

GRASSLAND BYPASS PROJECT

MONTHLY DATA REPORT

October 2005

February 16, 2006

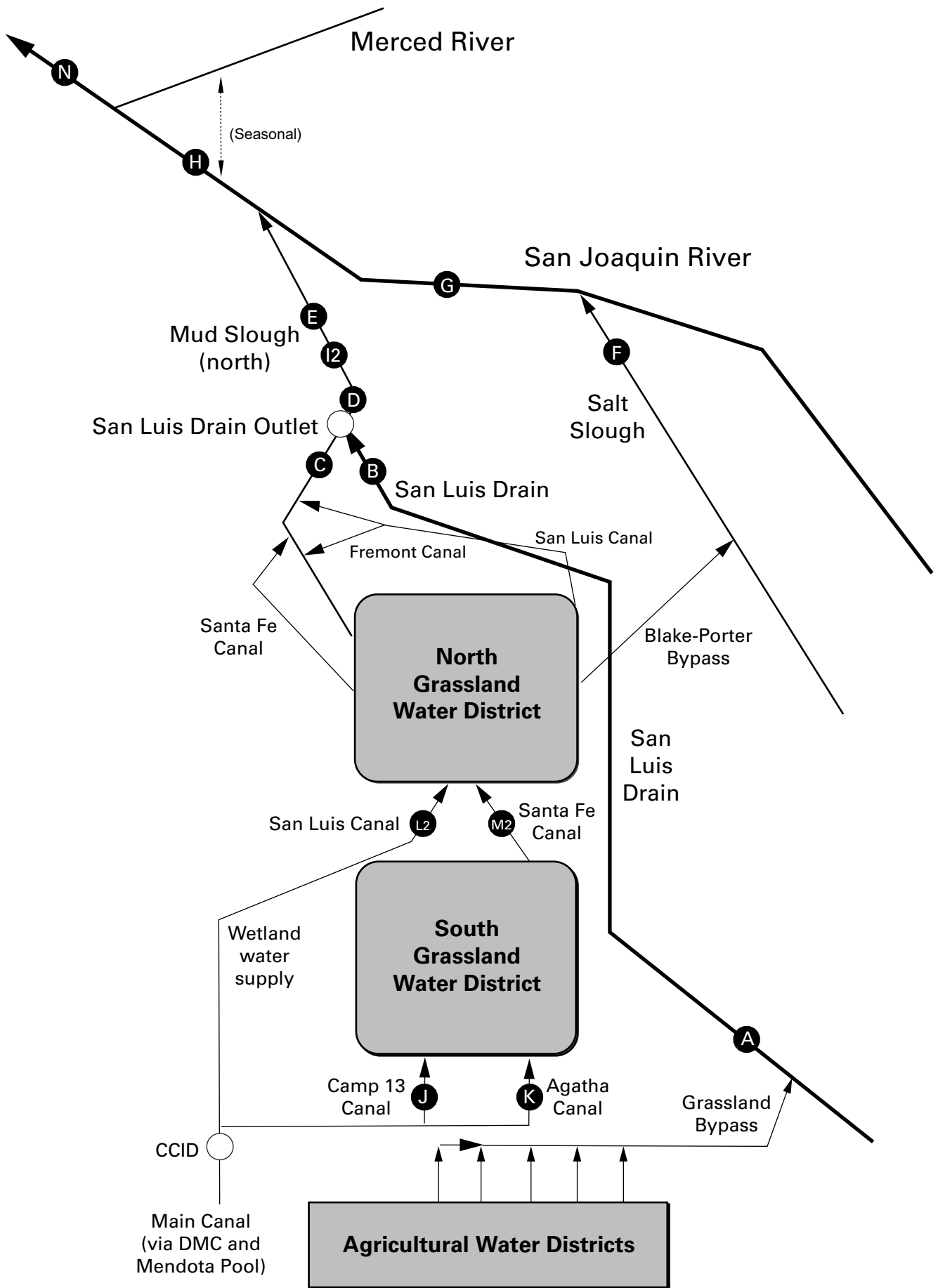
Preliminary Results

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), October 2005.

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Specific Conductance
DATA SOURCE	SLDMWA	SLDMWA
UNITS	cfs	µS/cm
Oct-01-2005	13	5,370
Oct-02-2005	13	5,370
Oct-03-2005	12	5,670
Oct-04-2005	13	5,730
Oct-05-2005	14	5,680
Oct-06-2005	15	5,340
Oct-07-2005	15	5,280
Oct-08-2005	12	5,270
Oct-09-2005	10	5,250
Oct-10-2005	9	5,340
Oct-11-2005	9	5,410
Oct-12-2005	9	5,250
Oct-13-2005	11	5,500
Oct-14-2005	16	4,470
Oct-15-2005	16	4,120
Oct-16-2005	16	4,630
Oct-17-2005	16	3,990
Oct-18-2005	15	3,990
Oct-19-2005	15	4,550
Oct-20-2005	14	4,520
Oct-21-2005	13	5,100
Oct-22-2005	13	5,340
Oct-23-2005	13	5,340
Oct-24-2005	13	5,300
Oct-25-2005	13	5,360
Oct-26-2005	14	5,410
Oct-27-2005	14	5,710
Oct-28-2005	14	5,400
Oct-29-2005	13	5,230
Oct-30-2005	13	5,210
Oct-31-2005	12	5,140
Mean	13	5,140

Table 2a. Continuous water monitoring at Stations B and B2 (San Luis Drain Terminus), October 2005.

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
Oct-01-2005	18	23.1	7.3	4,410	48.8	4.8
Oct-02-2005	17	22.7	6.9	4,120	42.0	3.9
Oct-03-2005	17	21.1	7.2	4,350	40.4	3.8
Oct-04-2005	16	19.4	7.6	4,630	41.8	3.6
Oct-05-2005	17	18.8	7.5	4,550	39.4	3.7
Oct-06-2005	19	19.3	7.4	4,560	37.9	3.8
Oct-07-2005	20	20.0	7.2	4,610	37.5	4.1
Oct-08-2005	19	19.5	7.5	4,690	39.0	4.1
Oct-09-2005	19	19.0	7.4	4,600	40.5	4.0
Oct-10-2005	17	19.5	8.0	4,780	43.4	4.1
Oct-11-2005	17	19.7	8.5	4,940	45.5	4.3
Oct-12-2005	17	20.0	8.3	4,950	43.4	4.1
Oct-13-2005	18	20.7	7.5	4,680	40.5	4.0
Oct-14-2005	19	20.7	7.6	4,520	36.2	3.7
Oct-15-2005	21	19.9	6.8	4,110	29.0	3.3
Oct-16-2005	23	18.1	6.3	4,060	25.8	3.2
Oct-17-2005	23	18.5	5.9	4,090	25.2	3.2
Oct-18-2005	23	18.8	6.0	4,020	24.6	3.1
Oct-19-2005	23	19.1	6.5	4,190	31.6	3.9
Oct-20-2005	22	19.0	5.4	3,700	25.6	3.0
Oct-21-2005	22	19.3	5.9	3,830	29.2	3.4
Oct-22-2005	21	19.8	5.9	3,900	30.2	3.4
Oct-23-2005	21	19.9	5.4	3,630	23.7	2.6
Oct-24-2005	21	19.9	5.3	3,620	24.2	2.7
Oct-25-2005	20	19.7	5.8	4,020	30.9	3.4
Oct-26-2005	21	19.2	5.0	3,970	34.2	3.8
Oct-27-2005	21	18.6	5.7	4,270	41.2	4.7
Oct-28-2005	21	17.6	6.4	4,500	47.9	5.5
Oct-29-2005	21	17.5	6.4	4,500	49.4	5.5
Oct-30-2005	21	17.2	6.6	4,430	48.4	5.4
Oct-31-2005	21	17.0	7.0	4,520	52.8	5.9
Mean	20	19.4	6.7	4,310	37.1	3.9
Total Acre-feet	1,220					
Total (lbs)						122

Load Limitation for October 2005 (lbs)	328
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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.

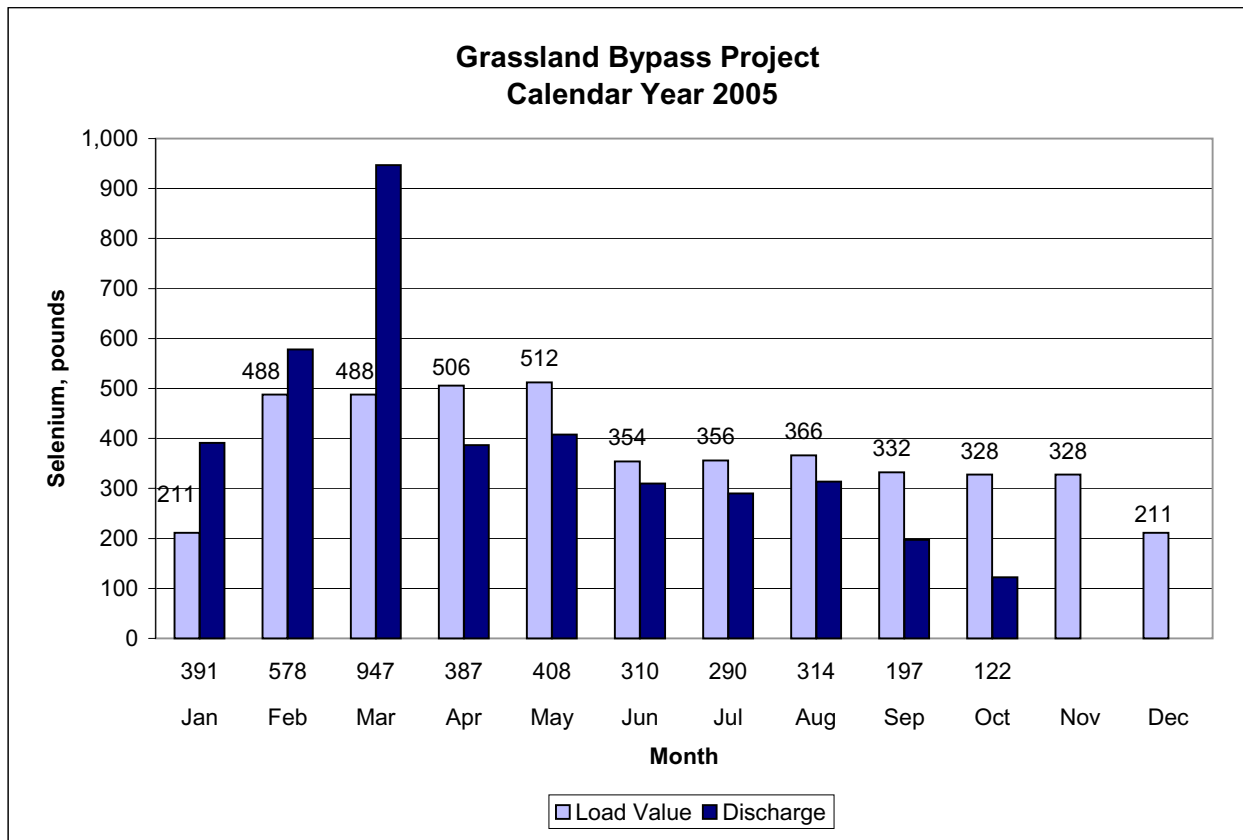


Table 3. Continuous water monitoring at Station D (Mud Slough North downstream of drainage discharges), October 2005.

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
Oct-01-2005	54	22.8	2,120
Oct-02-2005	55	21.8	2,090
Oct-03-2005	71	19.8	1,750
Oct-04-2005	71	18.1	1,760
Oct-05-2005	93	17.7	1,590
Oct-06-2005	98	18.5	1,600
Oct-07-2005	117	19.4	1,430
Oct-08-2005	138	18.7	1,310
Oct-09-2005	134	18.4	1,350
Oct-10-2005	142	18.7	1,290
Oct-11-2005	137	19.3	1,380
Oct-12-2005	139	19.7	1,400
Oct-13-2005	152	20.3	1,350
Oct-14-2005	170	20.6	1,330
Oct-15-2005	164	19.3	1,400
Oct-16-2005	174	17.4	1,370
Oct-17-2005	162	18.1	1,430
Oct-18-2005	179	18.8	1,330
Oct-19-2005	197	18.9	1,300
Oct-20-2005	194	18.9	1,300
Oct-21-2005	219	19.2	1,200
Oct-22-2005	236	19.6	1,190
Oct-23-2005	227	19.7	1,190
Oct-24-2005	225	19.5	1,200
Oct-25-2005	214	19.2	1,260
Oct-26-2005	189	18.6	1,430
Oct-27-2005	181	17.5	1,460
Oct-28-2005	180	16.5	1,530
Oct-29-2005	174	16.9	1,540
Oct-30-2005	173	16.6	1,540
Oct-31-2005	169	16.4	1,550
Mean	156	18.9	1,450

Table 4. Continuous water monitoring at Station F (Salt Slough at Highway 165), October 2005.

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
Oct-01-2005	105	22.6	1,190
Oct-02-2005	98	21.7	1,120
Oct-03-2005	104	19.6	1,120
Oct-04-2005	103	18.1	1,110
Oct-05-2005	103	17.7	1,130
Oct-06-2005	87	18.5	1,150
Oct-07-2005	79	19.2	1,300
Oct-08-2005	83	18.1	1,320
Oct-09-2005	92	18.0	1,250
Oct-10-2005	98	18.3	1,230
Oct-11-2005	102	18.9	1,170
Oct-12-2005	116	19.1	1,180
Oct-13-2005	118	19.6	1,170
Oct-14-2005	114	19.7	1,230
Oct-15-2005	108	18.5	1,160
Oct-16-2005	115	17.3	1,150
Oct-17-2005	117	17.8	1,130
Oct-18-2005	120	18.3	1,090
Oct-19-2005	129	18.3	1,050
Oct-20-2005	135	18.5	1,050
Oct-21-2005	125	18.6	1,070
Oct-22-2005	165	18.9	1,060
Oct-23-2005	195	19.0	975
Oct-24-2005	193	19.0	974
Oct-25-2005	181	18.6	1,020
Oct-26-2005	182	17.9	1,060
Oct-27-2005	180	17.1	1,100
Oct-28-2005	172	16.3	1,120
Oct-29-2005	176	16.6	1,160
Oct-30-2005	172	16.3	1,190
Oct-31-2005	171	16.1	1,210
Mean	130	18.5	1,140

Table 5. Continuous water monitoring at Station N (San Joaquin River at Crow's Landing), October 2005.

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
Oct-01-2005	1,100	20.4	564	0.9
Oct-02-2005	946	20.2	697	0.9
Oct-03-2005	850	19.1	806	1.2
Oct-04-2005	792	18.1	870	1.2
Oct-05-2005	744	17.7	859	1.0
Oct-06-2005	779	18.2	895	1.1
Oct-07-2005	766	18.9	NA	NA
Oct-08-2005	785	19.1	NA	NA
Oct-09-2005	818	18.6	NA	NA
Oct-10-2005	867	18.5	NA	NA
Oct-11-2005	806	18.8	NA	NA
Oct-12-2005	859	19.0	NA	NA
Oct-13-2005	917	19.3	NA	NA
Oct-14-2005	948	19.5	698	1.0
Oct-15-2005	929	19.0	706	1.0
Oct-16-2005	912	17.4	747	1.0
Oct-17-2005	1,010	17.6	721	0.8
Oct-18-2005	1,010	18.1	682	0.8
Oct-19-2005	977	18.4	733	0.8
Oct-20-2005	1,010	18.2	717	0.8
Oct-21-2005	1,030	18.1	682	0.9
Oct-22-2005	1,010	18.5	694	0.8
Oct-23-2005	1,020	18.6	751	1.0
Oct-24-2005	1,050	18.5	722	0.9
Oct-25-2005	1,010	18.4	716	0.8
Oct-26-2005	985	18.0	768	0.7
Oct-27-2005	1,010	17.5	751	0.8
Oct-28-2005	1,030	16.6	NA	NA
Oct-29-2005	1,030	16.6	NA	NA
Oct-30-2005	1,050	16.3	NA	NA
Oct-31-2005	1,070	15.8	NA	NA
Mean	940	18.3	740	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	.	.	.
Aug-03-2005	45	.	.	4,160	P	.	.	.
Aug-10-2005	43	.	.	3,840	160	.	.	.
Aug-17-2005	54	.	.	3,290	160	.	.	.
Aug-24-2005	48	.	.	3,970	140	.	.	.
Aug-31-2005	44	.	.	4,150	P	.	.	.
Sep-07-2005	28	.	.	5,070	P	.	.	.
Sep-14-2005	23	.	.	4,520	26	.	.	.
Sep-21-2005	32	.	.	4,400	P	.	.	.
Sep-28-2005	14	.	.	5,510	36	.	.	.
Oct-05-2005	14	.	.	6,140	18	.	.	.
Oct-12-2005	9	.	.	5,200	12	.	.	.
Oct-19-2005	15	.	.	4,690	71	.	.	.
Oct-26-2005	14	.	.	5,630	78	.	.	.

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
Aug-02-2005	47	.	.	4,090	.	31.2	.	7.8
Aug-09-2005	40	.	.	4,440	.	43.4	.	8.8
Aug-16-2005	54	.	.	3,990	.	37.2	.	6.1
Aug-23-2005	54	.	.	3,810	.	35.7	.	P
Sep-02-2005	45	.	.	4,420	.	44.4	.	7.9
Sep-06-2005	32	.	.	4,420	.	45.2	.	8.0
Sep-13-2005	26	.	.	4,120	.	44.6	.	6.3
Sep-20-2005	25	.	.	4,490	.	50.3	.	7.0
Sep-27-2005	15	.	.	4,820	.	59.0	.	P
Oct-04-2005	13	.	.	5,760	.	62.0	.	11.0
Oct-11-2005	9	.	.	5,410	.	59.2	.	9.7
Oct-18-2005	15	.	.	4,560	.	46.4	.	7.5
Oct-25-2005	13	.	.	5,440	.	75.2	.	9.3

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
Aug-04-2005	47	27.0	8.2	3,940	42	30.0	7.7
Aug-11-2005	46	26.7	8.4	4,670	46	41.8	8.4
Aug-18-2005	57	24.4	8.0	3,790	P	35.4	6.5
Aug-25-2005	50	25.0	8.4	3,490	33	36.2	6.1
Sep-01-2005	47	24.0	7.6	4,600	34	46.2	8.4
Sep-08-2005	30	23.1	8.4	4,910	P	48.4	8.4
Sep-15-2005	26	20.5	7.6	3,850	47	36.7	5.9
Sep-22-2005	32	22.6	8.3	4,130	39	46.4	6.9
Sep-29-2005	17	21.2	7.9	4,250	40	43.6	P
Oct-06-2005	19	17.9	8.0	4,640	44	37.0	6.9
Oct-13-2005	18	19.2	7.1	4,760	46	41.7	8.3
Oct-20-2005	22	18.0	8.4	3,650	53	25.1	5.3
Oct-27-2005	21	18.3	8.1	4,220	41	37.2	6.1

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
Aug-04-2005	19	25.7	8.5	1,130	.	1.4	1.3
Aug-11-2005	23	27.3	8.4	1,110	.	0.8	1.2
Aug-18-2005	11	23.2	8.3	1,170	.	0.6	1.1
Aug-25-2005	10	22.2	8.0	1,110	.	0.5	1.0
Sep-01-2005	24	21.9	8.0	874	.	0.5	0.9
Sep-08-2005	16	21.8	8.1	784	.	0.6	0.5
Sep-15-2005	36	19.3	7.9	652	.	<0.4	0.4
Sep-22-2005	24	22.4	8.0	854	.	<0.4	0.6
Sep-29-2005	36	20.1	7.8	872	.	<0.4	P
Oct-06-2005	-1	17.0	7.8	771	.	<0.4	0.6
Oct-13-2005	35	18.5	7.9	808	.	<0.4	0.6
Oct-20-2005	172	18.2	7.7	864	.	<0.4	0.6
Oct-27-2005	32	17.2	7.5	1,020	.	<0.4	0.8

** 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
Aug-04-2005	66	26.1	8.5	3,190	21.8	5.8
Aug-11-2005	69	26.6	8.5	3,240	23.6	5.5
Aug-18-2005	67	24.1	8.2	3,470	28.9	5.7
Aug-25-2005	59	24.2	7.9	3,000	27.0	5.1
Sep-01-2005	71	22.9	7.9	3,050	27.0	5.0
Sep-08-2005	46	22.0	8.0	2,970	22.7	4.6
Sep-15-2005	62	19.6	7.9	1,930	12.8	2.4
Sep-22-2005	56	22.1	8.0	2,700	21.2	3.8
Sep-29-2005	53	20.3	8.0	2,160	15.0	P
Oct-06-2005	98	17.1	7.7	1,550	7.1	1.8
Oct-13-2005	152	18.5	7.9	1,370	5.8	1.6
Oct-20-2005	194	18.1	7.6	1,260	3.6	1.3
Oct-27-2005	181	17.3	7.3	1,430	4.0	1.4

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
Aug-04-2005	.	8.4	3,380	20	20.2	5.9
Aug-11-2005	.	8.6	3,320	22	23.8	5.9
Aug-15-2005	.	8.3	3,520	42	31.9	6.4
Aug-23-2005	.	8.3	3,180	21	27.6	5.5
Aug-31-2005	.	8.1	3,270	25	30.4	5.4
Sep-07-2005	.	8.2	2,540	47	17.0	4.0
Sep-13-2005	.	8.2	2,180	94	16.5	3.3
Sep-20-2005	.	8.1	1,870	20	10.4	2.5
Sep-27-2005	.	8.1	2,140	17	18.4	2.8
Oct-04-2005	.	7.8	1,980	16	8.3	2.4
Oct-12-2005	.	7.5	1,440	18	5.4	1.6
Oct-20-2005	.	7.7	1,360	21	3.7	1.3
Oct-28-2005	.	7.7	1,620	11	5.7	1.6

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
Aug-04-2005	159	25.6	7.7	945	0.8	0.5
Aug-11-2005	190	24.8	7.6	866	0.6	0.4
Aug-18-2005	172	23.8	7.4	940	0.6	0.5
Aug-25-2005	146	23.3	7.7	970	0.5	0.5
Sep-01-2005	154	22.8	7.7	962	0.6	0.5
Sep-08-2005	143	21.3	7.9	1,020	0.7	0.4
Sep-15-2005	148	19.1	7.9	925	0.6	0.4
Sep-22-2005	174	21.3	7.8	833	0.5	0.5
Sep-29-2005	103	19.9	7.7	1,100	0.5	P
Oct-06-2005	87	16.1	6.5	1,070	<0.4	0.6
Oct-13-2005	118	18.0	7.4	1,150	<0.4	0.6
Oct-20-2005	135	17.1	7.8	1,010	<0.4	0.6
Oct-27-2005	180	16.9	7.4	1,060	0.5	0.7

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
Aug-03-2005	15	.	.	348	1.3	0.3
Aug-10-2005	15	.	.	334	0.8	0.3
Aug-17-2005	15	.	.	368	0.7	0.2
Aug-24-2005	15	.	.	374	0.7	0.3
Aug-31-2005	15	.	.	400	0.7	0.3
Sep-07-2005	55	.	.	480	1.0	0.3
Sep-14-2005	55	.	.	417	0.6	0.3
Sep-21-2005	80	.	.	418	0.5	0.3
Sep-28-2005	165	.	.	419	0.7	0.2
Oct-05-2005	200	.	.	368	<0.4	0.2
Oct-12-2005	200	.	.	387	<0.4	0.2
Oct-19-2005	200	.	.	386	2.3	0.2
Oct-26-2005	200	.	.	442	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
Aug-03-2005	15	.	.	343	0.8	0.2
Aug-10-2005	15	.	.	402	0.9	0.2
Aug-17-2005	15	.	.	381	0.7	0.2
Aug-24-2005	40	.	.	374	1.4	1.5
Aug-31-2005	55	.	.	376	0.7	0.2
Sep-07-2005	90	.	.	409	1.1	0.2
Sep-14-2005	120	.	.	415	0.8	0.2
Sep-21-2005	120	.	.	447	0.5	0.3
Sep-28-2005	200	.	.	400	0.5	0.2
Oct-05-2005	220	.	.	363	0.5	0.2
Oct-12-2005	205	.	.	398	0.5	0.2
Oct-19-2005	120	.	.	399	0.5	0.2
Oct-26-2005	80	.	.	457	0.5	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
Aug-03-2005	5	.	.	1,030	1.7	1.2
Aug-10-2005	5	.	.	1,380	2.1	1.5
Aug-17-2005	5	.	.	958	1.4	0.9
Aug-24-2005	70	.	.	1,560	2.5	1.8
Aug-31-2005	110	.	.	582	1.0	0.4
Sep-07-2005	145	.	.	667	1.3	0.5
Sep-14-2005	145	.	.	498	0.9	0.4
Sep-21-2005	145	.	.	471	0.6	0.3
Sep-28-2005	160	.	.	504	0.7	0.3
Oct-05-2005	160	.	.	427	0.7	0.2
Oct-12-2005	135	.	.	389	<0.4	0.2
Oct-19-2005	50	.	.	400	0.5	0.2
Oct-26-2005	0	.	.	500	0.6	0.3

Table 15. Weekly water quality monitoring at Station M2 (Santa Fe Canal at weir).

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	.	.	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	SLDMWA^{††}	.	.	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	.	.	µS/cm	µg/L	mg/L
Aug-03-2005	77	.	.	917	1.5	1.6
Aug-10-2005	65	.	.	973	1.3	1.7
Aug-17-2005	97	.	.	899	1.0	1.2
Aug-24-2005	19	.	.	987	0.7	0.2
Aug-31-2005	3	.	.	897	1.1	0.9
Sep-07-2005	0	.	.	919	1.0	0.8
Sep-14-2005	1	.	.	784	1.0	0.7
Sep-21-2005	63	.	.	640	1.0	0.5
Sep-28-2005	68	.	.	561	0.7	0.4
Oct-05-2005	69	.	.	521	0.6	0.3
Oct-12-2005	60	.	.	553	0.5	0.4
Oct-19-2005	60	.	.	635	0.5	0.5
Oct-26-2005	130	.	.	800	0.5	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
Aug-03-2005	.	.	.	278	0.8	0.2
Aug-10-2005	.	.	.	335	0.8	0.2
Aug-17-2005	.	.	.	368	0.8	0.2
Aug-24-2005	.	.	.	406	0.8	0.3
Aug-31-2005	.	.	.	460	1.0	0.3
Sep-07-2005	.	.	.	395	1.0	0.2
Sep-14-2005	.	.	.	409	0.7	0.2
Sep-21-2005	.	.	.	444	0.6	0.2
Sep-28-2005	.	.	.	466	0.6	0.2
Oct-05-2005	.	.	.	365	<0.4	0.2
Oct-12-2005	.	.	.	372	0.7	0.2
Oct-19-2005	.	.	.	390	0.5	0.2
Oct-26-2005	.	.	.	409	0.5	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
Aug-04-2005	269	26.4	7.7	1,120	0.6	0.4
Aug-11-2005	247	26.5	7.9	1,010	0.5	0.4
Aug-18-2005	291	24.9	8.0	972	0.5	0.4
Aug-25-2005	224	24.3	7.5	946	<0.4	0.4
Sep-01-2005	203	23.2	7.9	1,010	0.5	0.5
Sep-08-2005	193	22.4	7.2	1,040	0.7	0.4
Sep-15-2005	188	19.8	7.3	970	0.5	0.4
Sep-22-2005	218	22.1	7.1	771	<0.4	0.4
Sep-29-2005	160	20.5	7.4	1,090	0.5	P
Oct-06-2005	162	17.0	7.2	997	<0.4	0.4
Oct-13-2005	162	18.1	7.8	1,150	<0.4	0.5
Oct-20-2005	159	17.6	7.8	1,090	<0.4	0.5
Oct-27-2005	223	17.1	7.2	952	0.4	0.6

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
Aug-02-2005	.	.	.	NA	4.0	1.6
Aug-11-2005	.	.	.	NA	5.3	1.5
Aug-16-2005	.	.	.	NA	5.2	1.5
Aug-23-2005	.	.	.	NA	5.7	1.4
Aug-30-2005	.	.	.	NA	6.5	1.7
Sep-13-2005	.	.	.	NA	5.0	1.4
Sep-27-2005	.	.	.	NA	3.4	1.0
Oct-04-2005	.	.	.	NA	2.6	1.0
Oct-11-2005	.	.	.	NA	2.0	0.8
Oct-18-2005	.	.	.	NA	2.1	1.0
Oct-25-2005	.	.	.	NA	1.3	0.7

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
Aug-04-2005	1,070	24.5	7.7	778	1.6	0.6
Aug-11-2005	1190	24.0	7.9	673	1.9	0.5
Aug-18-2005	1,340	22.6	7.9	621	1.7	0.5
Aug-25-2005	1,440	21.8	7.6	538	1.8	0.5
Sep-01-2005	1,020	22.5	7.8	822	2.4	0.7
Sep-08-2005	1,010	21.4	7.5	690	1.4	0.4
Sep-15-2005	1,290	18.8	7.6	474	1.1	0.3
Sep-22-2005	1,340	20.5	7.6	496	0.9	0.3
Sep-29-2005	1,290	19.0	7.6	479	0.9	P
Oct-06-2005	779	17.6	7.4	870	1.2	0.5
Oct-13-2005	917	18.5	8.1	692	1.0	0.4
Oct-20-2005	1,010	17.9	7.7	706	0.9	0.4
Oct-27-2005	1,010	17.2	7.6	751	0.9	0.5

Table 20. Summary of fathead minnow (*Pimephales promelas*) larvae survival in 7-day tests using water samples collected from November 2004 to October 2005. 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	%	%	%	%	%	%
Nov-2004	95	98	58*	88	98	98
Dec-2004	100	68*	75*	98	98	100
Jan-2005	98	85	80	100	100	98
Feb-2005	95	88	98	80	90	98
Mar-2005	88	73	93	83	85	73†
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

Table 21. Summary of fathead minnow (*Pimephales promelas*) larvae growth in 7-day tests using water samples collected from November 2004 to October 2005. 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
Nov-2004	0.58	0.62	0.41*	0.62	0.62	0.71
Dec-2004	0.58	0.47	0.53	0.66	0.54	0.48
Jan-2005	0.62	0.57	0.51	0.61	0.54	0.46
Feb-2005	0.76	0.62	0.69	0.63	0.62	0.54
Mar-2005	0.41	0.38	0.49	0.44	0.46	0.35
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

Table 22. Summary of *Daphnia magna* survival in 7-day tests using water samples collected from November 2004 to October 2005. 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	%	%	%	%	%	%
Nov-2004	80	70	90	80	100	80
Dec-2004	100	100	90	90	80	100
Jan-2005	100	90	80	100	100	90
Feb-2005	80	100	100	90	100	30†
Mar-2005	80	100	90	100	100	90
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

Table 23. Summary of *Daphnia magna* reproduction in 7-day tests using water samples collected from November 2004 to October 2005. 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
Nov-2004	37.0	28.3	44.6	41.8	35.9	27.0
Dec-2004	30.8	30.8	32.8	34.4	26.6	31.1
Jan-2005	41.7	38.8	40.2	45.9	47.6	34.7
Feb-2005	15.2	13.6	17.3	8.5	12.2	4.0
Mar-2005	37.4	38.9	42.4	38.8	31.6	44.0
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

Table 24. Summary of *Selenastrum capricornutum* growth in 4-day tests using water samples collected from November 2004 to October 2005. 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
Nov-2004	18.5	21.1	20.4	22.0	16.5	17.6
Dec-2004	0.9*	10.4	12.2	23.4	3.5	15.6
Jan-2005	1.3*	12.7	10.6*	18.0	13.7	16.2
Feb-2005	13.7	17.7	19.5	10.7*	13.1	22.4
Mar-2005	14.9	20.1	19.7	20.7	11.5	16.0
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

Table 25. Summary of selenium concentrations in grab water samples collected at study stations for use in laboratory toxicity tests, August 2005 to October 2005.

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
Aug-15-2005	45	0.4	31	0.8	<0.4
Aug-17-2005	38	0.6	31	0.5	<0.4
Aug-19-2005	38	0.6	26	0.4	<0.4
Sep-12-2005	47	<0.4	29	0.6	<0.4
Sep-14-2005	34	<0.4	10	0.5	<0.4
Sep-16-2005	45	0.5	14	0.6	0.4
Oct-10-2005	40	<0.4	4.5	<0.4	<0.4
Oct-12-2005	41	<0.4	5.1	<0.4	<0.4
Oct-14-2005	35	0.5	4.2	<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, August 2005 to October 2005.

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
Aug-15-2005	34	117	42	175	30
Aug-17-2005	35	81	49	162	1
Aug-19-2005	70	129	98	190	24
Sep-12-2005	15	379	83	145	5
Sep-14-2005	7	63	121	64	5
Sep-16-2005	24	89	89	91	7
Oct-10-2005	60	22	34	14	14
Oct-12-2005	40	27	24	66	9
Oct-14-2005	62	23	20	42	7

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