

GRASSLAND BYPASS PROJECT

MONTHLY DATA REPORT

August 2006

November 20, 2006

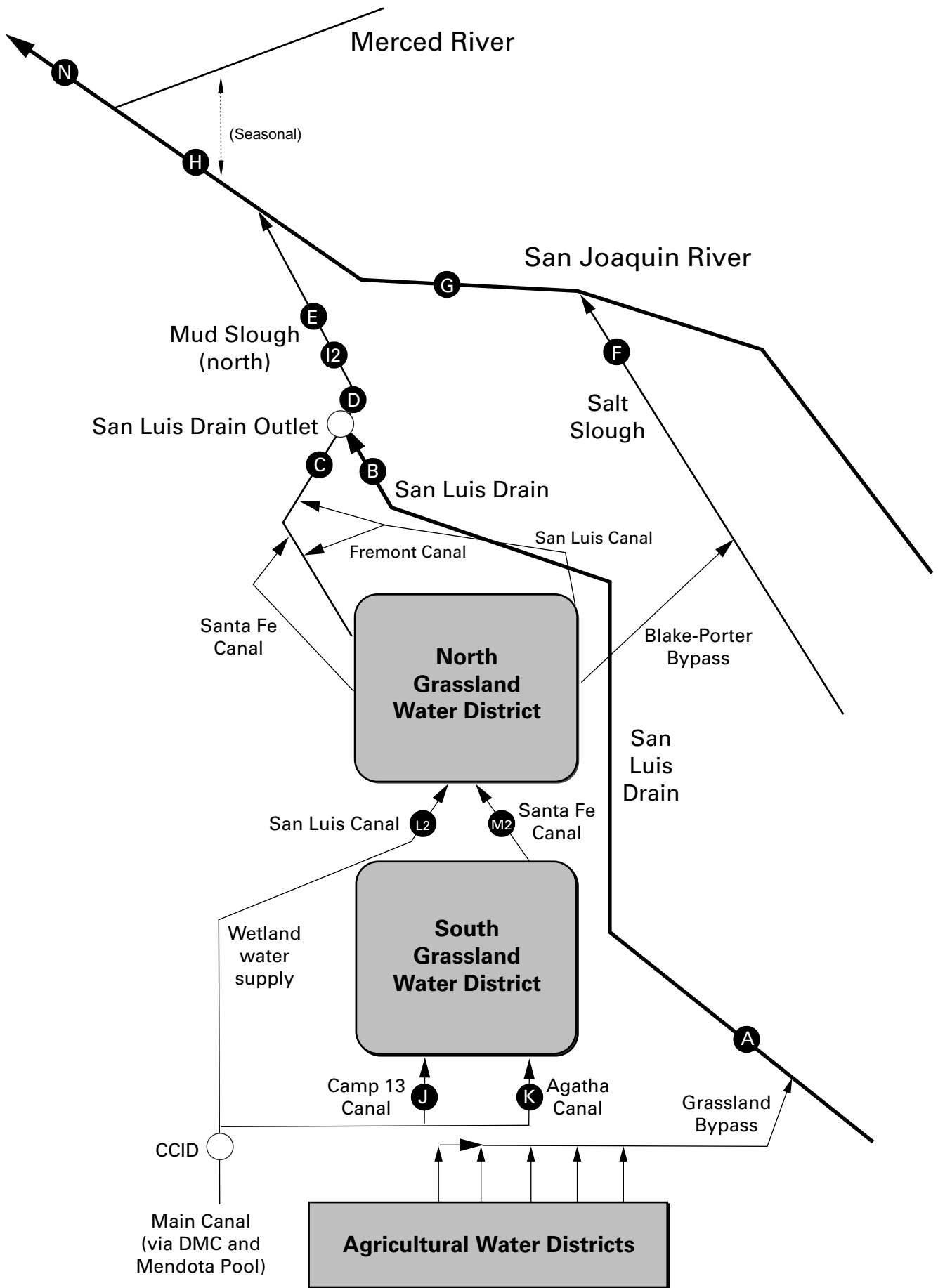
Preliminary Results

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

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Specific Conductance
DATA SOURCE	SLDMWA	SLDMWA
UNITS	cfs	µS/cm
Aug-01-2006	40	4,110
Aug-02-2006	40	3,840
Aug-03-2006	40	3,930
Aug-04-2006	39	3,990
Aug-05-2006	34	4,380
Aug-06-2006	32	4,820
Aug-07-2006	34	5,070
Aug-08-2006	36	5,060
Aug-09-2006	34	5,340
Aug-10-2006	32	5,040
Aug-11-2006	29	5,120
Aug-12-2006	31	5,230
Aug-13-2006	33	5,000
Aug-14-2006	35	4,710
Aug-15-2006	34	4,330
Aug-16-2006	33	4,210
Aug-17-2006	36	4,050
Aug-18-2006	32	4,140
Aug-19-2006	30	4,340
Aug-20-2006	31	4,460
Aug-21-2006	31	4,190
Aug-22-2006	31	4,560
Aug-23-2006	31	4,810
Aug-24-2006	31	4,570
Aug-25-2006	32	4,650
Aug-26-2006	34	4,690
Aug-27-2006	38	4,060
Aug-28-2006	40	3,750
Aug-29-2006	36	4,020
Aug-30-2006	41	3,720
Aug-31-2006	39	3,830
Mean	34	4,450

Table 2a. Continuous water monitoring at Stations B and B2 (San Luis Drain Terminus), August 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
Aug-01-2006	36	26.7	7.6	4,560	44.0	8.6
Aug-02-2006	40	26.7	7.7	4,640	44.0	9.5
Aug-03-2006	41	26.6	7.9	4,580	42.8	9.4
Aug-04-2006	40	26.3	6.8	4,090	40.0	8.6
Aug-05-2006	39	26.2	6.4	3,810	34.8	7.3
Aug-06-2006	36	26.1	6.2	3,710	31.4	6.0
Aug-07-2006	31	25.9	6.2	3,750	33.8	5.7
Aug-08-2006	34	25.4	6.3	3,810	34.7	6.3
Aug-09-2006	36	25.8	6.8	4,040	35.8	6.9
Aug-10-2006	35	26.9	7.8	4,560	43.4	8.1
Aug-11-2006	32	27.3	NA	NA	47.7 e	8.2
Aug-12-2006	28	27.1	7.6	4,630	51.9	7.9
Aug-13-2006	31	26.9	8.3	5,050	51.2	8.4
Aug-14-2006	33	26.8	8.1	5,050	50.9	9.0
Aug-15-2006	35	26.3	8.3	4,890	48.1	9.0
Aug-16-2006	34	26.1	8.7	5,200	54.2	10.1
Aug-17-2006	33	25.3	8.1	4,980	53.8	9.5
Aug-18-2006	36	25.4	7.6	4,550	47.5	9.2
Aug-19-2006	34	25.7	6.9	4,210	40.0	7.2
Aug-20-2006	30	25.7	6.6	4,070	35.0	5.7
Aug-21-2006	30	25.6	6.2	3,970	34.1	5.6
Aug-22-2006	32	25.9	6.3	3,950	36.8	6.3
Aug-23-2006	32	26.5	6.8	4,240	39.7	6.8
Aug-24-2006	32	26.2	7.1	4,250	37.8	6.4
Aug-25-2006	31	26.1	7.3	4,220	35.4	5.9
Aug-26-2006	32	25.9	7.8	4,380	36.4	6.3
Aug-27-2006	35	26.0	8.1	4,720	44.5	8.3
Aug-28-2006	37	26.3	8.2	4,710	48.6	9.8
Aug-29-2006	40	26.3	8.3	4,650	47.3	10.3
Aug-30-2006	36	26.2	8.0	4,830	44.6	8.7
Aug-31-2006	40	26.5	7.4	3,970	36.4	7.9
Mean	34	26.2	7.4	4,400	42.1	7.8
Total Acre-feet	2,120					
Total (lbs)						243

Load Limitation for August 2006 (lbs)	366
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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.

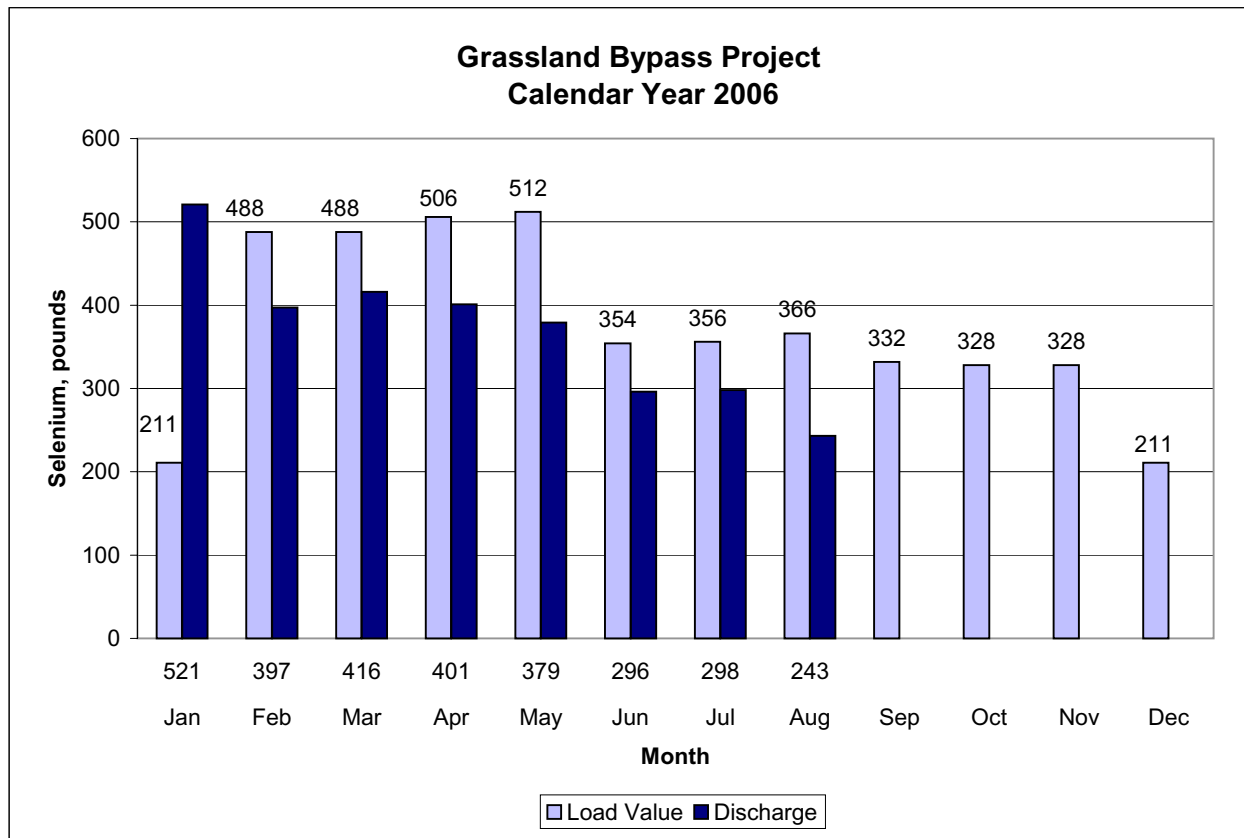


Table 3. Continuous water monitoring at Station D (Mud Slough North downstream of drainage discharges), August 2006.

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
Aug-01-2006	111	25.6	2,110
Aug-02-2006	106	25.8	2,390
Aug-03-2006	103	26.1	2,360
Aug-04-2006	88	25.9	2,520
Aug-05-2006	85	25.7	2,440
Aug-06-2006	92	25.5	2,020
Aug-07-2006	92	25.3	1,810
Aug-08-2006	84	24.6	2,040
Aug-09-2006	78	25.2	2,350
Aug-10-2006	79	26.6	2,420
Aug-11-2006	89	26.9	2,130
Aug-12-2006	72	26.1	2,310
Aug-13-2006	60	26.1	2,870
Aug-14-2006	50	26.0	3,810
Aug-15-2006	44	25.7	4,190
Aug-16-2006	44	25.4	4,290
Aug-17-2006	50	24.8	3,730
Aug-18-2006	81	24.8	2,470
Aug-19-2006	95	25.2	2,030
Aug-20-2006	67	25.1	2,330
Aug-21-2006	68	25.0	2,240
Aug-22-2006	68	25.3	2,240
Aug-23-2006	58	25.9	2,650
Aug-24-2006	54	25.5	2,820
Aug-25-2006	68	25.5	2,280
Aug-26-2006	66	25.1	2,340
Aug-27-2006	58	25.5	2,950
Aug-28-2006	64	25.8	2,820
Aug-29-2006	64	25.8	2,950
Aug-30-2006	47	25.5	3,560
Aug-31-2006	44	26.0	3,360
Mean	72	25.6	2,670

Table 4. Continuous water monitoring at Station F (Salt Slough at Highway 165), August 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
Aug-01-2006	235	24.5	724
Aug-02-2006	203	24.8	755
Aug-03-2006	163	25.8	802
Aug-04-2006	141	25.4	835
Aug-05-2006	132	24.9	872
Aug-06-2006	141	25.0	892
Aug-07-2006	151	24.6	884
Aug-08-2006	192	23.9	850
Aug-09-2006	207	24.5	776
Aug-10-2006	195	26.3	790
Aug-11-2006	178	26.7	812
Aug-12-2006	176	25.3	841
Aug-13-2006	181	25.0	861
Aug-14-2006	192	24.9	860
Aug-15-2006	207	24.5	820
Aug-16-2006	211	24.2	806
Aug-17-2006	195	23.3	822
Aug-18-2006	174	24.1	866
Aug-19-2006	188	24.6	859
Aug-20-2006	205	24.4	816
Aug-21-2006	212	24.1	821
Aug-22-2006	221	24.3	807
Aug-23-2006	215	25.0	807
Aug-24-2006	196	24.9	833
Aug-25-2006	176	24.5	871
Aug-26-2006	155	23.8	907
Aug-27-2006	141	24.5	961
Aug-28-2006	134	25.3	1,010
Aug-29-2006	116	25.4	1,030
Aug-30-2006	85	25.0	1,060
Aug-31-2006	86	25.2	1,140
Mean	174	24.8	860

Table 5. Continuous water monitoring at Station N (San Joaquin River at Crow's Landing), August 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
Aug-01-2006	1,310	24.1	676	1.2
Aug-02-2006	1,290	24.2	703	1.3
Aug-03-2006	1,320	24.3	711	1.4
Aug-04-2006	1,280	24.4	735	1.6
Aug-05-2006	1,260	24.3	739	1.5
Aug-06-2006	1,290	24.0	692	1.4
Aug-07-2006	1,330	23.8	629	1.1
Aug-08-2006	1,290	23.2	590	1.0
Aug-09-2006	1,270	23.5	626	1.0
Aug-10-2006	1,270	24.5	624	1.1
Aug-11-2006	1,280	24.8	638	1.3
Aug-12-2006	1,300	24.2	642	1.3
Aug-13-2006	1,270	24.1	638	1.2
Aug-14-2006	1,270	23.9	631	1.2
Aug-15-2006	1,220	23.6	662	1.3
Aug-16-2006	1,250	23.7	670	1.4
Aug-17-2006	1,330	23.2	644	1.4
Aug-18-2006	1,320	23.3	648	1.5
Aug-19-2006	1,310	23.4	667	1.7
Aug-20-2006	1,300	23.2	631	1.5
Aug-21-2006	1,300	22.9	559	1.1
Aug-22-2006	1,300	23.0	565	1.0
Aug-23-2006	1,260	23.3	583	1.0
Aug-24-2006	1,240	23.2	598	1.1
Aug-25-2006	1,310	23.2	617	1.1
Aug-26-2006	1,340	23.1	596	1.1
Aug-27-2006	1,360	23.2	573	1.0
Aug-28-2006	1,340	23.4	555	1.0
Aug-29-2006	1,280	23.3	595	1.7
Aug-30-2006	1,240	23.0	622	1.6
Aug-31-2006	1,180	23.2	647	1.5
Mean	1,290	23.6	640	1.3

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	.	.	.
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	.	.	.
Jul-05-2006	43	.	.	4,200	160	.	.	.
Jul-12-2006	38	.	.	4,880	120	.	.	.
Jul-19-2006	38	.	.	4,690	130	.	.	.
Jul-26-2006	38	.	.	3,940	320	.	.	.
Aug-02-2006	40	.	.	3,660	130	.	.	.
Aug-09-2006	34	.	.	5,010	120	.	.	.
Aug-16-2006	33	.	.	3,660	150	.	.	.
Aug-23-2006	31	.	.	4,580	160	.	.	.
Aug-30-2006	41	.	.	3,750	140	.	.	.

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
Jun-06-2006	37	.	.	4,810	.	56.4	.	8.0
Jun-13-2006	52	.	.	4,210	.	42.2	.	6.8
Jun-20-2006	44	.	.	4,030	.	34.8	.	6.9
Jun-27-2006	41	.	.	4,680	.	43.0	.	9.3
Jul-04-2006	44	.	.	4,480	.	43.0	.	7.5
Jul-11-2006	40	.	.	4,290	.	43.3	.	7.1
Jul-18-2006	37	.	.	4,700	.	48.4	.	8.1
Jul-25-2006	40	.	.	4,330	.	41.6	.	7.2
Aug-01-2006	40	.	.	4,510	.	41.4	.	6.8
Aug-08-2006	36	.	.	4,440	.	42.9	.	7.2
Aug-15-2006	34	.	.	4,610	.	49.0	.	8.0
Aug-22-2006	31	.	.	4,300	.	39.6	.	6.9
Aug-29-2006	36	.	.	4,270	.	42.8	.	6.4

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
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	45.0	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
Jul-06-2006	43	24.7	8.4	4,060	58	37.8	6.0
Jul-13-2006	38	25.7	8.1	4,260	48	44.6	7.8
Jul-20-2006	38	28.2	8.6	4,830	50	49.4	8.1
Jul-27-2006	38	29.9	8.1	4,330	24	38.8	7.3
Aug-03-2006	41	24.6	8.5	4,460	61	41.0	7.1
Aug-10-2006	35	25.1	8.7	4,860	59	48.0	8.0
Aug-17-2006	33	23.3	8.5	4,870	55	54.4	8.1
Aug-24-2006	32	24.6	8.6	4,270	40	38.4	6.4
Aug-31-2006	40	24.8	8.1	3,540	37	31.5	6.1

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
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	.	0.5	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
Jul-06-2006	36	22.9	8.1	1,500	.	0.9	1.2
Jul-13-2006	37	NA	NA	NA	.	1.2	1.3
Jul-20-2006	84	27.6	8.4	997	.	0.9	1.3
Jul-27-2006	52	27.7	8.0	956	.	1.2	1.2
Aug-03-2006	62	23.8	8.3	908	.	1.3	1.0
Aug-10-2006	44	24.8	8.0	826	.	0.9	0.9
Aug-17-2006	17	22.9	8.4	1,160	.	0.8	1.1
Aug-24-2006	22	23.7	8.5	862	.	0.9	0.7
Aug-31-2006	10	22.0	8.3	1,210	.	0.7	1.1

** 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
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	17.8	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
Jul-06-2006	79	23.8	8.4	3,000	22.0	4.3
Jul-13-2006	75	25.5	8.3	3,050	24.2	5.4
Jul-20-2006	122	27.7	8.5	2,350	16.4	3.5
Jul-27-2006	90	28.7	8.1	2,470	17.0	3.8
Aug-03-2006	103	24.2	8.5	2,490	17.3	3.6
Aug-10-2006	79	24.3	8.4	2,480	17.1	3.3
Aug-17-2006	50	22.9	8.6	4,050	39.9	6.7
Aug-24-2006	54	23.6	8.4	3,030	22.4	4.4
Aug-31-2006	50	24.1	8.3	3,670	31.4	6.6

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
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
Jul-10-2006	.	8.6	2,660	49	19.6	4.7
Jul-18-2006	.	8.8	NA	48	21.4	5.3
Jul-24-2006	.	8.0	2,750	50	20.1	4.6
Aug-02-2006	.	8.1	2,500	77	16.8	4.2
Aug-08-2006	.	8.7	2,120	78	13.0	3.2
Aug-14-2006	.	8.5	2,650	27	26.9	6.2
Aug-23-2006	.	8.7	2,780	28	19.6	4.8
Aug-30-2006	.	8.3	3,780	21	28.8	6.8

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
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	0.5	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
Jul-06-2006	198	23.5	7.5	871	0.5	0.4
Jul-13-2006	175	24.2	7.7	921	0.7	0.5
Jul-20-2006	187	27.0	7.6	1,030	0.6	0.6
Jul-27-2006	186	28.1	7.7	924	0.7	0.5
Aug-03-2006	163	24.0	7.5	874	0.9	0.5
Aug-10-2006	195	24.6	7.7	834	0.7	0.5
Aug-17-2006	195	21.4	7.5	873	0.7	0.5
Aug-24-2006	196	23.2	7.8	803	0.7	0.4
Aug-31-2006	86	22.4	7.8	1,200	0.5	0.7

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 ^{††}	.	.	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	.	.	µS/cm	µg/L	mg/L
Jun-07-2006	30	.	.	106	0.6	0.3
Jun-14-2006	15	.	.	226	0.4	0.4
Jun-21-2006	15	.	.	104	<0.4	0.1
Jun-28-2006	15	.	.	112	<0.4	0.1
Jul-05-2006	15	.	.	NA	0.9	0.3
Jul-12-2006	15	.	.	347	0.9	0.3
Jul-19-2006	15	.	.	526	1.1	0.5
Jul-26-2006	15	.	.	334	0.9	0.3
Aug-02-2006	15	.	.	466	1.2	0.3
Aug-09-2006	40	.	.	399	1.1	0.3
Aug-16-2006	40	.	.	380	0.8	0.3
Aug-23-2006	40	.	.	442	0.9	0.3
Aug-30-2006	65	.	.	393	0.8	0.2

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
Jun-07-2006	70	.	.	84	<0.4	0.2
Jun-14-2006	45	.	.	54	<0.4	0.1
Jun-21-2006	45	.	.	50	<0.4	<0.1
Jun-28-2006	45	.	.	57	<0.4	<0.1
Jul-05-2006	45	.	.	NA	0.4	0.1
Jul-12-2006	45	.	.	267	0.9	0.2
Jul-19-2006	45	.	.	383	0.8	0.3
Jul-26-2006	45	.	.	292	0.7	0.2
Aug-02-2006	45	.	.	443	1.0	0.2
Aug-09-2006	45	.	.	362	1.1	0.2
Aug-16-2006	45	.	.	376	0.7	0.2
Aug-23-2006	25	.	.	324	0.7	0.2
Aug-30-2006	85	.	.	388	1.2	0.2

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
Jun-07-2006	95	.	.	132	<0.4	0.2
Jun-14-2006	20	.	.	470	0.8	0.5
Jun-21-2006	0	.	.	1,050	1.7	1.0
Jun-28-2006	0	.	.	1,230	1.6	1.3
Jul-05-2006	0	.	.	1,450	2.3	1.4
Jul-12-2006	0	.	.	644	1.3	1.1
Jul-19-2006	0	.	.	1,250	1.2	1.0
Jul-26-2006	15	.	.	1,740	2.3	1.9
Aug-02-2006	0	.	.	1,170	1.7	1.0
Aug-09-2006	20	.	.	539	1.0	0.4
Aug-16-2006	20	.	.	772	1.2	0.7
Aug-23-2006	60	.	.	510	0.9	0.4
Aug-30-2006	105	.	.	403	0.9	0.2

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
Jun-07-2006	NA	.	.	484	0.8	0.8
Jun-14-2006	NA	.	.	418	0.7	0.7
Jun-21-2006	NA	.	.	571	0.9	0.9
Jun-28-2006	NA	.	.	566	0.7	1.2
Jul-05-2006	NA	.	.	629	1.3	1.2
Jul-12-2006	NA	.	.	632	1.3	1.2
Jul-19-2006	NA	.	.	703	1.5	1.6
Jul-26-2006	NA	.	.	672	1.2	0.9
Aug-02-2006	NA	.	.	686	1.2	0.8
Aug-09-2006	NA	.	.	680	1.1	1.0
Aug-16-2006	NA	.	.	693	1.1	0.9
Aug-23-2006	NA	.	.	669	1.1	0.8
Aug-30-2006	NA	.	.	625	1.0	0.6

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
Jun-07-2006	.	.	.	85	0.4	0.1
Jun-14-2006	.	.	.	73	<0.4	0.1
Jun-21-2006	.	.	.	58	<0.4	<0.1
Jun-28-2006	.	.	.	87	<0.4	0.1
Jul-05-2006	.	.	.	158	1.3	0.2
Jul-12-2006	.	.	.	250	1.1	0.2
Jul-19-2006	.	.	.	234	0.7	0.2
Jul-26-2006	.	.	.	272	0.7	0.2
Aug-02-2006	.	.	.	260	0.7	0.1
Aug-09-2006	.	.	.	294	0.8	0.1
Aug-16-2006	.	.	.	308	0.7	0.2
Aug-23-2006	.	.	.	351	0.8	0.2
Aug-30-2006	.	.	.	380	0.8	0.2

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
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
Jul-06-2006	2,380	23.7	7.3	112	<0.4	<0.1
Jul-13-2006	463	25.6	7.3	1,090	0.5	0.4
Jul-20-2006	363	27.8	7.3	1,270	0.4	0.5
Jul-27-2006	341	29.3	7.6	1,090	0.6	0.4
Aug-03-2006	293	24.1	7.9	1,130	0.6	0.4
Aug-10-2006	288	25.4	7.9	888	0.9	0.4
Aug-17-2006	358	23.8	7.8	849	0.5	0.4
Aug-24-2006	310	24.1	7.6	812	0.6	0.3
Aug-31-2006	200	24.5	7.8	959	0.4	0.4

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
Jun-06-2006	.	.	.	NA	<0.4	0.0
Jun-13-2006	.	.	.	NA	<0.4	0.1
Jun-27-2006	.	.	.	NA	<0.4	0.1
Jul-18-2006	.	.	.	NA	3.6	1.1
Jul-25-2006	.	.	.	NA	4.1	1.2
Aug-01-2006	.	.	.	NA	3.4	1.1
Aug-08-2006	.	.	.	NA	2.9	1.0
Aug-15-2006	.	.	.	NA	3.4	1.2

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
Jun-01-2006	11,000	21.2	7.9	140	0.9	0.1
Jun-08-2006	10200	22.7	7.5	113	<0.4	0.1
Jun-15-2006	10,200	20.3	7.7	121	<0.4	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
Jul-06-2006	3,610	23.4	7.3	272	0.6	0.2
Jul-13-2006	1,610	24.2	7.7	783	1.4	0.5
Jul-20-2006	1,340	26.1	7.9	810	1.5	0.5
Jul-27-2006	1,240	27.6	7.9	802	1.6	0.5
Aug-03-2006	1,320	23.6	7.8	699	1.6	0.4
Aug-10-2006	1,270	23.7	7.8	621	1.6	0.4
Aug-17-2006	1,330	22.5	7.6	635	1.4	0.4
Aug-24-2006	1,240	22.5	7.6	608	1.3	0.4
Aug-31-2006	1,180	22.6	7.6	650	1.5	0.5

Table 20. Summary of fathead minnow (*Pimephales promelas*) larvae survival in 7-day tests using water samples collected from September 2005 to August 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	%	%	%	%	%	%
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
Jul-2006	83	98	100	100	95	95
Aug-2006	98	98	95	98	98	90

Table 21. Summary of fathead minnow (*Pimephales promelas*) larvae growth in 7-day tests using water samples collected from Septmeber 2005 to August 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
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
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

Table 22. Summary of *Daphnia magna* survival in 7-day tests using water samples collected from September 2005 to August 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	%	%	%	%	%	%
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
Jul-2006	80	100	80	90	80	100
Aug-2006	100	100	90	100	100	100

Table 23. Summary of *Daphnia magna* reproduction in 7-day tests using water samples collected from September 2005 to August 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
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
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

Table 24. Summary of *Selenastrum capricornutum* growth in 4-day tests using water samples collected from September 2005 to August 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
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
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

Table 25. Summary of selenium concentrations in grab water samples collected at study stations for use in laboratory toxicity tests, June 2006 to August 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
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
Jul-17-2006	45	1.0	16	0.5	0.4
Jul-19-2006	51	1.1	17	0.4	<0.4
Jul-21-2006	43	1.0	23	0.5	<0.4
Aug-14-2006	53	0.7	26	0.7	<0.4
Aug-16-2006	52	0.7	38**	0.7	<0.4
Aug-18-2006	45	0.8	20	0.6	<0.4

Table 26. Summary of total suspended solids concentrations in grab water samples collected at study stations for use in laboratory toxicity tests, June 2006 to August 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
Jun-05-2006	42	127	105	158	13
Jun-07-2006	33	102	53	166	20
Jun-09-2006	68	137	57	273	26
Jul-17-2006	13	NA	100	172	52
Jul-19-2006	22	232	115	159	72
Jul-21-2006	45	154	138	169	36
Aug-14-2006	39	268	144	182	64
Aug-16-2006	71	217	85	108	49
Aug-18-2006	92	220	152	162	41

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