

GRASSLAND BYPASS PROJECT

MONTHLY DATA REPORT

January 1998

July 13, 1998

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), January 1998.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow
DATA SOURCE	USBR
UNITS	cfs
Jan-01-1998	13.1
Jan-02-1998	16.0
Jan-03-1998	18.3
Jan-04-1998	19.3
Jan-05-1998	17.1
Jan-06-1998	14.6
Jan-07-1998	15.1
Jan-08-1998	11.3
Jan-09-1998	13.2
Jan-10-1998	16.5
Jan-11-1998	15.3
Jan-12-1998	16.2
Jan-13-1998	29.8
Jan-14-1998	22.9
Jan-15-1998	25.5
Jan-16-1998	27.9
Jan-17-1998	24.2
Jan-18-1998	22.2
Jan-19-1998	20.6
Jan-20-1998	18.2
Jan-21-1998	20.0
Jan-22-1998	19.8
Jan-23-1998	18.3
Jan-24-1998	19.6
Jan-25-1998	26.6
Jan-26-1998	18.3
Jan-27-1998	16.6
Jan-28-1998	20.5
Jan-29-1998	24.5
Jan-30-1998	34.2
Jan-31-1998	24.4

Table 2. Continuous water monitoring at Station B (discharge from San Luis Drain), January 1998.

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
Jan-01-1998	13.6	8.6	5,240	65.6	4.8
Jan-02-1998	16.6	9.5	5,160	74.5	6.7
Jan-03-1998	19.3	10.0	5,010	68.0	7.1
Jan-04-1998	21.8	10.0	5,190	71.3	8.4
Jan-05-1998	18.7	9.6	5,380	80.2	8.1
Jan-06-1998	19.7	9.1	5,350	95.1	10.1
Jan-07-1998	15.6	9.6	5,260	83.6	7.0
Jan-08-1998	13.7	9.9	5,080	80.8	6.0
Jan-09-1998	14.5	10.0	5,080	79.9	6.2
Jan-10-1998	10.5	10.4	5,110	86.5	4.9
Jan-11-1998	19.3	11.0	5,240	115.0	12.0
Jan-12-1998	23.2	11.5	5,150	114.0	14.3
Jan-13-1998	23.8	11.2	4,920	103.0	13.2
Jan-14-1998	31.5	11.3	4,830	100.0	17.0
Jan-15-1998	28.9	11.4	4,770	100.0	15.6
Jan-16-1998	30.5	12.5	4,840	102.0	16.8
Jan-17-1998	30.9	13.6	5,070	118.0	19.7
Jan-18-1998	28.9	13.8	5,180	112.0	17.5
Jan-19-1998	26.9	13.3	4,830	92.4	13.4
Jan-20-1998	23.9	12.7	4,320	65.8	8.5
Jan-21-1998	21.9	11.8	4,110	65.4	7.7
Jan-22-1998	23.0	11.3	4,360	73.0	9.1
Jan-23-1998	23.5	10.9	4,760	57.1	7.2
Jan-24-1998	21.5	10.6	4,950	60.0	7.0
Jan-25-1998	23.7	10.6	5,420	84.0	10.7
Jan-26-1998	28.1	10.7	5,560	82.8	12.5
Jan-27-1998	21.7	11.5	5,400	72.8	8.5
Jan-28-1998	22.0	11.9	5,330	69.7	8.3
Jan-29-1998	24.9	12.0	5,560	77.1	10.4
Jan-30-1998	31.5	11.9	5,680	94.4	16.0
Jan-31-1998	42.9	11.6	5,600	90.1	20.8
Mean	23.1	11.1	5,088	85.0	
Total					335

Load Limitation for January 1998 (lbs)	533
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**Table 3. Continuous water monitoring at Station D
(Mud Slough North downstream of drainage discharges), January 1998.**

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
Jan-01-1998	102	8.1	2,440
Jan-02-1998	104	9.1	2,500
Jan-03-1998	106	9.4	2,500
Jan-04-1998	112	9.3	2,490
Jan-05-1998	115	8.3	2,610
Jan-06-1998	136	7.5	2,360
Jan-07-1998	136	8.7	2,160
Jan-08-1998	123	9.0	2,110
Jan-09-1998	124	9.0	2,420
Jan-10-1998	132	9.5	2,050
Jan-11-1998	155	10.3	2,150
Jan-12-1998	268	10.7	1,900
Jan-13-1998	330	9.8	1,560
Jan-14-1998	401	9.9	1,530
Jan-15-1998	443	10.1	1,400
Jan-16-1998	489	11.5	1,310
Jan-17-1998	610	12.4	1,000
Jan-18-1998	654	11.8	780
Jan-19-1998	653	11.0	830
Jan-20-1998	627	10.1	730
Jan-21-1998	639	9.4	820
Jan-22-1998	637	9.9	2,300
Jan-23-1998	626	10.3	5,150
Jan-24-1998	601	10.0	6,350
Jan-25-1998	443	9.8	4,490
Jan-26-1998	389	10.1	6,240
Jan-27-1998	369	10.6	6,280
Jan-28-1998	333	11.5	3,700
Jan-29-1998	318	11.6	1,880
Jan-30-1998	321	11.0	2,050
Jan-31-1998	366	10.7	2,180

Table 4. Continuous water monitoring at Station F (Salt Slough at Highway 165), January 1998.

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
Jan-01-1998	74	10.4	2,490
Jan-02-1998	75	11.1	2,570
Jan-03-1998	75	11.3	2,560
Jan-04-1998	83	11.3	2,540
Jan-05-1998	83	9.9	2,360
Jan-06-1998	76	9.4	2,460
Jan-07-1998	71	10.9	2,540
Jan-08-1998	75	11.3	2,550
Jan-09-1998	75	11.0	2,490
Jan-10-1998	75	11.6	2,530
Jan-11-1998	73	12.4	2,530
Jan-12-1998	83	12.6	2,510
Jan-13-1998	110	11.3	2,400
Jan-14-1998	121	11.4	2,170
Jan-15-1998	145	11.6	2,250
Jan-16-1998	187	13.2	2,190
Jan-17-1998	385	14.2	2,210
Jan-18-1998	446	13.8	2,050
Jan-19-1998	443	12.9	2,130
Jan-20-1998	346	11.8	2,200
Jan-21-1998	303	10.7	2,260
Jan-22-1998	243	10.0	2,270
Jan-23-1998	182	9.9	2,290
Jan-24-1998	139	9.6	2,300
Jan-25-1998	114	9.8	2,290
Jan-26-1998	109	10.1	2,210
Jan-27-1998	102	11.5	2,210
Jan-28-1998	84	12.1	2,200
Jan-29-1998	100	12.1	2,190
Jan-30-1998	139	11.5	1,870
Jan-31-1998	160	11.1	1,850

Table 5. Continuous water monitoring at Station N (San Joaquin River at Crow's Landing), January 1998.

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
Jan-01-1998	509	8.8	1,676	1.6
Jan-02-1998	524	9.4	1,662	1.5
Jan-03-1998	539	10.0	1,766	1.9
Jan-04-1998	565	10.2	1,792	2.4
Jan-05-1998	NP	9.4	1,770	2.6
Jan-06-1998	NP	8.5	1,780	2.8
Jan-07-1998	656	9.0	1,590	2.8
Jan-08-1998	636	9.9	1,632	3.1
Jan-09-1998	636	10.2	1,693	2.4
Jan-10-1998	656	10.5	1,709	2.4
Jan-11-1998	733	11.1	1,662	1.9
Jan-12-1998	978	11.6	1,555	1.8
Jan-13-1998	1,760	10.7	1,296	2.2
Jan-14-1998	2,100	10.7	909	1.7
Jan-15-1998	2,450	10.6	770	1.4
Jan-16-1998	4,060	11.3	577	1.5
Jan-17-1998	4,440	12.6	402	0.9
Jan-18-1998	4,770	13.4	398	1.0
Jan-19-1998	5,320	13.0	380	0.9
Jan-20-1998	5,330	12.1	453	1.0
Jan-21-1998	5,160	11.1	506	1.1
Jan-22-1998	4,810	10.4	524	0.9
Jan-23-1998	4,340	9.8	598	0.8
Jan-24-1998	3,760	9.5	673	1.0
Jan-25-1998	3,170	9.6	778	1.1
Jan-26-1998	2,640	9.9	863	1.2
Jan-27-1998	2,320	10.7	923	1.5
Jan-28-1998	2,130	11.4	959	1.6
Jan-29-1998	1,980	11.8	987	1.5
Jan-30-1998	2,880	11.8	980	1.3
Jan-31-1998	4,160	11.3	608	1.1

Table 6. Weekly water quality monitoring at Station A (inflow to San Luis Drain), 1997-98.

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
Nov-05-1997	16.3	NA	NA	4,920	77	79.5	77.2	P
Nov-12-1997	27.9	NA	NA	4,300	62	68.8	69.2	P
Nov-19-1997	16.4	NA	NA	5,070	74	75.4	74.6	P
Nov-25-1997	8.2	NA	NA	4,380	130	39.4	38.8	P
Dec-03-1997	17.2	NA	NA	4,470	61	54.2	54.5	P
Dec-10-1997	25.9	NA	NA	4,630	28	59.3	57.2	P
Dec-17-1997	7.7	NP	NP	5,520	P	60.6	64.3	P
Dec-23-1997	9.0	NA	NA	5,800	P	87.1	84.2	P
Dec-30-1997	7.2	NP	NP	6,190	45	92.5	91.7	P
Jan-07-1998	15.1	NA	NA	5,840	42	118.0	118.0	P
Jan-14-1998	22.9	NA	NA	4,110	NA	68.6	67.9	P
Jan-21-1998	20.0	NA	NA	5,800	P	82.5	81.7	P
Jan-28-1998	20.5	NA	NA	6,100	79	78.2	77.4	P

Table 7. Weekly water quality monitoring at Station B (discharge from San Luis Drain), 1997-98.

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
Nov-06-1997	24.7	19.3	8.2	5,130	28	50.3	50.5	P
Nov-14-1997	31.4	16.6	7.6	4,460	11	41.6	43.3	P
Nov-19-1997	25.9	15.4	7.8	4,680	NA	51.0	50.2	P
Nov-25-1997	23.1	18.8	7.7	5,010	17	48.8	50.6	P
Dec-05-1997	34.6	13.2	8.1	4,530	33	34.0	33.9	P
Dec-11-1997	36.3	9.9	7.4	4,250	38	48.9	49.0	P
Dec-18-1997	11.9	12.7	7.6	4,680	P	48.9	51.8	P
Dec-26-1997	15.2	7.7	8.1	5,040	P	56.8	56.8	P
Jan-02-1998	16.6	12.7	8.3	5,360	28	73.0	73.0	P
Jan-08-1998	13.7	12.1	8.1	5,300	11	80.1	80.1	P
Jan-15-1998	28.9	11.6	7.5	5,080	34	98.9	100.0	P
Jan-22-1998	23.0	11.0	8.2	4,760	17	73.5	73.2	P
Jan-29-1998	24.9	12.7	7.9	5,300	28	74.4	75.4	P

Table 8. Weekly water quality monitoring at Station C (Mud Slough North upstream of drainage discharges), 1997-98.

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
Nov-06-1997	.	18.8	8.0	1,395	0.3	P
Nov-14-1997	.	16.6	7.8	1,201	0.5	P
Nov-19-1997	.	15.4	8.1	1,303	0.7	P
Nov-25-1997	.	18.8	7.8	1,480	0.6	P
Dec-05-1997	.	12.7	8.6	1,430	0.8	P
Dec-11-1997	.	9.3	7.9	1,424	0.4	P
Dec-18-1997	.	12.1	7.8	1,642	0.5	P
Dec-26-1997	.	7.7	7.5	1,849	0.5	P
Jan-02-1998	.	12.7	7.6	2,210	0.4	P
Jan-08-1998	.	12.1	8.2	2,070	0.4	P
Jan-15-1998	.	12.1	7.3	1,432	0.8	P
Jan-22-1998	.	11.0	8.1	934	0.5	P
Jan-29-1998	.	13.8	7.7	1,420	0.6	P

Table 9. Weekly water quality monitoring at Station D (Mud Slough North downstream of drainage discharges), 1997-98.

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
Nov-06-1997	122	18.2	8.0	2,340	9.2	P
Nov-14-1997	191	16.0	7.8	1,900	8.6	P
Nov-19-1997	193	15.4	8.0	1,822	7.3	P
Nov-25-1997	148	18.2	7.9	2,070	6.6	P
Dec-05-1997	230	13.2	8.4	2,030	6.1	P
Dec-11-1997	265	9.3	7.8	1,970	9.1	P
Dec-18-1997	181	11.6	7.8	1,889	3.2	P
Dec-26-1997	125	8.2	8.0	2,430	9.0	P
Jan-02-1998	102	13.2	7.5	2,970	13.1	P
Jan-08-1998	121	12.1	8.3	2,610	12.1	P
Jan-15-1998	406	11.0	7.5	1,733	8.1	P
Jan-22-1998	637	11.0	8.1	1,103	3.1	P
Jan-29-1998	318	13.8	7.8	1,790	6.6	P

Table 10. Weekly water quality monitoring at Station F (Salt Slough at Lander Avenue), 1997-98.

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
Nov-06-1997	138	17.1	7.5	1,454	0.8	P
Nov-14-1997	199	14.9	7.7	1,320	0.8	P
Nov-19-1997	178	16.6	7.8	1,511	1.9	P
Nov-25-1997	104	17.7	7.4	1,960	0.5	P
Dec-05-1997	136	13.2	7.1	1,940	0.8	P
Dec-11-1997	164	8.8	7.8	2,060	0.7	P
Dec-18-1997	123	12.1	7.4	2,260	1.3	P
Dec-26-1997	82	7.7	7.8	2,470	2.0	P
Jan-02-1998	72	13.2	7.6	2,730	0.7	P
Jan-08-1998	71	13.2	8.0	2,650	0.7	P
Jan-15-1998	175	12.1	7.2	2,370	1.6	P
Jan-22-1998	307	11.0	7.8	2,320	1.0	P
Jan-29-1998	100	13.2	7.6	2,180	0.9	P

Table 11. Weekly water quality monitoring at Station G (San Joaquin River at Fremont Ford), 1997-98.

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
Nov-06-1997	.	17.1	7.0	1,316	0.6	P
Nov-14-1997	.	14.9	7.8	1,336	0.8	P
Nov-19-1997	.	16.6	7.5	1,546	0.7	P
Nov-25-1997	.	17.7	7.8	2,120	0.4	P
Dec-05-1997	.	12.7	8.3	1,115	1.1	P
Dec-11-1997	.	8.8	8.0	1,433	1.1	P
Dec-18-1997	.	11.6	7.6	2,140	1.3	P
Dec-26-1997	.	7.1	7.4	2,480	1.3	P
Jan-02-1998	.	12.1	7.3	2,730	1.2	P
Jan-08-1998	.	12.7	7.9	2,830	0.8	P
Jan-15-1998	.	11.0	7.2	281	0.5	P
Jan-22-1998	.	11.0	7.7	533	0.6	P
Jan-29-1998	.	12.7	7.5	1,437	0.7	P

Table 12. Weekly water quality monitoring at Station H (San Joaquin River at Hills Ferry), 1997-98.

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
Nov-06-1997	.	18.8	7.0	1,703	5.0	P
Nov-14-1997	.	14.3	7.7	1,570	4.1	P
Nov-19-1997	.	15.4	7.7	1,639	3.3	P
Nov-25-1997	.	17.7	7.7	1,950	3.0	P
Dec-05-1997	.	13.2	8.2	1,391	1.7	P
Dec-11-1997	.	8.2	7.9	1,573	3.4	P
Dec-18-1997	.	11.0	7.6	2,020	2.0	P
Dec-26-1997	.	8.8	7.8	2,450	3.7	P
Jan-02-1998	.	12.1	7.3	2,710	3.3	P
Jan-08-1998	.	12.1	8.0	2,460	5.1	P
Jan-15-1998	.	11.0	7.1	669	2.0	P
Jan-22-1998	.	11.0	7.7	692	1.0	P
Jan-28-1998	.	13.2	7.8	1,622	2.4	P

Table 13. Weekly water quality monitoring at Station J (Camp 13 Ditch), 1997-98.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	pH	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	SLDMWA	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	°C		µS/cm	µg/l	mg/l
Nov-05-1997	5	NA	NA	673	0.8	P
Nov-12-1997	5	NA	NA	728	0.7	P
Nov-19-1997	5	NA	NA	833	1.6	P
Nov-25-1997	8	NA	NA	807	1.6	P
Dec-03-1997	5	NA	NA	1,219	8.4	P
Dec-10-1997	7	NA	NA	1,468	5.2	P
Dec-17-1997	2	NP	NP	2,890	8.9	P
Dec-23-1997	2	NA	NA	6,530	1.6	P
Dec-30-1997	10	NP	NP	1,078	0.8	P
Jan-07-1998	10	NA	NA	1,106	1.0	P
Jan-14-1998	1	NA	NA	1,142	1.2	P
Jan-21-1998	1	NA	NA	2,050	1.7	P
Jan-28-1998	1	NA	NA	6,610	1.6	P

Table 14. Weekly water quality monitoring at Station K (Agatha Canal), 1997-98.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	pH	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	SLDMWA	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	°C		µS/cm	µg/l	mg/l
Nov-05-1997	50	NA	NA	634	0.7	P
Nov-12-1997	25	NA	NA	758	0.9	P
Nov-19-1997	15	NA	NA	623	1.8	P
Nov-25-1997	25	NA	NA	629	1.7	P
Dec-03-1997	20	NA	NA	631	1.9	P
Dec-10-1997	16	NA	NA	664	0.9	P
Dec-17-1997	0	NP	NP	765	1.5	P
Dec-23-1997	5	NA	NA	948	0.9	P
Dec-30-1997	16	NP	NP	1,079	5.9	P
Jan-07-1998	7	NA	NA	830	0.7	P
Jan-14-1998	1	NA	NA	1,037	1.2	P
Jan-21-1998	1	NA	NA	1,660	1.6	P
Jan-28-1998	1	NA	NA	2,270	1.5	P

Table 15. Weekly water quality monitoring at Station L (San Luis Canal at Henry Miller Road), 1997-98.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	pH	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	SLDMWA	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	°C		µS/cm	µg/l	mg/l
Nov-05-1997	NA	NA	NA	772	0.8	P
Nov-12-1997	NA	NA	NA	806	1.1	P
Nov-19-1997	NA	NA	NA	788	1.4	P
Nov-25-1997	NA	NA	NA	674	2.0	P
Dec-03-1997	47	NA	NA	1,220	7.2	P
Dec-10-1997	78	NA	NA	1,700	2.0	P
Dec-17-1997	66	NP	NP	1,884	1.3	P
Dec-23-1997	18	NA	NA	2,170	1.4	P
Dec-30-1997	13	NP	NP	2,320	1.1	P
Jan-07-1998	53	NA	NA	1,201	1.0	P
Jan-14-1998	78	NA	NA	1,014	1.8	P
Jan-21-1998	105	NA	NA	1,718	1.4	P
Jan-28-1998	61	NA	NA	1,520	1.5	P

Table 16. Weekly water quality monitoring at Station M (Santa Fe Canal at Henry Miller Road), 1997-98.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	pH	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	SLDMWA	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	°C		µS/cm	µg/l	mg/l
Nov-05-1997	NA	NA	NA	970	0.9	P
Nov-12-1997	NA	NA	NA	1,100	1.1	P
Nov-19-1997	NA	NA	NA	1,197	1.1	P
Nov-25-1997	NA	NA	NA	1,390	1.1	P
Dec-03-1997	27	NA	NA	1,345	2.9	P
Dec-10-1997	17	NA	NA	1,710	1.2	P
Dec-17-1997	29	NP	NP	1,858	1.1	P
Dec-23-1997	7	NA	NA	2,130	1.4	P
Dec-30-1997	9	NP	NP	2,410	1.3	P
Jan-07-1998	24	NA	NA	1,570	1.0	P
Jan-14-1998	47	NA	NA	1,812	1.4	P
Jan-21-1998	0	NA	NA	5,550	0.9	P
Jan-28-1998	16	NA	NA	2,020	1.3	P

Table 17. Weekly water quality monitoring at Station N (San Joaquin River at Crow's Landing), 1997-98.

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
Nov-06-1997	702	18.8	7.7	1,163	2.7	P
Nov-14-1997	830	14.3	7.8	1,149	2.6	P
Nov-19-1997	893	15.4	6.7	1,162	2.0	P
Nov-25-1997	697	17.1	7.7	1,360	1.9	P
Dec-05-1997	1,110	13.2	8.4	1,119	1.4	P
Dec-11-1997	1,190	NA	7.8	1,241	2.7	P
Dec-18-1997	862	11.0	7.6	1,507	1.6	P
Dec-26-1997	621	9.3	7.8	1,664	1.6	P
Jan-02-1998	546	54.0	7.5	1,696	1.5	P
Jan-08-1998	651	54.0	7.9	1,573	3.1	P
Jan-15-1998	2,290	52.0	7.3	616	1.6	P
Jan-22-1998	4,330	52.0	7.7	542	0.9	P
Jan-28-1998	2,130	56.0	7.7	961	1.4	P

Table 18. Summary of fathead minnow (*Pimephales promelas*) larvae survival in 7-day tests using water samples collected from February 1997 to January 1998. 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	%	%	%	%	%	%
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
November-97	85	75*	88	88	98	98
December-97	90	50*	58*	83	88	85
January-98	100	40*	50*	90	90	95

Table 19. Summary of fathead minnow (*Pimephales promelas*) larvae growth in 7-day tests using water samples collected from February 1997 to January 1998. 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
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
November-97	0.55*	0.57*	0.72	0.65*	0.76	0.71
December-97	0.60	0.38*	0.52	0.63	0.63	0.57
January-98	0.65	0.26*	0.30*	0.58	0.54	0.57

Table 20. Summary of *Daphnia magna* survival in 7-day tests using water samples collected from February 1997 to January 1998. 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	%	%	%	%	%	%
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
November-97	100	80	100	100	100	0
December-97	100	100	90	80	100	80
January-98	80	90	100	100	100	0

Table 21. Summary of *Daphnia magna* reproduction in 7-day tests using water samples collected from February 1997 to January 1998. 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
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
November-97	37.3	28.6	34.0	30.0	22.0	21.5 (3)
December-97	46.0	44.5	41.2	32.7*	43.6	21.1
January-98	13.7*	21.8	18.5*	14.5*	27.4	0.0

Table 22. Summary of *Selenastrum capricornutum* growth in 4-day tests using water samples collected from February 1997 to January 1998. 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
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
November-97	23.8	19.6	23.8	29.0	15.8	31.3
December-97	14.8	14.2	24.2	19.2	6.3	25.0
January-98	1.04*	11.9	14.5	6.8	9.1	9.1

Table 23. Summary of selenium concentrations in grab water samples collected at study sites for use in laboratory toxicity tests, October 1997 to January 1998.

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
Oct-14-1997	48	<2	10	<2	<2
Oct-16-1997	58	<2	10	<2	<2
Oct-18-1997	47	<2	12	<2	<2
Nov-04-1997	63	<2	18	<2	<2
Nov-06-1997	60	<2	10	<2	<2
Nov-08-1997	65	<2	12	<2	<2
Dec-02-1997	32	<2	4	<2	<2
Dec-04-1997	32	<2	3	<2	<2
Dec-06-1997	27	<2	6	<2	<2
Jan-20-1998	75	<2	4	<2	<2
Jan-22-1998	92	<2	3	<2	<2
Jan-24-1998	64	<2	<2	<2	<2

Table 24. Summary of sulfate concentrations in grab water samples collected at study sites for use in laboratory toxicity tests, October 1997 to January 1998.

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
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
Nov-04-1997	1,730	173	545	205	41
Nov-06-1997	1,720	170	543	192	29
Nov-08-1997	1,800	179	528	202	28
Dec-02-1997	1,390	167	317	277	35
Dec-04-1997	1,440	166	299	297	57
Dec-06-1997	990	164	305	294	46
Jan-20-1998	1,560	138	208	421	71
Jan-22-1998	1,600	110	161	399	52
Jan-24-1998	1,490	121	181	428	40

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-1995 ⁽⁴⁾	NT	NT	NT	NT	NT	NT
March-1996 ⁽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
e	estimated value
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
(3)	There were no surviving <i>D. magna</i> at test completion. Value represents reproduction that occurred prior to mortality.
(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 Sit
*	Significantly reduced from Delta Mendota Canal (p<0.05)
**	possible calibration problem