F. DETAILED RESULTS OF CALSIM II MODELING (STUDY NO. 4)

NOTE TO REVIEWER

Two documents are provided in this appendix. The first document dated 3 May 2007 provides a detailed description of the modeling method. However, the tables of data in the document dated 3 May 2007 reflect an early set of definitions of the proposed project and its alternatives, which are no longer applicable.

The definitions of the proposed project and its alternatives were altered and CALSIM II was rerun to reflect the new definitions. The second document dated 22 August 2007 contains data that reflects the current definitions of the proposed project and its alternatives.

The document dated 3 May 2007 uses names for the alternatives that have been superceded. The current CNPA3, used in the 22 August document, is equivalent to NPB-A with a state-owned water bank in the Kern Fan Element, used in the 3 May document. The current CNPA4, used in the 22 August document, is equivalent to NPB-S with a state-owned water bank in the Kern Fan Element, used in the 3 May document. The current NPA2, used in the 22 August document, is roughly equivalent to NPA, used in the 3 May document.

Monterey Plus EIR
Analysis of Hydrology and SWP Deliveries in each Alternative Using CALSIM II and Associated Post-Processing Routines

5/03/2007

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1.0. Introduction

This appendix describes the approach, assumptions and results of CALSIM II modeling and associated post-processing that was performed in support of the Monterey Plus EIR. The modeling assisted analysis of some of the Monterey Amendment's impacts on the State Water Project (SWP) and other areas. The analysis included evaluation of a 1994 Baseline and 2003 and 2020 evaluations of a Baseline, the Proposed Project and multiple No Project Alternatives that reflect different interpretations of the pre-Monterey contracts.

2.0. Overview of Impacts Analyses

The EIR analysis of potential effects of the Monterey Plus scenarios on California's surface water system utilizes the output from the CALSIM II model. This section of the appendix describes the CALSIM II model and associated post-processing spreadsheets that were used, the scenarios analyzed, and the model inputs and assumptions for each scenario.

2.1. Water Supply and Hydrology

Simulation of the hydrologic effects of the proposed project and other scenarios on the surface water system was an important tool for water supply analyses, and the water supply and hydrology output also provided data for other parts of the EIR. The surface water system includes natural water bodies (rivers and streams) and constructed facilities (reservoirs and diversions). Water supply effects include total supplies of the SWP, Central Valley Project (CVP), and other Delta water users; individual water supplies of SWP contractors, and operations of the Banks and Tracy pumping plants in the Delta. Hydrologic effects include changes in stream flow, stream water surface elevations, and reservoir levels.

2.1.1. Simulation Tools

The Department of Water Resources (Department), U.S. Bureau of Reclamation (Reclamation), and many other agencies and stakeholder groups currently use CALSIM II to simulate SWP and CVP operations, other water supply entities that interact with the SWP and CVP, the Delta, and other water bodies. For the Monterey Plus EIR, SWP deliveries from CALSIM II are post-processed using Excel spreadsheets to determine deliveries to each contractor in each scenario.

2.1.1.1. CALSIM II Model

The following is a brief overview of the CALSIM II model's approach and assumptions. For more detailed descriptions of the model, please refer to *Benchmark Study Assumptions*[1] (DWR 2002) and *Long-Term Central Valley Project Operations Criteria and Plan CVP-OCAP*[2] (USBR 2004).

[1] http://modeling.water.ca.gov/hydro/studies/SWPReliability/index2.html
[2] http://www.usbr.gov/mp/cvo/ocap.html

CALSIM II is a planning simulation model developed jointly by the Department and Reclamation to simulate the California water system including the SWP and CVP. The model operates on a monthly time step from water year 1922 through 1994 and utilizes optimization techniques to route water through a network. A linear programming/mixed integer solver determines an optimal set of decisions for each time period given a set of weights and system constraints (DWR 2002).

The modeled geographic area includes the valley floor drainage of the Sacramento and San Joaquin Rivers, the upper Trinity River, and the delivery locations for contractors served by the SWP and CVP. The hydrology in CALSIM II was developed jointly by the Department and Reclamation and includes estimates of water diversion requirements (demands), stream accretions and depletions, rim basin inflows, irrigation efficiency, return flows, non-recoverable losses, and groundwater operations. Sacramento Valley and tributary rim basin hydrologies are developed using a process designed to adjust the historical sequence of monthly stream flows to represent a sequence of flows at a future level of development. Adjustments to historic water supplies are determined by imposing future level land use on historical meteorological and hydrologic conditions. San Joaquin River basin hydrology is developed using fixed annual demands and regression analysis to develop accretions and depletions. The resulting hydrology is used to represent the water supply available from Central Valley streams to the CVP and SWP at a future level of development (DWR 2002).

CALSIM II uses the Department's Artificial Neural Network (ANN) model to simulate the flow-salinity relationships for the Delta. The ANN model correlates DSM2 model-generated salinity at key locations in the Delta with Delta inflows, Delta exports, and Delta Cross Channel operations. The ANN flow-salinity model estimates electrical conductivity at the following four locations for the purpose of modeling Delta water quality standards: Old River at Rock Slough, San Joaquin River at Jersey Point, Sacramento River at Emmaton, and Sacramento River at Collinsville. In its estimates, the ANN model considers antecedent conditions up to 148 days, and considers a "carriage-water" type of effect associated with Delta exports (DWR 2002). CALSIM II uses logic for determining deliveries to north-of-Delta and south-of-Delta CVP and south-of-Delta SWP contractors that incorporates runoff forecast information and uncertainty and standardized rule curves (i.e. Water Supply Index versus Demand Index Curve) to estimate the water available for delivery and carryover storage. Updates of delivery levels occur monthly from January 1 through May 1 for the SWP and March 1 through May 1 for the CVP as water supply parameters become more certain. The south-of Delta SWP delivery is determined based upon water supply parameters and operational constraints. The CVP system wide delivery and south-of-Delta delivery are determined similarly upon water supply parameters and operational constraints with specific consideration for export constraints (DWR 2002).

CALSIM II dynamically models CVPIA 3406(b)(2) water and the Environmental Water Account (EWA). CVPIA 3406(b)(2) accounting procedures are based on system conditions under operations associated with regulatory requirements under SWRCB Decisions 1485 and 1641. Similarly, the operating guidelines for selection of actions and allocation of assets under the EWA are based on system conditions under operations associated with a Regulatory Baseline as defined by the CALFED Record of Decision (ROD), which includes SWRCB Decision 1641 and CVPIA 3406(b)(2) among other elements (USBR 2004).

2.1.1.2. Post-Processing Spreadsheet for CALSIM II Output

For each scenario, SWP deliveries to North Bay Aqueduct and South-of-Delta contractors from the CALSIM II studies were post-processed by taking total annual scheduled deliveries and total monthly unscheduled deliveries from the model study and allocating them to individual contractors according to each scenario's assumptions regarding allocation rules and transfers. Post-processing spreadsheets performed this allocation using the following steps.

To Allocate Scheduled Deliveries:

1. Take annual time series of scheduled deliveries from the CALSIM II model output for the period 1922-1994.
2. Determine annual quantities of Table A deliveries made to all agricultural contractors and to all M&I contractors using each scenario's allocation rules before Table A transfers from agricultural to M&I contractors are accounted for.
3. Determine total quantity of agricultural Table A delivery that was delivered to M&I contractors as a result of Table A transfers in each year.
4. For No Project B scenarios only, determine annual quantities of XA Amount deliveries made to all agricultural contractors and to all M&I contractors using each scenario's allocation rules.
5. Using the annual quantities of Table A and XA Amount deliveries determined in Steps 2 and 4 and the transferred quantities determine in Step 3, determine annual quantities of scheduled deliveries made to each individual SWP contractor.
6. Determine monthly deliveries made to each contractor by applying the agricultural and M&I monthly delivery patterns from CALSIM II to the annual quantities.
7. Adjust San Luis Reservoir storage within each year to account for changes in the total project monthly delivery pattern that occur because of changes in the proportion of water delivered to agricultural and M&I contractors relative to the CALSIM II study.

To Allocate Unscheduled Deliveries:

1. Take monthly time series of unscheduled deliveries from the CALSIM II model output for the period 1922-1994.
2. Determine monthly deliveries to each individual SWP contractor using each scenario's allocation rules.

2.2.1. Scenarios

Four basic alternatives were analyzed using CALSIM II and associated post-processing spreadsheets for the Monterey Plus EIR. The basic assumptions used in each alternative are shown in Table 1.

- Baseline: The Baseline represents the conditions at each level of development that are assumed to occur without implementation of the Project. In CEQA, the Baseline is used as a point of comparison from which the effects of the Project, No Project, and Alternatives can be assessed. As such, the Baseline developed for this analysis does not include the Monterey Amendment or the Settlement Agreement. The Baseline does not include invocation of Article 18(b) of the SWP contracts. Additionally, no Table A amount transfers from agricultural to M&I contractors occur in the Baseline. However, the 2003 and 2020 Baseline

Table 1 – Assumptions for Monterey Plus EIR Alternatives

Issue	Baseline	Proposed Project	No Project Alternative A	No Project Alternative B-A (Apportioned XA allocation rules)	No Project Alternative B-S (Surplus XA allocation rules)
Allocation of Table A Water	Uses 1994 contract provisions including Article 18	Uses Monterey Plus provisions	Uses 1994 contract provisions including Article 18	Uses 1994 contract provisions including Article 18	Uses 1994 contract provisions including Article 18
Allocation of Interruptible Water	Uses 1994 contract provisions including Article 21	Uses Monterey Plus provisions	Uses 1994 contract provisions including Article 21	Uses 1994 contract provisions including Article 21	Uses 1994 contract provisions including Article 21
Table A changes	No transfers from TLBWD and KCWA to M&I contractors are included	Includes (1) 22.27 TAF of transfers from TLBWD to M&I contractors in 2003-2007, (2) 114 TAF of transfers from KCWA to M&I contractors in 1998-2003, and (3) 16 TAF of transfers from KCWA to M&I contractors by 2020	Includes (1) 22.27 TAF of transfers from TLBWD to M&I contractors in 2003-2007, (2) 73 TAF of transfers from KCWA to M&I contractors in 1998-2003, and (3) 16 TAF of transfers from KCWA to M&I contractors by 2020	No transfers from TLBWD and KCWA to M&I contractors are included	No transfers from TLBWD and KCWA to M&I contractors are included
SWP conservation storage in Kern Fan Element	No SWP conservation storage in KFE	No SWP conservation storage in KFE	Analyzed with and without 350 TAF SWP storage in KFE in 2003 and 500 TAF storage in 2020	Analyzed with and without 350 TAF SWP storage in KFE in 2003 and 500 TAF storage in 2020	Analyzed with and without 350 TAF SWP storage in KFE in 2003 and 500 TAF storage in 2020
Status of KCWA 40.67 TAF Table A and DRWD 4.33 TAF Table A amounts	KCWA and DRWD retain Table A amounts	Table A amounts are retired in 1996-97	KCWA and DRWD retain Table A amounts	KCWA and DRWD retain Table A amounts	KCWA and DRWD retain Table A amounts
Invocation of Article 18(b)	DWR retains Article 18(b) but does not invoke Article 18(b)	Elimination of Article 18(b)	DWR retains Article 18(b) but does not invoke Article 18(b)	DWR invokes Article 18(b)	DWR invokes Article 18(b)
Allocation rules for XA water	Not applicable	Not applicable	Not applicable	Allocates XA water in proportion to Table A amounts	XA deliveries for ag and gw replenishment uses are given priority

Note: All entries in this table are the same for all levels of development at which each alternative is analyzed.

scenarios include inputs such as increased Table A amounts and water demands to capture immutable and non-discretionary changes that occurred from 1995 to 2003 and that will occur in the future.

- Proposed Project: The Proposed Project is the implementation of the Monterey Amendment and the Settlement Agreement. Up to 153 TAF of Table A transfers from agricultural to M&I contractors are included.

- No Project Alternative A: Neither the Monterey Amendment nor the Settlement Agreement would be implemented. DWR would not invoke Article 18(b) of the SWP contracts. Up to 112 TAF of Table A transfers from agricultural to M&I contractors are assumed to occur.

- No Project Alternative B: Neither the Monterey Amendment nor the Settlement Agreement would be implemented. DWR would invoke Article 18(b) of the SWP contracts and announce new reduced Table A amounts. Based on prior modeling analysis, Table A amounts were assumed to be reduced proportionally among all contractors so that they totaled 1.9 million acre-feet[3]. No Table A transfers from agricultural to M&I contractors are assumed to occur.

  Demands for scheduled water above the reduced Table A amounts have been designated as "XA Amounts". Two alternative ways of allocating XA Amount water are included as different permutations of No Project Alternative B:

  - No Project Alternative B-A: XA Amount deliveries are made using "apportioned allocation" rules, in which deliveries to agricultural and M&I contractors are made in proportion to each contractor's Table A amounts.
  - No Project Alternative B-S: XA Amount deliveries are made using pre-Monterey's Article 21 "surplus water" rules, in which deliveries for agricultural or groundwater replenishment uses are given priority over those for M&I uses.

In addition, No Project Alternatives A, B-A, and B-S have been analyzed with and without a SWP groundwater storage bank in the Kern Fan Element (KFE).

Using these alternatives, scenarios for the 1994, 2003, and 2020 levels of development were analyzed using CALSIM II and the post-processing spreadsheets. For 1994, only a single baseline scenario was simulated. For the 2003 and 2020 levels of development, the EIR analyzed the following scenarios:

- Baseline
- Proposed Project
- No Project A without KFE storage
- No Project A with KFE storage
- No Project B-A without KFE storage
- No Project B-A with KFE storage

[3] The minimum project yield through the worst drought of record, found through iterative modeling studies

- No Project B-S without KFE storage
- No Project B-S with KFE storage

2.6.1.1. State Water Project Table A Amounts

Table 2 shows the Table A amounts assigned to each contractor in each scenario. Table A amounts for each contractor at each level of development are based on the schedule contained in Table B-4 of Appendix B of the Department of Water Resources' Bulletin 132-95[4]. These Table A amounts were modified based on historical Table A transfers and relinquishments.

Historical transfers totaling 100,000 acre-feet originating from the Metropolitan Water District of Southern California (MWDSC) are incorporated into all scenarios at the 2020 level of development. Historical Table A transfers of 22,273 acre-feet originating from Tulare Lake Basin WSD are included in all of the Proposed Project and No Project A Alternatives, but not in the Baseline or No Project B Alternatives.

Transfers from Kern County Water Agency (KCWA) are incorporated into the Proposed Project Alternative, totaling 114,000 acre-feet in 2003 and 130,000 acre-feet in 2020. No Project Alternative A includes 73,000 acre-feet of transfers originating from KCWA in 2003, increasing to 89,000 acre-feet in 2020. No transfers originating from KCWA are included in the Baseline or No Project B Alternatives.

Table 3 shows Table A transfers incorporated into each alternative.

In addition, Dudley Ridge Water District and KCWA have Table A relinquishments in the Proposed Project Alternatives, which are shown in Table 4. These relinquishments are not included in the Baseline and No Project Alternatives.

2.6.1.2. State Water Project Contractors' Water Requests and Demands

2.6.1.2.1. Scheduled Water

For the purposes of this analysis, each SWP contractor's Table A request is defined as the amount that the contractor submits to DWR at the beginning of the contract year. This analysis assumes that each contractor's request will be its full Table A Amount (prior to invocation of Article 18(b) in the case of No Project Alternative B) in each year and that this will be the amount that will be used to determine allocations for the contractor as part of the SWP allocation process.

Demand is defined in this analysis as the amount of water that the contractor would actually like to receive and will physically accept delivery of if the water is available. The demand for each contractor can be less than the request for any contractor in any given year. Demand is an essential CALSIM II input that strongly affects CALSIM II output. Each contractor's demand is related to the contractor's need for water, but the contractor's demand cannot exceed its Table A Amount. In the real world, a contractor's demand varies due to the availability of local water supplies, the contractor service area's demand for water, water costs of SWP water relative to other available water, water quality considerations, and other factors.

[4] http://wwwswpao.water.ca.gov/publications/bulletin/95/chapters_frameset95.html

Table 2 - Table A Amounts in Each Scenario (acre-feet)

SWP CONTRACTOR	1994 Baseline	2003 Baseline	2020 Baseline	2003 No Project A	2020 No Project A	2003 No Project B	2020 No Project B	2003 Proposed Project	2020 Proposed Project
County of Butte	1,200	3,500	27,500	3,500	27,500	1,594	12,388	3,500	27,500
Plumas County FC&WCD	1,200	1,690	2,700	1,690	2,700	770	1,216	1,690	2,700
City of Yuba City	9,600	9,600	9,600	9,600	9,600	4,372	4,325	9,600	9,600
Napa County FC&WCD	9,135	17,450	24,900	21,475	28,925	7,947	11,217	21,475	28,925
Solano County WA	28,080	41,000	42,000	46,756	47,756	18,672	18,920	46,756	47,756
Alameda Co. FC&WCD, Zone 7	40,000	46,000	46,000	80,619	80,619	20,950	20,722	80,619	80,619
Alameda County WD	42,000	42,000	42,000	42,000	42,000	19,128	18,920	42,000	42,000
Santa Clara Valley WD	100,000	100,000	100,000	100,000	100,000	45,543	45,048	100,000	100,000
Oak Flat WD	5,700	5,700	5,700	5,700	5,700	2,596	2,568	5,700	5,700
County of Kings	4,000	4,000	4,000	9,000	9,000	1,822	1,802	9,000	9,000
Dudley Ridge WD	57,700	57,700	57,700	61,673	61,673	26,273	25,933	57,343	57,343
Empire West Side ID	3,000	3,000	3,000	3,000	3,000	1,366	1,351	3,000	3,000
Kern County Water Agency (M&I)	134,600	134,600	134,600	134,600	134,600	61,300	60,635	134,600	134,600
Kern County Water Agency (Agric.)	1,018,800	1,018,800	1,018,800	945,800	929,800	463,987	458,953	864,130	848,130
Tulare Lake Basin WSD	118,500	118,500	118,500	96,227	96,227	53,568	53,382	96,227	96,227
San Luis Obispo Co. FC&WCD	25,000	25,000	25,000	25,000	25,000	11,386	11,262	25,000	25,000
Santa Barbara Co. FC&WCD	45,486	45,486	45,486	45,486	45,486	20,715	20,491	45,486	45,486
Antelope Valley-East Kern WA	138,400	138,400	138,400	141,400	141,400	63,031	62,347	141,400	141,400
Castaic Lake WA (31A)	12,700	12,700	12,700	12,700	12,700	5,784	5,721	12,700	12,700
Castaic Lake WA	41,500	41,500	41,500	41,500	41,500	18,900	18,695	82,500	82,500
Coachella Valley WD	23,100	23,100	111,200	33,000	133,100	10,520	50,094	33,000	133,100
Crestline-Lake Arrowhead WA	5,800	5,800	5,800	5,800	5,800	2,641	2,613	5,800	5,800
Desert WA	38,100	38,100	50,000	38,100	54,000	17,352	22,524	38,100	54,000
Littlerock Creek ID	2,300	2,300	2,300	2,300	2,300	1,047	1,036	2,300	2,300
Mojave WA	50,800	50,800	50,800	75,800	75,800	23,136	22,885	75,800	75,800
Metropolitan WDSC	2,011,500	2,011,500	1,911,500	2,011,500	1,911,500	916,088	861,080	2,011,500	1,911,500
Palmdale WD	17,300	17,300	17,300	21,300	21,300	7,879	7,793	21,300	21,300
San Bernardino Valley MWD	102,600	102,600	102,600	102,600	102,600	46,727	46,220	102,600	102,600
San Gabriel Valley MWD	28,800	28,800	28,800	28,800	28,800	13,116	12,974	28,800	28,800
San Gorgonio Pass WA	17,300	5,000	17,300	5,000	17,300	2,277	7,793	5,000	17,300
Ventura County FCD	20,000	20,000	20,000	20,000	20,000	9,109	9,010	20,000	20,000
Total Agriculture	1,220,400	1,220,400	1,220,400	1,134,100	1,118,100	555,801	549,771	1,048,100	1,032,100
Total M&I	2,933,801	2,951,526	2,997,286	3,037,826	3,099,586	1,344,199	1,350,229	3,078,826	3,140,586
Total	4,154,201	4,171,926	4,217,686	4,171,926	4,217,686	1,900,000	1,900,000	4,126,926	4,172,686

Table 3 - Table A Transfers

Transferor	Transferee	Year	Baseline Amount (AF)	Proposed Project Amount (AF)	No Project Alternative A Amount (AF)	No Project Alternative B Amount (AF)	Applicable Levels of Development
Kern County WA	Mojave Water Agency	1998	0	25,000[1]	25,000	0	2003, 2020
Kern County WA	Alameda Co. FC&WCD, Zone 7	2000	0	7,000[1]	7,000	0	2003, 2020
Kern County WA	Alameda Co. FC&WCD, Zone 7	2000	0	15,000[1]	15,000	0	2003, 2020
Kern County WA	Castaic Lake WA	2000	0	41,000[1]	0	0	2003, 2020
Kern County WA	Palmdale WD	2000	0	4,000[1]	4,000	0	2003, 2020
Kern County WA	Alameda Co. FC&WCD, Zone 7	2001	0	10,000[1]	10,000	0	2003, 2020
Kern County WA	Alameda Co. FC&WCD, Zone 7	2001	0	2,219[1]	2,219	0	2003, 2020
Kern County WA	Napa Co. FC&WCD	2001	0	4,025[1]	4,025	0	2003, 2020
Kern County WA	Solano County WA	2001	0	5,756[1]	5,756	0	2003, 2020
Kern County WA	Coachella Valley WD	2006	0	12,000[1]	12,000	0	2020
Kern County WA	Desert WA	2006	0	4,000[1]	4,000	0	2020
Tulare Lake Basin WSD	Antelope Valley-East Kern WA	2002	0	3,000	3,000	0	2003, 2020
Tulare Lake Basin WSD	Dudley Ridge WD	2002	0	3,973	3,973	0	2003, 2020
Tulare Lake Basin WSD	Alameda Co. FC&WCD, Zone 7	2003	0	400	400	0	2003, 2020
Tulare Lake Basin WSD	County of Kings	2003	0	5,000	5,000	0	2003, 2020
Tulare Lake Basin WSD	Coachella Valley WD	2004	0	9,900	9,900	0	2003, 2020
MWDSC	Coachella Valley WD	2005	88,100	88,100	88,100	88,100	2020
MWDSC	Desert WA	2005	11,900	11,900	11,900	11,900	2020

Notes:
(1) This Table A transfer is a component of the Monterey Amendment Article 53 KCWA commitment of 130 TAF of Table A transfers

Table 4 - Table A Relinquishments in the Proposed Project Alternative

Contractor	Year	Amount (AF)	Applicable Levels of Development
Dudley Ridge WD	1996	4,333	2003, 2020
Kern County WA	1996	36,340	2003, 2020
Kern County WA	1997	4,333	2003, 2020

Although the SWP has many categories of deliveries, including Table A, Article 12(d), Article 14(b), Turnback Pool, Carryover, and Article 21 deliveries, CALSIM II categorizes all SWP deliveries as either Table A or Article 21 deliveries. In order to develop an estimate of SWP demand for each contractor at the 1994, 2003, and 2020 levels of development, SWP delivery data has been combined into categories that CALSIM II uses to represent SWP demand. Therefore, historical SWP water delivery categories (Table A, Article 12(d), Article 14(b), Turnback Pool, and Carryover) have been classified as CALSIM II Table A demand for simulation purposes. This categorization is shown in Table 5.

Table 5 - Categorization of State Water Project Demand in CALSIM II

	SWP Demand Categories	**CALSIM II Demand Categories**
Scheduled	Table A Article 12(d) Article 14(b) Turnback Pool Carryover	Table A
Unscheduled	Article 21	Article 21

For each level of development, CALSIM II incorporates the historical 73-year period of hydrology, which includes a range of hydrologic year types. For the 2020 level of development, the Department assumed that all SWP M&I contractors would have a scheduled demand equal to their full Table A entitlement in each year of the simulation. In the 1994 and 2003 levels of development, each M&I contractor has historically had a water demand that varies under different local hydrologic and water supply conditions. However, to simplify the analysis the Department decided to use a variable annual demand for only MWDSC; after consultation with the Department, MWDSC staff developed an annual time series of scheduled MWDSC water demands for the Monterey Plus EIR for each level of development.

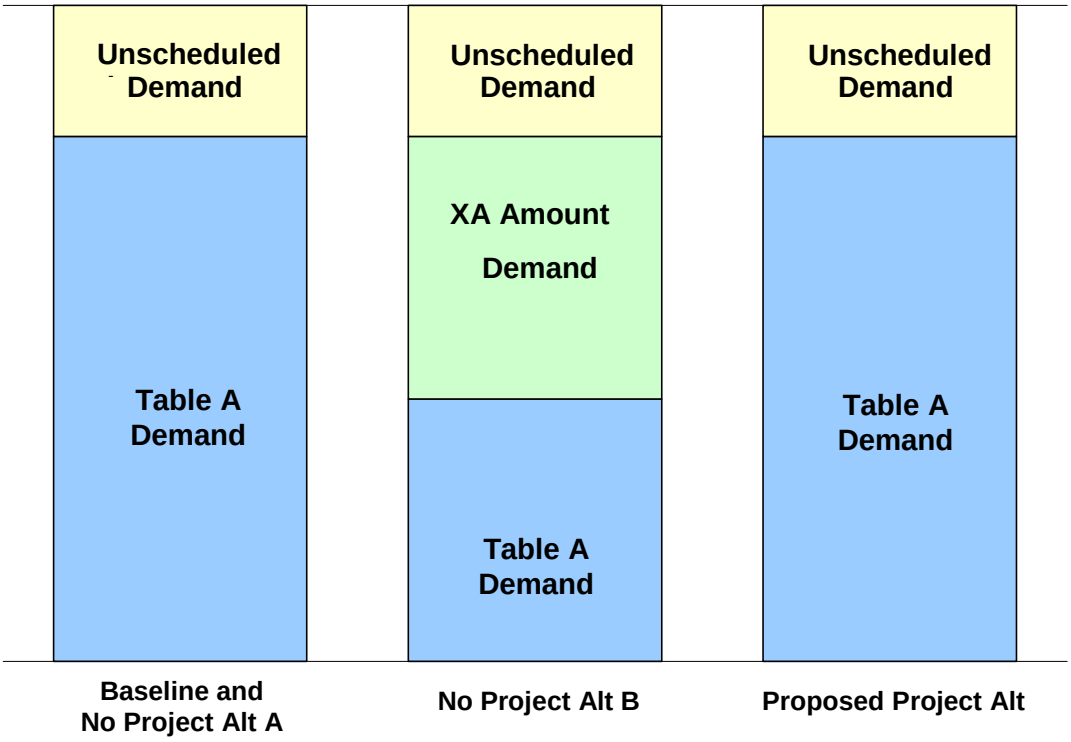
As recommended by the Monterey Plus EIR Modeling Subcommittee, the Department determined representative scheduled demands for the other M&I contractors for the 1994 and 2003 levels of development using historical Table A delivery and allocation data. For these contractors, historical deliveries from 1993 and 1996-97 were used to estimate demands at the 1994 level of development while deliveries during 2002 and 2003 were used to estimate 2003 level of development demands. These years were used because they were considered to be the most representative of average demand for the 1994 and 2003 levels of development. The demand estimate for each contractor in these two levels of development equaled the average historical deliveries to the contractor during the applicable years. The only exceptions are that the Department excluded 1997 deliveries for County of Kings and Tulare Lake Basin WSD because 1997 was a partial flood year which depressed those contractors' deliveries of SWP water and the Department only included 2003 deliveries to San Gorgonio Pass to approximate the 2003 level of development demand because San Gorgonio did not take any deliveries prior to 2003.

The Department assumed that agricultural contractors would demand their full Table A amount in each year except for years when the agricultural contractors' service areas had abundant

precipitation and local water supplies. Consequently both the 1994 and 2003 level of development included full scheduled water demands for all agricultural contractors except when the Kern River Index indicated above normal and wet years. For the 2020 level of development, the Department reduced agricultural demand only when the Kern River Index indicated wet years at the 2020 level of development. These reductions in agricultural demands are of the same quantity and occur in the same water years as the reductions assumed in the U.S. Bureau of Reclamation's Operations Criteria and Plan (OCAP) CALSIM II studies.

Figure 1 depicts how total demand was split between Table A and XA Amount demand under each alternative. All Baseline, No Project Alternative A and Proposed Project scenarios classified all scheduled demand as Table A demand. All No Project Alternative B scenarios, classified all scheduled water demand up to the contractor's reduced Table A amount as Table A demand, with any additional scheduled demand classified as XA Amount demand. The sum of the Table A and XA Amount demand for the No Project Alternative B scenarios equaled the Table A demand for the Baseline scenarios. Total SWP scheduled demand remained the same in all three scenarios.

Figure 1 - Contractor Demand by Category in each Alternative



In the Baseline and No Project Alternatives, each contractor's actual scheduled demand was capped by its Table A amount (prior to invocation of Article 18(b) in the case of No Project Alternative B) plus or minus any Table A transfers the contractor had participated in. For some contractors, the scheduled water demand calculated from historical delivery data at the 1994 or 2003 levels of development was higher than the contractor's Table A amount for that scenario.

Table 6 shows the contractors for whom this was the case at each level of development. For the 1994 level of development, this occurred with Solano County Water Agency, who's Table A increased between 1994 and 1997 as a result of maturation of its original Table A contractual Table A amounts, and Coachella Valley Water District and Desert Water Agency, which had received Turnback Pool deliveries in 1996-97 that are included in the 1994 demand estimates but would not be possible in the Baseline and No Project Alternatives. For the 2003 level of development, this occurred in the Baseline and No Project Alternative B scenarios for Alameda County Flood Control and Water Conservation District, Zone 7 and in all of the Baseline and No Project Alternative scenarios for Castaic Lake Water Agency. Both of the contractors had received increased historical deliveries as a result of Table A amount transfers from KCWA.

Table 6 - Contractors With Capped Demands

Contractor	Level of Development	Scheduled Demand Calculated from Historical Deliveries (acre-feet)	Table A Amount in the Baseline or No Project Alternative (acre-feet)
Solano County WA	1994	31,600	28,080
Coachella Valley WD	1994	51,200	23,100
Desert WA	1994	64,600	38,100
Alameda County FC & WCD, Zone 7	2003	66,500	46,000
Castaic Lake WA	2003	68,600	41,500

In the No Project Alternative A scenarios, Table A transfers from agricultural contractors to M&I contractors were included. In the No Project alternative the Department allocates water for the transferred Table A amounts according to pre-Monterey Article 18(a) provisions that first assign deficiencies first to agricultural contractors. The post-processing classifies Table A amounts that was transferred from agricultural to M&I contractors as agricultural demand for water allocation purposes.

Table A and XA Amount demands are shown for each 1994 and 2003 alternative in Table 7[5]. Demands are shown for the 2020 alternatives in Table 8.

2.6.1.2.2. Unscheduled Water

Table 9 shows monthly unscheduled demands for each contractor at each level of development. The unscheduled demand for each contractor is the same in each scenario and at each level of development. These are the same unscheduled demands that Reclamation used for its OCAP studies, except that the EIR increases monthly MWDSC demand from 50 TAF/month to 100 TAF/month as requested by MWDSC.

[5] Plumas County FC&WCD is not represented in CALSIM II and is therefore not included in this or subsequent tables.

Table 7 - Table A and XA Demands in Each 1994 and 2003 LOD Alternative (acre-feet/year)

SWP CONTRACTOR	1994 Baseline	2003 Baseline	2003 Proposed Project	2003 No Project A	2003 No Project B	
	Table A	Table A	Table A	Table A	Table A	XA Amount
Butte	200	500	500	500	500	0
Yuba City	900	1,200	1,200	1,200	1,200	0
Napa	4,800	6,800	6,800	6,800	6,800	0
Solano	28,080	37,700	37,700	37,700	18,672	19,028
Zone 7	26,700	46,000	66,500	66,500	20,950	25,050
Alameda	18,000	35,200	35,200	35,200	19,128	16,072
Santa Clara	82,500	84,700	84,700	84,700	45,543	39,157
Oak Flat	4,600-5,700	4,600-5,700	4,420-5,700	4,517-5,700	2,596	2,004-3,104
Kings	3,230-4,000	3,230-4,000	6,979-9,000	7,132-9,000	1,822	1,408-2,178
Dudley Ridge	46,570-57,000	46,570-57,000	46,464-57,343	48,872-61,673	26,273	20,293-30,727
Empire W.S.	2,420-3,000	2,420-3,000	2,326-3,000	2,377-3,000	1,366	1,054-1,834
KCWA (M&I)	134,600	134,600	134,600	134,600	61,300	73,300
KCWA (Agric.)	822,290-1,018,800	822,290-1,018,800	670,049-864,130	749,485-945,800	463,987	358,203-554,813
Tulare	95,640-118,500	95,640-118,500	74,615-96,227	76,254-96,227	53,568	42,072-64,932
SLO	0	4,400	4,400	4,400	4,400	0
Santa Barbara	0	26,300	26,300	26,300	20,715	5,585
AVEK	53,700	64,900	64,900	64,900	63,031	1,869
Castaic (Agric.)	10,250-12,700	10,250-12,700	9,848-12,700	10,064-12,700	5,784	4,466-6,916
Castaic (M&I)	15,100	41,500	68,600	41,500	18,900	22,600
Coachella	23,100	19,300	19,300	19,300	10,520	8,780
Crestline	500	1,900	1,900	1,900	1,900	0
Desert	38,100	31,200	31,200	31,200	17,352	13,848
Littlerock	600	0	0	0	0	0
Mojave	9,800	13,200	13,200	13,200	13,200	0
MWDSC	783,000-1,433,000	706,000-2,011,500	706,000-2,011,500	706,000-2,011,500	706,000-916,088	0-1,095,412
Palmdale	10,400	14,900	14,900	14,900	7,879	7,021
San Bernardino	6,700	69,800	69,800	69,800	46,727	23,073
San Gabriel	15,500	18,100	18,100	18,100	13,116	4,984
San Gorgonio	0	100	100	100	100	0
Ventura	600	5,000	5,000	5,000	5,000	0
Total Agriculture	985,000-1,220,400	985,000-1,220,400	812,700-1,048,100	898,700-1,134,100	555,369	429,631-665,031
Total M&I	1,271,180-1,903,180	1,363,300-2,668,800	1,410,900-2,716,400	1,383,800-2,689,300	1,104,027-1,314,115	259,273-1,354,685
Total	2,238,180-3,123,580	2,348,300-3,889,200	2,223,600-3,763,500	2,281,500-3,823,400	1,659,396-1,869,484	688,904-2,019,716

Table 8 - Table A and XA Demands in Each 2020 LOD Alternative (acre-feet/year)

SWP CONTRACTOR	2020 Baseline	2020 Proposed Project	2020 No Project A	2020 No Project B	
	Table A	Table A	Table A	Table A	XA Amount
Butte	27,500	27,500	27,500	12,388	15,112
Yuba City	9,600	9,600	9,600	4,325	5,275
Napa	24,900	28,925	28,925	11,217	13,683
Solano	42,000	47,756	47,756	18,920	23,080
Zone 7	46,000	80,619	80,619	20,722	25,278
Alameda	42,000	42,000	42,000	18,920	23,080
Santa Clara	100,000	100,000	100,000	45,048	54,952
Oak Flat	4,601-5,700	4,400-5,700	4,500-5,700	2,568	2,033-3,132
Kings	3,228-4,000	6,947-9,000	7,105-9,000	1,802	1,427-2,198
Dudley Ridge	46,570-57,700	44,264-57,343	48,689-61,673	25,933	20,577-31,707
Empire W.S.	2,421-3,000	2,316-3,000	2,316-3,000	1,351	1,070-1,649
KCWA (M&I)	134,600	134,600	134,600	60,635	73,695
KCWA (Agric.)	822,286-1,018,800	654,890-848,130	654,690-929,800	458,953	363,333-559,847
Tulare	95,643-118,500	74,280-96,227	74,280-96,227	53,382	42,260-65,118
SLO	25,000	25,000	25,000	11,262	13,738
Santa Barbara	45,486	45,486	45,486	20,491	24,995
AVEK	138,400	141,400	141,400	62,347	76,053
Castaic (Agric.)	10,250-12,700	9,803-12,700	9,803-12,700	5,721	4,529-6,979
Castaic (M&I)	41,500	82,500	41,500	18,695	22,805
Coachella	111,200	133,100	133,100	50,094	61,106
Crestline	5,800	5,800	5,800	2,613	3,187
Desert	50,000	54,000	54,000	22,524	27,746
Littlerock	2,300	2,300	2,300	1,036	1,246
Mojave	50,800	75,800	75,800	22,885	27,915
MWDSC	1,911,500	1,911,500	1,911,500	861,080	1,050,420
Palmdale	17,300	21,300	21,300	7,793	9,507
San Bernardino	102,600	102,600	102,600	46,220	56,380
San Gabriel	28,800	28,800	28,800	12,974	15,826
San Gorgonio	17,300	17,300	17,300	7,793	9,507
Ventura	20,000	20,000	20,000	9,010	10,990
Total Agriculture	985,000-1,220,400	796,700-1,032,100	882,700-1,118,100	549,771	435,229-670,629
Total M&I	2,994,586	3,137,886	3,096,886	1,349,013	1,645,573
Total	3,979,586-4,214,986	3,934,586-4,169,986	3,979,596-4,214,986	1,898,784	1,663,384-2,316,202

Table 9 - Monthly Unscheduled Demands (acre-feet/month)

Contractor	1994	2003	2020
Napa County FC&WCD	1,000	1,000	1,000
Solano County WA	1,000	1,000	1,000
Alameda Co. FC&WCD, Zone 7	1,000	1,000	1,000
Alameda County WD	1,000	1,000	1,000
Santa Clara Valley WD	4,000	4,000	4,000
Dudley Ridge WD	1,000	1,000	1,000
Empire West Side ID	1,000	1,000	1,000
Kern County WA	50,000	50,000	50,000
Tulare Lake Basin WSD	15,000	15,000	15,000
Antelope Valley-East Kern WA	1,000	1,000	1,000
Castaic Lake WA	1,000	1,000	1,000
Coachella Valley WD	2,000	2,000	2,000
Desert WA	5,000	5,000	5,000
MWDSC (Dec-Mar only)	100,000	100,000	100,000
Total	84-184,000	84-184,000	84-184,000

2.6.2. State Water Project Allocation Rules

As part of the analysis, annual CALSIM II deliveries to SWP contractors on the North Bay Aqueduct and south of Banks Pumping Plant were post-processed to estimate deliveries to each contractor. The County of Butte and City of Yuba were not included in the post-processing because their deliveries are more influenced by local water supply conditions and are not affected by Delta regulatory requirements and export restrictions. Therefore, the Butte and Yuba deliveries were not modified from the CALSIM II results.

The remainder of this section discusses how deliveries were determined for each North Bay Aqueduct and South of Delta contractor in each scenario. Table 10 shows the allocation rules that were used to allocate Table A, XA Amount, and unscheduled deliveries to these contractors.

2.6.2.1. Proposed Project Alternative

In the Proposed Project Alternative, Table A and unscheduled allocations are made in proportion to the requesting contractors' Table A amounts as limited by their demands for delivery.

2.6.2.2. Baseline and No Project Alternatives

For the Baseline and No Project Alternatives, Table A allocations are made to agricultural Table A (AG), which includes Table A that was transferred from agricultural to M&I contractors, and to M&I Table A (M&I) using the following procedure:

- If the total supply available is greater than the sum of AG's and M&I's demands, both AG and M&I receive their full demand and allocation for both is assumed to be 100% with no cuts.
- If the total supply available is less than the sum of AG's and M&I's demands, AG's allocation is reduced until the total AG and M&I delivery equals the available supply or until the maximum AG-specific cut (termed AG deficiency) for the year is reached, whichever comes first. In each year, the AG deficiency is determined as a percentage of AG's Table A amount. This percentage equals the minimum of 50% or (100% minus the sum of the

Table 10 - SWP Allocation Rules for Monterey Plus EIR Alternatives

Delivery Type	Baseline	Proposed Project	No Project Alternative A	No Project Alternative B-A (Apportioned XA allocation rules)	No Project Alternative B-S (Surplus XA allocation rules)
Table A	If scheduled SWP supply is less than demand, cuts in deliveries are made first to agricultural contractors up to the maximum allowed under Article 18(a). Additional cuts are then made in proportion to each contractor's Table A amount.	Deliveries are made to each contractor according to its proportion of Table A amount relative to all other contractors' Table A amounts.	If scheduled SWP supply is less than demand, cuts in deliveries are made first to agricultural Table A up to the maximum allowed under Article 18(a). Additional cuts are then made in proportion to each contractor's Table A amount.	If scheduled SWP supply is less than demand, cuts in deliveries are made first to agricultural Table A up to the maximum allowed under Article 18(a). Additional cuts are then made in proportion to each contractor's Table A amount.	If scheduled SWP supply is less than demand, cuts in deliveries are made first to agricultural Table A up to the maximum allowed under Article 18(a). Additional cuts are then made in proportion to each contractor's Table A amount.
XA Amount	Not applicable.	Not applicable.	Not applicable.	Deliveries are made to each contractor according to its proportion of Table A amount relative to all other contractors' Table A amounts.	Deliveries for agricultural and groundwater replenishment uses are given priority over those for M&I uses.
Unscheduled	Deliveries for agricultural and groundwater replenishment uses are given priority over those for M&I uses.	Deliveries are made to each contractor according to its proportion of Table A amount relative to all other requesting contractors' Table A amounts.	Deliveries for agricultural and groundwater replenishment uses are given priority over those for M&I uses.	Deliveries for agricultural and groundwater replenishment uses are given priority over those for M&I uses.	Deliveries for agricultural and groundwater replenishment uses are given priority over those for M&I uses.

Note: All entries in this table are the same for all levels of development at which each alternative is analyzed.

previous 6 years' AG deficiencies). The reduction in AG's allocation determined in this step is the AG deficiency for the year for use in subsequent years' calculations.

- If the AG-specific cuts do not reduce the total AG and M&I delivery to the same amount as the available supply, additional cuts are made equally to AG and M&I in proportion to their Table A amounts until the total SWP Table A delivery equals the available Table A supply for the year.

In No Project Alternative B-A, XA Amount allocations are made in proportion to each contractor's Table A amounts. For XA Amount deliveries in No Project Alternative B-S and for unscheduled deliveries in all of the Baseline and No Project Alternatives, the Department developed the following scheduled surplus allocation procedure that separates agricultural (AG), groundwater recharge (GWR) and M&I components of the demands:

1. Divide contractors into two groups depending on whether a contractor is north of Dos Amigos Pumping Plant or south of Dos Amigos Pumping Plant;
2. For north of Dos Amigos Pumping Plant contractors, allocate each year's Scheduled Surplus water supply in proportion to the minimum of either:
    a. Each contractor's AG and GWR Table A water use divided by total SWP AG and GWR Table A amount, or
    b. Each contractor's AG and GWR Scheduled Surplus demand,
3. For contractors south of Dos Amigos Pumping Plant, aggregate contractors into separate geographic zones, and allocate the remaining Scheduled Surplus water to the geographic zones - 69% of water to the San Joaquin Valley area, 29% to Southern California area, and 2% to the Central Coast area.
4. For each geographic zone, allocate water to each contractor in proportion to the minimum of either:
    a. Each contractor's AG and GWR Table A amount relative to the zone's total AG and GWR Table A amount, or
    b. Each contractor's remaining AG and GWR Scheduled Surplus demand,
5. For each geographic zone, if there is remaining water and remaining AG and GWR Scheduled Surplus demand, perform a second water allocations of the zone's remaining Scheduled Surplus water to the zone's contractors in proportion to the minimum of either:
    a. Each contractor's AG and GWR Table A amount relative to zone's total AG and GWR Table A amount, or
    b. Each contractor's remaining AG and GWR Scheduled Surplus demand,
6. For each zone, repeat AG and GWR Scheduled Surplus allocations until the allocations have completely allocated the zone's Scheduled Surplus water supply or the zone's Scheduled Surplus allocations satisfy the contractors' demands;
7. If a zone has met all demand and has water remaining, make the water available to other south-of-Dos-Amigos zones that have not satisfied all contractors' demands for Scheduled Surplus water. Allocate water to each south-of-Dos-Amigos contractor in proportion to the minimum of either:
    a. Each contractor's AG and GWR Table A amount relative to the remaining contractors' total AG and GWR Table A amount, or
    b. Each contractor's remaining AG and GWR Scheduled Surplus demand,

8. For south-of-Dos-Amigos area, repeat AG and GWR Scheduled Surplus allocations until the allocations have completely allocated the south-of-Dos-Amigos area's Scheduled Surplus water supply or the south-of-Dos-Amigos area's Scheduled Surplus allocations satisfy the contractors' demands;
9. If the south-of-Dos-Amigos area has met all demand and has remaining unallocated water, make the water available to the north-of-Dos-Amigos contractors that have not satisfied their demands for Scheduled Surplus water for AG use and GWR. Allocate water to each north-of-Dos-Amigos contractor in proportion to the minimum of either:
    a. Each contractor's AG and GWR Table A amount relative to the remaining contractors' total AG and GWR Table A amount, or
    b. Each contractor's remaining AG and GWR Scheduled Surplus demand,
10. For the north-of-Dos-Amigos area, repeat AG and GWR Scheduled Surplus allocations until the allocations have completely allocated the north-of-Dos-Amigos area's Scheduled Surplus water supply or the north-of-Dos-Amigos area's Scheduled Surplus allocations satisfy the contractors' demands;
11. If the north-of-Dos-Amigos area has met all demand and has water remaining, make the water available to all contractors that have not satisfied their demands for Scheduled Surplus water for M&I use. Allocate water to each contractor in proportion to the minimum of either:
    a. Each contractor's M&I Table A water use relative to the remaining contractors' total M&I Table A water use, or
    b. Each contractor's M&I Scheduled Surplus demand,
12. Repeat Scheduled Surplus M&I allocations until the allocations have completely allocated the Scheduled Surplus water supply or the Scheduled Surplus allocations satisfy the contractors' M&I demands.

2.6.3. Kern Fan Element Storage Assumptions

Scenarios were developed for the 2003 and 2020 No Project Alternatives A, B-A, and B-S that incorporate a hypothetical SWP groundwater banking facility in the Kern Fan Element (KFE). The Department developed basic assumptions regarding the facilities and operations of the groundwater banking program using the *Kern Water Bank First Stage Kern Fan Element Feasibility Report* (DWR 1990). This analysis assumes that SWP operations north of Banks Pumping Plant and the operation of San Luis Reservoir would be the same with and without the presence of the KFE.

Table 11 shows the basic operating parameters that were used to model the KFE. The KFE has an initial storage of 83 TAF, which equals the KFE water supply indicated in the 1995 KFE Exchange Agreement between KCWA and DWR. Maximum groundwater storage capacity is 350 TAF at the 2003 level of development and 500 TAF at the 2020 level of development. The maximum recharge is 10.5 TAF per month in 2003 and 15 TAF per month in 2020, with a maximum extraction of 6.2 TAF per month in 2003 and 8.9 TAF per month in 2020. A one-time loss rate of 10% is applied to all recharge amounts to represent all the losses that occur in the KFE's operations.

The analysis assumes that the SWP would extract previously stored water from the KFE to augment Table A deliveries in years when the total Table A allocation is less than 60% without

use of the KFE in No Project A. In No Project B, the SWP will extract if allocations are less than 100% without use of the KFE. If the amount of SWP water stored in the KFE at the beginning of the month is greater than 200 TAF, an amount equal to the extraction limit is extracted. However, if the SWP water in storage is less than 200 TAF, a hedging rule has been included that reduces the extraction amount for the month in order to slow down the depletion of remaining storage.

Table 11 - KFE Operating Parameters

Parameter	No Project A		No Project B	
	2003	2020	2003	2020
Storage Capacity (TAF)	350	500	350	500
Initial Storage (TAF)	83	83	83	83
Recharge Limit (TAF/month)	10.5	15	10.5	15
Recharge Loss (%)	10%	10%	10%	10%
Extraction Limit (TAF/month)	6.2	8.9	6.2	8.9
Extraction Threshold (% Table A Allocation)	60%	60%	100%	100%

Recharge into the KFE only occurs in years in which no water is extracted. The analysis assumes that the SWP would recharge the KFE with SWP water that would otherwise be delivered as unscheduled water up to the monthly recharge limit in any month that unscheduled water is available, unless the amount of SWP water already in storage equals the KFE storage capacity.

Once operations of the KFE were determined, the monthly time series of Table A and unscheduled water deliveries in No Project Alternatives A, B-A, and B-S were modified to reflect the operations of the KFE. Table A deliveries were increased by the extraction amount while unscheduled deliveries were reduced by the recharge amount. The revised time series of deliveries were then analyzed in the post-processing spreadsheets for each alternative.

2.6.4. Other CALSIM II Assumptions

Table 12 shows other assumptions that were used for the CALSIM II studies. Assumptions included in this table refer to hydrology, demands, facilities, regulations, and operating criteria at each level of development. The CALSIM II studies used in this analysis for 2003 and 2020 are based on the OCAP_2001D10A_TodayEWA_012104 and OCAP_2020D09D_FutureEWA_012104 studies[6] . The 1994 CALSIM II study was modified from the 2003 study as shown in Table 2 in order to reflect 1994 conditions.

With the exception of SWP Table A amounts and demands, the assumptions for the Baseline, Proposed Project and No Project Alternative model studies were the same at each level of development.

[6] http://www.usbr.gov/mp/cvo/ocap.html

Table 12 – Other CALSIM II Assumptions

CALSIM II INPUT			ASSUMPTIONS FOR LEVEL-OF-DEVELOPMENT YEAR
Hydrol-ogy	Period of Simulation		73 years (1922-1994)
	Initial Conditions (reservoir storage)		1922
	Land Use Level of Development		Assume that 1994 is equal to 2001 level (2001 Level from DWR Bulletin 160-98) and that 2003 level is equal to 2001. 2020 Level from DWR Bulletin 160-98
Demands	North of Delta (except American R.)	CVP	1994 and 2003 based on 2001 land use, limited by full CVP contract. 2020 based on 2020 land use.
		SWP—Feather River Service Area	1994 and 2003 based on 2001 land use, 2020 based on 2020 land use. All years limited by full Settlement Contract
		SWP—FVB Cities (Fairfield, Vacaville, and Benicia)	No demand in 1994; contract-specified in 2003 and 2020.
		Non-Project	Based on land use
		CVP Refuges	Firm Level 2
	American River Basin	Water rights	2001 for 1994 and 2003, 2020 for 2020
		CVP	2001 for 1994 and 2003, 2020 for 2020
	San Joaquin River Basin	Friant Unit	Regression of historical
		Lower Basin	Fixed annual demands
		Stanislaus River Basin	1997 New Melones Interim Operations Plan
	South of Delta	CVP	Full Contract
		Contra Costa Water District	124 TAF/YR in 1994 & 2003, 158 TAF/YR in 2020
		SWP (w/ North Bay Aqueduct)	Varies
		SWP Article 21 Demand	Varies
Facilities	CVP		Existing CVP
	SWP	Existing & new facilities	Existing SWP facilities with Coastal Branch Phase II in operation and without the East Branch Enlargement for 1994 & 2003; 2020 adds East Branch Enlargement
		South Bay Aqueduct	Existing Capacity (300 cfs)
		SWP Kern Fan Element	Kern Fan Element facilities not included
		Banks Pumping Plant	1994 Capacity for 1994 & 2003; 2020 adds 8,500 cfs limits

CALSIM II INPUT			ASSUMPTIONS FOR LEVEL-OF-DEVELOPMENT YEAR
Regula-tions	Trinity River	Minimum Flow below Lewiston Dam	1994 limit is 340 TAF/Yr, 2003 limit is Interim (369-453 TAF/Yr), and 2020 limit is 369-815 TAF/Yr (Trinity EIS Preferred Alternative)
		Trinity Reservoir End-of-September Minimum Storage	No 1994 limit; 600 TAF as able in 2003 & 2020 (Trinity EIS Preferred Alternative)
	Clear Creek	Minimum Flow below Whiskeytown Dam	Downstream water rights, 1963 USBR Proposal to USFWS and NPS, and USFWS discretionary use of CVPIA 3406(b)(2)
	Upper Sacra-mento River	Shasta Lake End-of-September Minimum Storage	SWRCB WR 1993 Winter-run Biological Opinion (1900 TAF)
		Minimum Flow below Keswick Dam	Flows for SWRCB WR 90-5 and 1993 Winter-run Biological Opinion temperature control, and USFWS discretionary use of CVPIA 3406(b)(2)
	Feather River	Minimum Flow below Thermalito Diversion Dam	1983 DWR, DFG Agreement (600 CFS)
		Minimum Flow below Thermalito Afterbay outlet	1983 DWR, DFG Agreement (1000 – 1700 cfs)
	American River	Minimum Flow below Nimbus Dam	SWRCB D-893 and USFWS discretionary use of CVPIA 3406(b)(2)
		Minimum Flow at H Street Bridge	SWRCB D-893
	Lower Sacra-mento River	Minimum Flow near Rio Vista	SWRCB D-1641
	Mokelumne River	Minimum Flow below Camanche Dam	FERC 2916-029, 1996 (Joint Settlement Agreement) (100 – 325 cfs)
		Minimum Flow below Woodbridge Diver. Dam	FERC 2916-029, 1996 (Joint Settlement Agreement) (25 – 300 cfs)
	Stanislaus River	Minimum Flow below Goodwin Dam	1987 USBR, DFG agreement, and USFWS discretionary use of CVPIA 3406(b)(2)
		Minimum Dissolved Oxygen	SWRCB D-1422
	Merced River	Minimum Flow below Crocker-Huffman Diversion Dam	Davis-Grunsky (180 – 220 CFS, Nov – Mar), and Cowell Agreement
		Minimum Flow at Shaffer Bridge	FERC 2179 (25 – 100 CFS)
	Tuolumne River	Minimum Flow at La Grange Bridge	FERC 2299-024, 1995 (Settlement Agreement) (94 – 301 TAF/YR)
	San Joaquin River	Maximum Salinity near Vernalis	SWRCB D-1641
		Minimum Flow near Vernalis	SWRCB D-1641, and Vernalis Adaptive Management Program per San Joaquin River Agreement
	Sacramento River-San Joaquin River Delta	Delta Outflow Index (Flow and Salinity)	SWRCB D-1641
		Delta Cross Channel Gate Operation	SWRCB D-1641
		Delta Exports	SWRCB D-1641, USFWS discretionary use of CVPIA 3406(b)(2) for 1994, 2003, & 2020; 2003 & 2020 add CALFED Fisheries Agencies discretionary use of EWA

CALSIM II INPUT			ASSUMPTIONS FOR LEVEL-OF-DEVELOPMENT YEAR
Operations Criteria	Upper Sacramento River	Flow Objective for Navigation (Wilkins Slough)	Discretionary 3,250 – 5,000 CFS based on Shasta storage condition
	American River	Folsom Dam Flood Control	Variable 400/670 flood control diagram (without outlet modifications)
		Flow below Nimbus Dam	Discretionary operations criteria corresponding to SWRCB D-893 required minimum flow
		Sacramento Water Forum Mitigation Water	No limits in 1994 & 2003; 2020 uses Sacramento Water Forum standard (up to 47 TAF/YR in dry years)
	Stanislaus R.	Flow below Goodwin Dam	1997 New Melones Interim Operations Plan
	San Joaquin River	Flow near Vernalis	San Joaquin River Agreement in support of the Vernalis Adaptive Management Program
	CVP Water Allocation	CVP Settlement and Exchange	100% (75% in Shasta Critical years)
		CVP Refuges	100% (75% in Shasta Critical years)
		CVP Agriculture	100% - 0% based on supply (SOD allocations are reduced due to D1641 and 3406(b)(2) related export restrictions)
		CVP Municipal & Industrial	100% - 50% based on supply (SOD allocations are reduced due to D1641 and 3406(b)(2) related export restrictions)
	SWP Water Allocation	Feather River Service Area	Specified by Settlement Contract
		Fairfield, Vacaville, and Benicia	No allocation in 1994, specified by Settlement Contract in 2003 & 2020
		South of Delta	Based on SWP supply; varies with EIR alternative
	Delta Pumping	Banks Pumping Plant	1994 & 2003 use 6,680 cfs, can increase up to 8,500 cfs Dec. 15-Mar 15 (min. 300cfs); 2020 uses 8,500 cfs year round (500 cfs reserved for EWA Jul, Aug, Sep)
		Tracy Pumping Plant	1994 & 2003 use 4,200 cfs + deliveries upstream of DMC constriction; 2020 adds CVP-SWP Intertie
	CVP/SWP Coordinated Operations	Sharing of Responsibility for In-Basin-Use	1986 Coordinated Operations Agreement (FRWP EBMUD and 2/3 of North Bay Aqueduct diversions are considered as Delta Export, 1/3 of the North Bay Aqueduct diversion is considered as In-Basin-Use)
		Sharing of Surplus Flows	1986 Coordinated Operations Agreement
		Sharing of Restricted Export Capacity	Equal sharing of export capacity under SWRCB D-1641; use of CVPIA 3406(b)(2) only restricts CVP exports; EWA use restricts CVP and/or SWP as directed by CALFED Fisheries Agencies
		Dedicated CVP Conveyance at Banks	No 1994 or 2003 conveyance; SWP to convey 100,000 af/year of Level 2 refuge water through Banks P.P. (Jul & Aug) in 2020 studies
		North of Delta Accounting Adjustments	No adjustments in 1994 or 2003; in 2020, CVP to provide SWP a maximum of 75,000 AF to meet in-basin requirements through adjustments in COA accounting
		Sharing of Export Capacity for Lesser Priority and Wheeling Related Pumping	Cross Valley Canal wheeling (max of 128 TAF/Yr), CALFED ROD defined Joint-Point-of-Diversion

CALSIM II INPUT		ASSUMPTIONS FOR LEVEL-OF-DEVELOPMENT YEAR
CVPIA 3406(b) 2)	Allocation	Per May 2003 Dept of Interior Decision: 800 taf/yr, 700 taf/yr in 40-30-30 dry years, and 600 taf/year in 40-30-30 critical years
	Actions	1995 WQCP, Fish flow objectives (Oct-Jan), VAMP (Apr 15- May 15) CVP export restriction, 3000 CFS CVP export limit in May and June (D1485 Striped Bass cont.), Post (May 16-31) VAMP CVP export restriction, Ramping of CVP export (Jun), Upstream Releases (Feb-Sep)
	Accounting Adjustments	Per May 2003 Interior Decision, no limit on responsibility for non-discretionary D1641 requirements with 500 TAF target, no Reset with the Storage metric and no Offset with the Release and Export metrics
CALFED Environ-mental Water Account	Actions	1994 has none; 2003 and 2020 have export cuts of 50 taf Dec-Feb, VAMP (Apr 15- May 15) export restriction, post (May 16-31) VAMP export restriction, and ramping of export (Jun)
	Assets	1994 has none; 2003 and 2020 have fixed water purchases of 250 TAF/yr, 230 TAF/yr in 40-30-30 dry years, 210 TAF/yr in 40-30-30 critical years. The purchases range from 0 TAF in Wet Years to approximately 153 TAF in Critical Years NOD, and 57 TAF in Critical Years to 250 TAF in Wet Years SOD. Variable assets include the following: used of 50% JPOD export capacity, acquisition of 50% of any CVPIA 3406(b)(2) releases pumped by SWP, flexing of Delta Export/Inflow Ratio (post-processed from CALSIM II results), dedicated 500 CFS pumping capacity at Banks in July to September
	Debt Restrictions	1994 has none; for 2003 and 2020 delivery debt is paid back in full upon assessment; storage debt paid is back over time based on asset/action priorities; SOD and NOD debt carryover is allowed; SOD debt carryover is explicitly managed or spilled; NOD debt carryover must be spilled; and SOD and NOD asset carryover is allowed.

2.6.5. CALSIM II Simulation of SWP Deliveries and Other Hydrology Outputs

The EIR uses post-processing spreadsheet analyses of CALSIM II studies to evaluate the impacts of the scenarios described above; the post-processing spreadsheets apply each scenario's assumed allocation rules and transfers for the scenario. The following CALSIM II simulation studies were performed:

- 1994 Baseline
- 2003 Baseline
- 2003 Proposed Project Alternative
- 2003 No Project Alternative A
- 2020 Baseline
- 2020 Proposed Project Alternative

SWP deliveries from these studies were post-processed by taking total SWP annual South of Delta Table A and Article 21 deliveries from the model study and re-allocating them to individual contractors according to each scenario's assumptions regarding allocation rules and transfers. In addition, deliveries for the 2003 No Project Alternative B scenarios were post-processed using the 2003 Baseline CALSIM II study and deliveries for the 2020 No Project Alternative A and B scenarios were post-processed using the 2020 Baseline CALSIM II study. These alternatives were able to be post-processed from the Baselines because they have the same total annual SWP scheduled and unscheduled demands. A separate model run was performed for 2003 No Project A because the annual SWP scheduled demand differed from the Baseline. During the post-processing, total annual SWP deliveries were unchanged but the monthly pattern of deliveries was modified within each year depending on the proportion of agricultural and M&I deliveries. The San Luis Reservoir storage pattern was also modified to account for this difference. With this approach, CALSIM II results for the Sacramento Valley, San Joaquin Valley, and the Delta were unchanged.

3.0. Results of CALSIM II Simulation Studies

3.1. SWP Deliveries

3.1.1. Total Deliveries

Figures 2 through 4c show total annual scheduled SWP deliveries in each year for each 1994, 2003, and 2020 scenario. In addition, Figures 5 through 7 show frequency plots of total annual scheduled SWP deliveries.

Figures 8 through 13 show the same information for unscheduled deliveries.

At each level of development, all of the scenarios have similar scheduled and unscheduled deliveries in each year. However, the 2020 scenarios tend to have the higher peak scheduled delivery amounts and more years in which higher amounts of deliveries are made than the 2003 scenarios, which in turn tend to have higher scheduled delivery amounts than the 1994 scenario. This reflects the difference in demand levels at the different levels of development and the inclusion of the 8,500 cfs Banks pumping assumption in 2020.

Conversely, the 1994 scenario has the highest unscheduled deliveries, with the 2003 scenarios also having higher unscheduled deliveries than the 2020 scenarios. This occurs because the higher levels of scheduled deliveries at the later level of development results in fewer excess flows being available to be used to make unscheduled deliveries.

Figure 2 - Total Annual Scheduled SWP Deliveries at the 1994 Level of Development

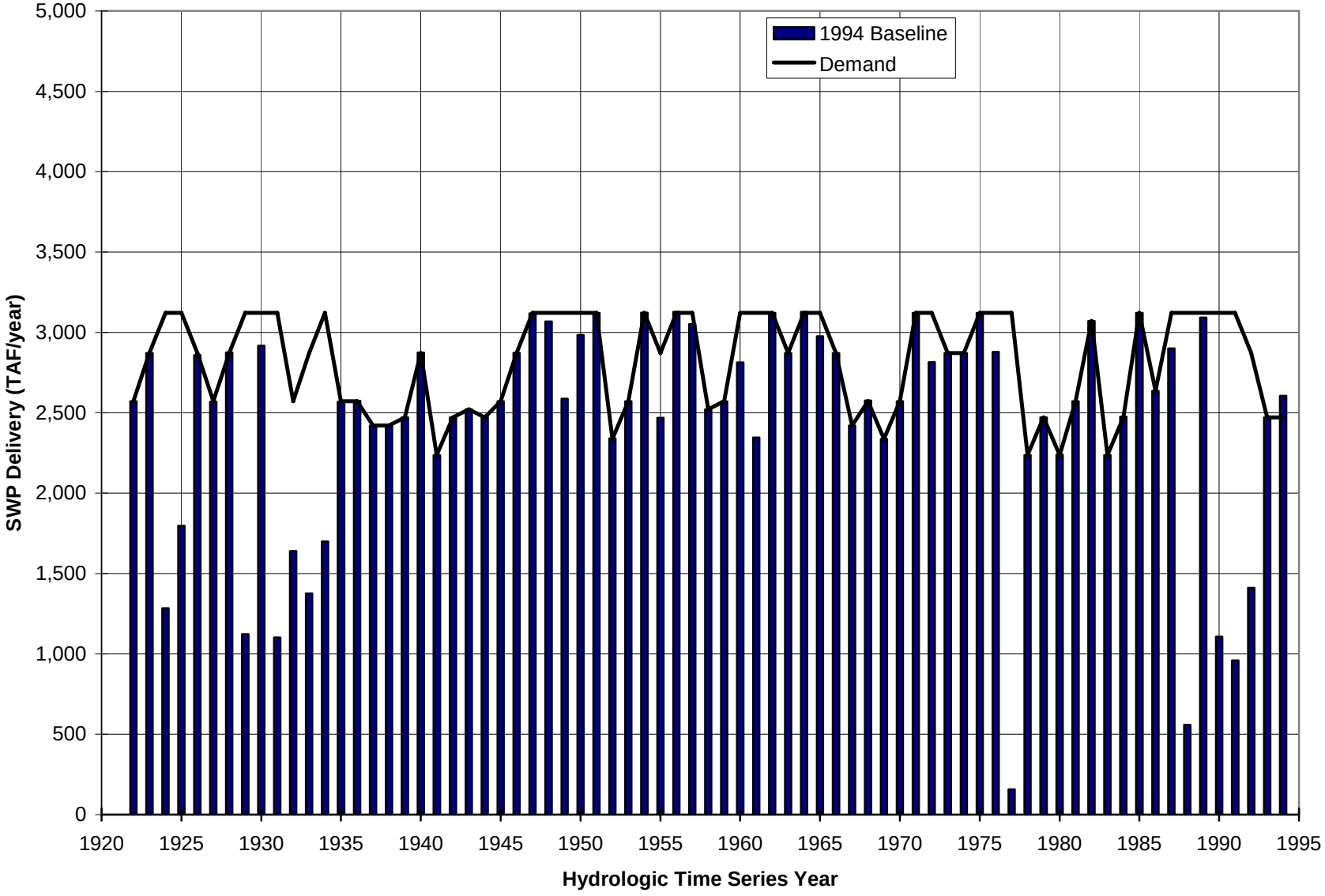


Figure 3a - Total Annual Scheduled SWP Deliveries at the 2003 Level of Development

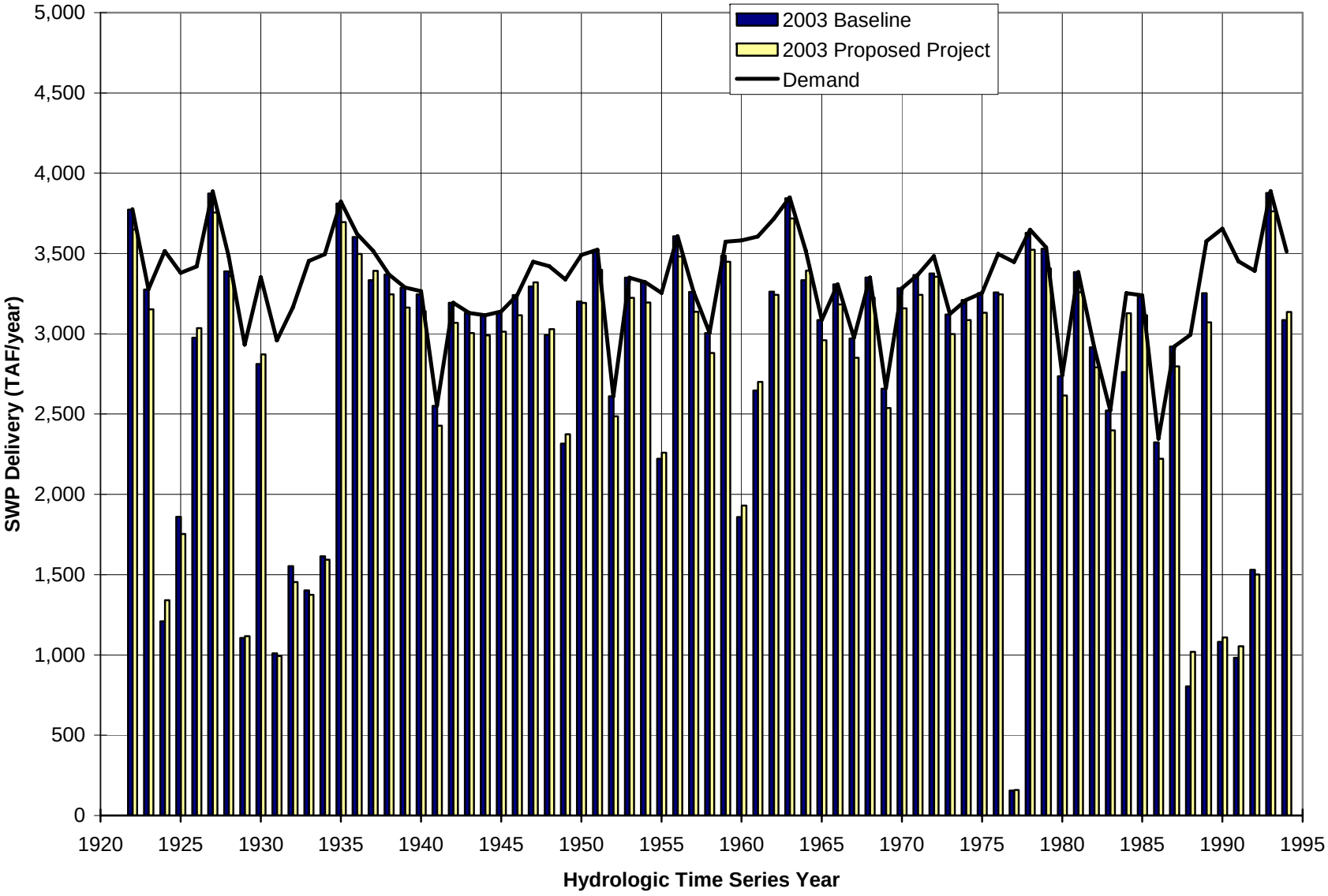


Figure 3b - Total Annual Scheduled SWP Deliveries at the 2003 Level of Development (cont'd)

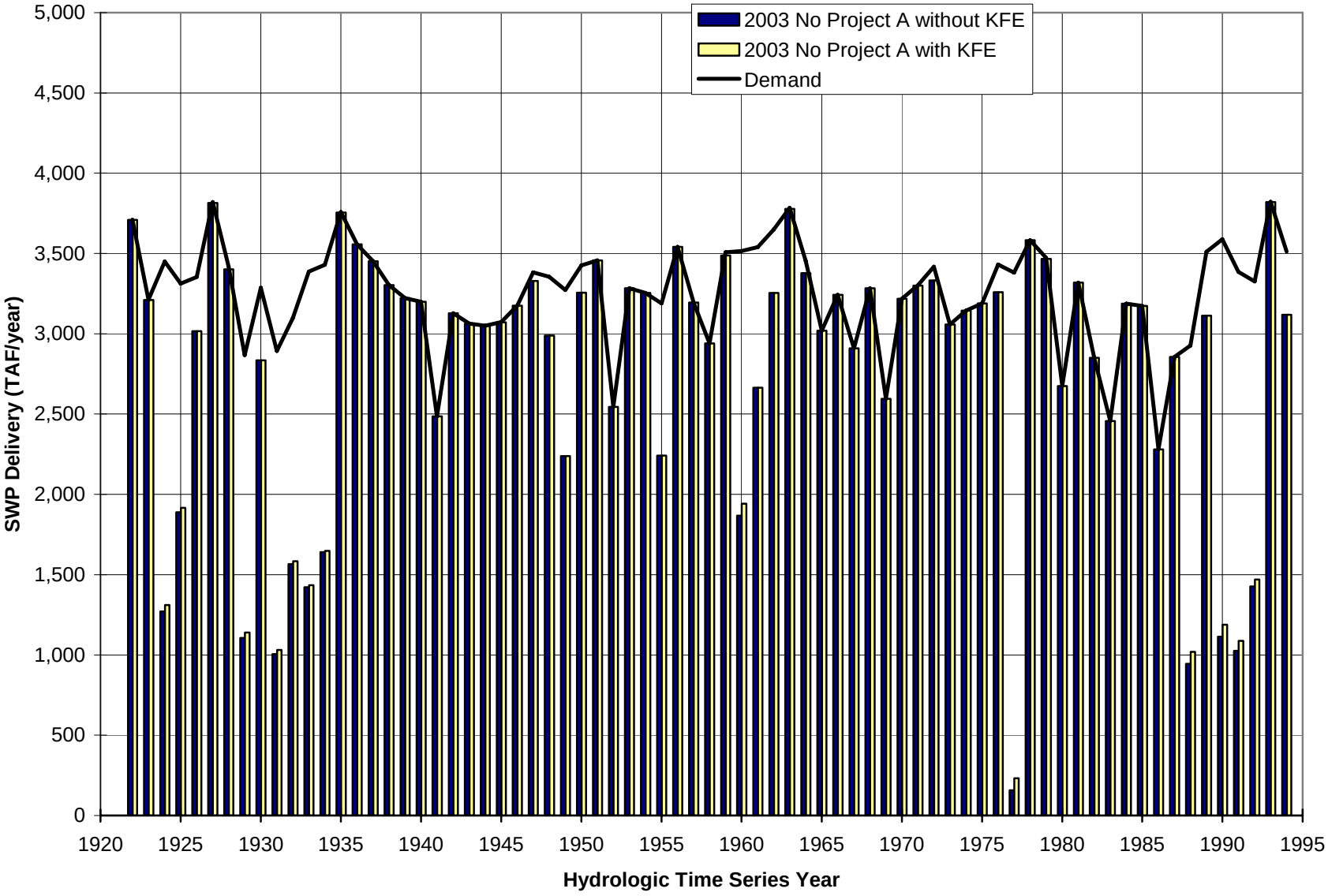


Figure 3c - Total Annual Scheduled SWP Deliveries at the 2003 Level of Development (cont'd)

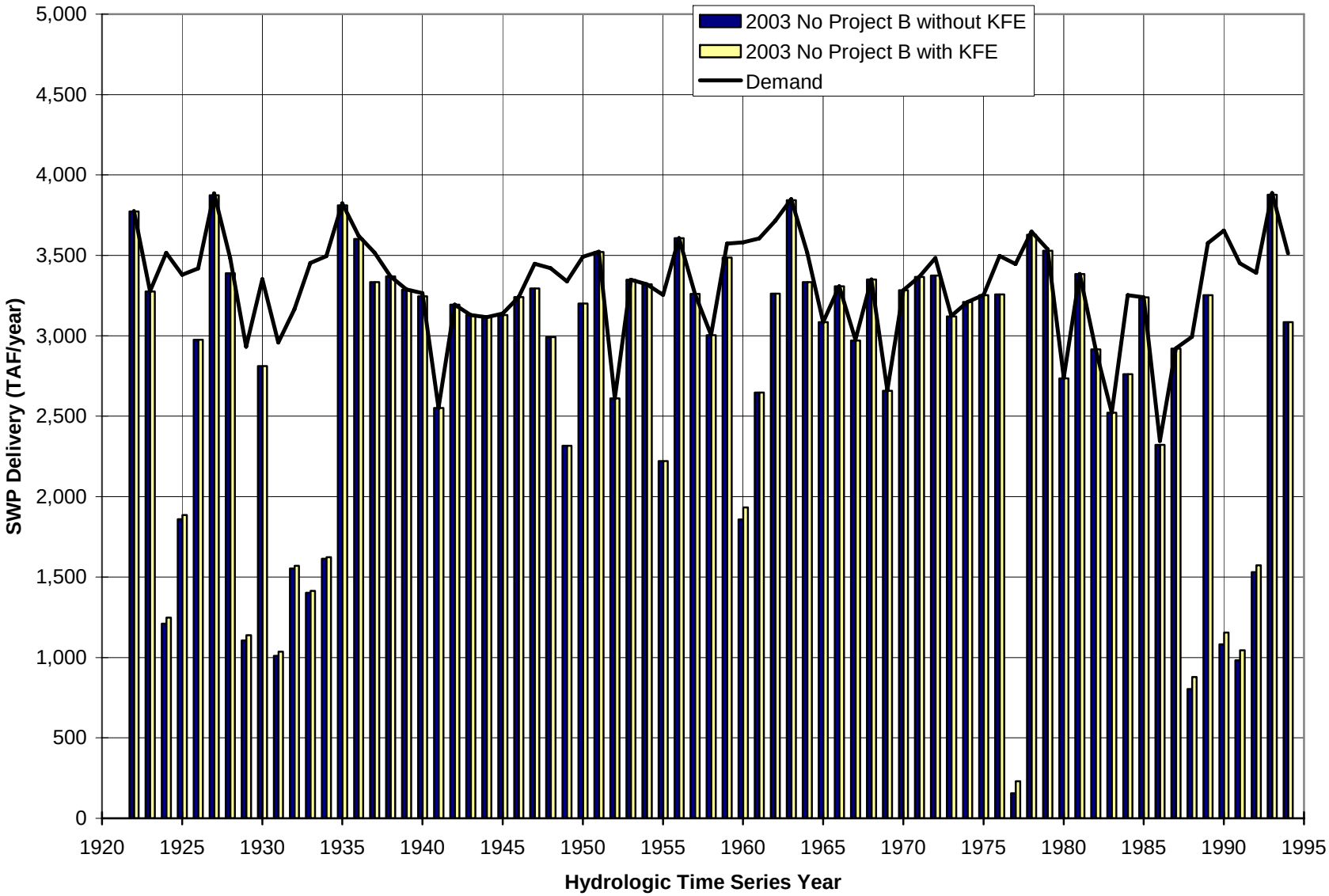


Figure 4a - Total Annual Scheduled SWP Deliveries at the 2020 Level of Development

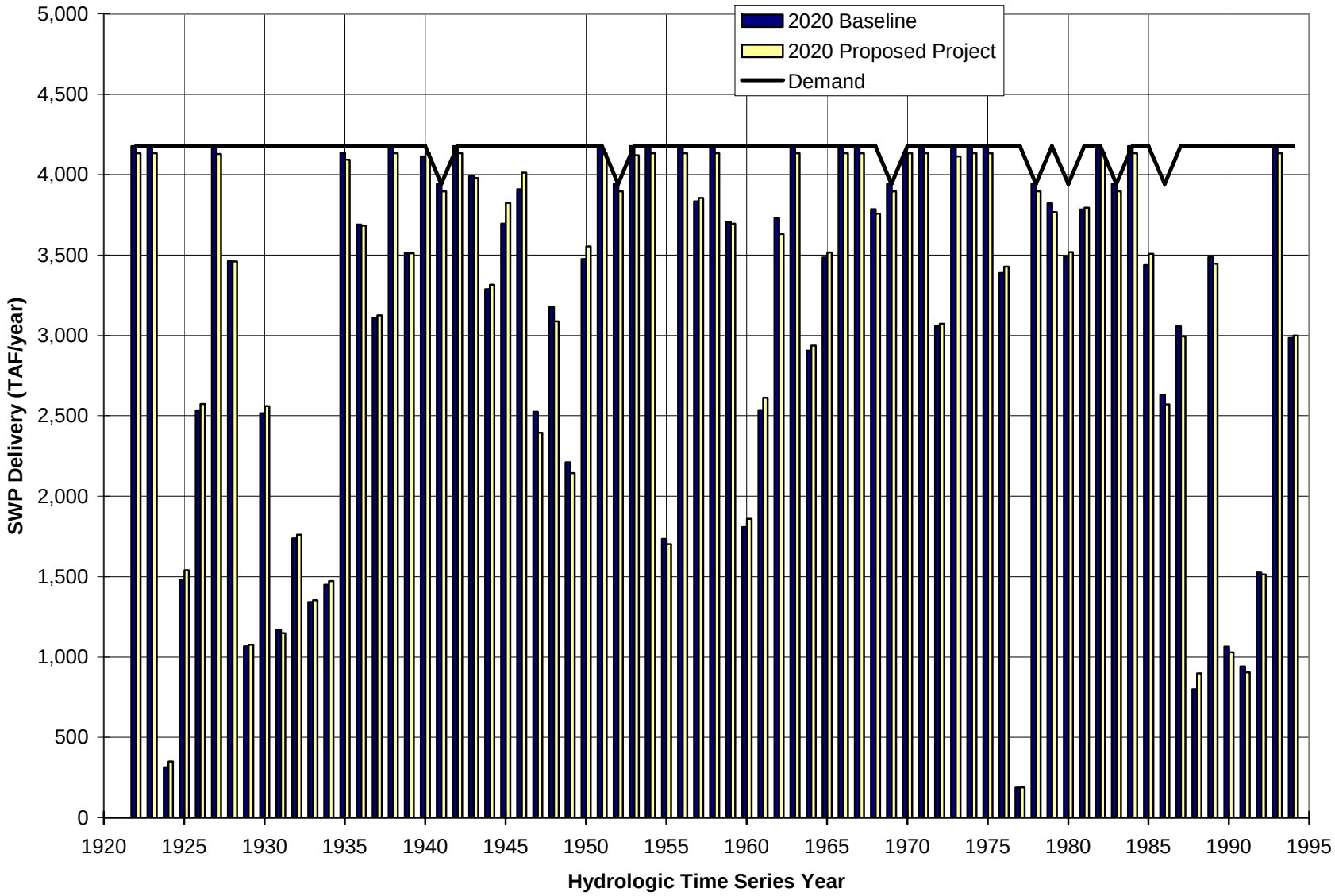


Figure 4b - Total Annual Scheduled SWP Deliveries at the 2020 Level of Development (cont'd)

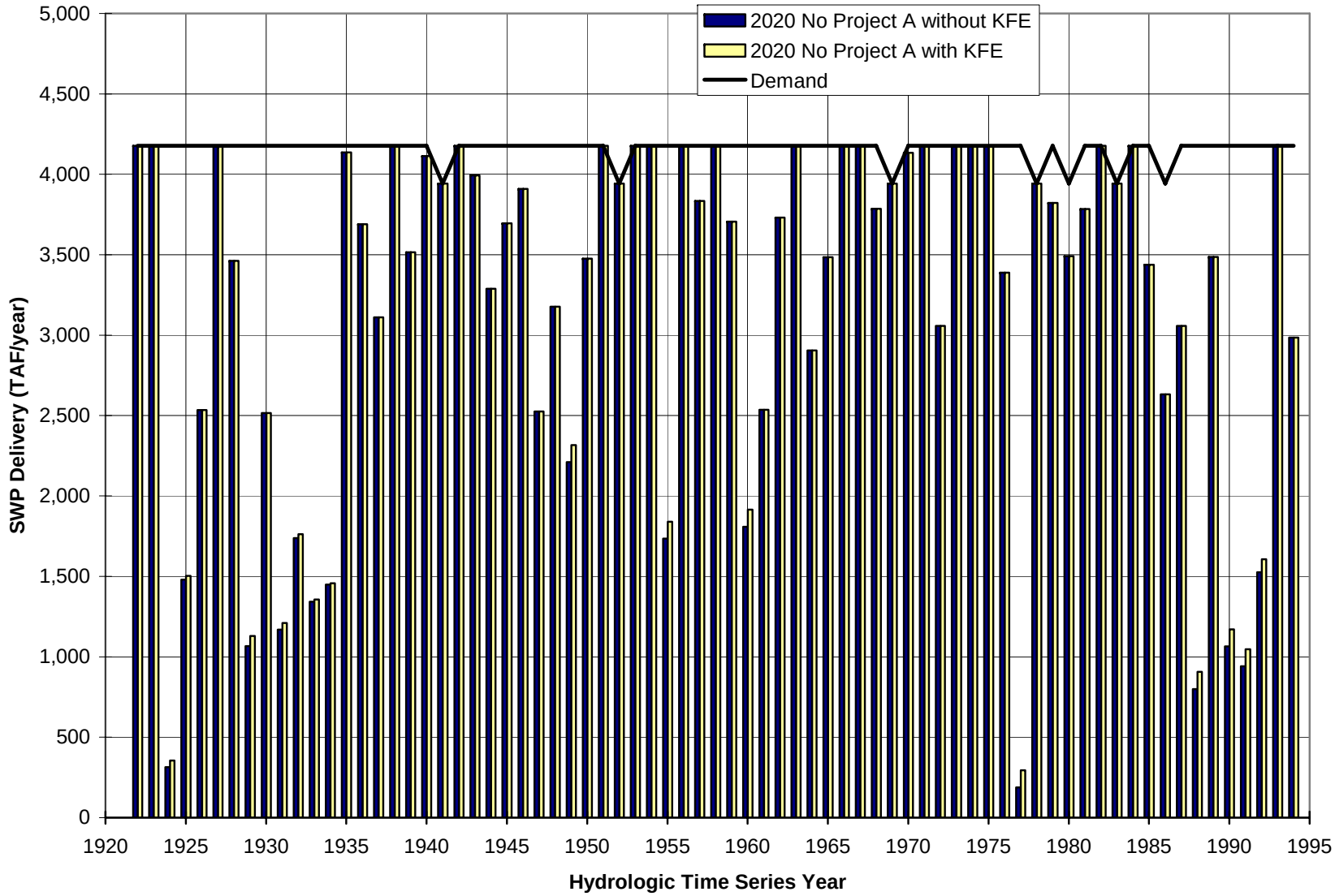


Figure 4c - Total Annual Scheduled SWP Deliveries at the 2020 Level of Development (cont'd)

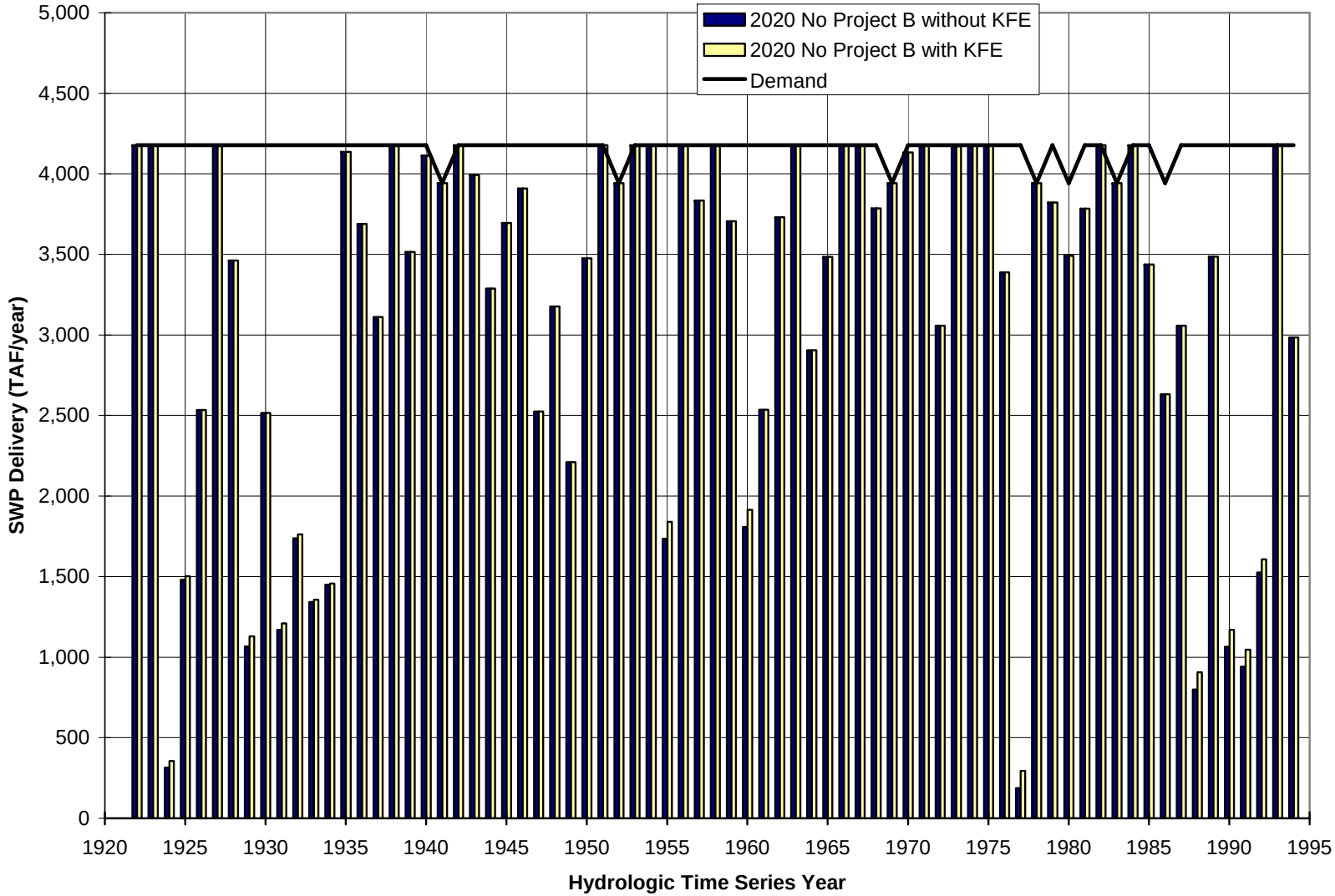


Figure 5 - Frequency of Annual Scheduled SWP Deliveries at the 1994 Level of Development

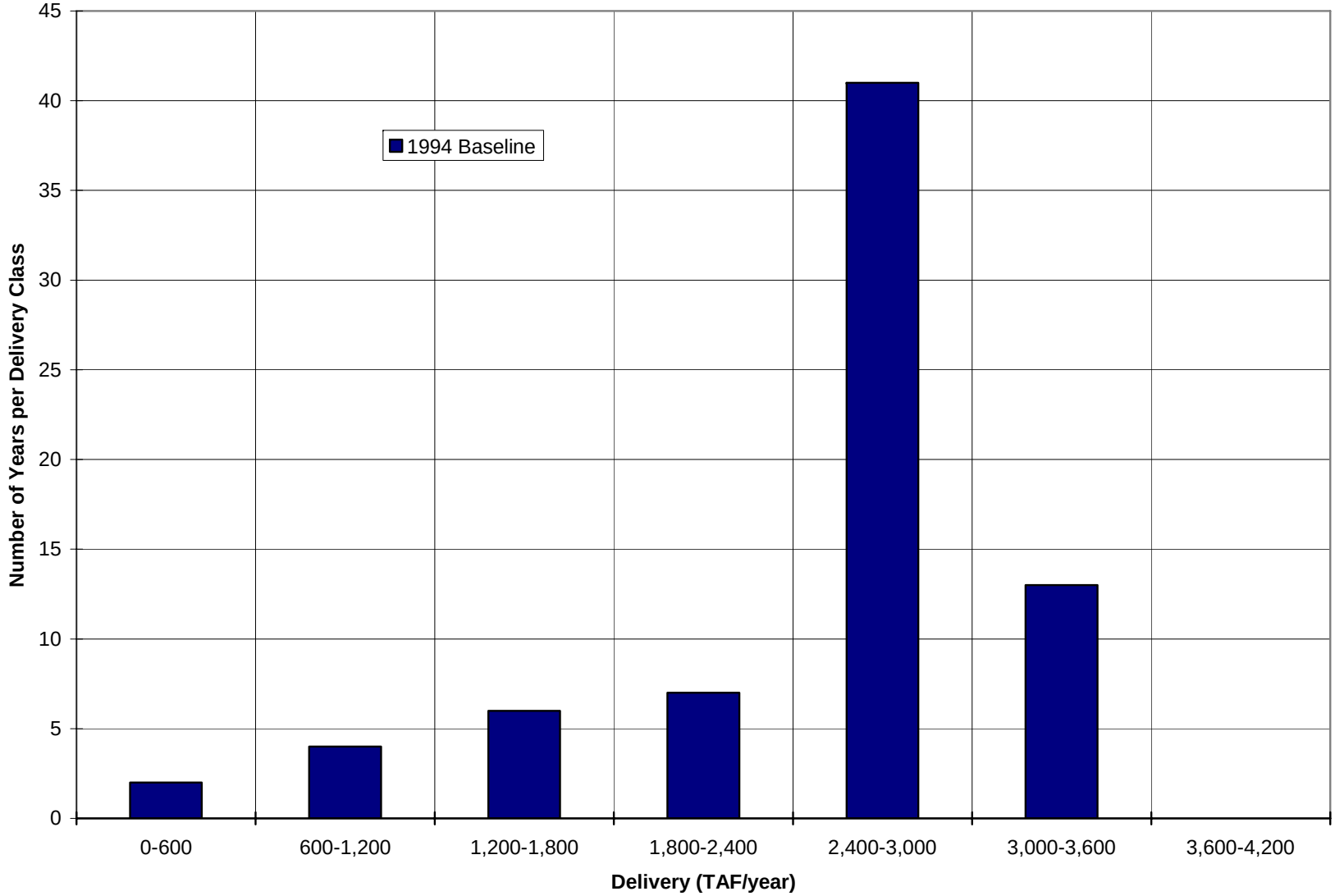


Figure 6 - Frequency of Annual Scheduled SWP Deliveries at the 2003 Level of Development

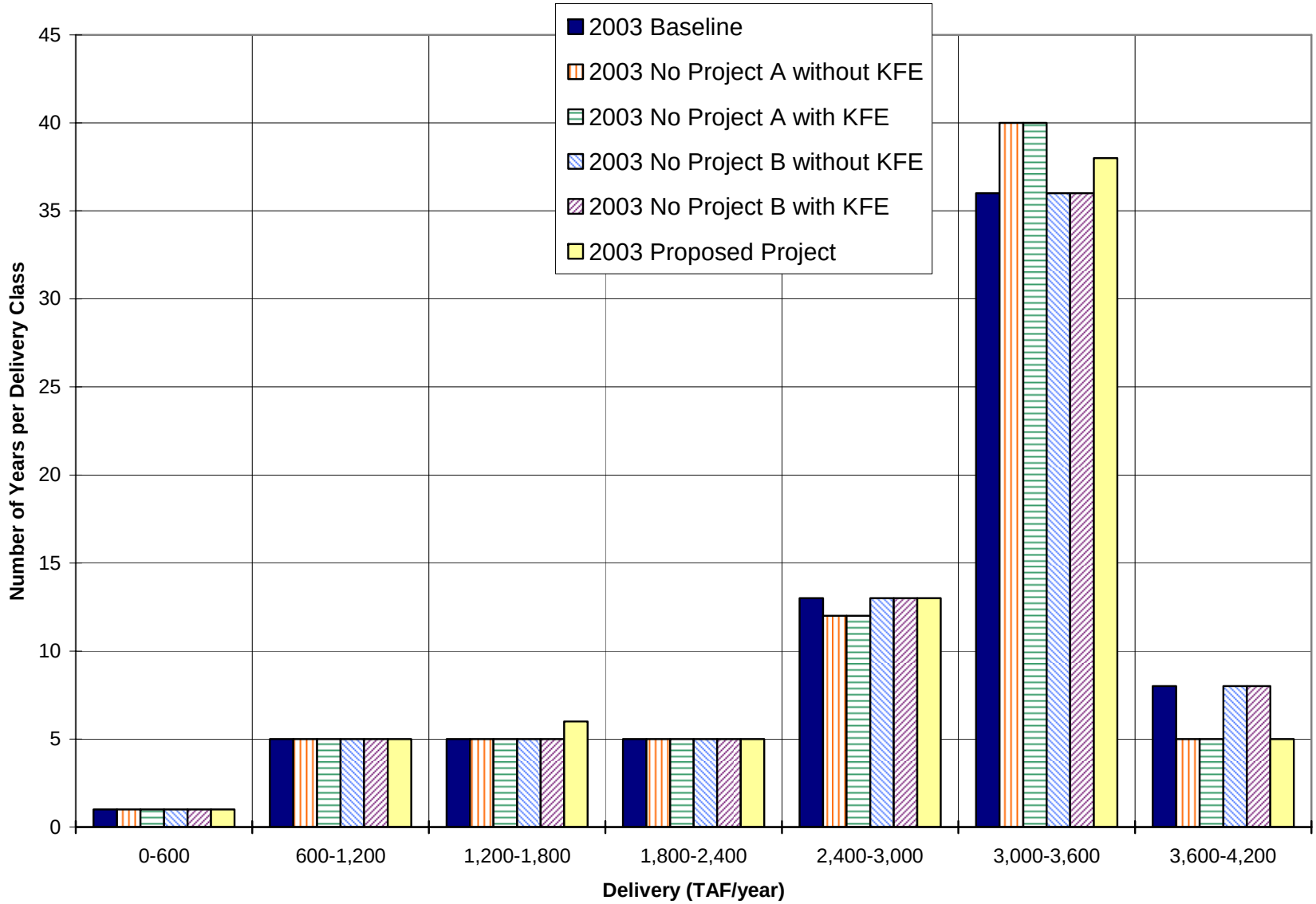


Figure 7 - Frequency of Annual Scheduled SWP Deliveries at the 2020 Level of Development

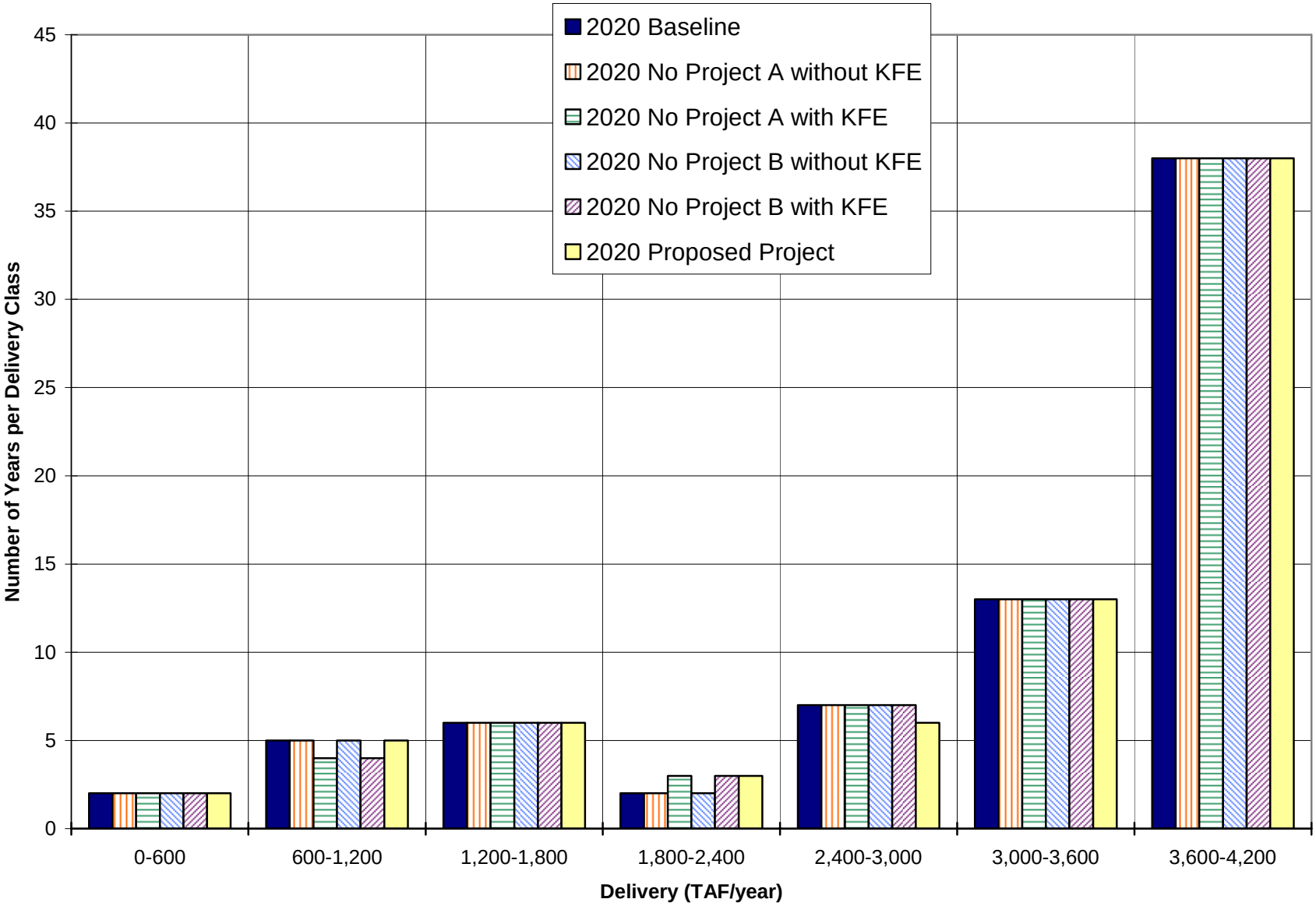


Figure 8 - Total Annual Unscheduled SWP Deliveries at the 1994 Level of Development

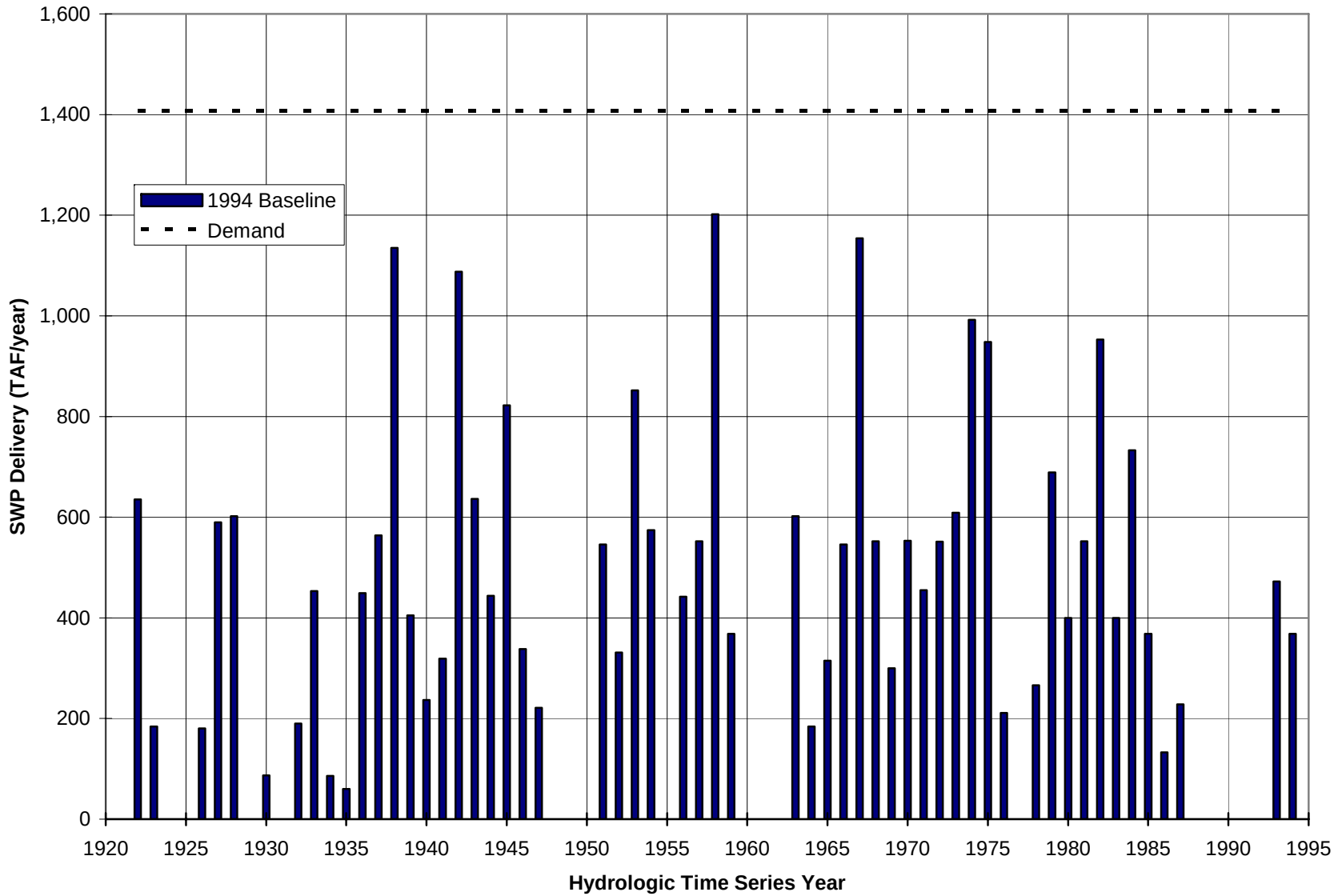


Figure 9a - Total Annual Unscheduled SWP Deliveries at the 2003 Level of Development

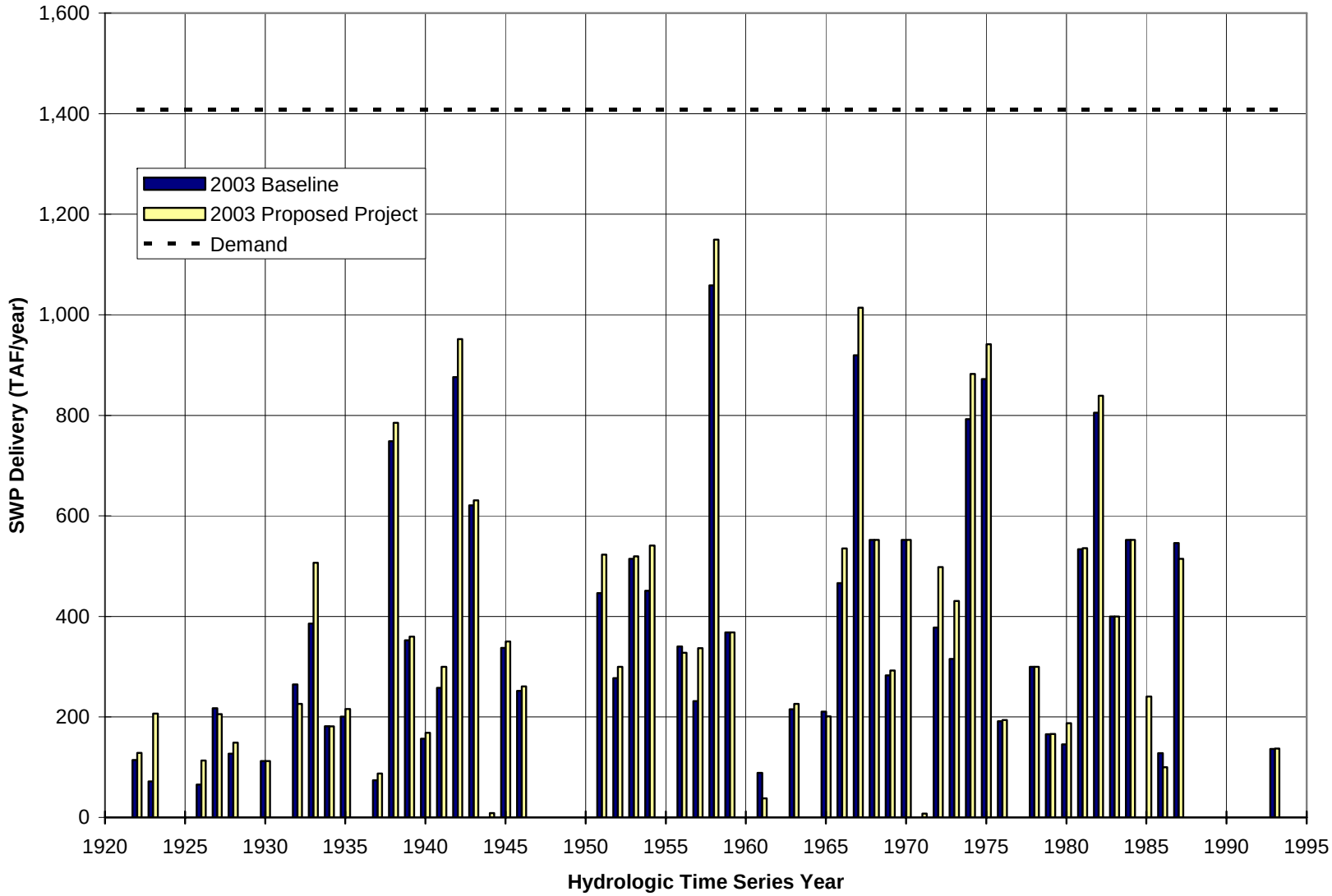


Figure 9b - Total Annual Unscheduled SWP Deliveries at the 2003 Level of Development (cont'd)

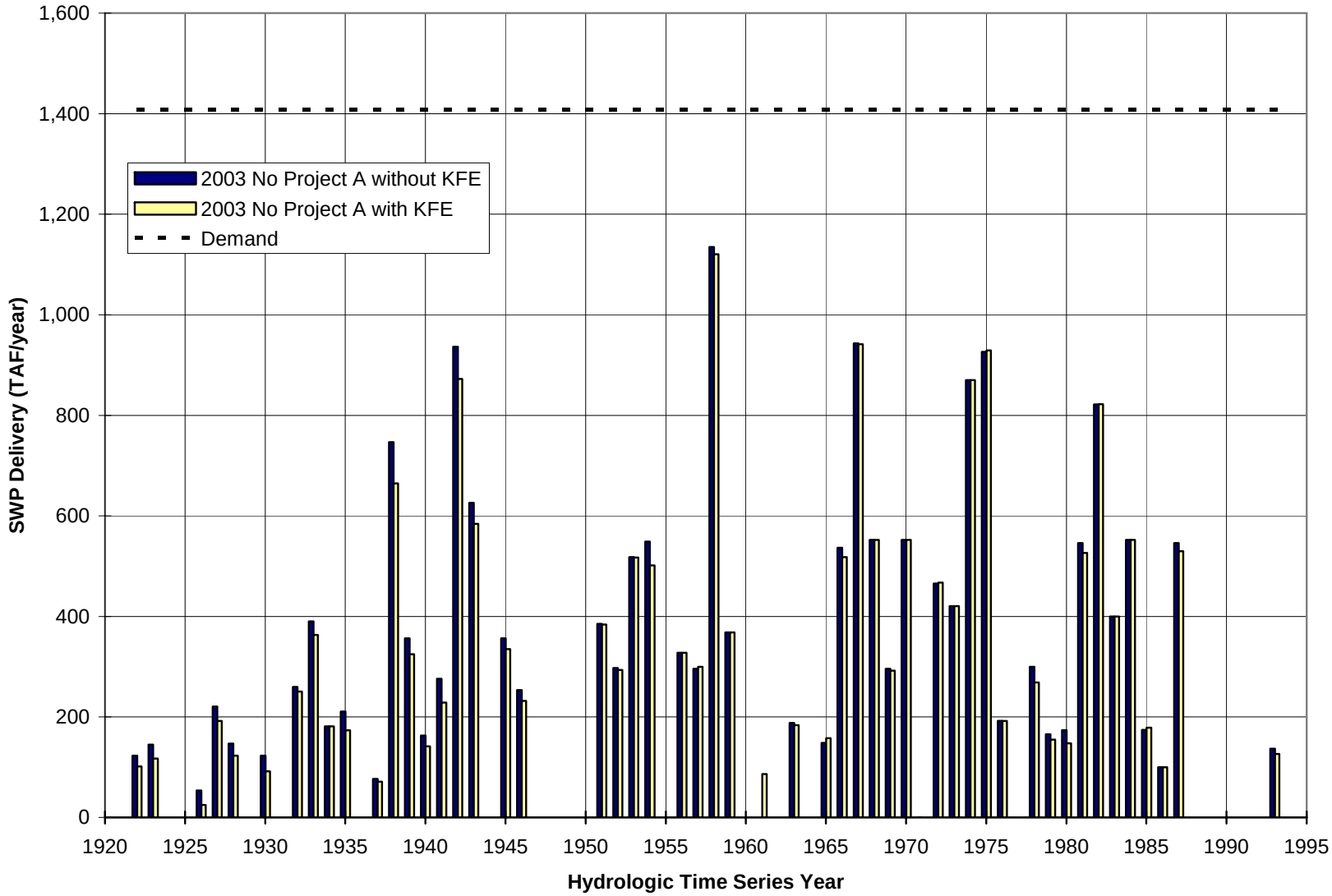


Figure 9c - Total Annual Unscheduled SWP Deliveries at the 2003 Level of Development (cont'd)

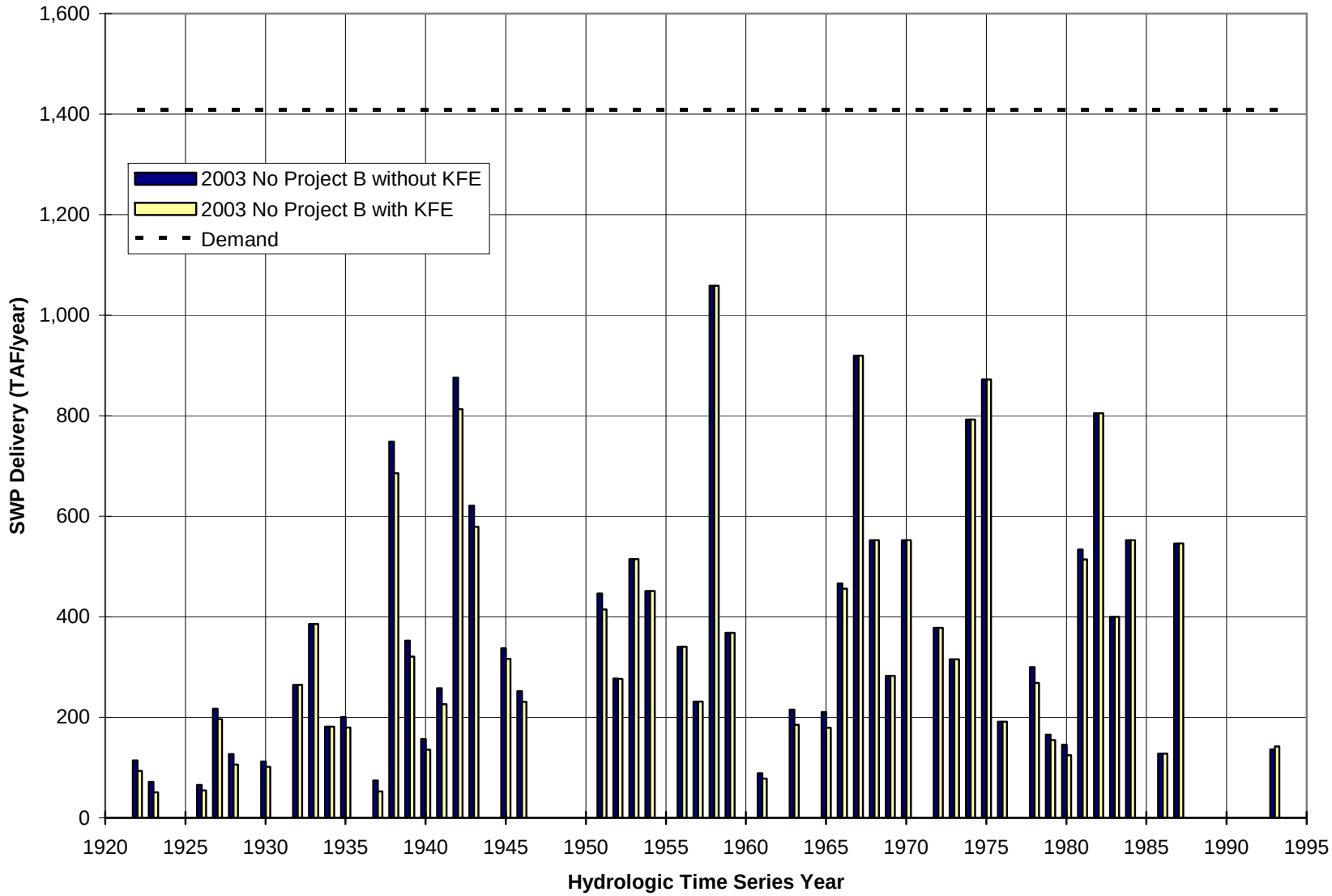


Figure 10a - Total Annual Unscheduled SWP Deliveries at the 2020 Level of Development

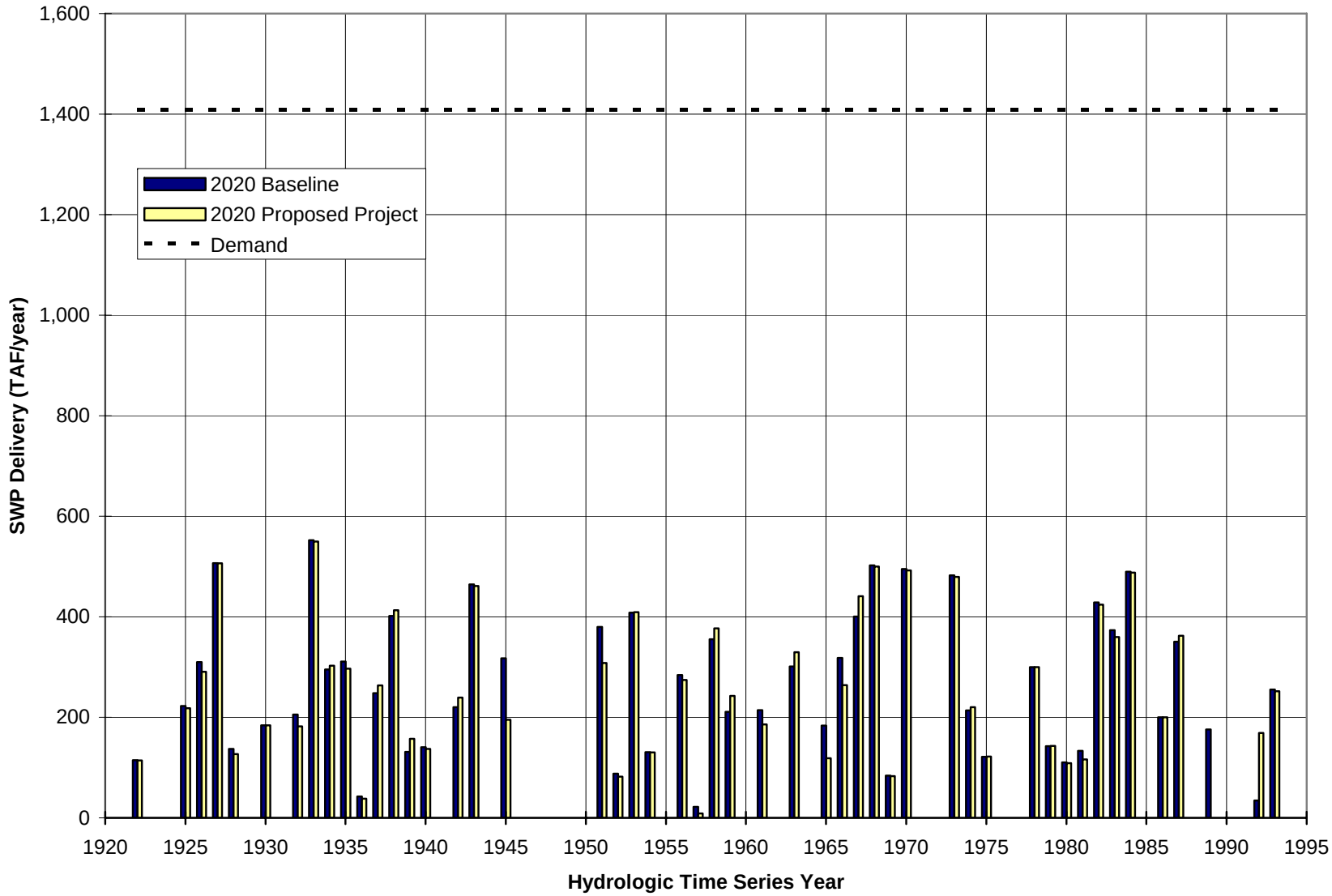


Figure 10b - Total Annual Unscheduled SWP Deliveries at the 2020 Level of Development (cont'd)

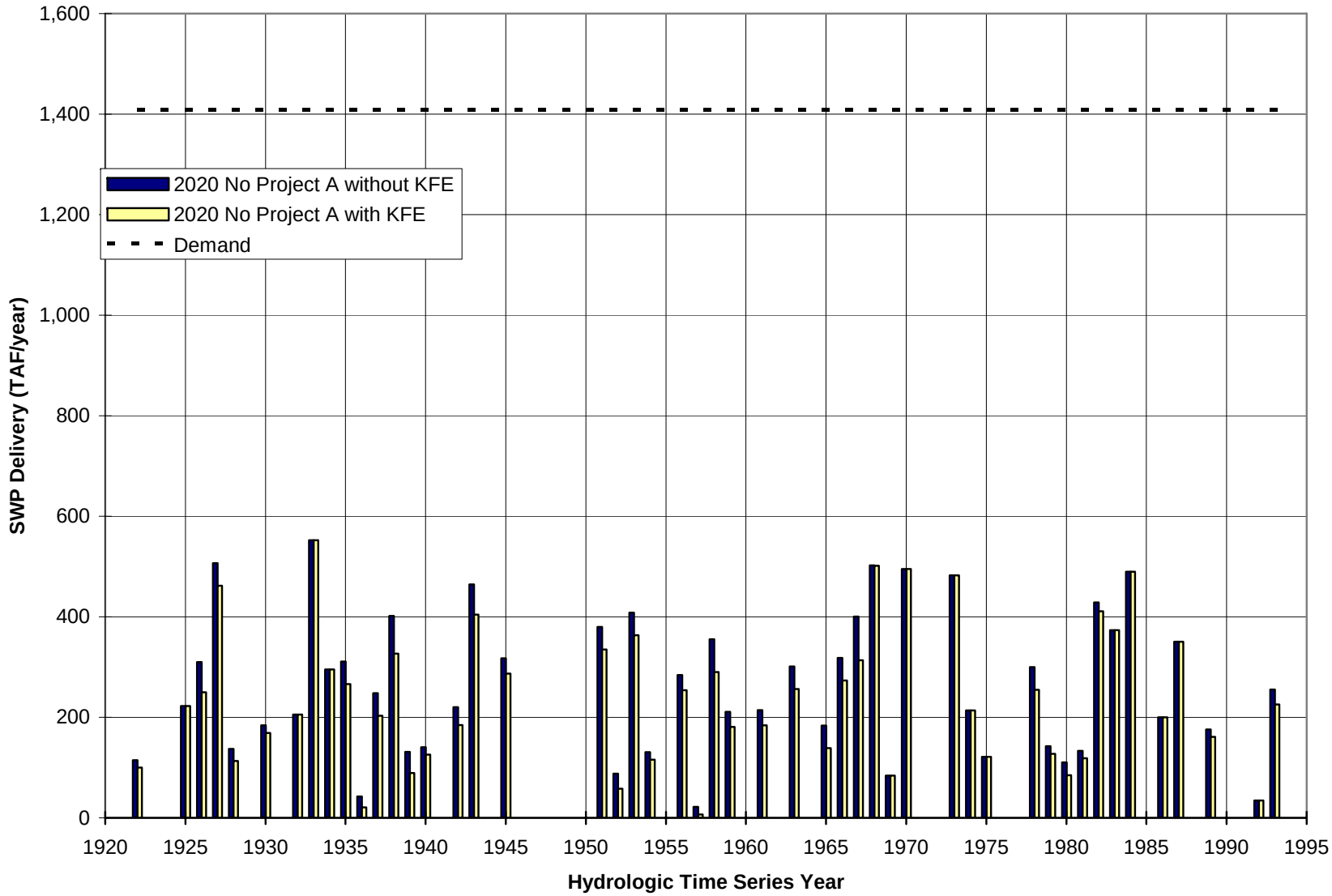


Figure 10c - Total Annual Unscheduled SWP Deliveries at the 2020 Level of Development (cont'd)

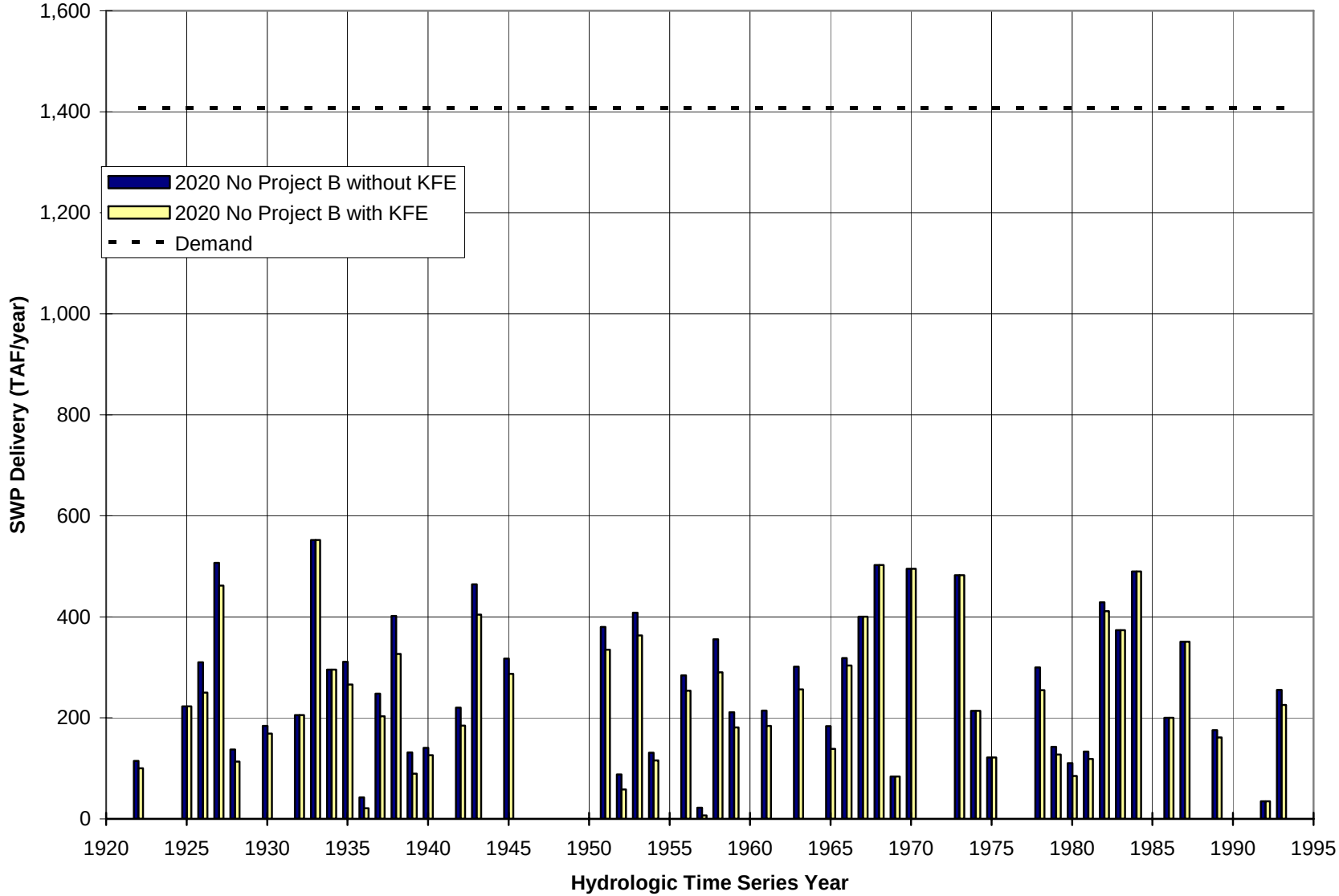


Figure 11 - Frequency of Annual Unscheduled SWP Deliveries at the 1994 Level of Development

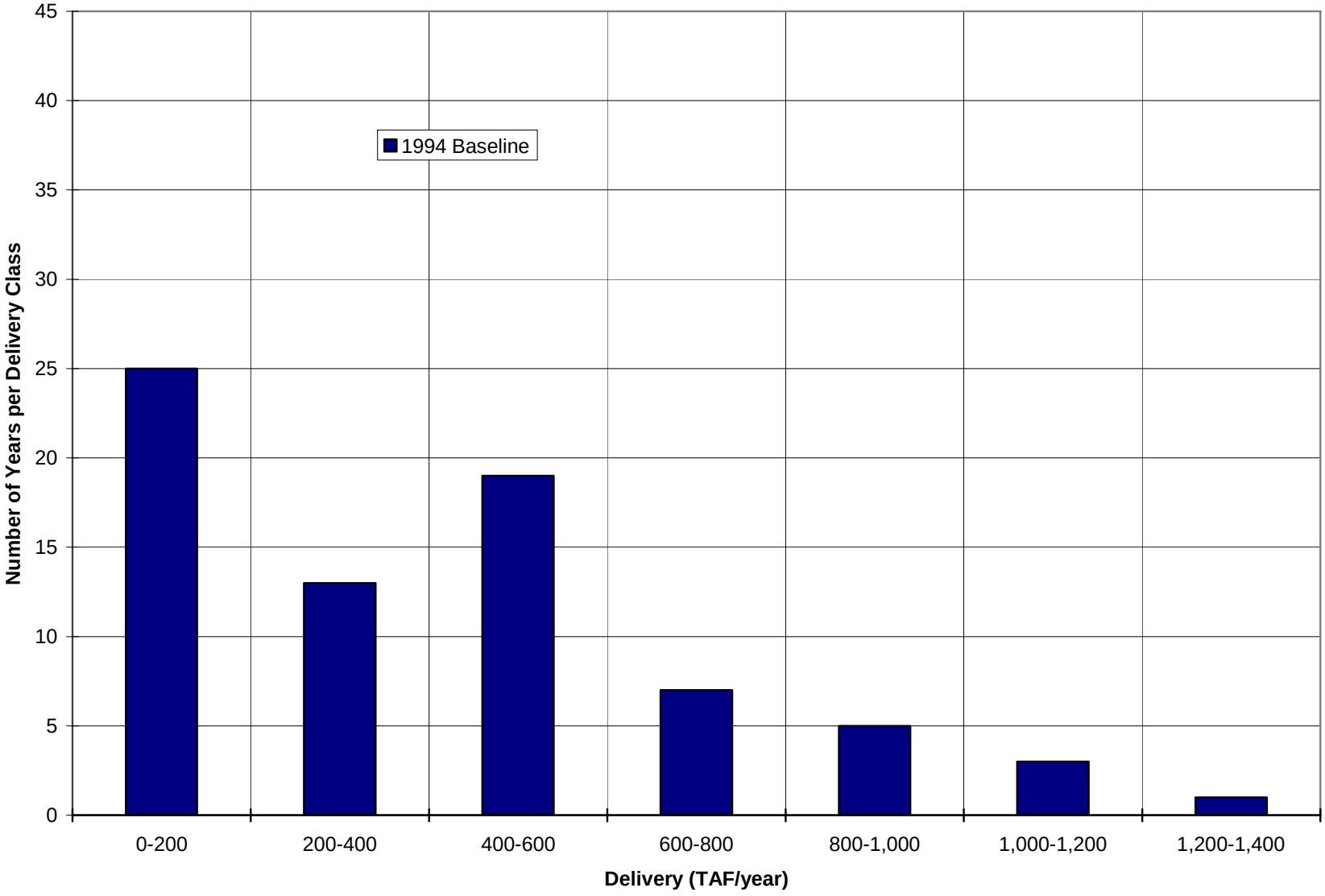


Figure 12 - Frequency of Annual Unscheduled SWP Deliveries at the 2003 Level of Development

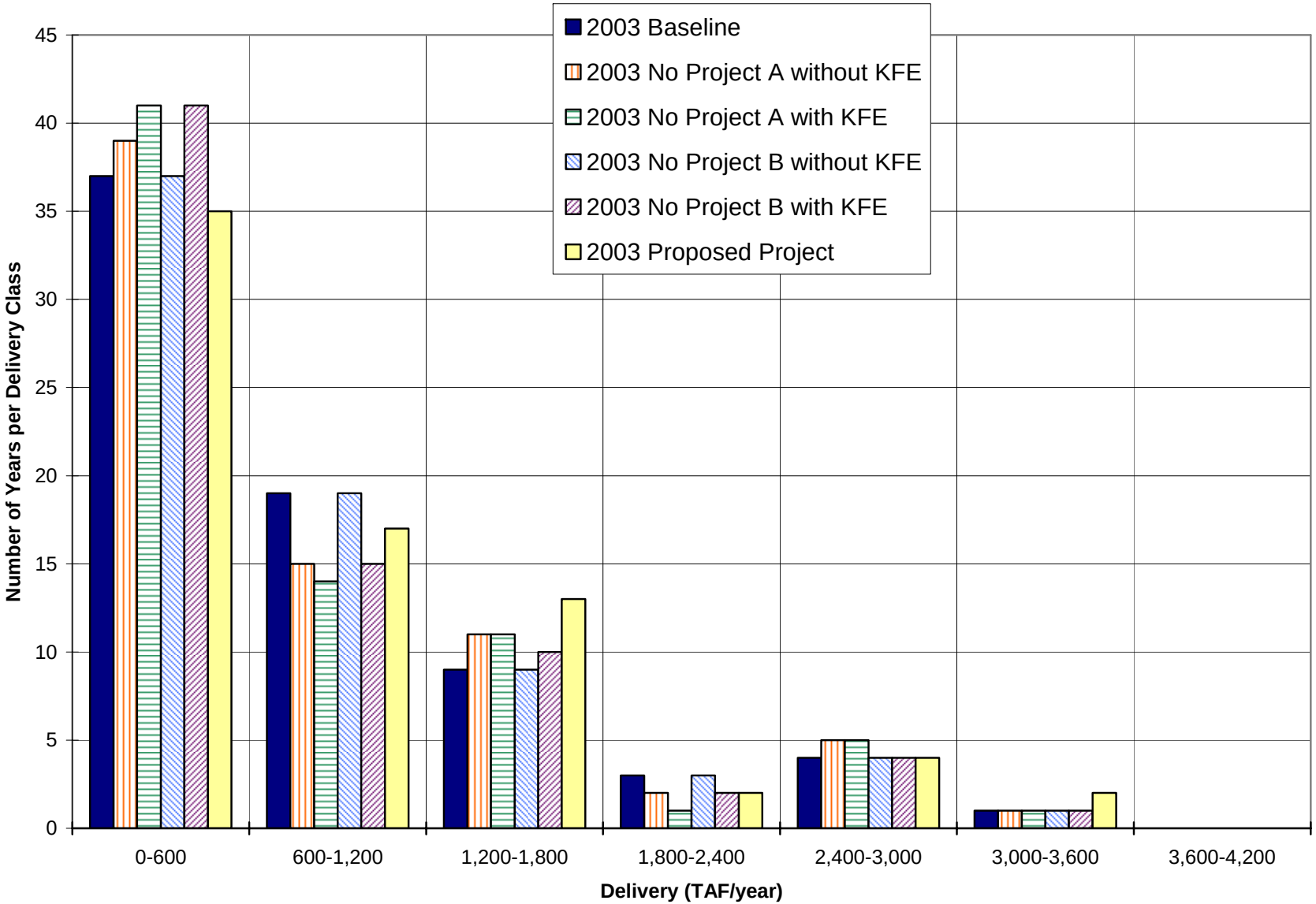
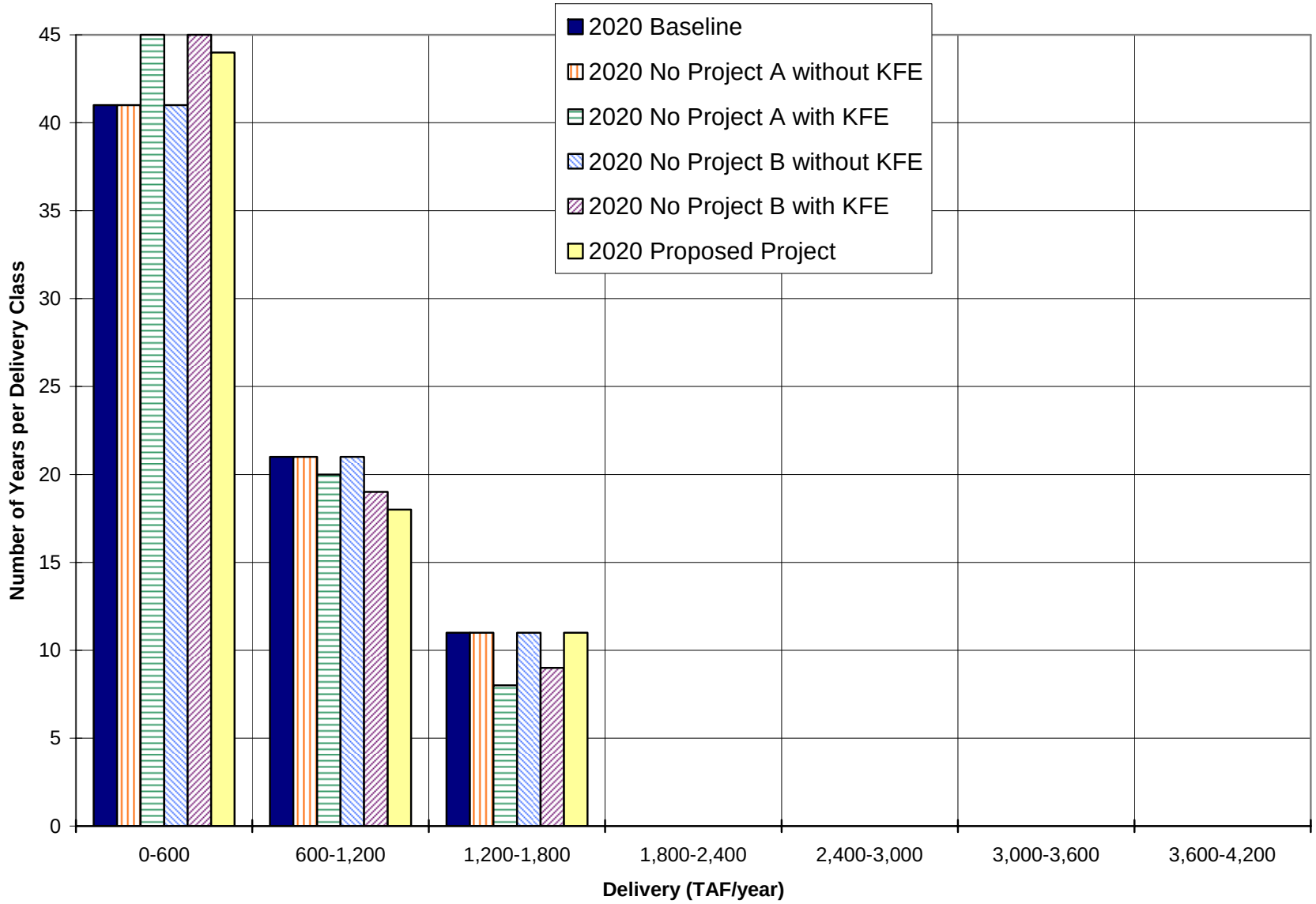


Figure 13 - Frequency of Annual Unscheduled SWP Deliveries at the 2020 Level of Development



3.1.2. SWP Deliveries to Individual Contractors

Tables 13a through 13f show average annual scheduled SWP deliveries at the 1994 and 2003 levels of development to each agricultural and M&I contractor for all years and in years categorized as wet, above normal, below normal, dry, and critical according to the Sacramento River Index. Figures 14a through 14f depict the amounts that are delivered to agricultural and M&I contractors at the 1994 and 2003 levels of development graphically. Tables 14a through 14f and Figures 15a through 15f depict the same information for the 2020 level of development. In order to fully apply the agricultural deficiency requirements in the Baseline and No Project alternatives, the data presented in these tables and figures (and in all subsequent tables and figures in this section) reflects modeled data from 1928 –1994 (i.e. the first six years are excluded from the average).

Total average annual scheduled SWP deliveries are about 2.5 million acre-feet per year in 1994, about 2.8 million acre-feet per year in each of the 2003 scenarios, and about 3.2 million acre-feet in each of the 2020 scenarios. The largest differences in total deliveries between different levels of development occur in wet and above normal years, while in dry and critical years total deliveries are similar in all scenarios. In both 2003 and 2020, agricultural contractors receive the most deliveries in No Project Alternative B-S, while M&I contractors receive the most deliveries in No Project Alternative A. These differences are much greater in 2020 than in 2003. For example, agricultural contractors receive about 60 TAF/year less deliveries in No Project Alternative A than in No Project Alternative B-S in 2003, compared to a difference of about 250 TAF/year in 2020.

Tables 15a through 15f and 16a through 16f and Figures 16a through 16f and 17a through 17f show the same information for unscheduled deliveries.

Total average annual unscheduled SWP deliveries are about 400 TAF per year in 1994, about 270-290 TAF per year in each of the 2003 scenarios, and about 160-180 TAF per year in each of the 2020 scenarios. In both 2003 and 2020, agricultural contractors receive more unscheduled water deliveries in the Baseline and No Project scenarios than in the Proposed Project scenario while M&I contractors received more in the Proposed Project scenario.

Table 13a - Average Annual Scheduled Deliveries (TAF/year) to each Contractor in the 1994 and 2003 Scenarios

SWP CONTRACTOR	1994 Baseline	2003 Baseline	2003 No Project A without KFE	2003 No Project A with KFE	2003 No Proj B-A without KFE	2003 No Proj B-A with KFE	2003 No Proj B-S without KFE	2003 No Proj B-S with KFE	2003 Proposed Project
Napa	4.7	6.4	6.5	6.5	6.4	6.4	7.2	7.2	6.4
Solano	26.6	34.2	34.2	34.4	33.3	33.4	30.4	30.5	34.3
Zone 7	25.8	40.8	57.3	57.5	38.3	38.3	36.8	36.8	59.3
Alameda	17.7	31.9	31.9	32.0	30.8	30.9	29.9	29.9	31.3
Santa Clara	78.8	76.6	76.7	76.9	74.0	74.2	71.7	71.8	75.3
Oak Flat	4.5	4.3	4.5	4.5	4.6	4.6	5.2	5.3	4.7
Kings	3.2	3.0	7.1	7.2	3.2	3.3	3.7	3.7	7.3
Dudley Ridge	45.5	43.9	48.2	48.3	46.8	46.9	53.8	53.9	46.8
Empire W.S.	2.4	2.3	2.3	2.3	2.4	2.4	2.8	2.8	2.4
KCWA (M&I)	0.0	119.4	119.5	119.8	111.9	112.2	108.1	108.4	117.8
KCWA (Agric.)	930.0	774.7	736.8	738.0	826.8	828.5	834.2	836.1	705.7
Tulare	93.4	90.1	74.6	74.7	96.2	96.4	110.4	110.6	78.6
SLO	0.0	4.3	4.3	4.3	4.2	4.3	4.2	4.3	4.2
Santa Barbara	0.0	25.2	25.2	25.3	25.1	25.2	24.5	24.6	24.9
AVEK	52.7	61.8	61.8	62.1	61.5	61.8	61.4	61.6	61.3
Castaic (Agric.)	10.0	9.7	9.9	9.9	10.3	10.3	11.8	11.9	10.4
Castaic (M&I)	14.8	36.8	36.8	36.9	34.5	34.6	33.1	33.2	61.1
Coachella	21.8	17.5	17.5	17.6	16.9	17.0	16.6	16.7	17.8
Crestline	0.5	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8
Desert	35.9	28.3	28.3	28.4	27.5	27.5	27.0	27.1	27.8
Littlerock	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	9.7	13.0	13.0	13.1	13.0	13.1	13.0	13.1	13.0
MWDSC	1,062.9	1,310.0	1,311.4	1,315.5	1,268.2	1,271.9	1,250.8	1,254.4	1,284.6
Palmdale	10.1	13.5	13.5	13.5	13.0	13.0	12.5	12.5	13.5
San Bernardino	6.7	64.4	64.5	64.7	63.3	63.5	63.1	63.3	63.5
San Gabriel	15.1	16.8	16.8	16.9	16.6	16.6	16.5	16.6	16.6
San Gorgonio	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ventura	0.6	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
Total Agriculture	1,088.9	928.0	883.5	884.9	990.4	992.4	1,021.9	1,024.3	855.9
Total M&I	1,385.0	1,907.7	1,926.1	1,932.2	1,845.3	1,850.7	1,813.8	1,818.9	1,919.7
Total	2,473.9	2,835.7	2,809.7	2,817.2	2,835.7	2,843.2	2,835.7	2,843.2	2,775.7

Table 13b - Wet Years: Annual Average Scheduled Deliveries (TAF/year) to each Contractor in the 1994 and 2003 Scenarios

SWP CONTRACTOR	1994 Baseline	2003 Baseline	2003 No Project A without KFE	2003 No Project A with KFE	2003 No Proj B-A without KFE	2003 No Proj B-A with KFE	2003 No Proj B-S without KFE	2003 No Proj B-S with KFE	2003 Proposed Project
Napa	4.8	6.8	6.8	6.8	6.8	6.8	7.6	7.6	6.8
Solano	28.1	37.7	37.7	37.7	37.6	37.6	35.8	35.8	37.7
Zone 7	26.7	46.0	66.5	66.5	45.2	45.2	44.1	44.1	66.5
Alameda	18.0	35.2	35.2	35.2	34.9	34.9	34.3	34.3	35.2
Santa Clara	82.5	84.7	84.7	84.7	84.1	84.1	82.5	82.5	84.7
Oak Flat	5.3	5.2	5.4	5.4	5.3	5.3	5.9	5.9	5.3
Kings	3.7	3.7	8.8	8.8	3.7	3.7	4.2	4.2	8.4
Dudley Ridge	54.0	53.1	58.3	58.3	53.7	53.7	60.5	60.5	53.4
Empire W.S.	2.8	2.8	2.8	2.8	2.8	2.8	3.1	3.1	2.8
KCWA (M&I)	0.0	134.6	134.6	134.6	132.3	132.3	129.7	129.7	134.6
KCWA (Agric.)	1,087.5	936.9	885.8	885.8	948.4	948.4	935.5	935.5	805.0
Tulare	110.8	109.0	89.3	89.3	110.3	110.3	124.3	124.3	89.6
SLO	0.0	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
Santa Barbara	0.0	26.3	26.3	26.3	26.3	26.3	26.0	26.0	26.3
AVEK	53.7	64.9	64.9	64.9	64.9	64.9	64.4	64.4	64.9
Castaic (Agric.)	11.9	11.7	12.0	12.0	11.8	11.8	13.3	13.3	11.8
Castaic (M&I)	15.1	41.5	41.5	41.5	40.8	40.8	39.8	39.8	68.6
Coachella	23.1	19.3	19.3	19.3	19.2	19.2	18.9	18.9	19.3
Crestline	0.5	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Desert	38.1	31.2	31.2	31.2	31.0	31.0	30.6	30.6	31.2
Littlerock	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	9.8	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2
MWDSC	1,035.5	1,272.5	1,272.5	1,272.5	1,264.0	1,264.0	1,263.3	1,263.3	1,272.5
Palmdale	10.4	14.9	14.9	14.9	14.8	14.8	14.5	14.5	14.9
San Bernardino	6.7	69.8	69.8	69.8	69.8	69.8	69.3	69.3	69.8
San Gabriel	15.5	18.1	18.1	18.1	18.1	18.1	18.0	18.0	18.1
San Gorgonio	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ventura	0.6	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Total Agriculture	1,276.1	1,122.3	1,062.3	1,062.3	1,136.0	1,136.0	1,146.9	1,146.9	976.3
Total M&I	1,369.7	1,928.1	1,948.5	1,948.5	1,914.2	1,914.2	1,903.4	1,903.4	1,975.7
Total	2,645.8	3,050.4	3,010.8	3,010.8	3,050.3	3,050.3	3,050.4	3,050.3	2,952.0

Table 13c - Above Normal Years: Annual Average Scheduled Deliveries (TAF/year) to each Contractor in the 1994 and 2003 Scenarios

SWP CONTRACTOR	1994 Baseline	2003 Baseline	2003 No Project A without KFE	2003 No Project A with KFE	2003 No Proj B-A without KFE	2003 No Proj B-A with KFE	2003 No Proj B-S without KFE	2003 No Proj B-S with KFE	2003 Proposed Project
Napa	4.8	6.8	6.8	6.8	6.8	6.8	7.6	7.6	6.8
Solano	28.1	37.7	37.7	37.7	37.7	37.7	36.6	36.6	37.7
Zone 7	26.7	46.0	66.5	66.5	45.4	45.4	44.5	44.5	66.5
Alameda	18.0	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2
Santa Clara	82.5	84.7	84.7	84.7	84.7	84.7	84.7	84.7	84.7
Oak Flat	5.4	5.4	5.4	5.4	5.4	5.4	6.1	6.1	5.4
Kings	3.8	3.8	8.8	8.8	3.8	3.8	4.3	4.3	8.6
Dudley Ridge	54.8	54.4	59.1	59.1	54.9	54.9	62.1	62.1	54.5
Empire W.S.	2.9	2.8	2.9	2.9	2.9	2.9	3.2	3.2	2.9
KCWA (M&I)	0.0	134.6	134.6	134.6	132.9	132.9	131.1	131.1	134.6
KCWA (Agric.)	1,103.0	960.8	900.4	900.4	969.5	969.5	951.1	951.1	821.0
Tulare	112.6	111.8	91.0	91.0	112.8	112.8	127.6	127.6	91.4
SLO	0.0	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
Santa Barbara	0.0	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3
AVEK	53.7	64.9	64.9	64.9	64.9	64.9	64.9	64.9	64.9
Castaic (Agric.)	12.1	12.0	12.1	12.1	12.1	12.1	13.7	13.7	12.1
Castaic (M&I)	15.1	41.5	41.5	41.5	41.0	41.0	40.1	40.1	68.6
Coachella	23.1	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3
Crestline	0.5	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Desert	38.1	31.2	31.2	31.2	31.2	31.2	31.2	31.2	31.2
Littlerock	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	9.8	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2
MWDSC	1,133.0	1,537.7	1,537.7	1,537.7	1,530.2	1,530.2	1,527.2	1,527.2	1,537.6
Palmdale	10.4	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9
San Bernardino	6.7	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8
San Gabriel	15.5	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1
San Gorgonio	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ventura	0.6	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Total Agriculture	1,294.7	1,150.9	1,079.7	1,079.7	1,161.3	1,161.3	1,168.1	1,168.1	995.7
Total M&I	1,467.2	2,193.3	2,213.8	2,213.8	2,182.9	2,182.9	2,176.1	2,176.1	2,240.8
Total	2,761.8	3,344.2	3,293.5	3,293.5	3,344.2	3,344.2	3,344.2	3,344.2	3,236.5

Table 13d - Below Normal Years: Annual Average Scheduled Deliveries (TAF/year) to each Contractor in the 1994 and 2003 Scenarios

SWP CONTRACTOR	1994 Baseline	2003 Baseline	2003 No Project A without KFE	2003 No Project A with KFE	2003 No Proj B-A without KFE	2003 No Proj B-A with KFE	2003 No Proj B-S without KFE	2003 No Proj B-S with KFE	2003 Proposed Project
Napa	4.8	6.8	6.8	6.8	6.8	6.8	7.6	7.6	6.8
Solano	28.1	37.7	37.7	37.7	37.7	37.7	34.1	34.1	37.7
Zone 7	26.7	46.0	65.1	65.1	42.6	42.6	41.1	41.1	66.5
Alameda	18.0	35.2	35.2	35.2	34.7	34.7	33.7	33.7	35.2
Santa Clara	82.5	84.7	84.7	84.7	83.2	83.2	80.8	80.8	84.7
Oak Flat	5.5	5.1	5.3	5.3	5.5	5.5	6.4	6.4	5.4
Kings	3.9	3.6	8.4	8.4	3.8	3.8	4.5	4.5	8.6
Dudley Ridge	55.7	51.7	57.2	57.2	55.2	55.2	64.9	64.9	54.5
Empire W.S.	2.9	2.7	2.8	2.8	2.9	2.9	3.4	3.4	2.9
KCWA (M&I)	0.0	134.6	134.6	134.6	124.7	124.7	120.9	120.9	134.6
KCWA (Agric.)	1,117.8	912.7	876.5	876.5	975.0	975.0	989.6	989.6	821.8
Tulare	114.4	106.2	89.1	89.1	113.4	113.4	133.4	133.4	91.5
SLO	0.0	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
Santa Barbara	0.0	26.3	26.3	26.3	26.3	26.3	26.2	26.2	26.3
AVEK	53.7	64.9	64.9	64.9	64.9	64.9	64.9	64.9	64.9
Castaic (Agric.)	12.3	11.4	11.8	11.8	12.2	12.2	14.3	14.3	12.1
Castaic (M&I)	15.1	41.5	41.5	41.5	38.5	38.5	37.0	37.0	68.6
Coachella	23.1	19.3	19.3	19.3	19.0	19.0	18.9	18.9	19.3
Crestline	0.5	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Desert	38.1	31.2	31.2	31.2	30.9	30.9	30.5	30.5	31.2
Littlerock	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	9.8	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2
MWDSC	1,083.0	1,606.5	1,606.5	1,606.5	1,551.1	1,551.1	1,516.6	1,516.6	1,592.1
Palmdale	10.4	14.9	14.9	14.9	14.6	14.6	14.1	14.1	14.9
San Bernardino	6.7	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8
San Gabriel	15.5	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1
San Gorgonio	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ventura	0.6	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Total Agriculture	1,312.4	1,093.3	1,051.0	1,051.0	1,167.9	1,167.9	1,216.5	1,216.5	996.7
Total M&I	1,417.2	2,262.1	2,281.2	2,281.2	2,187.5	2,187.5	2,138.9	2,138.9	2,295.3
Total	2,729.6	3,355.4	3,332.2	3,332.2	3,355.4	3,355.4	3,355.4	3,355.4	3,292.1

Table 13e - Dry Years: Annual Average Scheduled Deliveries (TAF/year) to each Contractor in the 1994 and 2003 Scenarios

SWP CONTRACTOR	1994 Baseline	2003 Baseline	2003 No Project A without KFE	2003 No Project A with KFE	2003 No Proj B-A without KFE	2003 No Proj B-A with KFE	2003 No Proj B-S without KFE	2003 No Proj B-S with KFE	2003 Proposed Project
Napa	4.8	6.8	6.8	6.8	6.6	6.6	7.5	7.5	6.7
Solano	28.1	36.5	36.7	36.8	32.5	32.6	27.4	27.4	35.7
Zone 7	26.7	41.8	55.7	55.8	35.7	35.7	32.8	32.9	60.2
Alameda	18.0	33.7	33.9	34.0	29.9	29.9	27.8	27.8	31.8
Santa Clara	82.5	80.9	81.3	81.6	71.6	71.7	66.5	66.5	76.3
Oak Flat	4.6	3.8	3.9	3.9	4.6	4.6	5.1	5.2	4.5
Kings	3.2	2.7	6.1	6.1	3.2	3.2	3.8	3.8	7.1
Dudley Ridge	46.2	38.4	41.7	41.8	46.6	46.8	54.5	54.7	45.4
Empire W.S.	2.4	2.0	2.0	2.0	2.4	2.4	2.8	2.8	2.4
KCWA (M&I)	0.0	122.4	122.3	122.7	104.3	104.5	96.5	96.5	116.5
KCWA (Agric.)	949.8	678.3	640.0	641.6	823.6	826.3	863.1	867.0	684.3
Tulare	94.8	78.9	65.1	65.3	95.8	96.1	111.8	112.3	76.2
SLO	0.0	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
Santa Barbara	0.0	26.3	26.3	26.3	26.1	26.1	23.9	23.9	26.0
AVEK	53.7	64.9	64.9	64.9	63.9	64.0	63.8	63.9	64.0
Castaic (Agric.)	10.2	8.5	8.6	8.6	10.3	10.3	12.0	12.0	10.1
Castaic (M&I)	15.1	37.7	37.7	37.8	32.2	32.2	29.6	29.6	62.0
Coachella	23.1	18.5	18.6	18.6	16.4	16.4	15.8	15.8	18.6
Crestline	0.5	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Desert	38.1	30.0	30.1	30.2	26.8	26.8	25.7	25.7	28.3
Littlerock	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	9.8	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2
MWDSC	1,243.7	1,365.1	1,367.6	1,370.8	1,252.4	1,254.9	1,215.7	1,217.2	1,286.5
Palmdale	10.4	14.2	14.3	14.3	12.5	12.5	11.5	11.5	14.0
San Bernardino	6.7	68.9	69.1	69.1	63.8	63.9	63.6	63.7	66.0
San Gabriel	15.5	18.0	18.0	18.0	16.9	17.0	16.9	16.9	17.3
San Gorgonio	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ventura	0.6	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Total Agriculture	1,111.1	812.5	767.4	769.3	986.6	989.8	1,053.1	1,057.8	830.0
Total M&I	1,577.9	1,990.2	2,007.8	2,012.5	1,816.1	1,819.5	1,749.6	1,751.5	1,934.5
Total	2,689.0	2,802.7	2,775.2	2,781.8	2,802.7	2,809.3	2,802.7	2,809.3	2,764.5

Table 13f - Critical Years: Annual Average Scheduled Deliveries (TAF/year) to each Contractor in the 1994 and 2003 Scenarios

SWP CONTRACTOR	1994 Baseline	2003 Baseline	2003 No Project A without KFE	2003 No Project A with KFE	2003 No Proj B-A without KFE	2003 No Proj B-A with KFE	2003 No Proj B-S without KFE	2003 No Proj B-S with KFE	2003 Proposed Project
Napa	4.0	4.5	4.7	4.9	4.5	4.6	5.5	5.6	4.4
Solano	19.1	18.0	17.9	18.4	17.8	18.3	15.1	15.6	19.3
Zone 7	21.2	19.7	26.1	26.7	17.9	18.4	17.0	17.5	30.5
Alameda	15.9	16.8	16.9	17.3	16.3	16.8	15.5	16.0	16.0
Santa Clara	60.1	40.1	40.3	41.5	38.9	40.0	37.0	38.1	38.3
Oak Flat	0.9	1.6	1.7	1.8	1.8	1.8	2.0	2.1	2.1
Kings	0.7	1.1	2.7	2.8	1.2	1.3	1.4	1.5	3.3
Dudley Ridge	9.4	16.3	18.9	19.2	18.0	18.4	20.5	20.9	21.3
Empire W.S.	0.5	0.8	0.9	0.9	0.9	1.0	1.1	1.1	1.1
KCWA (M&I)	0.0	57.7	58.0	59.5	52.4	53.8	49.8	51.2	55.3
KCWA (Agric.)	254.6	287.2	290.1	295.2	317.9	324.9	333.7	340.7	321.0
Tulare	19.4	33.4	29.5	30.1	37.0	37.8	42.2	43.0	35.7
SLO	0.0	3.5	3.5	3.6	3.5	3.6	3.5	3.6	3.3
Santa Barbara	0.0	19.5	19.6	20.3	19.3	19.9	18.8	19.4	18.4
AVEK	47.7	46.0	46.3	47.9	45.5	46.9	45.6	47.0	44.2
Castaic (Agric.)	2.1	3.6	3.9	4.0	4.0	4.1	4.5	4.6	4.7
Castaic (M&I)	13.5	17.8	17.9	18.4	16.1	16.6	15.3	15.7	31.4
Coachella	15.1	9.2	9.3	9.5	9.0	9.2	8.8	9.1	11.1
Crestline	0.5	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6
Desert	24.8	15.1	15.2	15.6	14.8	15.2	14.5	14.9	14.4
Littlerock	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	9.2	12.2	12.2	12.4	12.1	12.3	12.1	12.3	12.3
MWDSC	801.4	771.2	776.4	797.6	747.3	766.9	732.6	752.3	733.9
Palmdale	8.7	7.0	7.0	7.2	6.7	6.9	6.4	6.6	7.6
San Bernardino	6.7	38.0	38.3	39.4	37.7	38.7	37.7	38.8	36.2
San Gabriel	13.3	10.4	10.5	10.8	10.3	10.6	10.3	10.6	9.9
San Gorgonio	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ventura	0.6	4.6	4.6	4.7	4.6	4.7	4.6	4.7	4.6
Total Agriculture	287.6	344.1	347.8	354.0	380.8	389.2	405.4	413.8	389.3
Total M&I	1,062.3	1,113.3	1,126.5	1,157.6	1,076.5	1,105.2	1,052.0	1,080.7	1,092.6
Total	1,349.9	1,457.3	1,474.3	1,511.6	1,457.3	1,494.4	1,457.4	1,494.5	1,481.9

Figure 14a - Average Annual Scheduled SWP Deliveries in the 1994 and 2003 Scenarios

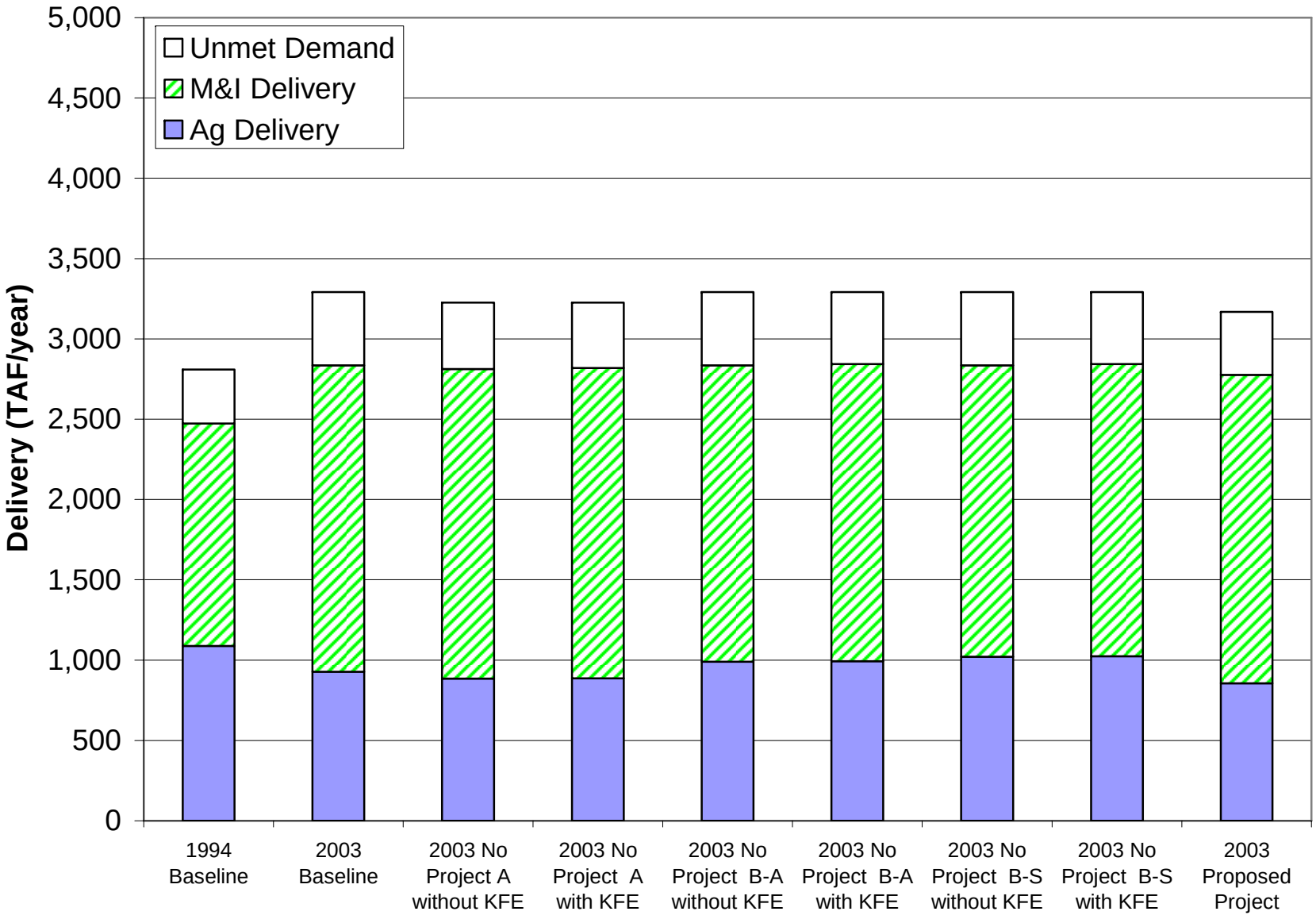


Figure 14b - Average Annual Scheduled SWP Deliveries in Wet Years in the 1994 and 2003 Scenarios

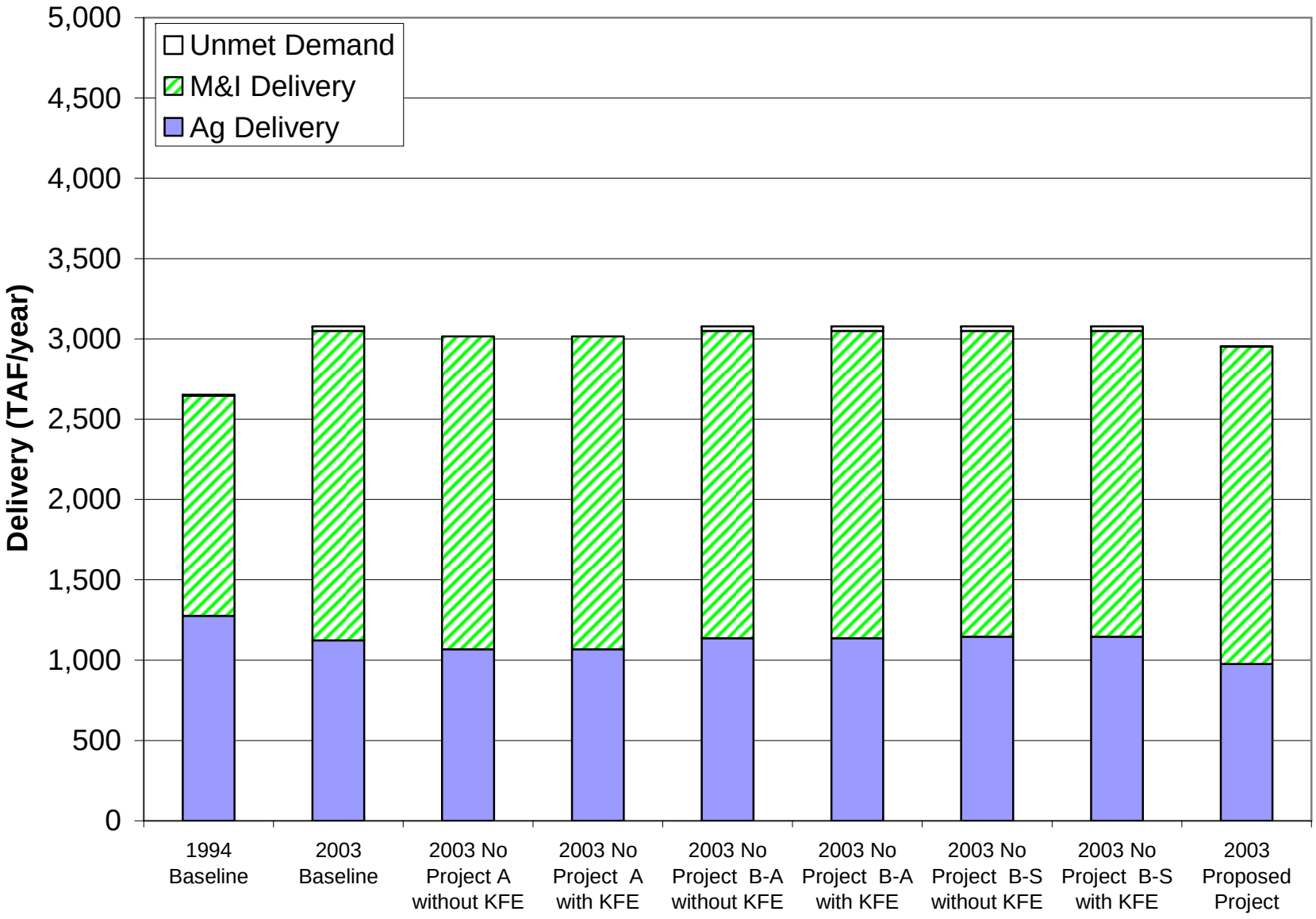


Figure 14c - Average Annual Scheduled SWP Deliveries in Above Normal Years in the 1994 and 2003 Scenarios

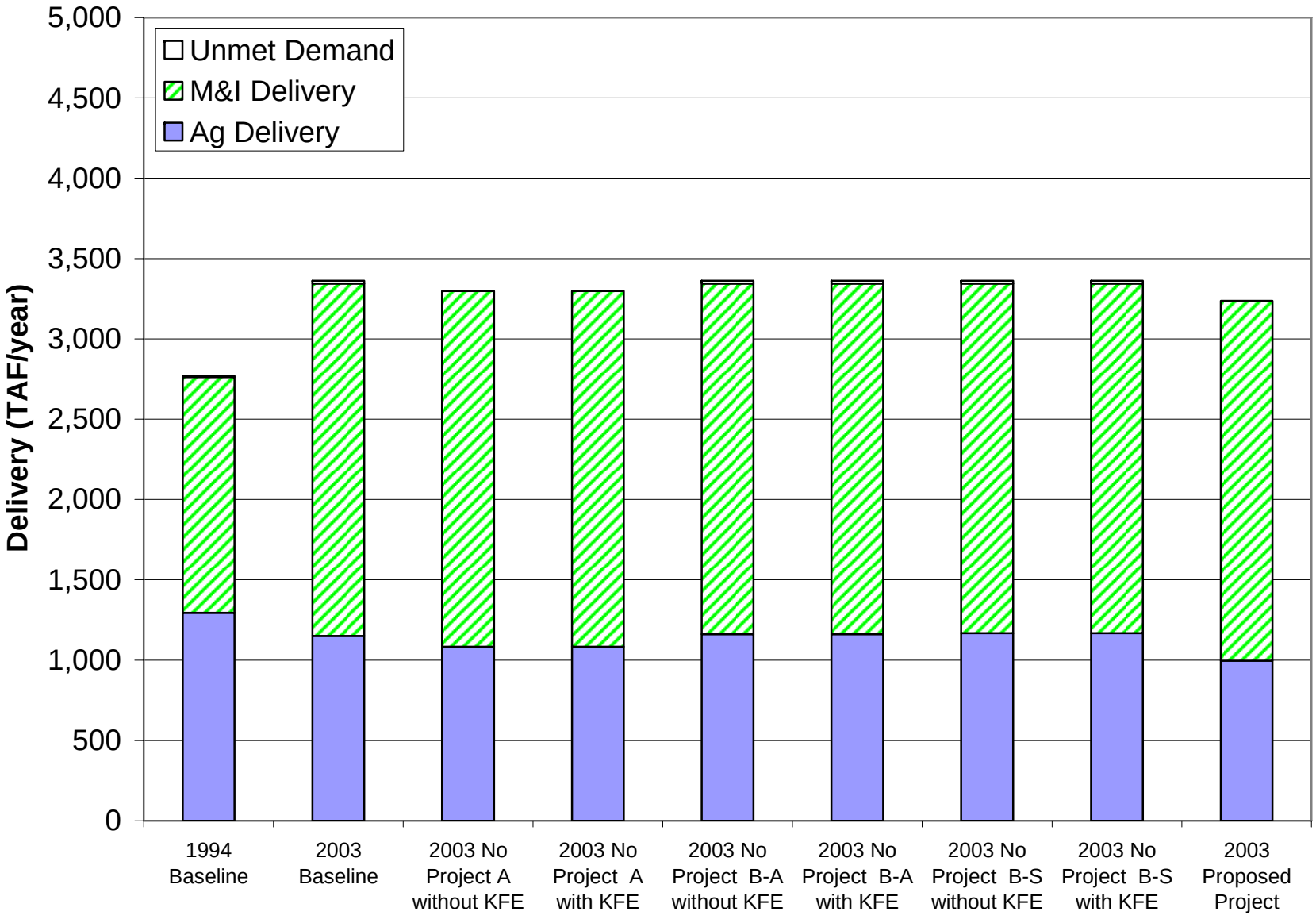


Figure 14d - Average Annual Scheduled SWP Deliveries in Below Normal Years in the 1994 and 2003 Scenarios

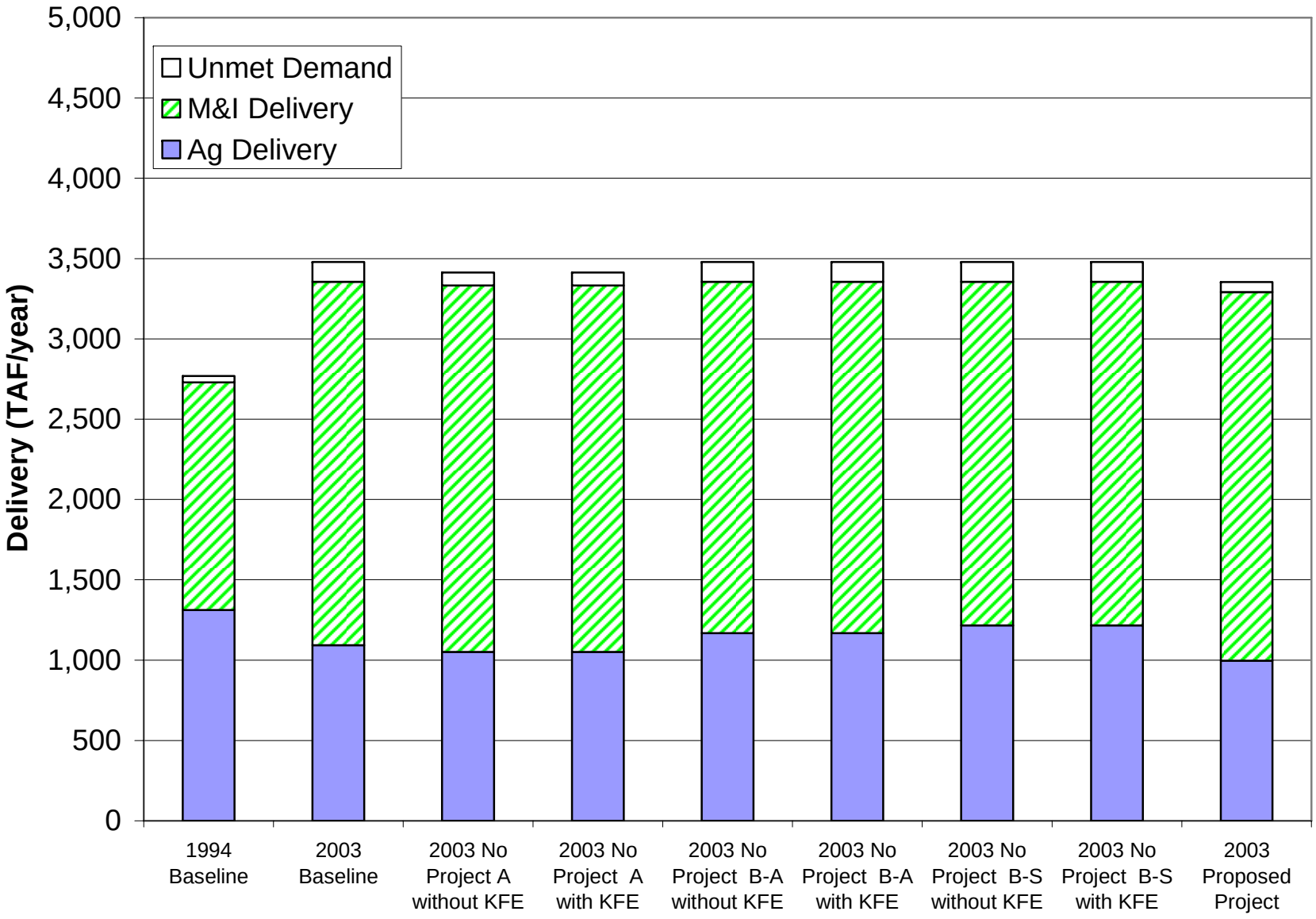


Figure 14e - Average Annual Scheduled SWP Deliveries in Dry Years in the 1994 and 2003 Scenarios

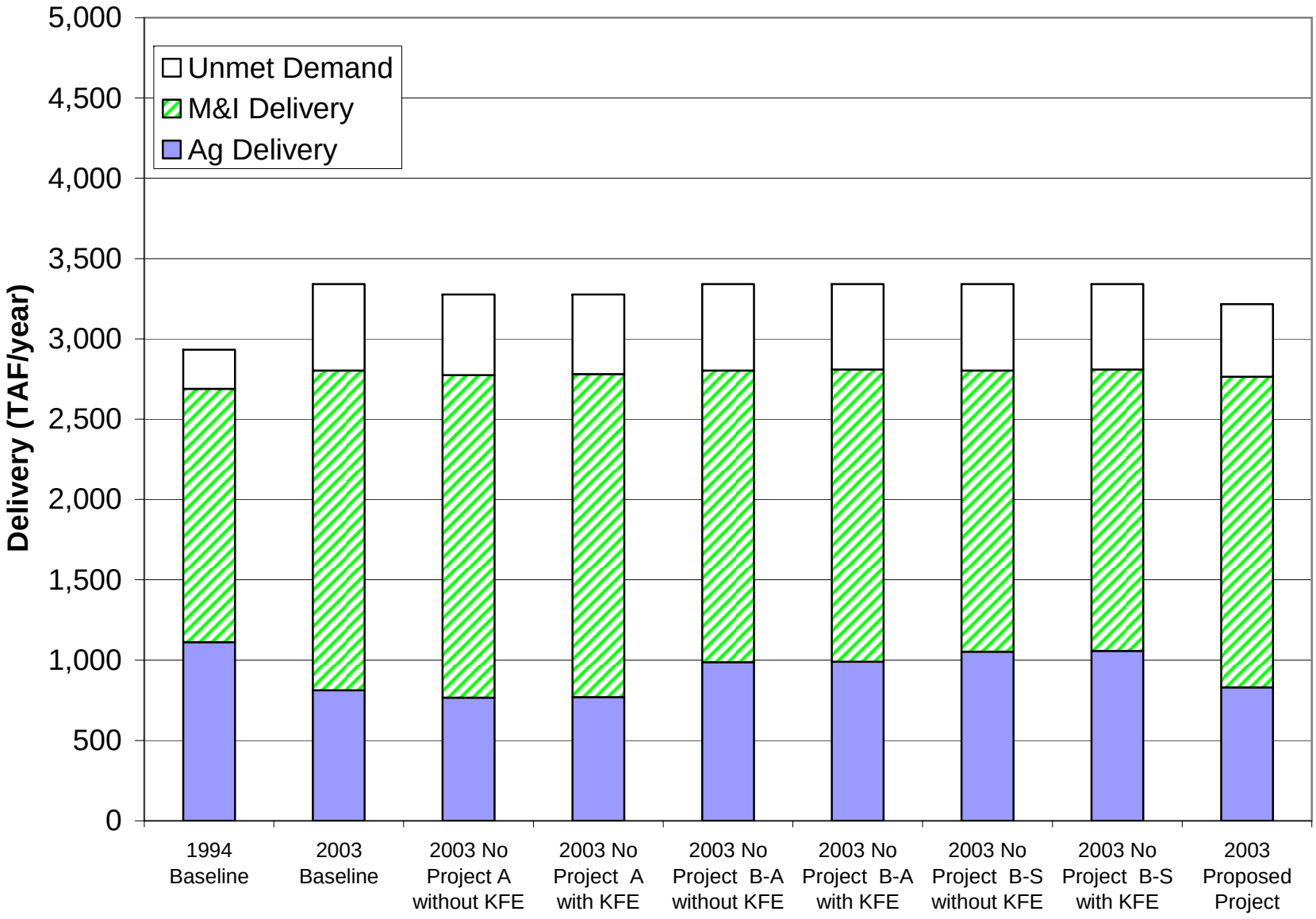


Figure 14f - Average Annual Scheduled SWP Deliveries in Critical Years in the 1994 and 2003 Scenarios

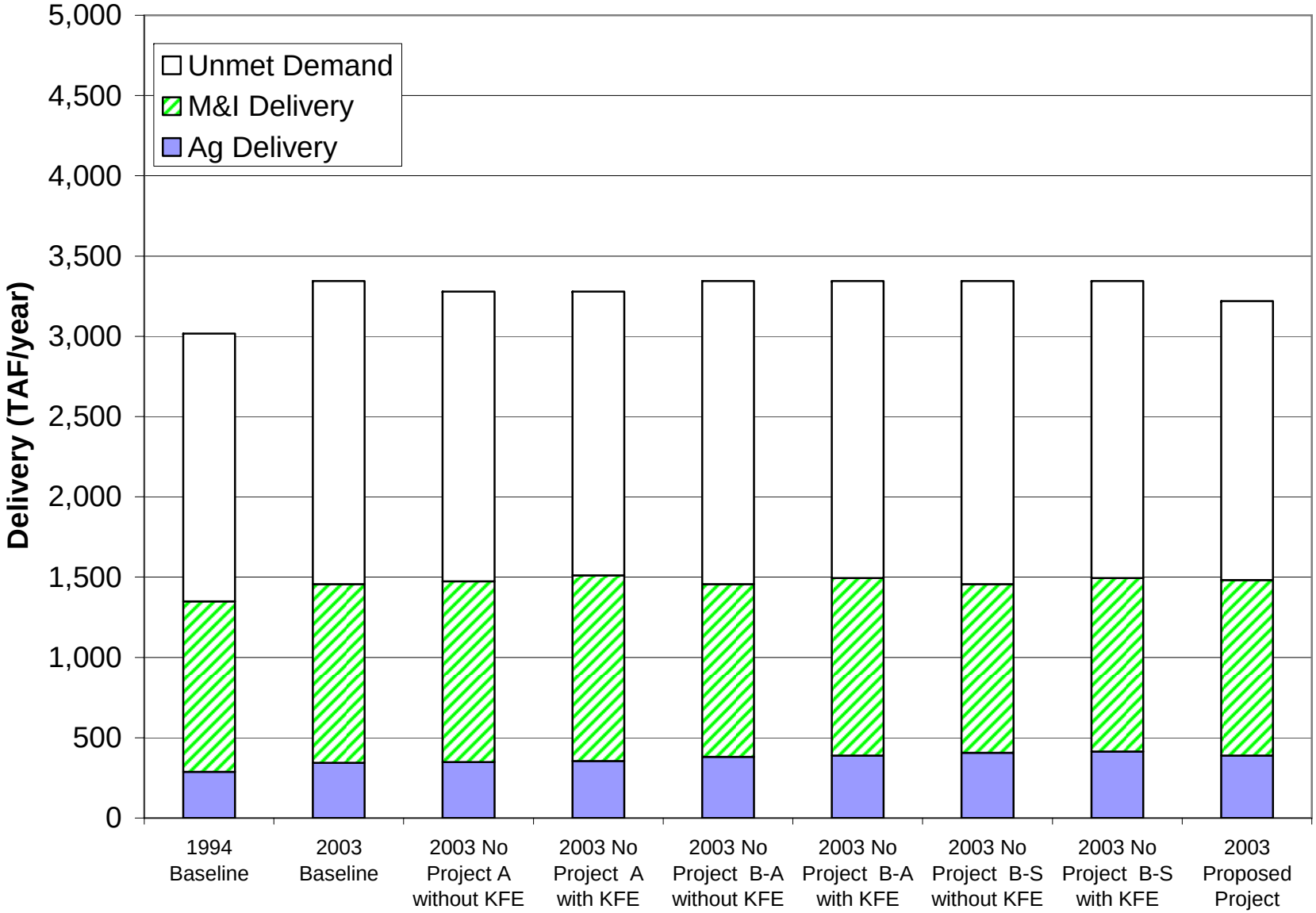


Table 14a - Average Annual Scheduled Deliveries (TAF/year) to each Contractor in the 2020 Scenarios

SWP CONTRACTOR	2020 Baseline	2020 No Project A without KFE	2020 No Project A with KFE	2020 No Proj B-A without KFE	2020 No Proj B-A with KFE	20203 No Proj B-S without KFE	2020 No Proj B-S with KFE	2020 Proposed Project
Napa	20.3	23.1	23.2	19.6	19.7	18.0	18.0	22.8
Solano	34.3	38.2	38.4	33.1	33.2	30.0	30.1	37.6
Zone 7	37.6	61.2	61.5	36.2	36.4	32.9	33.1	63.5
Alameda	34.3	34.3	34.5	33.1	33.2	30.3	30.4	33.1
Santa Clara	81.7	81.7	82.1	78.8	79.0	72.2	72.4	78.7
Oak Flat	3.9	3.9	3.9	4.3	4.3	4.7	4.7	4.4
Kings	2.7	6.1	6.2	3.0	3.0	3.3	3.3	6.9
Dudley Ridge	39.3	42.0	42.2	43.4	43.7	47.8	48.0	44.1
Empire W.S.	2.0	2.0	2.1	2.3	2.3	2.5	2.5	2.3
KCWA (M&I)	110.0	110.0	110.5	106.0	106.4	96.2	96.5	106.0
KCWA (Agric.)	694.1	633.5	636.6	767.0	771.4	843.7	848.2	652.0
Tulare	80.7	65.6	65.9	89.2	89.7	98.1	98.7	74.0
SLO	20.4	20.4	20.5	19.7	19.8	17.9	17.9	19.7
Santa Barbara	37.2	37.2	37.3	35.8	35.9	32.5	32.6	35.8
AVEK	113.1	115.1	115.6	109.0	109.4	108.3	108.7	111.3
Castaic (Agric.)	8.7	8.7	8.7	9.6	9.6	10.5	10.6	9.8
Castaic (M&I)	33.9	33.9	34.1	32.7	32.8	29.7	29.8	65.0
Coachella	90.9	105.8	106.3	87.6	87.9	87.0	87.3	104.8
Crestline	4.7	4.7	4.8	4.6	4.6	4.1	4.2	4.6
Desert	40.9	43.6	43.8	39.4	39.5	39.1	39.3	42.5
Littlerock	1.9	1.9	1.9	1.8	1.8	1.7	1.7	1.8
Mojave	41.5	58.5	58.8	40.0	40.1	43.2	43.3	59.7
MWDSC	1,562.0	1,562.0	1,568.8	1,505.6	1,510.6	1,443.8	1,448.7	1,505.1
Palmdale	14.1	16.9	16.9	13.6	13.7	12.4	12.4	16.8
San Bernardino	83.8	83.8	84.2	80.8	81.1	87.3	87.5	80.8
San Gabriel	23.5	23.5	23.6	22.7	22.8	24.5	24.6	22.7
San Gorgonio	14.1	14.1	14.2	13.6	13.7	12.4	12.4	13.6
Ventura	16.3	16.3	16.4	15.8	15.8	14.3	14.3	15.7
Total Agriculture	831.4	761.7	765.5	918.8	924.0	1,010.6	1,016.0	793.5
Total M&I	2,416.8	2,486.5	2,497.3	2,329.5	2,337.2	2,237.6	2,245.2	2,441.6
Total	3,248.2	3,248.2	3,262.8	3,248.2	3,261.2	3,248.2	3,261.2	3,235.0

Table 14b - Wet Years: Annual Average Scheduled Deliveries (TAF/year) to each Contractor in the 2020 Scenarios

SWP CONTRACTOR	2020 Baseline	2020 No Project A without KFE	2020 No Project A with KFE	2020 No Proj B-A without KFE	2020 No Proj B-A with KFE	20203 No Proj B-S without KFE	2020 No Proj B-S with KFE	2020 Proposed Project
Napa	24.3	28.0	28.0	24.2	24.2	23.7	23.7	28.1
Solano	41.1	46.3	46.3	40.8	40.8	39.9	39.9	46.4
Zone 7	45.0	76.6	76.6	44.7	44.7	43.7	43.7	78.3
Alameda	41.1	41.1	41.1	40.8	40.8	40.0	40.0	40.8
Santa Clara	97.7	97.7	97.7	97.1	97.1	95.2	95.2	97.2
Oak Flat	5.2	5.2	5.2	5.3	5.3	5.4	5.4	5.3
Kings	3.7	8.2	8.2	3.7	3.7	3.8	3.8	8.3
Dudley Ridge	52.8	56.4	56.4	53.6	53.6	54.9	54.9	53.1
Empire W.S.	2.7	2.7	2.7	2.8	2.8	2.9	2.9	2.8
KCWA (M&I)	131.6	131.6	131.6	130.8	130.8	127.9	127.9	130.8
KCWA (Agric.)	932.2	850.7	850.7	946.9	946.9	969.7	969.7	785.4
Tulare	108.4	88.0	88.0	110.1	110.1	112.8	112.8	89.1
SLO	24.4	24.4	24.4	24.3	24.3	23.7	23.7	24.3
Santa Barbara	44.5	44.5	44.5	44.2	44.2	43.2	43.2	44.2
AVEK	135.3	138.0	138.0	134.5	134.5	134.2	134.2	137.4
Castaic (Agric.)	11.6	11.6	11.6	11.8	11.8	12.1	12.1	11.8
Castaic (M&I)	40.6	40.6	40.6	40.3	40.3	39.4	39.4	80.2
Coachella	108.7	128.7	128.7	108.0	108.0	107.8	107.8	129.3
Crestline	5.7	5.7	5.7	5.6	5.6	5.5	5.5	5.6
Desert	48.9	52.5	52.5	48.6	48.6	48.5	48.5	52.5
Littlerock	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
Mojave	49.7	72.5	72.5	49.4	49.4	50.3	50.3	73.7
MWDSC	1,868.4	1,868.4	1,868.4	1,857.0	1,857.0	1,838.7	1,838.7	1,857.3
Palmdale	16.9	20.6	20.6	16.8	16.8	16.4	16.4	20.7
San Bernardino	100.3	100.3	100.3	99.7	99.7	101.5	101.5	99.7
San Gabriel	28.2	28.2	28.2	28.0	28.0	28.5	28.5	28.0
San Gorgonio	16.9	16.9	16.9	16.8	16.8	16.4	16.4	16.8
Ventura	19.5	19.5	19.5	19.4	19.4	19.0	19.0	19.4
Total Agriculture	1,116.6	1,023.0	1,023.0	1,134.2	1,134.2	1,161.5	1,161.5	955.8
Total M&I	2,890.8	2,984.4	2,984.4	2,873.2	2,873.2	2,845.9	2,845.9	3,012.9
Total	4,007.4	4,007.4	4,007.4	4,007.4	4,007.4	4,007.4	4,007.4	3,968.7

Table 14c - Above Normal Years: Annual Average Scheduled Deliveries (TAF/year) to each Contractor in the 2020 Scenarios

SWP CONTRACTOR	2020 Baseline	2020 No Project A without KFE	2020 No Project A with KFE	2020 No Proj B-A without KFE	2020 No Proj B-A with KFE	20203 No Proj B-S without KFE	2020 No Proj B-S with KFE	2020 Proposed Project
Napa	24.1	27.7	27.7	23.8	23.8	22.9	22.9	27.8
Solano	40.7	45.8	45.8	40.2	40.2	38.4	38.4	45.9
Zone 7	44.6	75.3	75.3	44.0	44.0	42.1	42.1	77.4
Alameda	40.7	40.7	40.7	40.2	40.2	38.6	38.6	40.3
Santa Clara	97.0	97.0	97.0	95.7	95.7	91.8	91.8	96.0
Oak Flat	5.1	5.1	5.1	5.2	5.2	5.5	5.5	5.3
Kings	3.5	8.0	8.0	3.7	3.7	3.8	3.8	8.3
Dudley Ridge	51.2	54.7	54.7	53.0	53.0	55.2	55.2	52.9
Empire W.S.	2.7	2.7	2.7	2.8	2.8	2.9	2.9	2.8
KCWA (M&I)	130.5	130.5	130.5	128.7	128.7	123.0	123.0	129.3
KCWA (Agric.)	903.2	824.3	824.3	935.6	935.6	975.1	975.1	783.0
Tulare	105.1	85.3	85.3	108.8	108.8	113.4	113.4	88.8
SLO	24.2	24.2	24.2	23.9	23.9	22.8	22.8	24.0
Santa Barbara	44.1	44.1	44.1	43.5	43.5	41.6	41.6	43.7
AVEK	134.2	136.9	136.9	132.4	132.4	132.4	132.4	135.8
Castaic (Agric.)	11.3	11.3	11.3	11.7	11.7	12.2	12.2	11.7
Castaic (M&I)	40.2	40.2	40.2	39.7	39.7	37.9	37.9	79.2
Coachella	107.8	127.2	127.2	106.4	106.4	106.4	106.4	127.8
Crestline	5.6	5.6	5.6	5.5	5.5	5.3	5.3	5.6
Desert	48.5	52.0	52.0	47.8	47.8	47.8	47.8	51.9
Littlerock	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.2
Mojave	49.3	71.4	71.4	48.6	48.6	50.8	50.8	72.8
MWDSC	1,853.5	1,853.5	1,853.5	1,828.4	1,828.4	1,796.3	1,796.3	1,835.6
Palmdale	16.8	20.3	20.3	16.5	16.5	15.8	15.8	20.5
San Bernardino	99.5	99.5	99.5	98.1	98.1	102.6	102.6	98.5
San Gabriel	27.9	27.9	27.9	27.5	27.5	28.8	28.8	27.7
San Gorgonio	16.8	16.8	16.8	16.5	16.5	15.8	15.8	16.6
Ventura	19.4	19.4	19.4	19.1	19.1	18.3	18.3	19.2
Total Agriculture	1,082.0	991.3	991.3	1,120.8	1,120.8	1,168.1	1,168.1	952.9
Total M&I	2,867.7	2,958.4	2,958.4	2,828.9	2,828.9	2,781.6	2,781.6	2,977.7
Total	3,949.7	3,949.7	3,949.7	3,949.7	3,949.7	3,949.7	3,949.7	3,930.6

Table 14d - Below Normal Years: Annual Average Scheduled Deliveries (TAF/year) to each Contractor in the 2020 Scenarios

SWP CONTRACTOR	2020 Baseline	2020 No Project A without KFE	2020 No Project A with KFE	2020 No Proj B-A without KFE	2020 No Proj B-A with KFE	20203 No Proj B-S without KFE	2020 No Proj B-S with KFE	2020 Proposed Project
Napa	22.9	26.0	26.0	21.8	21.8	18.8	18.8	25.5
Solano	38.6	42.9	42.9	36.7	36.7	31.2	31.2	42.2
Zone 7	42.2	68.8	68.8	40.2	40.2	34.3	34.3	71.2
Alameda	38.6	38.6	38.6	36.7	36.7	31.7	31.7	37.1
Santa Clara	91.8	91.8	91.8	87.4	87.4	75.6	75.6	88.3
Oak Flat	4.4	4.4	4.4	5.0	5.0	5.7	5.7	5.0
Kings	3.1	6.9	6.9	3.5	3.5	4.0	4.0	7.9
Dudley Ridge	44.3	47.3	47.3	50.4	50.4	57.7	57.7	50.6
Empire W.S.	2.3	2.3	2.3	2.6	2.6	3.0	3.0	2.6
KCWA (M&I)	123.6	123.6	123.6	117.7	117.7	100.0	100.0	118.9
KCWA (Agric.)	781.6	713.3	713.3	890.6	890.6	1,018.8	1,018.8	748.9
Tulare	90.9	73.8	73.8	103.6	103.6	118.5	118.5	85.0
SLO	23.0	23.0	23.0	21.9	21.9	18.6	18.6	22.1
Santa Barbara	41.8	41.8	41.8	39.8	39.8	33.8	33.8	40.2
AVEK	127.1	129.4	129.4	121.0	121.0	120.6	120.6	124.9
Castaic (Agric.)	9.7	9.7	9.7	11.1	11.1	12.7	12.7	11.2
Castaic (M&I)	38.1	38.1	38.1	36.3	36.3	30.8	30.8	72.8
Coachella	102.1	118.9	118.9	97.2	97.2	96.9	96.9	117.5
Crestline	5.3	5.3	5.3	5.1	5.1	4.3	4.3	5.1
Desert	45.9	49.0	49.0	43.7	43.7	43.6	43.6	47.7
Littlerock	2.1	2.1	2.1	2.0	2.0	1.7	1.7	2.0
Mojave	46.6	65.8	65.8	44.4	44.4	50.8	50.8	66.9
MWDSC	1,755.3	1,755.3	1,755.3	1,670.9	1,670.9	1,567.2	1,567.2	1,687.8
Palmdale	15.9	19.0	19.0	15.1	15.1	12.8	12.8	18.8
San Bernardino	94.2	94.2	94.2	89.7	89.7	102.6	102.6	90.6
San Gabriel	26.4	26.4	26.4	25.2	25.2	28.8	28.8	25.4
San Gorgonio	15.9	15.9	15.9	15.1	15.1	12.8	12.8	15.3
Ventura	18.4	18.4	18.4	17.5	17.5	14.9	14.9	17.7
Total Agriculture	936.2	857.7	857.7	1,066.8	1,066.8	1,220.4	1,220.4	911.3
Total M&I	2,715.9	2,794.3	2,794.3	2,585.3	2,585.3	2,431.7	2,431.7	2,738.0
Total	3,652.1	3,652.1	3,652.1	3,652.1	3,652.1	3,652.1	3,652.1	3,649.3

Table 14e - Dry Years: Annual Average Scheduled Deliveries (TAF/year) to each Contractor in the 2020 Scenarios

SWP CONTRACTOR	2020 Baseline	2020 No Project A without KFE	2020 No Project A with KFE	2020 No Proj B-A without KFE	2020 No Proj B-A with KFE	20203 No Proj B-S without KFE	2020 No Proj B-S with KFE	2020 Proposed Project
Napa	18.1	20.2	20.3	16.6	16.6	13.5	13.5	19.3
Solano	30.5	33.3	33.6	27.9	28.0	22.2	22.2	31.8
Zone 7	33.4	50.6	51.0	30.6	30.6	24.4	24.4	53.7
Alameda	30.5	30.5	30.8	27.9	28.0	22.8	22.8	28.0
Santa Clara	72.7	72.7	73.3	66.5	66.6	54.2	54.2	66.6
Oak Flat	2.8	2.8	2.9	3.7	3.7	4.4	4.5	3.8
Kings	2.0	4.5	4.5	2.6	2.6	3.2	3.2	6.0
Dudley Ridge	28.5	30.5	30.9	37.1	37.9	45.9	46.7	38.2
Empire W.S.	1.5	1.5	1.5	1.9	2.0	2.4	2.4	2.0
KCWA (M&I)	97.8	97.8	98.6	89.5	89.6	71.2	71.2	89.7
KCWA (Agric.)	503.8	459.7	465.2	655.9	668.6	811.3	824.9	564.9
Tulare	58.6	47.6	48.1	76.3	77.8	94.4	95.9	64.1
SLO	18.2	18.2	18.3	16.6	16.6	13.2	13.2	16.7
Santa Barbara	33.1	33.1	33.3	30.3	30.3	24.1	24.1	30.3
AVEK	100.6	102.1	102.9	92.1	92.1	89.6	89.7	94.2
Castaic (Agric.)	6.3	6.3	6.4	8.2	8.3	10.1	10.3	8.5
Castaic (M&I)	30.2	30.2	30.4	27.6	27.6	21.9	21.9	55.0
Coachella	80.8	91.6	92.4	74.0	74.0	72.0	72.0	88.7
Crestline	4.2	4.2	4.2	3.9	3.9	3.1	3.1	3.9
Desert	36.3	38.3	38.6	33.3	33.3	32.4	32.4	36.0
Littlerock	1.7	1.7	1.7	1.5	1.5	1.2	1.2	1.5
Mojave	36.9	49.3	49.7	33.8	33.8	38.9	39.0	50.5
MWDSC	1,389.3	1,389.3	1,400.5	1,271.5	1,272.6	1,146.9	1,147.4	1,273.2
Palmdale	12.6	14.6	14.7	11.5	11.5	9.1	9.1	14.2
San Bernardino	74.6	74.6	75.2	68.2	68.3	78.6	78.7	68.3
San Gabriel	20.9	20.9	21.1	19.2	19.2	22.1	22.1	19.2
San Gorgonio	12.6	12.6	12.7	11.5	11.5	9.1	9.1	11.5
Ventura	14.5	14.5	14.7	13.3	13.3	10.6	10.6	13.3
Total Agriculture	603.4	552.9	559.4	785.7	801.0	971.8	988.0	687.5
Total M&I	2,149.5	2,200.1	2,218.1	1,967.3	1,968.9	1,781.2	1,781.9	2,065.4
Total	2,753.0	2,753.0	2,777.5	2,753.0	2,769.9	2,753.0	2,769.9	2,752.8

Table 14f - Critical Years: Annual Average Scheduled Deliveries (TAF/year) to each Contractor in the 2020 Scenarios

SWP CONTRACTOR	2020 Baseline	2020 No Project A without KFE	2020 No Project A with KFE	2020 No Proj B-A without KFE	2020 No Proj B-A with KFE	20203 No Proj B-S without KFE	2020 No Proj B-S with KFE	2020 Proposed Project
Napa	9.9	10.8	11.2	9.2	9.6	8.2	8.6	10.2
Solano	16.7	17.9	18.6	15.5	16.1	13.7	14.4	16.8
Zone 7	18.2	26.0	27.1	17.0	17.7	15.1	15.8	28.4
Alameda	16.7	16.7	17.2	15.5	16.1	13.9	14.5	14.8
Santa Clara	39.7	39.7	41.1	36.9	38.4	33.1	34.6	35.2
Oak Flat	1.3	1.3	1.4	1.7	1.7	1.9	2.0	2.0
Kings	0.9	2.0	2.1	1.2	1.2	1.3	1.4	3.2
Dudley Ridge	13.0	13.9	14.7	16.8	17.4	19.3	19.9	20.2
Empire W.S.	0.7	0.7	0.7	0.9	0.9	1.0	1.0	1.1
KCWA (M&I)	53.4	53.4	55.3	49.6	51.7	44.0	46.1	47.4
KCWA (Agric.)	229.0	209.0	220.9	297.4	307.8	341.3	351.7	298.8
Tulare	26.6	21.6	22.9	34.6	35.8	39.7	40.9	33.9
SLO	9.9	9.9	10.3	9.2	9.6	8.2	8.6	8.8
Santa Barbara	18.0	18.0	18.7	16.8	17.5	14.9	15.6	16.0
AVEK	54.9	55.6	57.6	51.1	53.2	50.6	52.8	49.8
Castaic (Agric.)	2.9	2.9	3.0	3.7	3.8	4.3	4.4	4.5
Castaic (M&I)	16.5	16.5	17.0	15.3	15.9	13.6	14.2	29.1
Coachella	44.1	49.0	50.9	41.0	42.7	40.7	42.4	46.9
Crestline	2.3	2.3	2.4	2.1	2.2	1.9	2.0	2.0
Desert	19.8	20.7	21.5	18.4	19.2	18.3	19.1	19.0
Littlerock	0.9	0.9	0.9	0.8	0.9	0.8	0.8	0.8
Mojave	20.1	25.8	26.8	18.7	19.5	20.6	21.3	26.7
MWDSC	758.0	758.0	785.1	705.1	734.2	669.7	698.9	673.5
Palmdale	6.9	7.8	8.1	6.4	6.6	5.7	5.9	7.5
San Bernardino	40.7	40.7	42.1	37.8	39.4	41.5	43.1	36.1
San Gabriel	11.4	11.4	11.8	10.6	11.1	11.7	12.1	10.1
San Gorgonio	6.9	6.9	7.1	6.4	6.6	5.7	5.9	6.1
Ventura	7.9	7.9	8.2	7.4	7.7	6.5	6.8	7.0
Total Agriculture	274.3	251.3	265.7	356.2	368.7	408.9	421.3	363.6
Total M&I	1,172.8	1,195.8	1,239.0	1,090.9	1,136.0	1,038.3	1,083.4	1,092.5
Total	1,447.1	1,447.1	1,504.7	1,447.1	1,504.7	1,447.2	1,504.7	1,456.1

Figure 15a - Average Annual Scheduled SWP Deliveries in the 2020 Scenarios

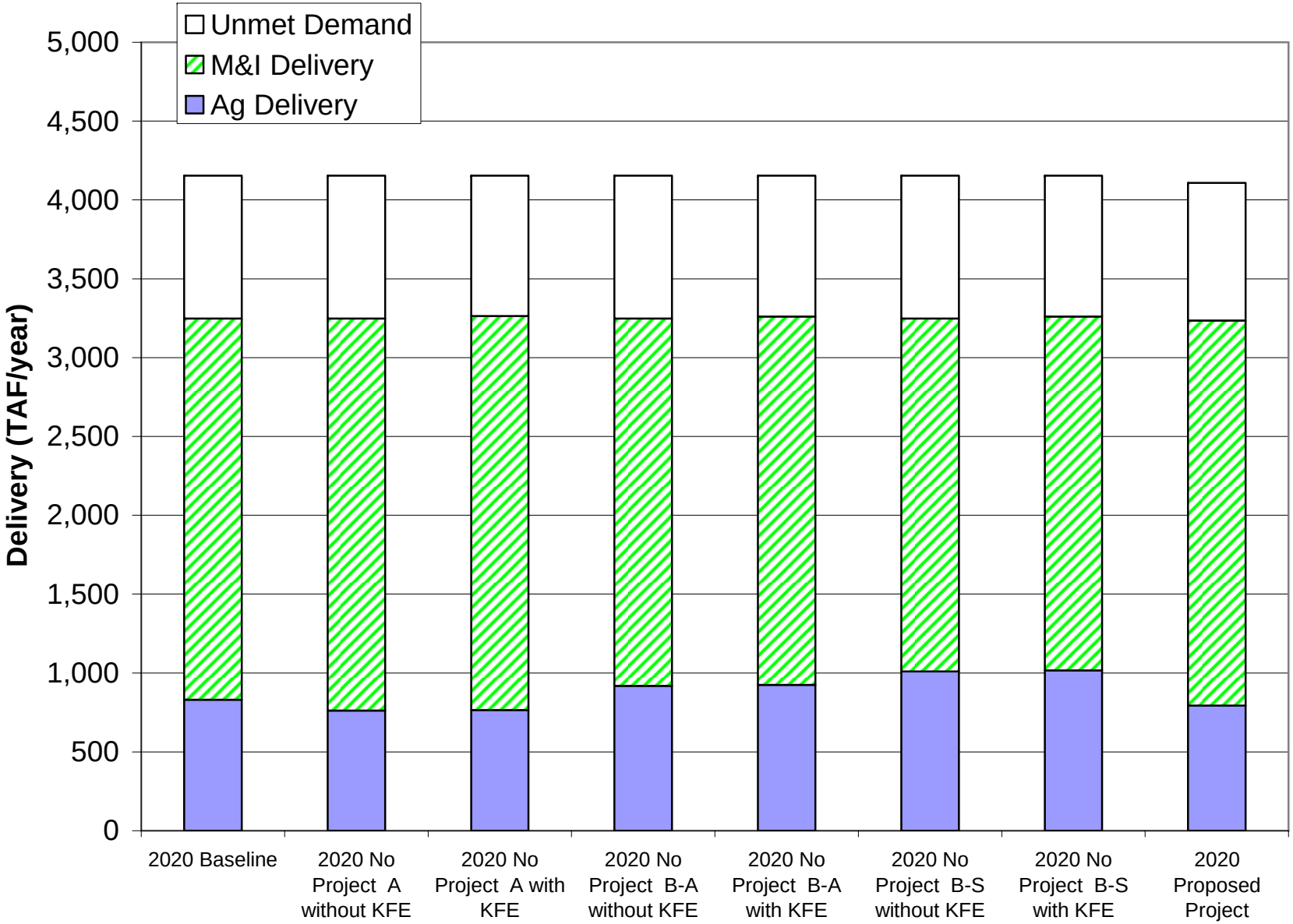


Figure 15b - Average Annual Scheduled SWP Deliveries in Wet Years in the 2020 Scenarios

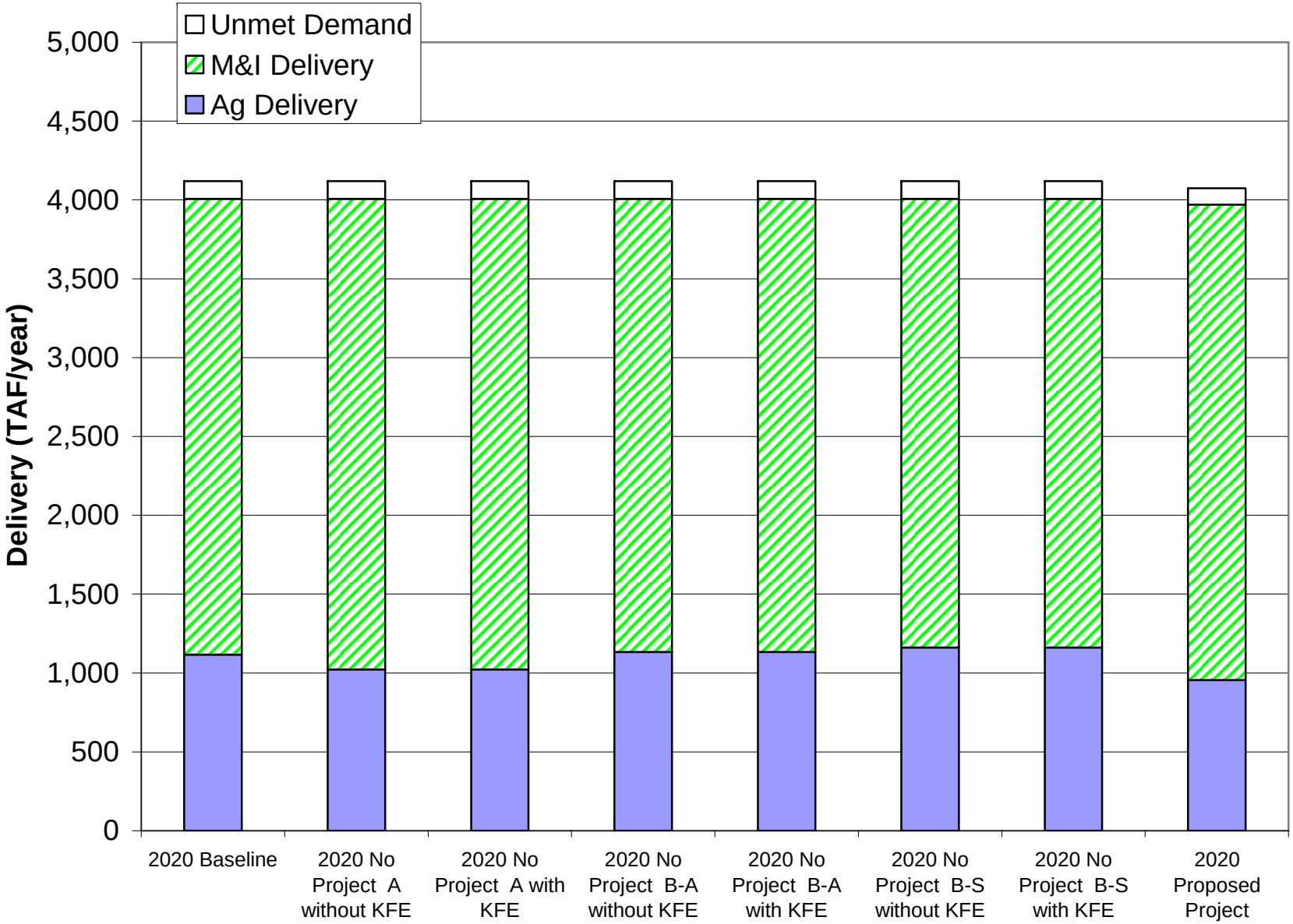


Figure 15c - Average Annual Scheduled SWP Deliveries in Above Normal Years in the 2020 Scenarios

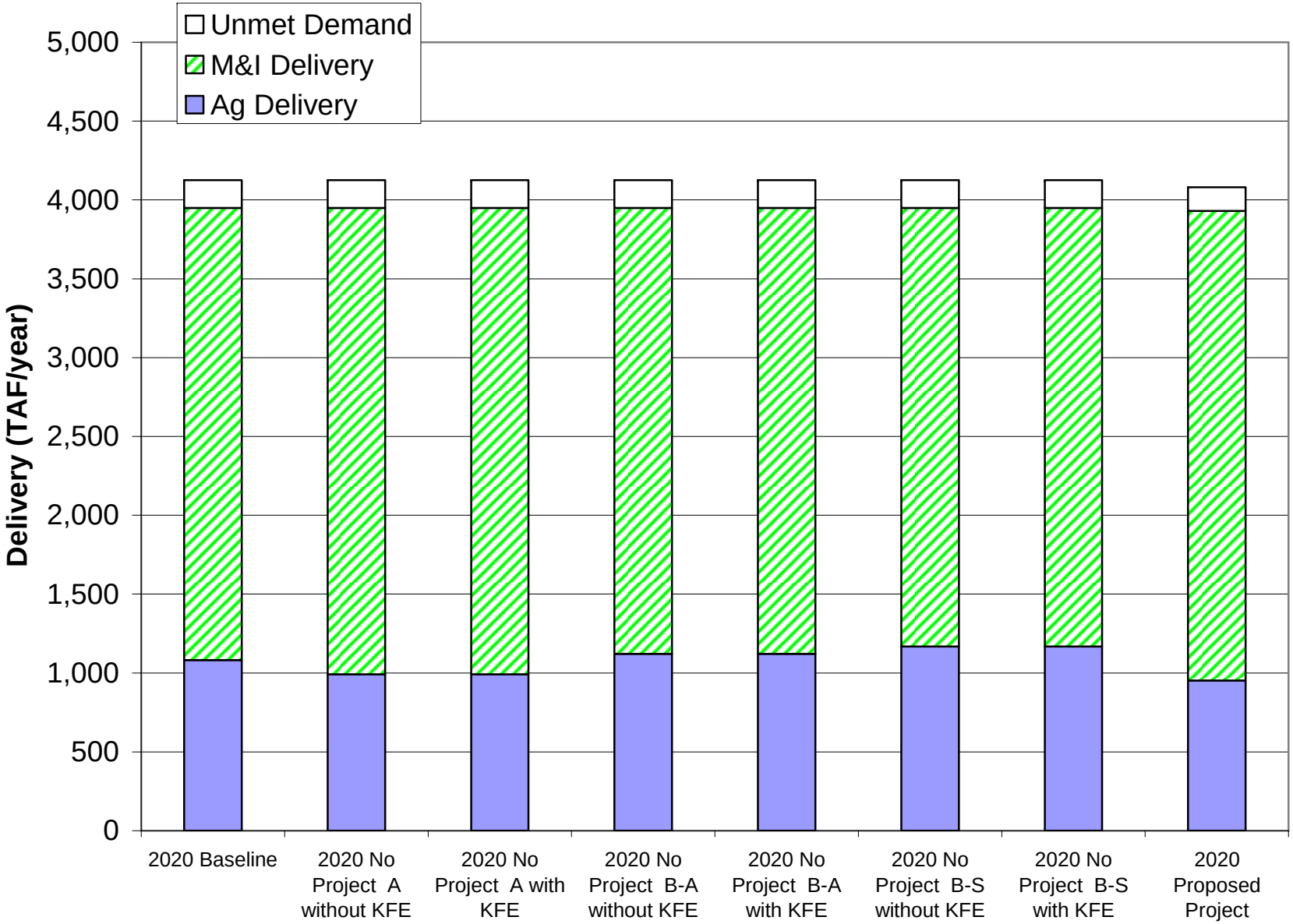


Figure 15d - Average Annual Scheduled SWP Deliveries in Below Normal Years in the 2020 Scenarios

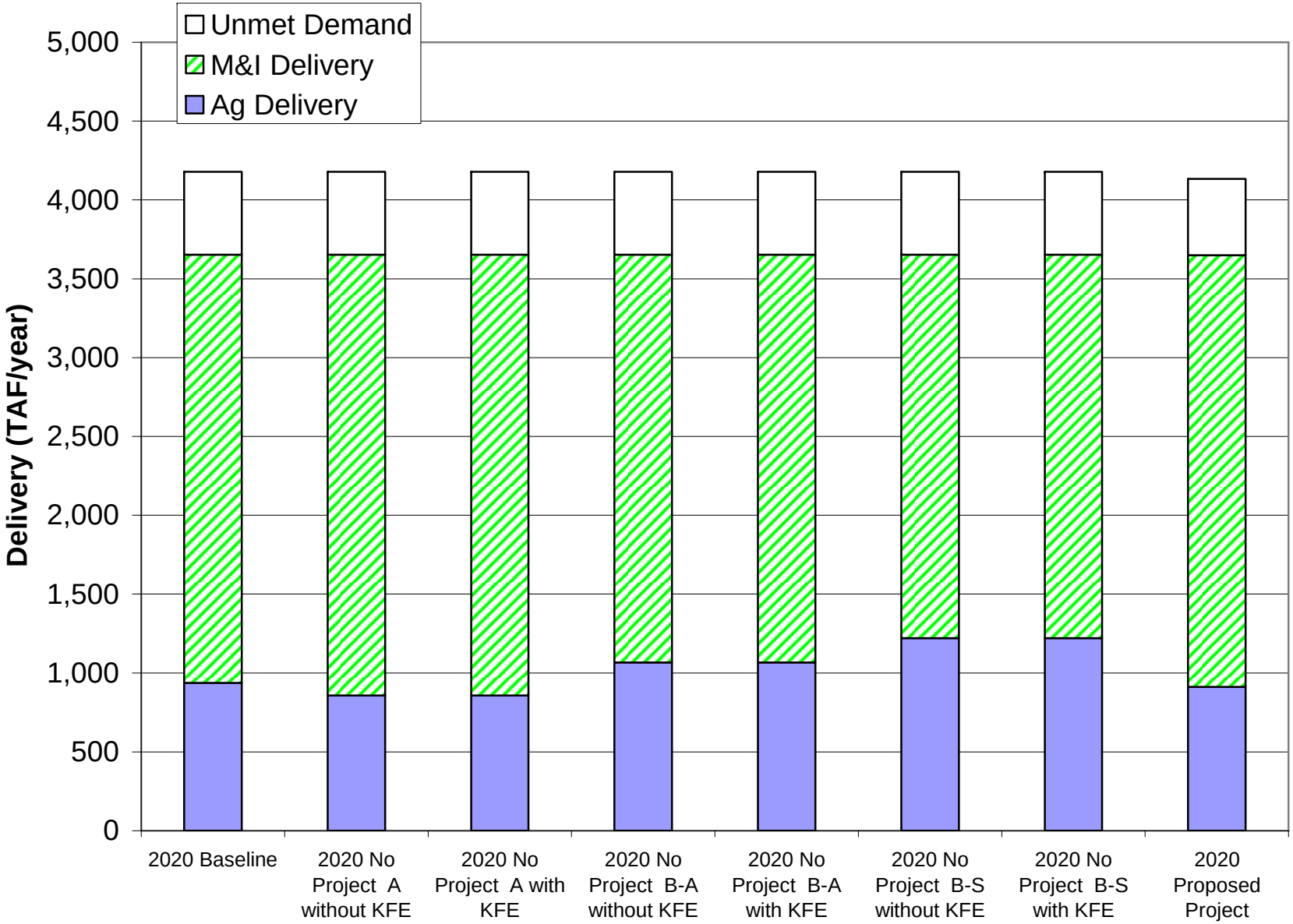


Figure 15e - Average Annual Scheduled SWP Deliveries in Dry Years in the 2020 Scenarios

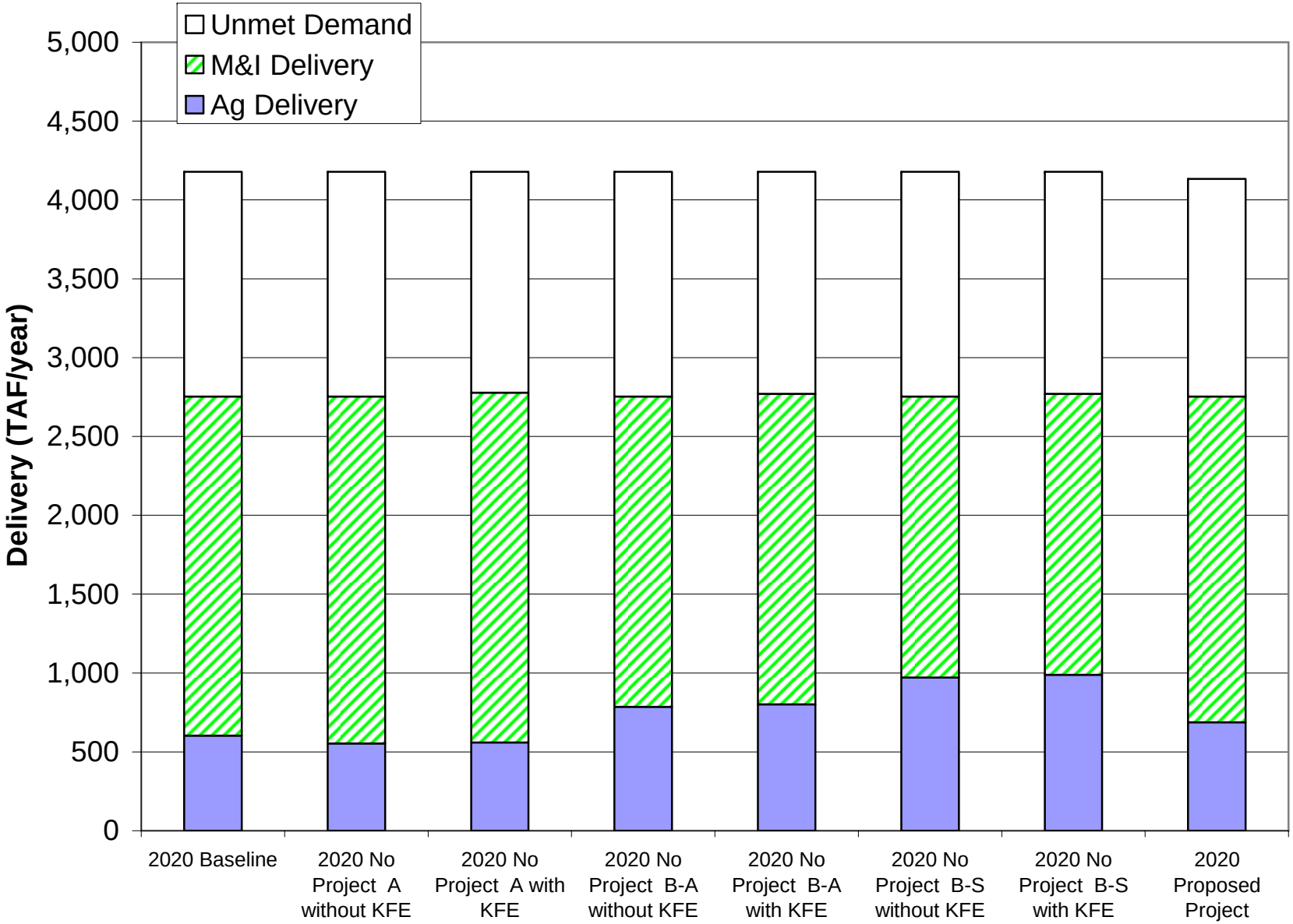


Figure 15f - Average Annual Scheduled SWP Deliveries in Critical Years in the 2020 Scenarios

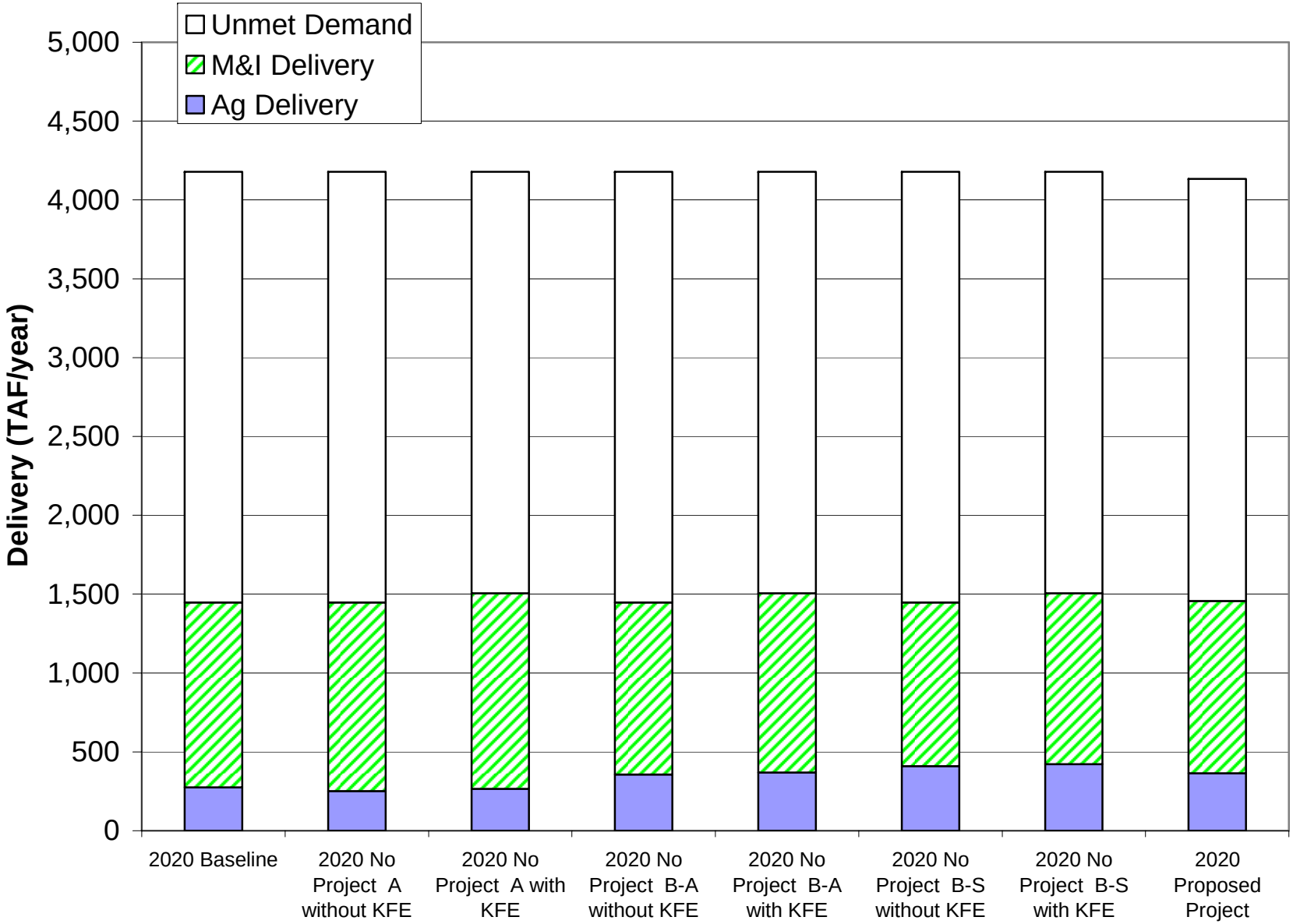


Table 15a - Average Annual Unscheduled Deliveries (TAF/year) to each Contractor in the 1994 and 2003 Scenarios

SWP CONTRACTOR	1994 Baseline	2003 Baseline	2003 No Project A without KFE	2003 No Project A with KFE	2003 No Proj B-A without KFE	2003 No Proj B-A with KFE	2003 No Proj B-S without KFE	2003 No Proj B-S with KFE	2003 Proposed Project
Napa	1.7	1.0	1.0	0.8	1.0	0.8	1.0	0.8	1.7
Solano	1.8	1.1	1.1	0.9	1.1	0.9	1.1	0.9	2.1
Zone 7	1.9	1.1	1.2	1.1	1.1	1.1	1.1	1.1	2.2
Alameda	2.2	1.4	1.5	1.4	1.4	1.3	1.4	1.3	2.1
Santa Clara	8.2	5.0	5.3	4.8	5.0	4.6	5.0	4.6	7.1
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	3.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.2
Empire W.S.	2.5	1.6	1.7	1.6	1.6	1.5	1.6	1.5	1.0
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	143.6	99.6	104.1	103.1	99.6	97.4	99.6	97.4	81.8
Tulare	40.3	26.7	28.6	27.6	26.7	25.6	26.7	25.6	16.7
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	2.5	1.7	1.7	1.7	1.7	1.6	1.7	1.6	2.3
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	1.8	1.1	1.1	0.9	1.1	0.9	1.1	0.9	2.2
Coachella	4.5	2.9	3.1	2.8	2.9	2.6	2.9	2.6	2.7
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	10.6	6.8	6.9	6.3	6.8	6.1	6.8	6.1	5.9
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	171.1	119.3	123.8	119.6	119.3	116.3	119.3	116.3	164.0
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	189.4	130.1	136.6	134.4	130.1	126.7	130.1	126.7	101.6
Total M&I	206.4	141.3	146.7	140.4	141.3	136.3	141.3	136.3	192.3
Total	395.9	271.4	283.4	274.9	271.4	263.0	271.4	263.0	294.0

Table 15b - Wet Years: Annual Average Unscheduled Deliveries (TAF/year) to each Contractor in the 1994 and 2003 Scenarios

SWP CONTRACTOR	1994 Baseline	2003 Baseline	2003 No Project A without KFE	2003 No Project A with KFE	2003 No Proj B-A without KFE	2003 No Proj B-A with KFE	2003 No Proj B-S without KFE	2003 No Proj B-S with KFE	2003 Proposed Project
Napa	3.1	2.1	2.0	1.7	2.1	1.7	2.1	1.7	3.1
Solano	3.3	2.3	2.3	2.0	2.3	2.0	2.3	2.0	4.2
Zone 7	3.5	2.3	2.4	2.3	2.3	2.2	2.3	2.2	4.3
Alameda	4.1	2.9	3.1	2.9	2.9	2.8	2.9	2.8	4.1
Santa Clara	15.2	10.5	11.0	10.1	10.5	9.8	10.5	9.8	13.4
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	5.6	4.2	4.3	4.3	4.2	4.1	4.2	4.1	4.3
Empire W.S.	4.6	3.2	3.4	3.2	3.2	3.0	3.2	3.0	1.9
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	265.2	198.2	207.0	203.8	198.2	194.4	198.2	194.4	152.0
Tulare	75.1	53.9	57.9	55.6	53.9	52.5	53.9	52.5	31.9
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	4.6	3.4	3.5	3.4	3.4	3.4	3.4	3.4	4.5
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	3.4	2.3	2.3	2.0	2.3	2.0	2.3	2.0	4.4
Coachella	8.4	6.0	6.2	5.8	6.0	5.4	6.0	5.4	4.6
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	19.6	14.3	14.1	13.0	14.3	12.9	14.3	12.9	11.1
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	261.0	215.4	213.6	210.3	215.4	211.9	215.4	211.9	304.8
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	350.5	259.6	272.5	267.0	259.6	254.0	259.6	254.0	190.0
Total M&I	326.2	261.6	260.5	253.5	261.6	254.0	261.6	254.0	358.5
Total	676.7	521.2	533.0	520.4	521.2	508.0	521.2	508.0	548.5

Table 15c - Above Normal Years: Annual Average Unscheduled Deliveries (TAF/year) to each Contractor in the 1994 and 2003 Scenarios

SWP CONTRACTOR	1994 Baseline	2003 Baseline	2003 No Project A without KFE	2003 No Project A with KFE	2003 No Proj B-A without KFE	2003 No Proj B-A with KFE	2003 No Proj B-S without KFE	2003 No Proj B-S with KFE	2003 Proposed Project
Napa	1.6	0.7	0.7	0.5	0.7	0.5	0.7	0.5	1.8
Solano	1.8	0.7	0.7	0.6	0.7	0.5	0.7	0.5	2.2
Zone 7	2.0	0.7	0.9	0.8	0.7	0.7	0.7	0.7	2.3
Alameda	2.3	1.0	1.2	1.1	1.0	1.0	1.0	1.0	2.2
Santa Clara	8.6	3.6	4.1	3.5	3.6	3.2	3.6	3.2	7.8
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	3.7	2.3	2.4	2.3	2.3	2.3	2.3	2.3	2.3
Empire W.S.	2.8	1.5	1.8	1.5	1.5	1.2	1.5	1.2	0.8
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	162.9	101.1	105.8	104.5	101.1	98.0	101.1	98.0	86.5
Tulare	44.5	25.0	28.5	26.1	25.0	22.6	25.0	22.6	15.1
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	2.9	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.5
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	1.9	0.7	0.7	0.5	0.7	0.5	0.7	0.5	2.4
Coachella	5.0	2.6	3.0	2.7	2.6	2.2	2.6	2.2	3.0
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	11.9	5.7	6.5	5.4	5.7	4.8	5.7	4.8	5.4
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	221.2	109.4	127.8	116.9	109.4	104.2	109.4	104.2	173.8
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	213.9	130.0	138.5	134.5	130.0	124.0	130.0	124.0	104.7
Total M&I	259.1	126.7	147.2	133.6	126.7	119.3	126.7	119.3	203.4
Total	473.0	256.7	285.6	268.1	256.7	243.3	256.7	243.3	308.1

Table 15d - Below Normal Years: Annual Average Unscheduled Deliveries (TAF/year) to each Contractor in the 1994 and 2003 Scenarios

SWP CONTRACTOR	1994 Baseline	2003 Baseline	2003 No Project A without KFE	2003 No Project A with KFE	2003 No Proj B-A without KFE	2003 No Proj B-A with KFE	2003 No Proj B-S without KFE	2003 No Proj B-S with KFE	2003 Proposed Project
Napa	1.8	0.7	0.8	0.6	0.7	0.6	0.7	0.6	1.3
Solano	1.9	0.8	0.9	0.7	0.8	0.7	0.8	0.7	1.4
Zone 7	2.0	0.9	1.1	1.0	0.9	0.8	0.9	0.8	1.5
Alameda	2.2	1.0	1.1	1.0	1.0	0.9	1.0	0.9	1.4
Santa Clara	8.4	3.8	4.2	3.8	3.8	3.5	3.8	3.5	5.4
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	2.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Empire W.S.	2.2	1.2	1.3	1.3	1.2	1.1	1.2	1.1	0.8
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	119.4	70.0	72.3	70.5	70.0	67.6	70.0	67.6	65.1
Tulare	34.4	18.8	19.5	19.4	18.8	18.1	18.8	18.1	14.0
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	2.3	1.2	1.3	1.2	1.2	1.1	1.2	1.1	1.5
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	2.0	0.8	0.8	0.7	0.8	0.7	0.8	0.7	1.5
Coachella	4.3	2.0	2.2	2.0	2.0	1.9	2.0	1.9	2.4
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	10.2	5.0	5.3	4.8	5.0	4.7	5.0	4.7	4.9
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	186.1	107.2	117.2	112.5	107.2	103.5	107.2	103.5	130.6
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	158.5	91.5	94.6	92.6	91.5	88.3	91.5	88.3	81.4
Total M&I	221.2	123.4	135.0	128.2	123.4	118.5	123.4	118.5	151.9
Total	379.7	214.9	229.6	220.9	214.9	206.8	214.9	206.8	233.3

Table 15e - Dry Years: Annual Average Unscheduled Deliveries (TAF/year) to each Contractor in the 1994 and 2003 Scenarios

SWP CONTRACTOR	1994 Baseline	2003 Baseline	2003 No Project A without KFE	2003 No Project A with KFE	2003 No Proj B-A without KFE	2003 No Proj B-A with KFE	2003 No Proj B-S without KFE	2003 No Proj B-S with KFE	2003 Proposed Project
Napa	0.5	0.4	0.4	0.3	0.4	0.3	0.4	0.3	0.8
Solano	0.6	0.4	0.4	0.3	0.4	0.3	0.4	0.3	1.0
Zone 7	0.7	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.1
Alameda	0.9	0.6	0.7	0.6	0.6	0.6	0.6	0.6	1.0
Santa Clara	3.1	2.2	2.3	2.0	2.2	2.0	2.2	2.0	3.6
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	1.4	0.9	1.0	1.1	0.9	0.9	0.9	0.9	1.1
Empire W.S.	1.1	0.8	0.8	0.8	0.8	0.7	0.8	0.7	0.4
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	66.6	46.2	49.9	53.0	46.2	45.6	46.2	45.6	40.7
Tulare	17.7	12.6	13.2	13.2	12.6	11.9	12.6	11.9	7.6
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	1.1	0.7	0.8	0.8	0.7	0.7	0.7	0.7	1.1
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	0.6	0.4	0.4	0.3	0.4	0.3	0.4	0.3	1.1
Coachella	1.7	1.2	1.3	1.2	1.2	1.0	1.2	1.0	1.5
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	3.9	2.8	2.8	2.4	2.8	2.3	2.8	2.3	2.7
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	91.5	65.8	68.7	65.5	65.8	63.4	65.8	63.4	81.7
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	86.9	60.5	64.9	68.1	60.5	59.1	60.5	59.1	49.7
Total M&I	104.4	75.0	78.3	73.9	75.0	71.3	75.0	71.3	95.7
Total	191.3	135.5	143.2	142.0	135.5	130.4	135.5	130.4	145.4

Table 15f - Critical Years: Annual Average Unscheduled Deliveries (TAF/year) to each Contractor in the 1994 and 2003 Scenarios

SWP CONTRACTOR	1994 Baseline	2003 Baseline	2003 No Project A without KFE	2003 No Project A with KFE	2003 No Proj B-A without KFE	2003 No Proj B-A with KFE	2003 No Proj B-S without KFE	2003 No Proj B-S with KFE	2003 Proposed Project
Napa	0.4	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.4
Solano	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5
Zone 7	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5
Alameda	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5
Santa Clara	1.8	1.2	1.3	1.2	1.2	1.2	1.2	1.2	1.8
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	0.7	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Empire W.S.	0.6	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	33.3	22.0	22.3	20.8	22.0	22.0	22.0	22.0	22.2
Tulare	9.1	5.9	5.9	5.7	5.9	5.9	5.9	5.9	5.3
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	0.6	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5
Coachella	1.0	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.9
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	2.2	1.5	1.5	1.4	1.5	1.5	1.5	1.5	1.9
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	50.4	35.1	35.2	34.4	35.1	35.1	35.1	35.1	44.4
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	43.6	28.8	29.1	27.4	28.8	28.8	28.8	28.8	28.2
Total M&I	57.9	40.2	40.3	39.5	40.2	40.2	40.2	40.2	51.9
Total	101.6	69.0	69.4	67.0	69.0	69.0	69.0	69.0	80.1

Figure 16a - Average Annual Unscheduled SWP Deliveries in the 1994 and 2003 Scenarios

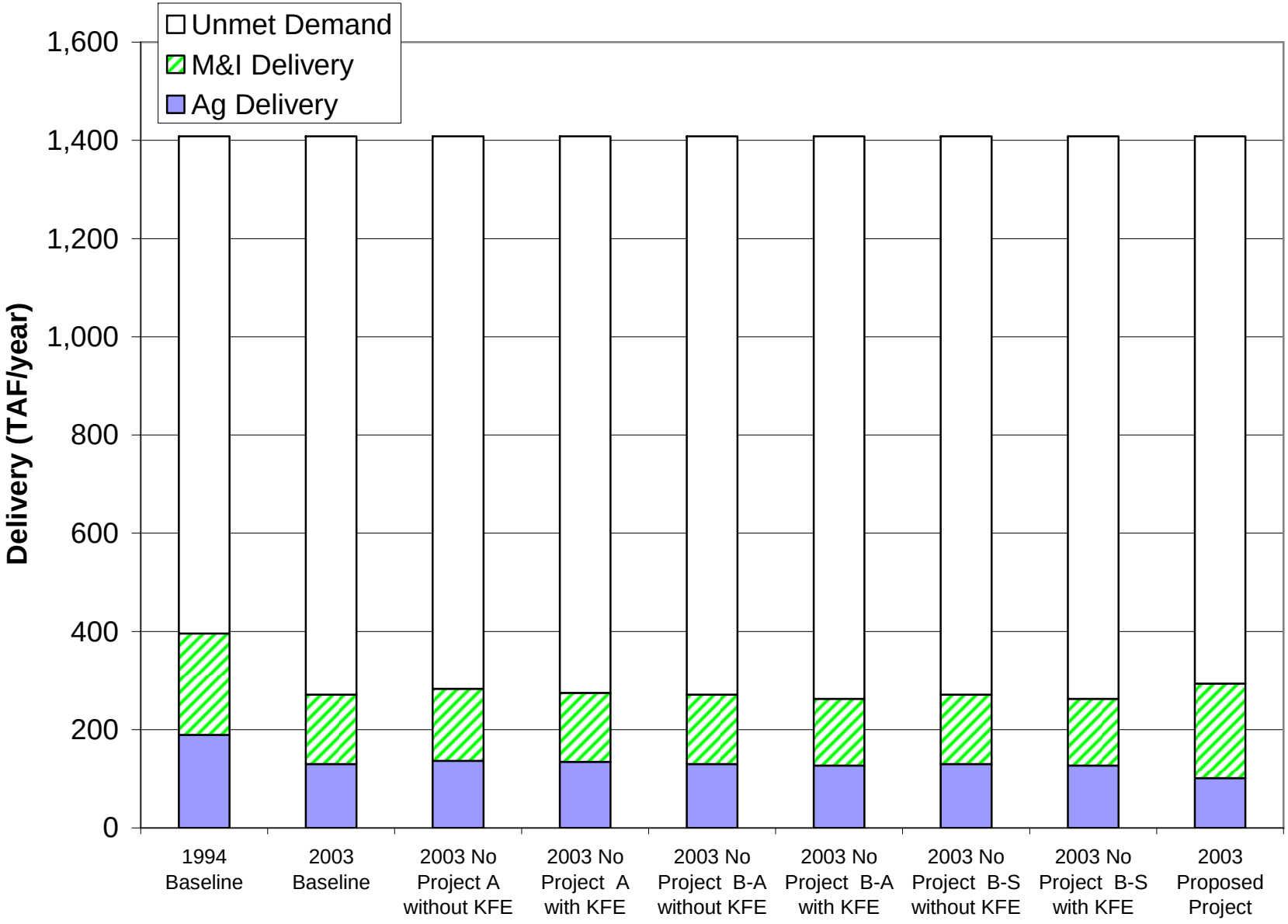


Figure 16b - Average Annual Unscheduled SWP Deliveries in Wet Years in the 1994 and 2003 Scenarios

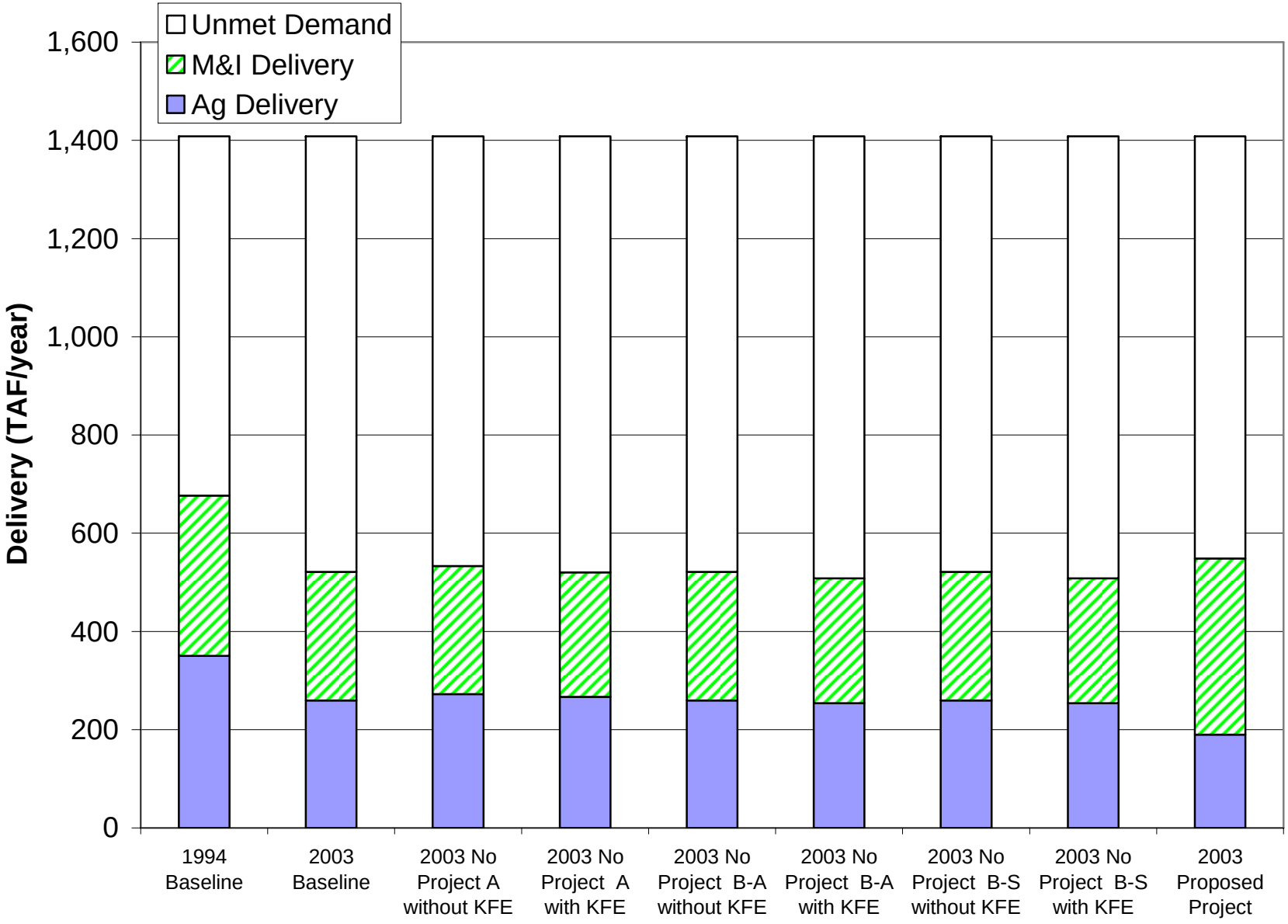


Figure 16c - Average Annual Unscheduled SWP Deliveries in Above Normal Years in the 1994 and 2003 Scenarios

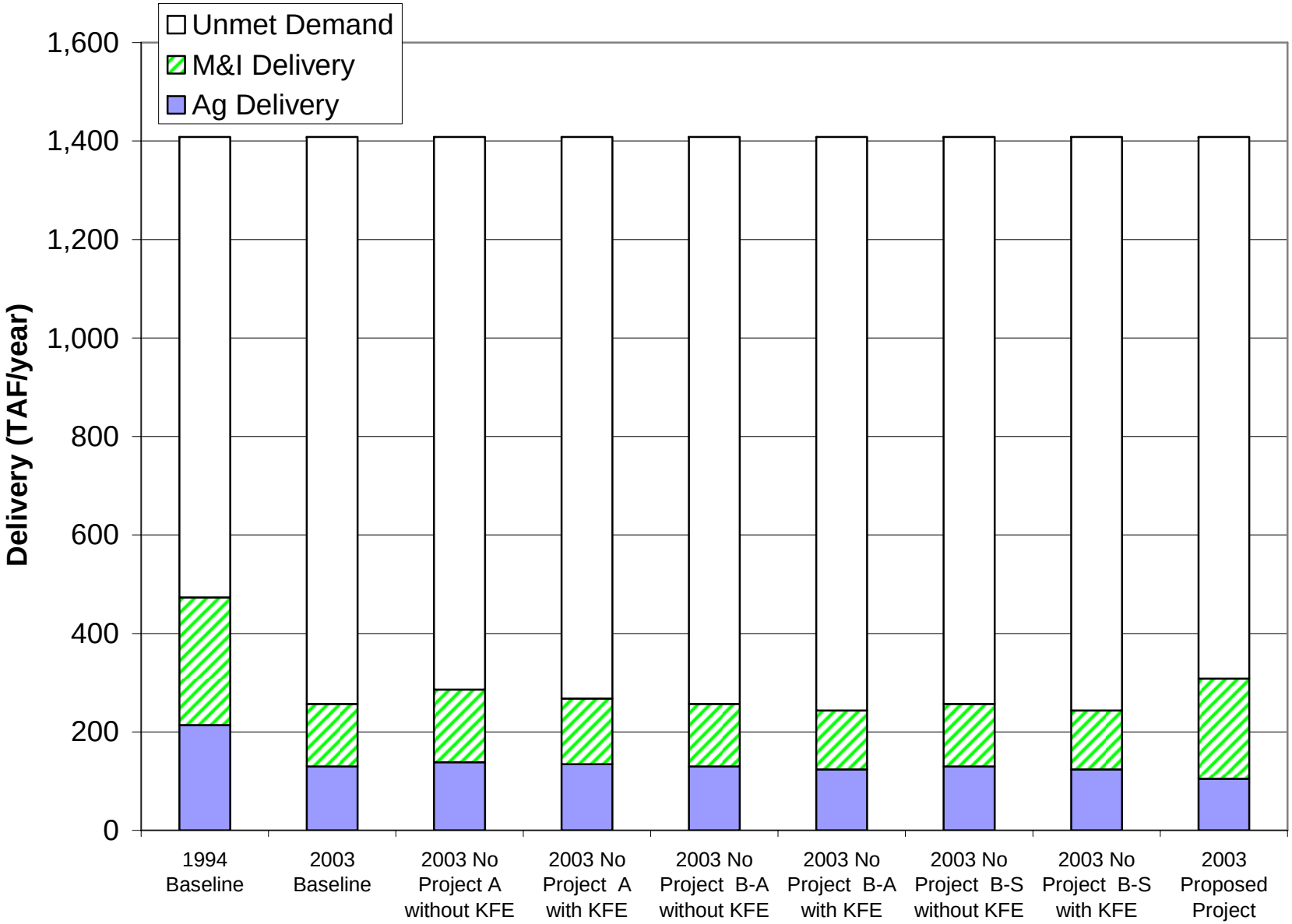


Figure 16d - Average Annual Unscheduled SWP Deliveries in Below Normal Years in the 1994 and 2003 Scenarios

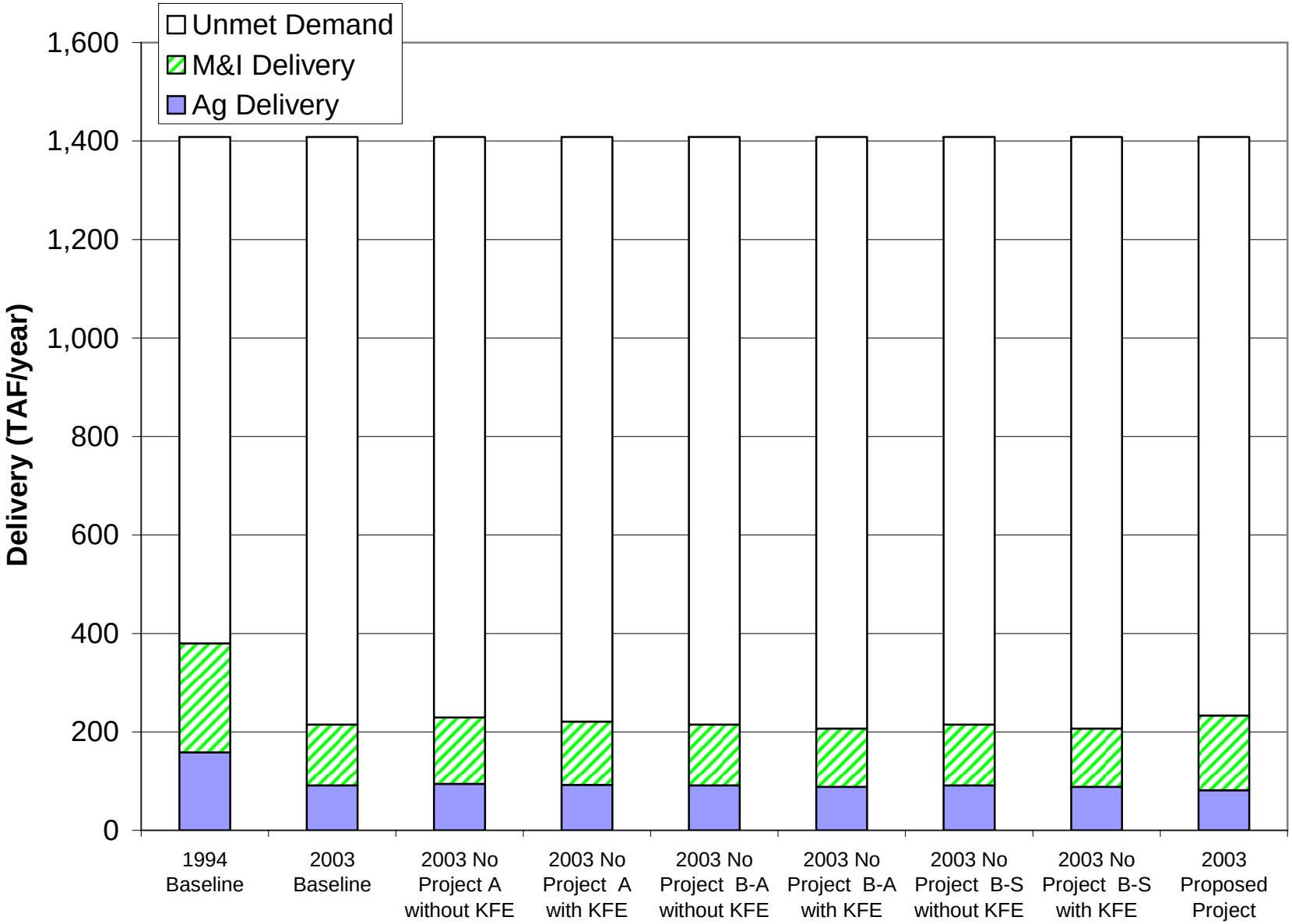


Figure 16e - Average Annual Unscheduled SWP Deliveries in Dry Years in the 1994 and 2003 Scenarios

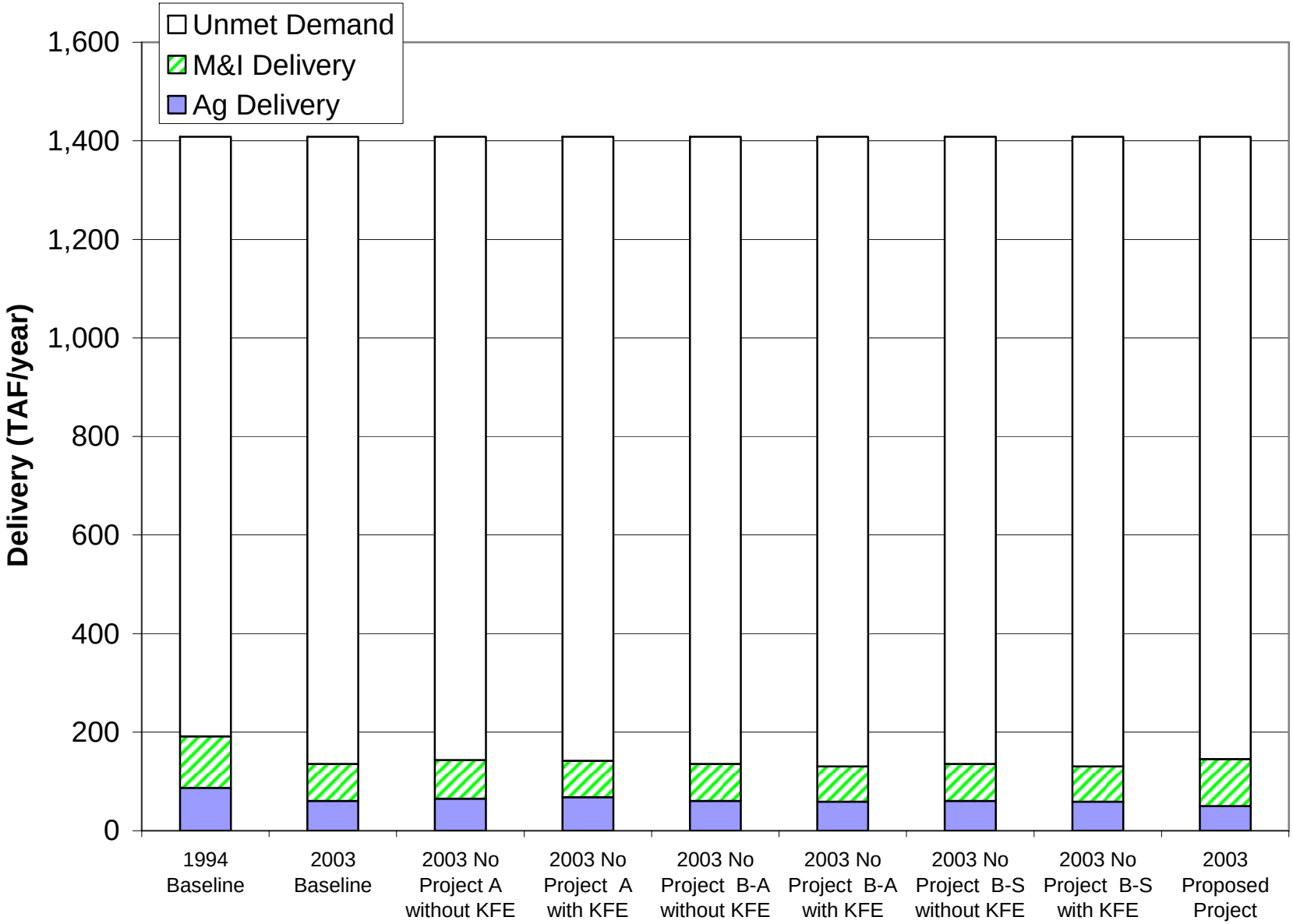


Figure 16f - Average Annual Unscheduled SWP Deliveries in Critical Years in the 1994 and 2003 Scenarios

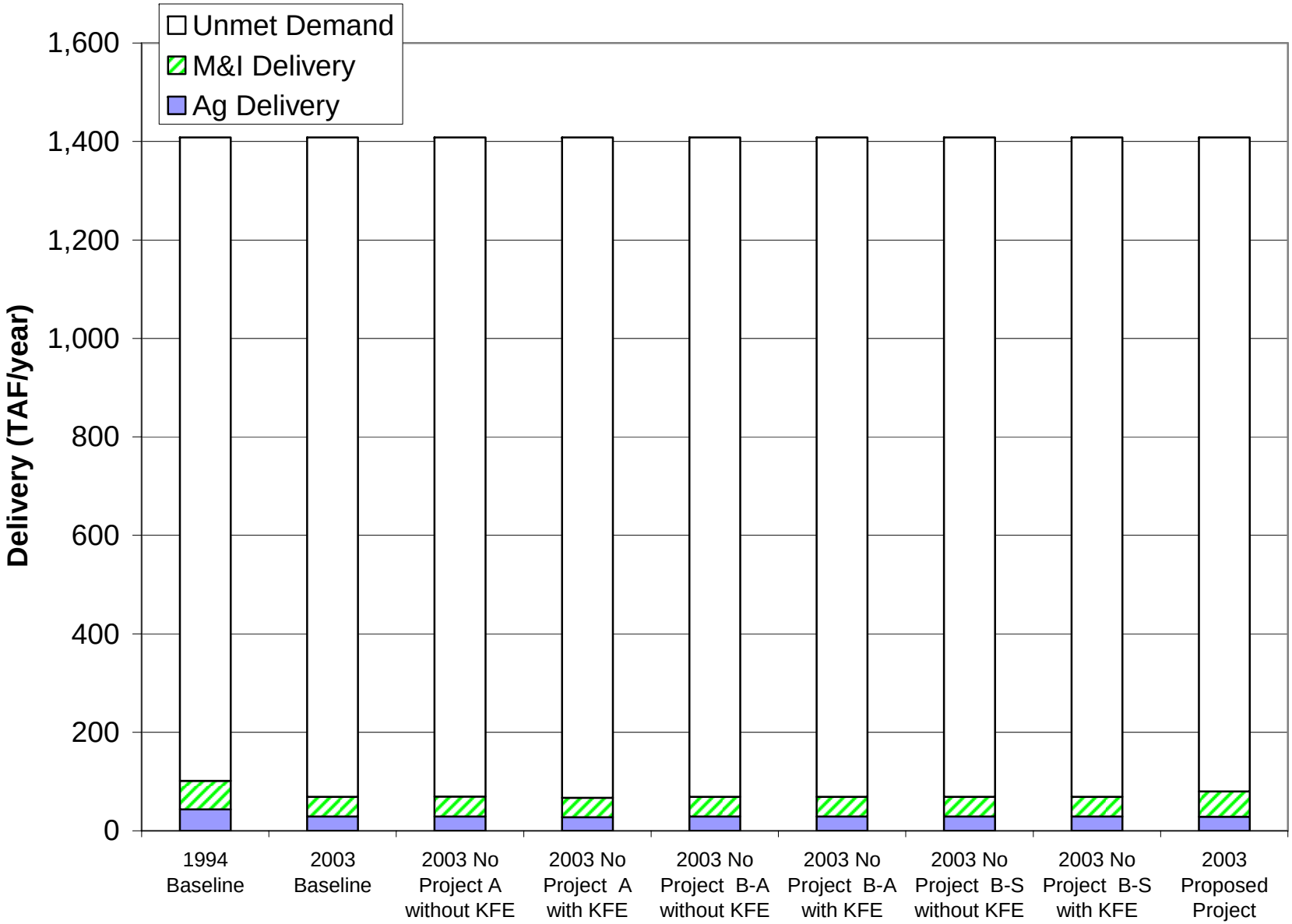


Table 16a - Average Annual Unscheduled Deliveries (TAF/year) to each Contractor in the 2020 Scenarios

SWP CONTRACTOR	2020 Baseline	2020 No Project A without KFE	2020 No Project A with KFE	2020 No Proj B-A without KFE	2020 No Proj B-A with KFE	20203 No Proj B-S without KFE	2020 No Proj B-S with KFE	2020 Proposed Project
Napa	0.2	0.2	0.1	0.2	0.1	0.2	0.1	1.3
Solano	0.3	0.3	0.2	0.3	0.2	0.3	0.2	1.5
Zone 7	0.4	0.5	0.4	0.4	0.3	0.4	0.3	1.6
Alameda	0.7	0.7	0.6	0.7	0.6	0.7	0.6	1.4
Santa Clara	2.2	2.3	1.8	2.2	1.9	2.2	1.9	4.9
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	1.6	1.6	1.5	1.6	1.5	1.6	1.5	1.5
Empire W.S.	1.1	1.1	1.0	1.1	1.0	1.1	1.0	0.3
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	70.7	70.8	66.2	70.7	66.7	70.7	66.7	54.2
Tulare	18.1	17.9	16.2	18.1	16.5	18.1	16.5	7.2
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	1.0	1.0	0.9	1.0	1.0	1.0	1.0	1.6
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	0.3	0.2	0.2	0.3	0.2	0.3	0.2	1.6
Coachella	1.9	2.0	1.7	1.9	1.7	1.9	1.7	3.1
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	3.6	3.6	3.2	3.6	3.2	3.6	3.2	3.6
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	74.6	74.5	66.4	74.6	67.2	74.6	67.2	88.4
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	91.5	91.5	84.8	91.5	85.7	91.5	85.7	63.2
Total M&I	85.3	85.3	75.5	85.3	76.4	85.3	76.4	109.0
Total	176.8	176.8	160.4	176.8	162.1	176.8	162.1	172.2

Table 16b - Wet Years: Annual Average Unscheduled Deliveries (TAF/year) to each Contractor in the 2020 Scenarios

SWP CONTRACTOR	2020 Baseline	2020 No Project A without KFE	2020 No Project A with KFE	2020 No Proj B-A without KFE	2020 No Proj B-A with KFE	20203 No Proj B-S without KFE	2020 No Proj B-S with KFE	2020 Proposed Project
Napa	0.2	0.2	0.1	0.2	0.1	0.2	0.1	2.3
Solano	0.3	0.3	0.1	0.3	0.2	0.3	0.2	2.7
Zone 7	0.5	0.6	0.4	0.4	0.3	0.5	0.4	2.9
Alameda	1.1	1.1	0.9	1.1	1.0	1.1	1.0	2.6
Santa Clara	3.3	3.3	2.6	3.3	2.7	3.3	2.7	8.6
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	2.7	2.8	2.6	2.7	2.6	2.7	2.6	2.8
Empire W.S.	1.6	1.6	1.5	1.6	1.5	1.6	1.5	0.3
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	118.6	118.9	109.4	118.6	111.2	118.6	111.2	92.5
Tulare	29.2	28.7	25.8	29.2	26.8	29.2	26.8	10.8
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	1.8	1.8	1.5	1.8	1.6	1.8	1.6	2.9
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	0.3	0.3	0.1	0.3	0.2	0.3	0.2	2.9
Coachella	3.3	3.3	2.9	3.3	3.0	3.3	3.0	5.6
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	5.7	5.7	5.1	5.7	5.3	5.7	5.3	6.0
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	107.2	107.0	95.9	107.2	96.8	107.2	96.8	133.9
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	152.1	152.0	139.3	152.1	142.1	152.1	142.1	106.4
Total M&I	123.6	123.6	109.7	123.5	111.1	123.6	111.2	170.3
Total	275.7	275.7	248.9	275.5	253.2	275.7	253.3	276.8

Table 16c - Above Normal Years: Annual Average Unscheduled Deliveries (TAF/year) to each Contractor in the 2020 Scenarios

SWP CONTRACTOR	2020 Baseline	2020 No Project A without KFE	2020 No Project A with KFE	2020 No Proj B-A without KFE	2020 No Proj B-A with KFE	20203 No Proj B-S without KFE	2020 No Proj B-S with KFE	2020 Proposed Project
Napa	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5
Solano	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.6
Zone 7	0.2	0.3	0.3	0.4	0.3	0.2	0.2	1.7
Alameda	0.7	0.7	0.7	0.7	0.6	0.7	0.6	1.6
Santa Clara	2.1	2.1	1.8	2.1	1.8	2.1	1.8	5.7
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	1.8	1.8	1.7	1.8	1.7	1.8	1.7	1.6
Empire W.S.	1.6	1.6	1.2	1.6	1.2	1.6	1.2	0.2
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	86.1	86.1	82.9	86.1	82.9	86.1	82.9	60.0
Tulare	24.3	24.3	20.4	24.3	20.5	24.3	20.5	5.8
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	1.0	1.0	0.9	1.0	0.9	1.0	0.9	1.8
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.7
Coachella	2.0	2.0	1.8	2.0	1.8	2.0	1.8	3.3
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	3.7	3.7	3.2	3.7	3.2	3.7	3.2	3.4
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	94.0	93.9	78.8	94.0	78.9	94.0	78.9	115.8
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	113.8	113.8	106.2	113.8	106.3	113.8	106.3	67.6
Total M&I	103.8	103.9	87.6	104.0	87.7	103.8	87.5	138.2
Total	217.7	217.7	193.8	217.8	194.0	217.7	193.8	205.8

Table 16d - Below Normal Years: Annual Average Unscheduled Deliveries (TAF/year) to each Contractor in the 2020 Scenarios

SWP CONTRACTOR	2020 Baseline	2020 No Project A without KFE	2020 No Project A with KFE	2020 No Proj B-A without KFE	2020 No Proj B-A with KFE	20203 No Proj B-S without KFE	2020 No Proj B-S with KFE	2020 Proposed Project
Napa	0.2	0.2	0.1	0.2	0.1	0.2	0.1	1.1
Solano	0.3	0.3	0.1	0.3	0.1	0.3	0.1	1.2
Zone 7	0.4	0.5	0.4	0.4	0.3	0.4	0.3	1.2
Alameda	0.7	0.7	0.6	0.7	0.6	0.7	0.6	1.2
Santa Clara	2.3	2.4	1.7	2.3	1.7	2.3	1.7	4.2
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.2
Empire W.S.	0.9	1.0	0.9	0.9	0.9	0.9	0.9	0.3
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	61.3	61.4	56.7	61.3	56.7	61.3	56.7	48.3
Tulare	16.1	16.0	14.4	16.1	14.5	16.1	14.5	7.1
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	1.0	1.0	0.8	1.0	0.8	1.0	0.8	1.3
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	0.3	0.3	0.1	0.3	0.1	0.3	0.1	1.3
Coachella	1.8	1.8	1.5	1.8	1.5	1.8	1.5	2.4
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	3.4	3.4	2.8	3.4	2.8	3.4	2.8	3.4
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	70.9	70.8	61.6	70.9	63.9	70.9	63.9	75.4
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	79.7	79.7	73.3	79.7	73.5	79.7	73.5	56.8
Total M&I	81.3	81.3	69.8	81.2	72.1	81.3	72.1	92.7
Total	161.0	161.0	143.1	161.0	145.5	161.0	145.5	149.4

Table 16e - Dry Years: Annual Average Unscheduled Deliveries (TAF/year) to each Contractor in the 2020 Scenarios

SWP CONTRACTOR	2020 Baseline	2020 No Project A without KFE	2020 No Project A with KFE	2020 No Proj B-A without KFE	2020 No Proj B-A with KFE	20203 No Proj B-S without KFE	2020 No Proj B-S with KFE	2020 Proposed Project
Napa	0.2	0.2	0.1	0.2	0.1	0.2	0.1	0.6
Solano	0.2	0.2	0.1	0.2	0.1	0.2	0.1	0.6
Zone 7	0.3	0.3	0.3	0.4	0.3	0.3	0.2	0.7
Alameda	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.6
Santa Clara	1.4	1.4	1.2	1.4	1.1	1.4	1.1	2.1
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7
Empire W.S.	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.2
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	37.4	37.6	35.0	37.4	34.9	37.4	34.9	23.7
Tulare	8.9	8.8	8.5	8.9	8.7	8.9	8.7	4.1
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	0.6	0.6	0.5	0.6	0.5	0.6	0.5	0.8
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	0.2	0.2	0.1	0.2	0.1	0.2	0.1	0.8
Coachella	1.0	1.1	0.9	1.0	0.9	1.0	0.9	1.4
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	1.9	1.9	1.6	1.9	1.6	1.9	1.6	1.8
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	45.8	45.7	41.1	45.8	41.2	45.8	41.2	46.8
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	47.7	47.7	44.9	47.7	44.9	47.7	44.9	28.7
Total M&I	51.9	51.9	46.4	52.0	46.5	51.9	46.4	56.2
Total	99.7	99.7	91.3	99.8	91.4	99.7	91.3	84.8

Table 16f - Critical Years: Annual Average Unscheduled Deliveries (TAF/year) to each Contractor in the 2020 Scenarios

SWP CONTRACTOR	2020 Baseline	2020 No Project A without KFE	2020 No Project A with KFE	2020 No Proj B-A without KFE	2020 No Proj B-A with KFE	20203 No Proj B-S without KFE	2020 No Proj B-S with KFE	2020 Proposed Project
Napa	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5
Solano	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5
Zone 7	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.5
Alameda	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5
Santa Clara	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.1
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Empire W.S.	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.3
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	24.6	24.6	24.6	24.6	24.6	24.6	24.6	25.9
Tulare	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.0
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5
Coachella	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.1
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	40.7	40.7	40.7	40.7	40.7	40.7	40.7	51.4
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	32.7	32.7	32.7	32.7	32.7	32.7	32.7	32.7
Total M&I	47.5	47.5	47.5	47.6	47.5	47.5	47.5	60.1
Total	80.2	80.2	80.2	80.2	80.1	80.2	80.2	92.9

Figure 17a - Average Annual Unscheduled SWP Deliveries in the 2020 Scenarios

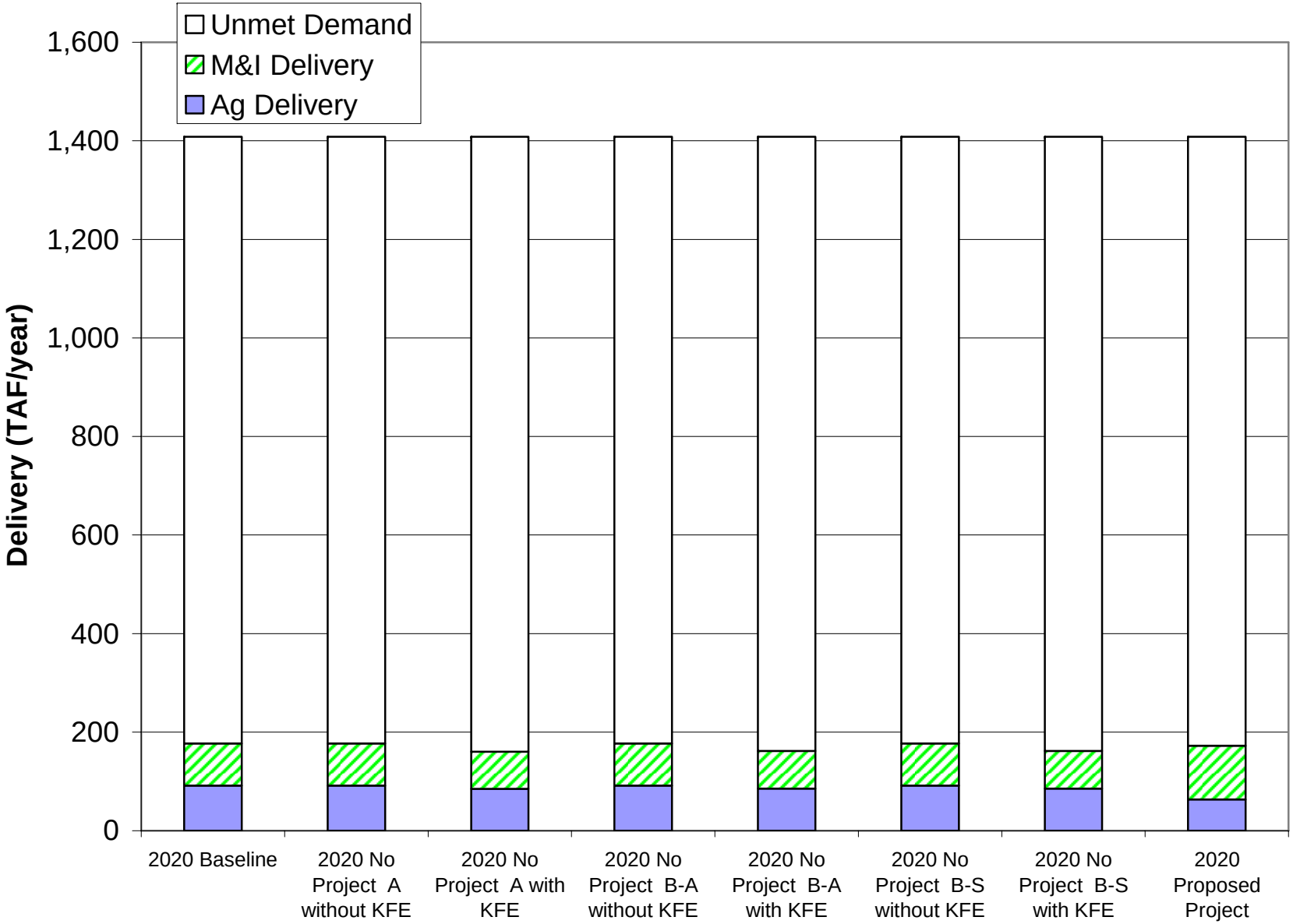


Figure 17b - Average Annual Unscheduled SWP Deliveries in Wet Years in the 2020 Scenarios

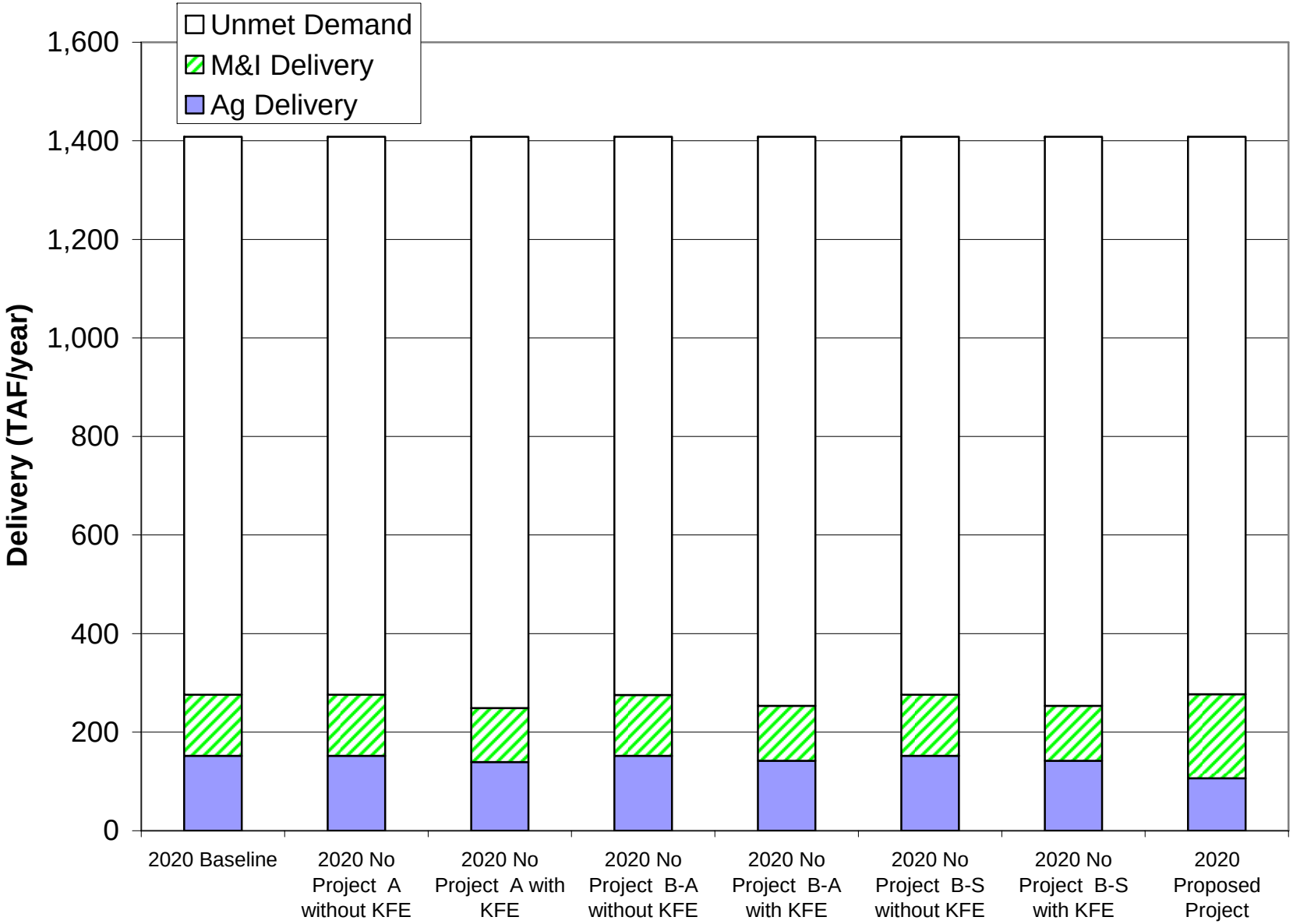


Figure 17c - Average Annual Unscheduled SWP Deliveries in Above Normal Years in the 2020 Scenarios

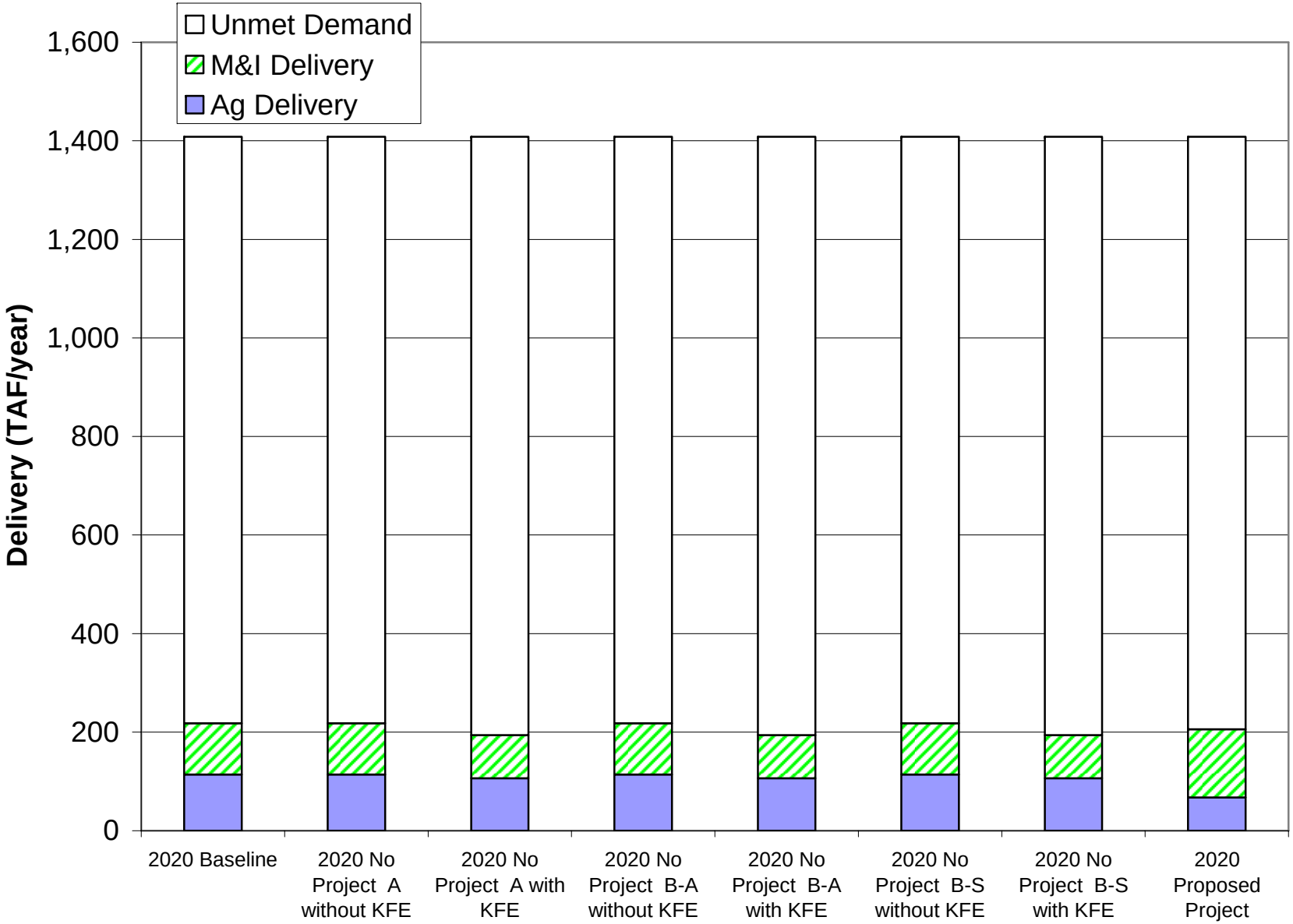


Figure 17d - Average Annual Unscheduled SWP Deliveries in Below Normal Years in the 2020 Scenarios

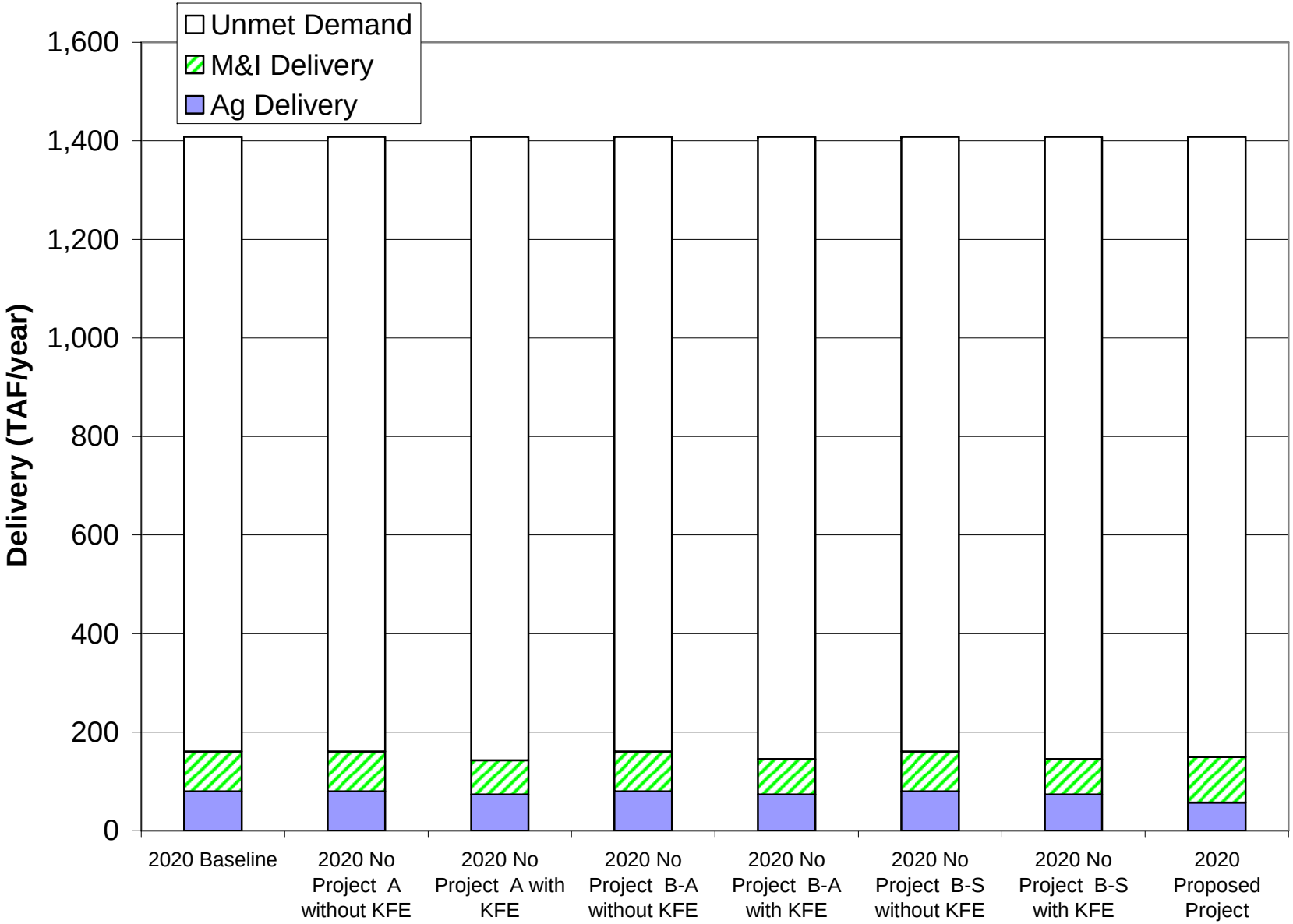


Figure 17e - Average Annual Unscheduled SWP Deliveries in Dry Years in the 2020 Scenarios

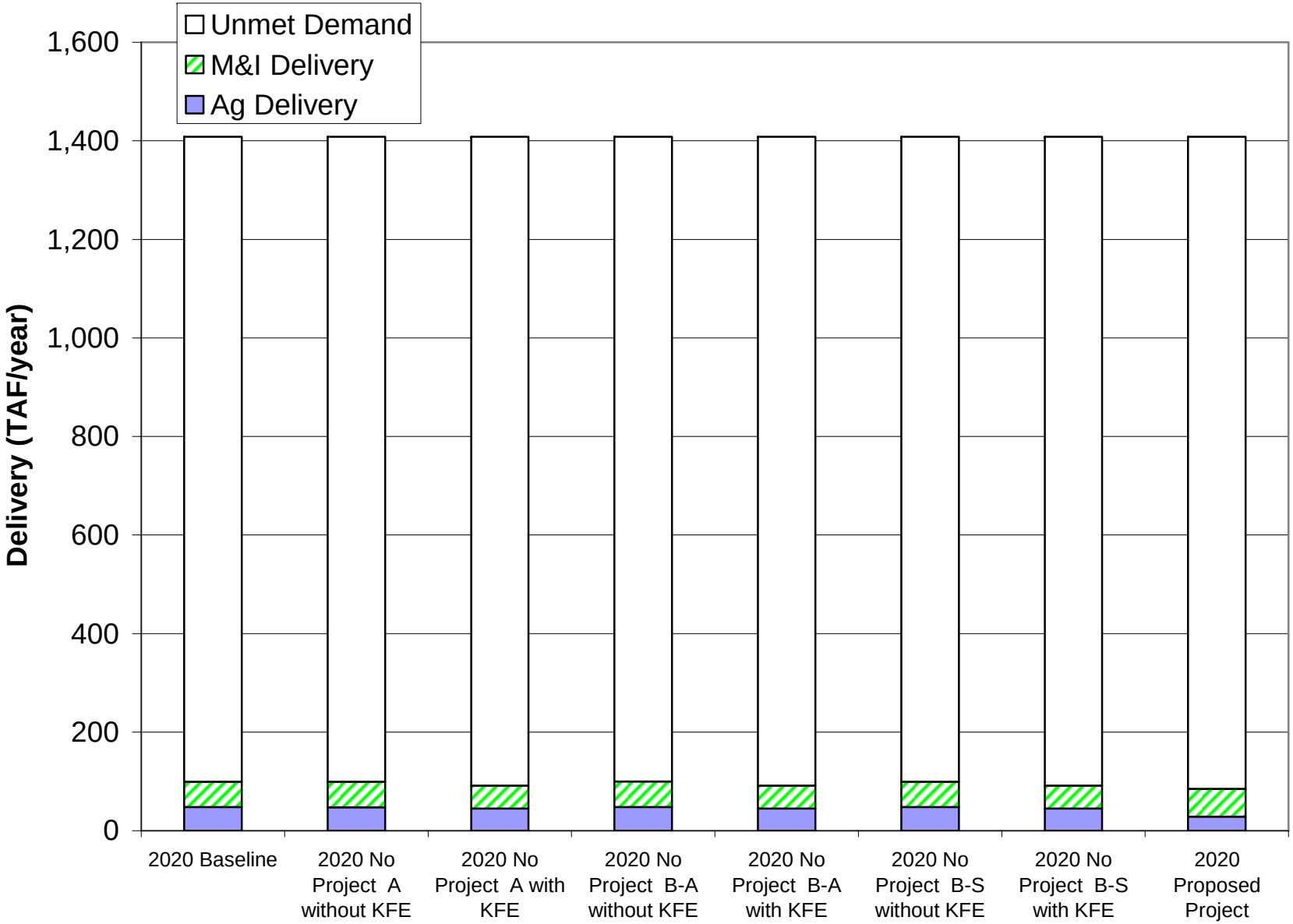
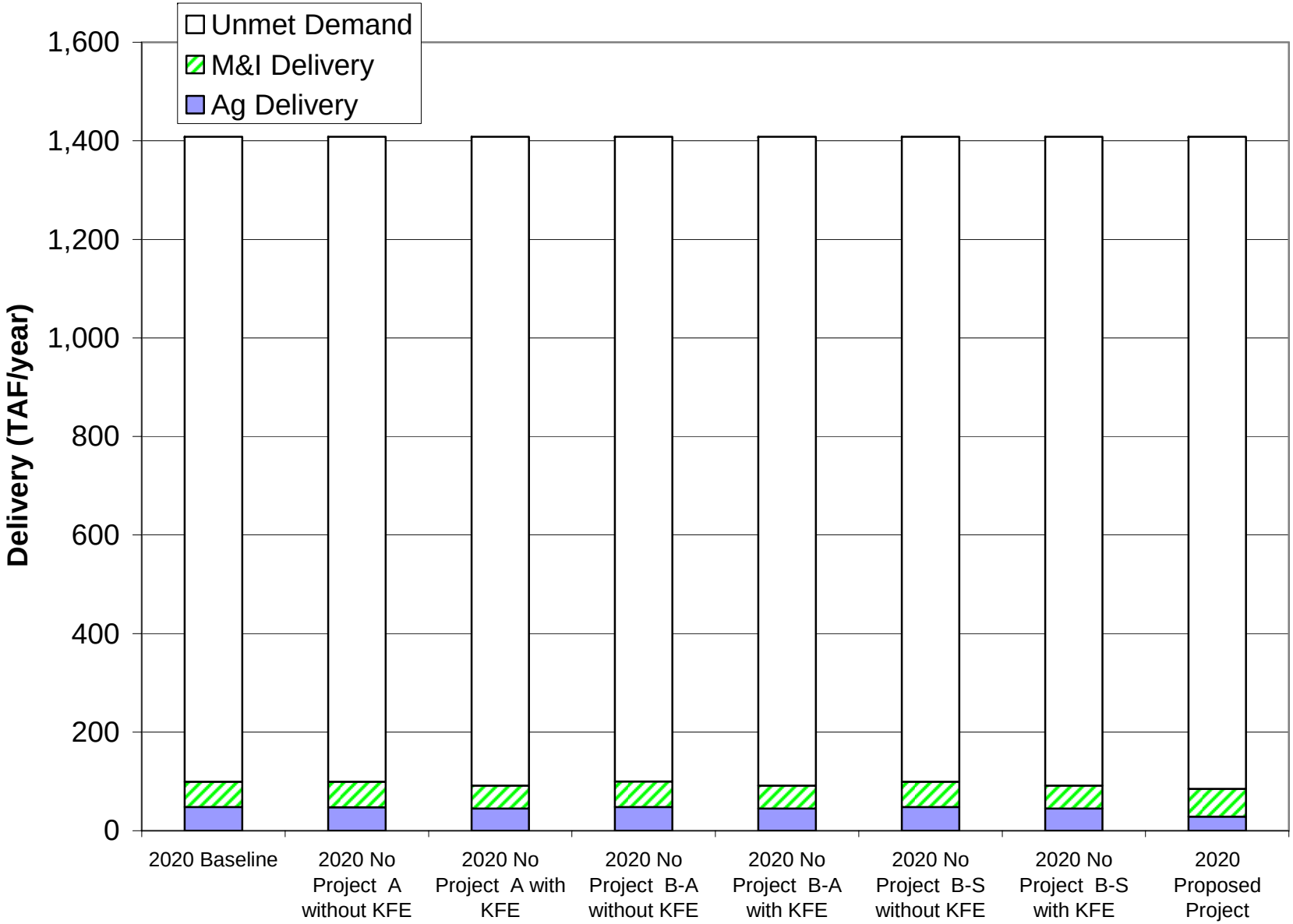


Figure 17f - Average Annual Unscheduled SWP Deliveries in Critical Years in the 2020 Scenarios



3.1.3. Article 18(a) Agricultural Deficiency in No Project Scenarios

Under Article 18(a) in the Baseline and No Project Alternatives, agricultural contractors receive an initial cut in Table A deliveries in years when SWP allocation is less than 100%. This cut can total up to 50% of their Table A amounts in any one year or up to a cumulative total of 100% of their Table A amounts over any seven year period. Table 17 shows the average annual agricultural deficiency in each Baseline and No Project scenario and the number of years in which deficiencies occurred in each scenario. Figures 18a through 18c show the frequency distribution of agricultural deficiencies and Figures 19a through 19c show the cumulative deficiencies throughout the course of the simulation at each level of development.

Table 17 - Agricultural Deficiency in each No Project Scenario

Scenario	Number of Years with Agricultural Deficiency	Average Annual Agricultural Deficiency (TAF/year)
1994 Baseline	19	77.3
2003 Baseline	33	92.4
2003 No Project A without KFE	20	87.4
2003 No Project A with KFE	20	87.4
2003 No Project B without KFE	7	20.9
2003 No Project B with KFE	5	20.7
2020 Baseline	29	148.5
2020 No Project A without KFE	29	148.5
2020 No Project A with KFE	29	148.5
2020 No Project B without KFE	8	23.8
2020 No Project B with KFE	7	21.1

There are larger agricultural deficiencies at the 2020 level of development as compared to the 1994 and 2003 levels of development because M&I demands increase and therefore reduce the amount of water available for delivery to agriculture.

Agricultural deficiencies are similar in the Baseline and No Project Alternative A scenarios at each level of development. In the 2003 level of development, the Baseline has more years with agricultural deficiencies than in No Project Alternative A, but the quantities during these additional years are small, resulting in only minor differences in average and cumulative agricultural deficiencies.

Agricultural deficiencies occur more often in the Baseline and No Project Alternative A as compared to No Project Alternative B. In No Project Alternative B Table A amounts are reduced, which greatly reduces the number of years in which Table A allocations are less than 100%.

Figure 18a - Frequency of Article 18(a) Agricultural Deficiency at the 1994 Level of Development

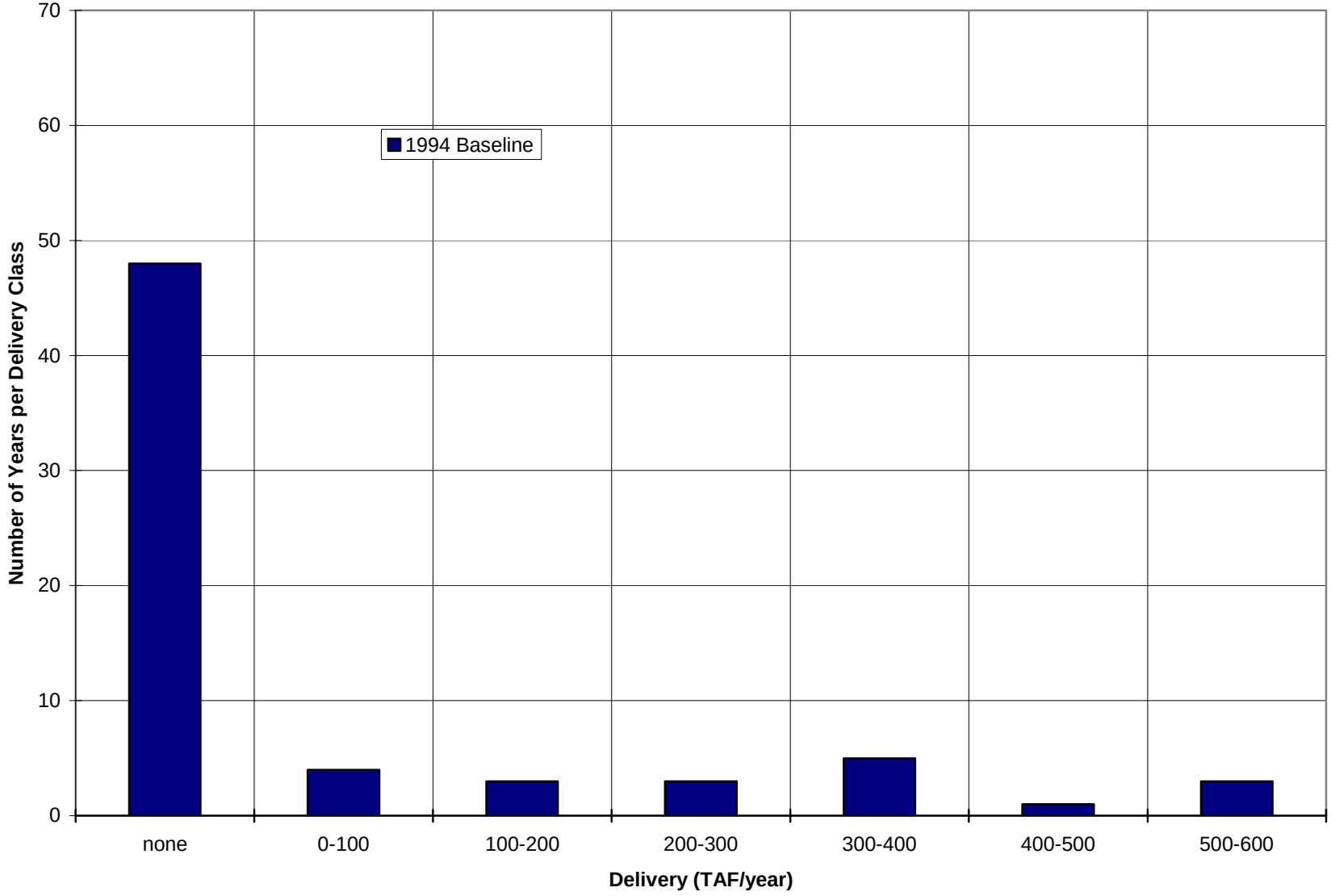


Figure 18b - Frequency of Article 18(a) Agricultural Deficiency at the 2003 Level of Development

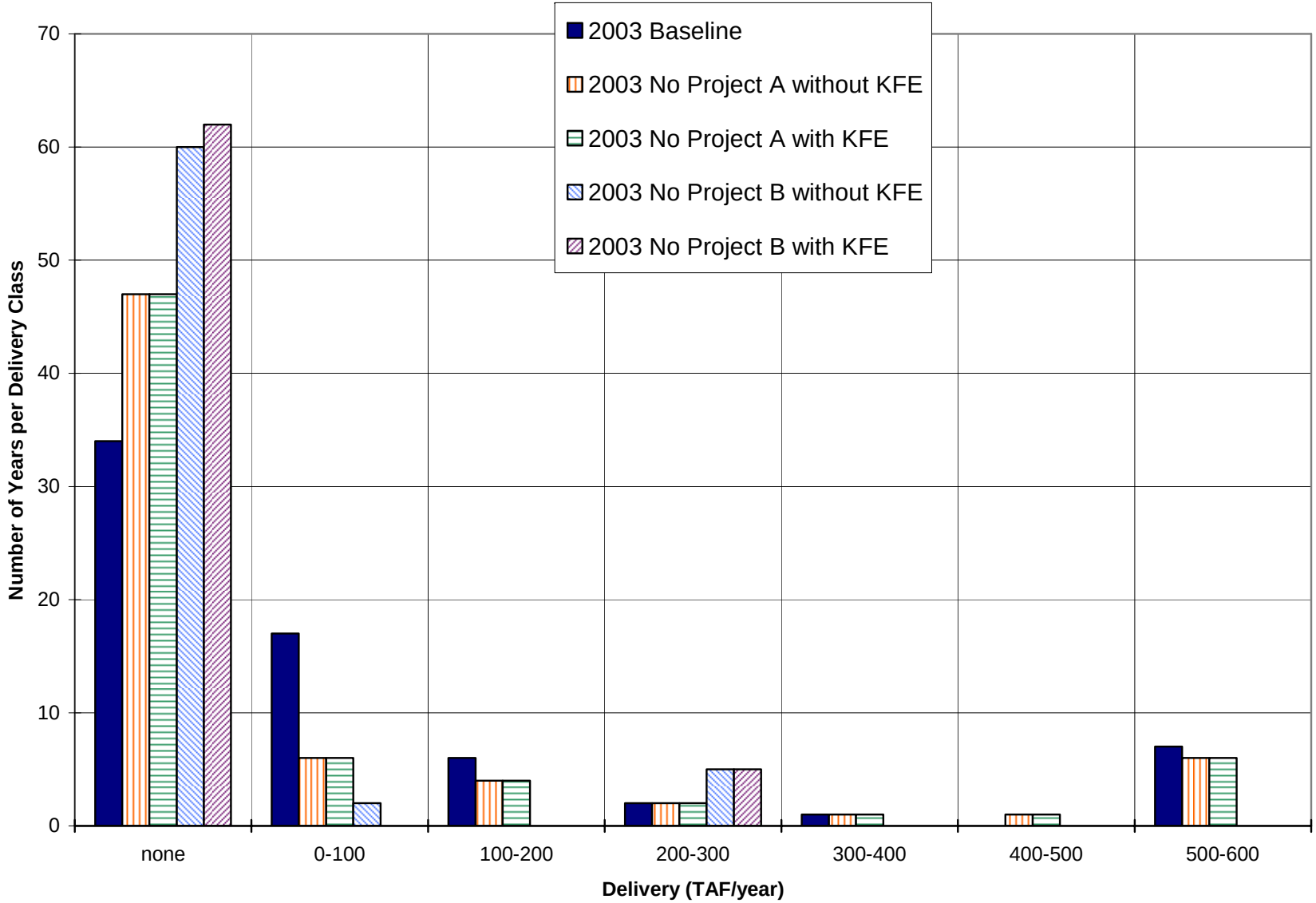


Figure 18c - Frequency of Article 18(a) Agricultural Deficiency at the 2020 Level of Development

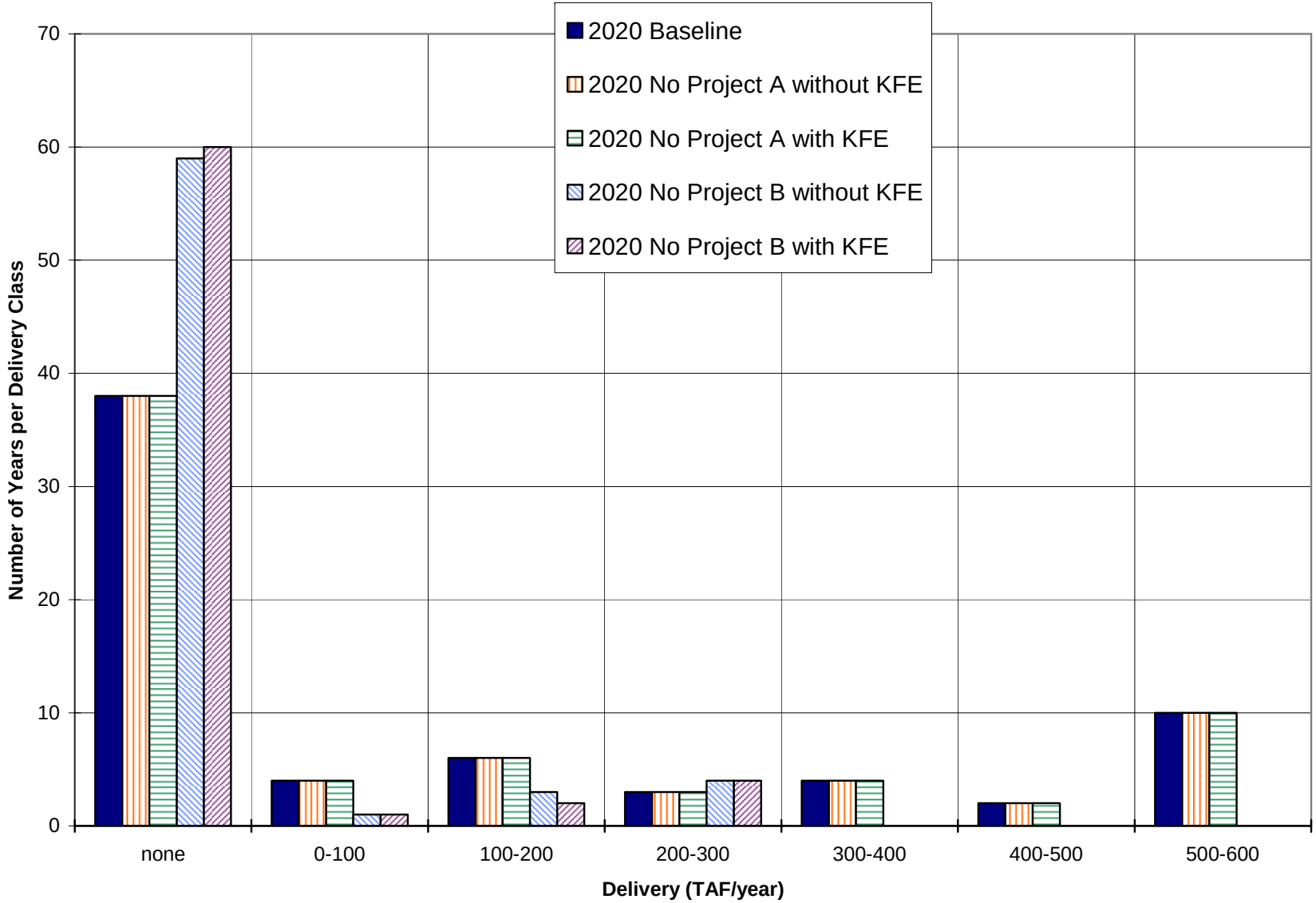


Figure 19a - Cumulative Article 18(a) Agricultural Deficiency at the 1994 Level of Development

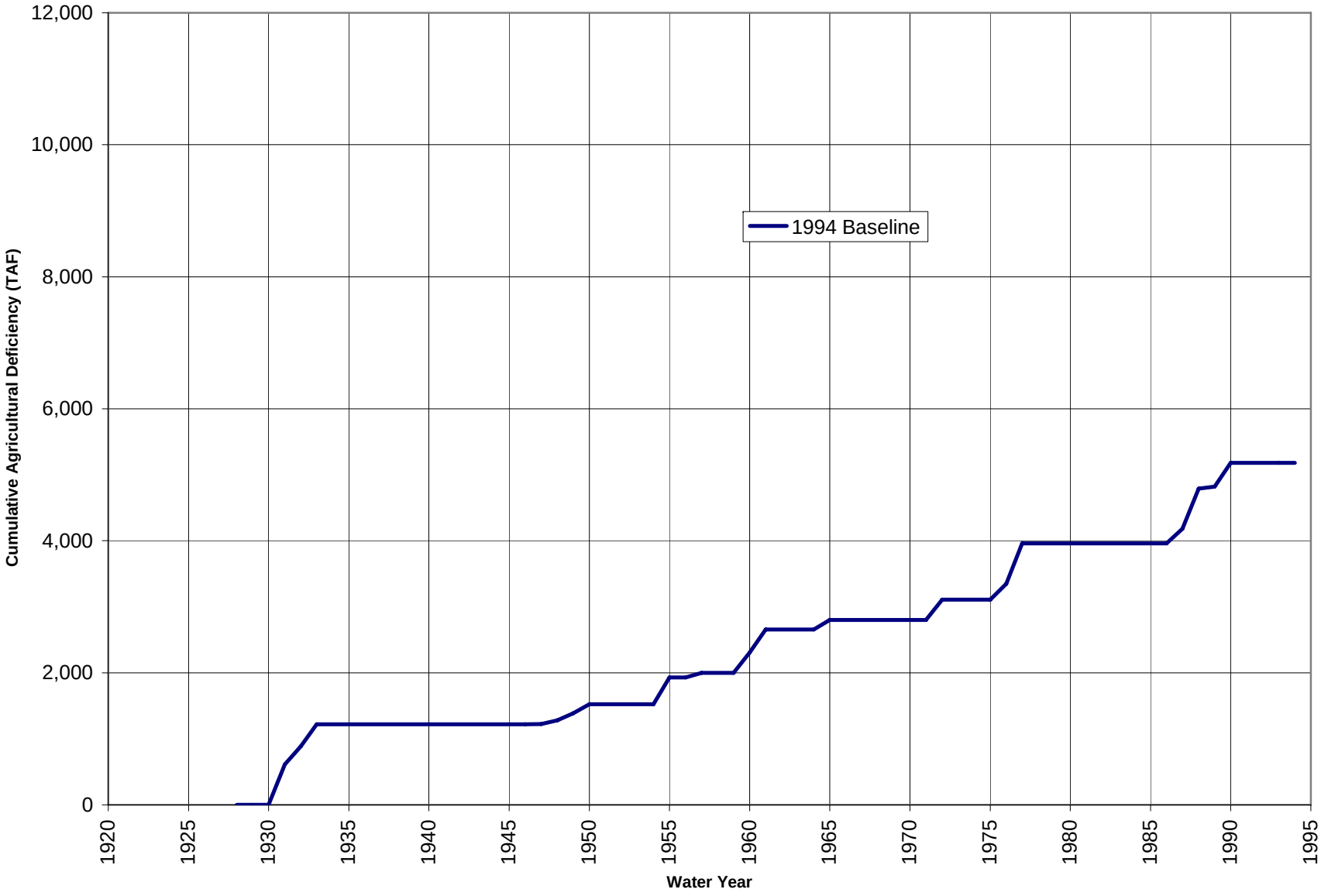


Figure 19b - Cumulative Article 18(a) Agricultural Deficiency at the 2003 Level of Development

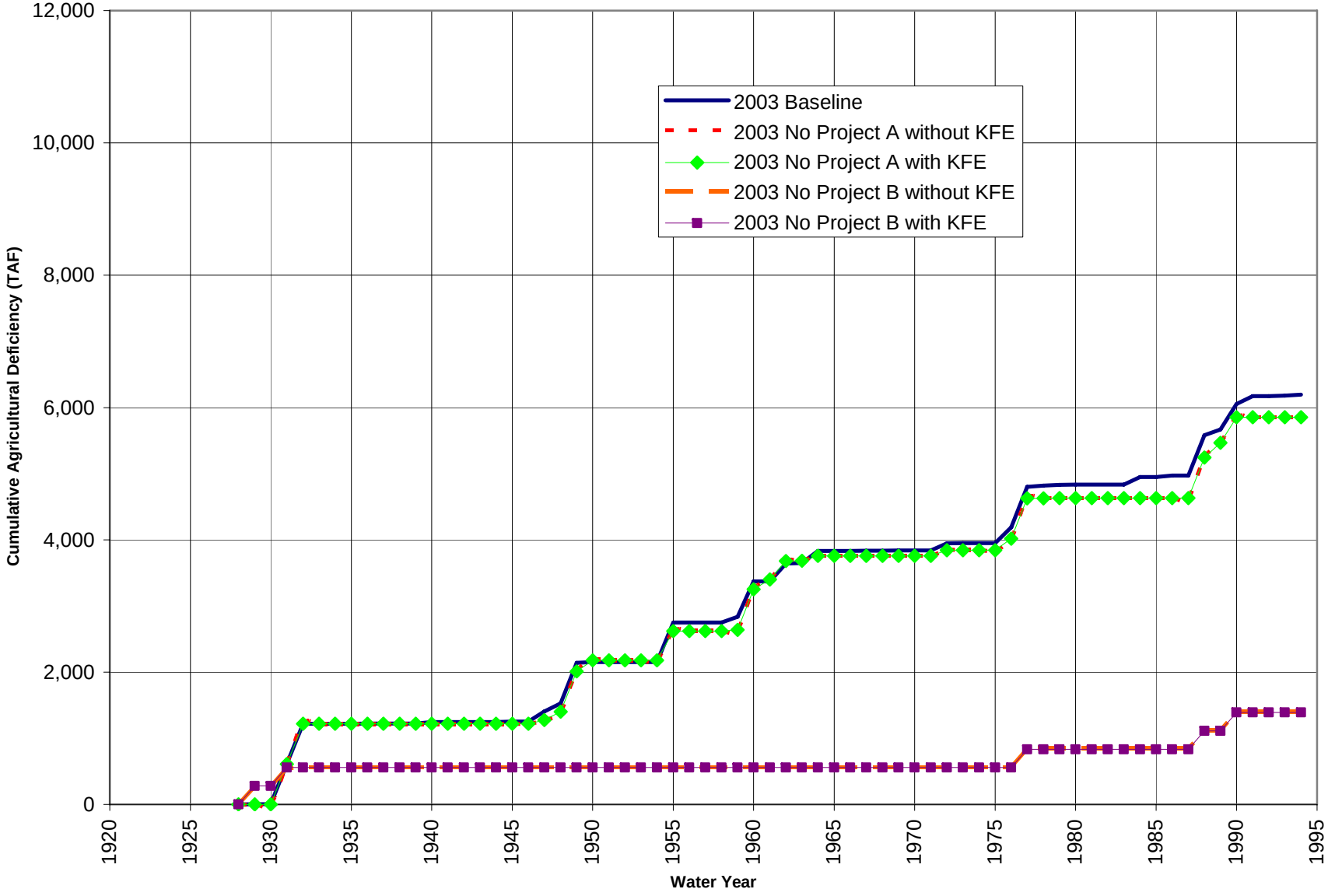
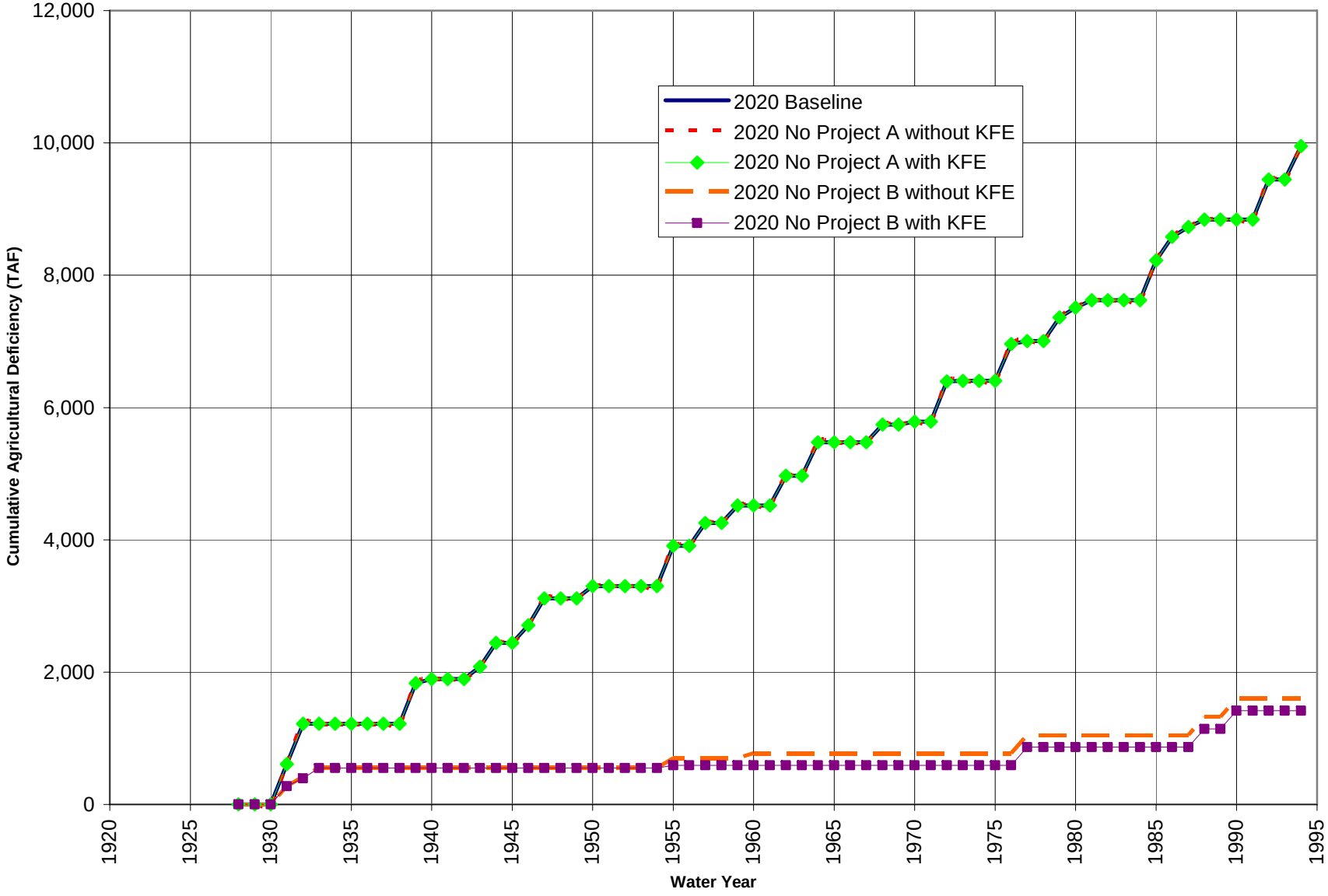


Figure 19c - Cumulative Article 18(a) Agricultural Deficiency at the 2020 Level of Development



3.1.4. Differences Between the Baseline and the Proposed Project and No Project Alternatives

Tables 18a through 18d show the difference in average annual scheduled deliveries to each contractor at the 2003 level of development in each scenario relative to the Baseline for all years and for dry and critical years. Tables 19a through 19d show the same information for the 2020 scenarios.

In both 2003 and 2020, M&I contractors receive more scheduled deliveries in the No Project A scenario and the Proposed Project scenario than in the Baseline, while agricultural contractors receive less deliveries in the No Project A scenario and the Proposed Project scenario than in the Baseline. In the No Project B scenarios, agricultural contractors receive more scheduled deliveries and M&I contractors receive less relative to the Baseline. In No Project Alternative A, this occurs because of Table A transfers from agricultural contractors to M&I contractors. In the Proposed Project, there are more Table A transfers than in No Project Alternative A, but the increase in M&I deliveries is less because the Table A allocation rules shift from those in which M&I contractors receive priority in deliveries to those in which agricultural and M&I contractors share cuts equally. In the No Project B scenarios, the XA Amount allocation rules result in greater deliveries to agricultural contractors than occur under the Baseline, with the increase in agricultural deliveries and reduction in M&I deliveries being greatest in No Project Alternative B-S.

Table 18a - Change in Average Annual Scheduled Deliveries from the Baseline at the 2003 Level of Development (TAF/year)

SWP CONTRACTOR	2003 Baseline		2003 No Project A	2003 No Project A without KFE		2003 No Project A with KFE		2003 Proposed Project		
	Max Demand	Value	Max Demand	Value	Change	Value	Change	Max Demand	Value	Change
Napa	6.8	6.4	6.8	6.5	0.0	6.5	0.0	6.8	6.4	0.0
Solano	37.7	34.2	37.7	34.2	0.0	34.4	0.2	37.7	34.3	0.0
Zone 7	46.0	40.8	66.5	57.3	16.2	57.5	16.3	66.5	59.3	18.5
Alameda	35.2	31.9	35.2	31.9	0.0	32.0	0.1	35.2	35.2	3.3
Santa Clara	84.7	76.6	84.7	76.7	0.1	76.9	0.4	84.7	75.3	-1.3
Oak Flat	5.7	4.3	5.7	4.5	0.1	4.5	0.1	5.7	4.7	0.3
Kings	4.0	3.0	9.0	7.1	0.2	7.2	0.2	9.0	7.3	4.3
Dudley Ridge	57.7	43.9	61.7	48.2	1.0	48.3	1.1	57.3	46.8	3.0
Empire W.S.	3.0	2.3	3.0	2.3	0.1	2.3	0.1	3.0	2.4	0.2
KCWA (M&I)	134.6	119.4	134.6	119.5	0.0	119.8	0.4	134.6	117.8	-1.6
KCWA (Agric.)	1,018.8	774.7	945.8	736.8	-41.5	738.0	-40.3	864.1	705.7	-69.0
Tulare	118.5	90.1	96.3	74.6	1.6	74.7	1.8	96.3	78.6	-11.5
SLO	4.4	4.3	4.4	4.3	0.0	4.3	0.0	4.4	4.2	0.0
Santa Barbara	26.3	25.2	26.3	25.2	0.0	25.3	0.1	26.3	24.9	-0.2
AVEK	64.9	61.8	64.9	61.8	0.0	62.1	0.3	64.9	61.3	-0.5
Castaic (Agric.)	12.7	9.7	12.7	9.9	0.2	9.9	0.2	12.7	10.4	0.7
Castaic (M&I)	41.5	36.8	41.5	36.8	0.0	36.9	0.1	68.6	61.1	24.3
Coachella	19.3	17.5	19.3	17.5	0.0	17.6	0.1	19.3	17.8	0.3
Crestline	1.9	1.9	1.9	1.9	0.0	1.9	0.0	1.9	1.8	0.0
Desert	31.2	28.3	31.2	28.3	0.0	28.4	0.1	31.2	27.8	-0.5
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	13.2	13.0	13.2	13.0	0.0	13.1	0.0	13.2	13.0	0.0
MWDSC	2,011.5	1,310.0	2,011.5	1,311.4	1.2	1,315.5	5.4	2,011.5	1,284.6	-25.4
Palmdale	14.9	13.5	14.9	13.5	0.0	13.5	0.1	14.9	13.5	0.1
San Bernardino	69.8	64.4	69.8	64.5	0.1	64.7	0.3	69.8	63.5	-0.9
San Gabriel	18.1	16.8	18.1	16.8	0.0	16.9	0.1	18.1	16.6	-0.2
San Gorgonio	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.0
Ventura	5.0	4.9	5.0	4.9	0.0	4.9	0.0	5.0	4.9	0.0
Total Agriculture	1,220.4	928.0	1,134.2	883.5	-38.3	884.9	-36.8	1,048.1	855.9	-72.1
Total M&I	2,667.1	1,907.7	2,687.6	1,926.1	17.8	1,932.2	23.9	2,714.7	1,923.6	15.9
Total	3,887.5	2,835.7	3,821.8	2,809.7	-20.4	2,817.2	-12.9	3,762.8	2,779.5	-56.2

Table 18b - Change in Average Annual Scheduled Deliveries from the Baseline at the 2003 Level of Development (TAF/year)

SWP CONTRACTOR	2003 Baseline		2003 No Project B	2003 No Project B-A without KFE		2003 No Project B-A with KFE		2003 No Project B-S without KFE		2003 No Project B-S with KFE	
	Max Demand	Value	Max Demand	Value	Value	Change	Value	Change	Change	Value	Change
Napa	6.8	6.4	6.8	6.4	0.0	6.4	0.0	7.2	0.8	7.2	0.8
Solano	37.7	34.2	37.7	33.3	-0.9	33.4	-0.8	30.4	-3.8	30.5	-3.7
Zone 7	46.0	40.8	46.0	38.3	-2.6	38.3	-2.5	36.8	-4.0	36.8	-4.0
Alameda	35.2	31.9	35.2	30.8	-1.0	30.9	-1.0	29.9	-2.0	29.9	-1.9
Santa Clara	84.7	76.6	84.7	74.0	-2.6	74.2	-2.4	71.7	-4.9	71.8	-4.8
Oak Flat	5.7	4.3	5.7	4.6	0.3	4.6	0.3	5.2	0.9	5.3	0.9
Kings	4.0	3.0	4.0	3.2	0.2	3.3	0.2	3.7	0.7	3.7	0.7
Dudley Ridge	57.7	43.9	57.7	46.8	2.9	46.9	3.0	53.8	9.9	53.9	10.0
Empire W.S.	3.0	2.3	3.0	2.4	0.2	2.4	0.2	2.8	0.5	2.8	0.5
KCWA (M&I)	134.6	119.4	134.6	111.9	-7.5	112.2	-7.2	108.1	-11.3	108.4	-11.1
KCWA (Agric.)	1,018.8	774.7	1,018.8	826.8	52.1	828.5	53.8	834.2	59.5	836.1	61.4
Tulare	118.5	90.1	118.5	96.2	6.1	96.4	6.3	110.4	20.3	110.6	20.5
SLO	4.4	4.3	4.4	4.2	0.0	4.3	0.0	4.2	0.0	4.3	0.0
Santa Barbara	26.3	25.2	26.3	25.1	-0.1	25.2	0.0	24.5	-0.7	24.6	-0.6
AVEK	64.9	61.8	64.9	61.5	-0.3	61.8	0.0	61.4	-0.4	61.6	-0.2
Castaic (Agric.)	12.7	9.7	12.7	10.3	0.6	10.3	0.7	11.8	2.2	11.9	2.2
Castaic (M&I)	41.5	36.8	41.5	34.5	-2.3	34.6	-2.2	33.1	-3.7	33.2	-3.6
Coachella	19.3	17.5	19.3	16.9	-0.6	17.0	-0.5	16.6	-0.8	16.7	-0.8
Crestline	1.9	1.9	1.9	1.9	0.0	1.9	0.0	1.9	0.0	1.9	0.0
Desert	31.2	28.3	31.2	27.5	-0.8	27.5	-0.8	27.0	-1.3	27.1	-1.2
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	13.2	13.0	13.2	13.0	0.0	13.1	0.0	13.0	0.0	13.1	0.0
MWDSC	2,011.5	1,310.0	2,011.5	1,268.2	-41.8	1,271.9	-38.0	1,250.8	-59.2	1,254.4	-55.6
Palmdale	14.9	13.5	14.9	13.0	-0.5	13.0	-0.5	12.5	-0.9	12.5	-0.9
San Bernardino	69.8	64.4	69.8	63.3	-1.1	63.5	-0.9	63.1	-1.3	63.3	-1.1
San Gabriel	18.1	16.8	18.1	16.6	-0.2	16.6	-0.2	16.5	-0.3	16.6	-0.2
San Gorgonio	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0
Ventura	5.0	4.9	5.0	4.9	0.0	4.9	0.0	4.9	0.0	4.9	0.0
Total Agriculture	1,220.4	928.0	1,220.4	990.4	62.4	992.4	64.4	1,021.9	93.9	1,024.3	96.3
Total M&I	2,667.1	1,907.7	2,667.1	1,845.3	-62.4	1,850.7	-57.0	1,813.8	-93.9	1,818.9	-88.8
Total	3,887.5	2,835.7	3,887.5	2,835.7	0.0	2,843.2	7.4	2,835.7	0.0	2,843.2	7.5

Table 18c - Change in Average Annual Scheduled Deliveries from the Baseline in Dry & Critical Years at the 2003 Level of Development (TAF/year)

SWP CONTRACTOR	2003 Baseline		2003 No Project A	2003 No Project A without KFE		2003 No Project A with KFE		2003 Proposed Project		
	Max Demand	Value	Max Demand	Value	Change	Value	Change	Max Demand	Value	Change
Napa	6.8	5.8	6.8	5.9	0.0	6.0	0.1	6.8	5.7	-0.1
Solano	37.7	28.4	37.7	28.4	0.1	28.7	0.4	37.7	28.5	0.1
Zone 7	46.0	32.1	66.5	42.7	10.4	43.0	10.7	66.5	47.2	15.0
Alameda	35.2	26.2	35.2	26.4	0.1	26.7	0.4	35.2	35.2	9.0
Santa Clara	84.7	62.9	84.7	63.3	0.3	63.9	0.9	84.7	59.5	-3.4
Oak Flat	5.7	2.8	5.7	2.9	0.1	2.9	0.1	5.7	3.5	0.6
Kings	4.0	2.0	9.0	4.6	0.1	4.6	0.2	9.0	5.5	3.5
Dudley Ridge	57.7	28.7	61.7	31.7	0.9	31.9	1.1	57.3	34.8	6.1
Empire W.S.	3.0	1.5	3.0	1.5	0.0	1.6	0.1	3.0	1.8	0.3
KCWA (M&I)	134.6	93.9	134.6	94.0	0.1	94.9	0.9	134.6	89.6	-4.4
KCWA (Agric.)	1,018.8	506.2	945.8	486.0	-23.0	489.2	-19.8	864.1	524.4	18.2
Tulare	118.5	58.9	96.3	49.5	1.4	49.8	1.7	96.3	58.4	-0.5
SLO	4.4	4.0	4.4	4.0	0.0	4.1	0.1	4.4	3.9	-0.1
Santa Barbara	26.3	23.3	26.3	23.4	0.1	23.7	0.3	26.3	22.7	-0.6
AVEK	64.9	56.6	64.9	56.7	0.1	57.4	0.8	64.9	55.3	-1.3
Castaic (Agric.)	12.7	6.3	12.7	6.5	0.2	6.6	0.2	12.7	7.7	1.4
Castaic (M&I)	41.5	29.0	41.5	29.0	0.0	29.3	0.3	68.6	48.5	19.6
Coachella	19.3	14.4	19.3	14.5	0.1	14.6	0.2	19.3	15.3	0.9
Crestline	1.9	1.8	1.9	1.8	0.0	1.8	0.0	1.9	1.8	0.0
Desert	31.2	23.4	31.2	23.5	0.1	23.8	0.4	31.2	22.2	-1.3
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	13.2	12.8	13.2	12.8	0.0	12.8	0.1	13.2	12.8	0.0
MWDSC	2,011.5	1,103.8	2,011.5	1,107.5	3.3	1,118.6	14.4	2,011.5	1,043.3	-60.4
Palmdale	14.9	11.0	14.9	11.1	0.0	11.2	0.2	14.9	11.2	0.2
San Bernardino	69.8	55.3	69.8	55.5	0.2	56.1	0.7	69.8	52.9	-2.4
San Gabriel	18.1	14.7	18.1	14.7	0.0	14.8	0.2	18.1	14.1	-0.6
San Gorgonio	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.0
Ventura	5.0	4.8	5.0	4.8	0.0	4.9	0.0	5.0	4.8	0.0
Total Agriculture	1,220.4	606.4	1,134.2	582.8	-20.3	586.6	-16.5	1,048.1	636.1	29.7
Total M&I	2,667.1	1,604.4	2,687.6	1,620.0	14.8	1,636.4	31.1	2,714.7	1,574.4	-29.9
Total	3,887.5	2,210.8	3,821.8	2,202.8	-5.5	2,222.9	14.6	3,762.8	2,210.5	-0.2

Table 18d - Change in Average Annual Scheduled Deliveries from the Baseline in Dry & Critical Years at the 2003 Level of Development (TAF/year)

SWP CONTRACTOR	2003 Baseline		2003 No Project B	2003 No Project B-A without KFE		2003 No Project B-A with KFE		2003 No Project B-S without KFE		2003 No Project B-S with KFE	
	Max Demand	Value	Max Demand	Value	Value	Change	Value	Change	Change	Value	Change
Napa	6.8	5.8	6.8	5.7	-0.1	5.7	-0.1	6.6	0.8	6.7	0.9
Solano	37.7	28.4	37.7	26.1	-2.3	26.3	-2.1	22.0	-6.4	22.2	-6.2
Zone 7	46.0	32.1	46.0	27.8	-4.3	28.1	-4.0	25.9	-6.2	26.1	-6.0
Alameda	35.2	26.2	35.2	23.9	-2.3	24.2	-2.1	22.4	-3.9	22.6	-3.6
Santa Clara	84.7	62.9	84.7	57.2	-5.7	57.8	-5.2	53.5	-9.4	54.0	-9.0
Oak Flat	5.7	2.8	5.7	3.4	0.5	3.4	0.6	3.8	0.9	3.8	1.0
Kings	4.0	2.0	4.0	2.4	0.4	2.4	0.4	2.7	0.8	2.8	0.8
Dudley Ridge	57.7	28.7	57.7	34.0	5.4	34.3	5.6	39.5	10.9	39.8	11.2
Empire W.S.	3.0	1.5	3.0	1.8	0.3	1.8	0.3	2.1	0.6	2.1	0.6
KCWA (M&I)	134.6	93.9	134.6	81.5	-12.5	82.2	-11.8	75.9	-18.0	76.6	-17.4
KCWA (Agric.)	1,018.8	506.2	1,018.8	601.1	94.9	605.7	99.5	630.2	123.9	635.4	129.2
Tulare	118.5	58.9	118.5	69.9	11.0	70.4	11.6	81.2	22.3	81.8	22.9
SLO	4.4	4.0	4.4	4.0	0.0	4.0	0.0	4.0	0.0	4.0	0.0
Santa Barbara	26.3	23.3	26.3	23.1	-0.2	23.4	0.1	21.7	-1.6	21.9	-1.4
AVEK	64.9	56.6	64.9	55.8	-0.8	56.5	-0.1	55.8	-0.8	56.5	-0.1
Castaic (Agric.)	12.7	6.3	12.7	7.5	1.2	7.6	1.2	8.7	2.4	8.8	2.5
Castaic (M&I)	41.5	29.0	41.5	25.1	-3.8	25.3	-3.6	23.3	-5.7	23.5	-5.5
Coachella	19.3	14.4	19.3	13.1	-1.3	13.3	-1.1	12.7	-1.7	12.8	-1.6
Crestline	1.9	1.8	1.9	1.8	0.0	1.8	0.0	1.8	0.0	1.8	0.0
Desert	31.2	23.4	31.2	21.5	-1.9	21.7	-1.7	20.8	-2.6	21.0	-2.5
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	13.2	12.8	13.2	12.7	0.0	12.8	0.0	12.7	0.0	12.8	0.0
MWDSC	2,011.5	1,103.8	2,011.5	1,030.1	-73.6	1,040.2	-63.6	1,003.1	-100.6	1,012.6	-91.2
Palmdale	14.9	11.0	14.9	10.0	-1.0	10.1	-1.0	9.3	-1.8	9.3	-1.7
San Bernardino	69.8	55.3	69.8	52.3	-3.0	52.8	-2.5	52.2	-3.1	52.7	-2.6
San Gabriel	18.1	14.7	18.1	14.0	-0.6	14.2	-0.5	14.0	-0.6	14.2	-0.5
San Gorgonio	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0
Ventura	5.0	4.8	5.0	4.8	0.0	4.9	0.0	4.8	0.0	4.9	0.0
Total Agriculture	1,220.4	606.4	1,220.4	720.1	113.7	725.5	119.2	768.1	161.7	774.4	168.0
Total M&I	2,667.1	1,604.4	2,667.1	1,490.7	-113.7	1,505.2	-99.2	1,442.6	-161.7	1,456.3	-148.0
Total	3,887.5	2,210.8	3,887.5	2,210.8	0.0	2,230.8	20.0	2,210.8	0.0	2,230.8	20.0

Table 19a - Change in Average Annual Scheduled Deliveries from the Baseline at the 2020 Level of Development (TAF/year)

SWP CONTRACTOR	2020 Baseline		2020 No Project A	2020 No Project A without KFE		2020 No Project A with KFE		2020 Proposed Project		
	Max Demand	Value	Max Demand	Value	Change	Value	Change	Max Demand	Value	Change
Napa	24.9	20.3	28.9	23.1	2.8	23.2	2.9	28.9	22.8	2.4
Solano	42.0	34.3	47.8	38.2	3.9	38.4	4.0	47.8	37.6	3.3
Zone 7	46.0	37.6	80.6	61.2	23.6	61.5	23.9	80.6	63.5	25.9
Alameda	42.0	34.3	42.0	34.3	0.0	34.5	0.1	42.0	33.1	-1.3
Santa Clara	100.0	81.7	100.0	81.7	0.0	82.1	0.4	100.0	78.7	-3.0
Oak Flat	5.7	3.9	5.7	3.9	0.0	3.9	0.0	5.7	4.4	0.5
Kings	4.0	2.7	4.0	6.1	3.4	6.2	3.4	4.0	6.9	4.2
Dudley Ridge	57.7	39.3	61.7	42.0	2.7	42.2	2.9	57.3	44.1	4.8
Empire W.S.	3.0	2.0	3.0	2.0	0.0	2.1	0.0	3.0	2.3	0.3
KCWA (M&I)	134.6	110.0	134.6	110.0	0.0	110.5	0.5	134.6	106.0	-4.0
KCWA (Agric.)	1,018.8	694.1	929.8	633.5	-60.6	636.6	-57.5	848.1	652.0	-42.1
Tulare	118.5	80.7	96.3	65.6	-15.2	65.9	-14.9	96.3	74.0	-6.8
SLO	25.0	20.4	25.0	20.4	0.0	20.5	0.1	25.0	19.7	-0.7
Santa Barbara	45.5	37.2	45.5	37.2	0.0	37.3	0.2	45.5	35.8	-1.4
AVEK	138.4	113.1	141.4	115.1	2.0	115.6	2.5	141.4	111.3	-1.8
Castaic (Agric.)	12.7	8.7	12.7	8.7	0.0	8.7	0.0	12.7	9.8	1.1
Castaic (M&I)	41.5	33.9	41.5	33.9	0.0	34.1	0.1	82.5	65.0	31.0
Coachella	111.2	90.9	133.1	105.8	14.9	106.3	15.4	133.1	104.8	13.9
Crestline	5.8	4.7	5.8	4.7	0.0	4.8	0.0	5.8	4.6	-0.2
Desert	50.0	40.9	54.0	43.6	2.7	43.8	2.9	54.0	42.5	1.7
Littlerock	2.3	1.9	2.3	1.9	0.0	1.9	0.0	2.3	1.8	-0.1
Mojave	50.8	41.5	75.8	58.5	17.0	58.8	17.3	75.8	59.7	18.2
MWDSC	1,911.5	1,562.0	1,911.5	1,562.0	0.0	1,568.8	6.8	1,911.5	1,505.1	-56.9
Palmdale	17.3	14.1	21.3	16.9	2.7	16.9	2.8	21.3	16.8	2.6
San Bernardino	102.6	83.8	102.6	83.8	0.0	84.2	0.4	102.6	80.8	-3.1
San Gabriel	28.8	23.5	28.8	23.5	0.0	23.6	0.1	28.8	22.7	-0.9
San Gorgonio	17.3	14.1	17.3	14.1	0.0	14.2	0.1	17.3	13.6	-0.5
Ventura	20.0	16.3	20.0	16.3	0.0	16.4	0.1	20.0	15.7	-0.6
Total Agriculture	1,220.4	831.4	1,118.1	761.7	-69.7	765.5	-66.0	1,032.1	793.5	-38.0
Total M&I	2,957.5	2,416.8	3,059.8	2,486.5	69.7	2,497.3	80.5	3,100.8	2,441.6	24.7
Total	4,177.9	3,248.2	4,177.9	3,248.2	0.0	3,262.8	14.6	4,132.9	3,235.0	-13.2

Table 19b - Change in Average Annual Scheduled Deliveries from the Baseline at the 2020 Level of Development (TAF/year)

SWP CONTRACTOR	2020 Baseline		2020 No Project B	2020 No Project B-A without KFE		2020 No Project B-A with KFE		2020 No Project B-S without KFE		2020 No Project B-S with KFE	
	Max Demand	Value	Max Demand	Value	Value	Change	Value	Change	Change	Value	Change
Napa	24.9	20.3	24.9	19.6	-0.7	19.7	-0.7	18.0	-2.4	18.0	-2.3
Solano	42.0	34.3	42.0	33.1	-1.2	33.2	-1.1	30.0	-4.3	30.1	-4.2
Zone 7	46.0	37.6	46.0	36.2	-1.4	36.4	-1.2	32.9	-4.7	33.1	-4.5
Alameda	42.0	34.3	42.0	33.1	-1.2	33.2	-1.1	30.3	-4.0	30.4	-3.9
Santa Clara	100.0	81.7	100.0	78.8	-3.0	79.0	-2.7	72.2	-9.5	72.4	-9.3
Oak Flat	5.7	3.9	5.7	4.3	0.4	4.3	0.4	4.7	0.8	4.7	0.8
Kings	4.0	2.7	4.0	3.0	0.3	3.0	0.3	3.3	0.6	3.3	0.6
Dudley Ridge	57.7	39.3	57.7	43.4	4.1	43.7	4.4	47.8	8.5	48.0	8.7
Empire W.S.	3.0	2.0	3.0	2.3	0.2	2.3	0.2	2.5	0.4	2.5	0.5
KCWA (M&I)	134.6	110.0	134.6	106.0	-4.0	106.4	-3.6	96.2	-13.8	96.5	-13.5
KCWA (Agric.)	1,018.8	694.1	1,018.8	767.0	72.9	771.4	77.3	843.7	149.6	848.2	154.1
Tulare	118.5	80.7	118.5	89.2	8.5	89.7	9.0	98.1	17.4	98.7	17.9
SLO	25.0	20.4	25.0	19.7	-0.7	19.8	-0.7	17.9	-2.6	17.9	-2.5
Santa Barbara	45.5	37.2	45.5	35.8	-1.3	35.9	-1.2	32.5	-4.7	32.6	-4.6
AVEK	138.4	113.1	138.4	109.0	-4.1	109.4	-3.7	108.3	-4.8	108.7	-4.4
Castaic (Agric.)	12.7	8.7	12.7	9.6	0.9	9.6	1.0	10.5	1.9	10.6	1.9
Castaic (M&I)	41.5	33.9	41.5	32.7	-1.2	32.8	-1.1	29.7	-4.3	29.8	-4.2
Coachella	111.2	90.9	111.2	87.6	-3.3	87.9	-3.0	87.0	-3.9	87.3	-3.6
Crestline	5.8	4.7	5.8	4.6	-0.2	4.6	-0.2	4.1	-0.6	4.2	-0.6
Desert	50.0	40.9	50.0	39.4	-1.5	39.5	-1.3	39.1	-1.7	39.3	-1.6
Littlerock	2.3	1.9	2.3	1.8	-0.1	1.8	-0.1	1.7	-0.2	1.7	-0.2
Mojave	50.8	41.5	50.8	40.0	-1.5	40.1	-1.4	43.2	1.7	43.3	1.8
MWDSC	1,911.5	1,562.0	1,911.5	1,505.6	-56.4	1,510.6	-51.4	1,443.8	-118.2	1,448.7	-113.3
Palmdale	17.3	14.1	17.3	13.6	-0.5	13.7	-0.5	12.4	-1.8	12.4	-1.7
San Bernardino	102.6	83.8	102.6	80.8	-3.0	81.1	-2.8	87.3	3.4	87.5	3.7
San Gabriel	28.8	23.5	28.8	22.7	-0.9	22.8	-0.8	24.5	1.0	24.6	1.0
San Gorgonio	17.3	14.1	17.3	13.6	-0.5	13.7	-0.5	12.4	-1.8	12.4	-1.7
Ventura	20.0	16.3	20.0	15.8	-0.6	15.8	-0.5	14.3	-2.1	14.3	-2.0
Total Agriculture	1,220.4	831.4	1,220.4	918.8	87.3	924.0	92.6	1,010.6	179.2	1,016.0	184.6
Total M&I	2,957.5	2,416.8	2,957.5	2,329.5	-87.3	2,337.2	-79.6	2,237.6	-179.2	2,245.2	-171.6
Total	4,177.9	3,248.2	4,177.9	3,248.2	0.0	3,261.2	13.0	3,248.2	0.0	3,261.2	13.0

Table 19c - Change in Average Annual Scheduled Deliveries from the Baseline in Dry & Critical Years at the 2020 Level of Development (TAF/year)

SWP CONTRACTOR	2020 Baseline		2020 No Project A	2020 No Project A without KFE		2020 No Project A with KFE		2020 Proposed Project		
	Max Demand	Value	Max Demand	Value	Change	Value	Change	Max Demand	Value	Change
Napa	24.9	14.5	28.9	16.1	1.6	16.3	1.9	28.9	15.3	0.8
Solano	42.0	24.4	47.8	26.5	2.1	27.0	2.5	47.8	25.2	0.8
Zone 7	46.0	26.7	80.6	39.8	13.0	40.5	13.8	80.6	42.6	15.8
Alameda	42.0	24.4	42.0	24.4	0.0	24.8	0.4	42.0	22.2	-2.2
Santa Clara	100.0	58.1	100.0	58.1	0.0	59.1	1.0	100.0	52.8	-5.3
Oak Flat	5.7	2.1	5.7	2.1	0.0	2.2	0.1	5.7	3.0	0.9
Kings	4.0	1.5	4.0	3.4	1.9	3.5	2.0	4.0	4.8	3.2
Dudley Ridge	57.7	21.7	61.7	23.2	1.5	23.7	2.0	57.3	30.3	8.6
Empire W.S.	3.0	1.1	3.0	1.1	0.0	1.2	0.0	3.0	1.6	0.5
KCWA (M&I)	134.6	78.3	134.6	78.3	0.0	79.5	1.3	134.6	71.1	-7.2
KCWA (Agric.)	1,018.8	382.9	929.8	349.4	-33.5	357.7	-25.1	848.1	447.8	65.0
Tulare	118.5	44.5	96.3	36.2	-8.4	37.0	-7.5	96.3	50.8	6.3
SLO	25.0	14.5	25.0	14.5	0.0	14.8	0.2	25.0	13.2	-1.3
Santa Barbara	45.5	26.4	45.5	26.4	0.0	26.9	0.4	45.5	24.0	-2.4
AVEK	138.4	80.5	141.4	81.6	1.1	83.0	2.5	141.4	74.7	-5.8
Castaic (Agric.)	12.7	4.8	12.7	4.8	0.0	4.9	0.1	12.7	6.7	1.9
Castaic (M&I)	41.5	24.1	41.5	24.1	0.0	24.5	0.4	82.5	43.6	19.4
Coachella	111.2	64.7	133.1	72.9	8.2	74.1	9.5	133.1	70.3	5.6
Crestline	5.8	3.4	5.8	3.4	0.0	3.4	0.1	5.8	3.1	-0.3
Desert	50.0	29.1	54.0	30.6	1.5	31.1	2.0	54.0	28.5	-0.6
Littlerock	2.3	1.3	2.3	1.3	0.0	1.4	0.0	2.3	1.2	-0.1
Mojave	50.8	29.5	75.8	38.9	9.4	39.6	10.1	75.8	40.0	10.5
MWDSC	1,911.5	1,111.5	1,911.5	1,111.5	0.0	1,129.7	18.2	1,911.5	1,009.3	-102.2
Palmdale	17.3	10.1	21.3	11.6	1.5	11.8	1.7	21.3	11.2	1.2
San Bernardino	102.6	59.7	102.6	59.7	0.0	60.6	1.0	102.6	54.2	-5.5
San Gabriel	28.8	16.7	28.8	16.7	0.0	17.0	0.3	28.8	15.2	-1.5
San Gorgonio	17.3	10.1	17.3	10.1	0.0	10.2	0.2	17.3	9.1	-0.9
Ventura	20.0	11.6	20.0	11.6	0.0	11.8	0.2	20.0	10.6	-1.1
Total Agriculture	1,220.4	458.6	1,118.1	420.2	-38.5	430.2	-28.5	1,032.1	545.0	86.3
Total M&I	2,957.5	1,719.8	3,059.8	1,758.2	38.4	1,787.3	67.5	3,100.8	1,637.3	-82.5
Total	4,177.9	2,178.4	4,177.9	2,178.4	0.0	2,217.4	39.0	4,132.9	2,182.3	3.9

Table 19d - Change in Average Annual Scheduled Deliveries from the Baseline in Dry & Critical Years at the 2020 Level of Development (TAF/year)

SWP CONTRACTOR	2020 Baseline		2020 No Project B	2020 No Project B-A without KFE		2020 No Project B-A with KFE		2020 No Project B-S without KFE		2020 No Project B-S with KFE	
	Max Demand	Value	Max Demand	Value	Value	Change	Value	Change	Change	Value	Change
Napa	24.9	14.5	24.9	13.3	-1.2	13.5	-1.0	11.2	-3.3	11.4	-3.1
Solano	42.0	24.4	42.0	22.5	-2.0	22.8	-1.7	18.5	-5.9	18.8	-5.7
Zone 7	46.0	26.7	46.0	24.6	-2.1	24.9	-1.8	20.3	-6.4	20.6	-6.1
Alameda	42.0	24.4	42.0	22.5	-2.0	22.8	-1.7	18.9	-5.6	19.2	-5.3
Santa Clara	100.0	58.1	100.0	53.5	-4.7	54.2	-4.0	44.9	-13.2	45.6	-12.6
Oak Flat	5.7	2.1	5.7	2.8	0.6	2.9	0.7	3.3	1.2	3.4	1.2
Kings	4.0	1.5	4.0	2.0	0.5	2.0	0.5	2.4	0.9	2.4	0.9
Dudley Ridge	57.7	21.7	57.7	28.2	6.5	28.9	7.2	34.2	12.6	34.9	13.2
Empire W.S.	3.0	1.1	3.0	1.5	0.3	1.5	0.4	1.8	0.7	1.8	0.7
KCWA (M&I)	134.6	78.3	134.6	72.0	-6.3	72.9	-5.3	59.2	-19.1	60.1	-18.1
KCWA (Agric.)	1,018.8	382.9	1,018.8	498.1	115.3	509.9	127.0	604.5	221.7	616.7	233.8
Tulare	118.5	44.5	118.5	57.9	13.4	59.3	14.8	70.3	25.8	71.7	27.2
SLO	25.0	14.5	25.0	13.4	-1.2	13.5	-1.0	11.0	-3.5	11.2	-3.4
Santa Barbara	45.5	26.4	45.5	24.3	-2.1	24.6	-1.8	20.0	-6.4	20.3	-6.1
AVEK	138.4	80.5	138.4	74.0	-6.5	75.0	-5.5	72.5	-8.0	73.4	-7.1
Castaic (Agric.)	12.7	4.8	12.7	6.2	1.4	6.4	1.6	7.5	2.8	7.7	2.9
Castaic (M&I)	41.5	24.1	41.5	22.2	-1.9	22.5	-1.6	18.3	-5.9	18.5	-5.6
Coachella	111.2	64.7	111.2	59.5	-5.2	60.3	-4.4	58.2	-6.4	59.0	-5.7
Crestline	5.8	3.4	5.8	3.1	-0.3	3.1	-0.2	2.6	-0.8	2.6	-0.8
Desert	50.0	29.1	50.0	26.7	-2.3	27.1	-2.0	26.2	-2.9	26.5	-2.5
Littlerock	2.3	1.3	2.3	1.2	-0.1	1.2	-0.1	1.0	-0.3	1.0	-0.3
Mojave	50.8	29.5	50.8	27.2	-2.4	27.5	-2.0	30.9	1.3	31.2	1.7
MWDSC	1,911.5	1,111.5	1,911.5	1,022.3	-89.2	1,035.7	-75.8	936.9	-174.6	950.0	-161.5
Palmdale	17.3	10.1	17.3	9.3	-0.8	9.4	-0.7	7.6	-2.4	7.7	-2.3
San Bernardino	102.6	59.7	102.6	54.9	-4.8	55.6	-4.1	62.3	2.6	63.0	3.4
San Gabriel	28.8	16.7	28.8	15.4	-1.3	15.6	-1.1	17.5	0.7	17.7	0.9
San Gorgonio	17.3	10.1	17.3	9.3	-0.8	9.4	-0.7	7.6	-2.4	7.7	-2.3
Ventura	20.0	11.6	20.0	10.7	-0.9	10.8	-0.8	8.8	-2.8	8.9	-2.7
Total Agriculture	1,220.4	458.6	1,220.4	596.7	138.1	610.7	152.1	724.1	265.5	738.6	280.0
Total M&I	2,957.5	1,719.8	2,957.5	1,581.7	-138.1	1,602.5	-117.3	1,454.3	-265.4	1,474.6	-245.2
Total	4,177.9	2,178.4	4,177.9	2,178.4	0.0	2,213.2	34.8	2,178.4	0.0	2,213.2	34.8

3.2. Central Valley Project Deliveries

Table 20 shows the average annual deliveries to Central Valley Project (CVP) contractors in all years and in each year type in each scenario. Because the CVP has the same demand in each scenario, the deliveries are similar between the scenarios in all year types.

Table 20 - Average Annual Deliveries to CVP Contractors (TAF/year)

Scenario	Demand	Delivery					
		All Years	*Wet Years*	*Above Normal Years*	*Below Normal Years*	*Dry Years*	*Critical Years*
1994 Baseline	3,460.0	1,762.5	2,224.7	2,078.4	1,859.7	1,605.8	725.9
2003 Baseline	3,460.0	1,741.9	2,238.0	2,049.5	1,858.3	1,562.3	657.0
2003 Proposed Project	3,460.0	1,740.0	2,246.0	2,053.2	1,844.0	1,552.8	656.9
2003 No Project A	3,460.0	1,741.7	2,244.6	2,052.6	1,848.4	1,551.8	666.8
2003 No Project B	3,460.0	1,741.9	2,238.0	2,049.5	1,858.3	1,562.3	657.0
2020 Baseline	3,460.0	1,769.7	2,330.6	2,157.9	1,815.0	1,510.6	686.3
2020 Proposed Project	3,460.0	1,775.2	2,336.0	2,160.2	1,839.1	1,503.8	688.3
2020 No Project A	3,460.0	1,769.7	2,330.6	2,157.9	1,815.0	1,510.6	686.3
2020 No Project B	3,460.0	1,769.7	2,330.6	2,157.9	1,815.0	1,510.6	686.3

3.3. Deliveries to Feather River Area Contractors

Table 21 shows the average annual deliveries to Feather River Service Area (FRSA) agricultural contractors in all years and in each year type in each scenario. Tables 22 and 23 show the same information for the County of Butte and City of Yuba City. In all cases, the deliveries are similar at each level of development between the scenarios in all year types.

Table 21 - Average Annual Deliveries to FRSA Agricultural Contractors (TAF/year)

Scenario	Demand	Delivery					
		All Years	*Wet Years*	*Above Normal Years*	*Below Normal Years*	*Dry Years*	*Critical Years*
1994 Baseline	796.0	762.1	787.3	792.4	788.5	794.0	619.7
2003 Baseline	796.0	762.1	787.2	792.3	788.5	793.9	619.7
2003 Proposed Project	796.0	762.1	787.2	792.3	788.5	793.9	619.7
2003 No Project A	796.0	762.1	787.2	792.3	788.5	793.9	619.7
2003 No Project B	796.0	762.1	787.2	792.3	788.5	793.9	619.7
2020 Baseline	796.0	760.0	783.9	789.5	786.7	793.0	618.7
2020 Proposed Project	796.0	760.0	783.9	789.5	786.7	793.0	618.6
2020 No Project A	796.0	760.0	783.9	789.5	786.7	793.0	618.7
2020 No Project B	796.0	760.0	783.9	789.5	786.7	793.0	618.7

Table 22 - Average Annual Deliveries to County of Butte (TAF/year)

Scenario	Demand	Delivery					
		All Years	*Wet Years*	*Above Normal Years*	*Below Normal Years*	*Dry Years*	*Critical Years*
1994 Baseline	0.2	0.1	0.1	0.1	0.1	0.1	0.1
2003 Baseline	0.5	0.3	0.3	0.3	0.3	0.3	0.2
2003 Proposed Project	0.5	0.3	0.3	0.3	0.3	0.3	0.2
2003 No Project A	0.5	0.3	0.3	0.3	0.3	0.3	0.3
2003 No Project B	0.5	0.3	0.3	0.3	0.3	0.3	0.2
2020 Baseline	27.5	13.1	13.1	15.2	14.5	12.5	11.0
2020 Proposed Project	27.5	13.3	13.3	15.4	14.6	12.7	11.3
2020 No Project A	27.5	13.2	13.1	15.3	14.5	12.7	11.3
2020 No Project B	27.5	13.2	13.1	15.3	14.5	12.7	11.3

Table 23 - Average Annual Deliveries to City of Yuba City (TAF/year)

Scenario	Demand	Delivery					
		All Years	*Wet Years*	*Above Normal Years*	*Below Normal Years*	*Dry Years*	*Critical Years*
1994 Baseline	0.9	0.5	0.5	0.5	0.5	0.3	0.6
2003 Baseline	1.2	0.6	0.6	0.7	0.5	0.5	0.9
2003 Proposed Project	1.2	0.6	0.6	0.7	0.5	0.5	0.9
2003 No Project A	1.2	0.6	0.6	0.6	0.6	0.5	0.9
2003 No Project B	1.2	0.6	0.6	0.7	0.5	0.5	0.9
2020 Baseline	9.6	4.0	3.8	4.5	3.2	3.2	5.8
2020 Proposed Project	9.6	4.0	3.8	4.5	3.2	3.2	6.0
2020 No Project A	9.6	4.0	3.8	4.5	3.2	3.2	5.9
2020 No Project B	9.6	4.0	3.8	4.5	3.2	3.2	5.9

3.4. Flows in the Delta and in North of Delta Rivers

To evaluate the impacts on flows in the Delta and in North of Delta rivers, the EIR will evaluate the following flows and parameters in each of the scenarios (with the applicable CALSIM arc in parenthesis):

- American River flow (C303)
- Feather River flow (C203)
- Sacramento River flow into the Delta (C169)
- San Joaquin River flow at Vernalis (C644)
- Delta Outflow (C407 + D407)
- Minimum Required Delta Outflow (D407)
- SWP Banks Pumping (D419_SWP)
- CVP Banks Pumping (D419_CVP)
- X2 Position (X2_PRV)
- Export/Import Ratio (D418+D419/DELTA-INFLOW)

In the sections below, the EIR compares both annual and monthly values for each of these parameters.

3.4.1. Annual Comparison

Tables 24a and 24b show average annual values in all years and in wet, above normal, below normal, dry and critical years for each parameter in each scenario. The annual values of each of these parameters in the No Project and Proposed Project scenarios are comparable to the Baseline at both the 2003 and 2020 levels of development. Most of the parameters in most year types differ by less than 1%. The only parameter that differs by more than 1% is CVP use of Banks pumping plant. In 2003, CVP use of Banks is greater in the Baseline than in the No Project A and Proposed Project scenarios. In 2020, CVP use of Banks is higher in the Proposed Project than in the Baseline on average but lower in dry and critical years.

A comparison of the parameters between the different year types indicates that as the level of development advances from 1994 to 2003 and then to 2020, the most significant differences are that SWP Banks pumping increases in many years to try to meet the increased SWP demand, with a corresponding decrease in Delta outflow.

3.4.2. Monthly Comparison

Tables 25a through 34b show monthly statistics for each parameter in each scenario. While there is more variation in the monthly values than in the annual values, the values for each parameter are similar between the Baseline and the No Project and Proposed Project scenarios at the same level of development. For every parameter at both levels of development, the difference in all of the statistical measures is less than 1% in a majority of months. And at both the 2003 and 2020 levels of development, no monthly average or median value differs by more than 10% as compared to the Baseline.

Table 24a - Average Annual Flows and Other Delta Parameters for the 1994 and 2003 Scenarios

	American River Flow (TAF/yr)	Feather River Flow (TAF/yr)	Sacramento River Flow into the Delta (TAF/yr)	San Joaquin River at Vernalis (Taf/yr)	Delta Outflow (TAF/yr)	Minimum Required Delta Outflow (TAF/yr)	SWP Banks Pumping (TAF/yr)	CVP Banks Pumping (TAF/yr)	Average X2 Position (km)	Average E/I ratio
1994 Baseline										
All Years	2,401.5	3,011.5	16,106.1	2,805.8	14,435.0	5,551.4	2,945.0	87.3	75.8	0.36
Wet Years	3,856.1	4,802.8	24,593.1	4,902.1	27,790.3	6,801.7	3,628.8	96.7	68.9	0.31
Above Normal Years	2,868.9	3,284.4	19,058.6	3,052.1	16,903.8	6,609.0	3,364.8	144.1	73.6	0.37
Below Normal Years	2,101.0	2,489.1	13,829.9	2,391.5	9,858.7	5,466.6	3,104.2	85.9	76.9	0.40
Dry Years	1,520.0	2,057.4	11,198.5	1,540.1	6,653.3	4,593.3	2,673.2	81.0	79.9	0.42
Critical Years	992.5	1,530.6	7,992.3	1,103.2	4,720.6	3,858.4	1,575.3	33.2	82.6	0.34
2003 Baseline										
All Years	2,416.9	3,081.1	16,307.3	2,864.8	14,656.6	5,609.0	3,000.2	147.7	75.6	0.35
Wet Years	3,883.9	4,826.5	24,655.8	5,039.7	28,007.7	6,821.2	3,592.9	186.0	68.9	0.30
Above Normal Years	2,887.5	3,276.5	19,398.0	2,993.7	17,153.2	6,778.5	3,436.5	181.6	73.5	0.36
Below Normal Years	2,034.8	2,584.1	13,908.0	2,346.9	9,687.8	5,441.9	3,240.0	179.7	77.0	0.40
Dry Years	1,479.3	2,097.6	11,009.5	1,542.3	6,375.0	4,577.5	2,712.8	123.6	79.9	0.40
Critical Years	1,009.4	1,587.3	8,177.8	1,100.0	4,751.7	3,958.3	1,647.7	43.3	82.5	0.32
2003 No Project Alternative A										
All Years	2,416.8	3,080.4	16,298.3	2,864.7	14,673.4	5,607.0	2,983.9	143.3	75.6	0.35
Wet Years	3,883.7	4,837.3	24,642.9	5,040.0	28,028.3	6,826.1	3,586.4	179.8	68.9	0.30
Above Normal Years	2,885.6	3,270.5	19,388.9	2,993.5	17,162.6	6,767.2	3,432.9	175.5	73.5	0.36
Below Normal Years	2,035.9	2,550.6	13,868.7	2,346.1	9,700.6	5,434.5	3,199.9	177.2	77.0	0.40
Dry Years	1,468.4	2,118.4	11,021.2	1,542.2	6,405.8	4,574.0	2,690.5	118.9	79.9	0.40
Critical Years	1,023.2	1,581.1	8,185.2	1,100.3	4,754.5	3,960.0	1,638.9	41.2	82.5	0.32
2003 No Project Alternative B										
All Years	2,416.9	3,081.1	16,307.3	2,864.8	14,656.6	5,609.0	3,000.2	147.7	75.6	0.35
Wet Years	3,883.9	4,826.5	24,655.8	5,039.7	28,007.7	6,821.2	3,592.9	186.0	68.9	0.30
Above Normal Years	2,887.5	3,276.5	19,398.0	2,993.7	17,153.2	6,778.5	3,436.5	181.6	73.5	0.36
Below Normal Years	2,034.8	2,584.1	13,908.0	2,346.9	9,687.8	5,441.9	3,240.0	179.7	77.0	0.40
Dry Years	1,479.3	2,097.6	11,009.5	1,542.3	6,375.0	4,577.5	2,712.8	123.6	79.9	0.40
Critical Years	1,009.4	1,587.3	8,177.8	1,100.0	4,751.7	3,958.3	1,647.7	43.3	82.5	0.32
2003 Proposed Project										
All Years	2,416.9	3,080.6	16,299.0	2,864.7	14,699.0	5,603.6	2,959.5	142.3	75.6	0.35
Wet Years	3,883.2	4,835.2	24,633.8	5,039.5	28,068.5	6,819.1	3,542.9	178.4	68.8	0.30
Above Normal Years	2,889.3	3,249.8	19,369.1	2,993.5	17,186.4	6,769.4	3,389.3	177.0	73.5	0.35
Below Normal Years	2,038.8	2,564.2	13,882.0	2,346.6	9,742.0	5,425.2	3,188.2	172.7	77.0	0.40
Dry Years	1,471.1	2,119.7	11,039.8	1,542.2	6,413.0	4,578.0	2,675.4	120.3	79.9	0.40
Critical Years	1,015.1	1,585.5	8,182.8	1,100.4	4,759.9	3,956.1	1,638.5	40.1	82.5	0.32

Table 24b - Average Annual Flows and Other Delta Parameters for the 2020 Scenarios

	American River Flow (TAF/yr)	Feather River Flow (TAF/yr)	Sacramento River Flow into the Delta (TAF/yr)	San Joaquin River at Vernalis (Taf/yr)	Delta Outflow (TAF/yr)	Minimum Required Delta Outflow (TAF/yr)	SWP Banks Pumping (TAF/yr)	CVP Banks Pumping (TAF/yr)	Average X2 Position (km)	Average E/I ratio
2020 Baseline										
All Years	2,190.9	3,071.3	16,181.0	2,869.1	14,180.1	5,678.3	3,289.0	143.3	76.0	0.36
Wet Years	3,601.4	4,851.1	24,383.9	5,063.8	26,920.2	6,933.3	4,191.0	219.1	69.5	0.33
Above Normal Years	2,613.0	3,341.4	19,373.2	3,006.3	16,699.0	6,868.2	3,774.8	125.6	74.0	0.37
Below Normal Years	1,829.4	2,548.8	13,816.1	2,348.3	9,447.5	5,473.0	3,436.7	125.4	77.3	0.41
Dry Years	1,266.2	2,050.4	10,870.8	1,526.0	6,147.0	4,645.0	2,812.9	131.8	80.2	0.41
Critical Years	885.3	1,531.3	8,208.1	1,091.1	4,772.1	3,980.8	1,682.6	56.0	82.5	0.32
2020 No Project Alternative A										
All Years	2,190.9	3,071.3	16,181.0	2,869.1	14,180.1	5,678.3	3,289.0	143.3	76.0	0.36
Wet Years	3,601.4	4,851.1	24,383.9	5,063.8	26,920.2	6,933.3	4,191.0	219.1	69.5	0.33
Above Normal Years	2,613.0	3,341.4	19,373.2	3,006.3	16,699.0	6,868.2	3,774.8	125.6	74.0	0.37
Below Normal Years	1,829.4	2,548.8	13,816.1	2,348.3	9,447.5	5,473.0	3,436.7	125.4	77.3	0.41
Dry Years	1,266.2	2,050.4	10,870.8	1,526.0	6,147.0	4,645.0	2,812.9	131.8	80.2	0.41
Critical Years	885.3	1,531.3	8,208.1	1,091.1	4,772.1	3,980.8	1,682.6	56.0	82.5	0.32
2020 No Project Alternative B										
All Years	2,190.9	3,071.3	16,181.0	2,869.1	14,180.1	5,678.3	3,289.0	143.3	76.0	0.36
Wet Years	3,601.4	4,851.1	24,383.9	5,063.8	26,920.2	6,933.3	4,191.0	219.1	69.5	0.33
Above Normal Years	2,613.0	3,341.4	19,373.2	3,006.3	16,699.0	6,868.2	3,774.8	125.6	74.0	0.37
Below Normal Years	1,829.4	2,548.8	13,816.1	2,348.3	9,447.5	5,473.0	3,436.7	125.4	77.3	0.41
Dry Years	1,266.2	2,050.4	10,870.8	1,526.0	6,147.0	4,645.0	2,812.9	131.8	80.2	0.41
Critical Years	885.3	1,531.3	8,208.1	1,091.1	4,772.1	3,980.8	1,682.6	56.0	82.5	0.32
2020 Proposed Project										
All Years	2,190.3	3,071.2	16,179.0	2,869.1	14,193.7	5,680.6	3,279.4	144.3	76.0	0.36
Wet Years	3,596.9	4,850.8	24,387.3	5,064.3	26,934.7	6,933.3	4,184.1	219.1	69.5	0.33
Above Normal Years	2,614.5	3,353.2	19,370.9	3,006.3	16,735.4	6,864.4	3,751.3	133.6	74.0	0.37
Below Normal Years	1,830.1	2,525.5	13,799.2	2,348.0	9,444.0	5,477.3	3,420.4	130.9	77.3	0.41
Dry Years	1,268.7	2,071.9	10,887.7	1,526.0	6,177.5	4,658.7	2,813.0	129.8	80.1	0.40
Critical Years	884.3	1,521.6	8,189.8	1,091.0	4,764.4	3,975.2	1,675.3	51.4	82.5	0.32

Table 25a - Monthly Statistics for American River Flow in the 1994 and 2003 Scenarios (TAF/month)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1994 Baseline												
Average	104.2	165.1	207.7	254.5	281.8	225.9	207.2	223.9	233.5	238.5	135.5	123.6
Minimum	33.5	22.3	30.7	24.9	22.2	25.3	18.5	21.9	14.4	21.8	11.6	16.7
Median	100.0	116.5	116.8	117.2	189.5	148.2	172.7	176.9	196.8	277.4	131.0	94.7
Maximum	240.6	1036.8	1216.5	1296.2	1833.9	1019.1	861.8	697.9	859.9	362.2	303.5	302.5
St. Dev.	27.1	161.1	245.0	275.3	282.9	204.3	148.2	158.5	147.2	74.3	77.3	87.4
2003 Baseline												
Average	110.9	159.4	203.7	249.9	284.1	227.5	203.1	222.5	232.9	235.5	150.2	121.7
Minimum	33.8	22.3	30.7	25.1	22.2	24.6	11.2	11.6	12.9	50.3	11.6	16.7
Median	101.0	113.9	116.6	115.9	180.1	150.0	159.2	176.8	198.0	272.6	154.6	96.6
Maximum	281.3	985.5	1138.1	1296.1	1833.8	1019.1	861.7	697.9	859.9	362.1	303.5	302.5
St. Dev.	29.6	158.3	242.7	276.6	281.2	204.3	146.7	159.9	147.4	72.8	85.6	80.4
2003 No Project Alternative A												
Average	107.9	162.8	204.6	247.7	284.2	227.1	203.3	222.3	233.3	238.1	150.6	119.3
Minimum	23.1	22.3	30.7	15.4	13.9	20.1	18.5	21.9	12.6	47.1	16.2	16.8
Median	101.1	114.9	116.6	115.7	184.4	150.8	158.8	176.8	197.9	272.6	142.0	95.1
Maximum	267.5	987.7	1158.1	1296.1	1833.8	1019.1	861.7	697.9	859.9	362.1	303.5	302.5
St. Dev.	33.0	157.4	242.9	278.4	281.3	204.6	146.8	160.1	146.3	70.5	84.4	84.1
2003 No Project Alternative B												
Average	110.9	159.4	203.7	249.9	284.1	227.5	203.1	222.5	232.9	235.5	150.2	121.7
Minimum	33.8	22.3	30.7	25.1	22.2	24.6	11.2	11.6	12.9	50.3	11.6	16.7
Median	101.0	113.9	116.6	115.9	180.1	150.0	159.2	176.8	198.0	272.6	154.6	96.6
Maximum	281.3	985.5	1138.1	1296.1	1833.8	1019.1	861.7	697.9	859.9	362.1	303.5	302.5
St. Dev.	29.6	158.3	242.7	276.6	281.2	204.3	146.7	159.9	147.4	72.8	85.6	80.4
2003 Proposed Project Alternative												
Average	108.7	161.6	204.7	250.1	283.2	227.7	203.3	222.4	233.9	237.2	149.4	119.1
Minimum	33.9	22.3	30.7	25.0	22.2	24.6	18.5	21.9	12.8	57.3	16.2	16.7
Median	100.8	114.4	116.8	115.5	171.9	158.1	160.8	176.8	197.6	274.1	142.0	94.1
Maximum	298.5	993.2	1159.2	1296.1	1833.8	1019.1	861.7	697.9	859.9	362.1	303.5	302.5
St. Dev.	31.8	158.2	242.8	276.9	281.6	204.3	146.4	159.9	146.6	72.9	83.4	83.6

Table 25b - Monthly Statistics for American River Flow in the 2020 Scenarios (TAF/month)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
2020 Baseline												
Average	101.7	145.3	193.8	235.1	262.1	214.2	187.1	199.1	208.0	214.4	122.5	93.2
Minimum	23.1	22.3	30.7	15.4	19.6	25.2	19.0	22.8	13.8	11.6	11.6	16.7
Median	98.2	109.6	105.8	105.6	159.4	133.6	146.7	157.9	178.3	242.2	110.8	86.5
Maximum	198.2	986.9	1192.9	1283.6	1822.8	1000.5	842.9	663.0	816.1	318.2	287.9	277.6
St. Dev.	30.8	156.7	243.2	272.8	285.2	203.4	141.9	149.0	141.6	84.5	78.3	64.8
2020 No Project Alternative A												
Average	101.7	145.3	193.8	235.1	262.1	214.2	187.1	199.1	208.0	214.4	122.5	93.2
Minimum	23.1	22.3	30.7	15.4	19.6	25.2	19.0	22.8	13.8	11.6	11.6	16.7
Median	98.2	109.6	105.8	105.6	159.4	133.6	146.7	157.9	178.3	242.2	110.8	86.5
Maximum	198.2	986.9	1192.9	1283.6	1822.8	1000.5	842.9	663.0	816.1	318.2	287.9	277.6
St. Dev.	30.8	156.7	243.2	272.8	285.2	203.4	141.9	149.0	141.6	84.5	78.3	64.8
2020 No Project Alternative B												
Average	101.7	145.3	193.8	235.1	262.1	214.2	187.1	199.1	208.0	214.4	122.5	93.2
Minimum	23.1	22.3	30.7	15.4	19.6	25.2	19.0	22.8	13.8	11.6	11.6	16.7
Median	98.2	109.6	105.8	105.6	159.4	133.6	146.7	157.9	178.3	242.2	110.8	86.5
Maximum	198.2	986.9	1192.9	1283.6	1822.8	1000.5	842.9	663.0	816.1	318.2	287.9	277.6
St. Dev.	30.8	156.7	243.2	272.8	285.2	203.4	141.9	149.0	141.6	84.5	78.3	64.8
2020 Proposed Project Alternative												
Average	100.6	145.3	191.9	234.3	263.3	215.0	187.0	199.7	207.6	215.0	122.0	94.1
Minimum	23.1	22.3	30.7	15.4	20.1	26.5	18.9	22.8	16.9	15.2	11.6	16.7
Median	98.2	110.7	103.9	106.7	159.4	138.8	143.5	165.1	178.5	248.3	113.5	84.7
Maximum	155.0	986.9	1187.3	1283.6	1822.8	1000.5	842.9	663.1	816.6	318.2	287.9	277.6
St. Dev.	27.9	156.5	241.3	272.9	283.7	203.0	142.0	148.8	142.2	85.4	76.9	65.3

Table 26a – Monthly Statistics for Feather River Flow in the 1994 and 2003 Scenarios (TAF/month)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1994 Baseline												
Average	129.9	140.0	264.3	331.2	358.1	409.8	202.6	229.1	268.8	337.0	239.1	101.5
Minimum	55.0	54.0	55.0	55.0	50.0	46.0	45.0	46.0	48.3	87.7	61.0	45.0
Median	105.0	101.0	143.5	118.6	234.0	294.9	124.5	110.9	281.8	357.9	259.5	65.8
Maximum	332.6	866.9	1496.9	2206.1	1315.2	1981.4	1127.1	1237.0	689.9	563.4	467.7	302.4
St. Dev.	66.5	117.0	296.8	415.1	343.6	434.1	221.9	259.1	114.3	124.0	140.8	55.0
2003 Baseline												
Average	154.1	134.9	239.6	317.7	344.1	394.1	192.0	222.1	255.7	375.9	283.2	108.8
Minimum	55.0	54.0	55.0	55.0	50.0	46.0	45.0	46.0	45.5	87.7	61.0	45.0
Median	127.6	101.0	116.9	105.0	186.2	265.8	78.0	100.2	258.9	383.1	331.9	74.2
Maximum	323.8	866.9	1496.9	2206.1	1315.2	1958.1	1127.2	1237.0	690.0	614.9	516.7	341.9
St. Dev.	69.5	111.7	281.6	411.7	348.9	418.5	225.7	259.8	120.1	145.2	153.8	66.9
2003 No Project Alternative A												
Average	152.5	133.4	240.0	317.3	342.1	401.1	191.9	221.5	261.0	370.8	280.6	109.2
Minimum	55.0	54.0	55.0	55.0	50.0	46.0	45.0	46.0	45.9	87.7	61.0	45.0
Median	120.3	101.0	128.8	105.0	186.2	278.7	80.7	100.2	265.0	372.9	341.4	62.9
Maximum	323.8	866.9	1496.9	2206.1	1315.2	1958.1	1127.2	1237.0	690.0	614.9	514.6	326.8
St. Dev.	69.2	111.8	282.9	408.8	345.9	429.1	225.7	260.0	116.2	142.5	153.9	67.7
2003 No Project Alternative B												
Average	154.1	134.9	239.6	317.7	344.1	394.1	192.0	222.1	255.7	375.9	283.2	108.8
Minimum	55.0	54.0	55.0	55.0	50.0	46.0	45.0	46.0	45.5	87.7	61.0	45.0
Median	127.6	101.0	116.9	105.0	186.2	265.8	78.0	100.2	258.9	383.1	331.9	74.2
Maximum	323.8	866.9	1496.9	2206.1	1315.2	1958.1	1127.2	1237.0	690.0	614.9	516.7	341.9
St. Dev.	69.5	111.7	281.6	411.7	348.9	418.5	225.7	259.8	120.1	145.2	153.8	66.9
2003 Proposed Project Alternative												
Average	151.4	136.7	239.8	319.7	344.8	403.0	191.7	220.5	257.8	367.8	279.1	109.0
Minimum	55.0	54.0	55.0	55.0	50.0	46.0	45.0	46.0	45.8	87.7	61.0	45.0
Median	128.8	101.0	129.3	105.0	186.2	280.6	80.2	97.1	256.0	394.3	310.6	62.9
Maximum	323.8	866.9	1496.9	2206.1	1315.2	1972.6	1127.2	1237.0	690.0	614.9	515.8	345.7
St. Dev.	68.2	111.2	280.9	410.9	345.3	432.5	225.6	260.1	115.6	144.0	152.6	67.0

Table 26b - Monthly Statistics for Feather River Flow in the 2020 Scenarios (TAF/month)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
2020 Baseline												
Average	154.7	128.6	230.1	283.6	321.6	368.1	187.9	220.5	274.6	432.9	290.5	121.5
Minimum	55.0	54.0	55.0	55.0	50.0	46.0	45.0	46.0	50.9	111.4	46.3	45.0
Median	111.4	101.0	105.0	105.0	100.1	255.4	79.5	104.7	274.4	459.3	332.2	87.4
Maximum	318.8	866.9	1496.9	2206.1	1207.2	1958.1	1129.8	1235.2	691.1	614.9	545.0	311.7
St. Dev.	71.5	104.9	260.1	400.9	339.4	397.5	225.8	261.7	117.8	160.8	157.6	74.1
2020 No Project Alternative A												
Average	154.7	128.6	230.1	283.6	321.6	368.1	187.9	220.5	274.6	432.9	290.5	121.5
Minimum	55.0	54.0	55.0	55.0	50.0	46.0	45.0	46.0	50.9	111.4	46.3	45.0
Median	111.4	101.0	105.0	105.0	100.1	255.4	79.5	104.7	274.4	459.3	332.2	87.4
Maximum	318.8	866.9	1496.9	2206.1	1207.2	1958.1	1129.8	1235.2	691.1	614.9	545.0	311.7
St. Dev.	71.5	104.9	260.1	400.9	339.4	397.5	225.8	261.7	117.8	160.8	157.6	74.1
2020 No Project Alternative B												
Average	154.7	128.6	230.1	283.6	321.6	368.1	187.9	220.5	274.6	432.9	290.5	121.5
Minimum	55.0	54.0	55.0	55.0	50.0	46.0	45.0	46.0	50.9	111.4	46.3	45.0
Median	111.4	101.0	105.0	105.0	100.1	255.4	79.5	104.7	274.4	459.3	332.2	87.4
Maximum	318.8	866.9	1496.9	2206.1	1207.2	1958.1	1129.8	1235.2	691.1	614.9	545.0	311.7
St. Dev.	71.5	104.9	260.1	400.9	339.4	397.5	225.8	261.7	117.8	160.8	157.6	74.1
2020 Proposed Project Alternative												
Average	155.7	127.0	229.7	287.2	322.3	369.9	189.5	221.6	276.3	425.8	288.2	120.6
Minimum	55.0	54.0	55.0	55.0	50.0	46.0	45.0	46.0	50.9	111.4	46.4	45.0
Median	129.7	101.0	105.0	105.0	100.1	266.1	81.7	115.0	279.6	446.6	327.6	87.4
Maximum	318.8	866.9	1496.9	2206.1	1207.2	1958.1	1129.8	1235.2	691.1	614.9	547.3	317.6
St. Dev.	71.3	105.3	260.9	403.0	340.1	398.6	226.0	261.8	116.6	160.4	156.7	74.1

Table 27a - Monthly Statistics for Sacramento River Flow into the Delta in the 1994 and 2003 Scenarios (TAF/month)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1994 Baseline												
Average	727.5	944.5	1573.5	2050.7	2236.8	2126.4	1468.1	1220.6	1069.2	1074.4	830.3	784.0
Minimum	467.8	421.8	412.7	385.9	417.1	454.9	447.1	359.4	519.0	557.5	405.5	370.3
Median	637.6	726.9	971.7	1442.1	1909.0	1847.3	972.6	911.3	914.2	1112.0	883.9	722.3
Maximum	2280.2	3833.8	4612.3	4698.7	4356.6	4752.1	4428.9	3853.7	3295.7	1484.4	1313.2	1594.8
St. Dev.	277.5	668.6	1300.2	1432.5	1304.9	1266.7	1096.3	812.7	485.2	205.8	180.5	251.1
2003 Baseline												
Average	751.8	931.4	1542.5	2022.3	2212.9	2100.0	1448.6	1195.5	1042.8	1129.0	910.1	787.4
Minimum	468.6	422.3	409.5	356.2	428.6	440.4	438.1	348.1	500.1	566.1	486.6	354.3
Median	715.4	733.8	965.1	1378.8	1900.7	1813.6	974.1	899.9	886.0	1195.1	960.3	744.4
Maximum	2197.4	3833.8	4612.3	4698.7	4355.4	4752.1	4428.9	3771.0	3295.5	1484.3	1313.1	1594.7
St. Dev.	258.1	645.9	1253.4	1442.9	1298.4	1269.5	1095.7	803.2	489.1	201.8	158.0	242.1
2003 No Project Alternative A												
Average	750.4	934.0	1545.2	2017.9	2210.8	2099.7	1449.0	1194.7	1045.9	1124.0	909.6	784.2
Minimum	469.1	422.6	409.8	354.7	424.1	425.4	438.0	348.1	500.5	577.6	486.9	354.9
Median	709.4	740.5	963.7	1378.3	1886.4	1817.1	1008.8	899.9	885.9	1185.0	959.8	742.9
Maximum	2183.0	3833.8	4612.3	4698.7	4356.6	4752.1	4428.9	3771.1	3295.5	1484.3	1313.1	1594.7
St. Dev.	258.6	644.8	1258.6	1438.9	1298.3	1267.4	1096.3	803.3	488.5	198.6	161.7	243.9
2003 No Project Alternative B												
Average	751.8	931.4	1542.5	2022.3	2212.9	2100.0	1448.6	1195.5	1042.8	1129.0	910.1	787.4
Minimum	468.6	422.3	409.5	356.2	428.6	440.4	438.1	348.1	500.1	566.1	486.6	354.3
Median	715.4	733.8	965.1	1378.8	1900.7	1813.6	974.1	899.9	886.0	1195.1	960.3	744.4
Maximum	2197.4	3833.8	4612.3	4698.7	4355.4	4752.1	4428.9	3771.0	3295.5	1484.3	1313.1	1594.7
St. Dev.	258.1	645.9	1253.4	1442.9	1298.4	1269.5	1095.7	803.2	489.1	201.8	158.0	242.1
2003 Proposed Project Alternative												
Average	748.1	935.8	1546.8	2020.4	2212.3	2100.5	1448.5	1193.3	1045.3	1122.1	908.0	785.7
Minimum	469.3	422.6	409.8	362.4	435.1	437.3	438.1	346.6	502.0	575.4	486.9	355.1
Median	702.3	755.3	960.8	1389.2	1892.5	1825.8	972.5	900.0	885.8	1179.6	957.3	733.3
Maximum	2273.6	3833.8	4612.3	4698.7	4356.8	4752.1	4428.9	3771.1	3295.5	1484.3	1313.1	1594.7
St. Dev.	267.3	644.4	1261.9	1439.0	1297.0	1267.1	1095.8	803.4	487.6	196.3	162.8	243.9

Table 27b - Monthly Statistics for Sacramento River Flow into the Delta in the 2020 Scenarios (TAF/month)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
2020 Baseline												
Average	751.3	923.6	1524.4	2006.8	2193.4	2096.1	1460.8	1173.9	1028.4	1159.3	891.2	756.4
Minimum	469.9	422.7	409.5	382.6	420.2	440.5	425.9	362.2	493.1	586.2	482.3	356.6
Median	746.2	788.3	1003.2	1311.8	1848.7	1748.3	962.5	861.3	904.7	1231.4	928.3	750.0
Maximum	1984.8	3871.4	4620.1	4708.2	4357.0	4760.4	4427.8	3633.7	3249.1	1599.9	1269.4	1573.7
St. Dev.	226.7	602.7	1205.1	1425.3	1301.3	1270.2	1098.1	783.1	461.9	239.1	195.2	215.0
2020 No Project Alternative A												
Average	751.3	923.6	1524.4	2006.8	2193.4	2096.1	1460.8	1173.9	1028.4	1159.3	891.2	756.4
Minimum	469.9	422.7	409.5	382.6	420.2	440.5	425.9	362.2	493.1	586.2	482.3	356.6
Median	746.2	788.3	1003.2	1311.8	1848.7	1748.3	962.5	861.3	904.7	1231.4	928.3	750.0
Maximum	1984.8	3871.4	4620.1	4708.2	4357.0	4760.4	4427.8	3633.7	3249.1	1599.9	1269.4	1573.7
St. Dev.	226.7	602.7	1205.1	1425.3	1301.3	1270.2	1098.1	783.1	461.9	239.1	195.2	215.0
2020 No Project Alternative B												
Average	751.3	923.6	1524.4	2006.8	2193.4	2096.1	1460.8	1173.9	1028.4	1159.3	891.2	756.4
Minimum	469.9	422.7	409.5	382.6	420.2	440.5	425.9	362.2	493.1	586.2	482.3	356.6
Median	746.2	788.3	1003.2	1311.8	1848.7	1748.3	962.5	861.3	904.7	1231.4	928.3	750.0
Maximum	1984.8	3871.4	4620.1	4708.2	4357.0	4760.4	4427.8	3633.7	3249.1	1599.9	1269.4	1573.7
St. Dev.	226.7	602.7	1205.1	1425.3	1301.3	1270.2	1098.1	783.1	461.9	239.1	195.2	215.0
2020 Proposed Project Alternative												
Average	748.9	922.3	1522.0	2009.0	2195.0	2097.6	1463.2	1175.4	1029.2	1155.4	887.0	756.2
Minimum	469.8	420.6	409.4	382.5	429.1	440.7	426.9	357.5	490.2	585.8	482.5	356.7
Median	742.4	753.1	1003.2	1311.9	1849.7	1748.5	1013.3	860.9	904.7	1232.5	933.1	764.1
Maximum	1979.8	3871.5	4620.2	4708.2	4356.4	4760.4	4427.8	3633.8	3249.7	1582.2	1269.4	1573.7
St. Dev.	224.6	604.9	1206.7	1426.6	1301.1	1273.3	1096.9	783.0	461.1	238.7	193.9	215.6

Table 28a - Monthly Statistics for San Joaquin River Flow at Vernalis in the 1994 and 2003 Scenarios (TAF/month)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1994 Baseline												
Average	186.1	118.7	185.4	272.7	353.3	387.0	361.5	336.3	248.6	140.7	103.1	112.5
Minimum	67.3	73.6	73.2	67.1	67.5	80.3	87.2	75.8	67.4	53.1	41.1	61.2
Median	130.7	102.0	116.5	129.3	192.5	229.3	287.7	275.0	137.3	118.8	111.6	107.1
Maximum	789.1	814.2	1421.2	1545.4	1849.2	2517.5	1520.2	1446.6	2062.0	1097.9	149.7	394.0
St. Dev.	148.7	97.0	223.0	300.1	354.4	425.4	277.6	276.3	338.8	131.3	33.2	48.3
2003 Baseline												
Average	186.2	118.8	185.4	272.7	353.3	387.0	361.5	336.2	248.5	140.7	103.2	112.6
Minimum	70.3	75.1	73.1	67.1	67.5	80.4	87.3	76.0	66.5	52.9	41.1	60.9
Median	131.0	102.0	116.5	129.3	192.8	229.3	287.6	275.1	137.7	118.9	111.5	107.2
Maximum	789.1	814.2	1421.2	1545.4	1849.2	2517.5	1520.1	1446.6	2062.0	1097.9	149.7	394.0
St. Dev.	148.4	96.9	223.1	300.1	354.3	425.3	277.6	276.4	338.8	131.3	33.2	48.3
2003 No Project Alternative A												
Average	186.1	118.8	185.4	272.7	353.3	387.0	361.5	336.2	248.6	140.7	103.2	112.6
Minimum	67.3	75.4	73.1	67.1	67.5	80.4	87.3	76.0	66.5	53.0	41.1	60.9
Median	130.8	102.0	116.5	129.3	192.8	229.3	287.6	275.1	137.6	118.9	111.6	107.2
Maximum	789.1	814.2	1421.2	1545.4	1849.2	2517.5	1520.1	1446.6	2062.0	1097.9	149.7	394.0
St. Dev.	148.5	96.9	223.1	300.1	354.3	425.3	277.6	276.3	338.8	131.4	33.2	48.3
2003 No Project Alternative B												
Average	186.2	118.8	185.4	272.7	353.3	387.0	361.5	336.2	248.5	140.7	103.2	112.6
Minimum	70.3	75.1	73.1	67.1	67.5	80.4	87.3	76.0	66.5	52.9	41.1	60.9
Median	131.0	102.0	116.5	129.3	192.8	229.3	287.6	275.1	137.7	118.9	111.5	107.2
Maximum	789.1	814.2	1421.2	1545.4	1849.2	2517.5	1520.1	1446.6	2062.0	1097.9	149.7	394.0
St. Dev.	148.4	96.9	223.1	300.1	354.3	425.3	277.6	276.4	338.8	131.3	33.2	48.3
2003 Proposed Project Alternative												
Average	177.5	118.6	185.3	272.8	353.8	387.0	362.7	342.5	249.3	140.7	104.3	111.4
Minimum	68.5	73.6	73.1	67.1	67.5	79.9	86.3	74.6	65.9	52.9	45.1	61.5
Median	132.9	102.2	117.9	128.0	191.6	228.3	286.0	272.9	136.5	119.2	111.6	108.0
Maximum	762.3	813.3	1420.2	1545.4	1849.2	2521.9	1540.2	1473.0	2066.4	1095.3	151.3	372.4
St. Dev.	136.4	96.8	223.0	299.9	355.6	426.9	282.4	288.1	338.4	131.0	33.1	44.2

Table 28b - Monthly Statistics for San Joaquin River Flow at Vernalis in the 2020 Scenarios (TAF/month)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
2020 Baseline												
Average	177.5	118.6	185.3	272.8	353.8	387.0	362.7	342.5	249.3	140.7	104.3	111.4
Minimum	68.5	73.6	73.1	67.1	67.5	79.9	86.3	74.6	65.9	52.9	45.1	61.5
Median	132.9	102.2	117.9	128.0	191.6	228.3	286.0	272.9	136.5	119.2	111.6	108.0
Maximum	762.3	813.3	1420.2	1545.4	1849.2	2521.9	1540.2	1473.0	2066.4	1095.3	151.3	372.4
St. Dev.	136.4	96.8	223.0	299.9	355.6	426.9	282.4	288.1	338.4	131.0	33.1	44.2
2020 No Project Alternative A												
Average	177.5	118.6	185.3	272.8	353.8	387.0	362.7	342.5	249.3	140.7	104.3	111.4
Minimum	68.5	73.6	73.1	67.1	67.5	79.9	86.3	74.6	65.9	52.9	45.1	61.5
Median	132.9	102.2	117.9	128.0	191.6	228.3	286.0	272.9	136.5	119.2	111.6	108.0
Maximum	762.3	813.3	1420.2	1545.4	1849.2	2521.9	1540.2	1473.0	2066.4	1095.3	151.3	372.4
St. Dev.	136.4	96.8	223.0	299.9	355.6	426.9	282.4	288.1	338.4	131.0	33.1	44.2
2020 No Project Alternative B												
Average	177.5	118.6	185.3	272.8	353.8	387.0	362.7	342.5	249.3	140.7	104.3	111.4
Minimum	68.5	73.6	73.1	67.1	67.5	79.9	86.3	74.6	65.9	52.9	45.1	61.5
Median	132.9	102.2	117.9	128.0	191.6	228.3	286.0	272.9	136.5	119.2	111.6	108.0
Maximum	762.3	813.3	1420.2	1545.4	1849.2	2521.9	1540.2	1473.0	2066.4	1095.3	151.3	372.4
St. Dev.	136.4	96.8	223.0	299.9	355.6	426.9	282.4	288.1	338.4	131.0	33.1	44.2
2020 Proposed Project Alternative												
Average	177.5	118.6	185.3	272.8	353.8	387.0	362.7	342.5	249.3	140.7	104.3	111.4
Minimum	68.5	73.6	73.1	67.1	67.5	79.9	86.3	74.6	65.8	52.8	45.1	61.5
Median	132.9	102.2	117.9	128.0	191.6	228.3	286.0	272.9	136.7	119.2	111.4	108.1
Maximum	762.3	813.3	1420.2	1545.4	1849.2	2521.9	1540.2	1473.0	2066.4	1095.3	151.3	372.4
St. Dev.	136.3	96.8	223.0	299.9	355.6	426.9	282.4	288.1	338.4	131.0	33.1	44.2

Table 29a - Monthly Statistics for Delta Outflow in the 1994 and 2003 Scenarios (TAF/month)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1994 Baseline												
Average	404.6	606.9	1359.8	2285.5	2734.6	2482.9	1607.0	1219.2	740.8	437.3	264.4	292.0
Minimum	202.3	267.8	215.2	276.7	388.1	377.9	351.8	246.0	238.0	246.0	184.5	178.5
Median	270.9	345.5	504.6	1063.0	1564.3	1618.9	953.7	857.8	471.0	399.7	246.0	184.0
Maximum	1801.5	4646.4	9526.2	12847.6	11652.1	15576.5	8409.9	4637.9	4981.6	1818.2	769.5	1508.5
St. Dev.	316.7	741.6	1818.8	2649.1	2616.8	2615.2	1555.1	1048.8	755.8	194.7	67.4	230.1
2003 Baseline												
Average	376.0	592.3	1341.9	2264.2	2684.0	2404.9	1637.0	1289.0	732.8	442.0	276.9	278.5
Minimum	195.0	241.5	276.7	317.4	383.3	376.4	357.3	246.0	238.0	246.0	184.5	178.5
Median	269.7	348.5	463.0	959.4	1600.5	1566.2	962.2	1008.4	478.6	409.0	249.3	195.9
Maximum	1708.4	4791.8	9617.2	13000.7	11646.5	15549.7	8428.4	4623.6	4974.6	1706.0	644.1	1482.4
St. Dev.	289.3	729.7	1785.7	2642.8	2604.0	2564.8	1560.7	1051.2	751.6	185.5	61.4	207.1
2003 No Project Alternative A												
Average	376.2	593.9	1346.1	2264.1	2680.5	2410.4	1639.7	1293.2	734.5	440.9	276.7	278.6
Minimum	195.5	266.8	276.7	318.1	382.6	379.0	357.3	246.0	238.0	246.0	184.5	178.5
Median	263.6	356.1	450.5	983.4	1600.6	1566.3	1010.0	1008.4	486.9	400.1	246.0	192.5
Maximum	1693.6	4793.4	9619.1	13001.1	11692.5	15551.5	8489.6	4631.0	4988.2	1705.6	643.7	1528.9
St. Dev.	290.1	729.7	1790.0	2641.7	2603.6	2580.3	1566.4	1049.4	753.2	184.7	61.0	211.0
2003 No Project Alternative B												
Average	376.0	592.3	1341.9	2264.2	2684.0	2404.9	1637.0	1289.0	732.8	442.0	276.9	278.5
Minimum	195.0	241.5	276.7	317.4	383.3	376.4	357.3	246.0	238.0	246.0	184.5	178.5
Median	269.7	348.5	463.0	959.4	1600.5	1566.2	962.2	1008.4	478.6	409.0	249.3	195.9
Maximum	1708.4	4791.8	9617.2	13000.7	11646.5	15549.7	8428.4	4623.6	4974.6	1706.0	644.1	1482.4
St. Dev.	289.3	729.7	1785.7	2642.8	2604.0	2564.8	1560.7	1051.2	751.6	185.5	61.4	207.1
2003 Proposed Project Alternative												
Average	378.9	594.2	1349.0	2269.1	2684.6	2419.2	1639.0	1293.0	734.7	441.0	276.1	279.4
Minimum	196.1	257.1	276.7	317.2	382.7	378.7	357.3	246.0	238.0	246.0	184.5	178.5
Median	269.4	350.8	465.8	986.8	1600.4	1565.9	1009.6	935.0	486.8	409.5	246.0	196.9
Maximum	1784.2	4793.9	9620.2	13001.2	11700.4	15553.6	8493.1	4674.3	5002.5	1705.6	643.7	1559.3
St. Dev.	297.1	730.0	1790.2	2642.3	2604.3	2586.2	1563.4	1053.9	754.9	184.0	62.3	213.7

Table 29b - Monthly Statistics for Delta Outflow in the 2020 Scenarios (TAF/month)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
2020 Baseline												
Average	328.0	549.6	1245.6	2184.7	2641.6	2369.7	1631.2	1270.9	694.4	445.1	279.0	240.1
Minimum	192.2	267.8	245.3	325.9	381.6	375.9	350.6	246.0	238.0	246.0	204.9	178.5
Median	268.4	358.4	458.3	865.8	1489.2	1539.0	1008.5	981.8	493.9	399.7	246.6	197.8
Maximum	1374.5	4705.8	9514.7	12950.1	11381.6	15435.4	8032.7	4535.9	4811.9	1561.4	511.6	1301.4
St. Dev.	208.2	666.3	1721.5	2585.7	2578.4	2534.4	1526.0	1021.7	690.6	180.1	52.4	143.4
2020 No Project Alternative A												
Average	328.0	549.6	1245.6	2184.7	2641.6	2369.7	1631.2	1270.9	694.4	445.1	279.0	240.1
Minimum	192.2	267.8	245.3	325.9	381.6	375.9	350.6	246.0	238.0	246.0	204.9	178.5
Median	268.4	358.4	458.3	865.8	1489.2	1539.0	1008.5	981.8	493.9	399.7	246.6	197.8
Maximum	1374.5	4705.8	9514.7	12950.1	11381.6	15435.4	8032.7	4535.9	4811.9	1561.4	511.6	1301.4
St. Dev.	208.2	666.3	1721.5	2585.7	2578.4	2534.4	1526.0	1021.7	690.6	180.1	52.4	143.4
2020 No Project Alternative B												
Average	328.0	549.6	1245.6	2184.7	2641.6	2369.7	1631.2	1270.9	694.4	445.1	279.0	240.1
Minimum	192.2	267.8	245.3	325.9	381.6	375.9	350.6	246.0	238.0	246.0	204.9	178.5
Median	268.4	358.4	458.3	865.8	1489.2	1539.0	1008.5	981.8	493.9	399.7	246.6	197.8
Maximum	1374.5	4705.8	9514.7	12950.1	11381.6	15435.4	8032.7	4535.9	4811.9	1561.4	511.6	1301.4
St. Dev.	208.2	666.3	1721.5	2585.7	2578.4	2534.4	1526.0	1021.7	690.6	180.1	52.4	143.4
2020 Proposed Project Alternative												
Average	326.8	549.7	1248.7	2188.1	2642.4	2372.6	1631.7	1268.1	694.6	444.9	281.0	240.5
Minimum	191.8	267.8	276.7	325.9	383.1	376.4	350.8	246.0	238.0	246.0	203.9	178.5
Median	262.6	358.6	458.6	865.9	1500.7	1509.8	1008.4	988.0	493.2	424.1	247.6	206.2
Maximum	1390.9	4701.8	9518.0	12947.3	11353.6	15448.9	7999.8	4542.2	4827.7	1561.5	511.6	1312.8
St. Dev.	208.8	667.4	1725.7	2588.3	2575.8	2538.4	1523.8	1021.3	692.3	179.6	55.1	144.6

Table 30a - Monthly Statistics for Minimum Required Delta Outflow in the 1994 and 2003 Scenarios (TAF/month)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1994 Baseline												
Average	256.3	287.2	269.2	335.6	748.3	867.9	754.3	689.3	530.7	403.7	254.7	178.5
Minimum	184.5	250.3	215.2	276.7	383.6	365.7	350.5	245.4	238.0	246.0	184.5	178.5
Median	246.0	267.8	276.7	368.9	633.1	701.0	666.0	590.8	455.5	399.7	246.0	178.5
Maximum	404.5	397.0	336.3	368.9	1580.6	1672.3	1438.7	1652.6	1357.4	693.2	336.4	178.5
St. Dev.	37.4	30.1	24.3	44.6	342.4	354.7	237.0	339.6	245.0	103.1	28.6	0.0
2003 Baseline												
Average	253.3	299.7	289.1	349.4	739.6	857.6	759.7	686.6	520.3	404.2	270.6	178.5
Minimum	184.5	221.8	215.2	276.7	381.9	364.5	349.8	239.2	238.0	246.0	184.5	178.5
Median	246.0	290.4	276.7	368.9	633.1	701.0	668.8	582.6	447.6	399.7	246.0	178.5
Maximum	388.8	413.9	406.9	552.0	1580.6	1672.0	1452.3	1647.5	1317.9	730.2	384.9	178.5
St. Dev.	36.5	40.2	40.9	48.4	341.5	345.3	244.5	341.2	246.5	100.5	43.2	0.0
2003 No Project Alternative A												
Average	252.9	299.6	289.5	348.6	739.4	857.7	759.8	686.2	520.0	404.4	270.2	178.5
Minimum	184.5	215.2	215.2	276.7	381.6	364.4	349.8	239.2	238.0	246.0	184.5	178.5
Median	246.0	289.8	276.7	368.9	633.1	701.0	668.6	581.3	445.9	399.7	246.0	178.5
Maximum	372.9	414.3	421.6	467.8	1580.6	1672.0	1464.7	1648.1	1318.0	725.3	385.7	178.5
St. Dev.	36.1	37.7	40.8	44.9	340.4	344.9	245.4	341.2	246.6	101.0	42.8	0.0
2003 No Project Alternative B												
Average	253.3	299.7	289.1	349.4	739.6	857.6	759.7	686.6	520.3	404.2	270.6	178.5
Minimum	184.5	221.8	215.2	276.7	381.9	364.5	349.8	239.2	238.0	246.0	184.5	178.5
Median	246.0	290.4	276.7	368.9	633.1	701.0	668.8	582.6	447.6	399.7	246.0	178.5
Maximum	388.8	413.9	406.9	552.0	1580.6	1672.0	1452.3	1647.5	1317.9	730.2	384.9	178.5
St. Dev.	36.5	40.2	40.9	48.4	341.5	345.3	244.5	341.2	246.5	100.5	43.2	0.0
2003 Proposed Project Alternative												
Average	253.6	298.1	289.8	348.5	738.5	857.5	758.7	686.1	519.5	404.6	269.9	178.5
Minimum	184.5	223.9	215.2	276.7	381.7	364.1	349.8	239.3	238.0	246.0	184.5	178.5
Median	246.0	292.4	276.7	368.9	633.1	701.0	668.5	580.6	447.6	399.7	246.0	178.5
Maximum	398.2	409.6	421.7	521.9	1580.6	1672.0	1463.3	1646.5	1318.0	721.7	388.8	178.5
St. Dev.	35.9	35.6	40.2	46.6	340.0	345.3	245.0	341.0	246.7	100.9	44.0	0.0

Table 30b - Monthly Statistics for Minimum Required Delta Outflow in the 2020 Scenarios (TAF/month)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
2020 Baseline												
Average	249.6	311.8	301.6	358.2	750.1	865.0	763.0	687.2	524.1	408.8	275.2	178.5
Minimum	184.5	267.8	215.2	276.7	380.5	361.7	350.6	239.1	238.0	246.0	204.9	178.5
Median	246.0	299.0	276.7	368.9	633.1	701.0	670.3	582.2	444.8	399.7	246.0	178.5
Maximum	353.9	498.6	459.1	500.6	1580.6	1671.7	1433.9	1616.5	1336.7	741.0	393.2	178.5
St. Dev.	35.8	50.9	53.4	43.1	355.8	350.3	247.2	340.8	249.7	107.5	45.1	0.0
2020 No Project Alternative A												
Average	249.6	311.8	301.6	358.2	750.1	865.0	763.0	687.2	524.1	408.8	275.2	178.5
Minimum	184.5	267.8	215.2	276.7	380.5	361.7	350.6	239.1	238.0	246.0	204.9	178.5
Median	246.0	299.0	276.7	368.9	633.1	701.0	670.3	582.2	444.8	399.7	246.0	178.5
Maximum	353.9	498.6	459.1	500.6	1580.6	1671.7	1433.9	1616.5	1336.7	741.0	393.2	178.5
St. Dev.	35.8	50.9	53.4	43.1	355.8	350.3	247.2	340.8	249.7	107.5	45.1	0.0
2020 No Project Alternative B												
Average	249.6	311.8	301.6	358.2	750.1	865.0	763.0	687.2	524.1	408.8	275.2	178.5
Minimum	184.5	267.8	215.2	276.7	380.5	361.7	350.6	239.1	238.0	246.0	204.9	178.5
Median	246.0	299.0	276.7	368.9	633.1	701.0	670.3	582.2	444.8	399.7	246.0	178.5
Maximum	353.9	498.6	459.1	500.6	1580.6	1671.7	1433.9	1616.5	1336.7	741.0	393.2	178.5
St. Dev.	35.8	50.9	53.4	43.1	355.8	350.3	247.2	340.8	249.7	107.5	45.1	0.0
2020 Proposed Project Alternative												
Average	248.7	312.4	302.3	358.8	749.9	864.8	764.6	686.3	524.1	408.6	277.5	178.5
Minimum	184.5	239.2	215.2	276.7	380.1	361.9	350.8	239.1	238.0	246.0	203.9	178.5
Median	246.0	304.4	276.7	368.9	633.1	701.0	670.2	583.9	443.5	399.7	246.0	178.5
Maximum	357.6	474.3	455.5	511.5	1580.6	1671.9	1435.7	1616.7	1336.7	738.8	393.3	178.5
St. Dev.	33.0	52.0	52.2	43.9	355.3	350.0	246.8	341.4	249.8	107.1	48.1	0.0

Table 31a - Monthly Statistics for SWP Banks Pumping in the 1994 and 2003 Scenarios (TAF/month)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1994 Baseline												
Average	203.1	220.3	312.2	352.1	289.1	275.6	178.5	168.1	205.3	227.7	245.2	267.8
Minimum	55.7	17.9	64.9	69.4	16.7	18.4	17.9	18.4	17.9	18.4	18.4	56.1
Median	178.0	201.6	319.5	318.3	311.1	325.6	185.6	151.7	198.2	255.3	277.5	267.4
Maximum	410.7	397.5	472.1	522.6	485.3	464.9	312.6	379.8	397.5	410.7	410.7	397.5
St. Dev.	99.1	121.9	112.6	112.5	124.1	115.7	85.5	94.3	110.7	128.7	134.2	96.3
2003 Baseline												
Average	233.6	217.3	316.3	361.4	316.9	311.4	142.0	91.3	189.0	260.4	276.3	268.8
Minimum	52.2	17.9	59.3	49.2	17.3	18.4	17.9	18.4	17.9	0.0	0.0	50.6
Median	240.8	187.2	336.1	411.6	340.1	355.2	142.4	69.2	184.4	292.8	343.5	271.8
Maximum	410.7	397.5	447.1	497.6	485.3	464.9	302.7	326.0	397.5	410.7	410.7	397.5
St. Dev.	102.2	125.8	106.2	113.6	132.7	137.3	62.6	63.8	112.6	144.2	137.8	99.4
2003 No Project Alternative A												
Average	231.3	215.1	313.7	358.4	319.1	312.2	141.7	87.7	192.2	253.5	275.8	268.2
Minimum	66.7	17.9	61.7	49.2	17.3	10.5	17.9	18.4	17.9	0.0	0.0	50.7
Median	224.1	185.9	329.8	384.8	339.0	357.3	142.4	69.2	184.8	280.5	330.0	274.0
Maximum	410.7	397.5	447.1	497.6	485.3	464.9	296.6	326.0	397.5	410.7	410.7	397.5
St. Dev.	102.6	127.0	106.0	114.0	133.2	136.7	62.3	63.2	110.1	142.8	138.2	99.9
2003 No Project Alternative B												
Average	233.6	217.3	316.3	361.4	316.9	311.4	142.0	91.3	189.0	260.4	276.3	268.8
Minimum	52.2	17.9	59.3	49.2	17.3	18.4	17.9	18.4	17.9	0.0	0.0	50.6
Median	240.8	187.2	336.1	411.6	340.1	355.2	142.4	69.2	184.4	292.8	343.5	271.8
Maximum	410.7	397.5	447.1	497.6	485.3	464.9	302.7	326.0	397.5	410.7	410.7	397.5
St. Dev.	102.2	125.8	106.2	113.6	132.7	137.3	62.6	63.8	112.6	144.2	137.8	99.4
2003 Proposed Project Alternative												
Average	230.7	217.7	311.2	356.4	316.0	310.4	140.3	85.7	189.8	249.6	272.9	265.5
Minimum	63.4	17.9	79.0	49.2	17.3	18.4	17.9	18.4	17.9	0.0	0.0	50.6
Median	220.7	193.3	329.0	383.6	340.0	349.0	142.3	69.2	171.8	307.2	319.7	270.2
Maximum	410.7	397.5	447.1	497.6	485.3	464.9	295.0	326.0	397.5	410.7	410.7	397.5
St. Dev.	101.3	124.7	106.4	113.5	131.0	135.2	61.8	60.5	110.4	144.5	137.4	101.4

Table 31b - Monthly Statistics for SWP Banks Pumping in the 2020 Scenarios (TAF/month)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
2020 Baseline												
Average	271.6	240.9	377.5	396.0	323.8	338.1	154.9	92.9	215.0	290.2	261.0	290.3
Minimum	65.9	17.9	49.2	51.5	17.2	18.4	17.9	18.4	17.9	18.4	18.4	53.1
Median	279.7	200.1	405.0	481.2	347.5	399.4	144.3	69.2	192.4	321.6	324.3	303.6
Maximum	522.6	505.8	497.6	497.6	488.9	522.6	378.5	332.6	505.8	491.9	450.4	476.0
St. Dev.	130.3	149.8	127.0	124.7	136.6	155.6	76.8	75.4	135.9	154.6	156.1	118.3
2020 No Project Alternative A												
Average	271.6	240.9	377.5	396.0	323.8	338.1	154.9	92.9	215.0	290.2	261.0	290.3
Minimum	65.9	17.9	49.2	51.5	17.2	18.4	17.9	18.4	17.9	18.4	18.4	53.1
Median	279.7	200.1	405.0	481.2	347.5	399.4	144.3	69.2	192.4	321.6	324.3	303.6
Maximum	522.6	505.8	497.6	497.6	488.9	522.6	378.5	332.6	505.8	491.9	450.4	476.0
St. Dev.	130.3	149.8	127.0	124.7	136.6	155.6	76.8	75.4	135.9	154.6	156.1	118.3
2020 No Project Alternative B												
Average	271.6	240.9	377.5	396.0	323.8	338.1	154.9	92.9	215.0	290.2	261.0	290.3
Minimum	65.9	17.9	49.2	51.5	17.2	18.4	17.9	18.4	17.9	18.4	18.4	53.1
Median	279.7	200.1	405.0	481.2	347.5	399.4	144.3	69.2	192.4	321.6	324.3	303.6
Maximum	522.6	505.8	497.6	497.6	488.9	522.6	378.5	332.6	505.8	491.9	450.4	476.0
St. Dev.	130.3	149.8	127.0	124.7	136.6	155.6	76.8	75.4	135.9	154.6	156.1	118.3
2020 Proposed Project Alternative												
Average	273.5	238.4	373.0	396.0	323.2	338.4	155.6	96.1	216.9	283.1	259.3	289.0
Minimum	69.0	17.9	43.4	51.5	17.2	18.4	17.9	18.4	17.9	18.4	18.4	53.3
Median	276.7	197.4	387.7	458.2	357.1	390.5	144.4	69.2	193.7	312.8	329.5	297.7
Maximum	522.6	505.8	497.6	497.6	488.9	522.6	378.5	332.6	505.8	491.9	447.1	476.0
St. Dev.	128.6	151.4	127.6	123.9	138.5	155.0	75.9	77.9	133.8	154.5	155.6	118.3

Table 32a - Monthly Statistics for CVP Banks Pumping in the 1994 and 2003 Scenarios (TAF/month)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1994 Baseline												
Average	8.0	1.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	48.8	20.0	8.6
Minimum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.2	3.2	0.0
Maximum	128.0	56.0	14.0	0.0	0.0	0.0	0.0	0.0	0.0	128.0	128.0	95.3
St. Dev.	23.6	9.3	1.6	0.0	0.0	0.0	0.0	0.0	0.0	36.3	28.6	20.4
2003 Baseline												
Average	22.6	12.7	3.5	3.3	4.8	7.4	0.0	0.0	0.0	35.9	29.7	22.5
Minimum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.3	16.1	0.0
Maximum	141.8	115.5	84.8	77.9	104.4	79.9	0.0	0.0	0.0	159.3	174.6	127.3
St. Dev.	39.5	29.3	13.4	13.7	16.2	18.1	0.0	0.0	0.0	38.9	40.9	32.2
2003 No Project Alternative A												
Average	22.1	12.2	2.4	3.9	4.5	7.1	0.0	0.0	0.0	38.5	29.0	18.8
Minimum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.8	18.9	0.0
Maximum	128.0	119.4	93.7	78.3	104.4	83.1	0.0	0.0	0.0	166.8	164.3	139.2
St. Dev.	38.7	29.8	12.6	14.4	15.4	18.7	0.0	0.0	0.0	40.0	37.0	29.3
2003 No Project Alternative B												
Average	22.6	12.7	3.5	3.3	4.8	7.4	0.0	0.0	0.0	35.9	29.7	22.5
Minimum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.3	16.1	0.0
Maximum	141.8	115.5	84.8	77.9	104.4	79.9	0.0	0.0	0.0	159.3	174.6	127.3
St. Dev.	39.5	29.3	13.4	13.7	16.2	18.1	0.0	0.0	0.0	38.9	40.9	32.2
2003 Proposed Project Alternative												
Average	21.1	11.7	2.4	4.3	4.8	5.4	0.0	0.0	0.0	39.7	29.1	19.0
Minimum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	16.2	0.0
Maximum	127.8	119.6	98.4	78.4	104.4	87.2	0.0	0.0	0.0	173.7	166.3	136.2
St. Dev.	37.7	29.3	12.8	15.4	16.0	16.0	0.0	0.0	0.0	41.7	38.1	28.7

Table 32b - Monthly Statistics for CVP Banks Pumping in the 2020 Scenarios (TAF/month)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
2020 Baseline												
Average	25.1	18.1	3.7	0.4	2.6	4.4	0.0	0.0	0.0	32.8	40.9	14.5
Minimum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.2	25.5	0.0
Maximum	124.5	118.2	74.0	16.8	68.7	77.9	0.0	0.0	0.0	131.4	239.2	93.3
St. Dev.	34.2	34.3	12.6	2.3	10.6	15.4	0.0	0.0	0.0	33.9	52.3	22.0
2020 No Project Alternative A												
Average	25.1	18.1	3.7	0.4	2.6	4.4	0.0	0.0	0.0	32.8	40.9	14.5
Minimum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.2	25.5	0.0
Maximum	124.5	118.2	74.0	16.8	68.7	77.9	0.0	0.0	0.0	131.4	239.2	93.3
St. Dev.	34.2	34.3	12.6	2.3	10.6	15.4	0.0	0.0	0.0	33.9	52.3	22.0
2020 No Project Alternative B												
Average	25.1	18.1	3.7	0.4	2.6	4.4	0.0	0.0	0.0	32.8	40.9	14.5
Minimum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.2	25.5	0.0
Maximum	124.5	118.2	74.0	16.8	68.7	77.9	0.0	0.0	0.0	131.4	239.2	93.3
St. Dev.	34.2	34.3	12.6	2.3	10.6	15.4	0.0	0.0	0.0	33.9	52.3	22.0
2020 Proposed Project Alternative												
Average	24.5	18.6	3.6	0.7	1.8	4.5	0.0	0.0	0.0	35.0	38.8	15.6
Minimum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	25.5	0.0
Maximum	124.5	115.9	73.8	25.5	46.7	80.1	0.0	0.0	0.0	146.1	241.8	85.0
St. Dev.	32.9	33.5	12.5	3.9	8.1	15.8	0.0	0.0	0.0	35.5	52.0	21.8

Table 33a - Monthly Statistics for Average X2 Position in the 1994 and 2003 Scenarios (km)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1994 Baseline												
Average	84.2	85.8	84.2	81.4	77.0	71.3	66.1	65.6	68.0	70.9	75.2	79.3
Minimum	69.7	67.3	66.8	57.7	49.5	49.2	46.7	42.1	48.5	52.1	52.4	60.5
Median	84.1	87.9	86.2	84.0	80.3	73.8	66.6	66.7	69.4	72.0	76.7	79.3
Maximum	88.0	89.5	89.2	86.2	87.7	86.2	82.5	82.4	81.3	85.0	85.2	85.5
St. Dev.	2.4	4.7	5.1	5.7	9.2	10.8	9.9	9.3	8.5	8.3	7.3	4.4
2003 Baseline												
Average	83.8	85.8	84.7	81.6	77.0	71.3	66.3	65.9	67.9	70.3	75.1	79.2
Minimum	71.2	68.0	66.4	57.4	49.3	49.0	46.5	42.1	48.5	52.1	52.4	61.0
Median	83.6	87.6	86.6	83.6	80.9	74.5	66.7	66.9	69.4	70.5	76.1	79.3
Maximum	87.5	89.5	89.4	87.0	85.8	84.6	82.2	82.3	81.3	84.9	85.3	85.5
St. Dev.	2.1	4.2	4.7	5.4	8.9	10.5	9.8	9.2	8.4	8.2	7.4	4.4
2003 No Project Alternative A												
Average	83.8	85.9	84.7	81.6	76.9	71.3	66.3	65.9	67.9	70.3	75.1	79.2
Minimum	71.2	67.7	66.4	57.4	49.3	48.9	46.5	42.1	48.5	52.1	52.4	60.9
Median	83.5	87.7	86.6	83.8	80.9	74.1	66.7	66.9	69.3	70.5	76.1	79.3
Maximum	87.5	89.5	89.5	86.2	85.8	84.4	82.1	82.1	81.3	84.9	85.4	85.5
St. Dev.	2.1	4.3	4.7	5.4	8.9	10.5	9.8	9.2	8.4	8.2	7.4	4.4
2003 No Project Alternative B												
Average	83.8	85.8	84.7	81.6	77.0	71.3	66.3	65.9	67.9	70.3	75.1	79.2
Minimum	71.2	68.0	66.4	57.4	49.3	49.0	46.5	42.1	48.5	52.1	52.4	61.0
Median	83.6	87.6	86.6	83.6	80.9	74.5	66.7	66.9	69.4	70.5	76.1	79.3
Maximum	87.5	89.5	89.4	87.0	85.8	84.6	82.2	82.3	81.3	84.9	85.3	85.5
St. Dev.	2.1	4.2	4.7	5.4	8.9	10.5	9.8	9.2	8.4	8.2	7.4	4.4
2003 Proposed Project Alternative												
Average	83.8	85.9	84.6	81.6	76.9	71.2	66.2	65.8	67.9	70.3	75.1	79.2
Minimum	71.2	67.6	66.3	57.3	49.3	48.9	46.5	42.1	48.5	52.0	52.3	60.9
Median	83.6	87.7	86.6	83.5	80.9	74.4	66.7	66.9	69.3	70.5	76.2	79.3
Maximum	87.5	89.5	89.4	86.6	85.8	84.5	82.1	82.2	81.3	84.5	85.3	85.5
St. Dev.	2.1	4.3	4.7	5.4	8.9	10.5	9.8	9.2	8.4	8.2	7.4	4.3

Table 33b - Monthly Statistics for Average X2 Position in the 2020 Scenarios (km)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
2020 Baseline												
Average	83.7	86.4	85.5	82.2	77.7	71.8	66.6	66.1	68.0	70.4	75.3	79.2
Minimum	73.2	69.6	68.3	58.1	49.7	50.0	46.7	42.2	48.8	52.3	52.7	61.7
Median	83.6	87.5	86.3	83.8	81.5	75.5	67.2	66.9	69.2	71.1	76.0	79.4
Maximum	87.2	89.4	89.6	85.7	86.4	84.3	82.1	82.3	81.3	85.0	84.9	85.5
St. Dev.	1.9	3.2	3.6	4.8	8.6	10.3	9.7	9.1	8.4	8.1	7.0	4.3
2020 No Project Alternative A												
Average	83.7	86.4	85.5	82.2	77.7	71.8	66.6	66.1	68.0	70.4	75.3	79.2
Minimum	73.2	69.6	68.3	58.1	49.7	50.0	46.7	42.2	48.8	52.3	52.7	61.7
Median	83.6	87.5	86.3	83.8	81.5	75.5	67.2	66.9	69.2	71.1	76.0	79.4
Maximum	87.2	89.4	89.6	85.7	86.4	84.3	82.1	82.3	81.3	85.0	84.9	85.5
St. Dev.	1.9	3.2	3.6	4.8	8.6	10.3	9.7	9.1	8.4	8.1	7.0	4.3
2020 No Project Alternative B												
Average	83.7	86.4	85.5	82.2	77.7	71.8	66.6	66.1	68.0	70.4	75.3	79.2
Minimum	73.2	69.6	68.3	58.1	49.7	50.0	46.7	42.2	48.8	52.3	52.7	61.7
Median	83.6	87.5	86.3	83.8	81.5	75.5	67.2	66.9	69.2	71.1	76.0	79.4
Maximum	87.2	89.4	89.6	85.7	86.4	84.3	82.1	82.3	81.3	85.0	84.9	85.5
St. Dev.	1.9	3.2	3.6	4.8	8.6	10.3	9.7	9.1	8.4	8.1	7.0	4.3
2020 Proposed Project Alternative												
Average	83.7	86.4	85.5	82.2	77.7	71.8	66.6	66.1	68.0	70.4	75.3	79.2
Minimum	73.2	69.5	68.1	58.1	49.6	49.9	46.7	42.2	48.9	52.3	52.7	61.7
Median	83.6	87.3	86.5	83.8	81.5	75.5	67.2	67.3	69.2	70.7	76.0	79.4
Maximum	87.5	89.5	89.7	85.8	85.8	84.6	82.2	82.3	81.3	85.0	84.9	85.5
St. Dev.	1.9	3.2	3.6	4.8	8.6	10.3	9.7	9.2	8.4	8.2	7.0	4.3

Table 34a - Monthly Statistics for Export/Import Ratio in the 1994 and 2003 Scenarios

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1994 Baseline												
Average	0.50	0.45	0.42	0.36	0.24	0.22	0.19	0.19	0.28	0.39	0.50	0.58
Minimum	0.20	0.07	0.03	0.04	0.04	0.02	0.05	0.07	0.07	0.08	0.10	0.23
Median	0.50	0.47	0.50	0.35	0.22	0.22	0.21	0.18	0.31	0.45	0.56	0.63
Maximum	0.65	0.65	0.63	0.65	0.45	0.35	0.32	0.34	0.35	0.52	0.62	0.65
St. Dev.	0.10	0.13	0.18	0.20	0.13	0.10	0.07	0.06	0.08	0.12	0.14	0.09
2003 Baseline												
Average	0.53	0.45	0.41	0.35	0.25	0.24	0.17	0.12	0.27	0.38	0.49	0.58
Minimum	0.14	0.04	0.03	0.03	0.02	0.02	0.05	0.03	0.07	0.07	0.09	0.24
Median	0.54	0.48	0.48	0.40	0.25	0.23	0.19	0.11	0.29	0.44	0.56	0.63
Maximum	0.65	0.65	0.64	0.63	0.45	0.35	0.26	0.27	0.35	0.52	0.64	0.65
St. Dev.	0.10	0.13	0.17	0.18	0.13	0.10	0.06	0.05	0.08	0.13	0.15	0.09
2003 No Project Alternative A												
Average	0.53	0.45	0.41	0.35	0.25	0.24	0.17	0.12	0.27	0.38	0.49	0.58
Minimum	0.14	0.04	0.02	0.03	0.02	0.02	0.05	0.03	0.07	0.07	0.09	0.22
Median	0.53	0.48	0.48	0.39	0.24	0.24	0.19	0.11	0.30	0.44	0.56	0.63
Maximum	0.65	0.65	0.62	0.60	0.45	0.35	0.26	0.28	0.35	0.52	0.63	0.65
St. Dev.	0.10	0.14	0.17	0.18	0.13	0.10	0.06	0.05	0.07	0.13	0.15	0.09
2003 No Project Alternative B												
Average	0.53	0.45	0.41	0.35	0.25	0.24	0.17	0.12	0.27	0.38	0.49	0.58
Minimum	0.14	0.04	0.03	0.03	0.02	0.02	0.05	0.03	0.07	0.07	0.09	0.24
Median	0.54	0.48	0.48	0.40	0.25	0.23	0.19	0.11	0.29	0.44	0.56	0.63
Maximum	0.65	0.65	0.64	0.63	0.45	0.35	0.26	0.27	0.35	0.52	0.64	0.65
St. Dev.	0.10	0.13	0.17	0.18	0.13	0.10	0.06	0.05	0.08	0.13	0.15	0.09
2003 Proposed Project Alternative												
Average	0.53	0.45	0.41	0.35	0.24	0.23	0.17	0.12	0.27	0.38	0.49	0.57
Minimum	0.14	0.04	0.02	0.03	0.02	0.02	0.05	0.03	0.06	0.07	0.09	0.20
Median	0.54	0.48	0.48	0.39	0.24	0.24	0.19	0.11	0.30	0.44	0.56	0.62
Maximum	0.65	0.65	0.62	0.60	0.45	0.35	0.26	0.28	0.35	0.52	0.64	0.65
St. Dev.	0.10	0.13	0.17	0.18	0.13	0.10	0.06	0.05	0.08	0.13	0.15	0.09

Table 34b - Monthly Statistics for Export/Import Ratio in the 2020 Scenarios

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
2020 Baseline												
Average	0.56	0.47	0.45	0.37	0.26	0.24	0.17	0.12	0.27	0.38	0.47	0.60
Minimum	0.26	0.07	0.04	0.03	0.03	0.03	0.06	0.03	0.09	0.09	0.09	0.31
Median	0.57	0.49	0.52	0.44	0.25	0.26	0.19	0.11	0.30	0.41	0.54	0.65
Maximum	0.65	0.65	0.65	0.61	0.45	0.35	0.26	0.27	0.35	0.55	0.65	0.65
St. Dev.	0.08	0.14	0.17	0.19	0.13	0.10	0.05	0.05	0.08	0.13	0.18	0.08
2020 No Project Alternative A												
Average	0.56	0.47	0.45	0.37	0.26	0.24	0.17	0.12	0.27	0.38	0.47	0.60
Minimum	0.26	0.07	0.04	0.03	0.03	0.03	0.06	0.03	0.09	0.09	0.09	0.31
Median	0.57	0.49	0.52	0.44	0.25	0.26	0.19	0.11	0.30	0.41	0.54	0.65
Maximum	0.65	0.65	0.65	0.61	0.45	0.35	0.26	0.27	0.35	0.55	0.65	0.65
St. Dev.	0.08	0.14	0.17	0.19	0.13	0.10	0.05	0.05	0.08	0.13	0.18	0.08
2020 No Project Alternative B												
Average	0.56	0.47	0.45	0.37	0.26	0.24	0.17	0.12	0.27	0.38	0.47	0.60
Minimum	0.26	0.07	0.04	0.03	0.03	0.03	0.06	0.03	0.09	0.09	0.09	0.31
Median	0.57	0.49	0.52	0.44	0.25	0.26	0.19	0.11	0.30	0.41	0.54	0.65
Maximum	0.65	0.65	0.65	0.61	0.45	0.35	0.26	0.27	0.35	0.55	0.65	0.65
St. Dev.	0.08	0.14	0.17	0.19	0.13	0.10	0.05	0.05	0.08	0.13	0.18	0.08
2020 Proposed Project Alternative												
Average	0.56	0.47	0.45	0.37	0.25	0.24	0.17	0.12	0.28	0.38	0.47	0.60
Minimum	0.25	0.07	0.04	0.03	0.03	0.03	0.06	0.03	0.09	0.08	0.08	0.31
Median	0.58	0.50	0.52	0.45	0.26	0.26	0.19	0.11	0.31	0.42	0.54	0.65
Maximum	0.65	0.65	0.65	0.61	0.45	0.35	0.26	0.25	0.35	0.55	0.65	0.65
St. Dev.	0.08	0.14	0.17	0.18	0.13	0.10	0.05	0.05	0.08	0.13	0.18	0.08

3.5. Reservoir Storage Levels

Figures 20a through 20c show the annual carryover storage levels at the end of December in Lake Oroville. Figures 21a through 21c show the same information in the SWP portion of San Luis Reservoir in each scenario. In Lake Oroville, each of the scenarios have similar storage patterns, with the Baseline, Proposed Project and No Project scenarios being very similar in both 2003 and 2020. In San Luis Reservoir, there is more variation between the scenarios in 2003 but the values in 2020 are similar. In both reservoirs there are many years in which the 1994 Baseline has greater carryover storage levels than at the later levels of development, and in many years there are higher carryover storage levels at the 2003 level of development scenarios than in the 2020 level of development scenarios.

Figure 22a shows the average monthly storage in the SWP portion of San Luis Reservoir in each of the 2003 scenarios. Figure 22b shows the same information for the 2020 scenarios. The monthly patterns at each level of development are similar in each of the different scenarios, except that San Luis storage is a little bit higher in most months in the Proposed Project than in the Baseline and No Project scenarios.

In addition, as discussed above the SWP San Luis monthly storage values from the CALSIM II model were adjusted to account for the change in monthly delivery patterns between the different No Project scenarios. As the data in the figures show, these differences had only a minor effect on San Luis storage results.

Figure 20a - End-of-December Carryover Storage Values in Lake Oroville at the 1994 Level of Development

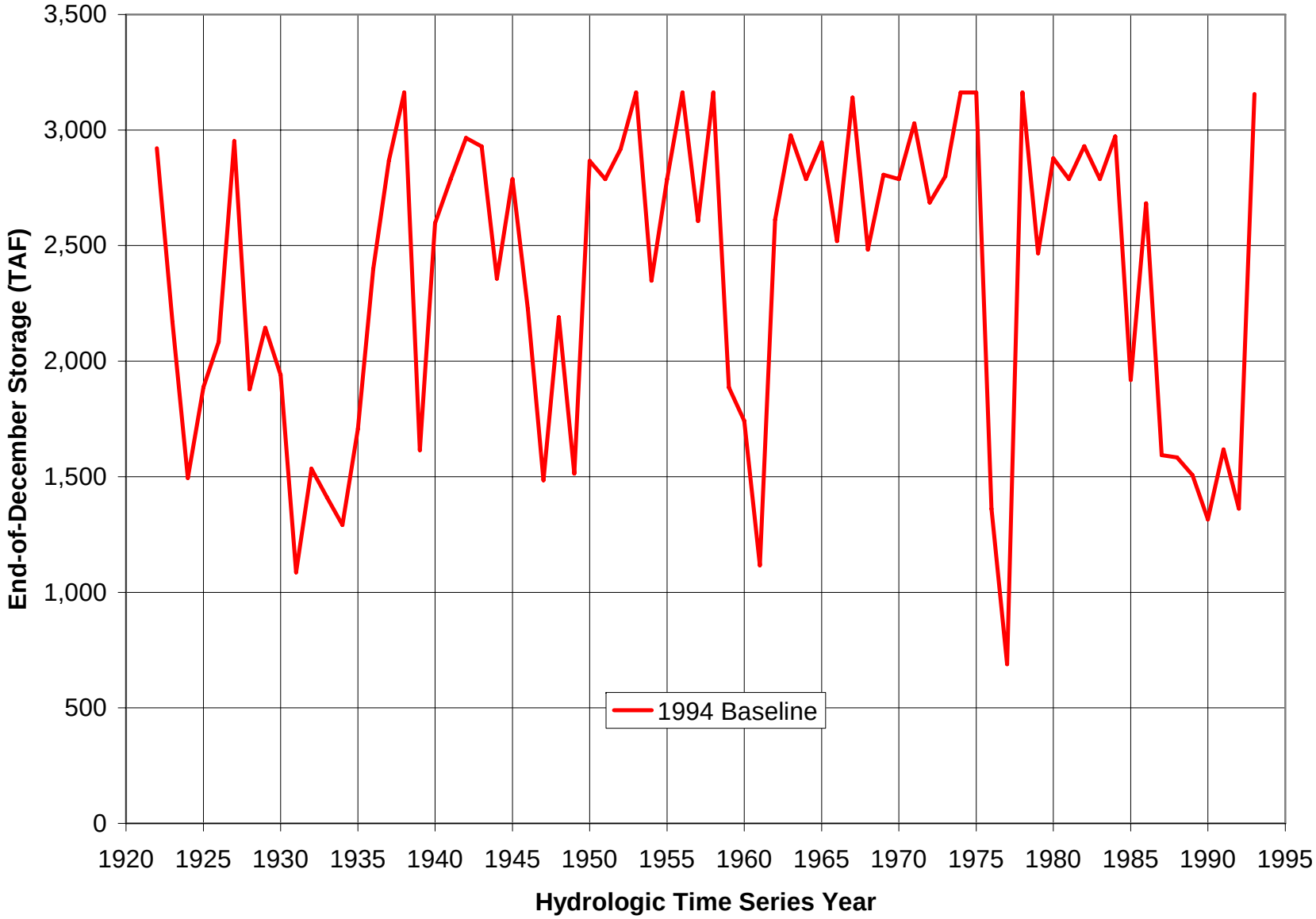


Figure 20b - End-of-December Carryover Storage Values in Lake Oroville at the 2003 Level of Development

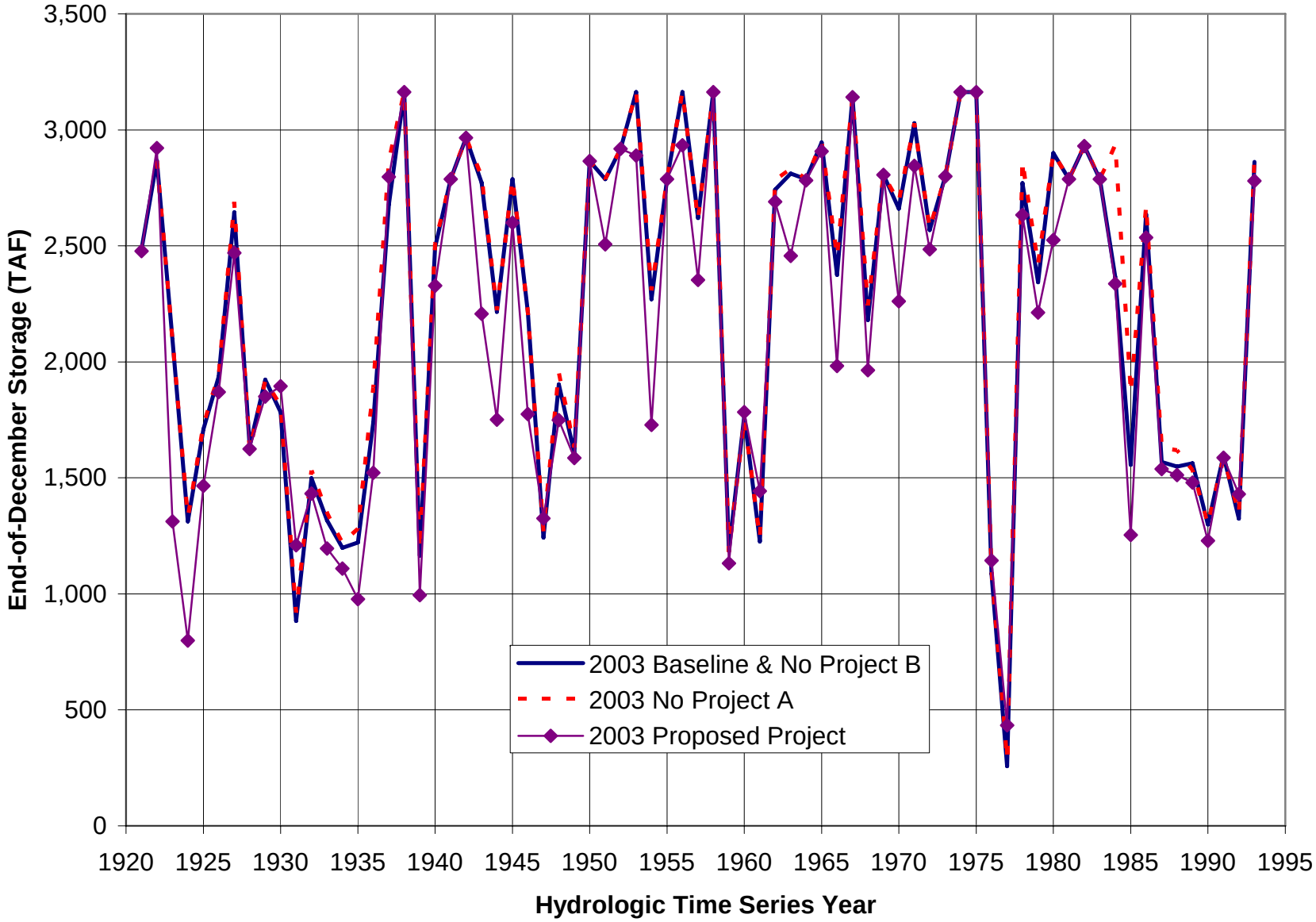


Figure 20c - End-of-December Carryover Storage Values in Lake Oroville at the 2020 Level of Development

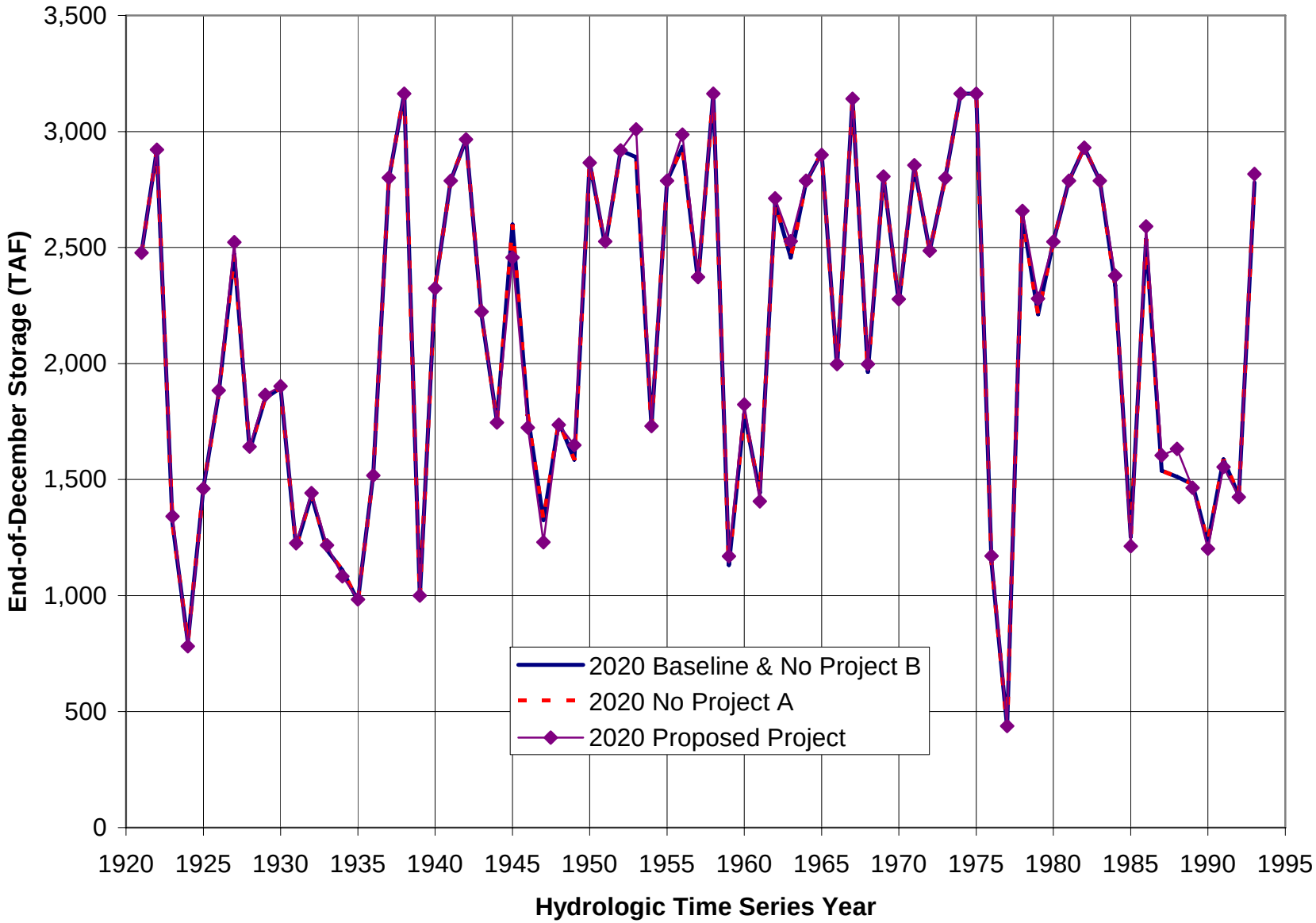


Figure 21a - End-of-December Carryover Storage Values in SWP Portion of San Luis Reservoir at the 1994 Level of Development

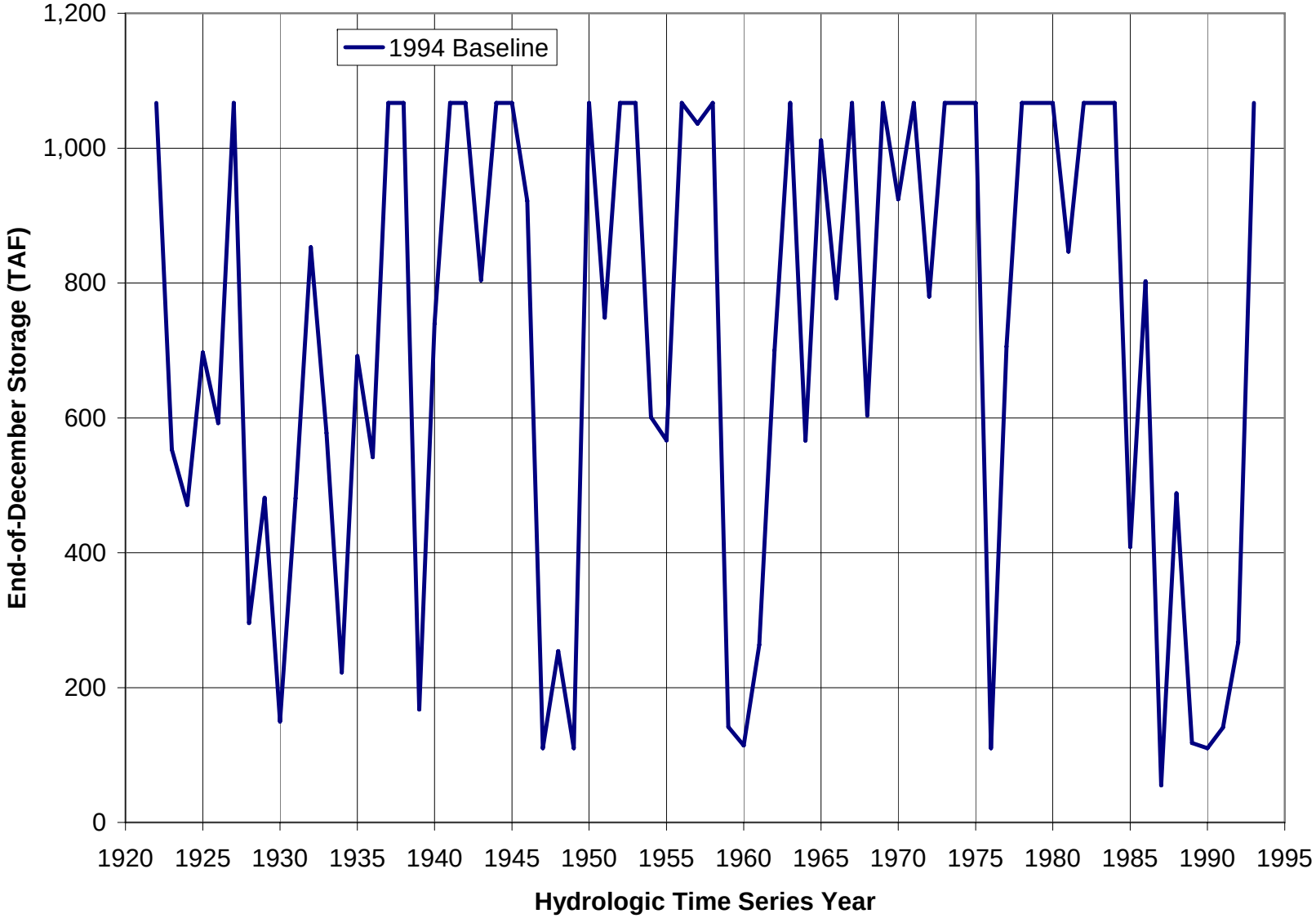


Figure 21b - End-of-December Carryover Storage Values in SWP Portion of San Luis Reservoir at the 2003 Level of Development

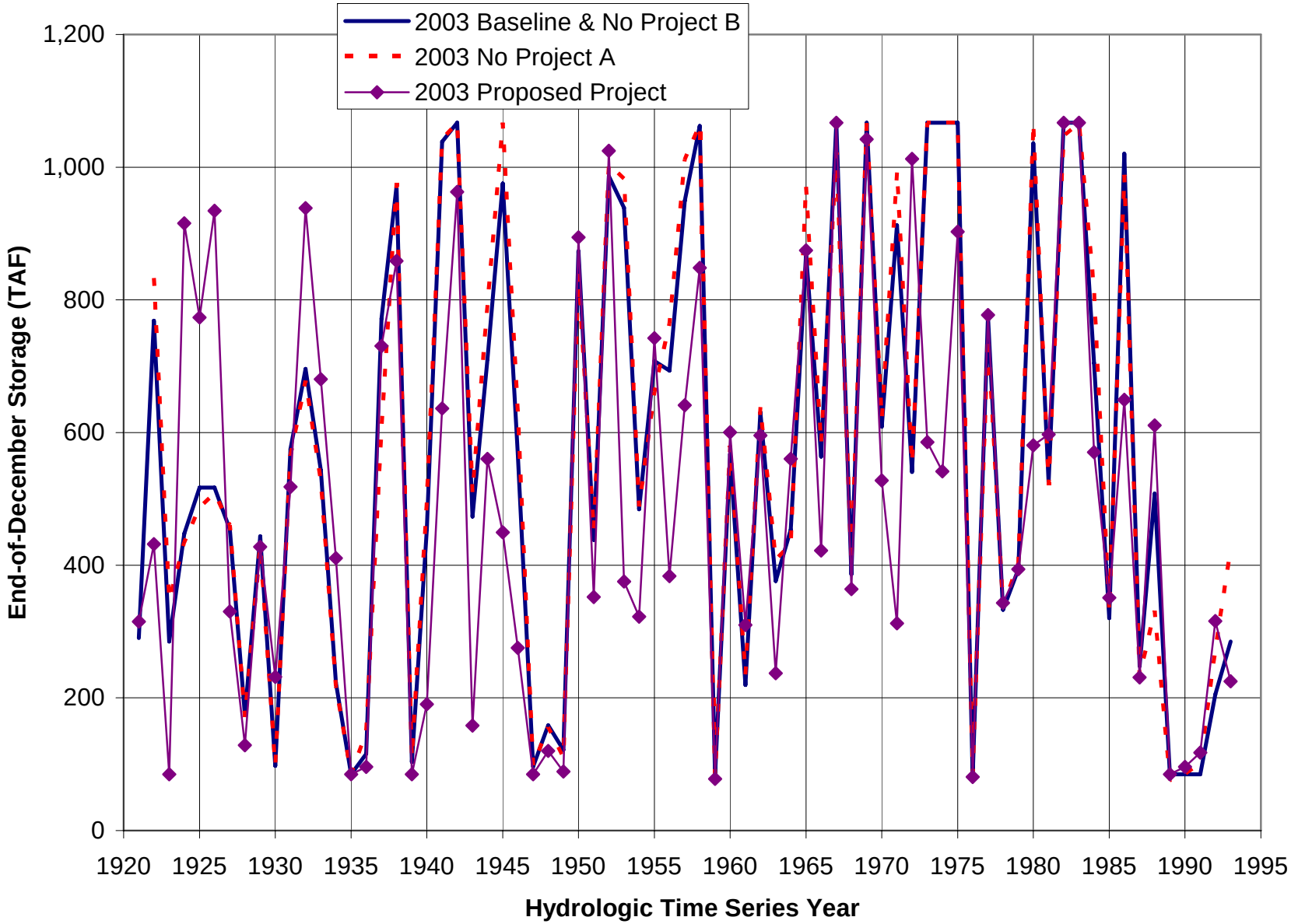


Figure 21c - End-of-December Carryover Storage Values in SWP Portion of San Luis Reservoir at the 2020 Level of Development

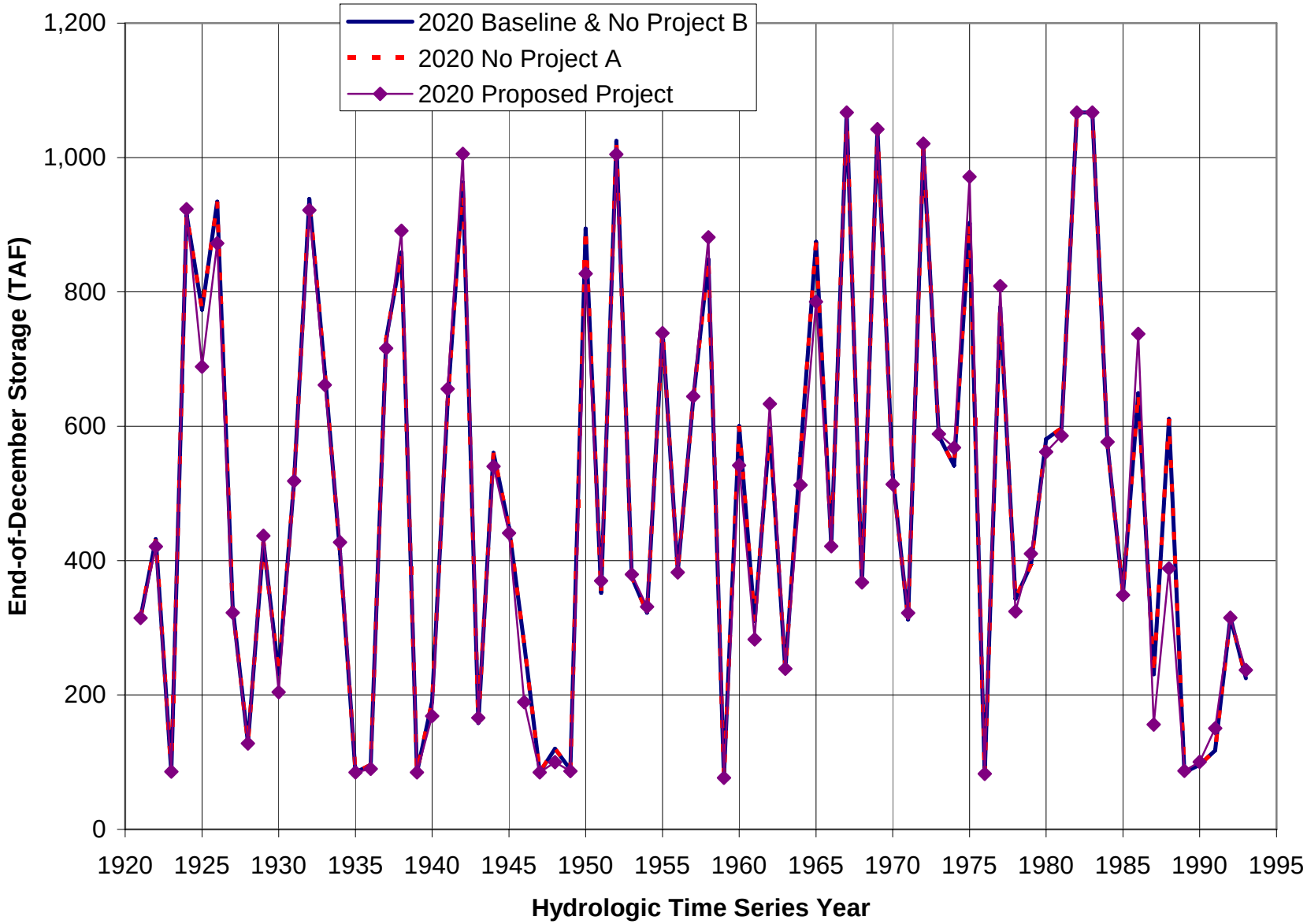


Figure 22a - Average Monthly Storage Values in SWP Portion of San Luis Reservoir at the 2003 Level of Development

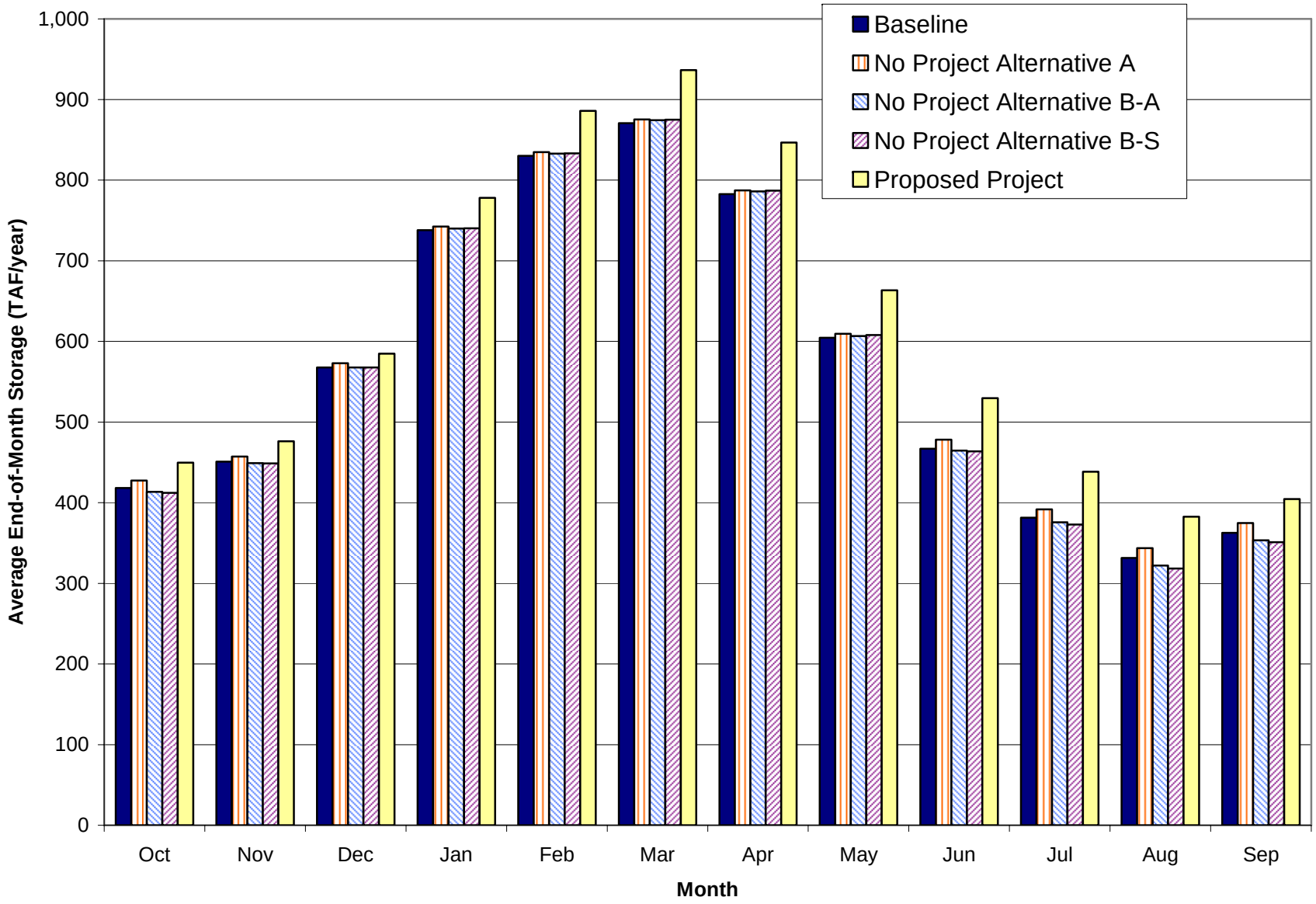
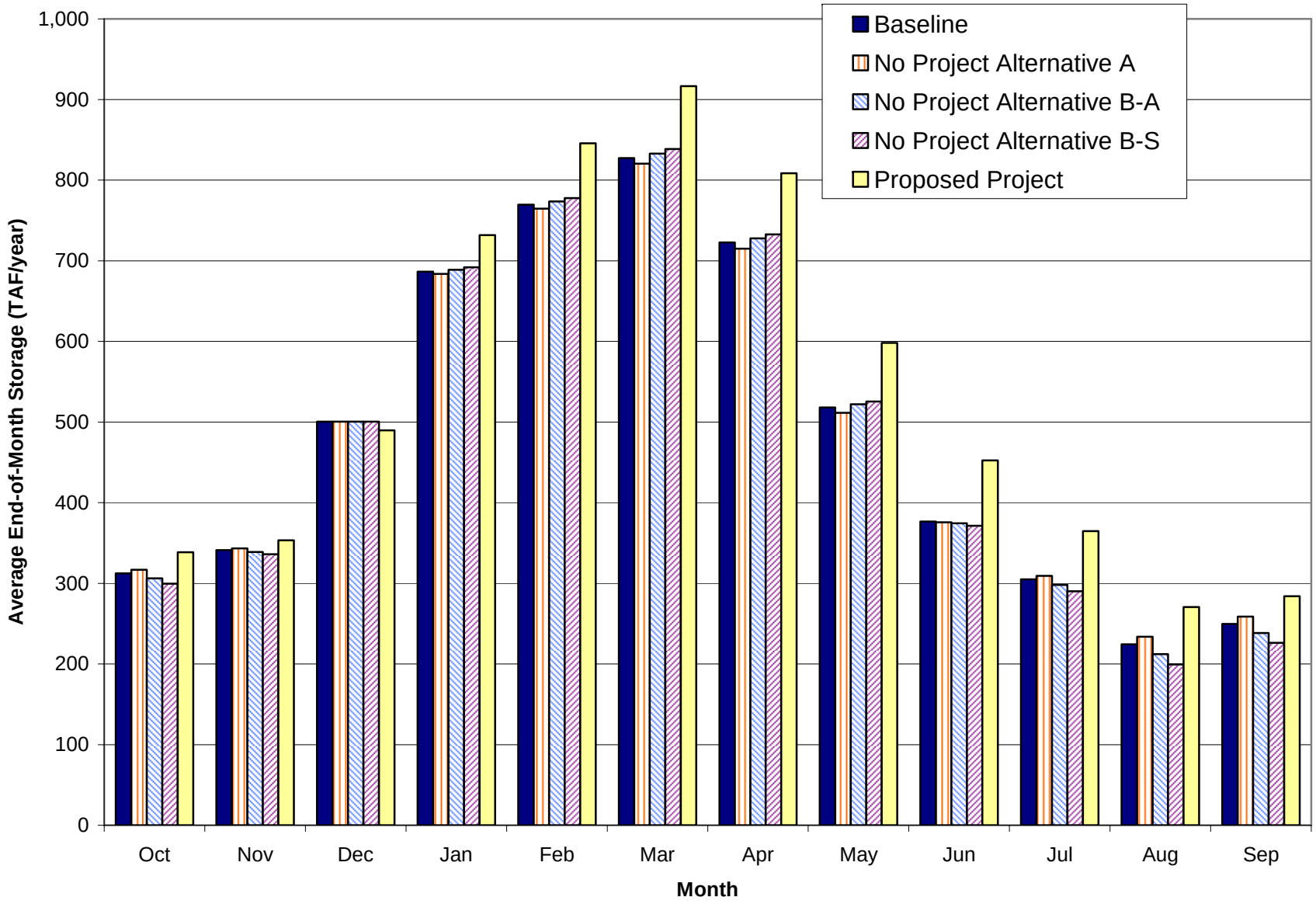


Figure 22b - Average Monthly Storage Values in SWP Portion of San Luis Reservoir at the 2020 Level of Development



3.6. Kern Fan Element Storage Operations

Scenarios were developed for the 2003 and 2020 No Project Alternatives A, B-A, and B-S that incorporate a SWP-owned groundwater banking facility in the Kern Fan Element (KFE). Section 3.1 on SWP deliveries report the scheduled and unscheduled deliveries that occurred under each Alternative with and without the KFE facility in place. This section describes the operations of the banking facility itself.

Table 35 shows the average annual recharge and extraction quantities in each scenario in each water year type. In the 2003 scenarios about 8.6 TAF per year is recharged into KFE, with extractions of about 7.5 TAF per year. In the 2020 scenarios 14.6 to 16.4 TAF is recharged into KFE and 13.0 – 14.6 TAF per year is extracted. In all scenarios, most recharge occurs during wet and above normal years and all of the extraction occurs during dry and critical years.

Table 35 – Kern Fan Element Storage Facility Recharge and Extraction (TAF/year)

	2003 No Project A	**2003 No Project B**	**2020 No Project A**	**2020 No Project B**
Recharge				
All Years	8.6	8.6	16.4	14.6
Wet Years	12.7	13.1	26.8	22.4
Above Normal Years	15.2	15.2	23.8	23.8
Below Normal Years	8.7	8.1	17.9	15.5
Dry Years	5.1	5.1	8.4	8.4
Critical Years	0.0	0.0	0.0	0.0
Extraction				
All Years	7.5	7.5	14.6	13.0
Wet Years	0.0	0.0	0.0	0.0
Above Normal Years	0.0	0.0	0.0	0.0
Below Normal Years	0.0	0.0	0.0	0.0
Dry Years	6.6	6.6	24.5	16.9
Critical Years	37.3	37.1	57.6	57.6

Figures 23a through 23b show the annual extraction and recharge amounts that occur in each water year in each scenario. Figures 24a through 24b show the KFE storage in each month of the simulation. In all scenarios, the KFE storage facility is filled to capacity for much of the period of simulation and then reduced as extractions occur during dry periods.

Figure 23a – Annual Extraction and Recharge in KFE Storage in 2003 No Project Alternative A

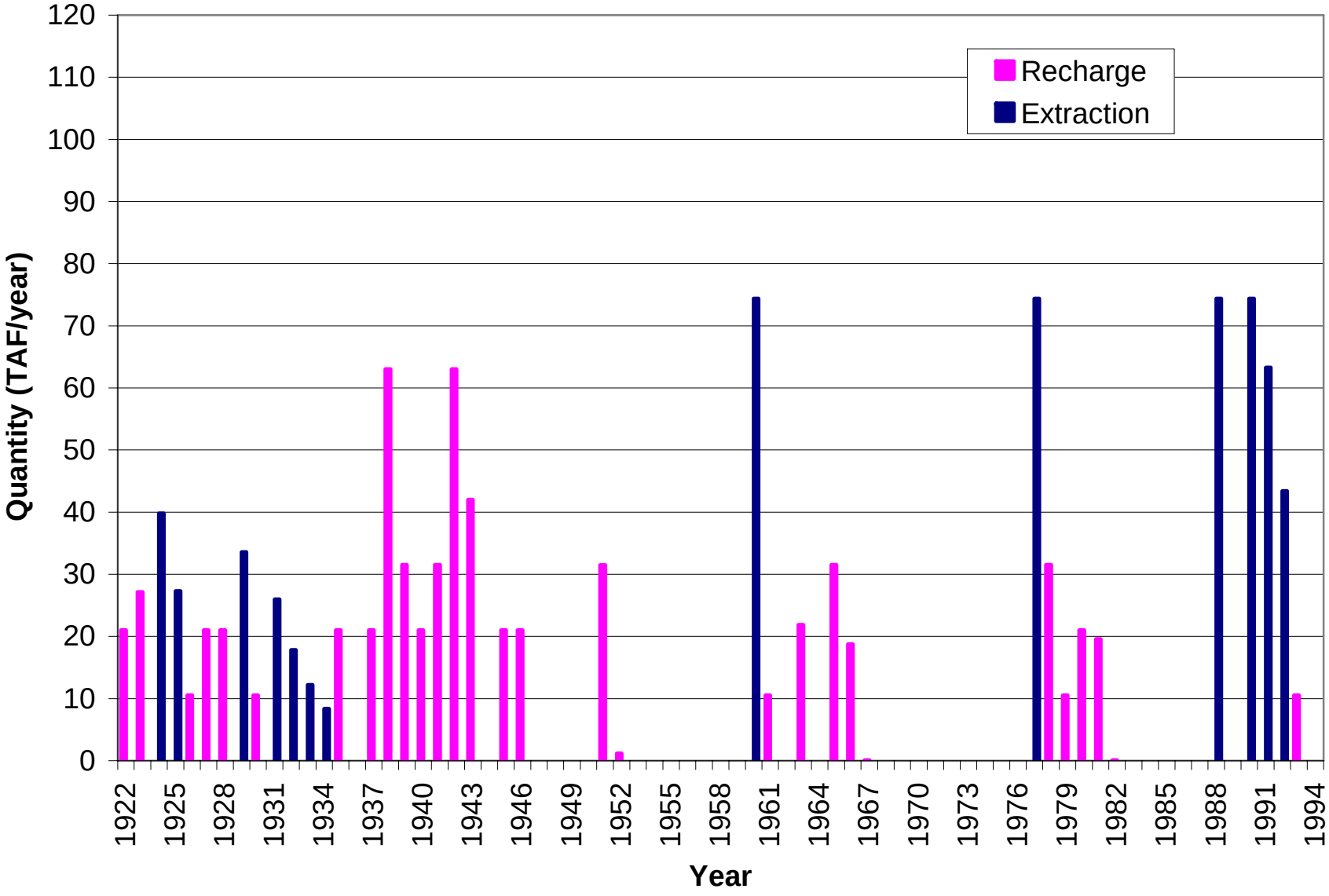


Figure 23b – Annual Extraction and Recharge in KFE Storage in 2003 No Project Alternative B

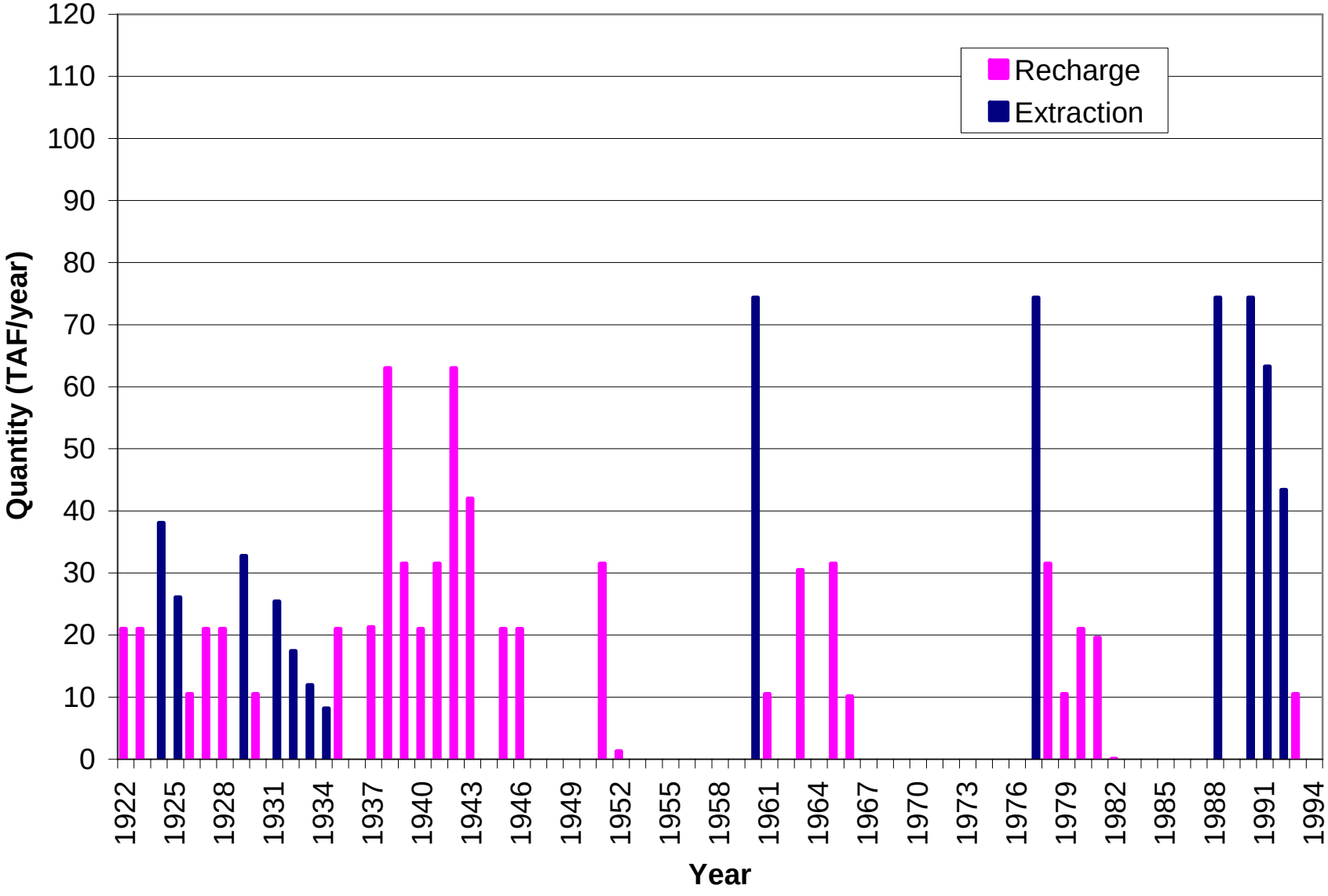


Figure 23c – Annual Extraction and Recharge in KFE Storage in 2020 No Project Alternative A

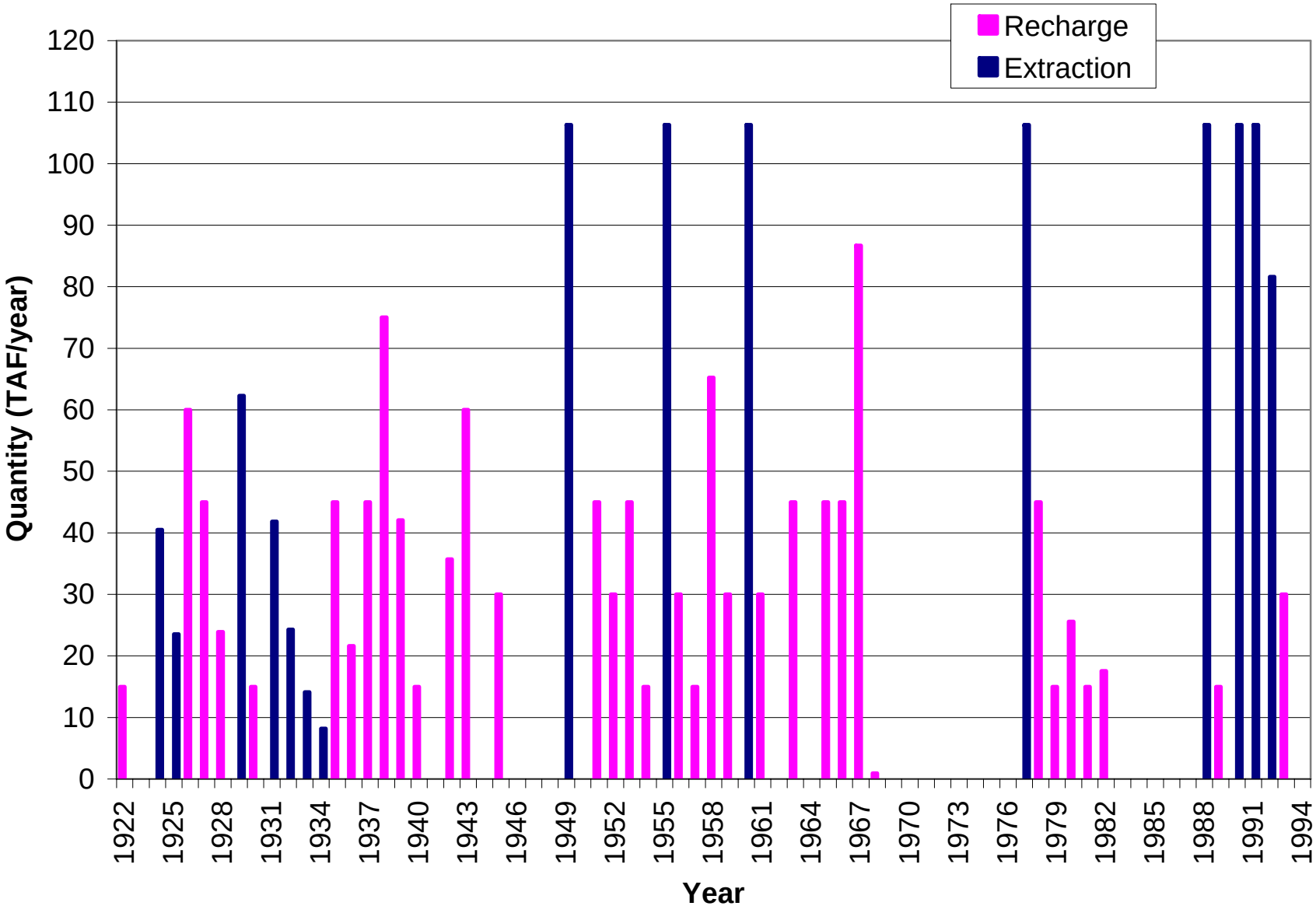


Figure 23d – Annual Extraction and Recharge in KFE Storage in 2020 No Project Alternative B

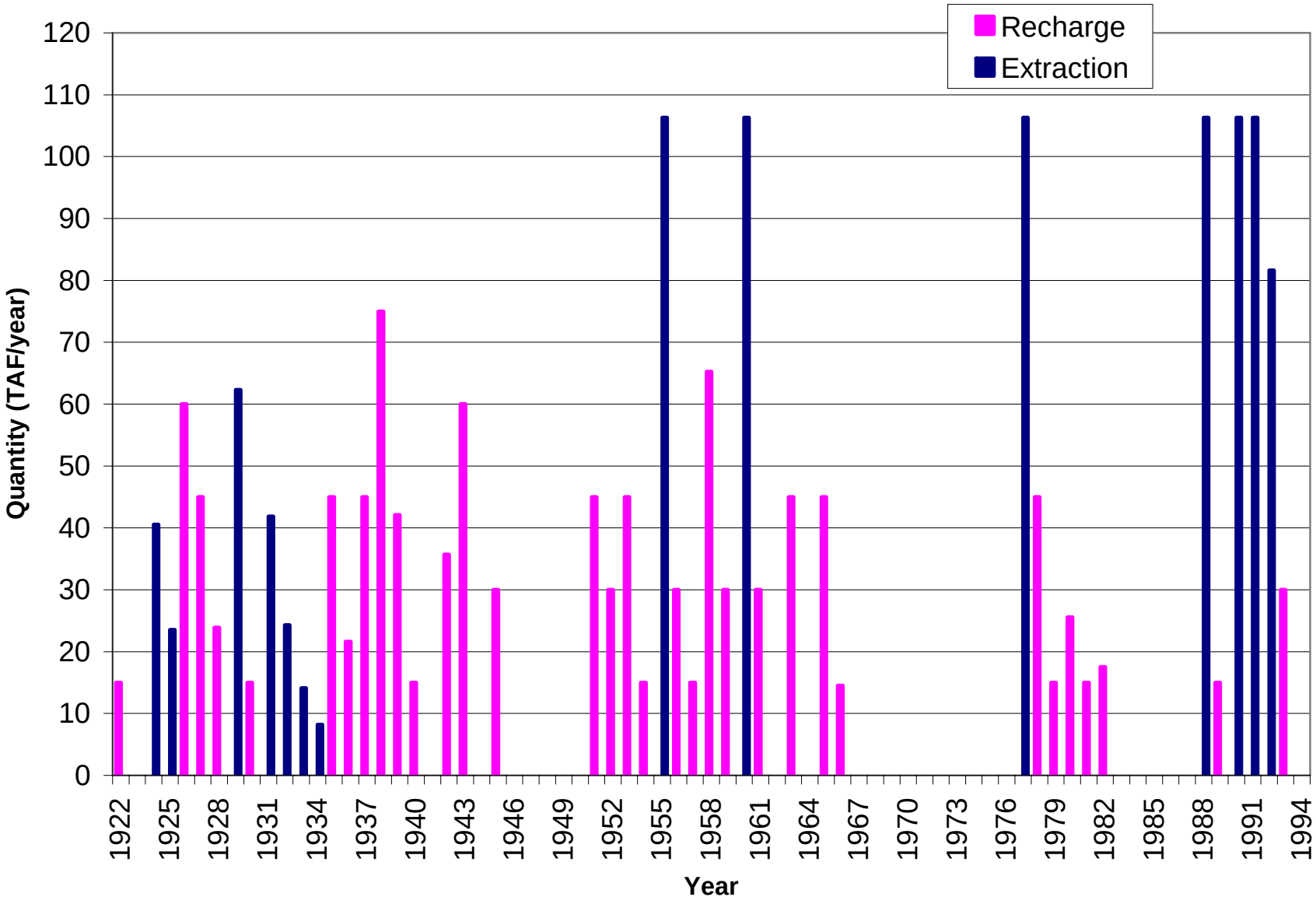


Figure 24a – Monthly Storage in the Kern Fan Element in 2003 No Project Alternative A

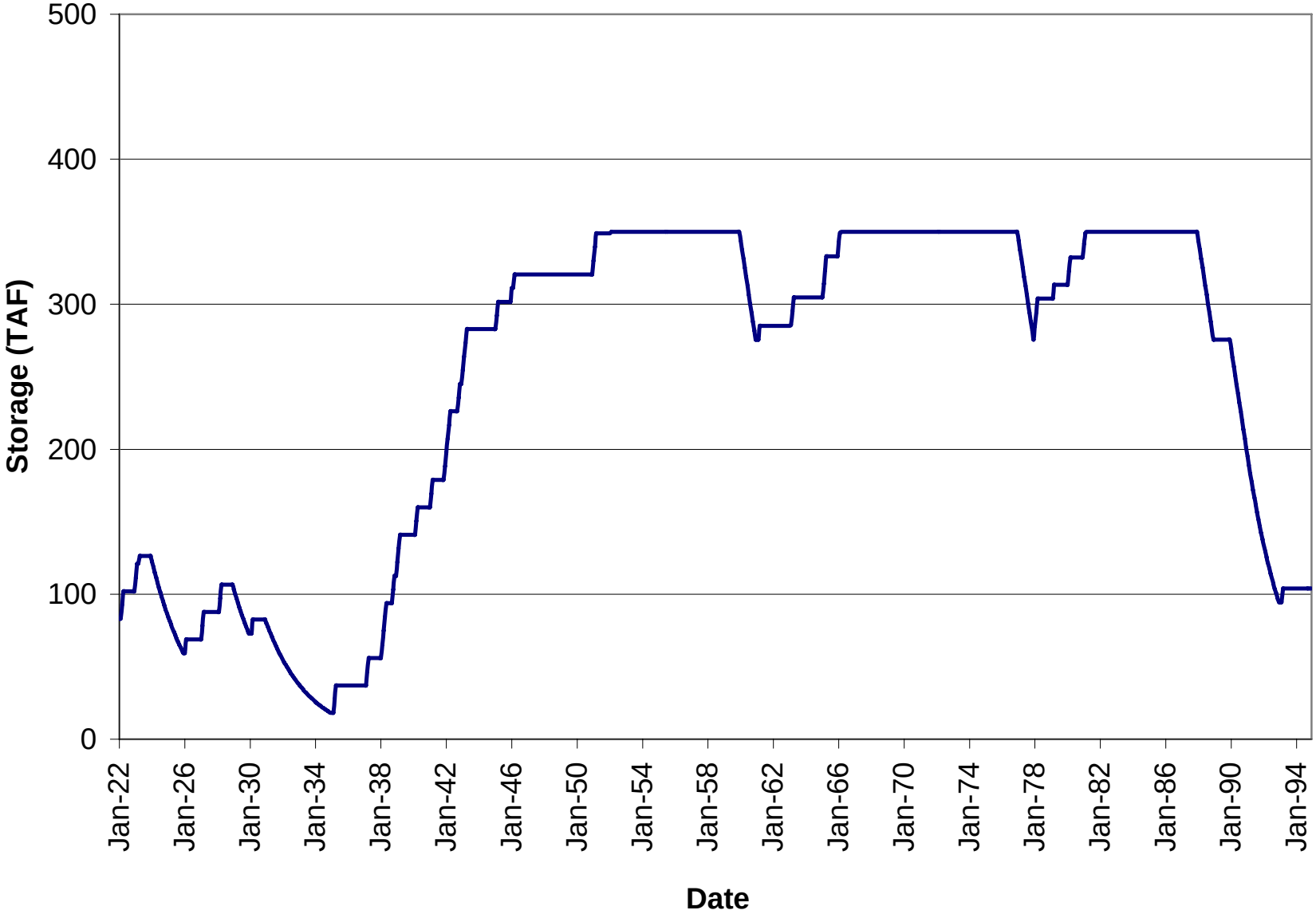


Figure 24b – Monthly Storage in the Kern Fan Element in 2003 No Project Alternative B

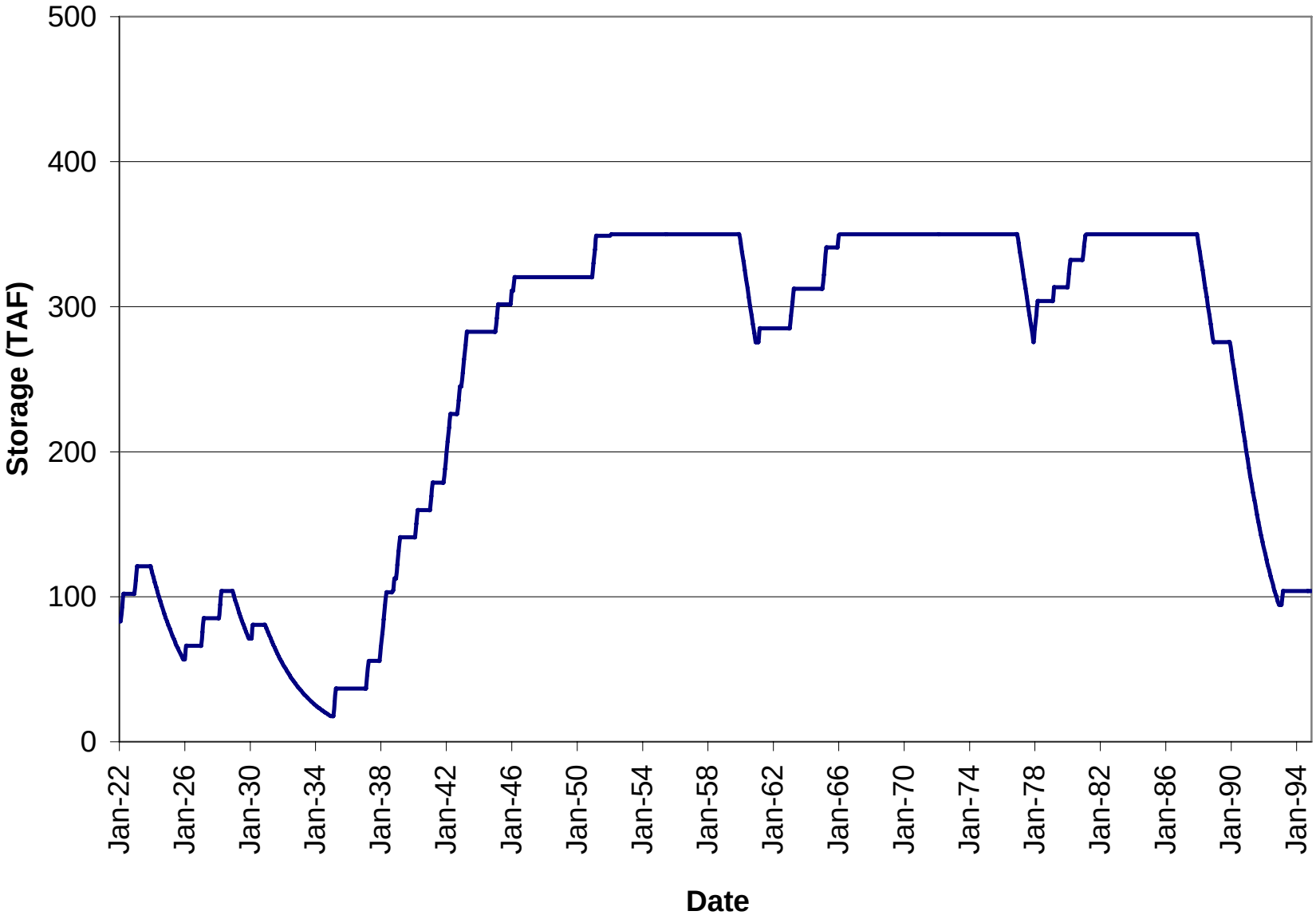


Figure 24c – Monthly Storage in the Kern Fan Element in 2020 No Project Alternative A

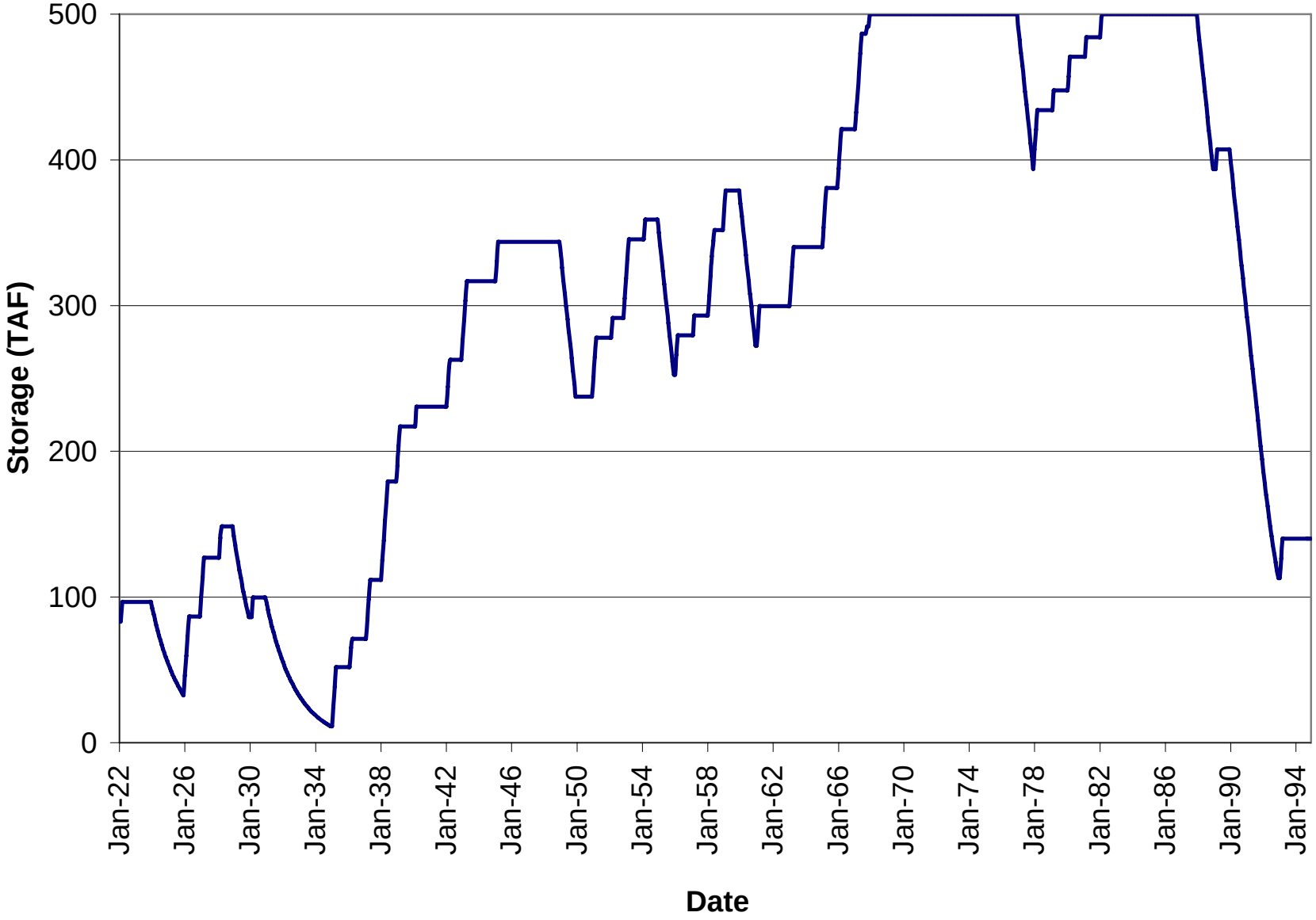
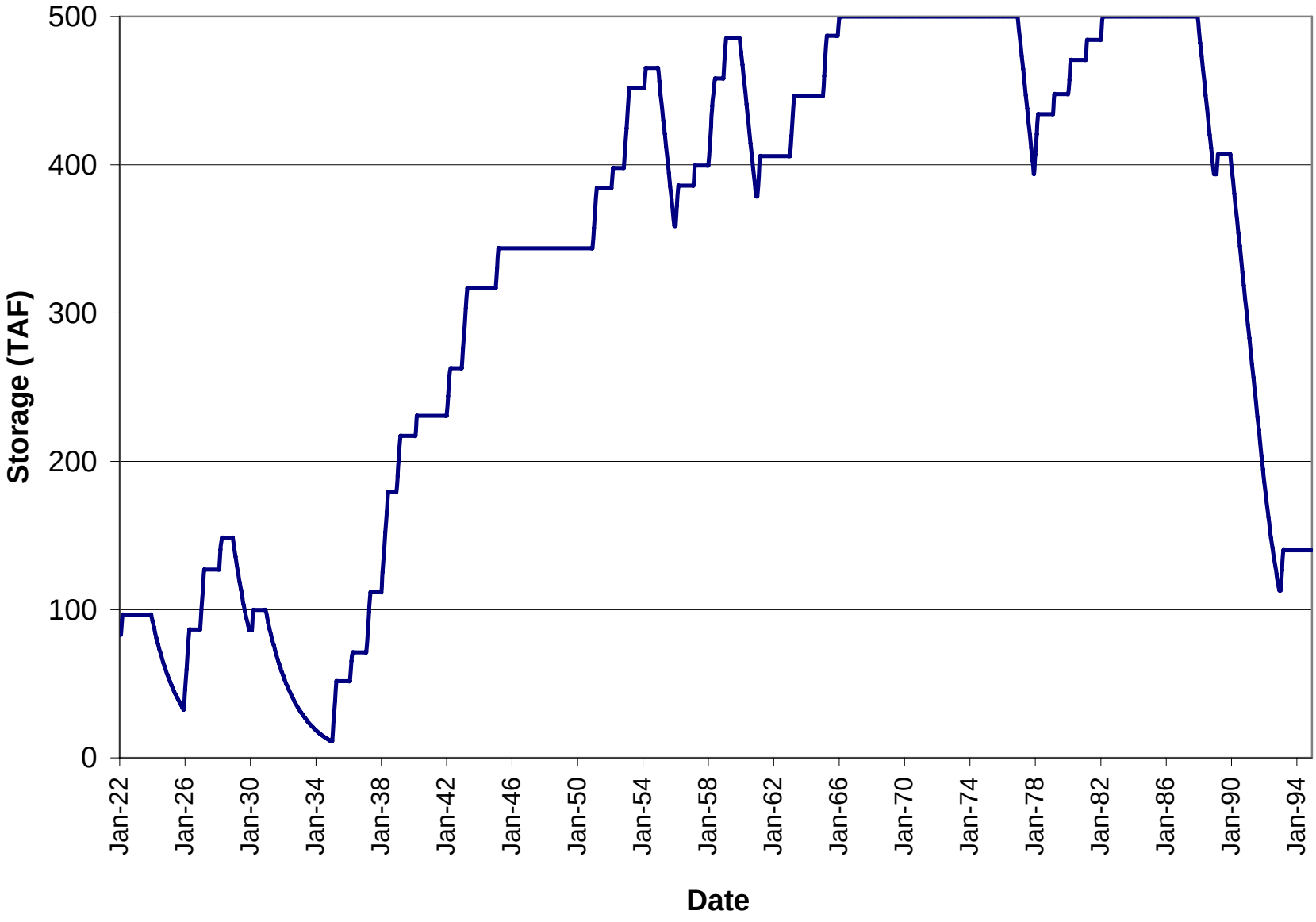


Figure 24d – Monthly Storage in the Kern Fan Element in 2020 No Project Alternative B



4.0. Limitations

For the Monterey Plus EIR, the CALSIM II model was used to simulate overall SWP and CVP operations and the resulting flows in the Delta and in upstream rivers in each alternative. However, because the most significant differences in assumptions between the different alternatives is in the allocation rules for SWP deliveries, the system-wide SWP Table A and Article 21 delivery results from CALSIM II have been post-processed using Excel spreadsheets to determine the deliveries to each contractor in each alternative. With this approach the deliveries to individual contractors are determined according to each alternative's allocation rules but total SWP deliveries for each year are unchanged from the CALSIM II model results.

The CALSIM II model is the best available tool for long-term planning of the SWP, CVP, and the Delta in an integrated manner. However, in its current state of development it has several limitations, some of which were identified in *A Strategic Review of CALSIM II and its Use for Water Planning, Management, and Operations in Central California* (Close et al. 2003). The following are some of the more significant limitations of the CALSIM II model:

- The CALSIM II model simulates at a monthly time step that does not reflect daily variations in flows and climatic conditions. However, monthly results still yield useful insights into the differences between alternatives (USBR 2004).

- Because the operations of the CVPIA (b)(2) and EWA respond to real-time hydrology and fish movements the program operations do not follow a pattern that can be predicted in a monthly model; thus CALSIM II cannot completely represent the operations of these programs. Because the model is set up to run each step of the 3406(b)(2) on an annual basis and because the WQCP and Endangered Species Act actions are set on a priority basis that can trigger actions using 3406(b)(2) water or EWA assets, the model will exceed the dedicated amount of 3406(b)(2) that is available. In addition, the 3406(b)(2) and EWA operations in CALSIM II do not fully account for the potential weighting of assets versus cost or the dynamic influence of biological factors on the timing of actions. The monthly time step of CALSIM II also requires day-weighted monthly averaging to simulate VAMP actions, export reductions, and X2-based operations, which can cause the amount of water needed for these actions to be either an under- or over-estimated (USBR 2004).

- Because CALSIM II uses fixed rules and guidelines, operations might not reflect how the SWP and CVP would operate during extended drought periods. The allocation process utilizes storage-delivery curves to determine annual allocation amounts based on storage conditions and inflow to project reservoirs but does not include project inflow from contributing streams. This curve-based approach may cause some variation in results between studies that would be closer with a more robust approach to the allocation process (USBR 2004).

There are the following additional limitations specific to the modeling approach employed in this analysis:

- Under the pre-Monterey Amendment allocation rules, agricultural Table A amounts receive an initial cut in SWP deliveries in years when 100% Table A allocation cannot be achieved by an amount up to 50% of their Table A amounts in any one year or a total of 100% of their Table A amounts over any seven year period. While these allocation rules were implemented in the analysis, there was no way to fully implement the seven year rule in the first six years of the analysis, which could cause an underestimate of agricultural deliveries in these years in the No Project Alternatives. For this reason, the first six years of data have been removed in the reporting of SWP deliveries in this appendix.

- For the 1994 and 2003 scenarios a constant annual Table A demand was used for every M&I contractor other than MWDSC. In reality, these contractors have demands for Table A water that may differ by year type and other local conditions. However, because of the limited amount of data available to quantify their demands at each level of development and because their demands are relatively much smaller than that of KCWA and MWDSC, the Monterey Plus EIR Modeling Subcommittee determined that assuming a constant Table A demand for each of these contractors was an acceptable simplification.

- In the real-world operation of the State Water Project, contractors may request their full Table A amounts and then only take a portion of their allocated amount. This means that their "request" may differ from their actual "demand". However, while the SWP operators may not know what the demand actually is, in the CALSIM II model and in the post-processing spreadsheets it is assumed that the actual demands are known at the beginning of the contract year. This approach may result in a minor over-estimation of SWP project deliveries in the 1994 and 2003 scenarios.

- The Monterey Amendment includes a provision for a Turnback Pool, by which contractors who do not utilize their entire Table A allocation can sell unused allocation to other contractors. However, the Turnback Pool is not represented in the CALSIM II model, nor is data available to adequately quantify this operation, and thus there was no way to fully represent it in the post-processing spreadsheets. This means that the delivery patterns shown for the Proposed Project scenarios may be somewhat different than they would be if the Turnback Pool were fully represented.

- In this analysis, the monthly storage pattern in San Luis Reservoir and the monthly delivery pattern to SWP contractors are operated dynamically in the CALSIM II model and then are post-processed to match the allocation assumptions of each alternative. This approach results in only a minor change in San Luis Reservoir operation in most years, but it does not allow for a dynamic operation of the reservoir, which likely results in some minor inefficiencies in the operation of the Project.

- For the 1994 scenario, there is no available data set for the 1994 level of development for many parts of the system, including Sacramento and San Joaquin River hydrology and CVP demands. In order to analyze this scenario it has been assumed that these components of the state water system are the same as in the 2003 alternatives.

For the Monterey Plus EIR, the effects of these limitations have been minimized because the model and post-processing results have been presented in "comparative" mode as opposed to

"absolute" or "predictive" mode. In "absolute" applications the model is run once to predict a future outcome and errors or assumptions in formulation, system representation, data, operational criteria and other model inputs all contribute to total error or uncertainty in model results. In "comparative" applications the model is run two or more times, once to represent a baseline condition and additional times with specific changes in inputs to assess the changes in the outcome due to the input changes. In comparative mode, only the difference between two simulations is of importance – the errors and uncertainties that exist in both simulations are largely removed (or significantly reduced) when measuring the change between simulations.

5.0. References

California Department of Water Resources (1990) *Kern Water Bank First Stage Kern Fan Element Feasibility Report*. Sacramento, CA, December 1990.

California Department of Water Resources (2002) *Benchmark Study Assumptions.* Sacramento, CA, September 2002.

Close, A., Haneman, W.M., Labadie, J.W., Loucks, D.P., Lund, J.R., McKinney, D.C., and Stedinger, J.R. (2003) *A Strategic Review of CALSIM II and its Use for Water Planning, Management, and Operations in Central California.* Submitted to the California Bay Delta Authority Science Program and Association of Bay Governments, Oakland, CA, December 2003.

U.S. Department of the Interior, Bureau of Reclamation (2004) *Long-Term Central Valley Project Operations Criteria and Plan CVP-OCAP*. Sacramento, CA, June 2004.

Monterey Plus EIR

Attachment to
Analysis of Hydrology and SWP Deliveries in each Alternative Using CALSIM II and Associated Post-Processing Routines

5/03/2007

This document is an attachment to the appendix *Analysis of Hydrology and SWP Deliveries in each Alternative Using CALSIM II and Associated Post-Processing Routines* (May 30, 2006). The appendix describes the approach, assumptions and results of CALSIM II modeling and associated post-processing that was performed in support of the Monterey Plus EIR. The modeling assisted analysis of some of the Monterey Amendment's impacts on the State Water Project (SWP) and other areas. The analysis included evaluation of a 1994 Baseline and 2003 and 2020 evaluations of a Baseline, the Proposed Project and multiple No Project Alternatives that reflect different interpretations of the pre-Monterey contracts.

This attachment describes the assumptions and results of additional scenarios at the 2003 and 2020 levels of development have been developed since the release of the May 30, 3006 appendix. For each of these additional scenarios the SWP deliveries to each contractor have been post-processed using the same process used previously. The attachment reports the resulting SWP scheduled and unscheduled deliveries to each contractor.

Additional Scenarios

The following additional scenarios have been analyzed at both the 2003 and 2020 levels of development for the following alternatives.

- No Project Alternative 1
- No Project Alternative 2
- No Project Alternative 3
- No Project Alternative 4

A revised version of the Proposed Project has also been analyzed at the 2020 level of development.

No Project Alternatives 1, 3, and 4 have been analyzed both with and without a hypothetical SWP groundwater banking facility in the Kern Fan Element (KFE). No Project Alternative 2 does not include a state-owned groundwater banking facility in the KFE.

In addition, for No Project Alternative 1 and revised Proposed Project at the 2020 level of development additional scenarios were developed to analyze SWP deliveries under climate change conditions.

Changes in Assumptions for Additional Scenarios

With the exception of the changes described below, the revised Proposed Project scenarios utilize all of the same assumptions as the original Proposed Project scenarios; the No Project Alternative 1 and No Project Alternative 2 scenarios utilize all of the same assumptions as the original Baseline and No Project A scenarios; the No Project Alternative 3 scenarios utilize all of the same assumptions as the original Alternative B-A scenarios; and the No Project Alternative 4 scenarios utilize all of the same assumptions as the original Alternative B-S scenarios.

The additional scenarios incorporate the following changes in assumptions relative to the original scenarios.

- For all of the 2020 scenarios, Banks Pumping Plant has been operated at the 1994 operating capacity of 6,680 cfs.
- The assumed Table A transfers have been revised from the original scenarios. The assumed Table A transfers included in the additional scenarios are shown in Table A-1. Table A-2 shows the resulting Table A amounts for each contractor in each scenario.

CALSIM II Simulations Used for Post-Processing Analysis

2003 Scenarios

SWP deliveries for the additional 2003 scenarios were post-processed from the same CALSIM II simulations that were used for the original scenarios. The No Project Alternative 1, 3 and 4 scenarios were post-processed using data from the Baseline CALSIM II simulation. The No Project Alternative 2 scenario was post-processed using data from the No Project A CALSIM II simulation.

At the 2003 level of development, the Proposed Project scenario is unchanged from the original scenario contained in the May 30, 2006 appendix. However, Table A amounts and SWP delivery results from the original scenario are shown in this attachment for comparison purposes.

2020 Scenarios

Updated versions of the 2020 Baseline and 2020 Proposed Project CALSIM II simulations were performed. The assumptions and input data for these scenarios were the same as the original CALSIM II simulations except that the operation of Banks Pumping Plant was changed to a capacity of 6,680 cfs. The No Project Alternative 1, 2, 3 and 4 scenarios were post-processed using data from the updated Baseline CALSIM II simulation. The revised Proposed Project scenario was post-processed using data from the updated Proposed Project CALSIM II simulation.

Analysis of Climate Change Scenarios

For the climate change scenarios, the annual scheduled deliveries used as an input into the post-processing spreadsheets were modified using SWP delivery data from the GFDL B1 and Base scenarios contained in *Progress on Incorporating Climate Change into Management of California's Water Resources* (DWR, July 2006). The Table A deliveries from the Monterey

Plus EIR CALSIM II simulations were adjusted by multiplying each year's value by a factor equal to the ratio of the Table A delivery in the GFDL B1 scenario divided by the Base scenario. Post-processing of the SWP deliveries was then performed using this revised time series.

Unscheduled deliveries were not modified to account for climate change because the average annual unscheduled deliveries in the GFDL B1 scenario were very close to that in the Base scenario.

SWP Delivery Results for the Additional Scenarios

Average annual scheduled and unscheduled deliveries to each contractor in each of the additional scenarios in all years, wet years, above normal years, below normal years, dry years, and critical years are shown in revised versions of Tables A-3a-f, A-4a-f, A-5a-f, and A-6a-f.

Table A-1 - Table A Transfers (acre-feet)

Transferor	Transferee	No Project Alternative 1	No Project Alternative 2	No Project Alternative 3	No Project Alternative 4	Proposed Project	Applicable Levels of Development
Kern County WA	Mojave WA	0	25,000	0	0	25,000[1]	2003, 2020
Kern County WA	Alameda Co., Zone 7	0	7,000	0	0	7,000[1]	2003, 2020
Kern County WA	Alameda Co., Zone 7	0	15,000	0	0	15,000[1]	2003, 2020
Kern County WA	Castaic Lake WA	0	41,000	0	0	41,000[1]	2003, 2020
Kern County WA	Palmdale WD	0	4,000	0	0	4,000[1]	2003, 2020
Kern County WA	Alameda Co., Zone 7	0	10,000	0	0	10,000[1]	2003, 2020
Kern County WA	Alameda Co., Zone 7	0	2,219	0	0	2,219[1]	2003, 2020
Kern County WA	Napa Co.	0	4,025	0	0	4,025[1]	2003, 2020
Kern County WA	Solano County WA	0	5,756	0	0	5,756[1]	2003, 2020
Kern County WA	Coachella VWD	0	0	0	0	12,000[1]	2020
Kern County WA	Desert WA	0	0	0	0	4,000[1]	2020
Tulare Lake Basin WSD	AVEK WA	3,000	3,000	3,000	3,000	3,000	2003, 2020
Tulare Lake Basin WSD	Dudley Ridge WD	3,973	3,973	3,973	3,973	3,973	2003, 2020
Tulare Lake Basin WSD	Alameda Co., Zone 7	400	400	400	400	400	2003, 2020
Tulare Lake Basin WSD	County of Kings	5,000	5,000	5,000	5,000	5,000	2003, 2020
Tulare Lake Basin WSD	Coachella VWD	9,900	9,900	9,900	9,900	9,900	2003, 2020
MWDSC	Coachella VWD	88,100	88,100	88,100	88,100	88,100	2020
MWDSC	Desert WA	11,900	11,900	11,900	11,900	11,900	2020

Notes:

(1) This Table A transfer is a component of the Monterey Amendment Article 53 KCWA commitment of 130 TAF of Table A transfers

Table A-2 - Table A Amounts in the Additional Scenarios (acre-feet)

SWP CONTRACTOR	2003 No Project 1	2020 No Project 1	2003 No Project 2	2020 No Project 2	2003 No Project 3 & 4	2020 No Project 3 & 4	2003 Proposed Project	2020 Proposed Project
County of Butte	3,500	27,500	3,500	27,500	1,594	12,388	3,500	27,500
Plumas County FC&WCD	1,690	2,700	1,690	2,700	770	1,216	1,690	2,700
City of Yuba City	9,600	9,600	9,600	9,600	4,372	4,325	9,600	9,600
Napa County FC&WCD	17,450	24,900	21,475	28,925	7,947	11,217	21,475	28,925
Solano County WA	41,000	42,000	46,756	47,756	18,672	18,920	46,756	47,756
Alameda Co. FC&WCD, Zone 7	46,400	46,400	80,619	80,619	21,132	20,902	80,619	80,619
Alameda County WD	42,000	42,000	42,000	42,000	19,128	18,920	42,000	42,000
Santa Clara Valley WD	100,000	100,000	100,000	100,000	45,543	45,048	100,000	100,000
Oak Flat WD	5,700	5,700	5,700	5,700	2,596	2,568	5,700	5,700
County of Kings	9,000	9,000	9,000	9,000	4,099	4,054	9,000	9,000
Dudley Ridge WD	61,673	61,673	61,673	61,673	28,087	27,783	57,343	57,343
Empire West Side ID	3,000	3,000	3,000	3,000	1,366	1,351	3,000	3,000
Kern County Water Agency (M&I)	134,600	134,600	134,600	134,600	61,300	60,635	134,600	134,600
Kern County Water Agency (Agric.)	1,018,800	1,018,800	904,800	904,800	463,987	458,953	864,130	848,130
Tulare Lake Basin WSD	96,227	96,227	96,227	96,227	43,824	43,349	96,227	96,227
San Luis Obispo Co. FC&WCD	25,000	25,000	25,000	25,000	11,386	11,262	25,000	25,000
Santa Barbara Co. FC&WCD	45,486	45,486	45,486	45,486	20,715	20,491	45,486	45,486
Antelope Valley-East Kern WA	141,400	141,400	141,400	141,400	64,397	63,698	141,400	141,400
Castaic Lake WA (31A)	12,700	12,700	12,700	12,700	5,784	5,721	12,700	12,700
Castaic Lake WA	41,500	41,500	82,500	82,500	18,900	18,695	82,500	82,500
Coachella Valley WD	33,000	121,100	33,000	121,100	15,029	54,554	33,000	133,100
Crestline-Lake Arrowhead WA	5,800	5,800	5,800	5,800	2,641	2,613	5,800	5,800
Desert WA	38,100	50,000	38,100	50,000	17,352	22,524	38,100	54,000
Littlerock Creek ID	2,300	2,300	2,300	2,300	1,047	1,036	2,300	2,300
Mojave WA	50,800	50,800	75,800	75,800	23,136	22,885	75,800	75,800
Metropolitan WDSC	2,011,500	1,911,500	2,011,500	1,911,500	916,088	861,100	2,011,500	1,911,500
Palmdale WD	17,300	17,300	21,300	21,300	7,879	7,793	21,300	21,300
San Bernardino Valley MWD	102,600	102,600	102,600	102,600	46,727	46,220	102,600	102,600
San Gabriel Valley MWD	28,800	28,800	28,800	28,800	13,116	12,974	28,800	28,800
San Gorgonio Pass WA	5,000	17,300	5,000	17,300	2,277	7,793	5,000	17,300
Ventura County FCD	20,000	20,000	20,000	20,000	9,109	9,010	20,000	20,000
Total Agriculture	1,207,100	1,207,100	1,093,100	1,093,100	549,744	543,779	1,048,100	1,032,100
Total M&I	2,964,826	3,010,586	3,078,826	3,124,586	1,350,256	1,356,221	3,078,826	3,140,586
Total	4,171,926	4,217,686	4,171,926	4,217,686	1,900,000	1,900,000	4,126,926	4,172,686

Table A-3a - Average Annual Scheduled Deliveries (TAF/year) to each Contractor in the Additional 2003 Scenarios

SWP CONTRACTOR	2003 No Project 1 without KFE	2003 No Project 1 with KFE	2003 No Project 2	2003 No Project 3 without KFE	2003 No Project 3 with KFE	2003 No Project 4 without KFE	2003 No Project 4 with KFE	2003 Proposed Project
Napa	6.5	6.5	6.5	6.4	6.4	7.2	7.2	6.4
Solano	34.2	34.3	34.2	33.3	33.4	30.5	30.6	34.3
Zone 7	41.1	41.2	57.4	38.7	38.8	37.1	37.2	59.3
Alameda	31.9	32.0	31.9	30.8	30.9	29.9	30.0	31.3
Santa Clara	76.6	76.8	76.7	74.0	74.2	71.8	72.0	75.3
Oak Flat	4.4	4.4	4.5	4.6	4.6	4.7	4.7	4.7
Kings	7.0	7.0	7.2	7.4	7.4	3.3	3.4	7.3
Dudley Ridge	47.2	47.3	48.4	50.3	50.4	48.3	48.4	46.8
Empire W.S.	2.3	2.3	2.4	2.4	2.4	2.5	2.5	2.4
KCWA (M&I)	119.4	119.8	119.5	112.3	112.6	108.6	108.8	117.8
KCWA (Agric.)	778.3	779.5	706.1	829.0	830.7	852.9	854.9	705.7
Tulare	73.0	73.1	74.9	77.8	78.0	89.6	89.8	78.6
SLO	4.3	4.3	4.3	4.2	4.2	4.2	4.2	4.2
Santa Barbara	25.2	25.3	25.2	25.1	25.2	24.5	24.6	24.9
AVEK	61.8	62.1	61.8	61.5	61.8	61.4	61.6	61.3
Castaic (Agric.)	9.7	9.7	9.9	10.3	10.4	10.6	10.7	10.4
Castaic (M&I)	36.8	36.9	58.7	34.6	34.7	33.5	33.5	61.1
Coachella	17.5	17.5	17.5	16.9	17.0	16.7	16.7	17.8
Crestline	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8
Desert	28.3	28.4	28.3	27.5	27.5	27.0	27.1	27.8
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	13.0	13.1	13.0	13.0	13.1	13.0	13.1	13.0
MWDSC	1,310.1	1,314.3	1,311.5	1,269.9	1,273.7	1,253.5	1,257.1	1,284.6
Palmdale	13.5	13.5	13.5	13.0	13.0	12.5	12.6	13.5
San Bernardino	64.4	64.6	64.5	63.3	63.5	63.1	63.3	63.5
San Gabriel	16.8	16.9	16.8	16.6	16.6	16.5	16.6	16.6
San Gorgonio	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ventura	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
Total Agriculture	921.8	923.2	853.3	981.9	983.9	1,012.1	1,014.4	855.9
Total M&I	1,908.3	1,914.3	1,948.2	1,848.2	1,853.6	1,818.0	1,823.1	1,919.7
Total	2,830.1	2,837.5	2,801.5	2,830.1	2,837.5	2,830.1	2,837.5	2,775.7

Table A-3b - Wet Years: Annual Average Scheduled Deliveries (TAF/year) to each Contractor in the Additional 2003 Scenarios

SWP CONTRACTOR	2003 No Project 1 without KFE	2003 No Project 1 with KFE	2003 No Project 2	2003 No Project 3 without KFE	2003 No Project 3 with KFE	2003 No Project 4 without KFE	2003 No Project 4 with KFE	2003 Proposed Project
Napa	6.8	6.8	6.8	6.8	6.8	7.6	7.6	6.8
Solano	37.7	37.7	37.7	37.6	37.6	35.9	35.9	37.7
Zone 7	46.4	46.4	66.5	45.7	45.7	44.5	44.5	66.5
Alameda	35.2	35.2	35.2	35.0	35.0	34.3	34.3	35.2
Santa Clara	84.7	84.7	84.7	84.1	84.1	82.5	82.5	84.7
Oak Flat	5.3	5.3	5.4	5.3	5.3	5.3	5.3	5.3
Kings	8.6	8.6	8.8	8.7	8.7	3.8	3.8	8.4
Dudley Ridge	57.0	57.0	58.3	57.7	57.7	54.2	54.2	53.4
Empire W.S.	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
KCWA (M&I)	134.6	134.6	134.6	132.6	132.6	130.2	130.2	134.6
KCWA (Agric.)	938.5	938.5	845.2	949.3	949.3	956.7	956.7	805.0
Tulare	87.3	87.3	89.3	88.4	88.4	99.9	99.9	89.6
SLO	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
Santa Barbara	26.3	26.3	26.3	26.3	26.3	26.0	26.0	26.3
AVEK	64.9	64.9	64.9	64.9	64.9	64.4	64.4	64.9
Castaic (Agric.)	11.7	11.7	12.0	11.8	11.8	11.9	11.9	11.8
Castaic (M&I)	41.5	41.5	68.6	40.9	40.9	40.1	40.1	68.6
Coachella	19.3	19.3	19.3	19.2	19.2	18.9	18.9	19.3
Crestline	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Desert	31.2	31.2	31.2	31.0	31.0	30.6	30.6	31.2
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2
MWDSC	1,272.5	1,272.5	1,272.5	1,264.4	1,264.4	1,263.6	1,263.6	1,272.5
Palmdale	14.9	14.9	14.9	14.8	14.8	14.5	14.5	14.9
San Bernardino	69.8	69.8	69.8	69.8	69.8	69.3	69.3	69.8
San Gabriel	18.1	18.1	18.1	18.1	18.1	18.0	18.0	18.1
San Gorgonio	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ventura	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Total Agriculture	1,111.2	1,111.2	1,021.7	1,124.0	1,124.0	1,134.7	1,134.7	976.3
Total M&I	1,928.4	1,928.4	1,975.7	1,915.6	1,915.6	1,905.0	1,905.0	1,975.7
Total	3,039.7	3,039.7	2,997.3	3,039.6	3,039.6	3,039.7	3,039.6	2,952.0

Table A-3c - Above Normal Years: Annual Average Scheduled Deliveries (TAF/year) to each Contractor in the Additional 2003 Scenarios

SWP CONTRACTOR	2003 No Project 1 without KFE	2003 No Project 1 with KFE	2003 No Project 2	2003 No Project 3 without KFE	2003 No Project 3 with KFE	2003 No Project 4 without KFE	2003 No Project 4 with KFE	2003 Proposed Project
Napa	6.8	6.8	6.8	6.8	6.8	7.6	7.6	6.8
Solano	37.7	37.7	37.7	37.7	37.7	36.7	36.7	37.7
Zone 7	46.4	46.4	66.5	46.0	46.0	45.2	45.2	66.5
Alameda	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2
Santa Clara	84.7	84.7	84.7	84.7	84.7	84.7	84.7	84.7
Oak Flat	5.4	5.4	5.5	5.4	5.4	5.5	5.5	5.4
Kings	8.7	8.7	8.8	8.8	8.8	3.8	3.8	8.6
Dudley Ridge	58.7	58.7	59.2	59.0	59.0	55.2	55.2	54.5
Empire W.S.	2.8	2.8	2.9	2.9	2.9	2.9	2.9	2.9
KCWA (M&I)	134.6	134.6	134.6	133.5	133.5	132.2	132.2	134.6
KCWA (Agric.)	966.1	966.1	860.9	971.5	971.5	974.3	974.3	821.0
Tulare	90.3	90.3	91.1	90.8	90.8	101.5	101.5	91.4
SLO	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
Santa Barbara	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3
AVEK	64.9	64.9	64.9	64.9	64.9	64.9	64.9	64.9
Castaic (Agric.)	12.0	12.0	12.2	12.1	12.1	12.1	12.1	12.1
Castaic (M&I)	41.5	41.5	68.6	41.2	41.2	40.8	40.8	68.6
Coachella	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3
Crestline	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Desert	31.2	31.2	31.2	31.2	31.2	31.2	31.2	31.2
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2
MWDSC	1,537.7	1,537.7	1,537.7	1,533.0	1,533.0	1,531.1	1,531.1	1,537.6
Palmdale	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9
San Bernardino	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8
San Gabriel	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1
San Gorgonio	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ventura	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Total Agriculture	1,144.0	1,144.0	1,040.5	1,150.5	1,150.5	1,155.2	1,155.2	995.7
Total M&I	2,193.7	2,193.7	2,240.9	2,187.2	2,187.2	2,182.6	2,182.6	2,240.8
Total	3,337.8	3,337.8	3,281.4	3,337.8	3,337.8	3,337.8	3,337.8	3,236.5

Table A-3d - Below Normal Years: Annual Average Scheduled Deliveries (TAF/year) to each Contractor in the Additional 2003 Scenarios

SWP CONTRACTOR	2003 No Project 1 without KFE	2003 No Project 1 with KFE	2003 No Project 2	2003 No Project 3 without KFE	2003 No Project 3 with KFE	2003 No Project 4 without KFE	2003 No Project 4 with KFE	2003 Proposed Project
Napa	6.8	6.8	6.8	6.8	6.8	7.6	7.6	6.8
Solano	37.7	37.7	37.7	37.7	37.7	34.3	34.3	37.7
Zone 7	46.4	46.4	65.2	43.2	43.2	41.6	41.6	66.5
Alameda	35.2	35.2	35.2	34.7	34.7	33.8	33.8	35.2
Santa Clara	84.7	84.7	84.7	83.3	83.3	81.1	81.1	84.7
Oak Flat	5.1	5.1	5.3	5.5	5.5	5.7	5.7	5.4
Kings	8.1	8.1	8.4	8.7	8.7	4.0	4.0	8.6
Dudley Ridge	55.7	55.7	57.5	59.2	59.2	57.5	57.5	54.5
Empire W.S.	2.7	2.7	2.8	2.9	2.9	3.0	3.0	2.9
KCWA (M&I)	134.6	134.6	134.6	125.4	125.4	121.5	121.5	134.6
KCWA (Agric.)	919.5	919.5	842.5	978.1	978.1	1,015.5	1,015.5	821.8
Tulare	86.8	86.8	89.6	92.3	92.3	105.3	105.3	91.5
SLO	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
Santa Barbara	26.3	26.3	26.3	26.3	26.3	26.2	26.2	26.3
AVEK	64.9	64.9	64.9	64.9	64.9	64.9	64.9	64.9
Castaic (Agric.)	11.5	11.5	11.8	12.2	12.2	12.7	12.7	12.1
Castaic (M&I)	41.5	41.5	66.8	38.7	38.7	37.4	37.4	68.6
Coachella	19.3	19.3	19.3	19.0	19.0	18.9	18.9	19.3
Crestline	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Desert	31.2	31.2	31.2	30.9	30.9	30.6	30.6	31.2
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2
MWDSC	1,606.5	1,606.5	1,606.5	1,554.9	1,554.9	1,523.8	1,523.8	1,592.1
Palmdale	14.9	14.9	14.9	14.6	14.6	14.2	14.2	14.9
San Bernardino	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8
San Gabriel	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1
San Gorgonio	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ventura	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Total Agriculture	1,089.4	1,089.4	1,017.9	1,158.9	1,158.9	1,203.6	1,203.6	996.7
Total M&I	2,262.5	2,262.5	2,306.6	2,193.0	2,193.0	2,148.2	2,148.2	2,295.3
Total	3,351.9	3,351.9	3,324.5	3,351.8	3,351.8	3,351.9	3,351.9	3,292.1

Table A-3e - Dry Years: Annual Average Scheduled Deliveries (TAF/year) to each Contractor in the Additional 2003 Scenarios

SWP CONTRACTOR	2003 No Project 1 without KFE	2003 No Project 1 with KFE	2003 No Project 2	2003 No Project 3 without KFE	2003 No Project 3 with KFE	2003 No Project 4 without KFE	2003 No Project 4 with KFE	2003 Proposed Project
Napa	6.8	6.8	6.8	6.6	6.6	7.5	7.5	6.7
Solano	36.5	36.7	36.7	32.6	32.6	27.5	27.5	35.7
Zone 7	42.1	42.2	55.8	36.1	36.1	33.1	33.1	60.2
Alameda	33.7	33.8	33.9	29.9	30.0	27.9	27.9	31.8
Santa Clara	80.9	81.2	81.3	71.7	71.8	66.7	66.7	76.3
Oak Flat	3.8	3.8	3.9	4.6	4.6	4.7	4.7	4.5
Kings	6.0	6.0	6.1	7.3	7.3	3.5	3.5	7.1
Dudley Ridge	41.2	41.3	41.9	50.0	50.2	49.8	50.1	45.4
Empire W.S.	2.0	2.0	2.0	2.4	2.4	2.6	2.6	2.4
KCWA (M&I)	122.4	122.8	122.4	104.6	104.8	96.6	96.6	116.5
KCWA (Agric.)	681.1	682.8	615.3	826.7	829.4	880.0	883.9	684.3
Tulare	64.3	64.5	65.4	78.1	78.3	94.0	94.4	76.2
SLO	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
Santa Barbara	26.3	26.3	26.3	26.1	26.1	23.9	23.9	26.0
AVEK	64.9	64.9	64.9	63.9	64.0	63.8	63.9	64.0
Castaic (Agric.)	8.5	8.5	8.6	10.3	10.3	11.0	11.0	10.1
Castaic (M&I)	37.7	37.9	56.2	32.3	32.3	29.8	29.8	62.0
Coachella	18.5	18.5	18.6	16.4	16.5	15.8	15.8	18.6
Crestline	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Desert	30.0	30.1	30.2	26.8	26.8	25.7	25.8	28.3
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2
MWDSC	1,365.6	1,368.8	1,368.1	1,254.1	1,256.6	1,217.9	1,219.4	1,286.5
Palmdale	14.2	14.2	14.3	12.5	12.5	11.6	11.6	14.0
San Bernardino	68.9	69.1	69.1	63.8	63.9	63.6	63.7	66.0
San Gabriel	18.0	18.0	18.0	16.9	17.0	16.9	16.9	17.3
San Gorgonio	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ventura	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Total Agriculture	807.0	809.0	743.3	979.5	982.6	1,045.5	1,050.2	830.0
Total M&I	1,991.3	1,996.0	2,027.0	1,818.9	1,822.3	1,752.8	1,754.7	1,934.5
Total	2,798.4	2,804.9	2,770.3	2,798.3	2,804.9	2,798.4	2,804.9	2,764.5

Table A-3f - Critical Years: Annual Average Scheduled Deliveries (TAF/year) to each Contractor in the Additional 2003 Scenarios

SWP CONTRACTOR	2003 No Project 1 without KFE	2003 No Project 1 with KFE	2003 No Project 2	2003 No Project 3 without KFE	2003 No Project 3 with KFE	2003 No Project 4 without KFE	2003 No Project 4 with KFE	2003 Proposed Project
Napa	4.7	4.9	4.7	4.5	4.5	5.5	5.6	4.4
Solano	17.8	18.3	17.9	17.8	18.5	15.2	15.7	19.3
Zone 7	19.9	20.4	26.2	18.1	18.5	17.1	17.6	30.5
Alameda	16.8	17.3	16.9	16.4	16.8	15.6	16.1	16.0
Santa Clara	40.1	41.3	40.3	39.0	40.0	37.2	38.2	38.3
Oak Flat	1.6	1.7	1.8	1.8	1.8	1.9	1.9	2.1
Kings	2.5	2.6	2.8	2.7	2.8	1.3	1.4	3.3
Dudley Ridge	17.5	17.9	19.1	19.3	19.7	19.2	19.6	21.3
Empire W.S.	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.1
KCWA (M&I)	57.8	59.3	58.0	52.5	53.9	49.9	51.3	55.3
KCWA (Agric.)	289.9	295.2	281.0	320.4	327.5	338.4	345.5	321.0
Tulare	27.4	27.9	29.9	30.4	31.2	37.0	37.8	35.7
SLO	3.5	3.6	3.5	3.5	3.5	3.5	3.5	3.3
Santa Barbara	19.5	20.2	19.6	19.3	20.0	18.8	19.5	18.4
AVEK	46.0	47.6	46.3	45.5	46.9	45.6	47.0	44.2
Castaic (Agric.)	3.6	3.7	3.9	4.0	4.1	4.2	4.3	4.7
Castaic (M&I)	17.8	18.3	26.3	16.2	16.6	15.4	15.8	31.4
Coachella	9.2	9.5	9.3	9.0	9.2	8.9	9.1	11.1
Crestline	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6
Desert	15.1	15.5	15.2	14.8	15.2	14.5	14.9	14.4
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	12.2	12.4	12.2	12.1	12.3	12.1	12.3	12.3
MWDSC	771.5	792.7	776.4	748.1	767.8	734.2	753.9	733.9
Palmdale	7.0	7.2	7.0	6.7	6.9	6.4	6.6	7.6
San Bernardino	38.1	39.2	38.3	37.7	38.7	37.7	38.8	36.2
San Gabriel	10.4	10.7	10.5	10.3	10.6	10.3	10.6	9.9
San Gorgonio	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ventura	4.6	4.7	4.6	4.6	4.7	4.6	4.7	4.6
Total Agriculture	343.5	349.7	339.4	379.6	388.0	403.1	411.5	389.3
Total M&I	1,113.9	1,144.8	1,135.0	1,077.7	1,106.5	1,054.3	1,083.0	1,092.6
Total	1,457.3	1,494.5	1,474.4	1,457.3	1,494.5	1,457.4	1,494.5	1,481.9

Table A-4a - Average Annual Scheduled Deliveries (TAF/year) to each Contractor in the Additional 2020 Scenarios

SWP CONTRACTOR	2020 No Project 1 without KFE	2020 No Project 1 with KFE	2020 No Project 2	2020 No Project 3 without KFE	2020 No Project 3 with KFE	2020 No Project 4 without KFE	2020 No Project 4 with KFE	2020 Proposed Project (revised)	2020 No Project 1 without KFE, with Climate Change	2020 No Project 1 with KFE, with Climate Change	2020 Proposed Project (revised) with Climate Change
Napa	20.1	20.2	22.9	19.4	19.4	17.5	17.6	22.5	18.2	18.3	20.1
Solano	33.9	34.1	37.8	32.7	32.8	29.3	29.4	37.1	30.7	30.8	33.2
Zone 7	37.5	37.6	60.9	36.1	36.2	32.5	32.6	62.6	33.8	34.0	56.0
Alameda	33.9	34.1	33.9	32.7	32.8	29.6	29.7	32.6	30.7	30.8	29.2
Santa Clara	80.8	81.1	80.8	77.8	78.1	70.5	70.8	77.7	73.0	73.3	69.5
Oak Flat	3.8	3.8	3.8	4.2	4.2	4.7	4.7	4.3	3.3	3.3	3.9
Kings	6.1	6.1	6.1	6.8	6.8	7.5	7.5	6.8	5.3	5.3	6.1
Dudley Ridge	41.2	41.3	41.2	45.7	45.9	50.9	51.1	43.4	35.8	36.0	38.8
Empire W.S.	2.0	2.0	2.0	2.2	2.2	2.5	2.5	2.3	1.7	1.7	2.0
KCWA (M&I)	108.8	109.2	108.8	104.7	105.1	93.8	94.2	104.5	98.3	98.7	93.5
KCWA (Agric.)	679.0	681.9	601.0	754.5	757.6	839.2	842.4	642.2	590.0	593.0	574.5
Tulare	63.7	64.0	63.7	70.8	71.1	78.8	79.1	72.9	55.3	55.6	65.2
SLO	20.2	20.3	20.2	19.4	19.5	17.4	17.5	19.4	18.3	18.3	17.4
Santa Barbara	36.8	36.9	36.8	35.4	35.5	31.7	31.8	35.3	33.2	33.4	31.6
AVEK	113.9	114.4	113.9	109.9	110.3	109.4	109.8	109.8	102.8	103.3	98.2
Castaic (Agric.)	8.5	8.5	8.5	9.4	9.4	10.5	10.5	9.6	7.4	7.4	8.6
Castaic (M&I)	33.5	33.7	61.6	32.3	32.4	28.9	29.0	64.1	30.3	30.4	57.3
Coachella	96.7	97.0	96.7	94.0	94.4	94.2	94.6	103.4	87.1	87.5	92.5
Crestline	4.7	4.7	4.7	4.5	4.5	4.0	4.1	4.5	4.2	4.3	4.0
Desert	40.4	40.6	40.4	38.9	39.0	38.6	38.7	41.9	36.5	36.7	37.5
Littlerock	1.9	1.9	1.9	1.8	1.8	1.6	1.6	1.8	1.7	1.7	1.6
Mojave	41.1	41.2	58.2	39.5	39.7	43.0	43.2	58.9	37.1	37.3	52.7
MWDSC	1,545.0	1,551.1	1,545.0	1,486.6	1,492.0	1,418.3	1,423.8	1,484.3	1,395.7	1,401.9	1,327.8
Palmdale	14.0	14.0	16.7	13.5	13.5	12.1	12.1	16.5	12.6	12.7	14.8
San Bernardino	82.9	83.3	82.9	79.8	80.1	86.9	87.2	79.7	74.9	75.2	71.3
San Gabriel	23.3	23.4	23.3	22.4	22.5	24.4	24.5	22.4	21.0	21.1	20.0
San Gorgonio	14.0	14.0	14.0	13.5	13.5	12.1	12.1	13.4	12.6	12.7	12.0
Ventura	16.2	16.2	16.2	15.6	15.6	13.9	14.0	15.5	14.6	14.7	13.9
Total Agriculture	804.3	807.7	726.3	893.6	897.4	994.0	997.8	781.5	698.9	702.4	699.1
Total M&I	2,399.5	2,408.9	2,477.5	2,310.2	2,318.6	2,209.8	2,218.2	2,407.8	2,167.3	2,177.0	2,154.0
Total	3,203.8	3,216.6	3,203.8	3,203.8	3,216.0	3,203.8	3,216.0	3,189.3	2,866.2	2,879.4	2,853.0

Table A-4b - Wet Years: Annual Average Scheduled Deliveries (TAF/year) to each Contractor in the Additional 2020 Scenarios

SWP CONTRACTOR	2020 No Project 1 without KFE	2020 No Project 1 with KFE	2020 No Project 2	2020 No Project 3 without KFE	2020 No Project 3 with KFE	2020 No Project 4 without KFE	2020 No Project 4 with KFE	2020 Proposed Project (revised)	2020 No Project 1 without KFE, with Climate Change	2020 No Project 1 with KFE, with Climate Change	2020 Proposed Project (revised) with Climate Change
Napa	24.4	24.4	28.3	24.2	24.2	23.6	23.6	28.1	23.6	23.6	26.8
Solano	41.2	41.2	46.7	40.8	40.8	39.7	39.7	46.4	39.7	39.7	44.3
Zone 7	45.5	45.5	77.9	45.1	45.1	43.9	43.9	78.2	43.9	43.9	74.8
Alameda	41.2	41.2	41.2	40.8	40.8	39.8	39.8	40.8	39.7	39.7	39.0
Santa Clara	98.2	98.2	98.2	97.1	97.1	94.7	94.7	97.1	94.6	94.6	92.8
Oak Flat	5.1	5.1	5.1	5.3	5.3	5.4	5.4	5.3	4.8	4.8	5.0
Kings	8.3	8.3	8.3	8.6	8.6	8.8	8.8	8.3	7.8	7.8	7.9
Dudley Ridge	55.8	55.8	55.8	57.4	57.4	58.9	58.9	53.0	52.1	52.1	50.6
Empire W.S.	2.7	2.7	2.7	2.8	2.8	2.9	2.9	2.8	2.5	2.5	2.6
KCWA (M&I)	132.1	132.1	132.1	130.7	130.7	127.1	127.1	130.6	127.4	127.4	124.9
KCWA (Agric.)	919.7	919.7	811.9	945.6	945.6	969.7	969.7	784.5	857.9	857.9	748.2
Tulare	85.9	85.9	85.9	88.3	88.3	90.5	90.5	89.0	80.0	80.0	84.9
SLO	24.5	24.5	24.5	24.3	24.3	23.6	23.6	24.3	23.7	23.7	23.2
Santa Barbara	44.6	44.6	44.6	44.2	44.2	42.9	42.9	44.1	43.0	43.0	42.2
AVEK	138.7	138.7	138.7	137.3	137.3	137.5	137.5	137.2	133.6	133.6	131.2
Castaic (Agric.)	11.5	11.5	11.5	11.8	11.8	12.1	12.1	11.7	10.7	10.7	11.2
Castaic (M&I)	40.7	40.7	79.5	40.3	40.3	39.2	39.2	80.1	39.3	39.3	76.5
Coachella	118.5	118.5	118.5	117.6	117.6	118.0	118.0	129.2	114.0	114.0	123.5
Crestline	5.7	5.7	5.7	5.6	5.6	5.5	5.5	5.6	5.5	5.5	5.4
Desert	49.1	49.1	49.1	48.6	48.6	48.6	48.6	52.4	47.3	47.3	50.1
Littlerock	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1
Mojave	49.9	49.9	73.5	49.3	49.3	50.8	50.8	73.6	48.1	48.1	70.3
MWDSC	1,876.3	1,876.3	1,876.3	1,856.2	1,856.2	1,836.6	1,836.6	1,855.2	1,808.8	1,808.8	1,773.4
Palmdale	17.0	17.0	20.8	16.8	16.8	16.3	16.3	20.7	16.4	16.4	19.8
San Bernardino	100.7	100.7	100.7	99.6	99.6	102.6	102.6	99.6	97.1	97.1	95.2
San Gabriel	28.3	28.3	28.3	28.0	28.0	28.8	28.8	28.0	27.3	27.3	26.7
San Gorgonio	17.0	17.0	17.0	16.8	16.8	16.3	16.3	16.8	16.4	16.4	16.1
Ventura	19.6	19.6	19.6	19.4	19.4	18.9	18.9	19.4	18.9	18.9	18.6
Total Agriculture	1,089.1	1,089.1	981.3	1,119.7	1,119.7	1,148.3	1,148.3	954.6	1,015.9	1,015.9	910.5
Total M&I	2,915.5	2,915.5	3,023.3	2,884.9	2,884.9	2,856.4	2,856.4	3,009.5	2,810.3	2,810.3	2,876.8
Total	4,004.6	4,004.6	4,004.6	4,004.6	4,004.6	4,004.6	4,004.6	3,964.1	3,826.2	3,826.2	3,787.3

Table A-4c - Above Normal Years: Annual Average Scheduled Deliveries (TAF/year) to each Contractor in the Additional 2020 Scenarios

SWP CONTRACTOR	2020 No Project 1 without KFE	2020 No Project 1 with KFE	2020 No Project 2	2020 No Project 3 without KFE	2020 No Project 3 with KFE	2020 No Project 4 without KFE	2020 No Project 4 with KFE	2020 Proposed Project (revised)	2020 No Project 1 without KFE, with Climate Change	2020 No Project 1 with KFE, with Climate Change	2020 Proposed Project (revised) with Climate Change
Napa	24.3	24.3	27.8	23.5	23.5	22.2	22.2	27.4	22.3	22.3	24.7
Solano	41.0	41.0	45.9	39.6	39.6	37.2	37.2	45.2	37.6	37.6	40.8
Zone 7	45.2	45.2	74.8	43.8	43.8	41.2	41.2	76.3	41.5	41.5	68.9
Alameda	41.0	41.0	41.0	39.6	39.6	37.5	37.5	39.7	37.6	37.6	35.9
Santa Clara	97.5	97.5	97.5	94.4	94.4	89.2	89.2	94.6	89.5	89.5	85.4
Oak Flat	4.7	4.7	4.7	5.2	5.2	5.5	5.5	5.1	4.1	4.1	4.7
Kings	7.6	7.6	7.6	8.3	8.3	8.8	8.8	8.1	6.7	6.7	7.4
Dudley Ridge	51.2	51.2	51.2	55.9	55.9	59.2	59.2	51.8	44.6	44.6	47.4
Empire W.S.	2.5	2.5	2.5	2.7	2.7	2.9	2.9	2.7	2.2	2.2	2.5
KCWA (M&I)	131.3	131.3	131.3	127.0	127.0	119.3	119.3	127.3	120.5	120.5	115.0
KCWA (Agric.)	842.6	842.6	744.0	920.6	920.6	975.1	975.1	766.1	734.8	734.8	701.2
Tulare	78.7	78.7	78.7	86.0	86.0	91.1	91.1	86.9	68.6	68.6	79.6
SLO	24.4	24.4	24.4	23.6	23.6	22.2	22.2	23.6	22.4	22.4	21.4
Santa Barbara	44.4	44.4	44.4	42.9	42.9	40.3	40.3	43.0	40.7	40.7	38.9
AVEK	137.6	137.6	137.6	133.4	133.4	133.5	133.5	133.7	126.2	126.2	120.8
Castaic (Agric.)	10.5	10.5	10.5	11.5	11.5	12.2	12.2	11.5	9.2	9.2	10.5
Castaic (M&I)	40.5	40.5	75.9	39.2	39.2	36.8	36.8	78.0	37.2	37.2	70.5
Coachella	117.0	117.0	117.0	114.3	114.3	114.8	114.8	125.9	107.1	107.1	113.7
Crestline	5.7	5.7	5.7	5.5	5.5	5.1	5.1	5.5	5.2	5.2	5.0
Desert	48.8	48.8	48.8	47.2	47.2	47.2	47.2	51.1	44.8	44.8	46.1
Littlerock	2.2	2.2	2.2	2.2	2.2	2.1	2.0	2.2	2.1	2.1	2.0
Mojave	49.5	49.5	71.2	47.9	47.9	50.8	50.8	71.7	45.5	45.5	64.8
MWDSC	1,864.0	1,864.0	1,864.0	1,803.6	1,803.6	1,759.4	1,759.4	1,808.0	1,711.6	1,711.6	1,632.9
Palmdale	16.9	16.9	20.3	16.3	16.3	15.3	15.3	20.1	15.5	15.5	18.2
San Bernardino	100.1	100.1	100.1	96.8	96.8	102.6	102.6	97.0	91.9	91.9	87.6
San Gabriel	28.1	28.1	28.1	27.2	27.2	28.8	28.8	27.2	25.8	25.8	24.6
San Gorgonio	16.9	16.9	16.9	16.3	16.3	15.3	15.3	16.4	15.5	15.5	14.8
Ventura	19.5	19.5	19.5	18.9	18.9	17.7	17.7	18.9	17.9	17.9	17.1
Total Agriculture	997.8	997.8	899.2	1,090.2	1,090.2	1,154.8	1,154.8	932.2	870.2	870.2	853.3
Total M&I	2,895.5	2,895.5	2,994.2	2,803.1	2,803.1	2,738.6	2,738.6	2,932.9	2,658.3	2,658.3	2,648.9
Total	3,893.4	3,893.4	3,893.4	3,893.4	3,893.4	3,893.4	3,893.4	3,865.1	3,528.4	3,528.4	3,502.2

Table A-4d - Below Normal Years: Annual Average Scheduled Deliveries (TAF/year) to each Contractor in the Additional 2020 Scenarios

SWP CONTRACTOR	2020 No Project 1 without KFE	2020 No Project 1 with KFE	2020 No Project 2	2020 No Project 3 without KFE	2020 No Project 3 with KFE	2020 No Project 4 without KFE	2020 No Project 4 with KFE	2020 Proposed Project (revised)	2020 No Project 1 without KFE, with Climate Change	2020 No Project 1 with KFE, with Climate Change	2020 Proposed Project (revised) with Climate Change
Napa	22.4	22.4	25.4	21.2	21.2	18.0	18.0	24.9	19.7	19.8	21.7
Solano	37.8	37.8	42.0	35.7	35.7	29.9	29.9	41.1	33.3	33.3	35.8
Zone 7	41.7	41.7	66.7	39.5	39.5	33.2	33.2	69.4	36.7	36.8	60.4
Alameda	37.8	37.8	37.8	35.7	35.7	30.4	30.4	36.2	33.3	33.3	31.5
Santa Clara	90.1	90.1	90.1	85.1	85.1	72.5	72.5	86.1	79.2	79.4	75.0
Oak Flat	4.2	4.2	4.2	4.8	4.8	5.6	5.6	4.9	3.5	3.5	4.3
Kings	6.6	6.6	6.6	7.7	7.7	8.9	8.9	7.8	5.5	5.6	6.7
Dudley Ridge	45.0	45.0	45.0	52.5	52.5	61.1	61.1	49.4	37.9	38.0	43.0
Empire W.S.	2.2	2.2	2.2	2.6	2.6	3.0	3.0	2.6	1.8	1.9	2.2
KCWA (M&I)	121.3	121.3	121.3	114.5	114.5	95.7	95.7	115.9	106.6	106.9	100.9
KCWA (Agric.)	742.7	742.7	659.6	866.6	866.6	1,008.7	1,008.7	730.6	626.5	628.3	635.7
Tulare	70.1	70.1	70.1	81.9	81.9	95.3	95.3	82.9	59.2	59.3	72.1
SLO	22.5	22.5	22.5	21.3	21.3	17.8	17.8	21.5	19.8	19.8	18.7
Santa Barbara	41.0	41.0	41.0	38.7	38.7	32.3	32.3	39.2	36.0	36.1	34.1
AVEK	126.9	126.9	126.9	120.3	120.3	119.7	119.7	121.8	111.5	111.7	106.0
Castaic (Agric.)	9.3	9.3	9.3	10.8	10.8	12.6	12.6	10.9	7.8	7.8	9.5
Castaic (M&I)	37.4	37.4	67.3	35.3	35.3	29.5	29.5	71.1	32.9	32.9	61.8
Coachella	107.4	107.4	107.4	103.0	103.0	103.6	103.6	114.6	94.2	94.4	99.8
Crestline	5.2	5.2	5.2	4.9	4.9	4.1	4.1	5.0	4.6	4.6	4.3
Desert	45.0	45.0	45.0	42.5	42.5	42.2	42.2	46.5	39.6	39.7	40.5
Littlerock	2.1	2.1	2.1	2.0	2.0	1.6	1.6	2.0	1.8	1.8	1.7
Mojave	45.8	45.8	64.0	43.2	43.2	49.6	49.6	65.3	40.2	40.3	56.8
MWDSC	1,722.0	1,722.0	1,722.0	1,626.0	1,626.0	1,511.4	1,511.4	1,646.5	1,514.1	1,517.5	1,432.7
Palmdale	15.6	15.6	18.5	14.7	14.7	12.3	12.3	18.3	13.7	13.7	16.0
San Bernardino	92.4	92.4	92.4	87.3	87.3	100.2	100.2	88.4	81.3	81.4	76.9
San Gabriel	25.9	25.9	25.9	24.5	24.5	28.1	28.1	24.8	22.8	22.9	21.6
San Gorgonio	15.6	15.6	15.6	14.7	14.7	12.3	12.3	14.9	13.7	13.7	13.0
Ventura	18.0	18.0	18.0	17.0	17.0	14.2	14.2	17.2	15.8	15.9	15.0
Total Agriculture	879.9	879.9	796.8	1,026.8	1,026.8	1,195.1	1,195.1	889.0	742.3	744.5	773.6
Total M&I	2,674.0	2,674.0	2,757.1	2,527.1	2,527.1	2,358.8	2,358.8	2,670.9	2,350.8	2,356.0	2,324.1
Total	3,553.9	3,553.9	3,553.9	3,553.9	3,553.9	3,553.9	3,553.9	3,560.0	3,093.1	3,100.5	3,097.7

Table A-4e - Dry Years: Annual Average Scheduled Deliveries (TAF/year) to each Contractor in the Additional 2020 Scenarios

SWP CONTRACTOR	2020 No Project 1 without KFE	2020 No Project 1 with KFE	2020 No Project 2	2020 No Project 3 without KFE	2020 No Project 3 with KFE	2020 No Project 4 without KFE	2020 No Project 4 with KFE	2020 Proposed Project (revised)	2020 No Project 1 without KFE, with Climate Change	2020 No Project 1 with KFE, with Climate Change	2020 Proposed Project (revised) with Climate Change
Napa	18.0	18.1	20.1	16.7	16.8	13.5	13.5	19.3	15.3	15.5	16.3
Solano	30.3	30.5	33.2	28.2	28.3	22.2	22.3	31.8	25.8	26.1	26.9
Zone 7	33.4	33.6	51.0	31.2	31.3	24.7	24.8	53.8	28.4	28.8	45.3
Alameda	30.3	30.5	30.3	28.2	28.3	22.8	22.8	28.0	25.8	26.1	23.6
Santa Clara	72.2	72.7	72.2	67.2	67.4	54.2	54.4	66.7	61.5	62.2	56.2
Oak Flat	2.9	3.0	2.9	3.6	3.7	4.4	4.5	3.8	2.4	2.4	3.2
Kings	4.6	4.7	4.6	5.7	5.8	7.2	7.2	6.0	3.7	3.8	5.1
Dudley Ridge	31.8	32.0	31.8	39.2	39.7	49.0	49.5	38.2	25.7	26.1	32.2
Empire W.S.	1.5	1.6	1.5	1.9	1.9	2.4	2.4	2.0	1.2	1.3	1.7
KCWA (M&I)	97.1	97.8	97.1	90.5	90.7	71.1	71.3	89.8	82.8	83.8	75.7
KCWA (Agric.)	525.0	529.2	466.3	646.9	655.9	809.5	818.5	565.6	424.1	431.8	476.9
Tulare	49.6	50.0	49.6	61.1	62.0	76.5	77.3	64.2	40.1	40.8	54.1
SLO	18.0	18.2	18.0	16.8	16.9	13.2	13.2	16.7	15.4	15.6	14.1
Santa Barbara	32.8	33.1	32.8	30.6	30.7	24.0	24.1	30.3	28.0	28.3	25.6
AVEK	101.4	102.1	101.4	95.0	95.2	93.0	93.3	94.3	86.3	87.4	79.5
Castaic (Agric.)	6.5	6.6	6.5	8.1	8.2	10.1	10.2	8.5	5.3	5.4	7.1
Castaic (M&I)	30.0	30.2	51.1	27.9	28.0	21.9	22.0	55.0	25.5	25.8	46.4
Coachella	85.4	86.0	85.4	81.1	81.3	80.7	81.0	88.8	72.5	73.4	74.8
Crestline	4.2	4.2	4.2	3.9	3.9	3.1	3.1	3.9	3.6	3.6	3.3
Desert	36.1	36.3	36.1	33.6	33.7	32.7	32.8	36.0	30.7	31.1	30.4
Littlerock	1.7	1.7	1.7	1.5	1.6	1.2	1.2	1.5	1.4	1.4	1.3
Mojave	36.7	36.9	49.5	34.2	34.2	39.7	39.8	50.6	31.2	31.6	42.6
MWDSC	1,379.6	1,389.1	1,379.6	1,285.3	1,288.7	1,154.9	1,158.3	1,274.8	1,175.2	1,189.7	1,074.8
Palmdale	12.5	12.6	14.5	11.6	11.7	9.1	9.2	14.2	10.6	10.8	12.0
San Bernardino	74.1	74.6	74.1	69.0	69.2	80.2	80.4	68.4	63.1	63.9	57.7
San Gabriel	20.8	20.9	20.8	19.4	19.4	22.5	22.6	19.2	17.7	17.9	16.2
San Gorgonio	12.5	12.6	12.5	11.6	11.7	9.1	9.2	11.5	10.6	10.8	9.7
Ventura	14.4	14.5	14.4	13.4	13.5	10.6	10.6	13.3	12.3	12.4	11.2
Total Agriculture	622.0	627.0	563.3	766.4	777.1	959.0	969.7	688.3	502.4	511.6	580.3
Total M&I	2,141.4	2,156.1	2,200.1	1,997.0	2,002.5	1,804.5	1,809.9	2,067.9	1,823.8	1,846.3	1,743.5
Total	2,763.4	2,783.1	2,763.4	2,763.4	2,779.6	2,763.4	2,779.6	2,756.2	2,326.2	2,357.9	2,323.8

Table A-4f - Critical Years: Annual Average Scheduled Deliveries (TAF/year) to each Contractor in the Additional 2020 Scenarios

SWP CONTRACTOR	2020 No Project 1 without KFE	2020 No Project 1 with KFE	2020 No Project 2	2020 No Project 3 without KFE	2020 No Project 3 with KFE	2020 No Project 4 without KFE	2020 No Project 4 with KFE	2020 Proposed Project (revised)	2020 No Project 1 without KFE, with Climate Change	2020 No Project 1 with KFE, with Climate Change	2020 Proposed Project (revised) with Climate Change
Napa	8.9	9.2	9.8	8.4	8.8	7.3	7.7	9.4	6.9	7.1	7.1
Solano	15.0	15.6	16.2	14.2	14.8	12.2	12.8	15.5	11.6	11.9	11.6
Zone 7	16.5	17.1	24.2	15.7	16.4	13.5	14.2	26.2	12.7	13.1	19.7
Alameda	15.0	15.6	15.0	14.2	14.8	12.4	13.0	13.6	11.6	11.9	10.2
Santa Clara	35.7	37.0	35.7	33.8	35.3	29.5	31.0	32.4	27.6	28.4	24.4
Oak Flat	1.3	1.3	1.3	1.5	1.6	1.8	1.8	1.8	0.9	0.9	1.4
Kings	2.0	2.1	2.0	2.4	2.5	2.9	3.0	2.9	1.3	1.4	2.2
Dudley Ridge	13.8	14.6	13.8	16.7	17.1	19.9	20.4	18.6	9.2	9.6	14.0
Empire W.S.	0.7	0.7	0.7	0.8	0.8	1.0	1.0	1.0	0.4	0.5	0.7
KCWA (M&I)	48.1	49.8	48.1	45.5	47.6	39.1	41.1	43.7	37.1	38.2	32.8
KCWA (Agric.)	228.6	240.6	203.0	275.3	283.1	328.5	336.2	275.2	152.7	159.0	206.8
Tulare	21.6	22.7	21.6	26.0	26.7	31.0	31.8	31.2	14.4	15.0	23.5
SLO	8.9	9.3	8.9	8.5	8.8	7.3	7.6	8.1	6.9	7.1	6.1
Santa Barbara	16.2	16.8	16.2	15.4	16.1	13.2	13.9	14.8	12.5	12.9	11.1
AVEK	50.1	52.0	50.1	47.6	49.7	47.0	49.1	45.9	38.6	39.7	34.5
Castaic (Agric.)	2.8	3.0	2.8	3.4	3.5	4.1	4.2	4.1	1.9	2.0	3.1
Castaic (M&I)	14.8	15.4	24.0	14.0	14.7	12.1	12.7	26.8	11.4	11.8	20.1
Coachella	41.9	43.5	41.9	40.3	42.0	40.2	42.0	43.2	32.1	33.1	32.5
Crestline	2.1	2.1	2.1	2.0	2.0	1.7	1.8	1.9	1.6	1.6	1.4
Desert	17.9	18.5	17.9	16.9	17.7	16.6	17.4	17.5	13.8	14.2	13.2
Littlerock	0.8	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.6	0.7	0.6
Mojave	18.1	18.8	23.8	17.2	17.9	19.1	19.8	24.6	14.0	14.4	18.5
MWDSC	682.8	707.8	682.8	646.6	675.4	603.9	632.7	620.2	526.8	542.1	466.0
Palmdale	6.2	6.4	7.1	5.9	6.1	5.0	5.3	6.9	4.8	4.9	5.2
San Bernardino	36.6	38.0	36.6	34.7	36.3	38.5	40.1	33.3	28.3	29.1	25.0
San Gabriel	10.3	10.7	10.3	9.7	10.2	10.8	11.2	9.3	7.9	8.2	7.0
San Gorgonio	6.2	6.4	6.2	5.9	6.1	5.0	5.3	5.6	4.8	4.9	4.2
Ventura	7.1	7.4	7.1	6.8	7.1	5.8	6.1	6.5	5.5	5.7	4.9
Total Agriculture	270.8	285.0	245.2	326.2	335.4	389.2	398.3	334.9	180.9	188.4	251.6
Total M&I	1,059.4	1,098.3	1,085.0	1,004.0	1,048.7	941.0	985.7	1,006.1	817.1	840.8	756.0
Total	1,330.2	1,383.4	1,330.2	1,330.2	1,384.1	1,330.2	1,384.0	1,341.0	998.0	1,029.2	1,007.6

Table A-5a - Average Annual Unscheduled Deliveries (TAF/year) to each Contractor in the Additional 2003 Scenarios

SWP CONTRACTOR	2003 No Project 1 without KFE	2003 No Project 1 with KFE	2003 No Project 2	2003 No Project 3 without KFE	2003 No Project 3 with KFE	2003 No Project 4 without KFE	2003 No Project 4 with KFE	2003 Proposed Project (revised)
Napa	1.0	0.8	1.0	1.0	0.8	1.0	0.8	1.7
Solano	1.0	0.9	1.1	1.0	0.9	1.0	0.9	2.1
Zone 7	1.1	1.1	1.2	1.1	1.1	1.1	1.1	2.2
Alameda	1.4	1.3	1.5	1.4	1.3	1.4	1.3	2.1
Santa Clara	5.1	4.7	5.5	5.1	4.7	5.1	4.7	7.1
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	2.2	2.1	2.2	2.2	2.1	2.2	2.1	2.2
Empire W.S.	1.6	1.5	1.8	1.6	1.5	1.6	1.5	1.0
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	101.2	99.1	105.2	101.2	99.1	101.2	99.1	81.8
Tulare	26.7	25.6	29.3	26.7	25.6	26.7	25.6	16.7
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	1.7	1.7	1.8	1.7	1.7	1.7	1.7	2.3
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	1.0	0.9	1.2	1.0	0.9	1.0	0.9	2.2
Coachella	3.0	2.8	3.2	3.0	2.8	3.0	2.8	2.7
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	6.9	6.2	7.1	6.9	6.2	6.9	6.2	5.9
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	119.8	116.4	124.2	119.8	116.4	119.8	116.4	164.0
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	131.7	128.4	138.5	131.7	128.4	131.7	128.4	101.6
Total M&I	142.0	136.8	147.7	142.0	136.8	142.0	136.8	192.3
Total	273.8	265.2	286.2	273.8	265.2	273.8	265.2	294.0

Table A-5b - Wet Years: Annual Average Unscheduled Deliveries (TAF/year) to each Contractor in the Additional 2003 Scenarios

SWP CONTRACTOR	2003 No Project 1 without KFE	2003 No Project 1 with KFE	2003 No Project 2	2003 No Project 3 without KFE	2003 No Project 3 with KFE	2003 No Project 4 without KFE	2003 No Project 4 with KFE	2003 Proposed Project (revised)
Napa	2.1	1.7	2.2	2.1	1.7	2.1	1.7	3.1
Solano	2.3	1.9	2.4	2.3	1.9	2.3	1.9	4.2
Zone 7	2.4	2.3	2.5	2.4	2.3	2.4	2.3	4.3
Alameda	2.9	2.8	3.1	2.9	2.8	2.9	2.8	4.1
Santa Clara	10.6	9.9	11.4	10.6	9.9	10.6	9.9	13.4
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	4.3	4.2	4.3	4.3	4.2	4.3	4.2	4.3
Empire W.S.	3.3	3.1	3.4	3.3	3.1	3.3	3.1	1.9
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	200.3	196.5	207.6	200.3	196.5	200.3	196.5	152.0
Tulare	53.9	52.3	58.8	53.9	52.3	53.9	52.3	31.9
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	3.5	3.4	3.6	3.5	3.4	3.5	3.4	4.5
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	2.3	1.9	2.6	2.3	1.9	2.3	1.9	4.4
Coachella	6.3	5.8	6.4	6.3	5.8	6.3	5.8	4.6
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	14.3	13.1	14.5	14.3	13.1	14.3	13.1	11.1
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	215.1	211.5	213.5	215.1	211.5	215.1	211.5	304.8
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	261.8	256.3	274.1	261.8	256.3	261.8	256.3	190.0
Total M&I	261.7	254.2	262.3	261.7	254.2	261.7	254.2	358.5
Total	523.5	510.5	536.4	523.5	510.5	523.5	510.5	548.5

Table A-5c - Above Normal Years: Annual Average Unscheduled Deliveries (TAF/year) to each Contractor in the Additional 2003 Scenarios

SWP CONTRACTOR	2003 No Project 1 without KFE	2003 No Project 1 with KFE	2003 No Project 2	2003 No Project 3 without KFE	2003 No Project 3 with KFE	2003 No Project 4 without KFE	2003 No Project 4 with KFE	2003 Proposed Project (revised)
Napa	0.7	0.5	0.7	0.7	0.5	0.7	0.5	1.8
Solano	0.7	0.5	0.7	0.7	0.5	0.7	0.5	2.2
Zone 7	0.7	0.7	0.8	0.7	0.7	0.7	0.7	2.3
Alameda	1.1	1.0	1.2	1.1	1.0	1.1	1.0	2.2
Santa Clara	3.6	3.2	4.1	3.6	3.2	3.6	3.2	7.8
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	2.4	2.3	2.4	2.4	2.3	2.4	2.3	2.3
Empire W.S.	1.5	1.2	1.8	1.5	1.2	1.5	1.2	0.8
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	104.4	101.2	107.7	104.4	101.2	104.4	101.2	86.5
Tulare	24.9	22.5	28.8	24.9	22.5	24.9	22.5	15.1
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.5
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	0.7	0.5	0.7	0.7	0.5	0.7	0.5	2.4
Coachella	2.9	2.5	3.0	2.9	2.5	2.9	2.5	3.0
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	5.8	4.9	6.6	5.8	4.9	5.8	4.9	5.4
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	110.9	104.0	128.7	110.9	104.0	110.9	104.0	173.8
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	133.3	127.2	140.8	133.3	127.2	133.3	127.2	104.7
Total M&I	128.6	119.5	148.0	128.6	119.5	128.6	119.5	203.4
Total	261.9	246.7	288.8	261.9	246.7	261.9	246.7	308.1

Table A-5d - Below Normal Years: Annual Average Unscheduled Deliveries (TAF/year) to each Contractor in the Additional 2003 Scenarios

SWP CONTRACTOR	2003 No Project 1 without KFE	2003 No Project 1 with KFE	2003 No Project 2	2003 No Project 3 without KFE	2003 No Project 3 with KFE	2003 No Project 4 without KFE	2003 No Project 4 with KFE	2003 Proposed Project (revised)
Napa	0.7	0.6	0.8	0.7	0.6	0.7	0.6	1.3
Solano	0.8	0.7	0.9	0.8	0.7	0.8	0.7	1.4
Zone 7	0.9	0.8	1.1	0.9	0.8	0.9	0.8	1.5
Alameda	1.0	1.0	1.1	1.0	1.0	1.0	1.0	1.4
Santa Clara	3.9	3.6	4.3	3.9	3.6	3.9	3.6	5.4
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Empire W.S.	1.2	1.2	1.3	1.2	1.2	1.2	1.2	0.8
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	71.1	68.8	73.1	71.1	68.8	71.1	68.8	65.1
Tulare	18.7	18.4	19.7	18.7	18.4	18.7	18.4	14.0
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	1.2	1.1	1.3	1.2	1.1	1.2	1.1	1.5
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	0.8	0.7	1.0	0.8	0.7	0.8	0.7	1.5
Coachella	2.1	2.0	2.3	2.1	2.0	2.1	2.0	2.4
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	5.1	4.7	5.5	5.1	4.7	5.1	4.7	4.9
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	108.8	104.6	118.9	108.8	104.6	108.8	104.6	130.6
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	92.5	89.8	95.5	92.5	89.8	92.5	89.8	81.4
Total M&I	125.2	119.8	137.2	125.2	119.8	125.2	119.8	151.9
Total	217.8	209.5	232.7	217.7	209.5	217.7	209.5	233.3

Table A-5e - Dry Years: Annual Average Unscheduled Deliveries (TAF/year) to each Contractor in the Additional 2003 Scenarios

SWP CONTRACTOR	2003 No Project 1 without KFE	2003 No Project 1 with KFE	2003 No Project 2	2003 No Project 3 without KFE	2003 No Project 3 with KFE	2003 No Project 4 without KFE	2003 No Project 4 with KFE	2003 Proposed Project (revised)
Napa	0.4	0.3	0.4	0.4	0.3	0.4	0.3	0.8
Solano	0.4	0.3	0.4	0.4	0.3	0.4	0.3	1.0
Zone 7	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.1
Alameda	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.0
Santa Clara	2.2	2.0	2.3	2.2	2.0	2.2	2.0	3.6
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	1.0	1.0	1.1	1.0	1.0	1.0	1.0	1.1
Empire W.S.	0.8	0.7	1.0	0.8	0.7	0.8	0.7	0.4
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	47.8	47.3	53.5	47.8	47.3	47.8	47.3	40.7
Tulare	12.8	11.8	15.2	12.8	11.8	12.8	11.8	7.6
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	0.8	0.7	0.8	0.8	0.7	0.8	0.7	1.1
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	0.4	0.3	0.4	0.4	0.3	0.4	0.3	1.1
Coachella	1.3	1.1	1.4	1.3	1.1	1.3	1.1	1.5
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	2.8	2.3	2.9	2.8	2.3	2.8	2.3	2.7
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	66.1	63.7	69.1	66.1	63.7	66.1	63.7	81.7
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	62.4	60.9	70.7	62.4	60.9	62.4	60.9	49.7
Total M&I	75.4	71.8	78.8	75.4	71.8	75.4	71.8	95.7
Total	137.8	132.7	149.6	137.8	132.7	137.8	132.7	145.4

Table A-5f - Critical Years: Annual Average Unscheduled Deliveries (TAF/year) to each Contractor in the Additional 2003 Scenarios

SWP CONTRACTOR	2003 No Project 1 without KFE	2003 No Project 1 with KFE	2003 No Project 2	2003 No Project 3 without KFE	2003 No Project 3 with KFE	2003 No Project 4 without KFE	2003 No Project 4 with KFE	2003 Proposed Project (revised)
Napa	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4
Solano	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5
Zone 7	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5
Alameda	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5
Santa Clara	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.8
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Empire W.S.	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	21.8	21.8	20.6	21.8	21.8	21.8	21.8	22.2
Tulare	5.8	5.8	5.7	5.8	5.8	5.8	5.8	5.3
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5
Coachella	0.7	0.7	0.6	0.7	0.7	0.7	0.7	0.9
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	1.5	1.5	1.4	1.5	1.5	1.5	1.5	1.9
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	34.9	34.9	34.3	34.9	34.9	34.9	34.9	44.4
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	28.5	28.5	27.1	28.5	28.5	28.5	28.5	28.2
Total M&I	40.1	40.1	39.4	40.1	40.1	40.1	40.1	51.9
Total	68.6	68.6	66.5	68.6	68.6	68.6	68.6	80.1

Table A-6a - Average Annual Unscheduled Deliveries (TAF/year) to each Contractor in the Additional 2020 Scenarios

SWP CONTRACTOR	2020 No Project 1 without KFE	2020 No Project 1 with KFE	2020 No Project 2	2020 No Project 3 without KFE	2020 No Project 3 with KFE	2020 No Project 4 without KFE	2020 No Project 4 with KFE	2020 Proposed Project (revised)	2020 No Project 1 without KFE, with Climate Change	2020 No Project 1 with KFE, with Climate Change	2020 Proposed Project (revised) with Climate Change
Napa	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.9	0.1	0.1	0.9
Solano	0.2	0.1	0.2	0.2	0.1	0.2	0.1	1.0	0.2	0.1	1.0
Zone 7	0.3	0.2	0.3	0.3	0.2	0.3	0.2	1.0	0.3	0.2	1.0
Alameda	0.5	0.4	0.5	0.5	0.4	0.5	0.4	0.9	0.5	0.4	0.9
Santa Clara	1.5	1.1	1.5	1.5	1.2	1.5	1.2	3.3	1.5	1.2	3.3
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	1.1	1.0	1.1	1.1	1.0	1.1	1.0	1.0	1.1	1.0	1.0
Empire W.S.	0.7	0.6	0.7	0.7	0.6	0.7	0.6	0.3	0.7	0.6	0.3
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	48.1	44.3	48.0	48.1	44.3	48.1	44.3	36.1	48.1	44.3	36.1
Tulare	11.8	10.3	11.9	11.8	10.4	11.8	10.4	4.9	11.8	10.3	4.9
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	0.7	0.6	0.7	0.7	0.6	0.7	0.6	1.0	0.7	0.6	1.0
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	0.2	0.1	0.2	0.2	0.1	0.2	0.1	1.0	0.2	0.1	1.0
Coachella	1.3	1.1	1.3	1.3	1.1	1.3	1.1	2.0	1.3	1.1	2.0
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	2.4	2.1	2.4	2.4	2.1	2.4	2.1	2.4	2.4	2.2	2.4
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	52.1	44.0	52.0	52.1	44.3	52.1	44.3	62.9	52.1	44.3	62.9
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	61.6	56.2	61.6	61.6	56.3	61.6	56.3	42.3	61.6	56.2	42.3
Total M&I	59.2	49.8	59.2	59.2	50.2	59.2	50.2	76.5	59.2	50.2	76.5
Total	120.8	106.0	120.8	120.8	106.5	120.8	106.5	118.7	120.8	106.4	118.7

Table A-6b - Wet Years: Annual Average Unscheduled Deliveries (TAF/year) to each Contractor in the Additional 2020 Scenarios

SWP CONTRACTOR	2020 No Project 1 without KFE	2020 No Project 1 with KFE	2020 No Project 2	2020 No Project 3 without KFE	2020 No Project 3 with KFE	2020 No Project 4 without KFE	2020 No Project 4 with KFE	2020 Proposed Project (revised)	2020 No Project 1 without KFE, with Climate Change	2020 No Project 1 with KFE, with Climate Change	2020 Proposed Project (revised) with Climate Change
Napa	0.1	0.0	0.1	0.1	0.0	0.1	0.0	1.5	0.1	0.0	1.5
Solano	0.1	0.0	0.1	0.1	0.0	0.1	0.0	1.6	0.1	0.0	1.6
Zone 7	0.3	0.1	0.4	0.3	0.1	0.3	0.1	1.7	0.3	0.1	1.7
Alameda	0.7	0.6	0.7	0.7	0.6	0.7	0.6	1.6	0.7	0.6	1.6
Santa Clara	2.1	1.5	2.1	2.1	1.5	2.1	1.5	5.6	2.1	1.5	5.6
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	1.8	1.7	1.8	1.8	1.7	1.8	1.7	1.7	1.8	1.7	1.7
Empire W.S.	1.2	1.0	1.2	1.2	1.0	1.2	1.0	0.3	1.2	1.0	0.3
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	79.4	72.6	79.2	79.4	72.6	79.4	72.6	59.9	79.4	72.6	59.9
Tulare	19.6	16.6	19.8	19.6	17.0	19.6	17.0	6.4	19.6	16.6	6.4
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	1.0	0.9	1.0	1.0	0.9	1.0	0.9	1.8	1.0	0.9	1.8
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	0.1	0.0	0.2	0.1	0.0	0.1	0.0	1.7	0.1	0.0	1.7
Coachella	1.9	1.7	1.9	1.9	1.7	1.9	1.7	3.4	1.9	1.7	3.4
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	3.6	3.4	3.6	3.6	3.4	3.6	3.4	3.6	3.6	3.4	3.6
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	80.4	65.1	80.2	80.4	65.7	80.4	65.7	100.3	80.4	65.1	100.3
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	102.0	91.9	101.9	102.0	92.4	102.0	92.4	68.3	102.0	91.9	68.3
Total M&I	90.4	73.4	90.4	90.4	74.0	90.4	74.0	122.7	90.4	73.4	122.7
Total	192.3	165.3	192.3	192.3	166.3	192.3	166.3	191.1	192.3	165.3	191.1

Table A-6c - Above Normal Years: Annual Average Unscheduled Deliveries (TAF/year) to each Contractor in the Additional 2020 Scenarios

SWP CONTRACTOR	2020 No Project 1 without KFE	2020 No Project 1 with KFE	2020 No Project 2	2020 No Project 3 without KFE	2020 No Project 3 with KFE	2020 No Project 4 without KFE	2020 No Project 4 with KFE	2020 Proposed Project (revised)	2020 No Project 1 without KFE, with Climate Change	2020 No Project 1 with KFE, with Climate Change	2020 Proposed Project (revised) with Climate Change
Napa	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	1.1
Solano	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	1.2
Zone 7	0.1	0.0	0.2	0.1	0.0	0.1	0.0	1.3	0.1	0.0	1.3
Alameda	0.4	0.4	0.4	0.4	0.4	0.4	0.4	1.2	0.4	0.4	1.2
Santa Clara	1.3	0.9	1.3	1.3	0.9	1.3	0.9	4.0	1.3	0.9	4.0
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	1.3	1.2	1.3	1.3	1.2	1.3	1.2	1.3	1.3	1.2	1.3
Empire W.S.	1.0	0.7	1.0	1.0	0.7	1.0	0.7	0.2	1.0	0.7	0.2
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	61.8	58.7	61.8	61.8	58.7	61.8	58.7	40.5	61.8	58.7	40.5
Tulare	15.5	12.1	15.5	15.5	12.1	15.5	12.1	3.8	15.5	12.1	3.8
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	0.7	0.6	0.7	0.7	0.6	0.7	0.6	1.3	0.7	0.6	1.3
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	1.3
Coachella	1.4	1.2	1.4	1.4	1.2	1.4	1.2	2.5	1.4	1.2	2.5
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	2.4	1.9	2.4	2.4	1.9	2.4	1.9	2.2	2.4	1.9	2.2
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	56.6	45.2	56.5	56.6	45.2	56.6	45.2	77.8	56.6	45.2	77.8
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	79.5	72.6	79.5	79.5	72.6	79.5	72.6	45.8	79.5	72.6	45.8
Total M&I	63.0	50.3	63.0	63.0	50.3	63.0	50.3	93.9	63.0	50.3	93.9
Total	142.5	123.0	142.5	142.5	123.0	142.5	123.0	139.7	142.5	123.0	139.7

Table A-6d - Below Normal Years: Annual Average Unscheduled Deliveries (TAF/year) to each Contractor in the Additional 2020 Scenarios

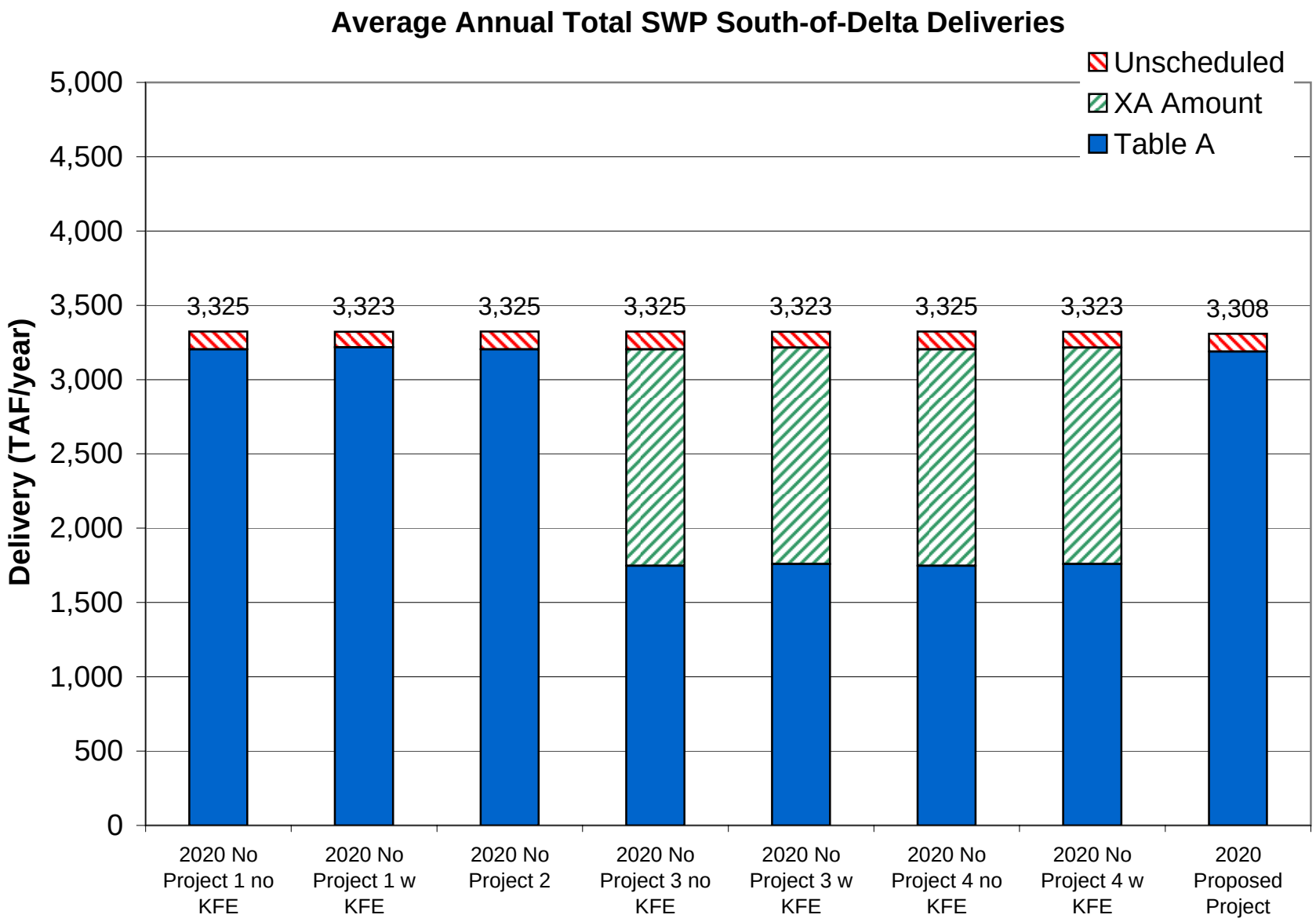
SWP CONTRACTOR	2020 No Project 1 without KFE	2020 No Project 1 with KFE	2020 No Project 2	2020 No Project 3 without KFE	2020 No Project 3 with KFE	2020 No Project 4 without KFE	2020 No Project 4 with KFE	2020 Proposed Project (revised)	2020 No Project 1 without KFE, with Climate Change	2020 No Project 1 with KFE, with Climate Change	2020 Proposed Project (revised) with Climate Change
Napa	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.8	0.1	0.0	0.8
Solano	0.2	0.0	0.2	0.2	0.0	0.2	0.0	0.9	0.2	0.0	0.9
Zone 7	0.3	0.2	0.3	0.3	0.2	0.3	0.2	0.9	0.3	0.2	0.9
Alameda	0.4	0.3	0.4	0.4	0.3	0.4	0.3	0.8	0.4	0.3	0.8
Santa Clara	1.4	0.9	1.4	1.4	0.9	1.4	0.9	3.1	1.4	0.9	3.1
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	1.0	0.9	1.0	1.0	0.9	1.0	0.9	0.9	1.0	0.9	0.9
Empire W.S.	0.6	0.5	0.6	0.6	0.5	0.6	0.5	0.3	0.6	0.5	0.3
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	41.4	36.0	41.3	41.4	36.0	41.4	36.0	34.0	41.4	36.0	34.0
Tulare	9.6	8.9	9.6	9.6	8.9	9.6	8.9	4.6	9.6	8.9	4.6
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	0.7	0.6	0.7	0.7	0.6	0.7	0.6	0.9	0.7	0.6	0.9
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	0.2	0.0	0.2	0.2	0.0	0.2	0.0	0.9	0.2	0.0	0.9
Coachella	1.2	1.0	1.2	1.2	1.0	1.2	1.0	1.8	1.2	1.0	1.8
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	2.4	1.8	2.4	2.4	1.8	2.4	1.8	2.2	2.4	1.8	2.2
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	44.2	36.9	44.2	44.2	36.9	44.2	36.9	52.8	44.2	36.9	52.8
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	52.5	46.3	52.5	52.5	46.3	52.5	46.3	39.7	52.5	46.3	39.7
Total M&I	51.1	41.7	51.1	51.1	41.7	51.1	41.7	65.2	51.1	41.7	65.2
Total	103.6	88.0	103.6	103.6	88.0	103.6	88.0	104.8	103.6	88.0	104.8

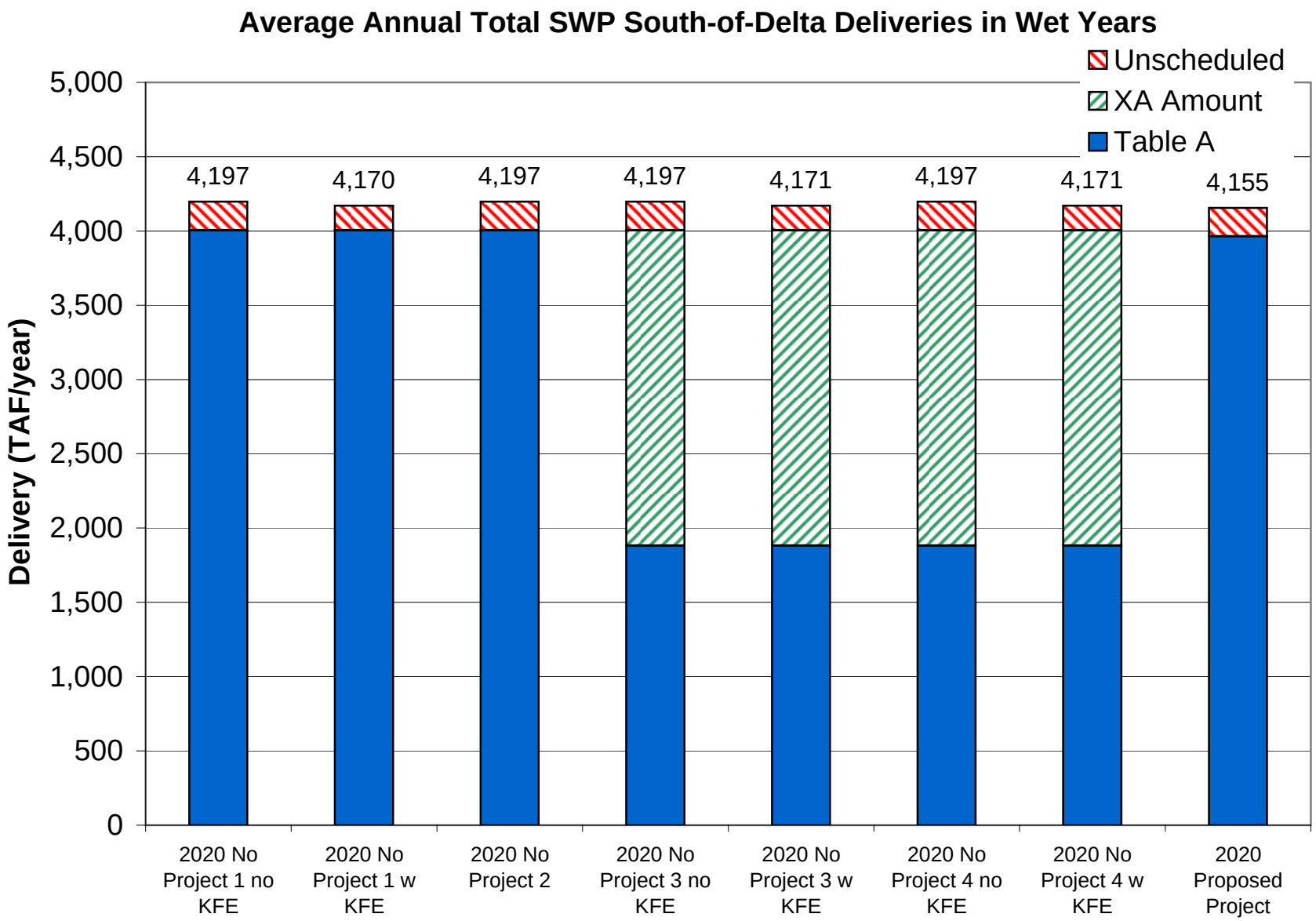
Table A-6e - Dry Years: Annual Average Unscheduled Deliveries (TAF/year) to each Contractor in the Additional 2020 Scenarios

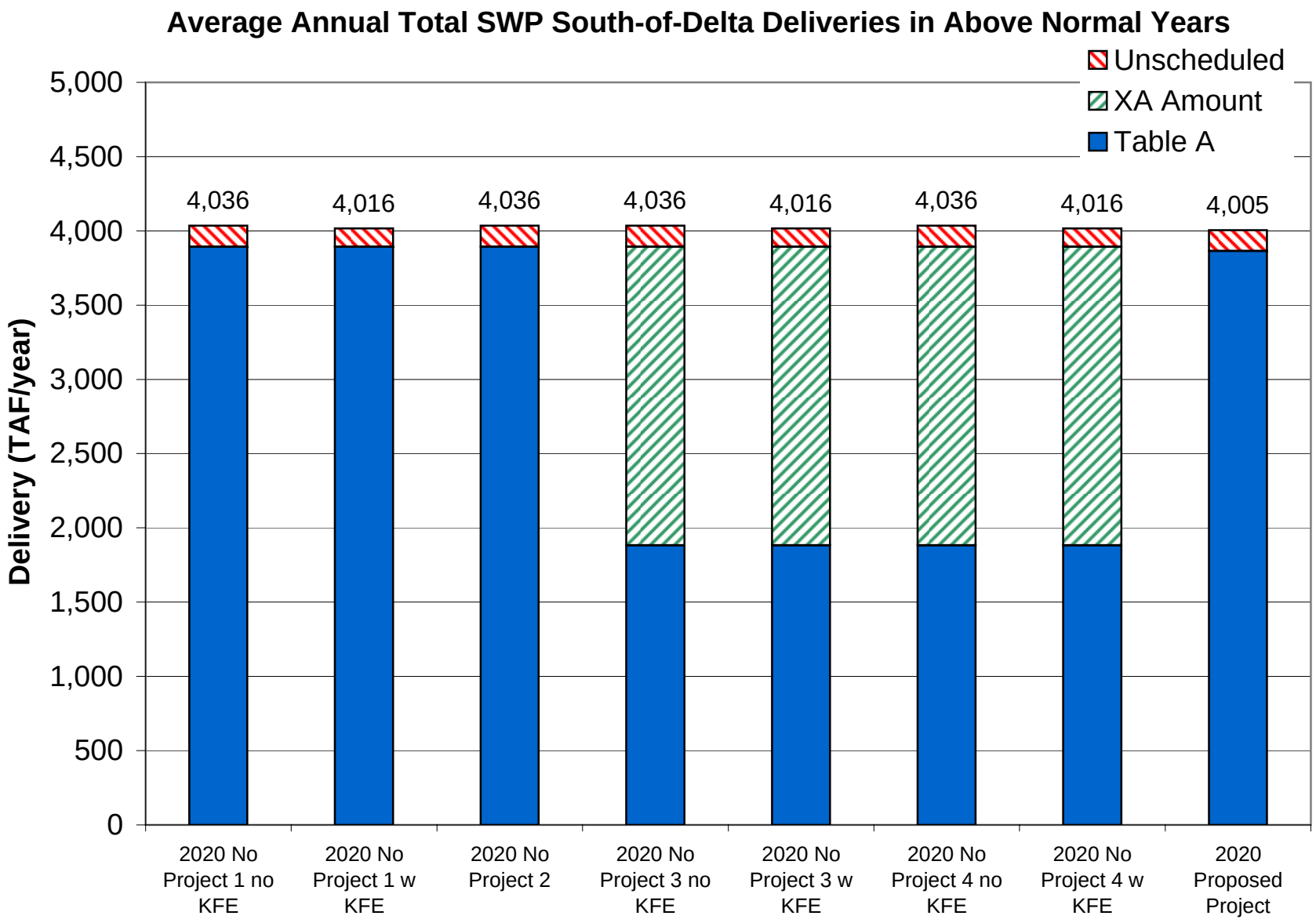
SWP CONTRACTOR	2020 No Project 1 without KFE	2020 No Project 1 with KFE	2020 No Project 2	2020 No Project 3 without KFE	2020 No Project 3 with KFE	2020 No Project 4 without KFE	2020 No Project 4 with KFE	2020 Proposed Project (revised)	2020 No Project 1 without KFE, with Climate Change	2020 No Project 1 with KFE, with Climate Change	2020 Proposed Project (revised) with Climate Change
Napa	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.1	0.3
Solano	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.1	0.3
Zone 7	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.4	0.1	0.1	0.4
Alameda	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.3
Santa Clara	0.7	0.5	0.7	0.7	0.6	0.7	0.6	1.0	0.7	0.7	1.0
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	0.5	0.4	0.5	0.5	0.4	0.5	0.4	0.4	0.5	0.4	0.4
Empire W.S.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	20.6	19.3	20.5	20.6	19.3	20.6	19.3	11.8	20.6	19.3	11.8
Tulare	4.1	4.0	4.2	4.1	4.0	4.1	4.0	2.5	4.1	4.0	2.5
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.4
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.4	0.1	0.1	0.4
Coachella	0.6	0.5	0.6	0.6	0.5	0.6	0.5	0.7	0.6	0.6	0.7
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	1.0	0.7	1.0	1.0	0.8	1.0	0.8	1.0	1.0	0.9	1.0
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	21.3	18.5	21.3	21.3	19.1	21.3	19.1	23.3	21.3	19.8	23.3
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	25.5	23.9	25.4	25.5	23.9	25.5	23.9	14.8	25.5	23.9	14.8
Total M&I	24.7	20.9	24.7	24.7	22.0	24.7	22.0	28.0	24.7	23.0	28.0
Total	50.2	44.8	50.2	50.2	45.9	50.2	45.9	42.8	50.2	47.0	42.8

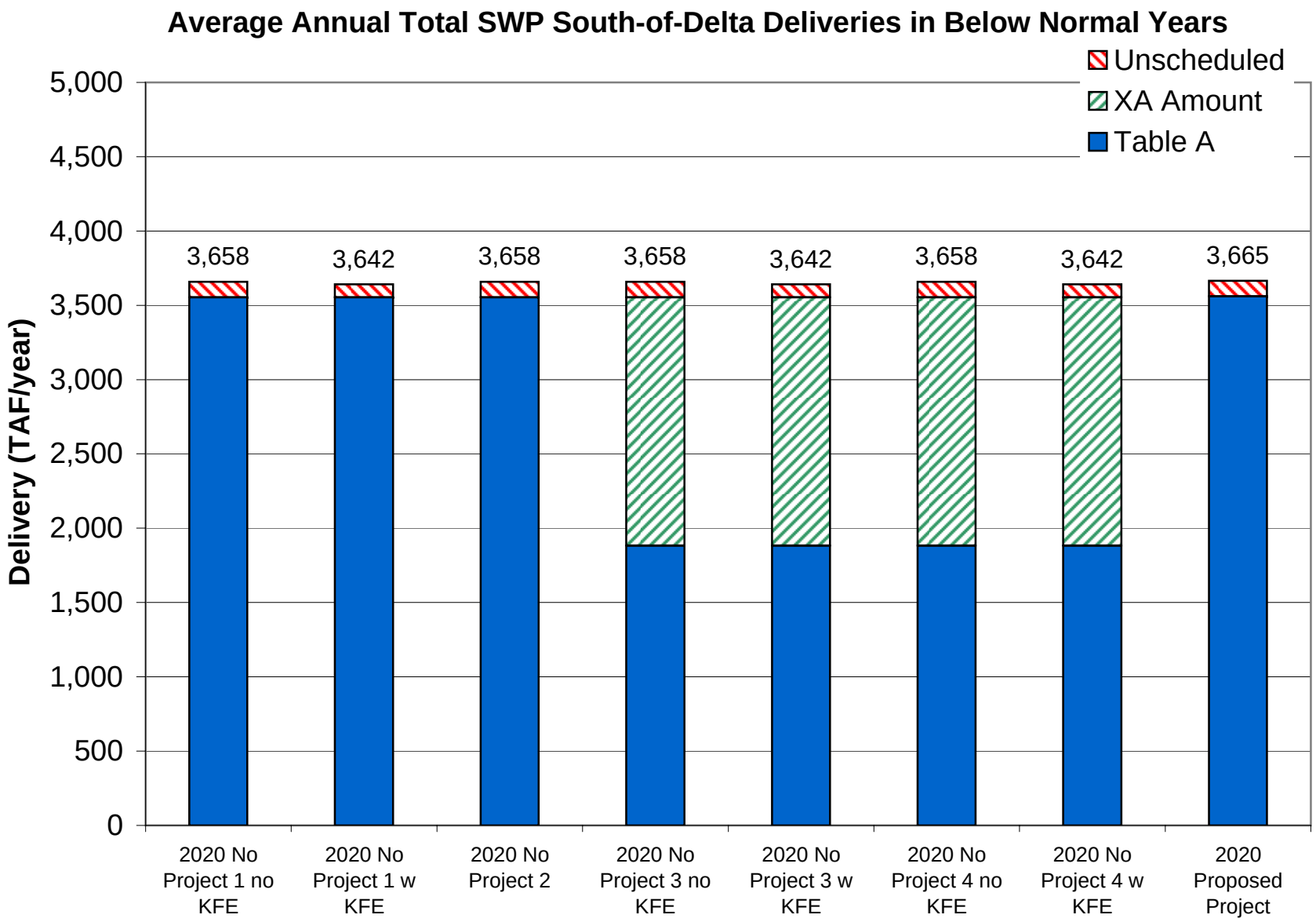
Table A-6f - Critical Years: Annual Average Unscheduled Deliveries (TAF/year) to each Contractor in the Additional 2020 Scenarios

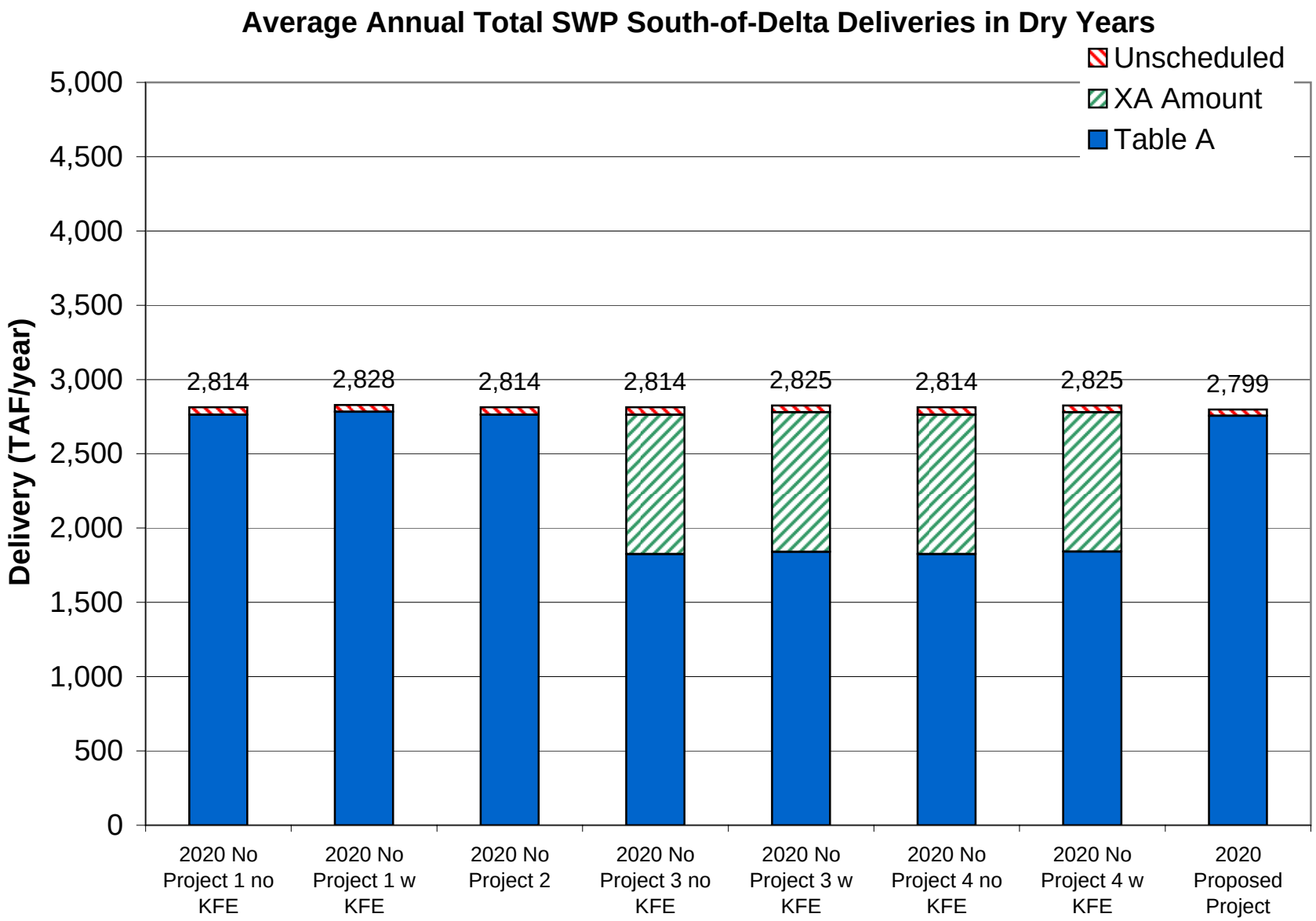
SWP CONTRACTOR	2020 No Project 1 without KFE	2020 No Project 1 with KFE	2020 No Project 2	2020 No Project 3 without KFE	2020 No Project 3 with KFE	2020 No Project 4 without KFE	2020 No Project 4 with KFE	2020 Proposed Project (revised)	2020 No Project 1 without KFE, with Climate Change	2020 No Project 1 with KFE, with Climate Change	2020 Proposed Project (revised) with Climate Change
Napa	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.5
Solano	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.5
Zone 7	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Alameda	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Santa Clara	1.8	1.8	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Empire W.S.	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.3	0.5	0.5	0.3
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7
Tulare	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.5	6.8	6.8	6.5
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.5
Coachella	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.1	2.1	2.3
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	45.4	45.4	45.4	45.4	45.4	45.4	45.4	45.5	45.4	45.4	45.5
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.0	30.5	30.5	30.0
Total M&I	52.8	52.8	52.8	52.8	52.8	52.8	52.8	53.2	52.8	52.8	53.2
Total	83.2	83.2	83.2	83.2	83.2	83.2	83.2	83.1	83.2	83.2	83.1

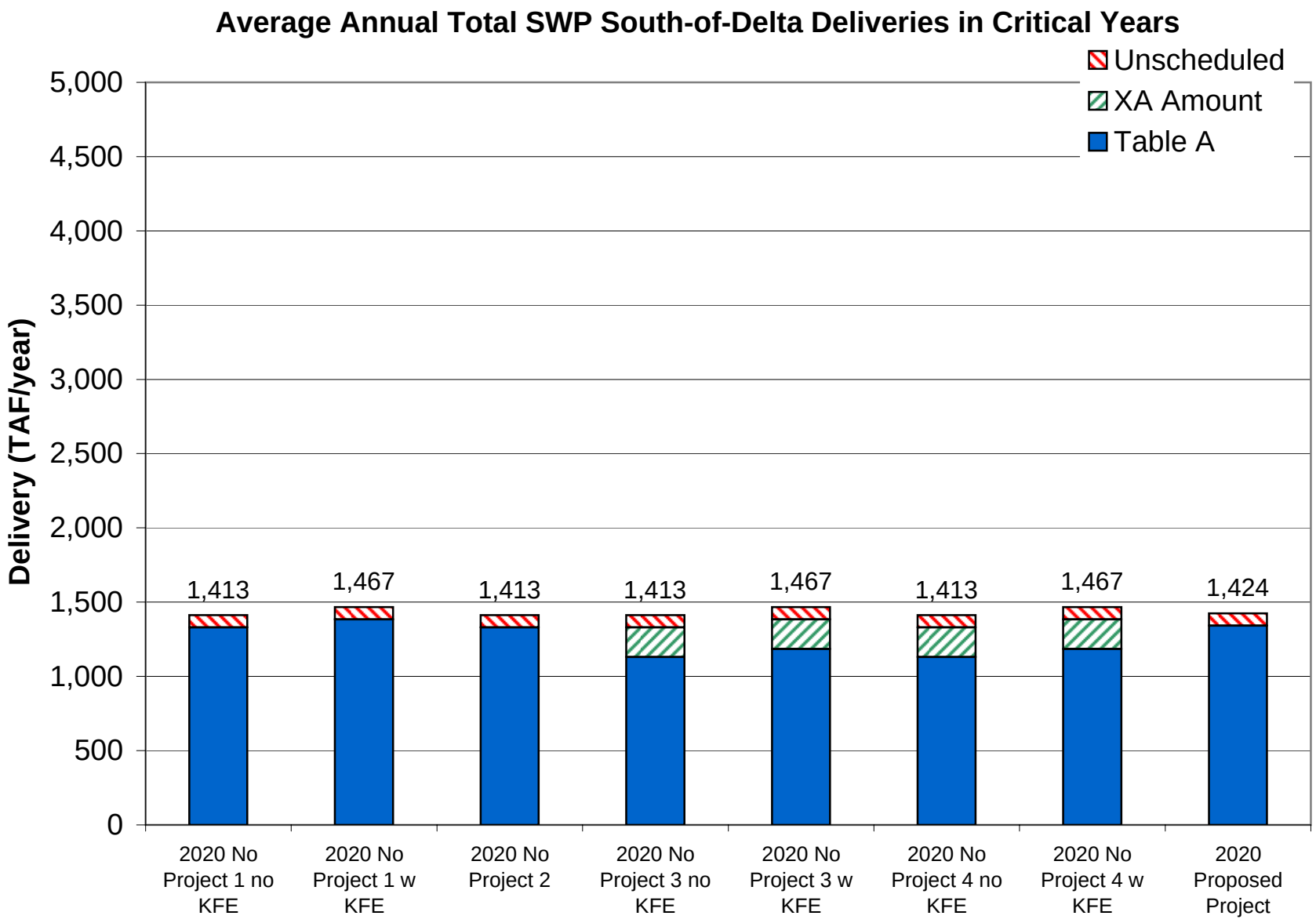

Average Annual Total SWP South-of-Delta Deliveries
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
3,325
3,323
3,325
3,325
3,323
3,325
3,323
3,308
2020 No Project 1 no KFE
2020 No Project 1 w KFE
2020 No Project 2
2020 No Project 3 no KFE
2020 No Project 3 w KFE
2020 No Project 4 no KFE
2020 No Project 4 w KFE
2020 Proposed Project

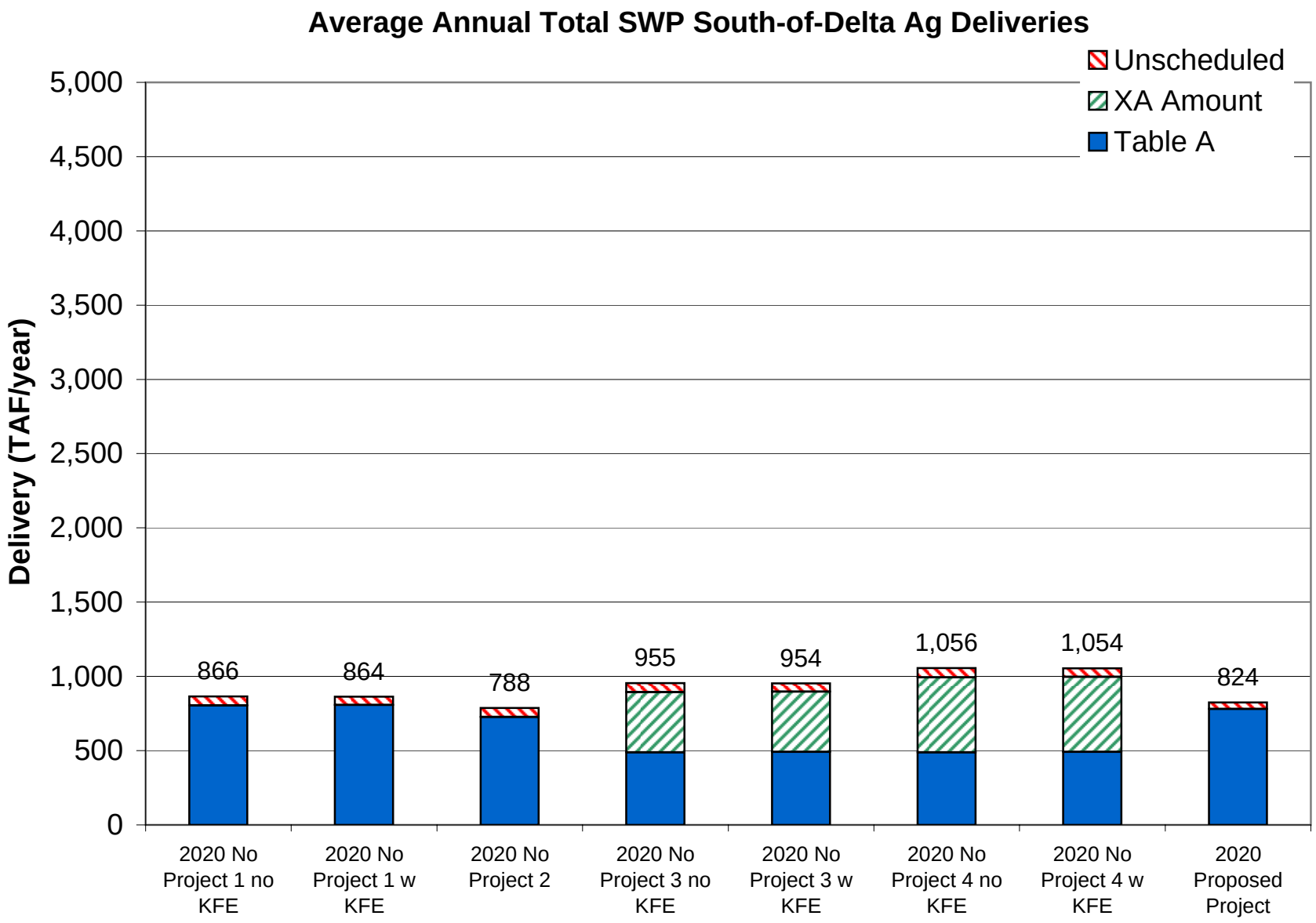

Average Annual Total SWP South-of-Delta Deliveries in Wet Years
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
4,197
4,170
4,197
4,197
4,171
4,197
4,171
4,155
2020 No Project 1 no KFE
2020 No Project 1 w KFE
2020 No Project 2
2020 No Project 3 no KFE
2020 No Project 3 w KFE
2020 No Project 4 no KFE
2020 No Project 4 w KFE
2020 Proposed Project

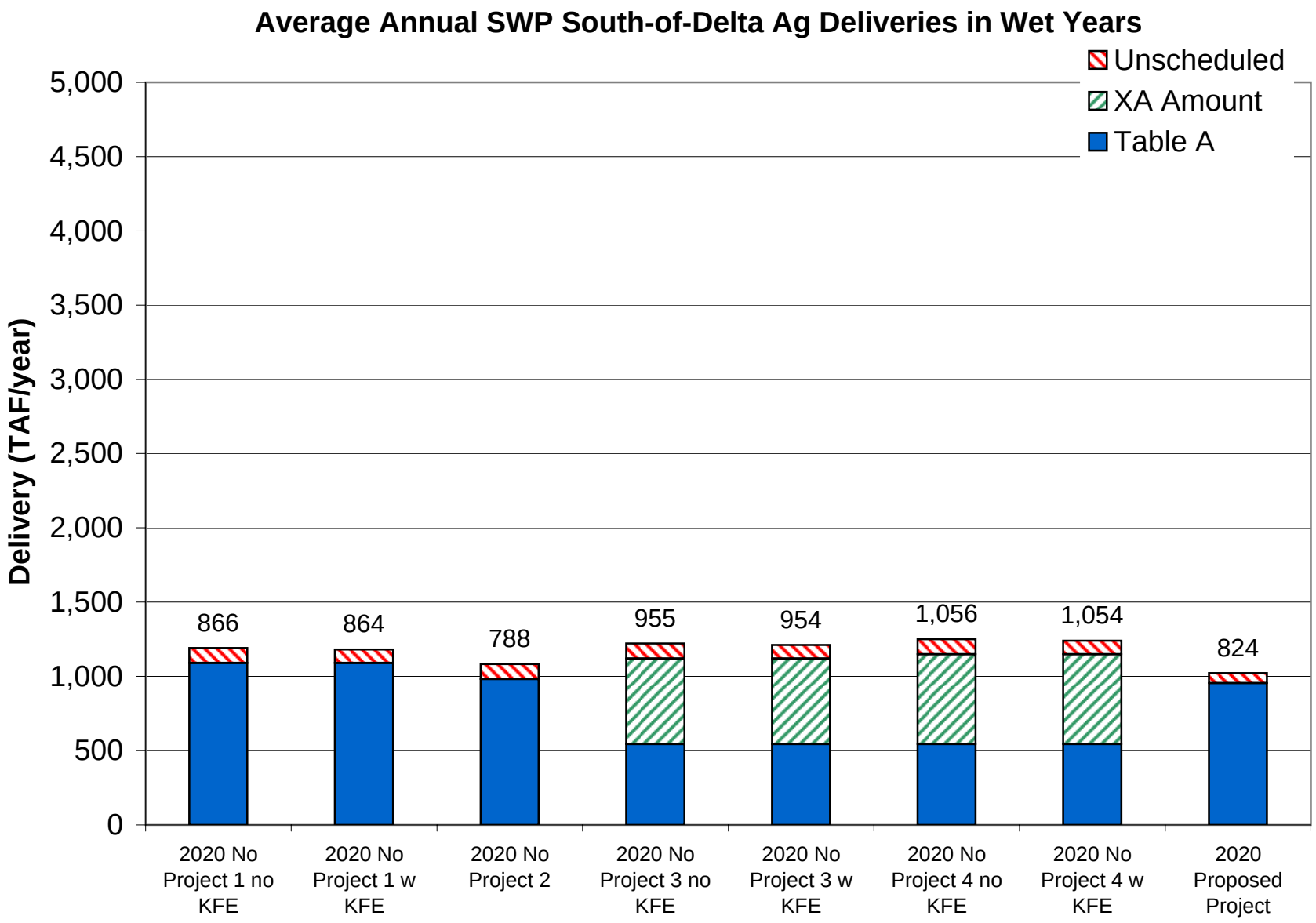

Average Annual Total SWP South-of-Delta Deliveries in Above Normal Years
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
4,036
4,016
4,036
4,036
4,016
4,036
4,016
4,005
2020 No Project 1 no KFE
2020 No Project 1 w KFE
2020 No Project 2
2020 No Project 3 no KFE
2020 No Project 3 w KFE
2020 No Project 4 no KFE
2020 No Project 4 w KFE
2020 Proposed Project

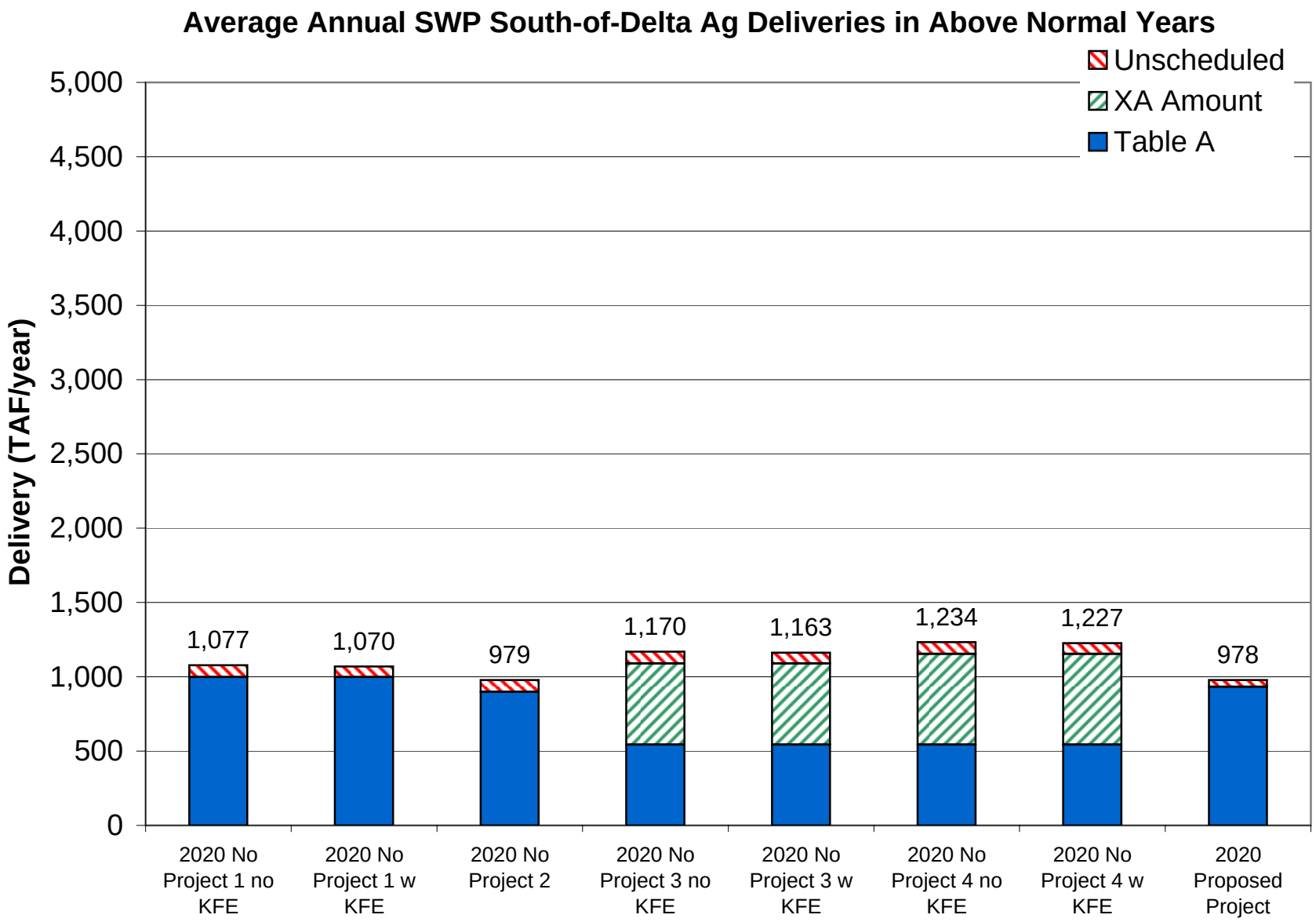

Average Annual Total SWP South-of-Delta Deliveries in Below Normal Years
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
3,658
3,642
3,658
3,658
3,642
3,658
3,642
3,665
2020 No Project 1 no KFE
2020 No Project 1 w KFE
2020 No Project 2
2020 No Project 3 no KFE
2020 No Project 3 w KFE
2020 No Project 4 no KFE
2020 No Project 4 w KFE
2020 Proposed Project

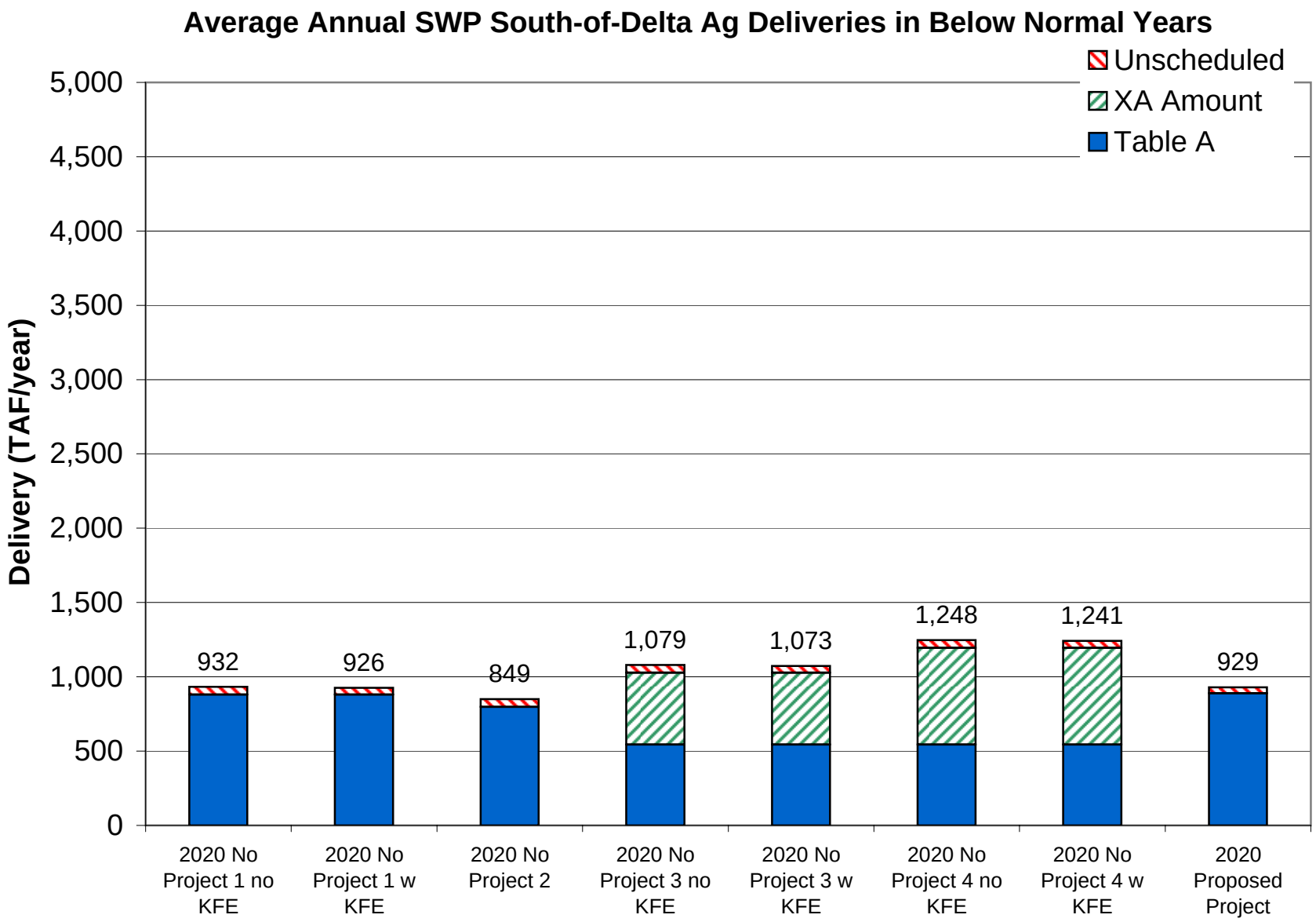

Average Annual Total SWP South-of-Delta Deliveries in Dry Years
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
2,814
2,828
2,814
2,814
2,825
2,814
2,825
2,799
2020 No Project 1 no KFE
2020 No Project 1 w KFE
2020 No Project 2
2020 No Project 3 no KFE
2020 No Project 3 w KFE
2020 No Project 4 no KFE
2020 No Project 4 w KFE
2020 Proposed Project

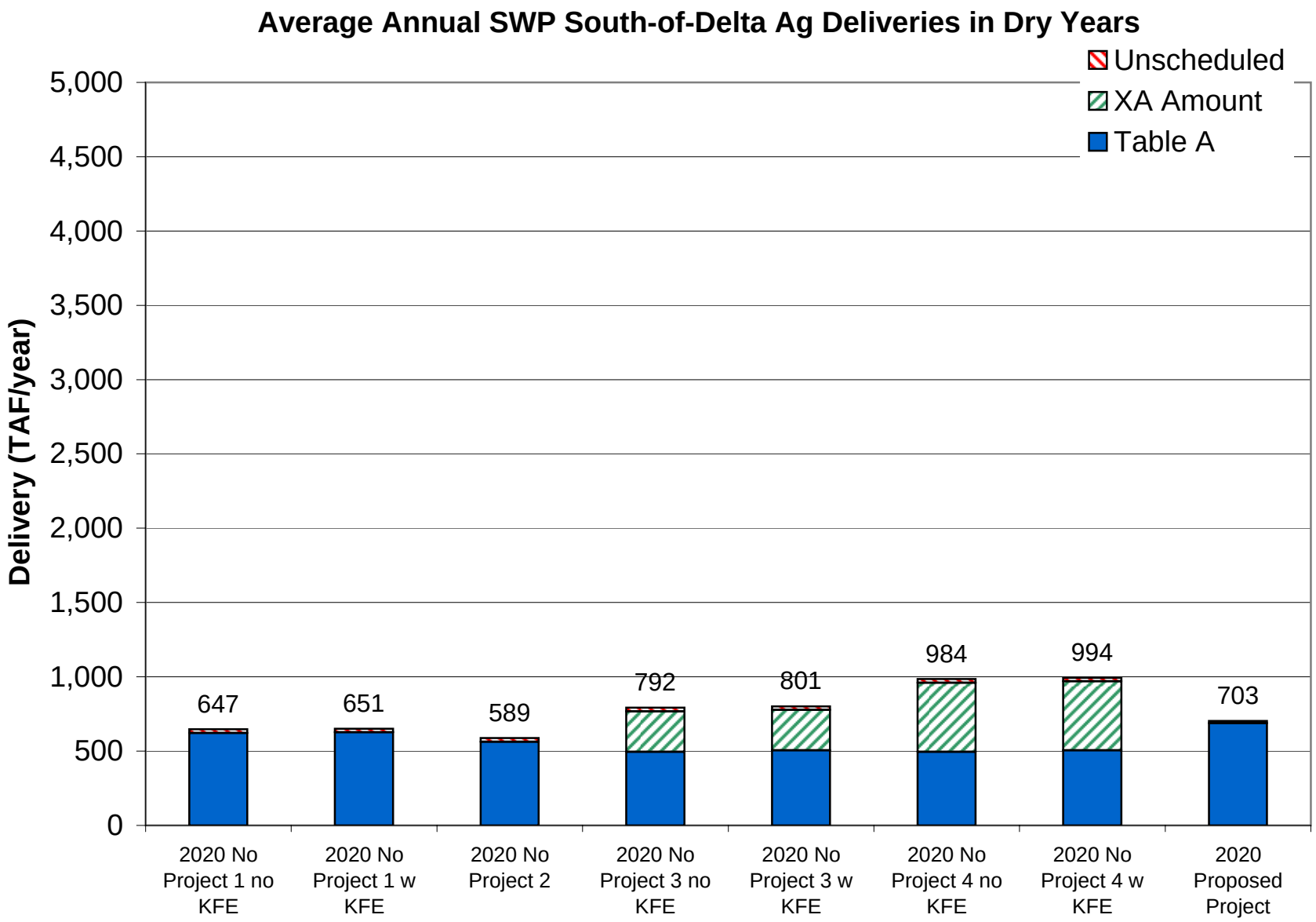

Average Annual Total SWP South-of-Delta Deliveries in Critical Years
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
1,413
1,467
1,413
1,413
1,467
1,413
1,467
1,424
2020 No Project 1 no KFE
2020 No Project 1 w KFE
2020 No Project 2
2020 No Project 3 no KFE
2020 No Project 3 w KFE
2020 No Project 4 no KFE
2020 No Project 4 w KFE
2020 Proposed Project

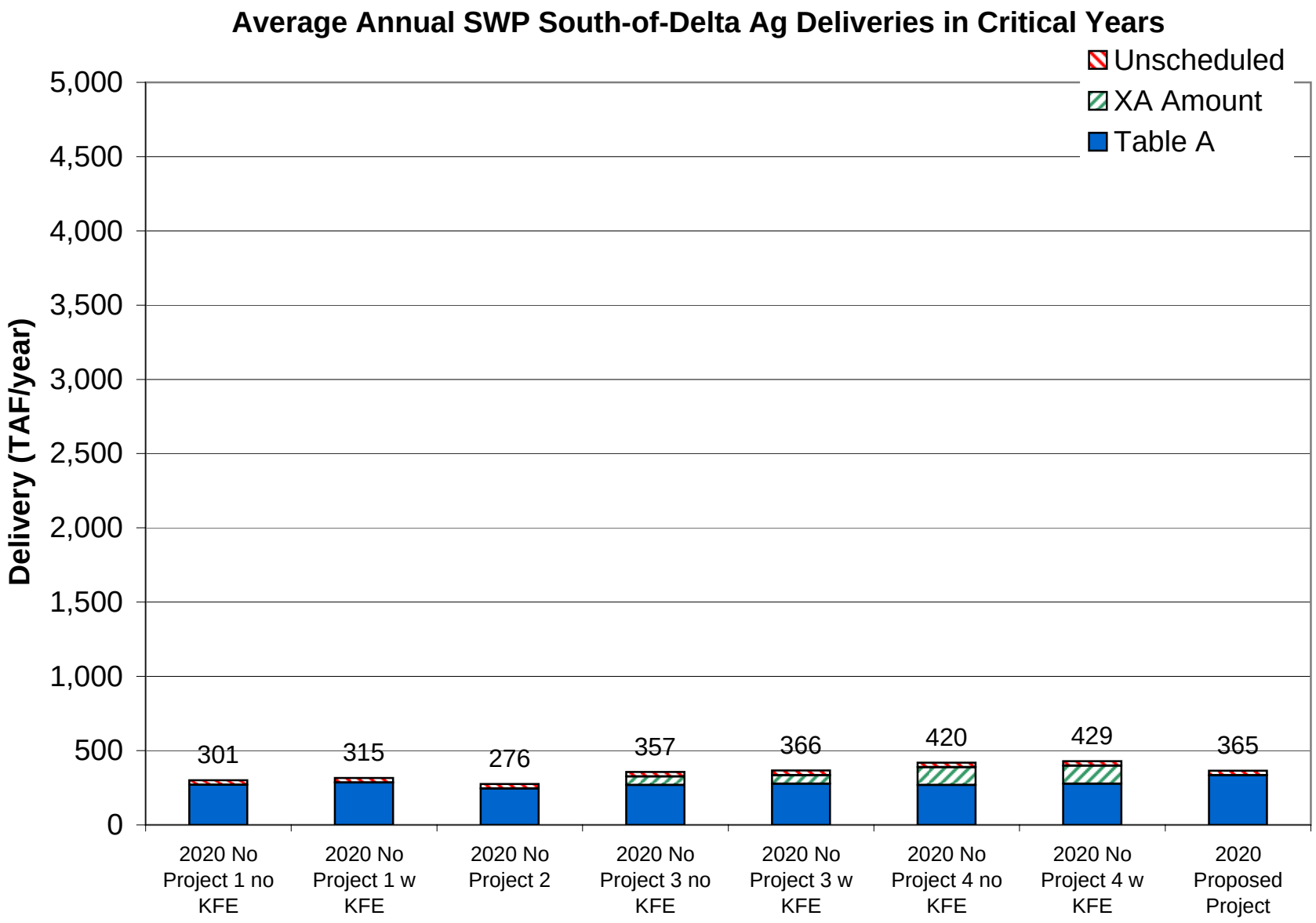

Average Annual Total SWP South-of-Delta Ag Deliveries
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
866
864
788
955
954
1,056
1,054
824
2020 No Project 1 no KFE
2020 No Project 1 w KFE
2020 No Project 2
2020 No Project 3 no KFE
2020 No Project 3 w KFE
2020 No Project 4 no KFE
2020 No Project 4 w KFE
2020 Proposed Project

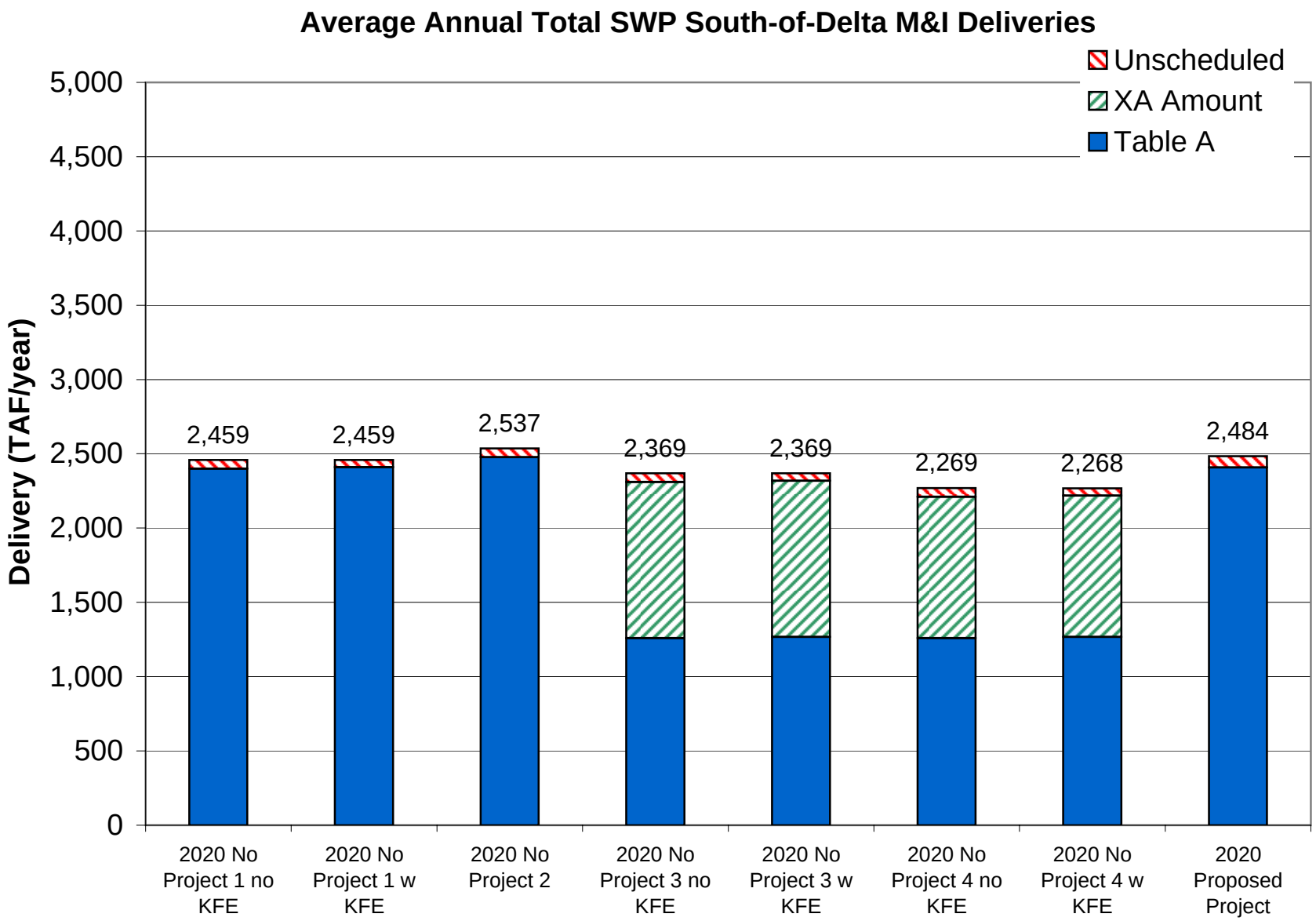

Average Annual SWP South-of-Delta Ag Deliveries in Wet Years
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
866
864
788
955
954
1,056
1,054
824
2020 No Project 1 no KFE
2020 No Project 1 w KFE
2020 No Project 2
2020 No Project 3 no KFE
2020 No Project 3 w KFE
2020 No Project 4 no KFE
2020 No Project 4 w KFE
2020 Proposed Project

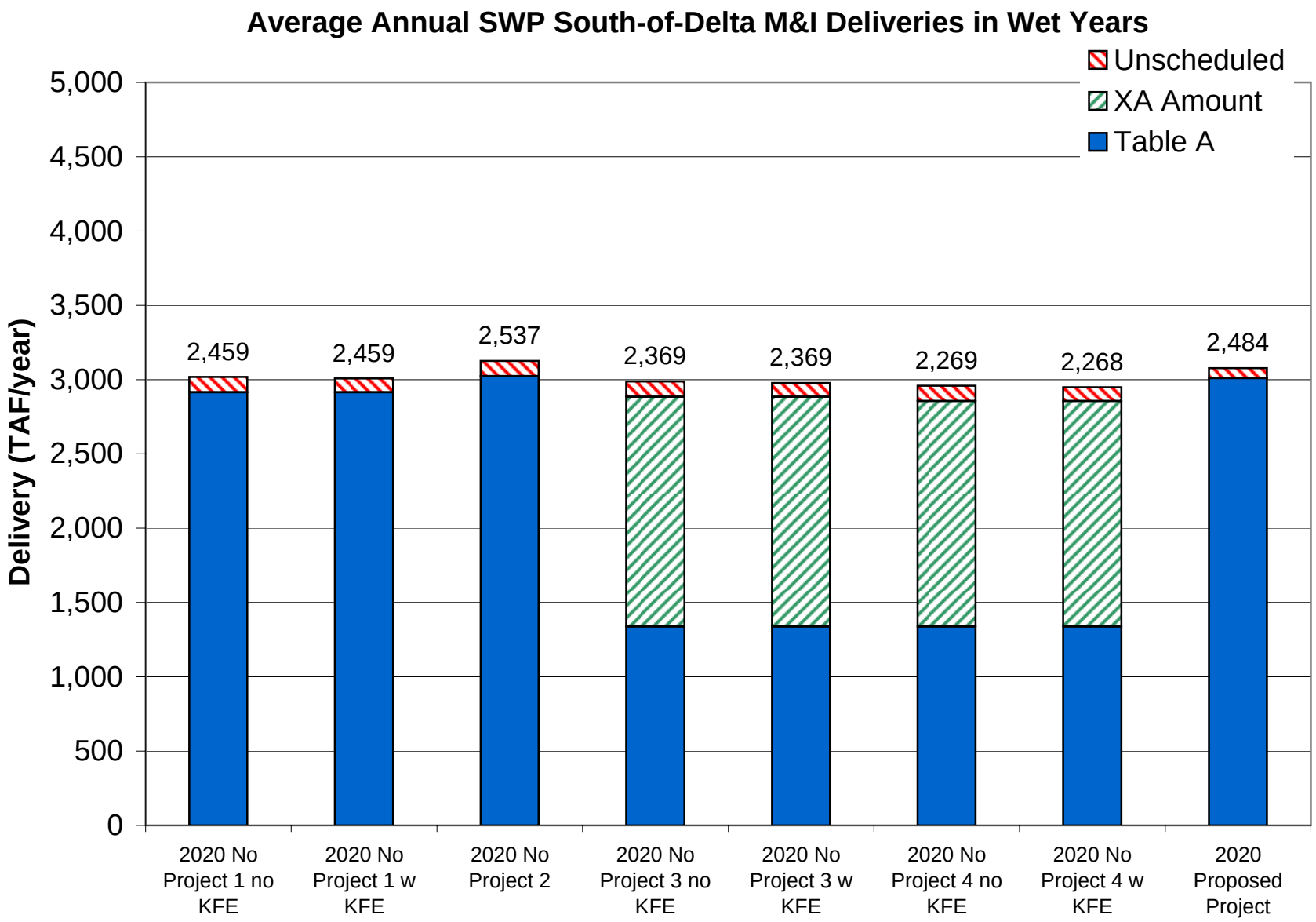

Average Annual SWP South-of-Delta Ag Deliveries in Above Normal Years
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
1,077
1,070
979
1,170
1,163
1,234
1,227
978
2020 No Project 1 no KFE
2020 No Project 1 w KFE
2020 No Project 2
2020 No Project 3 no KFE
2020 No Project 3 w KFE
2020 No Project 4 no KFE
2020 No Project 4 w KFE
2020 Proposed Project

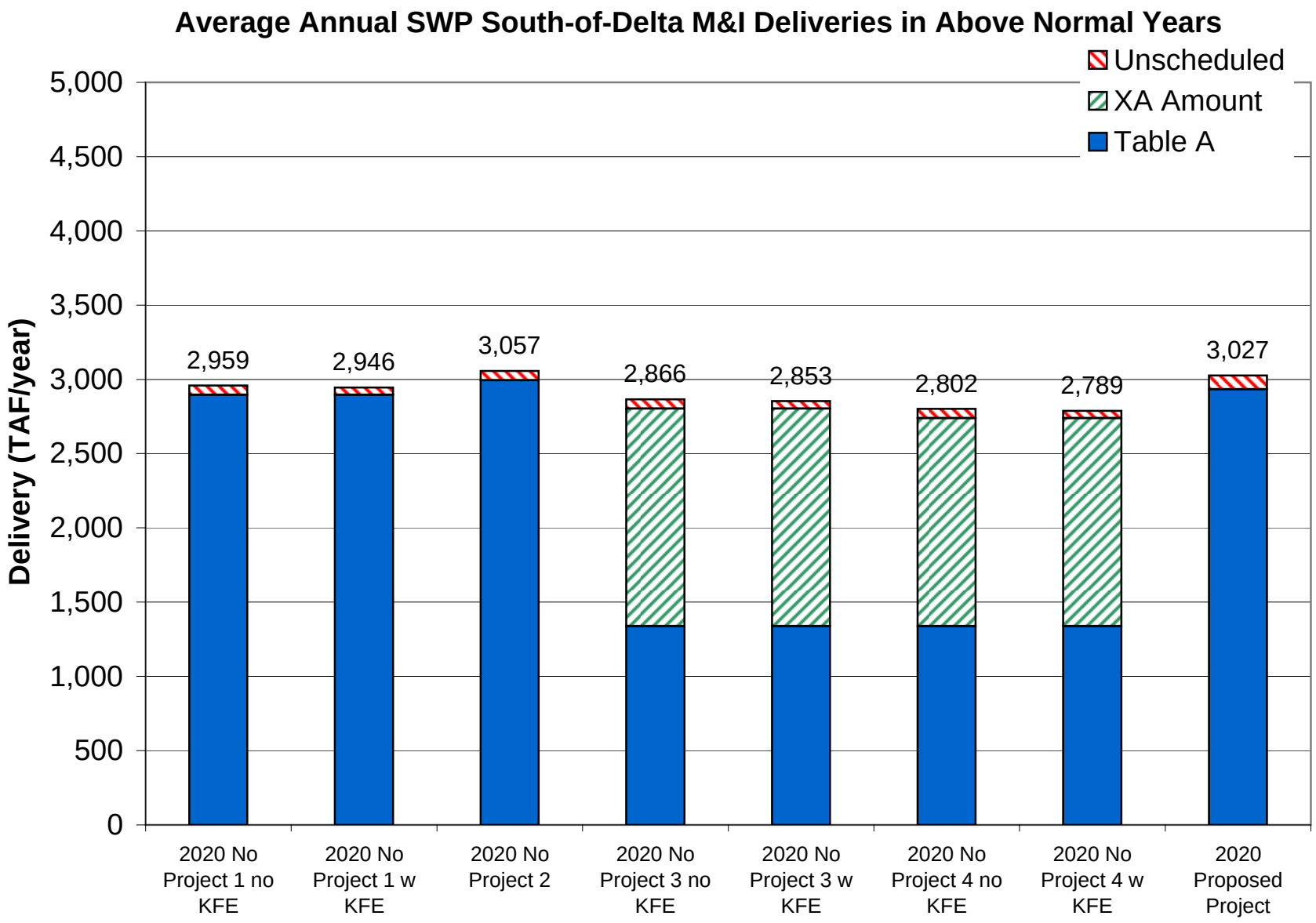

Average Annual SWP South-of-Delta Ag Deliveries in Below Normal Years
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
932
926
849
1,079
1,073
1,248
1,241
929
2020 No Project 1 no KFE
2020 No Project 1 w KFE
2020 No Project 2
2020 No Project 3 no KFE
2020 No Project 3 w KFE
2020 No Project 4 no KFE
2020 No Project 4 w KFE
2020 Proposed Project

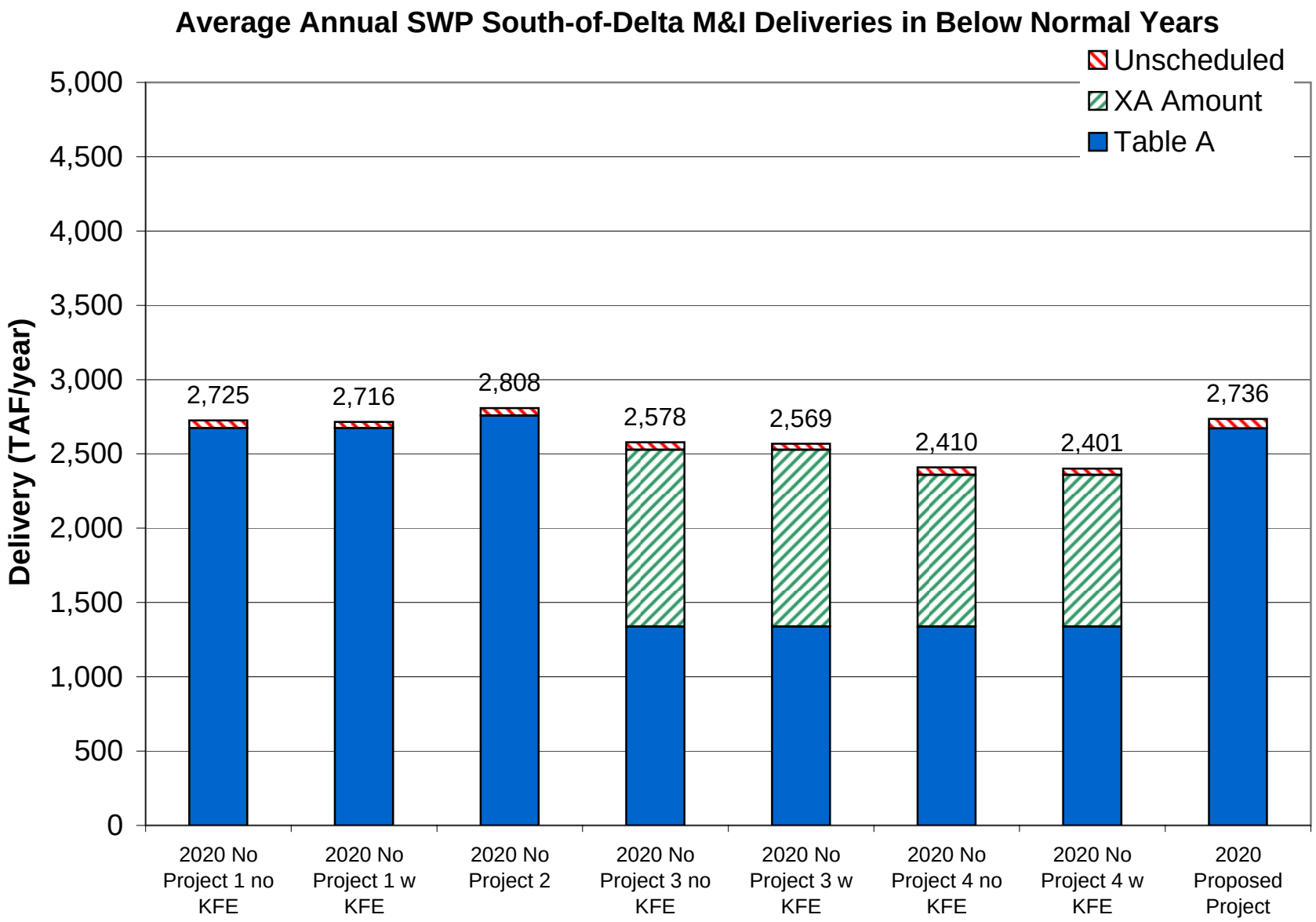

Average Annual SWP South-of-Delta Ag Deliveries in Dry Years
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
647
651
589
792
801
984
994
703
2020 No Project 1 no KFE
2020 No Project 1 w KFE
2020 No Project 2
2020 No Project 3 no KFE
2020 No Project 3 w KFE
2020 No Project 4 no KFE
2020 No Project 4 w KFE
2020 Proposed Project

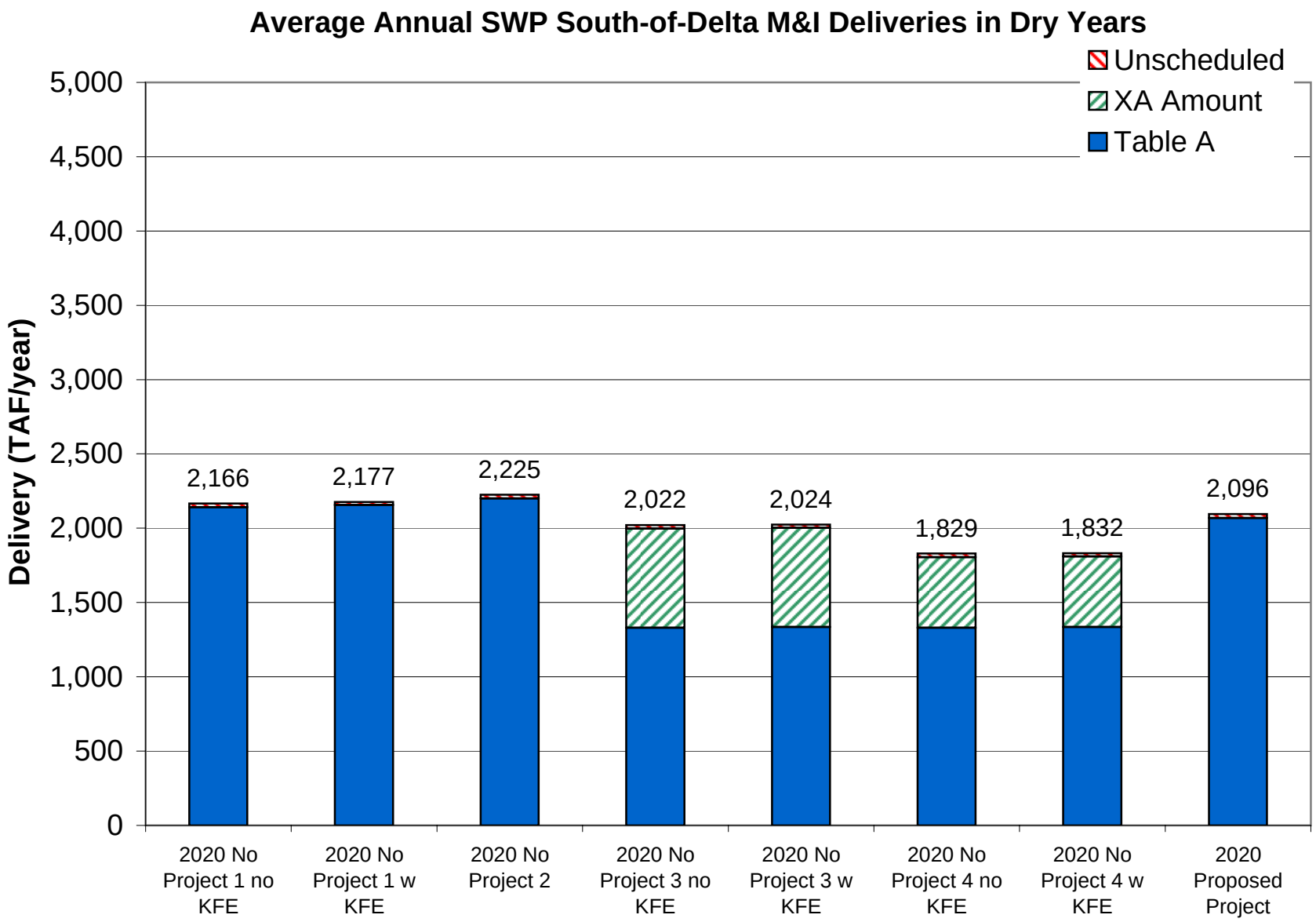

Average Annual SWP South-of-Delta Ag Deliveries in Critical Years
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
301
315
276
357
366
420
429
365
2020 No Project 1 no KFE
2020 No Project 1 w KFE
2020 No Project 2
2020 No Project 3 no KFE
2020 No Project 3 w KFE
2020 No Project 4 no KFE
2020 No Project 4 w KFE
2020 Proposed Project

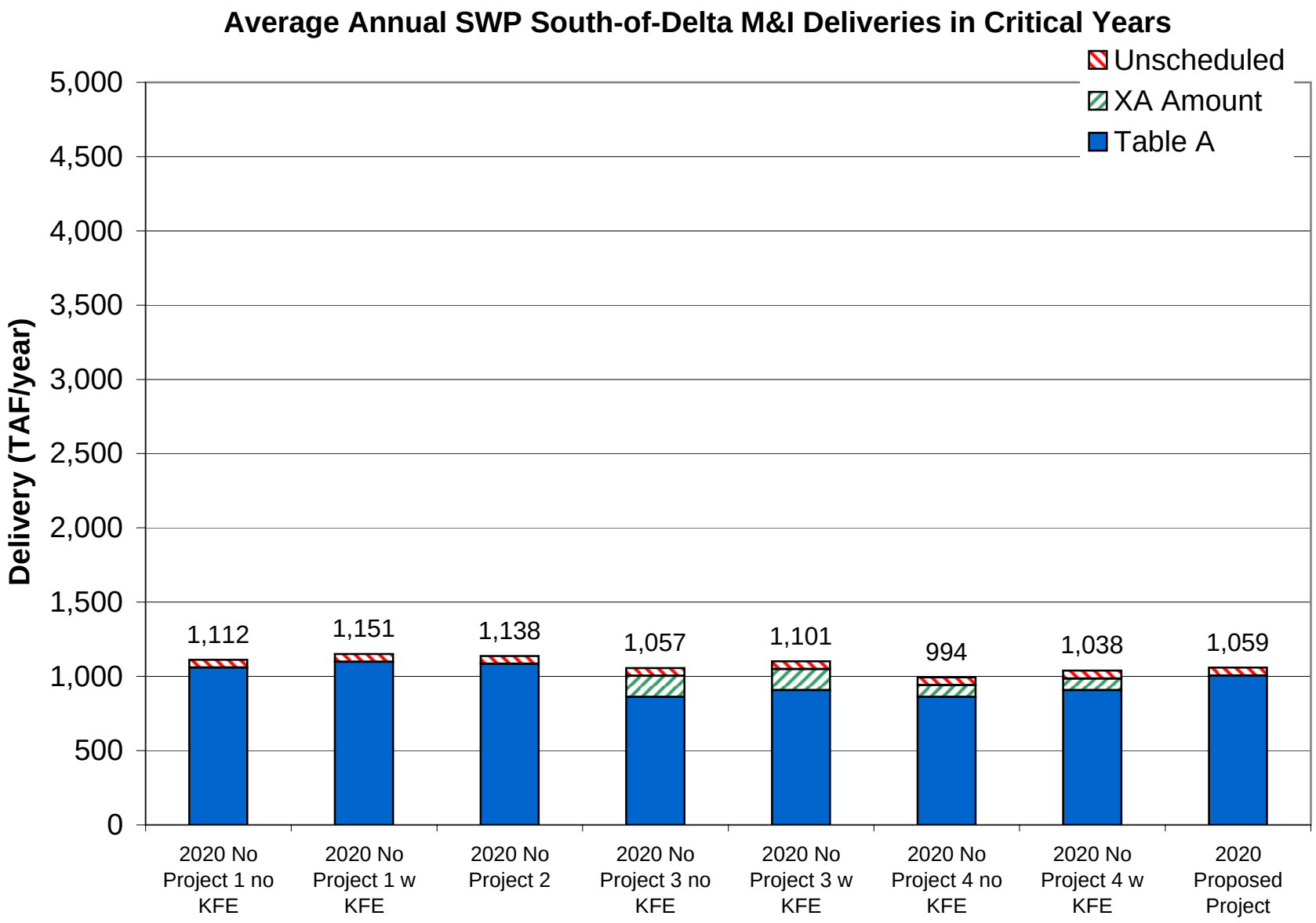

Average Annual Total SWP South-of-Delta M&I Deliveries
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
2,459
2,459
2,537
2,369
2,369
2,269
2,268
2,484
2020 No Project 1 no KFE
2020 No Project 1 w KFE
2020 No Project 2
2020 No Project 3 no KFE
2020 No Project 3 w KFE
2020 No Project 4 no KFE
2020 No Project 4 w KFE
2020 Proposed Project

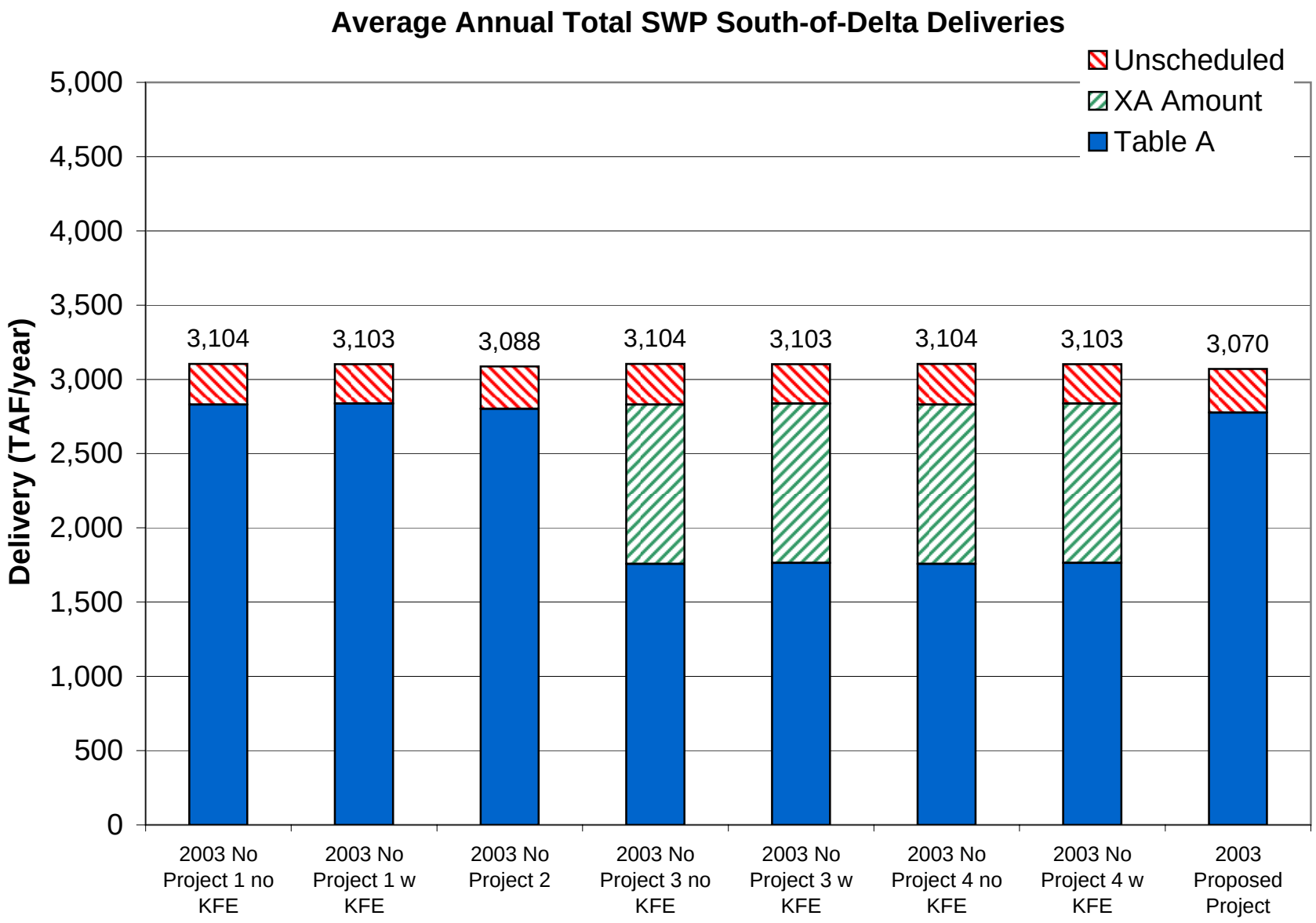

Average Annual SWP South-of-Delta M&I Deliveries in Wet Years
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
2,459
2,459
2,537
2,369
2,369
2,269
2,268
2,484
2020 No Project 1 no KFE
2020 No Project 1 w KFE
2020 No Project 2
2020 No Project 3 no KFE
2020 No Project 3 w KFE
2020 No Project 4 no KFE
2020 No Project 4 w KFE
2020 Proposed Project

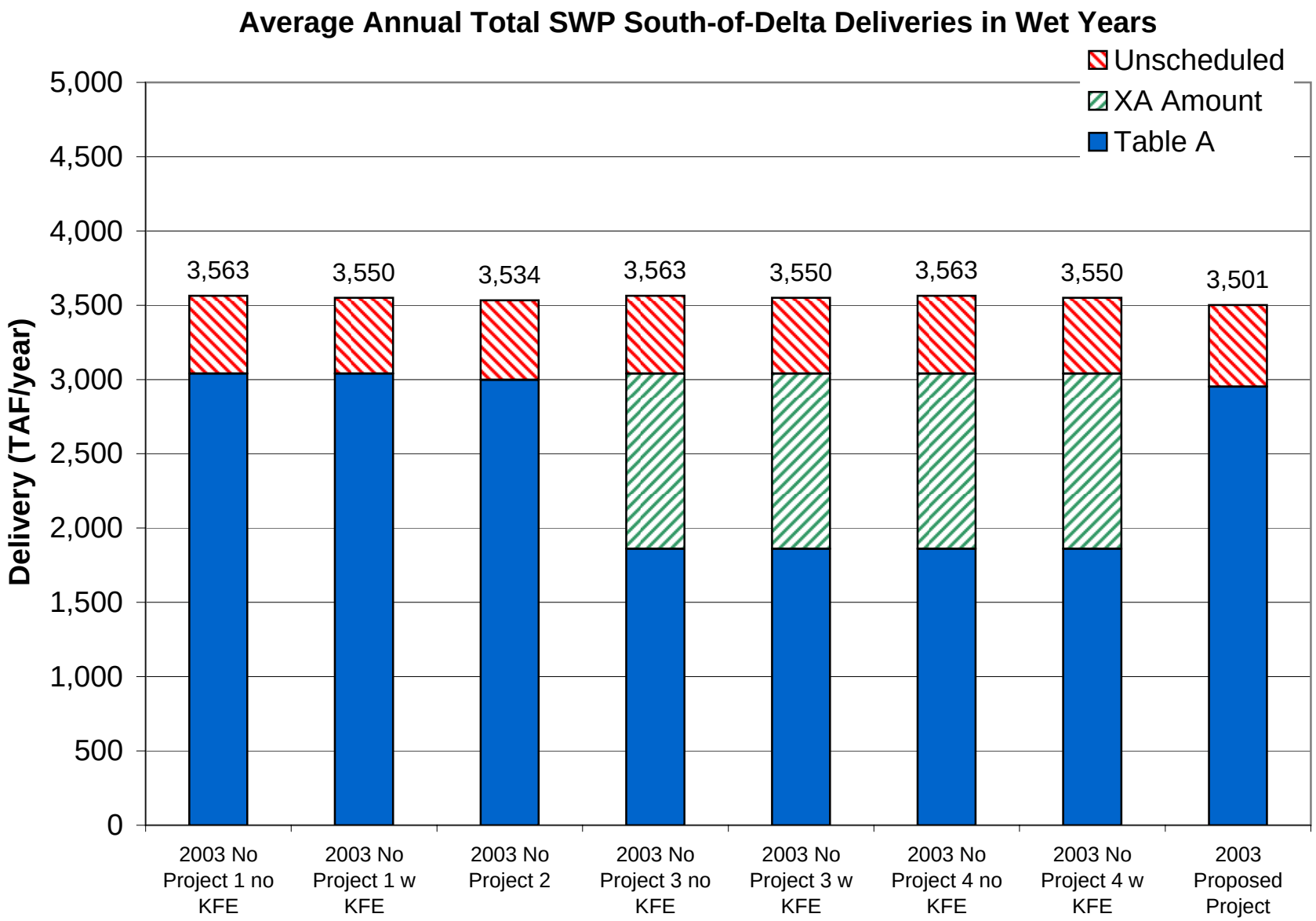

Average Annual SWP South-of-Delta M&I Deliveries in Above Normal Years
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
2,959
2,946
3,057
2,866
2,853
2,802
2,789
3,027
2020 No Project 1 no KFE
2020 No Project 1 w KFE
2020 No Project 2
2020 No Project 3 no KFE
2020 No Project 3 w KFE
2020 No Project 4 no KFE
2020 No Project 4 w KFE
2020 Proposed Project

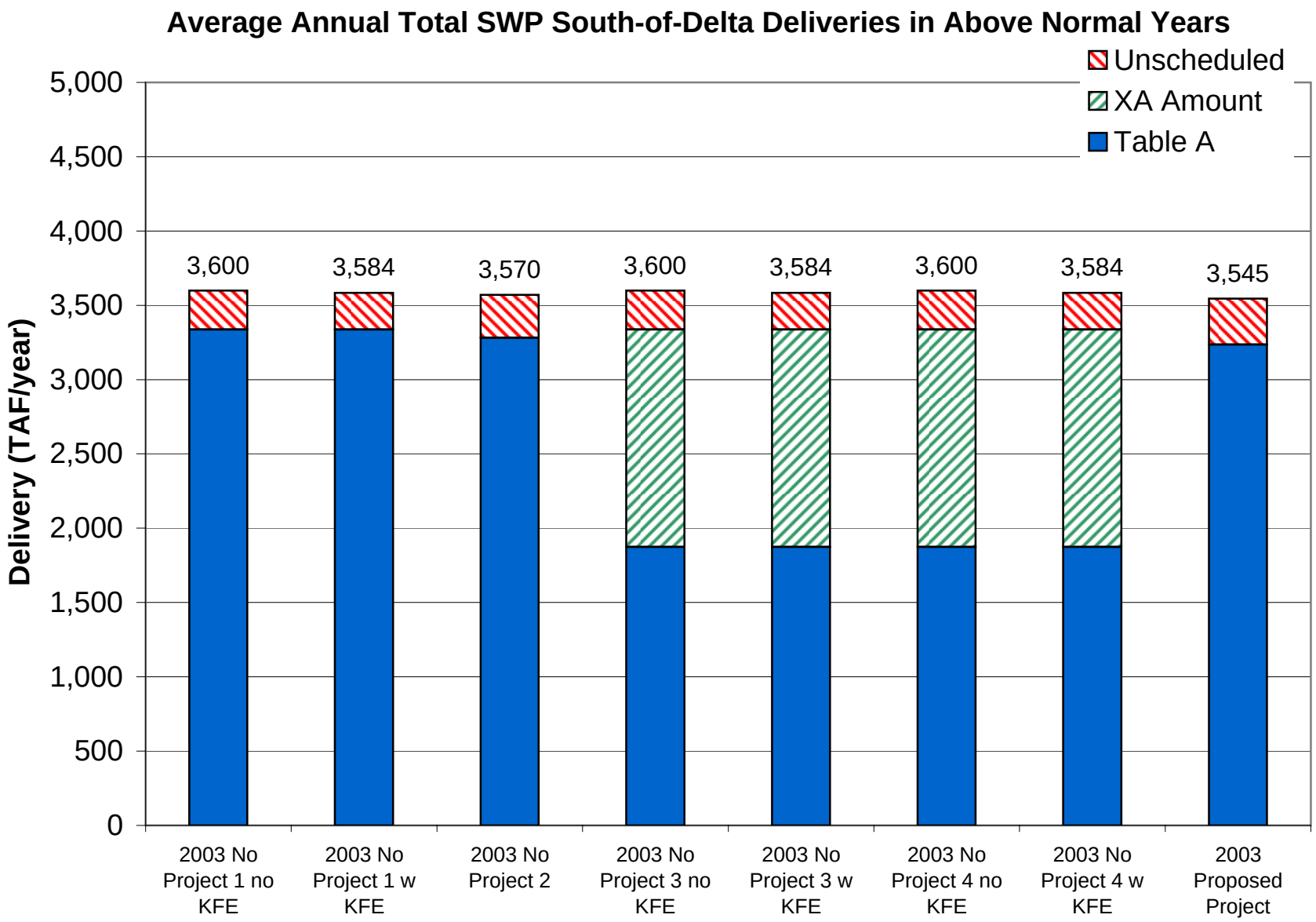

Average Annual SWP South-of-Delta M&I Deliveries in Below Normal Years
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
2,725
2,716
2,808
2,578
2,569
2,410
2,401
2,736
2020 No Project 1 no KFE
2020 No Project 1 w KFE
2020 No Project 2
2020 No Project 3 no KFE
2020 No Project 3 w KFE
2020 No Project 4 no KFE
2020 No Project 4 w KFE
2020 Proposed Project

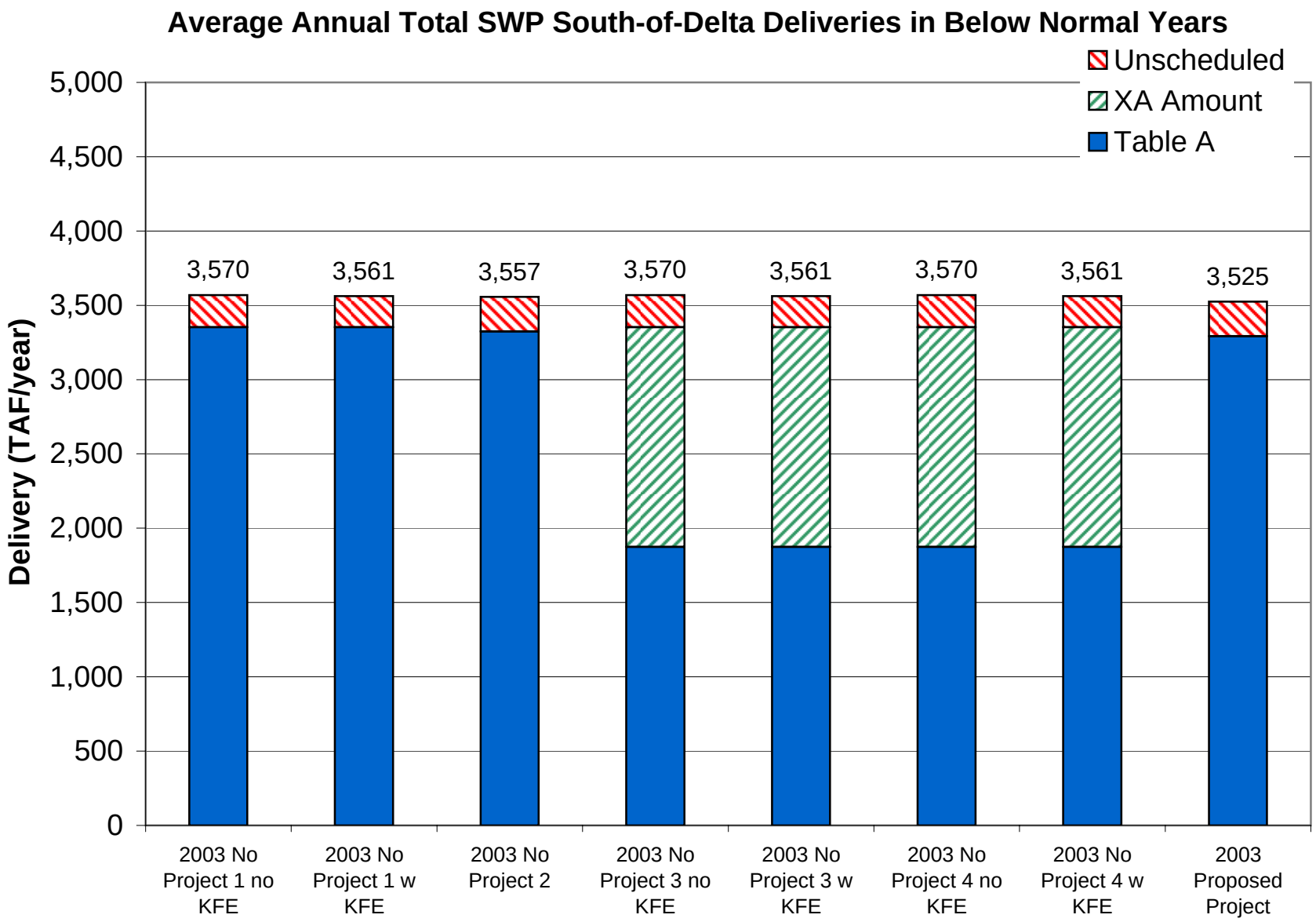

Average Annual SWP South-of-Delta M&I Deliveries in Dry Years
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
2,166
2,177
2,225
2,022
2,024
1,829
1,832
2,096
2020 No Project 1 no KFE
2020 No Project 1 w KFE
2020 No Project 2
2020 No Project 3 no KFE
2020 No Project 3 w KFE
2020 No Project 4 no KFE
2020 No Project 4 w KFE
2020 Proposed Project

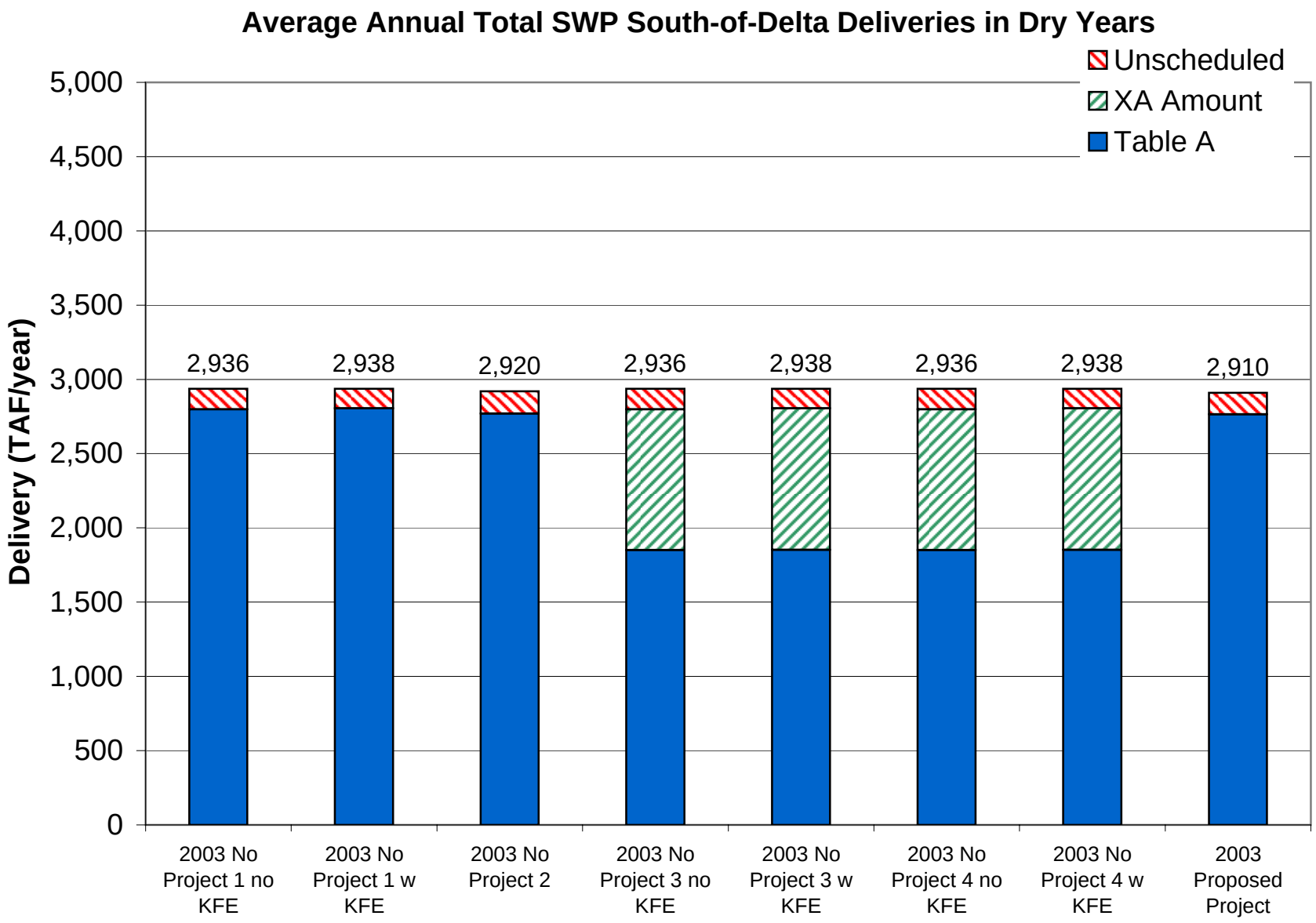

Average Annual SWP South-of-Delta M&I Deliveries in Critical Years
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
1,112
1,151
1,138
1,057
1,101
994
1,038
1,059
2020 No Project 1 no KFE
2020 No Project 1 w KFE
2020 No Project 2
2020 No Project 3 no KFE
2020 No Project 3 w KFE
2020 No Project 4 no KFE
2020 No Project 4 w KFE
2020 Proposed Project

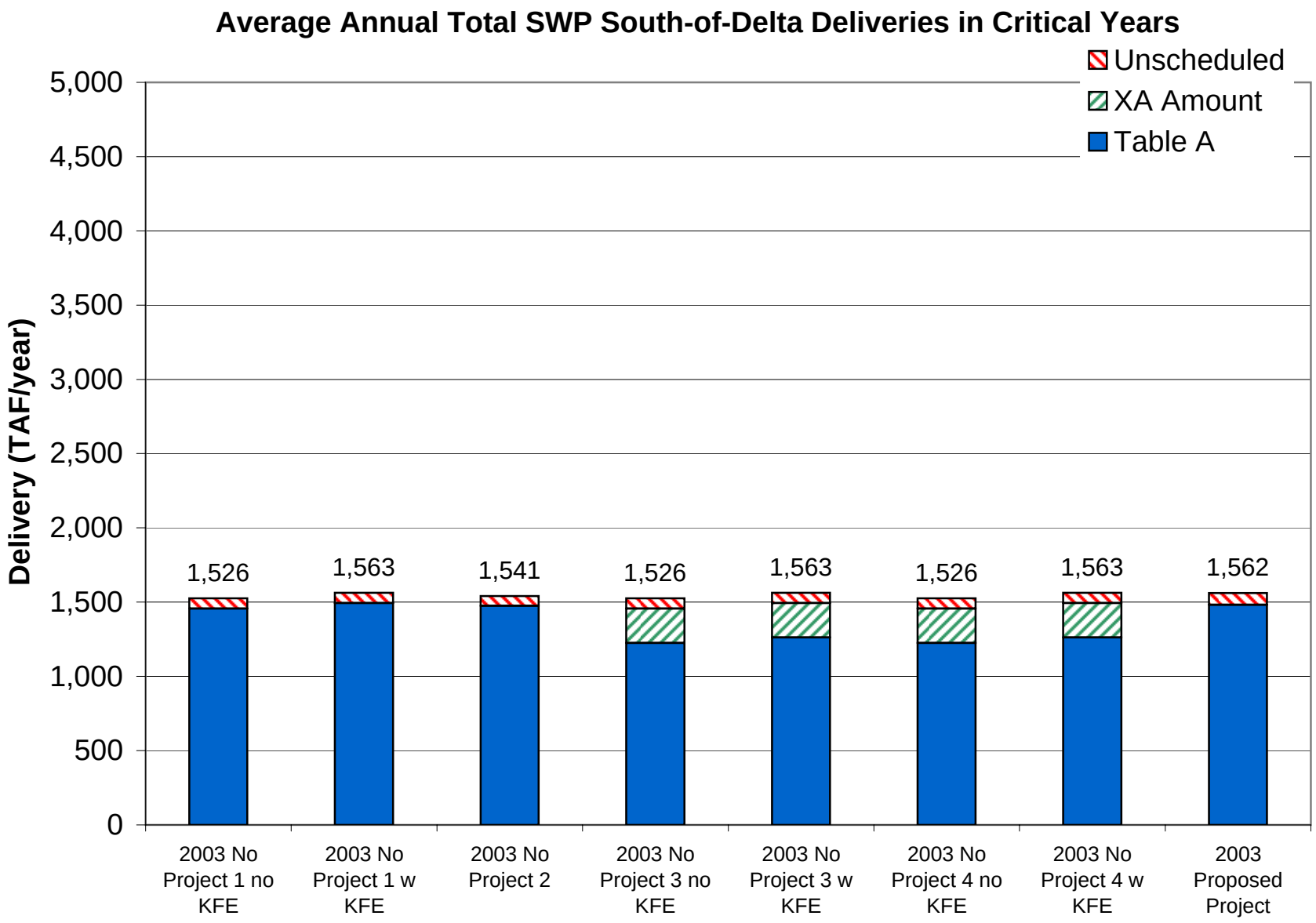

Average Annual Total SWP South-of-Delta Deliveries
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
3,104
3,103
3,088
3,104
3,103
3,104
3,103
3,070
2003 No Project 1 no KFE
2003 No Project 1 w KFE
2003 No Project 2
2003 No Project 3 no KFE
2003 No Project 3 w KFE
2003 No Project 4 no KFE
2003 No Project 4 w KFE
2003 Proposed Project

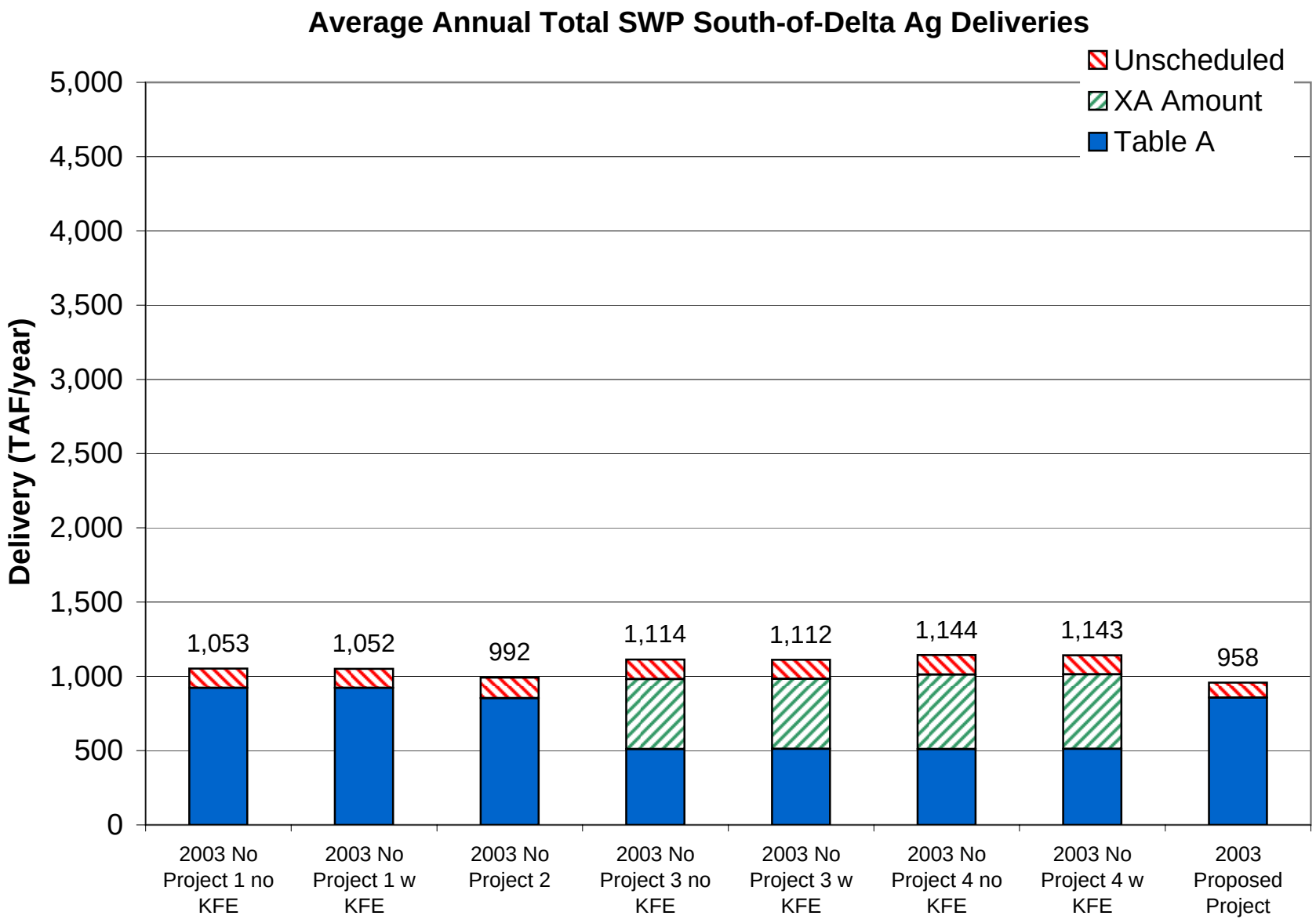

Average Annual Total SWP South-of-Delta Deliveries in Wet Years
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
3,563
3,550
3,534
3,563
3,550
3,563
3,550
3,501
2003 No Project 1 no KFE
2003 No Project 1 w KFE
2003 No Project 2
2003 No Project 3 no KFE
2003 No Project 3 w KFE
2003 No Project 4 no KFE
2003 No Project 4 w KFE
2003 Proposed Project

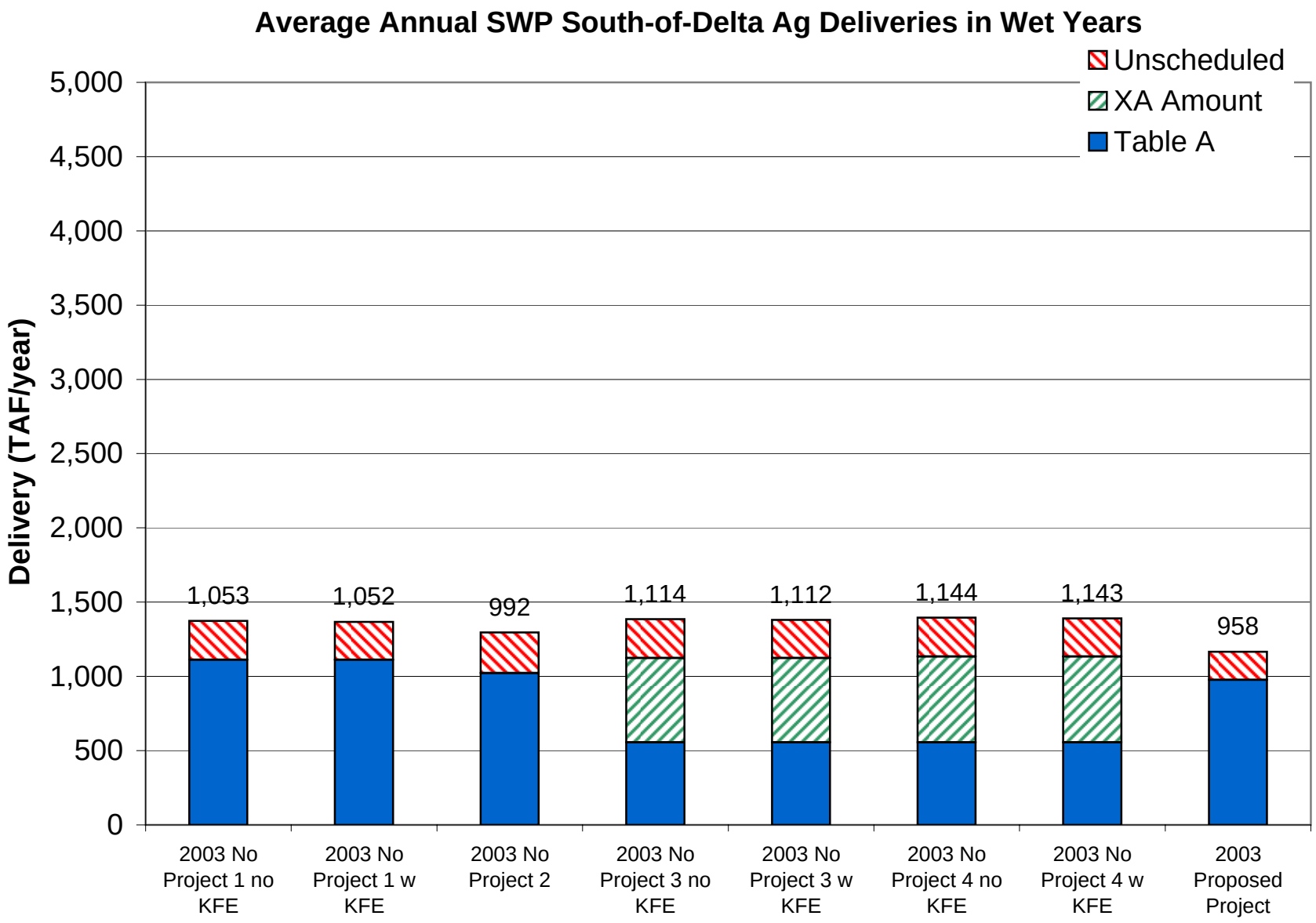

Average Annual Total SWP South-of-Delta Deliveries in Above Normal Years
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
3,600
3,584
3,570
3,600
3,584
3,600
3,584
3,545
2003 No Project 1 no KFE
2003 No Project 1 w KFE
2003 No Project 2
2003 No Project 3 no KFE
2003 No Project 3 w KFE
2003 No Project 4 no KFE
2003 No Project 4 w KFE
2003 Proposed Project

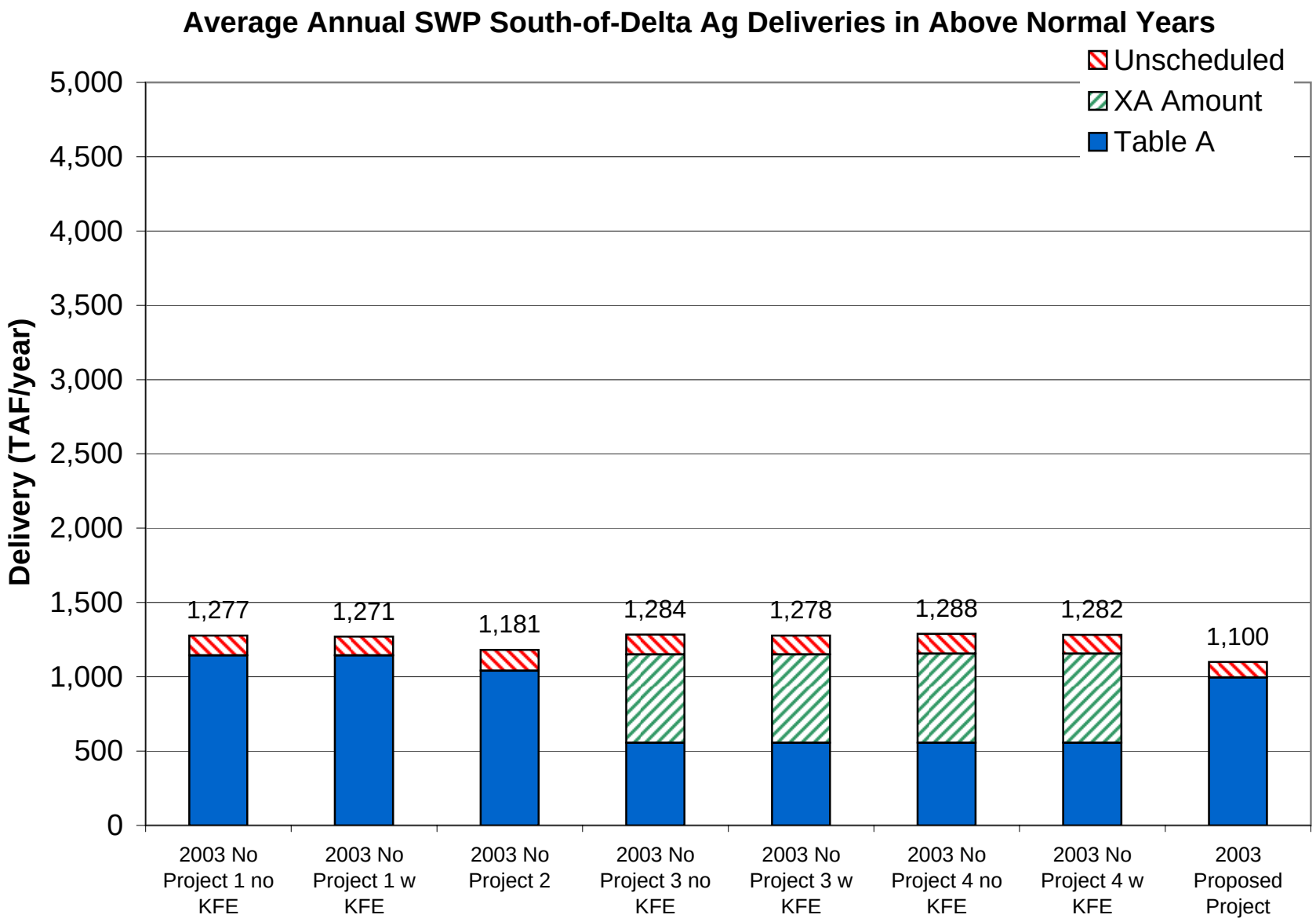

Average Annual Total SWP South-of-Delta Deliveries in Below Normal Years
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
3,570
3,561
3,557
3,570
3,561
3,570
3,561
3,525
2003 No Project 1 no KFE
2003 No Project 1 w KFE
2003 No Project 2
2003 No Project 3 no KFE
2003 No Project 3 w KFE
2003 No Project 4 no KFE
2003 No Project 4 w KFE
2003 Proposed Project

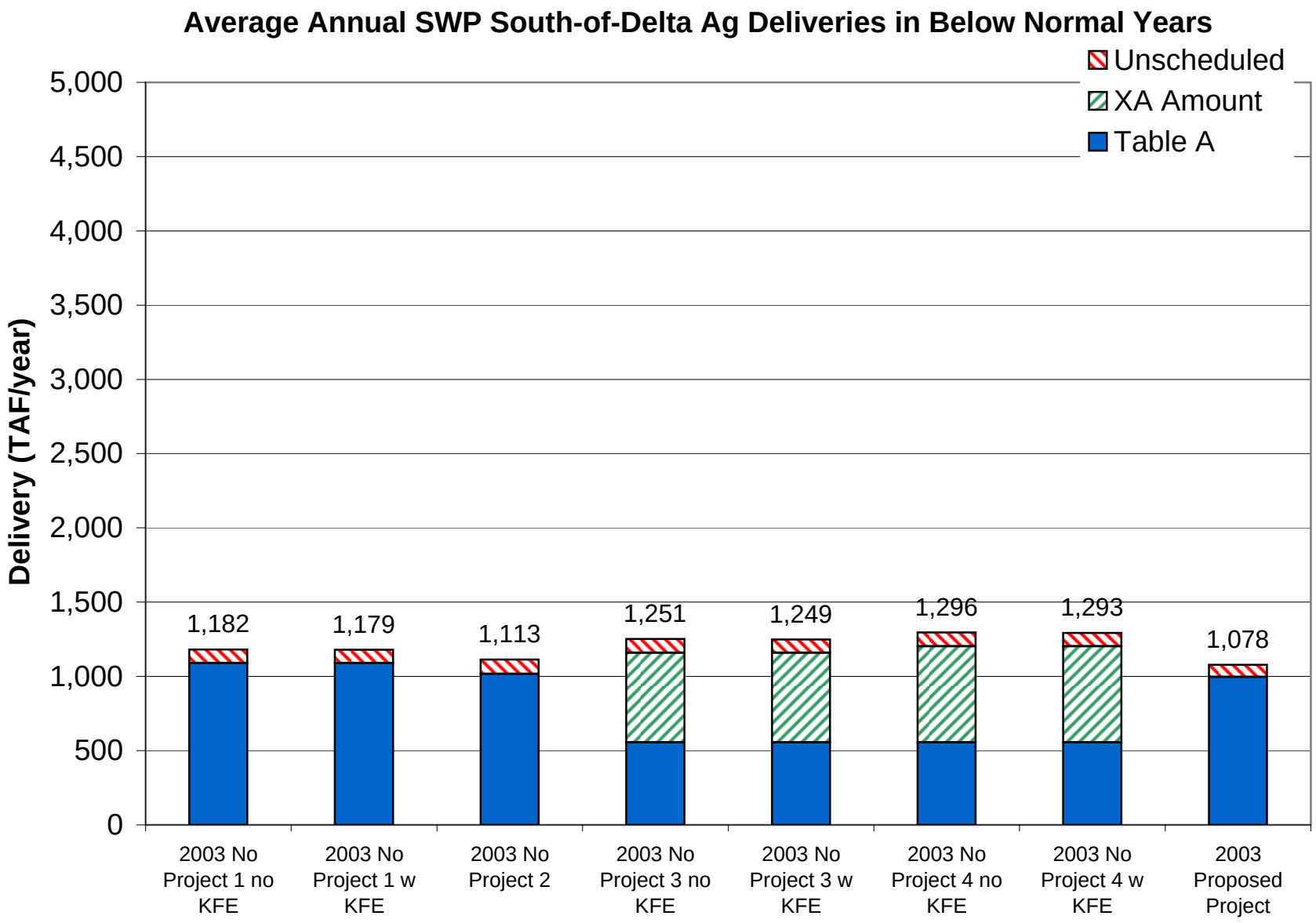

Average Annual Total SWP South-of-Delta Deliveries in Dry Years
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
2,936
2,938
2,920
2,936
2,938
2,936
2,938
2,910
2003 No Project 1 no KFE
2003 No Project 1 w KFE
2003 No Project 2
2003 No Project 3 no KFE
2003 No Project 3 w KFE
2003 No Project 4 no KFE
2003 No Project 4 w KFE
2003 Proposed Project

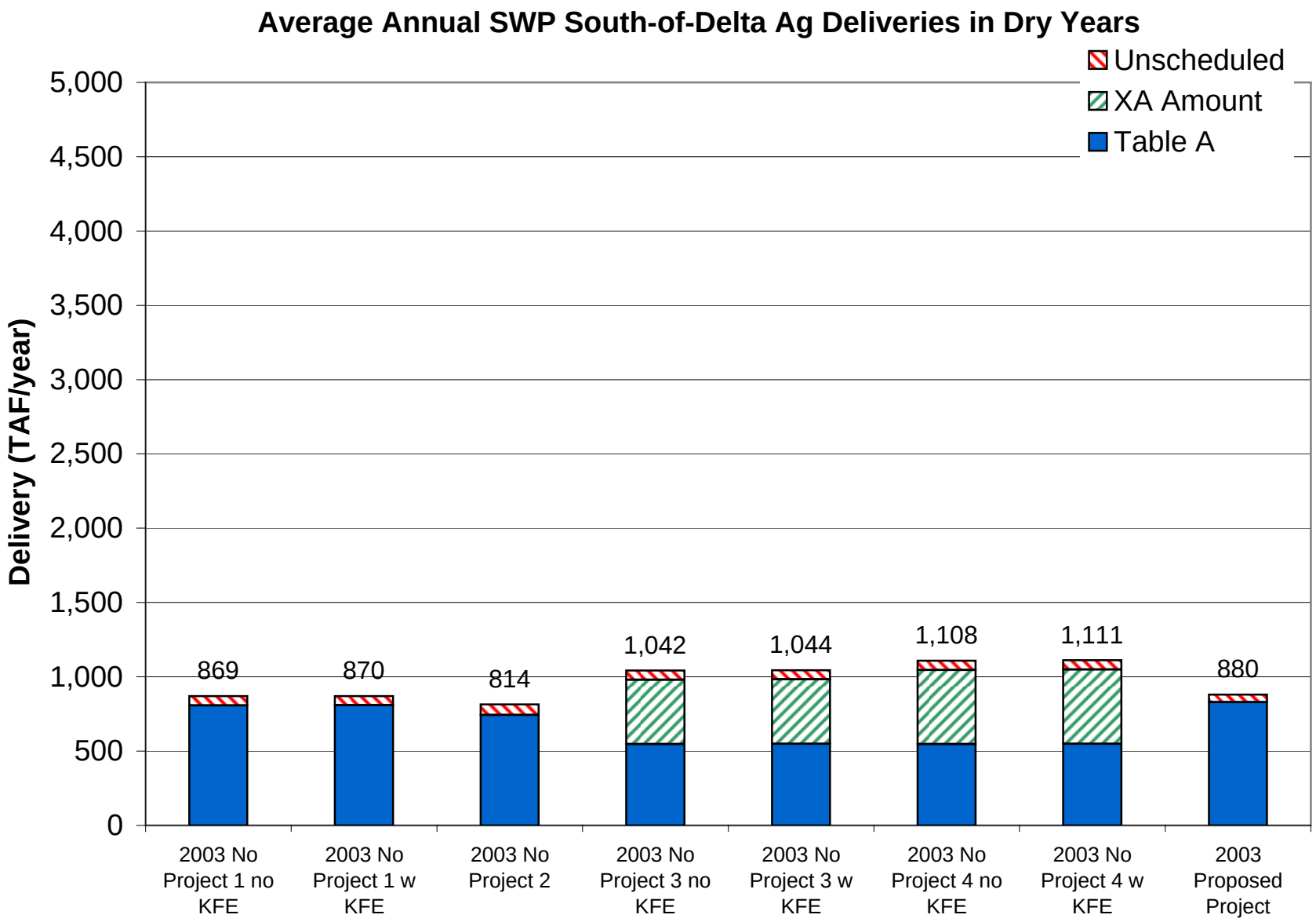

Average Annual Total SWP South-of-Delta Deliveries in Critical Years
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
1,526
1,563
1,541
1,526
1,563
1,526
1,563
1,562
2003 No Project 1 no KFE
2003 No Project 1 w KFE
2003 No Project 2
2003 No Project 3 no KFE
2003 No Project 3 w KFE
2003 No Project 4 no KFE
2003 No Project 4 w KFE
2003 Proposed Project

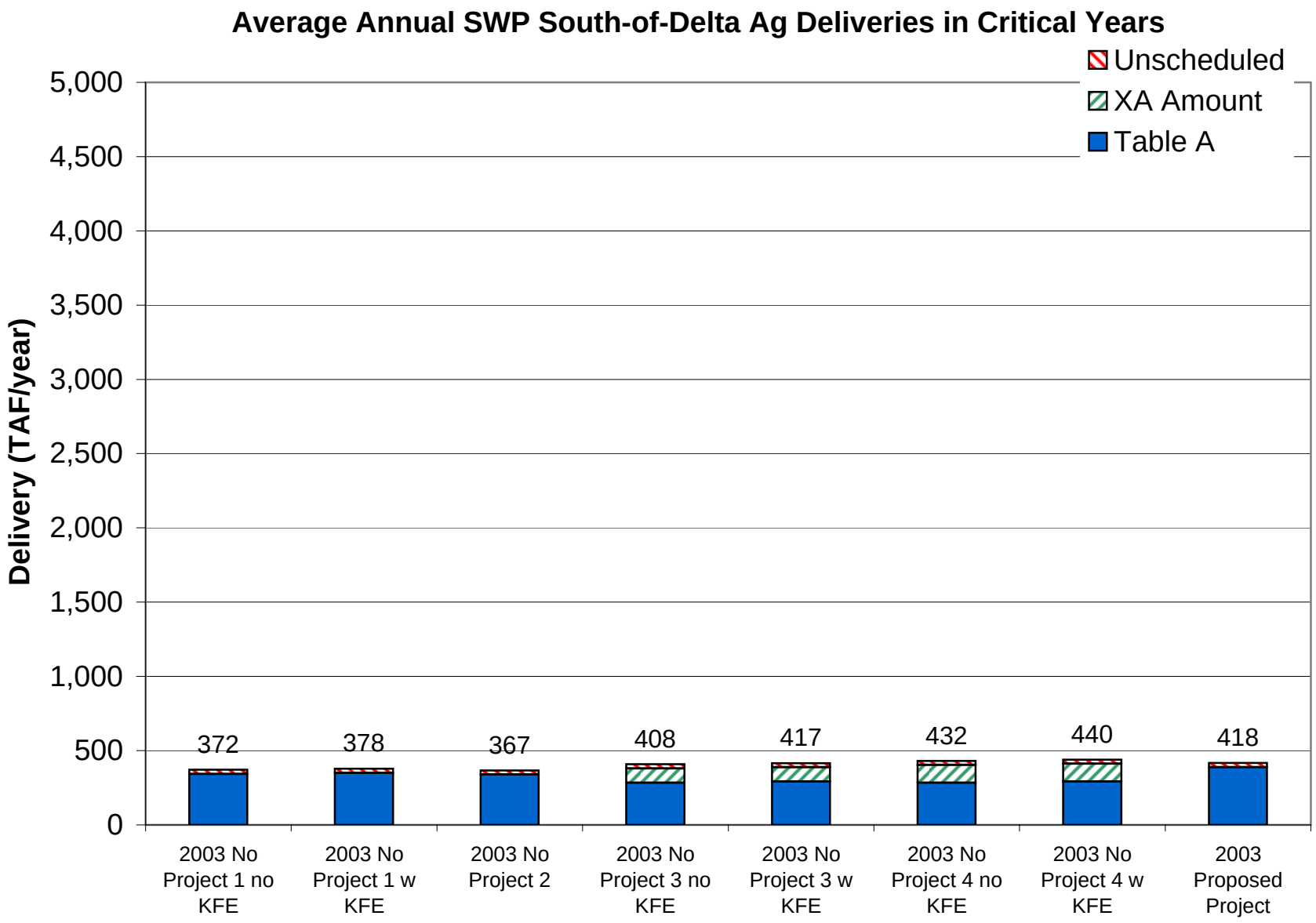

Average Annual Total SWP South-of-Delta Ag Deliveries
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
1,053
1,052
992
1,114
1,112
1,144
1,143
958
2003 No Project 1 no KFE
2003 No Project 1 w KFE
2003 No Project 2
2003 No Project 3 no KFE
2003 No Project 3 w KFE
2003 No Project 4 no KFE
2003 No Project 4 w KFE
2003 Proposed Project

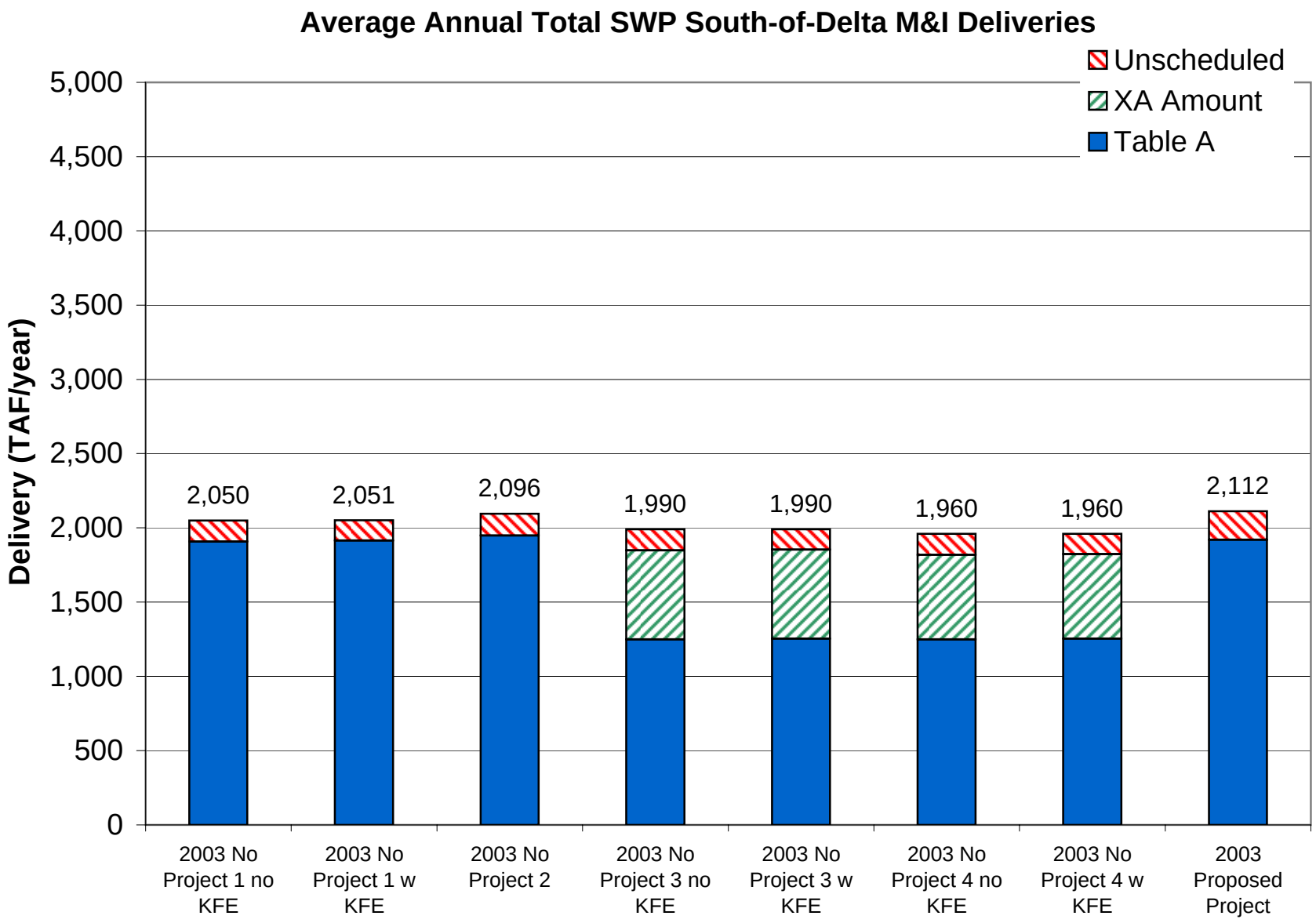

Average Annual SWP South-of-Delta Ag Deliveries in Wet Years
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
1,053
1,052
992
1,114
1,112
1,144
1,143
958
2003 No Project 1 no KFE
2003 No Project 1 w KFE
2003 No Project 2
2003 No Project 3 no KFE
2003 No Project 3 w KFE
2003 No Project 4 no KFE
2003 No Project 4 w KFE
2003 Proposed Project

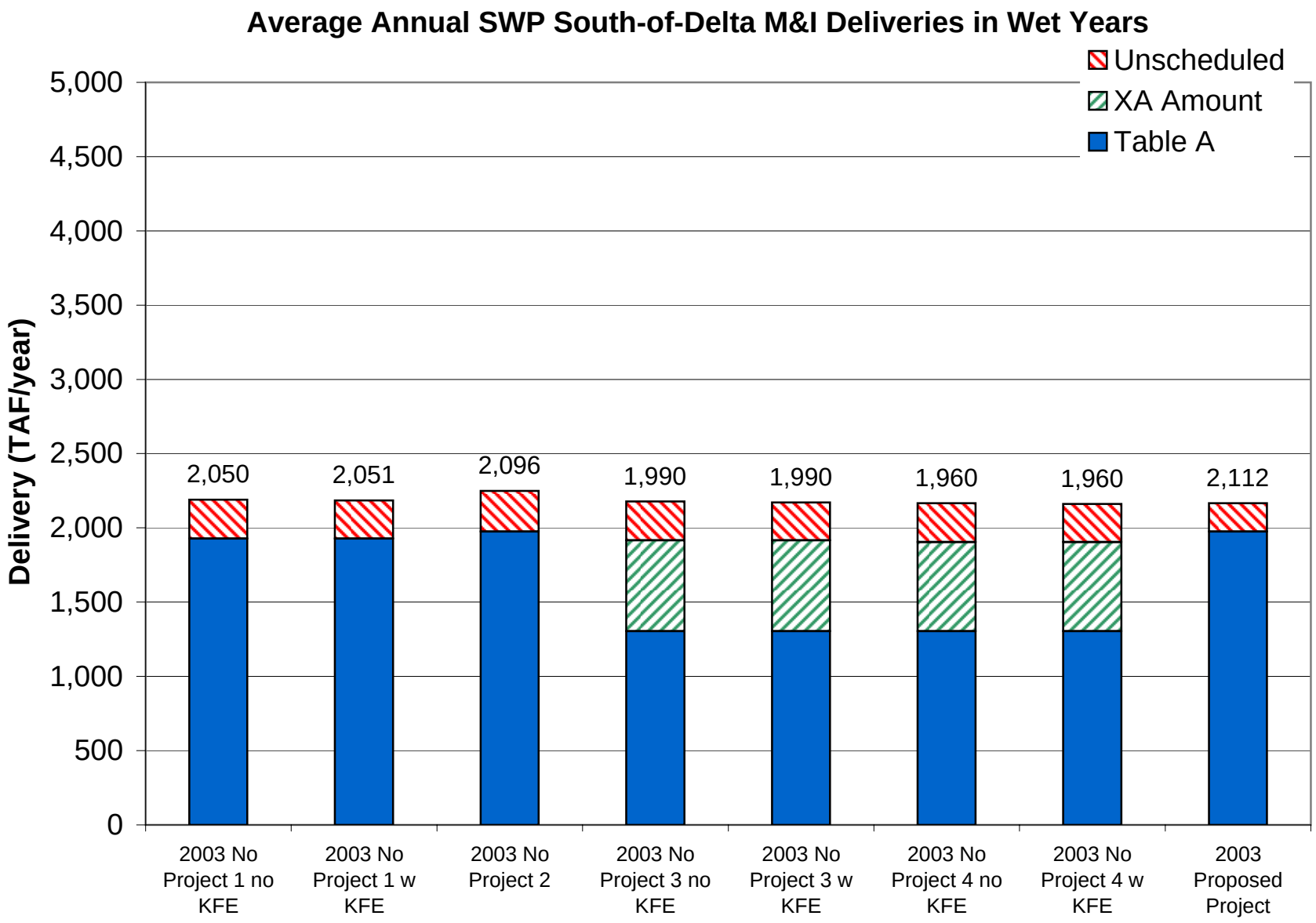

Average Annual SWP South-of-Delta Ag Deliveries in Above Normal Years
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
1,277
1,271
1,181
1,284
1,278
1,288
1,282
1,100
2003 No Project 1 no KFE
2003 No Project 1 w KFE
2003 No Project 2
2003 No Project 3 no KFE
2003 No Project 3 w KFE
2003 No Project 4 no KFE
2003 No Project 4 w KFE
2003 Proposed Project

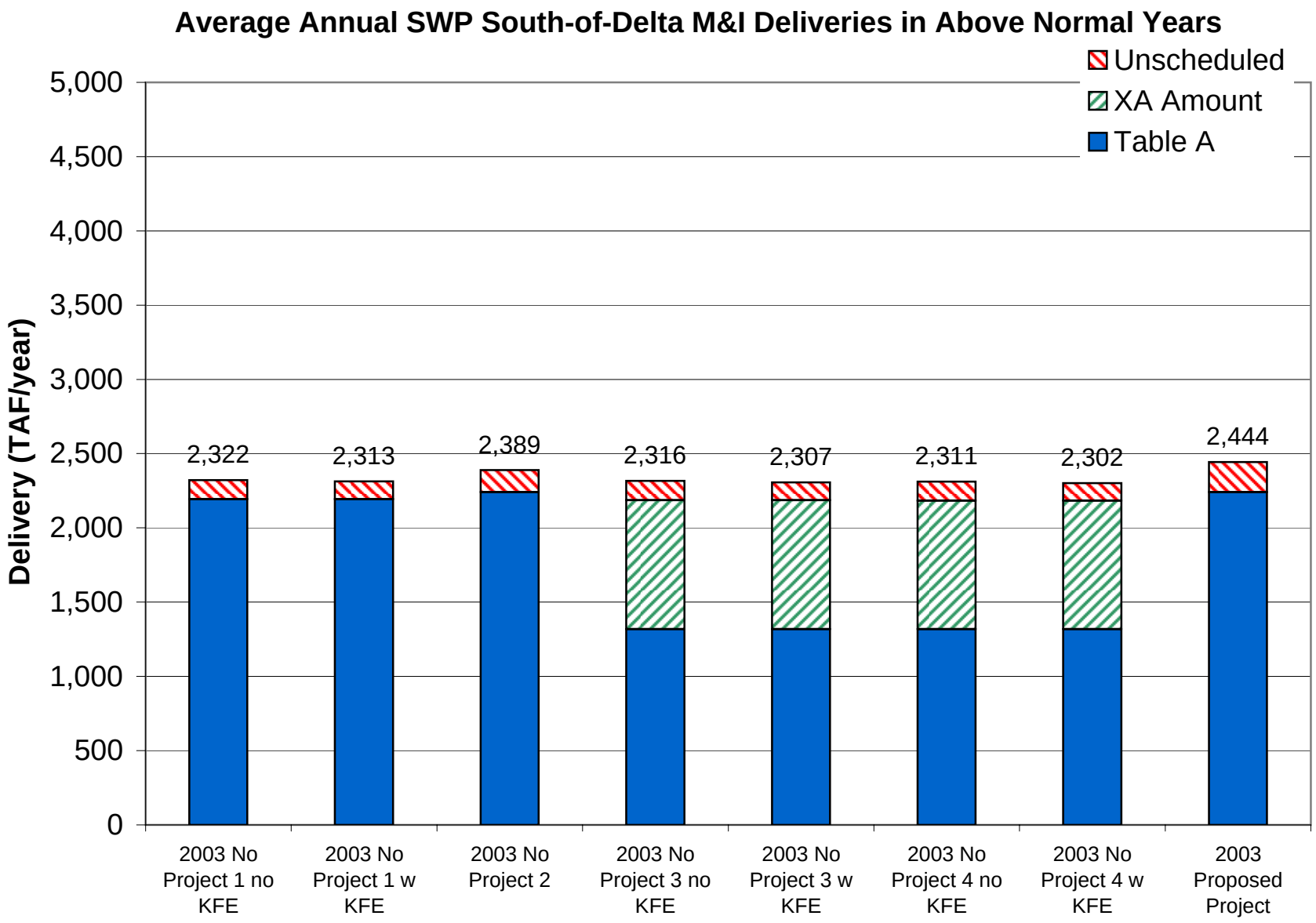

Average Annual SWP South-of-Delta Ag Deliveries in Below Normal Years
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
1,182
1,179
1,113
1,251
1,249
1,296
1,293
1,078
2003 No Project 1 no KFE
2003 No Project 1 w KFE
2003 No Project 2
2003 No Project 3 no KFE
2003 No Project 3 w KFE
2003 No Project 4 no KFE
2003 No Project 4 w KFE
2003 Proposed Project

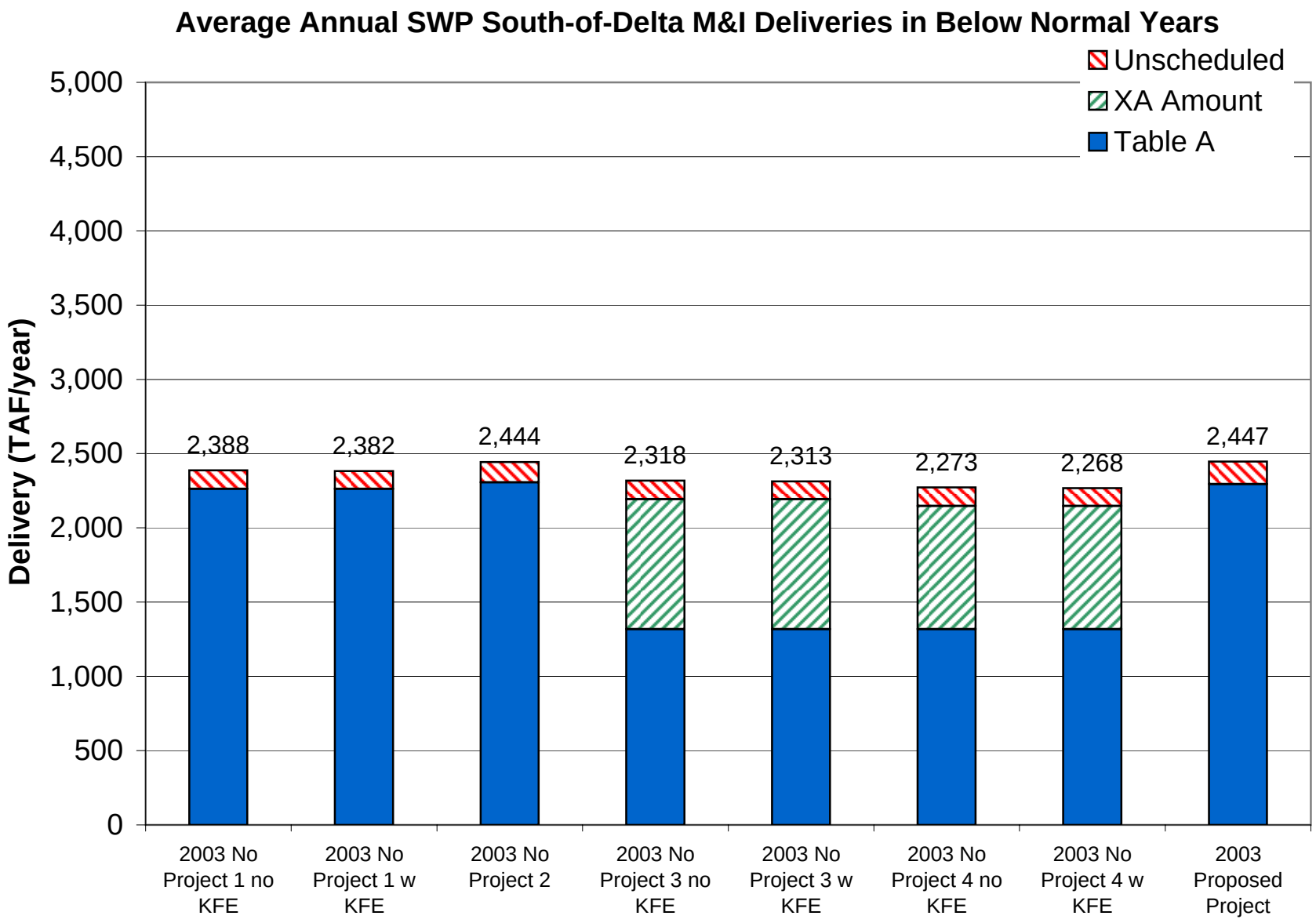

Average Annual SWP South-of-Delta Ag Deliveries in Dry Years
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
869
870
814
1,042
1,044
1,108
1,111
880
2003 No Project 1 no KFE
2003 No Project 1 w KFE
2003 No Project 2
2003 No Project 3 no KFE
2003 No Project 3 w KFE
2003 No Project 4 no KFE
2003 No Project 4 w KFE
2003 Proposed Project

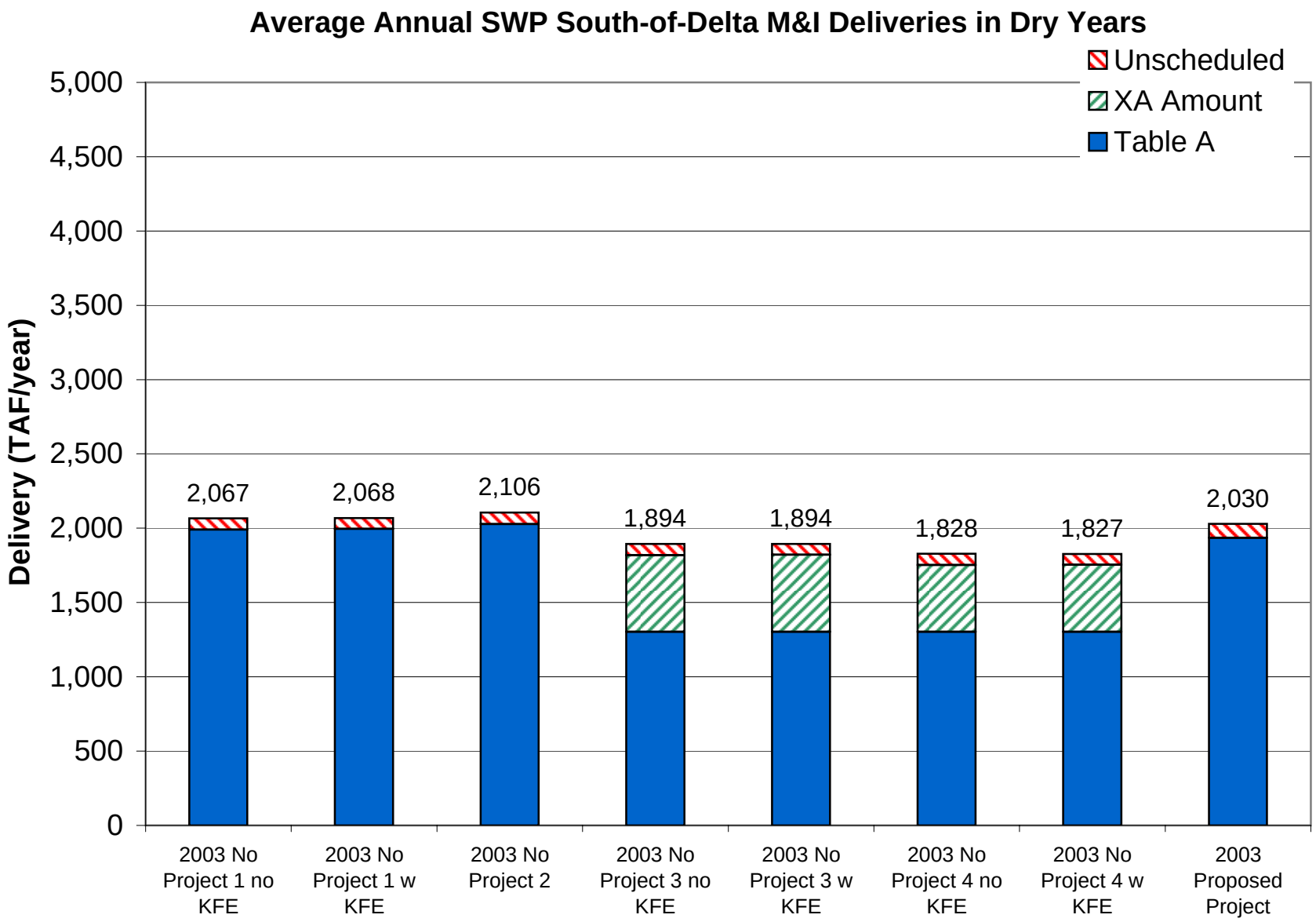

Average Annual SWP South-of-Delta Ag Deliveries in Critical Years
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
372
378
367
408
417
432
440
418
2003 No Project 1 no KFE
2003 No Project 1 w KFE
2003 No Project 2
2003 No Project 3 no KFE
2003 No Project 3 w KFE
2003 No Project 4 no KFE
2003 No Project 4 w KFE
2003 Proposed Project

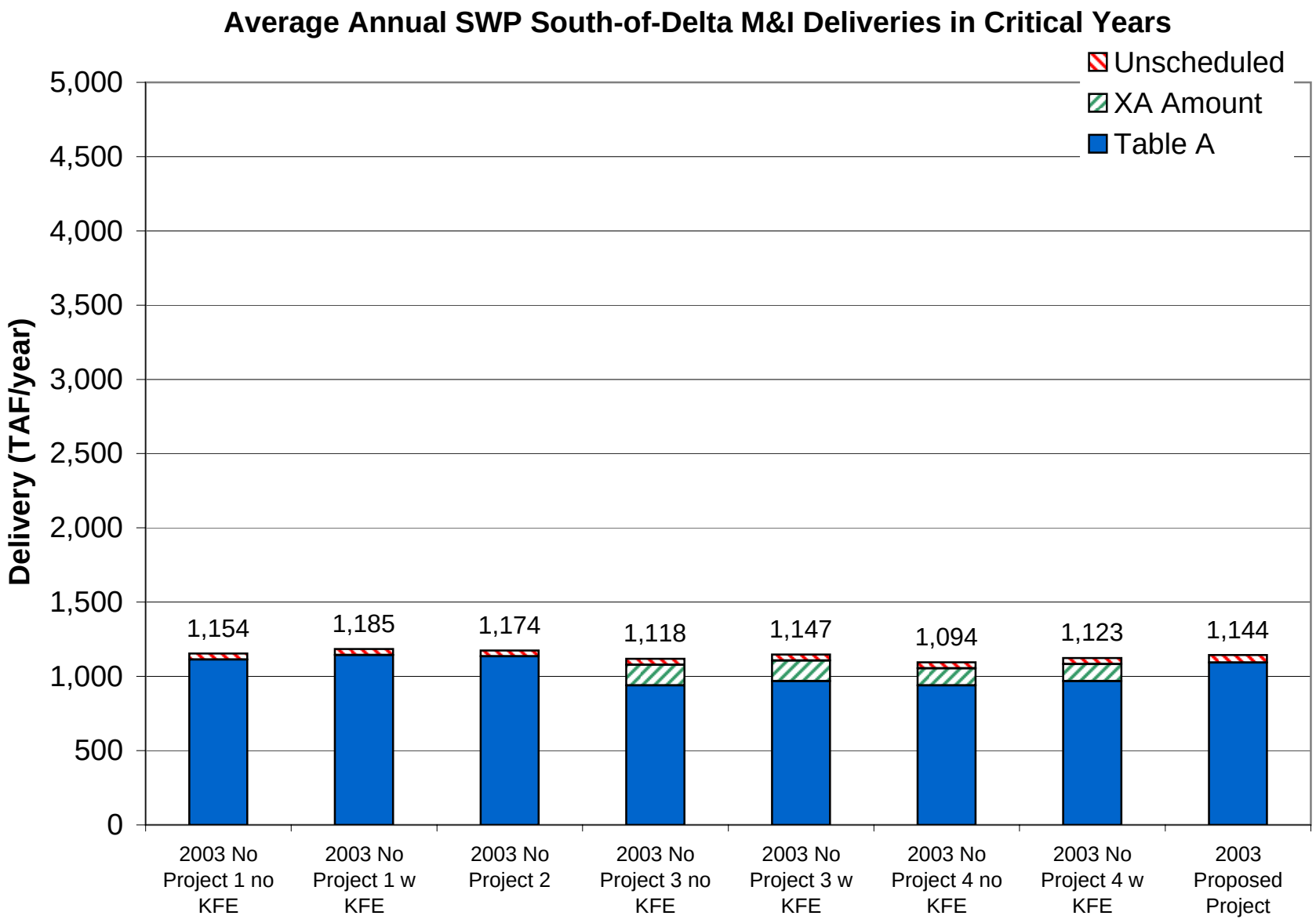

Average Annual Total SWP South-of-Delta M&I Deliveries
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
2,050
2,051
2,096
1,990
1,990
1,960
1,960
2,112
2003 No Project 1 no KFE
2003 No Project 1 w KFE
2003 No Project 2
2003 No Project 3 no KFE
2003 No Project 3 w KFE
2003 No Project 4 no KFE
2003 No Project 4 w KFE
2003 Proposed Project


Average Annual SWP South-of-Delta M&I Deliveries in Wet Years
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
2,050
2,051
2,096
1,990
1,990
1,960
1,960
2,112
2003 No Project 1 no KFE
2003 No Project 1 w KFE
2003 No Project 2
2003 No Project 3 no KFE
2003 No Project 3 w KFE
2003 No Project 4 no KFE
2003 No Project 4 w KFE
2003 Proposed Project


Average Annual SWP South-of-Delta M&I Deliveries in Above Normal Years
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
2,322
2,313
2,389
2,316
2,307
2,311
2,302
2,444
2003 No Project 1 no KFE
2003 No Project 1 w KFE
2003 No Project 2
2003 No Project 3 no KFE
2003 No Project 3 w KFE
2003 No Project 4 no KFE
2003 No Project 4 w KFE
2003 Proposed Project


Average Annual SWP South-of-Delta M&I Deliveries in Below Normal Years
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
2,388
2,382
2,444
2,318
2,313
2,273
2,268
2,447
2003 No Project 1 no KFE
2003 No Project 1 w KFE
2003 No Project 2
2003 No Project 3 no KFE
2003 No Project 3 w KFE
2003 No Project 4 no KFE
2003 No Project 4 w KFE
2003 Proposed Project


Average Annual SWP South-of-Delta M&I Deliveries in Dry Years
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
2,067
2,068
2,106
1,894
1,894
1,828
1,827
2,030
2003 No Project 1 no KFE
2003 No Project 1 w KFE
2003 No Project 2
2003 No Project 3 no KFE
2003 No Project 3 w KFE
2003 No Project 4 no KFE
2003 No Project 4 w KFE
2003 Proposed Project


Average Annual SWP South-of-Delta M&I Deliveries in Critical Years
Unscheduled
XA Amount
Table A
Delivery (TAF/year)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
1,154
1,185
1,174
1,118
1,147
1,094
1,123
1,144
2003 No Project 1 no KFE
2003 No Project 1 w KFE
2003 No Project 2
2003 No Project 3 no KFE
2003 No Project 3 w KFE
2003 No Project 4 no KFE
2003 No Project 4 w KFE
2003 Proposed Project

Monterey Plus EIR

Attachment to
Analysis of Hydrology and SWP Deliveries in each Alternative Using CALSIM II and Associated Post-Processing Routines

8/22/2007

This document is an attachment to the appendix *Analysis of Hydrology and SWP Deliveries in each Alternative Using CALSIM II and Associated Post-Processing Routines* (May 30, 2006). The appendix describes the approach, assumptions and results of CALSIM II modeling and associated post-processing that was performed in support of the Monterey Plus EIR. The modeling assisted analysis of some of the Monterey Amendment's impacts on the State Water Project (SWP) and other areas. The analysis included evaluation of a 1994 Baseline and 2003 and 2020 evaluations of a Baseline, the Proposed Project and multiple No Project Alternatives that reflect different interpretations of the pre-Monterey contracts.

This attachment describes the assumptions and results of additional scenarios at the 2003 and 2020 levels of development have been developed since the release of the May 30, 3006 appendix. For each of these additional scenarios the SWP deliveries to each contractor have been post-processed using the same process used previously. The attachment reports the resulting SWP scheduled and unscheduled deliveries to each contractor.

Additional Scenarios

The following additional scenarios have been analyzed at both the 2003 and 2020 levels of development for the following alternatives.

- No Project Alternative 1
- No Project Alternative 2
- No Project Alternative 3
- No Project Alternative 4

A revised version of the Proposed Project has also been analyzed at the 2020 level of development.

No Project Alternatives 1, 3, and 4 have been analyzed both with and without a hypothetical SWP groundwater banking facility in the Kern Fan Element (KFE). No Project Alternative 2 does not include a state-owned groundwater banking facility in the KFE.

In addition, for No Project Alternative 1 and revised Proposed Project at the 2020 level of development additional scenarios were developed to analyze SWP deliveries under climate change conditions.

Changes in Assumptions for Additional Scenarios

With the exception of the changes described below, the revised Proposed Project scenarios utilize all of the same assumptions as the original Proposed Project scenarios; the No Project Alternative 1 and No Project Alternative 2 scenarios utilize all of the same assumptions as the original Baseline and No Project A scenarios; the No Project Alternative 3 scenarios utilize all of the same assumptions as the original Alternative B-A scenarios; and the No Project Alternative 4 scenarios utilize all of the same assumptions as the original Alternative B-S scenarios.

The additional scenarios incorporate the following changes in assumptions relative to the original scenarios.

- For all of the 2020 scenarios, Banks Pumping Plant has been operated at the 1994 operating capacity of 6,680 cfs.
- The assumed Table A transfers have been revised from the original scenarios. The assumed Table A transfers included in the additional scenarios are shown in Table A-1. Table A-2 shows the resulting Table A amounts for each contractor in each scenario.
- The No Project Alternative 2 scenarios include the Table A relinquishments that are shown in Table 4 of the May 30, 2006 appendix.

CALSIM II Simulations Used for Post-Processing Analysis

2003 Scenarios

SWP deliveries for the additional 2003 scenarios were post-processed from the same CALSIM II simulations that were used for the original scenarios. The No Project Alternative 1, 3 and 4 scenarios were post-processed using data from the Baseline CALSIM II simulation. The No Project Alternative 2 scenario was post-processed using data from the Proposed Project CALSIM II simulation.

At the 2003 level of development, the Proposed Project scenario is unchanged from the original scenario contained in the May 30, 2006 appendix. However, Table A amounts and SWP delivery results from the original scenario are shown in this attachment for comparison purposes.

2020 Scenarios

Updated versions of the 2020 Baseline and 2020 Proposed Project CALSIM II simulations were performed. The assumptions and input data for these scenarios were the same as the original CALSIM II simulations except that the operation of Banks Pumping Plant was changed to a capacity of 6,680 cfs. The No Project Alternative 1, 3 and 4 scenarios were post-processed using data from the updated Baseline CALSIM II simulation. No Project Alternative 2 and the revised Proposed Project scenario was post-processed using data from the updated Proposed Project CALSIM II simulation.

Analysis of Climate Change Scenarios

For the climate change scenarios, the annual scheduled deliveries used as an input into the post-processing spreadsheets were modified using SWP delivery data from the GFDL B1 and Base

scenarios contained in *Progress on Incorporating Climate Change into Management of California's Water Resources* (DWR, July 2006). The Table A deliveries from the Monterey Plus EIR CALSIM II simulations were adjusted by multiplying each year's value by a factor equal to the ratio of the Table A delivery in the GFDL B1 scenario divided by the Base scenario. Post-processing of the SWP deliveries was then performed using this revised time series.

Unscheduled deliveries were not modified to account for climate change because the average annual unscheduled deliveries in the GFDL B1 scenario were very close to that in the Base scenario.

SWP Delivery Results for the Additional Scenarios

Average annual scheduled and unscheduled deliveries to each contractor in each of the additional scenarios in all years, wet years, above normal years, below normal years, dry years, and critical years are shown in revised versions of Tables A-3a-f, A-4a-f, A-5a-f, and A-6a-f.

Table A-1 - Table A Transfers (acre-feet)

Transferor	Transferee	No Project Alternative 1	No Project Alternative 2	No Project Alternative 3	No Project Alternative 4	Proposed Project	Applicable Levels of Development
Kern County WA	Mojave WA	0	25,000	0	0	25,000[1]	2003, 2020
Kern County WA	Alameda Co., Zone 7	0	7,000	0	0	7,000[1]	2003, 2020
Kern County WA	Alameda Co., Zone 7	0	15,000	0	0	15,000[1]	2003, 2020
Kern County WA	Castaic Lake WA	0	41,000	0	0	41,000[1]	2003, 2020
Kern County WA	Palmdale WD	0	4,000	0	0	4,000[1]	2003, 2020
Kern County WA	Alameda Co., Zone 7	0	10,000	0	0	10,000[1]	2003, 2020
Kern County WA	Alameda Co., Zone 7	0	2,219	0	0	2,219[1]	2003, 2020
Kern County WA	Napa Co.	0	4,025	0	0	4,025[1]	2003, 2020
Kern County WA	Solano County WA	0	5,756	0	0	5,756[1]	2003, 2020
Kern County WA	Coachella VWD	0	0	0	0	12,000[1]	2020
Kern County WA	Desert WA	0	0	0	0	4,000[1]	2020
Tulare Lake Basin WSD	AVEK WA	3,000	3,000	3,000	3,000	3,000	2003, 2020
Tulare Lake Basin WSD	Dudley Ridge WD	3,973	3,973	3,973	3,973	3,973	2003, 2020
Tulare Lake Basin WSD	Alameda Co., Zone 7	400	400	400	400	400	2003, 2020
Tulare Lake Basin WSD	County of Kings	5,000	5,000	5,000	5,000	5,000	2003, 2020
Tulare Lake Basin WSD	Coachella VWD	9,900	9,900	9,900	9,900	9,900	2003, 2020
MWDSC	Coachella VWD	88,100	88,100	88,100	88,100	88,100	2020
MWDSC	Desert WA	11,900	11,900	11,900	11,900	11,900	2020

Notes:

(1) This Table A transfer is a component of the Monterey Amendment Article 53 KCWA commitment of 130 TAF of Table A transfers

Table A-2 - Table A Amounts in the Additional Scenarios (acre-feet)

SWP CONTRACTOR	2003 No Project 1	2020 No Project 1	2003 No Project 2	2020 No Project 2	2003 No Project 3 & 4	2020 No Project 3 & 4	2003 Proposed Project	2020 Proposed Project
County of Butte	3,500	27,500	3,500	27,500	1,594	12,388	3,500	27,500
Plumas County FC&WCD	1,690	2,700	1,690	2,700	770	1,216	1,690	2,700
City of Yuba City	9,600	9,600	9,600	9,600	4,372	4,325	9,600	9,600
Napa County FC&WCD	17,450	24,900	21,475	28,925	7,947	11,217	21,475	28,925
Solano County WA	41,000	42,000	46,756	47,756	18,672	18,920	46,756	47,756
Alameda Co. FC&WCD, Zone 7	46,400	46,400	80,619	80,619	21,132	20,902	80,619	80,619
Alameda County WD	42,000	42,000	42,000	42,000	19,128	18,920	42,000	42,000
Santa Clara Valley WD	100,000	100,000	100,000	100,000	45,543	45,048	100,000	100,000
Oak Flat WD	5,700	5,700	5,700	5,700	2,596	2,568	5,700	5,700
County of Kings	9,000	9,000	9,000	9,000	4,099	4,054	9,000	9,000
Dudley Ridge WD	61,673	61,673	57,343	57,343	28,087	27,783	57,343	57,343
Empire West Side ID	3,000	3,000	3,000	3,000	1,366	1,351	3,000	3,000
Kern County Water Agency (M&I)	134,600	134,600	134,600	134,600	61,300	60,635	134,600	134,600
Kern County Water Agency (Agric.)	1,018,800	1,018,800	864,130	864,130	463,987	458,953	864,130	848,130
Tulare Lake Basin WSD	96,227	96,227	96,227	96,227	43,824	43,349	96,227	96,227
San Luis Obispo Co. FC&WCD	25,000	25,000	25,000	25,000	11,386	11,262	25,000	25,000
Santa Barbara Co. FC&WCD	45,486	45,486	45,486	45,486	20,715	20,491	45,486	45,486
Antelope Valley-East Kern WA	141,400	141,400	141,400	141,400	64,397	63,698	141,400	141,400
Castaic Lake WA (31A)	12,700	12,700	12,700	12,700	5,784	5,721	12,700	12,700
Castaic Lake WA	41,500	41,500	82,500	82,500	18,900	18,695	82,500	82,500
Coachella Valley WD	33,000	121,100	33,000	121,100	15,029	54,554	33,000	133,100
Crestline-Lake Arrowhead WA	5,800	5,800	5,800	5,800	2,641	2,613	5,800	5,800
Desert WA	38,100	50,000	38,100	50,000	17,352	22,524	38,100	54,000
Littlerock Creek ID	2,300	2,300	2,300	2,300	1,047	1,036	2,300	2,300
Mojave WA	50,800	50,800	75,800	75,800	23,136	22,885	75,800	75,800
Metropolitan WDSC	2,011,500	1,911,500	2,011,500	1,911,500	916,088	861,100	2,011,500	1,911,500
Palmdale WD	17,300	17,300	21,300	21,300	7,879	7,793	21,300	21,300
San Bernardino Valley MWD	102,600	102,600	102,600	102,600	46,727	46,220	102,600	102,600
San Gabriel Valley MWD	28,800	28,800	28,800	28,800	13,116	12,974	28,800	28,800
San Gorgonio Pass WA	5,000	17,300	5,000	17,300	2,277	7,793	5,000	17,300
Ventura County FCD	20,000	20,000	20,000	20,000	9,109	9,010	20,000	20,000
Total Agriculture	1,207,100	1,207,100	1,048,100	1,048,100	549,744	543,779	1,048,100	1,032,100
Total M&I	2,964,826	3,010,586	3,078,826	3,124,586	1,350,256	1,356,221	3,078,826	3,140,586
Total	4,171,926	4,217,686	4,126,926	4,172,686	1,900,000	1,900,000	4,126,926	4,172,686

Table A-3a - Average Annual Scheduled Deliveries (TAF/year) to each Contractor in the Additional 2003 Scenarios

SWP CONTRACTOR	2003 No Project 1 without KFE	2003 No Project 1 with KFE	2003 No Project 2	2003 No Project 3 without KFE	2003 No Project 3 with KFE	2003 No Project 4 without KFE	2003 No Project 4 with KFE	2003 Proposed Project
Napa	6.5	6.5	6.5	6.4	6.4	7.2	7.2	6.4
Solano	34.2	34.3	34.3	33.3	33.4	30.5	30.6	34.3
Zone 7	41.1	41.2	57.7	38.7	38.8	37.5	37.6	59.3
Alameda	31.9	32.0	31.9	30.8	30.9	29.9	30.0	31.3
Santa Clara	76.6	76.8	76.8	74.0	74.2	71.8	72.0	75.3
Oak Flat	4.4	4.4	4.5	4.6	4.6	4.7	4.7	4.7
Kings	7.0	7.0	7.2	7.4	7.4	7.6	7.6	7.3
Dudley Ridge	47.2	47.3	45.2	50.3	50.4	51.7	51.8	46.8
Empire W.S.	2.3	2.3	2.4	2.4	2.4	2.5	2.5	2.4
KCWA (M&I)	119.4	119.8	120.1	112.3	112.6	108.6	108.8	117.8
KCWA (Agric.)	778.3	779.5	677.5	829.0	830.7	852.9	854.9	705.7
Tulare	73.0	73.1	75.3	77.8	78.0	81.6	81.9	78.6
SLO	4.3	4.3	4.3	4.2	4.2	4.2	4.2	4.2
Santa Barbara	25.2	25.3	25.2	25.1	25.2	24.5	24.6	24.9
AVEK	61.8	62.1	61.9	61.5	61.8	61.4	61.6	61.3
Castaic (Agric.)	9.7	9.7	10.0	10.3	10.4	10.6	10.7	10.4
Castaic (M&I)	36.8	36.9	59.0	34.6	34.7	33.5	33.5	61.1
Coachella	17.5	17.5	17.5	16.9	17.0	16.7	16.7	17.8
Crestline	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8
Desert	28.3	28.4	28.4	27.5	27.5	27.0	27.1	27.8
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	13.0	13.1	13.0	13.0	13.1	13.0	13.1	13.0
MWDSC	1,310.1	1,314.3	1,315.3	1,269.9	1,273.7	1,253.5	1,257.1	1,284.6
Palmdale	13.5	13.5	13.5	13.0	13.0	12.5	12.6	13.5
San Bernardino	64.4	64.6	64.5	63.3	63.5	63.1	63.3	63.5
San Gabriel	16.8	16.9	16.8	16.6	16.6	16.5	16.6	16.6
San Gorgonio	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ventura	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
Total Agriculture	921.8	923.2	822.1	981.9	983.9	1,011.7	1,014.1	855.9
Total M&I	1,908.3	1,914.3	1,953.6	1,848.2	1,853.6	1,818.4	1,823.5	1,919.7
Total	2,830.1	2,837.5	2,775.7	2,830.1	2,837.5	2,830.1	2,837.5	2,775.7

Table A-3b - Wet Years: Annual Average Scheduled Deliveries (TAF/year) to each Contractor in the Additional 2003 Scenarios

SWP CONTRACTOR	2003 No Project 1 without KFE	2003 No Project 1 with KFE	2003 No Project 2	2003 No Project 3 without KFE	2003 No Project 3 with KFE	2003 No Project 4 without KFE	2003 No Project 4 with KFE	2003 Proposed Project
Napa	6.8	6.8	6.8	6.8	6.8	7.6	7.6	6.8
Solano	37.7	37.7	37.7	37.6	37.6	35.9	35.9	37.7
Zone 7	46.4	46.4	66.5	45.7	45.7	44.9	44.9	66.5
Alameda	35.2	35.2	35.2	35.0	35.0	34.3	34.3	35.2
Santa Clara	84.7	84.7	84.7	84.1	84.1	82.5	82.5	84.7
Oak Flat	5.3	5.3	5.4	5.3	5.3	5.3	5.3	5.3
Kings	8.6	8.6	8.8	8.7	8.7	8.7	8.7	8.4
Dudley Ridge	57.0	57.0	53.9	57.7	57.7	58.1	58.1	53.4
Empire W.S.	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
KCWA (M&I)	134.6	134.6	134.6	132.6	132.6	130.2	130.2	134.6
KCWA (Agric.)	938.5	938.5	804.2	949.3	949.3	956.7	956.7	805.0
Tulare	87.3	87.3	89.3	88.4	88.4	90.7	90.7	89.6
SLO	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
Santa Barbara	26.3	26.3	26.3	26.3	26.3	26.0	26.0	26.3
AVEK	64.9	64.9	64.9	64.9	64.9	64.4	64.4	64.9
Castaic (Agric.)	11.7	11.7	12.0	11.8	11.8	11.9	11.9	11.8
Castaic (M&I)	41.5	41.5	68.6	40.9	40.9	40.1	40.1	68.6
Coachella	19.3	19.3	19.3	19.2	19.2	18.9	18.9	19.3
Crestline	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Desert	31.2	31.2	31.2	31.0	31.0	30.6	30.6	31.2
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2
MWDSC	1,272.5	1,272.5	1,272.5	1,264.4	1,264.4	1,263.6	1,263.6	1,272.5
Palmdale	14.9	14.9	14.9	14.8	14.8	14.5	14.5	14.9
San Bernardino	69.8	69.8	69.8	69.8	69.8	69.3	69.3	69.8
San Gabriel	18.1	18.1	18.1	18.1	18.1	18.0	18.0	18.1
San Gorgonio	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ventura	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Total Agriculture	1,111.2	1,111.2	976.4	1,124.0	1,124.0	1,134.3	1,134.3	976.3
Total M&I	1,928.4	1,928.4	1,975.6	1,915.6	1,915.6	1,905.4	1,905.4	1,975.7
Total	3,039.7	3,039.7	2,952.0	3,039.6	3,039.6	3,039.7	3,039.6	2,952.0

Table A-3c - Above Normal Years: Annual Average Scheduled Deliveries (TAF/year) to each Contractor in the Additional 2003 Scenarios

SWP CONTRACTOR	2003 No Project 1 without KFE	2003 No Project 1 with KFE	2003 No Project 2	2003 No Project 3 without KFE	2003 No Project 3 with KFE	2003 No Project 4 without KFE	2003 No Project 4 with KFE	2003 Proposed Project
Napa	6.8	6.8	6.8	6.8	6.8	7.6	7.6	6.8
Solano	37.7	37.7	37.7	37.7	37.7	36.7	36.7	37.7
Zone 7	46.4	46.4	66.5	46.0	46.0	45.6	45.6	66.5
Alameda	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2
Santa Clara	84.7	84.7	84.7	84.7	84.7	84.7	84.7	84.7
Oak Flat	5.4	5.4	5.5	5.4	5.4	5.5	5.5	5.4
Kings	8.7	8.7	8.8	8.8	8.8	8.8	8.8	8.6
Dudley Ridge	58.7	58.7	54.9	59.0	59.0	59.1	59.1	54.5
Empire W.S.	2.8	2.8	2.9	2.9	2.9	2.9	2.9	2.9
KCWA (M&I)	134.6	134.6	134.6	133.5	133.5	132.2	132.2	134.6
KCWA (Agric.)	966.1	966.1	820.3	971.5	971.5	974.3	974.3	821.0
Tulare	90.3	90.3	91.1	90.8	90.8	92.2	92.2	91.4
SLO	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
Santa Barbara	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3
AVEK	64.9	64.9	64.9	64.9	64.9	64.9	64.9	64.9
Castaic (Agric.)	12.0	12.0	12.2	12.1	12.1	12.1	12.1	12.1
Castaic (M&I)	41.5	41.5	68.6	41.2	41.2	40.8	40.8	68.6
Coachella	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3
Crestline	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Desert	31.2	31.2	31.2	31.2	31.2	31.2	31.2	31.2
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2
MWDSC	1,537.7	1,537.7	1,537.7	1,533.0	1,533.0	1,531.1	1,531.1	1,537.6
Palmdale	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9
San Bernardino	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8
San Gabriel	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1
San Gorgonio	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ventura	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Total Agriculture	1,144.0	1,144.0	995.6	1,150.5	1,150.5	1,154.8	1,154.8	995.7
Total M&I	2,193.7	2,193.7	2,240.9	2,187.2	2,187.2	2,183.0	2,183.0	2,240.8
Total	3,337.8	3,337.8	3,236.5	3,337.8	3,337.8	3,337.8	3,337.8	3,236.5

Table A-3d - Below Normal Years: Annual Average Scheduled Deliveries (TAF/year) to each Contractor in the Additional 2003 Scenarios

SWP CONTRACTOR	2003 No Project 1 without KFE	2003 No Project 1 with KFE	2003 No Project 2	2003 No Project 3 without KFE	2003 No Project 3 with KFE	2003 No Project 4 without KFE	2003 No Project 4 with KFE	2003 Proposed Project
Napa	6.8	6.8	6.8	6.8	6.8	7.6	7.6	6.8
Solano	37.7	37.7	37.7	37.7	37.7	34.3	34.3	37.7
Zone 7	46.4	46.4	65.3	43.2	43.2	42.0	42.0	66.5
Alameda	35.2	35.2	35.2	34.7	34.7	33.8	33.8	35.2
Santa Clara	84.7	84.7	84.7	83.3	83.3	81.1	81.1	84.7
Oak Flat	5.1	5.1	5.4	5.5	5.5	5.7	5.7	5.4
Kings	8.1	8.1	8.5	8.7	8.7	8.9	8.9	8.6
Dudley Ridge	55.7	55.7	53.9	59.2	59.2	61.4	61.4	54.5
Empire W.S.	2.7	2.7	2.8	2.9	2.9	3.0	3.0	2.9
KCWA (M&I)	134.6	134.6	134.6	125.4	125.4	121.5	121.5	134.6
KCWA (Agric.)	919.5	919.5	812.1	978.1	978.1	1,015.5	1,015.5	821.8
Tulare	86.8	86.8	90.4	92.3	92.3	96.0	96.0	91.5
SLO	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
Santa Barbara	26.3	26.3	26.3	26.3	26.3	26.2	26.2	26.3
AVEK	64.9	64.9	64.9	64.9	64.9	64.9	64.9	64.9
Castaic (Agric.)	11.5	11.5	11.9	12.2	12.2	12.7	12.7	12.1
Castaic (M&I)	41.5	41.5	67.1	38.7	38.7	37.4	37.4	68.6
Coachella	19.3	19.3	19.3	19.0	19.0	18.9	18.9	19.3
Crestline	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Desert	31.2	31.2	31.2	30.9	30.9	30.6	30.6	31.2
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2
MWDSC	1,606.5	1,606.5	1,606.5	1,554.9	1,554.9	1,523.8	1,523.8	1,592.1
Palmdale	14.9	14.9	14.9	14.6	14.6	14.2	14.2	14.9
San Bernardino	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8
San Gabriel	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1
San Gorgonio	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ventura	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Total Agriculture	1,089.4	1,089.4	985.0	1,158.9	1,158.9	1,203.2	1,203.2	996.7
Total M&I	2,262.5	2,262.5	2,307.1	2,193.0	2,193.0	2,148.6	2,148.6	2,295.3
Total	3,351.9	3,351.9	3,292.1	3,351.8	3,351.8	3,351.9	3,351.9	3,292.1

Table A-3e - Dry Years: Annual Average Scheduled Deliveries (TAF/year) to each Contractor in the Additional 2003 Scenarios

SWP CONTRACTOR	2003 No Project 1 without KFE	2003 No Project 1 with KFE	2003 No Project 2	2003 No Project 3 without KFE	2003 No Project 3 with KFE	2003 No Project 4 without KFE	2003 No Project 4 with KFE	2003 Proposed Project
Napa	6.8	6.8	6.8	6.6	6.6	7.5	7.5	6.7
Solano	36.5	36.7	36.6	32.6	32.6	27.5	27.5	35.7
Zone 7	42.1	42.2	56.8	36.1	36.1	33.4	33.4	60.2
Alameda	33.7	33.8	33.8	29.9	30.0	27.9	27.9	31.8
Santa Clara	80.9	81.2	81.3	71.7	71.8	66.7	66.7	76.3
Oak Flat	3.8	3.8	3.9	4.6	4.6	4.7	4.7	4.5
Kings	6.0	6.0	6.2	7.3	7.3	7.7	7.8	7.1
Dudley Ridge	41.2	41.3	39.6	50.0	50.2	53.2	53.5	45.4
Empire W.S.	2.0	2.0	2.1	2.4	2.4	2.6	2.6	2.4
KCWA (M&I)	122.4	122.8	124.8	104.6	104.8	96.6	96.6	116.5
KCWA (Agric.)	681.1	682.8	596.7	826.7	829.4	880.0	883.9	684.3
Tulare	64.3	64.5	66.4	78.1	78.3	85.9	86.4	76.2
SLO	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
Santa Barbara	26.3	26.3	26.3	26.1	26.1	23.9	23.9	26.0
AVEK	64.9	64.9	64.9	63.9	64.0	63.8	63.9	64.0
Castaic (Agric.)	8.5	8.5	8.8	10.3	10.3	11.0	11.0	10.1
Castaic (M&I)	37.7	37.9	57.2	32.3	32.3	29.8	29.8	62.0
Coachella	18.5	18.5	18.6	16.4	16.5	15.8	15.8	18.6
Crestline	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Desert	30.0	30.1	30.1	26.8	26.8	25.7	25.8	28.3
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2
MWDSC	1,365.6	1,368.8	1,378.0	1,254.1	1,256.6	1,217.9	1,219.4	1,286.5
Palmdale	14.2	14.2	14.3	12.5	12.5	11.6	11.6	14.0
San Bernardino	68.9	69.1	68.8	63.8	63.9	63.6	63.7	66.0
San Gabriel	18.0	18.0	17.9	16.9	17.0	16.9	16.9	17.3
San Gorgonio	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ventura	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Total Agriculture	807.0	809.0	723.7	979.5	982.6	1,045.2	1,049.8	830.0
Total M&I	1,991.3	1,996.0	2,040.8	1,818.9	1,822.3	1,753.2	1,755.1	1,934.5
Total	2,798.4	2,804.9	2,764.5	2,798.3	2,804.9	2,798.4	2,804.9	2,764.5

Table A-3f - Critical Years: Annual Average Scheduled Deliveries (TAF/year) to each Contractor in the Additional 2003 Scenarios

SWP CONTRACTOR	2003 No Project 1 without KFE	2003 No Project 1 with KFE	2003 No Project 2	2003 No Project 3 without KFE	2003 No Project 3 with KFE	2003 No Project 4 without KFE	2003 No Project 4 with KFE	2003 Proposed Project
Napa	4.7	4.9	4.8	4.5	4.5	5.5	5.6	4.4
Solano	17.8	18.3	18.1	17.8	18.5	15.2	15.7	19.3
Zone 7	19.9	20.4	26.5	18.1	18.5	17.2	17.7	30.5
Alameda	16.8	17.3	17.0	16.4	16.8	15.6	16.1	16.0
Santa Clara	40.1	41.3	40.7	39.0	40.0	37.2	38.2	38.3
Oak Flat	1.6	1.7	1.8	1.8	1.8	1.9	1.9	2.1
Kings	2.5	2.6	2.9	2.7	2.8	2.9	2.9	3.3
Dudley Ridge	17.5	17.9	18.2	19.3	19.7	20.4	20.8	21.3
Empire W.S.	0.9	0.9	1.0	0.9	1.0	1.0	1.0	1.1
KCWA (M&I)	57.8	59.3	58.6	52.5	53.9	49.9	51.3	55.3
KCWA (Agric.)	289.9	295.2	274.1	320.4	327.5	338.4	345.5	321.0
Tulare	27.4	27.9	30.5	30.4	31.2	34.1	34.9	35.7
SLO	3.5	3.6	3.6	3.5	3.5	3.5	3.5	3.3
Santa Barbara	19.5	20.2	19.9	19.3	20.0	18.8	19.5	18.4
AVEK	46.0	47.6	46.8	45.5	46.9	45.6	47.0	44.2
Castaic (Agric.)	3.6	3.7	4.0	4.0	4.1	4.2	4.3	4.7
Castaic (M&I)	17.8	18.3	26.6	16.2	16.6	15.4	15.8	31.4
Coachella	9.2	9.5	9.4	9.0	9.2	8.9	9.1	11.1
Crestline	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6
Desert	15.1	15.5	15.3	14.8	15.2	14.5	14.9	14.4
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	12.2	12.4	12.2	12.1	12.3	12.1	12.3	12.3
MWDSC	771.5	792.7	787.2	748.1	767.8	734.2	753.9	733.9
Palmdale	7.0	7.2	7.1	6.7	6.9	6.4	6.6	7.6
San Bernardino	38.1	39.2	38.7	37.7	38.7	37.7	38.8	36.2
San Gabriel	10.4	10.7	10.6	10.3	10.6	10.3	10.6	9.9
San Gorgonio	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ventura	4.6	4.7	4.6	4.6	4.7	4.6	4.7	4.6
Total Agriculture	343.5	349.7	332.4	379.6	388.0	402.9	411.3	389.3
Total M&I	1,113.9	1,144.8	1,149.5	1,077.7	1,106.5	1,054.4	1,083.2	1,092.6
Total	1,457.3	1,494.5	1,481.9	1,457.3	1,494.5	1,457.4	1,494.5	1,481.9

Table A-4a - Average Annual Scheduled Deliveries (TAF/year) to each Contractor in the Additional 2020 Scenarios

SWP CONTRACTOR	2020 No Project 1 without KFE	2020 No Project 1 with KFE	2020 No Project 2	2020 No Project 3 without KFE	2020 No Project 3 with KFE	2020 No Project 4 without KFE	2020 No Project 4 with KFE	2020 Proposed Project (revised)	2020 No Project 1 without KFE, with Climate Change	2020 No Project 1 with KFE, with Climate Change	2020 Proposed Project (revised) with Climate Change
Napa	20.1	20.2	23.0	19.4	19.4	17.5	17.6	22.5	18.2	18.3	20.1
Solano	33.9	34.1	38.0	32.7	32.8	29.3	29.4	37.1	30.7	30.8	33.2
Zone 7	37.5	37.6	61.2	36.1	36.2	32.5	32.6	62.6	33.8	34.0	56.0
Alameda	33.9	34.1	34.1	32.7	32.8	29.6	29.7	32.6	30.7	30.8	29.2
Santa Clara	80.8	81.1	81.2	77.8	78.1	70.5	70.8	77.7	73.0	73.3	69.5
Oak Flat	3.8	3.8	3.8	4.2	4.2	4.7	4.7	4.3	3.3	3.3	3.9
Kings	6.1	6.1	6.1	6.8	6.8	7.5	7.5	6.8	5.3	5.3	6.1
Dudley Ridge	41.2	41.3	38.5	45.7	45.9	50.9	51.1	43.4	35.8	36.0	38.8
Empire W.S.	2.0	2.0	2.0	2.2	2.2	2.5	2.5	2.3	1.7	1.7	2.0
KCWA (M&I)	108.8	109.2	109.3	104.7	105.1	93.8	94.2	104.5	98.3	98.7	93.5
KCWA (Agric.)	679.0	681.9	577.0	754.5	757.6	839.2	842.4	642.2	590.0	593.0	574.5
Tulare	63.7	64.0	64.2	70.8	71.1	78.8	79.1	72.9	55.3	55.6	65.2
SLO	20.2	20.3	20.3	19.4	19.5	17.4	17.5	19.4	18.3	18.3	17.4
Santa Barbara	36.8	36.9	36.9	35.4	35.5	31.7	31.8	35.3	33.2	33.4	31.6
AVEK	113.9	114.4	114.5	109.9	110.3	109.4	109.8	109.8	102.8	103.3	98.2
Castaic (Agric.)	8.5	8.5	8.5	9.4	9.4	10.5	10.5	9.6	7.4	7.4	8.6
Castaic (M&I)	33.5	33.7	62.0	32.3	32.4	28.9	29.0	64.1	30.3	30.4	57.3
Coachella	96.7	97.0	97.1	94.0	94.4	94.2	94.6	103.4	87.1	87.5	92.5
Crestline	4.7	4.7	4.7	4.5	4.5	4.0	4.1	4.5	4.2	4.3	4.0
Desert	40.4	40.6	40.6	38.9	39.0	38.6	38.7	41.9	36.5	36.7	37.5
Littlerock	1.9	1.9	1.9	1.8	1.8	1.6	1.6	1.8	1.7	1.7	1.6
Mojave	41.1	41.2	58.5	39.5	39.7	43.0	43.2	58.9	37.1	37.3	52.7
MWDSC	1,545.0	1,551.1	1,552.2	1,486.6	1,492.0	1,418.3	1,423.8	1,484.3	1,395.7	1,401.9	1,327.8
Palmdale	14.0	14.0	16.8	13.5	13.5	12.1	12.1	16.5	12.6	12.7	14.8
San Bernardino	82.9	83.3	83.3	79.8	80.1	86.9	87.2	79.7	74.9	75.2	71.3
San Gabriel	23.3	23.4	23.4	22.4	22.5	24.4	24.5	22.4	21.0	21.1	20.0
San Gorgonio	14.0	14.0	14.0	13.5	13.5	12.1	12.1	13.4	12.6	12.7	12.0
Ventura	16.2	16.2	16.2	15.6	15.6	13.9	14.0	15.5	14.6	14.7	13.9
Total Agriculture	804.3	807.7	700.1	893.6	897.4	994.0	997.8	781.5	698.9	702.4	699.1
Total M&I	2,399.5	2,408.9	2,489.3	2,310.2	2,318.6	2,209.8	2,218.2	2,407.8	2,167.3	2,177.0	2,154.0
Total	3,203.8	3,216.6	3,189.3	3,203.8	3,216.0	3,203.8	3,216.0	3,189.3	2,866.2	2,879.4	2,853.0

Table A-4b - Wet Years: Annual Average Scheduled Deliveries (TAF/year) to each Contractor in the Additional 2020 Scenarios

SWP CONTRACTOR	2020 No Project 1 without KFE	2020 No Project 1 with KFE	2020 No Project 2	2020 No Project 3 without KFE	2020 No Project 3 with KFE	2020 No Project 4 without KFE	2020 No Project 4 with KFE	2020 Proposed Project (revised)	2020 No Project 1 without KFE, with Climate Change	2020 No Project 1 with KFE, with Climate Change	2020 Proposed Project (revised) with Climate Change
Napa	24.4	24.4	28.3	24.2	24.2	23.6	23.6	28.1	23.6	23.6	26.8
Solano	41.2	41.2	46.7	40.8	40.8	39.7	39.7	46.4	39.7	39.7	44.3
Zone 7	45.5	45.5	78.0	45.1	45.1	43.9	43.9	78.2	43.9	43.9	74.8
Alameda	41.2	41.2	41.2	40.8	40.8	39.8	39.8	40.8	39.7	39.7	39.0
Santa Clara	98.2	98.2	98.2	97.1	97.1	94.7	94.7	97.1	94.6	94.6	92.8
Oak Flat	5.1	5.1	5.2	5.3	5.3	5.4	5.4	5.3	4.8	4.8	5.0
Kings	8.3	8.3	8.4	8.6	8.6	8.8	8.8	8.3	7.8	7.8	7.9
Dudley Ridge	55.8	55.8	51.8	57.4	57.4	58.9	58.9	53.0	52.1	52.1	50.6
Empire W.S.	2.7	2.7	2.7	2.8	2.8	2.9	2.9	2.8	2.5	2.5	2.6
KCWA (M&I)	132.1	132.1	132.1	130.7	130.7	127.1	127.1	130.6	127.4	127.4	124.9
KCWA (Agric.)	919.7	919.7	774.9	945.6	945.6	969.7	969.7	784.5	857.9	857.9	748.2
Tulare	85.9	85.9	86.1	88.3	88.3	90.5	90.5	89.0	80.0	80.0	84.9
SLO	24.5	24.5	24.5	24.3	24.3	23.6	23.6	24.3	23.7	23.7	23.2
Santa Barbara	44.6	44.6	44.6	44.2	44.2	42.9	42.9	44.1	43.0	43.0	42.2
AVEK	138.7	138.7	138.7	137.3	137.3	137.5	137.5	137.2	133.6	133.6	131.2
Castaic (Agric.)	11.5	11.5	11.5	11.8	11.8	12.1	12.1	11.7	10.7	10.7	11.2
Castaic (M&I)	40.7	40.7	79.6	40.3	40.3	39.2	39.2	80.1	39.3	39.3	76.5
Coachella	118.5	118.5	118.5	117.6	117.6	118.0	118.0	129.2	114.0	114.0	123.5
Crestline	5.7	5.7	5.7	5.6	5.6	5.5	5.5	5.6	5.5	5.5	5.4
Desert	49.1	49.1	49.1	48.6	48.6	48.6	48.6	52.4	47.3	47.3	50.1
Littlerock	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1
Mojave	49.9	49.9	73.6	49.3	49.3	50.8	50.8	73.6	48.1	48.1	70.3
MWDSC	1,876.3	1,876.3	1,876.3	1,856.2	1,856.2	1,836.6	1,836.6	1,855.2	1,808.8	1,808.8	1,773.4
Palmdale	17.0	17.0	20.8	16.8	16.8	16.3	16.3	20.7	16.4	16.4	19.8
San Bernardino	100.7	100.7	100.7	99.6	99.6	102.6	102.6	99.6	97.1	97.1	95.2
San Gabriel	28.3	28.3	28.3	28.0	28.0	28.8	28.8	28.0	27.3	27.3	26.7
San Gorgonio	17.0	17.0	17.0	16.8	16.8	16.3	16.3	16.8	16.4	16.4	16.1
Ventura	19.6	19.6	19.6	19.4	19.4	18.9	18.9	19.4	18.9	18.9	18.6
Total Agriculture	1,089.1	1,089.1	940.5	1,119.7	1,119.7	1,148.3	1,148.3	954.6	1,015.9	1,015.9	910.5
Total M&I	2,915.5	2,915.5	3,023.6	2,884.9	2,884.9	2,856.4	2,856.4	3,009.5	2,810.3	2,810.3	2,876.8
Total	4,004.6	4,004.6	3,964.1	4,004.6	4,004.6	4,004.6	4,004.6	3,964.1	3,826.2	3,826.2	3,787.3

Table A-4c - Above Normal Years: Annual Average Scheduled Deliveries (TAF/year) to each Contractor in the Additional 2020 Scenarios

SWP CONTRACTOR	2020 No Project 1 without KFE	2020 No Project 1 with KFE	2020 No Project 2	2020 No Project 3 without KFE	2020 No Project 3 with KFE	2020 No Project 4 without KFE	2020 No Project 4 with KFE	2020 Proposed Project (revised)	2020 No Project 1 without KFE, with Climate Change	2020 No Project 1 with KFE, with Climate Change	2020 Proposed Project (revised) with Climate Change
Napa	24.3	24.3	27.9	23.5	23.5	22.2	22.2	27.4	22.3	22.3	24.7
Solano	41.0	41.0	46.0	39.6	39.6	37.2	37.2	45.2	37.6	37.6	40.8
Zone 7	45.2	45.2	75.1	43.8	43.8	41.2	41.2	76.3	41.5	41.5	68.9
Alameda	41.0	41.0	41.0	39.6	39.6	37.5	37.5	39.7	37.6	37.6	35.9
Santa Clara	97.5	97.5	97.6	94.4	94.4	89.2	89.2	94.6	89.5	89.5	85.4
Oak Flat	4.7	4.7	4.8	5.2	5.2	5.5	5.5	5.1	4.1	4.1	4.7
Kings	7.6	7.6	7.7	8.3	8.3	8.8	8.8	8.1	6.7	6.7	7.4
Dudley Ridge	51.2	51.2	47.8	55.9	55.9	59.2	59.2	51.8	44.6	44.6	47.4
Empire W.S.	2.5	2.5	2.5	2.7	2.7	2.9	2.9	2.7	2.2	2.2	2.5
KCWA (M&I)	131.3	131.3	131.4	127.0	127.0	119.3	119.3	127.3	120.5	120.5	115.0
KCWA (Agric.)	842.6	842.6	714.8	920.6	920.6	975.1	975.1	766.1	734.8	734.8	701.2
Tulare	78.7	78.7	79.4	86.0	86.0	91.1	91.1	86.9	68.6	68.6	79.6
SLO	24.4	24.4	24.4	23.6	23.6	22.2	22.2	23.6	22.4	22.4	21.4
Santa Barbara	44.4	44.4	44.4	42.9	42.9	40.3	40.3	43.0	40.7	40.7	38.9
AVEK	137.6	137.6	137.7	133.4	133.4	133.5	133.5	133.7	126.2	126.2	120.8
Castaic (Agric.)	10.5	10.5	10.6	11.5	11.5	12.2	12.2	11.5	9.2	9.2	10.5
Castaic (M&I)	40.5	40.5	76.3	39.2	39.2	36.8	36.8	78.0	37.2	37.2	70.5
Coachella	117.0	117.0	117.2	114.3	114.3	114.8	114.8	125.9	107.1	107.1	113.7
Crestline	5.7	5.7	5.7	5.5	5.5	5.1	5.1	5.5	5.2	5.2	5.0
Desert	48.8	48.8	48.8	47.2	47.2	47.2	47.2	51.1	44.8	44.8	46.1
Littlerock	2.2	2.2	2.2	2.2	2.2	2.1	2.0	2.2	2.1	2.1	2.0
Mojave	49.5	49.5	71.4	47.9	47.9	50.8	50.8	71.7	45.5	45.5	64.8
MWDSC	1,864.0	1,864.0	1,865.5	1,803.6	1,803.6	1,759.4	1,759.4	1,808.0	1,711.6	1,711.6	1,632.9
Palmdale	16.9	16.9	20.4	16.3	16.3	15.3	15.3	20.1	15.5	15.5	18.2
San Bernardino	100.1	100.1	100.1	96.8	96.8	102.6	102.6	97.0	91.9	91.9	87.6
San Gabriel	28.1	28.1	28.1	27.2	27.2	28.8	28.8	27.2	25.8	25.8	24.6
San Gorgonio	16.9	16.9	16.9	16.3	16.3	15.3	15.3	16.4	15.5	15.5	14.8
Ventura	19.5	19.5	19.5	18.9	18.9	17.7	17.7	18.9	17.9	17.9	17.1
Total Agriculture	997.8	997.8	867.6	1,090.2	1,090.2	1,154.8	1,154.8	932.2	870.2	870.2	853.3
Total M&I	2,895.5	2,895.5	2,997.5	2,803.1	2,803.1	2,738.6	2,738.6	2,932.9	2,658.3	2,658.3	2,648.9
Total	3,893.4	3,893.4	3,865.1	3,893.4	3,893.4	3,893.4	3,893.4	3,865.1	3,528.4	3,528.4	3,502.2

Table A-4d - Below Normal Years: Annual Average Scheduled Deliveries (TAF/year) to each Contractor in the Additional 2020 Scenarios

SWP CONTRACTOR	2020 No Project 1 without KFE	2020 No Project 1 with KFE	2020 No Project 2	2020 No Project 3 without KFE	2020 No Project 3 with KFE	2020 No Project 4 without KFE	2020 No Project 4 with KFE	2020 Proposed Project (revised)	2020 No Project 1 without KFE, with Climate Change	2020 No Project 1 with KFE, with Climate Change	2020 Proposed Project (revised) with Climate Change
Napa	22.4	22.4	25.7	21.2	21.2	18.0	18.0	24.9	19.7	19.8	21.7
Solano	37.8	37.8	42.4	35.7	35.7	29.9	29.9	41.1	33.3	33.3	35.8
Zone 7	41.7	41.7	67.5	39.5	39.5	33.2	33.2	69.4	36.7	36.8	60.4
Alameda	37.8	37.8	38.1	35.7	35.7	30.4	30.4	36.2	33.3	33.3	31.5
Santa Clara	90.1	90.1	90.8	85.1	85.1	72.5	72.5	86.1	79.2	79.4	75.0
Oak Flat	4.2	4.2	4.2	4.8	4.8	5.6	5.6	4.9	3.5	3.5	4.3
Kings	6.6	6.6	6.7	7.7	7.7	8.9	8.9	7.8	5.5	5.6	6.7
Dudley Ridge	45.0	45.0	42.7	52.5	52.5	61.1	61.1	49.4	37.9	38.0	43.0
Empire W.S.	2.2	2.2	2.2	2.6	2.6	3.0	3.0	2.6	1.8	1.9	2.2
KCWA (M&I)	121.3	121.3	122.2	114.5	114.5	95.7	95.7	115.9	106.6	106.9	100.9
KCWA (Agric.)	742.7	742.7	643.4	866.6	866.6	1,008.7	1,008.7	730.6	626.5	628.3	635.7
Tulare	70.1	70.1	71.6	81.9	81.9	95.3	95.3	82.9	59.2	59.3	72.1
SLO	22.5	22.5	22.7	21.3	21.3	17.8	17.8	21.5	19.8	19.8	18.7
Santa Barbara	41.0	41.0	41.3	38.7	38.7	32.3	32.3	39.2	36.0	36.1	34.1
AVEK	126.9	126.9	127.9	120.3	120.3	119.7	119.7	121.8	111.5	111.7	106.0
Castaic (Agric.)	9.3	9.3	9.5	10.8	10.8	12.6	12.6	10.9	7.8	7.8	9.5
Castaic (M&I)	37.4	37.4	68.2	35.3	35.3	29.5	29.5	71.1	32.9	32.9	61.8
Coachella	107.4	107.4	108.3	103.0	103.0	103.6	103.6	114.6	94.2	94.4	99.8
Crestline	5.2	5.2	5.3	4.9	4.9	4.1	4.1	5.0	4.6	4.6	4.3
Desert	45.0	45.0	45.4	42.5	42.5	42.2	42.2	46.5	39.6	39.7	40.5
Littlerock	2.1	2.1	2.1	2.0	2.0	1.6	1.6	2.0	1.8	1.8	1.7
Mojave	45.8	45.8	64.7	43.2	43.2	49.6	49.6	65.3	40.2	40.3	56.8
MWDSC	1,722.0	1,722.0	1,735.2	1,626.0	1,626.0	1,511.4	1,511.4	1,646.5	1,514.1	1,517.5	1,432.7
Palmdale	15.6	15.6	18.7	14.7	14.7	12.3	12.3	18.3	13.7	13.7	16.0
San Bernardino	92.4	92.4	93.1	87.3	87.3	100.2	100.2	88.4	81.3	81.4	76.9
San Gabriel	25.9	25.9	26.1	24.5	24.5	28.1	28.1	24.8	22.8	22.9	21.6
San Gorgonio	15.6	15.6	15.7	14.7	14.7	12.3	12.3	14.9	13.7	13.7	13.0
Ventura	18.0	18.0	18.2	17.0	17.0	14.2	14.2	17.2	15.8	15.9	15.0
Total Agriculture	879.9	879.9	780.4	1,026.8	1,026.8	1,195.1	1,195.1	889.0	742.3	744.5	773.6
Total M&I	2,674.0	2,674.0	2,779.6	2,527.1	2,527.1	2,358.8	2,358.8	2,670.9	2,350.8	2,356.0	2,324.1
Total	3,553.9	3,553.9	3,560.0	3,553.9	3,553.9	3,553.9	3,553.9	3,560.0	3,093.1	3,100.5	3,097.7

Table A-4e - Dry Years: Annual Average Scheduled Deliveries (TAF/year) to each Contractor in the Additional 2020 Scenarios

SWP CONTRACTOR	2020 No Project 1 without KFE	2020 No Project 1 with KFE	2020 No Project 2	2020 No Project 3 without KFE	2020 No Project 3 with KFE	2020 No Project 4 without KFE	2020 No Project 4 with KFE	2020 Proposed Project (revised)	2020 No Project 1 without KFE, with Climate Change	2020 No Project 1 with KFE, with Climate Change	2020 Proposed Project (revised) with Climate Change
Napa	18.0	18.1	20.2	16.7	16.8	13.5	13.5	19.3	15.3	15.5	16.3
Solano	30.3	30.5	33.4	28.2	28.3	22.2	22.3	31.8	25.8	26.1	26.9
Zone 7	33.4	33.6	51.3	31.2	31.3	24.7	24.8	53.8	28.4	28.8	45.3
Alameda	30.3	30.5	30.5	28.2	28.3	22.8	22.8	28.0	25.8	26.1	23.6
Santa Clara	72.2	72.7	72.7	67.2	67.4	54.2	54.4	66.7	61.5	62.2	56.2
Oak Flat	2.9	3.0	2.9	3.6	3.7	4.4	4.5	3.8	2.4	2.4	3.2
Kings	4.6	4.7	4.7	5.7	5.8	7.2	7.2	6.0	3.7	3.8	5.1
Dudley Ridge	31.8	32.0	29.6	39.2	39.7	49.0	49.5	38.2	25.7	26.1	32.2
Empire W.S.	1.5	1.6	1.6	1.9	1.9	2.4	2.4	2.0	1.2	1.3	1.7
KCWA (M&I)	97.1	97.8	97.8	90.5	90.7	71.1	71.3	89.8	82.8	83.8	75.7
KCWA (Agric.)	525.0	529.2	446.6	646.9	655.9	809.5	818.5	565.6	424.1	431.8	476.9
Tulare	49.6	50.0	49.7	61.1	62.0	76.5	77.3	64.2	40.1	40.8	54.1
SLO	18.0	18.2	18.2	16.8	16.9	13.2	13.2	16.7	15.4	15.6	14.1
Santa Barbara	32.8	33.1	33.0	30.6	30.7	24.0	24.1	30.3	28.0	28.3	25.6
AVEK	101.4	102.1	102.1	95.0	95.2	93.0	93.3	94.3	86.3	87.4	79.5
Castaic (Agric.)	6.5	6.6	6.6	8.1	8.2	10.1	10.2	8.5	5.3	5.4	7.1
Castaic (M&I)	30.0	30.2	51.3	27.9	28.0	21.9	22.0	55.0	25.5	25.8	46.4
Coachella	85.4	86.0	85.9	81.1	81.3	80.7	81.0	88.8	72.5	73.4	74.8
Crestline	4.2	4.2	4.2	3.9	3.9	3.1	3.1	3.9	3.6	3.6	3.3
Desert	36.1	36.3	36.3	33.6	33.7	32.7	32.8	36.0	30.7	31.1	30.4
Littlerock	1.7	1.7	1.7	1.5	1.6	1.2	1.2	1.5	1.4	1.4	1.3
Mojave	36.7	36.9	49.8	34.2	34.2	39.7	39.8	50.6	31.2	31.6	42.6
MWDSC	1,379.6	1,389.1	1,388.7	1,285.3	1,288.7	1,154.9	1,158.3	1,274.8	1,175.2	1,189.7	1,074.8
Palmdale	12.5	12.6	14.6	11.6	11.7	9.1	9.2	14.2	10.6	10.8	12.0
San Bernardino	74.1	74.6	74.5	69.0	69.2	80.2	80.4	68.4	63.1	63.9	57.7
San Gabriel	20.8	20.9	20.9	19.4	19.4	22.5	22.6	19.2	17.7	17.9	16.2
San Gorgonio	12.5	12.6	12.6	11.6	11.7	9.1	9.2	11.5	10.6	10.8	9.7
Ventura	14.4	14.5	14.5	13.4	13.5	10.6	10.6	13.3	12.3	12.4	11.2
Total Agriculture	622.0	627.0	541.7	766.4	777.1	959.0	969.7	688.3	502.4	511.6	580.3
Total M&I	2,141.4	2,156.1	2,214.4	1,997.0	2,002.5	1,804.5	1,809.9	2,067.9	1,823.8	1,846.3	1,743.5
Total	2,763.4	2,783.1	2,756.2	2,763.4	2,779.6	2,763.4	2,779.6	2,756.2	2,326.2	2,357.9	2,323.8

Table A-4f - Critical Years: Annual Average Scheduled Deliveries (TAF/year) to each Contractor in the Additional 2020 Scenarios

SWP CONTRACTOR	2020 No Project 1 without KFE	2020 No Project 1 with KFE	2020 No Project 2	2020 No Project 3 without KFE	2020 No Project 3 with KFE	2020 No Project 4 without KFE	2020 No Project 4 with KFE	2020 Proposed Project (revised)	2020 No Project 1 without KFE, with Climate Change	2020 No Project 1 with KFE, with Climate Change	2020 Proposed Project (revised) with Climate Change
Napa	8.9	9.2	10.0	8.4	8.8	7.3	7.7	9.4	6.9	7.1	7.1
Solano	15.0	15.6	16.6	14.2	14.8	12.2	12.8	15.5	11.6	11.9	11.6
Zone 7	16.5	17.1	24.5	15.7	16.4	13.5	14.2	26.2	12.7	13.1	19.7
Alameda	15.0	15.6	15.3	14.2	14.8	12.4	13.0	13.6	11.6	11.9	10.2
Santa Clara	35.7	37.0	36.5	33.8	35.3	29.5	31.0	32.4	27.6	28.4	24.4
Oak Flat	1.3	1.3	1.3	1.5	1.6	1.8	1.8	1.8	0.9	0.9	1.4
Kings	2.0	2.1	2.0	2.4	2.5	2.9	3.0	2.9	1.3	1.4	2.2
Dudley Ridge	13.8	14.6	12.7	16.7	17.1	19.9	20.4	18.6	9.2	9.6	14.0
Empire W.S.	0.7	0.7	0.7	0.8	0.8	1.0	1.0	1.0	0.4	0.5	0.7
KCWA (M&I)	48.1	49.8	49.2	45.5	47.6	39.1	41.1	43.7	37.1	38.2	32.8
KCWA (Agric.)	228.6	240.6	191.6	275.3	283.1	328.5	336.2	275.2	152.7	159.0	206.8
Tulare	21.6	22.7	21.3	26.0	26.7	31.0	31.8	31.2	14.4	15.0	23.5
SLO	8.9	9.3	9.1	8.5	8.8	7.3	7.6	8.1	6.9	7.1	6.1
Santa Barbara	16.2	16.8	16.6	15.4	16.1	13.2	13.9	14.8	12.5	12.9	11.1
AVEK	50.1	52.0	51.2	47.6	49.7	47.0	49.1	45.9	38.6	39.7	34.5
Castaic (Agric.)	2.8	3.0	2.8	3.4	3.5	4.1	4.2	4.1	1.9	2.0	3.1
Castaic (M&I)	14.8	15.4	24.3	14.0	14.7	12.1	12.7	26.8	11.4	11.8	20.1
Coachella	41.9	43.5	42.8	40.3	42.0	40.2	42.0	43.2	32.1	33.1	32.5
Crestline	2.1	2.1	2.1	2.0	2.0	1.7	1.8	1.9	1.6	1.6	1.4
Desert	17.9	18.5	18.3	16.9	17.7	16.6	17.4	17.5	13.8	14.2	13.2
Littlerock	0.8	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.6	0.7	0.6
Mojave	18.1	18.8	24.1	17.2	17.9	19.1	19.8	24.6	14.0	14.4	18.5
MWDSC	682.8	707.8	698.3	646.6	675.4	603.9	632.7	620.2	526.8	542.1	466.0
Palmdale	6.2	6.4	7.2	5.9	6.1	5.0	5.3	6.9	4.8	4.9	5.2
San Bernardino	36.6	38.0	37.5	34.7	36.3	38.5	40.1	33.3	28.3	29.1	25.0
San Gabriel	10.3	10.7	10.5	9.7	10.2	10.8	11.2	9.3	7.9	8.2	7.0
San Gorgonio	6.2	6.4	6.3	5.9	6.1	5.0	5.3	5.6	4.8	4.9	4.2
Ventura	7.1	7.4	7.3	6.8	7.1	5.8	6.1	6.5	5.5	5.7	4.9
Total Agriculture	270.8	285.0	232.4	326.2	335.4	389.2	398.3	334.9	180.9	188.4	251.6
Total M&I	1,059.4	1,098.3	1,108.6	1,004.0	1,048.7	941.0	985.7	1,006.1	817.1	840.8	756.0
Total	1,330.2	1,383.4	1,341.0	1,330.2	1,384.1	1,330.2	1,384.0	1,341.0	998.0	1,029.2	1,007.6

Table A-5a - Average Annual Unscheduled Deliveries (TAF/year) to each Contractor in the Additional 2003 Scenarios

SWP CONTRACTOR	2003 No Project 1 without KFE	2003 No Project 1 with KFE	2003 No Project 2	2003 No Project 3 without KFE	2003 No Project 3 with KFE	2003 No Project 4 without KFE	2003 No Project 4 with KFE	2003 Proposed Project (revised)
Napa	1.0	0.8	1.0	1.0	0.8	1.0	0.8	1.7
Solano	1.0	0.9	1.2	1.0	0.9	1.0	0.9	2.1
Zone 7	1.1	1.1	1.3	1.1	1.1	1.1	1.1	2.2
Alameda	1.4	1.3	1.6	1.4	1.3	1.4	1.3	2.1
Santa Clara	5.1	4.7	5.7	5.1	4.7	5.1	4.7	7.1
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	2.2	2.1	2.3	2.2	2.1	2.2	2.1	2.2
Empire W.S.	1.6	1.5	1.8	1.6	1.5	1.6	1.5	1.0
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	101.2	99.1	107.3	101.2	99.1	101.2	99.1	81.8
Tulare	26.7	25.6	30.1	26.7	25.6	26.7	25.6	16.7
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	1.7	1.7	1.8	1.7	1.7	1.7	1.7	2.3
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	1.0	0.9	1.3	1.0	0.9	1.0	0.9	2.2
Coachella	3.0	2.8	3.2	3.0	2.8	3.0	2.8	2.7
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	6.9	6.2	7.2	6.9	6.2	6.9	6.2	5.9
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	119.8	116.4	128.1	119.8	116.4	119.8	116.4	164.0
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	131.7	128.4	141.6	131.7	128.4	131.7	128.4	101.6
Total M&I	142.0	136.8	152.4	142.0	136.8	142.0	136.8	192.3
Total	273.8	265.2	294.0	273.8	265.2	273.8	265.2	294.0

Table A-5b - Wet Years: Annual Average Unscheduled Deliveries (TAF/year) to each Contractor in the Additional 2003 Scenarios

SWP CONTRACTOR	2003 No Project 1 without KFE	2003 No Project 1 with KFE	2003 No Project 2	2003 No Project 3 without KFE	2003 No Project 3 with KFE	2003 No Project 4 without KFE	2003 No Project 4 with KFE	2003 Proposed Project (revised)
Napa	2.1	1.7	2.2	2.1	1.7	2.1	1.7	3.1
Solano	2.3	1.9	2.6	2.3	1.9	2.3	1.9	4.2
Zone 7	2.4	2.3	2.7	2.4	2.3	2.4	2.3	4.3
Alameda	2.9	2.8	3.3	2.9	2.8	2.9	2.8	4.1
Santa Clara	10.6	9.9	12.0	10.6	9.9	10.6	9.9	13.4
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	4.3	4.2	4.5	4.3	4.2	4.3	4.2	4.3
Empire W.S.	3.3	3.1	3.5	3.3	3.1	3.3	3.1	1.9
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	200.3	196.5	212.4	200.3	196.5	200.3	196.5	152.0
Tulare	53.9	52.3	61.0	53.9	52.3	53.9	52.3	31.9
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	3.5	3.4	3.7	3.5	3.4	3.5	3.4	4.5
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	2.3	1.9	2.9	2.3	1.9	2.3	1.9	4.4
Coachella	6.3	5.8	6.5	6.3	5.8	6.3	5.8	4.6
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	14.3	13.1	14.7	14.3	13.1	14.3	13.1	11.1
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	215.1	211.5	216.6	215.1	211.5	215.1	211.5	304.8
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	261.8	256.3	281.4	261.8	256.3	261.8	256.3	190.0
Total M&I	261.7	254.2	267.2	261.7	254.2	261.7	254.2	358.5
Total	523.5	510.5	548.5	523.5	510.5	523.5	510.5	548.5

Table A-5c - Above Normal Years: Annual Average Unscheduled Deliveries (TAF/year) to each Contractor in the Additional 2003 Scenarios

SWP CONTRACTOR	2003 No Project 1 without KFE	2003 No Project 1 with KFE	2003 No Project 2	2003 No Project 3 without KFE	2003 No Project 3 with KFE	2003 No Project 4 without KFE	2003 No Project 4 with KFE	2003 Proposed Project (revised)
Napa	0.7	0.5	0.7	0.7	0.5	0.7	0.5	1.8
Solano	0.7	0.5	0.7	0.7	0.5	0.7	0.5	2.2
Zone 7	0.7	0.7	0.8	0.7	0.7	0.7	0.7	2.3
Alameda	1.1	1.0	1.3	1.1	1.0	1.1	1.0	2.2
Santa Clara	3.6	3.2	4.4	3.6	3.2	3.6	3.2	7.8
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	2.4	2.3	2.5	2.4	2.3	2.4	2.3	2.3
Empire W.S.	1.5	1.2	2.0	1.5	1.2	1.5	1.2	0.8
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	104.4	101.2	112.2	104.4	101.2	104.4	101.2	86.5
Tulare	24.9	22.5	30.6	24.9	22.5	24.9	22.5	15.1
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.5
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	0.7	0.5	0.7	0.7	0.5	0.7	0.5	2.4
Coachella	2.9	2.5	3.1	2.9	2.5	2.9	2.5	3.0
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	5.8	4.9	6.9	5.8	4.9	5.8	4.9	5.4
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	110.9	104.0	140.7	110.9	104.0	110.9	104.0	173.8
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	133.3	127.2	147.3	133.3	127.2	133.3	127.2	104.7
Total M&I	128.6	119.5	160.9	128.6	119.5	128.6	119.5	203.4
Total	261.9	246.7	308.1	261.9	246.7	261.9	246.7	308.1

Table A-5d - Below Normal Years: Annual Average Unscheduled Deliveries (TAF/year) to each Contractor in the Additional 2003 Scenarios

SWP CONTRACTOR	2003 No Project 1 without KFE	2003 No Project 1 with KFE	2003 No Project 2	2003 No Project 3 without KFE	2003 No Project 3 with KFE	2003 No Project 4 without KFE	2003 No Project 4 with KFE	2003 Proposed Project (revised)
Napa	0.7	0.6	0.8	0.7	0.6	0.7	0.6	1.3
Solano	0.8	0.7	0.9	0.8	0.7	0.8	0.7	1.4
Zone 7	0.9	0.8	1.2	0.9	0.8	0.9	0.8	1.5
Alameda	1.0	1.0	1.2	1.0	1.0	1.0	1.0	1.4
Santa Clara	3.9	3.6	4.3	3.9	3.6	3.9	3.6	5.4
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Empire W.S.	1.2	1.2	1.3	1.2	1.2	1.2	1.2	0.8
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	71.1	68.8	72.8	71.1	68.8	71.1	68.8	65.1
Tulare	18.7	18.4	19.9	18.7	18.4	18.7	18.4	14.0
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	1.2	1.1	1.4	1.2	1.1	1.2	1.1	1.5
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	0.8	0.7	1.0	0.8	0.7	0.8	0.7	1.5
Coachella	2.1	2.0	2.2	2.1	2.0	2.1	2.0	2.4
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	5.1	4.7	5.4	5.1	4.7	5.1	4.7	4.9
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	108.8	104.6	119.6	108.8	104.6	108.8	104.6	130.6
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	92.5	89.8	95.5	92.5	89.8	92.5	89.8	81.4
Total M&I	125.2	119.8	137.8	125.2	119.8	125.2	119.8	151.9
Total	217.8	209.5	233.3	217.7	209.5	217.7	209.5	233.3

Table A-5e - Dry Years: Annual Average Unscheduled Deliveries (TAF/year) to each Contractor in the Additional 2003 Scenarios

SWP CONTRACTOR	2003 No Project 1 without KFE	2003 No Project 1 with KFE	2003 No Project 2	2003 No Project 3 without KFE	2003 No Project 3 with KFE	2003 No Project 4 without KFE	2003 No Project 4 with KFE	2003 Proposed Project (revised)
Napa	0.4	0.3	0.4	0.4	0.3	0.4	0.3	0.8
Solano	0.4	0.3	0.4	0.4	0.3	0.4	0.3	1.0
Zone 7	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.1
Alameda	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.0
Santa Clara	2.2	2.0	2.2	2.2	2.0	2.2	2.0	3.6
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	1.0	1.0	1.1	1.0	1.0	1.0	1.0	1.1
Empire W.S.	0.8	0.7	0.8	0.8	0.7	0.8	0.7	0.4
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	47.8	47.3	52.3	47.8	47.3	47.8	47.3	40.7
Tulare	12.8	11.8	13.6	12.8	11.8	12.8	11.8	7.6
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	0.8	0.7	0.8	0.8	0.7	0.8	0.7	1.1
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	0.4	0.3	0.4	0.4	0.3	0.4	0.3	1.1
Coachella	1.3	1.1	1.3	1.3	1.1	1.3	1.1	1.5
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	2.8	2.3	2.9	2.8	2.3	2.8	2.3	2.7
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	66.1	63.7	68.2	66.1	63.7	66.1	63.7	81.7
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	62.4	60.9	67.8	62.4	60.9	62.4	60.9	49.7
Total M&I	75.4	71.8	77.6	75.4	71.8	75.4	71.8	95.7
Total	137.8	132.7	145.4	137.8	132.7	137.8	132.7	145.4

Table A-5f - Critical Years: Annual Average Unscheduled Deliveries (TAF/year) to each Contractor in the Additional 2003 Scenarios

SWP CONTRACTOR	2003 No Project 1 without KFE	2003 No Project 1 with KFE	2003 No Project 2	2003 No Project 3 without KFE	2003 No Project 3 with KFE	2003 No Project 4 without KFE	2003 No Project 4 with KFE	2003 Proposed Project (revised)
Napa	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.4
Solano	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5
Zone 7	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.5
Alameda	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.5
Santa Clara	1.2	1.2	1.5	1.2	1.2	1.2	1.2	1.8
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Empire W.S.	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.3
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	21.8	21.8	23.3	21.8	21.8	21.8	21.8	22.2
Tulare	5.8	5.8	6.9	5.8	5.8	5.8	5.8	5.3
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.5
Coachella	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.9
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	1.5	1.5	1.7	1.5	1.5	1.5	1.5	1.9
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	34.9	34.9	43.0	34.9	34.9	34.9	34.9	44.4
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	28.5	28.5	31.1	28.5	28.5	28.5	28.5	28.2
Total M&I	40.1	40.1	49.1	40.1	40.1	40.1	40.1	51.9
Total	68.6	68.6	80.1	68.6	68.6	68.6	68.6	80.1

Table A-6a - Average Annual Unscheduled Deliveries (TAF/year) to each Contractor in the Additional 2020 Scenarios

SWP CONTRACTOR	2020 No Project 1 without KFE	2020 No Project 1 with KFE	2020 No Project 2	2020 No Project 3 without KFE	2020 No Project 3 with KFE	2020 No Project 4 without KFE	2020 No Project 4 with KFE	2020 Proposed Project (revised)	2020 No Project 1 without KFE, with Climate Change	2020 No Project 1 with KFE, with Climate Change	2020 Proposed Project (revised) with Climate Change
Napa	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.9	0.1	0.1	0.9
Solano	0.2	0.1	0.2	0.2	0.1	0.2	0.1	1.0	0.2	0.1	1.0
Zone 7	0.3	0.2	0.3	0.3	0.2	0.3	0.2	1.0	0.3	0.2	1.0
Alameda	0.5	0.4	0.5	0.5	0.4	0.5	0.4	0.9	0.5	0.4	0.9
Santa Clara	1.5	1.1	1.5	1.5	1.2	1.5	1.2	3.3	1.5	1.2	3.3
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	1.1	1.0	1.0	1.1	1.0	1.1	1.0	1.0	1.1	1.0	1.0
Empire W.S.	0.7	0.6	0.7	0.7	0.6	0.7	0.6	0.2	0.7	0.6	0.2
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	48.1	44.3	46.8	48.1	44.3	48.1	44.3	36.1	48.1	44.3	36.1
Tulare	11.8	10.3	12.0	11.8	10.4	11.8	10.4	4.9	11.8	10.3	4.9
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	0.7	0.6	0.6	0.7	0.6	0.7	0.6	1.0	0.7	0.6	1.0
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	0.2	0.1	0.2	0.2	0.1	0.2	0.1	1.0	0.2	0.1	1.0
Coachella	1.3	1.1	1.2	1.3	1.1	1.3	1.1	2.0	1.3	1.1	2.0
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	2.4	2.1	2.3	2.4	2.1	2.4	2.1	2.4	2.4	2.2	2.4
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	52.1	44.0	51.2	52.1	44.3	52.1	44.3	62.9	52.1	44.3	62.9
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	61.6	56.2	60.5	61.6	56.3	61.6	56.3	42.2	61.6	56.2	42.2
Total M&I	59.2	49.8	58.2	59.2	50.2	59.2	50.2	76.5	59.2	50.2	76.5
Total	120.8	106.0	118.7	120.8	106.5	120.8	106.5	118.7	120.8	106.4	118.7

Table A-6b - Wet Years: Annual Average Unscheduled Deliveries (TAF/year) to each Contractor in the Additional 2020 Scenarios

SWP CONTRACTOR	2020 No Project 1 without KFE	2020 No Project 1 with KFE	2020 No Project 2	2020 No Project 3 without KFE	2020 No Project 3 with KFE	2020 No Project 4 without KFE	2020 No Project 4 with KFE	2020 Proposed Project (revised)	2020 No Project 1 without KFE, with Climate Change	2020 No Project 1 with KFE, with Climate Change	2020 Proposed Project (revised) with Climate Change
Napa	0.1	0.0	0.1	0.1	0.0	0.1	0.0	1.5	0.1	0.0	1.5
Solano	0.1	0.0	0.1	0.1	0.0	0.1	0.0	1.6	0.1	0.0	1.6
Zone 7	0.3	0.1	0.4	0.3	0.1	0.3	0.1	1.7	0.3	0.1	1.7
Alameda	0.7	0.6	0.7	0.7	0.6	0.7	0.6	1.6	0.7	0.6	1.6
Santa Clara	2.1	1.5	2.2	2.1	1.5	2.1	1.5	5.6	2.1	1.5	5.6
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	1.8	1.7	1.8	1.8	1.7	1.8	1.7	1.7	1.8	1.7	1.7
Empire W.S.	1.2	1.0	1.2	1.2	1.0	1.2	1.0	0.2	1.2	1.0	0.2
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	79.4	72.6	78.0	79.4	72.6	79.4	72.6	59.9	79.4	72.6	59.9
Tulare	19.6	16.6	19.6	19.6	17.0	19.6	17.0	6.4	19.6	16.6	6.4
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	1.0	0.9	1.0	1.0	0.9	1.0	0.9	1.8	1.0	0.9	1.8
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	0.1	0.0	0.2	0.1	0.0	0.1	0.0	1.7	0.1	0.0	1.7
Coachella	1.9	1.7	1.9	1.9	1.7	1.9	1.7	3.4	1.9	1.7	3.4
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	3.6	3.4	3.5	3.6	3.4	3.6	3.4	3.6	3.6	3.4	3.6
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	80.4	65.1	80.3	80.4	65.7	80.4	65.7	100.3	80.4	65.1	100.3
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	102.0	91.9	100.5	102.0	92.4	102.0	92.4	68.2	102.0	91.9	68.2
Total M&I	90.4	73.4	90.4	90.4	74.0	90.4	74.0	122.7	90.4	73.4	122.7
Total	192.3	165.3	190.9	192.3	166.3	192.3	166.3	190.9	192.3	165.3	190.9

Table A-6c - Above Normal Years: Annual Average Unscheduled Deliveries (TAF/year) to each Contractor in the Additional 2020 Scenarios

SWP CONTRACTOR	2020 No Project 1 without KFE	2020 No Project 1 with KFE	2020 No Project 2	2020 No Project 3 without KFE	2020 No Project 3 with KFE	2020 No Project 4 without KFE	2020 No Project 4 with KFE	2020 Proposed Project (revised)	2020 No Project 1 without KFE, with Climate Change	2020 No Project 1 with KFE, with Climate Change	2020 Proposed Project (revised) with Climate Change
Napa	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	1.1
Solano	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	1.2
Zone 7	0.1	0.0	0.1	0.1	0.0	0.1	0.0	1.3	0.1	0.0	1.3
Alameda	0.4	0.4	0.4	0.4	0.4	0.4	0.4	1.2	0.4	0.4	1.2
Santa Clara	1.3	0.9	1.2	1.3	0.9	1.3	0.9	4.0	1.3	0.9	4.0
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	1.3	1.2	1.3	1.3	1.2	1.3	1.2	1.3	1.3	1.2	1.3
Empire W.S.	1.0	0.7	1.1	1.0	0.7	1.0	0.7	0.1	1.0	0.7	0.1
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	61.8	58.7	61.4	61.8	58.7	61.8	58.7	40.5	61.8	58.7	40.5
Tulare	15.5	12.1	16.7	15.5	12.1	15.5	12.1	3.8	15.5	12.1	3.8
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	0.7	0.6	0.7	0.7	0.6	0.7	0.6	1.3	0.7	0.6	1.3
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	1.3
Coachella	1.4	1.2	1.3	1.4	1.2	1.4	1.2	2.5	1.4	1.2	2.5
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	2.4	1.9	2.3	2.4	1.9	2.4	1.9	2.2	2.4	1.9	2.2
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	56.6	45.2	53.2	56.6	45.2	56.6	45.2	77.8	56.6	45.2	77.8
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	79.5	72.6	80.4	79.5	72.6	79.5	72.6	45.7	79.5	72.6	45.7
Total M&I	63.0	50.3	59.1	63.0	50.3	63.0	50.3	93.9	63.0	50.3	93.9
Total	142.5	123.0	139.6	142.5	123.0	142.5	123.0	139.6	142.5	123.0	139.6

Table A-6d - Below Normal Years: Annual Average Unscheduled Deliveries (TAF/year) to each Contractor in the Additional 2020 Scenarios

SWP CONTRACTOR	2020 No Project 1 without KFE	2020 No Project 1 with KFE	2020 No Project 2	2020 No Project 3 without KFE	2020 No Project 3 with KFE	2020 No Project 4 without KFE	2020 No Project 4 with KFE	2020 Proposed Project (revised)	2020 No Project 1 without KFE, with Climate Change	2020 No Project 1 with KFE, with Climate Change	2020 Proposed Project (revised) with Climate Change
Napa	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.8	0.1	0.0	0.8
Solano	0.2	0.0	0.2	0.2	0.0	0.2	0.0	0.9	0.2	0.0	0.9
Zone 7	0.3	0.2	0.3	0.3	0.2	0.3	0.2	0.9	0.3	0.2	0.9
Alameda	0.4	0.3	0.4	0.4	0.3	0.4	0.3	0.8	0.4	0.3	0.8
Santa Clara	1.4	0.9	1.3	1.4	0.9	1.4	0.9	3.1	1.4	0.9	3.1
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	1.0	0.9	0.9	1.0	0.9	1.0	0.9	0.9	1.0	0.9	0.9
Empire W.S.	0.6	0.5	0.6	0.6	0.5	0.6	0.5	0.2	0.6	0.5	0.2
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	41.4	36.0	41.4	41.4	36.0	41.4	36.0	34.0	41.4	36.0	34.0
Tulare	9.6	8.9	10.1	9.6	8.9	9.6	8.9	4.6	9.6	8.9	4.6
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	0.7	0.6	0.6	0.7	0.6	0.7	0.6	0.9	0.7	0.6	0.9
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	0.2	0.0	0.2	0.2	0.0	0.2	0.0	0.9	0.2	0.0	0.9
Coachella	1.2	1.0	1.1	1.2	1.0	1.2	1.0	1.8	1.2	1.0	1.8
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	2.4	1.8	2.2	2.4	1.8	2.4	1.8	2.2	2.4	1.8	2.2
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	44.2	36.9	45.2	44.2	36.9	44.2	36.9	52.8	44.2	36.9	52.8
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	52.5	46.3	53.1	52.5	46.3	52.5	46.3	39.6	52.5	46.3	39.6
Total M&I	51.1	41.7	51.7	51.1	41.7	51.1	41.7	65.2	51.1	41.7	65.2
Total	103.6	88.0	104.8	103.6	88.0	103.6	88.0	104.8	103.6	88.0	104.8

Table A-6e - Dry Years: Annual Average Unscheduled Deliveries (TAF/year) to each Contractor in the Additional 2020 Scenarios

SWP CONTRACTOR	2020 No Project 1 without KFE	2020 No Project 1 with KFE	2020 No Project 2	2020 No Project 3 without KFE	2020 No Project 3 with KFE	2020 No Project 4 without KFE	2020 No Project 4 with KFE	2020 Proposed Project (revised)	2020 No Project 1 without KFE, with Climate Change	2020 No Project 1 with KFE, with Climate Change	2020 Proposed Project (revised) with Climate Change
Napa	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.1	0.3
Solano	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.1	0.3
Zone 7	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.4	0.1	0.1	0.4
Alameda	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.3
Santa Clara	0.7	0.5	0.7	0.7	0.6	0.7	0.6	1.0	0.7	0.7	1.0
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	0.5	0.4	0.4	0.5	0.4	0.5	0.4	0.4	0.5	0.4	0.4
Empire W.S.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.1
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	20.6	19.3	16.7	20.6	19.3	20.6	19.3	11.8	20.6	19.3	11.8
Tulare	4.1	4.0	3.8	4.1	4.0	4.1	4.0	2.5	4.1	4.0	2.5
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.4
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.4	0.1	0.1	0.4
Coachella	0.6	0.5	0.5	0.6	0.5	0.6	0.5	0.7	0.6	0.6	0.7
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	1.0	0.7	0.8	1.0	0.8	1.0	0.8	1.0	1.0	0.9	1.0
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	21.3	18.5	18.7	21.3	19.1	21.3	19.1	23.3	21.3	19.8	23.3
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	25.5	23.9	21.1	25.5	23.9	25.5	23.9	14.7	25.5	23.9	14.7
Total M&I	24.7	20.9	21.6	24.7	22.0	24.7	22.0	28.0	24.7	23.0	28.0
Total	50.2	44.8	42.7	50.2	45.9	50.2	45.9	42.7	50.2	47.0	42.7

Table A-6f - Critical Years: Annual Average Unscheduled Deliveries (TAF/year) to each Contractor in the Additional 2020 Scenarios

SWP CONTRACTOR	2020 No Project 1 without KFE	2020 No Project 1 with KFE	2020 No Project 2	2020 No Project 3 without KFE	2020 No Project 3 with KFE	2020 No Project 4 without KFE	2020 No Project 4 with KFE	2020 Proposed Project (revised)	2020 No Project 1 without KFE, with Climate Change	2020 No Project 1 with KFE, with Climate Change	2020 Proposed Project (revised) with Climate Change
Napa	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.5
Solano	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.5
Zone 7	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Alameda	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Santa Clara	1.8	1.8	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Oak Flat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudley Ridge	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Empire W.S.	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.4
KCWA (M&I)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KCWA (Agric.)	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7
Tulare	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.5	6.8	6.8	6.5
SLO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santa Barbara	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVEK	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Castaic (Agric.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castaic (M&I)	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.5
Coachella	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Crestline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Desert	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.1	2.1	2.3
Littlerock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mojave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWDSC	45.4	45.4	45.4	45.4	45.4	45.4	45.4	45.5	45.4	45.4	45.5
Palmdale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gabriel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ventura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Agriculture	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.0	30.5	30.5	30.0
Total M&I	52.8	52.8	52.8	52.8	52.8	52.8	52.8	53.2	52.8	52.8	53.2
Total	83.2	83.2	83.2	83.2	83.2	83.2	83.2	83.2	83.2	83.2	83.2