	-5,803	0	0	204,413	151,859	218,208	455,463	103,416	352,048	621	2,038	1,177	326	459,625	204,413	103,416	22,779	**129,017**	41,064	**170,081**
136%	W	1996	270,344	0	0	0	14,212	0	6,038	-8,379	0	0	282,215	152,245	218,208	472,830	54,899	417,931	679	2,279	1,559	853	478,200	282,215	54,899	22,837	**118,249**	117,085	**235,334**
175%	W	1997	258,075	0	0	0	18,274	0	28,829	-12,449	0	0	292,728	154,488	218,208	442,166	62,901	379,265	679	2,521	1,521	1,096	447,983	292,728	62,901	23,173	**69,180**	108,830	**178,010**
237%	W	1998	196,374	0	0	0	7,888	0	24,030	-3,543	0	0	224,749	153,535	218,208	429,337	123,256	306,081	829	2,762	1,183	473	434,584	224,749	123,256	23,030	**63,548**	51,124	**114,672**
70%	AN	1999	273,921	0	0	0	7,804	0	27,453	-4,379	0	0	304,799	154,472	218,208	405,939	67,530	338,409	976	3,003	1,520	468	411,906	304,799	67,530	23,171	**16,407**	119,934	**136,341**
67%	AN	2000	289,303	0	0	0	12,237	0	32,340	-3,433	0	0	330,447	150,726	218,208	402,503	47,904	354,599	1,019	3,245	1,564	734	409,064	330,447	47,904	22,609	**8,104**	67,509	**75,613**
53%	D	2001	57,602	0	0	0	1,113	0	23,750	0	-1,457	0	81,008	150,932	218,208	402,054	53,390	348,664	970	3,185	327	67	406,603	81,008	53,390	22,640	**249,565**	-30,996	**218,569**
51%	D	2002	160,150	0	0	0	257	0	14,564	-2,448	-21,819	0	150,704	150,300	218,208	382,376	33,809	348,568	1,054	3,126	814	15	387,386	150,704	33,809	22,545	**180,328**	49,568	**229,896**
83%	BN	2003	253,866	0	0	0	1,673	0	7,739	-301	0	0	262,977	150,953	218,208	368,339	41,550	326,790	1,070	3,067	1,326	100	373,903	262,977	41,550	22,643	**46,734**	93,105	**139,839**
57%	D	2004	164,412	0	0	0	1,495	0	5,773	-1,285	-8,965	0	161,430	151,948	218,208	405,588	39,507	366,081	1,070	3,008	868	90	410,624	161,430	39,507	22,792	**186,895**	-14,145	**172,749**
157%	W	2005	281,161	0	0	0	4,950	0	10,662	0	-19,103	0	277,670	151,398	218,208	371,908	77,189	294,718	1,031	2,949	1,470	297	377,654	277,670	77,189	22,710	**85**	72,183	**72,268**
153%	W	2006	302,431	0	0	0	14,729	0	9,847	-2,365	0	0	324,642	151,344	218,208	341,922	68,786	273,136	1,071	2,889	1,641	884	348,408	324,642	68,786	22,702	**-67,722**	74,012	**6,289**
39%	C	2007	131,476	0	0	0	7,099	0	8,586	-385	-6,282	0	140,494	152,239	218,208	340,487	36,664	303,823	1,087	2,830	731	426	345,561	140,494	36,664	22,836	**145,567**	-114,489	**31,078**
71%	C	2008	18,670	0	0	0	1,468	0	13,341	-3,813	-92,169	0	-62,503	150,986	218,208	330,579	28,962	301,617	1,010	2,771	105	88	334,554	-62,503	28,962	22,648	**345,447**	-71,782	**273,665**
64%	BN	2009	19,967	0	0	0	731	0	8,628	-6,484	-86,194	0	-63,352	151,656	218,208	333,381	33,100	300,281	822	2,712	113	44	337,071	-63,352	33,100	22,748	**344,575**	-99,031	**245,544**
113%	AN	2010	161,127	0	0	0	3,068	0	4,800	-2,143	-37,995	0	128,857	150,886	218,208	326,526	54,414	272,112	682	2,653	836	184	330,880	128,857	54,414	22,633	**124,976**	107,961	**232,937**
203%	W	2011	334,874	0	0	0	16,017	0	1,150	-582	0	0	351,460	152,154	218,208	387,383	95,313	292,070	781	2,581	1,675	961	393,381	351,460	95,313	22,823	**-76,215**	108,136	**31,921**
53%	D	2012	206,996	0	0	0	13,006	0	3,384	-527	0	0	222,859	152,991	218,208	413,671	59,744	353,927	770	2,510	1,135	780	418,866	222,859	59,744	22,949	**113,313**	91,920	**205,234**
30%	C	2013	58,920	0	0	0	4,099	0	2,364	-116	-5,610	0	59,656	157,297	218,208	371,747	34,327	337,420	759	2,439	402	246	375,592	59,656	34,327	23,595	**258,015**	-80,746	**177,269**
25%	C	2014	0	0	0	0	0	0	3,373	0	-111,092	0	-107,719	157,328	218,208	361,620	23,715	337,905	747	2,367	25	0	364,760	-107,719	23,715	23,599	**425,164**	-91,858	**333,307**
18%	C	2015	0	0	0	0	0	0	796	0	-98,309	0	-97,513	156,392	218,208	368,893	36,922	331,971	736	2,296	35	0	371,960	-97,513	36,922	23,459	**409,092**	-147,359	**261,732**
51%	D	2016	93,331	0	0	0	248	0	550	-1,001	-89,371	0	3,757	156,073	218,208	377,207	64,344	312,863	725	2,224	534	15	380,705	3,757	64,344	23,411	**289,193**	24,047	**313,240**
275%	W	2017	334,539	0	0	0	36,894	0	550	-3,949	0	0	368,033	156,280	218,208	405,322	84,902	320,420	714	2,153	1,596	2,214	411,999	368,033	84,902	23,442	**-64,378**	148,850	**84,472**
60%	BN	2018	141,399	0	0	0	9,907	0	550	-3,605	0	0	148,251	155,538	218,208	408,378	36,687	371,691	702	2,082	741	594	412,498	148,251	36,687	23,331	**204,230**	26,305	**230,535**
177%	W	2019	301,323	0	0	0	18,062	0	550	-2,330	0	0	317,604	155,863	218,208	398,748	78,603	320,145	691	2,010	1,504	1,084	404,037	317,604	78,603	23,379	**-15,549**	79,383	**63,834**
55%	D	2020	45,659	0	0	0	0	0	550	-161	0	0	46,048	155,761	218,208	362,828	66,994	295,834	680	1,939	354	0	365,801	46,048	66,994	23,364	**229,395**	-32,365	**197,030**
22%	C	2021	0	0	0	0	0	0	533	0	-62,280	0	-61,747	155,936	218,208	367,523	40,136	327,387	680	1,939	36	0	370,178	-61,747	40,136	23,390	**368,399**	-130,928	**237,471**
29%	C	2022	0	0	0	0	0	0	921	0	-153,044	0	-152,123	155,615	218,208	361,436	43,208	318,228	680	1,939	14	0	364,069	-152,123	43,208	23,342	**449,642**	-126,623	**323,019**
320%	W	2023	288,247	0	0	0	37,218	0	442	0	-73,252	0	252,654	157,068	218,208	369,510	96,262	273,248	680	1,939	1,507	2,233	375,868	252,654	96,262	23,560	**3,392**	51,602	**54,994**
Average (1995-2014)			**181,770**	**0**	**0**	**0**	**6,777**	**0**	**12,286**	**-2,922**	**-19,534**	**0**	**178,377**	**152,487**	**218,208**	**387,291**	**57,019**	**330,272**	**886**	**2,747**	**999**	**407**	**392,330**	**178,377**	**57,019**	**22,873**	**134,062**	**29,969**	**164,031**
Average (2015-2023)			**133,833**	**0**	**0**	**0**	**11,370**	**0**	**605**	**-1,227**	**-52,917**	**0**	**91,663**	**156,058**	**218,208**	**379,983**	**60,895**	**319,087**	**699**	**2,058**	**702**	**682**	**384,124**	**91,663**	**60,895**	**23,409**	**208,157**	**-11,899**	**196,259**
Average (1995-2023)			**166,893**	**0**	**0**	**0**	**8,203**	**0**	**8,661**	**-2,396**	**-29,895**	**0**	**151,465**	**153,595**	**218,208**	**385,023**	**58,222**	**326,801**	**828**	**2,533**	**907**	**492**	**389,783**	**151,465**	**58,222**	**23,039**	**157,057**	**16,976**	**174,033**
Wet (W, AN)			**268,265**	**0**	**0**	**0**	**15,137**	**0**	**11,981**	**-3,797**	**-10,027**	**0**	**281,559**	**153,255**	**218,208**	**400,735**	**78,106**	**322,629**	**804**	**2,540**	**1,442**	**908**	**406,430**	**281,559**	**78,106**	**22,988**	**23,777**	**88,283**	**112,059**
Dry (D, BN)			**127,042**	**0**	**0**	**0**	**3,159**	**0**	**7,277**	**-1,757**	**-23,090**	**0**	**112,631**	**152,906**	**218,208**	**383,758**	**47,680**	**336,078**	**874**	**2,650**	**690**	**190**	**388,162**	**112,631**	**47,680**	**22,936**	**204,914**	**12,045**	**216,959**
Critically Dry (C)			**29,867**	**0**	**0**	**0**	**1,809**	**0**	**4,273**	**-616**	**-75,541**	**0**	**-40,208**	**155,113**	**218,208**	**357,469**	**34,848**	**322,621**	**814**	**2,369**	**193**	**109**	**360,953**	**-40,208**	**34,848**	**23,267**	**343,046**	**-109,112**	**233,934**
Percent of Total			**110%**	**0%**	**0%**	**0%**	**5%**	**0%**	**6%**	**-2%**	**-20%**	**0%**	**100%**	**70%**	**100%**		**15%**	**85%**	**25%**	**75%**			**100%**	**39%**	**15%**	**6%**	**40%**	**-4%**	**45%**

[1] Developed Land Area includes Irrigated and Fallow Agriculture, Urban, and Recharge Basins

[2] ETc Demand developed as the average of raw METRIC ITRC and adjusted METRIC ITRC - adjusted to account for a low bias in the ITRC METRIC data compared to LandIQ ET data

[3] Municipal and Industrial Water Supply is the total reported surface and groundwater supplied to major water purveyors

[4] Domestic, Industrial and Small Water System Supply is an estimated water use based on population outside of major water purveyor servide areas plus estimated water use from reported industrial water systems

[5] Total Demand = Crop Evapotranspiration + Urban Water Use + Water Surface Evaporation

[6] Native Yield Supply applies a planning-level assumption of 0.15 feet of sustainable groundwater use per developed acre within GSA.

[7] Net GSA Operational Deficit is a subtotal of the total water demands minus water supplies within the GSA used to estimate the GSA groundwater deficit for planning purposes.

[8] Water Banking Adjustment provides an accounting for Banking Return Obligations stored in the GSA and the Stored Surface Water at water banks in the Subbasin outside of the GSA

[9] The Water Bank Adjustment does not include surface water stored in the GSA for use by that GSA, which are considered conjunctive use projects and stored conjunctive usewater is already accounted for in the Total Water Supply.

[10] Net Subbasin Operational Deficit is an estimate the Subbasin groundwater deficit that includes the adjustment of GSA water banking operations within the Subbasin.

Southern San Joaquin Municipal Utility District - GSA Operational Water Budget Summary

Kern River Percent of Average Natural Flow at First Point	San Joaquin Valley Water Year Index	Water Year	Managed Surface Water Inflows and Outflows										Operational Water Usage								Operational Water Budget Calculation						
			Managed Surface Water Inflows (acre-feet)							Managed Surface Water Outflows (acre-feet)			Net Inflow (acre-feet)	GSA Land Area (acre-feet)		Agricultural Usage (acre-feet)			Urban Water Use (acre-feet)		Water Surface Evaporation (acre-feet)							
			DWR State Water Project (SWP)	USBR Central Valley Project (CVP)	Kern River	Cross Valley Canal Local Supply	Poso Creek	Transfers Into GSA	Recycled, Produced, Reclaimed , Other Water Inflows	Transfers Out of GSA	Aqueduct or Friant-Kern Canal Pumpins	Water Export out of the Subbasin	Total Surface Water Supply	Developed Land Area[1]	GSA Land Area	Crop Evapotranspiration[2] (ETc)	Effective Precipitation (ETpr)	Applied Water Demand (ETaw)	Municipal & Industrial Water Use[3]	Domestic, Industrial and Small System Water Use[4]	Conveyance System Evaporation	Recharge Basin Evaporation	Total Demand[5] (acre-feet)	Total Surface Water Supply (acre-feet)	Effective Precipitation (ETpr) (acre-feet)	Native Yield Supply[6] (acre-feet)	Net GSA Operational Deficit[7] (SUBTOTAL) (acre-feet)	Water Banking Adjustment[8, 9] (acre-feet)	Net Subbasin Operational Deficit[10] (acre-feet)
190%	W	1995	0	108,778	0	0	0	307	2,366	0	0	0	111,451	60,317	66,031	174,060	40,929	133,131	8,289	944	0	0	183,293	111,451	40,929	9,048	**21,865**	-10,868	**10,997**
136%	W	1996	0	128,865	0	0	0	307	2,390	0	0	0	131,562	60,472	66,031	175,663	19,811	155,853	9,114	892	0	0	185,669	131,562	19,811	9,071	**25,226**	0	**25,226**
175%	W	1997	0	124,456	0	0	0	307	2,625	0	0	0	127,388	61,107	66,031	164,157	26,216	137,941	9,114	840	0	0	174,111	127,388	26,216	9,166	**11,341**	0	**11,341**
237%	W	1998	0	89,373	0	0	0	307	2,546	0	0	0	92,226	61,200	66,031	162,004	48,844	113,160	9,032	788	0	0	171,824	92,226	48,844	9,180	**21,574**	0	**21,574**
70%	AN	1999	0	112,467	0	0	0	307	2,814	-1,781	0	0	113,807	61,054	66,031	144,987	25,705	119,282	10,353	736	0	0	156,076	113,807	25,705	9,158	**7,405**	0	**7,405**
67%	AN	2000	0	121,896	0	0	0	307	2,814	-2,299	0	0	122,718	60,615	66,031	149,905	21,386	128,519	10,513	684	0	0	161,102	122,718	21,386	9,092	**7,906**	0	**7,906**
53%	D	2001	0	98,313	0	0	0	307	3,145	-209	0	0	101,556	60,477	66,031	155,220	21,489	133,731	10,741	668	0	0	166,629	101,556	21,489	9,072	**34,513**	0	**34,513**
51%	D	2002	0	103,849	0	0	0	307	3,333	0	0	0	107,489	60,273	66,031	156,279	16,584	139,696	11,035	652	0	0	167,967	107,489	16,584	9,041	**34,853**	0	**34,853**
83%	BN	2003	0	108,677	0	0	0	307	3,424	-1,898	0	0	110,510	60,302	66,031	145,367	18,934	126,434	11,342	637	0	0	157,346	110,510	18,934	9,045	**18,857**	0	**18,857**
57%	D	2004	0	106,537	0	0	0	307	3,692	0	0	0	110,536	60,754	66,031	165,788	17,024	148,764	11,925	621	0	0	178,334	110,536	17,024	9,113	**41,661**	10,868	**52,529**
157%	W	2005	0	111,465	0	0	0	307	3,938	-1,749	0	0	113,961	60,565	66,031	141,525	33,813	107,712	11,541	605	0	0	153,671	113,961	33,813	9,085	**-3,188**	0	**-3,188**
153%	W	2006	0	121,836	0	0	0	307	3,978	-1,730	0	0	124,391	60,745	66,031	139,044	29,518	109,526	11,741	589	0	0	151,373	124,391	29,518	9,112	**-11,647**	0	**-11,647**
39%	C	2007	0	75,861	0	0	0	307	4,180	-219	0	0	80,129	60,679	66,031	138,734	15,741	122,993	12,355	573	0	0	151,662	80,129	15,741	9,102	**46,690**	0	**46,690**
71%	C	2008	0	87,776	0	0	0	655	4,404	0	0	0	92,835	60,747	66,031	139,181	14,426	124,754	11,950	557	0	0	151,688	92,835	14,426	9,112	**35,314**	0	**35,314**
64%	BN	2009	0	118,712	0	0	0	293	4,547	-1,745	0	0	121,807	60,275	66,031	133,848	13,069	120,780	12,114	541	0	0	146,503	121,807	13,069	9,041	**2,587**	0	**2,587**
113%	AN	2010	0	120,528	0	0	0	389	4,882	-134	0	0	125,665	60,381	66,031	139,598	25,026	114,572	11,443	525	0	0	151,566	125,665	25,026	9,057	**-8,182**	0	**-8,182**
203%	W	2011	0	124,678	0	0	0	301	4,210	0	0	0	129,189	60,437	66,031	152,133	36,427	115,706	11,297	522	0	0	163,952	129,189	36,427	9,066	**-10,730**	0	**-10,730**
53%	D	2012	0	81,602	0	0	0	314	4,710	0	0	0	86,626	60,478	66,031	173,731	22,115	151,616	11,362	519	0	0	185,611	86,626	22,115	9,072	**67,799**	0	**67,799**
30%	C	2013	0	58,923	0	0	0	242	4,462	0	0	0	63,627	60,791	66,031	151,029	16,041	134,988	11,426	516	0	0	162,971	63,627	16,041	9,119	**74,184**	0	**74,184**
25%	C	2014	0	14,249	0	0	0	193	4,259	0	0	0	18,701	60,784	66,031	139,683	11,071	128,612	11,491	513	0	0	151,687	18,701	11,071	9,118	**112,798**	0	**112,798**
18%	C	2015	0	3,020	0	0	0	45	4,009	0	0	0	7,074	60,956	66,031	125,875	14,727	111,148	11,556	510	0	0	137,941	7,074	14,727	9,143	**106,996**	0	**106,996**
51%	D	2016	0	62,934	0	0	0	114	4,137	0	0	0	67,185	60,888	66,031	143,862	23,921	119,941	11,620	507	0	0	155,990	67,185	23,921	9,133	**55,750**	0	**55,750**
275%	W	2017	0	113,084	0	0	0	9	4,117	0	0	0	117,210	61,032	66,031	170,381	32,533	137,848	11,310	504	0	65	182,260	117,210	32,533	9,155	**23,363**	0	**23,363**
60%	BN	2018	0	105,065	0	0	0	19	3,938	0	0	0	109,022	60,919	66,031	140,630	14,683	125,947	11,798	501	0	155	153,085	109,022	14,683	9,138	**20,241**	-6,532	**13,709**
177%	W	2019	0	104,818	0	0	0	48	4,004	0	0	0	108,870	60,963	66,031	147,650	28,819	118,830	11,807	498	0	121	160,076	108,870	28,819	9,144	**13,242**	-20,490	**-7,248**
55%	D	2020	0	84,880	0	0	0	2,466	4,047	0	0	0	91,393	61,058	66,031	126,298	23,754	102,544	12,029	495	0	72	138,894	91,393	23,754	9,159	**14,588**	3,030	**17,618**
22%	C	2021	0	28,988	0	0	0	3,249	3,831	0	0	0	36,067	61,074	66,031	119,605	12,642	106,963	8,545	495	0	0	128,645	36,067	12,642	9,161	**70,774**	613	**71,387**
29%	C	2022	0	42,303	0	0	0	1,826	3,685	0	0	0	47,815	60,992	66,031	119,627	17,066	102,561	9,741	495	0	8	129,871	47,815	17,066	9,149	**55,841**	-4,116	**51,725**
320%	W	2023	0	112,722	0	0	0	8	385	0	0	0	113,115	61,105	66,031	122,080	31,574	90,506	8,445	495	0	913	131,932	113,115	31,574	9,166	**-21,922**	-5,491	**-27,413**
Average (1995-2014)			**0**	**100,942**	**0**	**0**	**0**	**319**	**3,636**	**-588**	**0**	**0**	**104,309**	**60,623**	**66,031**	**152,097**	**23,708**	**128,389**	**10,909**	**646**	**0**	**0**	**163,652**	**104,309**	**23,708**	**9,093**	**26,541**	**0**	**26,541**
Average (2015-2023)			**0**	**73,090**	**0**	**0**	**0**	**865**	**3,573**	**0**	**0**	**0**	**77,528**	**60,999**	**66,031**	**135,112**	**22,191**	**112,921**	**10,761**	**500**	**0**	**148**	**146,521**	**77,528**	**22,191**	**9,150**	**37,653**	**-3,665**	**33,987**
Average (1995-2023)			**0**	**92,298**	**0**	**0**	**0**	**489**	**3,616**	**-406**	**0**	**0**	**95,998**	**60,739**	**66,031**	**146,826**	**23,237**	**123,588**	**10,863**	**601**	**0**	**46**	**158,335**	**95,998**	**23,237**	**9,111**	**29,990**	**-1,137**	**28,852**
Wet (W, AN)			**0**	**114,997**	**0**	**0**	**0**	**247**	**3,159**	**-592**	**0**	**0**	**117,812**	**60,769**	**66,031**	**152,553**	**30,815**	**121,737**	**10,308**	**663**	**0**	**85**	**163,608**	**117,812**	**30,815**	**9,115**	**5,866**	**-2,835**	**3,031**
Dry (D, BN)			**0**	**96,730**	**0**	**0**	**0**	**493**	**3,886**	**-428**	**0**	**0**	**100,681**	**60,603**	**66,031**	**149,003**	**19,064**	**129,939**	**11,552**	**571**	**0**	**25**	**161,151**	**100,681**	**19,064**	**9,090**	**32,316**	**818**	**33,135**
Critically Dry (C)			**0**	**44,446**	**0**	**0**	**0**	**931**	**4,119**	**-31**	**0**	**0**	**49,464**	**60,861**	**66,031**	**133,391**	**14,530**	**118,860**	**11,009**	**523**	**0**	**1**	**144,923**	**49,464**	**14,530**	**9,129**	**71,800**	**-500**	**71,299**
Percent of Total			**0%**	**96%**	**0%**	**0%**	**0%**	**1%**	**4%**	**0%**	**0%**	**0%**	**100%**	**92%**	**100%**		**16%**	**84%**	**95%**	**5%**			**100%**	**61%**	**15%**	**6%**	**19%**	**1%**	**18%**

[1] Developed Land Area includes Irrigated and Fallow Agriculture, Urban, and Recharge Basins

[2] ETc Demand developed as the average of raw METRIC ITRC and adjusted METRIC ITRC - adjusted to account for a low bias in the ITRC METRIC data compared to LandIQ ET data

[3] Municipal and Industrial Water Supply is the total reported surface and groundwater supplied to major water purveyors

[4] Domestic, Industrial and Small Water System Supply is an estimated water use based on population outside of major water purveyor servide areas plus estimated water use from reported industrial water systems

[5] Total Demand = Crop Evapotranspiration + Urban Water Use + Water Surface Evaporation

[6] Native Yield Supply applies a planning-level assumption of 0.15 feet of sustainable groundwater use per developed acre within GSA.

[7] Net GSA Operational Deficit is a subtotal of the total water demands minus water supplies within the GSA used to estimate the GSA groundwater deficit for planning purposes.

[8] Water Banking Adjustment provides an accounting for Banking Return Obligations stored in the GSA and the Stored Surface Water at water banks in the Subbasin outside of the GSA

[9] The Water Bank Adjustment does not include surface water stored in the GSA for use by that GSA, which are considered conjunctive use projects and stored conjunctive usewater is already accounted for in the Total Water Supply.

[10] Net Subbasin Operational Deficit is an estimate the Subbasin groundwater deficit that includes the adjustment of GSA water banking operations within the Subbasin.

Shafter-Wasco Irrigation District GSA - GSA Operational Water Budget Summary

Kern River Percent of Average Natural Flow at First Point	San Joaquin Valley Water Year Index	Water Year	Managed Surface Water Inflows and Outflows										Operational Water Usage								Operational Water Budget Calculation						
			Managed Surface Water Inflows (acre-feet)							Managed Surface Water Outflows (acre-feet)			Net Inflow (acre-feet)	GSA Land Area (acre-feet)		Agricultural Usage (acre-feet)			Urban Water Use (acre-feet)		Water Surface Evaporation (acre-feet)							
			DWR State Water Project (SWP)	USBR Central Valley Project (CVP)	Kern River	Cross Valley Canal Local Supply	Poso Creek	Transfers Into GSA	Recycled, Produced, Reclaimed , Other Water Inflows	Transfers Out of GSA	Aqueduct or Friant-Kern Canal Pumpins	Water Export out of the Subbasin	Total Surface Water Supply	Developed Land Area[1]	GSA Land Area	Crop Evapotranspiration[2] (ETc)	Effective Precipitation (ETpr)	Applied Water Demand (ETaw)	Municipal & Industrial Water Use[3]	Domestic, Industrial and Small System Water Use[4]	Conveyance System Evaporation	Recharge Basin Evaporation	Total Demand[5] (acre-feet)	Total Surface Water Supply (acre-feet)	Effective Precipitation (ETpr) (acre-feet)	Native Yield Supply[6] (acre-feet)	Net GSA Operational Deficit[7] (SUBTOTAL) (acre-feet)	Water Banking Adjustment[8, 9] (acre-feet)	Net Subbasin Operational Deficit[10] (acre-feet)
190%	W	1995	0	64,395	0	0	0	5,265	1,504	0	0	0	71,164	38,083	40,022	114,475	21,470	93,005	5,867	893	0	0	121,235	71,164	21,470	5,712	**22,889**	-12,026	**10,863**
136%	W	1996	0	72,960	0	0	0	9,433	1,972	0	0	0	84,365	38,164	40,022	116,252	11,056	105,196	5,859	806	0	0	122,917	84,365	11,056	5,725	**21,771**	-1,578	**20,193**
175%	W	1997	0	64,243	0	0	0	9,892	1,727	0	0	0	75,862	38,255	40,022	101,042	13,702	87,340	5,859	718	0	0	107,620	75,862	13,702	5,738	**12,317**	-10,451	**1,866**
237%	W	1998	0	54,702	0	0	0	3,821	1,980	0	0	0	60,503	38,218	40,022	98,004	28,354	69,650	5,969	631	0	0	104,604	60,503	28,354	5,733	**10,014**	-118	**9,896**
70%	AN	1999	0	59,415	0	0	0	3,944	1,945	0	0	0	65,304	38,218	40,022	94,432	12,664	81,768	6,637	544	0	0	101,613	65,304	12,664	5,733	**17,912**	-474	**17,438**
67%	AN	2000	0	59,281	0	0	0	3,493	2,314	0	0	0	65,089	38,390	40,022	94,668	9,991	84,677	6,929	457	0	0	102,053	65,089	9,991	5,759	**21,215**	0	**21,215**
53%	D	2001	0	52,876	0	0	0	820	2,101	0	0	0	55,797	38,421	40,022	97,098	12,030	85,067	6,990	452	0	0	104,540	55,797	12,030	5,763	**30,950**	1,073	**32,023**
51%	D	2002	0	54,221	0	0	0	5,210	2,900	0	0	0	62,331	38,422	40,022	97,264	7,143	90,122	7,163	448	0	0	104,876	62,331	7,143	5,763	**29,638**	3,056	**32,694**
83%	BN	2003	0	58,847	0	0	0	580	2,366	0	0	0	61,793	38,406	40,022	89,972	9,364	80,608	7,382	444	0	0	97,798	61,793	9,364	5,761	**20,880**	247	**21,127**
57%	D	2004	0	58,351	0	0	0	1,785	2,901	0	0	0	63,036	38,502	40,022	97,663	7,351	90,312	6,896	440	0	0	104,999	63,036	7,351	5,775	**28,836**	1,784	**30,620**
157%	W	2005	0	59,722	0	0	0	0	2,183	0	0	0	61,905	38,436	40,022	87,526	17,799	69,727	7,169	436	0	0	95,131	61,905	17,799	5,765	**9,661**	0	**9,661**
153%	W	2006	0	70,439	0	0	0	2,300	2,874	0	0	0	75,613	38,309	40,022	82,822	15,235	67,587	7,446	431	0	0	90,699	75,613	15,235	5,746	**-5,896**	34	**-5,862**
39%	C	2007	0	40,212	0	0	0	2,025	3,252	0	0	0	45,489	38,455	40,022	81,433	5,714	75,719	7,565	427	0	0	89,426	45,489	5,714	5,768	**32,454**	6,991	**39,445**
71%	C	2008	0	46,238	0	0	0	2,236	3,199	0	0	0	51,673	38,340	40,022	82,128	5,268	76,861	7,857	423	0	0	90,408	51,673	5,268	5,751	**27,717**	2,200	**29,917**
64%	BN	2009	0	48,330	0	0	0	5,594	3,162	0	0	0	57,086	38,342	40,022	81,321	6,506	74,815	7,533	419	0	0	89,273	57,086	6,506	5,751	**19,930**	993	**20,923**
113%	AN	2010	0	65,240	0	0	0	869	3,151	0	0	0	69,260	38,357	40,022	79,234	12,712	66,523	7,386	415	0	0	87,035	69,260	12,712	5,754	**-690**	0	**-690**
203%	W	2011	0	74,954	0	0	0	889	3,087	0	0	0	78,929	38,339	40,022	86,297	18,431	67,866	7,526	406	0	0	94,228	78,929	18,431	5,751	**-8,883**	-718	**-9,601**
53%	D	2012	0	36,374	0	0	0	13,224	2,967	0	0	0	52,565	38,338	40,022	100,041	10,398	89,643	7,470	397	0	0	107,907	52,565	10,398	5,751	**39,193**	4,957	**44,150**
30%	C	2013	0	27,017	0	0	0	8,039	3,174	0	0	0	38,230	38,427	40,022	92,740	7,042	85,697	7,298	388	0	0	100,425	38,230	7,042	5,764	**49,388**	2,040	**51,428**
25%	C	2014	0	8,303	0	0	0	5,298	3,139	0	0	0	16,740	38,427	40,022	88,784	4,692	84,092	6,596	378	0	0	95,758	16,740	4,692	5,764	**68,562**	3,915	**72,477**
18%	C	2015	0	0	0	0	0	3,123	2,956	0	0	0	6,079	38,451	40,022	85,408	7,655	77,753	6,156	369	0	0	91,934	6,079	7,655	5,768	**72,432**	3,168	**75,600**
51%	D	2016	0	36,342	0	0	0	2,247	2,903	0	0	0	41,492	38,368	40,022	86,826	13,848	72,978	5,752	360	0	0	92,939	41,492	13,848	5,755	**31,843**	-1,155	**30,688**
275%	W	2017	0	81,166	17,538	0	0	4,632	3,004	0	0	0	106,339	38,400	40,022	105,393	15,379	90,014	6,211	351	0	1,536	113,491	106,339	15,379	5,760	**-13,987**	-10,846	**-24,833**
60%	BN	2018	0	61,441	0	0	0	7,625	2,922	0	0	0	71,988	38,376	40,022	94,050	7,409	86,641	5,924	342	0	259	100,575	71,988	7,409	5,756	**15,421**	-14,271	**1,150**
177%	W	2019	0	79,402	10,426	0	0	7,192	2,507	0	0	0	99,528	38,380	40,022	99,385	15,333	84,052	5,999	333	0	960	106,677	99,528	15,333	5,757	**-13,941**	-18,273	**-32,214**
55%	D	2020	0	55,871	0	0	0	1,410	2,937	0	0	0	60,219	38,384	40,022	85,956	13,468	72,488	6,258	324	0	6	92,544	60,219	13,468	5,758	**13,100**	-7,774	**5,326**
22%	C	2021	0	15,009	0	0	0	5,245	2,899	0	0	0	23,153	38,446	40,022	90,232	6,230	84,002	6,066	324	0	0	96,622	23,153	6,230	5,767	**61,472**	1,550	**63,022**
29%	C	2022	0	24,231	0	0	0	3,400	2,960	0	0	0	30,591	38,420	40,022	89,430	8,975	80,455	5,883	324	0	145	95,782	30,591	8,975	5,763	**50,453**	18,742	**69,195**
320%	W	2023	0	92,084	15,391	0	0	20,257	2,986	-138	0	0	130,580	38,443	40,022	86,211	17,938	68,273	5,883	324	0	2,593	95,012	130,580	17,938	5,766	**-59,273**	-11,289	**-70,562**
Average (1995-2014)			**0**	**53,806**	**0**	**0**	**0**	**4,236**	**2,595**	**0**	**0**	**0**	**60,637**	**38,343**	**40,022**	**93,160**	**11,846**	**81,314**	**6,970**	**498**	**0**	**0**	**100,627**	**60,637**	**11,846**	**5,751**	**22,393**	**96**	**22,489**
Average (2015-2023)			**0**	**49,505**	**4,817**	**0**	**0**	**6,126**	**2,897**	**-15**	**0**	**0**	**63,330**	**38,408**	**40,022**	**91,432**	**11,804**	**79,628**	**6,015**	**339**	**0**	**611**	**98,397**	**63,330**	**11,804**	**5,761**	**17,502**	**-4,461**	**13,041**
Average (1995-2023)			**0**	**52,471**	**1,495**	**0**	**0**	**4,822**	**2,689**	**-5**	**0**	**0**	**61,473**	**38,363**	**40,022**	**92,624**	**11,833**	**80,791**	**6,673**	**448**	**0**	**190**	**99,935**	**61,473**	**11,833**	**5,754**	**20,875**	**-1,318**	**19,557**
Wet (W, AN)			**0**	**69,077**	**3,335**	**0**	**0**	**5,538**	**2,403**	**-11**	**0**	**0**	**80,342**	**38,307**	**40,022**	**95,826**	**16,159**	**79,667**	**6,518**	**519**	**0**	**392**	**103,255**	**80,342**	**16,159**	**5,746**	**1,008**	**-5,057**	**-4,048**
Dry (D, BN)			**0**	**51,406**	**0**	**0**	**0**	**4,277**	**2,795**	**0**	**0**	**0**	**58,479**	**38,396**	**40,022**	**92,244**	**9,724**	**82,519**	**6,819**	**403**	**0**	**29**	**99,494**	**58,479**	**9,724**	**5,759**	**25,532**	**-1,232**	**24,300**
Critically Dry (C)			**0**	**23,001**	**0**	**0**	**0**	**4,195**	**3,083**	**0**	**0**	**0**	**30,279**	**38,424**	**40,022**	**87,165**	**6,511**	**80,654**	**6,774**	**376**	**0**	**21**	**94,336**	**30,279**	**6,511**	**5,764**	**51,783**	**5,515**	**57,298**
Percent of Total			**0%**	**85%**	**2%**	**0%**	**0%**	**8%**	**4%**	**0%**	**0%**	**0%**	**100%**	**96%**	**100%**		**13%**	**87%**	**94%**	**6%**			**100%**	**62%**	**12%**	**6%**	**21%**	**1%**	**20%**

[1] Developed Land Area includes Irrigated and Fallow Agriculture, Urban, and Recharge Basins

[2] ETc Demand developed as the average of raw METRIC ITRC and adjusted METRIC ITRC - adjusted to account for a low bias in the ITRC METRIC data compared to LandIQ ET data

[3] Municipal and Industrial Water Supply is the total reported surface and groundwater supplied to major water purveyors

[4] Domestic, Industrial and Small Water System Supply is an estimated water use based on population outside of major water purveyor servide areas plus estimated water use from reported industrial water systems

[5] Total Demand = Crop Evapotranspiration + Urban Water Use + Water Surface Evaporation

[6] Native Yield Supply applies a planning-level assumption of 0.15 feet of sustainable groundwater use per developed acre within GSA.

[7] Net GSA Operational Deficit is a subtotal of the total water demands minus water supplies within the GSA used to estimate the GSA groundwater deficit for planning purposes.

[8] Water Banking Adjustment provides an accounting for Banking Return Obligations stored in the GSA and the Stored Surface Water at water banks in the Subbasin outside of the GSA

[9] The Water Bank Adjustment does not include surface water stored in the GSA for use by that GSA, which are considered conjunctive use projects and stored conjunctive usewater is already accounted for in the Total Water Supply.

[10] Net Subbasin Operational Deficit is an estimate the Subbasin groundwater deficit that includes the adjustment of GSA water banking operations within the Subbasin.

7th Standard Mgmt Area (SWID) - GSA Operational Water Budget Summary

Kern River Percent of Average Natural Flow at First Point	San Joaquin Valley Water Year Index	Water Year	Managed Surface Water Inflows and Outflows											Operational Water Usage										Operational Water Budget Calculation						
			Managed Surface Water Inflows (acre-feet)							Managed Surface Water Outflows (acre-feet)			Net Inflow (acre-feet)	GSA Land Area (acre-feet)		Agricultural Usage (acre-feet)			Urban Water Use (acre-feet)		Water Surface Evaporation (acre-feet)									
			DWR State Water Project (SWP)	USBR Central Valley Project (CVP)	Kern River	Cross Valley Canal Local Supply	Poso Creek	Transfers Into GSA	Recycled, Produced, Reclaimed , Other Water Inflows	Transfers Out of GSA	Aqueduct or Friant-Kern Canal Pumpins	Water Export out of the Subbasin	Total Surface Water Supply	Developed Land Area[1]	GSA Land Area	Crop Evapotranspiration[2] (ETc)	Effective Precipitation (ETpr)	Applied Water Demand (ETaw)	Municipal & Industrial Water Use[3]	Domestic, Industrial and Small System Water Use[4]	Conveyance System Evaporation	Recharge Basin Evaporation	Total Demand[5] (acre-feet)	Total Surface Water Supply (acre-feet)	Effective Precipitation (ETpr) (acre-feet)	Native Yield Supply[6] (acre-feet)	Net GSA Operational Deficit[7] (SUBTOTAL) (acre-feet)	Water Banking Adjustment[8, 9] (acre-feet)	Net Subbasin Operational Deficit[10] (acre-feet)
190%	W	1995	0	0	0	0	0	0	2,491	0	0	0	2,491	8,721	10,038	28,961	5,891	23,070	0	0	0	0	28,961	2,491	5,891	1,308	**19,271**	0	**19,271**
136%	W	1996	0	0	0	0	0	0	2,496	0	0	0	2,496	8,721	10,038	28,782	3,175	25,607	0	0	0	0	28,782	2,496	3,175	1,308	**21,803**	0	**21,803**
175%	W	1997	0	0	0	0	0	0	2,492	0	0	0	2,492	8,743	10,038	27,461	3,624	23,838	0	0	0	0	27,461	2,492	3,624	1,311	**20,034**	0	**20,034**
237%	W	1998	0	0	0	0	0	0	2,491	0	0	0	2,491	8,735	10,038	25,710	7,386	18,324	0	0	0	0	25,710	2,491	7,386	1,310	**14,523**	0	**14,523**
70%	AN	1999	0	0	0	0	0	0	2,774	0	0	0	2,774	8,746	10,038	25,940	4,186	21,754	0	0	0	0	25,940	2,774	4,186	1,312	**17,669**	0	**17,669**
67%	AN	2000	0	0	0	0	0	0	3,442	0	0	0	3,442	8,832	10,038	26,223	3,076	23,146	0	0	0	0	26,223	3,442	3,076	1,325	**18,380**	0	**18,380**
53%	D	2001	0	0	0	0	0	0	3,625	0	0	0	3,625	8,830	10,038	24,992	3,323	21,668	0	0	0	0	24,992	3,625	3,323	1,324	**16,719**	0	**16,719**
51%	D	2002	0	0	0	0	0	0	3,623	0	0	0	3,623	8,821	10,038	27,360	2,298	25,062	0	0	0	0	27,360	3,623	2,298	1,323	**20,116**	0	**20,116**
83%	BN	2003	0	0	0	0	0	0	3,708	0	0	0	3,708	8,816	10,038	26,005	2,822	23,183	0	0	0	0	26,005	3,708	2,822	1,322	**18,153**	0	**18,153**
57%	D	2004	0	0	0	0	0	0	3,744	0	0	0	3,744	8,816	10,038	26,368	2,234	24,134	0	0	0	0	26,368	3,744	2,234	1,322	**19,068**	0	**19,068**
157%	W	2005	0	0	0	0	0	0	3,739	0	0	0	3,739	8,816	10,038	24,327	4,715	19,612	0	0	0	0	24,327	3,739	4,715	1,322	**14,551**	0	**14,551**
153%	W	2006	0	0	0	0	0	0	3,736	0	0	0	3,736	8,816	10,038	23,297	4,146	19,152	0	0	0	0	23,297	3,736	4,146	1,322	**14,093**	0	**14,093**
39%	C	2007	0	0	0	0	0	0	3,938	0	0	0	3,938	8,816	10,038	24,491	2,157	22,334	0	0	0	0	24,491	3,938	2,157	1,322	**17,073**	0	**17,073**
71%	C	2008	0	0	0	0	0	0	4,002	0	0	0	4,002	8,816	10,038	24,004	1,557	22,447	0	0	0	0	24,004	4,002	1,557	1,322	**17,122**	0	**17,122**
64%	BN	2009	0	0	0	0	0	0	3,758	0	0	0	3,758	8,816	10,038	24,229	2,013	22,216	0	0	0	0	24,229	3,758	2,013	1,322	**17,135**	0	**17,135**
113%	AN	2010	0	0	0	0	0	0	3,419	0	0	0	3,419	8,816	10,038	22,454	3,398	19,057	0	0	0	0	22,454	3,419	3,398	1,322	**14,315**	0	**14,315**
203%	W	2011	0	0	0	0	0	0	4,183	0	0	0	4,183	8,769	10,038	23,251	5,159	18,091	0	0	0	0	23,251	4,183	5,159	1,315	**12,593**	0	**12,593**
53%	D	2012	0	0	0	0	0	0	4,698	0	0	0	4,698	8,770	10,038	23,776	3,255	20,522	0	0	0	0	23,776	4,698	3,255	1,315	**14,508**	0	**14,508**
30%	C	2013	0	0	0	0	0	0	5,218	0	0	0	5,218	8,852	10,038	25,893	2,224	23,669	0	0	0	0	25,893	5,218	2,224	1,328	**17,124**	0	**17,124**
25%	C	2014	0	0	0	0	0	0	2,682	0	0	0	2,682	8,853	10,038	27,080	1,571	25,509	0	0	0	0	27,080	2,682	1,571	1,328	**21,499**	0	**21,499**
18%	C	2015	0	0	0	0	0	0	4,130	0	0	0	4,130	8,901	10,038	27,925	2,426	25,499	0	0	0	0	27,925	4,130	2,426	1,335	**20,034**	0	**20,034**
51%	D	2016	0	0	0	0	0	0	5,649	0	0	0	5,649	8,896	10,038	23,577	3,617	19,961	0	0	0	0	23,577	5,649	3,617	1,334	**12,977**	0	**12,977**
275%	W	2017	0	0	0	0	0	0	3,863	0	0	0	3,863	9,156	10,038	26,270	4,767	21,503	0	0	0	0	26,270	3,863	4,767	1,373	**16,267**	0	**16,267**
60%	BN	2018	0	0	0	0	0	0	4,245	0	0	0	4,245	9,226	10,038	25,347	2,817	22,530	0	0	0	0	25,347	4,245	2,817	1,384	**16,901**	0	**16,901**
177%	W	2019	0	0	0	0	0	0	4,330	0	0	0	4,330	9,184	10,038	26,512	4,784	21,728	0	0	0	0	26,512	4,330	4,784	1,378	**16,021**	0	**16,021**
55%	D	2020	0	0	0	0	0	0	3,456	0	0	0	3,456	9,255	10,038	23,973	4,641	19,332	0	0	0	0	23,973	3,456	4,641	1,388	**14,488**	0	**14,488**
22%	C	2021	0	0	0	0	0	0	3,484	0	0	0	3,484	9,299	10,038	27,646	2,440	25,206	0	0	0	0	27,646	3,484	2,440	1,395	**20,327**	0	**20,327**
29%	C	2022	0	0	0	0	0	0	3,874	0	0	0	3,874	9,253	10,038	25,849	2,677	23,173	0	0	0	0	25,849	3,874	2,677	1,388	**17,911**	0	**17,911**
320%	W	2023	0	0	0	0	0	0	3,114	0	0	0	3,114	9,296	10,038	21,864	4,888	16,977	0	0	0	0	21,864	3,114	4,888	1,394	**12,468**	0	**12,468**
Average (1995-2014)			**0**	**0**	**0**	**0**	**0**	**0**	**3,513**	**0**	**0**	**0**	**3,513**	**8,796**	**10,038**	**25,530**	**3,411**	**22,120**	**0**	**0**	**0**	**0**	**25,530**	**3,513**	**3,411**	**1,319**	**17,287**	**0**	**17,287**
Average (2015-2023)			**0**	**0**	**0**	**0**	**0**	**0**	**4,016**	**0**	**0**	**0**	**4,016**	**9,163**	**10,038**	**25,440**	**3,673**	**21,768**	**0**	**0**	**0**	**0**	**25,440**	**4,016**	**3,673**	**1,374**	**16,377**	**0**	**16,377**
Average (1995-2023)			**0**	**0**	**0**	**0**	**0**	**0**	**3,669**	**0**	**0**	**0**	**3,669**	**8,910**	**10,038**	**25,502**	**3,492**	**22,011**	**0**	**0**	**0**	**0**	**25,502**	**3,669**	**3,492**	**1,336**	**17,005**	**0**	**17,005**
Wet (W, AN)			**0**	**0**	**0**	**0**	**0**	**0**	**3,275**	**0**	**0**	**0**	**3,275**	**8,873**	**10,038**	**25,466**	**4,553**	**20,912**	**0**	**0**	**0**	**0**	**25,466**	**3,275**	**4,553**	**1,331**	**16,307**	**0**	**16,307**
Dry (D, BN)			**0**	**0**	**0**	**0**	**0**	**0**	**4,056**	**0**	**0**	**0**	**4,056**	**8,916**	**10,038**	**25,070**	**3,002**	**22,068**	**0**	**0**	**0**	**0**	**25,070**	**4,056**	**3,002**	**1,337**	**16,674**	**0**	**16,674**
Critically Dry (C)			**0**	**0**	**0**	**0**	**0**	**0**	**3,904**	**0**	**0**	**0**	**3,904**	**8,970**	**10,038**	**26,127**	**2,150**	**23,977**	**0**	**0**	**0**	**0**	**26,127**	**3,904**	**2,150**	**1,345**	**18,727**	**0**	**18,727**
Percent of Total			**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**100%**	**0%**	**0%**	**0%**	**100%**	**89%**	**100%**		**14%**	**86%**	**#DIV/0!**	**#DIV/0!**			**100%**	**14%**	**14%**	**5%**	**67%**	**0%**	**67%**

[1] Developed Land Area includes Irrigated and Fallow Agriculture, Urban, and Recharge Basins

[2] ETc Demand developed as the average of raw METRIC ITRC and adjusted METRIC ITRC - adjusted to account for a low bias in the ITRC METRIC data compared to LandIQ ET data

[3] Municipal and Industrial Water Supply is the total reported surface and groundwater supplied to major water purveyors

[4] Domestic, Industrial and Small Water System Supply is an estimated water use based on population outside of major water purveyor servide areas plus estimated water use from reported industrial water systems

[5] Total Demand = Crop Evapotranspiration + Urban Water Use + Water Surface Evaporation

[6] Native Yield Supply applies a planning-level assumption of 0.15 feet of sustainable groundwater use per developed acre within GSA.

[7] Net GSA Operational Deficit is a subtotal of the total water demands minus water supplies within the GSA used to estimate the GSA groundwater deficit for planning purposes.

[8] Water Banking Adjustment provides an accounting for Banking Return Obligations stored in the GSA and the Stored Surface Water at water banks in the Subbasin outside of the GSA

[9] The Water Bank Adjustment does not include surface water stored in the GSA for use by that GSA, which are considered conjunctive use projects and stored conjunctive usewater is already accounted for in the Total Water Supply.

[10] Net Subbasin Operational Deficit is an estimate the Subbasin groundwater deficit that includes the adjustment of GSA water banking operations within the Subbasin.

Tejon-Castac Water District GSA - GSA Operational Water Budget Summary

Kern River Percent of Average Natural Flow at First Point	San Joaquin Valley Water Year Index	Water Year	Managed Surface Water Inflows and Outflows											Operational Water Usage										Operational Water Budget Calculation						
			Managed Surface Water Inflows (acre-feet)							Managed Surface Water Outflows (acre-feet)			Net Inflow (acre-feet)	GSA Land Area (acre-feet)		Agricultural Usage (acre-feet)			Urban Water Use (acre-feet)		Water Surface Evaporation (acre-feet)									
			DWR State Water Project (SWP)	USBR Central Valley Project (CVP)	Kern River	Cross Valley Canal Local Supply	Poso Creek	Transfers Into GSA	Recycled, Produced, Reclaimed , Other Water Inflows	Transfers Out of GSA	Aqueduct or Friant-Kern Canal Pumpins	Water Export out of the Subbasin	Total Surface Water Supply	Developed Land Area[1]	GSA Land Area	Crop Evapotranspiration[2] (ETc)	Effective Precipitation (ETpr)	Applied Water Demand (ETaw)	Municipal & Industrial Water Use[3]	Domestic, Industrial and Small System Water Use[4]	Conveyance System Evaporation	Recharge Basin Evaporation	Total Demand[5] (acre-feet)	Total Surface Water Supply (acre-feet)	Effective Precipitation (ETpr) (acre-feet)	Native Yield Supply[6] (acre-feet)	Net GSA Operational Deficit[7] (SUBTOTAL) (acre-feet)	Water Banking Adjustment[8, 9] (acre-feet)	Net Subbasin Operational Deficit[10] (acre-feet)
190%	W	1995	0	0	0	0	0	0	0	0	0	0	0	233	19,508	35	10	25	0	160	0	0	195	0	10	35	**149**	-3,041	**-2,892**
136%	W	1996	0	0	0	0	0	0	0	0	0	0	0	233	19,508	30	4	26	0	142	0	0	171	0	4	35	**132**	-5,023	**-4,891**
175%	W	1997	0	0	0	0	0	0	0	0	0	0	0	233	19,508	27	4	23	0	124	0	0	151	0	4	35	**112**	-2,164	**-2,052**
237%	W	1998	0	0	0	0	0	0	0	0	0	0	0	234	19,508	8	3	5	0	105	0	0	113	0	3	35	**75**	-5,231	**-5,156**
70%	AN	1999	0	0	0	0	0	0	0	0	0	0	0	247	19,508	35	17	18	0	87	0	0	123	0	17	37	**68**	-324	**-256**
67%	AN	2000	0	0	0	0	0	0	0	0	0	0	0	834	19,508	9	1	8	0	69	0	0	78	0	1	125	**-48**	-1,488	**-1,536**
53%	D	2001	0	0	0	0	0	0	0	0	0	0	0	859	19,508	162	84	78	0	63	0	0	225	0	84	129	**12**	-680	**-668**
51%	D	2002	0	0	0	0	0	0	0	0	0	0	0	831	19,508	124	33	91	0	58	0	0	182	0	33	125	**25**	-3,072	**-3,047**
83%	BN	2003	0	0	0	0	0	0	0	0	0	0	0	862	19,508	141	69	72	0	52	0	0	193	0	69	129	**-5**	59	**54**
57%	D	2004	0	0	0	0	0	0	0	0	0	0	0	862	19,508	32	5	28	0	47	0	0	79	0	5	129	**-55**	-480	**-535**
157%	W	2005	0	0	0	0	0	0	0	0	0	0	0	871	19,508	139	68	71	0	41	0	0	179	0	68	131	**-19**	-3,493	**-3,512**
153%	W	2006	0	0	0	0	0	0	0	0	0	0	0	841	19,508	211	115	95	0	35	0	0	246	0	115	126	**5**	-4,738	**-4,733**
39%	C	2007	0	0	0	0	0	0	0	0	0	0	0	841	19,508	788	293	494	0	30	0	0	817	0	293	126	**398**	-1,603	**-1,205**
71%	C	2008	0	0	0	0	0	0	0	0	0	0	0	841	19,508	553	158	395	0	24	0	0	577	0	158	126	**293**	0	**293**
64%	BN	2009	0	0	0	0	0	0	0	0	0	0	0	841	19,508	129	43	86	0	19	0	0	147	0	43	126	**-22**	52	**30**
113%	AN	2010	0	0	0	0	0	0	0	0	0	0	0	841	19,508	374	159	215	0	13	0	0	387	0	159	126	**102**	-241	**-139**
203%	W	2011	0	0	0	0	0	0	0	0	0	0	0	841	19,508	13	4	9	0	13	0	0	26	0	4	126	**-104**	-7,410	**-7,514**
53%	D	2012	0	0	0	0	0	0	0	0	0	0	0	843	19,508	25	5	20	0	13	0	0	38	0	5	126	**-93**	0	**-93**
30%	C	2013	0	0	0	0	0	0	0	0	0	0	0	843	19,508	26	2	24	0	13	0	0	39	0	2	126	**-90**	0	**-90**
25%	C	2014	0	0	0	0	0	0	0	0	0	0	0	843	19,508	22	3	19	0	13	0	0	35	0	3	126	**-94**	3,016	**2,922**
18%	C	2015	0	0	0	0	0	0	0	0	0	0	0	843	19,508	22	3	19	0	13	0	0	35	0	3	126	**-94**	0	**-94**
51%	D	2016	0	0	0	0	0	0	0	0	0	0	0	843	19,508	25	6	20	0	13	0	0	39	0	6	126	**-93**	2,515	**2,422**
275%	W	2017	0	0	0	0	0	0	0	0	0	0	0	843	19,508	32	8	24	0	14	0	0	46	0	8	126	**-88**	-14,166	**-14,254**
60%	BN	2018	0	0	0	0	0	0	0	0	0	0	0	843	19,508	15	2	13	0	14	0	0	29	0	2	126	**-100**	-5,244	**-5,344**
177%	W	2019	0	0	0	0	0	0	0	0	0	0	0	843	19,508	71	32	39	0	14	0	0	85	0	32	126	**-74**	-7,732	**-7,806**
55%	D	2020	0	0	0	0	0	0	0	0	0	0	0	843	19,508	11	3	8	0	14	0	0	25	0	3	126	**-104**	-554	**-658**
22%	C	2021	0	0	0	0	0	0	0	0	0	0	0	1,120	19,508	11	1	10	0	14	0	0	25	0	1	168	**-144**	4,868	**4,724**
29%	C	2022	0	0	0	0	0	0	0	0	0	0	0	242	19,508	11	1	10	0	14	0	0	25	0	1	36	**-13**	3,601	**3,588**
320%	W	2023	0	0	0	0	0	0	0	0	0	0	0	698	19,508	17	4	13	0	14	0	0	31	0	4	105	**-78**	-12,793	**-12,871**
Average (1995-2014)			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**694**	**19,508**	**144**	**54**	**90**	**0**	**56**	**0**	**0**	**200**	**0**	**54**	**104**	**42**	**-1,793**	**-1,751**
Average (2015-2023)			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**791**	**19,508**	**24**	**7**	**17**	**0**	**14**	**0**	**0**	**38**	**0**	**7**	**119**	**-88**	**-3,278**	**-3,366**
Average (1995-2023)			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**724**	**19,508**	**107**	**39**	**67**	**0**	**43**	**0**	**0**	**150**	**0**	**39**	**109**	**2**	**-2,254**	**-2,252**
Wet (W, AN)			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**599**	**19,508**	**77**	**33**	**44**	**0**	**64**	**0**	**0**	**141**	**0**	**33**	**90**	**18**	**-5,219**	**-5,201**
Dry (D, BN)			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**847**	**19,508**	**74**	**28**	**46**	**0**	**32**	**0**	**0**	**106**	**0**	**28**	**127**	**-48**	**-823**	**-871**
Critically Dry (C)			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**796**	**19,508**	**205**	**66**	**139**	**0**	**17**	**0**	**0**	**222**	**0**	**66**	**119**	**37**	**1,412**	**1,448**
Percent of Total			**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**4%**	**100%**		**37%**	**63%**	**0%**	**100%**			**100%**	**0%**	**26%**	**73%**	**1%**	**1506%**	**-1504%**

[1] Developed Land Area includes Irrigated and Fallow Agriculture, Urban, and Recharge Basins

[2] ETc Demand developed as the average of raw METRIC ITRC and adjusted METRIC ITRC - adjusted to account for a low bias in the ITRC METRIC data compared to LandIQ ET data

[3] Municipal and Industrial Water Supply is the total reported surface and groundwater supplied to major water purveyors

[4] Domestic, Industrial and Small Water System Supply is an estimated water use based on population outside of major water purveyor servide areas plus estimated water use from reported industrial water systems

[5] Total Demand = Crop Evapotranspiration + Urban Water Use + Water Surface Evaporation

[6] Native Yield Supply applies a planning-level assumption of 0.15 feet of sustainable groundwater use per developed acre within GSA.

[7] Net GSA Operational Deficit is a subtotal of the total water demands minus water supplies within the GSA used to estimate the GSA groundwater deficit for planning purposes.

[8] Water Banking Adjustment provides an accounting for Banking Return Obligations stored in the GSA and the Stored Surface Water at water banks in the Subbasin outside of the GSA

[9] The Water Bank Adjustment does not include surface water stored in the GSA for use by that GSA, which are considered conjunctive use projects and stored conjunctive usewater is already accounted for in the Total Water Supply.

[10] Net Subbasin Operational Deficit is an estimate the Subbasin groundwater deficit that includes the adjustment of GSA water banking operations within the Subbasin.

West Kern Water District GSA - GSA Operational Water Budget Summary

Kern River Percent of Average Natural Flow at First Point	San Joaquin Valley Water Year Index	Water Year	Managed Surface Water Inflows and Outflows											Operational Water Usage										Operational Water Budget Calculation						
			Managed Surface Water Inflows (acre-feet)							Managed Surface Water Outflows (acre-feet)			Net Inflow (acre-feet)	GSA Land Area (acre-feet)		Agricultural Usage (acre-feet)			Urban Water Use (acre-feet)		Water Surface Evaporation (acre-feet)									
			DWR State Water Project (SWP)	USBR Central Valley Project (CVP)	Kern River	Cross Valley Canal Local Supply	Poso Creek	Transfers Into GSA	Recycled, Produced, Reclaimed , Other Water Inflows	Transfers Out of GSA	Aqueduct or Friant-Kern Canal Pumpins	Water Export out of the Subbasin	Total Surface Water Supply	Developed Land Area[1]	GSA Land Area	Crop Evapotranspiration[2] (ETc)	Effective Precipitation (ETpr)	Applied Water Demand (ETaw)	Municipal & Industrial Water Use[3]	Domestic, Industrial and Small System Water Use[4]	Conveyance System Evaporation	Recharge Basin Evaporation	Total Demand[5] (acre-feet)	Total Surface Water Supply (acre-feet)	Effective Precipitation (ETpr) (acre-feet)	Native Yield Supply[6] (acre-feet)	Net GSA Operational Deficit[7] (SUBTOTAL) (acre-feet)	Water Banking Adjustment[8, 9] (acre-feet)	Net Subbasin Operational Deficit[10] (acre-feet)
190%	W	1995	40,379	0	0	0	0	0	1,102	0	0	0	41,481	6,338	160,472	2,834	972	1,863	12,149	0	0	1,615	16,598	41,481	972	951	-26,805	0	-26,805
136%	W	1996	25,597	0	0	0	0	0	1,102	0	0	0	26,699	6,263	160,472	2,344	448	1,896	13,523	0	0	1,024	16,891	26,699	448	939	-11,196	0	-11,196
175%	W	1997	17,920	0	0	0	0	0	1,102	0	0	0	19,022	6,453	160,472	1,572	231	1,341	13,523	0	0	717	15,812	19,022	231	968	-4,409	0	-4,409
237%	W	1998	23,602	0	0	0	0	0	1,102	0	0	0	24,704	6,625	160,472	1,470	462	1,008	13,511	0	0	944	15,925	24,704	462	994	-10,235	0	-10,235
70%	AN	1999	29,758	0	0	0	0	0	1,102	0	0	0	30,860	6,340	160,472	1,450	307	1,143	15,043	0	0	1,190	17,683	30,860	307	951	-14,435	0	-14,435
67%	AN	2000	22,494	0	0	0	0	0	1,102	0	0	0	23,596	6,634	160,472	1,855	400	1,455	17,050	0	0	899	19,804	23,596	400	995	-5,187	0	-5,187
53%	D	2001	10,753	0	0	0	0	0	1,102	0	0	0	11,855	6,775	160,472	2,206	458	1,748	15,722	0	0	429	18,358	11,855	458	1,016	5,028	0	5,028
51%	D	2002	17,507	0	0	0	0	0	1,102	0	0	0	18,609	6,881	160,472	1,913	260	1,654	15,977	0	0	681	18,571	18,609	260	1,032	-1,330	0	-1,330
83%	BN	2003	18,400	0	0	0	0	0	1,102	0	0	0	19,502	6,709	160,472	1,544	225	1,320	18,910	0	0	654	21,109	19,502	225	1,006	375	0	375
57%	D	2004	7,523	0	0	0	0	0	1,102	0	0	0	8,625	6,710	160,472	1,738	182	1,556	20,883	0	0	141	22,761	8,625	182	1,006	12,947	-33,333	-20,386
157%	W	2005	33,142	0	0	0	0	0	1,102	0	0	0	34,244	6,676	160,472	1,598	310	1,289	21,129	0	0	1,182	23,909	34,244	310	1,001	-11,646	0	-11,646
153%	W	2006	18,344	0	0	0	0	0	1,102	0	0	0	19,446	6,766	160,472	2,017	505	1,512	21,871	0	0	575	24,463	19,446	505	1,015	3,497	-21,500	-18,003
39%	C	2007	8,505	0	0	0	0	0	1,102	0	0	0	9,607	6,577	160,472	1,533	152	1,381	22,612	0	0	168	24,314	9,607	152	987	13,568	0	13,568
71%	C	2008	4,525	0	0	0	0	0	1,102	0	0	0	5,627	6,628	160,472	1,656	136	1,519	27,666	0	0	0	29,322	5,627	136	994	22,563	0	22,563
64%	BN	2009	9,797	0	0	0	0	0	1,102	0	0	0	10,899	6,791	160,472	1,734	230	1,505	21,737	0	0	203	23,674	10,899	230	1,019	11,527	16,967	28,494
113%	AN	2010	14,675	0	0	0	0	0	1,102	0	0	0	15,777	6,791	160,472	1,648	256	1,392	20,145	0	0	417	22,209	15,777	256	1,019	5,157	10,151	15,308
203%	W	2011	33,773	0	0	0	0	0	1,102	0	0	0	34,875	6,787	160,472	581	127	453	18,552	0	0	1,611	20,743	34,875	127	1,018	-15,277	5,875	-9,402
53%	D	2012	50,081	0	0	0	0	0	1,102	0	0	0	51,183	6,879	160,472	909	119	790	19,413	0	0	2,204	22,526	51,183	119	1,032	-29,808	6,316	-23,492
30%	C	2013	16,066	0	0	0	0	0	1,102	0	-629	0	16,539	6,961	160,472	702	63	639	18,342	0	0	500	19,544	16,539	63	1,044	1,898	-5,375	-3,477
25%	C	2014	6,603	0	0	0	0	0	1,102	0	-16,451	0	-8,746	6,961	160,472	698	49	649	19,027	0	0	50	19,775	-8,746	49	1,044	27,428	-3,446	23,982
18%	C	2015	9,498	0	0	0	0	0	1,102	0	-5,705	0	4,895	7,298	160,472	662	80	581	21,000	0	0	300	21,962	4,895	80	1,095	15,891	-1,870	14,021
51%	D	2016	18,953	0	0	0	0	0	1,102	0	-3,895	0	16,160	7,295	160,472	675	107	568	18,625	0	0	730	20,030	16,160	107	1,094	2,668	5,608	8,276
275%	W	2017	57,354	0	0	0	0	0	1,205	0	0	0	58,559	7,189	160,472	721	133	588	17,877	0	0	2,458	21,056	58,559	133	1,078	-38,714	15,896	-22,818
60%	BN	2018	20,862	0	0	0	0	0	1,155	0	-1,322	0	20,695	7,190	160,472	491	67	424	18,239	0	0	857	19,588	20,695	67	1,078	-2,253	6,663	4,410
177%	W	2019	34,867	0	0	0	0	0	1,113	0	0	0	35,980	7,191	160,472	718	151	567	15,968	0	0	1,405	18,091	35,980	151	1,079	-19,119	3,362	-15,757
55%	D	2020	11,562	0	0	0	0	5,220	1,085	0	-4,165	0	13,702	7,183	160,472	501	121	380	24,503	0	0	321	25,326	13,702	121	1,077	10,425	-3,487	6,938
22%	C	2021	12,169	0	0	0	0	0	1,085	0	-2,002	0	11,252	7,170	160,472	602	64	538	19,921	0	0	90	20,613	11,252	64	1,076	8,221	-2,000	6,221
29%	C	2022	10,680	0	0	0	0	0	1,085	0	-6,989	0	4,776	7,173	160,472	461	51	410	27,859	0	0	1	28,321	4,776	51	1,076	22,418	-2,007	20,411
320%	W	2023	31,373	0	3,264	36	0	0	1,085	0	0	0	35,758	7,173	160,472	1,133	496	637	12,977	0	0	794	14,904	35,758	496	1,076	-22,425	0	-22,425
Average (1995-2014)			**20,472**	**0**	**0**	**0**	**0**	**0**	**1,102**	**0**	**-854**	**0**	**20,721**	**6,677**	**160,472**	**1,600**	**295**	**1,306**	**18,339**	**0**	**0**	**760**	**20,700**	**20,721**	**295**	**1,002**	**-1,317**	**-1,217**	**-2,534**
Average (2015-2023)			**23,035**	**0**	**363**	**4**	**0**	**580**	**1,113**	**0**	**-2,675**	**0**	**22,420**	**7,207**	**160,472**	**663**	**141**	**522**	**19,663**	**0**	**0**	**773**	**21,099**	**22,420**	**141**	**1,081**	**-2,543**	**2,463**	**-80**
Average (1995-2023)			**21,268**	**0**	**113**	**1**	**0**	**180**	**1,106**	**0**	**-1,419**	**0**	**21,248**	**6,842**	**160,472**	**1,309**	**247**	**1,062**	**18,750**	**0**	**0**	**764**	**20,824**	**21,248**	**247**	**1,026**	**-1,698**	**-75**	**-1,773**
Wet (W, AN)			**29,483**	**0**	**251**	**3**	**0**	**0**	**1,110**	**0**	**0**	**0**	**30,847**	**6,710**	**160,472**	**1,534**	**369**	**1,165**	**16,409**	**0**	**0**	**1,141**	**19,084**	**30,847**	**369**	**1,006**	**-13,138**	**1,060**	**-12,078**
Dry (D, BN)			**18,382**	**0**	**0**	**0**	**0**	**580**	**1,106**	**0**	**-1,042**	**0**	**19,026**	**6,935**	**160,472**	**1,301**	**196**	**1,105**	**19,334**	**0**	**0**	**691**	**21,327**	**19,026**	**196**	**1,040**	**1,064**	**-141**	**924**
Critically Dry (C)			**9,721**	**0**	**0**	**0**	**0**	**0**	**1,097**	**0**	**-4,539**	**0**	**6,279**	**6,967**	**160,472**	**902**	**85**	**817**	**22,347**	**0**	**0**	**158**	**23,407**	**6,279**	**85**	**1,045**	**15,998**	**-2,100**	**13,898**
Percent of Total			**100%**	**0%**	**1%**	**0%**	**0%**	**1%**	**5%**	**0%**	**-7%**	**0%**	**100%**	**4%**	**100%**		**19%**	**81%**	**100%**	**0%**			**100%**	**102%**	**1%**	**5%**	**-8%**	**0%**	**-9%**

[1] Developed Land Area includes Irrigated and Fallow Agriculture, Urban, and Recharge Basins

[2] ETc Demand developed as the average of raw METRIC ITRC and adjusted METRIC ITRC - adjusted to account for a low bias in the ITRC METRIC data compared to LandIQ ET data

[3] Municipal and Industrial Water Supply is the total reported surface and groundwater supplied to major water purveyors

[4] Domestic, Industrial and Small Water System Supply is an estimated water use based on population outside of major water purveyor servide areas plus estimated water use from reported industrial water systems

[5] Total Demand = Crop Evapotranspiration + Urban Water Use + Water Surface Evaporation

[6] Native Yield Supply applies a planning-level assumption of 0.15 feet of sustainable groundwater use per developed acre within GSA.

[7] Net GSA Operational Deficit is a subtotal of the total water demands minus water supplies within the GSA used to estimate the GSA groundwater deficit for planning purposes.

[8] Water Banking Adjustment provides an accounting for Banking Return Obligations stored in the GSA and the Stored Surface Water at water banks in the Subbasin outside of the GSA

[9] The Water Bank Adjustment does not include surface water stored in the GSA for use by that GSA, which are considered conjunctive use projects and stored conjunctive usewater is already accounted for in the Total Water Supply.

[10] Net Subbasin Operational Deficit is an estimate the Subbasin groundwater deficit that includes the adjustment of GSA water banking operations within the Subbasin.

Westside District Water Authority GSA - GSA Operational Water Budget Summary

Kern River Percent of Average Natural Flow at First Point	San Joaquin Valley Water Year Index	Water Year	Managed Surface Water Inflows and Outflows											Operational Water Usage										Operational Water Budget Calculation						
			Managed Surface Water Inflows (acre-feet)							Managed Surface Water Outflows (acre-feet)			Net Inflow (acre-feet)	GSA Land Area (acre-feet)		Agricultural Usage (acre-feet)			Urban Water Use (acre-feet)		Water Surface Evaporation (acre-feet)									
			DWR State Water Project (SWP)	USBR Central Valley Project (CVP)	Kern River	Cross Valley Canal Local Supply	Poso Creek	Transfers Into GSA	Recycled, Produced, Reclaimed , Other Water Inflows	Transfers Out of GSA	Aqueduct or Friant-Kern Canal Pumpins	Water Export out of the Subbasin	Total Surface Water Supply	Developed Land Area[1]	GSA Land Area	Crop Evapotranspiration[2] (ETc)	Effective Precipitation (ETpr)	Applied Water Demand (ETaw)	Municipal & Industrial Water Use[3]	Domestic, Industrial and Small System Water Use[4]	Conveyance System Evaporation	Recharge Basin Evaporation	Total Demand[5] (acre-feet)	Total Surface Water Supply (acre-feet)	Effective Precipitation (ETpr) (acre-feet)	Native Yield Supply[6] (acre-feet)	Net GSA Operational Deficit[7] (SUBTOTAL) (acre-feet)	Water Banking Adjustment[8, 9] (acre-feet)	Net Subbasin Operational Deficit[10] (acre-feet)
190%	W	1995	275,477	0	0	0	0	0	0	0	0	0	275,477	153,869	260,060	346,023	97,859	248,164	322	46	2,758	0	349,149	275,477	97,859	23,080	**-47,267**	-242,674	**-289,941**
136%	W	1996	372,894	0	0	0	0	0	0	0	0	0	372,894	154,088	260,060	382,953	58,420	324,533	322	45	3,732	0	387,051	372,894	58,420	23,113	**-67,375**	-47,061	**-114,436**
175%	W	1997	362,519	0	0	0	0	0	0	0	0	0	362,519	155,487	260,060	326,436	54,093	272,343	322	43	3,628	0	330,430	362,519	54,093	23,323	**-109,506**	-84,288	**-193,794**
237%	W	1998	246,119	0	0	0	0	0	0	0	0	0	246,119	156,850	260,060	337,943	103,274	234,669	302	41	2,464	0	340,750	246,119	103,274	23,527	**-32,169**	-198,208	**-230,377**
70%	AN	1999	303,547	0	0	0	0	0	0	0	0	0	303,547	157,419	260,060	305,152	59,859	245,293	307	39	3,039	0	308,537	303,547	59,859	23,613	**-78,482**	-17,429	**-95,911**
67%	AN	2000	318,085	0	0	0	0	0	0	0	0	0	318,085	156,090	260,060	311,256	42,710	268,546	301	37	3,184	0	314,779	318,085	42,710	23,414	**-69,430**	-29,559	**-98,989**
53%	D	2001	225,678	0	0	0	0	0	0	0	0	0	225,678	157,563	260,060	247,987	37,948	210,039	331	36	2,260	0	250,615	225,678	37,948	23,634	**-36,646**	74,403	**37,757**
51%	D	2002	238,896	0	0	0	0	0	0	0	0	0	238,896	155,812	260,060	226,806	23,610	203,197	361	35	2,393	0	229,595	238,896	23,610	23,372	**-56,282**	43,683	**-12,599**
83%	BN	2003	229,998	0	0	0	0	0	0	0	0	0	229,998	153,917	260,060	223,665	30,648	193,017	373	34	2,304	0	226,375	229,998	30,648	23,088	**-57,358**	98	**-57,260**
57%	D	2004	255,052	0	0	0	0	0	0	0	0	0	255,052	150,560	260,060	260,615	29,783	230,832	395	33	2,554	0	263,598	255,052	29,783	22,584	**-43,821**	-16,155	**-59,976**
157%	W	2005	235,739	0	0	0	0	0	0	0	0	0	235,739	152,250	260,060	260,426	67,478	192,948	408	32	2,361	0	263,228	235,739	67,478	22,837	**-62,827**	-205,741	**-268,568**
153%	W	2006	273,437	0	0	0	0	0	0	0	0	0	273,437	151,714	260,060	251,148	61,311	189,837	407	31	2,739	0	254,325	273,437	61,311	22,757	**-103,180**	-196,350	**-299,530**
39%	C	2007	304,123	0	0	0	0	0	0	0	0	0	304,123	151,266	260,060	235,356	28,669	206,687	423	30	3,045	0	238,855	304,123	28,669	22,690	**-116,627**	182,551	**65,924**
71%	C	2008	275,296	0	0	0	0	0	0	0	0	0	275,296	151,154	260,060	208,152	23,287	184,865	416	29	2,757	0	211,354	275,296	23,287	22,673	**-109,902**	177,755	**67,853**
64%	BN	2009	283,564	0	0	0	0	449	0	0	0	0	284,013	149,130	260,060	215,222	22,892	192,330	378	28	2,844	0	218,472	284,013	22,892	22,369	**-110,802**	147,794	**36,992**
113%	AN	2010	294,336	0	0	0	0	279	0	0	0	0	294,615	150,251	260,060	247,625	44,403	203,222	368	27	2,950	0	250,970	294,615	44,403	22,538	**-110,586**	28,862	**-81,724**
203%	W	2011	301,301	0	0	0	0	0	0	0	0	0	301,301	150,277	260,060	281,145	59,735	221,410	409	26	3,017	0	284,597	301,301	59,735	22,542	**-98,980**	-236,159	**-335,139**
53%	D	2012	310,232	0	0	0	0	0	0	0	0	0	310,232	150,686	260,060	352,809	47,977	304,831	377	25	3,106	0	356,318	310,232	47,977	22,603	**-24,495**	45,867	**21,372**
30%	C	2013	324,764	0	0	0	0	0	0	0	0	0	324,764	157,886	260,060	267,066	18,566	248,500	380	24	3,251	0	270,721	324,764	18,566	23,683	**-96,292**	105,378	**9,086**
25%	C	2014	288,667	0	0	0	0	0	0	0	0	0	288,667	157,414	260,060	276,502	14,907	261,595	343	23	2,890	0	279,758	288,667	14,907	23,612	**-47,428**	156,144	**108,716**
18%	C	2015	279,523	0	0	0	0	0	0	0	0	0	279,523	157,425	260,060	255,163	23,723	231,440	369	22	2,799	0	258,353	279,523	23,723	23,614	**-68,507**	108,948	**40,441**
51%	D	2016	271,658	0	0	0	0	0	0	0	0	0	271,658	158,445	260,060	260,721	36,260	224,461	372	21	2,720	0	263,834	271,658	36,260	23,767	**-67,850**	38,604	**-29,246**
275%	W	2017	295,727	0	0	0	0	0	0	0	0	0	295,727	158,817	260,060	303,755	46,157	257,598	372	20	2,958	0	307,105	295,727	46,157	23,823	**-58,602**	-337,338	**-395,940**
60%	BN	2018	291,969	0	0	0	0	0	0	0	0	0	291,969	157,448	260,060	252,318	22,734	229,585	372	19	2,920	0	255,629	291,969	22,734	23,617	**-82,690**	10,704	**-71,986**
177%	W	2019	291,011	0	0	0	0	0	0	0	0	0	291,011	157,667	260,060	286,839	42,546	244,293	372	18	2,910	0	290,139	291,011	42,546	23,650	**-67,068**	-245,017	**-312,085**
55%	D	2020	278,722	0	0	0	0	0	0	0	0	0	278,722	157,365	260,060	245,018	35,894	209,123	372	17	2,787	0	248,194	278,722	35,894	23,605	**-90,027**	62,505	**-27,522**
22%	C	2021	260,366	0	0	0	0	0	0	0	0	0	260,366	157,307	260,060	243,348	24,875	218,473	372	17	2,604	0	246,341	260,366	24,875	23,596	**-62,496**	165,821	**103,325**
29%	C	2022	272,169	0	0	0	0	0	0	0	0	0	272,169	156,228	260,060	207,347	24,096	183,252	372	17	2,299	0	210,036	272,169	24,096	23,434	**-109,663**	134,842	**25,179**
320%	W	2023	209,601	0	0	0	0	0	0	0	0	0	209,601	158,254	260,060	266,154	82,114	184,040	372	17	2,367	0	268,910	209,601	82,114	23,738	**-46,543**	-376,443	**-422,986**
Average (1995-2014)			**285,986**	**0**	**0**	**0**	**0**	**36**	**0**	**0**	**0**	**0**	**286,023**	**153,684**	**260,060**	**278,214**	**46,371**	**231,843**	**362**	**33**	**2,864**	**0**	**281,474**	**286,023**	**46,371**	**23,053**	**-73,973**	**-15,554**	**-89,527**
Average (2015-2023)			**272,305**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**272,305**	**157,662**	**260,060**	**257,851**	**37,600**	**220,252**	**372**	**19**	**2,707**	**0**	**260,949**	**272,305**	**37,600**	**23,649**	**-72,605**	**-48,597**	**-121,202**
Average (1995-2023)			**281,740**	**0**	**0**	**0**	**0**	**25**	**0**	**0**	**0**	**0**	**281,765**	**154,918**	**260,060**	**271,895**	**43,649**	**228,246**	**365**	**29**	**2,815**	**0**	**275,104**	**281,765**	**43,649**	**23,238**	**-73,548**	**-25,809**	**-99,357**
Wet (W, AN)			**290,753**	**0**	**0**	**0**	**0**	**21**	**0**	**0**	**0**	**0**	**290,775**	**154,849**	**260,060**	**300,527**	**63,074**	**237,453**	**353**	**33**	**2,931**	**0**	**303,844**	**290,775**	**63,074**	**23,227**	**-73,232**	**-168,262**	**-241,494**
Dry (D, BN)			**265,085**	**0**	**0**	**0**	**0**	**50**	**0**	**0**	**0**	**0**	**265,135**	**154,547**	**260,060**	**253,907**	**31,972**	**221,935**	**370**	**28**	**2,654**	**0**	**256,959**	**265,135**	**31,972**	**23,182**	**-63,330**	**45,278**	**-18,052**
Critically Dry (C)			**286,415**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**286,415**	**155,526**	**260,060**	**241,848**	**22,589**	**219,259**	**382**	**23**	**2,807**	**0**	**245,060**	**286,415**	**22,589**	**23,329**	**-87,273**	**147,348**	**60,075**
Percent of Total			**100%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**100%**	**60%**	**100%**		**16%**	**84%**	**93%**	**7%**			**100%**	**102%**	**16%**	**8%**	**-27%**	**9%**	**-36%**

[1] Developed Land Area includes Irrigated and Fallow Agriculture, Urban, and Recharge Basins

[2] ETc Demand developed as the average of raw METRIC ITRC and adjusted METRIC ITRC - adjusted to account for a low bias in the ITRC METRIC data compared to LandIQ ET data

[3] Municipal and Industrial Water Supply is the total reported surface and groundwater supplied to major water purveyors

[4] Domestic, Industrial and Small Water System Supply is an estimated water use based on population outside of major water purveyor servide areas plus estimated water use from reported industrial water systems

[5] Total Demand = Crop Evapotranspiration + Urban Water Use + Water Surface Evaporation

[6] Native Yield Supply applies a planning-level assumption of 0.15 feet of sustainable groundwater use per developed acre within GSA.

[7] Net GSA Operational Deficit is a subtotal of the total water demands minus water supplies within the GSA used to estimate the GSA groundwater deficit for planning purposes.

[8] Water Banking Adjustment provides an accounting for Banking Return Obligations stored in the GSA and the Stored Surface Water at water banks in the Subbasin outside of the GSA

[9] The Water Bank Adjustment does not include surface water stored in the GSA for use by that GSA, which are considered conjunctive use projects and stored conjunctive usewater is already accounted for in the Total Water Supply.

[10] Net Subbasin Operational Deficit is an estimate the Subbasin groundwater deficit that includes the adjustment of GSA water banking operations within the Subbasin.

Wheeler Ridge-Maricopa GSA - GSA Operational Water Budget Summary

Kern River Percent of Average Natural Flow at First Point	San Joaquin Valley Water Year Index	Water Year	Managed Surface Water Inflows and Outflows											Operational Water Usage									Operational Water Budget Calculation						
			Managed Surface Water Inflows (acre-feet)							Managed Surface Water Outflows (acre-feet)			Net Inflow (acre-feet)	GSA Land Area (acre-feet)		Agricultural Usage (acre-feet)			Urban Water Use (acre-feet)		Water Surface Evaporation (acre-feet)								
			DWR State Water Project (SWP)	USBR Central Valley Project (CVP)	Kern River	Cross Valley Canal Local Supply	Poso Creek	Transfers Into GSA	Recycled, Produced, Reclaimed , Other Water Inflows	Transfers Out of GSA	Aqueduct or Friant-Kern Canal Pumpins	Water Export out of the Subbasin	Total Surface Water Supply	Developed Land Area [1]	GSA Land Area	Crop Evapotranspiration [2] (ETc)	Effective Precipitation (ETpr)	Applied Water Demand (ETaw)	Municipal & Industrial Water Use [3]	Domestic, Industrial and Small System Water Use [4]	Conveyance System Evaporation	Recharge Basin Evaporation	Total Demand [5] (acre-feet)	Total Surface Water Supply (acre-feet)	Effective Precipitation (ETpr) (acre-feet)	Native Yield Supply [6] (acre-feet)	Net GSA Operational Deficit [7] (SUBTOTAL) (acre-feet)	Water Banking Adjustment [8, 9] (acre-feet)	Net Subbasin Operational Deficit [10] (acre-feet)
190%	W	1995	119,390	0	0	0	0	0	0	-7,128	0	-14,911	97,351	75,243	87,372	190,783	51,485	139,298	0	429	0	0	191,212	97,351	51,485	11,286	**31,091**	-67,995	**-36,904**
136%	W	1996	148,336	0	0	0	0	0	0	-8,875	0	-21,265	118,196	75,039	87,372	195,660	24,989	170,671	0	418	0	0	196,078	118,196	24,989	11,256	**41,637**	-16,590	**25,047**
175%	W	1997	146,068	0	0	0	0	0	0	-10,320	0	-17,725	118,023	76,149	87,372	169,648	22,378	147,269	0	407	0	0	170,055	118,023	22,378	11,422	**18,232**	-20,015	**-1,783**
237%	W	1998	107,452	0	0	0	0	0	0	-6,470	0	-14,507	86,476	75,746	87,372	166,403	53,130	113,274	0	396	0	0	166,800	86,476	53,130	11,362	**15,832**	-75,470	**-59,638**
70%	AN	1999	124,464	0	0	0	0	0	0	-7,852	0	-15,577	101,035	76,961	87,372	171,562	34,324	137,238	0	385	0	0	171,947	101,035	34,324	11,544	**25,044**	-8,922	**16,122**
67%	AN	2000	130,928	0	0	0	0	0	0	-8,406	0	-17,929	104,593	77,405	87,372	161,176	22,127	139,050	0	374	0	0	161,551	104,593	22,127	11,611	**23,220**	-24,466	**-1,246**
53%	D	2001	95,773	0	0	0	0	0	0	-6,315	0	-14,603	74,855	77,357	87,372	134,707	21,951	112,756	0	364	0	0	135,070	74,855	21,951	11,604	**26,662**	32,523	**59,185**
51%	D	2002	92,032	0	0	0	0	0	0	-6,639	0	-15,026	70,367	77,398	87,372	135,029	13,593	121,436	0	353	0	0	135,383	70,367	13,593	11,610	**39,813**	-12,999	**26,814**
83%	BN	2003	84,349	0	0	0	0	0	0	-6,101	0	-13,990	64,258	77,548	87,372	132,611	23,564	109,047	0	343	0	0	132,954	64,258	23,564	11,632	**33,499**	-9,808	**23,691**
57%	D	2004	95,449	0	0	0	0	0	0	-6,965	0	-15,573	72,911	77,476	87,372	133,971	16,879	117,093	0	333	0	0	134,304	72,911	16,879	11,621	**32,893**	-6,419	**26,474**
157%	W	2005	90,747	0	0	0	0	0	0	-6,097	0	-13,510	71,141	76,727	87,372	122,267	31,878	90,389	0	322	0	0	122,589	71,141	31,878	11,509	**8,062**	-99,735	**-91,673**
153%	W	2006	103,126	0	0	0	0	0	0	-6,518	0	-17,451	79,157	77,299	87,372	118,635	27,525	91,110	0	312	0	0	118,947	79,157	27,525	11,595	**670**	-60,604	**-59,934**
39%	C	2007	118,475	0	0	0	0	0	0	-7,702	0	-18,304	92,469	77,717	87,372	140,350	18,109	122,240	0	301	0	0	140,651	92,469	18,109	11,658	**18,415**	76,817	**95,232**
71%	C	2008	122,095	0	0	0	0	0	0	-6,114	0	-18,113	97,868	77,288	87,372	129,766	10,118	119,649	0	291	0	0	130,057	97,868	10,118	11,593	**10,478**	86,727	**97,205**
64%	BN	2009	115,763	0	0	0	0	0	0	-6,195	0	-17,156	92,412	76,713	87,372	127,442	13,882	113,560	0	281	0	0	127,723	92,412	13,882	11,507	**9,922**	76,660	**86,582**
113%	AN	2010	118,078	0	0	0	0	0	0	-5,742	0	-15,770	96,567	76,814	87,372	125,679	20,124	105,555	0	270	0	0	125,949	96,567	20,124	11,522	**-2,264**	14,331	**12,067**
203%	W	2011	112,067	0	0	0	0	0	0	-5,698	0	-16,414	89,955	77,154	87,372	128,932	31,617	97,316	0	261	0	0	129,193	89,955	31,617	11,573	**-3,951**	-103,117	**-107,068**
53%	D	2012	124,517	0	0	0	0	0	0	-6,669	0	-17,043	100,805	77,156	87,372	179,070	28,213	150,857	0	252	0	0	179,322	100,805	28,213	11,573	**38,731**	16,563	**55,294**
30%	C	2013	127,904	0	0	0	0	0	0	-6,629	0	-17,848	103,427	77,614	87,372	141,995	14,524	127,472	0	243	0	0	142,238	103,427	14,524	11,642	**12,646**	54,377	**67,023**
25%	C	2014	122,213	0	0	0	0	0	0	-4,920	0	-11,072	106,221	77,607	87,372	131,838	11,897	119,942	0	234	0	0	132,073	106,221	11,897	11,641	**2,314**	64,994	**67,308**
18%	C	2015	115,806	0	0	0	0	0	0	-4,478	0	-8,939	102,390	78,103	87,372	157,104	22,296	134,808	0	225	0	0	157,329	102,390	22,296	11,715	**20,928**	51,752	**72,680**
51%	D	2016	121,742	0	0	0	0	0	0	-5,648	0	-12,690	103,403	78,342	87,372	147,850	24,840	123,010	0	216	0	0	148,066	103,403	24,840	11,751	**8,072**	329	**8,401**
275%	W	2017	125,478	0	0	0	0	0	0	-6,973	0	-13,712	104,792	78,345	87,372	175,683	35,398	140,285	0	207	0	0	175,890	104,792	35,398	11,752	**23,948**	-141,515	**-117,567**
60%	BN	2018	124,530	0	0	0	0	0	0	-6,345	0	-9,664	108,520	78,181	87,372	152,581	19,973	132,608	0	199	0	0	152,779	108,520	19,973	11,727	**12,559**	26,322	**38,881**
177%	W	2019	121,338	0	0	0	0	0	0	-7,196	0	-12,198	101,944	78,657	87,372	162,191	32,874	129,318	0	190	0	0	162,381	101,944	32,874	11,799	**15,765**	-51,577	**-35,812**
55%	D	2020	110,511	0	0	0	0	0	0	-5,985	0	-9,532	94,994	78,978	87,372	137,163	29,956	107,207	0	181	0	0	137,343	94,994	29,956	11,847	**547**	42,846	**43,393**
22%	C	2021	109,878	0	0	0	0	0	0	-5,688	0	-8,062	96,128	78,487	87,372	147,977	14,065	133,912	0	181	0	0	148,158	96,128	14,065	11,773	**26,192**	66,390	**92,582**
29%	C	2022	95,883	0	0	0	0	0	0	-5,714	-25,367	-12,771	52,031	77,519	87,372	141,480	17,383	124,097	0	181	0	0	141,661	52,031	17,383	11,628	**60,619**	51,939	**112,558**
320%	W	2023	100,716	0	0	0	0	0	0	-5,446	-5,543	0	89,727	78,409	87,372	145,407	36,836	108,571	0	181	0	0	145,588	89,727	36,836	11,761	**7,263**	-183,315	**-176,052**
Average (1995-2014)			**114,961**	**0**	**0**	**0**	**0**	**0**	**0**	**-6,868**	**0**	**-16,189**	**91,904**	**76,920**	**87,372**	**146,876**	**24,615**	**122,261**	**0**	**329**	**0**	**0**	**147,205**	**91,904**	**24,615**	**11,538**	**19,147**	**-4,157**	**14,990**
Average (2015-2023)			**113,987**	**0**	**0**	**0**	**0**	**0**	**0**	**-5,942**	**-3,434**	**-9,730**	**94,881**	**78,336**	**87,372**	**151,937**	**25,958**	**125,979**	**0**	**196**	**0**	**0**	**152,133**	**94,881**	**25,958**	**11,750**	**19,544**	**-15,203**	**4,340**
Average (1995-2023)			**114,659**	**0**	**0**	**0**	**0**	**0**	**0**	**-6,580**	**-1,066**	**-14,185**	**92,828**	**77,360**	**87,372**	**148,447**	**25,032**	**123,415**	**0**	**287**	**0**	**0**	**148,734**	**92,828**	**25,032**	**11,604**	**19,270**	**-7,585**	**11,685**
Wet (W, AN)			**119,091**	**0**	**0**	**0**	**0**	**0**	**0**	**-7,132**	**-426**	**-14,690**	**96,843**	**76,919**	**87,372**	**156,464**	**32,668**	**123,796**	**0**	**320**	**0**	**0**	**156,783**	**96,843**	**32,668**	**11,538**	**15,735**	**-64,538**	**-48,803**
Dry (D, BN)			**107,185**	**0**	**0**	**0**	**0**	**0**	**0**	**-6,318**	**0**	**-13,920**	**86,947**	**77,683**	**87,372**	**142,269**	**21,428**	**120,841**	**0**	**280**	**0**	**0**	**142,549**	**86,947**	**21,428**	**11,652**	**22,522**	**18,446**	**40,968**
Critically Dry (C)			**116,036**	**0**	**0**	**0**	**0**	**0**	**0**	**-5,892**	**-3,624**	**-13,587**	**92,933**	**77,762**	**87,372**	**141,502**	**15,484**	**126,017**	**0**	**237**	**0**	**0**	**141,738**	**92,933**	**15,484**	**11,664**	**21,656**	**64,714**	**86,370**
Percent of Total			**124%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**-7%**	**-1%**	**-15%**	**100%**	**89%**	**100%**		**17%**	**83%**	**0%**	**100%**			**100%**	**62%**	**17%**	**8%**	**13%**	**5%**	**8%**

[1] Developed Land Area includes Irrigated and Fallow Agriculture, Urban, and Recharge Basins

[2] ETc Demand developed as the average of raw METRIC ITRC and adjusted METRIC ITRC - adjusted to account for a low bias in the ITRC METRIC data compared to LandIQ ET data

[3] Municipal and Industrial Water Supply is the total reported surface and groundwater supplied to major water purveyors

[4] Domestic, Industrial and Small Water System Supply is an estimated water use based on population outside of major water purveyor servide areas plus estimated water use from reported industrial water systems

[5] Total Demand = Crop Evapotranspiration + Urban Water Use + Water Surface Evaporation

[6] Native Yield Supply applies a planning-level assumption of 0.15 feet of sustainable groundwater use per developed acre within GSA.

[7] Net GSA Operational Deficit is a subtotal of the total water demands minus water supplies within the GSA used to estimate the GSA groundwater deficit for planning purposes.

[8] Water Banking Adjustment provides an accounting for Banking Return Obligations stored in the GSA and the Stored Surface Water at water banks in the Subbasin outside of the GSA

[9] The Water Bank Adjustment does not include surface water stored in the GSA for use by that GSA, which are considered conjunctive use projects and stored conjunctive usewater is already accounted for in the Total Water Supply.

[10] Net Subbasin Operational Deficit is an estimate the Subbasin groundwater deficit that includes the adjustment of GSA water banking operations within the Subbasin.

Kern Non-Districted Land Authority - GSA Operational Water Budget Summary

Kern River Percent of Average Natural Flow at First Point	San Joaquin Valley Water Year Index	Water Year	Managed Surface Water Inflows and Outflows										Operational Water Usage									Operational Water Budget Calculation						
			Managed Surface Water Inflows (acre-feet)							Managed Surface Water Outflows (acre-feet)			Net Inflow (acre-feet)	GSA Land Area (acre-feet)		Agricultural Usage (acre-feet)			Urban Water Use (acre-feet)		Water Surface Evaporation (acre-feet)							
			DWR State Water Project (SWP)	USBR Central Valley Project (CVP)	Kern River	Cross Valley Canal Local Supply	Poso Creek	Transfers Into GSA	Recycled, Produced, Reclaimed , Other Water Inflows	Transfers Out of GSA	Aqueduct or Friant-Kern Canal Pumpins	Water Export out of the Subbasin	Total Surface Water Supply	Developed Land Area[1]	GSA Land Area	Crop Evapotranspiration[2] (ETc)	Effective Precipitation (ETpr)	Applied Water Demand (ETaw)	Municipal & Industrial Water Use[3]	Domestic, Industrial and Small System Water Use[4]	Conveyance System Evaporation	Recharge Basin Evaporation	Total Demand[5] (acre-feet)	Total Surface Water Supply (acre-feet)	Effective Precipitation (ETpr) (acre-feet)	Native Yield Supply[6] (acre-feet)	Net GSA Operational Deficit[7] (SUBTOTAL) (acre-feet)	Water Banking Adjustment[8, 9] (acre-feet)	Net Subbasin Operational Deficit[10] (acre-feet)
190%	W	1995	0	0	0	0	0	0	20	-4,748	0	0	-4,728	14,631	241,286	26,087	7,925	18,161	766	2,811	0	0	29,663	-4,728	7,925	2,195	**24,272**	0	**24,272**
136%	W	1996	0	0	0	0	0	0	19	0	0	0	19	14,690	241,286	25,227	4,495	20,732	874	2,802	0	0	28,903	19	4,495	2,204	**22,186**	0	**22,186**
175%	W	1997	0	0	0	0	0	0	19	0	0	0	19	15,703	241,286	22,070	4,076	17,994	874	2,794	0	0	25,738	19	4,076	2,355	**19,288**	0	**19,288**
237%	W	1998	0	0	0	0	0	0	19	0	0	0	19	16,910	241,286	24,841	8,700	16,140	793	2,786	0	0	28,419	19	8,700	2,537	**17,163**	0	**17,163**
70%	AN	1999	0	0	0	0	0	0	19	0	0	0	19	16,560	241,286	21,695	5,627	16,067	1,022	2,777	0	0	25,494	19	5,627	2,484	**17,364**	0	**17,364**
67%	AN	2000	0	0	0	0	0	0	19	-56	0	0	-37	18,581	241,286	18,217	3,174	15,043	991	2,769	0	0	21,977	-37	3,174	2,787	**16,053**	0	**16,053**
53%	D	2001	0	0	0	0	0	0	19	-10,024	0	0	-10,005	19,230	241,286	19,295	3,617	15,678	1,037	2,803	0	0	23,135	-10,005	3,617	2,885	**26,638**	0	**26,638**
51%	D	2002	0	0	0	0	0	0	19	-22,402	0	0	-22,383	19,041	241,286	19,975	2,557	17,418	1,115	2,837	0	0	23,927	-22,383	2,557	2,856	**40,897**	0	**40,897**
83%	BN	2003	0	0	0	0	0	0	19	-9,886	0	0	-9,867	17,779	241,286	19,491	4,055	15,436	1,115	2,871	0	0	23,478	-9,867	4,055	2,667	**26,622**	0	**26,622**
57%	D	2004	0	0	0	0	0	0	19	-13,643	0	0	-13,624	18,246	241,286	20,218	3,599	16,619	1,115	2,905	0	0	24,238	-13,624	3,599	2,737	**31,526**	0	**31,526**
157%	W	2005	0	0	0	0	0	0	19	-6,071	0	0	-6,052	17,581	241,286	18,894	5,365	13,529	1,115	2,939	0	0	22,948	-6,052	5,365	2,637	**20,999**	0	**20,999**
153%	W	2006	0	0	0	0	0	0	19	0	0	0	19	17,710	241,286	19,236	5,306	13,930	1,115	2,974	0	0	23,325	19	5,306	2,657	**15,343**	0	**15,343**
39%	C	2007	0	0	0	0	0	0	19	-10,437	0	0	-10,418	18,176	241,286	19,765	3,394	16,371	1,115	3,008	0	0	23,888	-10,418	3,394	2,726	**28,185**	0	**28,185**
71%	C	2008	0	0	0	0	0	0	19	-17,351	0	0	-17,332	18,086	241,286	17,864	2,460	15,403	1,115	3,042	0	0	22,020	-17,332	2,460	2,713	**34,179**	0	**34,179**
64%	BN	2009	0	0	0	0	0	0	19	-7,786	0	0	-7,767	17,924	241,286	16,781	2,293	14,488	1,115	3,076	0	0	20,972	-7,767	2,293	2,689	**23,757**	0	**23,757**
113%	AN	2010	0	0	0	0	0	0	19	-7,019	0	0	-7,000	18,193	241,286	15,260	3,345	11,915	1,115	3,110	0	0	19,485	-7,000	3,345	2,729	**20,411**	0	**20,411**
203%	W	2011	0	0	0	0	0	0	19	-369	0	0	-350	18,102	241,286	15,614	4,624	10,990	1,115	3,044	0	0	19,773	-350	4,624	2,715	**12,784**	0	**12,784**
53%	D	2012	0	0	0	0	0	0	19	-1,889	0	0	-1,870	19,672	241,286	24,458	7,584	16,874	1,097	2,978	0	0	28,533	-1,870	7,584	2,951	**19,868**	0	**19,868**
30%	C	2013	0	0	0	0	0	0	19	-9,786	0	0	-9,767	19,243	241,286	16,177	2,539	13,638	1,078	2,912	0	0	20,168	-9,767	2,539	2,886	**24,509**	0	**24,509**
25%	C	2014	0	0	0	0	0	0	19	-21,567	0	0	-21,548	19,234	241,286	16,145	1,778	14,367	1,060	2,846	0	0	20,052	-21,548	1,778	2,885	**36,936**	0	**36,936**
18%	C	2015	0	0	0	0	0	0	19	-23,330	0	0	-23,311	21,015	241,286	17,853	3,610	14,243	1,042	2,781	0	0	21,675	-23,311	3,610	3,152	**38,224**	0	**38,224**
51%	D	2016	0	0	0	0	0	0	19	-10,809	0	0	-10,790	20,072	241,286	16,162	4,364	11,799	1,023	2,715	0	0	19,900	-10,790	4,364	3,011	**23,316**	0	**23,316**
275%	W	2017	0	0	0	0	0	0	19	-4,037	0	0	-4,018	21,233	241,286	21,235	6,289	14,946	1,005	2,649	0	0	24,889	-4,018	6,289	3,185	**19,433**	0	**19,433**
60%	BN	2018	0	0	0	0	0	0	19	-8,844	0	0	-8,825	21,260	241,286	15,295	2,892	12,403	987	2,583	0	0	18,864	-8,825	2,892	3,189	**21,609**	0	**21,609**
177%	W	2019	0	0	0	0	0	0	19	-7,020	0	0	-7,001	22,654	241,286	18,733	5,086	13,647	968	2,517	0	0	22,218	-7,001	5,086	3,398	**20,735**	0	**20,735**
55%	D	2020	0	0	0	0	0	0	18	-8,079	0	0	-8,061	20,654	241,286	15,545	4,293	11,252	950	2,451	0	0	18,946	-8,061	4,293	3,098	**19,616**	0	**19,616**
22%	C	2021	0	0	0	0	0	0	18	-10,853	0	0	-10,835	21,555	241,286	17,092	2,818	14,274	950	2,451	0	0	20,493	-10,835	2,818	3,233	**25,277**	0	**25,277**
29%	C	2022	0	0	0	0	0	0	18	-9,847	0	0	-9,829	20,455	241,286	16,663	2,829	13,834	950	2,451	0	0	20,064	-9,829	2,829	3,068	**23,996**	0	**23,996**
320%	W	2023	0	0	0	0	0	0	18	0	0	0	18	21,551	241,286	22,369	6,842	15,526	950	2,451	0	0	25,770	18	6,842	3,233	**15,676**	0	**15,676**
Average (1995-2014)			**0**	**0**	**0**	**0**	**0**	**0**	**19**	**-7,152**	**0**	**0**	**-7,133**	**17,765**	**241,286**	**19,866**	**4,326**	**15,540**	**1,037**	**2,904**	**0**	**0**	**23,807**	**-7,133**	**4,326**	**2,665**	**23,949**	**0**	**23,949**
Average (2015-2023)			**0**	**0**	**0**	**0**	**0**	**0**	**19**	**-9,202**	**0**	**0**	**-9,184**	**21,161**	**241,286**	**17,883**	**4,336**	**13,547**	**981**	**2,561**	**0**	**0**	**21,424**	**-9,184**	**4,336**	**3,174**	**23,098**	**0**	**23,098**
Average (1995-2023)			**0**	**0**	**0**	**0**	**0**	**0**	**19**	**-7,788**	**0**	**0**	**-7,769**	**18,819**	**241,286**	**19,250**	**4,329**	**14,921**	**1,020**	**2,798**	**0**	**0**	**23,067**	**-7,769**	**4,329**	**2,823**	**23,685**	**0**	**23,685**
Wet (W, AN)			**0**	**0**	**0**	**0**	**0**	**0**	**19**	**-2,255**	**0**	**0**	**-2,236**	**18,008**	**241,286**	**20,729**	**5,450**	**15,279**	**977**	**2,802**	**0**	**0**	**24,508**	**-2,236**	**5,450**	**2,701**	**18,593**	**0**	**18,593**
Dry (D, BN)			**0**	**0**	**0**	**0**	**0**	**0**	**19**	**-10,374**	**0**	**0**	**-10,355**	**19,320**	**241,286**	**18,580**	**3,917**	**14,663**	**1,062**	**2,802**	**0**	**0**	**22,444**	**-10,355**	**3,917**	**2,898**	**25,983**	**0**	**25,983**
Critically Dry (C)			**0**	**0**	**0**	**0**	**0**	**0**	**19**	**-14,739**	**0**	**0**	**-14,720**	**19,681**	**241,286**	**17,366**	**2,776**	**14,590**	**1,044**	**2,784**	**0**	**0**	**21,194**	**-14,720**	**2,776**	**2,952**	**30,187**	**0**	**30,187**
Percent of Total			**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**8%**	**100%**		**22%**	**78%**	**27%**	**73%**			**100%**	**-34%**	**19%**	**12%**	**103%**	**0%**	**103%**

[1] Developed Land Area includes Irrigated and Fallow Agriculture, Urban, and Recharge Basins

[2] ETc Demand developed as the average of raw METRIC ITRC and adjusted METRIC ITRC - adjusted to account for a low bias in the ITRC METRIC data compared to LandIQ ET data

[3] Municipal and Industrial Water Supply is the total reported surface and groundwater supplied to major water purveyors

[4] Domestic, Industrial and Small Water System Supply is an estimated water use based on population outside of major water purveyor servide areas plus estimated water use from reported industrial water systems

[5] Total Demand = Crop Evapotranspiration + Urban Water Use + Water Surface Evaporation

[6] Native Yield Supply applies a planning-level assumption of 0.15 feet of sustainable groundwater use per developed acre within GSA.

[7] Net GSA Operational Deficit is a subtotal of the total water demands minus water supplies within the GSA used to estimate the GSA groundwater deficit for planning purposes.

[8] Water Banking Adjustment provides an accounting for Banking Return Obligations stored in the GSA and the Stored Surface Water at water banks in the Subbasin outside of the GSA

[9] The Water Bank Adjustment does not include surface water stored in the GSA for use by that GSA, which are considered conjunctive use projects and stored conjunctive usewater is already accounted for in the Total Water Supply.

[10] Net Subbasin Operational Deficit is an estimate the Subbasin groundwater deficit that includes the adjustment of GSA water banking operations within the Subbasin.

Kern National Wildlife Refuge - GSA Operational Water Budget Summary

Kern River Percent of Average Natural Flow at First Point	San Joaquin Valley Water Year Index	Water Year	Managed Surface Water Inflows and Outflows											Operational Water Usage										Operational Water Budget Calculation						
			Managed Surface Water Inflows (acre-feet)							Managed Surface Water Outflows (acre-feet)			Net Inflow (acre-feet)	GSA Land Area (acre-feet)		Agricultural Usage (acre-feet)			Urban Water Use (acre-feet)		Water Surface Evaporation (acre-feet)									
			DWR State Water Project (SWP)	USBR Central Valley Project (CVP)	Kern River	Cross Valley Canal Local Supply	Poso Creek	Transfers Into GSA	Recycled, Produced, Reclaimed , Other Water Inflows	Transfers Out of GSA	Aqueduct or Friant-Kern Canal Pumpins	Water Export out of the Subbasin	Total Surface Water Supply	Developed Land Area [1]	GSA Land Area	Crop Evapotranspiration [2] (ETc)	Effective Precipitation (ETpr)	Applied Water Demand (ETaw)	Municipal & Industrial Water Use [3]	Domestic, Industrial and Small System Water Use [4]	Conveyance System Evaporation	Recharge Basin Evaporation	Total Demand [5] (acre-feet)	Total Surface Water Supply (acre-feet)	Effective Precipitation (ETpr) (acre-feet)	Native Yield Supply [6] (acre-feet)	Net GSA Operational Deficit [7] (SUBTOTAL) (acre-feet)	Water Banking Adjustment [8, 9] (acre-feet)	Net Subbasin Operational Deficit [10] (acre-feet)
190%	W	1995	12,097	0	0	0	0	0	0	0	0	0	12,097	6,287	6,012	20,854	2,270	18,584	0	0	0	0	20,854	12,097	2,270	943	**5,544**	0	**5,544**
136%	W	1996	12,776	0	0	0	0	0	0	0	0	0	12,776	6,287	6,012	19,816	665	19,151	0	0	0	0	19,816	12,776	665	943	**5,432**	0	**5,432**
175%	W	1997	7,964	0	0	0	0	0	0	0	0	0	7,964	6,287	6,012	18,501	1,037	17,464	0	0	0	0	18,501	7,964	1,037	943	**8,557**	0	**8,557**
237%	W	1998	12,268	0	0	0	0	0	0	0	0	0	12,268	6,287	6,012	22,647	1,014	21,633	0	0	0	0	22,647	12,268	1,014	943	**8,422**	0	**8,422**
70%	AN	1999	14,827	0	0	0	0	0	0	0	0	0	14,827	6,287	6,012	20,223	808	19,416	0	0	0	0	20,223	14,827	808	943	**3,646**	0	**3,646**
67%	AN	2000	7,489	0	0	0	0	0	0	0	0	0	7,489	5,733	6,012	21,498	517	20,982	0	0	0	0	21,498	7,489	517	860	**12,633**	0	**12,633**
53%	D	2001	13,179	0	0	0	0	0	0	0	0	0	13,179	5,733	6,012	21,881	481	21,399	0	0	0	0	21,881	13,179	481	860	**7,360**	0	**7,360**
51%	D	2002	19,299	0	0	0	0	0	0	0	0	0	19,299	5,733	6,012	20,240	212	20,028	0	0	0	0	20,240	19,299	212	860	**-131**	0	**-131**
83%	BN	2003	20,945	0	0	0	0	0	0	0	0	0	20,945	5,733	6,012	18,605	424	18,181	0	0	0	0	18,605	20,945	424	860	**-3,624**	0	**-3,624**
57%	D	2004	23,461	0	0	0	0	0	0	0	0	0	23,461	5,733	6,012	19,695	329	19,365	0	0	0	0	19,695	23,461	329	860	**-4,956**	0	**-4,956**
157%	W	2005	23,310	0	0	0	0	0	0	0	0	0	23,310	5,733	6,012	21,099	880	20,220	0	0	0	0	21,099	23,310	880	860	**-3,950**	0	**-3,950**
153%	W	2006	21,829	0	0	0	0	0	0	0	0	0	21,829	5,733	6,012	22,065	586	21,479	0	0	0	0	22,065	21,829	586	860	**-1,210**	0	**-1,210**
39%	C	2007	21,607	0	0	0	0	0	0	0	0	0	21,607	5,733	6,012	20,408	376	20,032	0	0	0	0	20,408	21,607	376	860	**-2,434**	0	**-2,434**
71%	C	2008	17,728	0	0	0	0	0	0	0	0	0	17,728	5,733	6,012	16,794	500	16,294	0	0	0	0	16,794	17,728	500	860	**-2,294**	0	**-2,294**
64%	BN	2009	19,494	0	0	0	0	0	0	0	0	0	19,494	5,733	6,012	17,674	328	17,346	0	0	0	0	17,674	19,494	328	860	**-3,008**	0	**-3,008**
113%	AN	2010	21,808	0	0	0	0	0	0	0	0	0	21,808	5,733	6,012	17,679	424	17,256	0	0	0	0	17,679	21,808	424	860	**-5,412**	0	**-5,412**
203%	W	2011	26,599	0	0	0	0	0	0	0	0	0	26,599	5,733	6,012	20,070	754	19,316	0	0	0	0	20,070	26,599	754	860	**-8,143**	0	**-8,143**
53%	D	2012	18,451	0	0	0	0	0	0	0	0	0	18,451	5,733	6,012	13,206	374	12,831	0	0	0	0	13,206	18,451	374	860	**-6,480**	0	**-6,480**
30%	C	2013	23,701	0	0	0	0	0	0	0	0	0	23,701	5,733	6,012	14,822	290	14,532	0	0	0	0	14,822	23,701	290	860	**-10,029**	0	**-10,029**
25%	C	2014	13,877	0	0	0	0	0	0	0	0	0	13,877	5,733	6,012	14,986	337	14,649	0	0	0	0	14,986	13,877	337	860	**-88**	0	**-88**
18%	C	2015	9,203	0	0	0	0	0	0	0	0	0	9,203	5,733	6,012	10,205	285	9,920	0	0	0	0	10,205	9,203	285	860	**-143**	0	**-143**
51%	D	2016	19,233	0	0	0	0	0	0	0	0	0	19,233	5,733	6,012	10,879	280	10,599	0	0	0	0	10,879	19,233	280	860	**-9,494**	0	**-9,494**
275%	W	2017	22,457	0	0	0	0	0	0	0	0	0	22,457	5,733	6,012	17,595	691	16,904	0	0	0	0	17,595	22,457	691	860	**-6,412**	0	**-6,412**
60%	BN	2018	21,716	0	0	0	0	0	0	0	0	0	21,716	5,733	6,012	15,280	448	14,832	0	0	0	0	15,280	21,716	448	860	**-7,744**	0	**-7,744**
177%	W	2019	1,097	0	0	0	0	0	0	0	0	0	1,097	5,733	6,012	15,366	744	14,622	0	0	0	0	15,366	1,097	744	860	**12,665**	0	**12,665**
55%	D	2020	8,531	0	0	0	0	0	0	0	0	0	8,531	5,733	6,012	12,764	651	12,113	0	0	0	0	12,764	8,531	651	860	**2,723**	0	**2,723**
22%	C	2021	15,245	0	0	0	0	0	0	0	0	0	15,245	5,733	6,012	13,378	393	12,985	0	0	0	0	13,378	15,245	393	860	**-3,120**	0	**-3,120**
29%	C	2022	11,590	0	0	0	0	0	0	0	0	0	11,590	5,733	6,012	8,697	239	8,458	0	0	0	0	8,697	11,590	239	860	**-3,993**	0	**-3,993**
320%	W	2023	19,653	0	0	0	0	0	0	0	0	0	19,653	5,733	6,012	13,230	810	12,420	0	0	0	0	13,230	19,653	810	860	**-8,093**	0	**-8,093**
Average (1995-2014)			**17,635**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**17,635**	**5,871**	**6,012**	**19,138**	**630**	**18,508**	**0**	**0**	**0**	**0**	**19,138**	**17,635**	**630**	**881**	**-8**	**0**	**-8**
Average (2015-2023)			**14,303**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**14,303**	**5,733**	**6,012**	**13,044**	**504**	**12,539**	**0**	**0**	**0**	**0**	**13,044**	**14,303**	**504**	**860**	**-2,623**	**0**	**-2,623**
Average (1995-2023)			**16,601**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**16,601**	**5,828**	**6,012**	**17,247**	**591**	**16,656**	**0**	**0**	**0**	**0**	**17,247**	**16,601**	**591**	**874**	**-820**	**0**	**-820**
Wet (W, AN)			**15,706**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**15,706**	**5,946**	**6,012**	**19,280**	**861**	**18,419**	**0**	**0**	**0**	**0**	**19,280**	**15,706**	**861**	**892**	**1,821**	**0**	**1,821**
Dry (D, BN)			**18,257**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**18,257**	**5,733**	**6,012**	**16,691**	**392**	**16,299**	**0**	**0**	**0**	**0**	**16,691**	**18,257**	**392**	**860**	**-2,817**	**0**	**-2,817**
Critically Dry (C)			**16,136**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**16,136**	**5,733**	**6,012**	**14,184**	**346**	**13,839**	**0**	**0**	**0**	**0**	**14,184**	**16,136**	**346**	**860**	**-3,157**	**0**	**-3,157**
Percent of Total			**100%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**100%**	**97%**	**100%**		**3%**	**97%**	**#DIV/0!**	**#DIV/0!**			**100%**	**96%**	**3%**	**5%**	**-5%**	**0%**	**-5%**

[1] Developed Land Area includes Irrigated and Fallow Agriculture, Urban, and Recharge Basins

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Water Banking Account Balance Summary Tables

Water Banking Account Balances for Return Obligations to Banking Partners Located Outside of the Subbasin

Out of Subbasin Return Obligations	Arvin GSA	Buena Vista Water Storage District GSA	Cawelo Water District GSA	Eastside Water Management Area	Henry Miller Water District GSA	Berrenda Mesa Spreading Grounds	Kern River GSA	Kern Water Bank Groundwater Sustainability Agency	Kern-Tulare Water District GSA	North Kern Water Storage District GSA	Olcese Water District GSA	Pioneer GSA	Rosedale-Rio Bravo Water Storage District GSA	Semitropic Water Storage District GSA	Kern National Wildlife Refuge	Shafter-Wasco Irrigation District GSA	7th Standard	Southern San Joaquin Municipal Utility District	Tejon-Castac Water District GSA	West Kern Water District GSA	Westside District Water Authority GSA	Wheeler Ridge-Maricopa GSA	Kern Non-Districted Lands	**Total**
1994	0	0	0	0	0	0	0	0	0	0	0	0	1,374	95,541	0	0	0	0	0	0	0	0	0	**96,915**
1995	0	0	0	0	0	0	0	5,612	0	0	0	0	4,707	140,541	0	0	0	0	0	0	0	0	0	**150,860**
1996	0	0	0	0	0	0	0	18,925	0	0	0	894	4,707	272,121	0	0	0	0	0	0	0	0	0	**296,647**
1997	0	0	0	0	0	0	0	31,277	0	0	0	894	4,707	415,088	0	0	0	0	0	0	0	0	0	**451,966**
1998	18,280	0	0	0	0	0	0	43,672	0	0	0	894	4,707	480,833	0	0	0	0	0	0	0	0	0	**548,386**
1999	105,278	0	0	0	0	0	0	44,852	0	0	0	894	4,707	617,498	0	0	0	0	0	0	0	0	0	**773,230**
2000	208,900	0	0	0	0	0	0	47,136	0	0	0	7,894	4,707	674,998	0	0	0	0	0	0	0	0	0	**943,635**
2001	242,053	0	0	0	0	0	0	44,005	0	0	0	7,894	3,855	616,191	0	0	0	0	0	0	0	0	0	**913,998**
2002	226,253	0	0	0	0	0	0	43,274	0	0	0	894	0	655,504	0	0	0	0	0	0	0	0	0	**925,925**
2003	244,893	0	2,600	0	0	0	17,919	43,216	0	0	0	894	0	761,820	0	0	0	0	0	0	0	0	0	**1,071,342**
2004	232,226	0	4,754	0	0	0	17,919	39,767	0	0	0	894	802	705,088	0	0	0	0	0	0	0	0	0	**1,001,450**
2005	207,054	0	5,354	0	0	0	31,782	58,333	0	12,000	0	894	80,239	880,843	0	0	0	0	0	0	0	0	0	**1,276,499**
2006	209,933	0	10,954	0	0	0	36,290	70,626	0	29,310	0	894	135,692	971,834	0	0	0	0	0	0	0	0	0	**1,465,533**
2007	206,034	0	11,554	0	0	0	31,290	67,415	0	40,454	0	0	135,343	828,659	0	0	0	0	0	0	0	0	0	**1,320,749**
2008	163,419	0	13,172	0	0	0	22,888	46,822	0	34,119	0	0	127,093	694,106	0	0	0	0	0	0	0	0	0	**1,101,619**
2009	120,339	0	13,772	0	0	0	9,872	29,244	0	41,064	0	0	118,679	586,412	0	0	0	0	0	0	0	0	0	**919,381**
2010	94,682	0	19,372	0	0	0	80,141	15,238	0	58,389	0	0	174,552	710,249	0	0	0	0	0	0	0	0	0	**1,152,622**
2011	104,433	0	24,972	0	0	0	160,365	54,262	0	66,270	0	0	257,730	940,013	0	0	0	0	0	5,875	0	0	0	**1,613,919**
2012	214,489	0	35,727	0	0	0	204,943	50,326	0	53,439	0	0	245,162	977,109	0	0	0	0	0	4,875	0	0	0	**1,786,069**
2013	198,410	0	35,453	0	0	0	193,443	44,620	0	44,945	0	0	219,839	866,555	0	0	0	0	0	2,500	0	0	0	**1,605,764**
2014	181,396	0	27,280	0	0	0	167,352	27,476	0	37,714	0	0	191,344	759,439	0	0	0	0	0	500	0	0	0	**1,392,500**
2015	144,128	0	20,851	0	0	0	135,376	19,376	0	34,123	0	0	167,866	625,129	0	0	0	0	0	500	0	0	0	**1,147,348**
2016	108,013	0	24,951	0	0	0	115,533	19,235	0	34,123	0	0	165,225	643,896	0	0	0	0	0	500	0	0	0	**1,111,475**
2017	122,678	0	29,551	0	0	0	157,538	56,023	0	36,819	0	0	262,865	854,313	0	0	0	0	0	500	0	0	0	**1,520,287**
2018	150,102	0	30,151	0	0	0	157,538	53,645	0	37,864	0	0	258,569	891,286	0	0	0	0	0	500	0	0	0	**1,579,656**
2019	142,257	0	35,751	0	0	0	207,739	77,662	0	51,374	0	0	333,994	1,053,172	0	0	0	0	0	500	0	0	0	**1,902,450**
2020	142,257	0	36,351	0	0	0	191,009	66,483	0	43,314	0	0	294,369	998,043	0	0	0	0	0	0	0	0	0	**1,771,826**
2021	139,537	0	35,041	0	0	0	159,645	51,419	0	34,006	0	0	240,132	853,128	0	0	0	0	0	0	0	0	0	**1,512,908**
2022	119,127	0	24,458	0	0	0	131,209	38,673	0	28,281	0	0	194,364	715,334	0	0	0	0	0	0	0	0	0	**1,251,446**
2023	100,201	0	25,058	0	0	0	144,103	73,658	0	33,144	0	0	281,507	829,872	0	682	0	0	0	0	0	0	0	**1,488,225**
Ending Balance	**100,201**	**0**	**25,058**	**0**	**0**	**0**	**144,103**	**73,658**	**0**	**33,144**	**0**	**0**	**281,507**	**829,872**	**0**	**682**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,488,225**
1994 Initial Account Balance	0	0	0	0	0	0	0	0	0	0	0	0	1,374	95,541	0	0	0	0	0	0	0	0	0	96,915
1995-2014 Account Balance Chang	181,396	0	27,280	0	0	0	167,352	27,476	0	37,714	0	0	189,970	663,898	0	0	0	0	0	500	0	0	0	1,295,585
2015-2023 Account Balance Chang	-81,195	0	-2,222	0	0	0	-23,249	46,182	0	-4,570	0	0	90,163	70,434	0	682	0	0	0	-500	0	0	0	95,724

Water Banking Account Balances for Return Obligations to Banking Partners Located Within the Subbasin

Within Subbasin Return Obligations	Arvin GSA	Buena Vista Water Storage District GSA	Cawelo Water District GSA	Eastside Water Management Area	Henry Miller Water District GSA	Berrenda Mesa Spreading Grounds	Kern River GSA	Kern Water Bank Groundwater Sustainability Agency	Kern-Tulare Water District GSA	North Kern Water Storage District GSA	Olcese Water District GSA	Pioneer GSA	Rosedale-Rio Bravo Water Storage District GSA	Semitropic Water Storage District GSA	Kern National Wildlife Refuge	Shafter-Wasco Irrigation District GSA	7th Standard	Southern San Joaquin Municipal Utility District	Tejon-Castac Water District GSA	West Kern Water District GSA	Westside District Water Authority GSA	Wheeler Ridge-Maricopa GSA	Kern Non-Districted Lands	**Total**
1994	0	0	0	0	0	20,619	0	0	0	29,483	0	185,947	6,666	0	0	0	0	0	0	0	0	0	0	**242,715**
1995	0	0	0	0	0	46,527	0	254,299	0	46,852	0	343,319	23,010	2,153	0	0	0	0	0	0	0	0	0	**716,160**
1996	0	0	0	0	0	49,271	0	376,241	0	38,687	0	388,238	57,541	6,857	0	0	0	0	0	0	0	0	0	**916,835**
1997	0	0	0	0	0	55,196	0	507,644	0	43,660	0	418,184	75,926	8,759	0	0	0	0	0	0	0	0	0	**1,109,369**
1998	0	0	0	0	0	73,558	0	770,913	0	43,466	0	511,386	70,796	8,877	0	0	0	0	0	0	0	0	0	**1,478,996**
1999	0	0	0	0	0	75,336	0	801,935	0	102,797	0	526,464	44,230	9,351	0	0	0	0	0	0	0	0	0	**1,560,113**
2000	0	0	0	0	0	75,459	0	830,146	0	105,187	0	817,565	71,416	9,351	0	0	0	0	0	0	0	0	0	**1,909,124**
2001	0	0	0	0	0	72,559	0	739,009	0	89,441	0	490,563	70,681	9,351	0	0	0	0	0	0	0	0	0	**1,471,604**
2002	0	0	0	0	0	73,101	0	692,397	0	62,995	0	490,520	52,491	17,304	0	0	0	0	0	0	0	0	0	**1,388,808**
2003	0	0	0	0	0	72,081	0	709,107	0	49,976	0	519,504	51,270	17,057	0	0	0	0	0	0	0	0	0	**1,418,995**
2004	0	0	0	0	0	75,758	0	696,623	0	35,986	0	527,861	66,665	14,773	0	0	0	0	0	0	0	0	0	**1,417,666**
2005	0	0	0	0	0	105,046	0	1,011,195	0	64,322	0	759,968	119,774	14,773	0	0	0	0	0	0	0	0	0	**2,075,078**
2006	0	0	0	0	0	128,527	0	1,241,747	0	138,304	0	859,964	122,177	14,773	0	0	0	0	0	0	0	0	0	**2,505,492**
2007	0	0	0	0	0	108,641	0	1,030,510	0	129,578	0	796,771	107,745	9,873	0	0	0	0	0	0	0	0	0	**2,183,118**
2008	0	0	0	0	0	72,003	0	813,571	0	109,547	0	706,152	98,574	9,873	0	0	0	0	0	0	0	0	0	**1,809,720**
2009	0	0	0	0	0	44,205	0	676,761	0	85,050	0	630,306	95,498	9,873	0	0	0	0	0	0	0	0	0	**1,541,693**
2010	0	0	0	0	0	39,020	0	667,119	0	79,660	0	625,844	114,036	13,473	0	0	0	0	0	0	0	0	0	**1,539,152**
2011	0	0	0	0	0	72,632	0	1,030,546	0	77,601	0	781,875	152,342	17,973	0	0	0	0	0	0	0	0	0	**2,132,969**
2012	0	0	0	0	0	72,018	0	942,724	0	71,164	0	804,545	164,121	13,557	0	0	0	0	0	0	0	0	6,316	**2,074,445**
2013	0	0	0	0	0	69,239	0	761,697	0	70,551	0	754,192	173,721	13,557	0	0	0	0	0	0	0	0	3,316	**1,846,273**
2014	0	0	0	0	0	45,356	0	598,164	0	61,206	0	668,478	157,721	13,557	0	0	0	0	0	0	0	0	1,870	**1,546,351**
2015	0	0	0	0	0	29,245	0	469,907	0	60,140	0	612,008	144,636	13,557	0	0	0	0	0	0	0	0	0	**1,329,492**
2016	0	0	0	0	0	28,909	0	431,891	0	62,295	0	584,095	122,529	8,873	0	0	0	0	0	0	0	0	0	**1,238,591**
2017	0	0	10,877	0	0	64,904	0	938,827	0	101,509	0	752,328	126,695	8,873	0	0	0	0	0	0	0	0	4,547	**2,008,559**
2018	0	0	10,877	0	0	56,183	0	929,115	0	135,426	0	726,738	121,174	8,873	0	0	0	0	0	0	0	0	7,689	**1,996,074**
2019	0	0	10,877	0	0	79,697	0	1,198,105	0	173,579	0	861,147	139,977	29,183	0	0	0	0	0	0	0	0	10,189	**2,502,753**
2020	0	0	10,877	0	0	72,639	0	1,141,063	0	165,512	0	804,109	125,831	29,183	0	0	0	0	0	0	0	0	7,202	**2,356,416**
2021	0	0	10,877	0	0	45,335	0	959,697	0	160,349	0	720,176	110,797	28,699	0	0	0	0	0	0	0	0	5,202	**2,041,132**
2022	0	0	10,877	0	0	23,942	0	798,755	0	142,974	0	657,807	95,781	28,699	0	0	0	0	0	0	0	0	3,195	**1,762,030**
2023	0	0	10,877	0	0	56,459	0	1,427,991	0	167,470	0	1,035,939	115,180	21,699	0	0	0	0	0	0	0	0	3,195	**2,838,809**
Ending Balance	**0**	**0**	**10,877**	**0**	**0**	**56,459**	**0**	**1,427,991**	**0**	**167,470**	**0**	**1,035,939**	**115,180**	**21,699**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3,195**	**2,838,809**
1994 Initial Account Balance	0	0	0	0	0	20,619	0	0	0	29,483	0	185,947	6,666	0	0	0	0	0	0	0	0	0	0	242,715
1995-2014 Account Balance Chang	0	0	0	0	0	24,737	0	598,164	0	31,723	0	482,531	151,055	13,557	0	0	0	0	0	0	0	0	1,870	1,303,636
2015-2023 Account Balance Chang	0	0	10,877	0	0	11,103	0	829,827	0	106,264	0	367,461	-42,541	8,142	0	0	0	0	0	0	0	0	1,325	1,292,458

Water Banking Account Balances for Return Obligations to Other Banking Partners

Other Return Obligations	Arvin GSA	Buena Vista Water Storage District GSA	Cawelo Water District GSA	Eastside Water Management Area	Henry Miller Water District GSA	Berrenda Mesa Spreading Grounds	Kern River GSA	Kern Water Bank Groundwater Sustainability Agency	Kern-Tulare Water District GSA	North Kern Water Storage District GSA	Olcese Water District GSA	Pioneer GSA	Rosedale-Rio Bravo Water Storage District GSA	Semitropic Water Storage District GSA	Kern National Wildlife Refuge	Shafter-Wasco Irrigation District GSA	7th Standard	Southern San Joaquin Municipal Utility District	Tejon-Castac Water District GSA	West Kern Water District GSA	Westside District Water Authority GSA	Wheeler Ridge-Maricopa GSA	Kern Non-Districted Lands	**Total**
1994	0	0	0	0	0	16,089	0	0	0	34,861	0	47,542	0	0	0	0	0	0	0	0	0	0	0	**98,492**
1995	0	0	0	0	0	22,405	0	647	0	34,682	0	67,838	0	0	0	0	0	0	0	0	0	0	0	**125,572**
1996	0	0	0	0	0	28,527	0	17,632	0	37,623	0	104,894	0	0	0	0	0	0	0	0	0	0	0	**188,676**
1997	0	0	0	0	0	28,527	0	17,632	0	37,607	0	110,469	0	0	0	0	0	0	0	0	0	0	0	**194,235**
1998	0	0	0	0	0	14,662	0	17,632	0	37,563	0	130,391	0	0	0	0	0	0	0	0	0	0	0	**200,248**
1999	0	0	0	0	0	14,662	0	17,958	0	34,363	0	140,080	0	0	0	0	0	0	0	0	0	0	0	**207,063**
2000	0	0	0	0	0	14,662	0	17,958	0	34,363	0	147,145	0	0	0	0	0	0	0	0	0	0	0	**214,128**
2001	0	0	0	0	0	14,662	0	17,958	0	37,709	0	181,476	0	0	0	0	0	0	0	0	0	0	0	**251,805**
2002	0	0	0	0	0	14,662	0	17,958	0	37,709	0	171,416	0	0	0	0	0	0	0	0	0	0	0	**241,745**
2003	0	0	0	0	0	14,662	0	17,958	0	39,604	0	171,476	0	0	0	0	0	0	0	0	0	0	0	**243,700**
2004	0	0	0	0	0	14,662	0	30,511	0	38,918	0	165,929	0	0	0	0	0	0	0	0	0	0	0	**250,020**
2005	0	0	0	0	0	14,662	0	30,511	0	40,233	0	171,575	0	0	0	0	0	0	0	0	0	0	0	**256,981**
2006	0	0	0	0	0	14,662	0	30,511	0	52,632	0	176,595	1,421	4,500	0	0	0	0	0	0	0	0	0	**280,321**
2007	0	0	0	0	0	14,662	0	30,511	0	64,048	0	155,640	1,421	7,515	0	0	0	0	0	0	0	0	0	**273,797**
2008	0	0	0	0	0	14,662	0	30,511	0	46,034	0	149,090	1,421	8,235	0	0	0	0	0	0	0	0	0	**249,953**
2009	0	0	0	0	0	14,662	0	30,511	0	44,307	0	147,481	1,421	7,678	0	0	0	0	0	0	0	0	0	**246,060**
2010	0	0	0	0	0	14,662	0	30,511	0	33,324	0	162,820	5,690	8,878	0	0	0	0	0	0	0	0	0	**255,885**
2011	0	0	0	0	0	14,662	0	30,511	0	45,427	0	170,341	14,855	17,341	0	0	0	0	0	0	0	0	0	**293,137**
2012	0	0	0	0	0	14,662	0	30,511	0	46,951	0	169,291	16,527	27,082	0	0	0	0	0	0	0	0	0	**305,024**
2013	0	0	0	0	0	14,662	0	30,511	0	35,919	0	157,096	13,053	25,731	0	0	0	0	0	0	0	0	0	**276,972**
2014	0	0	0	0	0	14,662	0	30,511	0	35,919	0	153,293	7,408	18,894	0	0	0	0	0	0	0	0	0	**260,687**
2015	0	0	0	0	0	14,662	0	30,511	0	29,292	0	148,630	5,031	12,472	0	0	0	0	0	0	0	0	0	**240,598**
2016	0	0	0	0	0	3,499	0	30,511	0	29,292	0	136,335	5,031	3,641	0	0	0	0	0	0	0	0	0	**208,309**
2017	0	0	0	0	0	3,499	0	30,511	0	34,317	0	217,724	14,582	22,233	0	2,671	0	0	0	0	0	0	0	**325,537**
2018	0	0	0	0	0	3,499	0	30,511	0	41,288	0	221,492	14,875	23,017	0	3,521	0	0	0	0	0	0	0	**338,203**
2019	0	0	0	0	0	3,499	0	30,511	0	46,001	0	223,163	21,253	28,803	0	4,644	0	0	0	0	0	0	0	**357,874**
2020	0	0	0	0	0	3,499	0	30,511	0	46,001	0	218,086	16,229	25,365	0	301	0	0	0	0	0	0	0	**339,992**
2021	0	0	0	0	0	3,499	0	30,511	0	43,109	0	212,570	7,612	19,479	0	301	0	0	0	0	0	0	0	**317,081**
2022	0	0	0	0	0	3,499	0	30,511	0	41,779	0	207,108	3,149	12,804	0	0	0	0	0	0	0	0	0	**298,850**
2023	0	0	0	0	0	3,499	0	30,511	0	41,456	0	206,276	20,361	14,100	0	1,965	0	0	0	0	0	0	0	**318,168**
Ending Balance	**0**	**0**	**0**	**0**	**0**	**3,499**	**0**	**30,511**	**0**	**41,456**	**0**	**206,276**	**20,361**	**14,100**	**0**	**1,965**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**318,168**
1994 Initial Account Balance	0	0	0	0	0	16,089	0	0	0	34,861	0	47,542	0	0	0	0	0	0	0	0	0	0	0	98,492
1995-2014 Account Balance Chang	0	0	0	0	0	-1,427	0	30,511	0	1,058	0	105,751	7,408	18,894	0	0	0	0	0	0	0	0	0	162,195
2015-2023 Account Balance Chang	0	0	0	0	0	-11,163	0	0	0	5,537	0	52,983	12,953	-4,794	0	1,965	0	0	0	0	0	0	0	57,481

Water Banking Account Balances for GSAs with Stored Water Account Balances at Subbasin Water Banks

Stored Water Account Balances in Subbasin Water Banks	Arvin GSA	Buena Vista Water Storage District GSA	Cawelo Water District GSA	Eastside Water Management Area	Henry Miller Water District GSA	Berrenda Mesa Spreading Grounds	Kern River GSA	Kern Water Bank Groundwater Sustainability Agency	Kern-Tulare Water District GSA	North Kern Water Storage District GSA	Olcese Water District GSA	Pioneer GSA	Rosedale-Rio Bravo Water Storage District GSA	Semitropic Water Storage District GSA	Kern National Wildlife Refuge	Shafter-Wasco Irrigation District GSA	7th Standard	Southern San Joaquin Municipal Utility District	Tejon-Castac Water District GSA	West Kern Water District GSA	Westside District Water Authority GSA	Wheeler Ridge-Maricopa GSA	Kern Non-Districted Lands	**Total**
1994	0	4,649	13,321	0	6,666	0	46,532	0	0	0	0	0	0	25,253	0	15,974	0	0	66	0	62,070	68,184	0	**242,715**
1995	13,010	11,732	16,371	0	15,273	0	138,108	0	0	0	0	0	7,426	31,342	0	28,000	0	10,868	3,107	0	304,744	136,179	0	**716,160**
1996	47,541	7,277	18,251	0	11,860	0	206,204	0	0	0	0	0	22,011	50,541	0	29,578	0	10,868	8,130	0	351,805	152,769	0	**916,835**
1997	65,926	11,015	18,251	0	24,788	0	216,522	0	0	0	0	0	16,219	86,580	0	40,029	0	10,868	10,294	0	436,093	172,784	0	**1,109,369**
1998	60,796	19,182	18,251	0	35,133	0	266,846	0	0	0	0	0	28,374	101,319	0	40,147	0	10,868	15,525	0	634,301	248,254	0	**1,478,996**
1999	34,230	19,182	23,542	0	37,232	0	322,785	0	0	0	0	0	28,374	118,524	0	40,621	0	10,868	15,849	0	651,730	257,176	0	**1,560,113**
2000	61,416	19,182	23,237	0	37,548	0	577,154	0	0	0	0	0	50,315	108,515	0	40,621	0	10,868	17,337	0	681,289	281,642	0	**1,909,124**
2001	59,898	19,199	8,130	0	39,326	0	286,878	0	782	0	0	0	52,248	80,704	0	39,548	0	10,868	18,017	0	606,886	249,119	0	**1,471,604**
2002	51,708	17,065	8,130	0	29,574	0	255,299	0	782	0	0	0	54,077	78,402	0	36,492	0	10,868	21,089	0	563,203	262,118	0	**1,388,808**
2003	50,488	14,284	8,451	0	29,857	0	257,797	0	782	0	0	0	62,796	91,366	0	36,245	0	10,868	21,030	0	563,105	271,926	0	**1,418,995**
2004	32,550	14,284	8,451	0	33,146	0	263,123	0	782	0	0	0	171,926	46,495	0	34,461	0	0	21,510	33,333	579,260	278,345	0	**1,517,666**
2005	71,630	36,643	8,451	0	42,863	0	308,680	0	32,811	0	0	0	268,055	150,067	0	34,461	0	0	25,003	33,333	785,001	378,080	0	**2,175,078**
2006	71,213	37,527	10,987	0	47,022	0	406,381	0	35,631	0	0	0	286,149	171,546	0	34,427	0	0	29,741	54,833	981,351	438,684	0	**2,605,492**
2007	64,162	37,527	10,161	0	48,307	0	391,559	0	25,776	0	0	0	290,371	140,975	0	27,436	0	0	31,344	54,833	798,800	361,867	0	**2,283,118**
2008	54,991	37,527	9,246	0	49,338	0	350,126	0	25,776	0	0	0	296,194	78,924	0	25,236	0	0	31,344	54,833	621,045	275,140	0	**1,909,720**
2009	53,005	37,527	8,526	0	52,874	0	327,401	0	28,013	0	0	0	299,511	69,704	0	24,243	0	0	31,292	37,866	473,251	198,480	0	**1,641,693**
2010	53,005	41,127	10,046	0	52,874	0	338,478	0	41,702	0	0	0	299,511	90,380	0	24,243	0	0	31,533	27,715	444,389	184,149	0	**1,639,152**
2011	81,669	70,376	10,977	0	53,680	0	370,963	0	45,943	0	0	0	314,957	224,971	0	24,961	0	0	38,943	27,715	680,548	287,266	0	**2,232,969**
2012	94,006	65,376	10,796	0	62,497	0	407,153	0	51,236	0	0	0	316,863	175,472	0	20,004	0	0	38,943	26,715	634,681	270,703	0	**2,174,445**
2013	84,006	65,376	9,103	0	61,499	0	370,568	0	39,836	0	0	0	342,321	144,313	0	17,964	0	0	38,943	26,715	529,303	216,326	0	**1,946,273**
2014	74,006	65,376	9,103	0	64,366	0	336,624	0	28,473	0	0	0	345,004	122,218	0	14,049	0	0	35,927	26,715	373,159	151,332	0	**1,646,351**
2015	67,143	56,490	652	0	59,367	0	316,623	0	17,936	0	0	0	345,123	128,845	0	10,881	0	0	35,927	26,715	264,211	99,580	0	**1,429,492**
2016	57,640	53,390	652	0	59,367	0	308,955	0	11,952	0	0	0	345,173	110,050	0	12,036	0	0	33,412	21,107	225,607	99,251	0	**1,338,591**
2017	63,097	87,251	652	0	75,182	0	386,840	0	28,074	0	0	0	390,654	190,209	0	25,553	0	0	47,578	9,758	562,945	240,766	0	**2,108,559**
2018	57,527	87,251	652	0	58,182	0	379,897	0	44,618	0	0	0	393,336	201,661	0	40,674	0	6,532	52,822	6,237	552,241	214,444	0	**2,096,074**
2019	74,461	107,462	652	0	63,573	0	390,750	0	68,426	0	0	0	370,869	310,260	0	60,070	0	27,022	60,554	5,375	797,258	266,021	0	**2,602,753**
2020	64,461	101,058	0	0	70,442	0	383,783	0	59,781	0	0	0	380,929	284,058	0	63,501	0	23,992	61,108	5,375	734,753	223,175	0	**2,456,416**
2021	54,461	100,959	0	0	70,574	0	349,336	0	49,263	0	0	0	380,176	263,701	0	61,951	0	23,379	56,240	5,375	568,932	156,785	0	**2,141,132**
2022	44,707	96,597	0	0	74,928	0	325,979	0	39,546	0	0	0	367,065	245,855	0	42,908	0	27,495	52,639	5,375	434,090	104,846	0	**1,862,030**
2023	53,971	256,263	0	0	138,962	0	435,257	0	47,750	0	0	0	444,189	303,087	0	56,844	0	32,986	65,432	5,375	810,533	288,161	0	**2,938,809**
Ending Balance	**53,971**	**256,263**	**0**	**0**	**138,962**	**0**	**435,257**	**0**	**47,750**	**0**	**0**	**0**	**444,189**	**303,087**	**0**	**56,844**	**0**	**32,986**	**65,432**	**5,375**	**810,533**	**288,161**	**0**	2,938,809
1994 Initial Account Balance	0	4,649	13,321	0	6,666	0	46,532	0	0	0	0	0	0	25,253	0	15,974	0	0	66	0	62,070	68,184	0	242,715
1995-2014 Account Balance Chan	74,006	60,727	-4,218	0	57,700	0	290,092	0	28,473	0	0	0	345,004	96,965	0	-1,925	0	0	35,861	26,715	311,089	83,148	0	1,403,636
2015-2023 Account Balance Chan	-20,035	190,887	-9,103	0	74,596	0	98,633	0	19,277	0	0	0	99,185	180,869	0	42,795	0	32,986	29,505	-21,340	437,374	136,829	0	1,292,458