

GRASSLAND BYPASS PROJECT

MONTHLY DATA REPORT

June 2007

September 24, 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





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MONTHLY DATA REPORT

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

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Specific Conductance
DATA SOURCE	SLDMWA	SLDMWA
UNITS	cfs	µS/cm
Jun-01-2007	32	4,090
Jun-02-2007	25	4,150
Jun-03-2007	24	4,080
Jun-04-2007	24	4,080
Jun-05-2007	25	4,050
Jun-06-2007	23	4,080
Jun-07-2007	22	4,110
Jun-08-2007	21	4,150
Jun-09-2007	20	4,330
Jun-10-2007	21	4,180
Jun-11-2007	22	4,260
Jun-12-2007	21	4,220
Jun-13-2007	23	4,310
Jun-14-2007	25	4,120
Jun-15-2007	25	4,120
Jun-16-2007	24	4,180
Jun-17-2007	27	3,840
Jun-18-2007	28	3,810
Jun-19-2007	25	3,990
Jun-20-2007	27	4,090
Jun-21-2007	28	4,080
Jun-22-2007	25	4,100
Jun-23-2007	25	3,920
Jun-24-2007	24	4,020
Jun-25-2007	20	4,540
Jun-26-2007	22	4,220
Jun-27-2007	23	4,210
Jun-28-2007	26	4,010
Jun-29-2007	22	3,970
Jun-30-2007	21	4,030
.	.	.
Mean	24.0	4,110

Table 2a. Continuous water monitoring at Stations B and B2 (San Luis Drain Terminus), June 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
Jun-01-2007	26	24.6	7.3	4,550	47.6	6.8
Jun-02-2007	25	24.7	7.3	4,710	49.6	6.6
Jun-03-2007	24	25.1	7.4	4,630	45.4	5.9
Jun-04-2007	23	25.5	7.2	4,410	39.0	4.9
Jun-05-2007	23	25.1	6.8	4,100	33.4	4.2
Jun-06-2007	24	23.6	6.6	4,020	29.4	3.8
Jun-07-2007	24	23.1	6.9	4,210	31.3	4.0
Jun-08-2007	22	23.5	6.4	4,070	31.8	3.8
Jun-09-2007	21	24.4	6.5	4,130	32.6	3.7
Jun-10-2007	20	24.9	6.5	4,070	32.8	3.6
Jun-11-2007	20	25.6	6.3	4,000	32.2	3.5
Jun-12-2007	21	25.9	6.6	4,160	35.1	3.9
Jun-13-2007	21	26.9	6.6	4,090	32.8	3.6
Jun-14-2007	21	27.6	8.9	4,700	41.9	4.8
Jun-15-2007	23	28.7	8.5	4,580	39.1	4.8
Jun-16-2007	23	28.3	8.1	4,470	36.3	4.4
Jun-17-2007	22	27.0	8.1	4,350	36.7	4.4
Jun-18-2007	26	27.6	7.9	4,340	35.8	5.0
Jun-19-2007	27	28.1	7.4	4,090	33.9	5.0
Jun-20-2007	24	27.8	7.2	4,150	33.2	4.3
Jun-21-2007	25	27.3	6.9	3,960	33.9	4.6
Jun-22-2007	27	27.3	6.7	3,770	31.4	4.6
Jun-23-2007	25	27.1	6.6	3,650	30.4	4.1
Jun-24-2007	24	26.5	6.8	3,750	27.0	3.5
Jun-25-2007	24	26.4	7.0	3,810	30.8	4.0
Jun-26-2007	21	27.6	7.0	3,830	31.2	3.5
Jun-27-2007	20	27.2	7.5	3,900	31.4	3.4
Jun-28-2007	21	27.9	6.8	3,680	29.1	3.3
Jun-29-2007	23	27.6	5.9	3,710	28.1	3.5
Jun-30-2007	23	27.4	6.7	4,230	32.7	4.0
Mean	23	26.3	7.1	4,140	34.5	4.3
Total Acre-feet	1,370					
Total (lbs)						129

Load Limitation for June 2007 (lbs)	183
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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.

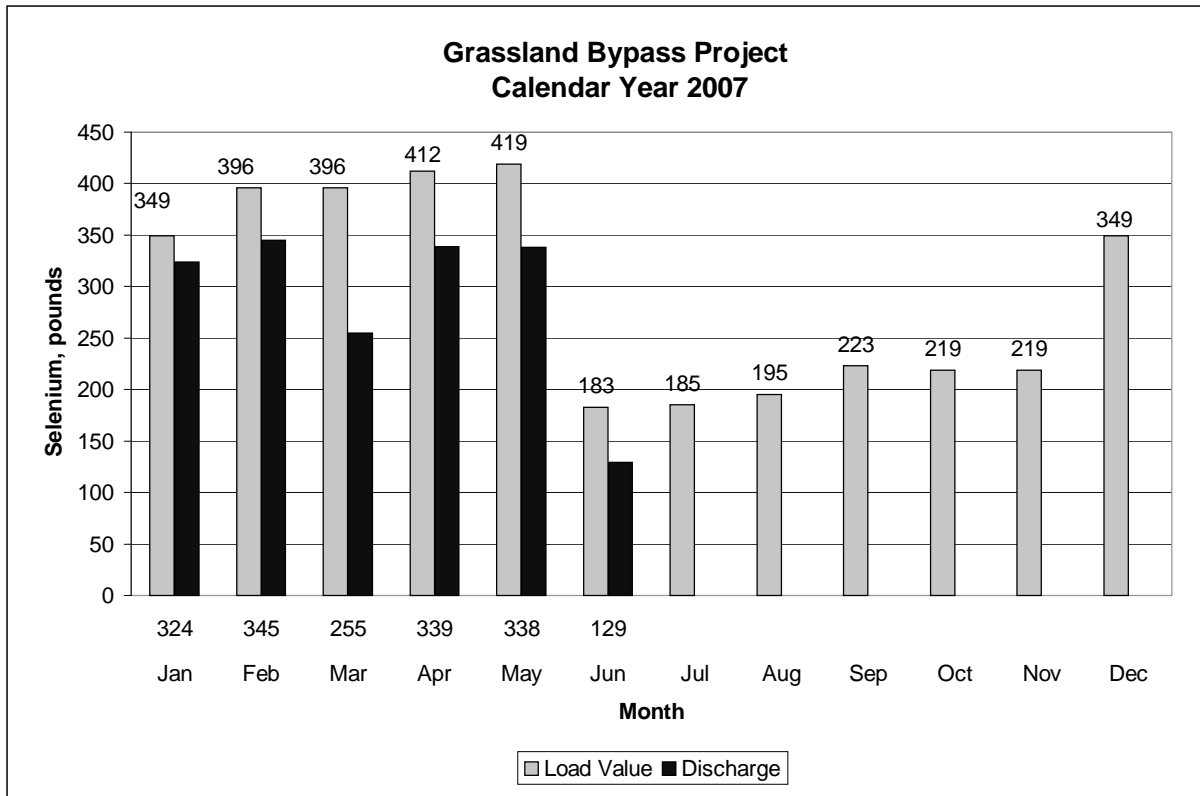


Table 3. Continuous water monitoring at Station D (Mud Slough North downstream of drainage discharges), June 2007.

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-01-2007	38	23.5	3,400
Jun-02-2007	40	23.7	3,220
Jun-03-2007	37	24.1	3,350
Jun-04-2007	36	24.3	3,340
Jun-05-2007	38	23.5	3,020
Jun-06-2007	36	21.9	3,040
Jun-07-2007	37	21.8	3,000
Jun-08-2007	39	22.5	2,770
Jun-09-2007	30	23.3	3,370
Jun-10-2007	27	23.8	3,380
Jun-11-2007	26	24.2	3,640
Jun-12-2007	29	24.6	3,650
Jun-13-2007	34	25.4	3,150
Jun-14-2007	34	26.3	3,270
Jun-15-2007	28	27.0	4,080
Jun-16-2007	26	26.4	4,100
Jun-17-2007	24	25.3	4,080
Jun-18-2007	27	25.9	4,010
Jun-19-2007	27	26.6	4,000
Jun-20-2007	24	26.0	3,950
Jun-21-2007	26	25.5	3,820
Jun-22-2007	30	25.4	3,160
Jun-23-2007	25	24.9	3,520
Jun-24-2007	24	24.4	3,670
Jun-25-2007	23	24.3	3,840
Jun-26-2007	NA	25.2	3,860
Jun-27-2007	NA	25.1	3,770
Jun-28-2007	21	25.2	3,810
Jun-29-2007	22	25.1	3,710
Jun-30-2007	23	24.7	3,490
.			
Mean	30	24.7	3,550

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

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-01-2007	124	22.5	1,160
Jun-02-2007	136	22.8	1,160
Jun-03-2007	141	23.5	1,130
Jun-04-2007	148	23.8	1,100
Jun-05-2007	151	23.1	1,050
Jun-06-2007	157	20.9	1,070
Jun-07-2007	170	20.6	1,020
Jun-08-2007	160	21.6	1,040
Jun-09-2007	154	22.8	1,080
Jun-10-2007	149	23.8	1,100
Jun-11-2007	159	24.0	1,080
Jun-12-2007	126	24.3	1,230
Jun-13-2007	113	25.3	1,390
Jun-14-2007	124	26.6	1,320
Jun-15-2007	138	27.6	1,140
Jun-16-2007	142	26.2	1,120
Jun-17-2007	112	24.4	1,180
Jun-18-2007	139	25.6	1,120
Jun-19-2007	132	26.5	1,060
Jun-20-2007	100	25.8	1,160
Jun-21-2007	92	25.3	1,190
Jun-22-2007	95	25.2	1,300
Jun-23-2007	122	24.9	1,220
Jun-24-2007	133	24.2	1,100
Jun-25-2007	150	23.8	1,050
Jun-26-2007	157	25.0	1,030
Jun-27-2007	147	24.9	1,020
Jun-28-2007	126	25.0	1,100
Jun-29-2007	132	25.0	1,080
Jun-30-2007	148	24.9	1,030
.	.	.	.
Mean	136	24.3	1,130

Table 5. Continuous water monitoring at Station N (San Joaquin River at Crow's Landing), June 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
Jun-01-2007	574	23.3	1,300	2.2
Jun-02-2007	591	23.5	1,240	2.3
Jun-03-2007	598	23.7	1,160	2.1
Jun-04-2007	638	23.9	1,150	2.0
Jun-05-2007	615	23.0	1,160	1.9
Jun-06-2007	613	21.4	1,120	1.6
Jun-07-2007	609	21.3	1,130	1.6
Jun-08-2007	606	22.2	1,200	1.7
Jun-09-2007	617	23.1	1,140	1.4
Jun-10-2007	621	23.6	1,170	1.4
Jun-11-2007	899	23.4	576	0.7
Jun-12-2007	1,130	21.9	480	0.6
Jun-13-2007	1,110	22.3	536	0.8
Jun-14-2007	1,120	23.2	535	0.7
Jun-15-2007	1,130	24.0	522	0.7
Jun-16-2007	1,130	24.1	513	0.8
Jun-17-2007	1,140	23.3	474	0.8
Jun-18-2007	1,160	23.0	468	0.7
Jun-19-2007	1,130	23.3	531	0.9
Jun-20-2007	828	NA	824	1.3
Jun-21-2007	666	23.9	942	1.3
Jun-22-2007	610	24.1	1,147	2.0
Jun-23-2007	556	24.1	1,262	1.8
Jun-24-2007	572	23.4	1,231	1.7
Jun-25-2007	574	23.6	1,197	1.6
Jun-26-2007	596	24.6	1,187	1.5
Jun-27-2007	548	25.2	1,212	1.6
Jun-28-2007	501	25.1	1,305	1.7
Jun-29-2007	474	24.8	1,361	1.6
Jun-30-2007	455	24.6	1,412	2.0
Mean	750	23.5	980	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	.	.	.
Apr-04-2007	29	.	.	4,360	159	.	.	.
Apr-11-2007	35	.	.	5,120	269	.	.	.
Apr-18-2007	36	.	.	4,970	161	.	.	.
Apr-25-2007	28	.	.	4,490	131	.	.	.
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	.	.	.

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-03-2007	24	.	.	5,050	.	70.4	.	8.1
Apr-10-2007	31	.	.	4,720	.	69.2	.	7.2
Apr-17-2007	36	.	.	4,990	.	72.4	.	6.5
Apr-24-2007	30	.	.	4,420	.	56.0	.	6.1
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

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-05-2007	29	19.6	8.5	5,210	78	80.8	7.4
Apr-12-2007	34	16.6	8.4	5,210	84	82.6	7.7
Apr-19-2007	37	15.5	8.3	4,730	61	64.3	6.9
Apr-26-2007	27	19.2	8.4	4,570	66	55.7	6.2
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

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-05-2007	38	18.9	8.3	2,710	.	0.9	2.3
Apr-12-2007	11	13.4	8.0	3,560	.	0.4	2.7
Apr-19-2007	7	13.4	8.0	3,620	.	0.5	2.7
Apr-26-2007	22	18.2	8.2	2,540	.	0.7	2.1
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

** 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-05-2007	67	19.0	8.3	3,710	26.6	4.5
Apr-12-2007	45	15.2	8.3	4,720	49.8	6.0
Apr-19-2007	44	15.1	8.3	4,650	51.2	6.2
Apr-26-2007	49	18.2	8.3	3,560	25.6	4.0
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

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-04-2007	.	8.5	3,830	38	23.5	4.8
Apr-18-2007	.	8.4	4,570	32	48.7**	6.4
Apr-24-2007	.	8.5	4,320	36	35.2**	5.9
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

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-05-2007	93	17.9	7.9	1,800	0.7	0.8
Apr-12-2007	139	15.1	8.0	1,350	0.9	0.7
Apr-19-2007	160	14.7	7.8	1,330	0.9	0.6
Apr-26-2007	126	18.2	7.9	1,610	0.8	0.8
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

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
Apr-04-2007	10	.	.	684	1.8	0.4
Apr-11-2007	20	.	.	718	1.6	0.5
Apr-18-2007	NA	.	.	537	1.2	0.4
Apr-25-2007	0	.	.	826	1.6	0.6
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

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-04-2007	20	.	.	543	1.9	0.5
Apr-11-2007	40	.	.	469	2.0	0.4
Apr-18-2007	NA	.	.	715	1.4	0.8
Apr-25-2007	0	.	.	617	1.9	0.3
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

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-04-2007	NA	.	.	1,430	1.5	1.2
Apr-11-2007	NA	.	.	2,370	3.8	3.0
Apr-18-2007	NA	.	.	1,310	1.5	1.3
Apr-25-2007	NA	.	.	1,110	2.2	1.1
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

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-04-2007	NA	.	.	2,370	1.2	2.9
Apr-11-2007	NA	.	.	1,800	1.6	2.2
Apr-18-2007	NA	.	.	1,540	1.5	1.8
Apr-25-2007	NA	.	.	1,430	1.6	1.3
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

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-04-2007	.	.	.	439	1.5	0.2
Apr-11-2007	.	.	.	488	1.7	0.3
Apr-18-2007	.	.	.	592	1.7	0.3
Apr-25-2007	.	.	.	513	1.6	0.3
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

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-05-2007	178	19.0	7.9	2,240	0.6	0.9
Apr-12-2007	206	15.6	8.2	1,740	0.8	0.7
Apr-19-2007	238	15.4	7.6	1,440	0.7	0.6
Apr-26-2007	202	18.9	8.2	1,660	0.7	0.7
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

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-03-2007	.	.	.	NA	7.3	2.0
Apr-10-2007	.	.	.	NA	4.6	1.8
Apr-17-2007	.	.	.	NA	8.8	1.6
Apr-24-2007	.	.	.	NA	6.3	1.6
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

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-05-2007	709	19.2	8.1	1,560	2.9	1.0
Apr-12-2007	609	16.5	8.1	1,630	3.8	1.0
Apr-19-2007	774	15.9	8.1	1,310	3.4	0.8
Apr-26-2007	863	18.5	8.2	1,100	2.5	0.7
May-03-2007	1,020	17.4	7.8	805	1.2	0.5
May-10-2007	1,310	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

Table 20. Summary of fathead minnow (*Pimephales promelas*) larvae survival in 7-day tests using water samples collected from July 2006 to June 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	%	%	%	%	%	%
Jul-2006	83	98	100	100	95	95
Aug-2006	98	98	95	98	98	90
Sep-2006	98	95	98	98	100	98
Oct-2006	95	85	85	90	98	100
Nov-2007	95	98	85	100	100	98
Dec-2007	98	100	85*	93	98	98
Jan-2007	100	100	90	93	98	100
Feb-2007	98	90	95	88	98	100
Mar-2007	98	80*	95	93	98	98
Apr-2007	100	98	100	95	95	100
May-2007	95	95	98	95	100	95
Jun-2007	98	93	90	90	93	90

Table 21. Summary of fathead minnow (*Pimephales promelas*) larvae growth in 7-day tests using water samples collected from July 2006 to June 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
Jul-2006	0.34	0.36	0.38	0.56	0.36	0.35
Aug-2006	0.36	0.33	0.38	0.37	0.39	0.33
Sep-2006	0.31	0.39	0.41	0.35	0.33	0.34
Oct-2006	0.39	0.36	0.36	0.35	0.40	0.40
Nov-2007	0.30	0.28*	0.30	0.33	0.33	0.32
Dec-2007	0.35	0.40	0.41	0.45	0.32	0.31
Jan-2007	0.30	0.35	0.37	0.34	0.31	0.31
Feb-2007	0.45	0.41	0.43	0.33	0.37	0.38
Mar-2007	0.36	0.26*	0.36	0.33	0.32	0.31
Apr-2007	0.38	0.33	0.31	0.32	0.34	0.33
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

Table 22. Summary of *Daphnia magna* survival in 7-day tests using water samples collected from July 2006 to June 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	%	%	%	%	%	%
Jul-2006	80	100	80	90	80	100
Aug-2006	100	100	90	100	100	100
Sep-2006	100	80	100	100	100	90
Oct-2006	70	80	100	80	90	80
Nov-2007	90	100	100	90	90	100
Dec-2007	90	70	100	90	100	90
Jan-2007	90	90	80	90	90	80
Feb-2007	100	80	90	90	100	90
Mar-2007	100	80	90	100	80	100
Apr-2007	100	90	90	100	90	100
May-2007	90	0*	90	90	100	100
Jun-2007	60*	100	80	100	100	100

Table 23. Summary of *Daphnia magna* reproduction in 7-day tests using water samples collected from July 2006 to June 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
Jul-2006	35.8	42.3	42.1	35.4	32.7	29.3
Aug-2006	34.7	33.3	23.9*	31.4	36.2	30.8
Sep-2006	25.9	20.1	23.8	26.9	27.6	23.6
Oct-2006	25.9	27.4	30.1	26.3	26.9	19.6
Nov-2007	36.6	49.6	47.0	47.9	38.3	46.2
Dec-2007	28.4	22.5	29.6	31.5	27.8	22.3
Jan-2007	20.5	27.3	23.2	26.0	28.5	21.4
Feb-2007	31.7	32.9	39.4	31.6	28.6	30.5
Mar-2007	35.2	27.1	32.9	28.2*	36.8	30.2
Apr-2007	22.7	21.1	29.0	21.2	21.1	26.2
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

Table 24. Summary of *Selenastrum capricornutum* growth in 4-day tests using water samples collected from July 2006 to June 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 ⁵ cells/mL	10 ⁵ cells/mL	10 ⁵ cells/mL	10 ⁵ cells/mL	10 ⁵ cells/mL	10 ⁵ cells/mL
Jul-2006	19.0	14.4	22.5	17.9	9.5	14.0
Aug-2006	16.4	17.8	17.3	21.4	16.8	13.5
Sep-2006	4.1*	20.7	21.7	22.6	17.7	12.9
Oct-2006	21.4	27.8	30.4	23.4	12.5	20.3
Nov-2007	17.6	26.2	23.3	24.7	17.7	17.5
Dec-2007	13.4	13.9	12.8	5.4*	7.5	17.2
Jan-2007	8.9	20.3	18.5	21.0	11.4	16.9
Feb-2007	7.9*	22.9	17.9	31.8	13.4	15.7
Mar-2007	12.0	11.0	8.8*	9.2*	12.4	14.3
Apr-2007	4.7*	19.0	8.8	5.2*	10.0	14.9
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

Table 25. Summary of selenium concentrations in grab water samples collected at study stations for use in laboratory toxicity tests, April 2007 to June 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
Apr-09-2007	44	0.8	22	1.0	0.4
Apr-11-2007	71	<0.4	48**	0.8	<0.4
Apr-13-2007	79	0.6	48**	0.9	<0.4
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

Table 26. Summary of total suspended solids concentrations in grab water samples collected at study stations for use in laboratory toxicity tests, April 2007 to June 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
Apr-09-2007	64	87	66	146	24
Apr-11-2007	66	41	57	72	57
Apr-13-2007	97	39	82	194	45
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

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 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