GRASSLAND BYPASS PROJECT

MONTHLY DATA REPORT

June 2000

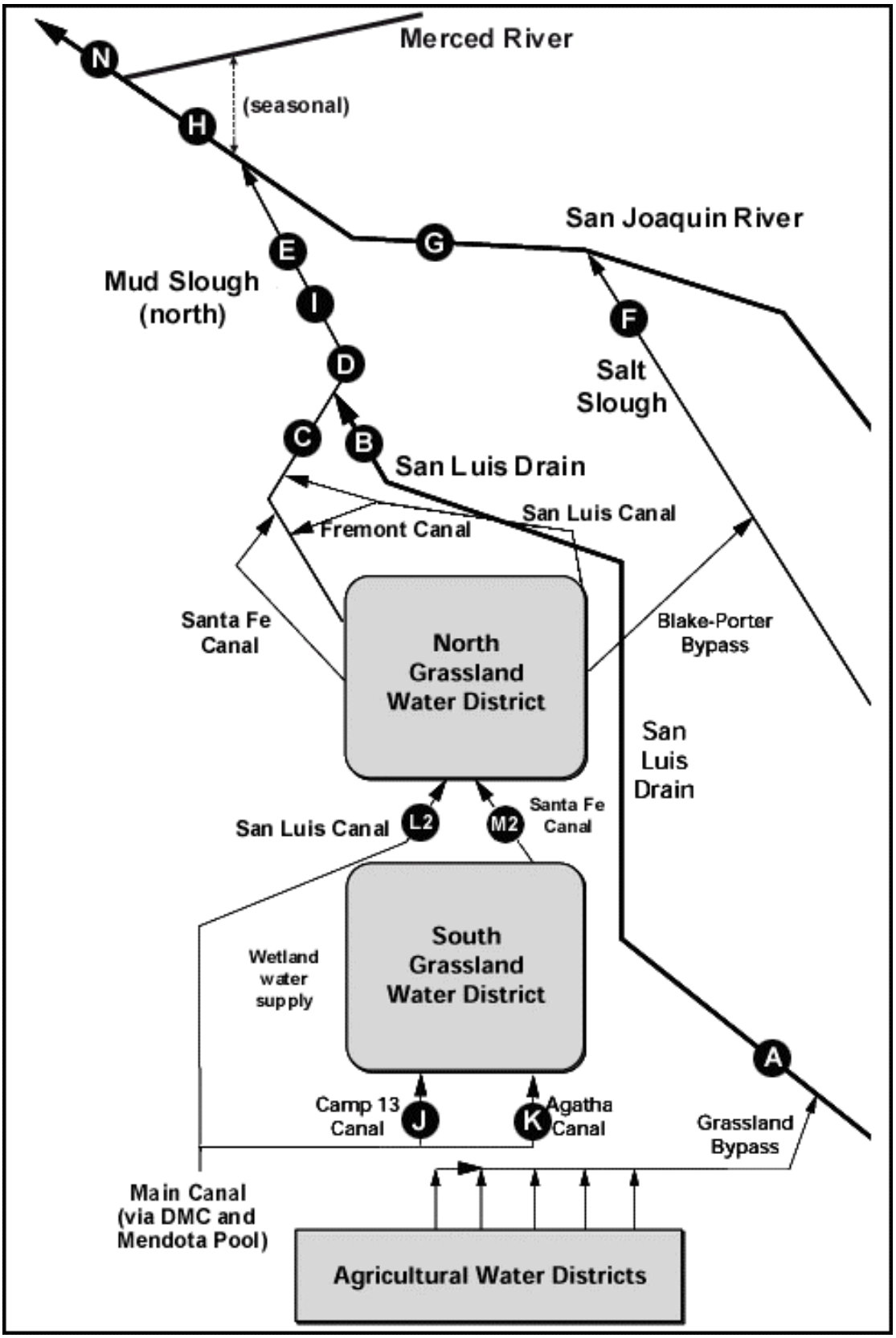
August 30, 2000

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


Merced River
(seasonal)
San Joaquin River
Mud Slough
(north)
Salt
Slough
San Luis Drain
San Luis Canal
Fremont Canal
Santa Fe
Canal
North
Grassland
Water District
Blake-Porter
Bypass
San
Luis
Drain
San Luis Canal
Santa Fe
Canal
South
Grassland
Water District
Wetland
water
supply
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GRASSLAND BYPASS PROJECT

MONTHLY DATA REPORT

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Table 1. Continuous water monitoring at Station A (inflow to San Luis Drain), June 2000. 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
Jun-01-2000	54	4,450
Jun-02-2000	57	4,260
Jun-03-2000	55	4,380
Jun-04-2000	60	4,170
Jun-05-2000	57	4,250
Jun-06-2000	60	4,130
Jun-07-2000	63	4,150
Jun-08-2000	67	4,270
Jun-09-2000	76	4,200
Jun-10-2000	77	4,150
Jun-11-2000	77	4,010
Jun-12-2000	73	4,000
Jun-13-2000	71	4,190
Jun-14-2000	69	4,310
Jun-15-2000	68	4,220
Jun-16-2000	63	4,430
Jun-17-2000	62	4,450
Jun-18-2000	59	4,620
Jun-19-2000	56	4,550
Jun-20-2000	60	4,350
Jun-21-2000	64	4,090
Jun-22-2000	64	4,070
Jun-23-2000	60	4,210
Jun-24-2000	60	4,170
Jun-25-2000	61	4,140
Jun-26-2000	64	4,200
Jun-27-2000	66	4,550
Jun-28-2000	60	4,600
Jun-29-2000	58	4,270
Jun-30-2000	64	4,470
	.	.
Mean	64	4,280

Table 2. Continuous water monitoring at Station B (discharge from San Luis Drain), June 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
Jun-01-2000	51	22.7	P	4,330	47.3	13.0
Jun-02-2000	53	23.9	P	4,240	43.0	12.3
Jun-03-2000	55	24.2	P	4,390	41.2	12.2
Jun-04-2000	55	25.1	P	4,510	44.2	13.1
Jun-05-2000	57	25.0	P	4,360	43.6	13.4
Jun-06-2000	56	24.7	P	4,390	42.9	13.0
Jun-07-2000	59	24.8	P	4,280	44.8	14.3
Jun-08-2000	60	23.6	P	3,980	40.2	13.0
Jun-09-2000	67	22.4	P	4,290	48.8	17.6
Jun-10-2000	75 e	22.4	P	4,300	47.2	19.1
Jun-11-2000	75 e	22.5	P	4,360	52.8	21.4
Jun-12-2000	75 e	23.6	P	4,350	57.2	23.1
Jun-13-2000	71 e	24.5	P	4,250	51.9	19.9
Jun-14-2000	69	26.5	P	4,100	42.2	15.7
Jun-15-2000	66	28.2	P	4,120	41.2	14.7
Jun-16-2000	63	28.6	P	4,270	47.2	16.0
Jun-17-2000	60	28.3	P	4,350	47.5	15.4
Jun-18-2000	59	27.9	P	4,220	42.6	13.6
Jun-19-2000	57	27.0	P	4,380	45.5	14.0
Jun-20-2000	55	27.2	P	4,440	46.5	13.8
Jun-21-2000	59	27.9	P	4,540	51.2	16.3
Jun-22-2000	61	28.7	P	4,580	49.8	16.4
Jun-23-2000	61	27.7	P	4,480	41.5	13.7
Jun-24-2000	58	26.7	P	4,230	37.1	11.6
Jun-25-2000	58	26.9	P	4,100	34.8	10.9
Jun-26-2000	60	27.6	P	4,270	36.1	11.7
Jun-27-2000	62	28.5	P	4,280	36.2	12.1
Jun-28-2000	57	29.1	P	4,200	34.8	10.7
Jun-29-2000	56	29.2	P	4,200	37.8	11.4
Jun-30-2000	61 e	NA	P	4,480	47.7	15.7
	.	.	.	.	.	.
Mean	61	26.0	P	4,310	44.2	
Total						**439**

Load Limitation for June 2000	**(lbs)**	**539**

Table 3. Continuous water monitoring at Station D (Mud Slough North downstream of drainage discharges), June 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
Jun-01-2000	126	22.4	2,480
Jun-02-2000	101	23.9	NA
Jun-03-2000	81	24.1	NA
Jun-04-2000	73	24.8	3,620
Jun-05-2000	79	24.6	3,340
Jun-06-2000	87	24.6	3,300
Jun-07-2000	88	24.5	3,400
Jun-08-2000	84	23.2	3,500
Jun-09-2000	94	22.1	3,320
Jun-10-2000	101	22.4	2,440
Jun-11-2000	104	22.5	2,740
Jun-12-2000	101	23.4	2,380
Jun-13-2000	95	24.5	3,100
Jun-14-2000	92	26.5	3,370
Jun-15-2000	85	27.8	3,450
Jun-16-2000	84	27.9	3,500
Jun-17-2000	83	27.5	3,450
Jun-18-2000	83	27.2	3,270
Jun-19-2000	83	26.5	3,350
Jun-20-2000	95	26.9	3,040
Jun-21-2000	89	27.3	3,240
Jun-22-2000	86	27.9	3,540
Jun-23-2000	82	27.1	3,470
Jun-24-2000	76	26.5	3,390
Jun-25-2000	75	26.6	3,300
Jun-26-2000	72	27.2	3,410
Jun-27-2000	69	27.9	3,410
Jun-28-2000	67	28.2	3,240
Jun-29-2000	62	28.4	3,360
Jun-30-2000	67	27.4	3,310
	.	.	.

Table 4. Continuous water monitoring at Station F (Salt Slough at Highway 165), June 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
Jun-01-2000	155	22.5	1,110
Jun-02-2000	161	24.0	1,100
Jun-03-2000	119	24.4	1,210
Jun-04-2000	123	25.2	1,260
Jun-05-2000	137	24.1	1,200
Jun-06-2000	147	24.0	1,150
Jun-07-2000	135	24.1	1,190
Jun-08-2000	117	22.3	1,200
Jun-09-2000	149	21.0	1,230
Jun-10-2000	212	21.8	1,090
Jun-11-2000	231	22.5	1,050
Jun-12-2000	220	23.5	1,050
Jun-13-2000	224	24.7	1,010
Jun-14-2000	207	26.8	960
Jun-15-2000	195	28.3	901
Jun-16-2000	166	27.8	1,000
Jun-17-2000	183	26.9	958
Jun-18-2000	178	26.3	949
Jun-19-2000	219	25.4	916
Jun-20-2000	251	26.2	874
Jun-21-2000	241	27.2	905
Jun-22-2000	206	27.7	932
Jun-23-2000	172	26.2	963
Jun-24-2000	170	25.7	936
Jun-25-2000	174	26.2	916
Jun-26-2000	161	27.1	950
Jun-27-2000	172	28.0	1,000
Jun-28-2000	188	28.3	975
Jun-29-2000	171	28.0	1,010
Jun-30-2000	162	26.3	1,050
	.	.	.

Table 5. Continuous water monitoring at Station N (San Joaquin River at Crow's Landing), June 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
Jun-01-2000	820	22.2	1,340	4.3
Jun-02-2000	808	23.6	1,290	4.2
Jun-03-2000	781	23.8	1,230	3.6
Jun-04-2000	717	24.2	1,250	3.5
Jun-05-2000	711	23.9	1,410	3.9
Jun-06-2000	735	24.0	1,370	4.6
Jun-07-2000	739	24.0	1,290	4.2
Jun-08-2000	744	22.9	1,210	4.6
Jun-09-2000	790	22.1	1,230	4.5
Jun-10-2000	836	22.4	1,160	4.0
Jun-11-2000	840	22.8	1,180	4.3
Jun-12-2000	895	23.6	1,150	4.8
Jun-13-2000	827	24.5	1,130	5.2
Jun-14-2000	829	26.5	1,170	5.6
Jun-15-2000	812	27.8	1,220	4.8
Jun-16-2000	713	27.8	1,270	4.6
Jun-17-2000	690	27.1	1,330	4.4
Jun-18-2000	750	26.6	1,310	4.4
Jun-19-2000	827	26.1	1,130	3.5
Jun-20-2000	768	27.3	1,130	3.5
Jun-21-2000	702	27.8	1,210	4.0
Jun-22-2000	681	28.0	1,200	3.3
Jun-23-2000	627	27.5	1,410	4.8
Jun-24-2000	614	26.7	1,390	4.7
Jun-25-2000	586	26.7	1,380	4.3
Jun-26-2000	722	27.0	1,260	3.5
Jun-27-2000	708	27.9	1,070	3.1
Jun-28-2000	636	27.9	1,190	3.4
Jun-29-2000	646	27.9	1,360	4.0
Jun-30-2000	625	27.2	1,260	3.5
	.	.	.	.

PRELIMINARY RESULTS

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
Apr-05-2000	46	.	.	4,700	82	Selenium and boron analyses		
Apr-12-2000	36	.	.	5,640	82	from weekly grab		
Apr-19-2000	70	.	.	4,060	250	discontinued 2/1/00.		
Apr-26-2000	40	.	.	5,420	120	.	.	.
May-03-2000	44	.	.	5,380	130	.	.	.
May-10-2000	54	.	.	4,290	150	.	.	.
May-17-2000	40	.	.	4,500	85	.	.	.
May-24-2000	48	.	.	4,310	240	.	.	.
May-31-2000	51	.	.	4,320	220	.	.	.
Jun-07-2000	63	.	.	4,170	P	.	.	.
Jun-14-2000	69	.	.	4,330	P	.	.	.
Jun-21-2000	64	.	.	4,140	P	.	.	.
Jun-28-2000	60	.	.	4,580	P	.	.	.

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
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
May-02-2000	41	.	.	5,420	.	85.2	.	8.6
May-09-2000	56	.	.	4,360	.	52.3	.	6.8
May-16-2000	41	.	.	4,160	.	46.6	.	6.9
May-23-2000	40	.	.	4,400	.	42.9	.	7.6
May-30-2000	57	.	.	4,310	.	47.1	.	7.0
Jun-06-2000	60	.	.	4,310	.	43.0	.	7.3
Jun-13-2000	71	.	.	4,190	.	44.6	.	7.0
Jun-20-2000	60	.	.	4,440	.	46.0	.	7.2
Jun-27-2000	66	.	.	4,270	.	39.1	.	7.5

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
Apr-06-2000	46	20.2	8.4	4,870	59	74.3	Selenium	7.3
Apr-13-2000	37 e	20.5	8.3	4,700	56	60.8	(dissolved)	7.5
Apr-20-2000	72 e	17.7	7.7	5,010	90	82.1	analyses	7.6
Apr-27-2000	41	23.1	NA	5,460	71	75.9	discontinued	8.4
May-04-2000	45	22.1	8.3	5,400	P	94.8	1/15/2000.	8.4
May-11-2000	54	18.5	8.2	4,000	P	47.5	.	6.3
May-18-2000	41	19.9	8.2	3,810	P	34.0	.	6.2
May-25-2000	46	21.4	8.2	4,690	P	48.3	.	8.1
Jun-01-2000	51	20.3	8.1	4,300	67	49.8	.	6.5
Jun-08-2000	60	20.5	8.2	4,260	59	43.4	.	7.4
Jun-15-2000	66	29.2	8.4	4,000	54	37.5	.	6.8
Jun-22-2000	61	27.9	8.1	4,610	64	47.1	.	5.8
Jun-29-2000	56	28.3	8.3	4,180	70	38.8	.	7.5

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
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
May-04-2000	10	22.9	8.0	2,620	1.2	2.2
May-11-2000	45	18.8	8.0	1,530	2.4	1.2
May-18-2000	63	22.3	7.9	1,250	0.9	1.0
May-25-2000	43	22.8	8.0	1,650	1.0	1.5
Jun-01-2000	75	18.4	7.5	1,230	0.8	0.9
Jun-08-2000	24	21.6	8.1	1,800	1.4	1.6
Jun-15-2000	19	30.6	8.5	1,880	1.7	1.7
Jun-22-2000	25	28.7	8.3	1,660	1.7	1.5
Jun-29-2000	6	29.1	8.5	2,370	1.3	2.1

++ 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
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
May-04-2000	55	22.7	8.2	4,910	66.0	7.4
May-11-2000	96	19.3	8.2	3,160	30.2	4.4
May-18-2000	109	20.3	8.1	2,290	13.7	2.9
May-25-2000	89	21.1	8.2	3,220	20.6	4.8
Jun-01-2000	126	19.3	8.0	2,800	23.4	3.6
Jun-08-2000	84	21.0	8.2	3,490	31.5	5.4
Jun-15-2000	85	28.8	8.3	3,670	30.2	5.8
Jun-22-2000	86	29.3	8.3	3,700	34.7	7.7
Jun-29-2000	62	28.5	7.2	3,990	31.6	6.9

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
Apr-06-2000	257	18.1	7.4	1,380	1.0	0.7
Apr-13-2000	145	19.2	7.6	1,790	0.7	0.9
Apr-20-2000	494	16.8	7.9	1,030	1.0	0.6
Apr-27-2000	192	20.2	NA	1,650	0.9	0.7
May-04-2000	223	20.4	7.6	1,320	1.4	0.7
May-11-2000	272	16.4	7.6	1,210	1.3	0.6
May-18-2000	164	19.1	7.9	1,580	0.7	0.8
May-25-2000	115	20.9	7.5	1,540	1.0	0.8
Jun-01-2000	155	19.3	7.6	1,220	0.8	0.5
Jun-08-2000	117	20.3	7.7	1,230	1.4	0.5
Jun-15-2000	195	27.8	7.7	1,100	1.2	0.5
Jun-22-2000	206	26.0	8.1	1,060	1.1	0.5
Jun-29-2000	171	28.0	7.9	1,170	0.7	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
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
May-04-2000	.	22.8	7.8	1,480	1.0	0.6
May-11-2000	.	15.7	7.7	1,190	1.6	0.5
May-18-2000	.	18.6	7.9	1,550	0.6	0.6
May-25-2000	.	23.6	7.9	1,500	0.5	0.6
Jun-01-2000	.	20.2	7.9	1,410	0.7	0.5
Jun-08-2000	.	21.2	7.7	1,320	1.2	0.5
Jun-15-2000	.	27.2	7.7	1,190	1.0	0.4
Jun-22-2000	.	25.4	7.6	1,040	1.0	0.4
Jun-29-2000	.	28.7	8.5	1,130	0.7	0.6

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††	.	.	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	.	.	µS/cm	µg/L	mg/L
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
May-03-2000	15	.	.	785	1.8	0.7
May-10-2000	25	.	.	543	1.5	0.3
May-17-2000	45	.	.	533	1.5	0.3
May-24-2000	10	.	.	734	1.9	0.7
May-31-2000	10	.	.	661	1.5	0.5
Jun-07-2000	15	.	.	585	1.7	0.4
Jun-14-2000	30	.	.	704	1.6	0.7
Jun-21-2000	15	.	.	560	1.7	0.6
Jun-28-2000	10	.	.	533	1.1	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††	.	.	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	.	.	µS/cm	µg/L	mg/L
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
May-03-2000	45	.	.	527	1.5	0.3
May-10-2000	55	.	.	544	1.7	0.3
May-17-2000	55	.	.	512	1.2	0.2
May-24-2000	40	.	.	545	1.3	0.3
May-31-2000	30	.	.	545	1.2	0.3
Jun-07-2000	20	.	.	498	1.6	0.3
Jun-14-2000	10	.	.	480	1.4	0.3
Jun-21-2000	10	.	.	514	1.5	0.3
Jun-28-2000	10	.	.	429	1.2	0.3

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††	.	.	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	.	.	µS/cm	µg/L	mg/L
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
May-03-2000	100	.	.	782	1.7	0.6
May-10-2000	100	.	.	831	2.0	0.7
May-17-2000	60	.	.	800	1.5	0.7
May-24-2000	60	.	.	831	1.5	0.7
May-31-2000	60	.	.	866	1.5	0.7
Jun-07-2000	20	.	.	906	2.0	0.7
Jun-14-2000	10	.	.	1,310	2.6	1.2
Jun-21-2000	10	.	.	1,310	2.7	1.4
Jun-28-2000	10	.	.	1,190	2.3	1.2

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††	.	.	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	.	.	µS/cm	µg/L	mg/L
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
May-03-2000	10	.	.	1,150	2.3	1.0
May-10-2000	36	.	.	1,020	2.1	0.9
May-17-2000	13	.	.	1,170	1.5	1.1
May-24-2000	52	.	.	1,020	1.5	1.0
May-31-2000	27	.	.	1,060	1.8	1.0
Jun-07-2000	5	.	.	982	2.1	0.8
Jun-14-2000	4	.	.	1,050	1.8	0.8
Jun-21-2000	12	.	.	745	1.7	0.5
Jun-28-2000	6	.	.	1,160	2.2	1.5

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
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
May-04-2000	1,770	26.6	7.8	777	2.5	0.5
May-11-2000	1,720	17.6	7.8	775	2.9	0.5
May-18-2000	1,170	22.6	7.3	946	2.1	0.6
May-25-2000	986	24.0	7.7	1,060	1.6	0.7
Jun-01-2000	820	20.6	7.6	1,270	3.9	0.9
Jun-08-2000	744	21.8	7.8	1,180	3.9	0.9
Jun-15-2000	812	26.4	7.8	1,230	4.1	0.9
Jun-22-2000	681	28.2	7.9	1,170	3.5	0.9
Jun-29-2000	646	25.7	8.1	1,250	3.4	1.1

Table 18. Summary of fathead minnow (*Pimephales promelas*) larvae survival in 7-day tests using water samples collected from July 1999 to June 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	%	%	%	%	%	%
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
May-2000	93	93	98	100	93	100
Jun-2000	90	85	95	95	88	100

Table 19. Summary of fathead minnow (*Pimephales promelas*) larvae growth in 7-day tests using water samples collected from July 1999 to June 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
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
May-2000	0.27	0.28	0.36	0.35	0.27	0.33
Jun-2000	0.48	0.42	0.56	0.48	0.46	0.54

Table 20. Summary of *Daphnia magna* survival in 7-day tests using water samples collected from July 1999 to June 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	%	%	%	%	%	%
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
May-2000	100	100	100	100	100	90
Jun-2000	80	100	100	90	100	90

Table 21. Summary of *Daphnia magna* reproduction in 7-day tests using water samples collected from July 1999 to June 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
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
May-2000	13.4	18.5	12.5	9.7	11.4	17.7
Jun-2000	21.5	29.1	35.0	22.1	15.5	16.6

Table 22. Summary of *Selenastrum capricornutum* growth in 4-day tests using water samples collected from July 1999 to June 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	10^5 cells/mL	10^5 cells/mL	10^5 cells/mL	10^5 cells/mL	10^5 cells/mL	10^5 cells/mL
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 ‡
May-2000	16.2	16.3	17.3	16.5	15.2	17.2
Jun-2000	19.7	24.3	21.7	21.4	19.9	11.9

Table 23. Summary of selenium concentrations in grab water samples collected at study stations for use in laboratory toxicity tests, April 2000 to June 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
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
May-01-2000	85	1.6	55	1.6	0.6
May-03-2000	74	1.6	55	1.3	<0.4
May-05-2000	78	1.0	60	1.2	0.6
Jun-12-2000	54	1.3	40	1.2	1.1
Jun-14-2000	43	2.1	28	1.2	0.8
Jun-16-2000	37	2.2	34	1.1	0.8

Table 24. Summary of sulfate concentrations in grab water samples collected at study stations for use in laboratory toxicity tests, April 2000 to June 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
Apr-03-2000	1,740	358	979	198	32
Apr-05-2000	1,630	384	1,030	189	31
Apr-07-2000	NT	NT	NT	NT	NT
May-01-2000	1,990	480	1,560	239	39
May-03-2000	1,730	502	1,560	197	38
May-05-2000	1,850	373	1,530	203	40
Jun-12-2000	1,290	283	1,040	149	31
Jun-14-2000	1,230	310	946	148	50
Jun-16-2000	1,220	397	1,020	167	49

Table 25. Summary of total suspended solids concentrations in grab water samples collected from April 2000 to June 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
Apr-03-2000	5	9	5	7	2
Apr-05-2000	14	13	10	19	4
Apr-07-2000	5	14	9	11	5
May-01-2000	104	88	162	191	NA
May-03-2000	100	45	193	34	NA
May-05-2000	76	174	133	119	NA
Jun-12-2000	18	4	21	5	22
Jun-14-2000	15	23	16	3	NA
Jun-16-2000	10	33	22	13	40

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 (10^6cell/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.