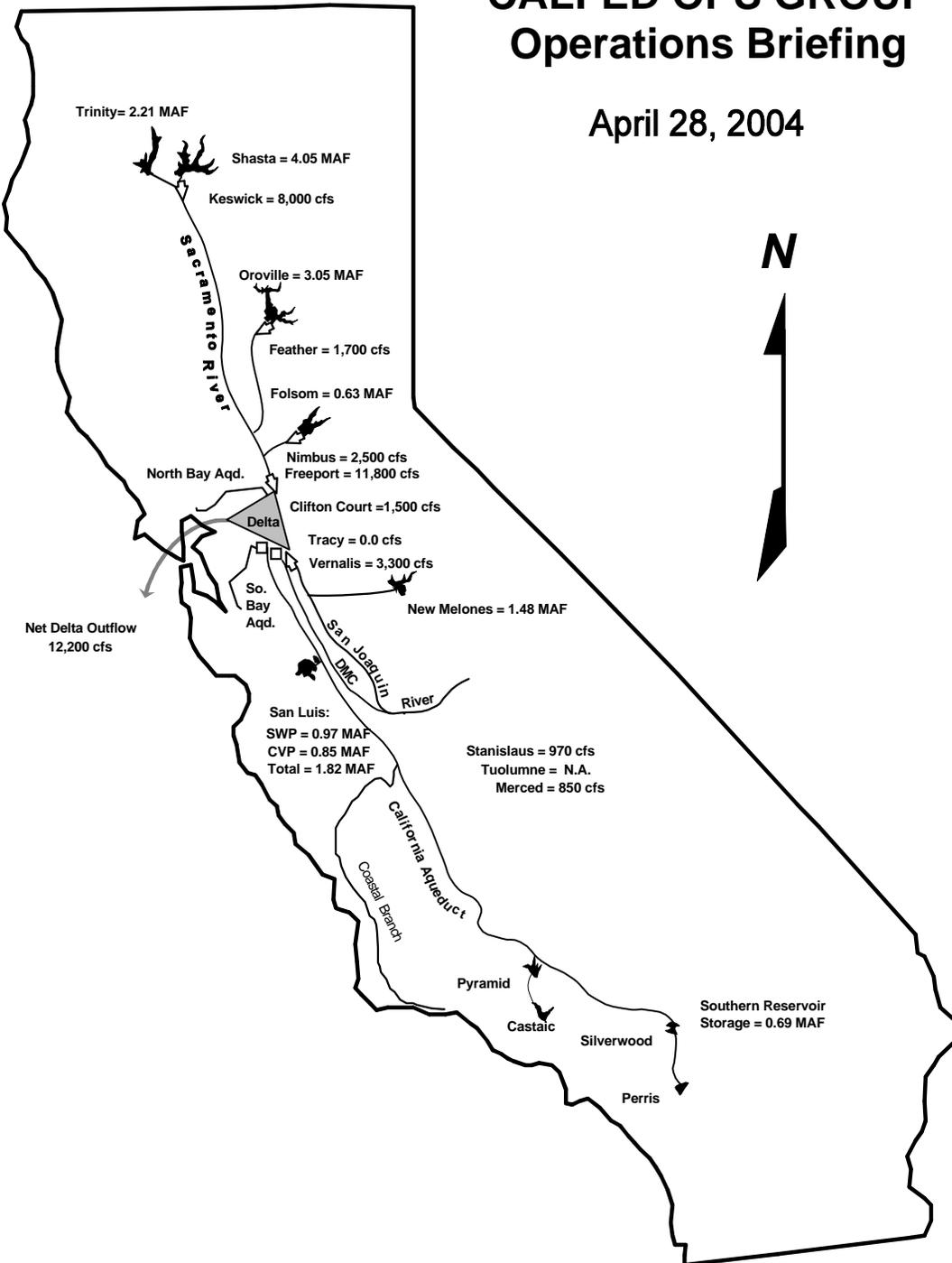


CALFED OPS GROUP Operations Briefing

April 28, 2004



Net Delta Outflow
12,200 cfs

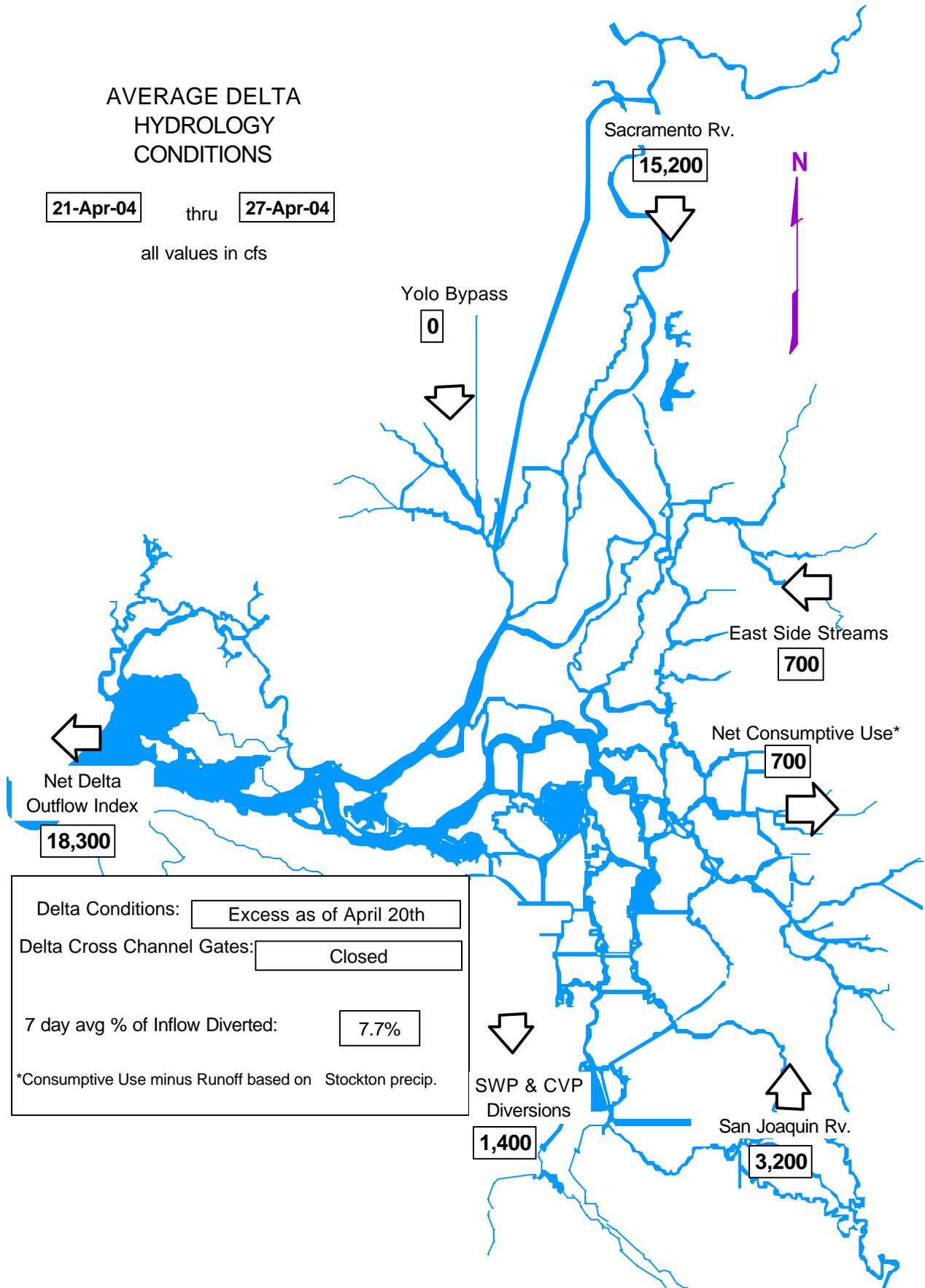
CURRENT SWP/CVP OPERATIONAL STATUS

**DATA AS OF
April 28, 2004**

AVERAGE DELTA HYDROLOGY CONDITIONS

21-Apr-04 thru **27-Apr-04**

all values in cfs



Delta Conditions:	Excess as of April 20th
Delta Cross Channel Gates:	Closed
7 day avg % of Inflow Diverted:	7.7%
*Consumptive Use minus Runoff based on Stockton precip.	

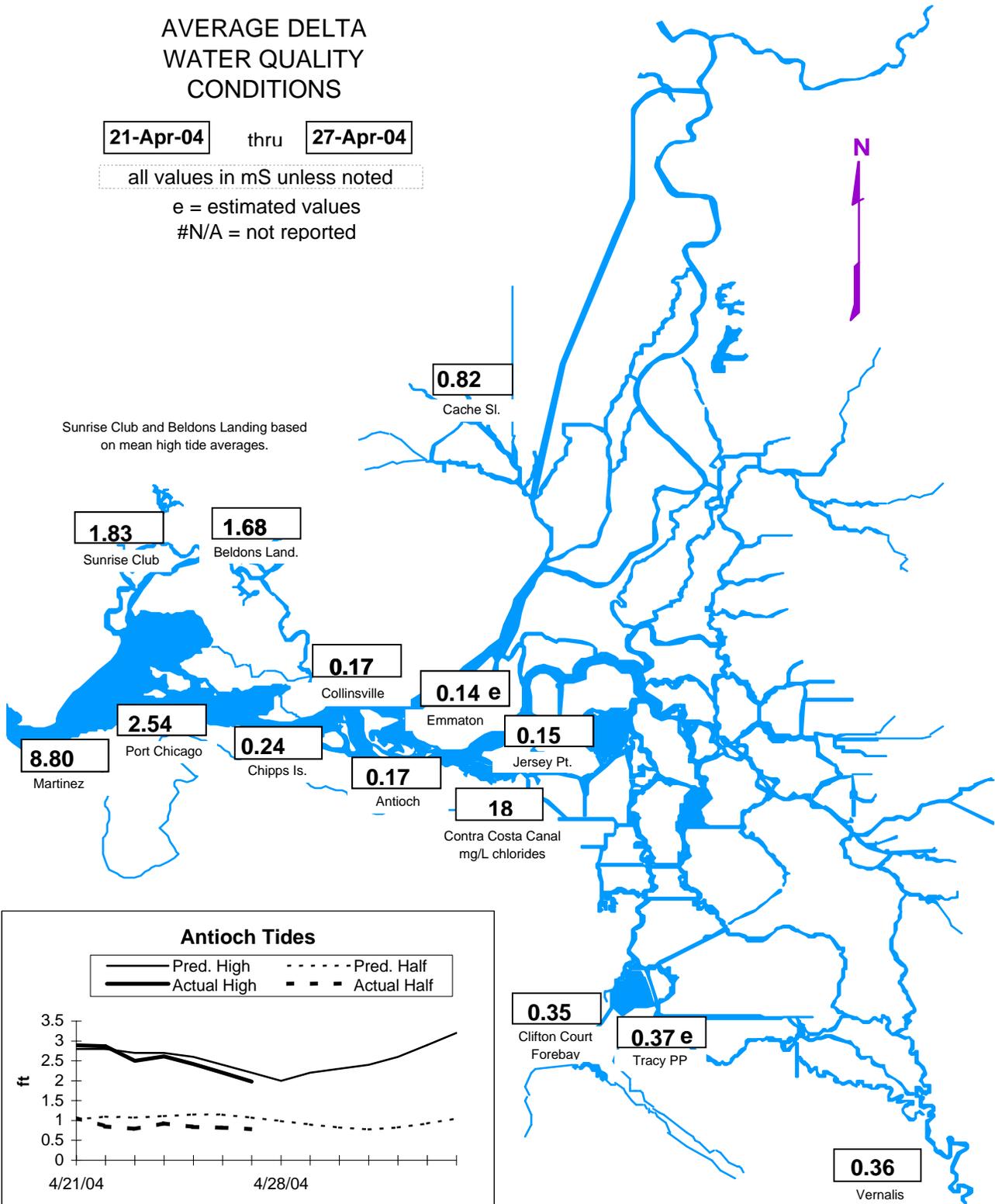
AVERAGE DELTA WATER QUALITY CONDITIONS

21-Apr-04 thru **27-Apr-04**

all values in mS unless noted

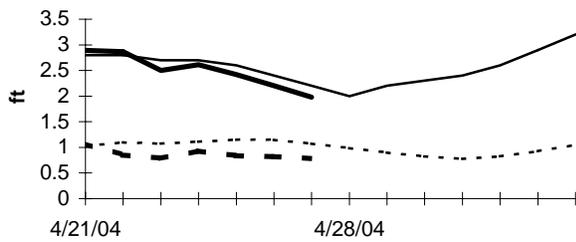
e = estimated values

#N/A = not reported



Antioch Tides

— Pred. High - - - - - Pred. Half
 — Actual High - - - - - Actual Half



DRAFT

Bay-Delta Standards

Contained in D-1641

DRAFT

CRITERIA	Apr 2004	May 2004	Jun 2004
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FLOW/OPERATIONAL

<ul style="list-style-type: none"> • Fish and Wildlife SWP/CVP Export Limits Export/Inflow Ratio Minimum Outflow - mon. - 7 day avg. Habitat Protection Outflow, X2 River Flows: @ Rio Vista - min. mon. avg. - 7 day average @ Vernalis: Base -min. mon. avg. - 7 day average Pulse objective - mon. avg. Delta Cross Channel Gates 	<p style="text-align: center;">↓ Greater of 1,500 cfs or 100% of the 3-day avg. flow at</p> <div style="border: 1px solid black; width: 100%; height: 15px; background-color: #cccccc; margin-bottom: 5px;"></div>		
	35 % of Delta Inflow		
	7,100 - 11,400 cfs or X2 days (through June)		
	2280 cfs		2280 cfs
	1824 cfs		1824 cfs
	3200 cfs, per VAMP		
	Closed		14 days per Op's Group

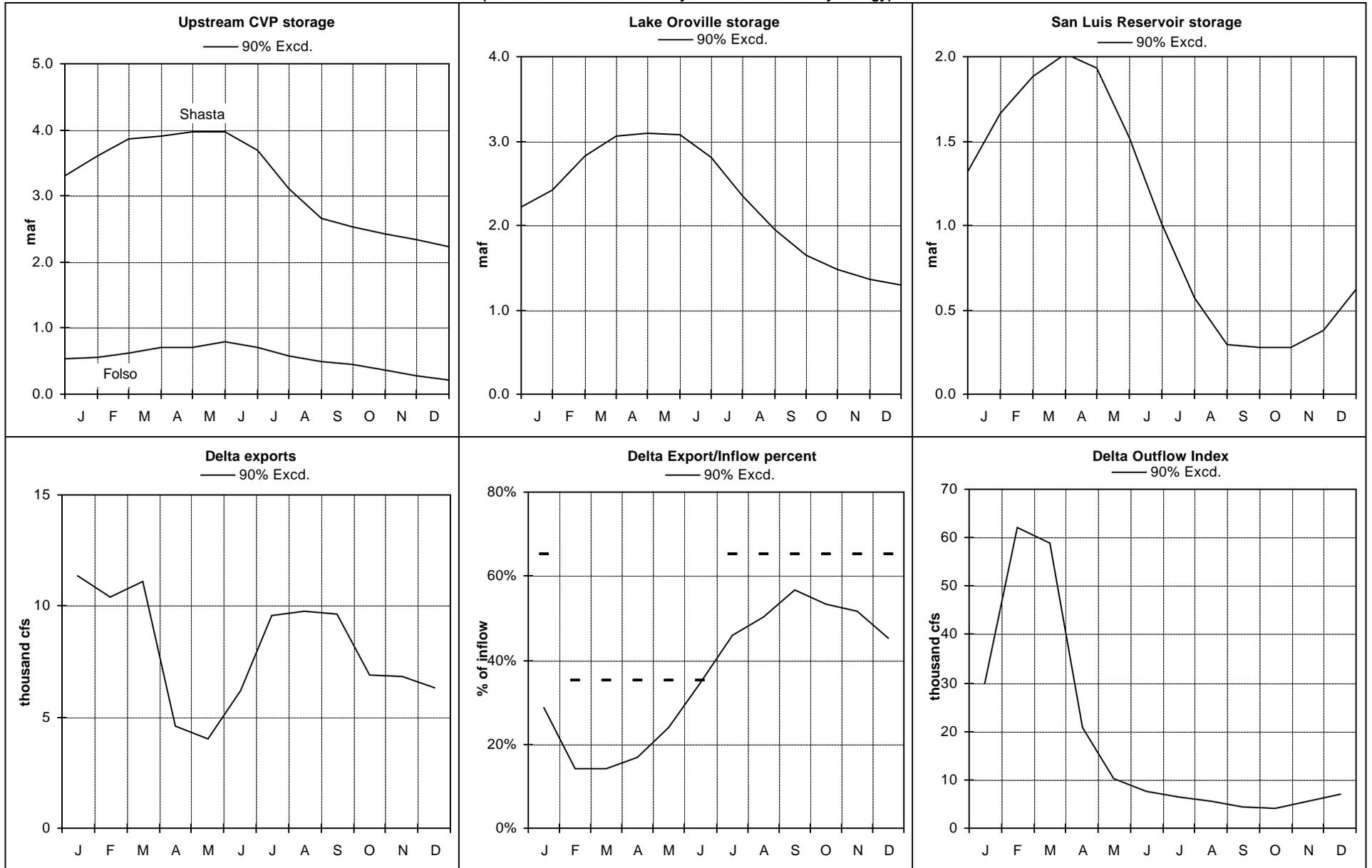
WATER QUALITY STANDARDS

<ul style="list-style-type: none"> • Municipal and Industrial All Export Locations Contra Costa Canal 			
	CI <= 250 mg/l		
	CI <= 150 mg/l for 190 days for Above Normal Year Type		
<ul style="list-style-type: none"> • Agriculture Western/Interior Delta Southern Delta 			
	Max. 14-day average EC mmhos/cm: 0.45 mS/cm for Wet year		
	30 day running avg. EC <= 0.7 mS/cm	30 day running avg. EC <= 0.7 mS/cm	30 day running avg. EC <= 0.7 mS/cm
<ul style="list-style-type: none"> • Fish and Wildlife San Joaquin River Salinity Suisun Marsh Salinity 			
	14-day avg; 0.44 EC		
	11.0 mhtEC		

Water Year Classification: Above Normal (Based on forecast, 4/8/2004)
 SRI (40-30-30 @ 50%) = 8.0 MAF
 SJV (60-20-20 @ 75%) = 2.4 MAF

SWP & CVP CY 2004 Forecasted Operations

(based on 4/1/04 snow survey and historical fall hydrology)



Flows are monthly averages.

WY 2003/2004 EWA Accounting Summary
Based upon April Operations Study - 90% Exceedance Hydrology
Assumptions: SWP Allocation - 65%; NOD Purchases - 160 TAF; SOD Purchases - 84 TAF; MWD SS - 45 TAF

EWA NOD and SOD Storage (+ = Acquisitions) and (- = Releases)																	
1	C/O	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
NOD (Oroville) ⁰	0.398					-0.398 ³											0
NOD (YCWA/PCWA)										160 ^{4,5}	-53 ^{4,5}	-53 ^{4,5}	-53 ^{4,5}				0
Carriage Water Loss ²											-11	-11	-11				-32
SOD (KCWA/SCVWD)									84 ⁶	-30 ⁶	-30 ⁶	-24 ⁶					0
SOD (MWD)																	0

EWA Asset Acquisition in SWP San Luis ¹																	
2	C/O	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
E/I Relaxation																	0
EWA share of SWP gain																	0
Project Pumping to reduce EWA debt																	0
JPOD using excess flows																	0
JPOD using NOD storage																	0
Xfer NOD - Sacramento River ²											19 ^{4,5}	19 ^{4,5}	19 ^{4,5}				57
Xfer NOD - San Joaquin River ²																	0
SOD SWP Surface/GW Purchases										30 ⁶	30 ⁶	24 ⁶					84
Exchange of EWA assets																	0
Groundwater pumping SOD																	0
Exchange from CVP to SWP in SL																	0
Total Monthly EWA Assets		0	30	49	43	19	0	0	0	141							

EWA Asset Acquisition in CVP San Luis																	
3	C/O	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
E/I Relaxation																	0
Project Pumping to reduce EWA debt							0.202										0
JPOD using excess flows																	0
JPOD using NOD storage											24 ^{4,5}	24 ^{4,5}	24 ^{4,5}				71
Xfer NOD - Sacramento River ²																	0
Xfer NOD - San Joaquin River ²																	0
SOD CVP Surface/GW purchases																	0
Exchange of EWA assets																	0
Groundwater pumping																	0
Exchange from SWP to CVP in SL																	0
Total Monthly EWA Assets	0	24	24	24	0	0	0	72									

EWA Expenditures at the Export Pumps																	
4	C/O	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
SWP export cuts								-12 ⁷	-80 ⁷	-50							-143
CVP export cuts									-71 ⁸								-71
Total Expenditures	0	-12	-152	-50	0	0	0	0	0	0	-214						

EWA End-of-Month Incremental Storage Changes																	
5	C/O	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
SWP in SL (without Source Shift)	0.057	0	0	0	0	0	0	-12	-80	-20	49	43	19	0	0	0	-2
CVP in SL	-0.202	0.000	0.000	0.000	0.000	0.000	0.202	0	-71	0	24	24	24	0	0	0	0
NOD Storage	0.398	0	0	0	0	-0.398	0	0	0	160	-53	-53	-53	0	0	0	0
SOD Storage (non-S.L.)	0.000	0	0	0	0	0	0	0	84	-30	-30	-24	0	0	0	0	0
Total Incremental Storage Changes	0.253	0	0	0	0	0	0	-12	-68	110	-11	-11	-11	0	0	0	-2

EWA End-of-Month Storage Balance at Various Sites																	
6	C/O	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
SWP in SL (without Source Shift)	0.057	0	0	0	0	0	0	-12	-93	-113	-64	-21	-2	-2	-2	-2	
CVP SL	-0.202	-0.202	-0.202	-0.202	-0.202	-0.202	0	0	-71	-71	-48	-24	0	0	0	0	
NOD Storage	0.398	0.398	0.398	0.398	0.398	0.000	0	0	0	160	107	53	0	0	0	0	
SOD Storage (non-S.L.)	0.000	0	0	0	0	0	0	0	84	54	24	0	0	0	0	0	
EWA Asset Balance	0.253	0	0	0	0	0	0	-12	-80	30	19	9	-2	-2	-2	-2	

San Luis Reservoir Storage Conditions																	
7	C/O	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Total Storage (base case) ⁹		650	788	1010	1665	1879	2020	1927	1538	1005	578	298	320	335	466	793	
Encroachment																	
Total Storage (EWA case)		650	788	1010	1664	1878	2020	1914	1374	821	466	253	318	332	464	791	
MWD Source Shifting											20	25	-11	-11	-11	-11	
Storage (with MWD source shifting)		650	788	1010	1664	1878	2020	1914	1374	821	486	298	351	355	475	791	

⁰ 2004 NOD Purchases = 65(YCWA) + 10(PCWA). YCWA has firm 65 taf; can exercise options for an additional 120 taf. PCWA has firm 10 taf; can exercise options for an additional 10 taf.

¹ Aqueduct conveyance and evaporation losses are not included.

² Carriage water loss applies to water transfers from the Sacramento River (assumed to be 20% until modeling results indicate otherwise);

a 10% conveyance loss applies to water transfers from the San Joaquin River. Carriage water loss in WY 2003 was 0%.

³ The SWP spilled ~ 400 af of EWA water stored in Oroville during flood control operations.

⁴ 2004 YCWA Transfer (Joint place of use) ⁵ 2004 PCWA Transfer (Joint place of use)

⁶ 2004 SOD Transfers - 85 TAF from KCWA (SWP place of use)

⁷ The SWP cost for VAMP and its shoulders are estimated to be 33 TAF and 60 TAF, respectively (based upon the SWP April studies).

⁸ The CVP cost for "shoulders" on VAMP is estimated to be 71 TAF (based upon the CVP April B2 studies).

⁹ Based upon DWR's 90% (75% Fall) allocation study (dated 4/2004) and the USBR's "April90b2" study (dated 4/14/04).

WY 2003/2004 EWA Accounting Summary
Based upon April Operations Study - 50% Exceedance Hydrology
Assumptions: SWP Allocation - 74%; NOD Purchases - 94 TAF; SOD Purchases - 160 TAF; MWD SS - 34 TAF

EWA NOD and SOD Storage (+ = Acquisitions) and (- = Releases)																	
1	C/O	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
NOD (Oroville) ⁰	0.398					-0.398 ³											0
NOD (YCWA/PCWA)										94 ^{4,5}	-31 ^{4,5}	-31 ^{4,5}	-31 ^{4,5}				0
Carriage Water Loss ²											-6	-6	-6				-19
SOD (KCWA/SCVWD)									160 ⁶	-50 ⁶	-60 ⁶	-50 ⁶					0
SOD (MWD)																	0

EWA Asset Acquisition in SWP San Luis ¹																	
2	C/O	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
E/I Relaxation																	0
EWA share of SWP gain																	0
Project Pumping to reduce EWA debt																	0
JPOD using excess flows																	0
JPOD using NOD storage																	0
Xfer NOD - Sacramento River ²											1 ^{4,5}	6 ^{4,5}	6 ^{4,5}				14
Xfer NOD - San Joaquin River ²																	0
SOD SWP Surface/GW Purchases										50 ⁶	50 ⁶	50 ⁶					150
Exchange of EWA assets																	0
Groundwater pumping SOD																	0
Exchange from CVP to SWP in SL																	0
Total Monthly EWA Assets		0	0	0	0	0	0	0	0	50	51	56	6	0	0	0	164

EWA Asset Acquisition in CVP San Luis																	
3	C/O	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
E/I Relaxation																	0
Project Pumping to reduce EWA debt							0.202										0
JPOD using excess flows																	0
JPOD using NOD storage											24 ^{4,5}	19 ^{4,5}	19 ^{4,5}				61
Xfer NOD - Sacramento River ²																	0
Xfer NOD - San Joaquin River ²																	0
SOD CVP Surface/GW purchases											10 ⁶						10
Exchange of EWA assets																	0
Groundwater pumping																	0
Exchange from SWP to CVP in SL																	0
Total Monthly EWA Assets	0	0	0	0	0	0	0	0	0	0	34	19	19	0	0	0	72

EWA Expenditures at the Export Pumps																	
4	C/O	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
SWP export cuts								-23 ⁷	-100 ⁷	-50							-173
CVP export cuts									-71 ⁸								-71
Total Expenditures	0	0	0	0	0	0	0	-23	-171	-50	0	0	0	0	0	0	-244

EWA End-of-Month Incremental Storage Changes																	
5	C/O	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
SWP in SL (without Source Shift)	0.057	0	0	0	0	0	0	-23	-100	0	51	56	6	0	0	0	-9
CVP in SL	-0.202	0.000	0.000	0.000	0.000	0.000	0.202	0	-71	0	34	19	19	0	0	0	0
NOD Storage	0.398	0	0	0	0	-0.398	0	0	0	94	-31	-31	-31	0	0	0	0
SOD Storage (non-S.L.)	0.000	0	0	0	0	0	0	0	160	-50	-60	-50	0	0	0	0	0
Total Incremental Storage Changes	0.253	0	0	0	0	0	0	-23	-11	44	-6	-6	-6	0	0	0	-9

EWA End-of-Month Storage Balance at Various Sites																	
6	C/O	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
SWP in SL (without Source Shift)	0.057	0	0	0	0	0	0	-23	-123	-123	-72	-16	-9	-9	-9	-9	-9
CVP SL	-0.202	-0.202	-0.202	-0.202	-0.202	-0.202	0	0	-71	-71	-38	-19	0	0	0	0	0
NOD Storage	0.398	0.398	0.398	0.398	0.398	0.000	0	0	0	94	63	31	0	0	0	0	0
SOD Storage (non-S.L.)	0.000	0	0	0	0	0	0	0	160	110	50	0	0	0	0	0	0
EWA Asset Balance	0.253	0	0	0	0	0	0	-23	-34	9	3	-3	-9	-9	-9	-9	-9

San Luis Reservoir Storage Conditions																	
7	C/O	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Total Storage (base case) ⁹		650	788	1010	1665	1879	2020	1942	1507	913	485	207	250	193	293	650	
Encroachment																	
Total Storage (EWA case)		650	788	1010	1664	1878	2020	1919	1312	719	375	173	241	184	283	640	
MWD Source Shifting											9	25	-9	-9	-9	-9	
Storage (with MWD source shifting)		650	788	1010	1664	1878	2020	1919	1312	719	384	207	266	201	292	640	

⁰ 2004 NOD Purchases = 65(YCWA) + 10(PCWA). YCWA has firm 65 taf; can exercise options for an additional 120 taf. PCWA has firm 10 taf; can exercise options for an additional 10 taf.

¹ Aqueduct conveyance and evaporation losses are not included.

² Carriage water loss applies to water transfers from the Sacramento River (assumed to be 20% until modeling results indicates otherwise);

a 10% conveyance loss applies to water transfers from the San Joaquin River. Carriage water loss in WY 2003 was 0%.

³ The SWP spilled ~ 400 af of EWA water stored in Oroville during flood control operations.

⁴ 2004 YCWA Transfer (Joint place of use) ⁵ 2004 PCWA Transfer (Joint place of use)

⁶ 2004 SOD Transfers - 125 TAF from KCWA (SWP place of use); 25 TAF from MWD (SWP place of use); and 10 TAF from SCVWD (CVP place of use)

⁷ The SWP cost for VAMP and its shoulders are estimated to be 47 TAF and 76 TAF, respectively (based upon the SWP April studies).

⁸ The CVP cost for "shoulders" on VAMP is estimated to be 71 TAF (based upon the CVP April B2 studies).

⁹ Based upon DWR's 50% (75% Fall) allocation study (dated 4/2004).