GRASSLAND BYPASS PROJECT

MONTHLY DATA REPORT

April 2005

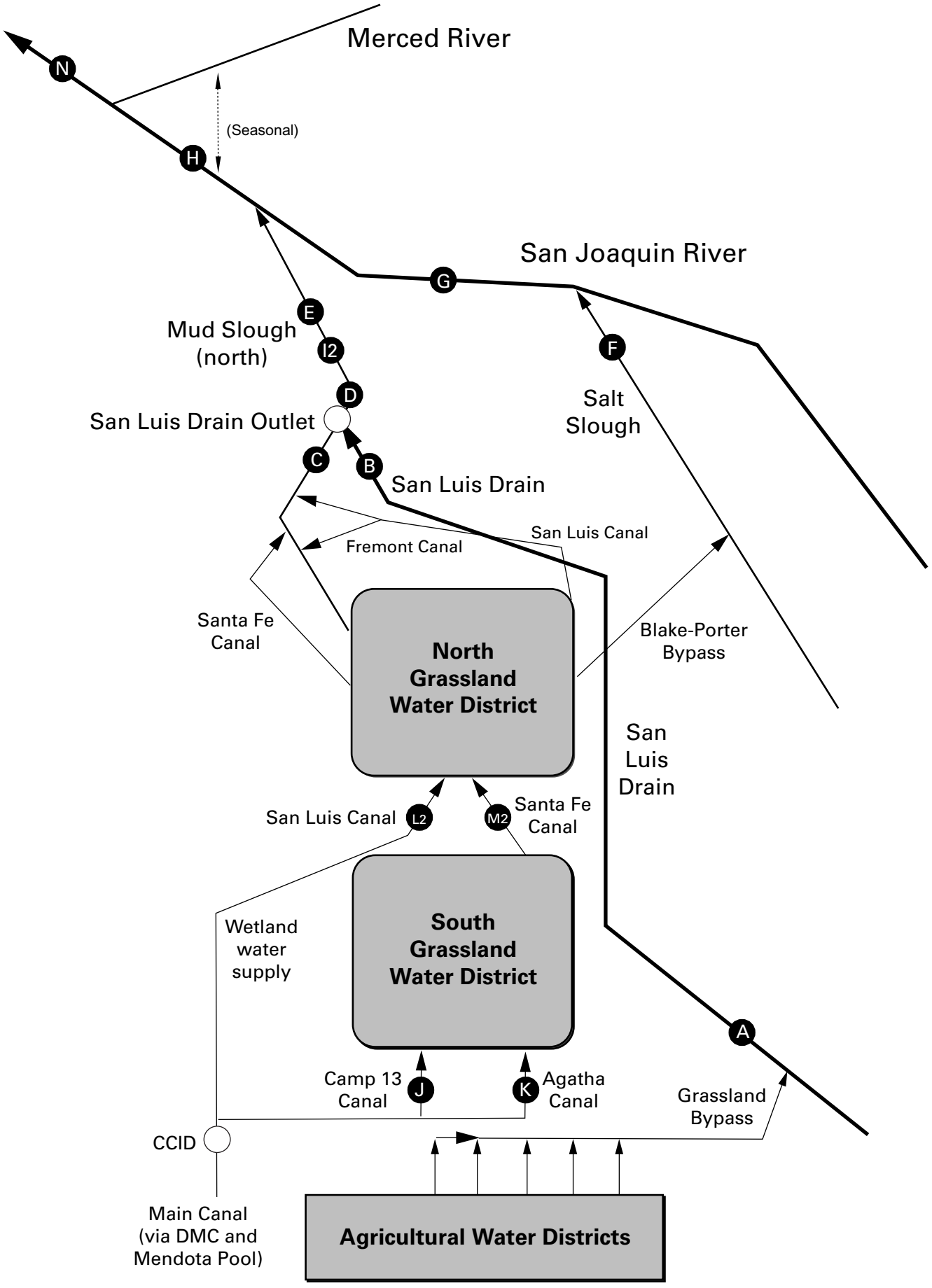
August 2, 2005

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
N
(Seasonal)
H
San Joaquin River
G
E
Mud Slough
(north)
I2
F
D
San Luis Drain Outlet
Salt
Slough
C
B
San Luis Drain
San Luis Canal
Fremont Canal
Santa Fe
Canal
North
Grassland
Water District
Blake-Porter
Bypass
San
Luis
Drain
San Luis Canal
L2
M2
Santa Fe
Canal
Wetland
water
supply
South
Grassland
Water District
A
Camp 13
Canal
J
K
Agatha
Canal
Grassland
Bypass
CCID
Main Canal
(via DMC and
Mendota Pool)
Agricultural Water Districts

GRASSLAND BYPASS PROJECT

MONTHLY DATA REPORT

LIST OF TABLES FOR MONTHLY REPORT

Table 1. Continuous water monitoring at Station A (inflow to San Luis Drain), April 2005.

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Specific Conductance
DATA SOURCE	SLDMWA	SLDMWA
UNITS	cfs	µS/cm
Apr-01-2005	41	5,740
Apr-02-2005	29	5,650
Apr-03-2005	33	5,680
Apr-04-2005	37	5,830
Apr-05-2005	35	5,750
Apr-06-2005	34	5,750
Apr-07-2005	35	5,830
Apr-08-2005	34	5,650
Apr-09-2005	35	5,540
Apr-10-2005	34	5,710
Apr-11-2005	32	5,790
Apr-12-2005	29	5,760
Apr-13-2005	28	5,810
Apr-14-2005	26	5,630
Apr-15-2005	26	5,550
Apr-16-2005	28	5,510
Apr-17-2005	29	5,580
Apr-18-2005	33	5,280
Apr-19-2005	34	4,880
Apr-20-2005	32	4,710
Apr-21-2005	32	4,500
Apr-22-2005	35	4,520
Apr-23-2005	43	4,580
Apr-24-2005	39	4,540
Apr-25-2005	40	4,450
Apr-26-2005	35	4,800
Apr-27-2005	38	4,400
Apr-28-2005	38	4,450
Apr-29-2005	44	4,230
Apr-30-2005	50	4,330
.	.	.
Mean	35	5,210

Table 2a. Continuous water monitoring at Station B (discharge from San Luis Drain), April 2005.

See Table 27 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-01-2005	45	17.4	9.2	5,670	92.5	22.5
Apr-02-2005	43	18.2	9.1	5,670	90.2	20.9
Apr-03-2005	33	18.0	9.2	5,700	96.0	17.1
Apr-04-2005	35	17.5	9.4	5,730	108	20.4
Apr-05-2005	38	18.0	9.4	5,750	100	20.5
Apr-06-2005	36	18.9	9.0	5,550	70.4	13.7
Apr-07-2005	36	18.1	9.4	5,680	68.1	13.2
Apr-08-2005	36	16.5	9.9	5,700	73.7	14.3
Apr-09-2005	38	15.8	9.8	5,610	70.2	14.4
Apr-10-2005	37	16.5	9.7	5,480	68.0	13.6
Apr-11-2005	36	17.5	11.0	5,860	71.5	13.9
Apr-12-2005	35	18.0	10.0	5,600	71.9	13.6
Apr-13-2005	32	17.6	10.0	5,530	66.2	11.4
Apr-14-2005	31	16.4	11.0	5,720	72.8	12.2
Apr-15-2005	28	16.8	12.0	5,830	73.6	11.1
Apr-16-2005	27	18.2	8.7	5,900	76.2	11.1
Apr-17-2005	28	19.7	8.6	5,860	73.8	11.1
Apr-18-2005	30	19.2	9.0	5,920	70.8	11.5
Apr-19-2005	38	17.3	12.0	5,750	62.2	12.7
Apr-20-2005	34	17.7	12.0	5,590	60.4	11.1
Apr-21-2005	32	19.1	NA	NA	NA	NA
Apr-22-2005	32	19.3	P	5,590	58.2	10.0
Apr-23-2005	35	18.2	P	5,120	53.2	10.0
Apr-24-2005	42	18.7	P	4,880	48.3	10.9
Apr-25-2005	40	19.2	P	4,660	43.0	9.3
Apr-26-2005	40	19.5	P	4,760	54.8	11.8
Apr-27-2005	35	19.4	P	4,670	64.0	12.1
Apr-28-2005	38	19.5	P	4,690	56.0	11.5
Apr-29-2005	38	20.2	P	4,420	50.3	10.3
Apr-30-2005	44	20.9	P	4,600	46.4	11.0
.	.	.	.	.	.	.
Mean	36	18.2	9.2	5,430	76.8	13.4
Total Acre-feet	**2,130**					
Total (lbs)						**387**

Load Limitation for April 2005 (lbs)	**506**

Table 2b. Continuous water monitoring at San Luis Drain Outlet, April 2005.
Note: This is unofficial data reported for comparison with Station B.

See Table 27 for explanation of footnotes and agency abbreviations.

PARAMETER	San Luis Drain Outlet Flow	Selenium (total) *	Selenium (total) Load
DATA SOURCE	USGS	CVRWQCB	Computed
UNITS	cfs	µg/L	lbs
Apr-01-2005	46	92.5	22.9
Apr-02-2005	43	90.2	20.9
Apr-03-2005	34	96.0	17.6
Apr-04-2005	35	108.0	20.4
Apr-05-2005	38	100.0	20.5
Apr-06-2005	37	70.4	14.0
Apr-07-2005	36	68.1	13.2
Apr-08-2005	37	73.7	14.7
Apr-09-2005	37	70.2	14.0
Apr-10-2005	37	68.0	13.6
Apr-11-2005	35	71.5	13.5
Apr-12-2005	34	71.9	13.2
Apr-13-2005	31	66.2	11.1
Apr-14-2005	29	72.8	11.4
Apr-15-2005	28	73.6	11.1
Apr-16-2005	28	76.2	11.5
Apr-17-2005	29	73.8	11.5
Apr-18-2005	29	70.8	11.1
Apr-19-2005	33	62.2	11.1
Apr-20-2005	35	60.4	11.4
Apr-21-2005	33	NA	NA
Apr-22-2005	33	58.2	10.4
Apr-23-2005	36	53.2	10.3
Apr-24-2005	44	48.3	11.5
Apr-25-2005	42	43.0	9.7
Apr-26-2005	41	54.8	12.1
Apr-27-2005	36	64.0	12.4
Apr-28-2005	39	56.0	11.8
Apr-29-2005	40	50.3	10.9
Apr-30-2005	45	46.4	11.3
.	.	.	.
Mean	36	76.8	13.4
Total Acre-feet	**2,140**		
Total (lbs)			**389**

*Selenium (total) concentrations from Site B (San Luis Drain)

The US Geological Survey determines flow at Station B through continuous measurements of stage that is rated for a known cross-section. These flow data, listed in Table 2a, are verified with frequent current meter measurements.

Monitoring and Reporting Program No. 5-101-234 states:

"Samples representative of the discharge shall be collected from the San Luis Drain at the footbridge between Gun Club Road and the terminus (Site B)."

Accurate flow measurements are necessary to determine compliance with selenium load limits specified in Waste Discharge Requirement Order No. 5-101-234.

The accumulation of sediments, as documented in the 2001 Annual Report, have caused irregularities in flow measurements at Station B, resulting in "shifts" in the relationship between stage and discharge.

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 will be 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.

This change is subject to approval by the California Regional Water Quality Board and modification of the Waste Discharge Requirement Order and Monitoring and Reporting Program. It is anticipated that flow will be measured solely at the Outlet works for determination of GBP flow discharge.

Unofficial flow data for the Outlet works are presented in Table 2b for comparison and are not used to determine compliance with the Waste Discharge Requirement Order.

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

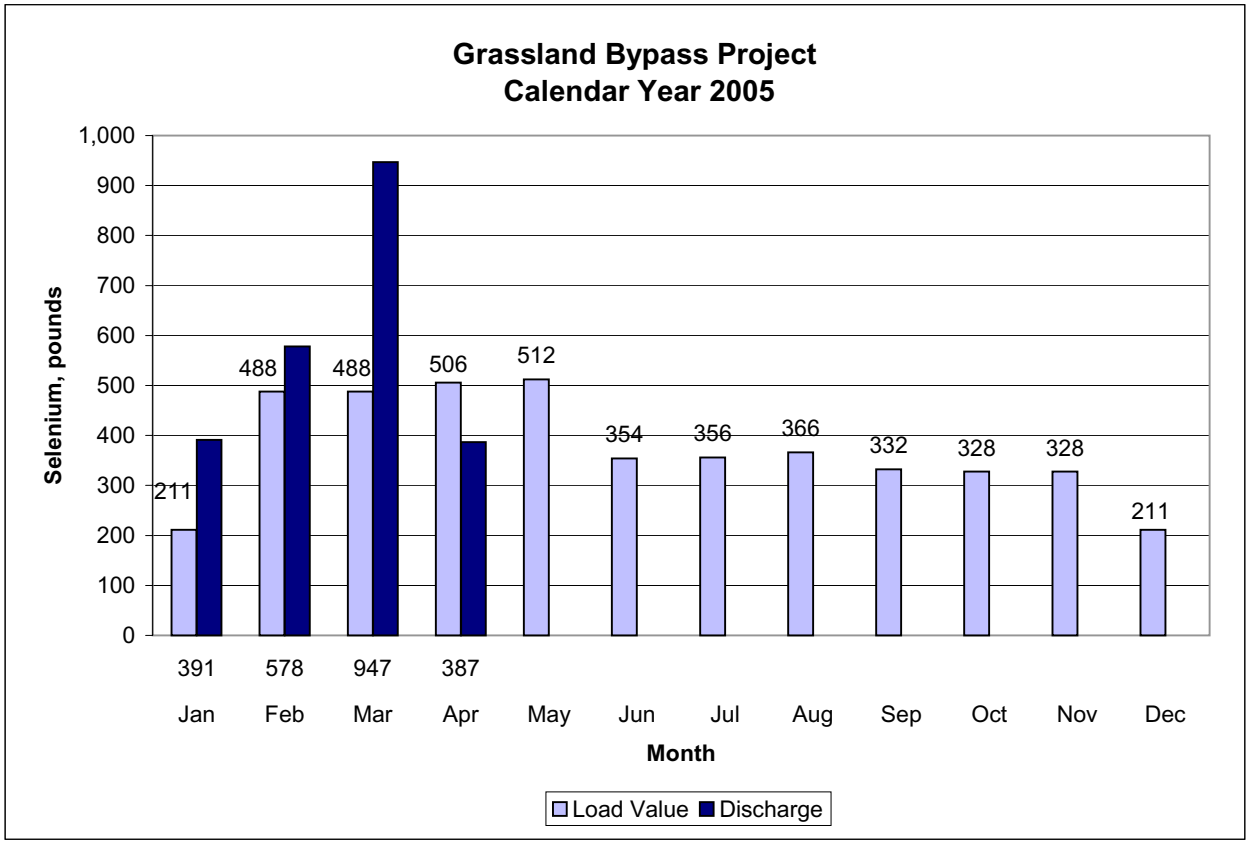


Table 3. Continuous water monitoring at Station D (Mud Slough North downstream of drainage discharges), April 2005.

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
Apr-01-2005	145	18.5	3,090
Apr-02-2005	129	18.8	3,200
Apr-03-2005	119	17.9	3,120
Apr-04-2005	109	17.1	3,440
Apr-05-2005	106	17.9	3,550
Apr-06-2005	101	19.2	3,670
Apr-07-2005	103	18.0	3,500
Apr-08-2005	108	15.5	3,320
Apr-09-2005	116	15.2	3,140
Apr-10-2005	123	16.3	2,890
Apr-11-2005	115	18.1	3,130
Apr-12-2005	101	18.7	3,370
Apr-13-2005	82	17.4	3,610
Apr-14-2005	80	16.0	3,530
Apr-15-2005	79	16.7	3,580
Apr-16-2005	81	18.7	3,310
Apr-17-2005	82	20.3	3,360
Apr-18-2005	79	19.0	3,420
Apr-19-2005	79	17.0	3,540
Apr-20-2005	81	18.0	3,580
Apr-21-2005	70	19.7	3,890
Apr-22-2005	69	19.2	3,910
Apr-23-2005	71	17.9	3,550
Apr-24-2005	75	18.4	3,500
Apr-25-2005	80	19.1	2,830
Apr-26-2005	80	19.7	2,950
Apr-27-2005	79	19.5	2,750
Apr-28-2005	78	19.3	2,700
Apr-29-2005	79	20.1	2,570
Apr-30-2005	74	20.8	3,120
.	.	.	.
Mean	92	18.3	3,300

Table 4. Continuous water monitoring at Station F (Salt Slough at Highway 165), April 2005.

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
Apr-01-2005	362	17.4	1,850
Apr-02-2005	325	18.2	1,860
Apr-03-2005	302	17.4	1,820
Apr-04-2005	289	16.6	1,680
Apr-05-2005	283	17.1	1,600
Apr-06-2005	262	18.3	1,640
Apr-07-2005	241	17.7	1,670
Apr-08-2005	239	15.4	1,550
Apr-09-2005	256	14.7	1,460
Apr-10-2005	267	15.7	1,360
Apr-11-2005	271	17.4	1,290
Apr-12-2005	260	18.1	1,280
Apr-13-2005	251	17.4	1,290
Apr-14-2005	243	16.1	1,290
Apr-15-2005	227	16.4	1,340
Apr-16-2005	213	18.2	1,410
Apr-17-2005	227	19.9	1,380
Apr-18-2005	233	19.0	1,360
Apr-19-2005	227	17.1	1,350
Apr-20-2005	246	17.4	1,260
Apr-21-2005	223	18.6	1,290
Apr-22-2005	193	18.8	1,380
Apr-23-2005	213	17.4	1,260
Apr-24-2005	238	17.5	1,160
Apr-25-2005	243	18.1	1,120
Apr-26-2005	244	19.1	1,110
Apr-27-2005	237	19.0	1,130
Apr-28-2005	217	18.6	1,190
Apr-29-2005	209	19.3	1,260
Apr-30-2005	219	20.2	1,240
.	.	.	.
Mean	249	17.7	1,400

Table 5. Continuous water monitoring at Station N (San Joaquin River at Crow's Landing), April 2005.

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
Apr-01-2005	7,200	14.3	419	0.8
Apr-02-2005	6,810	14.9	424	0.9
Apr-03-2005	6,310	14.9	444	0.9
Apr-04-2005	5,780	14.3	480	1.0
Apr-05-2005	5,380	14.2	499	0.9
Apr-06-2005	5,000	14.6	496	1.0
Apr-07-2005	4,600	14.9	547	1.0
Apr-08-2005	4,330	13.8	NA	NA
Apr-09-2005	4,250	12.9	NA	NA
Apr-10-2005	4,260	13.1	NA	NA
Apr-11-2005	4,230	14.1	NA	NA
Apr-12-2005	4,130	14.7	NA	NA
Apr-13-2005	3,830	14.8	NA	NA
Apr-14-2005	3,610	14.1	NA	NA
Apr-15-2005	3,530	14.0	549	0.8
Apr-16-2005	3,430	14.7	550	0.9
Apr-17-2005	3,320	15.6	572	0.8
Apr-18-2005	3,260	15.5	580	0.9
Apr-19-2005	3,180	14.7	572	0.9
Apr-20-2005	3,070	14.7	584	0.9
Apr-21-2005	3,020	15.3	583	1.1
Apr-22-2005	2,950	15.5	579	1.1
Apr-23-2005	2,890	14.5	596	0.9
Apr-24-2005	2,870	14.3	575	0.9
Apr-25-2005	2,900	15.0	537	1.1
Apr-26-2005	2,810	15.7	541	1.0
Apr-27-2005	2,640	16.0	548	0.9
Apr-28-2005	2,520	16.0	591	1.2
Apr-29-2005	2,520	16.2	NA	NA
Apr-30-2005	2,480	16.7	NA	NA
.	.	.	.	.
Mean	3,900	14.8	540	0.9

PRELIMINARY RESULTS

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	.	.	.
Feb-02-2005	46	.	.	4,670	130	.	.	.
Feb-09-2005	44	.	.	4,720	140	.	.	.
Feb-16-2005	120	.	.	3,320	340	.	.	.
Feb-23-2005	78	.	.	5,030	160	.	.	.
Mar-02-2005	75	.	.	5,030	NA	.	.	.
Mar-09-2005	59	.	.	5,360	150	.	.	.
Mar-16-2005	59	.	.	5,620	110	.	.	.
Mar-23-2005	67	.	.	4,970	110	.	.	.
Mar-30-2005	45	.	.	5,650	NA	.	.	.
Apr-06-2005	34	.	.	5,580	130	.	.	.
Apr-13-2005	28	.	.	5,830	65	.	.	.
Apr-20-2005	32	.	.	5,170	87	.	.	.
Apr-27-2005	38	.	.	4,710	200	.	.	.

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
Feb-01-2005	49	.	.	4,590	.	63.5	.	8.7
Feb-08-2005	42	.	.	4,930	.	67.0	.	7.2
Feb-15-2005	56	.	.	4,800	.	67.7	.	8.5
Feb-22-2005	75	.	.	4,130	.	54.0	.	7.1
Mar-01-2005	74	.	.	5,120	.	80.3	.	8.7
Mar-08-2005	61	.	.	5,350	.	89.2	.	9.2
Mar-15-2005	59	.	.	5,780	.	100	.	9.0
Mar-22-2005	63	.	.	5,340	.	89.6	.	9.0
Mar-29-2005	44	.	.	5,400	.	P	.	8.3
Apr-05-2005	35	.	.	5,680	.	78.1	.	P
Apr-12-2005	29	.	.	5,810	.	76.6	.	9.3
Apr-19-2005	34	.	.	5,590	.	60.8	.	P
Apr-26-2005	35	.	.	4,670	.	53.9	.	P

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
Feb-03-2005	51	11.7	8.1	4,710	66	65.2	8.5
Feb-10-2005	49	13.2	7.9	4,950	62	66.0	9.0
Feb-17-2005	123	14.6	7.4	4,570	83	62.8	7.8
Feb-24-2005	80	15.3	7.8	4,620	50	70.5	7.5
Mar-03-2005	76	15.9	7.8	5,230	64	82.8	9.1
Mar-10-2005	62	18.9	8.0	5,540	48	91.2	9.7
Mar-17-2005	59	16.9	7.8	5,960	46	109	10.0
Mar-24-2005	68	14.8	7.8	5,060	39	78.4	8.0
Mar-31-2005	47	14.5	7.9	5,570	38	86.4	8.3
Apr-07-2005	36	18.1	8.4	5,720	70	70.6	P
Apr-14-2005	31	15.2	8.3	5,770	41	72.6	P
Apr-21-2005	32	18.2	8.3	5,610	40	55.8	10.0
Apr-28-2005	38	18.6	7.7	4,730	54	57.4	P

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
Feb-03-2005	127	10.8	7.8	1,930	.	0.6	1.7
Feb-10-2005	121	12.3	7.9	2,110	.	<0.4	2.0
Feb-17-2005	274	14.0	7.8	1,660	.	0.7	1.6
Feb-24-2005	455	14.1	7.9	1,360	.	0.6	1.4
Mar-03-2005	315	14.7	7.9	1,660	.	0.8	1.7
Mar-10-2005	249	19.2	8.0	1,740	.	0.8	1.9
Mar-17-2005	75	16.2	7.9	2,250	.	0.9	2.3
Mar-24-2005	244	14.4	8.0	1,870	.	1.0	1.8
Mar-31-2005	93	14.2	8.1	2,270	.	0.8	2.0
Apr-07-2005	67	17.5	8.3	1,410	.	0.9	P
Apr-14-2005	49	14.0	8.5	2,500	.	0.9	P
Apr-21-2005	38	17.6	8.2	2,540	.	0.7	2.2
Apr-28-2005	40	18.2	8.0	1,490	.	0.8	P

++ 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
Feb-03-2005	178	10.7	7.7	2,800	16.4	3.7
Feb-10-2005	170	12.6	7.9	2,990	18.4	3.9
Feb-17-2005	397	14.2	7.7	2,700	21.4	3.7
Feb-24-2005	535	14.3	7.8	1,980	12.4	2.4
Mar-03-2005	391	15.1	7.9	2,490	18.3	3.4
Mar-10-2005	311	19.2	7.9	2,550	18.0	3.4
Mar-17-2005	135	16.5	7.9	3,560	35.6	5.1
Mar-24-2005	312	14.5	7.9	2,710	19.6	3.2
Mar-31-2005	140	14.2	8.2	3,510	28.8	4.1
Apr-07-2005	103	17.7	8.3	3,550	20.2	P
Apr-14-2005	80	14.3	8.4	3,720	23.2	P
Apr-21-2005	70	17.6	8.3	4,180	26.8	5.2
Apr-28-2005	78	18.3	8.1	3,000	24.7	P

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
Feb-01-2005	.	8.1	2,790	30	14.6	3.3
Feb-09-2005	.	8.1	3,110	28	17.0	3.6
Feb-15-2005	.	7.8	3,190	35	20.1	3.7
Feb-23-2005	.	8.0	1,930	43	7.7	2.3
Mar-01-2005	.	8.0	1,880	37	15.4	2.7
Mar-08-2005	.	8.0	2,450	38	17.0	2.9
Mar-14-2008	.	8.2	3,440	37	28.4	4.4
Mar-25-2005	.	8.1	2,690	26	16.0	2.9
Mar-29-2005	.	8.2	2,300	21	12.0	2.9
Apr-05-2005	.	8.3	4,200	37	25.9	5.0
Apr-12-2005	.	8.8	4,990	47	14.7	5.0
Apr-20-2005	.	8.5	3,980	32	19.7	5.4
Apr-26-2005	.	8.6	3,890	34	22.8	5.4

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
Feb-03-2005	200	10.9	7.6	2,060	0.5	1.1
Feb-10-2005	142	12.1	7.7	2,040	0.4	1.2
Feb-17-2005	465	14.0	7.6	1,350	0.9	1.0
Feb-24-2005	596	14.5	7.6	1,670	1.5	1.4
Mar-03-2005	435	15.0	7.6	1,550	1.2	1.1
Mar-10-2005	389	18.2	7.6	1,690	1.1	1.3
Mar-17-2005	316	16.1	7.8	1,860	1.1	1.6
Mar-24-2005	468	14.3	7.4	1,500	1.1	1.1
Mar-31-2005	400	14.3	7.6	1,840	1.0	1.2
Apr-07-2005	241	17.5	7.6	200	1.1	P
Apr-14-2005	243	14.7	7.8	1,580	0.9	P
Apr-21-2005	223	16.8	7.9	1,430	0.5	0.8
Apr-28-2005	217	17.6	7.8	1,220	0.7	P

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
Feb-02-2005	20	.	.	683	1.5	0.6
Feb-09-2005	20	.	.	801	1.4	0.6
Feb-16-2005	20	.	.	816	1.7	0.6
Feb-23-2005	20	.	.	945	1.4	0.9
Mar-02-2005	0	.	.	826	2.1	0.8
Mar-09-2005	0	.	.	1,770	1.3	2.7
Mar-16-2005	0	.	.	1,470	1.6	1.8
Mar-23-2005	0	.	.	1,420	1.6	1.4
Mar-30-2005	0	.	.	1,570	P	1.7
Apr-06-2005	0	.	.	1,190	1.8	P
Apr-13-2005	15	.	.	1,080	1.9	1.2
Apr-20-2005	15	.	.	135	0.4	P
Apr-27-2005	15	.	.	217	<0.4	P

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
Feb-02-2005	20	.	.	641	1.3	0.5
Feb-09-2005	30	.	.	665	1.4	0.5
Feb-16-2005	37	.	.	823	1.5	0.7
Feb-23-2005	2	.	.	4,820	44.0	9.3
Mar-02-2005	0	.	.	2,010	3.0	3.6
Mar-09-2005	0	.	.	2,000	1.5	3.9
Mar-16-2005	0	.	.	2,190	1.1	3.9
Mar-23-2005	0	.	.	1,570	0.8	3.2
Mar-30-2005	0	.	.	2,160	P	3.6
Apr-06-2005	0	.	.	2,760	1.9	P
Apr-13-2005	15	.	.	199	0.5	0.2
Apr-20-2005	15	.	.	171	<0.4	P
Apr-27-2005	25	.	.	168	0.5	P

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
Feb-02-2005	4	.	.	1,430	2.0	1.7
Feb-09-2005	40	.	.	981	1.3	0.7
Feb-16-2005	65	.	.	483	0.6	0.4
Feb-23-2005	0	.	.	1,930	2.7	2.3
Mar-02-2005	35	.	.	1,620	3.8	1.8
Mar-09-2005	30	.	.	2,420	5.3	3.3
Mar-16-2005	80	.	.	1,160	3.3	1.1
Mar-23-2005	125	.	.	879	2.8	0.7
Mar-30-2005	90	.	.	1,030	P	0.9
Apr-06-2005	50	.	.	867	3.0	P
Apr-13-2005	50	.	.	440	1.6	0.3
Apr-20-2005	50	.	.	322	0.9	P
Apr-27-2005	50	.	.	610	0.9	P

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
Feb-02-2005	130	.	.	2,040	0.9	2.4
Feb-09-2005	92	.	.	1,750	1.1	1.8
Feb-16-2005	117	.	.	1,610	1.2	2.0
Feb-23-2005	145	.	.	1,910	1.6	2.6
Mar-02-2005	91	.	.	2,250	1.7	3.0
Mar-09-2005	111	.	.	2,110	1.2	2.8
Mar-16-2005	64	.	.	2,210	1.0	2.7
Mar-23-2005	21	.	.	1,910	1.1	2.6
Mar-30-2005	39	.	.	2,130	P	2.4
Apr-06-2005	51	.	.	2,450	2.1	P
Apr-13-2005	45	.	.	1,750	1.1	1.9
Apr-20-2005	57	.	.	1,480	0.7	P
Apr-27-2005	51	.	.	717	0.6	P

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
Feb-02-2005	.	.	.	483	1.6	0.3
Feb-09-2005	.	.	.	592	1.5	0.4
Feb-16-2005	.	.	.	825	1.8	0.6
Feb-23-2005	.	.	.	831	3.3	0.6
Mar-02-2005	.	.	.	562	1.3	0.4
Mar-09-2005	.	.	.	692	2.1	0.5
Mar-16-2005	.	.	.	624	2.4	0.4
Mar-23-2005	.	.	.	626	2.0	0.4
Mar-30-2005	.	.	.	683	P	0.4
Apr-06-2005	.	.	.	702	2.7	P
Apr-13-2005	.	.	.	91	<0.4	<0.1
Apr-20-2005	.	.	.	64	<0.4	P
Apr-27-2005	.	.	.	126	<0.4	P

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
Feb-03-2005	1,090	10.9	7.2	954	<0.4	0.4
Feb-10-2005	585	12.6	7.7	1,410	<0.4	0.5
Feb-17-2005	1,240	14.1	7.5	762	<0.4	0.3
Feb-24-2005	2,160	14.7	7.1	853	0.7	0.6
Mar-03-2005	1,570	15.4	7.2	866	0.8	0.4
Mar-10-2005	975	18.9	7.9	1,350	0.8	0.8
Mar-17-2005	676	16.5	7.3	1,670	0.7	1.0
Mar-24-2005	2,120	14.7	7.2	350	<0.4	0.1
Mar-31-2005	2,350	14.7	7.2	564	0.4	0.3
Apr-07-2005	988	18.0	7.0	1,170	0.6	P
Apr-14-2005	782	15.6	7.2	1,160	0.4	P
Apr-21-2005	475	17.8	7.3	1,580	0.6	0.7
Apr-28-2005	442	18.4	7.0	1,500	0.5	P

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
Feb-01-2005	.	.	.	370	<0.4	0.0
Feb-08-2005	.	.	.	547	<0.4	0.0
Feb-15-2005	.	.	.	NA	<0.4	0.1
Feb-23-2005	.	.	.	NA	0.4	0.0
Mar-01-2005	.	.	.	NA	<0.4	0.1
Mar-08-2005	.	.	.	NA	<0.4	0.1
Mar-23-2005	.	.	.	NA	<0.4	0.1
Mar-29-2005	.	.	.	NA	0.5	0.0
Apr-05-2005	.	.	.	NA	0.0	<0.4
Apr-19-2005	.	.	.	NA	3.3	1.5
Apr-26-2005	.	.	.	NA	3.2	1.3

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
Feb-03-2005	2,170	10.7	7.5	1,060	1.7	0.8
Feb-10-2005	1470	12.5	7.8	1,370	2.3	0.9
Feb-17-2005	2,260	14.1	7.7	1,140	2.3	0.8
Feb-24-2005	3,850	14.9	7.4	926	1.5	0.7
Mar-03-2005	2,710	15.2	7.7	1,040	2.8	0.8
Mar-10-2005	2,000	18.7	7.8	1,430	3.5	1.2
Mar-17-2005	1,480	16.8	7.7	1,800	5.6	1.5
Mar-24-2005	3,130	14.5	7.7	741	1.9	0.5
Mar-31-2005	7,370	13.1	7.5	393	0.8	0.3
Apr-07-2005	4,600	14.8	7.7	531	1.0	P
Apr-14-2005	3,610	13.7	7.7	553	0.9	P
Apr-21-2005	3,020	15.0	7.9	561	1.0	0.4
Apr-28-2005	2,520	15.7	7.5	579	1.2	P

Table 20. Summary of fathead minnow (*Pimephales promelas*) larvae survival in 7-day tests using water samples collected from May 2004 to April 2005. 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	%	%	%	%	%	%
May-2004	100	100	100	100	100	100
Jun-2004	98	93	98	100	88	95
Jul-2004	100	90	93	88	98	98
Aug-2004	98	98	100	95	85	100
Sep-2004	98	93	95	100	93	95
Oct-2004	100	95	98	95	98	98
Nov-2004	95	98	58*	88	98	98
Dec-2004	100	68*	75*	98	98	100
Jan-2005	98	85	80	100	100	98
Feb-2005	95	88	98	80	90	98
Mar-2005	88	73	93	83	85	73†
Apr-2005	95	100	95	93	100	90

Table 21. Summary of fathead minnow (*Pimephales promelas*) larvae growth in 7-day tests using water samples collected from May 2004 to April 2005. 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
May-2004	0.49	0.55	0.53	0.57	0.43	0.49
Jun-2004	0.42	0.42	0.40	0.45	0.36	0.40
Jul-2004	0.55	0.50	0.51	0.54	0.51	0.48
Aug-2004	0.60	0.62	0.62	0.64	0.55	0.59
Sep-2004	0.71	0.60	0.75	0.74	0.62	0.51
Oct-2004	0.69	0.67	0.71	0.71	0.66	0.58
Nov-2004	0.58	0.62	0.41*	0.62	0.62	0.71
Dec-2004	0.58	0.47	0.53	0.66	0.54	0.48
Jan-2005	0.62	0.57	0.51	0.61	0.54	0.46
Feb-2005	0.76	0.62	0.69	0.63	0.62	0.54
Mar-2005	0.41	0.38	0.49	0.44	0.46	0.35
Apr-2005	0.42	0.40	0.44	0.42	0.38	0.29

Table 22. Summary of *Daphnia magna* survival in 7-day tests using water samples collected from May 2004 to April 2005. 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	%	%	%	%	%	%
May-2004	90	100	90	80	90	90
Jun-2004	90	100	100	90	90	100
Jul-2004	100	100	80	90	90	90
Aug-2004	100	88	88	100	90	100
Sep-2004	80	100	90	100	100	90
Oct-2004	100	100	80	100	100	100
Nov-2004	80	70	90	80	100	80
Dec-2004	100	100	90	90	80	100
Jan-2005	100	90	80	100	100	90
Feb-2005	80	100	100	90	100	30†
Mar-2005	80	100	90	100	100	90
Apr-2005	90	90	100	90	90	100

Table 23. Summary of *Daphnia magna* reproduction in 7-day tests using water samples collected from May 2004 to April 2005. 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
May-2004	32.4	29.6	37.5	34.9	30.7	24.7
Jun-2004	25.8	29.8	25.6	16.7	19.0	30.0
Jul-2004	51.3	32.4	48.5	36.2	38.8	34.9
Aug-2004	41.9	41.8	46.1	37.4	32.0	33.9
Sep-2004	49.8	48.0	40.4	38.7	41.8	44.3
Oct-2004	48.1	39.8	29.2*	36.6	47.0	32.1
Nov-2004	37.0	28.3	44.6	41.8	35.9	27.0
Dec-2004	30.8	30.8	32.8	34.4	26.6	31.1
Jan-2005	41.7	38.8	40.2	45.9	47.6	34.7
Feb-2005	15.2	13.6	17.3	8.5	12.2	4.0
Mar-2005	37.4	38.9	42.4	38.8	31.6	44.0
Apr-2005	26.4	35.9	42.3	37.1	30.4	27.0

Table 24. Summary of *Selenastrum capricornutum* growth in 4-day tests using water samples collected from May 2004 to April 2005. 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
May-2004	19.3*	29.5	25.1	25.1	24.5	14.5
Jun-2004	12.1	25.2	18.1	21.5	15.4	22.4
Jul-2004	3.6*	13.1	16.3	17.5	12.5	10.1
Aug-2004	14.8	17.7	14.2	16.9	12.2	17.6
Sep-2004	12.4*	13.4*	15.6	16.3	16.2	14.6
Oct-2004	14.5	22.1	17.7	5.9*	16.6	16.8
Nov-2004	18.5	21.1	20.4	22.0	16.5	17.6
Dec-2004	0.9*	10.4	12.2	23.4	3.5	15.6
Jan-2005	1.3*	12.7	10.6*	18.0	13.7	16.2
Feb-2005	13.7	17.7	19.5	10.7*	13.1	22.4
Mar-2005	14.9	20.1	19.7	20.7	11.5	16.0
Apr-2005	17.4	25.6	21.1	19.6	19.2	24.5

Table 25. Summary of selenium concentrations in grab water samples collected at study stations for use in laboratory toxicity tests, February 2005 to April 2005.

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
Feb-14-2005	63	0.5	20	0.8	<0.4
Feb-16-2005	67	0.6	16	0.8	0.5
Feb-18-2005	32	0.6	8.0	0.8	1.1
Mar-14-2005	100	0.9	30	1.0	0.8
Mar-16-2005	109	0.9	38	1.1	1.1
Mar-18-2005	99	0.9	31	1.2	1.2
Apr-11-2005	77	1.1	16	1.0	0.5
Apr-13-2005	69	0.8	25	0.8	0.5
Apr-15-2005	75	1.1	25	0.7	0.5

Table 26. Summary of total suspended solids concentrations in grab water samples collected at study stations for use in laboratory toxicity tests, February 2005 to April 2005.

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
Feb-14-2005	1,086	58	75	76	33
Feb-16-2005	82	64	70	91	26
Feb-18-2005	155	182	256	50	32
Mar-14-2005	64	63	73	43	22
Mar-16-2005	70	75	68	50	41
Mar-18-2005	78	78	64	58	24
Apr-11-2005	61	94	91	44	11
Apr-13-2005	77	199	97	100	10
Apr-15-2005	40	71	59	69	1

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 (10^6cell/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.
v	Based on definitive bioassay, NOEC is 50 percent
D	Sample was dechlorinated