

# GRASSLAND BYPASS PROJECT

## MONTHLY DATA REPORT

**April 2000**

July 31, 2000

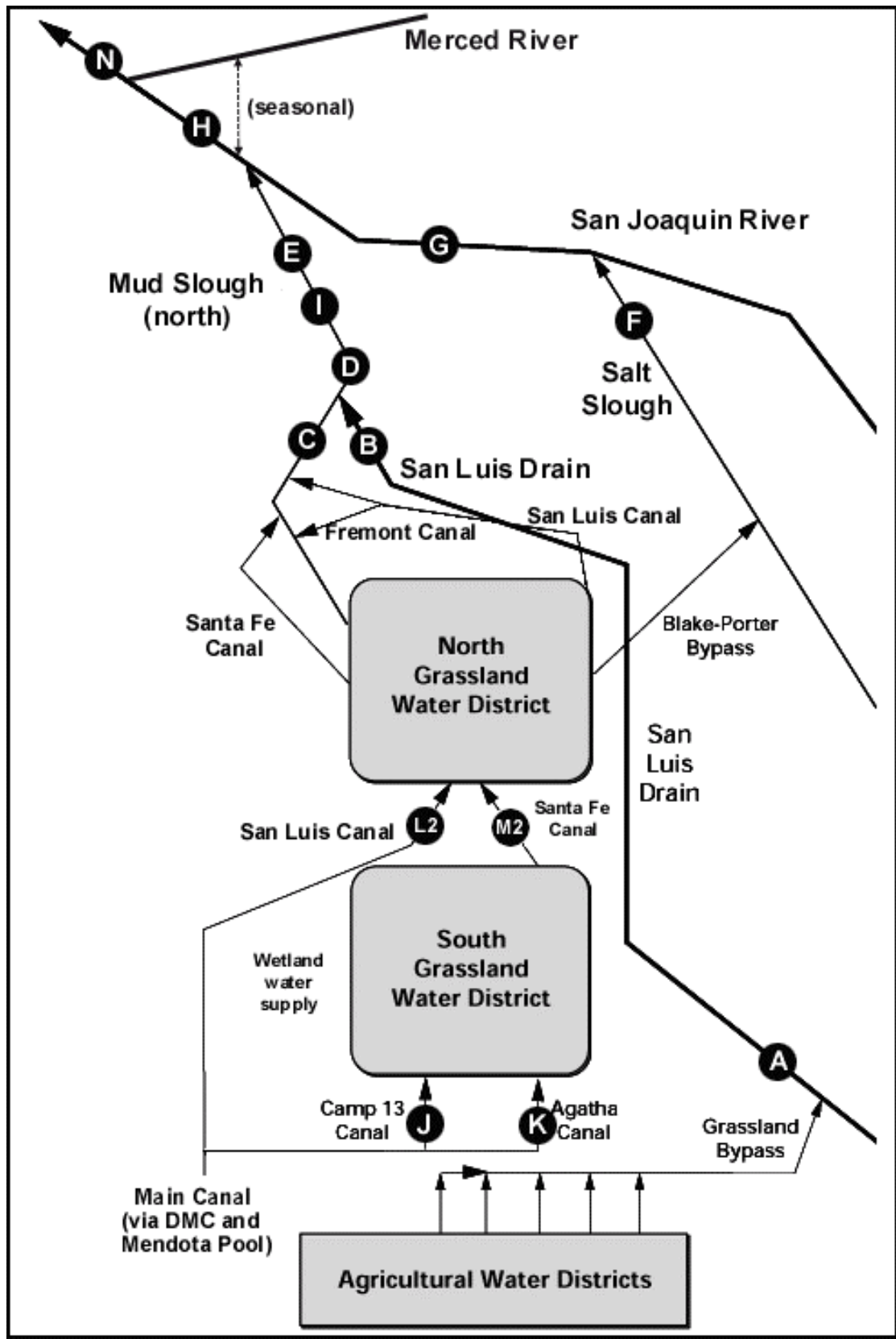
### Preliminary Results

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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Flow data reported by SLDMWA since October 1, 1999.**

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Specific Conductance
DATA SOURCE	SLDMWA	SLDMWA
UNITS	cfs	µS/cm
Apr-01-2000	41	4,720
Apr-02-2000	43	4,720
Apr-03-2000	42	4,620
Apr-04-2000	43	4,510
Apr-05-2000	46	4,560
Apr-06-2000	39	4,480
Apr-07-2000	37	4,570
Apr-08-2000	40	4,250
Apr-09-2000	38	4,720
Apr-10-2000	41	4,740
Apr-11-2000	37	4,850
Apr-12-2000	36	5,020
Apr-13-2000	36	5,130
Apr-14-2000	38	5,030
Apr-15-2000	41	4,850
Apr-16-2000	43	4,780
Apr-17-2000	49	4,670
Apr-18-2000	74	3,700
Apr-19-2000	70	3,810
Apr-20-2000	56	4,270
Apr-21-2000	52	4,700
Apr-22-2000	47	4,940
Apr-23-2000	43	5,000
Apr-24-2000	43	5,060
Apr-25-2000	42	5,020
Apr-26-2000	40	5,010
Apr-27-2000	41	5,110
Apr-28-2000	40	5,000
Apr-29-2000	41	4,880
Apr-30-2000	39	4,940
	.	.
Mean	44	4,720

**Table 2. Continuous water monitoring at Station B (discharge from San Luis Drain), April 2000.**

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	Boron	Specific Conductance	Selenium (total)	Selenium (total) Load
DATA SOURCE	USGS	USGS	CVRWQCB	CVRWQCB	CVRWQCB	Computed
UNITS	cfs	°C	mg/L	µS/cm	µg/L	lbs
Apr-01-2000	42	18.0	8.1	5,290	83.9	19.0
Apr-02-2000	43	19.7	7.9	5,240	85.5	19.8
Apr-03-2000	44	21.2	7.8	5,330	84.2	20.0
Apr-04-2000	42	21.8	7.9	5,270	80.0	18.1
Apr-05-2000	45	21.6	7.5	5,080	77.8	18.9
Apr-06-2000	46	21.5	7.3	5,090	81.6	20.2
Apr-07-2000	40 e	NA	7.4	4,970	83.5	18.0
Apr-08-2000	38 e	NA	7.1	4,880	80.6	16.5
Apr-09-2000	41 e	NA	7.2	4,910	83.2	18.4
Apr-10-2000	39 e	NA	7.1	4,890	83.1	17.5
Apr-11-2000	42 e	NA	8.5	5,070	80.0	18.1
Apr-12-2000	38 e	NA	7.4	4,720	62.8	12.9
Apr-13-2000	37 e	NA	7.3	4,700	60.6	12.1
Apr-14-2000	35	20.9	8.4	5,410	83.7	15.8
Apr-15-2000	38	20.2	8.0	5,090	70.4	14.4
Apr-16-2000	41	19.0	8.5	5,390	79.9	17.7
Apr-17-2000	45 e	NA	8.6	5,490	79.9	19.4
Apr-18-2000	50 e	NA	8.5	5,380	80.0	21.6
Apr-19-2000	76 e	NA	7.6	5,140	77.0	31.6
Apr-20-2000	72 e	NA	7.0	4,750	74.4	28.9
Apr-21-2000	57 e	NA	5.5	3,860	57.1	17.6
Apr-22-2000	54	19.9	5.8	4,070	57.0	16.6
Apr-23-2000	48	19.9	6.4	4,460	62.9	16.3
Apr-24-2000	44	20.0	7.1	4,900	68.5	16.3
Apr-25-2000	44	20.6	7.7	5,270	74.3	17.6
Apr-26-2000	43	21.2	8.2	5,390	72.5	16.8
Apr-27-2000	41	22.2	8.4	5,460	77.3	17.1
Apr-28-2000	38	21.0	8.7	5,590	87.9	18.0
Apr-29-2000	39	20.4	8.6	5,540	78.4	16.5
Apr-30-2000	41	21.2	8.4	5,520	77.2	17.1
Mean	45	21	8	5,070	76.2	
<b>Total</b>						<b>549</b>

<b>Load Limitation for April 2000</b>	<b>(lbs)</b>	<b>719</b>
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**Table 3. Continuous water monitoring at Station D  
(Mud Slough North downstream of drainage discharges), April 2000.**

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
Apr-01-2000	86	17.1	3,810
Apr-02-2000	88	19.2	3,560
Apr-03-2000	97	20.8	3,390
Apr-04-2000	97	21.2	3,360
Apr-05-2000	92	20.5	3,340
Apr-06-2000	113	20.4	3,090
Apr-07-2000	108	19.9	3,160
Apr-08-2000	96	20.6	3,140
Apr-09-2000	95	20.1	3,180
Apr-10-2000	89	20.0	3,470
Apr-11-2000	84	21.2	3,730
Apr-12-2000	79	22.1	3,750
Apr-13-2000	70	21.3	3,680
Apr-14-2000	71	20.4	3,720
Apr-15-2000	80	19.7	3,440
Apr-16-2000	81	18.1	3,460
Apr-17-2000	97	15.8	NA
Apr-18-2000	121	16.4	NA
Apr-19-2000	150	17.8	NA
Apr-20-2000	142	18.9	3,360
Apr-21-2000	127	19.9	2,600
Apr-22-2000	121	19.7	2,200
Apr-23-2000	107	19.3	2,900
Apr-24-2000	88	19.5	3,390
Apr-25-2000	75	20.1	4,050
Apr-26-2000	67	20.9	4,440
Apr-27-2000	63	21.5	4,490
Apr-28-2000	58	20.1	4,670
Apr-29-2000	56	19.5	4,620
Apr-30-2000	56	20.8	4,610
	.	.	.

**Table 4. Continuous water monitoring at Station F (Salt Slough at Highway 165), April 2000.**

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
Apr-01-2000	237	17.3	1,420
Apr-02-2000	235	18.8	1,450
Apr-03-2000	264	20.5	1,340
Apr-04-2000	277	20.9	1,310
Apr-05-2000	258	20.3	1,340
Apr-06-2000	250	20.0	1,280
Apr-07-2000	241	19.9	1,190
Apr-08-2000	244	20.3	1,170
Apr-09-2000	236	19.9	1,160
Apr-10-2000	218	19.5	1,170
Apr-11-2000	189	20.8	1,220
Apr-12-2000	152	22.0	1,360
Apr-13-2000	140	21.1	1,380
Apr-14-2000	168	19.4	1,290
Apr-15-2000	232	18.9	1,110
Apr-16-2000	243	17.9	1,160
Apr-17-2000	275	16.0	1,120
Apr-18-2000	359	15.8	1,040
Apr-19-2000	496	16.8	957
Apr-20-2000	552	18.1	992
Apr-21-2000	498	19.6	1,150
Apr-22-2000	393	19.3	1,250
Apr-23-2000	332	18.8	1,290
Apr-24-2000	305	18.9	1,310
Apr-25-2000	261	19.9	1,330
Apr-26-2000	198	21.1	1,440
Apr-27-2000	183	21.8	1,470
Apr-28-2000	169	19.8	1,510
Apr-29-2000	166	18.8	1,500
Apr-30-2000	178	20.3	1,460
	.	.	.

**Table 5. Continuous water monitoring at Station N (San Joaquin River at Crow's Landing), April 2000.**

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
Apr-01-2000	1,260	15.8	1,270	3.0
Apr-02-2000	1,150	17.3	1,360	3.2
Apr-03-2000	1,120	18.7	NA	NA
Apr-04-2000	1,100	19.3	NA	NA
Apr-05-2000	1,090	19.1	NA	NA
Apr-06-2000	1,040	19.0	1,350	3.3
Apr-07-2000	1,080	18.8	1,390	4.1
Apr-08-2000	1,030	18.9	1,370	4.1
Apr-09-2000	965	18.6	1,450	3.9
Apr-10-2000	951	18.5	1,420	3.9
Apr-11-2000	932	19.3	1,430	4.1
Apr-12-2000	874	20.3	1,460	4.3
Apr-13-2000	805	20.5	1,510	4.2
Apr-14-2000	775	20.1	1,610	3.2
Apr-15-2000	792	19.4	1,530	3.3
Apr-16-2000	876	18.2	1,460	4.1
Apr-17-2000	1,120	16.5	1,230	3.5
Apr-18-2000	1,380	16.2	1,110	3.6
Apr-19-2000	1,640	17.2	1,000	3.6
Apr-20-2000	2,600	17.0	879	3.2
Apr-21-2000	3,170	17.2	562	2.4
Apr-22-2000	3,160	17.4	552	2.0
Apr-23-2000	3,100	17.0	539	1.6
Apr-24-2000	3,010	16.7	528	1.6
Apr-25-2000	2,970	17.1	503	1.5
Apr-26-2000	2,850	17.7	493	1.7
Apr-27-2000	2,630	18.2	508	1.9
Apr-28-2000	2,470	17.1	508	1.7
Apr-29-2000	2,410	16.5	516	1.8
Apr-30-2000	2,400	16.8	515	2.0



**Table 6a. Weekly water quality monitoring at Station A (inflow to San Luis Drain), taken from grab samples.  
Flow data reported by SLDMWA since October 1, 1999.**

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	.	.	Specific Conductance	Total Suspended Solids	Selenium (total)	Selenium (dissolved)	Boron
DATA SOURCE	SLDMWA	.	.	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	.	.	µS/cm	mg/L	µg/L	µg/L	mg/L
Feb-02-2000	31	.	.	5,170	80	Selenium and boron analyses		
Feb-09-2000	47	.	.	4,250	290	from weekly grab		
Feb-16-2000	59	.	.	4,870	320	discontinued 2/1/00.		
Feb-23-2000	67	.	.	4,730	310	.	.	.
Mar-01-2000	74	.	.	4,750	290	.	.	.
Mar-08-2000	60	.	.	5,160	160	.	.	.
Mar-15-2000	48	.	.	5,670	90	.	.	.
Mar-22-2000	45	.	.	5,530	50	.	.	.
Mar-29-2000	42	.	.	5,290	NA	.	.	.
Apr-05-2000	46	.	.	4,700	82	.	.	.
Apr-12-2000	36	.	.	5,640	82	.	.	.
Apr-19-2000	70	.	.	4,060	250.0	.	.	.
Apr-26-2000	40	.	.	5,420	120	.	.	.

**Table 6b. Weekly water quality monitoring at Station A (inflow to San Luis Drain), taken from composite samples.  
Flow data reported by SLDMWA since October 1, 1999.**

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	.	.	Specific Conductance	.	Selenium (total)	.	Boron
DATA SOURCE	SLDMWA	.	.	CVRWQCB	.	CVRWQCB	.	CVRWQCB
UNITS	cfs	.	.	µS/cm	.	µg/L	.	mg/L
Feb-01-2000	31	.	.	5,100	.	67.7	.	8.1
Feb-08-2000	47	.	.	4,860	.	74.8	.	7.7
Feb-15-2000	57	.	.	4,570	.	66.2	.	7.0
Feb-22-2000	59	.	.	NA	.	70.9	.	7.3
Feb-29-2000	68	.	.	5,180	.	73.5	.	7.8
Mar-07-2000	66	.	.	4,910	.	79.6	.	6.9
Mar-14-2000	49	.	.	5,520	.	94.9	.	8.4
Mar-21-2000	49	.	.	5,750	.	99.0	.	8.5
Mar-28-2000	46	.	.	5,410	.	91.4	.	8.1
Apr-04-2000	43	.	.	NA	.	81.2	.	7.5
Apr-11-2000	37	.	.	5,110	.	78.8	.	8.0
Apr-18-2000	74	.	.	5,040	.	82.1	.	7.7
Apr-25-2000	42	.	.	5,280	.	79.2	.	7.9

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

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	USGS	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	°C		µS/cm	mg/L	µg/L	µg/L	mg/L
Feb-03-2000	35	13.4	7.6	4,860	72	59.4	Selenium	7.8
Feb-10-2000	52	14.7	7.8	4,690	81	64.6	(dissolved)	7.2
Feb-17-2000	66	13.4	7.9	4,250	72	55.3	analyses	6.2
Feb-24-2000	67	11.7	7.6	4,660	57	69.6	discontinued	7.2
Mar-02-2000	75	13.0	7.7	4,980	74	80.8	1/15/2000.	7.6
Mar-09-2000	62	12.7	7.8	4,990	50	78.9	.	7.0
Mar-15-2000	49	18.9	NA	5,450	66	96.0	.	8.2
Mar-23-2000	46	15.1	8.0	5,600	37	94.6	.	8.3
Mar-30-2000	41	16.9	8.1	5,540	NA	99.3	.	8.2
Apr-06-2000	46	20.2	8.4	4,870	59	74.3	.	7.3
Apr-13-2000	37 e	20.5	8.3	4,700	56	60.8	.	7.5
Apr-20-2000	72 e	17.7	7.7	5,010	90	82.1	.	7.6
Apr-27-2000	41	23.1	NA	5,460	71	75.9	.	8.4

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

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	pH	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	calculated **	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	°C		µS/cm	µg/L	mg/L
Feb-03-2000	193	13.8	7.9	1,720	1.1	1.5
Feb-10-2000	123	15.0	6.7	1,800	0.6	1.5
Feb-17-2000	293	12.5	7.5	1,380	0.7	1.3
Feb-24-2000	289	10.9	7.9	1,280	0.9	1.2
Mar-02-2000	281	12.3	8.0	1,620	0.8	1.4
Mar-09-2000	160	12.8	8.1	1,990	0.7	1.8
Mar-15-2000	199	19.0	NA	1,760	0.8	1.6
Mar-23-2000	87	15.0	7.7	2,120	1.0	1.9
Mar-30-2000	65	16.6	8.2	2,400	<0.4	2.1
Apr-06-2000	67	21.1	8.3	2,240	1.1	2.1
Apr-13-2000	33	21.6	8.1	2,580	0.8	2.3
Apr-20-2000	70	18.9	8.2	1,660	1.4	1.6
Apr-27-2000	22	23.8	NA	2,160	1.2	1.6

++ Calculated flow value. Flow at Station C = flow at Station D - flow at Station B.

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

See Table 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
Feb-03-2000	228	13.8	8.1	2,330	10.1	2.6
Feb-10-2000	175	14.9	7.0	2,710	19.6	3.2
Feb-17-2000	359	13.1	7.9	1,930	10.1	2.2
Feb-24-2000	356	11.0	7.9	1,910	12.4	2.2
Mar-02-2000	356	12.7	7.9	2,520	14.6	3.0
Mar-09-2000	222	12.7	8.0	3,000	23.2	3.4
Mar-15-2000	248	19.1	NA	2,600	18.9	3.1
Mar-23-2000	133	14.9	7.4	3,380	30.9	4.2
Mar-30-2000	106	15.9	8.3	3,880	46.6	4.7
Apr-06-2000	113	20.4	8.3	3,350	27.9	4.1
Apr-13-2000	70	21.1	8.2	3,820	31.1	5.0
Apr-20-2000	142	18.4	7.9	3,360	38.6	4.6
Apr-27-2000	63	22.2	NA	4,530	53.5	6.1

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

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
Feb-03-2000	153	12.1	7.6	2,370	0.7	1.7
Feb-10-2000	143	14.7	7.4	2,000	1.1	1.4
Feb-17-2000	398	12.5	7.4	1,750	1.1	1.3
Feb-24-2000	271	11.5	7.4	1,690	1.6	1.2
Mar-02-2000	392	13.0	7.4	1,670	1.6	1.1
Mar-09-2000	429	13.9	7.6	1,600	1.1	1.1
Mar-15-2000	353	18.8	NA	1,690	1.7	1.1
Mar-23-2000	357	15.5	7.4	1,510	1.1	1.2
Mar-30-2000	324	15.4	7.9	1,310	0.5	0.9
Apr-06-2000	250	18.1	7.4	1,380	1.0	0.7
Apr-13-2000	140	19.2	7.6	1,790	0.7	0.9
Apr-20-2000	552	16.8	7.9	1,030	1.0	0.6
Apr-27-2000	183	20.2	NA	1,650	0.9	0.7

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

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
Feb-03-2000	.	11.6	7.6	1,770	0.6	1.1
Feb-10-2000	.	13.9	7.9	1,950	1.0	1.2
Feb-17-2000	.	12.7	7.6	295	0.4	0.1
Feb-24-2000	.	11.2	7.2	627	0.9	0.3
Mar-02-2000	.	12.6	7.4	432	0.7	0.2
Mar-09-2000	.	13.5	7.6	518	0.5	0.2
Mar-15-2000	.	18.8	NA	665	0.5	0.3
Mar-23-2000	.	15.8	7.8	1,030	0.9	0.6
Mar-30-2000	.	15.1	7.4	1,500	0.9	0.9
Apr-06-2000	.	18.5	7.7	1,630	0.6	0.7
Apr-13-2000	.	19.4	7.6	2,180	0.5	0.8
Apr-20-2000	.	16.8	7.9	783	0.8	0.4
Apr-27-2000	.	19.1	NA	1,070	0.6	0.4

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

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	.
.	.	.	.	.	.	.	.	.	.	.	.
.	Data no longer collected regularly for this station. Contact CVRWQCB for details.										

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

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	.	.	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	SLDMWA <sup>††</sup>	.	.	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	.	.	µS/cm	µg/L	mg/L
Feb-02-2000	2	.	.	879	1.6	0.8
Feb-09-2000	2	.	.	839	1.7	0.7
Feb-16-2000	2	.	.	1,030	2.1	1.1
Feb-23-2000	2	.	.	1,220	2.8	1.3
Mar-01-2000	3	.	.	1,030	2.6	1.1
Mar-08-2000	5	.	.	585	1.4	0.7
Mar-15-2000	5	.	.	731	1.9	1.0
Mar-22-2000	5	.	.	344	0.6	0.4
Mar-29-2000	5	.	.	336	0.5	0.4
Apr-05-2000	5	.	.	737	2.3	0.7
Apr-12-2000	10	.	.	696	1.9	0.5
Apr-19-2000	10	.	.	517	2.0	0.5
Apr-26-2000	5	.	.	693	2.0	0.5

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

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	.	.	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	SLDMWA <sup>††</sup>	.	.	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	.	.	µS/cm	µg/L	mg/L
Feb-02-2000	10	.	.	943	1.0	1.0
Feb-09-2000	10	.	.	1,250	0.9	1.9
Feb-16-2000	10	.	.	1,220	1.5	1.6
Feb-23-2000	15	.	.	1,030	2.0	1.1
Mar-01-2000	15	.	.	491	1.9	0.5
Mar-08-2000	5	.	.	302	0.9	0.3
Mar-15-2000	5	.	.	781	1.8	1.0
Mar-22-2000	5	.	.	569	0.5	0.8
Mar-29-2000	7	.	.	187	0.5	0.2
Apr-05-2000	7	.	.	439	2.2	0.4
Apr-12-2000	15	.	.	599	1.0	0.4
Apr-19-2000	10	.	.	584	1.8	0.5
Apr-26-2000	10	.	.	601	2.3	0.4

**Table 15. Weekly water quality monitoring at Station L2 (San Luis Canal at splits).**

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	.	.	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	SLDMWA <sup>††</sup>	.	.	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	.	.	µS/cm	µg/L	mg/L
Feb-02-2000	0	.	.	2,170	3.3	2.9
Feb-09-2000	2	.	.	2,430	3.6	3.2
Feb-16-2000	12	.	.	1,300	2.1	1.5
Feb-23-2000	30	.	.	983	2.4	0.9
Mar-01-2000	30	.	.	1,010	3.5	0.9
Mar-08-2000	30	.	.	814	1.6	0.9
Mar-15-2000	30	.	.	606	2.1	0.6
Mar-22-2000	30	.	.	647	1.1	0.7
Mar-29-2000	30	.	.	394	0.6	0.4
Apr-05-2000	30	.	.	873	2.7	0.9
Apr-12-2000	30	.	.	812	1.3	0.7
Apr-19-2000	40	.	.	664	1.8	0.5
Apr-26-2000	40	.	.	648	2.4	0.5

**Table 16. Weekly water quality monitoring at Station M2 (Santa Fe Canal at weir).**

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	.	.	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	SLDMWA <sup>††</sup>	.	.	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	.	.	µS/cm	µg/L	mg/L
Feb-02-2000	76	.	.	1,930	0.9	2.4
Feb-09-2000	43	.	.	2,670	1.8	3.5
Feb-16-2000	99	.	.	2,610	1.9	3.3
Feb-23-2000	120	.	.	2,220	1.8	2.9
Mar-01-2000	109	.	.	2,410	2.4	3.0
Mar-08-2000	109	.	.	2,320	1.3	2.7
Mar-15-2000	108	.	.	2,230	1.2	2.7
Mar-22-2000	94	.	.	2,470	1.1	3.9
Mar-29-2000	106	.	.	1,860	0.5	2.8
Apr-05-2000	62	.	.	2,220	1.2	3.3
Apr-12-2000	32	.	.	942	1.4	1.0
Apr-19-2000	100	.	.	1,290	2.3	1.5
Apr-26-2000	41	.	.	1,740	2.0	1.8

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

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
Feb-03-2000	1,210	14.0	7.0	1,490	2.0	0.7
Feb-10-2000	936	14.1	7.7	1,690	4.6	1.4
Feb-17-2000	5,790	13.7	7.0	320	0.8	0.2
Feb-23-2000	5,310	NA	NA	492	1.4	0.4
Mar-02-2000	6,570	12.5	7.6	421	1.3	0.3
Mar-09-2000	6,200	11.2	7.6	446	1.5	0.3
Mar-16-2000	4,840	15.2	NA	498	1.2	0.3
Mar-23-2000	3,250	15.7	8.0	695	2.2	0.5
Mar-30-2000	1,500	17.3	7.5	1,260	3.6	0.9
Apr-06-2000	1,040	15.3	7.8	1,380	3.3	1.0
Apr-13-2000	805	21.5	7.7	1,510	3.2	1.0
Apr-20-2000	2,600	16.2	8.0	679	2.8	0.4
Apr-27-2000	2,630	20.9	NA	503	1.7	0.3

Table 18. Summary of fathead minnow (*Pimephales promelas*) larvae survival in 7-day tests using water samples collected from May 1999 to April 2000. 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	%	%	%	%	%	%
May-1999	98	90	93	88	50 †	98
Jun-1999	98	93	100	98	70 †	100
Jul-1999	93	100	90	93	98	100
Aug-1999	93	100	89	68	98	100
Sep-1999	95	85	93	53	93	98
Oct-1999	100	98	90	70*	98	100
Nov-1999	98	38*	60*	50*	87	95
Dec-1999	100	73*	73*	70*	100	100
Jan-2000	98	33*	48*	85	83	100
Feb-2000	95	85	65*	75*	95	98
Mar-2000	100	100	100	85	93	100
Apr-2000	95	93	95	98	83	100

Table 19. Summary of fathead minnow (*Pimephales promelas*) larvae growth in 7-day tests using water samples collected from May 1999 to April 2000. 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
May-1999	0.78	0.76	0.74	0.61	0.39	0.71
Jun-1999	0.67	0.68	0.72	0.67	0.43	0.72
Jul-1999	0.72	0.77	0.69	0.67	0.68	0.63
Aug-1999	0.60	0.70	0.54	0.44*	0.65	0.63
Sep-1999	0.65	0.49	0.54	0.35	0.59	0.58
Oct-1999	0.70	0.62	0.58	0.51	0.63	0.65
Nov-1999	0.58	0.20*	0.35*	0.29*	0.51	0.52
Dec-1999	0.67	0.47*	0.49	0.50*	0.68	0.61
Jan-2000	0.68	0.23*	0.37	0.59	0.53	0.64
Feb-2000	0.71	0.60	0.54	0.51*	0.68	0.65
Mar-2000	0.66	0.64	0.62	0.62	0.53	0.60
Apr-2000	0.66	0.65	0.69	0.53	0.51	0.82

Table 20. Summary of *Daphnia magna* survival in 7-day tests using water samples collected from May 1999 to April 2000. 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	%	%	%	%	%	%
May-1999	100	90	90	100	100	100
Jun-1999	100	80	90	100	90	90
Jul-1999	90	100	80	90	50 †	90
Aug-1999	100	100	100	100	90	80
Sep-1999	100	100	100	80	100	80
Oct-1999	100	100	100	100	100	80
Nov-1999	100	100	100	100	90	100
Dec-1999	90	100	100	100	90	90
Jan-2000	100	100	100	100	100	100
Feb-2000	90	90	70	70	80	100
Mar-2000	90	90	90	90	90	100
Apr-2000	80	100	90	90	80	100



Table 21. Summary of *Daphnia magna* reproduction in 7-day tests using water samples collected from May 1999 to April 2000. 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
May-1999	31.6	36.0	33.8	37.4	30.8	39.2
Jun-1999	23.8	24.0	21.2	18.5	8.6 †††	10.3
Jul-1999	31.1	35.9	32.6	27.2	12.8	15.7
Aug-1999	19.9	23.2	24.3	19.9	11.4	12.3
Sep-1999	29.2	37.7	36.1	28.4	17.9	14.6
Oct-1999	31.7	25.7	28.4	22.2	22.8	16.8
Nov-1999	16.2	11.7	10.1	14.8	5.3 †††	7.3 †††
Dec-1999	34.9	32.0	43.0	37.7	31.2	40.9
Jan-2000	18.9	22.3	23.0	24.9	15.0	14.0
Feb-2000	37.1	29.0	24.5	22.7	22.5	32.1
Mar-2000	10.6	10.6	13.0	10.6	6.2	12.7
Apr-2000	14.5	17.3	11.2	10.5	9.7 †††	11.6

Table 22. Summary of *Selenastrum capricornutum* growth in 4-day tests using water samples collected from May 1999 to April 2000. 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
May-1999	12.0	13.3	11.8	8.5	11.5 ‡	14.7 ‡
Jun-1999	9.3	10.1	9.4	11.1	7.4 ††††	11.6
Jul-1999	9.1	10.5	9.9	11.2	7.5 ††††	11.9
Aug-1999	9.2*	10.0	10.2	11.9	13.3 ‡	14.9 ‡
Sep-1999	9.8	11.1	10.8	10.2	14.1	23.5
Oct-1999	9.8	10.7	9.0*	11.4	11.8	12.7
Nov-1999	9.9*	12.8	11.4*	12.9	14.3	15.3
Dec-1999	12.0*	22.7	20.9	20.4	18.8	23.4
Jan-2000	2.3*	6.5	7.5	7.3	6.9 ††††	8.2 ††††
Feb-2000	5.8*	9.4	9.8	6.7*	10.0	10.2 ‡
Mar-2000	7.1	9.7	8.0	8.1	8.3 ††††, ‡	11.4 ††††
Apr-2000	18.7	19.9	21.5	22.4	10.0 ‡	12.2 ‡

**Table 23. Summary of selenium concentrations in grab water samples collected at study stations for use in laboratory toxicity tests, February 2000 to April 2000.**

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
Feb-07-2000	66	0.8	16	0.7	0.6
Feb-09-2000	72	<0.4	22	0.9	0.6
Feb-11-2000	63	<0.4	17	0.9	0.5
Mar-06-2000	81	1.2	24	1.1	0.6
Mar-08-2000	90	0.6	27	1.1	0.6
Mar-10-2000	79	0.8	23	1.2	0.8
Apr-03-2000	87	1.8	36	2.2	<0.4
Apr-05-2000	74	1.7	39	1.1	0.8
Apr-07-2000	80	1.3	31	1.7	0.9

**Table 24. Summary of sulfate concentrations in grab water samples collected at study stations for use in laboratory toxicity tests, February 2000 to April 2000.**

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	mg/L	mg/L	mg/L	mg/L	mg/L
Feb-07-2000	1,600	233	572	343	107
Feb-09-2000	1,540	222	637	337	99
Feb-11-2000	1,390	260	573	272	64
Mar-06-2000	1,600	296	711	277	47
Mar-08-2000	1,710	311	771	262	37
Mar-10-2000	1,600	312	702	266	51
Apr-03-2000	1,740	358	979	198	32
Apr-05-2000	1,630	384	1,030	189	31
Apr-07-2000	NP	NP	NP	NP	NP

**Table 25. Summary of total suspended solids concentrations in grab water samples collected from February 2000 to April 2000.**

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	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	mg/L	mg/L	mg/L	mg/L	mg/L
Feb-07-2000	23	42	45	72	4
Feb-09-2000	48	40	52	66	21
Feb-11-2000	48	78	53	82	15
Mar-06-2000	NT	NT	27	58	NT
Mar-08-2000	NT	NT	41	29	5
Mar-10-2000	NT	47	43	50	16
Apr-03-2000	5	9	5	7	2
Apr-05-2000	14	13	10	19	4
Apr-07-2000	5	14	9	11	5

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
e	Estimated value
.	Not applicable
<	Less than MDL. If needed in calculation, use 1/2 MDL
NA	Not analyzed - operator error, data will not be available in the future
NP	Not Provided. Data may be available in the future.
NT	Not tested
P	Pending, data not available at this time but will be available in the future
(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 Stations D and F cages and light silt accumulation was observed in both the Windmill Station and Station B.
(8)	Moderate silt accumulation was noted in Stations B and F cages and light silt accumulation was observed in Station D.
(9)	No test deployment was done at the Windmill Station due to extreme conditions (stagnant & pH>9.0). At Station 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 Station F cages.
*	Significantly reduced from Delta Mendota Canal ( $p < 0.05$ )
†	DMC water failed to meet the survival (>80%) acceptability criteria.
††	Data from records of the Grassland Water District. Data is not subjected to the criteria documented in the Compliance Monitoring Program for the Use and Operation of the Grassland Bypass Project (1996) nor the Quality Assurance Project Plan for the GBP (1997 draft).
†††	DMC water failed to meet the reproduction (>10 neonates/adult) acceptability criteria.
††††	DMC water failed to meet minimum growth ( $10^6$ cell/mL) acceptability criteria.
‡	Control value exceeds suggested maximum variance (20%) acceptability criteria.
#	New testing laboratory with reporting limit of 0.4 µg/L as of June 1998.