

GRASSLAND BYPASS PROJECT

MONTHLY DATA REPORT

June 2006

October 25, 2006

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 2006.
- 2a. Continuous water monitoring at Stations B and B2 (San Luis Drain Terminus), June 2006.
- 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 2006.
4. Continuous water monitoring at Station F (Salt Slough at Highway 165), June 2006.
5. Continuous water monitoring at Station N (San Joaquin River at Crow's Landing), June 2006.

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 2005 to June 2006.
21. Summary of fathead minnow (*Pimephales promelas*) larvae growth in 7-day tests using water samples collected from July 2005 to June 2006.
22. Summary of *Daphnia magna* survival in 7-day tests using water samples collected from July 2005 to June 2006.
23. Summary of *Daphnia magna* reproduction in 7-day tests using water samples collected from July 2005 to June 2006.
24. Summary of *Selenastrum capricornutum* growth in 4-day tests using water samples collected from July 2005 to June 2006.
25. Summary of selenium concentrations in grab water samples collected at study stations for use in laboratory toxicity tests, April 2006 to June 2006.
26. Summary of total suspended solids concentrations in grab water samples collected from April 2006 to June 2006.
27. Explanations of footnotes and agency abbreviations.

Table 1. Continuous water monitoring at Station A (inflow to San Luis Drain), June 2006.

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Specific Conductance
DATA SOURCE	SLDMWA	SLDMWA
UNITS	cfs	µS/cm
Jun-01-2006	30	5,240
Jun-02-2006	30	5,220
Jun-03-2006	30	5,053
Jun-04-2006	30	4,800
Jun-05-2006	31	5,050
Jun-06-2006	37	4,810
Jun-07-2006	39	4,590
Jun-08-2006	40	4,400
Jun-09-2006	44	4,150
Jun-10-2006	46	4,150
Jun-11-2006	50	4,150
Jun-12-2006	51	4,390
Jun-13-2006	52	4,400
Jun-14-2006	50	4,530
Jun-15-2006	46	4,630
Jun-16-2006	43	4,500
Jun-17-2006	47	4,120
Jun-18-2006	57	3,780
Jun-19-2006	48	4,010
Jun-20-2006	44	4,330
Jun-21-2006	41	4,510
Jun-22-2006	37	4,740
Jun-23-2006	36	4,940
Jun-24-2006	38	4,660
Jun-25-2006	36	4,830
Jun-26-2006	38	5,100
Jun-27-2006	41	5,150
Jun-28-2006	40	5,050
Jun-29-2006	40	4,940
Jun-30-2006	44	4,640
.	.	.
Mean	41	4,630

Table 2a. Continuous water monitoring at Stations B and B2 (San Luis Drain Terminus), June 2006.

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-01-2006	31	24.7	7.3	4,700	52.4	8.7
Jun-02-2006	30	25.3	8.1	5,150	58.8	9.6
Jun-03-2006	29	26.0	8.1	5,100	57.3	9.1
Jun-04-2006	30	26.4	8.5	5,180	59.4	9.7
Jun-05-2006	30	26.4	8.4	5,220	61.0	9.9
Jun-06-2006	31	26.6	7.9	5,080	57.2	9.5
Jun-07-2006	36	27.1	8.1	5,060	58.4	11.4
Jun-08-2006	39	26.5	7.4	4,740	52.1	10.8
Jun-09-2006	39	26.1	7.7	4,990	56.7	12.0
Jun-10-2006	43	25.6	7.2	4,590	52.8	12.3
Jun-11-2006	46	25.1	7.0	4,440	47.4	11.8
Jun-12-2006	50	24.2	6.3	4,200	44.4	12.1
Jun-13-2006	52	23.8	6.1	4,090	40.7	11.5
Jun-14-2006	53	23.3	6.1	4,050	41.3	11.7
Jun-15-2006	50	23.8	6.6	4,310	45.2	12.2
Jun-16-2006	47	25.0	7.3	4,200	41.6	10.5
Jun-17-2006	44	26.7	7.6	4,360	42.6	10.1
Jun-18-2006	48	27.5	8.5	4,510	41.6	10.7
Jun-19-2006	55	27.0	8.6	4,430	38.6	11.5
Jun-20-2006	49	26.8	8.4	4,110	31.9	8.5
Jun-21-2006	43	26.6	7.3	3,690	30.4	7.1
Jun-22-2006	41	26.4	8.0	3,910	31.4	7.0
Jun-23-2006	38	27.7	8.1	3,960	34.2	7.0
Jun-24-2006	37	28.8	8.8	4,430	39.2	7.7
Jun-25-2006	37	29.4	8.8	4,470	38.6	7.8
Jun-26-2006	35	30.0	9.5	4,750	41.9	8.0
Jun-27-2006	38	29.9	9.9	4,840	46.8	9.6
Jun-28-2006	41	29.0	9.1	4,570	38.8	8.5
Jun-29-2006	40	28.4	9.4	4,740	42.8	9.3
Jun-30-2006	40	28.2	8.9	4,910	47.1	10.2
.
Mean	41	26.6	8.0	4,560	45.8	9.9
Total Acre-feet	2,430					
Total (lbs)						296

Load Limitation for June 2006 (lbs)	354
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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.

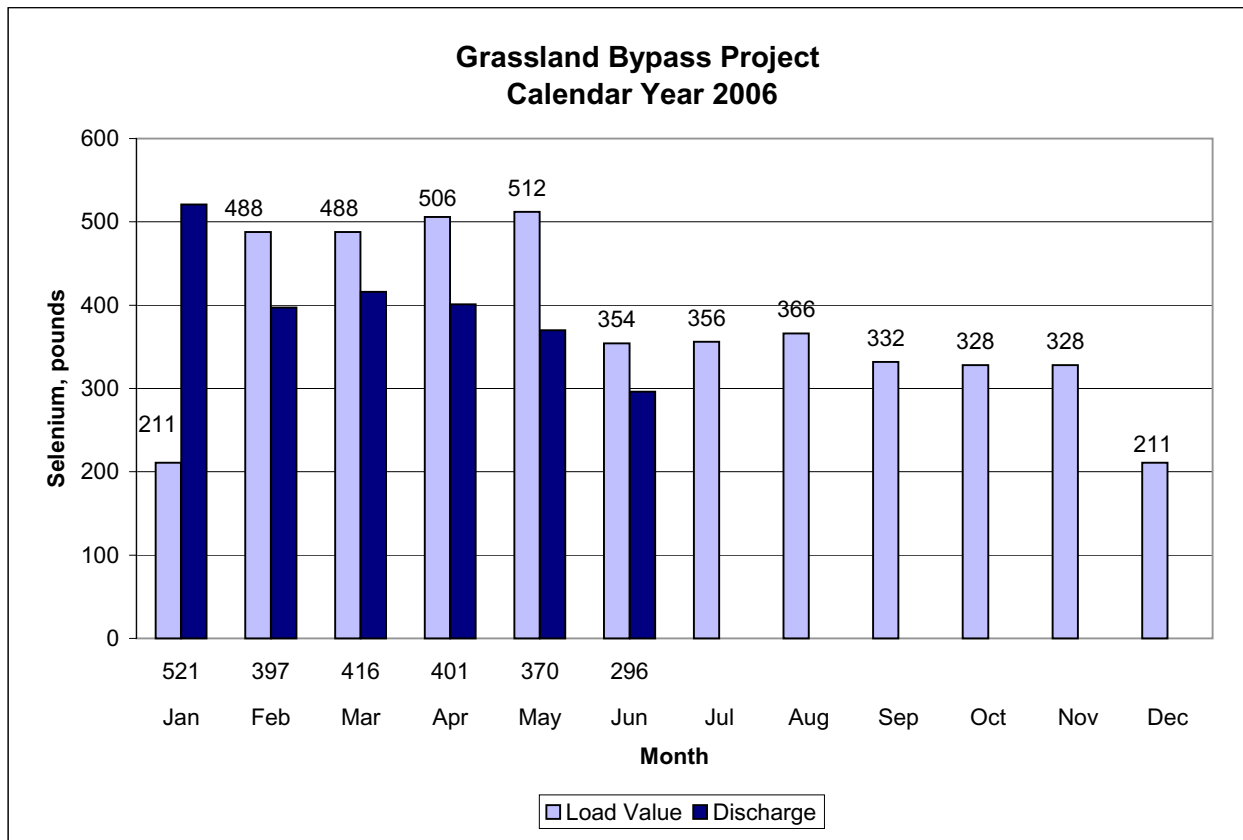


Table 3. Continuous water monitoring at Station D (Mud Slough North downstream of drainage discharges), June 2006.

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	Specific Conductance
DATA SOURCE	USGS	USGS	USGS
UNITS	cfs	°C	µS/cm
Jun-01-2006	117	23.8	1,490
Jun-02-2006	110	24.4	1,730
Jun-03-2006	105	25.0	2,660
Jun-04-2006	94	25.5	3,010
Jun-05-2006	87	25.3	2,760
Jun-06-2006	103	25.6	3,510
Jun-07-2006	116	26.4	4,160
Jun-08-2006	120	25.9	4,250
Jun-09-2006	120	25.5	4,310
Jun-10-2006	119	25.0	3,690
Jun-11-2006	119	24.6	2,800
Jun-12-2006	121	23.6	2,530
Jun-13-2006	121	23.2	2,580
Jun-14-2006	122	22.6	2,010
Jun-15-2006	107	23.3	2,590
Jun-16-2006	94	24.6	2,550
Jun-17-2006	96	26.3	2,970
Jun-18-2006	88	26.9	3,340
Jun-19-2006	84	26.1	3,450
Jun-20-2006	74	26.2	2,750
Jun-21-2006	73	25.8	2,430
Jun-22-2006	83	25.9	2,630
Jun-23-2006	100	27.1	2,390
Jun-24-2006	110	28.2	2,120
Jun-25-2006	100	28.9	2,090
Jun-26-2006	93	29.3	2,040
Jun-27-2006	98	29.1	2,560
Jun-28-2006	100	28.2	2,620
Jun-29-2006	94	27.8	2,800
Jun-30-2006	109	27.5	2,830
.	.	.	.
Mean	103	25.9	2,790

Table 4. Continuous water monitoring at Station F (Salt Slough at Highway 165), June 2006.

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	Specific Conductance
DATA SOURCE	usgs	usgs	usgs
UNITS	cfs	°C	µS/cm
Jun-01-2006	234	23.4	875
Jun-02-2006	232	24.1	789
Jun-03-2006	228	24.7	817
Jun-04-2006	211	25.1	835
Jun-05-2006	207	24.9	768
Jun-06-2006	223	24.8	710
Jun-07-2006	225	24.8	773
Jun-08-2006	226	24.4	778
Jun-09-2006	226	23.8	712
Jun-10-2006	223	23.3	728
Jun-11-2006	212	23.1	842
Jun-12-2006	206	22.6	873
Jun-13-2006	198	22.1	878
Jun-14-2006	190	21.9	899
Jun-15-2006	185	22.8	839
Jun-16-2006	194	24.2	879
Jun-17-2006	194	26.0	1,040
Jun-18-2006	182	26.6	991
Jun-19-2006	183	25.0	906
Jun-20-2006	179	24.8	864
Jun-21-2006	180	25.3	917
Jun-22-2006	187	25.5	926
Jun-23-2006	195	26.8	901
Jun-24-2006	204	27.6	841
Jun-25-2006	197	28.1	801
Jun-26-2006	192	28.2	780
Jun-27-2006	185	27.8	729
Jun-28-2006	190	26.8	745
Jun-29-2006	209	26.7	838
Jun-30-2006	216	26.8	820
.	.	.	.
Mean	204	25.1	840

Table 5. Continuous water monitoring at Station N (San Joaquin River at Crow's Landing), June 2006.

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
Jun-01-2006	11,000	21.1	NA	NA
Jun-02-2006	10,800	21.6	NA	NA
Jun-03-2006	10,500	22.2	NA	NA
Jun-04-2006	10,300	22.7	NA	NA
Jun-05-2006	9,930	22.8	NA	NA
Jun-06-2006	9,710	22.7	NA	NA
Jun-07-2006	9,920	23.1	NA	NA
Jun-08-2006	10,200	22.8	NA	NA
Jun-09-2006	10,300	22.4	NA	NA
Jun-10-2006	10,400	22.4	NA	NA
Jun-11-2006	10,300	22.2	NA	NA
Jun-12-2006	10,500	21.6	NA	NA
Jun-13-2006	10,600	20.8	NA	NA
Jun-14-2006	10,300	20.5	NA	NA
Jun-15-2006	10,200	20.5	NA	NA
Jun-16-2006	9,930	21.4	NA	NA
Jun-17-2006	9,240	22.7	NA	NA
Jun-18-2006	8,310	23.4	NA	NA
Jun-19-2006	7,430	23.1	NA	NA
Jun-20-2006	6,740	22.7	NA	NA
Jun-21-2006	6,500	22.3	NA	NA
Jun-22-2006	6,500	22.2	NA	NA
Jun-23-2006	6,780	22.6	NA	NA
Jun-24-2006	7,190	23.6	132	<0.4
Jun-25-2006	7,670	24.2	124	<0.4
Jun-26-2006	8,000	24.6	125	<0.4
Jun-27-2006	8,120	24.8	139	<0.4
Jun-28-2006	8,060	24.5	131	<0.4
Jun-29-2006	7,880	24.2	133	<0.4
Jun-30-2006	7,260	24.3	149	<0.4
.
Mean	9,020	22.7	130	<0.4

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-05-2006	35	.	.	5,680	110	.	.	.
Apr-12-2006	38	.	.	5,600	79	.	.	.
Apr-19-2006	27	.	.	6,150	47	.	.	.
Apr-26-2006	42	.	.	5,980	64	.	.	.
May-03-2006	34	.	.	5,700	130	.	.	.
May-10-2006	37	.	.	4,940	130	.	.	.
May-17-2006	26	.	.	5,230	150	.	.	.
May-24-2006	39	.	.	4,420	170	.	.	.
May-31-2006	30	.	.	4,810	100	.	.	.
Jun-07-2006	39	.	.	4,640	110	.	.	.
Jun-14-2006	50	.	.	4,340	160	.	.	.
Jun-21-2006	41	.	.	4,070	220	.	.	.
Jun-28-2006	40	.	.	4,740	150	.	.	.

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-04-2006	35	.	.	5,890	.	70.6	.	10.0
Apr-11-2006	39	.	.	5,830	.	68.0	.	11.0
Apr-18-2006	25	.	.	5,690	.	63.6	.	10.0
Apr-25-2006	39	.	.	5,940	.	84.2	.	10.0
May-02-2006	32	.	.	5,760	.	96.4	.	9.2
May-09-2006	35	.	.	4,970	.	79.0	.	6.9
May-16-2006	26	.	.	4,230	.	47.8	.	7.7
May-23-2006	48	.	.	4,510	.	48.1	.	7.9
May-30-2006	30	.	.	4,650	.	54.2	.	P
Jun-06-2006	37	.	.	4,810	.	56.4	.	8.0
Jun-13-2006	52	.	.	4,210	.	P	.	6.8
Jun-20-2006	44	.	.	4,030	.	34.8	.	6.9
Jun-27-2006	41	.	.	4,680	.	43.0	.	9.3

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-06-2006	40	14.7	8.5	5,550	53	59.6	9.2
Apr-13-2006	42	15.5	8.4	5,510	61	58.5	P
Apr-20-2006	30	17.8	8.5	5,180	58	54.4	9.4
Apr-27-2006	44	19.7	8.5	5,790	P	87.8	P
May-04-2006	35	20.7	8.8	5,630	72	93.0	8.2
May-11-2006	38	22.7	8.1	4,310	49	64.7	P
May-18-2006	27	25.9	8.4	3,480	36	33.7	6.2
May-25-2006	41	21.6	8.0	3,980	58	41.6	6.5
Jun-01-2006	31	23.0	8.7	4,690	60	53.4	7.7
Jun-08-2006	39	24.7	8.7	4,750	41	50.5	7.6
Jun-15-2006	50	22.4	8.3	4,280	57	P	6.8
Jun-22-2006	41	24.6	8.5	3,740	41	30.7	7.6
Jun-29-2006	40	26.4	8.3	4,830	35	42.4	9.6

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-06-2006	314	14.0	8.1	1,850	.	0.5	1.8
Apr-13-2006	220	15.5	8.2	1,900	.	1.7	P
Apr-20-2006	91	17.7	7.9	2,090	.	0.5	1.3
Apr-27-2006	65	18.1	8.1	1,170	.	0.5	P
May-04-2006	75	18.9	8.1	797	.	0.6	0.8
May-11-2006	63	22.7	7.9	892	.	0.5	P
May-18-2006	67	24.9	7.8	916	.	0.6	0.9
May-25-2006	134	20.7	7.7	657	.	0.7	0.8
Jun-01-2006	86	22.2	8.0	706	.	0.6	0.7
Jun-08-2006	81	23.0	7.8	1,100	.	0.4	1.1
Jun-15-2006	57	21.5	7.9	898	.	P	1.0
Jun-22-2006	42	24.0	8.3	1,230	.	0.7	1.3
Jun-29-2006	54	25.2	8.3	868	.	0.6	1.2

** 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-06-2006	354	14.3	8.1	2,530	10.2	3.2
Apr-13-2006	262	15.4	8.2	NA	10.7	P
Apr-20-2006	121	17.8	8.4	2,340	10.6	3.2
Apr-27-2006	109	18.6	8.2	2,000	18.0	P
May-04-2006	110	19.6	8.3	2,120	17.3	2.5
May-11-2006	101	22.6	8.4	2,260	16.4	P
May-18-2006	94	25.7	8.2	2,210	9.0	2.3
May-25-2006	175	21.0	8.0	1,600	10.7	2.2
Jun-01-2006	117	22.3	8.0	1,590	11.4	1.8
Jun-08-2006	120	24.9	8.4	2,730	23.8	4.9
Jun-15-2006	107	22.0	8.3	2,380	P	3.5
Jun-22-2006	83	24.2	8.4	2,670	15.6	4.7
Jun-29-2006	94	26.2	8.3	2,820	13.7	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
Apr-05-2006	.	8.5	3,010	56	8.6	3.0
Apr-13-2006	.	8.5	2,640	22	10.8	3.3
Apr-19-2006	.	8.6	2,060	33	7.7	2.8
Apr-26-2006	.	8.6	2,770	25	22.7	4.3
May-01-2006	.	8.5	2,640	24	29.2	3.9
May-11-2006	.	8.7	2,570	24	27.2	4.0
May-15-2006	.	8.6	2,550	24	26.3	3.8
May-25-2006	.	8.4	1,610	39	10.4	2.2
Jun-01-2006	.	8.3	1,720	41	11.2	2.0
Jun-06-2006	.	8.7	2,420	45	18.8	3.5
Jun-12-2006	.	8.6	2,460	41	19.6	3.7
Jun-19-2006	.	9.0	3,390	76	22.0	5.3
Jun-26-2006	.	8.7	2,040	47	13.0	3.3

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-06-2006	308	14.4	7.6	1,300	0.7	0.8
Apr-13-2006	413	15.5	7.3	1,320	0.8	P
Apr-20-2006	348	16.9	7.5	1,090	<0.4	0.7
Apr-27-2006	327	18.3	7.4	984	0.4	P
May-04-2006	334	19.2	7.5	1,020	0.5	0.7
May-11-2006	328	21.9	7.2	665	<0.4	P
May-18-2006	262	24.7	7.3	827	0.4	0.4
May-25-2006	324	21.1	7.0	750	0.5	0.5
Jun-01-2006	234	22.2	7.4	836	0.6	0.4
Jun-08-2006	226	22.8	7.4	741	<0.4	0.4
Jun-15-2006	185	21.5	7.5	797	P	0.4
Jun-22-2006	187	24.0	7.4	897	<0.4	0.4
Jun-29-2006	209	25.1	7.5	850	<0.4	0.5

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	SJDMWA ^{††}	.	.	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	.	.	µS/cm	µg/L	mg/L
Apr-05-2006	20	.	.	203	<0.4	0.2
Apr-12-2006	20	.	.	522	1.5	0.5
Apr-19-2006	20	.	.	277	0.7	0.3
Apr-26-2006	20	.	.	238	<0.4	<0.1
May-03-2006	5	.	.	108	0.4	0.1
May-10-2006	50	.	.	105	0.5	0.1
May-17-2006	65	.	.	107	0.5	<0.1
May-24-2006	65	.	.	106	0.5	0.1
May-31-2006	40	.	.	108	0.5	P
Jun-07-2006	30	.	.	106	0.6	0.3
Jun-14-2006	15	.	.	226	P	0.4
Jun-21-2006	15	.	.	104	<0.4	0.1
Jun-28-2006	15	.	.	112	<0.4	0.1

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 ^{††}	.	.	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	.	.	µS/cm	µg/L	mg/L
Apr-05-2006	50	.	.	172	<0.4	0.2
Apr-12-2006	50	.	.	252	0.4	0.3
Apr-19-2006	50	.	.	166	<0.4	0.2
Apr-26-2006	50	.	.	111	<0.4	0.2
May-03-2006	0	.	.	81	0.5	0.0
May-10-2006	50	.	.	100	<0.4	0.1
May-17-2006	75	.	.	100	0.4	<0.1
May-24-2006	75	.	.	82	<0.4	<0.1
May-31-2006	50	.	.	82	0.6	P
Jun-07-2006	70	.	.	84	<0.4	0.2
Jun-14-2006	45	.	.	54	P	0.1
Jun-21-2006	45	.	.	50	<0.4	<0.1
Jun-28-2006	45	.	.	57	<0.4	<0.1

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 ^{††}	.	.	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	.	.	µS/cm	µg/L	mg/L
Apr-05-2006	0	.	.	603	0.7	0.8
Apr-12-2006	75	.	.	763	5.0	0.8
Apr-19-2006	75	.	.	260	0.4	0.2
Apr-26-2006	75	.	.	128	<0.4	0.1
May-03-2006	0	.	.	124	<0.4	0.1
May-10-2006	20	.	.	105	<0.4	<0.1
May-17-2006	20	.	.	281	0.6	0.2
May-24-2006	20	.	.	188	0.5	0.1
May-31-2006	20	.	.	217	0.5	P
Jun-07-2006	95	.	.	132	<0.4	0.2
Jun-14-2006	20	.	.	470	P	0.5
Jun-21-2006	0	.	.	1,050	1.7	1.0
Jun-28-2006	0	.	.	1,230	1.6	1.3

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 ^{††}	.	.	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	.	.	µS/cm	µg/L	mg/L
Apr-05-2006	142	.	.	1,150	0.7	1.3
Apr-12-2006	62	.	.	948	0.7	1.1
Apr-19-2006	69	.	.	666	<0.4	0.8
Apr-26-2006	20	.	.	560	<0.4	0.7
May-03-2006	108	.	.	532	0.8	0.7
May-10-2006	103	.	.	507	0.7	0.6
May-17-2006	107	.	.	363	0.6	0.4
May-24-2006	110	.	.	421	0.5	0.6
May-31-2006	94	.	.	537	0.8	P
Jun-07-2006	NA	.	.	484	0.8	0.8
Jun-14-2006	NA	.	.	418	P	0.7
Jun-21-2006	NA	.	.	571	0.9	0.9
Jun-28-2006	NA	.	.	566	0.7	1.2

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-05-2006	.	.	.	98	<0.4	<0.1
Apr-12-2006	.	.	.	201	0.5	0.2
Apr-19-2006	.	.	.	72	<0.4	<0.1
Apr-26-2006	.	.	.	76	<0.4	0.1
May-03-2006	.	.	.	66	0.5	<0.1
May-10-2006	.	.	.	70	<0.4	<0.1
May-17-2006	.	.	.	76	<0.4	<0.1
May-24-2006	.	.	.	86	<0.4	<0.1
May-31-2006	.	.	.	89	0.6	P
Jun-07-2006	.	.	.	85	0.4	0.1
Jun-14-2006	.	.	.	73	P	0.1
Jun-21-2006	.	.	.	58	<0.4	<0.1
Jun-28-2006	.	.	.	87	<0.4	0.1

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-06-2006	6,320	14.7	NA	231	NA	NA
Apr-13-2006	16,700	14.7	NA	108	NA	NA
Apr-20-2006	12,000	16.6	NA	99	NA	NA
Apr-27-2006	11,900	16.9	NA	89	NA	NA
May-04-2006	10,300	18.8	NA	84	NA	NA
May-11-2006	9,660	20.9	NA	72	NA	NA
May-18-2006	8,220	23.2	NA	72	NA	NA
May-25-2006	11,200	20.3	NA	64	NA	NA
Jun-01-2006	7,400	21.4	NA	62	NA	NA
Jun-08-2006	7,930	22.5	NA	54	NA	NA
Jun-15-2006	7,050	20.9	NA	53	NA	NA
Jun-22-2006	4,060	24.0	7.3	100	<0.4	<0.1
Jun-29-2006	5,340	24.0	NA	101	NA	NA

Note:

Site G was flooded and water from the Mud Slough (north) overflow was comingling with water from the San Joaquin River.

Site G is intended to represent the San Joaquin River upstream of inflows from Mud Slough (north).

However, due to the flooding, it was impossible to collect representative samples in April and May.

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-04-2006	.	.	.	NA	<0.4	0.1
Apr-11-2006	.	.	.	NA	<0.4	0.1
Apr-18-2006	.	.	.	NA	<0.4	0.1
Apr-25-2006	.	.	.	NA	<0.4	0.1
May-02-2006	.	.	.	NA	<0.4	0.0
May-09-2006	.	.	.	NA	<0.4	0.1
May-16-2006	.	.	.	NA	<0.4	0.1
May-23-2006	.	.	.	NA	0.4	0.5
Jun-06-2006	.	.	.	NA	<0.4	0.0
Jun-13-2006	.	.	.	NA	<0.4	0.1
Jun-27-2006	.	.	.	NA	<0.4	0.1

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.

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-06-2006	10,900	14.4	7.5	301	0.4	0.1
Apr-13-2006	21500	14.5	7.0	182	<0.4	P
Apr-20-2006	16,900	16.3	7.4	177	<0.4	0.1
Apr-27-2006	17,200	17.6	7.2	162	<0.4	P
May-04-2006	15,400	19.4	7.4	149	0.5	0.1
May-11-2006	14,100	20.1	7.2	135	<0.4	P
May-18-2006	13,300	22.3	7.1	124	<0.4	0.1
May-25-2006	14,600	19.6	7.3	113	<0.4	<0.1
Jun-01-2006	11,000	21.2	7.9	140	0.9	0.1
Jun-08-2006	10,200	22.7	7.5	113	<0.4	0.1
Jun-15-2006	10,200	20.3	7.7	121	P	0.1
Jun-22-2006	6,500	21.9	7.5	166	<0.4	0.1
Jun-29-2006	7,880	23.9	7.4	131	<0.4	0.1

Table 20. Summary of fathead minnow (*Pimephales promelas*) larvae survival in 7-day tests using water samples collected from July 2005 to June 2006. 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-2005	98	100	95	98	80	93
Aug-2005	93	95	95	95	100	98
Sep-2005	100	100	100	98	93	95
Oct-2005	90	93	98	100	90	100
Nov-2006	98	95	90	98	95	98
Dec-2006	95	28*	55*	63	95	98
Jan-2006	100	95	95	100	73	100
Feb-2006	98	95	98	100	100	100
Mar-2006	93	95	98	90	98	95
Apr-2006	90	95	98	100	95	100
May-2006	95	100	98	100	88	100
Jun-2006	93	100	98	98	98	100

Table 21. Summary of fathead minnow (*Pimephales promelas*) larvae growth in 7-day tests using water samples collected from July 2005 to June 2006. 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-2005	0.39	0.39	0.35	0.33	0.35	0.39
Aug-2005	0.52	0.56	0.60	0.51	0.48	0.42
Sep-2005	0.54	0.04	0.45	0.45	0.42	0.38
Oct-2005	0.38	0.41	0.41	0.36	0.39	0.40
Nov-2006	0.31	0.32	0.30	0.29	0.31	0.31
Dec-2006	0.36	0.12*	0.23	0.25	0.33	0.31
Jan-2006	0.47	0.43	0.46	0.43	0.35	0.36
Feb-2006	0.39	0.39	0.42	0.42	0.31	0.28
Mar-2006	0.49	0.45	0.45	0.45	0.46	0.40
Apr-2006	0.31	0.38	0.36	0.36	0.29	0.28
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

Table 22. Summary of *Daphnia magna* survival in 7-day tests using water samples collected from July 2005 to June 2006. 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-2005	90	100	80	90	80	90
Aug-2005	100	100	100	80	80	70†
Sep-2005	90	90	100	80	20†	30†
Oct-2005	30*	80	78	100	90	80
Nov-2006	80	80	100	90	100	100
Dec-2006	100	80	70	70	80	100
Jan-2006	90	90	80	80	80	100
Feb-2006	100	100	100	100	100	50†
Mar-2006	100	90	80	80	80	100
Apr-2006	80	90	100	90	100	100
May-2006	100	90	100	100	100	100
Jun-2006	90	90	100	90	90	80

Table 23. Summary of *Daphnia magna* reproduction in 7-day tests using water samples collected from July 2005 to June 2006. 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-2005	41.8	49.4	43.1	45.5	39.6	34.0
Aug-2005	29.3	36.1	32.5	29.4	22.1	21.0
Sep-2005	11.4	11.0	12.0	10.8	5.3†††	7.8†††
Oct-2005	11.7*	28.3	23.9	25.7	24.5	22.6
Nov-2006	17.8	16.1	16.7	15.7	16.9	17.0
Dec-2006	19.0	17.4	14.9	13.4	19.8	22.4
Jan-2006	32.2	29.6	33.1	24.7	25.3	26.6
Feb-2006	30.7	34.8	34.9	30.8	32.0	13.2
Mar-2006	39.0	33.0	28.2	28.8	31.5	33.9
Apr-2006	43.6	42.7	43.5	39.9	32.7	37.4
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

Table 24. Summary of *Selenastrum capricornutum* growth in 4-day tests using water samples collected from July 2005 to June 2006. 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 ⁵ cells/mL	10 ⁵ cells/mL	10 ⁵ cells/mL	10 ⁵ cells/mL	10 ⁵ cells/mL	10 ⁵ cells/mL
Jul-2005	10.0*	13.0	7.4*	7.7*	11.9	13.0
Aug-2005	6.1*	21.0	7.3*	22.9	16.7	18.2
Sep-2005	21.5	23.1	25.0	28.3	21.6	22.4
Oct-2005	18.3	14.8	17.1	17.4	9.1	17.5
Nov-2006	17.7	22.3	22.8	19.0	15.6	18.1
Dec-2006	13.8*	26.9	37.2	21.1	22.1	23.4
Jan-2006	8.9*	27.5	29.5	24.3	22.5	25.5
Feb-2006	8.3*	12.6	5.9*	1.7*	12.8	23.8
Mar-2006	17.4	24.2	25.0	24.0	15.4	23.9
Apr-2006	9.9	21.5	18.8	18.6	12.7	19.7
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

Table 25. Summary of selenium concentrations in grab water samples collected at study stations for use in laboratory toxicity tests, April 2006 to June 2006.

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-10-2006	62	<0.4	9.2	<0.4	<0.4
Apr-12-2006	58	0.5	11	<0.4	<0.4
Apr-14-2006	61	0.4	11	<0.4	<0.4
May-08-2006	75	0.4	13	0.4	<0.4
May-10-2006	67	0.5	9.4	<0.4	<0.4
May-12-2006	65	0.4	15	<0.4	<0.4
Jun-05-2006	55	0.7	9.0	0.5	<0.4
Jun-07-2006	55	0.6	9.6	0.4	0.5
Jun-09-2006	52	0.8	10	0.5	0.7

Table 26. Summary of total suspended solids concentrations in grab water samples collected at study stations for use in laboratory toxicity tests, April 2006 to June 2006.

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-10-2006	54	39	66	28	6
Apr-12-2006	76	51	62	35	7
Apr-14-2006	70	148	111	39	12
May-08-2006	61	94	68	70	8
May-10-2006	60	68	58	88	13
May-12-2006	52	88	85	110	7
Jun-05-2006	42	127	105	158	13
Jun-07-2006	33	102	53	166	20
Jun-09-2006	68	137	57	273	26

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.
†	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 ⁶ 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