# Appendix 5B5 Water Supply

# 1 Results

The following results of the CalSim II model are included for water supply reporting for the following alternatives:

- No Action Alternative 051422
- Alternative 1A 051722
- Alternative 1B 051722
- Alternative 2 051722
- Alternative 3 051722

Table 5B4-1. River Operations Locations and Parameters

Tile	Table Numbers	Figure Numbers
CALSIM Water Supply Summary Report	5B5-1 to 5B5-8	5B5-1 to 5B5-14

## 2 Report Formats

Reports include tables comparing water supply of two alternatives (water supply by region and type, and water supply by type). Annual exceedance charts including all alternatives.

				Verage and Dr Alternative 1A 051722	No Action Alternative 051422	Alternative 051722 min No Action Alternative 051422
r Supply Reliability						
Sacramento River Hydrologi	c Region		Long Term	1,608	1,610	-2
CVP Settlement	Contract Delivery (annual average)	(TAF/year)	Dry and Critical	1,584	1,585	-2 -1
CVP Refuge Level 2	Contract Delivery (annual average)	(TAF/year)	Long Term	174	173	0
		(,),)	Dry and Critical Long Term	154 207	153 206	1
CVP M&I	Contract Delivery (annual average)	(TAF/year)	Dry and Critical	178	177	1
CVP Ag	Contract Delivery (annual average -	(TAF/year)	Long Term	272	272	0
-	does not include Settlement	, ,	Dry and Critical Long Term	163 953	161 953	2
SWP FRSA	Contract Delivery (annual average)	(TAF/year)	Dry and Critical	908	908	0
SWP M&I	Contract Delivery (annual average)	(TAF/year)	Long Term	30	30	0
			Dry and Critical Long Term	21 4	<u>21</u> 0	0 4
Refuge Level 4 - Sites	Contract Delivery (annual average)	(TAF/year)	Dry and Critical	5	0	5
CVP Ag -Sites	Contract Delivery (annual average)	(TAF/year)	Long Term	24 47	0 0	24 47
San Joaquin River Hvdrolog	ic Region (not including Friant-Kern	and Madera C	Dry and Critical Canal water users		0	47
CVP Exchange	Contract Delivery (annual average)		Long Term	852	852	0
CVI Exchange	contract Derivery (annual average)	(TAT/year)	Dry and Critical	814	814	0
CVP Refuge Level 2	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	259 246	259 246	0
CVP M&I	Contract Delivery (annual average)	(TAF/year)	Long Term	17	17	0
CVI Hai		(TAI/year)	Dry and Critical	14	14	0
CVP Ag	Contract Delivery (annual average; does not include Exchange	(TAF/year)	Long Term Dry and Critical	378 190	377 189	1 1
SWP Ag	Contract Delivery (including Article	(TAF/year)	Long Term	3	3	0
-	21) (annual average)	(1/11/) (001)	Dry and Critical Long Term	2 11	2	0 11
Refuge Level 4 - Sites	Contract Delivery (annual average)	(TAF/year)	Dry and Critical	20	0	20
San Francisco Bay Hydrolog	ic Region		·			
CVP M&I	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	256 267	257 267	0 0
	Contract Dolivery (convert pyerson)	(TAE(), (2.2.2.2.)	Long Term	46	46	0
CVP Ag	Contract Delivery (annual average)	(TAF/year)	Dry and Critical	23	23	0
SWP M&I	Contract Delivery (including Article 21, includes transfers to SWP contractors) (annual average)	(TAF/year)	Long Term Dry and Critical	202 140	202 141	0 -1
SWP M&I - Sites	Contract Delivery (annual average)	(TAF/year)	Long Term	10	0	10
Central Coast Hydrologic Re	,	( ))== )	Dry and Critical	22	0	22
SWP M&I			Long Term	41	41	0
	Contract Delivery (annual average)		Dry and Critical	25	25	0
	on (not including Friant-Kern Canal v	-	Long Term	12	12	0
CVP Refuge Level 2	Contract Delivery (annual average)	(TAF/year)	Dry and Critical	12	12	0
CVP Ag	Contract Delivery (annual average -	(TAF/year)	Long Term	757	754	3
-	includes Cross Valley Canal)		Dry and Critical Long Term	393 79	<u>392</u> 79	1 0
SWP M&I	Contract Delivery (annual average)	(TAF/year)	Dry and Critical	44	43	0
SWP Ag	Contract Delivery (including Article 21) (annual average)	(TAF/year)	Long Term Dry and Critical	632 340	631 340	1
Refuge Level 4 - Sites	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Long Term	340	0	3
Reluge Level 4 - Siles	Contract Delivery (annual average)	(TAF/year)	Dry and Critical	6	0	6
SWP Ag - Sites	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	3 6	0 0	3 6
South Lahontan Hydrologic						
SWP M&I	Contract Delivery (including Article	(TAF/year)	Long Term	251	252	0
CWD MOT CH	21) (annual average)		Dry and Critical Long Term	167 0	168 0	- <u>1</u> 0
SWP M&I - Sites	Contract Delivery (annual average)	(TAF/year)	Dry and Critical	1	0	1
South Coast Hydrologic Reg	ion Contract Delivery (including Article		Long Term	1,290	1,287	4
SWP M&I	21, includes transfers to SWP contractors) (annual average)	(TAF/year)	Dry and Critical	748	743	4 5
SWP Ag	Contract Delivery (including Article	(TAF/year)	Long Term	8	8	0
-	21) (annual average)		Dry and Critical Long Term	4 77	4 0	0 77
SWP M&I - Sites	Contract Delivery (annual average)	(TAF/year)	Dry and Critical	192	0	192
Total For All Regions	Contract Delivers (CVD, CMD			0.450	0.210	100
Total Supplies	Contract Delivery (CVP, SWP and other) (annual average)	(TAF/year)	Long Term Dry and Critical	8,458 6,736	8,319 6,428	139 307

Notes:
 Long Term is the average quantity for the period of Oct 1921 - Sep 2003.
 Dry and Critical Years Average is the average quantity for the combination of the SWRCB D-1641 40-30-30 Dry and Critical years for the period of Oct 1921 - Sep 2003.

				Alternative 1A 051722	No Action Alternative 051422	Alternative 1 051722 minu No Action Alternative 051422
r Supply Reliability						
North of Delta						
CVP Ag	Contract Delivery (annual average; does not include Exchange	(TAF/year)	Long Term Dry and Critical	272 163	272 161	0 2
CVP M&I	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	354 355	354 354	0 1
SWP Ag	Contract Delivery (including Article 21) (annual average)	(TAF/year)	Long Term Dry and Critical	0	0 0	0 0
SWP M&I	Contract Delivery (including Article 21, includes transfers to SWP contractors) (annual average)	(TAF/year)	Long Term Dry and Critical	100 82	100 82	0 0
CVP Ag - Sites	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	24 47	0 0	24 47
Total CVP North of Delta						
Total CVP Ag and M&I NOD	Contract Delivery (CVP) (annual average)	(TAF/year)	Long Term Dry and Critical	626 518	626 515	0 3
Total SWP North of Delta						
Total SWP Ag and M&I NOD	Contract Delivery (SWP) (annual average)	(TAF/year)	Long Term Dry and Critical	100 82	100 82	0 0
Total Sites North of Delta			/			-
	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	24 47	0 0	24 47
Total North of Delta			,		-	
Total North of Delta Ag and M&I Deliveries	Contract Delivery (CVP, SWP and other) (annual average)	(TAF/year)	Long Term Dry and Critical	750 646	726 597	24 49
South of Delta	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		,			
CVP Ag	Contract Delivery (annual average; does not include Exchange	(TAF/year)	Long Term Dry and Critical	1,181 606	1,177 605	4
CVP M&I	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	126 104	126 104	0
SWP Ag	Contract Delivery (including Article 21) (annual average)	(TAF/year)	Long Term Dry and Critical	643 345	642 346	1
SWP M&I	Contract Delivery (including Article 21, includes transfers to SWP contractors) (annual average)	(TAF/year)	Long Term Dry and Critical	1,793 1,064	1,790 1,060	4 4
SWP Ag - Sites	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	3 6	0 0	3 6
SWP M&I - Sites	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	87 215	0 0	87 215
Total CVP South of Delta					-	
Total CVP Ag and M&I SOD	Contract Delivery (CVP) (annual average)	(TAF/year)	Long Term Dry and Critical	1,307 710	1,304 708	3
Total SWP South of Delta	- /					
Total SWP Ag and M&I SOD	Contract Delivery (SWP) (annual average)	(TAF/year)	Long Term Dry and Critical	2,436 1,409	2,431 1,405	5 4
Total Sites South of Delta	- /			_,	-,	1
Total SWP Ag and M&I SOD	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	89 221	0 0	89 221
Total South of Delta			/		Ŭ	
Total South of Delta Ag and	Contract Delivery (CVP, SWP and	(TAF/year)	Long Term	3,832	3,735	97

Notes:
 Long Term is the average quantity for the period of Oct 1921 - Sep 2003.
 Dry and Critical Years Average is the average quantity for the combination of the SWRCB D-1641 40-30-30 Dry and Critical years for the period of Oct 1921 - Sep 2003.

er Supply Reliability Sacramento River Hydrologic CVP Settlement CVP Refuge Level 2 CVP M&I	: <b>Region</b> Contract Delivery (annual average)			Alternative 1B 051722	Alternative 051422	Alternativ 051422
CVP Settlement CVP Refuge Level 2						
CVP Refuge Level 2	Contract Delivery (annual average)	(705/ )	Long Term	1,608	1,610	-2
-		(TAF/year)	Dry and Critical	1,584	1,585	-1
CVP M&I	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	173 154	173 153	0
	Contract Delivery (annual average)	(TAF/year)	Long Term	207	206	0
	Contract Delivery (annual average -		Dry and Critical Long Term	178 272	<u>177</u> 272	1
CVP Ag	does not include Settlement	(TAF/year)	Dry and Critical	164	161	3
SWP FRSA	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	953 908	953 908	0
SWP M&I	Contract Delivery (annual average)	(TAF/year)	Long Term	30	30	0
			Dry and Critical Long Term	21 4	21 0	0 4
Refuge Level 4 - Sites	Contract Delivery (annual average)	(TAF/year)	Dry and Critical	5	0	5
CVP Ag -Sites	Contract Delivery (annual average)	(TAF/year)	Long Term	23 44	0 0	23 44
San Joaquin River Hydrologic	Region (not including Friant-Kern	and Madera C	Dry and Critical Canal water users	44	0	44
CVP Exchange	Contract Delivery (annual average)	(TAF/vear)	Long Term	852	852	0
-	, , , , , , , , , , , , , , , , , , , ,	(,)	Dry and Critical Long Term	814 259	814 259	0
CVP Refuge Level 2	Contract Delivery (annual average)	(TAF/year)	Dry and Critical	246	246	0
CVP M&I	Contract Delivery (annual average)	(TAF/year)	Long Term	17	17	0
C)/D Ac	Contract Delivery (annual average;		Dry and Critical Long Term	14 380	14 377	0
CVP Ag	does not include Exchange	(TAF/year)	Dry and Critical	193	189	4
SWP Ag	Contract Delivery (including Article 21) (annual average)	(TAF/year)	Long Term Dry and Critical	3 2	3 2	0
Refuge Level 4 - Sites	Contract Delivery (annual average)	(TAF/year)	Long Term	11	0	11
San Francisco Bay Hydrologic		, ,	Dry and Critical	19	0	19
CVP M&I	Contract Delivery (annual average)	(TAF/year)	Long Term	257	257	0
			Dry and Critical Long Term	267 46	267 46	1
CVP Ag	Contract Delivery (annual average)	(TAF/year)	Dry and Critical	24	23	0
SWP M&I	Contract Delivery (including Article 21, includes transfers to SWP contractors) (annual average)	(TAF/year)	Long Term Dry and Critical	202 140	202 141	0 -1
SWP M&I - Sites	Contract Delivery (annual average)	(TAF/year)	Long Term	9	0	9
Central Coast Hydrologic Reg	,,	( ))=>)	Dry and Critical	21	0	21
SWP M&I	Contract Delivery (annual average)	(TAF/year)	Long Term	41	41	0
	on (not including Friant-Kern Canal v		Dry and Critical	25	25	0
CVP Refuge Level 2	Contract Delivery (annual average)		Long Term	12	12	0
CVP Reluge Level 2	Contract Delivery (annual average) Contract Delivery (annual average -	, ,	Dry and Critical	11	11	0
CVP Ag	includes Cross Valley Canal)	(TAF/year)	Long Term Dry and Critical	760 400	754 392	7 8
SWP M&I	Contract Delivery (annual average)	(TAF/year)	Long Term	79	79	0
SWP Ag	Contract Delivery (including Article		Dry and Critical Long Term	44 629	43 631	0
SWF AY	21) (annual average)	(TAF/year)	Dry and Critical	336	340	-4
Refuge Level 4 - Sites	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	3 6	0 0	3 6
SWP Ag - Sites	Contract Delivery (annual average)	(TAF/year)	Long Term	2	0	2
South Lahontan Hydrologic R	legion		Dry and Critical	6	0	6
SWP M&I	Contract Delivery (including Article	(TAF/year)	Long Term	251	252	-1
	21) (annual average)		Dry and Critical Long Term	167 0	168 0	-1 0
SWP M&I - Sites	Contract Delivery (annual average)	(TAF/year)	Dry and Critical	1	0	1
South Coast Hydrologic Regio	Contract Delivery (including Article		Long Term	1,289	1,287	2
SWP M&I	21, includes transfers to SWP contractors) (annual average)	(TAF/year)	Dry and Critical	749	743	7
SWP Ag	Contract Delivery (including Article 21) (annual average)	(TAF/year)	Long Term Dry and Critical	8 4	8 4	0
SWP M&I - Sites	Contract Delivery (annual average)	(TAF/year)	Long Term	73	0	73
Total For All Regions	(aa. a.	(, <b>; cu</b> .)	Dry and Critical	182	0	182
Total Supplies	Contract Delivery (CVP, SWP and	(TAF/year)	Long Term	8,454	8,319	135

Notes:
Long Term is the average quantity for the period of Oct 1921 - Sep 2003.
Dry and Critical Years Average is the average quantity for the combination of the SWRCB D-1641 40-30-30 Dry and Critical years for the period of Oct 1921 - Sep 2003.
All scenarios are simulated at historical climate.

	r Supply Summary Report, b	y 1ype, Loi	ig-renn Avera	Alternative 1B 051722	No Action Alternative 051422	Alternative 1 051722 minu No Action Alternative 051422
r Supply Reliability						
North of Delta						
CVP Ag	Contract Delivery (annual average; does not include Exchange	(TAF/year)	Long Term Dry and Critical	272 164	272 161	0 3
CVP M&I	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	354 355	354 354	0 1
SWP Ag	Contract Delivery (including Article 21) (annual average)	(TAF/year)	Long Term Dry and Critical	0 0	0 0	0 0
SWP M&I	Contract Delivery (including Article 21, includes transfers to SWP contractors) (annual average)	(TAF/year)	Long Term Dry and Critical	100 82	100 82	0
CVP Ag - Sites	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	23 44	0 0	23 44
Total CVP North of Delta			,		-	
Total CVP Ag and M&I NOD	Contract Delivery (CVP) (annual average)	(TAF/year)	Long Term Dry and Critical	626 518	626 515	0 4
Total SWP North of Delta			,			
Total SWP Ag and M&I NOD	Contract Delivery (SWP) (annual average)	(TAF/year)	Long Term Dry and Critical	100 82	100 82	0 0
Total Sites North of Delta			bry and one car	02	02	
	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	23 44	0	23 44
Total North of Delta			,		-	
Total North of Delta Ag and M&I Deliveries	Contract Delivery (CVP, SWP and other) (annual average)	(TAF/year)	Long Term Dry and Critical	749 644	726 597	24 47
South of Delta			,			1
CVP Ag	Contract Delivery (annual average; does not include Exchange	(TAF/year)	Long Term Dry and Critical	1,186 616	1,177 605	9 12
CVP M&I	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	126 105	126 104	0 1
SWP Ag	Contract Delivery (including Article 21) (annual average)	(TAF/year)	Long Term Dry and Critical	640 342	642 346	-1 -4
SWP M&I	Contract Delivery (including Article 21, includes transfers to SWP contractors) (annual average)	(TAF/year)	Long Term Dry and Critical	1,791 1,064	1,790 1,060	2 5
SWP Ag - Sites	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	2 6	0 0	2 6
SWP M&I - Sites	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	83 204	0	83 204
Total CVP South of Delta						
Total CVP Ag and M&I SOD	Contract Delivery (CVP) (annual average)	(TAF/year)	Long Term Dry and Critical	1,312 721	1,304 708	9 13
Total SWP South of Delta	/		,	/	,	
Total SWP Ag and M&I SOD	Contract Delivery (SWP) (annual average)	(TAF/year)	Long Term Dry and Critical	2,432 1,406	2,431 1,405	1
Total Sites South of Delta	/		,	1,100	1,100	
Total SWP Ag and M&I SOD	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	85 210	0 0	85 210
Total South of Delta			,	210	0	210
Total South of Delta Ag and	Contract Delivery (CVP, SWP and		Long Term	3,829	3,735	95
M&I Deliveries	other) (annual average)	(TAF/year)	Dry and Critical	2,337	2,114	223

Notes:
 Long Term is the average quantity for the period of Oct 1921 - Sep 2003.
 Dry and Critical Years Average is the average quantity for the combination of the SWRCB D-1641 40-30-30 Dry and Critical years for the period of Oct 1921 - Sep 2003.
 All scenarios are simulated at historical climate.

er Supply Reliability Sacramento River Hydrologic Ro CVP Settlement CVP Refuge Level 2 CVP M&I CVP Ag SWP FRSA SWP FRSA SWP M&I Refuge Level 4 - Sites CVP Ag -Sites San Joaquin River Hydrologic R CVP Exchange CVP Refuge Level 2 CVP M&I CVP Ag SWP Ag	Image: Contract Delivery (annual average)         Contract Delivery (annual average)	(TAF/year) (TAF/year) and Madera C (TAF/year)	Long Term Dry and Critical Long Term	1,608 1,584 174 154 207 178 272 163 908 30 21 4 5 23 43	1,610 1,585 173 153 206 177 272 161 953 908 30 21 0 0 0 0	-2 -1 0 1 0 1 2 0 0 0 0 0 0 0 0 4 5
CVP Settlement CVP Refuge Level 2 CVP M&I CVP Ag SWP FRSA SWP M&I Refuge Level 4 - Sites CVP Ag -Sites San Joaquin River Hydrologic R CVP Exchange CVP Refuge Level 2 CVP M&I CVP Ag	Contract Delivery (annual average) Contract Delivery (annual average)	(TAF/year) (TAF/year) (TAF/year) (TAF/year) (TAF/year) (TAF/year) (TAF/year) and Madera C (TAF/year)	Dry and Critical Long Term Dry and Critical Long Term	1,584 174 154 207 178 272 163 953 908 30 21 4 5 23	1,585 173 153 206 177 272 161 953 908 30 21 0 0	-1 0 1 0 2 0 0 0 0 0 0 4
CVP Refuge Level 2 CVP M&I CVP Ag SWP FRSA SWP FRSA SWP M&I Refuge Level 4 - Sites CVP Ag -Sites San Joaquin River Hydrologic R CVP Exchange CVP Refuge Level 2 CVP M&I CVP Ag	Contract Delivery (annual average) Contract Delivery (annual average) Contract Delivery (annual average - does not include Settlement Contract Delivery (annual average) Contract Delivery (annual average)	(TAF/year) (TAF/year) (TAF/year) (TAF/year) (TAF/year) (TAF/year) (TAF/year) and Madera C (TAF/year)	Dry and Critical Long Term Dry and Critical Long Term	1,584 174 154 207 178 272 163 953 908 30 21 4 5 23	1,585 173 153 206 177 272 161 953 908 30 21 0 0	-1 0 1 0 2 0 0 0 0 0 0 0 4
CVP M&I CVP Ag SWP FRSA SWP M&I Refuge Level 4 - Sites CVP Ag -Sites San Joaquin River Hydrologic R CVP Exchange CVP Refuge Level 2 CVP M&I CVP Ag	Contract Delivery (annual average) Contract Delivery (annual average - does not include Settlement Contract Delivery (annual average) Contract Delivery (annual average) Contract Delivery (annual average) Contract Delivery (annual average) Region (not including Friant-Kern a Contract Delivery (annual average) Contract Delivery (annual average) Contract Delivery (annual average) Contract Delivery (annual average)	(TAF/year) (TAF/year) (TAF/year) (TAF/year) (TAF/year) (TAF/year) and Madera C (TAF/year)	Dry and Critical Long Term Dry and Critical anal water users)	154 207 178 272 163 953 908 30 21 4 5 23	153 206 177 272 161 953 908 30 21 0 0	1 0 1 2 0 0 0 0 0 0 4
CVP Ag SWP FRSA SWP M&I Refuge Level 4 - Sites CVP Ag -Sites San Joaquin River Hydrologic R CVP Exchange CVP Refuge Level 2 CVP M&I CVP Ag	Contract Delivery (annual average - does not include Settlement Contract Delivery (annual average) Contract Delivery (annual average) Contract Delivery (annual average) Contract Delivery (annual average) Region (not including Friant-Kern a Contract Delivery (annual average) Contract Delivery (annual average) Contract Delivery (annual average) Contract Delivery (annual average)	(TAF/year) (TAF/year) (TAF/year) (TAF/year) (TAF/year) and Madera C (TAF/year)	Long Term Dry and Critical Long Term Dry and Critical Sanal water users)	207 178 272 163 953 908 30 21 4 5 23	206 177 272 161 953 908 30 21 0 0	0 1 0 0 0 0 0 0 4
CVP Ag SWP FRSA SWP M&I Refuge Level 4 - Sites CVP Ag -Sites San Joaquin River Hydrologic R CVP Exchange CVP Refuge Level 2 CVP M&I CVP Ag	Contract Delivery (annual average - does not include Settlement Contract Delivery (annual average) Contract Delivery (annual average) Contract Delivery (annual average) Contract Delivery (annual average) Region (not including Friant-Kern a Contract Delivery (annual average) Contract Delivery (annual average) Contract Delivery (annual average) Contract Delivery (annual average)	(TAF/year) (TAF/year) (TAF/year) (TAF/year) (TAF/year) and Madera C (TAF/year)	Long Term Dry and Critical Long Term Dry and Critical Long Term Dry and Critical Long Term Dry and Critical Long Term Dry and Critical Sanal water users)	272 163 953 908 30 21 4 5 23	272 161 953 908 30 21 0 0	0 2 0 0 0 0 0 4
SWP FRSA SWP M&I Refuge Level 4 - Sites CVP Ag -Sites San Joaquin River Hydrologic R CVP Exchange CVP Refuge Level 2 CVP M&I CVP Ag	does not include Settlement Contract Delivery (annual average) Contract Delivery (annual average)	(TAF/year) (TAF/year) (TAF/year) (TAF/year) and Madera C (TAF/year)	Dry and Critical Long Term Dry and Critical Long Term Dry and Critical Long Term Dry and Critical Long Term Dry and Critical anal water users)	163 953 908 30 21 4 5 23	161 953 908 30 21 0 0	2 0 0 0 0 4
SWP M&I Refuge Level 4 - Sites CVP Ag -Sites San Joaquin River Hydrologic R CVP Exchange CVP Refuge Level 2 CVP M&I CVP Ag	Contract Delivery (annual average) Contract Delivery (annual average) Contract Delivery (annual average) Region (not including Friant-Kern a Contract Delivery (annual average) Contract Delivery (annual average) Contract Delivery (annual average)	(TAF/year) (TAF/year) (TAF/year) and Madera C (TAF/year)	Dry and Critical Long Term Dry and Critical Long Term Dry and Critical Long Term Dry and Critical anal water users)	908 30 21 4 5 23	908 30 21 0 0	0 0 0 4
Refuge Level 4 - Sites         CVP Ag -Sites         San Joaquin River Hydrologic R         CVP Exchange         CVP Refuge Level 2         CVP M&I         CVP Ag	Contract Delivery (annual average) Contract Delivery (annual average) Region (not including Friant-Kern a Contract Delivery (annual average) Contract Delivery (annual average) Contract Delivery (annual average)	(TAF/year) (TAF/year) and Madera C (TAF/year)	Long Term Dry and Critical Long Term Dry and Critical Long Term Dry and Critical anal water users)	30 21 4 5 23	30 21 0 0	0 0 4
Refuge Level 4 - Sites         CVP Ag -Sites         San Joaquin River Hydrologic R         CVP Exchange         CVP Refuge Level 2         CVP M&I         CVP Ag	Contract Delivery (annual average) Contract Delivery (annual average) Region (not including Friant-Kern a Contract Delivery (annual average) Contract Delivery (annual average) Contract Delivery (annual average)	(TAF/year) (TAF/year) and Madera C (TAF/year)	Long Term Dry and Critical Long Term Dry and Critical Canal water users)	4 5 23	0 0	4
CVP Ag -Sites San Joaquin River Hydrologic R CVP Exchange CVP Refuge Level 2 CVP M&I CVP Ag	Contract Delivery (annual average) Region (not including Friant-Kern a Contract Delivery (annual average) Contract Delivery (annual average) Contract Delivery (annual average)	(TAF/year) and Madera C (TAF/year)	Dry and Critical Long Term Dry and Critical Canal water users)	5 23	0	
San Joaquin River Hydrologic R CVP Exchange CVP Refuge Level 2 CVP M&I CVP Ag	Region (not including Friant-Kern a Contract Delivery (annual average) Contract Delivery (annual average) Contract Delivery (annual average)	and Madera C (TAF/year)	Dry and Critical anal water users)		0	
CVP Exchange CVP Refuge Level 2 CVP M&I CVP Ag	Contract Delivery (annual average) Contract Delivery (annual average) Contract Delivery (annual average)	(TAF/year)	anal water users)	75	0	23 43
CVP Refuge Level 2 CVP M&I CVP Ag	Contract Delivery (annual average) Contract Delivery (annual average)	, ,	Long Term		0	45
CVP M&I CVP Ag	Contract Delivery (annual average) Contract Delivery (annual average)	, ,		852	852	0
CVP M&I CVP Ag	Contract Delivery (annual average)		Dry and Critical Long Term	814 258	814 259	0
CVP Ag		(TAF/year)	Dry and Critical	246	246	ů 0
	Contract Delivery (annual average:	(TAF/year)	Long Term	17	17	0
			Dry and Critical Long Term	14 379	14 377	0
SWP Ag	does not include Exchange	(TAF/year)	Dry and Critical	190	189	1
	Contract Delivery (including Article 21) (annual average)	(TAF/year)	Long Term Dry and Critical	3 2	3 2	0
Refuge Level 4 - Sites	Contract Delivery (annual average)	(TAF/year)	Long Term	11	0	11
San Francisco Bay Hydrologic R	Region	, ,	Dry and Critical	21	0	21
CVP M&I	Contract Delivery (annual average)	(TAF/year)	Long Term	256	257	0
		, ,	Dry and Critical Long Term	267 45	267 46	0 -1
CVP Ag	Contract Delivery (annual average)	(TAF/year)	Dry and Critical	23	23	0
SWP M&I	Contract Delivery (including Article 21, includes transfers to SWP contractors) (annual average)	(TAF/year)	Long Term Dry and Critical	202 141	202 141	0
SWP M&I - Sites	Contract Delivery (annual average)	(TAF/year)	Long Term	9	0	9
Central Coast Hydrologic Region	n		Dry and Critical	21	0	21
SWP M&I	Contract Delivery (annual average)	(TAF/vear)	Long Term	41	41	0
Tulare Lake Hydrologic Region	(not including Friant-Kern Canal	· · · · ·	Dry and Critical	25	25	0
CVP Refuge Level 2	Contract Delivery (annual average)		Long Term	12	12	0
	Contract Delivery (annual average -	(TAI) year)	Dry and Critical	11	11	0
CVP Ag	includes Cross Valley Canal)	(TAF/year)	Long Term Dry and Critical	757 392	754 392	3 0
SWP M&I	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	79 43	79 43	0 0
SWP Ag	Contract Delivery (including Article	(TAF/year)	Long Term	632	631	1
-	21) (annual average)		Dry and Critical Long Term	340 4	340 0	0 4
Refuge Level 4 - Sites	Contract Delivery (annual average)	(TAF/year)	Dry and Critical	6	0	6
SWP Ag - Sites	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	2 6	0 0	2 6
South Lahontan Hydrologic Reg						
SWP M&I	Contract Delivery (including Article 21) (annual average)	(TAF/year)	Long Term Dry and Critical	251 168	252 168	0 0
SWP M&I - Sites	Contract Delivery (annual average)	(TAF/year)	Long Term	0	0	0
South Coast Hydrologic Region		(, ; ca.)	Dry and Critical	1	0	1
· · · · ·	Contract Delivery (including Article		Long Term	1,289	1,287	3
SWP M&I	21, includes transfers to SWP contractors) (annual average)	(TAF/year)	Dry and Critical	747	743	4
SWP Ag	Contract Delivery (including Article 21) (annual average)	(TAF/year)	Long Term Dry and Critical	8 4	8 4	0 0
SWP M&I - Sites	Contract Delivery (annual average)	(TAF/year)	Long Term	72	0	72
Total For All Regions		(, ; ; cur)	Dry and Critical	179	0	179
Total For All Regions	Contract Delivery (CVP, SWP and	(TAF/year)	Long Term	8,451		

<sup>Notes:
Long Term is the average quantity for the period of Oct 1921 - Sep 2003.
Dry and Critical Years Average is the average quantity for the combination of the SWRCB D-1641 40-30-30 Dry and Critical years for the period of Oct 1921 - Sep 2003.
All scenarios are simulated at historical climate.</sup> 

	r Supply Summary Report, b	y Type, Loi		Alternative 2 051722	No Action Alternative 051422	Alternative 051722 minu No Action Alternative 051422
r Supply Reliability						
North of Delta						
CVP Ag	Contract Delivery (annual average; does not include Exchange	(TAF/year)	Long Term Dry and Critical	272 163	272 161	0 2
CVP M&I	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	354 355	354 354	0 1
SWP Ag	Contract Delivery (including Article 21) (annual average)	(TAF/year)	Long Term Dry and Critical	0 0	0	0 0
SWP M&I	Contract Delivery (including Article 21, includes transfers to SWP contractors) (annual average)	(TAF/year)	Long Term Dry and Critical	100 82	100 82	0
CVP Ag - Sites	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	23 43	0 0	23 43
Total CVP North of Delta					-	
Total CVP Ag and M&I NOD	Contract Delivery (CVP) (annual average)	(TAF/year)	Long Term Dry and Critical	626 518	626 515	0 3
Total SWP North of Delta	Ø /					
Total SWP Ag and M&I NOD	Contract Delivery (SWP) (annual average)	(TAF/year)	Long Term Dry and Critical	100 82	100 82	0
Total Sites North of Delta	3 /					
Total Sites Ag and M&I NOD	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	23 43	0 0	23 43
Total North of Delta						
Total North of Delta Ag and M&I Deliveries	Contract Delivery (CVP, SWP and other) (annual average)	(TAF/year)	Long Term Dry and Critical	749 643	726 597	23 46
South of Delta						
CVP Ag	Contract Delivery (annual average; does not include Exchange	(TAF/year)	Long Term Dry and Critical	1,181 605	1,177 605	4 1
CVP M&I	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	126 104	126 104	0 0
SWP Ag	Contract Delivery (including Article 21) (annual average)	(TAF/year)	Long Term Dry and Critical	643 346	642 346	1 0
SWP M&I	Contract Delivery (including Article 21, includes transfers to SWP contractors) (annual average)	(TAF/year)	Long Term Dry and Critical	1,792 1,064	1,790 1,060	3 4
SWP Ag - Sites	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	2 6	0 0	2 6
SWP M&I - Sites	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	82 201	0	82 201
Total CVP South of Delta					-	
Total CVP Ag and M&I SOD	Contract Delivery (CVP) (annual average)	(TAF/year)	Long Term Dry and Critical	1,307 709	1,304 708	3 1
Total SWP South of Delta	- /		,			
Total SWP Ag and M&I SOD	Contract Delivery (SWP) (annual average)	(TAF/year)	Long Term Dry and Critical	2,435 1,410	2,431 1,405	4
Total Sites South of Delta			·			<u> </u>
Total SWP Ag and M&I SOD	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	84 206	0 0	84 206
Total South of Delta						
Total South of Delta Ag and M&I Deliveries	Contract Delivery (CVP, SWP and other) (annual average)	(TAF/year)	Long Term Dry and Critical	3,826 2,325	3,735 2,114	91 212

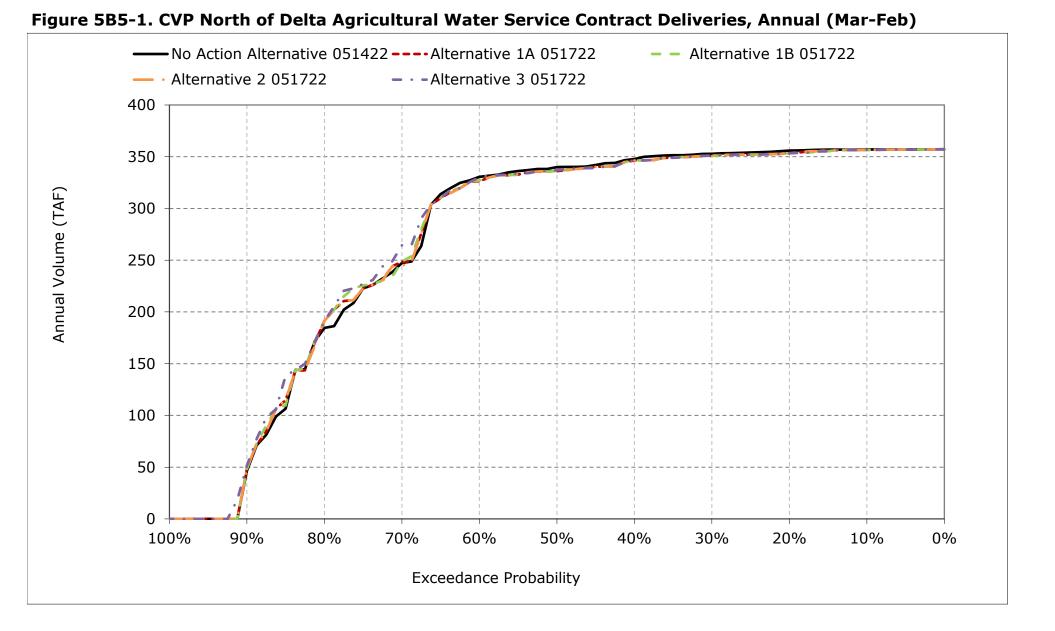
Notes:
 Long Term is the average quantity for the period of Oct 1921 - Sep 2003.
 Dry and Critical Years Average is the average quantity for the combination of the SWRCB D-1641 40-30-30 Dry and Critical years for the period of Oct 1921 - Sep 2003.
 All scenarios are simulated at historical climate.

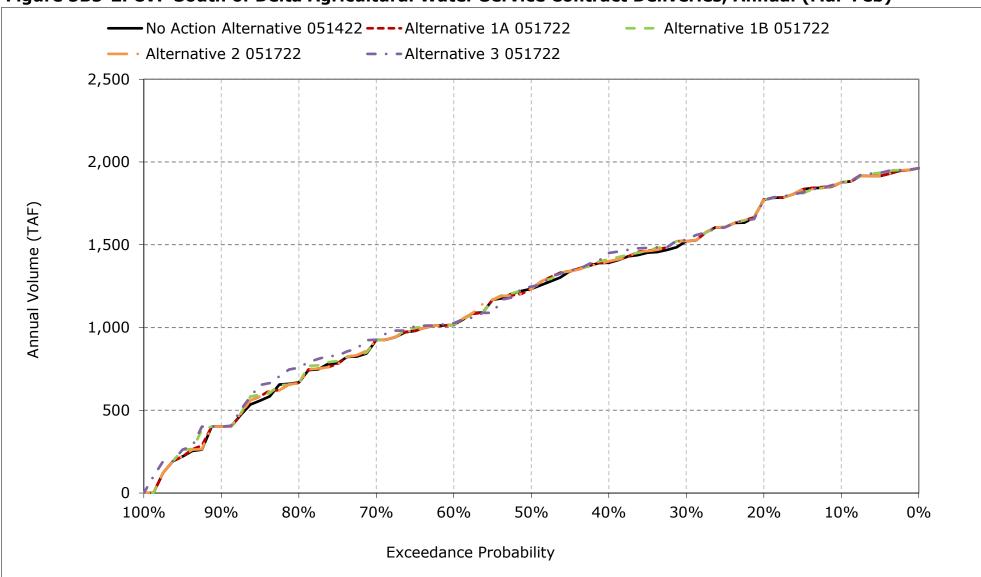
			,	Alternative 3 051722	No Action Alternative 051422	Year Ave Alternativ 051722 mi No Actio Alternati 051422
r Supply Reliability						
Sacramento River Hydrologi		(=.=.)	Long Term	1,609	1,610	-2
CVP Settlement	Contract Delivery (annual average)	(TAF/year)	Dry and Critical	1,584	1,585	-1
CVP Refuge Level 2	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	174 154	173 153	0 1
CVP M&I	Contract Delivery (appual average)	(TAE(),000)	Long Term	207	206	1
CVP M&I	Contract Delivery (annual average)	(TAF/year)	Dry and Critical	179	177	3
CVP Ag	Contract Delivery (annual average - does not include Settlement	(TAF/year)	Long Term Dry and Critical	274 168	272 161	2 7
SWP FRSA	Contract Delivery (annual average)	(TAF/year)	Long Term	953	953	0
		(Introduction)	Dry and Critical Long Term	908 30	908 30	0
SWP M&I	Contract Delivery (annual average)	(TAF/year)	Dry and Critical	22	21	0
Refuge Level 4 - Sites	Contract Delivery (annual average)	(TAF/year)	Long Term	4	0	4
			Dry and Critical Long Term	5 21	0	5 21
CVP Ag -Sites	Contract Delivery (annual average)	(TAF/year)	Dry and Critical	37	0	37
San Joaquin River Hydrologi	c Region (not including Friant-Kern	and Madera C		050	050	
CVP Exchange	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	852 814	852 814	0
CVP Refuge Level 2	Contract Delivery (annual average)	(TAF/year)	Long Term	259	259	0
	contract Derivery (annual average)	(TAT/year)	Dry and Critical	246	246	0
CVP M&I	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	17 14	17 14	0
CVP Ag	Contract Delivery (annual average;	(TAF/year)	Long Term	383	377	5
-	does not include Exchange Contract Delivery (including Article		Dry and Critical Long Term	205 3	189 3	16 0
SWP Ag	21) (annual average)	(TAF/year)	Dry and Critical	2	2	0
Refuge Level 4 - Sites	Contract Delivery (annual average)	(TAF/year)	Long Term	9	0	9
San Francisco Bay Hydrolog	,, ,	( ))))))	Dry and Critical	18	0	18
CVP M&I	Contract Delivery (annual average)	(TAF/year)	Long Term	256	257	0
evr har	contract Derivery (annual average)	(TAT/year)	Dry and Critical	268	267	2
CVP Ag	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	46 25	46 23	0 2
	Contract Delivery (including Article		Long Term	202	202	0
SWP M&I	21, includes transfers to SWP contractors) (annual average)	(TAF/year)	Dry and Critical	141	141	0
SWP M&I - Sites	Contract Delivery (annual average)	(TAF/year)	Long Term	8	0	8
		(TAT/year)	Dry and Critical	18	0	18
Central Coast Hydrologic Re		(=== ( )	Long Term	41	41	0
SWP M&I	Contract Delivery (annual average)		Dry and Critical	25	25	Ő
	on (not including Friant-Kern Canal	water users)	Long Term	12	12	0
CVP Refuge Level 2	Contract Delivery (annual average)	(TAF/year)	Dry and Critical	12	12	0
CVP Ag	Contract Delivery (annual average -	(TAF/year)	Long Term	770	754	16
_	includes Cross Valley Canal)		Dry and Critical Long Term	425 79	392 79	32 0
SWP M&I	Contract Delivery (annual average)	(TAF/year)	Dry and Critical	44	43	0
SWP Ag	Contract Delivery (including Article 21) (annual average)	(TAF/year)	Long Term Dry and Critical	627	631 340	-3
Defuge Level 4 Cites	, , <b>,</b> ,		Long Term	341 3	0	1
Refuge Level 4 - Sites	Contract Delivery (annual average)	(TAF/year)	Dry and Critical	5	0	5
SWP Ag - Sites	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	2 5	0 0	2 5
South Lahontan Hydrologic						
SWP M&I	Contract Delivery (including Article	(TAF/year)	Long Term	252	252	0
SWD M&L Citor	21) (annual average)	(TAE/)	Dry and Critical Long Term	170 0	168 0	1
SWP M&I - Sites	Contract Delivery (annual average)	(TAF/year)	Dry and Critical	1	0	1
South Coast Hydrologic Reg	ion Contract Delivery (including Article		Long Term	1,286	1,287	-1
SWP M&I	21, includes transfers to SWP	(TAF/year)	Dry and Critical	751	743	8
	contractors) (annual average) Contract Delivery (including Article		Long Term	0	0	0
SWP Ag	21) (annual average)	(TAF/year)	Dry and Critical	8 4	8 4	0 0
SWP M&I - Sites	Contract Delivery (annual average)	(TAF/year)	Long Term	60	0	60
Total For All Regions	, , , , , , , , , , , , , , , , , , , ,		Dry and Critical	145	0	145
	Contract Delivery (CVP, SWP and	(TAE/	Long Term	8,445	8,319	125
Total Supplies	other) (annual average)	(TAF/year)	Dry and Critical	6,736	6,428	308

Notes:
Long Term is the average quantity for the period of Oct 1921 - Sep 2003.
Dry and Critical Years Average is the average quantity for the combination of the SWRCB D-1641 40-30-30 Dry and Critical years for the period of Oct 1921 - Sep 2003.
All scenarios are simulated at historical climate.

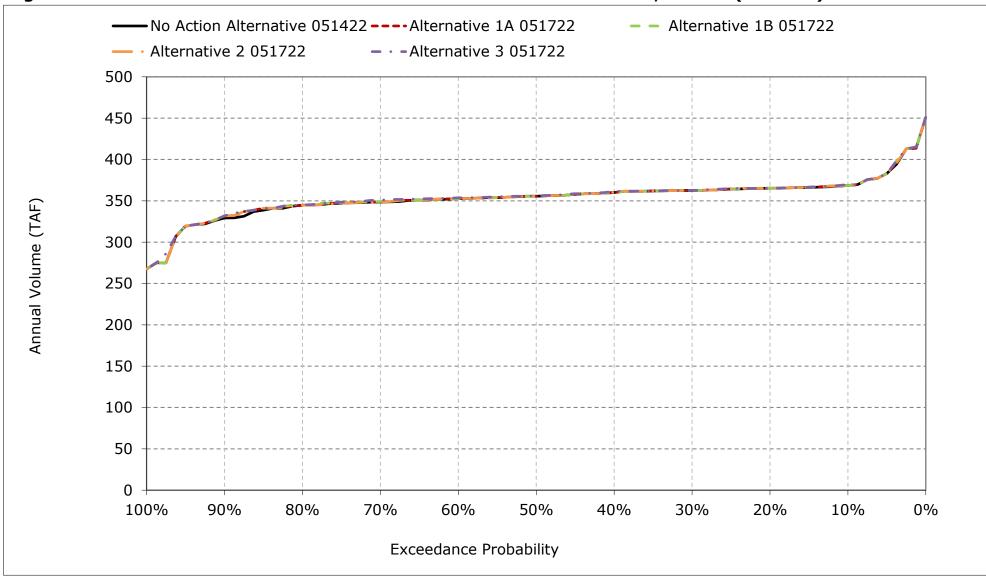
e Juj-o. Calsim II Wale	r Supply Summary Report, b	y iype, Loi	ig-renn Avera	Alternative 3 051722	No Action Alternative 051422	Alternative 051722 minu No Action Alternative 051422
er Supply Reliability						
North of Delta						
CVP Ag	Contract Delivery (annual average; does not include Exchange	(TAF/year)	Long Term Dry and Critical	274 168	272 161	2 7
CVP M&I	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	355 356	354 354	1 3
SWP Ag	Contract Delivery (including Article 21) (annual average)	(TAF/year)	Long Term Dry and Critical	0 0	0 0	0 0
SWP M&I	Contract Delivery (including Article 21, includes transfers to SWP contractors) (annual average)	(TAF/year)	Long Term Dry and Critical	100 82	100 82	0 0
CVP Ag - Sites	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	21 37	0	21 37
Total CVP North of Delta						
Total CVP Ag and M&I NOD	Contract Delivery (CVP) (annual average)	(TAF/year)	Long Term Dry and Critical	629 524	626 515	3 10
Total SWP North of Delta						
Total SWP Ag and M&I NOD	Contract Delivery (SWP) (annual average)	(TAF/year)	Long Term Dry and Critical	100 82	100 82	0 0
Total Sites North of Delta	3 /		,			
	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	21 37	0 0	21 37
Total North of Delta						
Total North of Delta Ag and M&I Deliveries	Contract Delivery (CVP, SWP and other) (annual average)	(TAF/year)	Long Term Dry and Critical	749 644	726 597	23 47
South of Delta						
CVP Ag	Contract Delivery (annual average; does not include Exchange	(TAF/year)	Long Term Dry and Critical	1,199 655	1,177 605	22 51
CVP M&I	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	126 106	126 104	0 2
SWP Ag	Contract Delivery (including Article 21) (annual average)	(TAF/year)	Long Term Dry and Critical	638 347	642 346	-3 1
SWP M&I	Contract Delivery (including Article 21, includes transfers to SWP contractors) (annual average)	(TAF/year)	Long Term Dry and Critical	1,789 1,070	1,790 1,060	-1 10
SWP Ag - Sites	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	2 5	0 0	2 5
SWP M&I - Sites	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	68 163	0 0	68 163
Total CVP South of Delta			•		-	
Total CVP Ag and M&I SOD	Contract Delivery (CVP) (annual average)	(TAF/year)	Long Term Dry and Critical	1,325 761	1,304 708	21 52
Total SWP South of Delta	- /					-
Total SWP Ag and M&I SOD	Contract Delivery (SWP) (annual average)	(TAF/year)	Long Term Dry and Critical	2,427 1,417	2,431 1,405	<mark>-4</mark> 12
Total Sites South of Delta					,	
Total SWP Ag and M&I SOD	Contract Delivery (annual average)	(TAF/year)	Long Term Dry and Critical	70 168	0 0	70 168
Total South of Delta			·			
Total South of Delta Ag and	Contract Delivery (CVP, SWP and		Long Term	3,822	3,735	87
M&I Deliveries	other) (annual average)	(TAF/year)	Dry and Critical	2,346	2,114	232

Notes:
 Long Term is the average quantity for the period of Oct 1921 - Sep 2003.
 Dry and Critical Years Average is the average quantity for the combination of the SWRCB D-1641 40-30-30 Dry and Critical years for the period of Oct 1921 - Sep 2003.
 All scenarios are simulated at historical climate.





#### Figure 5B5-2. CVP South of Delta Agricultural Water Service Contract Deliveries, Annual (Mar-Feb)



#### Figure 5B5-3. CVP North of Delta M&I Water Service Contract Deliveries, Annual (Mar-Feb)

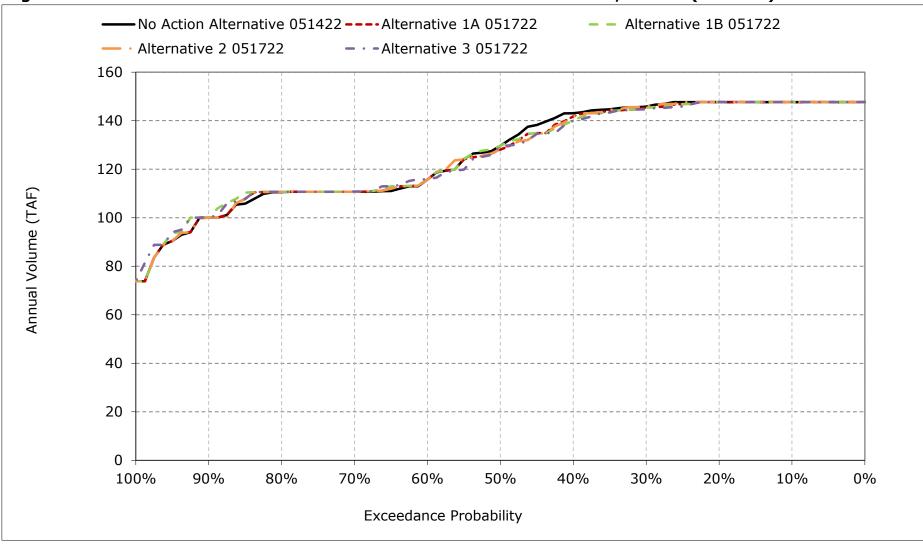
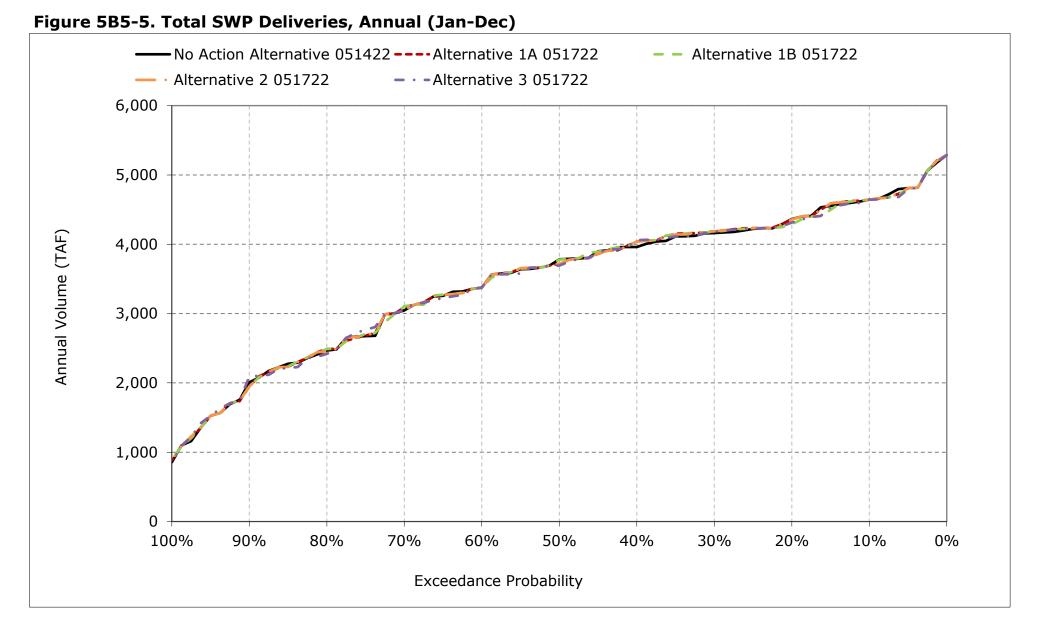


Figure 5B5-4. CVP South of Delta M&I Water Service Contract Deliveries, Annual (Mar-Feb)



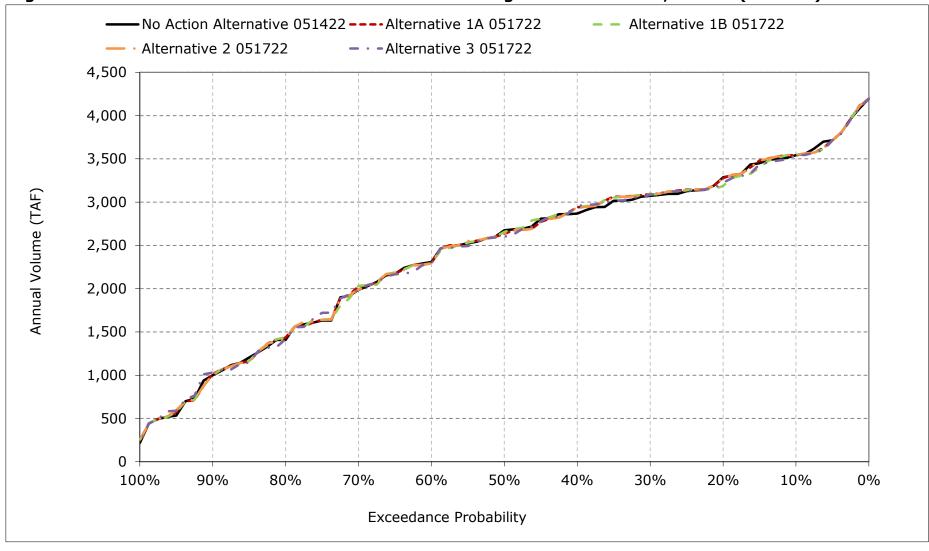


Figure 5B5-6. Total SWP South of Delta Deliveries including Article 21 and 56, Annual (Jan-Dec)

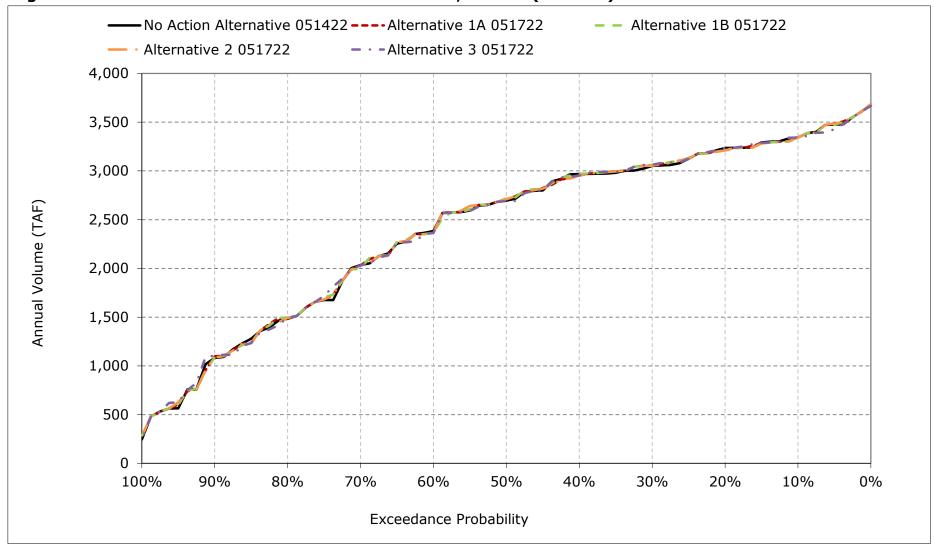
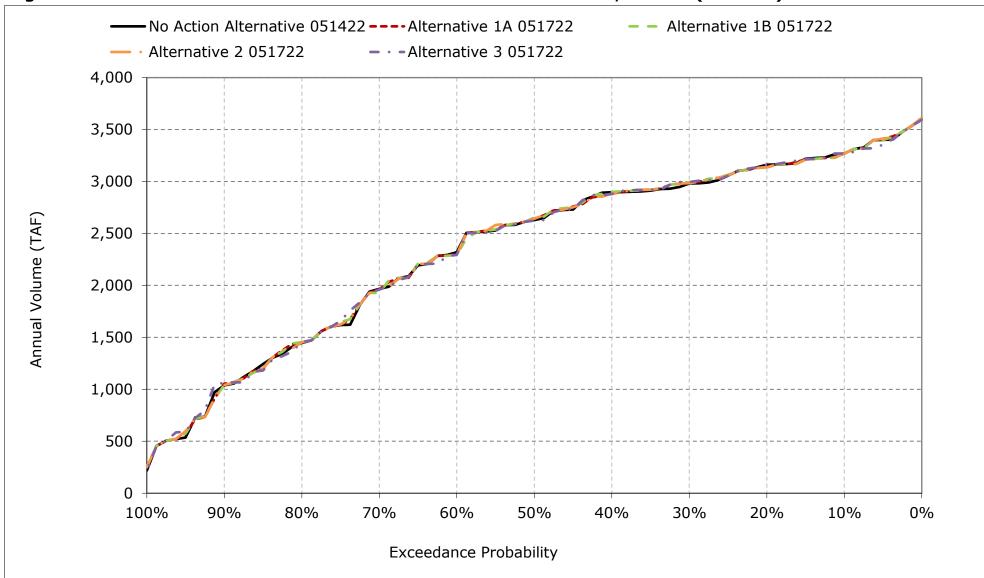
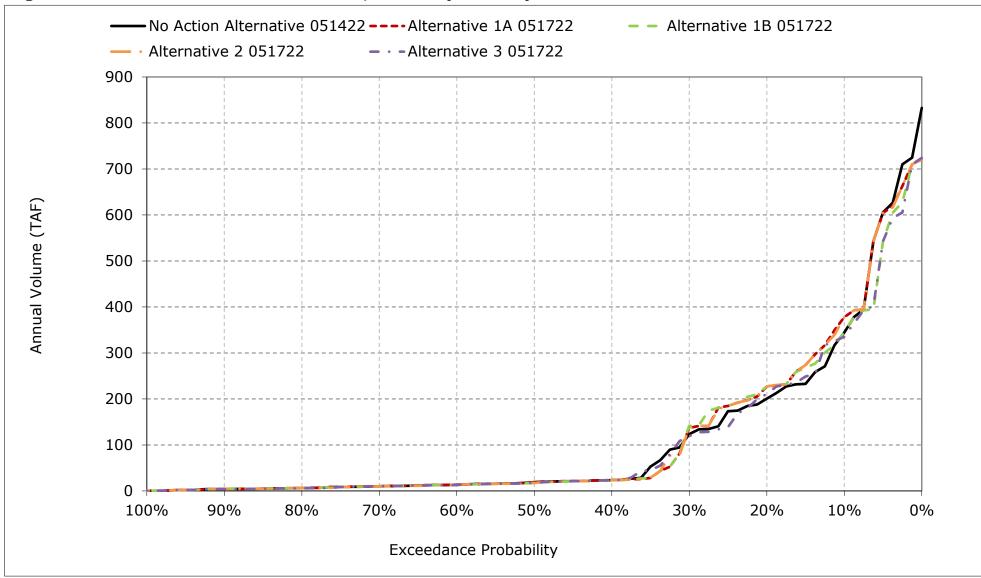


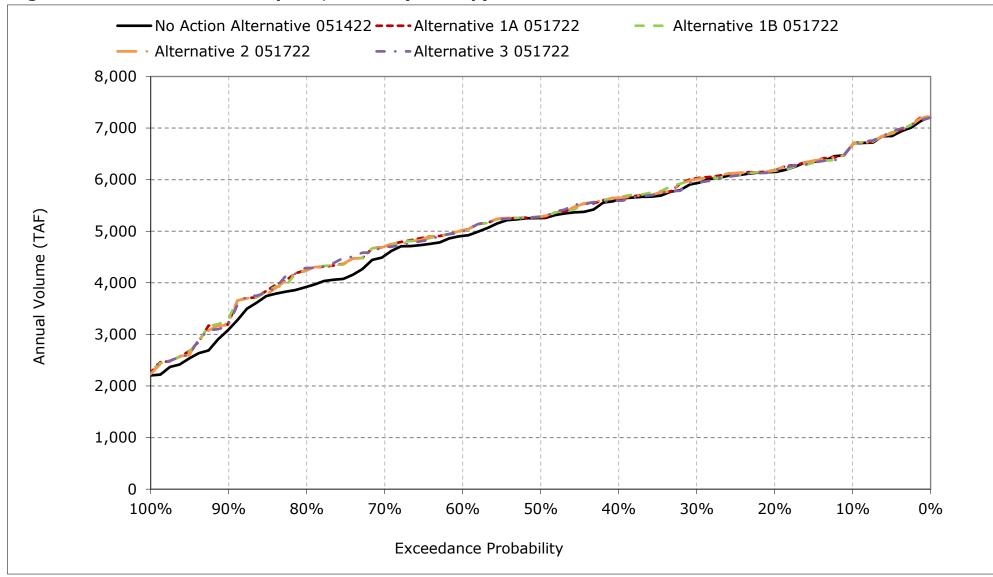
Figure 5B5-7. SWP Table A Deliveries with Article 56, Annual (Jan-Dec)



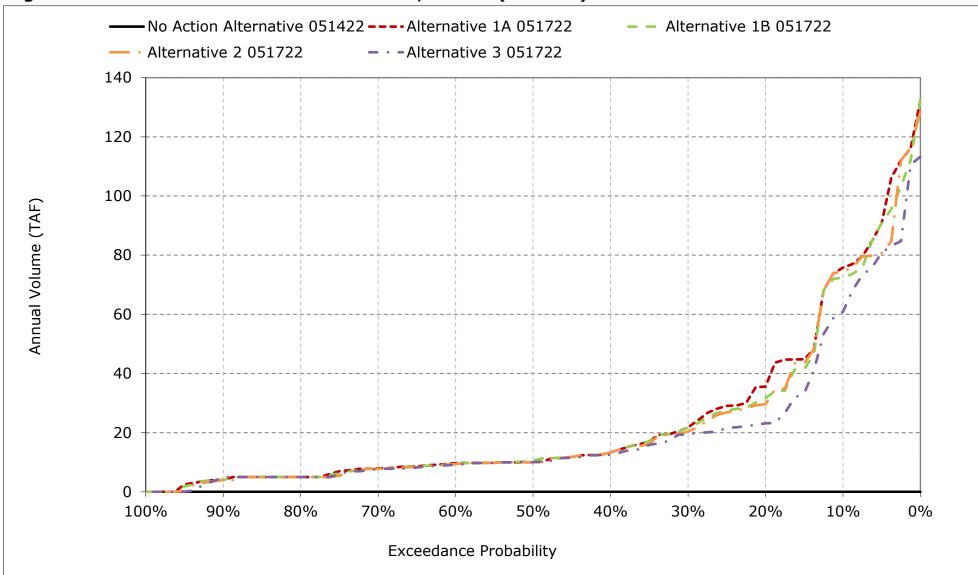




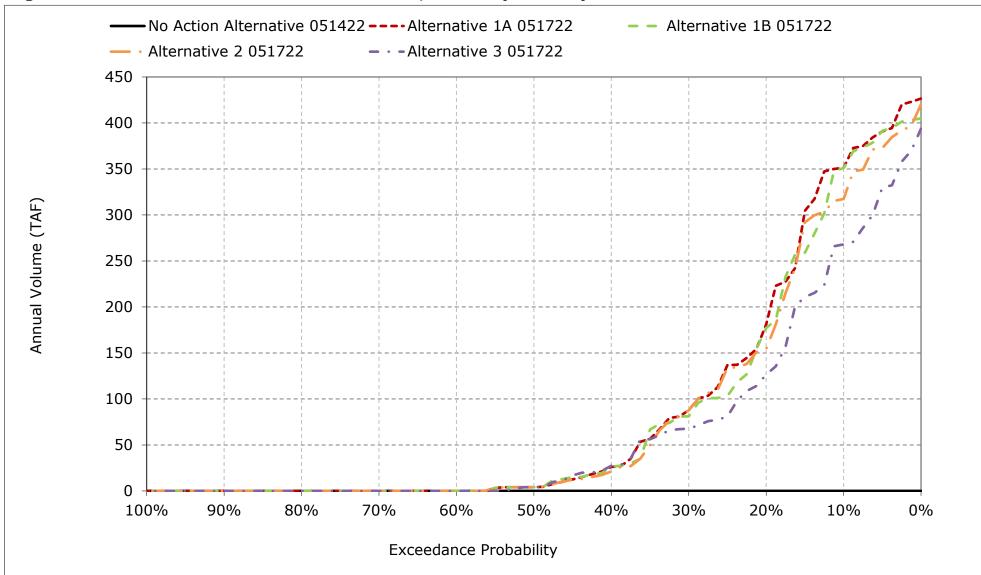
#### Figure 5B5-9. SWP Article 21 Deliveries, Annual (Jan-Dec)



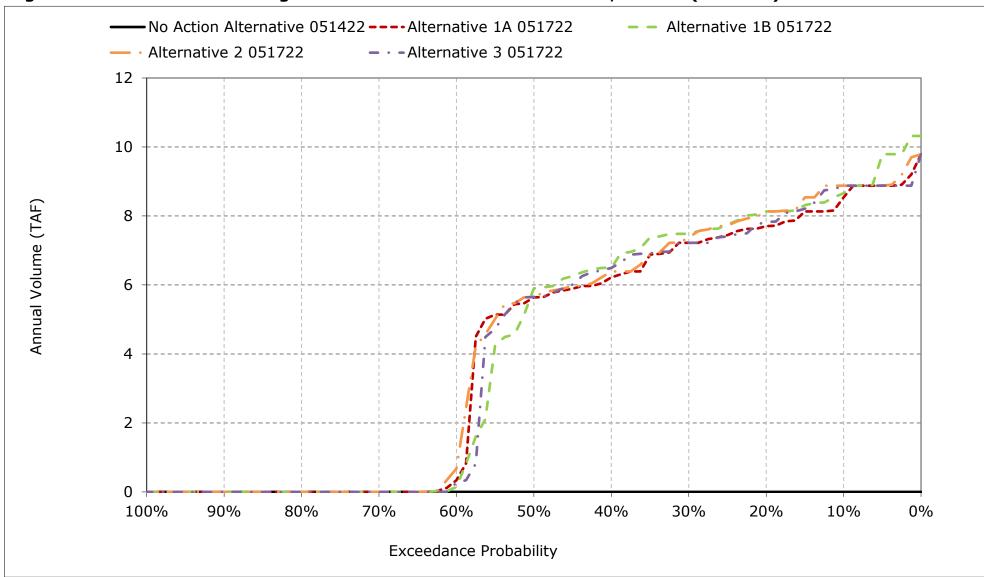
### Figure 5B5-10. Total Delta Exports, Annual (Oct-Sep)



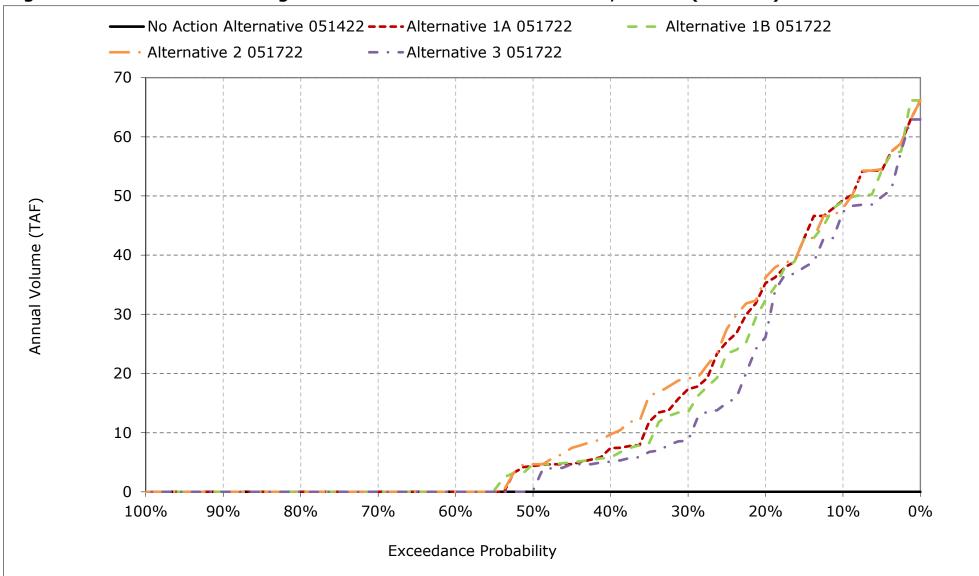
### Figure 5B5-11. Sites North of Delta Deliveries, Annual (Mar-Feb)



#### Figure 5B5-12. Sites South of Delta Deliveries, Annual (Jan-Dec)



#### Figure 5B5-13. Sites CVP Refuge Level 4 Deliveries - North of Delta, Annual (Mar-Feb)



#### Figure 5B5-14. Sites CVP Refuge Level 4 Deliveries - South of Delta, Annual (Mar-Feb)