

# GRASSLAND BYPASS PROJECT

## MONTHLY DATA REPORT

**June 2008**

October 15, 2008

### **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





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**LIST OF TABLES FOR MONTHLY REPORT****Continuous Monitoring**

1. Continuous water monitoring at Station A (inflow to San Luis Drain), June 2008.
- 2a. Continuous water monitoring at Stations B and B2 (San Luis Drain Terminus), June 2008.
- 2b. Monthly selenium discharges from the terminus of the San Luis Drain into Mud Slough compared to load values.
3. Continuous water monitoring at Station D (Mud Slough North downstream of drainage discharges), June 2008.
4. Continuous water monitoring at Station F (Salt Slough at Highway 165), June 2008.
5. Continuous water monitoring at Station N (San Joaquin River at Crow's Landing), June 2008.

**Weekly Monitoring**

- 6a. Weekly water quality monitoring at Station A (inflow to San Luis Drain), taken from grab samples.
- 6b. Weekly water quality monitoring at Station A (inflow to San Luis Drain), taken from composite samples.
7. Weekly water quality monitoring at Station B (discharge from San Luis Drain).
8. Weekly water quality monitoring at Station C (Mud Slough North upstream of drainage discharge).
9. Weekly water quality monitoring at Station D (Mud Slough North downstream of drainage discharge).
10. Weekly water quality monitoring at Station I2 (Mud Slough backwater downstream of Station D).
11. Weekly water quality monitoring at Station F (Salt Slough at Lander Avenue).
12. Weekly water quality monitoring at Station J (Camp 13 Ditch).
13. Weekly water quality monitoring at Station K (Agatha Canal).
14. Weekly water quality monitoring at Station L2 (San Luis Canal at splits).
15. Weekly water quality monitoring at Station M2 (Santa Fe Canal at weir).
16. Weekly water quality monitoring at Central California Irrigation District Main Canal at Russell Avenue (MER510).
17. Weekly water quality monitoring at Station G (San Joaquin River at Fremont Ford).
18. Weekly water quality monitoring at Station H (San Joaquin River at Hills Ferry).
19. Weekly water quality monitoring at Station N (San Joaquin River at Crow's Landing).

**Monthly Monitoring**

20. Summary of fathead minnow (*Pimephales promelas*) larvae survival in 7-day tests using water samples collected from July 2007 to June 2008.
21. Summary of fathead minnow (*Pimephales promelas*) larvae growth in 7-day tests using water samples collected from July 2007 to June 2008.
22. Summary of *Daphnia magna* survival in 7-day tests using water samples collected from July 2007 to June 2008.
23. Summary of *Daphnia magna* reproduction in 7-day tests using water samples collected from July 2007 to June 2008.
24. Summary of *Selenastrum capricornutum* growth in 4-day tests using water samples collected from July 2007 to June 2008.
25. Summary of selenium concentrations in grab water samples collected at study stations for use in laboratory toxicity tests, April 2008 to June 2008.
26. Summary of total suspended solids concentrations in grab water samples collected from April 2008 to June 2008.
27. Explanations of footnotes and agency abbreviations.

Table 1. Continuous water monitoring at Station A (inflow to San Luis Drain), June 2008.

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>
Jun-01-2008	37	4,610
Jun-02-2008	34	4,510
Jun-03-2008	27	4,050
Jun-04-2008	26	3,940
Jun-05-2008	26	3,970
Jun-06-2008	26	3,870
Jun-07-2008	21	4,060
Jun-08-2008	21	4,000
Jun-09-2008	21	4,010
Jun-10-2008	20	4,070
Jun-11-2008	16	4,200
Jun-12-2008	15	4,280
Jun-13-2008	18	3,820
Jun-14-2008	22	3,570
Jun-15-2008	26	3,190
Jun-16-2008	23	3,420
Jun-17-2008	23	3,520
Jun-18-2008	20	3,880
Jun-19-2008	17	4,190
Jun-20-2008	13	4,350
Jun-21-2008	12	4,320
Jun-22-2008	12	3,870
Jun-23-2008	12	3,720
Jun-24-2008	15	3,330
Jun-25-2008	17	3,160
Jun-26-2008	17	3,610
Jun-27-2008	22	3,440
Jun-28-2008	19	3,380
Jun-29-2008	19	3,460
Jun-30-2008	18	3,770
.	.	.
Mean	20.5	3,850

Table 2a. Continuous water monitoring at Stations B and B2 (San Luis Drain Terminus), June 2008.

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
Jun-01-2008	26	24.0	P	4,680	63.2	8.8
Jun-02-2008	36	24.0	P	4,790	64.7	12.7
Jun-03-2008	35	23.7	P	4,740	54.4	10.2
Jun-04-2008	25	23.0	P	4,740	51.4	7.0
Jun-05-2008	26	22.4	P	4,980	62.6	8.9
Jun-06-2008	25	23.1	P	4,760	62.2	8.4
Jun-07-2008	24	22.0	P	4,720	47.2	6.2
Jun-08-2008	22	22.5	P	4,380	40.0	4.8
Jun-09-2008	21	24.3	P	4,190	36.6	4.2
Jun-10-2008	20	24.4	P	4,320	35.2	3.7
Jun-11-2008	20	20.8	P	4,230	37.1	4.0
Jun-12-2008	19	22.2	P	4,240	37.4	3.8
Jun-13-2008	18	23.7	P	4,570	42.8	4.1
Jun-14-2008	19	25.9	P	4,530	44.4	4.6
Jun-15-2008	21	27.0	P	4,420	44.2	5.1
Jun-16-2008	24	27.0	P	4,400	43.1	5.6
Jun-17-2008	22	26.8	P	4,580	42.5	5.0
Jun-18-2008	22	26.5	P	4,440	35.9	4.2
Jun-19-2008	20	25.9	P	4,070	31.0	3.4
Jun-20-2008	18	27.2	P	4,150	29.8	3.0
Jun-21-2008	17	28.7	P	3,710	23.4	2.1
Jun-22-2008	16	28.2	P	3,730	28.5	2.4
Jun-23-2008	16	27.5	P	4,120	27.0	2.3
Jun-24-2008	16	27.2	P	4,110	22.5	1.9
Jun-25-2008	17	27.0	P	3,900	22.1	2.0
Jun-26-2008	18	26.6	P	4,310	24.7	2.4
Jun-27-2008	19	27.0	P	4,660	30.3	3.1
Jun-28-2008	21	27.1	P	4,900	27.0	3.1
Jun-29-2008	18	26.6	P	4,310	25.0	2.4
Jun-30-2008	19	26.7	P	3,790	23.6	2.5
.	.	.	.	.	.	.
Mean	21	25.3	P	4,380	38.7	4.7
Total Acre-feet	1,270					
Total (lbs)						142

Load Limitation for June 2008 (lbs)	187
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◆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.

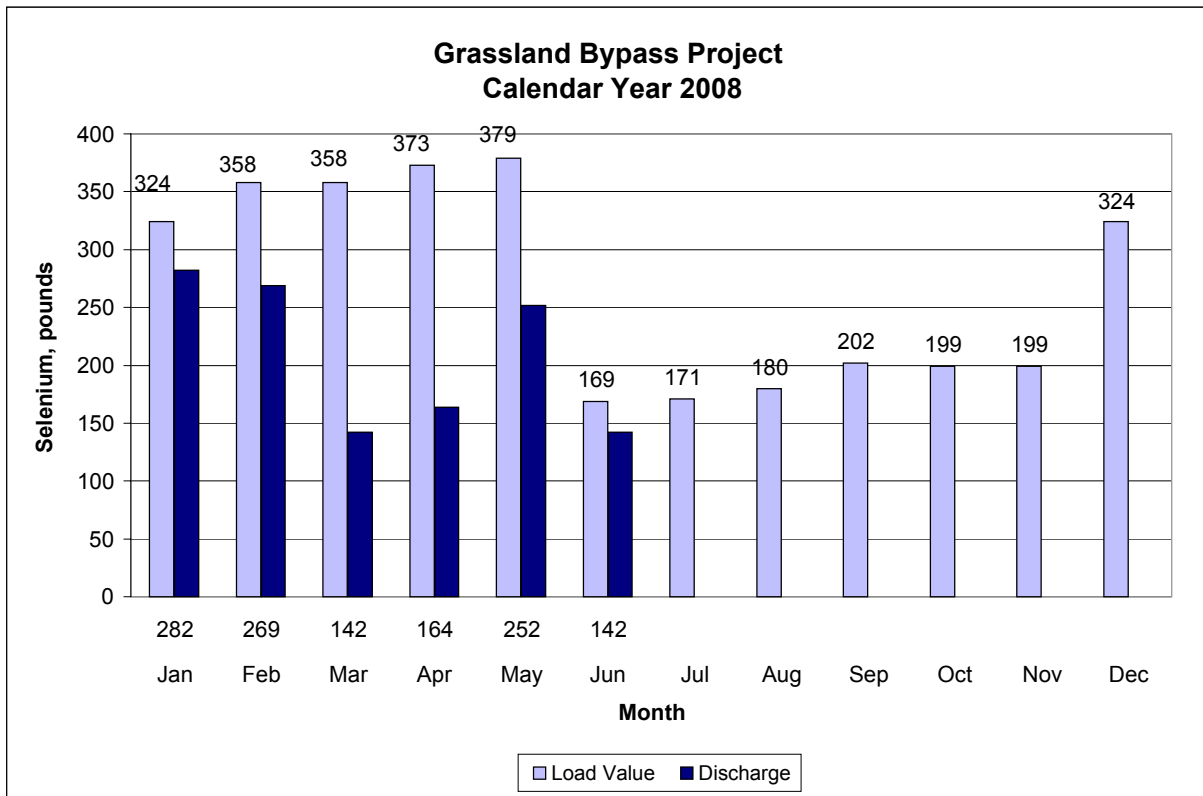


Table 3. Continuous water monitoring at Station D (Mud Slough North downstream of drainage discharges), June 2008.

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>
Jun-01-2008	42	22.9	3,320
Jun-02-2008	47	22.7	3,490
Jun-03-2008	51	22.7	3,260
Jun-04-2008	47	21.8	3,040
Jun-05-2008	43	21.5	3,350
Jun-06-2008	39	22.0	3,540
Jun-07-2008	38	20.8	3,400
Jun-08-2008	48	21.6	2,510
Jun-09-2008	47	23.4	2,330
Jun-10-2008	36	22.7	2,890
Jun-11-2008	30	19.5	3,330
Jun-12-2008	26	21.5	3,590
Jun-13-2008	24	23.5	3,790
Jun-14-2008	25	24.9	3,830
Jun-15-2008	31	25.9	3,130
Jun-16-2008	31	25.5	3,510
Jun-17-2008	27	25.0	3,830
Jun-18-2008	25	24.5	3,950
Jun-19-2008	23	24.7	3,730
Jun-20-2008	20	26.4	3,940
Jun-21-2008	17	27.1	3,680
Jun-22-2008	15	26.4	3,810
Jun-23-2008	14	25.8	4,210
Jun-24-2008	14	25.6	4,280
Jun-25-2008	16	25.8	4,090
Jun-26-2008	17	25.7	4,330
Jun-27-2008	18	26.3	4,590
Jun-28-2008	20	26.4	4,760
Jun-29-2008	20	26.4	4,300
Jun-30-2008	18	26.1	3,700
Mean	29	24.2	3,650

Table 4. Continuous water monitoring at Station F (Salt Slough at Highway 165), June 2008.

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>
Jun-01-2008	120	22.1	1,330
Jun-02-2008	113	22.0	1,430
Jun-03-2008	120	22.0	1,350
Jun-04-2008	119	21.2	1,300
Jun-05-2008	114	21.0	1,270
Jun-06-2008	110	21.8	1,300
Jun-07-2008	104	20.8	1,290
Jun-08-2008	104	21.7	1,290
Jun-09-2008	101	23.7	1,310
Jun-10-2008	96	23.4	1,330
Jun-11-2008	85	20.0	1,430
Jun-12-2008	92	22.2	1,420
Jun-13-2008	91	24.6	1,380
Jun-14-2008	82	25.6	1,420
Jun-15-2008	81	25.7	1,450
Jun-16-2008	110	25.2	1,330
Jun-17-2008	102	24.7	1,220
Jun-18-2008	84	24.4	1,280
Jun-19-2008	70	24.6	1,380
Jun-20-2008	95	26.3	1,320
Jun-21-2008	111	27.5	1,210
Jun-22-2008	129	26.4	1,160
Jun-23-2008	147	25.4	1,120
Jun-24-2008	143	24.7	1,100
Jun-25-2008	125	24.5	1,170
Jun-26-2008	102	24.5	1,270
Jun-27-2008	103	25.6	1,250
Jun-28-2008	118	25.9	1,220
Jun-29-2008	122	25.8	1,190
Jun-30-2008	118	25.9	1,220
.	.	.	.
Mean	107	24.0	1,290



Table 5. Continuous water monitoring at Station N (San Joaquin River at Crow's Landing), June 2008.

See Table 27 for explanation of footnotes and agency abbreviations.

<b>PARAMETER</b>	<b>Flow</b>	<b>Temperature</b>	<b>Specific Conductance</b>	<b>Selenium (total)</b>
<b>DATA SOURCE</b>	<b>usgs</b>	<b>usgs</b>	<b>cvrwqcb</b>	<b>cvrwqcb</b>
<b>UNITS</b>	<b>cfs</b>	<b>°C</b>	<b>µS/cm</b>	<b>µg/L</b>
Jun-01-2008	552	22.8	1,310	3.2
Jun-02-2008	540	22.5	1,260	3.4
Jun-03-2008	500	22.7	1,360	3.7
Jun-04-2008	498	22.3	1,450	4.7
Jun-05-2008	488	21.7	1,360	3.5
Jun-06-2008	449	22.4	1,380	2.8
Jun-07-2008	446	21.5	1,440	4.1
Jun-08-2008	454	22.1	1,440	3.6
Jun-09-2008	478	23.6	1,310	3.0
Jun-10-2008	454	23.8	1,270	2.1
Jun-11-2008	407	20.6	1,360	1.8
Jun-12-2008	379	21.9	1,430	1.9
Jun-13-2008	400	24.0	1,550	2.1
Jun-14-2008	375	25.1	1,460	2.0
Jun-15-2008	358	25.2	1,520	2.2
Jun-16-2008	325	24.9	1,590	2.7
Jun-17-2008	332	24.6	1,520	2.9
Jun-18-2008	326	24.4	1,570	2.9
Jun-19-2008	318	24.3	1,490	2.7
Jun-20-2008	299	25.7	1,590	2.6
Jun-21-2008	305	26.9	1,660	2.1
Jun-22-2008	312	25.8	1,660	1.8
Jun-23-2008	321	24.8	1,520	1.4
Jun-24-2008	315	24.7	1,410	1.1
Jun-25-2008	312	24.8	1,380	1.2
Jun-26-2008	302	24.8	1,390	1.3
Jun-27-2008	282	25.3	1,490	1.2
Jun-28-2008	280	25.4	1,500	1.3
Jun-29-2008	300	25.2	1,520	1.6
Jun-30-2008	324	25.6	1,530	1.8
Mean	380	24.0	1,460	2.4

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 abbreviations.

PARAMETER	Flow	.	.	Specific Conductance	Total Suspended Solids	.	.	.
DATA SOURCE	SLDMWA	.	.	CVRWQCB	CVRWQCB	.	.	.
UNITS	cfs	.	.	µS/cm	mg/L	.	.	.
Apr-02-2008	16	.	.	4,780	60	.	.	.
Apr-09-2008	17	.	.	4,640	60	.	.	.
Apr-16-2008	29	.	.	4,060	160	.	.	.
Apr-23-2008	35	.	.	4,040	190	.	.	.
Apr-30-2008	26	.	.	4,920	160	.	.	.
May-07-2008	28	.	.	4,780	180	.	.	.
May-14-2008	26	.	.	4,520	88	.	.	.
May-21-2008	36	.	.	4,610	180	.	.	.
May-28-2008	42	.	.	4,610	180	.	.	.
Jun-04-2008	26	.	.	4,090	110	.	.	.
Jun-11-2008	16	.	.	4,200	58	.	.	.
Jun-18-2008	20	.	.	4,380	180	.	.	.
Jun-25-2008	17	.	.	3,830	230	.	.	.

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 abbreviations.

PARAMETER	Flow	.	.	Specific Conductance	.	Selenium (total)	.	Boron
DATA SOURCE	SLDMWA	.	.	CVRWQCB	.	CVRWQCB	.	CVRWQCB
UNITS	cfs	.	.	µS/cm	.	µg/L	.	mg/L
Apr-01-2008	18	.	.	4,710	.	39.1	.	P
Apr-08-2008	21	.	.	4,640	.	45.8	.	P
Apr-15-2008	31	.	.	4,560	.	40.3	.	P
Apr-22-2008	39	.	.	3,720	.	35.9	.	P
Apr-29-2008	21	.	.	4,540	.	56.2	.	P
May-06-2008	30	.	.	4,860	.	62.3	.	P
May-13-2008	26	.	.	4,530	.	55.3	.	P
May-20-2008	24	.	.	4,080	.	39.8	.	P
May-27-2008	35	.	.	4,300	.	49.7	.	P
Jun-03-2008	27	.	.	4,570	.	52.4	.	P
Jun-10-2008	20	.	.	4,250	.	40.5	.	P
Jun-17-2008	23	.	.	4,060	.	37.4	.	P
Jun-24-2008	15	.	.	4,270	.	34.6	.	P

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
Apr-03-2008	19	16.6	8.9	4,110	40	28.4	P
Apr-10-2008	19	16.0	8.9	4,830	64	38.5	P
Apr-17-2008	31	17.1	8.7	4,570	48	35.1	P
Apr-24-2008	38	16.0	8.0	4,040	42	45.7	P
May-01-2008	25	16.9	8.7	4,440	92	56.1	P
May-08-2008	28	19.7	8.4	4,960	44	55.7	P
May-15-2008	27	22.0	8.4	4,770	52	58.3	P
May-22-2008	32	16.3	8.3	3,570	160	31.0	P
May-29-2008	29	19.2	7.9	4,140	52	56.5	P
Jun-05-2008	26	19.7	8.4	4,810	63	58.1	P
Jun-12-2008	19	19.4	9.1	4,100	76	40.0	P
Jun-19-2008	20	23.3	8.1	3,790	51	28.8	P
Jun-26-2008	18	24.5	8.6	4,360	37	24.7	P

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
Apr-03-2008	104	15.4	8.3	2,860	.	0.7	P
Apr-10-2008	45	14.7	8.4	2,650	.	0.7	P
Apr-17-2008	33	16.9	8.4	1,520	.	1.2	P
Apr-24-2008	22	17.3	8.4	2,570	.	0.8	P
May-01-2008	22	15.6	8.2	2,630	.	0.6	P
May-08-2008	19	18.8	8.2	1,990	.	0.8	P
May-15-2008	25	22.0	8.0	2,500	.	0.8	P
May-22-2008	22	14.1	8.2	2,050	.	0.6	P
May-29-2008	19	18.3	8.2	2,500	.	0.4	P
Jun-05-2008	17	19.0	8.0	1,690	.	0.7	P
Jun-12-2008	7	19.2	8.2	2,280	.	0.5	P
Jun-19-2008	3	20.9	8.0	2,540	.	0.6	P
Jun-26-2008	-1	22.9	8.0	3,990	.	<0.4	P

++ 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
Apr-03-2008	123	15.6	8.3	2,800	4.8	P
Apr-10-2008	64	15.0	8.5	3,590	12.7	P
Apr-17-2008	64	16.5	8.5	3,720	19.0	P
Apr-24-2008	60	16.0	8.2	3,700	30.1	P
May-01-2008	47	16.2	8.6	4,210	40.9	P
May-08-2008	47	19.0	8.3	3,940	32.0	P
May-15-2008	52	21.8	8.4	3,880	31.8	P
May-22-2008	54	15.1	8.3	3,310	22.9	P
May-29-2008	48	18.7	8.2	4,060	51.1	P
Jun-05-2008	43	19.2	8.4	3,810	34.2	P
Jun-12-2008	26	18.7	8.6	3,580	25.2	P
Jun-19-2008	23	22.0	8.2	3,920	24.9	P
Jun-26-2008	17	24.2	8.5	4,240	18.3	P

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
Apr-01-2008	.	8.3	2,740	43	5.0	3.3
Apr-07-2008	.	8.2	3,920	39	10.8	4.7
Apr-15-2008	.	8.4	3,660	43	16.4	5.0
Apr-25-2008	.	8.7	3,510	32	27.6**	4.6
Apr-30-2008	.	8.6	3,300	45	23.6**	4.3
May-06-2008	.	8.7	4,440	33	43.4	6.1
May-12-2008	.	8.8	3,680	42	33.4	5.0
May-20-2008	.	7.8	3,500	29	21.4	4.8
May-28-2008	.	8.8	3,790	64	33.4	5.8
Jun-04-2008	.	8.6	3,480	19	22.2	5.1
Jun-09-2008	.	8.8	2,540	21	14.0	3.4
Jun-17-2008	.	8.3	4,190	19	28.1	6.2
Jun-24-2008	.	8.7	4,690	18	18.2	6.1

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
Apr-03-2008	139	15.3	7.5	1,060	0.6	P
Apr-10-2008	141	14.7	7.7	1,660	0.8	P
Apr-17-2008	142	15.5	7.8	1,380	0.6	P
Apr-24-2008	136	15.2	8.0	1,480	0.6	P
May-01-2008	79	14.8	7.9	1,880	<0.4	P
May-08-2008	120	18.2	7.8	1,430	0.5	P
May-15-2008	111	21.4	7.7	1,540	0.5	P
May-22-2008	128	15.1	8.1	1,400	0.5	P
May-29-2008	133	18.2	8.0	1,380	0.4	P
Jun-05-2008	114	18.4	7.9	1,380	0.5	P
Jun-12-2008	92	19.0	7.8	1,190	0.5	P
Jun-19-2008	70	20.8	7.7	1,460	0.5	P
Jun-26-2008	102	21.9	7.8	1,190	0.6	P

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
Apr-02-2008	10	.	.	810	1.3	P
Apr-09-2008	10	.	.	800	1.8	P
Apr-16-2008	10	.	.	670	1.1	P
Apr-23-2008	10	.	.	730	1.1	P
Apr-30-2008	20	.	.	690	0.9	P
May-07-2008	35	.	.	710	1.0	P
May-14-2008	40	.	.	640	0.9	P
May-21-2008	50	.	.	620	0.8	P
May-28-2008	25	.	.	590	0.9	P
Jun-04-2008	25	.	.	630	1.1	P
Jun-11-2008	25	.	.	710	0.8	P
Jun-18-2008	11	.	.	640	0.7	P
Jun-25-2008	11	.	.	690	0.7	P

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
Apr-02-2008	20	.	.	840	1.6	P
Apr-09-2008	20	.	.	820	1.3	P
Apr-16-2008	20	.	.	720	1.5	P
Apr-23-2008	20	.	.	740	1.8	P
Apr-30-2008	20	.	.	680	1.3	P
May-07-2008	80	.	.	640	1.0	P
May-14-2008	100	.	.	580	1.2	P
May-21-2008	80	.	.	620	1.1	P
May-28-2008	60	.	.	590	1.2	P
Jun-04-2008	60	.	.	580	1.0	P
Jun-11-2008	30	.	.	750	1.7	P
Jun-18-2008	13	.	.	880	1.8	P
Jun-25-2008	13	.	.	810	1.7	P

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
Apr-02-2008	0	.	.	2,730	3.4	P
Apr-09-2008	0	.	.	1,620	1.6	P
Apr-16-2008	25	.	.	1,260	1.6	P
Apr-23-2008	25	.	.	1,190	1.4	P
Apr-30-2008	65	.	.	830	1.3	P
May-07-2008	65	.	.	800	0.8	P
May-14-2008	65	.	.	810	1.1	P
May-21-2008	65	.	.	740	0.9	P
May-28-2008	55	.	.	800	1.1	P
Jun-04-2008	0	.	.	750	1.0	P
Jun-11-2008	0	.	.	830	1.2	P
Jun-18-2008	0	.	.	1,290	1.3	P
Jun-25-2008	0	.	.	1,160	1.3	P

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
Apr-02-2008	NA	.	.	1,960	1.5	P
Apr-09-2008	NA	.	.	1,590	1.6	P
Apr-16-2008	NA	.	.	2,410	1.4	P
Apr-23-2008	NA	.	.	1,470	1.0	P
Apr-30-2008	NA	.	.	1,250	1.2	P
May-07-2008	NA	.	.	990	1.0	P
May-14-2008	NA	.	.	1,000	1.0	P
May-21-2008	NA	.	.	1,070	1.1	P
May-28-2008	NA	.	.	1,000	0.9	P
Jun-04-2008	NA	.	.	960	1.0	P
Jun-11-2008	NA	.	.	1,130	1.5	P
Jun-18-2008	NA	.	.	1,220	1.3	P
Jun-25-2008	NA	.	.	1,550	2.0	P

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
Apr-02-2008	.	.	.	660	1.6	P
Apr-09-2008	.	.	.	760	1.8	P
Apr-16-2008	.	.	.	710	1.0	P
Apr-23-2008	.	.	.	660	1.3	P
Apr-30-2008	.	.	.	650	1.0	P
May-07-2008	.	.	.	660	0.9	P
May-14-2008	.	.	.	590	0.6	P
May-21-2008	.	.	.	610	0.8	P
May-28-2008	.	.	.	NA	NA	P
Jun-04-2008	.	.	.	590	1.0	P
Jun-11-2008	.	.	.	610	0.6	P
Jun-18-2008	.	.	.	630	0.7	P
Jun-25-2008	.	.	.	640	0.7	P

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
Apr-03-2008	174	16.0	7.7	2,280	0.5	P
Apr-10-2008	176	15.5	7.8	2,030	0.6	P
Apr-17-2008	157	16.8	7.6	1,730	0.6	P
Apr-24-2008	164	16.7	7.6	1,880	0.5	P
May-01-2008	114	16.3	7.7	1,920	<0.4	P
May-08-2008	157	19.8	7.9	1,660	0.6	P
May-15-2008	135	22.6	7.7	1,630	0.6	P
May-22-2008	144	16.1	7.7	1,610	0.5	P
May-29-2008	159	19.1	7.2	1,480	0.5	P
Jun-05-2008	133	19.5	7.9	1,510	0.5	P
Jun-12-2008	99	20.0	7.9	1,930	0.4	P
Jun-19-2008	77	22.4	7.2	1,930	0.4	P
Jun-26-2008	120	23.7	7.9	1,400	0.5	P

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
Apr-01-2008	.	.	.	2,560	1.9	1.8
Apr-08-2008	.	.	.	2,550	3.1	1.8
Apr-15-2008	.	.	.	2,330	4.5	1.6
Apr-29-2008	.	.	.	2,740	6.5	1.7
May-06-2008	.	.	.	2,700	8.6	1.7
May-13-2008	.	.	.	2,360	8.2	1.6
May-20-2008	.	.	.	2,200	4.4	1.5
Jun-03-2008	.	.	.	2,560	12	2.1
Jun-10-2008	.	.	.	2,180	0.7	3.0
Jun-17-2008	.	.	.	2,410	5.4	1.8
Jun-24-2008	.	.	.	1,730	1.5	1.0

Indicates questionable data



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>
Apr-03-2008	702	16.5	8.0	1,670	1.2	P
Apr-10-2008	604	16.5	8.1	1,570	1.6	P
Apr-17-2008	574	17.3	8.0	1,570	2.3	P
Apr-24-2008	794	16.3	8.0	1,020	2.1	P
May-01-2008	1,580	15.0	8.2	500	0.8	P
May-08-2008	1,260	18.2	8.1	660	1.6	P
May-15-2008	1,420	18.9	8.0	560	1.4	P
May-22-2008	659	16.9	8.0	1,040	1.4	P
May-29-2008	563	19.4	7.9	1,220	2.3	P
Jun-05-2008	488	20.2	8.2	1,330	2.8	P
Jun-12-2008	379	20.0	8.1	1,500	1.9	P
Jun-19-2008	318	22.0	7.8	1,580	2.6	P
Jun-26-2008	302	23.3	8.2	1,480	1.4	P

**Table 20. Summary of fathead minnow (*Pimephales promelas*) larvae survival in 7-day tests using water samples collected from July 2007 to June 2008. Each value is the mean of 4 replicates with 10 fish 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	%	%	%	%	%	%
Jul-2007	100	98	98	100	100	100
Aug-2007	93	100	100	95	93	100
Sep-2007	93	90	88	93	93	100
Oct-2008	88	98	93	95	98	100
Nov-2008	95	95	100	100	100	98
Dec-2008	93	93	98	98	95	95
Jan-2008	100	100	95	98	100	100
Feb-2008	100	95	100	95	98	100
Mar-2008	93	95	100	100	73	100
Apr-2008	98	100	100	100	95	98
May-2008	98	95	98	95	98	100
Jun-2008	98	95	100	93	100	98

**Table 21. Summary of fathead minnow (*Pimephales promelas*) larvae growth in 7-day tests using water samples collected from July 2007 to June 2008. Each value is the mean of 4 replicates with 10 fish 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	mg	mg	mg	mg	mg	mg
Jul-2007	0.36	0.32	0.26*	0.36	0.36	0.33
Aug-2007	0.30	0.29	0.32	0.33	0.27	0.26
Sep-2007	0.26	0.24	0.25	0.26	0.27	0.25
Oct-2008	0.32	0.36	0.34	0.41	0.36	0.34
Nov-2008	0.32*	0.32*	0.35	0.33	0.36	0.33
Dec-2008	0.31	0.33	0.32	0.32	0.32	0.32
Jan-2008	0.40	0.40	0.41	0.41	0.37	0.35
Feb-2008	0.46	0.43	0.41	0.41	0.38	0.33
Mar-2008	0.33	0.33	0.37	0.38	0.22	0.29
Apr-2008	0.31	0.39	0.31	0.24*	0.30	0.27
May-2008	0.31	0.31	0.29*	0.31	0.34	0.32
Jun-2008	0.31	0.33	0.36	0.31	0.31	0.31

**Table 22. Summary of *Daphnia magna* survival in 7-day tests using water samples collected from July 2007 to June 2008. 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	%	%	%	%	%	%
Jul-2007	80	80	80	90	80	100
Aug-2007	100	70	90	90	80	100
Sep-2007	100	100	100	100	100	80
Oct-2008	90	80	100	90	90	80
Nov-2008	100	100	100	100	100	100
Dec-2008	90	100	100	100	100	80
Jan-2008	70	100	90	100	100	90
Feb-2008	100	90	80	90	100	100
Mar-2008	100	100	90	100	100	90
Apr-2008	100	100	80	100	90	90
May-2008	80	70	80	100	90	90
Jun-2008	100	100	100	90	90	90

**Table 23. Summary of *Daphnia magna* reproduction in 7-day tests using water samples collected from July 2007 to June 2008. 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
Jul-2007	43.1	32.5	34.6	20.9	20.8	36.3
Aug-2007	29.8	26.3	40.7	33.9	25.9	26.3
Sep-2007	19.2*	32.0	31.0	23.8	29.3	19.6
Oct-2008	35.8	31.1	34.4	27.5	24.3	26.2
Nov-2008	49.9	44.0	46.9	41.6	42.5	40.3
Dec-2008	32.2	24.4	32.2	28.7	30.7	23.0
Jan-2008	36.4	47.8	41.5	40.3	48.8	45.2
Feb-2008	35.6	33.6	33.4	35.8	27.7	28.3
Mar-2008	27.4	29.0	29.5	26.2	30.1	19.6
Apr-2008	31.4	31.1	27.5	24.8	33.6	25.8
May-2008	22.2	19.6	23.5	33.1	25.7	28.8
Jun-2008	23.4	21.0	29.3	23.6	26.6	26.0

**Table 24. Summary of *Selenastrum capricornutum* growth in 4-day tests using water samples collected from July 2007 to June 2008. 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
Jul-2007	10.4	15.4	11.2	15.5	9.4	13.4
Aug-2007	12.0	15.9	12.6	13.7	9.9	13.7
Sep-2007	11.8	8.9	11.5	13.5	9.2††††	3.8†††† ‡
Oct-2008	12.0	13.9	14.1	14.8	10.8	13.8 ‡
Nov-2008	9.7*	17.3	21.4	19.1	13.2	15.1
Dec-2008	11.7	19.3	17.7	18.3	13.2	14.1
Jan-2008	15.8	16.3	22.6	19.9	16.3	16.1
Feb-2008	6.2	13.9	12.1	12.8	7.7††††	12.3
Mar-2008	18.1	14.2*	22.2	11.2*	20.5	24.9
Apr-2008	13.3*	16.7	22.4	11.9*	17.2	18.3
May-2008	17.1	30.5	22.3	14.2*	21.6	19.8
Jun-2008	15.9*	20.9	8.6*	22.7	20.5	20.1

**Table 25. Summary of selenium concentrations in grab water samples collected at study stations for use in laboratory toxicity tests, April 2008 to June 2008.**

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
Apr-07-2008	40	0.7	9.4	0.7	<0.4
Apr-09-2008	38	0.5	13	0.7	<0.4
Apr-11-2008	46	0.5	15	0.7	<0.4
May-05-2008	73	0.7	46	<0.4	<0.4
May-07-2008	57	0.7	43	<0.4	<0.4
May-09-2008	52	<0.4	40	<0.4	<0.4
Jun-02-2008	65	0.6	45	0.5	<0.4
Jun-04-2008	46	0.7	20	0.5	<0.4
Jun-06-2008	62	0.6	38	0.6	<0.4
Jun-09-2008	35	0.9	14	0.5	0.5

**Table 26. Summary of total suspended solids concentrations in grab water samples collected at study stations for use in laboratory toxicity tests, April 2008 to June 2008.**

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
Apr-07-2008	54	78	65	68	16
Apr-09-2008	45	58	62	45	16
Apr-11-2008	73	90	87	105	9
May-05-2008	71	49	74	103	7
May-07-2008	49	32	86	95	9
May-09-2008	89	89	94	111	11
Jun-02-2008	34	41	58	50	8
Jun-04-2008	66	32	36	87	13
Jun-06-2008	75	110	93	177	13
Jun-09-2008	41	63	75	91	10

Table 27. Explanations of footnotes and agency abbreviations.

Footnote	Explanation
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