

Addendum – Demonstration of Reduced Reliance on the Delta

The Demonstration of Reduced Reliance on the Delta is an addendum to the District's Adopted 2017 Water Management Plan (5-Year Update). The addition of the optional reduced reliance addendum is the only reason for the amendment, and thus the amended 2017 Plan would not be subject to DWR review. Additionally, the addendum to include the Demonstration of Reduced Reliance on the Delta is only for Delta Plan Policy WR P1, Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance (CCR, Title 23, Section 5003) consistency and is separate from the adoption of the 2023 Water Management Plan (5-Year Update).

As an agricultural water supplier, the District anticipates participating and receiving water from proposed projects that are considered “covered actions”, such as multi-year water transfers, conveyance facility, or new diversion that involves transferring water through, exporting water from, or using water in the Sacramento-San Joaquin Delta (Delta).

Except for very wet years when flood operations occur on the San Joaquin and Kings Rivers, all surface water delivered to the District is exported from the Delta. The exported water is diverted under permits held by the U.S. Bureau of Reclamation (Reclamation) and the Department of Water Resources (DWR), as Central Valley Project (CVP) water and State Water Project (SWP) water, respectively. Additionally, some exported water, subject to monthly requirements identified by ESA/CESA, through the Delta are transferred through a petition to the SWRCB or a NEPA/CEQA complaint pre-1914 water right conveyed by the projects. The District holds repayment contracts for up to 1,196,948 acre-feet (AF) of CVP water and an agreement with the County of Kings for the Delivery of up to 5,000 AF of SWP Table A water to Lemoore Naval Air Station which Reclamation factors into its annual CVP reservoir and Delta export operations plan. As part of the water rights permits held by the CVP and SWP, the Projects are required to meet numerous requirements intended to protect the environment and to maintain adequate water quality for urban Delta diverters. The annual amount of water delivered to the District under its contracts is often reduced because of CVP's and SWP's obligations to meet environmental requirements before meeting the contractual commitments.

Table 1 entitled, “District Agricultural Supplier Water Supplies (1983-2016)”, depicts the District's water supplies that are conveyed through the Delta and other local water supplies.

Table 1 – District Agricultural Supplier Water Supplies (1983-2016)

Water Year	Delta Water Supplies			Groundwater	Other Water Supplies	Total Acre-Feet
	Net CVP	Water User Acquired	Supplemental District Supply			
1983	1,175,702	-	-	31,000	33,490	1,240,192
1984	1,369,791	-	3,000	73,000	29,771	1,475,562
1985	1,306,266	-	1,500	228,000	20,227	1,555,993
1986	1,135,870	-	-	145,000	7,395	1,288,265
1987	1,489,123	-	12,069	159,000	4,662	1,664,854
1988	1,174,410	-	47,376	160,000	80,959	1,462,745
1989	1,035,369	20,530	99,549	175,000	-	1,330,448
1990	625,196	18,502	(2,223)	300,000	7,319	948,794
1991	229,666	22,943	77,399	600,000	44,709	974,717
1992	208,668	42,623	100,861	600,000	45,094	997,246
1993	682,833	152,520	82,511	225,000	11,509	1,154,373
1994	458,281	56,541	108,083	325,000	41,970	989,875
1995	1,021,719	57,840	121,747	150,000	25,780	1,377,086
1996	994,935	92,953	172,609	50,000	18,644	1,329,141
1997	968,408	94,908	261,085	30,000	20,967	1,375,368
1998	945,115	54,205	162,684	15,000	22,111	1,199,115
1999	805,404	178,632	111,144	60,000	11,067	1,166,247
2000	695,693	198,294	133,314	225,000	11,790	1,264,091
2001	611,267	75,592	135,039	215,000	6,906	1,043,804
2002	776,526	106,043	64,040	205,000	12,655	1,164,264
2003	863,150	107,958	32,518	160,000	-	1,163,626
2004	800,704	96,872	44,407	210,000	276	1,152,259
2005	996,147	20,776	98,347	75,000	1,036	1,191,306
2006	1,076,461	45,936	38,079	25,000	4,599	1,190,075
2007	647,864	87,554	61,466	310,000	-	1,106,884
2008	347,222	85,421	102,862	460,000	14,024	1,009,529
2009	202,991	68,070	70,149	480,000	2,657	823,867
2010	590,059	41,296	79,242	140,000	1,393	851,990
2011	576,910	60,380	191,686	45,000	14,925	888,901
2012	405,451	111,154	123,636	355,000	5,425	1,000,666
2013	88,488	101,413	130,867	638,000	19,028	1,077,796
2014	98,573	59,714	26,382	655,000	24,748	864,417
2015	82,429	51,134	34,600	660,000	6,738	834,901
2016	9,204	72,154	174,374	612,000	34,023	901,755

Recent water delivery information from 2007 through 2016 is available within the Plan's Water Inventory Tables, Table 8 – Annual Water Quantities Delivered Under Each Right and/or Contract.

Table 8 – Annual Water Quantities Delivered Under Each Right and/or Contract

Year ¹	Federal Ag Water	Federal Non-Ag Water	State Water (SWP)	Local Water (SLC, CC)	Other Water (215- Kings)	Transfers into District	Upslope Drain Water	Total Acre-Feet
2007	781,834	2,996	26,359	-	-	126,621	-	937,810
2008	364,700	3,434	15,974	527	-	167,005	-	551,640
2009	242,114	2,943	12,523	2,657	-	79,042	-	339,279
2010	448,934	3,033	4,281	1,323	-	187,631	-	645,202
2011	841,210	2,570	56,695	7,219	72,966	66,696	-	1,047,356
2012	498,382	2,527	4,263	25,618	60,000	195,221	-	786,011
2013	219,942	2,250	20,495	-	6,886	215,660	-	465,233
2014	95,954	2,438	1,277	43,400	-	86,322	-	207,748
2015	77,147	3,303	19,475	10,511	-	86,327	-	196,763
2016	11,066	3,153	52,032	14,286	-	141,946	-	222,483
Total	3,581,283	28,647	213,374	105,541	139,852	1,330,828	-	5,399,525
Average	358,128	2,865	21,337	10,554	13,985	133,083	-	539,952

Table 2 – District Comparison of Historic Average Annual Delta Supplies verses Projected Average Annual Delta Supplies

Value	Baseline Delta Supplies (1983-1998)	2015 Conditions Delta Supplies	2030 Climate Conditions Delta Supplies	2070 Climate Conditions Delta Supplies
Average Annual Supplies (AF)	1,042,698	749,374	502,000	251,000
Percent of Baseline Supplies	N/A	72%	48%	24%
Percent Reduction in Supplies	N/A	28%	52%	76%

Table 2 and the Chart entitled “District Comparison of Historic Average Annual Delta Supplies verses Projected Average Annual Delta Supplies” (see Chart 1) tables and graphs the historic baseline and projected average annual Delta supplies. The District

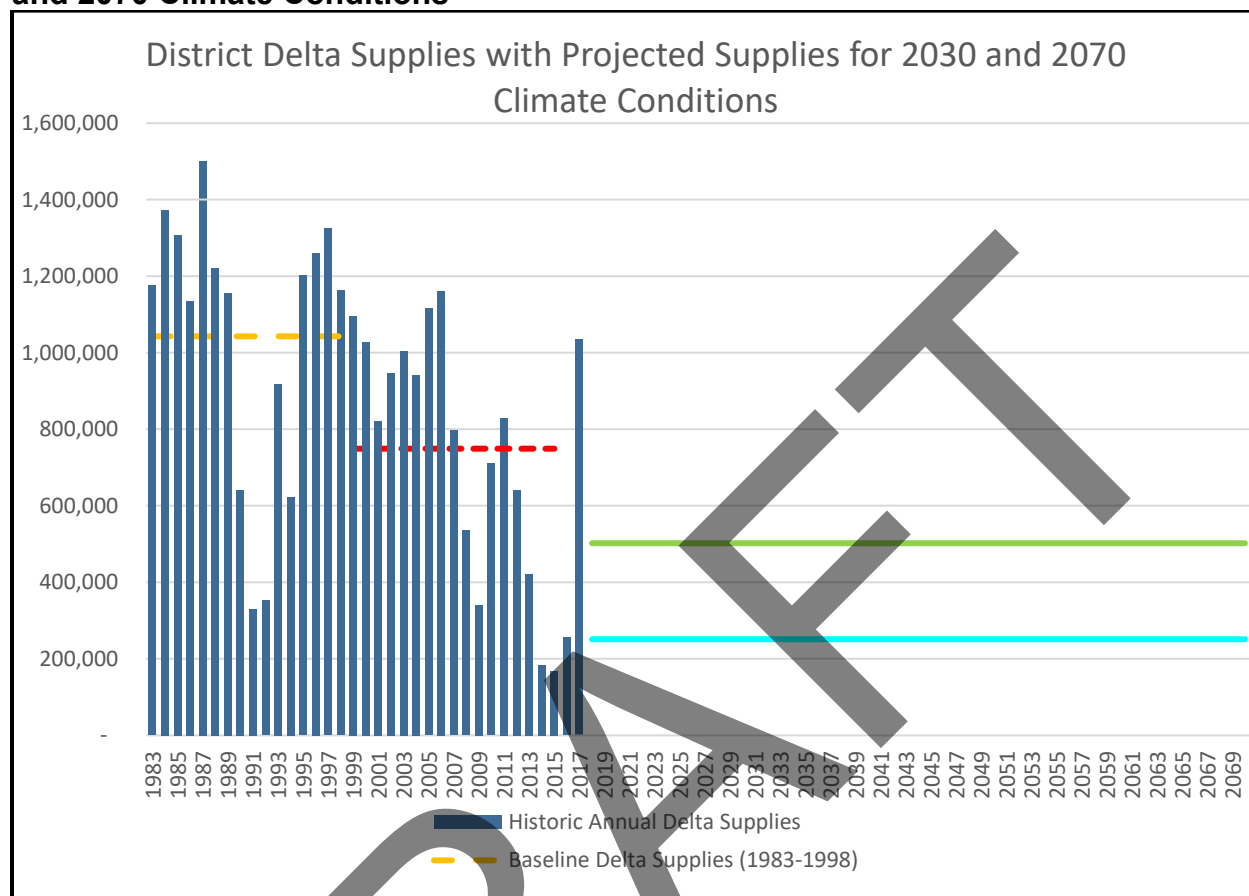
¹ Years 2007-2011 reflect the water years and 2012-2016 reflect calendar years.

selected a baseline period of 1983-1998 prior to the implementation of the District's land acquisition program(s). The 2015 Conditions average is based on the Delta Water Supplies available from 1999-2015. The 2030 and 2070 Conditions are based on CALSIM II climate change model runs based on an assumed amount of sea level raise and modified precipitation and runoff patterns. The climate change conditions result in lower long-term water supply.

The District's expected long-term average water allocation under its contracts has decreased from 92% in 1978 to 72% in 2015. The projected reduced average allocations for 2030 and 2070 were determined using the widely accepted operations model called 'CALSIM II' developed by DWR and Reclamation. Climate change simulations for 2030 and 2070 conditions were obtained from modeling performed by DWR in 2016 for its Water Storage Investment Project. The District's average water supply has been reduced by 18% over the past 37 years due to increasing regulatory constraints related to State and Federal Endangered Species and Clean Water Acts. The regulatory impacts to water supply demonstrates that the District's reliance on Delta water has already been significantly reduced.

The reduction in delivered contract water to the District has increased the need to purchase transfer water to meet the needs of the District. During most years, the purchased transfer water originates from sellers north of the Delta (or sellers south of Delta with CVP contracts) and therefore must be diverted through the Delta. More details regarding the District's water transfers can be referenced in Section I of the Plan, on page 39. Reclamation is allowed to divert the transfer water from the Delta only after meeting all its environmental requirements. As part of meeting its environmental requirements, Reclamation redirects a portion of the transfer water to offset the effects of conveying and diverting the water from the Delta.

Chart 1 – District’s Annual Delta Supplies and Projected Delta Supplies for 2030 and 2070 Climate Conditions



Evaluation and Implementation of locally cost effective and technically feasible programs and projects

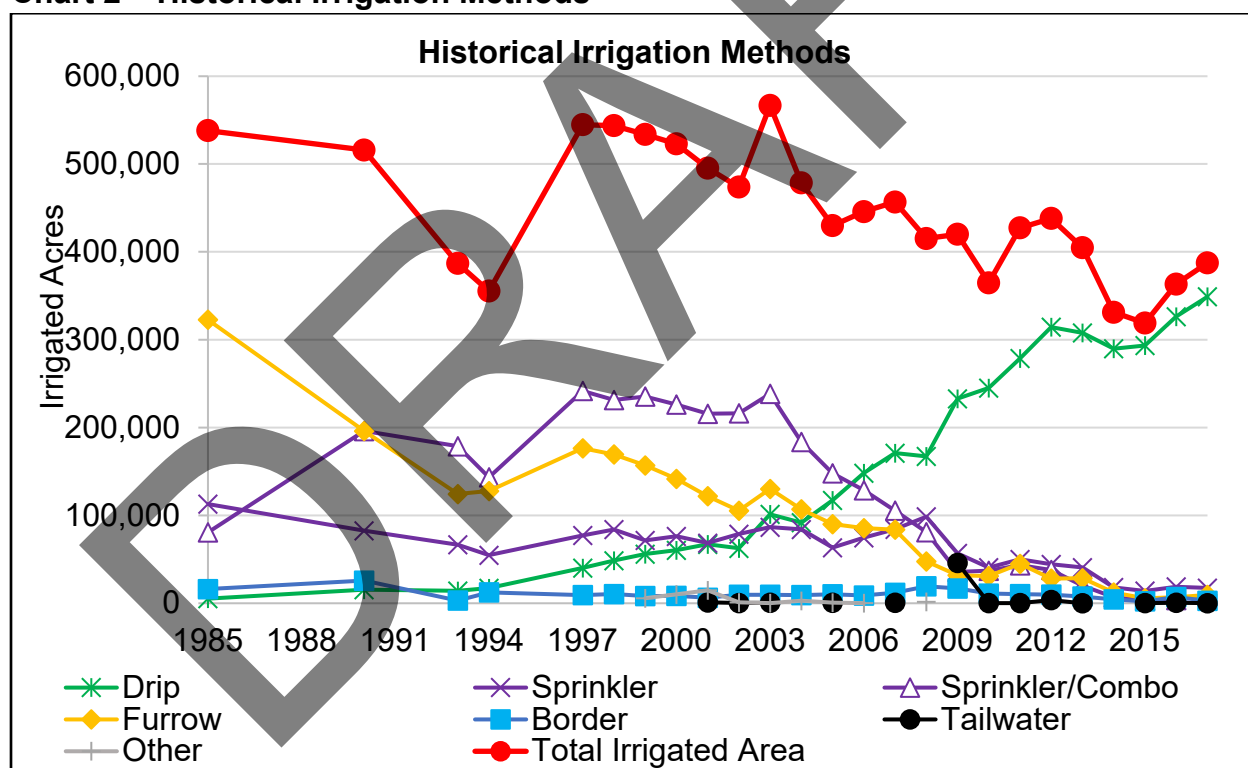
Conjunctive Use – The District’s Distribution Integration Program (DIP) allows water users to use the District’s water distribution system to convey groundwater to other points of use within the District which allows for the improved use of groundwater resources already available within the District boundaries. The District conveys and delivers credit water through its distribution system to locations which assists the water users to meet their overall water requirements. The District also periodically operates (when the CVP south of Delta allocation is 20% or less) the Canal Integration Program (CIP) which allows water users to pump suitable quality groundwater into the San Luis Canal (SLC) and receive surface water credits, adjusted for conveyance losses and mitigation.

The District implemented the necessary procedures for the District to serve as the Groundwater Sustainability Agency (GSA) for the Westside Subbasin. Once approved, serving as a GSA of the Westside Subbasin requires the District to develop a

Groundwater Sustainability Plan (GSP) that includes a strategy for sustainability managing the subbasin. Based on GSP regulations, the District is working to develop an Interim Draft GSP by February 2017.

Efficient Irrigation – The District also offers low interest loans to water users for the lease-to-purchase of irrigation system equipment through the Expanded Irrigation System Improvement Program (EISIP). Through the EISIP funding, water users can purchase irrigation equipment including micro-irrigation systems, tailwater reuse systems, linear move or center pivot systems, and portable aluminum irrigation equipment. The EISIP encourages water users to transition irrigation methods to more water efficient methods as mentioned above. Since the implementation of EISIP in 1999, the District has funded over 450 irrigation system improvement loans. The District estimates 219,750 AF of water savings annually compared to 1985 due to the increase in water efficient irrigation methods. The Chart entitled “Historical Irrigation Methods” (see Chart 2) shows a steady increase in drip irrigation from 1985 to 2017.

Chart 2 – Historical Irrigation Methods



Alternative Land Use – The District has implemented a land use modification program which allows landowners to temporarily, although long-term, convert a portion of their lands to non-irrigable uses, such as solar generation. This program allows landowners to still receive the benefit of an agricultural water allocation on the converted land that can be used to supplement the water supply on their remaining cropland. Additionally, since 1999 the District has acquired and retired approximately 77,050 acres from irrigation of

which 5,037 acres have been sold or leased for utility scale solar development, and another 7,596 acres are under option agreements with solar developers. The water supply from these acquisitions is reallocated to remaining privately owned land to further reduce demand for additional water from external sources (Approximately 240,000 acre-feet of demand reduction).

The District continues to develop and implement programs that encourage water conservation and efficiency, along with these programs already implemented, will bring the District closer to balancing irrigation demand with less reliance on Delta water supply.

DRAFT