

**GRASSLAND BYPASS PROJECT**

**MONTHLY DATA REPORT**

**November 1997**

January 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**

## GRASSLAND BYPASS PROJECT

## MONTHLY DATA REPORT

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

See Table 26 for explanation of footnotes and agency abbreviations.

<b>PARAMETER</b>	<b>Flow</b>
<b>DATA SOURCE</b>	<b>USBR</b>
<b>UNITS</b>	<b>cfs</b>
Nov-01-1997	18.1
Nov-02-1997	18.1
Nov-03-1997	20.3
Nov-04-1997	17.1
Nov-05-1997	16.3
Nov-06-1997	15.2
Nov-07-1997	16.5
Nov-08-1997	17.8
Nov-09-1997	16.5
Nov-10-1997	14.2
Nov-11-1997	34.4
Nov-12-1997	27.9
Nov-13-1997	22.3
Nov-14-1997	19.6
Nov-15-1997	17.8
Nov-16-1997	19.3
Nov-17-1997	16.2
Nov-18-1997	16.0
Nov-19-1997	16.4
Nov-20-1997	15.3
Nov-21-1997	14.3
Nov-22-1997	12.3
Nov-23-1997	12.8
Nov-24-1997	11.5
Nov-25-1997	8.2
Nov-26-1997	12.0
Nov-27-1997	14.3
Nov-28-1997	11.6
Nov-29-1997	10.6
Nov-30-1997	18.3

Table 2. Continuous water monitoring at Station B (discharge from San Luis Drain), November 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
Nov-01-1997	26.3	18.4	4,380	47.1	6.7
Nov-02-1997	26.3	18.6	4,430	49.4	7.0
Nov-03-1997	25.8	18.7	4,500	42.6	5.9
Nov-04-1997	27.3	18.9	5,060	56.4	8.3
Nov-05-1997	25.5	19.0	5,130	55.2	7.6
Nov-06-1997	24.7	18.9	5,060	48.6	6.5
Nov-07-1997	23.7	18.8	5,210	56.4	7.2
Nov-08-1997	23.2	17.6	5,120	55.9	7.0
Nov-09-1997	25.7	16.7	4,750	50.7	7.0
Nov-10-1997	25.1	16.2	4,550	43.1	5.8
Nov-11-1997	25.9	15.7	4,660	48.4	6.8
Nov-12-1997	38.8	15.8	4,730	49.9	10.4
Nov-13-1997	35.5	15.9	4,700	54.0	10.3
Nov-14-1997	31.4	15.5	4,630	46.0	7.8
Nov-15-1997	29.2	14.5	4,530	41.8	6.6
Nov-16-1997	27.6	13.7	4,290	49.9	7.4
Nov-17-1997	27.3	14.2	4,320	49.6	7.3
Nov-18-1997	25.9	14.2	4,430	52.1	7.3
Nov-19-1997	25.9	14.0	4,520	48.2	6.7
Nov-20-1997	24.8	13.9	4,700	50.8	6.8
Nov-21-1997	24.8	13.6	4,680	48.0	6.4
Nov-22-1997	25.4	13.6	4,770	48.1	6.6
Nov-23-1997	23.0	14.2	4,650	46.0	5.7
Nov-24-1997	23.6	15.2	4,780	43.2	5.5
Nov-25-1997	23.1	15.7	4,900	46.4	5.8
Nov-26-1997	23.9	15.2	4,730	46.2	6.0
Nov-27-1997	24.2	14.4	4,710	49.8	6.5
Nov-28-1997	24.6	14.1	4,830	47.8	6.3
Nov-29-1997	23.3	13.6	4,950	50.6	6.4
Nov-30-1997	23.5	12.9	4,740	43.4	5.5
.	.	.	.	.	.
Mean	26.2	15.7	4,715	48.9	
<b>Total</b>					<b>207</b>

<b>Load Limitation for November 1997 (lbs)</b>	<b>348</b>
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**Table 3. Continuous water monitoring at Station D  
(Mud Slough North downstream of drainage discharges), November 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
Nov-01-1997	120	18.8	2,070
Nov-02-1997	120	19.0	2,020
Nov-03-1997	118	18.9	2,040
Nov-04-1997	119	19.1	2,220
Nov-05-1997	118	18.9	2,220
Nov-06-1997	122	18.5	2,160
Nov-07-1997	126	18.2	2,120
Nov-08-1997	125	16.4	2,150
Nov-09-1997	126	15.5	2,150
Nov-10-1997	136	15.1	2,010
Nov-11-1997	162	14.8	1,820
Nov-12-1997	200	15.1	1,950
Nov-13-1997	201	15.3	1,900
Nov-14-1997	191	14.9	1,850
Nov-15-1997	191	13.6	1,790
Nov-16-1997	200	12.7	1,760
Nov-17-1997	204	13.6	1,740
Nov-18-1997	202	13.4	1,730
Nov-19-1997	193	13.4	1,780
Nov-20-1997	187	13.2	1,780
Nov-21-1997	182	12.7	1,730
Nov-22-1997	182	13.0	1,720
Nov-23-1997	170	14.1	1,770
Nov-24-1997	156	15.0	1,860
Nov-25-1997	148	15.6	1,970
Nov-26-1997	177	14.5	1,850
Nov-27-1997	207	13.3	1,730
Nov-28-1997	212	12.8	1,770
Nov-29-1997	212	12.2	1,740
Nov-30-1997	222	11.5	1,720
.	.	.	.

Table 4. Continuous water monitoring at Station F (Salt Slough at Highway 165), November 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
Nov-01-1997	108	18.0	1,450
Nov-02-1997	112	17.9	1,470
Nov-03-1997	124	17.7	1,460
Nov-04-1997	133	18.0	1,410
Nov-05-1997	138	17.7	1,390
Nov-06-1997	138	17.3	1,360
Nov-07-1997	143	17.2	1,340
Nov-08-1997	127	15.5	1,400
Nov-09-1997	127	14.5	1,380
Nov-10-1997	138	14.1	1,310
Nov-11-1997	166	14.5	1,260
Nov-12-1997	186	14.7	1,200
Nov-13-1997	195	15.0	1,240
Nov-14-1997	199	14.6	1,280
Nov-15-1997	212	13.5	1,270
Nov-16-1997	220	12.5	1,240
Nov-17-1997	196	13.5	1,420
Nov-18-1997	186	13.4	1,450
Nov-19-1997	178	13.5	1,450
Nov-20-1997	156	13.4	1,560
Nov-21-1997	139	12.8	1,640
Nov-22-1997	130	13.1	1,660
Nov-23-1997	119	14.3	1,670
Nov-24-1997	106	15.3	1,780
Nov-25-1997	104	15.8	1,750
Nov-26-1997	111	14.8	1,720
Nov-27-1997	131	13.7	1,630
Nov-28-1997	153	13.2	1,510
Nov-29-1997	148	12.4	1,520
Nov-30-1997	146	12.0	1,520

Table 5. Continuous water monitoring at Station N (San Joaquin River at Crow's Landing), November 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
Nov-01-1997	714	17.7	1,111	2.5
Nov-02-1997	772	17.6	950	1.9
Nov-03-1997	758	17.6	972	1.9
Nov-04-1997	735	17.8	1,066	2.2
Nov-05-1997	710	17.6	1,118	2.2
Nov-06-1997	702	17.4	1,162	2.2
Nov-07-1997	674	17.2	1,445	2.8
Nov-08-1997	695	16.1	1,212	2.2
Nov-09-1997	700	14.9	1,183	2.4
Nov-10-1997	709	14.6	1,212	2.3
Nov-11-1997	750	14.6	1,180	2.1
Nov-12-1997	774	14.7	1,146	2.0
Nov-13-1997	805	15.0	NA	NA
Nov-14-1997	830	14.9	NA	NA
Nov-15-1997	846	14.1	NA	NA
Nov-16-1997	871	12.9	NA	NA
Nov-17-1997	881	13.1	NA	NA
Nov-18-1997	885	13.4	NA	NA
Nov-19-1997	893	13.5	NA	NA
Nov-20-1997	849	13.3	1,162	2.1
Nov-21-1997	789	12.8	1,202	2.0
Nov-22-1997	765	12.8	1,277	2.1
Nov-23-1997	748	13.6	1,298	2.1
Nov-24-1997	723	14.6	1,305	2.3
Nov-25-1997	697	15.3	1,321	2.0
Nov-26-1997	728	15.0	1,376	1.9
Nov-27-1997	761	13.9	1,349	1.9
Nov-28-1997	799	13.1	1,307	1.8
Nov-29-1997	813	12.6	1,289	1.9
Nov-30-1997	866	12.3	1,283	2.0

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
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
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

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
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
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

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
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
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

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
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
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

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
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
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

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
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
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

**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
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
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

**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
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
Nov-05-1997	NA	NA	673	0.8	P
Nov-12-1997	NA	NA	728	0.7	P
Nov-19-1997	NA	NA	833	1.6	P
Nov-25-1997	NA	NA	807	1.6	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
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
Nov-05-1997	NA	NA	634	0.7	P
Nov-12-1997	NA	NA	758	0.9	P
Nov-19-1997	NA	NA	623	1.8	P
Nov-25-1997	NA	NA	629	1.7	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
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
Nov-05-1997	NA	NA	772	0.8	P
Nov-12-1997	NA	NA	806	1.1	P
Nov-19-1997	NA	NA	788	1.4	P
Nov-25-1997	NA	NA	674	2.0	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
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
Nov-05-1997	.	NA	NA	970	0.9	P
Nov-12-1997	.	NA	NA	1,100	1.1	P
Nov-19-1997	.	NA	NA	1,197	1.1	P
Nov-25-1997	.	NA	NA	1,390	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
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
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

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	%	%	%	%	%	%
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
November-97	85	75*	88	88	98	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
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
November-97	0.55*	0.57*	0.72	0.65*	0.76	0.71

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	%	%	%	%	%	%
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
November-97	100	80	100	100	100	0

Table 21. Summary of *Daphnia magna* reproduction in 7-day tests using water samples collected from December 1996 to November 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
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
November-97	37.3	28.6	34.0	30.0	22.0	21.5 <sup>(3)</sup>

Table 22. Summary of *Selenastrum capricornutum* growth in 4-day tests using water samples collected from December 1996 to November 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 <sup>5</sup> cells/ml	10 <sup>5</sup> cells/ml	10 <sup>5</sup> cells/ml	10 <sup>5</sup> cells/ml	10 <sup>5</sup> cells/ml	10 <sup>5</sup> cells/ml
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
November-97	23.8	19.6	23.8	29.0	15.8	31.3

Table 23. Summary of selenium concentrations in grab water samples collected at study sites for use in laboratory toxicity tests, August 1996 to November 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
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
Nov-04-1997	63	<2	18	<2	<2
Nov-06-1997	60	<2	10	<2	<2
Nov-08-1997	65	<2	12	<2	<2

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

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 <sup>(14)</sup> 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 <sup>(4)</sup>	NT	NT	NT	NT	NT	NT
March-1996 <sup>(5)</sup>	80/80	NT	NT	44/44	NT	70/70
August-1996 <sup>(6)</sup>	NT	NT	13/19	22/29	28/40	20/49
November-1996 <sup>(7)</sup>	46/62	63/68	0/2	.	16/36	.
February-1997 <sup>(8)</sup>	NT	3/13	0/0	.	0/11	.
May-1997	64/66	0/0	0/24	.	5/9	.
August-1997 <sup>(9)</sup>	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