

GRASSLAND BYPASS PROJECT

MONTHLY DATA REPORT

February 2008

June 12, 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), February 2008.

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Specific Conductance
DATA SOURCE	SLDMWA	SLDMWA
UNITS	cfs	µS/cm
Feb-01-2008	27	4,800
Feb-02-2008	27	4,860
Feb-03-2008	29	4,860
Feb-04-2008	27	4,860
Feb-05-2008	25	4,980
Feb-06-2008	26	4,750
Feb-07-2008	26	4,800
Feb-08-2008	27	4,890
Feb-09-2008	27	4,700
Feb-10-2008	27	4,710
Feb-11-2008	27	4,680
Feb-12-2008	31	4,890
Feb-13-2008	26	4,640
Feb-14-2008	19	4,710
Feb-15-2008	21	4,960
Feb-16-2008	21	4,180
Feb-17-2008	22	3,910
Feb-18-2008	22	3,690
Feb-19-2008	24	3,700
Feb-20-2008	29	4,110
Feb-21-2008	29	3,960
Feb-22-2008	27	3,860
Feb-23-2008	26	3,780
Feb-24-2008	25	3,530
Feb-25-2008	23	3,810
Feb-26-2008	24	4,100
Feb-27-2008	27	4,040
Feb-28-2008	27	4,170
Feb-29-2008	27	4,170
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Mean	25.7	4,380

Table 2a. Continuous water monitoring at Stations B and B2 (San Luis Drain Terminus), February 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
Feb-01-2008	33	10.4	P	4,270	27.7	5.0
Feb-02-2008	35	9.8	P	4,670	61.9	11.8
Feb-03-2008	35	9.5	P	4,800	67.0	12.7
Feb-04-2008	34	9.4	P	4,820	67.3	12.5
Feb-05-2008	35	9.2	P	4,800	68.2	12.8
Feb-06-2008	32	9.9	P	4,840	71.2	12.4
Feb-07-2008	33	10.6	P	4,900	70.0	12.3
Feb-08-2008	32	11.4	P	4,870	71.0	12.4
Feb-09-2008	33	12.0	P	4,960	73.5	13.1
Feb-10-2008	33	12.8	P	4,750	70.4	12.5
Feb-11-2008	33	13.5	P	4,680	69.0	12.2
Feb-12-2008	33	14.2	P	NA	68.1	12.1
Feb-13-2008	34	13.9	P	NA	65.2	11.8
Feb-14-2008	30	10.0	P	NA	71.6	11.6
Feb-15-2008	29	9.9	P	4,770	71.8	11.1
Feb-16-2008	25	10.9	P	4,960	72.2	9.9
Feb-17-2008	27	11.8	P	4,970	72.9	10.7
Feb-18-2008	28	12.6	P	4,700	52.6	8.0
Feb-19-2008	27	12.9	P	4,640	36.3	5.3
Feb-20-2008	32	13.6	P	4,510	35.6	6.1
Feb-21-2008	36	13.3	P	4,050	31.0	6.0
Feb-22-2008	36	12.6	P	4,100	33.4	6.4
Feb-23-2008	35	11.8	P	3,950	34.1	6.5
Feb-24-2008	34	11.5	P	4,110	43.7	7.9
Feb-25-2008	31	11.9	P	3,910	36.2	6.1
Feb-26-2008	30	12.9	P	3,860	32.8	5.3
Feb-27-2008	31	14.4	P	3,800	28.3	4.7
Feb-28-2008	34	15.5	P	3,720	26.2	4.7
Feb-29-2008	33	16.5	P	3,880	30.0	5.4
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Mean	32	12.0	P	4,470	53.8	9.3
Total Acre-feet	1,850					
Total (lbs)						269

Load Limitation for February 2008 (lbs)	386
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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.

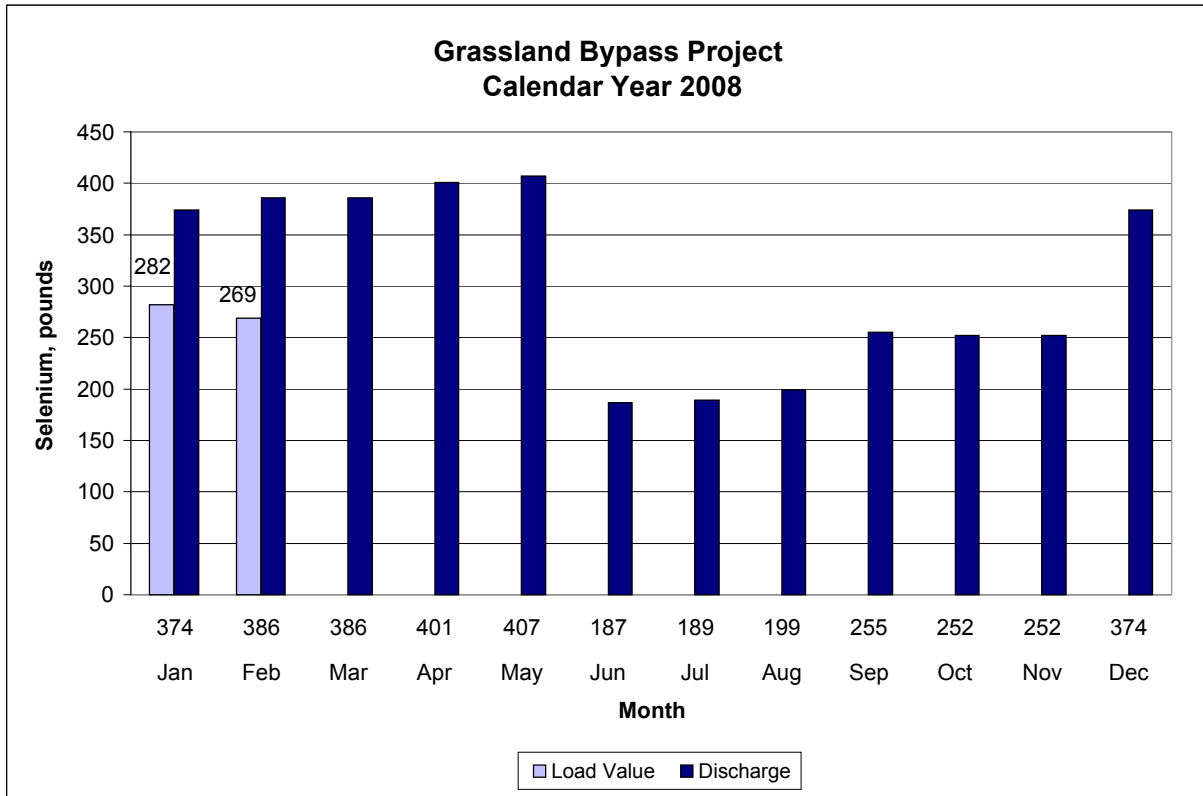


Table 3. Continuous water monitoring at Station D (Mud Slough North downstream of drainage discharges), February 2008.

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
Feb-01-2008	172	10.0	2,220
Feb-02-2008	167	9.2	2,270
Feb-03-2008	169	9.0	2,400
Feb-04-2008	173	8.9	2,370
Feb-05-2008	170	8.6	2,360
Feb-06-2008	166	9.5	2,380
Feb-07-2008	153	10.6	2,490
Feb-08-2008	139	11.5	2,610
Feb-09-2008	133	11.9	2,640
Feb-10-2008	136	12.6	2,560
Feb-11-2008	137	13.3	2,580
Feb-12-2008	152	13.9	2,590
Feb-13-2008	164	13.4	2,690
Feb-14-2008	157	9.2	2,650
Feb-15-2008	140	9.7	2,790
Feb-16-2008	133	11.0	2,800
Feb-17-2008	128	12.2	2,960
Feb-18-2008	117	13.2	3,000
Feb-19-2008	116	12.8	3,060
Feb-20-2008	129	13.7	3,010
Feb-21-2008	144	12.9	2,750
Feb-22-2008	141	12.0	2,800
Feb-23-2008	147	11.1	2,620
Feb-24-2008	159	10.9	2,500
Feb-25-2008	161	11.8	2,430
Feb-26-2008	148	13.3	2,530
Feb-27-2008	145	14.9	2,550
Feb-28-2008	147	15.7	2,550
Feb-29-2008	153	16.6	2,510
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Mean	148	11.8	2,610

Table 4. Continuous water monitoring at Station F (Salt Slough at Highway 165), February 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
Feb-01-2008	241	10.0	1,460
Feb-02-2008	216	9.5	1,470
Feb-03-2008	205	9.4	1,480
Feb-04-2008	206	9.4	1,450
Feb-05-2008	208	9.1	1,520
Feb-06-2008	214	9.8	1,600
Feb-07-2008	192	10.6	1,620
Feb-08-2008	177	11.5	1,630
Feb-09-2008	159	11.8	1,700
Feb-10-2008	142	12.5	1,800
Feb-11-2008	146	13.0	1,900
Feb-12-2008	150	13.4	1,870
Feb-13-2008	135	13.1	1,980
Feb-14-2008	141	9.6	1,900
Feb-15-2008	137	10.2	1,870
Feb-16-2008	123	11.4	1,850
Feb-17-2008	121	12.4	1,810
Feb-18-2008	141	13.1	1,780
Feb-19-2008	165	12.7	1,620
Feb-20-2008	178	13.2	1,590
Feb-21-2008	183	12.9	1,500
Feb-22-2008	205	12.1	1,440
Feb-23-2008	210	11.4	1,440
Feb-24-2008	254	11.1	1,360
Feb-25-2008	289	11.5	1,380
Feb-26-2008	292	12.7	1,430
Feb-27-2008	285	13.9	1,510
Feb-28-2008	249	14.8	1,540
Feb-29-2008	225	15.6	1,540
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.	.	.	.
Mean	193	11.8	1,620

Table 5. Continuous water monitoring at Station N (San Joaquin River at Crow's Landing), February 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
Feb-01-2008	2,200	9.1	710	0.7
Feb-02-2008	1,820	9.0	850	0.7
Feb-03-2008	1,610	9.0	910	1.1
Feb-04-2008	1,670	8.9	930	1.8
Feb-05-2008	1,980	8.5	790	1.7
Feb-06-2008	2,240	8.6	540	1.4
Feb-07-2008	2,160	9.2	630	1.5
Feb-08-2008	1,820	10.1	780	1.6
Feb-09-2008	1,560	10.7	910	1.9
Feb-10-2008	1,420	11.3	980	2.0
Feb-11-2008	1,280	11.9	1,020	2.2
Feb-12-2008	1,180	12.6	1,110	2.4
Feb-13-2008	1,140	12.7	1,140	2.2
Feb-14-2008	1,070	10.4	1,180	2.4
Feb-15-2008	1,010	10.1	1,270	2.7
Feb-16-2008	961	11.0	1,340	2.6
Feb-17-2008	912	11.7	1,390	2.4
Feb-18-2008	873	12.4	1,390	2.7
Feb-19-2008	850	12.5	1,470	2.8
Feb-20-2008	885	13.1	1,420	2.2
Feb-21-2008	894	13.0	1,440	1.7
Feb-22-2008	1,060	12.3	1,320	1.6
Feb-23-2008	1,340	11.5	1,080	1.2
Feb-24-2008	1,360	11.0	1,020	1.4
Feb-25-2008	1,660	11.5	1,080	1.4
Feb-26-2008	2,180	12.0	790	1.0
Feb-27-2008	2,220	13.1	650	0.8
Feb-28-2008	2,080	14.0	680	0.8
Feb-29-2008	1,840	14.9	840	0.9
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Mean	1,490	11.2	1,020	1.7

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	.	.	.
Dec-05-2007	8	.	.	4,850	36	.	.	.
Dec-12-2007	14	.	.	4,650	11	.	.	.
Dec-19-2007	22	.	.	3,930	140	.	.	.
Dec-26-2007	18	.	.	4,460	80	.	.	.
Jan-02-2008	15	.	.	4,940	13	.	.	.
Jan-09-2008	17	.	.	5,090	88	.	.	.
Jan-16-2008	20	.	.	4,990	39	.	.	.
Jan-23-2008	27	.	.	4,380	180	.	.	.
Jan-30-2008	28	.	.	4,860	170	.	.	.
Feb-06-2008	26	.	.	4,740	110	.	.	.
Feb-13-2008	26	.	.	4,740	120	.	.	.
Feb-20-2008	29	.	.	4,130	140	.	.	.
Feb-27-2008	27	.	.	4,060	110	.	.	.

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
Dec-04-2007	8	.	.	4,800	.	59.1	.	P
Dec-11-2007	14	.	.	4,570	.	80.0	.	P
Dec-18-2007	23	.	.	3,970	.	70.6	.	P
Dec-25-2007	15	.	.	4,310	.	79.1	.	P
Jan-01-2008	14	.	.	4,890	.	96.8	.	P
Jan-08-2008	18	.	.	4,870	.	79.9	.	P
Jan-15-2008	20	.	.	5,040	.	94.1	.	P
Jan-22-2008	23	.	.	4,700	.	85.7	.	P
Jan-29-2008	24	.	.	4,410	.	49.6	.	P
Feb-05-2008	25	.	.	4,940	.	82.1	.	P
Feb-12-2008	31	.	.	4,850	.	80.0	.	P
Feb-19-2008	24	.	.	4,320	.	42.6	.	P
Feb-26-2008	24	.	.	3,880	.	34.9	.	P

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
Dec-06-2007	18	11.7	6.6	4,090	24	38.1	P
Dec-13-2007	21	8.1	7.4	3,970	20	46.1	P
Dec-20-2007	29	10.3	7.0	2,810	23	38.3	P
Dec-27-2007	24	5.8	7.4	3,760	NA	54.8	P
Jan-03-2008	22	7.7	7.4	4,230	17	65.8	P
Jan-10-2008	23	9.7	7.6	4,450	28	60.2	P
Jan-17-2008	25	8.6	8.2	4,540	20	72.1	P
Jan-24-2008	40	8.1	8.0	4,290	22	68.9	P
Jan-31-2008	35	9.9	8.1	3,830	27	17.6	P
Feb-07-2008	33	9.9	8.1	4,660	22	68.6	P
Feb-14-2008	30	8.9	8.3	4,590	88	71.7	P
Feb-21-2008	36	13.0	8.1	3,880	20	30.0	P
Feb-28-2008	34	14.2	8.5	3,410	20	23.6	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
Dec-06-2007	104	11.6	7.4	1,540	.	<0.4	P
Dec-13-2007	107	7.0	7.8	1,600	.	<0.4	P
Dec-20-2007	113	11.1	7.4	1,680	.	<0.4	P
Dec-27-2007	87	5.3	7.3	1,780	.	<0.4	P
Jan-03-2008	80	7.4	7.9	1,920	.	<0.4	P
Jan-10-2008	144	9.3	7.8	1,720	.	<0.4	P
Jan-17-2008	123	7.2	7.9	1,940	.	<0.4	P
Jan-24-2008	179	7.5	7.4	1,980	.	0.5	P
Jan-31-2008	150	9.6	8.0	1,800	.	0.4	P
Feb-07-2008	120	10.0	7.8	2,000	.	0.8	P
Feb-14-2008	127	7.6	8.2	2,120	.	<0.4	P
Feb-21-2008	108	12.6	7.7	2,080	.	0.6	P
Feb-28-2008	113	14.1	7.9	2,230	.	0.6	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
Dec-06-2007	122	11.7	7.4	1,970	4.9	P
Dec-13-2007	128	7.2	7.7	2,050	7.6	P
Dec-20-2007	138	11.0	7.2	1,810	5.9	P
Dec-27-2007	111	5.4	7.2	2,340	13.0	P
Jan-03-2008	102	7.3	7.4	2,440	12.1	P
Jan-10-2008	167	9.3	7.8	2,160	9.4	P
Jan-17-2008	148	7.5	7.9	2,440	13.2	P
Jan-24-2008	219	7.6	7.9	2,190	12.0	P
Jan-31-2008	185	9.6	8.0	2,270	4.0	P
Feb-07-2008	153	9.8	8.0	2,650	14.6	P
Feb-14-2008	157	7.9	8.2	2,650	12.2	P
Feb-21-2008	144	12.7	7.9	2,780	7.5	P
Feb-28-2008	147	14.1	8.0	2,590	5.5	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
Dec-11-2007	.	7.8	2,140	12	5.3	2.2
Jan-04-2008	.	7.4	2,640	13	11.7	2.6
Jan-17-2008	.	8.3	2,610	14	12.2	2.6
Jan-29-2008	.	7.5	2,160	28	5.9	2.0
Feb-07-2008	.	8.1	2,620	34	14.9	3.1
Feb-12-2008	.	7.8	2,920	31	14.8	3.3
Feb-19-2008	.	8.1	3,280	35	9.1	3.7

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
Dec-06-2007	113	11.8	7.5	1,710	<0.4	P
Dec-13-2007	138	7.3	7.8	1,640	<0.4	P
Dec-20-2007	120	11.4	7.9	1,720	0.4	P
Dec-27-2007	109	6.2	7.3	1,780	0.5	P
Jan-03-2008	100	8.7	7.3	1,920	0.6	P
Jan-10-2008	175	9.8	7.7	1,720	0.6	P
Jan-17-2008	110	8.0	7.7	1,810	<0.4	P
Jan-24-2008	169	8.4	7.5	1,650	0.5	P
Jan-31-2008	277	9.6	7.8	1,630	0.7	P
Feb-07-2008	192	10.6	7.9	1,790	0.9	P
Feb-14-2008	141	8.6	7.9	1,900	0.6	P
Feb-21-2008	183	12.7	8.0	1,550	<0.4	P
Feb-28-2008	249	13.3	7.6	1,650	0.9	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
Dec-05-2007	20	.	.	650	0.9	P
Dec-12-2007	20	.	.	580	1.1	P
Dec-19-2007	10	.	.	590	1.3	P
Dec-26-2007	10	.	.	640	1.3	P
Jan-02-2008	10	.	.	750	1.6	P
Jan-09-2008	10	.	.	1,810	1.2	P
Jan-16-2008	10	.	.	930	2.2	P
Jan-23-2008	10	.	.	860	1.0	P
Jan-30-2008	10	.	.	760	1.9	P
Feb-06-2008	30	.	.	830	2.0	P
Feb-13-2008	30	.	.	650	1.6	P
Feb-20-2008	30	.	.	780	3.3	P
Feb-27-2008	30	.	.	990	2.8	P

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
Dec-05-2007	75	.	.	530	1.0	P
Dec-12-2007	75	.	.	590	1.1	P
Dec-19-2007	65	.	.	640	1.4	P
Dec-26-2007	65	.	.	640	1.1	P
Jan-02-2008	65	.	.	730	1.4	P
Jan-09-2008	40	.	.	750	1.6	P
Jan-16-2008	60	.	.	960	2.3	P
Jan-23-2008	60	.	.	690	1.1	P
Jan-30-2008	60	.	.	850	2.1	P
Feb-06-2008	60	.	.	860	2.0	P
Feb-13-2008	60	.	.	660	1.2	P
Feb-20-2008	60	.	.	670	1.5	P
Feb-27-2008	60	.	.	740	2.0	P

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
Dec-05-2007	0	.	.	1,330	0.9	P
Dec-12-2007	0	.	.	930	0.6	P
Dec-19-2007	0	.	.	1,100	1.3	P
Dec-26-2007	0	.	.	1,370	1.2	P
Jan-02-2008	0	.	.	1,440	0.8	P
Jan-09-2008	0	.	.	630	0.4	P
Jan-16-2008	0	.	.	1,450	1.1	P
Jan-23-2008	0	.	.	190	<0.4	P
Jan-30-2008	0	.	.	1,010	1.0	P
Feb-06-2008	0	.	.	1,020	0.8	P
Feb-13-2008	0	.	.	1,600	0.7	P
Feb-20-2008	0	.	.	500	0.8	P
Feb-27-2008	0	.	.	1,530	2.0	P

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
Dec-05-2007	NA	.	.	1,190	0.6	P
Dec-12-2007	NA	.	.	1,110	0.5	P
Dec-19-2007	NA	.	.	1,140	0.8	P
Dec-26-2007	NA	.	.	1,200	0.8	P
Jan-02-2008	NA	.	.	1,400	0.7	P
Jan-09-2008	NA	.	.	1,600	0.5	P
Jan-16-2008	NA	.	.	1,570	0.8	P
Jan-23-2008	NA	.	.	1,470	0.8	P
Jan-30-2008	NA	.	.	1,580	0.9	P
Feb-06-2008	NA	.	.	1,470	1.0	P
Feb-13-2008	NA	.	.	1,560	0.8	P
Feb-20-2008	NA	.	.	1,410	1.0	P
Feb-27-2008	NA	.	.	1,440	1.4	P

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
Dec-05-2007	.	.	.	700	1.0	P
Dec-12-2007	.	.	.	600	1.0	P
Dec-19-2007	.	.	.	670	1.5	P
Dec-26-2007	.	.	.	780	1.4	P
Jan-02-2008	.	.	.	620	1.2	P
Jan-09-2008	.	.	.	710	1.0	P
Jan-16-2008	.	.	.	830	2.0	P
Jan-23-2008	.	.	.	670	0.9	P
Jan-30-2008	.	.	.	790	2.0	P
Feb-06-2008	.	.	.	790	1.8	P
Feb-13-2008	.	.	.	620	1.2	P
Feb-20-2008	.	.	.	700	2.1	P
Feb-27-2008	.	.	.	860	1.6	P

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
Dec-06-2007	127	11.3	6.7	1,940	<0.4	P
Dec-13-2007	169	7.1	7.0	1,880	<0.4	P
Dec-20-2007	142	11.2	7.0	2,010	0.5	P
Dec-27-2007	140	5.4	7.6	2,020	0.5	P
Jan-03-2008	125	7.1	7.8	2,200	0.4	P
Jan-10-2008	365	9.0	8.1	1,160	0.5	P
Jan-17-2008	158	7.7	6.9	1,830	2.0	P
Jan-24-2008	221	8.1	7.8	1,880	<0.4	P
Jan-31-2008	1,540	8.6	7.8	560	0.4	P
Feb-07-2008	1,280	9.0	7.9	420	<0.4	P
Feb-14-2008	347	9.4	8.0	1,220	<0.4	P
Feb-21-2008	295	12.1	7.9	1,500	0.6	P
Feb-28-2008	1,170	13.8	7.7	690	<0.4	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
Dec-04-2007	.	.	.	NA	3.0	1.3
Dec-11-2007	.	.	.	NA	1.7	1.3
Jan-08-2008	.	.	.	NA	0.8	0.3
Jan-15-2008	.	.	.	NA	4.0	1.4
Jan-22-2008	.	.	.	835	1.6	0.4
Feb-12-2008	.	.	.	1,620	3.5	1.2
Feb-20-2008	.	.	.	3,540	32.6	5.3
Feb-26-2008	.	.	.	1,530	1.2	0.9

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
Dec-06-2007	803	11.7	7.0	980	1.0	P
Dec-13-2007	926	7.8	7.3	990	1.6	P
Dec-20-2007	877	11.4	7.3	1,120	2.9	P
Dec-27-2007	813	6.8	7.8	1,130	2.1	P
Jan-03-2008	805	7.8	7.9	1,350	2.4	P
Jan-10-2008	936	9.1	7.8	970	1.7	P
Jan-17-2008	835	8.3	7.1	1,370	2.6	P
Jan-24-2008	863	8.5	7.9	1,350	2.5	P
Jan-31-2008	758	8.6	7.7	590	0.9	P
Feb-07-2008	2,160	8.6	7.8	650	1.3	P
Feb-14-2008	1,070	9.8	7.9	1,220	2.4	P
Feb-21-2008	894	12.9	7.9	1,450	1.5	P
Feb-28-2008	2,080	13.2	7.8	700	0.9	P

Table 20. Summary of fathead minnow (*Pimephales promelas*) larvae survival in 7-day tests using water samples collected from March 2007 to February 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	%	%	%	%	%	%
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
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

Table 21. Summary of fathead minnow (*Pimephales promelas*) larvae growth in 7-day tests using water samples collected from March 2007 to February 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
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
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

Table 22. Summary of *Daphnia magna* survival in 7-day tests using water samples collected from March 2007 to February 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	%	%	%	%	%	%
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
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

Table 23. Summary of *Daphnia magna* reproduction in 7-day tests using water samples collected from March 2007 to February 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
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
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

Table 24. Summary of *Selenastrum capricornutum* growth in 4-day tests using water samples collected from February 2007 to January 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
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
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

Table 25. Summary of selenium concentrations in grab water samples collected at study stations for use in laboratory toxicity tests, December 2007 to February 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
Dec-03-2007	48	<0.4	6.9	<0.4	<0.4
Dec-05-2007	37	<0.4	4.1	<0.4	<0.4
Dec-07-2007	35	<0.4	5.5	<0.4	<0.4
Jan-14-2008	74	<0.4	9.7	<0.4	<0.4
Jan-16-2008	75	<0.4	12	0.5	0.9**
Jan-18-2008	72	<0.4	14	0.4	0.6
Feb-11-2008	66	0.8	18	0.8	<0.4
Feb-13-2008	63	0.5	14	0.6	1.0**
Feb-15-2008	69	0.5	15	0.7	1.1**

Table 26. Summary of total suspended solids concentrations in grab water samples collected at study stations for use in laboratory toxicity tests, December 2007 to February 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
Dec-03-2007	24	13	18	22	7
Dec-05-2007	23	23	22	65	5
Dec-07-2007	30	28	30	73	21
Jan-14-2008	16	43	41	28	22
Jan-16-2008	40	26	25	35	31
Jan-18-2008	26	25	27	40	19
Feb-11-2008	21	43	42	74	21
Feb-13-2008	27	64	63	72	29
Feb-15-2008	36	44	54	60	42

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