

GRASSLAND BYPASS PROJECT

MONTHLY DATA REPORT

April 2006

August 31, 2006

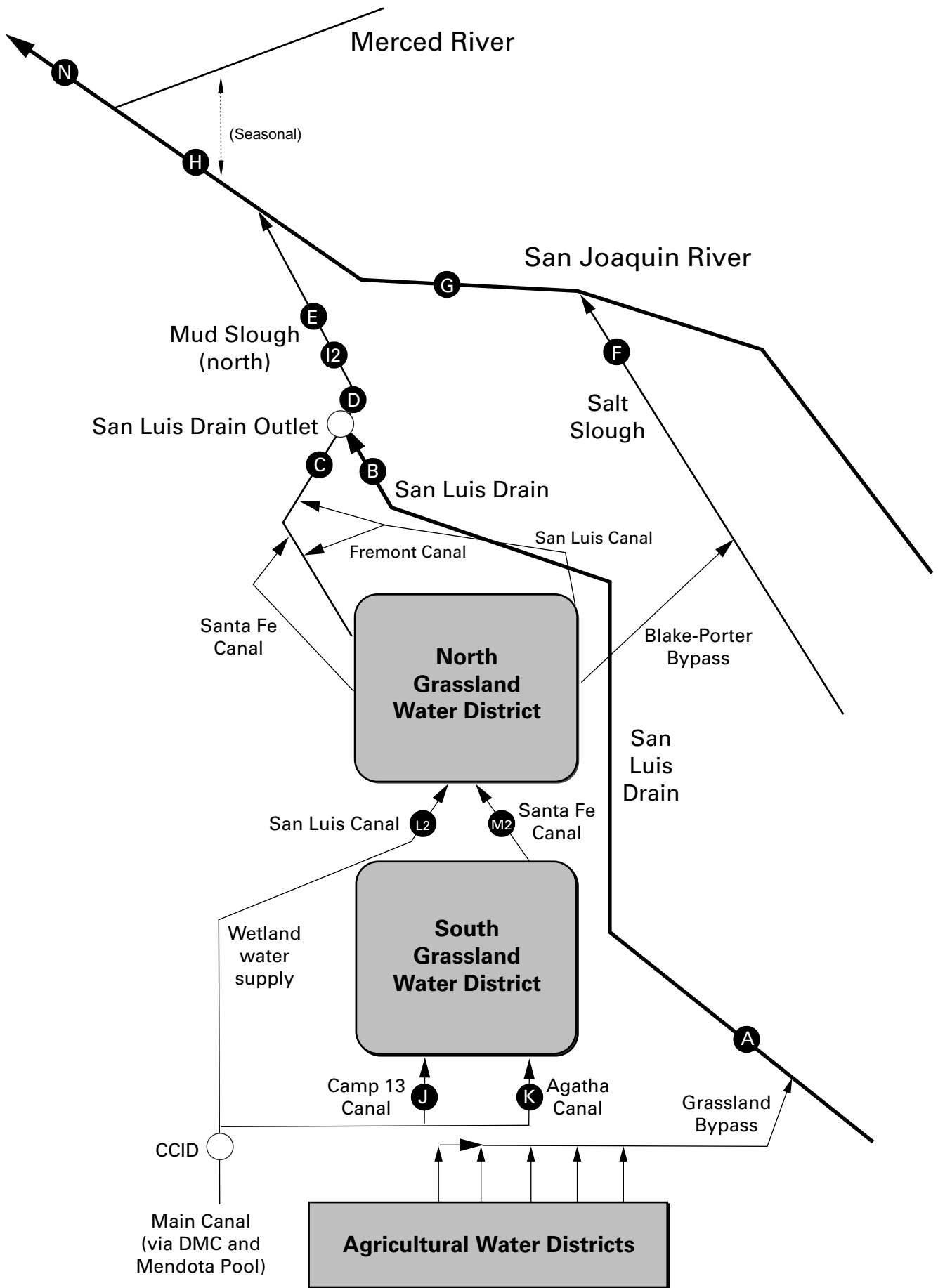
Preliminary Results

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), April 2006.

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Specific Conductance
DATA SOURCE	SLDMWA	SLDMWA
UNITS	cfs	µS/cm
Apr-01-2006	33	6,210
Apr-02-2006	32	6,020
Apr-03-2006	32	6,170
Apr-04-2006	35	6,230
Apr-05-2006	35	6,110
Apr-06-2006	34	6,180
Apr-07-2006	32	6,090
Apr-08-2006	30	5,930
Apr-09-2006	31	5,890
Apr-10-2006	31	5,930
Apr-11-2006	39	5,860
Apr-12-2006	38	5,620
Apr-13-2006	36	5,510
Apr-14-2006	31	5,410
Apr-15-2006	32	5,510
Apr-16-2006	28	6,000
Apr-17-2006	25	6,380
Apr-18-2006	25	6,490
Apr-19-2006	27	6,380
Apr-20-2006	28	6,400
Apr-21-2006	29	6,210
Apr-22-2006	35	6,200
Apr-23-2006	34	5,970
Apr-24-2006	34	6,160
Apr-25-2006	39	6,200
Apr-26-2006	42	6,190
Apr-27-2006	43	5,910
Apr-28-2006	41	5,930
Apr-29-2006	37	5,900
Apr-30-2006	35	5,840
.	.	.
Mean	34	6,030

Table 2a. Continuous water monitoring at Stations B and B2 (San Luis Drain Terminus), April 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
Apr-01-2006	38	16.0	10.0	5,780	69.4	14.2
Apr-02-2006	38	16.8	10.0	5,920	69.4	14.1
Apr-03-2006	38	16.8	11.0	6,340	65.7	13.4
Apr-04-2006	37	17.0	NA	NA	67.8	13.7
Apr-05-2006	40	16.6	NA	NA	67.8	14.7
Apr-06-2006	40	16.8	10.0	5,990	59.6	12.9
Apr-07-2006	39	17.9	10.0	5,760	62.0	13.0
Apr-08-2006	37	18.1	10.0	5,720	61.4	12.1
Apr-09-2006	35	18.4	10.0	5,730	62.2	11.6
Apr-10-2006	35	17.9	11.0	5,820	63.2	12.1
Apr-11-2006	37	17.0	10.0	5,730	63.7	12.6
Apr-12-2006	41	16.6	10.0	5,580	62.2	13.8
Apr-13-2006	42	17.7	9.4	5,520	64.4	14.6
Apr-14-2006	39	19.4	10.0	5,550	63.4	13.5
Apr-15-2006	35	18.9	9.2	5,280	60.9	11.6
Apr-16-2006	36	17.4	9.2	5,290	60.2	11.6
Apr-17-2006	32	16.8	8.9	5,210	59.2	10.3
Apr-18-2006	28	17.1	8.8	5,140	54.9	8.2
Apr-19-2006	28	18.4	8.9	5,090	52.2	7.7
Apr-20-2006	30	19.7	9.3	5,250	58.6	9.4
Apr-21-2006	30	20.7	8.8	5,860	64.6	10.5
Apr-22-2006	32	20.2	9.5	6,000	66.7	11.3
Apr-23-2006	36	19.5	10.0	5,970	63.4	12.2
Apr-24-2006	35	19.7	11.0	6,070	66.0	12.6
Apr-25-2006	36	19.6	11.0	5,940	71.2	13.7
Apr-26-2006	40	19.8	11.0	5,920	85.8	18.4
Apr-27-2006	44	20.8	10.0	5,770	85.8	20.4
Apr-28-2006	45	22.4	10.0	5,870	83.0	20.2
Apr-29-2006	42	23.1	9.9	5,900	82.6	18.6
Apr-30-2006	39	23.7	9.7	5,670	87.2	18.1
.
Mean	37	18.7	NA	5,700	66.8	13.4
Total Acre-feet	2,180					
Total (lbs)						401

Load Limitation for April 2006 (lbs)	506
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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.

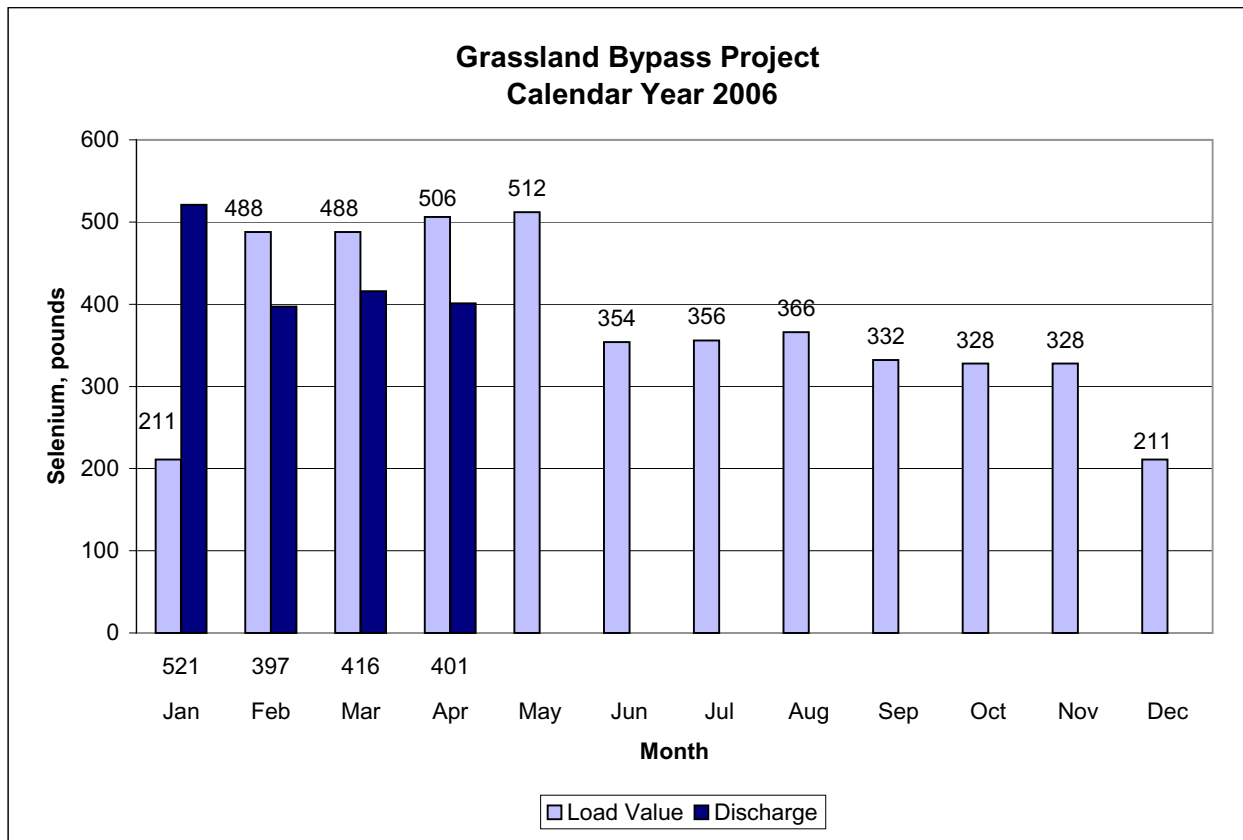


Table 3. Continuous water monitoring at Station D (Mud Slough North downstream of drainage discharges), April 2006.

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
Apr-01-2006	258	NA	NA
Apr-02-2006	289	15.6	2,010
Apr-03-2006	268	15.5	2,380
Apr-04-2006	245	16.0	2,780
Apr-05-2006	291	NA	NA
Apr-06-2006	354	15.7	2,450
Apr-07-2006	396	17.1	1,970
Apr-08-2006	406	16.9	1,790
Apr-09-2006	383	17.2	2,070
Apr-10-2006	348	16.5	2,570
Apr-11-2006	323	15.9	2,610
Apr-12-2006	299	15.5	2,570
Apr-13-2006	262	17.1	2,550
Apr-14-2006	217	19.2	2,540
Apr-15-2006	178	18.0	2,640
Apr-16-2006	160	16.3	2,720
Apr-17-2006	162	15.4	2,450
Apr-18-2006	146	16.1	2,330
Apr-19-2006	129	17.3	2,010
Apr-20-2006	121	19.2	2,390
Apr-21-2006	112	20.0	2,610
Apr-22-2006	102	19.2	2,660
Apr-23-2006	96	18.2	2,910
Apr-24-2006	99	18.7	3,580
Apr-25-2006	109	18.8	3,490
Apr-26-2006	109	18.7	4,290
Apr-27-2006	109	19.9	4,620
Apr-28-2006	112	21.6	4,600
Apr-29-2006	112	22.3	4,750
Apr-30-2006	115	22.8	4,290
.	.	.	.
Mean	210	17.9	2,880

Table 4. Continuous water monitoring at Station F (Salt Slough at Highway 165), April 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
Apr-01-2006	397	15.2	1,670
Apr-02-2006	392	15.9	1,650
Apr-03-2006	346	16.0	1,630
Apr-04-2006	284	16.1	1,520
Apr-05-2006	274	15.1	1,230
Apr-06-2006	308	15.4	1,270
Apr-07-2006	331	16.3	1,370
Apr-08-2006	366	17.1	1,390
Apr-09-2006	380	17.3	1,390
Apr-10-2006	389	16.6	1,380
Apr-11-2006	403	15.7	1,330
Apr-12-2006	413	15.6	1,270
Apr-13-2006	413	16.8	1,260
Apr-14-2006	405	18.5	1,220
Apr-15-2006	383	17.7	1,180
Apr-16-2006	374	16.2	1,160
Apr-17-2006	375	15.5	1,130
Apr-18-2006	363	15.7	1,120
Apr-19-2006	351	16.7	1,110
Apr-20-2006	348	18.4	1,130
Apr-21-2006	341	19.6	1,130
Apr-22-2006	336	18.9	1,090
Apr-23-2006	334	17.6	1,070
Apr-24-2006	336	17.9	1,040
Apr-25-2006	337	18.0	1,030
Apr-26-2006	332	18.0	1,030
Apr-27-2006	327	19.3	998
Apr-28-2006	332	20.9	1,040
Apr-29-2006	334	21.7	970
Apr-30-2006	335	21.9	969
.	.	.	.
Mean	355	17.4	1,230

Table 5. Continuous water monitoring at Station N (San Joaquin River at Crow's Landing), April 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
Apr-01-2006	5,540	13.5	427	0.9
Apr-02-2006	5,750	13.9	418	0.5
Apr-03-2006	5,970	14.1	382	0.5
Apr-04-2006	6,680	14.2	328	0.5
Apr-05-2006	8,380	14.3	256	0.4
Apr-06-2006	10,900	14.7	292	<0.4
Apr-07-2006	16,700	15.4	266	<0.4
Apr-08-2006	22,000	14.7	167	<0.4
Apr-09-2006	23,600	14.9	146	<0.4
Apr-10-2006	23,900	14.7	175	<0.4
Apr-11-2006	23,400	14.2	189	<0.4
Apr-12-2006	22,600	13.9	195	<0.4
Apr-13-2006	21,500	14.2	205	<0.4
Apr-14-2006	20,500	15.6	222	<0.4
Apr-15-2006	19,400	16.1	221	<0.4
Apr-16-2006	18,500	15.4	221	<0.4
Apr-17-2006	18,100	14.6	212	<0.4
Apr-18-2006	17,700	14.6	200	<0.4
Apr-19-2006	17,200	15.3	198	<0.4
Apr-20-2006	16,900	16.5	156	<0.4
Apr-21-2006	16,800	17.2	187	<0.4
Apr-22-2006	16,700	17.2	180	<0.4
Apr-23-2006	16,700	16.8	182	<0.4
Apr-24-2006	16,800	16.4	174	<0.4
Apr-25-2006	17,100	16.3	171	<0.4
Apr-26-2006	17,300	16.4	166	0.5
Apr-27-2006	17,200	17.4	165	0.4
Apr-28-2006	17,000	18.3	166	0.4
Apr-29-2006	16,700	19.1	168	0.7
Apr-30-2006	16,500	19.5	170	0.7
.
Mean	16,470	15.6	220	0.6

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	.	.	.
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	.	.	.
Apr-05-2006	35	.	.	5,680	110	.	.	.
Apr-12-2006	38	.	.	5,600	79	.	.	.
Apr-19-2006	27	.	.	6,150	47	.	.	.
Apr-26-2006	42	.	.	5,980	64	.	.	.

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
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	.	58.3	.	7.9
Mar-28-2006	37	.	.	6,160	.	71.4	.	11.0
Apr-04-2006	35	.	.	5,890	.	70.6	.	10.0
Apr-11-2006	39	.	.	5,830	.	68.0	.	11.0
Apr-18-2006	25	.	.	5,690	.	63.6	.	10.0
Apr-25-2006	39	.	.	5,940	.	84.2	.	10.0

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
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	8.2
Mar-23-2006	38	14.1	8.3	4,600	45	48.6	8.5
Mar-30-2006	43	13.6	8.2	5,860	P	65.3	11.0
Apr-06-2006	40	14.7	8.5	5,550	53	59.6	9.2
Apr-13-2006	42	15.5	8.4	5,510	61	58.5	P
Apr-20-2006	30	17.8	8.5	5,180	58	54.4	9.4
Apr-27-2006	44	19.7	8.5	5,790	P	87.8	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
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	1.9
Mar-23-2006	132	14.1	8.1	2,320	.	0.6	1.9
Mar-30-2006	138	13.0	8.1	2,170	.	0.5	2.1
Apr-06-2006	314	14.0	8.1	1,850	.	0.5	1.8
Apr-13-2006	220	15.5	8.2	1,900	.	1.7	P
Apr-20-2006	91	17.7	7.9	2,090	.	0.5	1.3
Apr-27-2006	65	18.1	8.1	1,170	.	0.5	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
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	3.3
Mar-23-2006	170	13.9	8.2	2,870	10.7	3.5
Mar-30-2006	181	13.0	8.2	3,090	14.6	4.2
Apr-06-2006	354	14.3	8.1	2,530	10.2	3.2
Apr-13-2006	262	15.4	8.2	NA	10.7	P
Apr-20-2006	121	17.8	8.4	2,340	10.6	3.2
Apr-27-2006	109	18.6	8.2	2,000	18.0	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
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
Apr-05-2006	.	8.5	3,010	56	8.6	3.0
Apr-13-2006	.	8.5	2,640	22	10.8	3.3
Apr-19-2006	.	8.6	2,060	33	7.7	2.8
Apr-26-2006	.	8.6	2,770	25	22.7	4.3

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
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	0.9
Mar-23-2006	390	13.7	7.6	1,640	1.0	1.1
Mar-30-2006	375	13.1	7.8	1,610	0.8	1.3
Apr-06-2006	308	14.4	7.6	1,300	0.7	0.8
Apr-13-2006	413	15.5	7.3	1,320	0.8	P
Apr-20-2006	348	16.9	7.5	1,090	<0.4	0.7
Apr-27-2006	327	18.3	7.4	984	0.4	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	SJDMWA ^{††}	.	.	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	.	.	µS/cm	µg/L	mg/L
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
Apr-05-2006	20	.	.	203	<0.4	0.2
Apr-12-2006	20	.	.	522	1.5	0.5
Apr-19-2006	20	.	.	277	0.7	0.3
Apr-26-2006	20	.	.	238	<0.4	<0.1

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
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
Apr-05-2006	50	.	.	172	<0.4	0.2
Apr-12-2006	50	.	.	252	0.4	0.3
Apr-19-2006	50	.	.	166	<0.4	0.2
Apr-26-2006	50	.	.	111	<0.4	0.2

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
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
Apr-05-2006	0	.	.	603	0.7	0.8
Apr-12-2006	75	.	.	763	P	0.8
Apr-19-2006	75	.	.	260	0.4	0.2
Apr-26-2006	75	.	.	128	<0.4	0.1

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
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
Apr-05-2006	142	.	.	1150	0.7	1.3
Apr-12-2006	62	.	.	948	0.7	1.1
Apr-19-2006	69	.	.	666	<0.4	0.8
Apr-26-2006	20	.	.	560	<0.4	0.7

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
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
Apr-05-2006	.	.	.	98	<0.4	<0.1
Apr-12-2006	.	.	.	201	0.5	0.2
Apr-19-2006	.	.	.	72	<0.4	<0.1
Apr-26-2006	.	.	.	76	<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
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	0.4
Mar-23-2006	1,380	13.4	7.7	589	0.5	0.2
Mar-30-2006	1,720	13.2	7.7	445	<0.4	0.3
Apr-06-2006	6,320	NA	NA	NA	NA	NA
Apr-13-2006	16,700	NA	NA	NA	NA	NA
Apr-20-2006	12,000	NA	NA	NA	NA	NA
Apr-27-2006	11,900	NA	NA	NA	NA	NA

Note:

Site G was flooded and water from the Mud Slough (north) overflow was comingling with water from the San Joaquin River.

Site G is intended to represent the San Joaquin River upstream of inflows from Mud Slough (north).

However, due to the flooding, it was impossible to collect representative samples in April and May.

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
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
Apr-04-2006	.	.	.	NA	<0.4	0.1
Apr-11-2006	.	.	.	NA	<0.4	0.1
Apr-18-2006	.	.	.	NA	<0.4	0.1
Apr-25-2006	.	.	.	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
Feb-02-2006	1,840	12.5	7.7	1,020	2.1	0.7
Feb-09-2006	1750	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	0.3
Mar-23-2006	4,240	12.5	7.9	477	0.8	0.3
Mar-30-2006	4,960	12.1	7.7	421	0.7	0.4
Apr-06-2006	10,900	14.4	7.5	301	0.4	0.1
Apr-13-2006	21,500	14.5	7.0	182	<0.4	P
Apr-20-2006	16,900	16.3	7.4	177	<0.4	0.1
Apr-27-2006	17,200	17.6	7.2	162	<0.4	P

Table 20. Summary of fathead minnow (*Pimephales promelas*) larvae survival in 7-day tests using water samples collected from May 2005 to April 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	%	%	%	%	%	%
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
Apr-2006	90	95	98	100	95	100

Table 21. Summary of fathead minnow (*Pimephales promelas*) larvae growth in 7-day tests using water samples collected from May 2005 to April 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
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
Apr-2006	0.31	0.38	0.36	0.36	0.29	0.28

Table 22. Summary of *Daphnia magna* survival in 7-day tests using water samples collected from May 2005 to April 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	%	%	%	%	%	%
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
Apr-2006	80	90	100	90	100	100

Table 23. Summary of *Daphnia magna* reproduction in 7-day tests using water samples collected from May 2005 to April 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
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
Apr-2006	43.6	42.7	43.5	39.9	32.7	37.4

Table 24. Summary of *Selenastrum capricornutum* growth in 4-day tests using water samples collected from May 2005 to April 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
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
Apr-2006	9.9	21.5	18.8	18.6	12.7	19.7

Table 25. Summary of selenium concentrations in grab water samples collected at study stations for use in laboratory toxicity tests, February 2006 to April 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
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
Apr-10-2006	62	<0.4	9.2	<0.4	<0.4
Apr-12-2006	58	0.5	11	<0.4	<0.4
Apr-14-2006	61	0.4	11	<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, February 2006 to April 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
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
Apr-10-2006	54	39	66	28	6
Apr-12-2006	76	51	62	35	7
Apr-14-2006	70	148	111	39	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.
†	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