

# GRASSLAND BYPASS PROJECT

## MONTHLY DATA REPORT

**April 2007**

July 30, 2007

### **Preliminary Results**

A cooperative effort of:

U.S. Bureau of Reclamation  
Central Valley Regional Water Quality Control Board  
U.S. Fish and Wildlife Service  
California Department of Fish and Game  
San Luis & Delta-Mendota Water Authority  
U.S. Environmental Protection Agency  
U.S. Geological Survey

compiled by San Francisco Estuary Institute





## GRASSLAND BYPASS PROJECT

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**Table 1. Continuous water monitoring at Station A (inflow to San Luis Drain), April 2007.**

See Table 27 for explanation of footnotes and agency abbreviations.

<b>PARAMETER</b>	<b>Flow</b>	<b>Specific Conductance</b>
<b>DATA SOURCE</b>	<b>SLDMWA</b>	<b>SLDMWA</b>
<b>UNITS</b>	<b>cfs</b>	<b>µS/cm</b>
Apr-01-2007	30	5,410
Apr-02-2007	29	5,240
Apr-03-2007	24	4,670
Apr-04-2007	29	4,400
Apr-05-2007	29	4,200
Apr-06-2007	36	4,420
Apr-07-2007	37	4,950
Apr-08-2007	35	5,070
Apr-09-2007	33	5,170
Apr-10-2007	31	5,350
Apr-11-2007	35	5,180
Apr-12-2007	32	5,240
Apr-13-2007	32	5,290
Apr-14-2007	34	4,970
Apr-15-2007	33	4,790
Apr-16-2007	33	4,980
Apr-17-2007	36	5,150
Apr-18-2007	36	5,280
Apr-19-2007	33	4,900
Apr-20-2007	37	4,430
Apr-21-2007	32	4,610
Apr-22-2007	33	4,690
Apr-23-2007	35	4,700
Apr-24-2007	30	4,520
Apr-25-2007	28	4,910
Apr-26-2007	24	5,140
Apr-27-2007	23	5,040
Apr-28-2007	21	5,310
Apr-29-2007	21	5,490
Apr-30-2007	23	5,740
.	.	.
Mean	30.9	4,970

**Table 2a. Continuous water monitoring at Stations B and B2 (San Luis Drain Terminus), April 2007.**

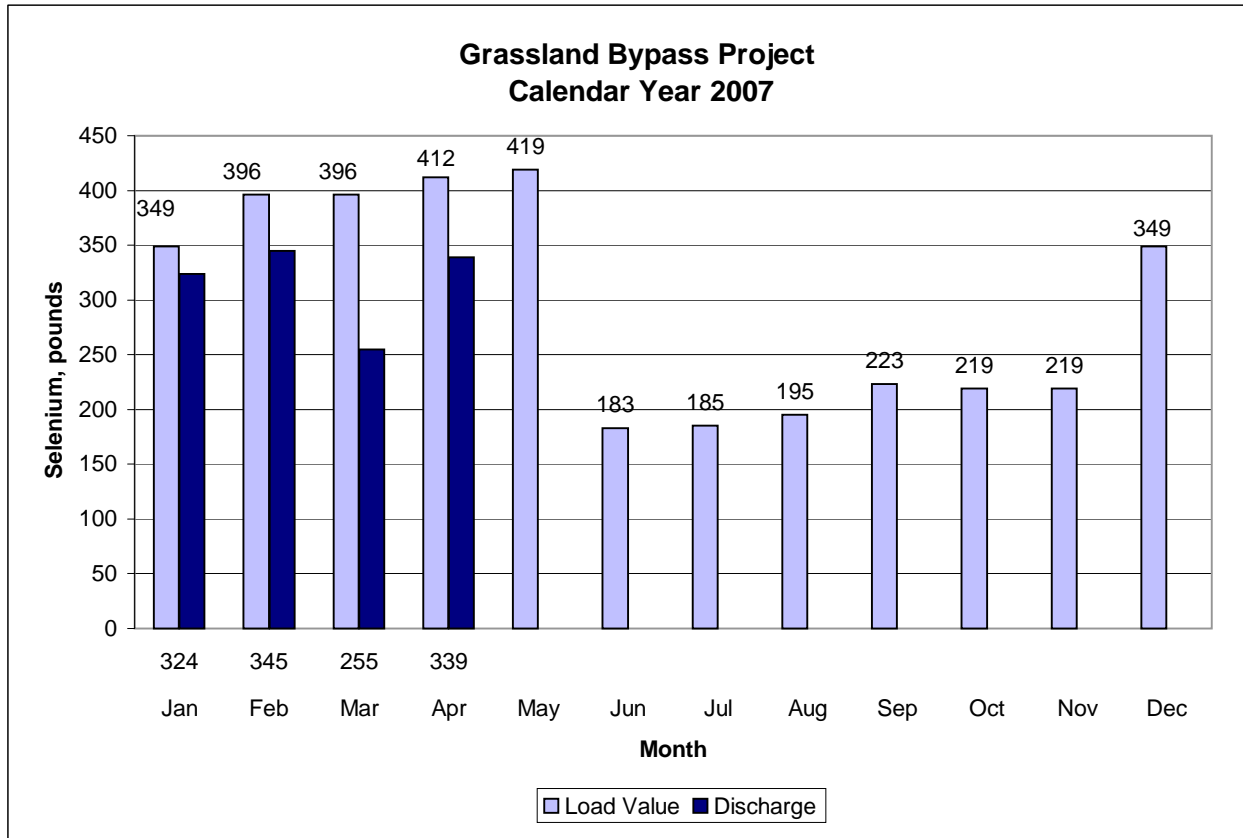
See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	San Luis Drain Outlet Flow	Temperature	Boron	Specific Conductance	Selenium (total)	Selenium (total) Load
DATA SOURCE	SLDMWA*	SLDMWA	CVRWQCB	SLDMWA	CVRWQCB	Computed
UNITS	cfs	°C	mg/L	µS/cm	µg/L	lbs
Apr-01-2007	26	20.0	8.5	5,150	77.8	10.8
Apr-02-2007	30	20.4	8.7	5,100	70.4	11.4
Apr-03-2007	30	20.9	9.0	5,080	67.2	11.0
Apr-04-2007	25	21.5	8.6	4,990	73.6	9.8
Apr-05-2007	29	21.3	8.4	5,100	81.2	12.6
Apr-06-2007	31	21.6	7.2	5,110	84.2	14.0
Apr-07-2007	36	22.3	6.5	4,610	49.6	9.6
Apr-08-2007	38	21.9	5.8	4,180	40.4	8.3
Apr-09-2007	37	21.3	6.0	4,160	47.0	9.3
Apr-10-2007	34	19.6	6.8	4,440	64.0	11.7
Apr-11-2007	34	19.3	6.8	4,810	72.5	13.3
Apr-12-2007	34	17.9	7.1	4,980	76.2	13.9
Apr-13-2007	35	17.2	7.1	4,970	73.6	13.9
Apr-14-2007	35	17.5	7.7	5,160	77.4	14.5
Apr-15-2007	34	16.7	7.5	4,960	77.3	14.1
Apr-16-2007	36	17.0	7.6	5,040	80.3	15.6
Apr-17-2007	35	18.8	6.8	4,950	76.5	14.3
Apr-18-2007	36	18.3	6.5	4,630	70.0	13.7
Apr-19-2007	37	17.2	6.7	4,690	69.5	13.9
Apr-20-2007	35	16.7	7.7	4,760	69.2	13.0
Apr-21-2007	38	17.1	7.4	4,750	71.4	14.5
Apr-22-2007	35	17.5	7.4	4,740	68.1	12.8
Apr-23-2007	34	18.1	7.0	4,490	56.8	10.3
Apr-24-2007	36	19.9	5.4	4,080	50.4	9.7
Apr-25-2007	31	21.5	6.2	4,360	52.4	8.7
Apr-26-2007	27	21.6	6.4	4,520	56.7	8.2
Apr-27-2007	25	23.0	6.4	4,530	62.8	8.4
Apr-28-2007	23	24.7	6.4	4,320	53.0	6.4
Apr-29-2007	21	25.8	6.6	4,230	47.2	5.2
Apr-30-2007	20	24.9	6.8	4,430	52.6	5.6
Mean	32	20.1	7.1	4,710	65.6	11.3
<b>Total Acre-feet</b>	<b>1,890</b>					
<b>Total (lbs)</b>						<b>339</b>

**Load Limitation for April 2007 (lbs) 412**

◆To improve the accuracy of flow measurements, Reclamation and the San Luis & Delta-Mendota Water Authority, with technical assistance from the USGS, are measuring flow at the San Luis Drain Outlet. The Outlet is located two miles from Station B. Discharge is measured as stage over a sharp-crested weir, identical to Station A. This is a simpler and more accurate method that will not be altered by sediment accumulation. Water quality data are still collected at the old Site B.

Figure 2b. Monthly selenium discharges from the terminus of the San Luis Drain into Mud Slough compared to load values.



**Table 3. Continuous water monitoring at Station D (Mud Slough North downstream of drainage discharges), April 2007.**

See Table 27 for explanation of footnotes and agency abbreviations.

<b>PARAMETER</b>	<b>Flow</b>	<b>Temperature</b>	<b>Specific Conductance</b>
<b>DATA SOURCE</b>	<b>USGS</b>	<b>USGS</b>	<b>USGS</b>
<b>UNITS</b>	<b>cfs</b>	<b>°C</b>	<b>µS/cm</b>
Apr-01-2007	79	20.0	3,500
Apr-02-2007	66	19.3	3,900
Apr-03-2007	57	19.8	4,140
Apr-04-2007	63	20.1	3,520
Apr-05-2007	67	19.9	3,580
Apr-06-2007	52	20.6	4,170
Apr-07-2007	49	21.0	4,220
Apr-08-2007	52	20.5	3,910
Apr-09-2007	52	19.9	3,590
Apr-10-2007	48	18.1	3,860
Apr-11-2007	45	18.0	4,310
Apr-12-2007	45	16.5	4,460
Apr-13-2007	45	16.4	4,510
Apr-14-2007	47	16.3	4,330
Apr-15-2007	52	15.9	3,930
Apr-16-2007	56	16.5	3,760
Apr-17-2007	50	17.9	4,000
Apr-18-2007	46	16.9	4,190
Apr-19-2007	44	15.7	4,440
Apr-20-2007	42	15.7	4,300
Apr-21-2007	43	16.1	4,270
Apr-22-2007	42	16.8	4,370
Apr-23-2007	42	17.3	4,010
Apr-24-2007	43	19.0	3,710
Apr-25-2007	50	20.1	3,380
Apr-26-2007	49	20.4	3,390
Apr-27-2007	43	22.4	3,620
Apr-28-2007	47	24.1	3,280
Apr-29-2007	47	24.4	2,970
Apr-30-2007	42	23.3	3,290
.	.	.	.
Mean	50	19.0	3,900

**Table 4. Continuous water monitoring at Station F (Salt Slough at Highway 165), April 2007.**

See Table 27 for explanation of footnotes and agency abbreviations.

<b>PARAMETER</b>	<b>Flow</b>	<b>Temperature</b>	<b>Specific Conductance</b>
<b>DATA SOURCE</b>	<b>usgs</b>	<b>usgs</b>	<b>usgs</b>
<b>UNITS</b>	<b>cfs</b>	<b>°C</b>	<b>µS/cm</b>
Apr-01-2007	137	19.5	1,550
Apr-02-2007	131	19.2	1,520
Apr-03-2007	135	19.5	1,470
Apr-04-2007	127	19.7	1,550
Apr-05-2007	93	19.4	1,650
Apr-06-2007	101	20.2	1,660
Apr-07-2007	110	20.7	1,600
Apr-08-2007	107	20.2	1,540
Apr-09-2007	113	19.5	1,550
Apr-10-2007	119	18.0	1,460
Apr-11-2007	120	17.7	1,470
Apr-12-2007	139	16.2	1,340
Apr-13-2007	155	16.0	1,260
Apr-14-2007	176	16.0	1,160
Apr-15-2007	187	15.6	1,140
Apr-16-2007	186	16.6	1,180
Apr-17-2007	165	18.2	1,270
Apr-18-2007	158	16.9	1,360
Apr-19-2007	160	15.2	1,360
Apr-20-2007	140	14.6	1,450
Apr-21-2007	140	15.9	1,490
Apr-22-2007	130	16.3	1,520
Apr-23-2007	137	17.2	1,570
Apr-24-2007	145	19.2	1,520
Apr-25-2007	140	20.3	1,550
Apr-26-2007	126	20.3	1,600
Apr-27-2007	142	21.9	1,530
Apr-28-2007	144	24.0	1,460
Apr-29-2007	152	23.7	1,440
Apr-30-2007	149	22.5	1,410
.	.	.	.
Mean	139	18.7	1,450



**Table 5. Continuous water monitoring at Station N (San Joaquin River at Crow's Landing), April 2007.**

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	Specific Conductance	Selenium (total)
DATA SOURCE	USGS	USGS	CVRWQCB	CVRWQCB
UNITS	cfs	°C	µS/cm	µg/L
Apr-01-2007	717	19.4	1,640	3.3
Apr-02-2007	716	19.0	1,690	3.3
Apr-03-2007	690	19.3	1,600	3.1
Apr-04-2007	665	19.7	1,610	3.4
Apr-05-2007	709	19.7	1,580	3.3
Apr-06-2007	685	20.2	1,530	3.0
Apr-07-2007	641	20.8	1,620	3.8
Apr-08-2007	672	20.5	1,630	4.6
Apr-09-2007	662	19.9	1,580	3.0
Apr-10-2007	653	18.7	1,500	2.6
Apr-11-2007	632	18.4	1,420	2.6
Apr-12-2007	609	17.3	1,550	3.7
Apr-13-2007	644	16.9	1,570	4.1
Apr-14-2007	643	17.3	1,550	4.4
Apr-15-2007	729	16.3	1,450	4.1
Apr-16-2007	802	16.8	1,260	3.9
Apr-17-2007	761	18.4	1,280	4.3
Apr-18-2007	762	17.4	1,330	4.0
Apr-19-2007	774	16.2	1,330	3.7
Apr-20-2007	788	15.6	1,290	3.7
Apr-21-2007	814	16.2	1,210	3.3
Apr-22-2007	842	16.7	1,160	3.2
Apr-23-2007	917	17.2	1,140	3.3
Apr-24-2007	902	18.5	1,060	2.7
Apr-25-2007	894	19.5	1,070	2.5
Apr-26-2007	863	19.6	1,070	2.3
Apr-27-2007	804	21.1	1,150	2.2
Apr-28-2007	877	22.7	1,110	2.1
Apr-29-2007	999	23.0	938	1.9
Apr-30-2007	1,100	22.1	784	1.2
Mean	770	18.8	1,360	3.2

Table 6a. Weekly water quality monitoring at Station A (inflow to San Luis Drain), taken from grab samples.

See Table 27 for explanation of footnotes and agency abbreviation:

PARAMETER	Flow	.	.	Specific Conductance	Total Suspended Solids	.	.	.
DATA SOURCE	SLDMWA	.	.	CVRWQCB	CVRWQCB	.	.	.
UNITS	cfs	.	.	µS/cm	mg/L	.	.	.
Feb-07-2007	41	.	.	3,880	210	.	.	.
Feb-14-2007	38	.	.	4,330	210	.	.	.
Feb-21-2007	37	.	.	3,860	210	.	.	.
Feb-28-2007	26	.	.	3,720	110	.	.	.
Mar-07-2007	25	.	.	4,890	135	.	.	.
Mar-14-2007	38	.	.	4,690	176	.	.	.
Mar-21-2007	22	.	.	5,040	123	.	.	.
Mar-28-2007	32	.	.	5,160	199	.	.	.
Apr-04-2007	29	.	.	4,360	159	.	.	.
Apr-11-2007	35	.	.	5,120	269	.	.	.
Apr-18-2007	36	.	.	4,970	161	.	.	.
Apr-25-2007	28	.	.	4,490	131	.	.	.

Table 6b. Weekly water quality monitoring at Station A (inflow to San Luis Drain), taken from composite samples.

See Table 27 for explanation of footnotes and agency abbreviation:

PARAMETER	Flow	.	.	Specific Conductance	.	Selenium (total)	.	Boron
DATA SOURCE	SLDMWA	.	.	CVRWQCB	.	CVRWQCB	.	CVRWQCB
UNITS	cfs	.	.	µS/cm	.	µg/L	.	mg/L
Feb-06-2007	39	.	.	4,050	.	62.2	.	5.6
Feb-13-2007	39	.	.	4,230	.	61.2	.	6.0
Feb-20-2007	38	.	.	4,530	.	56.8	.	6.8
Feb-27-2007	29	.	.	3,460	.	31.6	.	5.1
Mar-06-2007	26	.	.	4,230	.	42.8	.	6.0
Mar-13-2007	35	.	.	4,920	.	53.4	.	7.9
Mar-20-2007	22	.	.	4,920	.	60.0	.	7.8
Mar-27-2007	31	.	.	5,430	.	66.4	.	8.0
Apr-03-2007	24	.	.	5,050	.	70.4	.	8.1
Apr-10-2007	31	.	.	4,720	.	69.2	.	7.2
Apr-17-2007	36	.	.	4,990	.	72.4	.	6.5
Apr-24-2007	30	.	.	4,420	.	56.0	.	6.1

Table 7. Weekly water quality monitoring at Station B (discharge from San Luis Drain), taken from grab samples.

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	pH	Specific Conductance	Total Suspended Solids	Selenium (total)	Boron
DATA SOURCE	USGS	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	°C	.	µS/cm	mg/L	µg/L	mg/L
Feb-01-2007	44	10.7	7.3	4,150	47	65.0	5.6
Feb-08-2007	47	11.7	7.6	3,930	43	54.2	5.2
Feb-15-2007	42	12.9	8.0	4,390	36	58.6	6.0
Feb-22-2007	43	12.4	7.8	4,260	41	47.2	5.9
Mar-01-2007	32	11.3	8.0	3,170	38	20.4	4.5
Mar-08-2007	30	16.8	8.4	4,250	47	42.7	5.7
Mar-15-2007	40	19.0	8.2	5,290	55	45.6	8.2
Mar-22-2007	24	15.7	8.6	4,830	35	69.2	7.5
Mar-29-2007	34	14.2	8.5	5,510	60	63.4	8.0
Apr-05-2007	29	19.6	8.5	5,210	78	80.8	7.4
Apr-12-2007	34	16.6	8.4	5,210	84	82.6	7.7
Apr-19-2007	37	15.5	8.3	4,730	61	64.3	6.9
Apr-26-2007	27	19.2	8.4	4,570	66	55.7	6.2

Table 8. Weekly water quality monitoring at Station C (Mud Slough North upstream of drainage discharges).

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	pH	Specific Conductance	.	Selenium (total)	Boron
DATA SOURCE	calculated **	CVRWQCB	CVRWQCB	CVRWQCB	.	CVRWQCB	CVRWQCB
UNITS	cfs	°C	.	µS/cm	.	µg/L	mg/L
Feb-01-2007	93	9.9	7.6	1,930	.	<0.4	1.5
Feb-08-2007	115	11.6	7.8	1,840	.	0.4	1.5
Feb-15-2007	124	12.0	7.9	1,970	.	0.5	1.6
Feb-22-2007	93	12.2	7.9	2,220	.	<0.4	1.7
Mar-01-2007	107	10.3	7.9	2,190	.	0.5	1.8
Mar-08-2007	138	16.0	7.9	2,010	.	0.5	1.6
Mar-15-2007	153	18.2	7.9	2,110	.	0.7	1.7
Mar-22-2007	70	15.4	8.2	2,500	.	0.6	1.9
Mar-29-2007	37	12.6	8.5	2,840	.	0.7	2.5
Apr-05-2007	38	18.9	8.3	2,710	.	0.9	2.3
Apr-12-2007	11	13.4	8.0	3,560	.	0.4	2.7
Apr-19-2007	7	13.4	8.0	3,620	.	0.5	2.7
Apr-26-2007	22	18.2	8.2	2,540	.	0.7	2.1

\*\* Calculated flow value. Flow at Station C = flow at Station D - flow at Station B.

**Table 9. Weekly water quality monitoring at Station D (Mud Slough North downstream of drainage discharges).**

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	pH	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	USGS	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	°C	.	µS/cm	µg/L	mg/L
Feb-01-2007	137	10.1	7.5	2,660	19.4	2.8
Feb-08-2007	162	11.7	7.7	2,390	14.4	2.5
Feb-15-2007	166	12.2	7.8	2,650	14.0	2.7
Feb-22-2007	136	12.3	7.9	2,890	13.3	3.0
Mar-01-2007	139	10.4	7.9	2,490	4.6	2.6
Mar-08-2007	168	16.1	8.0	2,400	6.5	2.4
Mar-15-2007	193	18.5	7.9	2,720	9.1	2.8
Mar-22-2007	94	15.3	8.2	3,110	15.6	3.1
Mar-29-2007	71	13.0	8.5	4,100	25.8	4.8
Apr-05-2007	67	19.0	8.3	3,710	26.6	4.5
Apr-12-2007	45	15.2	8.3	4,720	49.8	6.0
Apr-19-2007	44	15.1	8.3	4,650	51.2	6.2
Apr-26-2007	49	18.2	8.3	3,560	25.6	4.0

**Table 10. Weekly water quality monitoring at Station I2 (Mud Slough backwater downstream of Station D).**

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER		pH	Specific Conductance	Turbidity	Selenium	Boron
DATA SOURCE		USBR	USBR	USBR	USBR	USBR
UNITS		.	µS/cm	NTU	µg/L	mg/L
Feb-05-2007	.	NA	2,640	30	17.0	3.1
Feb-14-2007	.	8.0	2,680	NA	12.2	3.0
Feb-20-2007	.	7.6	3,310	24	12.2	3.4 <sup>l</sup>
Feb-28-2007	.	7.9	2,680	29	6.3	2.7
Mar-06-2007	.	7.9	2,490	36	7.5	2.7 <sup>l</sup>
Mar-13-2007	.	7.9	2,680	148	5.1	2.9
Mar-19-2007	.	7.9	3,170	131	14.2	3.8
Mar-27-2007	.	8.4	3,630	76	15.7	4.8
Apr-04-2007	.	8.5	3,830	38	23.5	4.8
Apr-18-2007	.	8.4	4,570	32	48.7**	6.4
Apr-24-2007	.	8.5	4,320	36	35.2**	5.9

Table 11. Weekly water quality monitoring at Station F (Salt Slough at Lander Avenue).

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	pH	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	USGS	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	°C	.	µS/cm	µg/L	mg/L
Feb-01-2007	217	10.1	7.0	1,450	0.6	0.9
Feb-08-2007	214	11.2	7.7	1,450	0.7	0.7
Feb-15-2007	191	12.4	7.5	1,730	0.7	0.9
Feb-22-2007	222	12.4	7.6	1,450	0.8	0.6
Mar-01-2007	269	10.9	7.7	1,470	0.7	0.6
Mar-08-2007	253	15.9	7.7	1,490	0.7	0.6
Mar-15-2007	265	18.2	7.7	1,560	0.9	0.9
Mar-22-2007	274	14.7	7.7	1,680	0.8	1.0
Mar-29-2007	151	13.1	7.8	1,830	0.9	1.0
Apr-05-2007	93	17.9	7.9	1,800	0.7	0.8
Apr-12-2007	139	15.1	8.0	1,350	0.9	0.7
Apr-19-2007	160	14.7	7.8	1,330	0.9	0.6
Apr-26-2007	126	18.2	7.9	1,610	0.8	0.8

Table 12. Weekly water quality monitoring at Station J (Camp 13 Ditch).

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	.	.	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	SLDMWA <sup>††</sup>	.	.	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	.	.	µS/cm	µg/L	mg/L
Feb-07-2007	0	.	.	784	1.7	0.5
Feb-14-2007	0	.	.	891	2.7	0.5
Feb-21-2007	0	.	.	1,630	0.9	1.8
Feb-28-2007	0	.	.	644	0.9	0.4
Mar-07-2007	10	.	.	866	1.7	0.7
Mar-14-2007	10	.	.	672	1.2	0.6
Mar-21-2007	NA	.	.	1,560	0.7	1.4
Mar-28-2007	0	.	.	1,890	2.1	2.6
Apr-04-2007	10	.	.	684	1.8	0.4
Apr-11-2007	20	.	.	718	1.6	0.5
Apr-18-2007	NA	.	.	537	1.2	0.4
Apr-25-2007	0	.	.	826	1.6	0.6

Table 13. Weekly water quality monitoring at Station K (Agatha Canal).

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	.	.	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	SLDMWA <sup>††</sup>	.	.	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	.	.	µS/cm	µg/L	mg/L
Feb-07-2007	20	.	.	642	1.3	0.3
Feb-14-2007	20	.	.	NA	2.1	0.5
Feb-21-2007	20	.	.	913	1.8	0.7
Feb-28-2007	20	.	.	682	1.0	0.4
Mar-07-2007	0	.	.	825	1.5	0.5
Mar-14-2007	0	.	.	1,890	0.6	3.4
Mar-21-2007	NA	.	.	1,720	1.1	2.5
Mar-28-2007	20	.	.	1,100	1.5	1.7
Apr-04-2007	20	.	.	543	1.9	0.5
Apr-11-2007	40	.	.	469	2.0	0.4
Apr-18-2007	NA	.	.	715	1.4	0.8
Apr-25-2007	0	.	.	617	1.9	0.3

Table 14. Weekly water quality monitoring at Station L2 (San Luis Canal at splits).

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	.	.	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	SLDMWA <sup>††</sup>	.	.	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	.	.	µS/cm	µg/L	mg/L
Feb-07-2007	NA	.	.	1,220	1.3	1.1
Feb-14-2007	NA	.	.	1,340	2.1	1.2
Feb-21-2007	NA	.	.	1,080	2.3	0.7
Feb-28-2007	NA	.	.	1,080	2.3	0.7
Mar-07-2007	20	.	.	828	1.8	0.5
Mar-14-2007	20	.	.	948	1.7	0.8
Mar-21-2007	NA	.	.	1,710	1.5	1.5
Mar-28-2007	0	.	.	1,950	1.6	2.0
Apr-04-2007	NA	.	.	1,430	1.5	1.2
Apr-11-2007	NA	.	.	2,370	3.8	3.0
Apr-18-2007	NA	.	.	1,310	1.5	1.3
Apr-25-2007	NA	.	.	1,110	2.2	1.1

**Table 15. Weekly water quality monitoring at Station M2 (Santa Fe Canal at weir).**

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	.	.	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	SLDMWA <sup>††</sup>	.	.	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	.	.	µS/cm	µg/L	mg/L
Feb-07-2007	NA	.	.	1,310	1.0	1.3
Feb-14-2007	NA	.	.	1,680	1.3	1.6
Feb-21-2007	NA	.	.	1,760	1.2	1.7
Feb-28-2007	NA	.	.	1,660	1.2	1.7
Mar-07-2007	NA	.	.	1,520	0.9	1.5
Mar-14-2007	NA	.	.	1,840	1.0	2.4
Mar-21-2007	NA	.	.	2,160	1.0	2.4
Mar-28-2007	NA	.	.	2,270	1.2	3.1
Apr-04-2007	NA	.	.	2,370	1.2	2.9
Apr-11-2007	NA	.	.	1,800	1.6	2.2
Apr-18-2007	NA	.	.	1,540	1.5	1.8
Apr-25-2007	NA	.	.	1,430	1.6	1.3

**Table 16. Weekly water quality monitoring at Central California Irrigation District Main Canal at Russell Avenue (MER510).**

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	.	.	.	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	.	.	.	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	.	.	.	µS/cm	µg/L	mg/L
Feb-07-2007	.	.	.	619	1.4	0.3
Feb-14-2007	.	.	.	NA	2.4	0.3
Feb-21-2007	.	.	.	646	1.3	0.3
Feb-28-2007	.	.	.	548	1.0	0.3
Mar-07-2007	.	.	.	543	1.2	0.2
Mar-14-2007	.	.	.	454	1.3	0.3
Mar-21-2007	.	.	.	877	4.4	0.4
Mar-28-2007	.	.	.	641	1.7	0.3
Apr-04-2007	.	.	.	439	1.5	0.2
Apr-11-2007	.	.	.	488	1.7	0.3
Apr-18-2007	.	.	.	592	1.7	0.3
Apr-25-2007	.	.	.	513	1.6	0.3

Table 17. Weekly water quality monitoring at Station G (San Joaquin River at Fremont Ford).

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	pH	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	USGS	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	°C	.	µS/cm	µg/L	mg/L
Feb-01-2007	263	9.7	7.4	1,500	0.5	0.8
Feb-08-2007	266	11.1	7.4	1,540	0.7	0.7
Feb-15-2007	535	12.1	7.4	931	0.5	0.3
Feb-22-2007	322	12.4	7.8	1,430	0.7	0.5
Mar-01-2007	715	11.0	7.5	906	0.4	0.3
Mar-08-2007	405	16.3	7.9	1,400	0.6	0.5
Mar-15-2007	389	17.9	7.9	1,610	0.8	0.7
Mar-22-2007	426	16.1	7.9	1,630	0.7	0.8
Mar-29-2007	268	14.3	8.0	1,860	0.7	0.8
Apr-05-2007	178	19.0	7.9	2,240	0.6	0.9
Apr-12-2007	206	15.6	8.2	1,740	0.8	0.7
Apr-19-2007	238	15.4	7.6	1,440	0.7	0.6
Apr-26-2007	202	18.9	8.2	1,660	0.7	0.7

Table 18. Weekly water quality monitoring at Station H (San Joaquin River at Hills Ferry).

(Collected data intended for use with biological monitoring.)

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	.	.	.	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	.	.	.	SLDMWA	SLDMWA	SLDMWA
UNITS	.	.	.	µS/cm	µg/L	mg/L
Feb-06-2007	.	.	.	NA	5.3	1.3
Feb-13-2007	.	.	.	NA	4.4	1.3
Feb-20-2007	.	.	.	NA	<0.4	0.2
Mar-06-2007	.	.	.	NA	1.7	1.1
Mar-13-2007	.	.	.	NA	2.4	1.5
Mar-20-2007	.	.	.	NA	3.4	1.8
Mar-27-2007	.	.	.	NA	<0.4	0.2
Apr-03-2007	.	.	.	NA	7.3	2.0
Apr-10-2007	.	.	.	NA	4.6	1.8
Apr-17-2007	.	.	.	NA	8.8	1.6
Apr-24-2007	.	.	.	NA	6.3	1.6



**Table 19. Weekly water quality monitoring at Station N (San Joaquin River at Crow's Landing).**

See Table 27 for explanation of footnotes and agency abbreviations.

<b>PARAMETER</b>	<b>Flow</b>	<b>Temperature</b>	<b>pH</b>	<b>Specific Conductance</b>	<b>Selenium (total)</b>	<b>Boron</b>
<b>DATA SOURCE</b>	<b>usgs</b>	<b>CVRWQCB</b>	<b>CVRWQCB</b>	<b>CVRWQCB</b>	<b>CVRWQCB</b>	<b>CVRWQCB</b>
<b>UNITS</b>	<b>cfs</b>	<b>°C</b>	<b>.</b>	<b>µS/cm</b>	<b>µg/L</b>	<b>mg/L</b>
Feb-01-2007	791	10.5	7.6	1,470	3.8	1.0
Feb-08-2007	857	11.6	7.8	1,410	3.2	1.0
Feb-15-2007	1,200	12.6	7.8	1,100	2.4	0.6
Feb-22-2007	863	13.3	7.8	1,460	2.7	0.9
Mar-01-2007	1,190	11.2	7.8	1,150	1.3	0.6
Mar-08-2007	1,030	16.8	7.9	1,410	1.7	0.8
Mar-15-2007	1,010	18.8	8.0	1,630	1.9	1.1
Mar-22-2007	1,010	16.6	8.1	1,490	2.0	0.9
Mar-29-2007	812	14.9	8.1	1,570	2.5	1.0
Apr-05-2007	709	19.2	8.1	1,560	2.9	1.0
Apr-12-2007	609	16.5	8.1	1,630	3.8	1.0
Apr-19-2007	774	15.9	8.1	1,310	3.4	0.8
Apr-26-2007	863	18.5	8.2	1,100	2.5	0.7

**Table 20. Summary of fathead minnow (*Pimephales promelas*) larvae survival in 7-day tests using water samples collected from May 2006 to April 2007. Each value is the mean of 4 replicates with 10 fish in each replicate.**

See Table 27 for explanation of footnotes and agency abbreviation:

LOCATION	Station B	Station C	Station D	Station F	Delta Mendota Canal	Laboratory Control
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	%	%	%	%	%	%
May-2006	95	100	98	100	88	100
Jun-2006	93	100	98	98	98	100
Jul-2006	83	98	100	100	95	95
Aug-2006	98	98	95	98	98	90
Sep-2006	98	95	98	98	100	98
Oct-2006	95	85	85	90	98	100
Nov-2007	95	98	85	100	100	98
Dec-2007	98	100	85*	93	98	98
Jan-2007	100	100	90	93	98	100
Feb-2007	98	90	95	88	98	100
Mar-2007	98	80*	95	93	98	98
Apr-2007	100	98	100	95	95	100

**Table 21. Summary of fathead minnow (*Pimephales promelas*) larvae growth in 7-day tests using water samples collected from May 2006 to April 2007. Each value is the mean of 4 replicates with 10 fish in each replicate.**

See Table 27 for explanation of footnotes and agency abbreviation:

LOCATION	Station B	Station C	Station D	Station F	Delta Mendota Canal	Laboratory Control
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	mg	mg	mg	mg	mg	mg
May-2006	0.38	0.43	0.39	0.58	0.34	0.33
Jun-2006	0.45*	0.41*	0.46*	0.49	0.54	0.41
Jul-2006	0.34	0.36	0.38	0.56	0.36	0.35
Aug-2006	0.36	0.33	0.38	0.37	0.39	0.33
Sep-2006	0.31	0.39	0.41	0.35	0.33	0.34
Oct-2006	0.39	0.36	0.36	0.35	0.40	0.40
Nov-2007	0.30	0.28*	0.30	0.33	0.33	0.32
Dec-2007	0.35	0.40	0.41	0.45	0.32	0.31
Jan-2007	0.30	0.35	0.37	0.34	0.31	0.31
Feb-2007	0.45	0.41	0.43	0.33	0.37	0.38
Mar-2007	0.36	0.26*	0.36	0.33	0.32	0.31
Apr-2007	0.38	0.33	0.31	0.32	0.34	0.33

**Table 22. Summary of *Daphnia magna* survival in 7-day tests using water samples collected from May 2006 to April 2007. Each value is the mean of 10 replicates with 1 animal in each replicate.**

See Table 27 for explanation of footnotes and agency abbreviation:

LOCATION	Station B	Station C	Station D	Station F	Delta Mendota Canal	Laboratory Control
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	%	%	%	%	%	%
May-2006	100	90	100	100	100	100
Jun-2006	90	90	100	90	90	80
Jul-2006	80	100	80	90	80	100
Aug-2006	100	100	90	100	100	100
Sep-2006	100	80	100	100	100	90
Oct-2006	70	80	100	80	90	80
Nov-2007	90	100	100	90	90	100
Dec-2007	90	70	100	90	100	90
Jan-2007	90	90	80	90	90	80
Feb-2007	100	80	90	90	100	90
Mar-2007	100	80	90	100	80	100
Apr-2007	100	90	90	100	90	100

**Table 23. Summary of *Daphnia magna* reproduction in 7-day tests using water samples collected from May 2006 to April 2007. Each value is the mean of 10 replicates with 1 animal in each replicate.**

See Table 27 for explanation of footnotes and agency abbreviations.

LOCATION	Station B	Station C	Station D	Station F	Delta Mendota Canal	Laboratory Control
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	neonates per female	neonates per female	neonates per female	neonates per female	neonates per female	neonates per female
May-2006	49.2	28.1	27.3	26.4	22.9	18.2
Jun-2006	26.2	25.9	29.9	26.7	20.9	19.1
Jul-2006	35.8	42.3	42.1	35.4	32.7	29.3
Aug-2006	34.7	33.3	23.9*	31.4	36.2	30.8
Sep-2006	25.9	20.1	23.8	26.9	27.6	23.6
Oct-2006	25.9	27.4	30.1	26.3	26.9	19.6
Nov-2007	36.6	49.6	47.0	47.9	38.3	46.2
Dec-2007	28.4	22.5	29.6	31.5	27.8	22.3
Jan-2007	20.5	27.3	23.2	26.0	28.5	21.4
Feb-2007	31.7	32.9	39.4	31.6	28.6	30.5
Mar-2007	35.2	27.1	32.9	28.2*	36.8	30.2
Apr-2007	22.7	21.1	29.0	21.2	21.1	26.2

**Table 24. Summary of *Selenastrum capricornutum* growth in 4-day tests using water samples collected from May 2006 to April 2007. Each value is the mean of 4 replicates.**

See Table 27 for explanation of footnotes and agency abbreviations.

LOCATION	Station B	Station C	Station D	Station F	Delta Mendota Canal	Laboratory Control
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	10 <sup>5</sup> cells/mL	10 <sup>5</sup> cells/mL	10 <sup>5</sup> cells/mL	10 <sup>5</sup> cells/mL	10 <sup>5</sup> cells/mL	10 <sup>5</sup> cells/mL
May-2006	20.6	11.5*	15.9	13.6	15.4	16.4
Jun-2006	12.0	9.7	10.0	10.2	11.3	16.0
Jul-2006	19.0	14.4	22.5	17.9	9.5	14.0
Aug-2006	16.4	17.8	17.3	21.4	16.8	13.5
Sep-2006	4.1*	20.7	21.7	22.6	17.7	12.9
Oct-2006	21.4	27.8	30.4	23.4	12.5	20.3
Nov-2007	17.6	26.2	23.3	24.7	17.7	17.5
Dec-2007	13.4	13.9	12.8	5.4*	7.5	17.2
Jan-2007	8.9	20.3	18.5	21.0	11.4	16.9
Feb-2007	7.9*	22.9	17.9	31.8	13.4	15.7
Mar-2007	12.0	11.0	8.8*	9.2*	12.4	14.3
Apr-2007	4.7*	19.0	8.8	5.2*	10.0	14.9

**Table 25. Summary of selenium concentrations in grab water samples collected at study stations for use in laboratory toxicity tests, February 2007 to April 2007.**

See Table 27 for explanation of footnotes and agency abbreviations.

LOCATION	Station B	Station C	Station D	Station F	Delta Mendota Canal
DATA SOURCE	SLDMWA/USBR	SLDMWA/USBR	SLDMWA/USBR	SLDMWA/USBR	SLDMWA/USBR
UNITS	µg/L	µg/L	µg/L	µg/L	µg/L
Feb-12-2007	58	0.7	13	0.9	1.4**
Feb-14-2007	54	0.7	13	0.7	1.2**
Feb-16-2007	57	0.6	12	0.8	1.2**
Feb-20-2007	46	0.5	14	0.9	<0.4
Mar-12-2007	39	0.6	4.8	0.7	0.4
Mar-14-2007	43	0.5	6.4	0.7	0.5
Mar-16-2007	47	0.6	7.2	0.8	0.6
Apr-09-2007	44	0.8	22	1.0	0.4
Apr-11-2007	71	<0.4	48**	0.8	<0.4
Apr-13-2007	79	0.6	48**	0.9	<0.4

**Table 26. Summary of total suspended solids concentrations in grab water samples collected at study stations for use in laboratory toxicity tests, February 2007 to April 2007.**

See Table 27 for explanation of footnotes and agency abbreviations.

LOCATION	Station B	Station C	Station D	Station F	Delta Mendota Canal
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	mg/L	mg/L	mg/L	mg/L	mg/L
Feb-12-2007	38	54	58	81	11
Feb-14-2007	43	52	39	66	23
Feb-16-2007	74	89	65	161	20
Feb-20-2007	24	41	35	86	8
Mar-12-2007	39	71	71	103	22
Mar-14-2007	36	80	72	79	23
Mar-16-2007	80	93	79	91	44
Apr-09-2007	64	87	66	146	24
Apr-11-2007	66	41	57	72	57
Apr-13-2007	97	39	82	194	45

**Table 27. Explanations of footnotes and agency abbreviations.**

<b>Footnote</b>	<b>Explanation</b>
CVRWQCB	California Regional Water Quality Control Board, Central Valley Region
SLDMWA	San Luis & Delta-Mendota Water Authority
USBR	U.S. Bureau of Reclamation
USGS	U.S. Geological Survey
e	Estimated value
.	Not applicable
<	Less than MDL. If needed in calculation, use 1/2 MDL
NA	Not analyzed - operator error, data will not be available in the future
NP	Not Provided. Data may be available in the future.
NT	Not tested
P	Pending, data not available at this time but will be available in the future
*	Significantly reduced from Delta Mendota Canal (p<0.05)
**	Sample re-analyzed and result confirmed.
L	Result may be biased low. Sample was not preserved in the field
†	DMC water failed to meet the survival (>80%) acceptability criteria.
††	Data from records of the Grassland Water District. Data is not subjected to the criteria documented in the Compliance Monitoring Program for the Use and Operation of the Grassland Bypass Project (1996) nor the Quality Assurance Project Plan for the GBP.
†††	DMC water failed to meet the reproduction (>10 neonates/adult) acceptability criteria.
††††	DMC water failed to meet minimum growth (10 <sup>6</sup> cell/mL) acceptability criteria.
‡	Control value exceeds suggested maximum variance (20%) acceptability criteria.
‡‡	Fungal growth observed on test organisms.
‡‡‡	Failed cell density requirement of 1E6 cells.
#	New testing laboratory with reporting limit of 0.4 µg/L as of June 1998.
❖	Based on definitive bioassay, NOEC is 50 percent
D	Sample was dechlorinated