

GRASSLAND BYPASS PROJECT

MONTHLY DATA REPORT

May 2007

July 30, 2007

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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MONTHLY DATA REPORT

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Table 1. Continuous water monitoring at Station A (inflow to San Luis Drain), May 2007.

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Specific Conductance
DATA SOURCE	SLDMWA	SLDMWA
UNITS	cfs	µS/cm
May-01-2007	20	5,640
May-02-2007	20	5,210
May-03-2007	20	4,850
May-04-2007	23	4,600
May-05-2007	31	4,790
May-06-2007	38	4,800
May-07-2007	36	4,980
May-08-2007	38	5,130
May-09-2007	30	5,020
May-10-2007	27	5,200
May-11-2007	34	5,170
May-12-2007	34	5,100
May-13-2007	31	5,420
May-14-2007	37	5,260
May-15-2007	36	5,400
May-16-2007	37	5,330
May-17-2007	34	5,510
May-18-2007	33	5,680
May-19-2007	35	5,340
May-20-2007	40	4,840
May-21-2007	43	4,680
May-22-2007	36	4,240
May-23-2007	36	4,360
May-24-2007	38	4,360
May-25-2007	40	4,390
May-26-2007	40	4,230
May-27-2007	39	4,340
May-28-2007	35	4,740
May-29-2007	31	4,860
May-30-2007	40	4,680
May-31-2007	44	4,200
Mean	33.9	4,910

Table 2a. Continuous water monitoring at Stations B and B2 (San Luis Drain Terminus), May 2007.

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	San Luis Drain Outlet Flow	Temperature	Boron	Specific Conductance	Selenium (total)	Selenium (total) Load
DATA SOURCE	SLDMWA*	SLDMWA	CVRWQCB	SLDMWA	CVRWQCB	Computed
UNITS	cfs	°C	mg/L	µS/cm	µg/L	lbs
May-01-2007	21	24.2	7.1	4,760	54.2	6.2
May-02-2007	20	23.0	7.4	4,760	53.2	5.8
May-03-2007	19	21.0	7.3	4,770	53.2	5.4
May-04-2007	19	20.3	7.9	5,260	63.0	6.5
May-05-2007	20	18.9	8.1	5,440	74.8	7.9
May-06-2007	30	18.8	8.2	5,550	82.4	13.5
May-07-2007	38	21.4	7.4	4,980	55.0	11.3
May-08-2007	36	23.4	7.0	4,620	48.3	9.4
May-09-2007	37	25.2	6.8	4,700	61.5	12.2
May-10-2007	30	25.2	7.0	4,800	73.9	11.8
May-11-2007	25	25.0	7.9	4,820	77.6	10.6
May-12-2007	31	24.5	8.5	5,060	71.3	11.8
May-13-2007	34	23.7	7.9	4,900	66.8	12.1
May-14-2007	32	23.5	8.6	5,010	57.0	9.8
May-15-2007	35	24.0	8.6	4,910	63.2	11.9
May-16-2007	35	24.0	7.8	4,990	67.2	12.7
May-17-2007	36	24.2	8.6	5,060	66.2	13.0
May-18-2007	35	24.1	8.5	5,260	75.2	14.0
May-19-2007	34	24.1	8.7	5,380	80.6	14.7
May-20-2007	35	24.1	8.8	5,270	76.8	14.5
May-21-2007	39	23.4	9.2	5,320	76.4	16.3
May-22-2007	42	21.1	9.2	5,470	79.0	18.1
May-23-2007	38	21.1	8.5	5,200	74.0	15.2
May-24-2007	36	23.2	7.8	4,890	72.6	14.3
May-25-2007	37	24.8	7.0	4,510	57.2	11.4
May-26-2007	39	25.5	6.7	4,120	41.5	8.8
May-27-2007	39	25.6	6.7	4,190	43.8	9.2
May-28-2007	39	25.1	6.7	4,250	44.3	9.3
May-29-2007	35	25.2	6.7	4,170	39.8	7.5
May-30-2007	31	24.9	6.6	4,140	39.1	6.5
May-31-2007	28	24.8	7.0	4,330	41.0	6.2
Mean	32	23.5	7.7	4,870	62.3	10.9
Total Acre-feet	2,000					
Total (lbs)						338

Load Limitation for May 2007 (lbs)	419
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◆To improve the accuracy of flow measurements, Reclamation and the San Luis & Delta-Mendota Water Authority, with technical assistance from the USGS, are measuring flow at the San Luis Drain Outlet. The Outlet is located two miles from Station B. Discharge is measured as stage over a sharp-crested weir, identical to Station A. This is a simpler and more accurate method that will not be altered by sediment accumulation. Water quality data are still collected at the old Site B.

Figure 2b. Monthly selenium discharges from the terminus of the San Luis Drain into Mud Slough compared to load values.

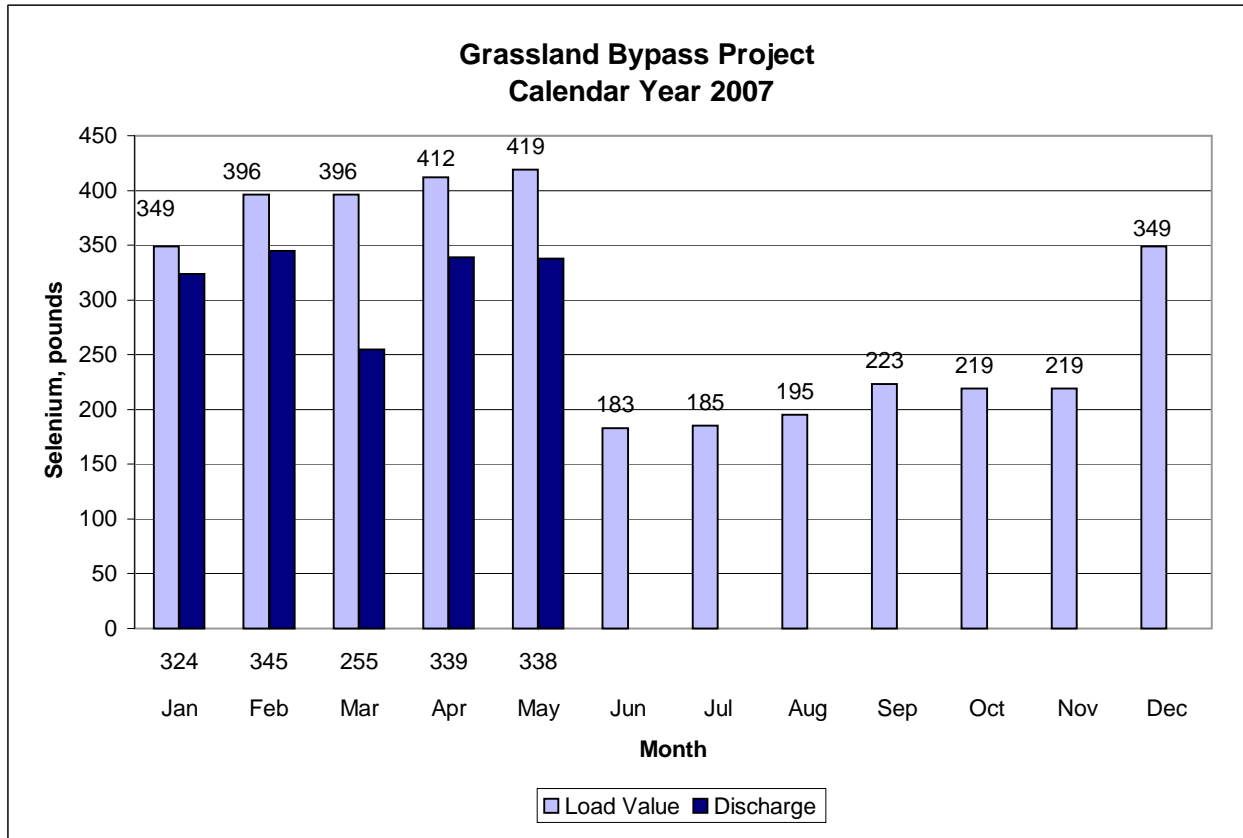


Table 3. Continuous water monitoring at Station D (Mud Slough North downstream of drainage discharges), May 2007.

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	Specific Conductance
DATA SOURCE	USGS	USGS	USGS
UNITS	cfs	°C	µS/cm
May-01-2007	39	22.4	3,790
May-02-2007	31	21.0	4,520
May-03-2007	29	18.7	4,410
May-04-2007	35	18.4	3,870
May-05-2007	32	17.4	4,440
May-06-2007	36	17.7	4,980
May-07-2007	42	20.3	4,820
May-08-2007	41	22.2	4,230
May-09-2007	44	23.7	4,130
May-10-2007	39	23.7	4,000
May-11-2007	35	23.2	4,290
May-12-2007	40	22.7	4,070
May-13-2007	44	21.9	3,920
May-14-2007	48	22.2	3,460
May-15-2007	55	22.7	3,360
May-16-2007	52	22.6	3,430
May-17-2007	50	22.7	3,900
May-18-2007	48	22.6	3,830
May-19-2007	52	22.7	3,590
May-20-2007	59	22.7	3,220
May-21-2007	70	22.1	3,050
May-22-2007	84	20.0	2,990
May-23-2007	61	20.3	3,420
May-24-2007	61	22.8	3,080
May-25-2007	57	24.2	2,990
May-26-2007	56	24.5	2,830
May-27-2007	61	24.5	2,580
May-28-2007	62	24.1	2,660
May-29-2007	69	24.3	2,290
May-30-2007	51	23.8	2,630
May-31-2007	45	23.8	3,000
Mean	49	22.1	3,610

Table 4. Continuous water monitoring at Station F (Salt Slough at Highway 165), May 2007.

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	Specific Conductance
DATA SOURCE	usgs	usgs	usgs
UNITS	cfs	°C	µS/cm
May-01-2007	144	21.7	1,440
May-02-2007	133	20.7	1,470
May-03-2007	107	18.1	1,640
May-04-2007	110	17.5	1,610
May-05-2007	131	17.0	1,470
May-06-2007	145	17.9	1,360
May-07-2007	179	20.3	1,080
May-08-2007	193	22.6	990
May-09-2007	180	24.0	1,030
May-10-2007	151	23.3	1,110
May-11-2007	122	22.7	1,240
May-12-2007	124	22.0	1,240
May-13-2007	124	20.9	1,210
May-14-2007	130	21.7	1,150
May-15-2007	122	22.8	1,180
May-16-2007	120	22.5	1,220
May-17-2007	150	22.1	1,100
May-18-2007	164	21.9	973
May-19-2007	182	22.1	978
May-20-2007	187	22.1	946
May-21-2007	200	21.4	968
May-22-2007	204	19.9	973
May-23-2007	192	20.1	1,030
May-24-2007	176	22.2	1,100
May-25-2007	153	23.7	1,140
May-26-2007	126	24.4	1,200
May-27-2007	106	23.5	1,320
May-28-2007	124	22.7	1,230
May-29-2007	123	23.4	1,090
May-30-2007	90	23.2	1,460
May-31-2007	103	22.8	1,370
Mean	145	21.7	1,200

Table 5. Continuous water monitoring at Station N (San Joaquin River at Crow's Landing), May 2007.

See Table 27 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
May-01-2007	1,090	21.1	717	1.0
May-02-2007	1,030	19.7	776	1.2
May-03-2007	1,020	17.7	802	1.2
May-04-2007	1,060	17.1	790	1.2
May-05-2007	1,050	17.0	816	1.2
May-06-2007	1,040	17.2	789	1.1
May-07-2007	1,240	18.8	702	1.3
May-08-2007	1,330	19.9	675	2.2
May-09-2007	1,300	20.9	625	1.4
May-10-2007	1,310	21.0	598	1.3
May-11-2007	1,300	20.7	662	1.6
May-12-2007	1,230	20.2	657	1.7
May-13-2007	1,170	19.7	698	2.1
May-14-2007	1,160	20.2	739	2.2
May-15-2007	1,150	20.7	735	2.1
May-16-2007	1,100	20.7	758	2.0
May-17-2007	1,090	20.9	762	2.2
May-18-2007	1,110	20.8	762	2.5
May-19-2007	1,110	20.7	731	2.3
May-20-2007	1,090	20.9	720	2.4
May-21-2007	982	21.2	799	2.9
May-22-2007	901	20.3	932	3.1
May-23-2007	859	20.2	1,030	3.4
May-24-2007	781	21.8	1,090	3.8
May-25-2007	761	23.2	1,110	3.7
May-26-2007	705	23.6	1,240	3.3
May-27-2007	643	24.0	1,350	3.0
May-28-2007	601	24.1	1,310	3.0
May-29-2007	619	24.3	1,290	2.8
May-30-2007	605	23.7	1,290	2.3
May-31-2007	535	23.4	1,390	2.2
Mean	1,000	20.8	880	2.2

Table 6a. Weekly water quality monitoring at Station A (inflow to San Luis Drain), taken from grab samples.

See Table 27 for explanation of footnotes and agency abbreviation:

PARAMETER	Flow	.	.	Specific Conductance	Total Suspended Solids	.	.	.
DATA SOURCE	SLDMWA	.	.	CVRWQCB	CVRWQCB	.	.	.
UNITS	cfs	.	.	µS/cm	mg/L	.	.	.
Mar-07-2007	25	.	.	4,890	135	.	.	.
Mar-14-2007	38	.	.	4,690	176	.	.	.
Mar-21-2007	22	.	.	5,040	123	.	.	.
Mar-28-2007	32	.	.	5,160	199	.	.	.
Apr-04-2007	29	.	.	4,360	159	.	.	.
Apr-11-2007	35	.	.	5,120	269	.	.	.
Apr-18-2007	36	.	.	4,970	161	.	.	.
Apr-25-2007	28	.	.	4,490	131	.	.	.
May-02-2007	20	.	.	5,080	77	.	.	.
May-09-2007	30	.	.	4,750	155	.	.	.
May-16-2007	37	.	.	5,030	188	.	.	.
May-23-2007	36	.	.	4,290	122	.	.	.
May-30-2007	40	.	.	4,550	95	.	.	.

Table 6b. Weekly water quality monitoring at Station A (inflow to San Luis Drain), taken from composite samples.

See Table 27 for explanation of footnotes and agency abbreviation:

PARAMETER	Flow	.	.	Specific Conductance	.	Selenium (total)	.	Boron
DATA SOURCE	SLDMWA	.	.	CVRWQCB	.	CVRWQCB	.	CVRWQCB
UNITS	cfs	.	.	µS/cm	.	µg/L	.	mg/L
Mar-06-2007	26	.	.	4,230	.	42.8	.	6.0
Mar-13-2007	35	.	.	4,920	.	53.4	.	7.9
Mar-20-2007	22	.	.	4,920	.	60.0	.	7.8
Mar-27-2007	31	.	.	5,430	.	66.4	.	8.0
Apr-03-2007	24	.	.	5,050	.	70.4	.	8.1
Apr-10-2007	31	.	.	4,720	.	69.2	.	7.2
Apr-17-2007	36	.	.	4,990	.	72.4	.	6.5
Apr-24-2007	30	.	.	4,420	.	56.0	.	6.1
May-01-2007	20	.	.	5,230	.	65.1	.	8.0
May-08-2007	38	.	.	NA	.	59.8	.	7.6
May-15-2007	36	.	.	5,090	.	69.0	.	8.1
May-22-2007	36	.	.	4,920	.	69.2	.	8.2
May-29-2007	31	.	.	4,380	.	43.6	.	6.9

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

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	pH	Specific Conductance	Total Suspended Solids	Selenium (total)	Boron
DATA SOURCE	USGS	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	°C	.	µS/cm	mg/L	µg/L	mg/L
Mar-01-2007	32	11.3	8.0	3,170	38	20.4	4.5
Mar-08-2007	30	16.8	8.4	4,250	47	42.7	5.7
Mar-15-2007	40	19.0	8.2	5,290	55	45.6	8.2
Mar-22-2007	24	15.7	8.6	4,830	35	69.2	7.5
Mar-29-2007	34	14.2	8.5	5,510	60	63.4	8.0
Apr-05-2007	29	19.6	8.5	5,210	78	80.8	7.4
Apr-12-2007	34	16.6	8.4	5,210	84	82.6	7.7
Apr-19-2007	37	15.5	8.3	4,730	61	64.3	6.9
Apr-26-2007	27	19.2	8.4	4,570	66	55.7	6.2
May-03-2007	19	19.5	8.8	4,950	45	56.0	7.7
May-10-2007	30	21.9	8.6	4,720	55	66.7	7.1
May-17-2007	36	21.7	8.7	5,260	58	70.7	8.6
May-24-2007	36	20.1	8.3	5,030	40	75.6	8.1
May-31-2007	28	22.3	8.4	4,380	29	42.4	6.7

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

See Table 27 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
Mar-01-2007	107	10.3	7.9	2,190	.	0.5	1.8
Mar-08-2007	138	16.0	7.9	2,010	.	0.5	1.6
Mar-15-2007	153	18.2	7.9	2,110	.	0.7	1.7
Mar-22-2007	70	15.4	8.2	2,500	.	0.6	1.9
Mar-29-2007	37	12.6	8.5	2,840	.	0.7	2.5
Apr-05-2007	38	18.9	8.3	2,710	.	0.9	2.3
Apr-12-2007	11	13.4	8.0	3,560	.	0.4	2.7
Apr-19-2007	7	13.4	8.0	3,620	.	0.5	2.7
Apr-26-2007	22	18.2	8.2	2,540	.	0.7	2.1
May-03-2007	10	17.9	8.2	3,400	.	0.6	2.6
May-10-2007	9	19.7	8.3	2,060	.	0.8	2.1
May-17-2007	14	20.5	8.0	1,940	.	0.5	1.3
May-24-2007	25	20.2	8.0	1,910	.	0.5	1.4
May-31-2007	17	21.7	8.2	1,640	.	0.7	1.4

** 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 27 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
Mar-01-2007	139	10.4	7.9	2,490	4.6	2.6
Mar-08-2007	168	16.1	8.0	2,400	6.5	2.4
Mar-15-2007	193	18.5	7.9	2,720	9.1	2.8
Mar-22-2007	94	15.3	8.2	3,110	15.6	3.1
Mar-29-2007	71	13.0	8.5	4,100	25.8	4.8
Apr-05-2007	67	19.0	8.3	3,710	26.6	4.5
Apr-12-2007	45	15.2	8.3	4,720	49.8	6.0
Apr-19-2007	44	15.1	8.3	4,650	51.2	6.2
Apr-26-2007	49	18.2	8.3	3,560	25.6	4.0
May-03-2007	29	18.4	8.4	4,490	32.0	6.2
May-10-2007	39	21.5	8.5	4,240	46.6	5.3
May-17-2007	50	21.3	8.6	4,180	45.2	6.0
May-24-2007	61	20.0	8.4	3,100	33.3	4.6
May-31-2007	45	21.7	8.4	3,530	24.8	4.7

Table 10. Weekly water quality monitoring at Station I2 (Mud Slough backwater downstream of Station D).

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER		pH	Specific Conductance	Turbidity	Selenium	Boron
DATA SOURCE		USBR	USBR	USBR	USBR	USBR
UNITS		.	µS/cm	NTU	µg/L	mg/L
Mar-06-2007	.	7.9	2,490	36	7.5	2.7L
Mar-13-2007	.	7.9	2,680	148	5.1	2.9
Mar-19-2007	.	7.9	3,170	131	14.2	3.8
Mar-27-2007	.	8.4	3,630	76	15.7	4.8
Apr-04-2007	.	8.5	3,830	38	23.5	4.8
Apr-18-2007	.	8.4	4,570	32	48.7**	6.4
Apr-24-2007	.	8.5	4,320	36	35.2**	5.9
May-02-2007	.	8.5	4,900	42	35.4	6.8
May-09-2007	.	8.4	4,400	31	42.4	6.3
May-17-2007	.	8.6	4,250	84	43.1	7.1
May-23-2007	.	8.3	4,240	44	44.4	7.2
May-29-2007	.	8.6	2,990	24	19.3	4.4

Table 11. Weekly water quality monitoring at Station F (Salt Slough at Lander Avenue).

See Table 27 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
Mar-01-2007	269	10.9	7.7	1,470	0.7	0.6
Mar-08-2007	253	15.9	7.7	1,490	0.7	0.6
Mar-15-2007	265	18.2	7.7	1,560	0.9	0.9
Mar-22-2007	274	14.7	7.7	1,680	0.8	1.0
Mar-29-2007	151	13.1	7.8	1,830	0.9	1.0
Apr-05-2007	93	17.9	7.9	1,800	0.7	0.8
Apr-12-2007	139	15.1	8.0	1,350	0.9	0.7
Apr-19-2007	160	14.7	7.8	1,330	0.9	0.6
Apr-26-2007	126	18.2	7.9	1,610	0.8	0.8
May-03-2007	107	17.3	7.5	1,630	0.6	0.8
May-10-2007	151	21.2	7.8	1,290	0.9	0.6
May-17-2007	150	20.2	7.8	1,230	0.7	0.5
May-24-2007	176	19.8	8.0	1,030	0.6	0.4
May-31-2007	103	20.2	7.8	1,420	0.5	0.5

Table 12. Weekly water quality monitoring at Station J (Camp 13 Ditch).

See Table 27 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
Mar-07-2007	10	.	.	866	1.7	0.7
Mar-14-2007	10	.	.	672	1.2	0.6
Mar-21-2007	NA	.	.	1,560	0.7	1.4
Mar-28-2007	0	.	.	1,890	2.1	2.6
Apr-04-2007	10	.	.	684	1.8	0.4
Apr-11-2007	20	.	.	718	1.6	0.5
Apr-18-2007	NA	.	.	537	1.2	0.4
Apr-25-2007	0	.	.	826	1.6	0.6
May-02-2007	50	.	.	512	0.8	0.2
May-09-2007	35	.	.	608	1.2	0.3
May-16-2007	35	.	.	566	1.1	0.3
May-23-2007	35	.	.	535	0.7	0.3
May-30-2007	25	.	.	556	0.7	0.3

Table 13. Weekly water quality monitoring at Station K (Agatha Canal).

See Table 27 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
Mar-07-2007	0	.	.	825	1.5	0.5
Mar-14-2007	0	.	.	1,890	0.6	3.4
Mar-21-2007	NA	.	.	1,720	1.1	2.5
Mar-28-2007	20	.	.	1,100	1.5	1.7
Apr-04-2007	20	.	.	543	1.9	0.5
Apr-11-2007	40	.	.	469	2.0	0.4
Apr-18-2007	NA	.	.	715	1.4	0.8
Apr-25-2007	0	.	.	617	1.9	0.3
May-02-2007	40	.	.	464	1.1	0.2
May-09-2007	50	.	.	574	1.5	0.3
May-16-2007	80	.	.	564	1.0	0.2
May-23-2007	80	.	.	543	0.8	0.3
May-30-2007	45	.	.	527	0.8	0.2

Table 14. Weekly water quality monitoring at Station L2 (San Luis Canal at splits).

See Table 27 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
Mar-07-2007	20	.	.	828	1.8	0.5
Mar-14-2007	20	.	.	948	1.7	0.8
Mar-21-2007	NA	.	.	1,710	1.5	1.5
Mar-28-2007	0	.	.	1,950	1.6	2.0
Apr-04-2007	NA	.	.	1,430	1.5	1.2
Apr-11-2007	NA	.	.	2,370	3.8	3.0
Apr-18-2007	NA	.	.	1,310	1.5	1.3
Apr-25-2007	NA	.	.	1,110	2.2	1.1
May-02-2007	NA	.	.	1,210	1.5	1.1
May-09-2007	NA	.	.	1,410	1.7	1.4
May-16-2007	NA	.	.	1,550	2.1	1.5
May-23-2007	NA	.	.	1,090	1.1	1.0
May-30-2007	NA	.	.	887	1.1	0.7

Table 15. Weekly water quality monitoring at Station M2 (Santa Fe Canal at weir).

See Table 27 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
Mar-07-2007	NA	.	.	1,520	0.9	1.5
Mar-14-2007	NA	.	.	1,840	1.0	2.4
Mar-21-2007	NA	.	.	2,160	1.0	2.4
Mar-28-2007	NA	.	.	2,270	1.2	3.1
Apr-04-2007	NA	.	.	2,370	1.2	2.9
Apr-11-2007	NA	.	.	1,800	1.6	2.2
Apr-18-2007	NA	.	.	1,540	1.5	1.8
Apr-25-2007	NA	.	.	1,430	1.6	1.3
May-02-2007	NA	.	.	1,110	1.4	1.1
May-09-2007	NA	.	.	1,110	1.5	1.0
May-16-2007	NA	.	.	1,060	1.5	1.0
May-23-2007	NA	.	.	1,030	1.1	1.0
May-30-2007	NA	.	.	882	1.1	0.7

Table 16. Weekly water quality monitoring at Central California Irrigation District Main Canal at Russell Avenue (MER510).

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	.	.	.	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	.	.	.	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	.	.	.	µS/cm	µg/L	mg/L
Mar-07-2007	.	.	.	543	1.2	0.2
Mar-14-2007	.	.	.	454	1.3	0.3
Mar-21-2007	.	.	.	877	4.4	0.4
Mar-28-2007	.	.	.	641	1.7	0.3
Apr-04-2007	.	.	.	439	1.5	0.2
Apr-11-2007	.	.	.	488	1.7	0.3
Apr-18-2007	.	.	.	592	1.7	0.3
Apr-25-2007	.	.	.	513	1.6	0.3
May-02-2007	.	.	.	547	1.0	0.2
May-09-2007	.	.	.	568	1.0	0.3
May-16-2007	.	.	.	512	0.9	0.2
May-23-2007	.	.	.	520	0.7	0.2
May-30-2007	.	.	.	520	0.5	0.2

Table 17. Weekly water quality monitoring at Station G (San Joaquin River at Fremont Ford).

See Table 27 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
Mar-01-2007	715	11.0	7.5	906	0.4	0.3
Mar-08-2007	405	16.3	7.9	1,400	0.6	0.5
Mar-15-2007	389	17.9	7.9	1,610	0.8	0.7
Mar-22-2007	426	16.1	7.9	1,630	0.7	0.8
Mar-29-2007	268	14.3	8.0	1,860	0.7	0.8
Apr-05-2007	178	19.0	7.9	2,240	0.6	0.9
Apr-12-2007	206	15.6	8.2	1,740	0.8	0.7
Apr-19-2007	238	15.4	7.6	1,440	0.7	0.6
Apr-26-2007	202	18.9	8.2	1,660	0.7	0.7
May-03-2007	183	18.6	7.3	1,710	0.5	0.7
May-10-2007	213	22.3	7.8	1,340	0.6	0.5
May-17-2007	169	21.5	8.0	1,670	0.7	0.5
May-24-2007	210	20.8	8.1	1,180	0.5	0.4
May-31-2007	129	22.3	7.9	1,880	0.4	0.6

Table 18. Weekly water quality monitoring at Station H (San Joaquin River at Hills Ferry).

(Collected data intended for use with biological monitoring.)

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	.	.	.	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	.	.	.	SLDMWA	SLDMWA	SLDMWA
UNITS	.	.	.	µS/cm	µg/L	mg/L
Mar-06-2007	.	.	.	NA	1.7	1.1
Mar-13-2007	.	.	.	NA	2.4	1.5
Mar-20-2007	.	.	.	NA	3.4	1.8
Mar-27-2007	.	.	.	NA	<0.4	0.2
Apr-03-2007	.	.	.	NA	7.3	2.0
Apr-10-2007	.	.	.	NA	4.6	1.8
Apr-17-2007	.	.	.	NA	8.8	1.6
Apr-24-2007	.	.	.	NA	6.3	1.6
May-01-2007	.	.	.	NA	3.6	1.4
May-08-2007	.	.	.	NA	7.5	1.7
May-15-2007	.	.	.	NA	6.9	2.0
May-22-2007	.	.	.	NA	10.0	1.8
May-29-2007	.	.	.	NA	<0.4	0.2

Table 19. Weekly water quality monitoring at Station N (San Joaquin River at Crow's Landing).

See Table 27 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
Mar-01-2007	1,190	11.2	7.8	1,150	1.3	0.6
Mar-08-2007	1030	16.8	7.9	1,410	1.7	0.8
Mar-15-2007	1,010	18.8	8.0	1,630	1.9	1.1
Mar-22-2007	1,010	16.6	8.1	1,490	2.0	0.9
Mar-29-2007	812	14.9	8.1	1,570	2.5	1.0
Apr-05-2007	709	19.2	8.1	1,560	2.9	1.0
Apr-12-2007	609	16.5	8.1	1,630	3.8	1.0
Apr-19-2007	774	15.9	8.1	1,310	3.4	0.8
Apr-26-2007	863	18.5	8.2	1,100	2.5	0.7
May-03-2007	1,020	17.4	7.8	805	1.2	0.5
May-10-2007	1,310	19.9	8.0	604	1.4	0.4
May-17-2007	1,090	19.9	8.1	732	2.1	0.5
May-24-2007	781	20.8	8.0	1,110	3.7	0.8
May-31-2007	535	22.5	8.2	1,300	2.4	0.8

Table 20. Summary of fathead minnow (*Pimephales promelas*) larvae survival in 7-day tests using water samples collected from June 2006 to May 2007. Each value is the mean of 4 replicates with 10 fish in each replicate.

See Table 27 for explanation of footnotes and agency abbreviation:

LOCATION	Station B	Station C	Station D	Station F	Delta Mendota Canal	Laboratory Control
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	%	%	%	%	%	%
Jun-2006	93	100	98	98	98	100
Jul-2006	83	98	100	100	95	95
Aug-2006	98	98	95	98	98	90
Sep-2006	98	95	98	98	100	98
Oct-2006	95	85	85	90	98	100
Nov-2007	95	98	85	100	100	98
Dec-2007	98	100	85*	93	98	98
Jan-2007	100	100	90	93	98	100
Feb-2007	98	90	95	88	98	100
Mar-2007	98	80*	95	93	98	98
Apr-2007	100	98	100	95	95	100
May-2007	95	95	98	95	100	95

Table 21. Summary of fathead minnow (*Pimephales promelas*) larvae growth in 7-day tests using water samples collected from June 2006 to May 2007. Each value is the mean of 4 replicates with 10 fish in each replicate.

See Table 27 for explanation of footnotes and agency abbreviation:

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
Jun-2006	0.45*	0.41*	0.46*	0.49	0.54	0.41
Jul-2006	0.34	0.36	0.38	0.56	0.36	0.35
Aug-2006	0.36	0.33	0.38	0.37	0.39	0.33
Sep-2006	0.31	0.39	0.41	0.35	0.33	0.34
Oct-2006	0.39	0.36	0.36	0.35	0.40	0.40
Nov-2007	0.30	0.28*	0.30	0.33	0.33	0.32
Dec-2007	0.35	0.40	0.41	0.45	0.32	0.31
Jan-2007	0.30	0.35	0.37	0.34	0.31	0.31
Feb-2007	0.45	0.41	0.43	0.33	0.37	0.38
Mar-2007	0.36	0.26*	0.36	0.33	0.32	0.31
Apr-2007	0.38	0.33	0.31	0.32	0.34	0.33
May-2007	0.41	0.43	0.40	0.36	0.45	0.41

Table 22. Summary of *Daphnia magna* survival in 7-day tests using water samples collected from June 2006 to May 2007. Each value is the mean of 10 replicates with 1 animal in each replicate.

See Table 27 for explanation of footnotes and agency abbreviation:

LOCATION	Station B	Station C	Station D	Station F	Delta Mendota Canal	Laboratory Control
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	%	%	%	%	%	%
Jun-2006	90	90	100	90	90	80
Jul-2006	80	100	80	90	80	100
Aug-2006	100	100	90	100	100	100
Sep-2006	100	80	100	100	100	90
Oct-2006	70	80	100	80	90	80
Nov-2007	90	100	100	90	90	100
Dec-2007	90	70	100	90	100	90
Jan-2007	90	90	80	90	90	80
Feb-2007	100	80	90	90	100	90
Mar-2007	100	80	90	100	80	100
Apr-2007	100	90	90	100	90	100
May-2007	90	0*	90	90	100	100

Table 23. Summary of *Daphnia magna* reproduction in 7-day tests using water samples collected from June 2006 to May 2007. Each value is the mean of 10 replicates with 1 animal in each replicate.

See Table 27 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
Jun-2006	26.2	25.9	29.9	26.7	20.9	19.1
Jul-2006	35.8	42.3	42.1	35.4	32.7	29.3
Aug-2006	34.7	33.3	23.9*	31.4	36.2	30.8
Sep-2006	25.9	20.1	23.8	26.9	27.6	23.6
Oct-2006	25.9	27.4	30.1	26.3	26.9	19.6
Nov-2007	36.6	49.6	47.0	47.9	38.3	46.2
Dec-2007	28.4	22.5	29.6	31.5	27.8	22.3
Jan-2007	20.5	27.3	23.2	26.0	28.5	21.4
Feb-2007	31.7	32.9	39.4	31.6	28.6	30.5
Mar-2007	35.2	27.1	32.9	28.2*	36.8	30.2
Apr-2007	22.7	21.1	29.0	21.2	21.1	26.2
May-2007	38.4	16.0*	33.0	33.3	36.5	30.0

Table 24. Summary of *Selenastrum capricornutum* growth in 4-day tests using water samples collected from June 2006 to May 2007. Each value is the mean of 4 replicates.

See Table 27 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
Jun-2006	12.0	9.7	10.0	10.2	11.3	16.0
Jul-2006	19.0	14.4	22.5	17.9	9.5	14.0
Aug-2006	16.4	17.8	17.3	21.4	16.8	13.5
Sep-2006	4.1*	20.7	21.7	22.6	17.7	12.9
Oct-2006	21.4	27.8	30.4	23.4	12.5	20.3
Nov-2007	17.6	26.2	23.3	24.7	17.7	17.5
Dec-2007	13.4	13.9	12.8	5.4*	7.5	17.2
Jan-2007	8.9	20.3	18.5	21.0	11.4	16.9
Feb-2007	7.9*	22.9	17.9	31.8	13.4	15.7
Mar-2007	12.0	11.0	8.8*	9.2*	12.4	14.3
Apr-2007	4.7*	19.0	8.8	5.2*	10.0	14.9
May-2007	12.2	15.8	2.8*	10.0*	14.2	14.9

Table 25. Summary of selenium concentrations in grab water samples collected at study stations for use in laboratory toxicity tests, March 2007 to May 2007.

See Table 27 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
Mar-12-2007	39	0.6	4.8	0.7	0.4
Mar-14-2007	43	0.5	6.4	0.7	0.5
Mar-16-2007	47	0.6	7.2	0.8	0.6
Apr-09-2007	44	0.8	22	1.0	0.4
Apr-11-2007	71	<0.4	48**	0.8	<0.4
Apr-13-2007	79	0.6	48**	0.9	<0.4
May-07-2007	53	0.5	50	0.6	<0.4
May-09-2007	59	0.8	45	0.6	<0.4
May-11-2007	76	0.6	57	0.6	<0.4
May-14-2007	50	0.5	28	0.6	<0.4

Table 26. Summary of total suspended solids concentrations in grab water samples collected at study stations for use in laboratory toxicity tests, March 2007 to May 2007.

See Table 27 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
Mar-12-2007	39	71	71	103	22
Mar-14-2007	36	80	72	79	23
Mar-16-2007	80	93	79	91	44
Apr-09-2007	64	87	66	146	24
Apr-11-2007	66	41	57	72	57
Apr-13-2007	97	39	82	194	45
May-07-2007	66	39	99	185	20
May-09-2007	62	81	111	119	6
May-11-2007	62	65	69	207	5
May-14-2007	19	32	47	90	2

Table 27. 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
*	Significantly reduced from Delta Mendota Canal (p<0.05)
**	Sample re-analyzed and result confirmed.
L	Result may be biased low. Sample was not preserved in the field
†	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.
†††	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.
‡‡	Fungal growth observed on test organisms.
‡‡‡	Failed cell density requirement of 1E6 cells.
#	New testing laboratory with reporting limit of 0.4 µg/L as of June 1998.
❖	Based on definitive bioassay, NOEC is 50 percent
D	Sample was dechlorinated