

# GRASSLAND BYPASS PROJECT

## MONTHLY DATA REPORT

January 2007

April 20, 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





## GRASSLAND BYPASS PROJECT

## MONTHLY DATA REPORT

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

See Table 27 for explanation of footnotes and agency abbreviations.

<b>PARAMETER</b>	<b>Flow</b>	<b>Specific Conductance</b>
<b>DATA SOURCE</b>	<b>SLDMWA</b>	<b>SLDMWA</b>
<b>UNITS</b>	<b>cfs</b>	<b>µS/cm</b>
Jan-01-2007	19	4,460
Jan-02-2007	17	4,520
Jan-03-2007	16	4,800
Jan-04-2007	17	5,060
Jan-05-2007	16	5,280
Jan-06-2007	19	5,230
Jan-07-2007	24	5,280
Jan-08-2007	17	5,170
Jan-09-2007	18	4,990
Jan-10-2007	19	5,070
Jan-11-2007	20	4,940
Jan-12-2007	21	5,300
Jan-13-2007	21	5,180
Jan-14-2007	23	4,650
Jan-15-2007	24	4,430
Jan-16-2007	27	4,190
Jan-17-2007	30	4,170
Jan-18-2007	29	4,400
Jan-19-2007	31	4,400
Jan-20-2007	35	4,280
Jan-21-2007	34	4,250
Jan-22-2007	33	4,500
Jan-23-2007	35	4,290
Jan-24-2007	36	4,450
Jan-25-2007	38	4,230
Jan-26-2007	38	4,230
Jan-27-2007	38	4,280
Jan-28-2007	37	4,370
Jan-29-2007	38	4,460
Jan-30-2007	38	4,420
Jan-31-2007	39	4,500
Mean	27	4,640

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

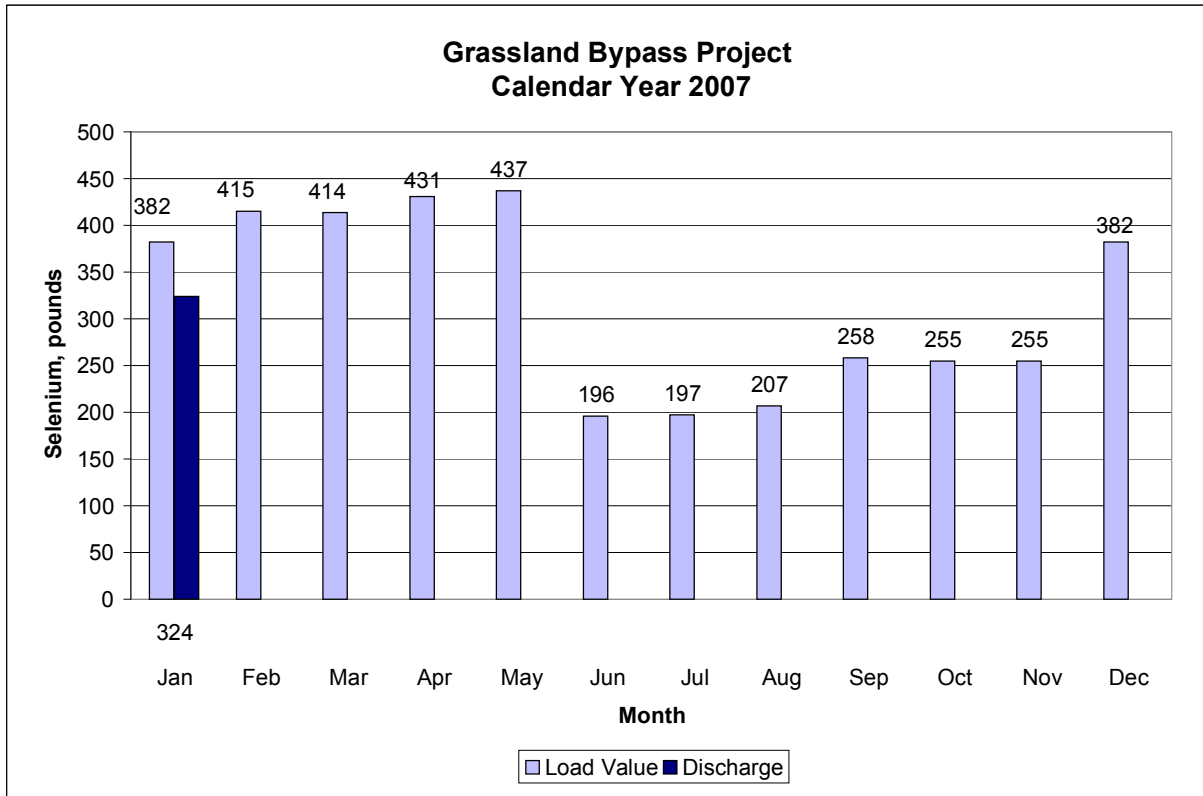
See Table 27 for explanation of footnotes and agency abbreviations.

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
Jan-01-2007	28	8.1	5.2	3,920	59.6	9.0
Jan-02-2007	26	8.2	5.3	3,990	67.0	9.3
Jan-03-2007	23	8.4	5.3	3,940	63.6	8.0
Jan-04-2007	22	9.1	4.9	3,650	59.4	7.0
Jan-05-2007	20	7.2	5.1	3,710	57.8	6.2
Jan-06-2007	24	6.7	5.2	3,790	57.2	7.5
Jan-07-2007	24	7.1	5.5	3,740	53.2	6.9
Jan-08-2007	30	7.6	5.6	3,820	55.4	8.9
Jan-09-2007	24	8.0	6.1	4,010	63.0	8.1
Jan-10-2007	24	8.3	6.5	4,250	67.4	8.6
Jan-11-2007	24	8.3	6.5	4,240	66.4	8.6
Jan-12-2007	24	6.5	5.5	4,470	67.5	8.8
Jan-13-2007	26	5.1	5.6	4,270	57.9	8.2
Jan-14-2007	27	5.0	5.9	4,210	54.0	7.8
Jan-15-2007	28	5.1	5.8	4,300	67.0	10.0
Jan-16-2007	30	5.2	5.9	4,240	64.8	10.3
Jan-17-2007	31	5.8	6.0	4,460	72.6	12.3
Jan-18-2007	35	6.2	5.6	4,200	59.8	11.3
Jan-19-2007	34	6.7	5.2	3,850	52.6	9.8
Jan-20-2007	36	7.3	5.1	3,720	50.3	9.7
Jan-21-2007	38	7.6	5.0	3,750	52.7	10.9
Jan-22-2007	40	7.9	5.4	3,960	60.2	13.0
Jan-23-2007	40	8.3	5.2	3,940	60.2	13.0
Jan-24-2007	40	9.0	4.9	3,840	61.0	13.3
Jan-25-2007	42	9.3	5.0	3,850	59.5	13.4
Jan-26-2007	43	9.7	5.0	3,890	58.2	13.4
Jan-27-2007	44	10.3	5.2	4,030	63.4	14.9
Jan-28-2007	44	11.2	4.7	3,860	63.1	15.0
Jan-29-2007	42	11.7	5.0	3,880	58.7	13.4
Jan-30-2007	43	11.4	4.9	3,800	57.6	13.5
Jan-31-2007	43	11.6	5.2	3,980	61.0	14.1
Mean	32	8.0	5.4	3,990	60.4	10.5
<b>Total Acre-feet</b>	<b>1,980</b>					
<b>Total (lbs)</b>						<b>324</b>

<b>Load Limitation for January 2007 (lbs)</b>	<b>382</b>
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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), January 2007.**

See Table 27 for explanation of footnotes and agency abbreviations.

<b>PARAMETER</b>	<b>Flow</b>	<b>Temperature</b>	<b>Specific Conductance</b>
<b>DATA SOURCE</b>	<b>usgs</b>	<b>usgs</b>	<b>usgs</b>
<b>UNITS</b>	<b>cfs</b>	<b>°C</b>	<b>µS/cm</b>
Jan-01-2007	193	7.9	1,760
Jan-02-2007	189	7.8	1,790
Jan-03-2007	180	8.2	1,790
Jan-04-2007	177	8.9	1,740
Jan-05-2007	182	6.8	1,700
Jan-06-2007	179	6.3	1,790
Jan-07-2007	171	6.9	1,820
Jan-08-2007	169	7.4	1,900
Jan-09-2007	166	7.8	1,890
Jan-10-2007	168	8.1	1,870
Jan-11-2007	169	7.8	1,870
Jan-12-2007	166	5.8	2,000
Jan-13-2007	164	4.3	2,000
Jan-14-2007	164	4.3	1,960
Jan-15-2007	161	4.6	2,010
Jan-16-2007	159	4.9	2,050
Jan-17-2007	150	6.1	2,200
Jan-18-2007	150	6.4	2,200
Jan-19-2007	148	6.8	2,100
Jan-20-2007	145	7.4	2,140
Jan-21-2007	145	7.5	2,170
Jan-22-2007	149	7.6	2,200
Jan-23-2007	150	8.0	2,210
Jan-24-2007	149	8.4	2,210
Jan-25-2007	156	8.9	2,150
Jan-26-2007	154	9.4	2,200
Jan-27-2007	137	10.2	2,490
Jan-28-2007	140	11.0	2,470
Jan-29-2007	141	11.3	2,420
Jan-30-2007	142	10.7	2,440
Jan-31-2007	139	10.9	2,500
Mean	160	7.7	2,070

Table 4. Continuous water monitoring at Station F (Salt Slough at Highway 165), January 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
Jan-01-2007	178	8.0	1,190
Jan-02-2007	179	8.0	1,200
Jan-03-2007	180	8.3	1,200
Jan-04-2007	176	9.0	1,260
Jan-05-2007	174	7.1	1,300
Jan-06-2007	175	6.8	1,310
Jan-07-2007	174	7.3	1,320
Jan-08-2007	180	7.4	1,390
Jan-09-2007	185	7.7	1,380
Jan-10-2007	185	8.0	1,370
Jan-11-2007	183	7.9	1,380
Jan-12-2007	191	6.1	1,370
Jan-13-2007	184	4.9	1,380
Jan-14-2007	198	4.5	1,360
Jan-15-2007	222	4.3	1,310
Jan-16-2007	225	4.5	1,290
Jan-17-2007	213	5.6	1,330
Jan-18-2007	195	6.1	1,390
Jan-19-2007	184	6.6	1,460
Jan-20-2007	189	7.0	1,440
Jan-21-2007	202	7.2	1,400
Jan-22-2007	211	7.2	1,370
Jan-23-2007	219	7.3	1,380
Jan-24-2007	215	7.6	1,410
Jan-25-2007	203	8.1	1,470
Jan-26-2007	208	8.7	1,490
Jan-27-2007	220	9.3	1,470
Jan-28-2007	222	10.7	1,480
Jan-29-2007	222	11.0	1,440
Jan-30-2007	220	10.4	1,430
Jan-31-2007	216	10.3	1,430
Mean	198	7.5	1,370



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

See Table 27 for explanation of footnotes and agency abbreviations.

<b>PARAMETER</b>	<b>Flow</b>	<b>Temperature</b>	<b>Specific Conductance</b>	<b>Selenium (total)</b>
<b>DATA SOURCE</b>	usgs	usgs	cvrwqcb	cvrwqcb
<b>UNITS</b>	cfs	°C	µS/cm	µg/L
Jan-01-2007	931	8.2	1,200	1.4
Jan-02-2007	909	8.2	1,210	1.3
Jan-03-2007	895	8.4	1,210	2.0
Jan-04-2007	880	9.3	1,240	2.0
Jan-05-2007	870	8.0	1,220	2.0
Jan-06-2007	861	7.1	1,210	1.7
Jan-07-2007	884	7.4	1,200	1.9
Jan-08-2007	910	7.7	1,210	1.8
Jan-09-2007	898	7.9	1,210	2.0
Jan-10-2007	885	8.0	1,230	2.0
Jan-11-2007	875	8.0	1,240	2.0
Jan-12-2007	868	6.7	1,260	2.2
Jan-13-2007	879	5.1	1,260	2.2
Jan-14-2007	891	4.8	1,260	2.2
Jan-15-2007	894	4.9	1,250	2.1
Jan-16-2007	897	5.0	1,250	2.0
Jan-17-2007	892	5.8	1,250	2.6
Jan-18-2007	860	6.3	1,260	2.5
Jan-19-2007	822	6.6	1,340	3.3
Jan-20-2007	802	7.1	1,370	2.9
Jan-21-2007	815	7.4	1,340	2.8
Jan-22-2007	812	7.5	1,340	2.5
Jan-23-2007	802	7.7	1,300	3.2
Jan-24-2007	796	8.0	1,340	3.6
Jan-25-2007	800	8.4	1,320	3.6
Jan-26-2007	796	8.8	1,370	3.5
Jan-27-2007	792	9.5	1,410	3.8
Jan-28-2007	801	10.4	1,440	3.8
Jan-29-2007	820	11.0	1,410	4.0
Jan-30-2007	805	10.9	1,380	3.6
Jan-31-2007	819	10.8	1,410	3.5
Mean	850	7.8	1,290	2.6

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 abbreviations.

PARAMETER	Flow	.	.	Specific Conductance	Total Suspended Solids	.	.	.
DATA SOURCE	SLDMWA	.	.	CVRWQCB	CVRWQCB	.	.	.
UNITS	cfs	.	.	µS/cm	mg/L	.	.	.
Nov-01-2006	15	.	.	5,810	62	.	.	.
Nov-08-2006	16	.	.	5,610	100	.	.	.
Nov-15-2006	17	.	.	5,120	34	.	.	.
Nov-21-2006	20	.	.	4,370	61	.	.	.
Nov-29-2006	14	.	.	5,050	47	.	.	.
Dec-06-2006	13	.	.	4,980	17	.	.	.
Dec-13-2006	17	.	.	4,130	64	.	.	.
Dec-20-2006	8	.	.	4,820	13	.	.	.
Jan-03-2007	16	.	.	4,480	32	.	.	.
Jan-10-2007	19	.	.	4,660	120	.	.	.
Jan-17-2007	30	.	.	3,960	120	.	.	.
Jan-24-2007	36	.	.	4,370	140	.	.	.
Jan-31-2007	39	.	.	4,290	170	.	.	.

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 abbreviations.

PARAMETER	Flow	.	.	Specific Conductance	.	Selenium (total)	.	Boron
DATA SOURCE	SLDMWA	.	.	CVRWQCB	.	CVRWQCB	.	CVRWQCB
UNITS	cfs	.	.	µS/cm	.	µg/L	.	mg/L
Nov-07-2006	15	.	.	5,770	.	120	.	9.4
Nov-14-2006	17	.	.	5,070	.	98.8	.	7.7
Nov-20-2006	20	.	.	4,750	.	84.2	.	7.1
Nov-27-2006	17	.	.	4,370	.	72.6	.	6.7
Dec-05-2006	14	.	.	4,870	.	87.6	.	8.0
Dec-12-2006	16	.	.	4,780	.	88.5	.	7.0
Dec-19-2006	9	.	.	4,850	.	54.9	.	7.5
Dec-26-2006	15	.	.	4,760	.	58.2	.	7.8
Jan-09-2007	18	.	.	4,720	.	87.2	.	7.0
Jan-16-2007	27	.	.	NA	.	73.8	.	6.2
Jan-23-2007	35	.	.	4,090	.	66.4	.	5.4
Jan-30-2007	38	.	.	4,150	.	62.8	.	5.6

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
Nov-02-2006	21	15.8	8.4	5,240	35	75.3	8.0
Nov-09-2006	22	16.0	8.3	4,640	30	76.2	7.0
Nov-16-2006	24	14.2	8.1	4,180	9	72.8	5.6
Nov-21-2006	26	15.3	8.4	4,270	25	58.0	6.4
Nov-30-2006	22	8.1	8.2	3,740	12	43.4	5.5
Dec-07-2006	21	8.8	7.9	4,200	22	57.0	5.8
Dec-14-2006	23	11.4	7.8	4,300	15	70.5	6.1
Dec-21-2006	17	7.3	8.1	4,180	15	59.2	6.1
Dec-28-2006	25	5.8	8.2	3,690	54	23.1	5.2
Jan-04-2007	22	8.8	7.8	3,640	39	56.6	4.9
Jan-11-2007	24	7.6	8.0	4,380	37	70.3	6.4
Jan-18-2007	35	5.1	8.1	4,590	20	60.4	6.2
Jan-25-2007	42	7.9	7.7	3,950	52	59.9	5.1

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
Nov-02-2006	172	16.3	7.6	866	.	<0.4	0.7
Nov-09-2006	158	15.4	7.6	954	.	<0.4	0.8
Nov-16-2006	201	14.4	7.7	994	.	<0.4	0.7
Nov-21-2006	170	15.0	7.6	1,190	.	<0.4	1.0
Nov-30-2006	148	7.7	7.9	1,260	.	<0.4	1.0
Dec-07-2006	120	8.4	7.9	1,550	.	<0.4	1.2
Dec-14-2006	134	11.9	7.8	1,490	.	<0.4	1.1
Dec-21-2006	151	6.7	8.0	1,440	.	<0.4	1.1
Dec-28-2006	185	5.6	8.1	1,370	.	<0.4	1.1
Jan-04-2007	155	9.0	7.9	1,810	.	<0.4	1.1
Jan-11-2007	145	7.2	8.0	1,490	.	<0.4	1.1
Jan-18-2007	115	5.1	8.1	1,620	.	<0.4	1.2
Jan-25-2007	114	7.8	7.9	1,670	.	0.5	1.2

\*\* 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
Nov-02-2006	193	16.2	7.7	1,380	8.2	1.5
Nov-09-2006	180	15.3	7.9	1,430	8.3	1.5
Nov-16-2006	225	14.3	7.7	1,400	7.8	1.3
Nov-21-2006	196	15.0	7.7	1,640	7.8	1.7
Nov-30-2006	170	7.7	7.9	1,630	5.8	1.7
Dec-07-2006	141	8.5	7.9	2,030	8.6	1.9
Dec-14-2006	157	11.7	7.8	1,950	8.9	1.8
Dec-21-2006	168	6.7	8.0	1,770	6.0	1.6
Dec-28-2006	210	5.6	8.1	1,680	3.0	1.6
Jan-04-2007	177	8.9	7.9	1,810	7.8	1.8
Jan-11-2007	169	7.2	8.0	1,940	9.2	1.9
Jan-18-2007	150	5.1	8.0	2,360	14.6	2.5
Jan-25-2007	156	7.8	7.8	2,320	14.2	2.3

**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
Nov-02-2006	.	8.1	1,750	51	6.4	1.9
Nov-07-2006	.	7.5	1,540	24	8.5	1.9
Nov-14-2006	.	7.8	1,510	15	8.5	1.8
Nov-20-2006	.	7.8	1,620	19	6.7	1.9
Nov-28-2006	.	8.0	1,670	11	5.9	1.8
Dec-05-2006	.	8.2	1,920	12	7.0	2.0
Dec-21-2006	.	8.9	1,770	10	5.7	1.8
Dec-28-2006	.	8.1	1,830	11	3.0	1.8
Jan-09-2007	.	7.8	1,960	19	8.2	2.0
Jan-16-2007	.	8.3	2,090	17	12.0	2.2
Jan-23-2007	.	NA	2,330	27	14.3	2.6
Jan-30-2007	.	7.9	2,500	21	15.6	2.7

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
Nov-02-2006	182	15.1	7.7	1,080	<0.4	0.6
Nov-09-2006	204	14.9	7.7	1,120	<0.4	0.7
Nov-16-2006	224	13.7	7.7	1,110	0.5	0.6
Nov-21-2006	229	14.9	7.6	1,170	0.4	0.7
Nov-30-2006	119	8.0	7.7	1,630	<0.4	0.9
Dec-07-2006	100	8.5	7.7	1,850	<0.4	1.0
Dec-14-2006	76	12.5	7.7	707	0.4	1.1
Dec-21-2006	151	6.9	7.8	1,590	0.4	1.0
Dec-28-2006	198	6.2	8.0	1,350	0.4	0.9
Jan-04-2007	176	9.0	7.7	1,420	<0.4	1.0
Jan-11-2007	183	7.4	7.8	1,450	0.4	0.9
Jan-18-2007	195	5.2	7.8	1,380	0.6	0.9
Jan-25-2007	203	7.2	7.4	1,420	0.5	0.9

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 <sup>††</sup>	.	.	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	.	.	µS/cm	µg/L	mg/L
Nov-01-2006	30	.	.	353	0.4	0.2
Nov-08-2006	30	.	.	359	0.7	0.2
Nov-15-2006	30	.	.	502	0.8	0.3
Nov-21-2006	30	.	.	410	0.8	0.2
Nov-29-2006	0	.	.	847	0.8	0.8
Dec-06-2006	0	.	.	1,170	0.9	1.3
Dec-13-2006	25	.	.	584	0.5	0.3
Dec-20-2006	40	.	.	724	0.7	0.3
Jan-03-2007	25	.	.	636	0.7	0.4
Jan-10-2007	25	.	.	700	1.3	0.4
Jan-17-2007	25	.	.	690	0.8	0.4
Jan-24-2007	25	.	.	606	1.0	0.3
Jan-31-2007	0	.	.	649	1.7	0.4

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 <sup>††</sup>	.	.	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	.	.	µS/cm	µg/L	mg/L
Nov-01-2006	65	.	.	324	0.4	0.2
Nov-08-2006	65	.	.	365	0.6	0.2
Nov-15-2006	65	.	.	468	0.6	0.2
Nov-21-2006	65	.	.	404	0.5	0.2
Nov-29-2006	0	.	.	460	0.5	0.3
Dec-06-2006	0	.	.	662	0.6	0.6
Dec-13-2006	50	.	.	539	0.5	0.2
Dec-20-2006	50	.	.	646	0.8	0.3
Jan-03-2007	50	.	.	600	0.7	0.3
Jan-10-2007	50	.	.	654	0.7	0.3
Jan-17-2007	50	.	.	663	0.8	0.3
Jan-24-2007	50	.	.	596	0.7	0.2
Jan-31-2007	0	.	.	634	1.3	0.3

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 <sup>††</sup>	.	.	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	.	.	µS/cm	µg/L	mg/L
Nov-01-2006	30	.	.	399	0.5	0.3
Nov-08-2006	30	.	.	468	0.6	0.3
Nov-15-2006	15	.	.	527	0.7	0.3
Nov-21-2006	0	.	.	909	0.6	0.9
Nov-29-2006	0	.	.	1,070	0.6	1.1
Dec-06-2006	0	.	.	1,370	0.8	1.5
Dec-13-2006	25	.	.	563	1.1	0.3
Dec-20-2006	25	.	.	590	0.6	0.3
Jan-03-2007	0	.	.	576	0.8	0.3
Jan-10-2007	25	.	.	604	0.6	0.3
Jan-17-2007	25	.	.	674	0.9	0.3
Jan-24-2007	25	.	.	717	0.9	0.4
Jan-31-2007	0	.	.	646	1.3	0.5

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 <sup>††</sup>	.	.	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	.	.	µS/cm	µg/L	mg/L
Nov-01-2006	NA	.	.	723	0.4	0.8
Nov-08-2006	NA	.	.	741	0.5	0.8
Nov-15-2006	NA	.	.	764	0.5	0.7
Nov-21-2006	NA	.	.	824	0.5	0.9
Nov-29-2006	NA	.	.	989	0.4	1.1
Dec-06-2006	NA	.	.	1,250	<0.4	1.5
Dec-13-2006	NA	.	.	1,290	0.7	1.4
Dec-20-2006	NA	.	.	1,090	0.6	1.0
Jan-03-2007	NA	.	.	1,040	0.5	1.0
Jan-10-2007	NA	.	.	1,100	0.5	1.0
Jan-17-2007	NA	.	.	1,120	0.5	1.0
Jan-24-2007	NA	.	.	1,210	0.6	1.0
Jan-31-2007	NA	.	.	1,220	1.0	1.1

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
Nov-01-2006	.	.	.	358	<0.4	0.2
Nov-08-2006	.	.	.	338	0.6	0.1
Nov-15-2006	.	.	.	401	0.7	0.2
Nov-21-2006	.	.	.	409	0.4	0.2
Nov-29-2006	.	.	.	397	0.5	0.2
Dec-06-2006	.	.	.	352	0.6	0.2
Dec-13-2006	.	.	.	715	0.7	0.3
Dec-20-2006	.	.	.	750	0.8	0.3
Jan-03-2007	.	.	.	570	0.6	0.3
Jan-10-2007	.	.	.	609	0.5	0.2
Jan-17-2007	.	.	.	628	0.6	0.2
Jan-24-2007	.	.	.	673	1.1	0.3
Jan-31-2007	.	.	.	562	1.4	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
Nov-02-2006	322	15.1	7.8	820	<0.4	0.4
Nov-09-2006	223	14.9	7.8	1,130	<0.4	0.6
Nov-16-2006	244	14.1	7.5	1,220	<0.4	0.6
Nov-21-2006	252	14.7	7.8	1,210	0.4	0.6
Nov-30-2006	284	8.6	7.6	1,150	<0.4	0.5
Dec-07-2006	178	8.1	7.8	1,650	<0.4	0.8
Dec-14-2006	153	12.3	7.8	1,780	<0.4	0.7
Dec-21-2006	201	6.6	7.9	1,470	<0.4	0.8
Dec-28-2006	227	6.2	7.8	1,450	<0.4	0.9
Jan-04-2007	225	8.9	7.8	1,480	0.4	0.9
Jan-11-2007	227	7.2	7.7	1,550	<0.4	0.9
Jan-18-2007	244	5.0	7.8	1,540	0.4	0.8
Jan-25-2007	250	7.2	7.5	1,560	<0.4	0.8

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
Nov-08-2006	.	.	.	NA	<0.4	0.2
Nov-14-2006	.	.	.	NA	ND	0.3
Nov-28-2006	.	.	.	NA	2.4	1.0
Dec-05-2006	.	.	.	NA	3.2	1.3
Dec-12-2006	.	.	.	NA	<0.4	0.2
Dec-19-2006	.	.	.	NA	2.1	1.2
Jan-04-2007	.	.	.	NA	<0.4	0.2
Jan-09-2007	.	.	.	NA	3.3	1.3
Jan-16-2007	.	.	.	NA	3.9	1.3
Jan-24-2007	.	.	.	NA	5.1	1.3
Jan-31-2007	.	.	.	NA	5.0	1.4



**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.

<b>PARAMETER</b>	<b>Flow</b>	<b>Temperature</b>	<b>pH</b>	<b>Specific Conductance</b>	<b>Selenium (total)</b>	<b>Boron</b>
<b>DATA SOURCE</b>	<b>usgs</b>	<b>CVRWQCB</b>	<b>CVRWQCB</b>	<b>CVRWQCB</b>	<b>CVRWQCB</b>	<b>CVRWQCB</b>
<b>UNITS</b>	<b>cfs</b>	<b>°C</b>	<b>.</b>	<b>µS/cm</b>	<b>µg/L</b>	<b>mg/L</b>
Nov-02-2006	1,380	15.2	7.7	696	1.4	0.4
Nov-09-2006	1050	15.5	7.8	955	1.7	0.6
Nov-16-2006	1,060	14.3	7.7	993	2.1	0.6
Nov-21-2006	1,040	14.8	7.8	1,080	1.8	0.7
Nov-30-2006	959	8.9	7.8	1,080	1.2	0.6
Dec-07-2006	798	9.2	7.8	1,300	1.6	0.8
Dec-14-2006	802	12.5	7.8	1,260	2.1	0.8
Dec-21-2006	873	7.3	7.9	1,120	1.4	0.7
Dec-28-2006	897	7.3	8.0	1,180	0.8	0.8
Jan-04-2007	880	9.3	7.9	1,230	2.0	0.9
Jan-11-2007	875	7.7	7.8	1,250	2.1	0.8
Jan-18-2007	860	5.9	8.0	1,290	2.6	0.9
Jan-25-2007	800	8.0	8.0	1,380	3.4	0.9

**Table 20. Summary of fathead minnow (*Pimephales promelas*) larvae survival in 7-day tests using water samples collected from February 2006 to January 2007. Each value is the mean of 4 replicates with 10 fish 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	%	%	%	%	%	%
Feb-2006	98	95	98	100	100	100
Mar-2006	93	95	98	90	98	95
Apr-2006	90	95	98	100	95	100
May-2006	95	100	98	100	88	100
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

**Table 21. Summary of fathead minnow (*Pimephales promelas*) larvae growth in 7-day tests using water samples collected from February 2006 to January 2007. Each value is the mean of 4 replicates with 10 fish 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	mg	mg	mg	mg	mg	mg
Feb-2006	0.39	0.39	0.42	0.42	0.31	0.28
Mar-2006	0.49	0.45	0.45	0.45	0.46	0.40
Apr-2006	0.31	0.38	0.36	0.36	0.29	0.28
May-2006	0.38	0.43	0.39	0.58	0.34	0.33
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

**Table 22. Summary of *Daphnia magna* survival in 7-day tests using water samples collected from February 2006 to January 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	%	%	%	%	%	%
Feb-2006	100	100	100	100	100	50†
Mar-2006	100	90	80	80	80	100
Apr-2006	80	90	100	90	100	100
May-2006	100	90	100	100	100	100
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

**Table 23. Summary of *Daphnia magna* reproduction in 7-day tests using water samples collected from February 2006 to January 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
Feb-2006	30.7	34.8	34.9	30.8	32.0	13.2
Mar-2006	39.0	33.0	28.2	28.8	31.5	33.9
Apr-2006	43.6	42.7	43.5	39.9	32.7	37.4
May-2006	49.2	28.1	27.3	26.4	22.9	18.2
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

**Table 24. Summary of *Selenastrum capricornutum* growth in 4-day tests using water samples collected from February 2006 to January 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 <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
Feb-2006	8.3*	12.6	5.9*	1.7*	12.8	23.8
Mar-2006	17.4	24.2	25.0	24.0	15.4	23.9
Apr-2006	9.9	21.5	18.8	18.6	12.7	19.7
May-2006	20.6	11.5*	15.9	13.6	15.4	16.4
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

**Table 25. Summary of selenium concentrations in grab water samples collected at study stations for use in laboratory toxicity tests, November 2006 to January 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
Nov-13-2006	69	<0.4	7.9	0.5	<0.4
Nov-15-2006	66	0.7	8.1	<0.4	0.6
Nov-17-2006	65	0.5	6.3	0.4	0.6
Dec-04-2006	63	<0.4	6.8	<0.4	0.4
Dec-06-2006	58	<0.4	8.0	<0.4	<0.4
Dec-08-2006	58	<0.4	9.8	<0.4	<0.4
Jan-15-2007	63	0.4	9.9	0.5	0.7
Jan-17-2007	72	<0.4	14	0.4	<0.4
Jan-19-2007	50	0.4	12	0.5	<0.4
Jan-22-2007	58	<0.4	15	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, November 2006 to January 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
Nov-13-2006	41	39	29	87	10
Nov-15-2006	17	30	44	95	23
Nov-17-2006	31	38	52	111	20
Dec-04-2006	9	21	16	35	10
Dec-06-2006	13	14	18	32	5
Dec-08-2006	18	16	19	36	10
Jan-15-2007	17	37	16	23	9
Jan-17-2007	23	58	24	22	NA
Jan-19-2007	67	35	41	26	14
Jan-22-2007	37	22	30	27	13

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.
†	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 <sup>6</sup> 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