GRASSLAND BYPASS PROJECT

MONTHLY DATA REPORT

September 1997

October 25, 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

PRELIMINARY RESULTS

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

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow
DATA SOURCE	USBR
UNITS	cfs
Sep-01-1997	39.3
Sep-02-1997	31.7
Sep-03-1997	28.3
Sep-04-1997	38.6
Sep-05-1997	38.7
Sep-06-1997	35.6
Sep-07-1997	32.1
Sep-08-1997	34.3
Sep-09-1997	36.6
Sep-10-1997	37.6
Sep-11-1997	35.1
Sep-12-1997	37.5
Sep-13-1997	30.0
Sep-14-1997	25.7
Sep-15-1997	20.9
Sep-16-1997	16.8
Sep-17-1997	13.8
Sep-18-1997	14.5
Sep-19-1997	14.2
Sep-20-1997	13.6
Sep-21-1997	10.6
Sep-22-1997	9.8
Sep-23-1997	12.0
Sep-24-1997	10.0
Sep-25-1997	11.4
Sep-26-1997	11.0
Sep-27-1997	14.5
Sep-28-1997	14.8
Sep-29-1997	12.3
Sep-30-1997	16.5

PRELIMINARY RESULTS

Table 2. Continuous water monitoring at Station B (discharge from San Luis Drain), September 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
Sep-01-1997	44.8	25.7	4,230	55.8	13.5
Sep-02-1997	40.4	25.5	4,180	52.0	11.3
Sep-03-1997	33.9	25.6	3,920	43.0	7.9
Sep-04-1997	32.8	26.3	3,440	29.3	5.2
Sep-05-1997	24.7	27.2	3,290	26.6	3.5
Sep-06-1997	17.9	26.6	3,680	36.0	3.5
Sep-07-1997	34.3	26.1	3,480	27.7	5.1
Sep-08-1997	33.0	25.7	3,760	24.3	4.3
Sep-09-1997	33.7	25.6	3,410	22.1	4.0
Sep-10-1997	35.7	25.4	3,100	20.6	4.0
Sep-11-1997	37.4	24.8	3,150	25.4	5.1
Sep-12-1997	36.8	24.7	2,960	20.1	4.0
Sep-13-1997	36.4	24.9	3,260	27.4	5.4
Sep-14-1997	31.4	24.5	3,240	28.2	4.8
Sep-15-1997	26.4	23.3	2,740	18.4	2.6
Sep-16-1997	22.6	22.6	2,630	16.5	2.0
Sep-17-1997	18.8	22.3	2,620	15.2	1.5
Sep-18-1997	16.2	22.7	2,950	16.6	1.5
Sep-19-1997	14.6	22.9	2,980	18.4	1.4
Sep-20-1997	14.7	22.9	2,940	18.0	1.4
Sep-21-1997	15.3	22.9	2,890	19.0	1.6
Sep-22-1997	12.3	23.4	3,070	20.9	1.4
Sep-23-1997	13.7	23.7	3,320	21.6	1.6
Sep-24-1997	13.8	24.0	3,440	19.9	1.5
Sep-25-1997	13.9	24.5	3,520	20.0	1.5
Sep-26-1997	10.5	24.4	3,590	20.1	1.1
Sep-27-1997	12.0	23.1	3,700	20.9	1.4
Sep-28-1997	15.4	22.7	3,530	20.7	1.7
Sep-29-1997	19.9	23.5	3,470	22.0	2.4
Sep-30-1997	15.1	23.7	3,900	32.2	2.6
.	.	.	.	.	.
Mean	24.3	24.4	3346	25.3	
Total					**109**

Load Limitation for September 1997 (lbs)	**350**

Table 3. Continuous water monitoring at Station D (Mud Slough North downstream of drainage discharges), September 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
Sep-01-1997	58	25.7	2,100
Sep-02-1997	51	25.5	2,120
Sep-03-1997	42	25.7	2,060
Sep-04-1997	39	26.5	1,940
Sep-05-1997	37	27.2	1,780
Sep-06-1997	24	26.5	1,660
Sep-07-1997	40	25.9	1,810
Sep-08-1997	42	25.8	1,780
Sep-09-1997	47	25.8	1,690
Sep-10-1997	54	25.3	1,400
Sep-11-1997	56	24.6	1,350
Sep-12-1997	54	24.8	1,350
Sep-13-1997	60	25.0	1,300
Sep-14-1997	59	24.5	1,320
Sep-15-1997	53	23.1	1,320
Sep-16-1997	53	22.4	1,230
Sep-17-1997	45	22.2	1,130
Sep-18-1997	36	22.9	1,150
Sep-19-1997	37	22.8	1,260
Sep-20-1997	39	22.7	1,730
Sep-21-1997	41	23.1	2,210
Sep-22-1997	40	23.4	1,780
Sep-23-1997	33	23.5	1,770
Sep-24-1997	28	23.7	2,140
Sep-25-1997	26	24.1	2,150
Sep-26-1997	28	23.4	2,190
Sep-27-1997	37	21.9	2,040
Sep-28-1997	54	22.1	1,800
Sep-29-1997	60	23.9	1,780
Sep-30-1997	65	24.5	1,650

Table 4. Continuous water monitoring at Station F (Salt Slough at Highway 165), September 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
Sep-01-1997	112	24.9	1,130
Sep-02-1997	114	24.6	1,030
Sep-03-1997	116	25.0	1,050
Sep-04-1997	104	26.1	1,080
Sep-05-1997	119	27.0	1,070
Sep-06-1997	135	26.0	952
Sep-07-1997	161	24.3	915
Sep-08-1997	186	24.3	813
Sep-09-1997	164	24.7	841
Sep-10-1997	120	24.2	967
Sep-11-1997	92	23.3	1,210
Sep-12-1997	103	23.7	1,140
Sep-13-1997	120	23.8	1,030
Sep-14-1997	100	23.2	1,100
Sep-15-1997	105	21.9	1,070
Sep-16-1997	99	21.1	1,100
Sep-17-1997	100	21.3	1,120
Sep-18-1997	112	22.5	1,050
Sep-19-1997	101	22.0	1,100
Sep-20-1997	113	21.7	1,020
Sep-21-1997	132	22.3	913
Sep-22-1997	126	22.8	895
Sep-23-1997	105	23.2	1,000
Sep-24-1997	73	24.0	1,080
Sep-25-1997	69	24.1	1,310
Sep-26-1997	77	23.3	1,160
Sep-27-1997	91	21.6	1,150
Sep-28-1997	105	21.3	1,060
Sep-29-1997	118	22.7	978
Sep-30-1997	138	23.4	911

PRELIMINARY RESULTS

Table 5. Continuous water monitoring at Station N (San Joaquin River at Crow's Landing), September 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
Sep-01-1997	491	24.3	1,264	3.8
Sep-02-1997	469	24.6	1,218	3.8
Sep-03-1997	456	24.8	1,270	5.0
Sep-04-1997	451	25.5	1,193	4.3
Sep-05-1997	495	26.1	1,056	3.9
Sep-06-1997	465	25.6	1,110	2.9
Sep-07-1997	475	24.3	1,052	2.0
Sep-08-1997	545	24.1	996	2.3
Sep-09-1997	615	24.2	884	2.1
Sep-10-1997	543	23.8	931	2.2
Sep-11-1997	503	23.3	942	1.9
Sep-12-1997	460	23.3	983	1.9
Sep-13-1997	462	23.7	1,054	2.0
Sep-14-1997	497	23.4	995	1.4
Sep-15-1997	528	22.4	936	1.7
Sep-16-1997	533	21.5	856	1.6
Sep-17-1997	444	21.4	896	1.3
Sep-18-1997	413	21.8	1,004	1.1
Sep-19-1997	429	21.8	985	1.3
Sep-20-1997	444	21.7	925	0.9
Sep-21-1997	497	22.1	867	0.9
Sep-22-1997	547	22.5	812	1.0
Sep-23-1997	529	22.9	769	0.6
Sep-24-1997	481	23.6	769	0.5
Sep-25-1997	415	24.1	855	1.3
Sep-26-1997	449	23.8	870	1.0
Sep-27-1997	460	22.5	899	0.9
Sep-28-1997	469	21.9	866	1.0
Sep-29-1997	503	22.9	897	1.1
Sep-30-1997	458	23.7	922	1.3

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
Jul-02-1997	56.3	NA	NA	4,660	130	65.8	64.1	P
Jul-09-1997	50.0	NA	NA	4,140	150	40.6	40.5	P
Jul-16-1997	51.8	NA	NA	4,220	120	54.5	53.0	P
Jul-23-1997	51.4	NA	NA	4,050	110	40.5	43.5	P
Jul-30-1997	47.6	NA	NA	3,950	170	45.5	44.6	P
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

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
Jul-02-1997	54.0	24.3	8.4	4,410	30	59.9	59.8	P
Jul-10-1997	50.8	25.4	8.3	4,030	25	34.9	35.0	P
Jul-17-1997	52.0	26.6	8.2	4,060	18	37.0	37.0	P
Jul-24-1997	51.1	27.1	8.0	4,000	17	41.8	39.5	P
Jul-31-1997	49.4	25.4	6.3**	3,940	17	43.7	42.4	P
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

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
Jul-02-1997	.	26.0	8.3	1,542	1.0	P
Jul-10-1997	.	24.9	8.1	1,208	1.4	P
Jul-17-1997	.	26.6	8.3	1,549	1.3	P
Jul-24-1997	.	28.2	8.1	1,165	1.5	P
Jul-31-1997	.	26.6	8.0	859	1.1	P
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

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
Jul-02-1997	62	24.9	8.4	3,990	50.4	P
Jul-10-1997	71	25.4	8.3	3,310	29.7	P
Jul-17-1997	63	27.7	8.4	3,730	33.3	P
Jul-24-1997	71	27.7	7.9	3,510	36.4	P
Jul-31-1997	102	26.6	7.2	2,550	18.4	P
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

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
Jul-02-1997	192	23.2	7.7	1,074	1.1	P
Jul-10-1997	124	23.8	7.8	1,310	0.9	P
Jul-17-1997	143	25.4	8.6	1,030	1.0	P
Jul-24-1997	113	25.4	8.2	1,142	0.9	P
Jul-31-1997	NP	25.4	8.4	975	1.1	P
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

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
Jul-02-1997	.	22.1	7.9	1,100	1.0	P
Jul-10-1997	.	24.3	8.0	1,392	1.0	P
Jul-17-1997	.	25.4	8.0	1,200	0.9	P
Jul-24-1997	.	25.4	7.9	1,195	1.0	P
Jul-31-1997	.	25.4	7.5	944	1.0	P
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

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
Jul-02-1997	22.7	8.1	1,741	10.0	P
Jul-10-1997	24.3	8.2	1,881	11.1	P
Jul-17-1997	25.4	7.7	1,820	7.5	P
Jul-24-1997	24.9	7.8	1,708	9.2	P
Jul-31-1997	23.2	6.6**	1,408	5.4	P
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

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
Jul-02-1997	NA	NA	563	1.1	P
Jul-09-1997	NA	NA	460	1.1	P
Jul-16-1997	NA	NA	614	1.6	P
Jul-23-1997	NA	NA	614	1.2	P
Jul-30-1997	NA	NA	1,110	2.2	P
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

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
Jul-02-1997	NA	NA	436	1.1	P
Jul-09-1997	NA	NA	396	1.0	P
Jul-16-1997	NA	NA	406	1.6	P
Jul-23-1997	NA	NA	419	1.6	P
Jul-30-1997	NA	NA	419	1.2	P
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

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
Jul-02-1997	NA	NA	698	1.9	P
Jul-09-1997	NA	NA	917	2.5	P
Jul-16-1997	NA	NA	628	1.8	P
Jul-23-1997	NA	NA	762	2.1	P
Jul-30-1997	NA	NA	750	1.8	P
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

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
Jul-02-1997	.	NA	NA	799	2.2	P
Jul-09-1997	.	NA	NA	946	2.6	P
Jul-16-1997	.	NA	NA	841	2.2	P
Jul-23-1997	.	NA	NA	797	2.1	P
Jul-30-1997	.	NA	NA	938	2.1	P
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

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
Jul-02-1997	618	21.0	7.9	1,247	4.8	P
Jul-10-1997	541	23.8	8.1	1,354	5.0	P
Jul-17-1997	541	24.3	7.6	1,230	4.0	P
Jul-24-1997	599	23.8	7.7	1,080	3.9	P
Jul-31-1997	620	23.2	6.9**	1,281	4.8	P
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

Table 18. Summary of fathead minnow (*Pimephales promelas*) larvae survival in 7-day tests using water samples collected from October 1996 to September 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	%	%	%	%	%	%
October-96	68	83	88	88	93	98
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

Table 19. Summary of fathead minnow (*Pimephales promelas*) larvae growth in 7-day tests using water samples collected from October 1996 to September 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
October-96	0.56	0.56	0.53*	0.59	0.60	0.59
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

Table 20. Summary of *Daphnia magna* survival in 7-day tests using water samples collected from October 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	%	%	%	%	%	%
October-96	90	100	100	100	100	70
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

Table 21. Summary of Daphnia magna reproduction in 7-day tests using water samples collected from October 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
October-96	16.8	20.2	17.9	13.1	12.9	16.0
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

Table 22. Summary of Selenastrum capricornutum growth in 4-day tests using water samples collected from October 1996 to September 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
October-96 (2)	4.3	12.3	11.3	8.5	3.5	36.6
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

Table 23. Summary of selenium concentrations in grab water samples collected at study sites for use in laboratory toxicity tests, June 1996 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
Jun-12-1997	56	<2	37	<2	<2
Jun-14-1997	75	<2	43	<2	<2
Jul-08-1997	44	<2	24	<2	<2
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

Table 24. Summary of sulfate concentrations in grab water samples collected at study sites for use in laboratory toxicity tests, June 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
Jun-12-1997	1,360	278	1,120	179	36
Jun-14-1997	1,520	248	1,160	157	36
Jul-08-1997	827	183	489	88	38
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

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-1995 (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 *Ceriodaphnia dubia* 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 (stangant & 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 Sit
*	Significantly reduced from Delta Mendota Canal (p<0.05)
**	possible calibration problem