

GRASSLAND BYPASS PROJECT

MONTHLY DATA REPORT

July 2008

October 31, 2008

Preliminary Results

A cooperative effort of:

U.S. Bureau of Reclamation
Central Valley Regional Water Quality Control Board
U.S. Fish and Wildlife Service
California Department of Fish and Game
San Luis & Delta-Mendota Water Authority
U.S. Environmental Protection Agency
U.S. Geological Survey

compiled by San Francisco Estuary Institute





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MONTHLY DATA REPORT

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

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Specific Conductance
DATA SOURCE	SLDMWA	SLDMWA
UNITS	cfs	µS/cm
Jul-01-2008	19	3,620
Jul-02-2008	23	3,830
Jul-03-2008	21	3,800
Jul-04-2008	23	3,640
Jul-05-2008	23	NA
Jul-06-2008	14	NA
Jul-07-2008	14	4,200
Jul-08-2008	18	NA
Jul-09-2008	18	3,430
Jul-10-2008	19	4,420
Jul-11-2008	22	3,200
Jul-12-2008	22	NA
Jul-13-2008	19	NA
Jul-14-2008	19	4,190
Jul-15-2008	13	4,200
Jul-16-2008	15	4,140
Jul-17-2008	16	4,140
Jul-18-2008	13	3,840
Jul-19-2008	13	NA
Jul-20-2008	14	NA
Jul-21-2008	14	4,200
Jul-22-2008	21	NA
Jul-23-2008	21	3,790
Jul-24-2008	19	3,720
Jul-25-2008	19	NA
Jul-26-2008	14	NA
Jul-27-2008	14	NA
Jul-28-2008	14	4,700
Jul-29-2008	13	NA
Jul-30-2008	13	4,800
Jul-31-2008	17	4,880
Mean	17.2	4,040

Data logger stopped collecting data July 4th. Data Estimated.

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

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	San Luis Drain Outlet Flow	Temperature	Boron	Specific Conductance	Selenium (total)	Selenium (total) Load
DATA SOURCE	SLDMWA*	SLDMWA	CVRWQCB	SLDMWA	CVRWQCB	Computed
UNITS	cfs	°C	mg/L	µS/cm	µg/L	lbs
Jul-01-2008	19	26.7	P	3,650	26.6	2.7
Jul-02-2008	19	26.6	P	4,000	26.5	2.8
Jul-03-2008	22	26.6	P	3,990	26.9	3.2
Jul-04-2008	21	26.9	P	4,030	29.5	3.4
Jul-05-2008	22	26.8	P	4,200	33.6	4.0
Jul-06-2008	21	27.0	P	4,230	31.5	3.5
Jul-07-2008	18	27.5	P	4,240	32.3	3.1
Jul-08-2008	19	29.0	P	4,300	32.6	3.3
Jul-09-2008	20	30.0	P	4,330	30.6	3.4
Jul-10-2008	19	30.5	P	4,450	20.9	2.2
Jul-11-2008	20	29.5	P	4,040	30.6	3.2
Jul-12-2008	20	29.2	P	4,570	38.2	4.0
Jul-13-2008	21	28.8	P	4,340	30.8	3.4
Jul-14-2008	22	29.0	P	3,910	22.6	2.6
Jul-15-2008	19	28.7	P	4,070	23.9	2.5
Jul-16-2008	18	28.2	P	3,860	19.2	1.9
Jul-17-2008	18	28.0	P	3,630	16.1	1.5
Jul-18-2008	16	27.5	P	3,740	15.1	1.3
Jul-19-2008	16	27.4	P	3,410	16.6	1.4
Jul-20-2008	16	27.2	P	3,640	21.0	1.8
Jul-21-2008	16	26.8	P	4,120	17.5	1.5
Jul-22-2008	16	26.1	P	4,070	15.1	1.3
Jul-23-2008	16	26.0	P	3,900	14.7	1.3
Jul-24-2008	18	26.8	P	3,860	17.1	1.6
Jul-25-2008	18	27.3	P	4,520	23.0	2.3
Jul-26-2008	18	27.2	P	4,460	22.1	2.1
Jul-27-2008	17	27.0	P	4,310	25.4	2.3
Jul-28-2008	16	27.1	P	4,440	25.0	2.2
Jul-29-2008	18	27.2	P	4,460	25.9	2.5
Jul-30-2008	16	26.6	P	4,220	27.8	2.4
Jul-31-2008	16	27.1	P	4,240	27.5	2.4
Mean	18	27.6	P	4,100	24.7	2.5
Total Acre-feet	1,130					
Total (lbs)						77

Load Limitation for July 2008 (lbs)	171
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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.

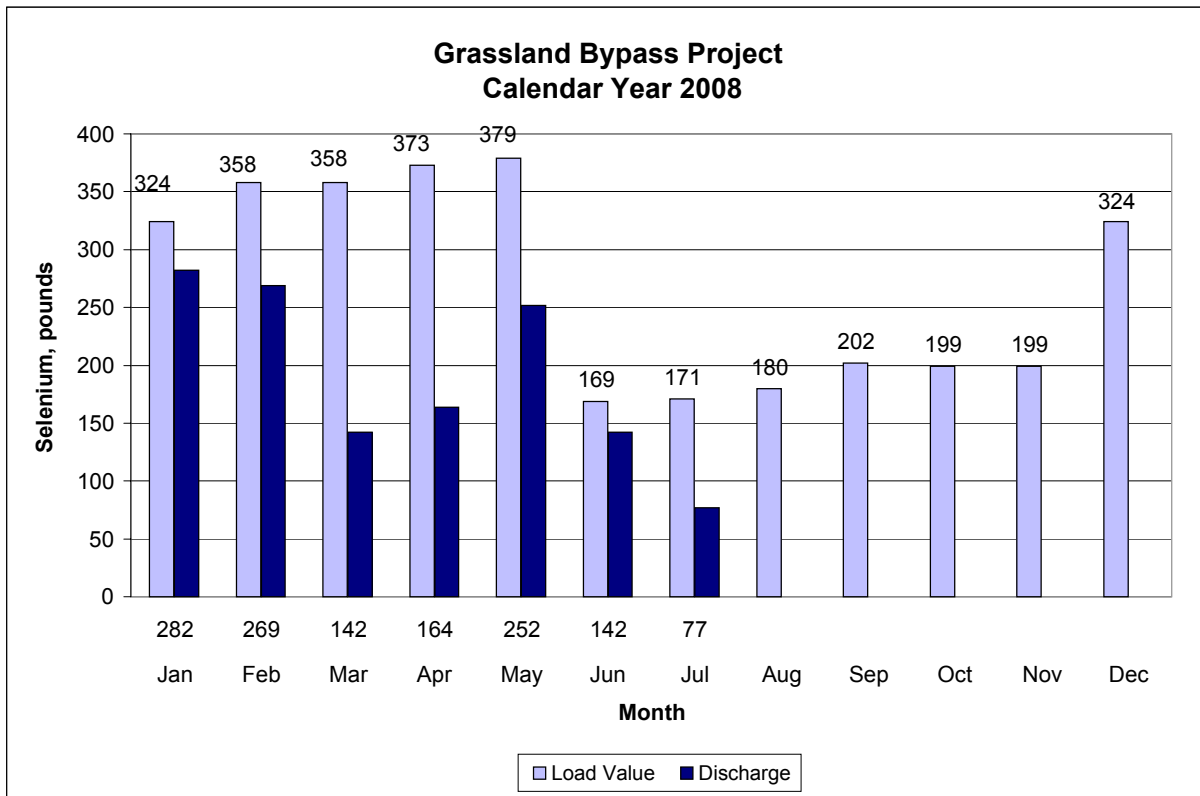


Table 3. Continuous water monitoring at Station D (Mud Slough North downstream of drainage discharges), July 2008.

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
Jul-01-2008	18	26.0	3,520
Jul-02-2008	18	25.8	3,860
Jul-03-2008	20	26.1	3,750
Jul-04-2008	19	25.9	3,870
Jul-05-2008	20	26.0	4,230
Jul-06-2008	19	26.9	4,390
Jul-07-2008	16	27.8	4,440
Jul-08-2008	17	28.7	4,380
Jul-09-2008	19	29.1	4,080
Jul-10-2008	19	29.4	4,110
Jul-11-2008	22	28.8	3,380
Jul-12-2008	19	28.2	4,320
Jul-13-2008	19	28.2	4,290
Jul-14-2008	20	28.4	3,980
Jul-15-2008	20	27.7	3,690
Jul-16-2008	19	27.2	3,370
Jul-17-2008	16	27.3	3,490
Jul-18-2008	12	26.7	3,780
Jul-19-2008	12	27.0	3,600
Jul-20-2008	12	26.5	3,810
Jul-21-2008	16	26.0	4,030
Jul-22-2008	16	25.4	3,550
Jul-23-2008	16	25.6	3,660
Jul-24-2008	18	26.3	3,740
Jul-25-2008	18	26.4	4,290
Jul-26-2008	18	26.7	4,150
Jul-27-2008	20	26.6	3,410
Jul-28-2008	19	26.2	3,330
Jul-29-2008	16	25.9	3,390
Jul-30-2008	20	25.9	2,970
Jul-31-2008	17	26.3	3,190
Mean	18	26.9	3,810

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

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
Jul-01-2008	108	25.4	1,220
Jul-02-2008	106	25.2	1,310
Jul-03-2008	121	25.6	1,300
Jul-04-2008	125	25.3	1,270
Jul-05-2008	107	25.2	1,300
Jul-06-2008	121	26.3	1,240
Jul-07-2008	130	27.7	1,190
Jul-08-2008	148	28.8	1,100
Jul-09-2008	136	28.8	1,090
Jul-10-2008	110	28.8	1,240
Jul-11-2008	108	27.9	1,250
Jul-12-2008	101	27.3	1,300
Jul-13-2008	106	27.3	1,300
Jul-14-2008	111	27.9	1,220
Jul-15-2008	104	27.2	1,180
Jul-16-2008	112	26.2	1,160
Jul-17-2008	108	26.7	1,180
Jul-18-2008	109	25.9	1,140
Jul-19-2008	106	26.2	1,070
Jul-20-2008	104	25.6	1,080
Jul-21-2008	92	24.1	1,130
Jul-22-2008	70	24.3	1,200
Jul-23-2008	79	25.2	1,290
Jul-24-2008	96	25.8	1,270
Jul-25-2008	91	25.7	1,270
Jul-26-2008	90	26.1	1,270
Jul-27-2008	81	26.4	1,280
Jul-28-2008	92	25.6	1,210
Jul-29-2008	85	25.3	1,270
Jul-30-2008	78	25.3	1,290
Jul-31-2008	84	26.0	1,290
Mean	104	26.3	1,220

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

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-01-2008	304	25.0	1,410	1.5
Jul-02-2008	286	25.0	1,370	1.5
Jul-03-2008	297	25.1	1,400	1.7
Jul-04-2008	286	24.8	1,580	2.0
Jul-05-2008	307	25.0	1,610	2.1
Jul-06-2008	311	26.3	1,440	1.9
Jul-07-2008	321	27.6	1,370	2.2
Jul-08-2008	293	29.0	1,380	2.0
Jul-09-2008	275	28.8	1,390	1.8
Jul-10-2008	264	28.5	1,390	2.1
Jul-11-2008	259	27.6	1,400	2.2
Jul-12-2008	270	27.0	1,480	2.0
Jul-13-2008	312	26.7	1,350	1.7
Jul-14-2008	300	27.3	1,320	1.7
Jul-15-2008	306	26.5	1,280	2.1
Jul-16-2008	308	26.0	1,150	1.6
Jul-17-2008	309	26.4	1,160	1.5
Jul-18-2008	289	25.8	1,290	1.5
Jul-19-2008	297	26.4	1,330	1.3
Jul-20-2008	321	25.5	1,180	1.0
Jul-21-2008	312	24.7	1,170	0.9
Jul-22-2008	299	24.6	1,080	1.0
Jul-23-2008	257	25.5	1,210	1.2
Jul-24-2008	261 e	25.9	1,320	1.1
Jul-25-2008	265	26.0	1,310	1.1
Jul-26-2008	272	26.3	1,310	1.2
Jul-27-2008	300	26.2	1,300	1.3
Jul-28-2008	289	25.5	1,300	1.3
Jul-29-2008	276	25.5	1,290	1.3
Jul-30-2008	362	25.0	1,250	1.4
Jul-31-2008	427	25.7	890	0.9
Mean	298	26.2	1,310	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-07-2008	28	.	.	4,780	180	.	.	.
May-14-2008	26	.	.	4,520	88	.	.	.
May-21-2008	36	.	.	4,610	180	.	.	.
May-28-2008	42	.	.	4,610	180	.	.	.
Jun-04-2008	26	.	.	4,090	110	.	.	.
Jun-11-2008	16	.	.	4,200	58	.	.	.
Jun-18-2008	20	.	.	4,380	180	.	.	.
Jun-25-2008	17	.	.	3,830	230	.	.	.
Jul-02-2008	23	.	.	3,920	190	.	.	.
Jul-09-2008	18	.	.	3,850	218	.	.	.
Jul-16-2008	15	.	.	4,120	180	.	.	.
Jul-23-2008	21	.	.	3,510	175	.	.	.
Jul-30-2008	13	.	.	4,760	154	.	.	.

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-06-2008	30	.	.	4,860	.	62.3	.	P
May-13-2008	26	.	.	4,530	.	55.3	.	P
May-20-2008	24	.	.	4,080	.	39.8	.	P
May-27-2008	35	.	.	4,300	.	49.7	.	P
Jun-03-2008	27	.	.	4,570	.	52.4	.	P
Jun-10-2008	20	.	.	4,250	.	40.5	.	P
Jun-17-2008	23	.	.	4,060	.	37.4	.	P
Jun-24-2008	15	.	.	4,270	.	34.6	.	P
Jul-01-2008	19	.	.	3,990	.	31.7	.	P
Jul-08-2008	18	.	.	4,080	.	34.0	.	6.9
Jul-15-2008	13	.	.	3,770	.	25.6	.	P
Jul-22-2008	21	.	.	4,030	.	28.9	.	7.1
Jul-29-2008	13	.	.	4,360	.	37.8	.	8.0

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-01-2008	25	16.9	8.7	4,440	92	56.1	P
May-08-2008	28	19.7	8.4	4,960	44	55.7	P
May-15-2008	27	22.0	8.4	4,770	52	58.3	P
May-22-2008	32	16.3	8.3	3,570	160	31.0	P
May-29-2008	29	19.2	7.9	4,140	52	56.5	P
Jun-05-2008	26	19.7	8.4	4,810	63	58.1	P
Jun-12-2008	19	19.4	9.1	4,100	76	40.0	P
Jun-19-2008	20	23.3	8.1	3,790	51	28.8	P
Jun-26-2008	18	24.5	8.6	4,360	37	24.7	P
Jul-02-2008	19	25.1	8.5	3,820	81	24.6	P
Jul-10-2008	19	28.4	7.5	3,890	21	20.3	6.9
Jul-17-2008	18	25.7	7.1	3,570	34	16.5	6.0
Jul-24-2008	18	24.5	8.0	4,040	20	19.0	P
Jul-31-2008	16	25.3	7.6	4,080	18	27.9	P

Table 8. Weekly water quality monitoring at Station C (Mud Slough North upstream of drainage discharges).

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	pH	Specific Conductance	.	Selenium (total)	Boron
DATA SOURCE	calculated **	CVRWQCB	CVRWQCB	CVRWQCB	.	CVRWQCB	CVRWQCB
UNITS	cfs	°C	.	µS/cm	.	µg/L	mg/L
May-01-2008	22	15.6	8.2	2,630	.	0.6	P
May-08-2008	19	18.8	8.2	1,990	.	0.8	P
May-15-2008	25	22.0	8.0	2,500	.	0.8	P
May-22-2008	22	14.1	8.2	2,050	.	0.6	P
May-29-2008	19	18.3	8.2	2,500	.	0.4	P
Jun-05-2008	17	19.0	8.0	1,690	.	0.7	P
Jun-12-2008	7	19.2	8.2	2,280	.	0.5	P
Jun-19-2008	3	20.9	8.0	2,540	.	0.6	P
Jun-26-2008	-1	22.9	8.0	3,990	.	<0.4	P
Jul-02-2008	-1	24.9	8.2	3,430	.	<0.4	P
Jul-10-2008	0	26.0	8.0	3,440	.	<0.4	2.5
Jul-17-2008	-2	23.1	7.8	2,490	.	0.5	2.0
Jul-24-2008	0	21.7	8.4	2,670	.	0.6	P
Jul-31-2008	1	23.0	8.2	1,060	.	1.3	P

++ Calculated flow value. Flow at Station C = flow at Station D - flow at Station B.

Table 9. Weekly water quality monitoring at Station D (Mud Slough North downstream of drainage discharges).

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	pH	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	USGS	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	°C	.	µS/cm	µg/L	mg/L
May-01-2008	47	16.2	8.6	4,210	40.9	P
May-08-2008	47	19.0	8.3	3,940	32.0	P
May-15-2008	52	21.8	8.4	3,880	31.8	P
May-22-2008	54	15.1	8.3	3,310	22.9	P
May-29-2008	48	18.7	8.2	4,060	51.1	P
Jun-05-2008	43	19.2	8.4	3,810	34.2	P
Jun-12-2008	26	18.7	8.6	3,580	25.2	P
Jun-19-2008	23	22.0	8.2	3,920	24.9	P
Jun-26-2008	17	24.2	8.5	4,240	18.3	P
Jul-02-2008	18	25.2	8.7	4,050	23.2	P
Jul-10-2008	19	28.3	7.8	3,500	27.4	6.9
Jul-17-2008	16	25.3	8.2	3,420	15.2	5.5
Jul-24-2008	18	24.3	8.3	3,390	12.6	P
Jul-31-2008	17	23.7	8.1	2,940	19.3	P

Table 10. Weekly water quality monitoring at Station I2 (Mud Slough backwater downstream of Station D).

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER		pH	Specific Conductance	Turbidity	Selenium	Boron
DATA SOURCE		USBR	USBR	USBR	USBR	USBR
UNITS		.	µS/cm	NTU	µg/L	mg/L
May-06-2008	.	8.7	4,440	33	43.4	6.1
May-12-2008	.	8.8	3,680	42	33.4	5.0
May-20-2008	.	7.8	3,500	29	21.4	4.8
May-28-2008	.	8.8	3,790	64	33.4	5.8
Jun-04-2008	.	8.6	3,480	19	22.2	5.1
Jun-09-2008	.	8.8	2,540	21	14.0	3.4
Jun-17-2008	.	8.3	4,190	19	28.1	6.2
Jun-24-2008	.	8.7	4,690	18	18.2	6.1
Jul-01-2008	.	8.8	4,020	33	19.2	5.7
Jul-09-2008	.	8.8	4,340	33	27.7	7.1
Jul-18-2008	.	8.3	3,920	27	12.8	6.3
Jul-23-2008	.	8.8	3,650	32	10.5	6.7
Jul-29-2008	.	8.5	3,710	16	16.2	6.4

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-01-2008	79	14.8	7.9	1,880	<0.4	P
May-08-2008	120	18.2	7.8	1,430	0.5	P
May-15-2008	111	21.4	7.7	1,540	0.5	P
May-22-2008	128	15.1	8.1	1,400	0.5	P
May-29-2008	133	18.2	8.0	1,380	0.4	P
Jun-05-2008	114	18.4	7.9	1,380	0.5	P
Jun-12-2008	92	19.0	7.8	1,190	0.5	P
Jun-19-2008	70	20.8	7.7	1,460	0.5	P
Jun-26-2008	102	21.9	7.8	1,190	0.6	P
Jul-02-2008	106	23.0	8.0	1,420	<0.4	P
Jul-10-2008	110	26.6	7.4	1,030	0.5	0.5
Jul-17-2008	108	23.4	7.7	1,127	0.4	0.5
Jul-24-2008	96	23.0	7.6	1,230	0.5	P
Jul-31-2008	84	23.1	7.6	1,280	0.5	P

Table 12. Weekly water quality monitoring at Station J (Camp 13 Ditch).

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	.	.	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	SLDMWA††	.	.	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	.	.	µS/cm	µg/L	mg/L
May-07-2008	35	.	.	710	1.0	P
May-14-2008	40	.	.	640	0.9	P
May-21-2008	50	.	.	620	0.8	P
May-28-2008	25	.	.	590	0.9	P
Jun-04-2008	25	.	.	630	1.1	P
Jun-11-2008	25	.	.	710	0.8	P
Jun-18-2008	11	.	.	640	0.7	P
Jun-25-2008	11	.	.	690	0.7	P
Jul-02-2008	11	.	.	640	0.9	P
Jul-09-2008	11	.	.	480	0.8	0.3
Jul-16-2008	11	.	.	420	0.7	P
Jul-23-2008	11	.	.	540	1.2	0.4
Jul-30-2008	11	.	.	460	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
May-07-2008	80	.	.	640	1.0	P
May-14-2008	100	.	.	580	1.2	P
May-21-2008	80	.	.	620	1.1	P
May-28-2008	60	.	.	590	1.2	P
Jun-04-2008	60	.	.	580	1.0	P
Jun-11-2008	30	.	.	750	1.7	P
Jun-18-2008	13	.	.	880	1.8	P
Jun-25-2008	13	.	.	810	1.7	P
Jul-02-2008	13	.	.	840	1.6	P
Jul-09-2008	13	.	.	660	1.3	0.6
Jul-16-2008	13	.	.	500	1.1	P
Jul-23-2008	13	.	.	430	1.0	0.3
Jul-30-2008	13	.	.	500	0.9	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
May-07-2008	65	.	.	800	0.8	P
May-14-2008	65	.	.	810	1.1	P
May-21-2008	65	.	.	740	0.9	P
May-28-2008	55	.	.	800	1.1	P
Jun-04-2008	0	.	.	750	1.0	P
Jun-11-2008	0	.	.	830	1.2	P
Jun-18-2008	0	.	.	1,290	1.3	P
Jun-25-2008	0	.	.	1,160	1.3	P
Jul-02-2008	0	.	.	1,370	1.3	P
Jul-09-2008	0	.	.	1,100	0.6	1.5
Jul-16-2008	0	.	.	980	1.4	P
Jul-23-2008	0	.	.	1,000	1.4	1.6
Jul-30-2008	0	.	.	960	1.2	1.4

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
May-07-2008	NA	.	.	990	1.0	P
May-14-2008	NA	.	.	1,000	1.0	P
May-21-2008	NA	.	.	1,070	1.1	P
May-28-2008	NA	.	.	1,000	0.9	P
Jun-04-2008	NA	.	.	960	1.0	P
Jun-11-2008	NA	.	.	1,130	1.5	P
Jun-18-2008	NA	.	.	1,220	1.3	P
Jun-25-2008	NA	.	.	1,550	2.0	P
Jul-02-2008	NA	.	.	1,330	1.4	P
Jul-09-2008	NA	.	.	1,140	1.1	1.6
Jul-16-2008	NA	.	.	990	1.2	P
Jul-23-2008	NA	.	.	1,010	1.4	1.6
Jul-30-2008	NA	.	.	960	1.3	1.5

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-07-2008	.	.	.	660	0.9	P
May-14-2008	.	.	.	590	0.6	P
May-21-2008	.	.	.	610	0.8	P
May-28-2008	.	.	.	NA	NA	P
Jun-04-2008	.	.	.	590	1.0	P
Jun-11-2008	.	.	.	610	0.6	P
Jun-18-2008	.	.	.	630	0.7	P
Jun-25-2008	.	.	.	640	0.7	P
Jul-02-2008	.	.	.	620	0.7	P
Jul-09-2008	.	.	.	460	NA	0.3
Jul-16-2008	.	.	.	430	0.5	P
Jul-23-2008	.	.	.	430	1.0	0.2
Jul-30-2008	.	.	.	460	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-01-2008	114	16.3	7.7	1,920	<0.4	P
May-08-2008	157	19.8	7.9	1,660	0.6	P
May-15-2008	135	22.6	7.7	1,630	0.6	P
May-22-2008	144	16.1	7.7	1,610	0.5	P
May-29-2008	159	19.1	7.2	1,480	0.5	P
Jun-05-2008	133	19.5	7.9	1,510	0.5	P
Jun-12-2008	99	20.0	7.9	1,930	0.4	P
Jun-19-2008	77	22.4	7.2	1,930	0.4	P
Jun-26-2008	120	23.7	7.9	1,400	0.5	P
Jul-02-2008	108	23.2	7.9	1,310	<0.4	P
Jul-10-2008	135	27.9	7.5	1,310	<0.4	0.4
Jul-17-2008	118	24.6	7.1	1,250	<0.4	0.5
Jul-24-2008	94	24.0	7.8	1,390	<0.4	P
Jul-31-2008	86	23.9	7.5	1,440	0.5	P

Table 18. Weekly water quality monitoring at Station H (San Joaquin River at Hills Ferry).

(Collected data intended for use with biological monitoring.)

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	.	.	.	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	.	.	.	SLDMWA	SLDMWA	SLDMWA
UNITS	.	.	.	µS/cm	µg/L	mg/L
May-06-2008	.	.	.	2,700	8.6	1.7
May-13-2008	.	.	.	2,360	8.2	1.6
May-20-2008	.	.	.	2,200	4.4	1.5
Jun-03-2008	.	.	.	2,560	12.0	2.1
Jun-10-2008	.	.	.	2,180	0.7	3.0
Jun-17-2008	.	.	.	2,410	5.4	1.8
Jun-24-2008	.	.	.	1,730	1.5	1.0
Jul-01-2008	.	.	.	1,940	2.4	1.3
Jul-08-2008	.	.	.	1,820	2.8	1.2
Jul-15-2008	.	.	.	1,940	3.9	1.6
Jul-22-2008	.	.	.	1,920	2.1	1.3
Jul-29-2008	.	.	.	1,750	2.2	1.2

Indicates questionable data

Table 19. Weekly water quality monitoring at Station N (San Joaquin River at Crow's Landing).

See Table 27 for explanation of footnotes and agency abbreviations.

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-01-2008	1,580	15.0	8.2	500	0.8	P
May-08-2008	1260	18.2	8.1	660	1.6	P
May-15-2008	1,420	18.9	8.0	560	1.4	P
May-22-2008	659	16.9	8.0	1,040	1.4	P
May-29-2008	563	19.4	7.9	1,220	2.3	P
Jun-05-2008	488	20.2	8.2	1,330	2.8	P
Jun-12-2008	379	20.0	8.1	1,500	1.9	P
Jun-19-2008	318	22.0	7.8	1,580	2.6	P
Jun-26-2008	302	23.3	8.2	1,480	1.4	P
Jul-02-2008	286	22.5	8.2	1,460	1.4	P
Jul-10-2008	264	26.7	8.2	1,420	1.9	0.8
Jul-17-2008	309	24.3	7.9	1,210	1.4	0.7
Jul-24-2008	261 e	23.3	8.1	1,330	1.0	P
Jul-31-2008	427	23.8	7.9	870	1.0	P

Table 20. Summary of fathead minnow (*Pimephales promelas*) larvae survival in 7-day tests using water samples collected from August 2007 to July 2008. Each value is the mean of 4 replicates with 10 fish in each replicate.

See Table 27 for explanation of footnotes and agency abbreviations.

LOCATION	Station B	Station C	Station D	Station F	Delta Mendota Canal	Laboratory Control
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	%	%	%	%	%	%
Aug-2007	93	100	100	95	93	100
Sep-2007	93	90	88	93	93	100
Oct-2008	88	98	93	95	98	100
Nov-2008	95	95	100	100	100	98
Dec-2008	93	93	98	98	95	95
Jan-2008	100	100	95	98	100	100
Feb-2008	100	95	100	95	98	100
Mar-2008	93	95	100	100	73	100
Apr-2008	98	100	100	100	95	98
May-2008	98	95	98	95	98	100
Jun-2008	98	95	100	93	100	98
Jul-2008	90	98	100	90	100	95

Table 21. Summary of fathead minnow (*Pimephales promelas*) larvae growth in 7-day tests using water samples collected from August 2007 to July 2008. Each value is the mean of 4 replicates with 10 fish in each replicate.

See Table 27 for explanation of footnotes and agency abbreviations.

LOCATION	Station B	Station C	Station D	Station F	Delta Mendota Canal	Laboratory Control
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	mg	mg	mg	mg	mg	mg
Aug-2007	0.30	0.29	0.32	0.33	0.27	0.26
Sep-2007	0.26	0.24	0.25	0.26	0.27	0.25
Oct-2008	0.32	0.36	0.34	0.41	0.36	0.34
Nov-2008	0.32*	0.32*	0.35	0.33	0.36	0.33
Dec-2008	0.31	0.33	0.32	0.32	0.32	0.32
Jan-2008	0.40	0.40	0.41	0.41	0.37	0.35
Feb-2008	0.46	0.43	0.41	0.41	0.38	0.33
Mar-2008	0.33	0.33	0.37	0.38	0.22	0.29
Apr-2008	0.31	0.39	0.31	0.24*	0.30	0.27
May-2008	0.31	0.31	0.29*	0.31	0.34	0.32
Jun-2008	0.31	0.33	0.36	0.31	0.31	0.31
Jul-2008	0.32	0.34	0.30	0.26	0.29	0.25

Table 22. Summary of *Daphnia magna* survival in 7-day tests using water samples collected from August 2007 to July 2008. Each value is the mean of 10 replicates with 1 animal in each replicate.

See Table 27 for explanation of footnotes and agency abbreviations.

LOCATION	Station B	Station C	Station D	Station F	Delta Mendota Canal	Laboratory Control
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	%	%	%	%	%	%
Aug-2007	100	70	90	90	80	100
Sep-2007	100	100	100	100	100	80
Oct-2008	90	80	100	90	90	80
Nov-2008	100	100	100	100	100	100
Dec-2008	90	100	100	100	100	80
Jan-2008	70	100	90	100	100	90
Feb-2008	100	90	80	90	100	100
Mar-2008	100	100	90	100	100	90
Apr-2008	100	100	80	100	90	90
May-2008	80	70	80	100	90	90
Jun-2008	100	100	100	90	90	90
Jul-2008	100	80	100	100	90	100

Table 23. Summary of *Daphnia magna* reproduction in 7-day tests using water samples collected from August 2007 to July 2008. Each value is the mean of 10 replicates with 1 animal in each replicate.

See Table 27 for explanation of footnotes and agency abbreviations.

LOCATION	Station B	Station C	Station D	Station F	Delta Mendota Canal	Laboratory Control
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	neonates per female	neonates per female	neonates per female	neonates per female	neonates per female	neonates per female
Aug-2007	29.8	26.3	40.7	33.9	25.9	26.3
Sep-2007	19.2*	32.0	31.0	23.8	29.3	19.6
Oct-2008	35.8	31.1	34.4	27.5	24.3	26.2
Nov-2008	49.9	44.0	46.9	41.6	42.5	40.3
Dec-2008	32.2	24.4	32.2	28.7	30.7	23.0
Jan-2008	36.4	47.8	41.5	40.3	48.8	45.2
Feb-2008	35.6	33.6	33.4	35.8	27.7	28.3
Mar-2008	27.4	29.0	29.5	26.2	30.1	19.6
Apr-2008	31.4	31.1	27.5	24.8	33.6	25.8
May-2008	22.2	19.6	23.5	33.1	25.7	28.8
Jun-2008	23.4	21.0	29.3	23.6	26.6	26.0
Jul-2008	19.1	22.4	23.8	18.4	21.4	24.3

Table 24. Summary of *Selenastrum capricornutum* growth in 4-day tests using water samples collected from August 2007 to July 2008. Each value is the mean of 4 replicates.

See Table 27 for explanation of footnotes and agency abbreviations.

LOCATION	Station B	Station C	Station D	Station F	Delta Mendota Canal	Laboratory Control
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	10 ⁵ cells/mL	10 ⁵ cells/mL	10 ⁵ cells/mL	10 ⁵ cells/mL	10 ⁵ cells/mL	10 ⁵ cells/mL
Aug-2007	12.0	15.9	12.6	13.7	9.9	13.7
Sep-2007	11.8	8.9	11.5	13.5	9.2++++	3.8++++ †
Oct-2008	12.0	13.9	14.1	14.8	10.8	13.8 ‡
Nov-2008	9.7*	17.3	21.4	19.1	13.2	15.1
Dec-2008	11.7	19.3	17.7	18.3	13.2	14.1
Jan-2008	15.8	16.3	22.6	19.9	16.3	16.1
Feb-2008	6.2	13.9	12.1	12.8	7.7++++	12.3
Mar-2008	18.1	14.2*	22.2	11.2*	20.5	24.9
Apr-2008	13.3*	16.7	22.4	11.9*	17.2	18.3
May-2008	17.1	30.5	22.3	14.2*	21.6	19.8
Jun-2008	15.9*	20.9	8.6*	22.7	20.5	20.1
Jul-2008	22.1	27.7	22.7	26.1	21.5	12.6

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

See Table 27 for explanation of footnotes and agency abbreviations

LOCATION	Station B	Station C	Station D	Station F	Delta Mendota Canal
DATA SOURCE	SLDMWA/USBR	SLDMWA/USBR	SLDMWA/USBR	SLDMWA/USBR	SLDMWA/USBR
UNITS	µg/L	µg/L	µg/L	µg/L	µg/L
May-05-2008	73	0.7	46	<0.4	<0.4
May-07-2008	57	0.7	43	<0.4	<0.4
May-09-2008	52	<0.4	40	<0.4	<0.4
Jun-02-2008	65	0.6	45	0.5	<0.4
Jun-04-2008	46	0.7	20	0.5	<0.4
Jun-06-2008	62	0.6	38	0.6	<0.4
Jun-09-2008	35	0.9	14	0.5	0.5
Jul-14-2008	20	<0.4	21	<0.4	<0.4
Jul-16-2008	19	0.7	15	0.4	<0.4
Jul-18-2008	14	0.4	13	<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 2008 to July 2008.

See Table 27 for explanation of footnotes and agency abbreviations

LOCATION	Station B	Station C	Station D	Station F	Delta Mendota Canal
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	mg/L	mg/L	mg/L	mg/L	mg/L
May-05-2008	71	49	74	103	7
May-07-2008	49	32	86	95	9
May-09-2008	89	89	94	111	11
Jun-02-2008	34	41	58	50	8
Jun-04-2008	66	32	36	87	13
Jun-06-2008	75	110	93	177	13
Jun-09-2008	41	63	75	91	10
Jul-14-2008	40	6	26	114	43
Jul-16-2008	28	36	21	143	52
Jul-18-2008	80	10	34	126	45

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