

GRASSLAND BYPASS PROJECT

QUARTERLY DATA REPORT

October 1997

December 1997

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

GRASSLAND BYPASS PROJECT

MONTHLY DATA REPORT

LIST OF TABLES FOR MONTHLY REPORT**Continuous Monitoring**

1. Continuous water monitoring at Station A (inflow to San Luis Drain), October 1997.
2. Continuous water monitoring at Station B (discharge from San Luis Drain), October 1997.
3. Continuous water monitoring at Station D (Mud Slough North downstream of drainage discharges), October 1997.
4. Continuous water monitoring at Station F (Salt Slough at Highway 165), October 1997.
5. Continuous water monitoring at Station N (San Joaquin River at Crow's Landing), October 1997.

Weekly Monitoring

6. Weekly water quality monitoring at Station A (inflow to San Luis Drain), 1997.
7. Weekly water quality monitoring at Station B (discharge from San Luis Drain), 1997.
8. Weekly water quality monitoring at Station C (Mud Slough North upstream of drainage discharge), 1997.
9. Weekly water quality monitoring at Station D (Mud Slough North downstream of drainage discharge), 1997.
10. Weekly water quality monitoring at Station F (Salt Slough at Lander Avenue), 1997.
11. Weekly water quality monitoring at Station G (San Joaquin River at Fremont Ford), 1997.
12. Weekly water quality monitoring at Station H (San Joaquin River at Hills Ferry), 1997.
13. Weekly water quality monitoring at Station J (Camp 13 Ditch), 1997.
14. Weekly water quality monitoring at Station K (Agatha Canal), 1997.
15. Weekly water quality monitoring at Station L (San Luis Canal at Henry Miller Road), 1997.
16. Weekly water quality monitoring at Station M (Santa Fe Canal at Henry Miller Road), 1997.
17. Weekly water quality monitoring at Station N (San Joaquin River at Crow's Landing), 1997.

Monthly Monitoring

18. Summary of fathead minnow (*Pimephales promelas*) larvae survival in 7-day tests using water samples collected from November 1996 to October 1997. Each value is the mean of 4 replicates with 10 fish in each replicate.
19. Summary of fathead minnow (*Pimephales promelas*) larvae growth in 7-day tests using water samples collected from November 1996 to October 1997. Each value is the mean of 4 replicates with 10 fish in each replicate.
20. Summary of *Daphnia magna* survival in 7-day tests using water samples collected from November 1996 to October 1997. Each value is the mean of 10 replicates with 1 animal in each replicate.
21. Summary of *Daphnia magna* reproduction in 7-day tests using water samples collected from November 1996 to October 1997. Each value is the mean of 10 replicates with 1 animal in each replicate.
22. Summary of *Selenastrum capricornutum* growth in 4-day tests using water samples collected from November 1996 to October 1997. Each value is the mean of 4 replicates.
23. Summary of selenium concentrations in grab water samples collected at study sites for use in laboratory toxicity tests, July 1997 to October 1997.
24. Summary of sulfate concentrations in grab water samples collected at study sites for use in laboratory toxicity tests, July 1997 to October 1997.

Quarterly Monitoring

25. Summary of quarterly in situ bioassay results from December 1995 to August 1997.
26. Explanations of footnotes and agency abbreviations.

Table 1. Continuous water monitoring at Station A (inflow to San Luis Drain), October 1997.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow
DATA SOURCE	USBR
UNITS	cfs
Oct-01-1997	23.2
Oct-02-1997	29.8
Oct-03-1997	29.1
Oct-04-1997	27.4
Oct-05-1997	24.5
Oct-06-1997	21.2
Oct-07-1997	22.1
Oct-08-1997	22.0
Oct-09-1997	23.4
Oct-10-1997	22.5
Oct-11-1997	20.7
Oct-12-1997	20.1
Oct-13-1997	18.9
Oct-14-1997	17.5
Oct-15-1997	22.6
Oct-16-1997	20.5
Oct-17-1997	19.2
Oct-18-1997	21.0
Oct-19-1997	19.8
Oct-20-1997	18.0
Oct-21-1997	18.4
Oct-22-1997	17.5
Oct-23-1997	19.0
Oct-24-1997	20.7
Oct-25-1997	24.4
Oct-26-1997	25.3
Oct-27-1997	25.2
Oct-28-1997	23.0
Oct-29-1997	18.7
Oct-30-1997	18.8
Oct-31-1997	18.7

Table 2. Continuous water monitoring at Station B (discharge from San Luis Drain), October 1997.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	Specific Conductance	Selenium (total)	Selenium (total) Load
DATA SOURCE	USBR	USBR	CVRWQCB	CVRWQCB	Computed
UNITS	cfs	°C	µS/cm	µg/l	lbs
Oct-01-1997	16.3	23.5	4,510	44.4	3.9
Oct-02-1997	27.5	23.2	4,670	45.2	6.7
Oct-03-1997	36.5	22.1	4,650	36.4	7.2
Oct-04-1997	31.1	21.9	4,300	37.8	6.3
Oct-05-1997	29.3	21.5	4,620	67.9	10.7
Oct-06-1997	30.0	20.4	4,520	55.6	9.0
Oct-07-1997	33.9	19.2	4,970	64.9	11.9
Oct-08-1997	33.7	18.4	4,820	60.7	11.0
Oct-09-1997	28.8	18.3	4,660	52.7	8.2
Oct-10-1997	34.1	18.0	4,500	54.3	10.0
Oct-11-1997	31.0	17.3	4,390	55.6	9.3
Oct-12-1997	28.6	16.4	4,710	63.0	9.7
Oct-13-1997	28.6	16.8	4,390	52.4	8.1
Oct-14-1997	26.6	17.5	4,590	46.2	6.6
Oct-15-1997	26.8	18.1	5,100	45.0	6.5
Oct-16-1997	30.2	19.1	5,440	48.2	7.9
Oct-17-1997	28.2	19.7	5,560	55.7	8.5
Oct-18-1997	27.2	20.0	5,490	43.6	6.4
Oct-19-1997	27.7	20.1	5,370	39.2	5.9
Oct-20-1997	26.5	19.4	5,170	34.5	4.9
Oct-21-1997	25.8	19.0	5,270	42.2	5.9
Oct-22-1997	25.2	19.0	5,300	58.0	7.9
Oct-23-1997	24.4	18.8	5,280	64.6	8.5
Oct-24-1997	25.3	16.9	5,150	59.3	8.1
Oct-25-1997	26.9	15.6	5,080	56.4	8.2
Oct-26-1997	30.4	16.0	5,260	59.4	9.7
Oct-27-1997	30.5	16.1	5,330	52.6	8.7
Oct-28-1997	31.4	16.1	5,200	51.3	8.7
Oct-29-1997	29.5	16.1	5,160	57.0	9.1
Oct-30-1997	26.9	16.7	5,070	51.8	7.5
Oct-31-1997	26.4	17.5	4,500	50.0	7.1
Mean	28.6	18.7	4951	51.9	
Total					248

Load Limitation for October 1997 (lbs)	348
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**Table 3. Continuous water monitoring at Station D
(Mud Slough North downstream of drainage discharges), October 1997.**

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	Specific Conductance
DATA SOURCE	usgs	usgs	usgs
UNITS	cfs	°C	µS/cm
Oct-01-1997	77	24.0	1,720
Oct-02-1997	100	22.5	1,940
Oct-03-1997	129	21.4	1,950
Oct-04-1997	141	22.0	1,610
Oct-05-1997	153	21.0	1,540
Oct-06-1997	168	19.6	1,550
Oct-07-1997	153	17.9	1,780
Oct-08-1997	135	17.5	1,580
Oct-09-1997	117	18.0	1,650
Oct-10-1997	126	17.4	1,950
Oct-11-1997	122	16.4	1,920
Oct-12-1997	119	15.7	1,900
Oct-13-1997	131	16.7	1,790
Oct-14-1997	132	17.9	1,740
Oct-15-1997	136	19.0	1,760
Oct-16-1997	149	19.9	1,920
Oct-17-1997	151	20.4	1,900
Oct-18-1997	146	20.4	1,950
Oct-19-1997	142	20.3	1,960
Oct-20-1997	144	18.9	1,920
Oct-21-1997	141	18.9	1,870
Oct-22-1997	136	19.0	1,970
Oct-23-1997	130	18.7	1,990
Oct-24-1997	128	16.0	2,020
Oct-25-1997	125	14.5	2,100
Oct-26-1997	123	15.6	2,260
Oct-27-1997	125	15.9	2,350
Oct-28-1997	126	15.6	2,310
Oct-29-1997	126	16.0	2,300
Oct-30-1997	118	17.1	2,270
Oct-31-1997	115	18.2	2,200

Table 4. Continuous water monitoring at Station F (Salt Slough at Highway 165), October 1997.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	Specific Conductance
DATA SOURCE	usgs	usgs	usgs
UNITS	cfs	°C	µS/cm
Oct-01-1997	131	23.1	960
Oct-02-1997	135	21.7	1,010
Oct-03-1997	147	20.3	933
Oct-04-1997	142	20.8	985
Oct-05-1997	141	20.1	957
Oct-06-1997	e137	18.8	974
Oct-07-1997	e126	17.1	1,050
Oct-08-1997	e115	16.7	1,030
Oct-09-1997	e105	17.4	1,220
Oct-10-1997	e90	16.8	1,400
Oct-11-1997	e94	15.7	1,260
Oct-12-1997	e98	15.2	1,170
Oct-13-1997	e102	16.0	1,260
Oct-14-1997	e107	16.9	1,190
Oct-15-1997	e110	17.9	1,250
Oct-16-1997	110	18.8	1,380
Oct-17-1997	115	19.1	1,330
Oct-18-1997	115	19.2	1,310
Oct-19-1997	116	18.9	1,330
Oct-20-1997	115	17.4	1,340
Oct-21-1997	134	17.4	1,220
Oct-22-1997	118	17.6	1,290
Oct-23-1997	116	17.5	1,310
Oct-24-1997	123	15.4	1,280
Oct-25-1997	125	14.1	1,300
Oct-26-1997	121	14.7	1,370
Oct-27-1997	124	14.9	1,390
Oct-28-1997	114	14.6	1,410
Oct-29-1997	125	14.7	1,360
Oct-30-1997	125	16.1	1,310
Oct-31-1997	117	17.3	1,330

Table 5. Continuous water monitoring at Station N (San Joaquin River at Crow's Landing), October 1997.

See Table 26 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-01-1997	483	23.7	950	1.3
Oct-02-1997	514	23.3	898	1.4
Oct-03-1997	534	21.9	930	1.8
Oct-04-1997	554	21.5	1,061	2.9
Oct-05-1997	655	21.0	932	2.2
Oct-06-1997	e660	NP	865	2.2
Oct-07-1997	e670	NP	874	2.8
Oct-08-1997	e665	NP	893	3.1
Oct-09-1997	e658	NP	999	4.1
Oct-10-1997	e640	NP	1,068	3.4
Oct-11-1997	e625	NP	1,168	3.1
Oct-12-1997	e608	NP	1,133	3.6
Oct-13-1997	e624	NP	972	3.0
Oct-14-1997	e621	NP	1,004	3.2
Oct-15-1997	e645	NP	1,018	2.6
Oct-16-1997	e648	NP	1,047	2.4
Oct-17-1997	e650	NP	1,089	2.4
Oct-18-1997	664	19.0	1,124	2.4
Oct-19-1997	691	18.8	1,089	2.8
Oct-20-1997	694	18.2	1,066	2.3
Oct-21-1997	676	17.8	1,095	2.1
Oct-22-1997	748	17.6	1,025	1.8
Oct-23-1997	778	17.5	951	2.0
Oct-24-1997	730	16.1	1,028	2.4
Oct-25-1997	708	14.5	1,040	2.5
Oct-26-1997	705	14.8	1,108	2.6
Oct-27-1997	700	15.1	1,136	2.6
Oct-28-1997	707	14.9	1,139	3.5
Oct-29-1997	694	14.8	1,168	2.7
Oct-30-1997	691	15.9	1,162	2.4
Oct-31-1997	663	16.9	1,172	2.7

Table 6. Weekly water quality monitoring at Station A (inflow to San Luis Drain), 1997.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	pH	Specific Conductance	Total Suspended Solids	Selenium (total)	Selenium (dissolved)	Boron
DATA SOURCE	USBR	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	°C		µS/cm	mg/l	µg/l	µg/l	mg/l
Aug-06-1997	45.6 f	NA	NA	4,130	120	53.8	50.4	P
Aug-13-1997	55 b	NA	NA	3,650	140	38.4	39.0	P
Aug-20-1997	59.7	NA	NA	3,330	160	30.8	30.4	P
Aug-27-1997	32.7	NA	NA	3,990	NA	55.4	53.7	P
Sep-03-1997	28.3	NA	NA	4,250	65	52.1	49.4	P
Sep-10-1997	37.6	NA	NA	2,620	190	17.9	16.6	P
Sep-17-1997	13.8	NA	NA	3,160	94	22.8	21.8	P
Sep-24-1997	10.0	NA	NA	3,460	96	29.0	28.0	P
Oct-01-1997	23.2	NA	NA	4,440	NA	83.6	80.5	P
Oct-08-1997	22.0	NA	NA	4,190	89	55.8	55.6	P
Oct-15-1997	22.6	NA	NA	5,370	34	48.1	47.3	P
Oct-22-1997	17.5	NA	NA	5,520	12	74.8	75.1	P
Oct-29-1997	18.7	NA	NA	5,300	70	75.6	78.2	P

Table 7. Weekly water quality monitoring at Station B (discharge from San Luis Drain), 1997.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	pH	Specific Conductance	Total Suspended Solids	Selenium (total)	Selenium (dissolved)	Boron
DATA SOURCE	USBR	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	°C		µS/cm	mg/l	µg/l	µg/l	mg/l
Aug-07-1997	49.8	27.1	7.6	3,190	21	27.9	27.7	P
Aug-14-1997	59.5	26.6	8.0	3,780	18	42.3	41.7	P
Aug-21-1997	59.8	27.7	7.2	3,240	32	31.2	31.0	P
Aug-27-1997	40.7	25.4	7.2	3,840	17	48.9	47.2	P
Sep-05-1997	24.7	27.7	8.1	3,190	25	23.4	23.3	P
Sep-12-1997	36.8	25.4	7.9	2,720	22	17.0	16.4	P
Sep-18-1997	16.2	25.4	7.3	2,920	22	17.1	17.0	P
Sep-25-1997	13.9	27.7	8.0	3,390	19	18.3	18.4	P
Oct-02-1997	27.5	25.4	8.1	4,760	NA	46.6	45.1	P
Oct-09-1997	28.8	17.7	7.7	4,610	26	52.2	52.6	P
Oct-16-1997	30.2	22.1	8.1	5,290	32	51.6	51.6	P
Oct-24-1997	25.3	16.6	7.5	5,040	13	60.8	60.2	P
Oct-30-1997	26.9	16.6	7.7	4,970	25	61.0	60.9	P

Table 8. Weekly water quality monitoring at Station C (Mud Slough North upstream of drainage discharges), 1997.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	.	Temperature	pH	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	.	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	.	°C		µS/cm	µg/l	mg/l
Aug-07-1997	.	27.1	8.3	1,130	0.8	P
Aug-14-1997	.	27.7	7.3	1,161	0.6	P
Aug-21-1997	.	31.6	8.2	1,220	0.6	P
Aug-27-1997	.	25.4	5.8	1,258	1.1	P
Sep-05-1997	.	24.3	7.4	1,192	0.6	P
Sep-12-1997	.	25.4	7.3	873	0.7	P
Sep-18-1997	.	26.0	8.1	881	1.0	P
Sep-25-1997	.	28.8	7.6	1,050	0.6	P
Oct-02-1997	.	23.8	8.0	891	0.7	P
Oct-09-1997	.	18.2	8.0	998	0.7	P
Oct-16-1997	.	22.1	7.9	866	0.7	P
Oct-24-1997	.	15.4	7.9	1,164	0.5	P
Oct-30-1997	.	15.4	6.6	1,340	0.5	P

Table 9. Weekly water quality monitoring at Station D (Mud Slough North downstream of drainage discharges), 1997.

See Table 26 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-07-1997	69	27.1	8.0	3,150	28.6	P
Aug-14-1997	74	26.6	7.6	3,650	37.5	P
Aug-21-1997	66	28.8	7.8	3,100	32.9	P
Aug-27-1997	52	25.4	6.0	3,340	40.6	P
Sep-05-1997	37	26.6	7.2	3,080	23.6	P
Sep-12-1997	54	22.7	7.4	2,640	20.4	P
Sep-18-1997	36	25.4	7.8	1,950	8.4	P
Sep-25-1997	26	28.8	8.0	2,170	8.6	P
Oct-02-1997	100	24.3	8.1	1,816	11.0	P
Oct-09-1997	117	17.1	8.0	1,859	12.6	P
Oct-16-1997	149	21.0	8.0	1,958	10.2	P
Oct-24-1997	128	15.4	7.9	2,050	11.4	P
Oct-30-1997	118	15.4	7.1	2,400	15.4	P

Table 10. Weekly water quality monitoring at Station F (Salt Slough at Lander Avenue), 1997.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	pH	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	USBR	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	°C		µS/cm	µg/l	mg/l
Aug-07-1997	69	26.0	7.3	1,131	1.3	P
Aug-14-1997	74	26.6	7.8	922	0.8	P
Aug-21-1997	66	26.6	7.6	982	0.9	P
Aug-27-1997	52	26.6	6.0	1,110	1.0	P
Sep-05-1997	119	27.7	8.1	1,188	1.8	P
Sep-12-1997	103	23.2	6.7	1,214	1.5	P
Sep-18-1997	112	23.2	7.0	1,047	1.6	P
Sep-25-1997	69	29.3	8.0	1,382	0.7	P
Oct-02-1997	135	23.8	8.1	1,020	1.6	P
Oct-09-1997	e105	17.1	7.6	1,160	0.8	P
Oct-16-1997	110	20.4	7.9	1,380	1.0	P
Oct-24-1997	123	15.4	7.2	1,361	0.7	P
Oct-30-1997	125	16.6	8.0	1,390	0.7	P

Table 11. Weekly water quality monitoring at Station G (San Joaquin River at Fremont Ford), 1997.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	.	Temperature	pH	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	.	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	.	°C		µS/cm	µg/l	mg/l
Aug-07-1997	.	26.6	8.1	1,211	1.0	P
Aug-14-1997	.	26.0	7.9	990	0.9	P
Aug-21-1997	.	27.1	7.8	849	0.9	P
Aug-27-1997	.	26.6	8.2	952	1.0	P
Sep-05-1997	.	27.1	8.4	1,379	1.8	P
Sep-12-1997	.	23.2	7.2	1,415	1.4	P
Sep-18-1997	.	22.1	7.9	1,215	1.3	P
Sep-25-1997	.	28.2	8.4	1,508	1.0	P
Oct-02-1997	.	23.8	7.9	1,040	1.3	P
Oct-09-1997	.	16.6	6.3	1,161	0.8	P
Oct-16-1997	.	20.4	7.8	1,324	0.8	P
Oct-24-1997	.	15.4	6.5	1,394	0.7	P
Oct-30-1997	.	17.1	7.5	1,188	0.6	P

Table 12. Weekly water quality monitoring at Station H (San Joaquin River at Hills Ferry), 1997.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Temperature	pH	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	°C		µS/cm	µg/l	mg/l
Aug-07-1997	26.0	7.9	1,716	7.5	P
Aug-14-1997	25.4	7.5	1,584	8.0	P
Aug-21-1997	26.0	7.6	1,300	5.8	P
Aug-27-1997	27.7	8.0	1,376	4.9	P
Sep-05-1997	27.7	8.2	1,845	7.6	P
Sep-12-1997	26.0	8.1	1,696	4.9	P
Sep-18-1997	22.1	7.7	1,375	2.3	P
Sep-25-1997	29.9	8.4	1,677	2.7	P
Oct-02-1997	24.3	7.8	1,146	3.0	P
Oct-09-1997	19.3	7.7	1,556	7.8	P
Oct-16-1997	19.9	7.5	1,386	4.2	P
Oct-24-1997	15.4	8.0	1,697	5.5	P
Oct-30-1997	18.2	7.5	1,726	4.9	P

Table 13. Weekly water quality monitoring at Station J (Camp 13 Ditch), 1997.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Temperature	pH	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	°C		µS/cm	µg/l	mg/l
Aug-06-1997	NA	NA	1,399	2.2	P
Aug-13-1997	NA	NA	815	3.5	P
Aug-20-1997	NA	NA	352	1.0	P
Aug-27-1997	NA	NA	459	2.3	P
Sep-03-1997	NA	NA	502	3.6	P
Sep-10-1997	NA	NA	496	3.1	P
Sep-17-1997	NA	NA	341	1.2	P
Sep-24-1997	NA	NA	439	1.2	P
Oct-01-1997	NA	NA	462	1.0	P
Oct-08-1997	NA	NA	569	1.1	P
Oct-15-1997	NA	NA	523	1.0	P
Oct-22-1997	NA	NA	524	0.8	P
Oct-29-1997	NA	NA	577	0.8	P

Table 14. Weekly water quality monitoring at Station K (Agatha Canal), 1997.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Temperature	pH	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	°C		µS/cm	µg/l	mg/l
Aug-06-1997	NA	NA	373	1.5	P
Aug-13-1997	NA	NA	354	1.0	P
Aug-20-1997	NA	NA	368	1.5	P
Aug-27-1997	NA	NA	442	2.3	P
Sep-03-1997	NA	NA	553	3.4	P
Sep-10-1997	NA	NA	358	1.8	P
Sep-17-1997	NA	NA	354	1.1	P
Sep-24-1997	NA	NA	379	1.0	P
Oct-01-1997	NA	NA	428	0.9	P
Oct-08-1997	NA	NA	539	0.8	P
Oct-15-1997	NA	NA	539	0.7	P
Oct-22-1997	NA	NA	466	0.8	P
Oct-29-1997	NA	NA	532	1.0	P

Table 15. Weekly water quality monitoring at Station L (San Luis Canal at Henry Miller Road), 1997.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Temperature	pH	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	°C		µS/cm	µg/l	mg/l
Aug-06-1997	NA	NA	886	2.0	P
Aug-13-1997	NA	NA	619	1.5	P
Aug-20-1997	NA	NA	781	2.0	P
Aug-27-1997	NA	NA	708	2.7	P
Sep-03-1997	NA	NA	605	3.2	P
Sep-10-1997	NA	NA	501	3.4	P
Sep-17-1997	NA	NA	660	4.3	P
Sep-24-1997	NA	NA	507	1.6	P
Oct-01-1997	NA	NA	520	1.9	P
Oct-08-1997	NA	NA	660	1.6	P
Oct-15-1997	NA	NA	837	2.1	P
Oct-22-1997	NA	NA	671	2.0	P
Oct-29-1997	NA	NA	550	1.1	P

Table 16. Weekly water quality monitoring at Station M (Santa Fe Canal at Henry Miller Road), 1997.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	.	Temperature	pH	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	.	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	.	°C		µS/cm	µg/l	mg/l
Aug-06-1997	.	NA	NA	976	2.2	P
Aug-13-1997	.	NA	NA	776	1.9	P
Aug-20-1997	.	NA	NA	825	2.1	P
Aug-27-1997	.	NA	NA	682	2.7	P
Sep-03-1997	.	NA	NA	640	3.5	P
Sep-10-1997	.	NA	NA	521	3.1	P
Sep-17-1997	.	NA	NA	642	3.9	P
Sep-24-1997	.	NA	NA	499	1.3	P
Oct-01-1997	.	NA	NA	522	2.0	P
Oct-08-1997	.	NA	NA	690	1.3	P
Oct-15-1997	.	NA	NA	852	1.6	P
Oct-22-1997	.	NA	NA	998	1.3	P
Oct-29-1997	.	NA	NA	987	1.1	P

Table 17. Weekly water quality monitoring at Station N (San Joaquin River at Crow's Landing), 1997.

See Table 26 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-07-1997	503	26.0	7.9	1,161	2.8	P
Aug-14-1997	581	25.4	7.3	1,085	4.5	P
Aug-21-1997	650	26.0	7.4	990	3.3	P
Aug-28-1997	NP	23.2	7.2	1,073	2.9	P
Sep-05-1997	495	26.6	8.2	1,040	2.7	P
Sep-12-1997	460	24.3	8.4	987	1.9	P
Sep-18-1997	413	22.1	7.5	1,025	1.4	P
Sep-25-1997	415	26.6	8.4	863	0.9	P
Oct-02-1997	514	24.3	7.8	960	1.3	P
Oct-09-1997	e658	18.8	7.9	1,016	3.4	P
Oct-16-1997	e648	18.8	7.4	1,004	2.5	P
Oct-24-1997	730	16.0	8.1	1,046	2.4	P
Oct-30-1997	691	17.7	6.7	1,170	3.0	P

Table 18. Summary of fathead minnow (*Pimephales promelas*) larvae survival in 7-day tests using water samples collected from November 1996 to October 1997. Each value is the mean of 4 replicates with 10 fish in each replicate.

See Table 26 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	%	%	%	%	%	%
November-96	98	98	95	85	95	93
December-96	98	50*	78*	93	98	100
January-97	95	92	83	90	88	95
February-97	95	90*	95	90	100	48
March-97	95	98	98	93	98	95
April-97	95	100	95	98	88	83
May-97	95	100	95	100	93	100
June-97	93	98	95	93	90	90
July-97	100	93	98	98	100	98
August-97	88	85	95	78	83	98
September-97	98	90	93	85	83	90
October-97	88	88	85	60*	95	98

Table 19. Summary of fathead minnow (*Pimephales promelas*) larvae growth in 7-day tests using water samples collected from November 1996 to October 1997. Each value is the mean of 4 replicates with 10 fish in each replicate.

See Table 26 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
November-96	0.53	0.57	0.63	0.53	0.55	0.59
December-96	0.71	0.71	0.83	0.65	0.68	0.58
January-97	0.74	0.80	0.80	0.83	0.65	0.71
February-97	0.69*	0.79	0.77	0.92	0.76	0.31
March-97	0.99	0.96	1.01	0.90	0.81	0.81
April-97	1.11	1.02	1.06	1.15	1.05	0.83
May-97	0.85	0.91	0.95	0.89	0.88	0.80
June-97	0.66	0.69	0.71	0.72	0.68	0.73
July-97	0.97	0.80*	0.95	0.91	0.92	0.89
August-97	0.69	0.56	0.73	0.60	0.59	0.77
September-97	0.60	0.46	0.53	0.50	0.42	0.48
October-97	0.48*	0.44*	0.40*	0.34*	0.58	0.50

Table 20. Summary of *Daphnia magna* survival in 7-day tests using water samples collected from November 1996 to October 1997. Each value is the mean of 10 replicates with 1 animal in each replicate.

See Table 26 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	%	%	%	%	%	%
November-96	100	90	90	100	100	100
December-96	100	80	80	100	100	100
January-97	100	90	100	100	100	100
February-97	100	100	100	100	100	100
March-97	100	90	90	80	100	50
April-97	80	90	100	90	90	50
May-97	90	90	90	80	90	30
June-97	90	100	70	100	80	90
July-97	90	90	100	100	100	90
August-97	90	100	100	100	80	90
September-97	90	100	100	100	100	80
October-97	80	90	100	90	100	90

Table 21. Summary of *Daphnia magna* reproduction in 7-day tests using water samples collected from November 1996 to September 1997. Each value is the mean of 10 replicates with 1 animal in each replicate.

See Table 26 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
November-96	30.6	21.8	21.9	22.4	21.5	15.9
December-96	23.2	14.0	17.2	17.8	16.8	14.8
January-97	15.2	15.4	15.3	15.6	13.6	10.9
February-97	25.1	23.0	22.8	20.1	18.0	22.7
March-97	22.8	16.6	15.3	9.7	8.9	5.5
April-97	23.6	24.4	24.6	16.3	12.9	10.0
May-97	30.6	33.8	34.0	21.6	17.2	20.0
June-97	50.9	58.8	41.1	50.2	29.6	31.6
July-97	35.6	28.1	33.2	27.7	19.1	17.1
August-97	55.8	55.4	53.1	54.1	40.7	44.3
September-97	33.0*	31.2*	45.8	47.1	39.7	23.2
October-97	42.2	37.9	41.7	34.8	34.9	32.0

Table 22. Summary of *Selenastrum capricornutum* growth in 4-day tests using water samples collected from November 1996 to October 1997. Each value is the mean of 4 replicates.

See Table 26 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
November-96 ⁽³⁾	16.6	56.1	48.9	33.5	39.7	91.1
December-96	0.5*	5.9	0.5*	4.2	3.4	18.9
January-97	11.0	9.3	12.5	11.6	8.0	8.2
February-97	10.6	5.5*	8.2*	13.7	19.8	22.2
March-97	11.0*	13.8	11.7*	6.0*	20.0	21.6
April-97	19.7*	35.4*	46.5	30.8*	78.5	62.9
May-97	22.4	12.6*	18.6*	16.8*	26.3	17.2
June-97	42.0*	55.6	44.6	44.4	54.2	57.9
July-97	41.9	72.5	47.6	66.6	45.1	60.2
August-97	56.2	61.6	43.0	52.6	47.5	59.9
September-97	21.5*	29.5	25.4	30.9	32.2	44.4
October-97	3.0*	42.3	47.4	43.9	50.4	50.3

Table 23. Summary of selenium concentrations in grab water samples collected at study sites for use in laboratory toxicity tests, July 1996 to October 1997.

See Table 26 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
Jul-10-1997	36	<2	34	<2	<2
Jul-12-1997	32	<2	36	<2	<2
Aug-05-1997	30	<2	17	<2	<2
Aug-07-1997	29	<2	31	<2	<2
Aug-09-1997	37	<2	44	<2	<2
Sep-09-1997	18	<2	22	<2	<2
Sep-11-1997	21	<2	15	<2	<2
Sep-13-1997	25	<2	15	<2	<2
Sep-16-1997	16	<2	7	<2	<2
Oct-14-1997	48	<2	10	<2	<2
Oct-16-1997	58	<2	10	<2	<2
Oct-18-1997	47	<2	12	<2	<2

Table 24. Summary of sulfate concentrations in grab water samples collected at study sites for use in laboratory toxicity tests, July 1997 to September 1997.

See Table 26 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
Jul-10-1997	1,170	210	939	168	20
Jul-12-1997	1,170	313	1,080	144	19
Aug-05-1997	958	173	666	132	51
Aug-07-1997	944	185	926	146	17
Aug-09-1997	1,120	182	1,120	122	16
Sep-09-1997	925	137	873	107	43
Sep-11-1997	839	118	649	186	16
Sep-13-1997	874	100	639	127	28
Sep-16-1997	734	85	370	147	20
Oct-14-1997	1,570	122	415	164	46
Oct-16-1997	2,010	120	481	209	44
Oct-18-1997	1,990	123	492	190	30

Table 25. Summary of quarterly in situ bioassay results from December 1995 to August 1997.

Results are the number of live fathead minnows (*Pimephales promelas*) per number of fish recovered at the end of the 7 day deployment at each station (initial count of 80 used at each station).

See Table 26 for explanation of footnotes and agency abbreviations.

LOCATION	Windmill (4 day old larvae)	Station B (4 day old larvae)	Station D (4 day old larvae)	Station D (14 day old larvae)	Station F (4 day old larvae)	Station F (14 day old larvae)
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	# alive/total count	# alive/total count	# alive/total count	# alive/total count	# alive/total count	# alive/total count
December-95 ⁽⁴⁾	NT	NT	NT	NT	NT	NT
March-96 ⁽⁵⁾	80/80	NT	NT	44/44	NT	70/70
August-1996 ⁽⁶⁾	NT	NT	13/19	22/29	28/40	20/49
November-1996 ⁽⁷⁾	46/62	63/68	0/2	.	16/36	.
February-1997 ⁽⁸⁾	NT	3/13	0/0	.	0/11	.
May-1997	64/66	0/0	0/24	.	5/9	.
August-1997 ⁽⁹⁾	NT	38/38	27/31	.	0/8	.

Table 26. 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
.	Not applicable
<	less than
i	value based on interpolation
b	value based on partial readings
f	field instantaneous reading
P	pending, data not available at this time but will be available in the future
NA	not analyzed - operator error, data will not be available in the future
NP	data not provided - future unknown
NT	not tested
(1)	This test used <i>Ceriodaphnia dubia</i> in water with high hardness. Results were compared to hard water and moderately hard water for definitive bioassays. All treatment means were significantly different from the laboratory control (hard water) for definitive tests.
(2)	Selenate added
(3)	Lab Control was significantly different from DMC, Site B, and Site F samples. (There was no significant difference for site samples versus DMC water.)
(4)	In situ cages could not be deployed due to wet weather conditions.
(5)	Baseline results for 3/96 are for 14-day old larvae. There was no survival for the 24-hour old larvae.
(6)	Windmill station was dry due to water drainage. Use of plastic screened beakers for Station F during 8/96 with use of 4-day old larvae resulted in 0/39. Apparent cause of mortality was elevated temperature and sediment which was found in all cages and beakers.
(7)	Heavy silt accumulation was noted in Sites D and F cages and light silt accumulation was observed in both the Windmill site and Site B.
(8)	Moderate silt accumulation was noted in Sites B and F cages and light silt accumulation was observed in Site D.
(9)	No test deployment was done at the Windmill Site due to extreme conditions (stagnant & pH>9.0). Site B replicate A was retrieved with no cork and replicate C lost its cork during retrieval. There were no surviving fish for a growth determination for Site B.
*	Significantly reduced from Delta Mendota Canal (p<0.05)
**	possible calibration problem