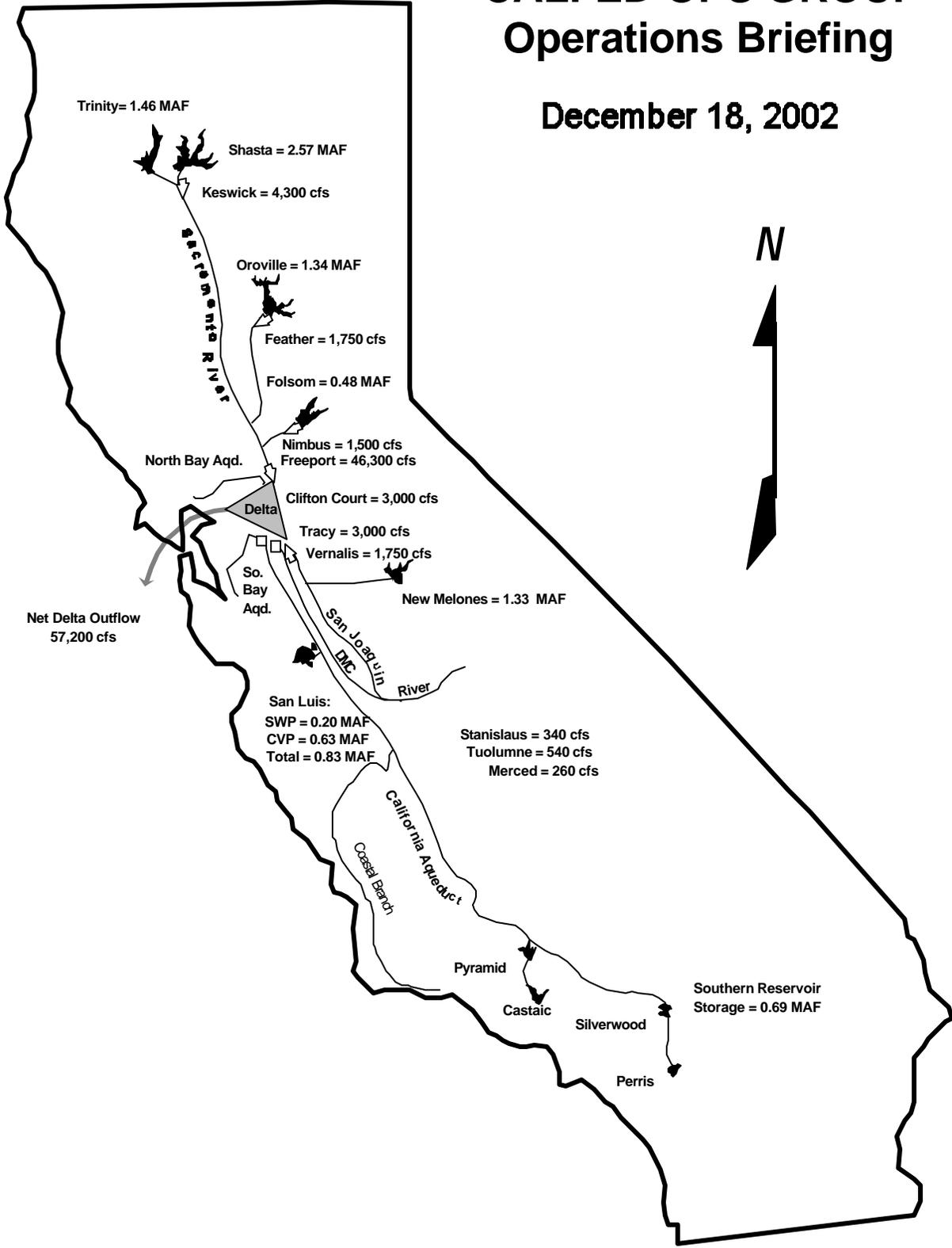


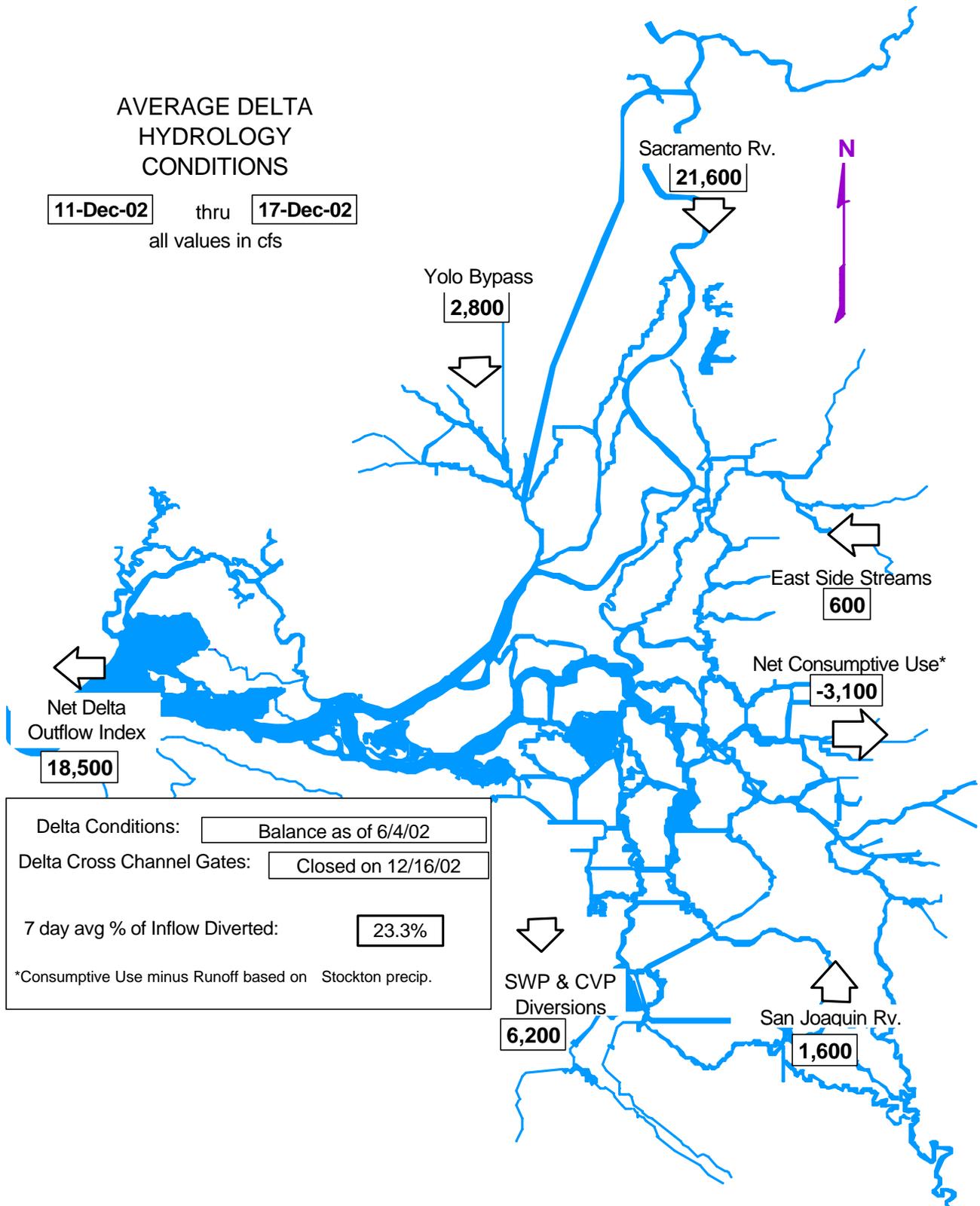
# CALFED OPS GROUP Operations Briefing

December 18, 2002



AVERAGE DELTA  
HYDROLOGY  
CONDITIONS

11-Dec-02 thru 17-Dec-02  
all values in cfs



Delta Conditions:	Balance as of 6/4/02
Delta Cross Channel Gates:	Closed on 12/16/02
7 day avg % of Inflow Diverted:	23.3%
*Consumptive Use minus Runoff based on Stockton precip.	

# AVERAGE DELTA WATER QUALITY CONDITIONS

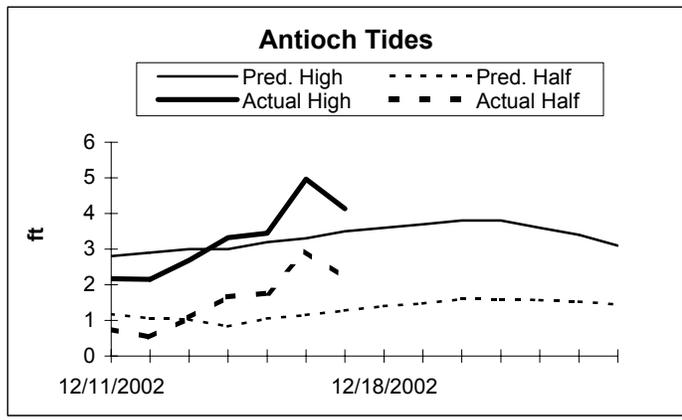
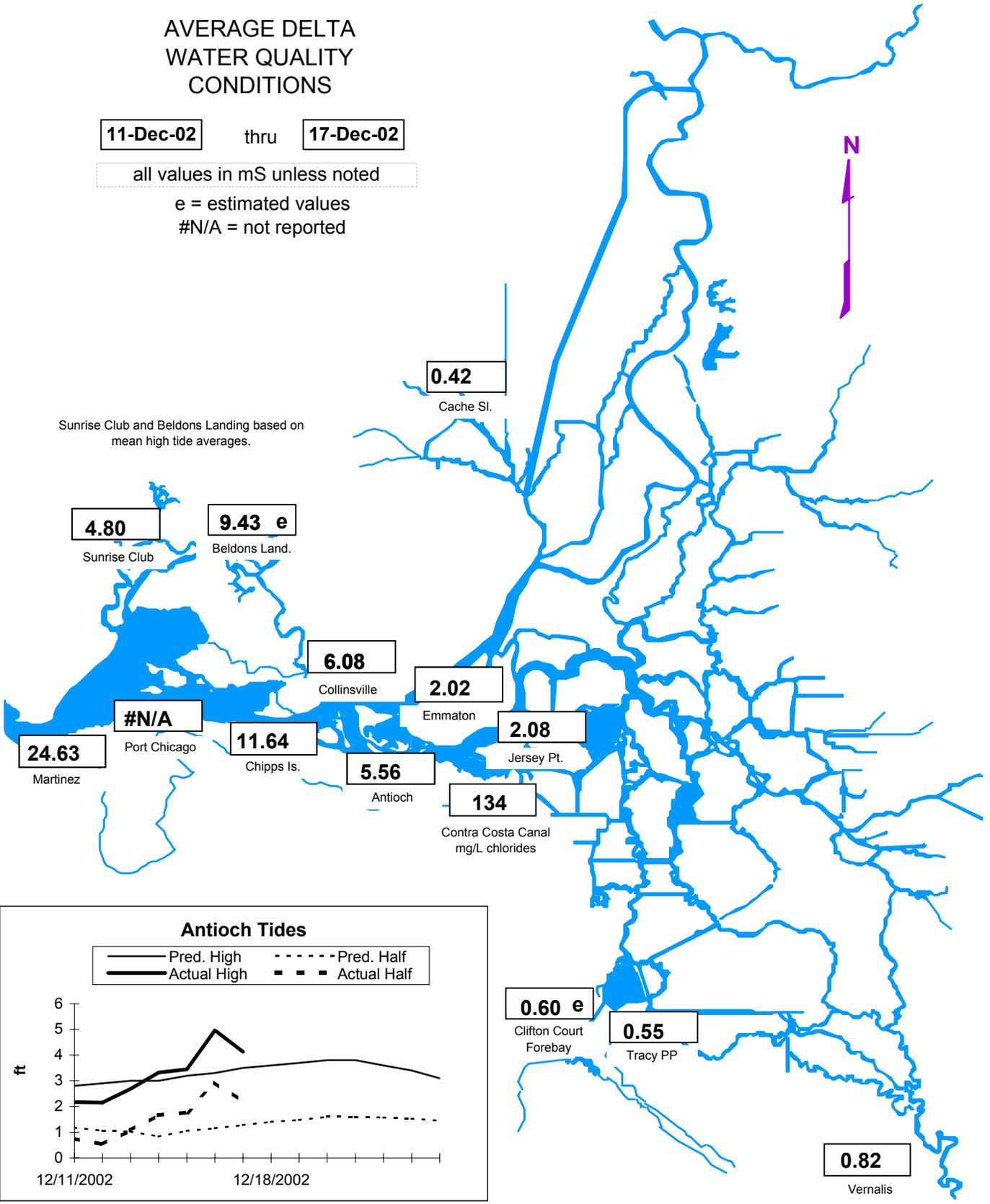
**11-Dec-02** thru **17-Dec-02**

all values in mS unless noted

e = estimated values  
#N/A = not reported



Sunrise Club and Beldons Landing based on mean high tide averages.



**DRAFT**

# Bay-Delta Standards

Contained in D-1641

**DRAFT**

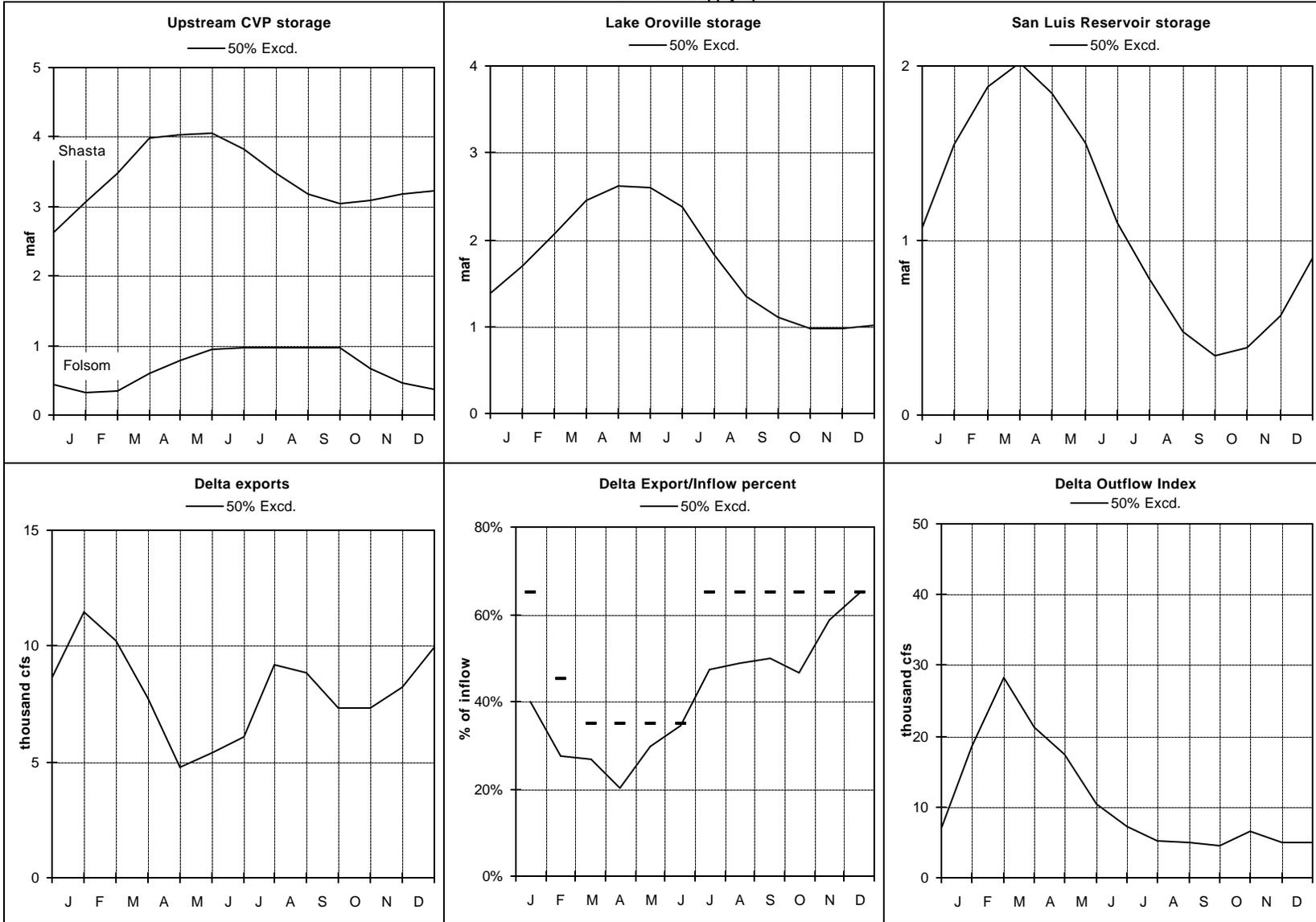
CRITERIA	Nov 02	Dec 02	Jan 03	
<b>FLOW/OPERATIONAL</b>				
<ul style="list-style-type: none"> <li>• Fish and Wildlife</li> <li>  SWP/CVP Export Limits</li> <li>  Export/Inflow Ratio</li> <li>  Minimum Outflow - mon.</li> <li>    - 7 day avg.</li> <li>  Striped Bass Survival</li> <li>  Suisun Marsh</li> <li>  Habitat Protection Outflow, X2</li> <li>  River Flows:</li> <li>    @ Rio Vista - min. mon. avg.</li> <li>      - 7 day average</li> <li>    @ Vernalis: Base -min. mon. avg.</li> <li>      - 7 day average</li> <li>      Pulse</li> <li>  Delta Cross Channel Gates</li> </ul>				
	65%			
	4500 cfs	4500 cfs	4500 cfs	
	3500 cfs	3500 cfs	3500 cfs	
	4500 cfs	4500 cfs		
	3500 cfs	3500 cfs		
	Conditional: For the Nov-Jan period, DCC gates may be closed for up to a total of 45 days			

<b>WATER QUALITY STANDARDS</b>			
<ul style="list-style-type: none"> <li>• Municipal and Industrial</li> <li>  All Export Locations</li> <li>  Contra Costa Canal</li> </ul>		<= 250 mg/l Cl	
		<= 150 mg/l for 165 days	
<ul style="list-style-type: none"> <li>• Agriculture</li> <li>  Southern Delta</li> </ul>		30-day running average EC <= 1.0 mS	
<ul style="list-style-type: none"> <li>• Fish and Wildlife</li> <li>  Suisun Marsh Salinity</li> </ul>	15.5 mS/cm for Eastern / 16.5 for Western Marsh	15.5 mS/cm	12.5 mS/cm

**Water Year Classification: (Dec 1 forecast)**  
 SRI (40-30-30 @ 50%) =6.4 (Dry)  
 SJV (60-20-20 @ 75%) =2.0 (Critical)

# SWP & CVP WY 2003 Forecasted Operations.

Based on 12/02 water supply update



Flows are monthly averages.

WY 2001/2002 EWA Accounting Summary  
Based on November 1 -- 90% Exceedence Hydrology

EWA NOD and SOD Storage																	
1	C/O	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
NOD <sup>0</sup>	45															10	10
YCWA										15	60	54	5				135
SGA										0.4	1.4	1.4	1.5	1.7	0.7		7
CVP/SWP Reservoirs													20*				20
SOD														37 <sup>7</sup>			37

EWA Asset Acquisition in SWP San Luis <sup>1</sup>																	
2	C/O	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
E/I Relaxation			3			76											79
EWA share of SWP gain		3															3
Project Pumping to reduce EWA debt																	0
JPOD using excess flows																	0
JPOD using NOD storage																	0
Xfer NOD - Sacramento River <sup>2</sup>		4 <sup>3</sup>	11 <sup>3</sup>							13 <sup>6</sup>		22 <sup>6</sup>	6 <sup>6</sup>				56
Xfer NOD - San Joaquin River <sup>2</sup>		12 <sup>4</sup>	11 <sup>4</sup>														23
SOD SWP Surface/GW Purchases		11 <sup>5</sup>	9 <sup>5</sup>	12 <sup>5</sup>						33 <sup>7</sup>	15 <sup>7</sup>		13 <sup>7</sup>				93
Exchange of EWA assets							-9 <sup>14</sup>	-31 <sup>14</sup>			10 <sup>14</sup>	10 <sup>14</sup>					-20
Groundwater pumping SOD																	0
Exchange from CVP to SWP in SL																	0
<b>Total Monthly EWA Assets</b>		<b>30</b>	<b>34</b>	<b>12</b>	<b>0</b>	<b>76</b>	<b>-9</b>	<b>-31</b>	<b>0</b>	<b>46</b>	<b>25</b>	<b>32</b>	<b>19</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>234</b>

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
JPOD using excess flows																	0
JPOD using NOD storage											43.8 <sup>6</sup>	21.7 <sup>6</sup>	0.3 <sup>8</sup>				66
Xfer NOD - Sacramento River <sup>2</sup>																0.5 <sup>8</sup>	1
Xfer NOD - San Joaquin River <sup>2</sup>																	0
SOD CVP Surface/GW purchases																	0
Exchange of EWA assets																	0
Groundwater pumping																	0
Exchange from SWP to CVP in SL																	0
<b>Total Monthly EWA Assets</b>	<b>0</b>	<b>44</b>	<b>22</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>66</b>									

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					-66 <sup>9</sup>		-38 <sup>13</sup>	-28 <sup>10</sup>	-79 <sup>10</sup>	-3							-215
CVP export cuts									-69 <sup>11</sup>	-2							-72
<b>Total Expenditures</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-66</b>	<b>0</b>	<b>-38</b>	<b>-28</b>	<b>-149</b>	<b>-5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-287</b>

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)	7	30	34	12	-66	76	-47	-59	-79	43	25	32	3	0	0	0	11
CVP in SL	0	0	0	0	0	0	0	0	-69	-2	44	22	0.3	0	0	1	-6
NOD Storage	45	-19	-26	0	0	0	0	0	0	-3	7	1	20	2	1	9	36
Groundwater SOD	0	0	0	0	0	0	0	0	0	0	0	0	0	37	0	0	37
<b>Total Incremental Storage Changes</b>	<b>52</b>	<b>11</b>	<b>8</b>	<b>12</b>	<b>-66</b>	<b>76</b>	<b>-47</b>	<b>-59</b>	<b>-149</b>	<b>38</b>	<b>76</b>	<b>55</b>	<b>23</b>	<b>38</b>	<b>1</b>	<b>10</b>	<b>74</b>

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)	7	38	72	84	17	93	46	-13	-92	-49	-24	8	11	11	11	11	
CVP SL	0	0	0	0	0	0	0	0	-69	-72	-28	-6	-6	-6	-6	-6	
NOD Storage	45	26	0	0	0	0	0	0	0	-3	4	5	24	26	27	36	
Groundwater SOD	0	0	0	0	0	0	0	0	0	0	0	0	0	37	37	37	
<b>EWA Asset Balance</b>	<b>52</b>	<b>64</b>	<b>72</b>	<b>84</b>	<b>17</b>	<b>93</b>	<b>46</b>	<b>-13</b>	<b>-162</b>	<b>-124</b>	<b>-48</b>	<b>7</b>	<b>25</b>	<b>64*</b>	<b>64*</b>	<b>74*</b>	

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) <sup>12</sup>		707	884	1302	1790	1832	1982	1857	1565	995	699	642	684	645	783	1037	
Encroachment																	
Total Storage (EWA case)		745	955	1386	1807	1925	2028	1844	1403	874	647	644	688	650	788	1042	
MWD Source Shifting	29	-10	-10	-9													
<b>Storage (with MWD source shifting)</b>		<b>764</b>	<b>964</b>	<b>1386</b>	<b>1807</b>	<b>1925</b>	<b>2028</b>	<b>1844</b>	<b>1403</b>	<b>874</b>	<b>647</b>	<b>644</b>	<b>688</b>	<b>650</b>	<b>788</b>	<b>1042</b>	

<sup>0</sup> 2001 NOD Storage = 10(OWID) + 50(YCWA) + 20(PCWA) + 25(MID). 2002 NOD Storage = 135(YCWA) + 10(SGA).  
<sup>\*</sup> EWA backed up water into Lake Oroville between September 14 and 30, 2002 (which includes a 20% carriage water loss). SOD equivalent = 16 TAF (not a 1:1 Exchange).  
 Since EWA water was backed up into Lake Oroville, then the amount of available water south of the Delta is reduced.  
<sup>1</sup> Aqueduct conveyance and evaporation losses are not included.  
<sup>2</sup> Carriage water loss applies to water transfers from the Sacramento River; a 10% conveyance loss applies to water transfers from the San Joaquin River.  
 Carriage water losses applied to the 2001 water transfers are as follows: 15% for the YCWA and OWID transfers; and 25% for the PCWA transfer.  
 A carriage water loss of 20% was applied to the 2002 water transfers.  
<sup>3</sup> 2001 PCWA Transfer (Joint place of use)      <sup>4</sup> 2001 MID Transfer (Joint place of use)  
<sup>5</sup> SOD 2001 SWP post lowpoint deliveries = 15(Semitropic/Tulare ID) + 5(Cawelo) + 12(Santa Clara)      <sup>6</sup> 2002 YCWA Transfer (Joint place of use)  
<sup>7</sup> 2002 KCWA Transfer (SWP place of use)      <sup>8</sup> SGA Transfer (CVP place of use)      <sup>9</sup> A total of 66 TAF has been expended for the 1/5-1/9 curtailment.  
<sup>10</sup> Approximately 45 TAF has been expended for 2002 VAMP (28 TAF in April and 17 TAF in May) for the SWP.  
<sup>11</sup> Approximately 69 TAF has been expended for 2002 VAMP shoulders for the CVP.  
<sup>12</sup> Based upon the 11/1/02 DWR's 90% allocation study  
<sup>13</sup> Conversion from EWA to Project water since San Luis Reservoir was physically full.      <sup>14</sup> A 2:1 exchange program between the SWC and EWA beginning 3/30/02 and ending 4/8/02.