

GRASSLAND BYPASS PROJECT

MONTHLY DATA REPORT

March 2006

July 10, 2006

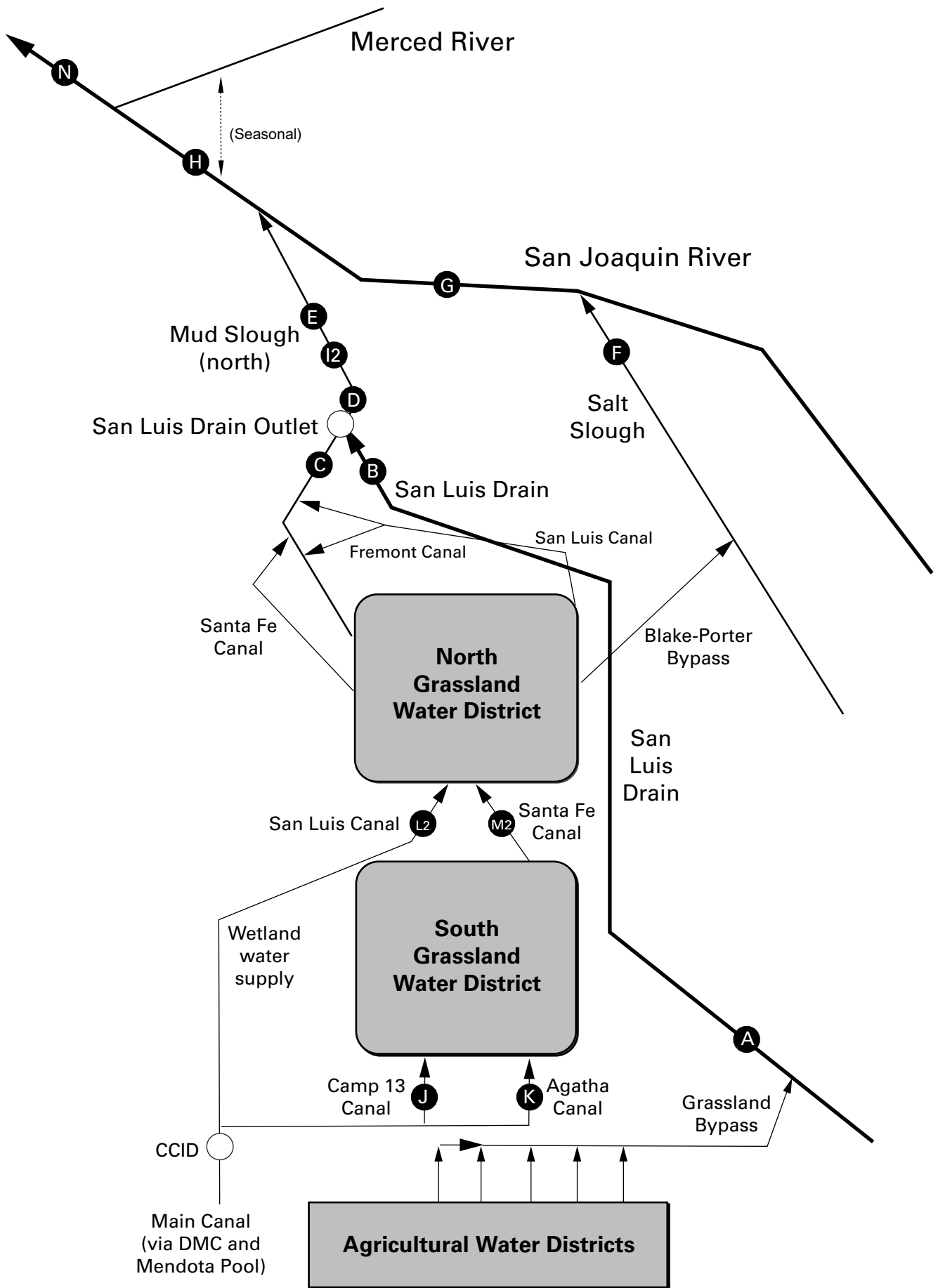
Preliminary Results

A cooperative effort of:

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

compiled by San Francisco Estuary Institute





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

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Specific Conductance
DATA SOURCE	SLDMWA	SLDMWA
UNITS	cfs	µS/cm
Mar-01-2006	59	4,670
Mar-02-2006	54	4,970
Mar-03-2006	56	5,000
Mar-04-2006	58	4,700
Mar-05-2006	54	4,630
Mar-06-2006	52	4,870
Mar-07-2006	50	5,050
Mar-08-2006	47	5,460
Mar-09-2006	43	5,450
Mar-10-2006	42	5,540
Mar-11-2006	33	5,600
Mar-12-2006	33	5,240
Mar-13-2006	30	5,370
Mar-14-2006	34	4,780
Mar-15-2006	37	4,980
Mar-16-2006	36	5,130
Mar-17-2006	38	4,880
Mar-18-2006	46	4,780
Mar-19-2006	45	4,820
Mar-20-2006	40	5,180
Mar-21-2006	35	5,880
Mar-22-2006	33	6,030
Mar-23-2006	31	6,170
Mar-24-2006	30	6,130
Mar-25-2006	29	6,310
Mar-26-2006	29	6,410
Mar-27-2006	29	6,340
Mar-28-2006	37	6,120
Mar-29-2006	38	6,100
Mar-30-2006	34	6,140
Mar-31-2006	33	6,240
Mean	40	5,450

Table 2a. Continuous water monitoring at Stations B and B2 (San Luis Drain Terminus), March 2006.

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	San Luis Drain Outlet Flow	Temperature	Boron	Specific Conductance	Selenium (total)	Selenium (total) Load
DATA SOURCE	SLDMWA♦	USGS	CVRWQCB	CVRWQCB	CVRWQCB	Computed
UNITS	cfs	°C	mg/L	µS/cm	µg/L	lbs
Mar-01-2006	67	14.8	8.8	4,650	56.4	20.2
Mar-02-2006	62	14.6	8.1	4,390	50.9	17.1
Mar-03-2006	58	14.2	8.6	4,550	55.8	17.5
Mar-04-2006	60	14.0	9.0	4,620	52.0	16.7
Mar-05-2006	62	13.5	9.1	4,820	55.4	18.5
Mar-06-2006	60	13.8	8.9	4,820	57.0	18.4
Mar-07-2006	57	14.2	8.6	4,590	53.5	16.4
Mar-08-2006	55	14.4	8.1	4,490	53.4	15.7
Mar-09-2006	51	14.9	8.4	4,730	55.0	15.1
Mar-10-2006	48	13.8	8.1	4,710	55.4	14.2
Mar-11-2006	46	12.7	7.1	4,710	53.6	13.3
Mar-12-2006	39	12.4	8.3	5,600	57.2	12.2
Mar-13-2006	37	12.5	9.1	5,200	60.4	12.2
Mar-14-2006	36	12.8	8.8	5,230	60.0	11.6
Mar-15-2006	37	13.2	9.2	5,200	52.0	10.5
Mar-16-2006	40	14.3	8.6	4,990	45.6	9.9
Mar-17-2006	41	14.3	8.4	5,010	45.9	10.3
Mar-18-2006	43	14.2	7.6	4,520	43.8	10.1
Mar-19-2006	48	14.1	7.9	4,930	49.0	12.8
Mar-20-2006	50	13.6	7.4	4,710	47.1	12.7
Mar-21-2006	46	13.8	7.5	4,700	48.2	11.9
Mar-22-2006	40	14.9	7.4	4,720	50.8	11.0
Mar-23-2006	38	16.0	7.1	4,520	47.2	9.6
Mar-24-2006	36	17.0	P	5,020	55.5	10.7
Mar-25-2006	35	17.6	P	5,540	60.8	11.5
Mar-26-2006	34	17.0	P	5,620	64.0	11.7
Mar-27-2006	34	16.7	P	5,750	61.5	11.4
Mar-28-2006	36	15.8	P	5,620	58.6	11.3
Mar-29-2006	43	14.7	P	5,750	61.7	14.4
Mar-30-2006	43	15.0	P	5,880	63.8	14.7
Mar-31-2006	40	15.5	P	5,690	59.7	12.8
Mean	46	14.5	8.3	5,010	54.6	13.4
Total Acre-feet	2,820					
Total (lbs)						416

Load Limitation for March 2006 (lbs)	488
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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.

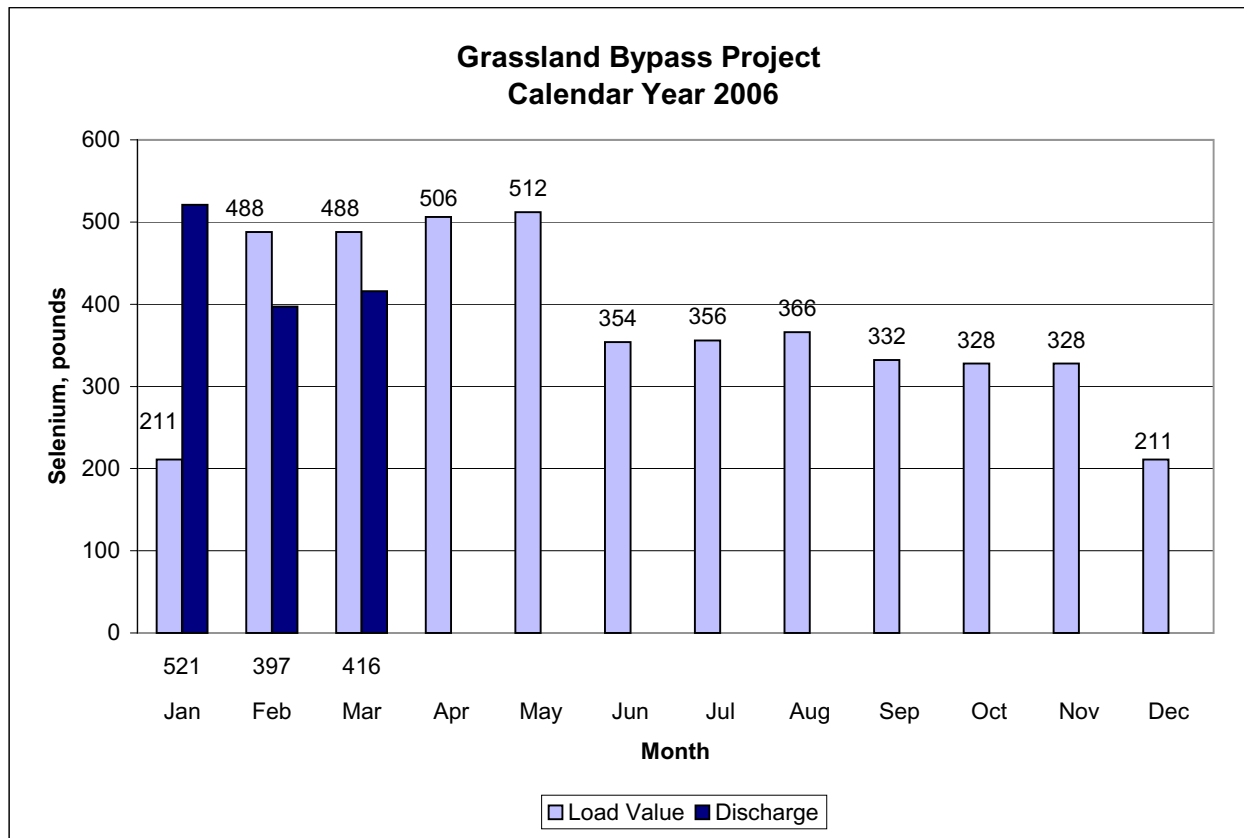


Table 3. Continuous water monitoring at Station D (Mud Slough North downstream of drainage discharges), March 2006.

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	Specific Conductance
DATA SOURCE	USGS	USGS	USGS
UNITS	cfs	°C	µS/cm
Mar-01-2006	331	14.0	2,260
Mar-02-2006	347	13.6	2,170
Mar-03-2006	346	12.8	2,200
Mar-04-2006	331	12.3	2,320
Mar-05-2006	319	12.2	2,390
Mar-06-2006	315	13.1	2,420
Mar-07-2006	304	13.7	2,350
Mar-08-2006	301	13.5	2,360
Mar-09-2006	285	14.0	2,440
Mar-10-2006	275	12.4	2,540
Mar-11-2006	259	11.0	2,570
Mar-12-2006	244	10.9	2,550
Mar-13-2006	232	11.8	2,590
Mar-14-2006	222	12.2	2,620
Mar-15-2006	222	12.6	2,660
Mar-16-2006	216	13.7	2,720
Mar-17-2006	216	13.6	2,710
Mar-18-2006	223	13.2	2,620
Mar-19-2006	215	13.0	2,820
Mar-20-2006	203	12.4	2,860
Mar-21-2006	193	12.7	2,890
Mar-22-2006	177	14.2	2,880
Mar-23-2006	170	16.0	2,880
Mar-24-2006	194	16.9	2,730
Mar-25-2006	268	16.3	2,040
Mar-26-2006	262	15.2	2,170
Mar-27-2006	210	NA	NA
Mar-28-2006	207	NA	NA
Mar-29-2006	204	NA	NA
Mar-30-2006	181	NA	NA
Mar-31-2006	172	NA	NA
Mean	247	13.4	2,530

Table 4. Continuous water monitoring at Station F (Salt Slough at Highway 165), March 2006.

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	Specific Conductance
DATA SOURCE	usgs	usgs	usgs
UNITS	cfs	°C	µS/cm
Mar-01-2006	436	13.6	1,260
Mar-02-2006	430	13.5	1,320
Mar-03-2006	411	13.0	1,390
Mar-04-2006	392	12.4	1,430
Mar-05-2006	382	12.2	1,440
Mar-06-2006	390	12.9	1,430
Mar-07-2006	392	13.5	1,450
Mar-08-2006	378	13.5	1,500
Mar-09-2006	367	13.9	1,530
Mar-10-2006	350	12.9	1,580
Mar-11-2006	332	11.7	1,640
Mar-12-2006	334	11.4	1,650
Mar-13-2006	346	11.7	1,620
Mar-14-2006	352	12.1	1,610
Mar-15-2006	358	12.5	1,630
Mar-16-2006	367	13.3	1,630
Mar-17-2006	377	13.6	1,620
Mar-18-2006	392	13.3	1,560
Mar-19-2006	409	13.2	1,400
Mar-20-2006	405	12.7	1,430
Mar-21-2006	390	12.5	1,470
Mar-22-2006	388	13.4	1,450
Mar-23-2006	390	15.0	1,490
Mar-24-2006	371	16.3	1,640
Mar-25-2006	360	16.3	1,740
Mar-26-2006	355	15.3	1,740
Mar-27-2006	355	15.0	1,700
Mar-28-2006	356	14.5	1,650
Mar-29-2006	362	13.4	1,630
Mar-30-2006	375	13.7	1,610
Mar-31-2006	394	14.7	1,630
Mean	377	13.5	1,540

Table 5. Continuous water monitoring at Station N (San Joaquin River at Crow's Landing), March 2006.

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	Specific Conductance	Selenium (total)
DATA SOURCE	USGS	USGS	CVRWQCB	CVRWQCB
UNITS	cfs	°C	µS/cm	µg/L
Mar-01-2006	2,210	13.0	1,040	1.8
Mar-02-2006	2,740	13.0	790	1.8
Mar-03-2006	3,260	12.0	661	1.3
Mar-04-2006	3,630	11.4	600	1.2
Mar-05-2006	4,060	11.1	527	1.0
Mar-06-2006	4,190	11.6	540	1.1
Mar-07-2006	4,390	11.8	498	1.0
Mar-08-2006	4,420	11.8	489	1.0
Mar-09-2006	4,020	12.3	679	1.1
Mar-10-2006	4,040	11.8	553	1.0
Mar-11-2006	3,910	11.0	589	1.0
Mar-12-2006	3,790	10.4	606	1.1
Mar-13-2006	4,020	10.3	545	0.8
Mar-14-2006	4,160	10.7	510	0.8
Mar-15-2006	4,210	10.9	494	0.8
Mar-16-2006	4,330	11.3	491	0.8
Mar-17-2006	4,540	11.7	479	0.7
Mar-18-2006	4,740	11.6	466	0.6
Mar-19-2006	4,960	11.6	450	0.6
Mar-20-2006	4,690	11.6	496	0.8
Mar-21-2006	4,440	11.4	533	0.9
Mar-22-2006	4,310	11.7	437	0.8
Mar-23-2006	4,240	12.6	NA	NA
Mar-24-2006	4,290	13.7	488	0.8
Mar-25-2006	4,170	14.5	546	0.7
Mar-26-2006	4,040	14.1	563	0.8
Mar-27-2006	3,990	13.9	571	0.8
Mar-28-2006	4,020	13.5	557	0.9
Mar-29-2006	4,570	12.7	467	0.7
Mar-30-2006	4,960	12.3	444	0.7
Mar-31-2006	5,270	12.8	NA	NA
Mean	4,150	12.1	560	0.9

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	.	.	.
Jan-04-2006	118	.	.	2,450	160	.	.	.
Jan-11-2006	46	.	.	4,780	220	.	.	.
Jan-18-2006	43	.	.	5,040	P	.	.	.
Jan-25-2006	40	.	.	6,170	110	.	.	.
Jan-31-2006	38	.	.	5,200	170	.	.	.
Feb-08-2006	43	.	.	4,620	P	.	.	.
Feb-15-2006	52	.	.	4,000	130	.	.	.
Feb-22-2006	35	.	.	4,380	86	.	.	.
Mar-01-2006	59	.	.	4,310	130	.	.	.
Mar-08-2006	47	.	.	4,760	91	.	.	.
Mar-15-2006	37	.	.	4,920	120	.	.	.
Mar-22-2006	33	.	.	5,650	96	.	.	.
Mar-29-2006	38	.	.	5,970	140	.	.	.

Table 6b. Weekly water quality monitoring at Station A (inflow to San Luis Drain), taken from composite samples.

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	.	.	Specific Conductance	.	Selenium (total)	.	Boron
DATA SOURCE	SLDMWA	.	.	CVRWQCB	.	CVRWQCB	.	CVRWQCB
UNITS	cfs	.	.	µS/cm	.	µg/L	.	mg/L
Jan-09-2006	44	.	.	4,240	.	60.2	.	7.4
Jan-17-2006	42	.	.	5,070	.	77.0	.	9.0
Jan-24-2006	37	.	.	5,100	.	75.8	.	8.3
Jan-30-2006	35	.	.	5,090	.	69.4	.	8.5
Feb-07-2006	46	.	.	5,050	.	71.2	.	8.0
Feb-14-2006	52	.	.	4,370	.	60.0	.	6.9
Feb-21-2006	32	.	.	4,390	.	42.8	.	7.1
Feb-28-2006	63	.	.	4,490	.	51.6	.	7.2
Mar-07-2006	50	.	.	4,900	.	58.4	.	7.7
Mar-14-2006	34	.	.	5,050	.	57.8	.	8.4
Mar-21-2006	35	.	.	4,920	.	58	.	7.9
Mar-28-2006	37	.	.	6,160	.	71.4	.	11.0

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
Jan-05-2006	114	11.3	7.6	1,940	230	26.0	2.8
Jan-12-2006	53	11.0	8.1	4,880	49	70.0	8.4
Jan-19-2006	48	9.8	8.1	5,020	40	72.6	9.1
Jan-26-2006	46	10.7	8.0	5,020	48	67.8	P
Feb-02-2006	43	13.4	7.8	4,910	64	60.0	8.5
Feb-09-2006	50	13.2	8.1	4,960	48	62.4	7.6
Feb-16-2006	57	12.0	7.7	4,110	59	52.0	6.1
Feb-23-2006	40	11.3	8.0	3,950	46	30.2	5.8
Mar-02-2006	62	13.3	7.6	4,410	62	52.6	6.7
Mar-09-2006	51	14.0	8.1	4,730	78	57.0	7.2
Mar-16-2006	40	13.0	8.2	4,930	42	49.8	P
Mar-23-2006	38	14.1	8.3	4,600	45	48.6	P
Mar-30-2006	43	13.6	8.2	5,860	P	65.3	11.0

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
Jan-05-2006	488	10.2	7.8	1,330	.	0.4	1.1
Jan-12-2006	226	10.2	7.9	1,670	.	0.5	1.5
Jan-19-2006	102	9.3	7.9	2,150	.	<0.4	1.9
Jan-26-2006	151	10.4	8.0	1,810	.	0.6	P
Feb-02-2006	101	13.3	7.9	2,110	.	0.4	1.9
Feb-09-2006	98	12.4	7.9	2,040	.	<0.4	1.8
Feb-16-2006	79	9.6	7.9	2,240	.	0.4	1.8
Feb-23-2006	109	10.9	8.0	1,970	.	0.5	1.6
Mar-02-2006	285	13.0	7.9	1,740	.	0.6	1.5
Mar-09-2006	234	13.5	7.9	1,900	.	0.6	1.7
Mar-16-2006	176	12.7	8.0	2,090	.	1.1	P
Mar-23-2006	132	14.1	8.1	2,320	.	0.6	P
Mar-30-2006	138	13.0	8.1	2,170	.	0.5	2.1

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

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

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	pH	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	USGS	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	°C	.	µS/cm	µg/L	mg/L
Jan-05-2006	602	10.7	7.7	1,460	6.2	1.5
Jan-12-2006	279	10.3	7.9	2,390	14.0	3.1
Jan-19-2006	151	9.5	7.9	3,120	21.8	4.0
Jan-26-2006	197	10.4	7.2	2,560	14.6	P
Feb-02-2006	144	13.3	7.9	2,950	16.0	3.6
Feb-09-2006	148	12.5	7.9	3,010	18.2	3.5
Feb-16-2006	136	10.6	7.9	3,020	20.3	3.5
Feb-23-2006	149	10.9	8.0	2,540	9.1	2.7
Mar-02-2006	347	13.1	7.9	2,290	10.2	2.5
Mar-09-2006	285	13.5	8.0	2,430	10.4	2.7
Mar-16-2006	216	12.7	8.0	2,700	8.5	P
Mar-23-2006	170	13.9	8.2	2,870	10.7	P
Mar-30-2006	181	13.0	8.2	3,090	14.6	4.2

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
Jan-05-2006	.	7.6	1,450	50	5.4	1.5
Jan-10-2006	.	7.7	1,760	33	7.2	1.9
Jan-17-2006	.	7.8	3,090	13	17.1	3.5
Jan-24-2006	.	8.0	2,410	42	11.4	2.8
Feb-02-2006	.	7.8	3,190	26	14.8	3.7
Feb-06-2006	.	7.9	3,260	26	17.3	3.8
Feb-17-2006	.	8.0	3,080	23	13.6	3.9
Feb-21-2006	.	8.0	2,820	22	8.4	3.1
Feb-27-2006	.	7.9	2,770	36	14.2	3.5
Mar-07-2006	.	7.9	2,510	36	10.4	2.9
Mar-14-2006	.	7.7	2,680	26	10.4	3.2
Mar-22-2006	.	8.1	3,010	25	12.2	3.5

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
Jan-05-2006	592	10.6	7.5	1,140	0.8	0.9
Jan-12-2006	324	10.4	7.6	1,920	0.7	1.6
Jan-19-2006	184	10.1	7.6	2,310	<0.4	1.3
Jan-26-2006	190	10.1	7.7	2,100	0.5	P
Feb-02-2006	231	13.2	7.6	1,550	0.6	1.1
Feb-09-2006	280	12.1	7.7	1,270	0.8	0.7
Feb-16-2006	312	10.3	7.7	1,140	0.8	0.6
Feb-23-2006	396	10.2	7.3	995	0.9	0.6
Mar-02-2006	430	13.1	7.8	1,310	0.7	0.6
Mar-09-2006	367	13.6	7.5	1,550	0.6	0.7
Mar-16-2006	367	12.5	7.7	1,610	0.8	P
Mar-23-2006	390	13.7	7.6	1,640	1.0	P
Mar-30-2006	375	13.1	7.8	1,610	0.8	1.3

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
Jan-04-2006	0	.	.	1,440	2.1	2.4
Jan-11-2006	0	.	.	1,700	1.2	2.6
Jan-18-2006	20	.	.	419	0.4	0.3
Jan-25-2006	20	.	.	359	0.7	0.4
Jan-31-2006	NA	.	.	488	0.8	0.5
Feb-08-2006	20	.	.	689	1.2	0.6
Feb-15-2006	20	.	.	622	1.9	0.5
Feb-22-2006	20	.	.	565	1.2	0.5
Mar-01-2006	15	.	.	569	1.2	0.4
Mar-08-2006	15	.	.	598	1.3	0.5
Mar-15-2006	15	.	.	502	2.1	0.3
Mar-22-2006	15	.	.	463	2.0	0.4
Mar-29-2006	15	.	.	282	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 ^{††}	.	.	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	.	.	µS/cm	µg/L	mg/L
Jan-04-2006	0	.	.	1,210	9.3	1.4
Jan-11-2006	0	.	.	928	0.9	1.5
Jan-18-2006	70	.	.	363	0.5	0.3
Jan-25-2006	70	.	.	417	2.1	0.3
Jan-31-2006	NA	.	.	80	<0.4	0.1
Feb-08-2006	20	.	.	489	1.3	0.4
Feb-15-2006	30	.	.	455	1.1	0.3
Feb-22-2006	14	.	.	393	1.0	0.2
Mar-01-2006	50	.	.	411	1.1	0.3
Mar-08-2006	50	.	.	504	1.4	0.4
Mar-15-2006	50	.	.	482	1.7	0.5
Mar-22-2006	50	.	.	390	1.9	0.4
Mar-29-2006	50	.	.	333	0.5	0.5

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
Jan-04-2006	0	.	.	970	1.3	1.2
Jan-11-2006	0	.	.	2,550	3.8	4.1
Jan-18-2006	0	.	.	1,800	2.1	2.5
Jan-25-2006	0	.	.	1,350	1.4	1.4
Jan-31-2006	0	.	.	2,040	1.7	2.1
Feb-08-2006	40	.	.	988	1.9	1.0
Feb-15-2006	90	.	.	1,780	3.6	1.6
Feb-22-2006	5	.	.	1,460	2.7	1.4
Mar-01-2006	0	.	.	1,660	2.5	2.1
Mar-08-2006	25	.	.	1,820	2.3	2.5
Mar-15-2006	10	.	.	2,760	2.9	4.3
Mar-22-2006	8	.	.	2,620	3.1	3.5
Mar-29-2006	15	.	.	1,720	1.9	1.7

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
Jan-04-2006	128	.	.	1,350	1.6	1.7
Jan-11-2006	114	.	.	1,640	0.8	2.1
Jan-18-2006	105	.	.	1,530	0.4	1.6
Jan-25-2006	103	.	.	1,350	1.9	1.3
Jan-31-2006	P	.	.	1,210	0.6	1.2
Feb-08-2006	95	.	.	1,140	1.1	1.1
Feb-15-2006	65	.	.	1,230	1.4	1.2
Feb-22-2006	139	.	.	1,240	1.4	1.3
Mar-01-2006	80	.	.	1,270	1.0	1.1
Mar-08-2006	71	.	.	1,520	0.9	1.6
Mar-15-2006	126	.	.	1,500	1.0	1.7
Mar-22-2006	139	.	.	1,600	1.2	1.6
Mar-29-2006	118	.	.	1,660	0.9	1.8

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
Jan-04-2006	.	.	.	916	2.6	1.1
Jan-11-2006	.	.	.	1,780	2.1	3.5
Jan-18-2006	.	.	.	1,220	1.4	1.3
Jan-25-2006	.	.	.	196	0.6	0.1
Jan-31-2006	.	.	.	112	<0.4	0.1
Feb-08-2006	.	.	.	435	1.1	0.3
Feb-15-2006	.	.	.	383	0.8	0.2
Feb-22-2006	.	.	.	410	1.0	0.2
Mar-01-2006	.	.	.	453	1.2	0.2
Mar-08-2006	.	.	.	500	1.6	0.4
Mar-15-2006	.	.	.	362	1.9	0.1
Mar-22-2006	.	.	.	373	2.0	0.2
Mar-29-2006	.	.	.	117	<0.4	<0.1

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
Jan-05-2006	2,600	10.9	7.0	300	<0.4	NA
Jan-12-2006	804	10.1	7.3	1,240	0.8	0.8
Jan-19-2006	278	10.1	7.7	1,530	<0.4	0.7
Jan-26-2006	212	10.3	7.6	1,600	0.4	P
Feb-02-2006	193	12.9	7.4	1,470	0.4	0.8
Feb-09-2006	187	12.4	7.7	1,460	0.6	0.7
Feb-16-2006	228	10.8	7.5	1,280	0.6	0.6
Feb-23-2006	335	10.8	8.0	1,240	0.8	0.5
Mar-02-2006	535	13.3	7.6	1,200	0.6	0.5
Mar-09-2006	941	13.5	7.5	881	<0.4	0.4
Mar-16-2006	1,040	12.4	7.6	798	0.4	P
Mar-23-2006	1,380	13.4	7.7	589	0.5	P
Mar-30-2006	1,720	13.2	7.7	445	<0.4	0.3

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
Jan-05-2006	.	.	.	NA	<0.4	0.1
Jan-10-2006	.	.	.	NA	0.7	0.2
Jan-17-2005	.	.	.	NA	4.3	1.4
Jan-24-2005	.	.	.	NA	4.2	1.3
Feb-01-2006	.	.	.	NA	4.2	1.5
Feb-07-2006	.	.	.	NA	5.9	1.6
Feb-14-2006	.	.	.	NA	5.7	1.6
Feb-21-2006	.	.	.	NA	0.5	0.2
Feb-28-2006	.	.	.	NA	0.9	0.2
Mar-07-2006	.	.	.	NA	<0.4	0.1
Mar-14-2006	.	.	.	NA	<0.4	0.1
Mar-21-2006	.	.	.	NA	<0.4	0.1
Mar-28-2006	.	.	.	NA	0.4	0.1

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
Jan-05-2006	5,850	11.2	7.5	341	0.8	0.3
Jan-12-2006	5660	10.5	7.8	449	0.9	0.4
Jan-19-2006	3,040	10.3	7.7	685	1.3	0.5
Jan-26-2006	2,410	10.5	7.8	755	1.6	P
Feb-02-2006	1,840	12.5	7.7	1,020	2.1	0.7
Feb-09-2006	1,750	12.3	7.8	1,080	2.5	0.8
Feb-16-2006	1,700	11.5	7.8	1,010	2.4	0.7
Feb-23-2006	1,890	11.0	7.9	892	1.3	0.6
Mar-02-2006	2,740	13.1	7.8	751	1.6	0.5
Mar-09-2006	4,020	12.3	7.7	555	1.0	0.4
Mar-16-2006	4,330	11.3	7.8	467	0.7	P
Mar-23-2006	4,240	12.5	7.9	477	0.8	P
Mar-30-2006	4,960	12.1	7.7	421	0.7	0.4

Table 20. Summary of fathead minnow (*Pimephales promelas*) larvae survival in 7-day tests using water samples collected from April 2005 to March 2006. Each value is the mean of 4 replicates with 10 fish in each replicate.

See Table 27 for explanation of footnotes and agency abbreviations.

LOCATION	Station B	Station C	Station D	Station F	Delta Mendota Canal	Laboratory Control
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	%	%	%	%	%	%
Apr-2005	95	100	95	93	100	90
May-2005	100	98	93	100	83	98
Jun-2005	100	93	98	95	90	95
Jul-2005	98	100	95	98	80	93
Aug-2005	93	95	95	95	100	98
Sep-2005	100	100	100	98	93	95
Oct-2005	90	93	98	100	90	100
Nov-2006	98	95	90	98	95	98
Dec-2006	95	28*	55*	63	95	98
Jan-2006	100	95	95	100	73	100
Feb-2006	98	95	98	100	100	100
Mar-2006	93	95	98	90	98	95

Table 21. Summary of fathead minnow (*Pimephales promelas*) larvae growth in 7-day tests using water samples collected from April 2005 to March 2006. Each value is the mean of 4 replicates with 10 fish in each replicate.

See Table 27 for explanation of footnotes and agency abbreviations.

LOCATION	Station B	Station C	Station D	Station F	Delta Mendota Canal	Laboratory Control
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	mg	mg	mg	mg	mg	mg
Apr-2005	0.42	0.40	0.44	0.42	0.38	0.29
May-2005	0.40	0.46	0.39	0.43	0.29	0.42
Jun-2005	0.51	0.50	0.50	0.50	0.47	0.36
Jul-2005	0.39	0.39	0.35	0.33	0.35	0.39
Aug-2005	0.52	0.56	0.60	0.51	0.48	0.42
Sep-2005	0.54	0.04	0.45	0.45	0.42	0.38
Oct-2005	0.38	0.41	0.41	0.36	0.39	0.40
Nov-2006	0.31	0.32	0.30	0.29	0.31	0.31
Dec-2006	0.36	0.12*	0.23	0.25	0.33	0.31
Jan-2006	0.47	0.43	0.46	0.43	0.35	0.36
Feb-2006	0.39	0.39	0.42	0.42	0.31	0.28
Mar-2006	0.49	0.45	0.45	0.45	0.46	0.40

Table 22. Summary of *Daphnia magna* survival in 7-day tests using water samples collected from April 2005 to March 2006. Each value is the mean of 10 replicates with 1 animal in each replicate.

See Table 27 for explanation of footnotes and agency abbreviations.

LOCATION	Station B	Station C	Station D	Station F	Delta Mendota Canal	Laboratory Control
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	%	%	%	%	%	%
Apr-2005	90	90	100	90	90	100
May-2005	90	90	100	100	90	90
Jun-2005	90	90	80	90	80	100
Jul-2005	90	100	80	90	80	90
Aug-2005	100	100	100	80	80	70†
Sep-2005	90	90	100	80	20†	30†
Oct-2005	30*	80	78	100	90	80
Nov-2006	80	80	100	90	100	100
Dec-2006	100	80	70	70	80	100
Jan-2006	90	90	80	80	80	100
Feb-2006	100	100	100	100	100	50†
Mar-2006	100	90	80	80	80	100

Table 23. Summary of *Daphnia magna* reproduction in 7-day tests using water samples collected from April 2005 to March 2006. Each value is the mean of 10 replicates with 1 animal in each replicate.

See Table 27 for explanation of footnotes and agency abbreviations.

LOCATION	Station B	Station C	Station D	Station F	Delta Mendota Canal	Laboratory Control
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	neonates per female	neonates per female	neonates per female	neonates per female	neonates per female	neonates per female
Apr-2005	26.4	35.9	42.3	37.1	30.4	27.0
May-2005	39.8	38.6	45.5	36.1	34.1	40.9
Jun-2005	41.8	35.1	36.8	42.5	30.7	31.9
Jul-2005	41.8	49.4	43.1	45.5	39.6	34.0
Aug-2005	29.3	36.1	32.5	29.4	22.1	21.0
Sep-2005	11.4	11.0	12.0	10.8	5.3†††	7.8†††
Oct-2005	11.7*	28.3	23.9	25.7	24.5	22.6
Nov-2006	17.8	16.1	16.7	15.7	16.9	17.0
Dec-2006	19.0	17.4	14.9	13.4	19.8	22.4
Jan-2006	32.2	29.6	33.1	24.7	25.3	26.6
Feb-2006	30.7	34.8	34.9	30.8	32.0	13.2
Mar-2006	39.0	33.0	28.2	28.8	31.5	33.9

Table 24. Summary of *Selenastrum capricornutum* growth in 4-day tests using water samples collected from April 2005 to March 2006. Each value is the mean of 4 replicates.

See Table 27 for explanation of footnotes and agency abbreviations.

LOCATION	Station B	Station C	Station D	Station F	Delta Mendota Canal	Laboratory Control
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	10 ⁵ cells/mL	10 ⁵ cells/mL	10 ⁵ cells/mL	10 ⁵ cells/mL	10 ⁵ cells/mL	10 ⁵ cells/mL
Apr-2005	17.4	25.6	21.1	19.6	19.2	24.5
May-2005	24.0	23.5	24.5	19.7	16.1	30.4
Jun-2005	21.4	17.8	21.2	14.6	16.3	20.6
Jul-2005	10.0*	13.0	7.4*	7.7*	11.9	13.0
Aug-2005	6.1*	21.0	7.3*	22.9	16.7	18.2
Sep-2005	21.5	23.1	25.0	28.3	21.6	22.4
Oct-2005	18.3	14.8	17.1	17.4	9.1	17.5
Nov-2006	17.7	22.3	22.8	19.0	15.6	18.1
Dec-2006	13.8*	26.9	37.2	21.1	22.1	23.4
Jan-2006	8.9*	27.5	29.5	24.3	22.5	25.5
Feb-2006	8.3*	12.6	5.9*	1.7*	12.8	23.8
Mar-2006	17.4	24.2	25.0	24.0	15.4	23.9

Table 25. Summary of selenium concentrations in grab water samples collected at study stations for use in laboratory toxicity tests, January 2006 to March 2006.

See Table 27 for explanation of footnotes and agency abbreviations.

LOCATION	Station B	Station C	Station D	Station F	Delta Mendota Canal
DATA SOURCE	SLDMWA/USBR	SLDMWA/USBR	SLDMWA/USBR	SLDMWA/USBR	SLDMWA/USBR
UNITS	µg/L	µg/L	µg/L	µg/L	µg/L
Jan-16-2006	79	<0.4	21	<0.4	<0.4
Jan-18-2006	71	<0.4	20	<0.4	<0.4
Jan-20-2006	69	<0.4	21	<0.4	<0.4
Feb-13-2006	53	0.5	21	0.7	0.4
Feb-15-2006	49	<0.4	18	0.6	<0.4
Feb-17-2006	38	0.4	17	0.9	0.6
Mar-13-2006	63	0.6	10	0.8	<0.4
Mar-15-2006	55	0.6	10	0.8	<0.4
Mar-17-2006	51	0.6	10	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, January 2006 to March 2006.

See Table 27 for explanation of footnotes and agency abbreviations.

LOCATION	Station B	Station C	Station D	Station F	Delta Mendota Canal
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	mg/L	mg/L	mg/L	mg/L	mg/L
Jan-16-2006	39	27	46	39	13
Jan-18-2006	40	40	42	30	14
Jan-20-2006	57	95	11	44	11
Feb-13-2006	61	52	59	129	22
Feb-15-2006	78	42	53	66	20
Feb-17-2006	80	38	48	56	27
Mar-13-2006	44	83	78	67	10
Mar-15-2006	61	92	75	67	17
Mar-17-2006	53	124	91	53	17

Table 27. Explanations of footnotes and agency abbreviations.

Footnote	Explanation
CVRWQCB	California Regional Water Quality Control Board, Central Valley Region
SLDMWA	San Luis & Delta-Mendota Water Authority
USBR	U.S. Bureau of Reclamation
USGS	U.S. Geological Survey
e	Estimated value
.	Not applicable
<	Less than MDL. If needed in calculation, use 1/2 MDL
NA	Not analyzed - operator error, data will not be available in the future
NP	Not Provided. Data may be available in the future.
NT	Not tested
P	Pending, data not available at this time but will be available in the future
*	Significantly reduced from Delta Mendota Canal (p<0.05)
**	Sample re-analyzed and result confirmed.
†	DMC water failed to meet the survival (>80%) acceptability criteria.
††	Data from records of the Grassland Water District. Data is not subjected to the criteria documented in the Compliance Monitoring Program for the Use and Operation of the Grassland Bypass Project (1996) nor the Quality Assurance Project Plan for the GBP.
†††	DMC water failed to meet the reproduction (>10 neonates/adult) acceptability criteria.
††††	DMC water failed to meet minimum growth (10 ⁶ cell/mL) acceptability criteria.
‡	Control value exceeds suggested maximum variance (20%) acceptability criteria.
‡‡	Fungal growth observed on test organisms.
‡‡‡	Failed cell density requirement of 1E6 cells.
#	New testing laboratory with reporting limit of 0.4 µg/L as of June 1998.
√	Based on definitive bioassay, NOEC is 50 percent
D	Sample was dechlorinated