

# GRASSLAND BYPASS PROJECT

## MONTHLY DATA REPORT

**July 2007**

October 11, 2007

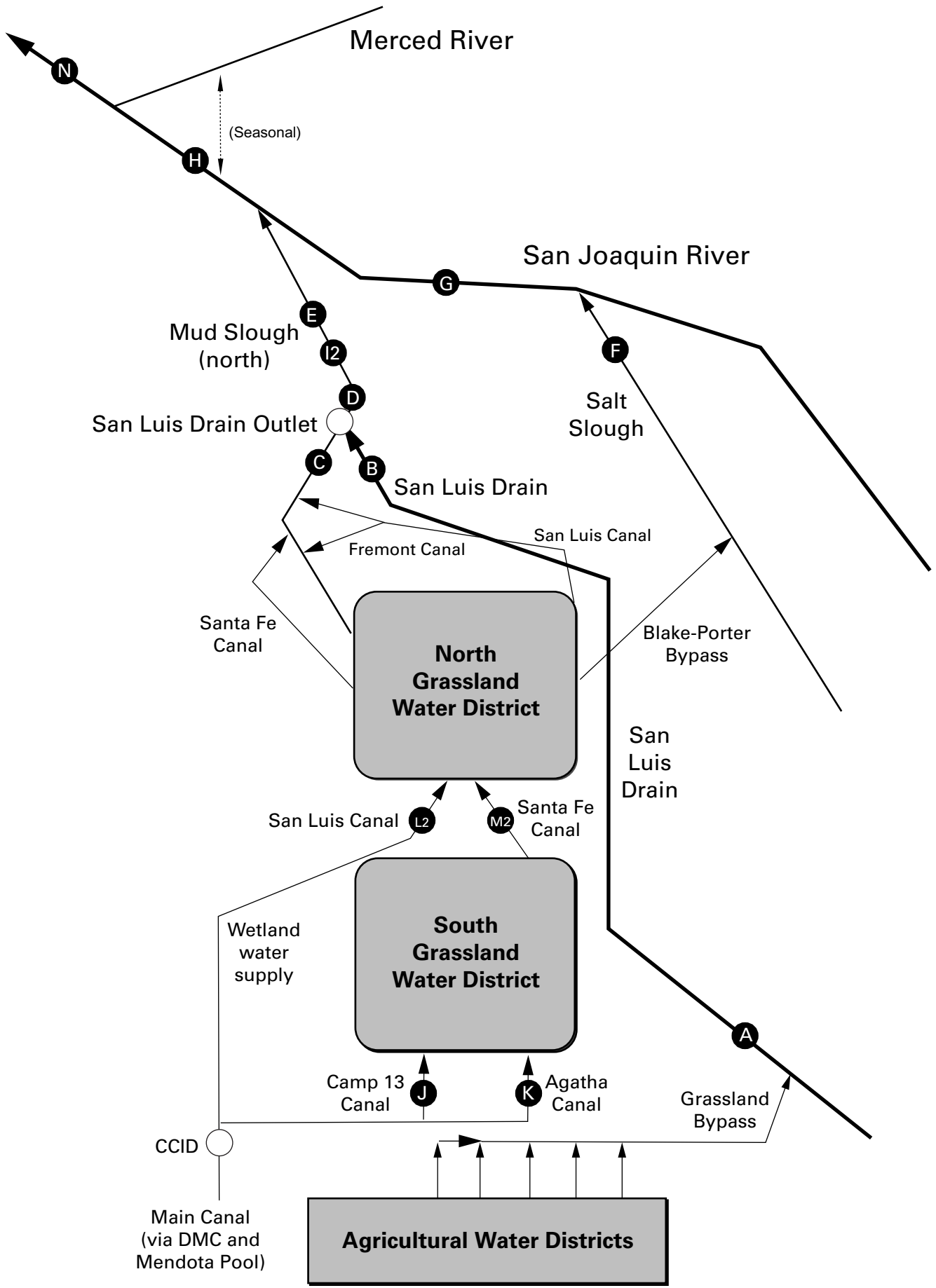
### **Preliminary Results**

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

## MONTHLY DATA REPORT

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**Table 1. Continuous water monitoring at Station A (inflow to San Luis Drain), July 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>
Jul-01-2007	21	4,110
Jul-02-2007	22	4,240
Jul-03-2007	26	3,990
Jul-04-2007	28	3,790
Jul-05-2007	29	3,870
Jul-06-2007	29	3,620
Jul-07-2007	22	4,220
Jul-08-2007	21	4,140
Jul-09-2007	22	4,650
Jul-10-2007	24	4,310
Jul-11-2007	21	3,970
Jul-12-2007	20	3,940
Jul-13-2007	22	3,860
Jul-14-2007	25	3,610
Jul-15-2007	31	3,300
Jul-16-2007	33	3,030
Jul-17-2007	27	3,280
Jul-18-2007	27	3,250
Jul-19-2007	24	3,610
Jul-20-2007	24	3,810
Jul-21-2007	27	3,640
Jul-22-2007	32	3,350
Jul-23-2007	*	3,930
Jul-24-2007	*	3,890
Jul-25-2007	*	4,030
Jul-26-2007	*	4,030
Jul-27-2007	*	4,450
Jul-28-2007	16	4,170
Jul-29-2007	22	4,190
Jul-30-2007	16	3,670
Jul-31-2007	16	4,440
Mean	24.1	3,880

\* Submerged Weir Conditions from SLD shutoff study  
 The discharge from San Luis Drain was reduced to as close to 0 cfs as possible for the period of July 23 through July 27 to attempt to monitor the impact of San Luis Drain Discharge on the San Joaquin River System. During this period, discharge into the San Luis Drain was stored between the checks within the drain and the water surface was allowed to rise. This resulted in a submerged weir at Site A, and flow data for this period is unavailable. This study was performed by the Dissolved Oxygen Upstream Study Program.

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

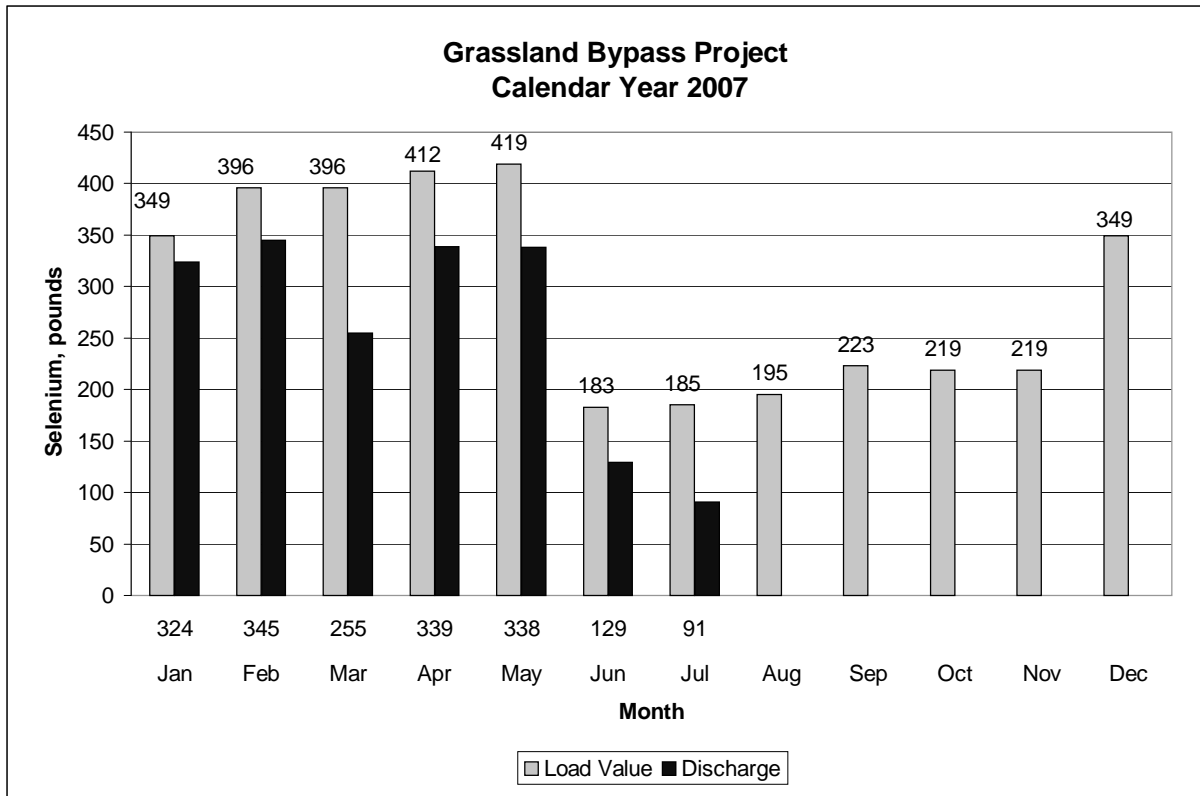
See Table 27 for explanation of footnotes and agency abbreviations.

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
Jul-01-2007	20	27.1	7.1	4,250	30.8	3.4
Jul-02-2007	20	27.2	6.6	4,110	32.5	3.5
Jul-03-2007	21	28.3	6.6	4,180	34.2	3.8
Jul-04-2007	24	29.7	5.9	3,780	29.3	3.7
Jul-05-2007	27	31.6	6.1	3,950	30.6	4.5
Jul-06-2007	28	32.7	6.2	3,930	29.8	4.5
Jul-07-2007	28	31.3	6.2	3,990	31.9	4.8
Jul-08-2007	23	30.7	5.8	3,700	28.4	3.5
Jul-09-2007	21	30.3	5.5	3,560	26.5	3.0
Jul-10-2007	21	28.8	6.0	3,740	29.7	3.3
Jul-11-2007	23	27.9	5.2	3,400	26.7	3.3
Jul-12-2007	22	27.5	5.2	3,390	26.0	3.1
Jul-13-2007	20	27.5	7.2	3,940	32.0	3.5
Jul-14-2007	21	28.0	7.3	4,040	32.0	3.6
Jul-15-2007	22	28.3	7.7	4,330	36.1	4.3
Jul-16-2007	27	28.1	7.4	4,080	33.4	4.8
Jul-17-2007	29	27.7	6.8	3,850	27.7	4.4
Jul-18-2007	25	27.9	6.4	3,630	25.1	3.4
Jul-19-2007	25	26.8	6.0	3,340	23.8	3.2
Jul-20-2007	27	26.6	5.9	3,230	22.0	3.2
Jul-21-2007	25	27.0	5.3	3,000	20.2	2.7
Jul-22-2007	22	27.6	5.6	3,120	20.4	2.4
Jul-23-2007	14	27.7	5.2	2,970	18.6	1.4
Jul-24-2007	3	27.3	5.7	3,120	19.5	0.3
Jul-25-2007	2	27.4	5.6	3,160	21.2	0.2
Jul-26-2007	2	27.0	5.8	3,150	19.9	0.3
Jul-27-2007	15	27.7	5.4	3,360	20.1	1.6
Jul-28-2007	13	27.8	5.6	3,600	21.9	1.5
Jul-29-2007	12	27.5	6.3	3,720	23.6	1.6
Jul-30-2007	13	27.8	6.2	3,770	24.7	1.7
Jul-31-2007	24	28.3	5.6	3,540	21.5	2.8
Mean	20	28.3	6.1	3,640	26.5	2.9
<b>Total Acre-feet</b>	<b>1,220</b>					
<b>Total (lbs)</b>						<b>91</b>

<b>Load Limitation for July 2007 (lbs)</b>	<b>185</b>
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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), July 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>
Jul-01-2007	19	24.4	4,020
Jul-02-2007	18	24.5	3,940
Jul-03-2007	18	25.5	4,110
Jul-04-2007	20	26.8	4,030
Jul-05-2007	22	28.6	3,800
Jul-06-2007	22	29.4	3,960
Jul-07-2007	24	28.4	3,870
Jul-08-2007	22	28.0	3,480
Jul-09-2007	23	27.8	3,110
Jul-10-2007	28	26.0	2,570
Jul-11-2007	30	25.9	2,640
Jul-12-2007	28	25.7	2,630
Jul-13-2007	29	25.9	2,580
Jul-14-2007	36	26.4	2,360
Jul-15-2007	38	26.6	2,430
Jul-16-2007	42	26.5	2,350
Jul-17-2007	51	26.3	2,170
Jul-18-2007	54	26.5	2,210
Jul-19-2007	51	25.3	2,270
Jul-20-2007	47	25.4	2,460
Jul-21-2007	38	26.1	2,740
Jul-22-2007	38	26.6	2,460
Jul-23-2007	36	26.1	2,020
Jul-24-2007	32	27.5	1,580
Jul-25-2007	21	26.7	1,860
Jul-26-2007	18	25.8	2,310
Jul-27-2007	26	26.4	3,050
Jul-28-2007	24	26.8	3,220
Jul-29-2007	25	26.5	3,170
Jul-30-2007	27	26.9	3,240
Jul-31-2007	37	27.4	3,150
Mean	30	26.5	2,900

**Table 4. Continuous water monitoring at Station F (Salt Slough at Highway 165), July 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>
Jul-01-2007	159	24.4	1,020
Jul-02-2007	160	24.4	994
Jul-03-2007	141	25.6	1,030
Jul-04-2007	145	27.1	989
Jul-05-2007	151	29.0	958
Jul-06-2007	135	29.8	965
Jul-07-2007	129	27.5	992
Jul-08-2007	139	26.5	965
Jul-09-2007	143	26.8	930
Jul-10-2007	140	25.5	920
Jul-11-2007	140	24.8	953
Jul-12-2007	157	24.9	978
Jul-13-2007	172	25.3	975
Jul-14-2007	150	26.3	995
Jul-15-2007	130	26.5	1,030
Jul-16-2007	137	26.5	998
Jul-17-2007	122	25.9	982
Jul-18-2007	114	25.9	1,050
Jul-19-2007	120	24.8	1,090
Jul-20-2007	132	24.9	1,100
Jul-21-2007	142	25.6	1,100
Jul-22-2007	129	26.4	1,100
Jul-23-2007	116	25.7	1,110
Jul-24-2007	121	26.3	1,130
Jul-25-2007	125	26.9	1,080
Jul-26-2007	111	26.2	1,140
Jul-27-2007	111	26.1	1,130
Jul-28-2007	126	26.3	1,140
Jul-29-2007	116	26.1	1,070
Jul-30-2007	115	26.3	1,020
Jul-31-2007	107	27.3	986
Mean	133	26.2	1,030



**Table 5. Continuous water monitoring at Station N (San Joaquin River at Crow's Landing), July 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
Jul-01-2007	489	24.1	1,350	1.9
Jul-02-2007	503	24.1	1,250	1.7
Jul-03-2007	467	25.1	1,340	1.7
Jul-04-2007	462	26.4	1,300	2.0
Jul-05-2007	445	28.1	1,350	2.0
Jul-06-2007	434	29.2	1,360	2.4
Jul-07-2007	438	28.0	1,300	2.1
Jul-08-2007	408	26.9	1,380	2.3
Jul-09-2007	397	27.2	1,350	2.2
Jul-10-2007	449	25.5	1,170	1.7
Jul-11-2007	465	25.2	1,090	1.5
Jul-12-2007	474	25.1	1,080	1.6
Jul-13-2007	460	25.5	1,110	1.7
Jul-14-2007	470	26.2	1,080	1.5
Jul-15-2007	488	26.2	1,100	1.6
Jul-16-2007	488	26.1	1,060	1.9
Jul-17-2007	491	25.3	1,100	2.1
Jul-18-2007	481	25.8	1,120	1.9
Jul-19-2007	499	24.9	1130 e	1.9 e
Jul-20-2007	474	24.8	1,140	1.8
Jul-21-2007	451	25.3	1,190	1.7
Jul-22-2007	479	26.0	1,230	1.8
Jul-23-2007	517	25.9	1,070	1.3
Jul-24-2007	481	26.5	1,050	1.4
Jul-25-2007	442	26.6	1,030	0.9
Jul-26-2007	432	25.8	1,110	0.7
Jul-27-2007	420	25.8	1,060	0.5
Jul-28-2007	404	26.2	1,150	0.6
Jul-29-2007	415	26.0	1,170	1.0
Jul-30-2007	401	26.5	1,150	0.9
Jul-31-2007	411	27.2	1,130	1.1
Mean	460	26.0	1,180	1.6

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	.	.	.
May-02-2007	20	.	.	5,080	77	.	.	.
May-09-2007	30	.	.	4,750	155	.	.	.
May-16-2007	37	.	.	5,030	188	.	.	.
May-23-2007	36	.	.	4,290	122	.	.	.
May-30-2007	40	.	.	4,550	95	.	.	.
Jun-06-2007	23	.	.	4,180	77	.	.	.
Jun-13-2007	23	.	.	3,960	50	.	.	.
Jun-20-2007	27	.	.	4,180	95	.	.	.
Jun-27-2007	23	.	.	3,970	54	.	.	.
Jul-03-2007	26	.	.	3,770	45	.	.	.
Jul-11-2007	21	.	.	3,810	19	.	.	.
Jul-18-2007	27	.	.	3,150	14	.	.	.
Jul-25-2007	*	.	.	3,720	11	.	.	.

\* Submerged Weir Conditions from SLD shutoff study.

The discharge from San Luis Drain was reduced to as close to 0 cfs as possible for the period of July 23 through July 27 to attempt to monitor the impact of San Luis Drain Discharge on the San Joaquin River System. During this period, discharge into the San Luis Drain was stored between the checks within the drain and the water surface was allowed to rise. This resulted in a submerged weir at Site A, and flow data for this period is unavailable. This study was performed by the Dissolved Oxygen Upstream Study Program.

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
May-01-2007	20	.	.	5,230	.	65.1	.	8.0
May-08-2007	38	.	.	NA	.	59.8	.	7.6
May-15-2007	36	.	.	5,090	.	69.0	.	8.1
May-22-2007	36	.	.	4,920	.	69.2	.	8.2
May-29-2007	31	.	.	4,380	.	43.6	.	6.9
Jun-05-2007	25	.	.	4,060	.	33.7	.	6.4
Jun-12-2007	21	.	.	4,180	.	36.4	.	6.3
Jun-19-2007	25	.	.	3,920	.	32.6	.	5.7
Jun-26-2007	22	.	.	3,930	.	31.3	.	6.8
Jul-02-2007	22	.	.	3,890	.	30.2	.	6.3
Jul-09-2007	22	.	.	3,900	.	31.2	.	6.4
Jul-17-2007	27	.	.	3,340	.	22.7	.	5.3
Jul-24-2007	*	.	.	3,550	.	24.6	.	6.2
Jul-31-2007	16	.	.	3,940	.	28.8	.	5.9

**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
May-03-2007	19	19.5	8.8	4,950	45	56.0	7.7
May-10-2007	30	21.9	8.6	4,720	55	66.7	7.1
May-17-2007	36	21.7	8.7	5,260	58	70.7	8.6
May-24-2007	36	20.1	8.3	5,030	40	75.6	8.1
May-31-2007	28	22.3	8.4	4,380	29	42.4	6.7
Jun-07-2007	24	20.8	8.5	4,060	33	30.8	6.5
Jun-13-2007	21	24.2	8.2	4,170	28	33.1	6.3
Jun-21-2007	25	24.4	9.0	3,930	60	30.4	6.3
Jun-28-2007	21	23.9	8.9	3,740	43	29.2	6.8
Jul-05-2007	27	28.0	9.1	4,100	31	31.4	6.3
Jul-12-2007	22	24.1	9.0	3,370	35	24.6	5.3
Jul-19-2007	25	24.6	8.1	3,210	36	22.3	5.2
Jul-26-2007	2	25.7	8.4	3,180	22	19.4	5.7

**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
May-03-2007	10	17.9	8.2	3,400	.	0.6	2.6
May-10-2007	9	19.7	8.3	2,060	.	0.8	2.1
May-17-2007	14	20.5	8.0	1,940	.	0.5	1.3
May-24-2007	25	20.2	8.0	1,910	.	0.5	1.4
May-31-2007	17	21.7	8.2	1,640	.	0.7	1.4
Jun-07-2007	13	19.0	8.4	2,080	.	0.6	1.6
Jun-13-2007	13	26.9	8.3	1,780	.	0.9	1.4
Jun-21-2007	1	22.0	8.2	2,680	.	<0.4	1.9
Jun-28-2007	0	22.4	8.4	2,860	.	0.6	2.3
Jul-05-2007	-5	26.7	7.4	3,440	.	<0.4	2.7
Jul-12-2007	6	25.1	8.2	1,350	.	0.8	1.2
Jul-19-2007	26	24.3	8.6	1,110	.	1.0	1.1
Jul-26-2007	16	26.2	8.4	1,490	.	0.9	1.6

\*\* 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
May-03-2007	29	18.4	8.4	4,490	32.0	6.2
May-10-2007	39	21.5	8.5	4,240	46.6	5.3
May-17-2007	50	21.3	8.6	4,180	45.2	6.0
May-24-2007	61	20.0	8.4	3,100	33.3	4.6
May-31-2007	45	21.7	8.4	3,530	24.8	4.7
Jun-07-2007	37	19.5	8.4	3,430	17.8	4.4
Jun-13-2007	34	25.9	8.3	3,240	18.6	4.2
Jun-21-2007	26	24.1	8.7	4,110	28.1	5.7
Jun-28-2007	21	23.9	8.8	3,870	26.5	6.5
Jul-05-2007	22	28.1	8.6	3,550	24.1	5.5
Jul-12-2007	28	24.1	8.5	2,750	16.0	3.8
Jul-19-2007	51	23.9	8.4	2,330	11.8	3.4
Jul-26-2007	18	23.6	8.2	2,270	2.4	2.2

**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
May-02-2007	.	8.5	4,900	42	35.4	6.8
May-09-2007	.	8.4	4,400	31	42.4	6.3
May-17-2007	.	8.6	4,250	84	43.1	7.1
May-23-2007	.	8.3	4,240	44	44.4	7.2
May-29-2007	.	8.6	2,990	24	19.3	4.4
Jun-06-2007	.	8.5	3,780	25	19.3	5.5
Jun-12-2007	.	9.2	4,090	27	22.3	6.4
Jun-20-2007	.	8.8	4,240	29	26.2	6.6
Jun-26-2007	.	8.9	4,140	33	24.8	6.8
Jul-03-2007	.	8.9	4,440	31	29.6	8.0
Jul-10-2007	.	8.3	2,650	44	13.5	4.4
Jul-17-2007	.	8.8	2,140	46	10.0	3.5
Jul-24-2007	.	8.5	1,660	73	2.6	1.9

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
May-03-2007	107	17.3	7.5	1,630	0.6	0.8
May-10-2007	151	21.2	7.8	1,290	0.9	0.6
May-17-2007	150	20.2	7.8	1,230	0.7	0.5
May-24-2007	176	19.8	8.0	1,030	0.6	0.4
May-31-2007	103	20.2	7.8	1,420	0.5	0.5
Jun-07-2007	170	18.5	7.7	1,030	0.8	0.4
Jun-13-2007	113	23.3	7.9	1,300	0.7	0.5
Jun-21-2007	92	22.6	7.6	643	0.7	0.5
Jun-28-2007	126	22.7	7.8	1,100	1.0	0.5
Jul-05-2007	151	28.4	7.3	956	0.6	0.3
Jul-12-2007	157	22.7	7.8	673	0.6	0.4
Jul-19-2007	120	22.6	7.5	1,170	0.5	0.5
Jul-26-2007	111	23.8	7.8	1,150	0.6	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	SLDMWA <sup>††</sup>	.	.	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	.	.	µS/cm	µg/L	mg/L
May-02-2007	50	.	.	512	0.8	0.2
May-09-2007	35	.	.	608	1.2	0.3
May-16-2007	35	.	.	566	1.1	0.3
May-23-2007	35	.	.	535	0.7	0.3
May-30-2007	25	.	.	556	0.7	0.3
Jun-06-2007	35	.	.	578	0.9	0.3
Jun-13-2007	15	.	.	666	1.0	0.4
Jun-20-2007	15	.	.	684	1.0	0.4
Jun-27-2007	15	.	.	484	0.9	0.3
Jul-03-2007	15	.	.	474	1.0	0.3
Jul-11-2007	15	.	.	523	0.9	0.4
Jul-18-2007	15	.	.	501	0.8	0.4
Jul-25-2007	15	.	.	402	0.5	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 <sup>††</sup>	.	.	cvrwqcb	cvrwqcb	cvrwqcb
UNITS	cfs	.	.	µS/cm	µg/L	mg/L
May-02-2007	40	.	.	464	1.1	0.2
May-09-2007	50	.	.	574	1.5	0.3
May-16-2007	80	.	.	564	1.0	0.2
May-23-2007	80	.	.	543	0.8	0.3
May-30-2007	45	.	.	527	0.8	0.2
Jun-06-2007	45	.	.	572	1.0	0.3
Jun-13-2007	10	.	.	642	1.2	0.4
Jun-20-2007	10	.	.	593	1.2	0.3
Jun-27-2007	20	.	.	454	1.1	0.3
Jul-03-2007	20	.	.	453	1.3	0.3
Jul-11-2007	20	.	.	473	0.8	0.2
Jul-18-2007	10	.	.	355	0.8	0.2
Jul-25-2007	10	.	.	529	0.8	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
May-02-2007	NA	.	.	1,210	1.5	1.1
May-09-2007	NA	.	.	1,410	1.7	1.4
May-16-2007	NA	.	.	1,550	2.1	1.5
May-23-2007	NA	.	.	1,090	1.1	1.0
May-30-2007	NA	.	.	887	1.1	0.7
Jun-06-2007	NA	.	.	1,140	1.9	1.1
Jun-13-2007	NA	.	.	1,700	2.3	1.6
Jun-20-2007	NA	.	.	1,490	1.7	1.5
Jun-27-2007	NA	.	.	1,240	1.6	1.3
Jul-03-2007	NA	.	.	1,020	1.3	1.4
Jul-11-2007	NA	.	.	958	1.2	1.2
Jul-18-2007	NA	.	.	941	1.1	1.2
Jul-25-2007	NA	.	.	725	0.8	0.6

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
May-02-2007	NA	.	.	1,110	1.4	1.1
May-09-2007	NA	.	.	1,110	1.5	1.0
May-16-2007	NA	.	.	1,060	1.5	1.0
May-23-2007	NA	.	.	1,030	1.1	1.0
May-30-2007	NA	.	.	882	1.1	0.7
Jun-06-2007	43	.	.	878	1.4	0.9
Jun-13-2007	43	.	.	1,210	1.3	1.2
Jun-20-2007	45	.	.	1,400	1.6	1.6
Jun-27-2007	43	.	.	1,040	1.5	1.3
Jul-03-2007	38	.	.	1,000	1.3	1.5
Jul-11-2007	45	.	.	799	1.0	1.0
Jul-18-2007	48	.	.	952	1.0	1.3
Jul-25-2007	43	.	.	954	1.1	1.6

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
May-02-2007	.	.	.	547	1.0	0.2
May-09-2007	.	.	.	568	1.0	0.3
May-16-2007	.	.	.	512	0.9	0.2
May-23-2007	.	.	.	520	0.7	0.2
May-30-2007	.	.	.	520	0.5	0.2
Jun-06-2007	.	.	.	551	0.8	0.3
Jun-13-2007	.	.	.	553	1.2	0.3
Jun-20-2007	.	.	.	548	0.9	0.3
Jun-27-2007	.	.	.	464	0.9	0.3
Jul-03-2007	.	.	.	480	1.1	0.3
Jul-11-2007	.	.	.	395	0.8	0.2
Jul-18-2007	.	.	.	655	1.0	0.4
Jul-25-2007	.	.	.	442	0.7	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
May-03-2007	183	18.6	7.3	1,710	0.5	0.7
May-10-2007	213	22.3	7.8	1,340	0.6	0.5
May-17-2007	169	21.5	8.0	1,670	0.7	0.5
May-24-2007	210	20.8	8.1	1,180	0.5	0.4
May-31-2007	129	22.3	7.9	1,880	0.4	0.6
Jun-07-2007	190	19.7	7.8	1,170	0.7	0.4
Jun-13-2007	139	25.3	8.1	1,550	0.7	0.5
Jun-21-2007	126	24.1	7.7	1,490	0.6	0.5
Jun-28-2007	178	24.1	7.8	1,250	0.8	0.4
Jul-05-2007	168	27.2	8.2	1,060	0.6	0.4
Jul-12-2007	167	24.0	7.8	1,060	0.6	0.4
Jul-19-2007	139	23.1	7.4	1,220	0.5	0.4
Jul-26-2007	132	25.9	7.9	1,200	0.6	0.5

**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
May-01-2007	.	.	.	NA	3.6	1.4
May-08-2007	.	.	.	NA	7.5	1.7
May-15-2007	.	.	.	NA	6.9	2.0
May-22-2007	.	.	.	NA	10.0	1.8
May-29-2007	.	.	.	NA	<0.4	0.2
Jun-12-2007	.	.	.	NA	3.1	1.3
Jun-19-2007	.	.	.	NA	4.8	1.5
Jun-26-2007	.	.	.	NA	3.8	1.2
Jul-10-2007	.	.	.	NA	3.0	1.1
Jul-17-2007	.	.	.	NA	4.1	1.3



**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>
May-03-2007	1,020	17.4	7.8	805	1.2	0.5
May-10-2007	1310	19.9	8.0	604	1.4	0.4
May-17-2007	1,090	19.9	8.1	732	2.1	0.5
May-24-2007	781	20.8	8.0	1,110	3.7	0.8
May-31-2007	535	22.5	8.2	1,300	2.4	0.8
Jun-07-2007	609	20.2	8.1	1,130	1.7	0.7
Jun-13-2007	1,110	20.8	8.1	480	0.9	0.3
Jun-21-2007	666	23.1	8.3	947	1.3	0.5
Jun-28-2007	501	23.9	8.3	1,280	1.9	0.7
Jul-05-2007	445	26.1	8.4	1,370	1.9	0.8
Jul-12-2007	474	23.9	8.1	1,090	1.6	0.6
Jul-19-2007	499	23.6	8.1	1,110	1.7	0.8
Jul-26-2007	432	25.3	8.3	1,090	0.6	0.5

**Table 20. Summary of fathead minnow (*Pimephales promelas*) larvae survival in 7-day tests using water samples collected from August 2006 to July 2007. 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	%	%	%	%	%	%
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
May-2007	95	95	98	95	100	95
Jun-2007	98	93	90	90	93	90
Jul-2007	100	98	98	100	100	100

**Table 21. Summary of fathead minnow (*Pimephales promelas*) larvae growth in 7-day tests using water samples collected from August 2006 to July 2007. 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
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
May-2007	0.41	0.43	0.40	0.36	0.45	0.41
Jun-2007	0.36	0.33	0.33	0.31	0.31	0.33
Jul-2007	0.36	0.32	0.26*	0.36	0.36	0.33

**Table 22. Summary of *Daphnia magna* survival in 7-day tests using water samples collected from August 2006 to July 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	%	%	%	%	%	%
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
May-2007	90	0*	90	90	100	100
Jun-2007	60*	100	80	100	100	100
Jul-2007	80	80	80	90	80	100

**Table 23. Summary of *Daphnia magna* reproduction in 7-day tests using water samples collected from August 2006 to July 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
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
May-2007	38.4	16.0*	33.0	33.3	36.5	30.0
Jun-2007	18.3*	34.9	34.9	32.6	28.2	27.2
Jul-2007	43.1	32.5	34.6	20.9	20.8	36.3

**Table 24. Summary of *Selenastrum capricornutum* growth in 4-day tests using water samples collected from August 2006 to July 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
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
May-2007	12.2	15.8	2.8*	10.0*	14.2	14.9
Jun-2007	12.3	15.3	13.6	14.5	11.2	16.0
Jul-2007	10.4	15.4	11.2	15.5	9.4	13.4

**Table 25. Summary of selenium concentrations in grab water samples collected at study stations for use in laboratory toxicity tests, May 2007 to July 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
May-07-2007	53	0.5	50	0.6	<0.4
May-09-2007	59	0.8	45	0.6	<0.4
May-11-2007	76	0.6	57	0.6	<0.4
May-14-2007	50	0.5	28	0.6	<0.4
Jun-04-2007	37	0.7	24	0.9	<0.4
Jun-06-2007	28	0.5	18	0.7	<0.4
Jun-08-2007	34	0.8	14	0.8	<0.4
Jul-16-2007	29	0.8	16	0.4	<0.4
Jul-18-2007	24	0.8	10	<0.4	<0.4
Jul-20-2007	23	0.8	12	<0.4	<0.4

**Table 26. Summary of total suspended solids concentrations in grab water samples collected at study stations for use in laboratory toxicity tests, May 2007 to July 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
May-07-2007	66	39	99	185	20
May-09-2007	62	81	111	119	6
May-11-2007	62	65	69	207	5
May-14-2007	19	32	47	90	2
Jun-04-2007	25	119	117	73	6
Jun-06-2007	49	15	81	199	5
Jun-08-2007	45	53	36	65	12
Jul-16-2007	26	114	98	205	37
Jul-18-2007	38	93	98	148	33
Jul-20-2007	40	157	88	212	30

**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