

Addendum to 2015 Urban Water Management Plan
Demonstration of Reduced Delta Reliance

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Zone 7 Water Agency Reduced Reliance on the Delta

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LIST OF ACRONYMS AND ABBREVIATIONS

AFY	Acre-Feet Per Year
BARDP	Bay Area Regional Desalination Project
Delta	Sacramento-San Joaquin Delta
DWR	Department of Water Resources
Guidebook	Urban Water Management Plan Guidebook 2020
M&I	Municipal and Industrial
Plan	Urban Water Management Plan
SWP	State Water Project
UWMP	Urban Water Management Plan
WR P1	Delta Plan Policy WR P1
Zone 7	Zone 7 Water Agency

Zone 7 Water Agency Reduced Reliance on the Delta

The purpose of this document is to demonstrate compliance with the Sacramento-San Joaquin Delta Reform Act of 2009. The Sacramento-San Joaquin Delta Reform Act of 2009 is described below, followed by an analysis of Zone 7 Water Agency's (Zone 7) reduced reliance in accordance with State protocols and expected outcomes for reduced reliance on the Delta.

1.0 SACRAMENTO-SAN JOAQUIN DELTA REFORM ACT OF 2009

Under the Sacramento-San Joaquin Delta Reform Act of 2009, state and local public agencies proposing a "covered action" in the Sacramento-San Joaquin Delta (Delta) must submit a written certification of consistency to the Delta Stewardship Council as to whether the covered action is consistent with applicable Delta Plan policies. Covered actions include a multi-year water transfer, conveyance facility, or new diversion that involves transferring water through, exporting water from, or using water in the Delta. Anyone may appeal a certification of consistency, and if the Delta Stewardship Council grants the appeal, the covered action may not be implemented until the agency proposing the covered action submits a revised certification of consistency, and either no appeal is filed, or the Delta Stewardship Council denies the subsequent appeal.

An urban water supplier that anticipates participating in or receiving water from a proposed covered action is required to provide information in their 2015 and 2020 Urban Water Management Plans (UWMPs) that can then be used in the covered action process to demonstrate consistency with Delta Plan Policy WR P1, Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance (WR P1).

WR P1 details what is needed for a covered action to demonstrate consistency with reduced reliance on the Delta and improved regional self-reliance. WR P1 subsection (a) states that:

- (a) Water shall not be exported from, transferred through, or used in the Delta if all of the following apply:*
 - (1) One or more water suppliers that would receive water as a result of the export, transfer, or use have failed to adequately contribute to reduced reliance on the Delta and improved regional self-reliance consistent with all of the requirements listed in paragraph (1) of subsection (c);*
 - (2) That failure has significantly caused the need for the export, transfer, or use; and*
 - (3) The export, transfer, or use would have a significant adverse environmental impact in the Delta.*

WR P1 subsection (c)(1) further defines what adequately contributing to reduced reliance on the Delta means in terms of (a)(1) above.

- (c)(1) Water suppliers that have done all the following are contributing to reduced reliance on the Delta and improved regional self-reliance and are therefore consistent with this policy:*
 - (A) Completed a current Urban or Agricultural Water Management Plan (Plan) which has been reviewed by the California Department of Water Resources for compliance with the applicable requirements of Water Code Division 6, Parts 2.55, 2.6, and 2.8;*
 - (B) Identified, evaluated, and commenced implementation, consistent with the implementation schedule set forth in the Plan, of all programs and projects included in the Plan that are locally cost effective and technically feasible which reduce reliance on the Delta; and*



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(C) Included in the Plan, commencing in 2015, the expected outcome for measurable reduction in Delta reliance and improvement in regional self-reliance. The expected outcome for measurable reduction in Delta reliance and improvement in regional self-reliance shall be reported in the Plan as the reduction in the amount of water used, or in the percentage of water used, from the Delta watershed. For the purposes of reporting, water efficiency is considered a new source of water supply, consistent with Water Code section 1011(a).

The analysis and documentation provided below include all of the elements described in WR P1(c)(1) that need to be included in a water supplier's UWMP to support a certification of consistency for a future covered action. Including this document as an appendix in the 2015 and 2020 Urban Water Management Plans fulfills the requirements of WR P1 subsection (c)(1) Paragraph A.

2.0 REDUCED RELIANCE ANALYSIS

The data used in this analysis represent the regional efforts of the Zone 7 to serve its customers in the Tri-Valley, including municipal and industrial (M&I) retailers (California Water Service, Dublin San Ramon Services District, City of Livermore, and City of Pleasanton), M&I direct retail customers, and untreated water customers. The analysis was coordinated with Zone 7's retailers as part of the UWMP coordination process as described in the 2020 UWMP. In accordance with UMWP requirements, Zone 7's retailers report their demand and supply data for their respective service areas in their respective UWMPs. This appendix reports demands on Zone 7 and supplies served by Zone 7. The retailers report their other sources of supplies used to supplement Zone 7 supplies in their UWMPs as applicable (e.g., recycled water, groundwater pumped by the retailer). Zone 7 provided the info presented here to the retailers so they can appropriately represent the nature of their wholesale supplies from Zone 7, and those supplies' contributions to reduced Delta reliance.

The methodology used to determine Zone 7's reduced Delta reliance and improved regional self-reliance is consistent with the approach detailed in Appendix C of Department of Water Resources' (DWR) Urban Water Management Plan Guidebook 2020 (Guidebook Appendix C) issued in April 2021, including the use of narrative justifications for the accounting of supplies and the documentation of specific data sources. General assumptions include:

- All data were obtained from the current 2020 UWMP or previously adopted UWMPs and represent average or normal water year conditions.
- All analyses were conducted at the wholesale level, focusing on demands on Zone 7 and Zone 7's sources of supplies served to the Tri-Valley.
- As described in Chapter 6 of the 2020 UWMP, Zone 7 is currently pursuing a number of water supply and storage alternatives to bolster water system reliability while reducing reliance on the Delta. The future projects described in Chapter 6 and the demand management measures described in Chapter 9 fulfill the requirements of WR P1 subsection (c)(1) Paragraph B. For the purposes of the 2020 UWMP, a representative future water supply portfolio was selected; that portfolio is reflected in this analysis.



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Tables 1 through 4 present the analysis of Zone 7's reduced Delta reliance using DWR's spreadsheet tool and fulfill the requirements of WR P1 subsection (c)(1) Paragraph C. Descriptions of the various inputs of the analysis are provided below:

- **Baseline (2010) and 2015-2045 Conditions** – The analysis uses a normal water year representation of 2010 as the baseline, which is consistent with the approach described in DWR's Guidebook. Data for the 2010 baseline were taken from the 2010 UWMP (Table 9-11). To evaluate conditions relative to the baseline, actual conditions for 2015 (Table 4-1 of 2015 UWMP) and 2020 (Table 4-1 of 2020 UWMP) are presented. Normal year projections for 2025 through 2045 from the 2020 UWMP are then subsequently used. In its 2020 UWMP, Zone 7 does not include operational storage—groundwater recharge and State Water Project (SWP) carryover—in its current or projected demands. To maintain consistency with baseline and 2015 conditions, operational storage has been added to actual (2020) and projected (2025-2045) demands presented in Zone 7's 2020 UWMP.
- **Service Area Water Demands with Water Use Efficiency Accounted For** – These values reflect Zone 7's actual and projected water use, including water placed in storage as applicable.
- **Non-Potable Water Demands** – This item includes untreated water demands, raw water losses, and water placed in storage.
- **Water Supplies Contributing to Regional Self-Reliance**
 - **Water Use Efficiency** – This amount is calculated by DWR's spreadsheet tool based on Zone 7's baseline demand, actual demands, and expected future demands. The value shown is the reduction in per capita water demand from the baseline (2010) multiplied by the projected population for each. Because the Tri-Valley has successfully reduced potable water demands over time, conserved water is contributing significantly to Zone 7's regional self-reliance.
 - **Conjunctive Use Projects** – Zone 7's use of operational storage in the Main Basin is included here. The Main Basin is recharged with SWP water and local Arroyo Valle water. This water is locally available for use during normal operations, drought, and emergencies.
 - **Local and Regional Water Supply and Storage Projects** – This includes actual use and future projected use of local Arroyo Valle water.
 - **Other Programs and Projects that Contribute to Regional Self-Reliance** –As discussed in Chapter 6 of the 2020 UWMP, Zone 7 has included Sites Reservoir (10,000 acre-feet per year (AFY) of average yield) and 5,000 AFY from a combination of potable reuse and desalinated brackish water from the Bay Area Regional Desalination Project (BARDP) as a representative portfolio of future supplies. As stated in a letter from the Delta Stewardship Council to the Sites Project Authority on May 2, 2018, "Sites Reservoir would be located upstream from the Delta, outside the legal Delta boundary" and "does not meet the definition of a covered action"; consequently, Sites Reservoir has been categorized as a water supply contributing to regional self-reliance. Potable reuse, which would use locally generated wastewater, also contributes to regional self-reliance; the amount was assumed to be 2,500 AF from 2030 onwards for the purposes of this analysis.



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- Water Supplies from the Delta Watershed
 - **CVP/SWP Contract Supplies** – Zone 7 derives a large portion of its supplies from the SWP system, as reflected in the analysis.
 - **Transfers and Exchanges of Supplies from the Delta Watershed** – Water transfers and exchanges that Zone 7 receives via the Delta and South Bay Aqueduct have been included here. This includes water from the Yuba Accord, Byron-Bethany Irrigation District, and future water transfers expected to be part of Zone 7’s water supply portfolio through 2030.
 - **Other Water Supplies from the Delta Watershed** – SWP carryover water and actual recovered water from the Kern County groundwater banks delivered through the Delta have been included here. Note that future projections do not include water from the banks because that supply is not part of normal year operations. In addition, water from the BARDP (assumed at 2,500 AFY for the purposes of this analysis) has been included from 2030 onwards, since brackish water would be derived from the Delta.



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Table 1. Optional Calculation of Water Use Efficiency (DWR Table C-1)

Service Area Water Use Efficiency Demands (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Service Area Water Demands with Water Use Efficiency Accounted For	66,200	47,900	55,040	69,500	72,000	73,000	74,500	74,500
Non-Potable Water Demands	20,000	22,500	16,110	24,700	27,000	27,500	27,500	27,500
Potable Service Area Demands with Water Use Efficiency Accounted For	46,200	25,400	38,930	44,800	45,000	45,500	47,000	47,000
Total Service Area Population	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045
Service Area Population	216,000	238,600	265,811	283,964	299,121	311,887	322,742	322,742
Water Use Efficiency Since Baseline (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Per Capita Water Use (GPCD)	191	95	131	141	134	130	130	130
Change in Per Capita Water Use from Baseline (GPCD)		(96)	(60)	(50)	(57)	(61)	(61)	(61)
Estimated Water Use Efficiency Since Baseline		25,634	17,924	15,937	18,979	21,209	22,031	22,031

Table 2. Calculation of Service Area Water Demands Without Water Use Efficiency (DWR Table C-2)

Total Service Area Water Demands (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Service Area Water Demands with Water Use Efficiency Accounted For	66,200	47,900	55,040	69,500	72,000	73,000	74,500	74,500
Reported Water Use Efficiency or Estimated Water Use Efficiency Since Baseline		25,634	17,924	15,937	18,979	21,209	22,031	22,031
Service Area Water Demands without Water Use Efficiency Accounted For	66,200	73,534	72,964	85,437	90,979	94,209	96,531	96,531



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Table 3. Calculation of Supplies Contributing to Regional Self-Reliance (DWR Table C-3)

Water Supplies Contributing to Regional Self-Reliance (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Water Use Efficiency		25,634	17,924	15,937	18,979	21,209	22,031	22,031
Water Recycling								
Stormwater Capture and Use								
Advanced Water Technologies								
Conjunctive Use Projects	9,200	2,000	12,000	9,200	9,200	9,200	9,200	9,200
Local and Regional Water Supply and Storage Projects	7,100	2,860	8,700	5,500	5,500	5,500	5,500	5,500
Other Programs and Projects that Contribute to Regional Self-Reliance					12,500	12,500	12,500	12,500
Water Supplies Contributing to Regional Self-Reliance	16,300	30,494	38,624	30,637	46,179	48,409	49,231	49,231

Service Area Water Demands without Water Use Efficiency (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Service Area Water Demands without Water Use Efficiency Accounted For	66,200	73,534	72,964	85,437	90,979	94,209	96,531	96,531

Change in Regional Self Reliance (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Water Supplies Contributing to Regional Self-Reliance	16,300	30,494	38,624	30,637	46,179	48,409	49,231	49,231
Change in Water Supplies Contributing to Regional Self-Reliance		14,194	22,324	14,337	29,879	32,109	32,931	32,931

Percent Change in Regional Self Reliance (As Percent of Demand w/out WUE)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Percent of Water Supplies Contributing to Regional Self-Reliance	24.6%	41.5%	52.9%	35.9%	50.8%	51.4%	51.0%	51.0%
Change in Percent of Water Supplies Contributing to Regional Self-Reliance		16.8%	28.3%	11.2%	26.1%	26.8%	26.4%	26.4%



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Table 4. Calculation of Reliance on Water Supplies from the Delta Watershed (DWR Table C-4)

Water Supplies from the Delta Watershed (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
CVP/SWP Contract Supplies	51,400	16,100	16,100	47,000	46,000	45,000	43,500	43,500
Delta/Delta Tributary Diversions								
Transfers and Exchanges of Supplies from the Delta Watershed	4,645	380	7,100	5,000	5,000			
Other Water Supplies from the Delta Watershed		26,560	11,800	10,000	12,500	12,500	12,500	12,500
Total Water Supplies from the Delta Watershed	56,045	43,040	35,000	62,000	63,500	57,500	56,000	56,000

Service Area Water Demands without Water Use Efficiency (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Service Area Water Demands without Water Use Efficiency Accounted For	66,200	73,534	72,964	85,437	90,979	94,209	96,531	96,531

Change in Supplies from the Delta Watershed (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Water Supplies from the Delta Watershed	56,045	43,040	35,000	62,000	63,500	57,500	56,000	56,000
Change in Water Supplies from the Delta Watershed		(13,005)	(21,045)	5,955	7,455	1,455	(45)	(45)

Percent Change in Supplies from the Delta Watershed (As a Percent of Demand w/out WUE)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Percent of Water Supplies from the Delta Watershed	85%	59%	48%	73%	70%	61%	58%	58%
Change in Percent of Water Supplies from the Delta Watershed		-26%	-37%	-12%	-15%	-24%	-27%	-27%



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3.0 EXPECTED OUTCOMES FOR REDUCED RELIANCE ON THE DELTA

As stated in WR P1(c)(1)(C), the policy requires that, commencing in 2015, UWMPs include expected outcomes for measurable reduction in Delta reliance and improved regional self-reliance. WR P1 further states that those outcomes shall be reported in the UWMP as the reduction in the amount of water used, or in the percentage of water used, from the Delta.

The following provides a summary of the near-term (2025) and long-term (2045) expected outcomes for Zone 7's Delta reliance and regional self-reliance based on the assumptions described in the previous section and DWR's analysis tool. The results show that Zone 7 is measurably reducing reliance on the Delta and improving regional self-reliance, based on the percentage of Zone 7's water supplies from the Delta Watershed.

Expected Outcomes for Regional Self-Reliance

- Near-term (2025) – Normal water year regional self-reliance is expected to increase by approximately 14,300 AFY from the 2010 baseline (see Table 3). Conserved water is the source of this increase.
- Long-term (2045) – Normal water year regional self-reliance is expected to increase by approximately 32,900 AFY from the 2010 baseline (see Table 3). Conserved water is a major contributor to this increase, supplemented by Sites Reservoir and potable reuse.

Expected Outcomes for Percent of Water Supplies from the Delta Watershed

- Near-term (2025) – Normal water year reliance on supplies from the Delta watershed is expected to decrease by 12 percent relative to the 2010 baseline (see Table 4).
- Long-term (2045) – Normal water year reliance on supplies from the Delta watershed is expected to decrease by 27 percent relative to the 2010 baseline (see Table 4).

4.0 NEW APPENDIX TO 2015 UWMP

The information contained in this Appendix is also included as a new Appendix G to Zone 7's 2015 UWMP, consistent with WR P1 subsection (c)(1)(C) (Cal. Code Regs. tit. 23, § 5003). As described in Chapter 10 of the 2015 and 2020 UWMPs, Zone 7 followed the required public notification, public review and hearing, and adoption processes required by the Urban Water Management Planning Act.

Zone 7's 2020 UWMP (including this Appendix), Water Shortage Contingency Plan, and Appendix G to the 2015 UWMP were adopted by the Zone 7 Board of Directors on May 19, 2021 (see Resolution Nos. 21-42 and 21-43 in Appendix H of the 2020 UWMP).