GRASSLAND BYPASS PROJECT

QUARTERLY DATA REPORT

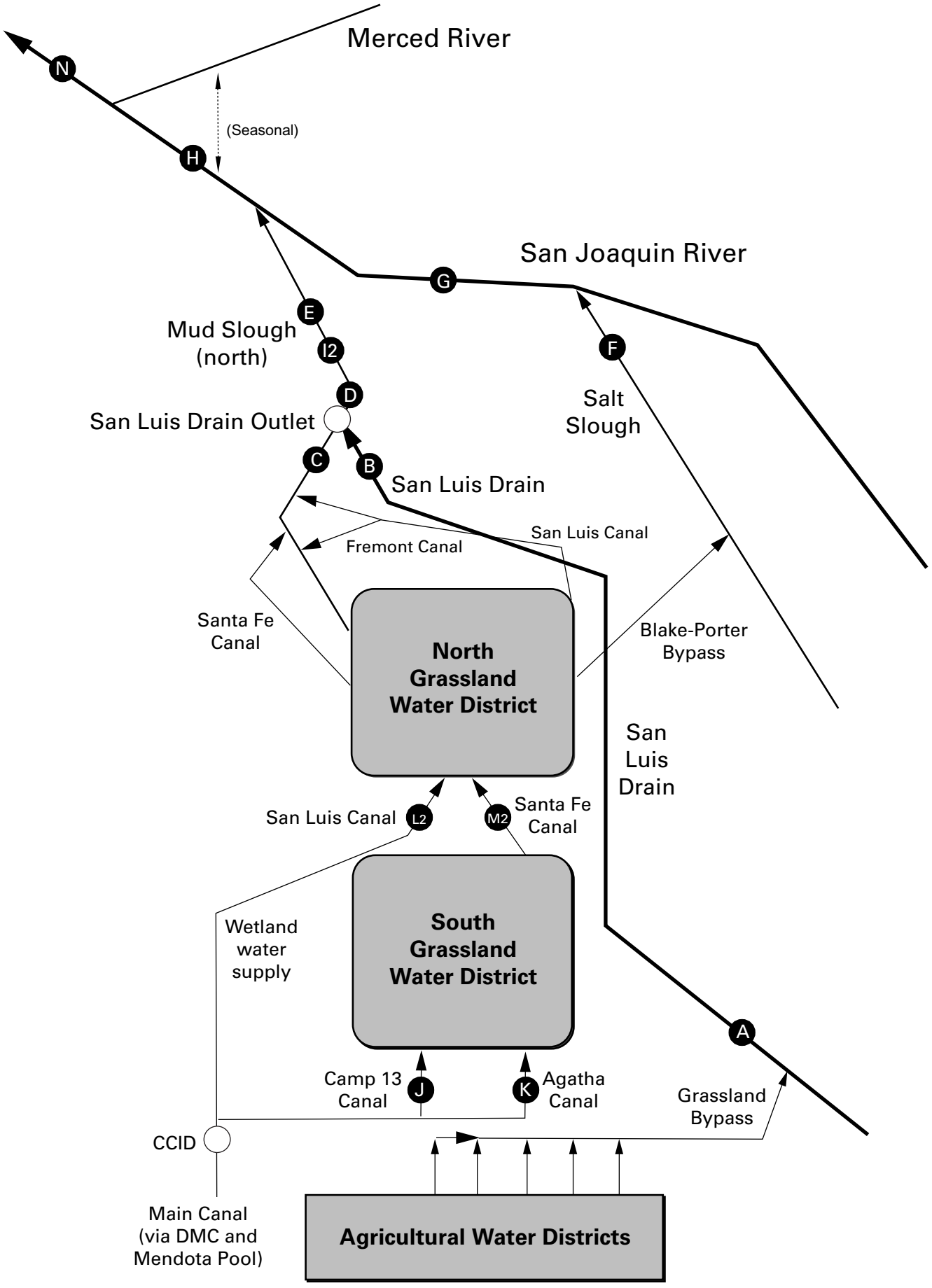
July, August and September 2003

February 2004

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

QUARTERLY DATA REPORT

LIST OF TABLES FOR QUARTERLY REPORT

PRELIMINARY RESULTS

Table 1. Continuous water monitoring at Station A (inflow to San Luis Drain), July, August, September 2003.

See Table 32 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Specific Conductance	Flow	Specific Conductance	Flow	Specific Conductance
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	cfs	µS/cm	cfs	µS/cm	cfs	µS/cm
Month	July	July	August	August	September	September
Day 1	54	4,400	58	3,500	36	3,830
Day 2	56	4,500	62	3,560	34	3,930
Day 3	59	4,590	67	3,660	34	3,700
Day 4	59	4,460	64	3,550	29	3,890
Day 5	57	4,580	61	3,480	31	3,510
Day 6	55	4,690	64	3,410	30	3,600
Day 7	54	4,520	65	3,140	36	3,120
Day 8	57	4,360	58	3,390	26	3,930
Day 9	54	4,240	51	3,490	21	4,340
Day 10	47	4,220	54	3,520	20	4,490
Day 11	38	4,300	53	3,500	21	4,010
Day 12	35	4,260	50	3,590	21	3,830
Day 13	36	4,080	46	3,580	22	4,040
Day 14	37	4,060	45	3,660	21	4,020
Day 15	37	3,850	41	4,300	16	4,750
Day 16	50	4,150	37	4,250	12	5,270
Day 17	45	3,760	37	4,210	11	5,220
Day 18	44	3,910	41	4,150	15	5,020
Day 19	48	4,040	46	3,970	15	4,990
Day 20	48	3,900	51	3,600	16	5,060
Day 21	49	4,040	53	3,470	13	4,920
Day 22	57	3,950	55	3,300	13	4,760
Day 23	58	3,810	56	3,310	14	4,470
Day 24	57	3,640	53	3,380	16	3,980
Day 25	55	3,540	52	3,560	16	4,330
Day 26	56	3,610	48	3,820	16	4,240
Day 27	53	3,540	47	3,540	14	4,110
Day 28	55	3,610	50	3,270	12	4,830
Day 29	53	3,590	46	3,420	9	4,890
Day 30	59	3,380	48	3,360	10	4,910
Day 31	56	3,560	41	3,630	.	.
Mean	51	4,040	52	3,600	20	4,330

PRELIMINARY RESULTS

Table 2a. Continuous water monitoring at Station B (discharge from San Luis Drain), July 2003.

See Table 32 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
Jul-01-2003	54	26.8	8.1	4,350	51.4	15.0
Jul-02-2003	55	26.3	7.3	4,490	51.4	15.2
Jul-03-2003	56	26.2	7.6	4,580	62.9	19.0
Jul-04-2003	59	26.0	9.5	4,850	49.8	15.8
Jul-05-2003	59	26.2	9.5	4,890	50.7	16.1
Jul-06-2003	56	26.3	9.7	5,030	55.8	16.9
Jul-07-2003	55	26.0	9.8	4,970	52.7	15.6
Jul-08-2003	56	25.1	9.7	4,970	45.7	13.8
Jul-09-2003	57	25.5	9.7	5,010	56.9	17.5
Jul-10-2003	55	26.2	9.5	4,830	52.1	15.5
Jul-11-2003	48	26.4	8.9	4,660	56.7	14.7
Jul-12-2003	39	26.9	8.4	4,390	45.4	9.5
Jul-13-2003	34	27.0	8.4	4,420	46.6	8.5
Jul-14-2003	34	26.9	8.4	4,310	41.2	7.6
Jul-15-2003	37	27.4	8.7	4,400	34.8	6.9
Jul-16-2003	42	27.6	8.9	4,400	30.6	6.9
Jul-17-2003	49	27.9	8.9	4,290	29.6	7.8
Jul-18-2003	47	28.5	8.4	4,420	36.1	9.2
Jul-19-2003	46	28.7	8.1	4,400	33.6	8.3
Jul-20-2003	49	28.8	8.0	4,300	35.4	9.4
Jul-21-2003	49	29.5	7.4	3,920	31.2	8.2
Jul-22-2003	50	29.6	7.7	4,170	35.3	9.5
Jul-23-2003	57	29.6	7.5	4,220	34.7	10.7
Jul-24-2003	59	29.4	7.7	4,160	30.0	9.5
Jul-25-2003	58	29.1	7.6	4,090	32.0	10.0
Jul-26-2003	57	28.2	7.3	3,950	30.8	9.5
Jul-27-2003	57	28.0	7.0	3,780	30.3	9.3
Jul-28-2003	55	28.3	6.9	3,720	26.3	7.8
Jul-29-2003	56	28.6	6.6	3,660	26.4	8.0
Jul-30-2003	56	28.6	6.9	3,640	24.6	7.4
Jul-31-2003	59	27.4	6.8	3,590	23.6	7.5
Mean	52	27.5	8.2	4,350	40.1	11.2
Total Acre-feet	**3,170**					
Total (lbs)						**347**

Load Limitation for July 2003 (lbs)	**397**

PRELIMINARY RESULTS

Table 2a. Continuous water monitoring at Station B (discharge from San Luis Drain), August 2003.

See Table 32 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
Aug-01-2003	58	26.6	6.8	3,790	27.5	8.6
Aug-02-2003	60	26.4	6.4	3,620	26.2	8.5
Aug-03-2003	64	26.2	6.8	3,780	29.2	10.1
Aug-04-2003	69	26.5	6.7	3,750	27.5	10.2
Aug-05-2003	66	26.3	6.7	3,800	32.2	11.5
Aug-06-2003	63	26.2	6.8	3,920	37.6	12.8
Aug-07-2003	66	25.7	6.6	3,730	29.8	10.6
Aug-08-2003	66	25.3	6.4	3,610	44.5	15.8
Aug-09-2003	59	25.5	6.1	3,560	28.5	9.1
Aug-10-2003	53	25.6	5.4	3,250	23.9	6.8
Aug-11-2003	55	25.5	5.7	3,450	25.5	7.6
Aug-12-2003	54	25.4	6.1	3,610	25.6	7.5
Aug-13-2003	50	25.6	6.1	3,600	23.9	6.4
Aug-14-2003	47	25.6	6.6	3,870	28.3	7.2
Aug-15-2003	45	25.3	6.4	3,750	28.0	6.8
Aug-16-2003	42	25.4	6.6	3,860	29.0	6.6
Aug-17-2003	39	25.9	6.7	3,790	25.0	5.3
Aug-18-2003	38	26.3	6.6	3,710	21.3	4.4
Aug-19-2003	42	26.2	8.4	4,570	24.7	5.6
Aug-20-2003	47	26.4	8.4	4,480	22.9	5.8
Aug-21-2003	52	26.0	8.3	4,450	24.6	6.9
Aug-22-2003	55	25.4	8.1	4,300	23.6	7.0
Aug-23-2003	58	25.0	7.0	3,910	24.6	7.7
Aug-24-2003	58	25.4	6.2	3,670	26.3	8.2
Aug-25-2003	55	26.0	5.8	3,460	25.0	7.4
Aug-26-2003	54	27.1	5.6	3,410	25.0	7.3
Aug-27-2003	50	26.9	5.9	3,480	24.3	6.6
Aug-28-2003	50	25.8	6.0	3,540	26.4	7.1
Aug-29-2003	51	24.9	6.5	3,860	29.2	8.0
Aug-30-2003	48	24.7	6.9	4,030	34.8	9.0
Aug-31-2003	48	24.8	6.3	3,760	31.0	8.0
Mean	54	25.8	6.6	3,790	27.6	8.1
Total Acre-feet	**3,300**					
Total (lbs)						**250**

Load Limitation for August 2003 (lbs)	**363**

PRELIMINARY RESULTS

Table 2a. Continuous water monitoring at Station B (discharge from San Luis Drain), September 2003.

See Table 32 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
Sep-01-2003	43	25.3	5.9	3,490	26.6	6.2
Sep-02-2003	37	25.8	6.2	3,640	29.0	5.8
Sep-03-2003	35	26.2	5.8	3,430	26.9	5.1
Sep-04-2003	34	26.3	6.3	3,710	33.1	6.1
Sep-05-2003	30	26.0	6.8	3,950	41.1	6.7
Sep-06-2003	31	25.3	7.0	4,010	39.5	6.6
Sep-07-2003	31	24.4	6.8	4,080	43.6	7.3
Sep-08-2003	36	24.1	7.2	3,880	36.0	7.0
Sep-09-2003	29	23.6	7.0	4,090	30.6	4.8
Sep-10-2003	24	23.8	5.9	3,540	24.7	3.2
Sep-11-2003	21	23.7	6.6	3,850	27.9	3.2
Sep-12-2003	22	24.6	5.8	3,550	23.7	2.8
Sep-13-2003	22	24.7	5.1	3,250	25.0	3.0
Sep-14-2003	22	24.5	5.9	3,650	27.3	3.2
Sep-15-2003	22	24.8	7.0	4,100	28.4	3.4
Sep-16-2003	19	24.7	7.4	4,370	29.6	3.0
Sep-17-2003	16	23.4	7.8	4,520	36.0	3.1
Sep-18-2003	14	22.1	7.6	4,450	35.8	2.7
Sep-19-2003	16	22.4	6.8	4,100	31.0	2.7
Sep-20-2003	17	23.2	6.5	3,930	27.6	2.5
Sep-21-2003	18	23.8	6.8	4,050	32.9	3.2
Sep-22-2003	17	24.5	6.9	4,190	36.5	3.3
Sep-23-2003	16	24.9	6.8	4,040	33.8	2.9
Sep-24-2003	17	24.5	7.4	4,340	34.5	3.2
Sep-25-2003	19	23.7	8.0	4,590	37.2	3.8
Sep-26-2003	21	23.3	8.7	4,820	41.2	4.7
Sep-27-2003	20	23.3	8.4	4,770	42.4	4.6
Sep-28-2003	20	23.3	8.0	4,730	49.7	5.4
Sep-29-2003	17	23.3	7.8	4,550	44.0	4.0
Sep-30-2003	15	22.9	7.8	4,460	38.2	3.1
.	.	.	.	.	.	.
Mean	23	24.2	6.9	4,070	33.8	4.2
Total Acre-feet	**1,390**					
Total (lbs)						**126**

Load Limitation for September 2003 (lbs)	**303**

Table 2b. Continuous water monitoring at San Luis Drain Outlet, July 2003.
Note: This is unofficial data reported for comparison with Station B.

See Table 32 for explanation of footnotes and agency abbreviations.

PARAMETER	San Luis Drain Outlet Flow	Selenium (total) *	Selenium (total) Load
DATA SOURCE	SLDMWA	CVRWQCB	Computed
UNITS	cfs	µg/L	lbs
Jul-01-2003	58	51.4	16.0
Jul-02-2003	58	51.4	16.2
Jul-03-2003	60	62.9	20.3
Jul-04-2003	62	49.8	16.6
Jul-05-2003	63	50.7	17.1
Jul-06-2003	60	55.8	18.1
Jul-07-2003	59	52.7	16.6
Jul-08-2003	58	45.7	14.4
Jul-09-2003	61	56.9	18.6
Jul-10-2003	57	52.1	16.1
Jul-11-2003	50	56.7	15.3
Jul-12-2003	40	45.4	9.8
Jul-13-2003	34	46.6	8.7
Jul-14-2003	35	41.2	7.7
Jul-15-2003	38	34.8	7.1
Jul-16-2003	42	30.6	7.0
Jul-17-2003	51	29.6	8.1
Jul-18-2003	48	36.1	9.4
Jul-19-2003	48	33.6	8.7
Jul-20-2003	51	35.4	9.8
Jul-21-2003	52	31.2	8.7
Jul-22-2003	52	35.3	10.0
Jul-23-2003	61	34.7	11.4
Jul-24-2003	62	30.0	10.0
Jul-25-2003	61	32.0	10.5
Jul-26-2003	60	30.8	9.9
Jul-27-2003	60	30.3	9.8
Jul-28-2003	58	26.3	8.2
Jul-29-2003	59	26.4	8.4
Jul-30-2003	58	24.6	7.7
Jul-31-2003	61	23.6	7.8
Mean	54	40.1	11.7
Total Acre-feet	**3,320**		
Total (lbs)			**364**

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

Note: USGS is verifying flow data for the SLD Terminus.

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 here in Table 2b for comparison and are not used to determine compliance with the Waste Discharge Requirement Order.

Table 2b. Continuous water monitoring at San Luis Drain Outlet, August 2003.
Note: This is unofficial data reported for comparison with Station B.

See Table 32 for explanation of footnotes and agency abbreviations.

PARAMETER	San Luis Drain Outlet Flow	Selenium (total) *	Selenium (total) Load
DATA SOURCE	SLDMWA	CVRWQCB	Computed
UNITS	cfs	µg/L	lbs
Aug-01-2003	60	27.5	8.9
Aug-02-2003	62	26.2	8.8
Aug-03-2003	66	29.2	10.4
Aug-04-2003	71	27.5	10.5
Aug-05-2003	68	32.2	11.8
Aug-06-2003	65	37.6	13.3
Aug-07-2003	68	29.8	10.9
Aug-08-2003	68	44.5	16.3
Aug-09-2003	61	28.5	9.4
Aug-10-2003	55	23.9	7.0
Aug-11-2003	56	25.5	7.7
Aug-12-2003	56	25.6	7.7
Aug-13-2003	53	23.9	6.8
Aug-14-2003	49	28.3	7.4
Aug-15-2003	47	28.0	7.2
Aug-16-2003	44	29.0	6.8
Aug-17-2003	41	25.0	5.5
Aug-18-2003	40	21.3	4.6
Aug-19-2003	44	24.7	5.8
Aug-20-2003	50	22.9	6.1
Aug-21-2003	54	24.6	7.2
Aug-22-2003	56	23.6	7.2
Aug-23-2003	60	24.6	8.0
Aug-24-2003	60	26.3	8.6
Aug-25-2003	58	25.0	7.8
Aug-26-2003	57	25.0	7.6
Aug-27-2003	53	24.3	6.9
Aug-28-2003	52	26.4	7.4
Aug-29-2003	54	29.2	8.4
Aug-30-2003	51	34.8	9.6
Aug-31-2003	51	31.0	8.5
Mean	56	27.6	8.4
Total Acre-feet	**3,430**		
Total (lbs)			**260**

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

Note: USGS is verifying flow data for the SLD Terminus.

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 here in Table 2b for comparison and are not used to determine compliance with the Waste Discharge Requirement Order.

Table 2b. Continuous water monitoring at San Luis Drain Outlet, September 2003.
Note: This is unofficial data reported for comparison with Station B.

See Table 32 for explanation of footnotes and agency abbreviations.

PARAMETER	San Luis Drain Outlet Flow	Selenium (total) *	Selenium (total) Load
DATA SOURCE	SLDMWA	CVRWQCB	Computed
UNITS	cfs	µg/L	lbs
Sep-01-2003	45	26.6	6.5
Sep-02-2003	39	29.0	6.1
Sep-03-2003	37	26.9	5.3
Sep-04-2003	36	33.1	6.5
Sep-05-2003	32	41.1	7.0
Sep-06-2003	33	39.5	7.0
Sep-07-2003	32	43.6	7.6
Sep-08-2003	38	36.0	7.4
Sep-09-2003	30	30.6	4.9
Sep-10-2003	24	24.7	3.1
Sep-11-2003	22	27.9	3.4
Sep-12-2003	22	23.7	2.9
Sep-13-2003	22	25.0	3.0
Sep-14-2003	23	27.3	3.3
Sep-15-2003	23	28.4	3.5
Sep-16-2003	20	29.6	3.2
Sep-17-2003	15	36.0	2.9
Sep-18-2003	14	35.8	2.8
Sep-19-2003	17	31.0	2.8
Sep-20-2003	18	27.6	2.7
Sep-21-2003	19	32.9	3.4
Sep-22-2003	18	36.5	3.5
Sep-23-2003	16	33.8	2.9
Sep-24-2003	18	34.5	3.3
Sep-25-2003	19	37.2	3.9
Sep-26-2003	21	41.2	4.7
Sep-27-2003	20	42.4	4.7
Sep-28-2003	20	49.7	5.4
Sep-29-2003	17	44.0	4.1
Sep-30-2003	16	38.2	3.2
.	.	.	.
Mean	24	33.8	4.4
Total Acre-feet	**1,440**		
Total (lbs)			**131**

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

Note: USGS is verifying flow data for the SLD Terminus.

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 here 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.

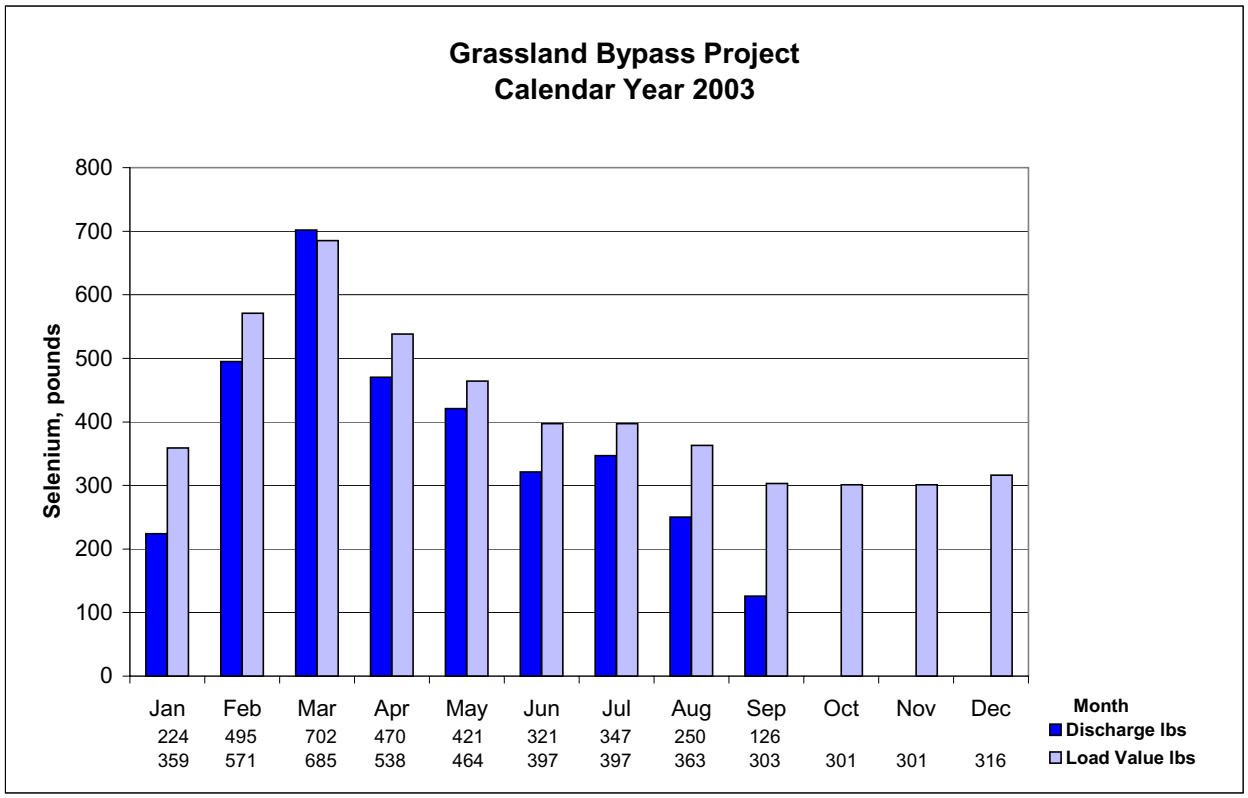


Table 3. Continuous water monitoring at Station D (Mud Slough North downstream of drainage discharges), July 2003.

See Table 32 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	Specific Conductance
DATA SOURCE	USGS	USGS	USGS
UNITS	cfs	°C	µS/cm
Jul-01-2003	57	26.7	3,640
Jul-02-2003	58	26.4	3,920
Jul-03-2003	68	26.2	3,710
Jul-04-2003	64	25.9	3,830
Jul-05-2003	66	26.0	3,810
Jul-06-2003	63	26.3	3,850
Jul-07-2003	62	26.2	3,410
Jul-08-2003	69	25.1	3,470
Jul-09-2003	63	25.6	4,080
Jul-10-2003	52	26.2	4,230
Jul-11-2003	42	26.5	4,220
Jul-12-2003	31	26.9	4,080
Jul-13-2003	29	26.8	3,680
Jul-14-2003	58	26.7	2,960
Jul-15-2003	90	27.3	2,150
Jul-16-2003	47	27.4	3,210
Jul-17-2003	64	27.9	3,030
Jul-18-2003	47	28.5	3,340
Jul-19-2003	43	28.9	3,430
Jul-20-2003	49	29.1	3,490
Jul-21-2003	53	29.7	2,960
Jul-22-2003	48	29.6	3,340
Jul-23-2003	51	29.6	3,580
Jul-24-2003	54	29.5	3,520
Jul-25-2003	65	29.2	3,190
Jul-26-2003	77	28.6	2,820
Jul-27-2003	72	28.2	2,830
Jul-28-2003	70	28.4	2,780
Jul-29-2003	69	28.6	2,740
Jul-30-2003	63	28.6	2,920
Jul-31-2003	56	27.3	3,400
Mean	58	27.5	3,410

Table 3. Continuous water monitoring at Station D (Mud Slough North downstream of drainage discharges), August 2003.

See Table 32 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	Specific Conductance
DATA SOURCE	USGS	USGS	USGS
UNITS	cfs	°C	µS/cm
Aug-01-2003	52	26.8	3,480
Aug-02-2003	90	26.4	2,490
Aug-03-2003	106	26.4	2,450
Aug-04-2003	103	26.6	2,670
Aug-05-2003	105	26.4	2,590
Aug-06-2003	104	26.1	2,640
Aug-07-2003	93	25.7	2,810
Aug-08-2003	86	25.4	2,900
Aug-09-2003	73	25.6	2,910
Aug-10-2003	63	25.6	2,670
Aug-11-2003	59	25.5	2,980
Aug-12-2003	60	25.4	3,130
Aug-13-2003	52	25.7	3,280
Aug-14-2003	44	25.7	3,550
Aug-15-2003	41	25.5	3,450
Aug-16-2003	39	25.8	3,560
Aug-17-2003	37	26.2	3,430
Aug-18-2003	42	26.4	2,990
Aug-19-2003	46	26.6	3,490
Aug-20-2003	48	26.7	3,890
Aug-21-2003	52	26.3	3,910
Aug-22-2003	60	25.7	3,490
Aug-23-2003	62	25.4	3,340
Aug-24-2003	68	25.9	3,020
Aug-25-2003	62	26.3	2,960
Aug-26-2003	62	27.5	2,930
Aug-27-2003	63	27.1	2,890
Aug-28-2003	68	25.9	2,790
Aug-29-2003	68	24.9	2,950
Aug-30-2003	68	25.0	3,050
Aug-31-2003	74	25.3	2,640
Mean	66	26.0	3,080

Table 3. Continuous water monitoring at Station D
(Mud Slough North downstream of drainage discharges), September 2003.

See Table 32 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	Specific Conductance
DATA SOURCE	USGS	USGS	USGS
UNITS	cfs	°C	µS/cm
Sep-01-2003	74	26.0	2,350
Sep-02-2003	65	26.4	2,430
Sep-03-2003	63	26.8	2,310
Sep-04-2003	58	26.9	2,580
Sep-05-2003	52	26.3	2,700
Sep-06-2003	51	25.4	2,800
Sep-07-2003	51	24.5	2,840
Sep-08-2003	59	24.4	2,740
Sep-09-2003	47	23.8	2,820
Sep-10-2003	39	23.8	2,570
Sep-11-2003	39	24.1	2,400
Sep-12-2003	39	24.7	2,500
Sep-13-2003	40	24.4	1,990
Sep-14-2003	57	24.5	1,650
Sep-15-2003	46	24.7	2,030
Sep-16-2003	40	24.2	2,210
Sep-17-2003	39	22.3	2,150
Sep-18-2003	48	21.7	1,810
Sep-19-2003	45	22.5	1,920
Sep-20-2003	47	23.1	1,870
Sep-21-2003	49	24.1	1,830
Sep-22-2003	48	24.5	1,900
Sep-23-2003	57	24.7	1,670
Sep-24-2003	71	24.3	1,470
Sep-25-2003	81	23.4	1,570
Sep-26-2003	81 e	NA	NA
Sep-27-2003	83 e	NA	NA
Sep-28-2003	83 e	NA	NA
Sep-29-2003	83 e	NA	NA
Sep-30-2003	84 e	NA	NA
.	.	.	.
Mean	57	24.5	2,200

Table 4. Continuous water monitoring at Station F (Salt Slough at Highway 165), July 2003.

See Table 32 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	Specific Conductance
DATA SOURCE	USGS	USGS	USGS
UNITS	cfs	°C	µS/cm
Jul-01-2003	134 e	NA	NA
Jul-02-2003	141 e	NA	NA
Jul-03-2003	148 e	NA	NA
Jul-04-2003	146 e	NA	NA
Jul-05-2003	144 e	NA	NA
Jul-06-2003	142 e	NA	NA
Jul-07-2003	140 e	NA	NA
Jul-08-2003	138 e	NA	NA
Jul-09-2003	136 e	NA	NA
Jul-10-2003	135 e	NA	NA
Jul-11-2003	137 e	26.2	975
Jul-12-2003	139 e	26.5	937
Jul-13-2003	137 e	26.2	889
Jul-14-2003	133 e	26.1	896
Jul-15-2003	134 e	27.1	890
Jul-16-2003	138 e	27.0	879
Jul-17-2003	135 e	27.4	876
Jul-18-2003	131 e	28.2	878
Jul-19-2003	138 e	28.4	899
Jul-20-2003	143 e	28.3	847
Jul-21-2003	143 e	29.3	845
Jul-22-2003	131 e	29.1	840
Jul-23-2003	119 e	28.9	894
Jul-24-2003	126 e	28.6	958
Jul-25-2003	149 e	28.2	867
Jul-26-2003	169 e	27.5	876
Jul-27-2003	173 e	27.7	906
Jul-28-2003	185 e	27.9	884
Jul-29-2003	220 e	27.9	852
Jul-30-2003	206	27.8	891
Jul-31-2003	170	26.5	911
Mean	147	27.7	890

Table 4. Continuous water monitoring at Station F (Salt Slough at Highway 165), August 2003.

See Table 32 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	Specific Conductance
DATA SOURCE	USGS	USGS	USGS
UNITS	cfs	°C	µS/cm
Aug-01-2003	162	25.7	878
Aug-02-2003	170	25.4	835
Aug-03-2003	217	25.7	794
Aug-04-2003	242	26.0	771
Aug-05-2003	207	25.4	796
Aug-06-2003	187	25.3	842
Aug-07-2003	201	24.8	795
Aug-08-2003	227	24.6	755
Aug-09-2003	238	24.8	735
Aug-10-2003	208	24.9	811
Aug-11-2003	185	24.7	822
Aug-12-2003	167	24.6	829
Aug-13-2003	127	24.9	921
Aug-14-2003	97	25.2	974
Aug-15-2003	64	24.9	1,090
Aug-16-2003	73	25.3	1,130
Aug-17-2003	78	25.9	1,030
Aug-18-2003	95	26.0	944
Aug-19-2003	117	25.9	864
Aug-20-2003	126	25.7	846
Aug-21-2003	113	25.4	859
Aug-22-2003	113	24.8	885
Aug-23-2003	119	24.7	913
Aug-24-2003	119	25.7	894
Aug-25-2003	120	26.4	885
Aug-26-2003	128	27.6	883
Aug-27-2003	151	26.7	832
Aug-28-2003	138	25.3	841
Aug-29-2003	114	24.1	911
Aug-30-2003	122	24.2	960
Aug-31-2003	119	24.8	947
Mean	147	25.3	880

Table 4. Continuous water monitoring at Station F (Salt Slough at Highway 165), September 2003.

See Table 32 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	Specific Conductance
DATA SOURCE	USGS	USGS	USGS
UNITS	cfs	°C	µS/cm
Sep-01-2003	128	25.7	944
Sep-02-2003	97	26.3	986
Sep-03-2003	78	26.7	1,090
Sep-04-2003	74	26.7	1,080
Sep-05-2003	65	25.9	1,200
Sep-06-2003	71	24.6	1,210
Sep-07-2003	79	23.6	1,200
Sep-08-2003	79	23.6	1,120
Sep-09-2003	76	22.8	1,120
Sep-10-2003	75	22.9	1,170
Sep-11-2003	66	23.7	1,200
Sep-12-2003	77	24.6	1,210
Sep-13-2003	88	24.3	1,030
Sep-14-2003	89	24.3	982
Sep-15-2003	80	24.5	994
Sep-16-2003	65	23.9	984
Sep-17-2003	49	21.6	1,160
Sep-18-2003	56	21.2	1,180
Sep-19-2003	67	22.2	1,070
Sep-20-2003	70	22.8	959
Sep-21-2003	68	23.7	1,000
Sep-22-2003	74	24.3	1,060
Sep-23-2003	76	24.5	990
Sep-24-2003	67	23.8	1,050
Sep-25-2003	58	22.7	1,160
Sep-26-2003	58 e	NA	NA
Sep-27-2003	64 e	NA	NA
Sep-28-2003	64 e	NA	NA
Sep-29-2003	64 e	NA	NA
Sep-30-2003	69 e	NA	NA
.	.	.	.
Mean	73	24.0	1,090

Table 5. Continuous water monitoring at Station N (San Joaquin River at Crow's Landing), July 2003.

See Table 32 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
Jul-01-2003	508	25.7	1,300	4.2
Jul-02-2003	483	25.6	1,340	3.9
Jul-03-2003	440	25.5	1,390	4.6
Jul-04-2003	464	25.1	1,420	5.1
Jul-05-2003	432	25.4	1,450	5.1
Jul-06-2003	424	25.6	1,520	5.3
Jul-07-2003	491	25.6	1,470	5.3
Jul-08-2003	433	24.8	1,420	5.2
Jul-09-2003	445	25.4	1,430	5.2
Jul-10-2003	410	26.2	1,420	5.4
Jul-11-2003	474	26.0	1,490	6.0
Jul-12-2003	425	26.6	1,390	4.1
Jul-13-2003	382	26.3	1,520	5.5
Jul-14-2003	430	26.2	1,310	3.5
Jul-15-2003	356	27.3	1,280	3.2
Jul-16-2003	385	26.9	1,270	2.9
Jul-17-2003	364	27.3	1,340	2.9
Jul-18-2003	400	28.2	1,330	NA
Jul-19-2003	389	28.6	1,290	2.9
Jul-20-2003	369	29.2	1,390	3.9
Jul-21-2003	404	29.3	1,300	3.3
Jul-22-2003	372	29.0	1,290	3.8
Jul-23-2003	338	28.6	1,280	3.6
Jul-24-2003	324	28.3	1,380	3.7
Jul-25-2003	315	28.3	1,550	4.1
Jul-26-2003	339	27.9	1,510	3.1
Jul-27-2003	416	27.7	1,300	3.3
Jul-28-2003	448	27.8	1,210	3.1
Jul-29-2003	455	28.3	1,170	2.8
Jul-30-2003	457	28.1	1,200	2.1
Jul-31-2003	452	26.5	1,290	2.8
Mean	414	27.0	1,360	4.0

Table 5. Continuous water monitoring at Station N (San Joaquin River at Crow's Landing), August 2003.

See Table 32 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
Aug-01-2003	436	25.7	1,320	2.5
Aug-02-2003	429	25.9	1,330	2.7
Aug-03-2003	518	25.8	1,240	2.8
Aug-04-2003	561	25.9	1,120	2.6
Aug-05-2003	562	25.7	1,060	2.7
Aug-06-2003	511	25.6	1,170	3.1
Aug-07-2003	507	24.8	1,240	3.4
Aug-08-2003	499	24.6	1,330	4.6
Aug-09-2003	528	24.9	1,280	3.5
Aug-10-2003	515	24.8	1,280	3.5
Aug-11-2003	510	24.6	1,190	3.0
Aug-12-2003	474	24.6	1,240	2.7
Aug-13-2003	477	24.7	1,280	3.0
Aug-14-2003	388	24.9	1,410	3.0
Aug-15-2003	364	24.4	1,580	3.1
Aug-16-2003	346	24.6	1,610	3.0
Aug-17-2003	323	25.4	1,650	3.3
Aug-18-2003	365	25.5	1,510	2.9
Aug-19-2003	381	25.7	1,420	2.5
Aug-20-2003	347	25.7	1,340	2.3
Aug-21-2003	344	25.1	1,440	2.6
Aug-22-2003	378	24.2	1,460	2.7
Aug-23-2003	372	24.3	1,560	3.2
Aug-24-2003	416	25.5	1,490	3.2
Aug-25-2003	447	26.2	1,360	3.2
Aug-26-2003	446	27.2	1,220	2.7
Aug-27-2003	411	26.1	1,250	2.8
Aug-28-2003	392	24.6	1,320	3.0
Aug-29-2003	407	23.7	1,270	2.7
Aug-30-2003	406	23.9	1,300	3.0
Aug-31-2003	423	24.6	1,380	3.3
Mean	435	25.1	1,340	3.0

Table 5. Continuous water monitoring at Station N (San Joaquin River at Crow's Landing), September 2003.

See Table 32 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
Sep-01-2003	432	25.6	1,280	3.5
Sep-02-2003	399	26.0	1,280	2.7
Sep-03-2003	394	26.6	1,270	2.6
Sep-04-2003	352	26.3	1,360	2.6
Sep-05-2003	306	25.1	1,530	3.0
Sep-06-2003	320	24.0	1,510	3.1
Sep-07-2003	291	23.1	1,600	3.6
Sep-08-2003	342	23.1	1,470	3.3
Sep-09-2003	311	22.6	1,440	3.8
Sep-10-2003	312	22.8	1,490	3.4
Sep-11-2003	351	23.4	1,410	2.4
Sep-12-2003	327	24.2	1,220	2.4
Sep-13-2003	295	23.7	1,440	2.1
Sep-14-2003	345	23.8	1,280	1.8
Sep-15-2003	383	24.0	1,110	1.6
Sep-16-2003	297	23.4	1,140	1.6
Sep-17-2003	267	21.5	1,380	1.8
Sep-18-2003	251	20.9	1,420	1.8
Sep-19-2003	250	21.7	1,530	1.9
Sep-20-2003	254	22.6	1,480	1.9
Sep-21-2003	310	23.4	1,360	1.9
Sep-22-2003	322	23.9	1,180	1.5
Sep-23-2003	328	24.0	1,190	1.6
Sep-24-2003	310	23.7	NA	NA
Sep-25-2003	344	22.9	1,200	1.7
Sep-26-2003	343	NA	1,260	1.8
Sep-27-2003	338	NA	1,310	2.1
Sep-28-2003	390	NA	1,150	2.0
Sep-29-2003	427	NA	1,020	1.9
Sep-30-2003	412	NA	988	1.9
.	.	.	.	.
Mean	333	23.7	1,320	2.3

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

See Table 32 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	.	.	.
Jul-02-2003	56	.	.	4,560	90	.	.	.
Jul-09-2003	54	.	.	4,320	85	.	.	.
Jul-16-2003	50	.	.	4,170	82	.	.	.
Jul-23-2003	58	.	.	3,990	150	.	.	.
Jul-30-2003	59	.	.	3,300	200		.	
Aug-06-2003	64	.	.	3,680	77		.	
Aug-13-2003	46	.	.	3,620	110		.	
Aug-20-2003	51	.	.	3,650	160		.	
Aug-27-2003	47	.	.	3,450	150		.	
Sep-03-2003	34	.	.	3,680	180		.	
Sep-10-2003	20	.	.	4,630	78		.	
Sep-17-2003	11	.	.	5,560	24		.	
Sep-24-2003	16	.	.	3,970	89		.	

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

See Table 32 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
Jul-01-2003	54	.	.	4,560	.	43.8	.	8.1
Jul-08-2003	57	.	.	4,760	.	50.9	.	8.8
Jul-15-2003	37	.	.	4,380	.	34.2	.	7.4
Jul-22-2003	57	.	.	4,110	.	32.9	.	7.1
Jul-29-2003	53	.	.	3,780	.	27.2	.	6.6
Aug-05-2003	61	.	.	3,690	.	28.0	.	6.2
Aug-12-2003	50	.	.	3,590	.	26.0	.	5.9
Aug-19-2003	46	.	.	4,200	.	24.0	.	7.4
Aug-26-2003	48	.	.	3,710	.	28.6	.	5.8
Sep-02-2003	34	.	.	3,740	.	34.4	.	5.8
Sep-09-2003	21	.	.	3,950	.	30.6	.	6.3
Sep-16-2003	12	.	.	4,640	.	42.0	.	8.3
Sep-23-2003	14	.	.	5,060	.	54.0	.	8.7
Sep-30-2003	10			4,830		45.0	.	9.3

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

See Table 32 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
Jul-03-2003	56	24.9	8.5	4,630	53	55.2	8.3
Jul-10-2003	55	24.9	8.5	4,500	48	47.4	8.1
Jul-17-2003	49	26.6	8.9	4,260	54	28.0	9.0
Jul-24-2003	59	27.8	8.4	4,020	44	30.5	7.5
Jul-03-2003	56	26.7	8.2	3,610	47	22.9	6.7
Aug-07-2003	66	24.5	8.4	3,700	51	31.6	6.4
Aug-14-2003	47	24.4	8.5	3,950	63	29.2	6.7
Aug-21-2003	52	25.6	8.9	4,400	39	25.2	8.0
Aug-28-2003	50	25.0	8.4	3,570	NA	25.3	6.0
Sep-04-2003	34	25.8	8.3	3,610	27	31.8	6.0
Sep-11-2003	21	22.7	8.4	4,020	32	28.6	6.7
Sep-18-2003	14	21.2	8.5	4,480	33	36.0	7.5
Sep-25-2003	19	22.7	8.7	4,690	39	36.6	8.0

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

See Table 32 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
Jul-03-2003	12	24.7	8.2	1,260	.	1.4	1.2
Jul-10-2003	-3	24.5	8.4	1,560	.	1.3	1.3
Jul-17-2003	15	26.1	8.0	711	.	1.1	0.7
Jul-24-2003	-5	26.0	8.4	1,260	.	1.4	1.1
Jul-31-2003	0	24.7	8.5	1,360	.	0.9	1.4
Aug-07-2003	27	23.6	8.2	1,010	.	1.1	1.2
Aug-14-2003	-3	21.8	8.4	930	.	0.8	1.4
Aug-21-2003	0	22.5	8.1	1,260	.	0.6	1.2
Aug-28-2003	18	22.9	7.7	795	.	0.6	0.7
Sep-04-2003	24	24.6	7.7	783	.	0.4	0.6
Sep-11-2003	18	NA	NA	NA	.	NA	NA
Sep-18-2003	34	20.1	7.8	679	.	0.4	0.5
Sep-25-2003	62	21.9	7.5	722	.	<0.4	0.5

++ 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 32 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
Jul-03-2003	68	24.7	8.4	3,820	42.9	6.5
Jul-10-2003	52	24.8	8.4	4,370	48.0	7.7
Jul-17-2003	64	26.5	8.5	2,770	15.9	5.4
Jul-24-2003	54	27.3	8.4	3,740	26.0	6.8
Jul-31-2003	56	26.5	8.3	3,410	22.2	6.2
Aug-07-2003	93	24.1	8.4	2,810	20.9	4.6
Aug-14-2003	44	23.9	8.7	3,560	21.0	6.0
Aug-21-2003	52	25.2	8.4	4,110	21.2	7.4
Aug-28-2003	68	24.2	8.2	2,910	19.4	4.7
Sep-04-2003	58	25.0	8.0	2,640	20.0	4.1
Sep-11-2003	39	23.5	8.3	2,340	13.6	3.6
Sep-18-2003	48	19.6	8.0	1,750	9.2	2.4
Sep-25-2003	81	21.9	7.7	1,650	7.6	2.2

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

See Table 32 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
Jul-08-2003	.	8.7	3,990	29	34.4	6.8
Jul-08-2003	.	8.7	3,990	29	34.4	6.8
Jul-15-2003	.	8.2	2,110	78	13.5	3.4
Jul-22-2003	.	8.5	3,620	25	27.3	6.2
Jul-30-2003	.	8.5	2,980	26	18.1	5.1
Aug-04-2003	.	8.3	3,360	48	17.7	4.7
Aug-11-2003	.	8.0	3,830	35	22.2	5.1
Aug-21-2003	.	8.4	4,080	33	21.2	7.6
Aug-27-2003	.	8.1	3,200	22	18.4	4.8
Sep-04-2003	.	7.1	2,650	22	19.3	4.1
Sep-09-2003	.	8.0	2,840	34	18.4	4.4
Sep-17-2003	.	8.1	2,310	31	10.2	3.2
Sep-24-2003	.	7.7	1,600	19	7.1	2.0

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

See Table 32 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
Jul-03-2003	148 e	23.4	7.7	921	0.8	0.5
Jul-10-2003	135 e	24.3	7.7	990	0.9	0.7
Jul-17-2003	135 e	25.6	7.8	906	0.6	0.4
Jul-24-2003	126 e	26.2	7.8	1,080	1.0	0.5
Jul-31-2003	170	25.9	7.6	936	0.5	0.5
Aug-07-2003	201	23.0	7.7	824	0.6	0.4
Aug-14-2003	97	22.8	7.8	1,030	0.5	0.4
Aug-21-2003	113	23.9	7.7	839	0.4	0.3
Aug-28-2003	138	23.3	7.7	772	0.6	0.3
Sep-04-2003	74	24.2	7.9	1,060	0.4	0.4
Sep-11-2003	66	20.8	8.0	1,180	0.6	0.6
Sep-18-2003	56	18.3	7.8	1,290	<0.4	0.6
Sep-25-2003	58	19.9	8.0	1,260	<0.4	0.8

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

See Table 32 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
Jul-02-2003	15	.	.	375	1.3	0.4
Jul-09-2003	5	.	.	669	1.5	0.8
Jul-16-2003	15	.	.	336	0.8	0.2
Jul-23-2003	15	.	.	327	0.7	0.2
Jul-30-2003	5	.	.	435	0.6	0.4
Aug-06-2003	25	.	.	342	0.5	0.2
Aug-13-2003	35	.	.	360	1.0	0.3
Aug-20-2003	75	.	.	382	0.7	0.3
Aug-27-2003	120	.	.	626	1.2	0.4
Sep-03-2003	155	.	.	401	0.9	0.2
Sep-10-2003	180	.	.	400	0.6	0.2
Sep-17-2003	180	.	.	418	0.8	0.2
Sep-24-2003	180	.	.	382	<0.4	0.2

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

See Table 32 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
Jul-02-2003	26	.	.	257	1.0	0.2
Jul-09-2003	25	.	.	274	1.0	0.2
Jul-16-2003	26	.	.	436	0.8	0.2
Jul-23-2003	35	.	.	453	0.9	0.2
Jul-30-2003	35	.	.	302	0.6	0.1
Aug-06-2003	35	.	.	350	0.6	0.2
Aug-13-2003	45	.	.	499	0.9	0.3
Aug-20-2003	45	.	.	293	0.5	0.2
Aug-27-2003	45	.	.	323	0.7	0.2
Sep-03-2003	55	.	.	349	0.7	0.1
Sep-10-2003	140	.	.	383	0.6	0.2
Sep-17-2003	160	.	.	370	0.5	0.2
Sep-24-2003	160	.	.	394	0.4	0.1

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

See Table 32 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
Jul-02-2003	60	.	.	661	1.5	0.6
Jul-09-2003	60	.	.	646	1.6	0.6
Jul-16-2003	60	.	.	445	0.8	0.3
Jul-23-2003	60	.	.	NA	1.0	0.4
Jul-30-2003	40	.	.	623	1.0	0.5
Aug-06-2003	40	.	.	729	1.1	0.6
Aug-13-2003	95	.	.	504	1.2	0.3
Aug-20-2003	145	.	.	420	0.7	0.3
Aug-27-2003	145	.	.	491	1.1	0.3
Sep-03-2003	145	.	.	575	1.0	0.3
Sep-10-2003	145	.	.	573	1.0	0.4
Sep-17-2003	145	.	.	449	0.7	0.2
Sep-24-2003	145	.	.	406	0.5	0.2

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

See Table 32 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
Jul-02-2003	48	.		1,490	2.3	2.2
Jul-09-2003	26	.	.	1,060	1.5	2.0
Jul-16-2003	33	.	.	932	1.1	1.4
Jul-23-2003	51	.	.	944	1.2	1.6
Jul-30-2003	53	.		797	1.0	1.1
Aug-06-2003	63	.	.	1,060	1.0	1.5
Aug-13-2003	42	.	.	943	1.1	1.2
Aug-20-2003	57	.	.	680	0.8	0.7
Aug-27-2003	82	.		613	0.8	0.4
Sep-03-2003	57	.	.	552	0.7	0.4
Sep-10-2003	66	.	.	578	0.9	0.4
Sep-17-2003	46	.	.	559	0.7	0.4
Sep-24-2003	41	.	.	563	0.4	0.4

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

See Table 32 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
Jul-02-2003	.	.	.	285	0.9	0.2
Jul-09-2003	.	.	.	240	0.8	0.1
Jul-16-2003	.	.	.	287	0.9	0.2
Jul-23-2003	.	.	.	309	0.7	0.2
Jul-30-2003	.	.	.	297	0.6	0.1
Aug-06-2003	.	.	.	278	0.5	0.1
Aug-13-2003	.	.	.	289	0.7	0.1
Aug-20-2003	.	.	.	322	0.5	0.2
Aug-27-2003	.	.	.	283	0.6	0.1
Sep-03-2003	.	.	.	348	0.6	0.1
Sep-10-2003	.	.	.	370	0.5	0.1
Sep-17-2003	.	.	.	400	0.5	0.2
Sep-24-2003	.	.	.	380	<0.4	0.1

PRELIMINARY RESULTS

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

See Table 32 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
Jul-03-2003	165	24.5	7.8	1,070	0.8	1.3
Jul-10-2003	164	24.8	7.8	1,180	0.8	0.7
Jul-17-2003	149	26.8	7.6	1,090	<0.4	0.5
Jul-24-2003	133	27.0	7.8	1,080	0.5	0.5
Jul-31-2003	207	26.1	7.6	1,060	0.5	0.5
Aug-07-2003	202	23.6	7.8	901	0.6	0.4
Aug-14-2003	135	23.3	7.7	1,270	0.4	0.5
Aug-21-2003	124	24.2	7.8	940	0.4	0.4
Aug-28-2003	147	23.9	8.1	995	0.5	0.4
Sep-04-2003	88	24.6	7.9	1,510	0.4	0.6
Sep-11-2003	76	23.1	8.1	1,680	0.4	0.7
Sep-18-2003	60	19.0	7.9	2,200	<0.4	0.8
Sep-25-2003	72	21.3	8.0	1,690	<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 Table32 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
Jul-01-2003	.	.	.	1,940	6.3	1.8
Jul-08-2003	.	.	.	2,120	9.0	2.4
Jul-15-2003	.	.	.	NA	NA	NA
Jul-22-2003	.	.	.	1,620	4.9	1.7
Aug-01-2003	.	.	.	1,700	4.7	1.8
Aug-05-2003	.	.	.	1,510	5.4	1.6
Aug-19-2003	.	.	.	1,940	4.3	1.7
Aug-26-2003	.	.	.	1,700	4.8	1.7
Sep-02-2003	.	.	.	1,530	4.5	1.4
Sep-09-2003	.	.	.	1,960	6.9	1.9
Sep-16-2003	.	.	.	1,860	3.2	1.5
Sep-30-2003	.	.	.	1,310	3.0	1.1

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

See Table 32 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
Jul-03-2003	440	23.9	8.1	1,390	4.5	0.5
Jul-10-2003	410	25.0	8.1	1,370	5.7	1.3
Jul-17-2003	364	25.8	8.0	1,360	3.0	1.2
Jul-24-2003	324	26.4	7.9	1,350	4.1	1.2
Jul-31-2003	452	25.3	7.9	1,250	2.6	1.2
Aug-07-2003	507	23.5	8.2	1,230	3.3	1.1
Aug-14-2003	388	23.2	8.2	1,460	0.6	1.2
Aug-21-2003	344	24.3	7.9	1,450	2.7	1.3
Aug-28-2003	392	23.1	7.9	1,300	2.9	1.1
Sep-04-2003	352	24.6	8.0	1,390	2.3	0.9
Sep-11-2003	351	23.2	8.0	1,310	1.8	0.9
Sep-18-2003	251	19.3	7.8	1,450	1.7	0.9
Sep-25-2003	344	21.8	8.0	1,180	1.6	0.7

PRELIMINARY RESULTS

Table 20. Summary of fathead minnow (*Pimephales promelas*) larvae survival in 7-day tests using water samples collected from October 2002 to September 2003. Each value is the mean of 4 replicates with 10 fish in each replicate.

See Table 32 for explanation of footnotes and agency abbreviations.

LOCATION	Station B	Station C	Station D	Station F	Canal	Control
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	%	%	%	%	%	%
Oct-2002	93	98	100	93	98	100
Nov-2002	98	55*	83	65*	100	100
Dec-2002	100	88	78*	98	98	100
Jan-2003	98	65*	80	95	88	80
Feb-2003	98	78	73	88	98	100
Mar-2003	93	85*	100	95	100	100
Apr-2003	90	100	100	75*	88	100
May-2003	98	100	100	95	100	100
Jun-2003	95	93	98	93	65†	100
Jul-2003	95	100	93	98	93	100
Aug-2003	95	98	95	93	95	98
Sep-2003	100	100	95	93	98	100

Table 21. Summary of fathead minnow (*Pimephales promelas*) larvae growth in 7-day tests using water samples collected from October 2002 to September 2003. Each value is the mean of 4 replicates with 10 fish in each replicate.

See Table 32 for explanation of footnotes and agency abbreviations.

LOCATION	Station B	Station C	Station D	Station F	Canal	Control
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	mg	mg	mg	mg	mg	mg
Oct-2002	0.66	0.66	0.71	0.62	0.67	0.61
Nov-2002	0.41	0.22*	0.41	0.27*	0.38	0.33
Dec-2002	0.55	0.48*	0.49*	0.60	0.57	0.52
Jan-2003	0.37	0.32	0.33	0.32	0.40	0.35
Feb-2003	0.27	0.24	0.22	0.25	0.26	0.30
Mar-2003	0.33	0.36	0.34	0.28	0.30	0.35
Apr-2003	0.34	0.50	0.47	0.31	0.30	0.24
May-2003	0.37*	0.46*	0.40*	0.46	0.50	0.30
Jun-2003	0.47	0.43	0.40	0.40	0.47	0.37
Jul-2003	0.58*	0.61*	0.73	0.65	0.71	0.65
Aug-2003	0.39	0.38	0.33	0.33	0.33	0.33
Sep-2003	0.46	0.37	0.45	0.38	0.31	0.38

Table 22. Summary of *Daphnia magna* survival in 7-day tests using water samples collected from October 2002 to September 2003. Each value is the mean of 10 replicates with 1 animal in each replicate.

See Table 32 for explanation of footnotes and agency abbreviations.

LOCATION	Station B	Station C	Station D	Station F	Canal	Control
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	%	%	%	%	%	%
Oct-2002	100	89	90	100	100	89
Nov-2002	60*‡‡ D	100	100	100	100	100
Dec-2002	100	100	100	90	100	90
Jan-2003	90	90	100	90	100	100
Feb-2003	100	100	100	100	100	100
Mar-2003	100	100	90	90	100	90
Apr-2003	90	100	100	100	80	100
May-2003	100	100	100	80	100	100
Jun-2003	90	100	90	100	80	90
Jul-2003	100	90	100	90	80	100
Aug-2003	90	100	90	90	90	100
Sep-2003	60*	100	100	90	100	90

Table 23. Summary of *Daphnia magna* reproduction in 7-day tests using water samples collected from October 2002 to September 2003. Each value is the mean of 10 replicates with 1 animal in each replicate.

See Table 32 for explanation of footnotes and agency abbreviations.

LOCATION	Station B	Station C	Station D	Station F	Canal	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
Oct-2002	70.4	30.2	29.6	27.9	29.9	21.1
Nov-2002	7.9* D	30.3	33.5	29.5	18.4	20.3
Dec-2002	22.8	26.3	36.7	29.9	26.7	21.4
Jan-2003	30.1	37.0	38.8	26.3*	38.6	43.0
Feb-2003	36.1	38.0	32.9	37.0	35.0	28.7
Mar-2003	50.9	43.2	46.6	44.4	44.0	41.5
Apr-2003	38.5	42.0	43.3	34.6	31.1	35.1
May-2003	31.7	29.2	34.6	19.0*	30.4	23.7
Jun-2003	28.5	23.0	24.3	29.7	19.5	27.4
Jul-2003	39.9	28.8	46.9	28.2	25.0	26.0
Aug-2003	30.1	33.5	29.0	24.4	33.5	26.7
Sep-2003	25.1	30.1	36.1	31.2	33.0	25.6

Table 24. Summary of *Selenastrum capricornutum* growth in 4-day tests using water samples collected from October 2002 to September 2003. Each value is the mean of 4 replicates.

See Table 32 for explanation of footnotes and agency abbreviations.

LOCATION	Station B	Station C	Station D	Station F	Canal	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
Oct-2002	8.9	5.9*	6.4*	6.4*	7.8	9.5
Nov-2002	10.8*	15.7	11.9*	10.8*	15.7	14.2
Dec-2002	7.3‡	9.7	10.0	6.8‡	2.4 ‡ ‡‡‡	7.7‡‡‡
Jan-2003	3.9*	11.7	10.2	5.7*	7.7‡	7.7‡
Feb-2003	0.6*	2.0*‡	1.0*‡	1.5*	3.0††††	1.2††††
Mar-2003	12.4*	18.4	14.6	20.3	17.4	22.2
Apr-2003	11.1*	15.4	13.3	8.9*	15.7	27.6
May-2003	8.4*	12.9	10.4	10.9	12.1	13.2
Jun-2003	16.2*	15.8*	13.2*	22.8*	31.6	35.2
Jul-2003	15.9*	22.7	12.1*	8.7*	19.5	16.6
Aug-2003	11.9*	13.6	11.7*	13.9	14.5	10.9
Sep-2003	11.8*	15.5	14.5*	13.9*	15.9	12.2

Table 25. Summary of selenium concentrations in grab water samples collected at study stations for use in laboratory toxicity tests, July 2003 to September 2003.

See Table 32 for explanation of footnotes and agency abbreviations.

LOCATION	Station B	Station C	Station D	Station F	Canal
DATA SOURCE #	SLDMWA/USBR	SLDMWA/USBR	SLDMWA/USBR	SLDMWA/USBR	SLDMWA/USBR
UNITS	µg/L	µg/L	µg/L	µg/L	µg/L
Jul-21-2003	28	1.2	17	0.5	<0.4
Jul-23-2003	32	1.0	33	0.5	<0.4
Jul-25-2003	32	1.2	23	0.6	<0.4
Aug-18-2003	18	0.8	16	<0.4	<0.4
Aug-20-2003	22	0.7	18	<0.4	<0.4
Aug-22-2003	22	0.8	17	<0.4	<0.4
Sep-15-2003	28	<0.4	10	<0.4	<0.4
Sep-17-2003	36	0.5	7.9	<0.4	<0.4
Sep-19-2003	31	0.5	10	<0.4	<0.4

Table 26. Summary of total suspended solids concentrations in grab water samples collected from July 2003 to September 2003.

See Table 32 for explanation of footnotes and agency abbreviations.

LOCATION	Station B	Station C	Station D	Station F	Canal
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	mg/L	mg/L	mg/L	mg/L	mg/L
Jul-21-2003	35	145	75	180	67
Jul-23-2003	27	79	84	175	41
Jul-25-2003	29	128	64	208	40
Aug-18-2003	69	110	89	216	45
Aug-20-2003	58	116	74	187	50
Aug-22-2003	36	193	183	262	30
Sep-15-2003	35	74	121	121	33
Sep-17-2003	67	93	90	79	46
Sep-19-2003	30	127	128	170	30

Table 27. Monthly Flow and Salinity of Water at San Luis Drain, Station B.

See Table 32 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow at Station B		Salinity at Station B		
	Mean daily	Total	FW EC	TDS	Salt load
UNITS	cfs	acre-feet	µS/cm	mg/L	tons
Oct-2001	17.9	1,102	3,879	2,870	4,302
Nov-2001	22.2	1,321	3,782	2,799	5,028
Dec-2001	20.4	1,254	4,219	3,122	5,324
Jan-2002	27.0	1,658	4,287	3,172	7,153
Feb-2002	49.1	2,725	4,314	3,192	11,831
Mar-2002	54.8	3,368	4,391	3,249	14,884
Apr-2002	40.8	2,428	4,650	3,441	11,362
May-2002	43.0	2,642	4,171	3,087	11,090
Jun-2002	55.8	3,320	3,931	2,909	13,134
Jul-2002	53.0	3,259	3,886	2,876	12,746
Aug-2002	55.4	3,406	3,474	2,571	11,908
Sep-2002	32.1	1,908	3,843	2,844	7,379
Oct-2002	19.7	1,210	4,177	3,091	5,087
Nov-2002	19.2	1,141	4,182	3,095	4,802
Dec-2002	21.9	1,347	4,556	3,371	6,176
Jan-2003	22.6	1,390	4,479	3,314	6,266
Feb-2003	55.1	3,061	4,311	3,190	13,280
Mar-2003	54.8	3,370	5,039	3,729	17,090
Apr-2003	41.4	2,464	4,948	3,662	12,270
May-2003	40.0	2,458	4,587	3,394	11,347
Jun-2003	46.9	2,793	4,253	3,147	11,955
Jul-2003	50.9	3,174	3,992	2,954	12,752
Aug-2003	53.6	3,297	3,508	2,596	11,640
Sep-2003	23.4	1,390	3,787	2,802	5,298

Note: EC to TDS conversion = 0.74

Water Year Averages and Totals

PARAMETER	Mean daily	Total	FW EC	TDS	Salt load
UNITS	cfs	acre-feet	µS/cm	mg/L	tons
WY 1997	52.0	37,550	4,257	3,150	160,883
WY 1998	63.9	45,939	4,438	3,284	205,197
WY 1999	44.7	32,317	4,650	3,441	151,227
WY 2000	43.1	31,266	4,301	3,183	135,322
WY 2001	39.1	28,235	4,191	3,101	119,089
WY 2002	39.3	28,391	4,069	3,011	116,259
WY 2003	37.5	27,095	4,318	3,196	117,752

Calendar Year Totals

PARAMETER	Mean daily	Total	FW EC	TDS	Salt load
UNITS	cfs	acre-feet	µS/cm	mg/L	tons
CY 1997	51.9	37,478	4,354	3,222	164,211
CY 1998	64.3	46,244	4,563	3,377	212,381
CY 1999	44.6	32,254	4,532	3,354	147,111
CY 2000	41.7	30,209	4,189	3,100	127,353
CY 2001	38.8	28,008	4,200	3,108	118,375
CY 2002	39.3	28,412	4,155	3,075	118,812
CY 2003 to date	43.2	23,397	4,323	3,199	101,785

Note: All totals and averages calculated from USGS preliminary data.

Table 28. Monthly Flow and Salinity of Water at Mud Slough, Station D.

See Table 32 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow at Station D		Salinity at Station D		
	Mean daily	Total	FW EC	TDS	Salt load
UNITS	cfs	acre-feet	µS/cm	mg/L	tons
Oct-2001	124	7,629	1,572	1,085	11,254
Nov-2001	170	10,098	1,660	1,145	15,727
Dec-2001	131	8,041	2,056	1,419	15,514
Jan-2002	151	9,259	2,349	1,621	20,412
Feb-2002	149	8,279	2,866	1,977	22,264
Mar-2002	139	8,549	3,362	2,320	26,974
Apr-2002	57	3,380	4,067	2,806	12,899
May-2002	64	3,961	3,386	2,336	12,584
Jun-2002	72	4,298	3,512	2,424	14,167
Jul-2002	74	4,534	3,096	2,136	13,173
Aug-2002	70	4,302	3,022	2,085	12,200
Sep-2002	50	2,947	2,765	1,908	7,647
Oct-2002	98	6,032	1,857	1,281	10,511
Nov-2002	155	9,207	1,828	1,261	15,794
Dec-2002	248	15,237	1,821	1,256	26,037
Jan-2003	175	10,757	2,054	1,417	20,734
Feb-2003	185	10,280	2,729	1,883	26,326
Mar-2003	199	12,238	3,213	2,217	36,899
Apr-2003	72	4,270	3,667	2,530	14,694
May-2003	67	4,130	3,503	2,417	13,576
Jun-2003	79	4,719	3,066	2,116	13,577
Jul-2003	58	3,570	3,348	2,310	11,216
Aug-2003	66	4,066	2,982	2,058	11,378
Sep-2003	57	3,407	2,193	1,513	7,011

Note: EC to TDS conversion = 0.69

Water Year Averages and Totals

PARAMETER	Mean daily	Total	FW EC	TDS	Salt load
UNITS	cfs	acre-feet	µS/cm	mg/L	tons
WY 1997	181	130,919	2,390	1,649	293,622
WY 1998	257	182,593	2,600	1,794	445,498
WY 1999	141	101,365	2,582	1,782	245,602
WY 2000	131	94,448	2,496	1,722	221,220
WY 2001	129	92,871	2,737	1,889	238,530
WY 2002	104	75,277	2,809	1,938	198,456
WY 2003	122	87,913	2,688	1,855	221,788

Calendar Year Totals

PARAMETER	Mean daily	Total	FW EC	TDS	Salt load
UNITS	cfs	acre-feet	µS/cm	mg/L	tons
CY 1997	174	125,435	2,471	1,705	290,857
CY 1998	258	183,339	2,559	1,766	440,264
CY 1999	137	98,749	2,588	1,786	239,820
CY 2000	133	96,079	2,467	1,702	222,426
CY 2001	123	88,887	2,768	1,910	230,883
CY 2002	111	79,985	2,828	1,951	212,234
CY 2003 to date	106	57,437	2,973	2,051	160,229

Note: All totals and averages calculated from USGS preliminary data.

Table 29. Monthly Flow and Salinity of Water at Salt Slough, Station F.

See Table 32 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow at Station F		Salinity at Station F		
	Mean daily	Total	FW EC	TDS	Salt load
UNITS	cfs	acre-feet	µS/cm	mg/L	tons
Oct-2001	95	5,833	1,402	953	7,563
Nov-2001	147	8,773	1,449	986	11,759
Dec-2001	126	7,765	1,757	1,194	12,614
Jan-2002	124	7,629	2,031	1,381	14,328
Feb-2002	184	10,197	1,527	1,038	14,396
Mar-2002	273	16,770	1,719	1,169	26,662
Apr-2002	154	9,160	1,615	1,098	13,678
May-2002	127	7,797	1,390	945	10,024
Jun-2002	140	8,349	1,204	819	9,294
Jul-2002	152	9,330	1,033	702	8,913
Aug-2002	136	8,349	1,016	691	7,845
Sep-2002	83	4,921	1,197	814	5,447
Oct-2002	103	6,319	1,276	868	7,457
Nov-2002	189	11,264	1,380	938	14,375
Dec-2002	264	16,227	1,446	983	21,700
Jan-2003	192	11,790	1,717	1,168	18,721
Feb-2003	205	11,387	1,555	1,057	16,375
Mar-2003	373	22,951	1,624	1,104	34,470
Apr-2003	168	10,003	1,647	1,120	15,236
May-2003	129	7,930	1,418	964	10,399
Jun-2003	123	7,311	1,126	766	7,613
Jul-2003	147	9,045	889	605	7,436
Aug-2003	147	9,013	854	581	7,118
Sep-2003	74	4,343	1,089	741	4,374

Note: EC to TDS conversion = 0.68

Water Year Averages and Totals

PARAMETER	Mean daily	Total	FW EC	TDS	Salt load
UNITS	cfs	acre-feet	µS/cm	mg/L	tons
WY 1997	216	156,092	1,294	880	186,794
WY 1998	273	196,091	1,387	943	251,525
WY 1999	210	151,766	1,192	811	167,301
WY 2000	195	141,061	1,314	894	171,416
WY 2001	185	133,892	1,340	911	165,923
WY 2002	145	104,873	1,445	983	140,137
WY 2003	176	127,583	1,335	908	157,525

Calendar Year Totals

PARAMETER	Mean daily	Total	FW EC	TDS	Salt load
UNITS	cfs	acre-feet	µS/cm	mg/L	tons
CY 1997	205	147,947	1,355	921	185,393
CY 1998	281	201,357	1,292	879	240,590
CY 1999	204	147,388	1,255	853	171,062
CY 2000	194	140,372	1,284	873	166,684
CY 2001	181	131,119	1,399	951	169,641
CY 2002	161	116,312	1,403	954	150,887
CY 2003 to date	173	93,773	1,324	901	114,848

Note: All totals and averages calculated from USGS preliminary data.

Table 30. Monthly Flow and Salinity of Water at San Joaquin River at Crow's Landing, Station N.

See Table 32 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow at Station N		Salinity at Station N		
	Mean daily	Total	FW EC	TDS	Salt load
UNITS	cfs	acre-feet	µS/cm	mg/L	tons
Oct-2001	742	45,632	768	476	29,552
Nov-2001	990	58,918	805	499	39,976
Dec-2001	949	58,325	1,016	630	49,952
Jan-2002	1,195	73,507	945	586	58,572
Feb-2002	798	44,321	1,558	966	58,225
Mar-2002	865	53,186	1,731	1,073	77,629
Apr-2002	699	41,598	1,347	835	47,255
May-2002	936	57,543	818	507	39,669
Jun-2002	505	30,054	1,407	872	35,656
Jul-2002	414	25,482	1,436	890	30,855
Aug-2002	409	25,141	1,390	862	29,466
Sep-2002	340	20,256	1,205	747	20,581
Oct-2002	630	38,744	813	504	26,560
Nov-2002	818	48,671	1,072	665	43,994
Dec-2002	1,053	64,739	1,099	681	59,992
Jan-2003	990	60,895	1,387	860	71,218
Feb-2003	879	48,806	1,640	1,017	67,491
Mar-2003	1,081	66,497	1,644	1,019	92,180
Apr-2003	940	55,913	1,250	775	58,932
May-2003	995	61,175	926	574	47,766
Jun-2003	482	28,656	1,374	852	33,200
Jul-2003	414	25,436	1,143	709	24,515
Aug-2003	435	26,744	1,275	791	28,752
Sep-2003	333	19,841	1,301	807	21,766

Note: EC to TDS conversion = 0.62

Water Year Averages and Totals

PARAMETER	Mean daily	Total	FW EC	TDS	Salt load
UNITS	cfs	acre-feet	µS/cm	mg/L	tons
WY 1997	5,409	3,846,963	820	508	2,657,030
WY 1998	6,869	4,907,869	601	373	2,487,007
WY 1999	1,412	1,016,070	902	559	772,386
WY 2000	1,422	1,028,063	976	605	845,958
WY 2001	903	653,821	1,162	720	640,095
WY 2002	737	533,963	1,202	745	541,233
WY 2003	754	546,117	1,244	771	572,691

Calendar Year Totals

PARAMETER	Mean daily	Total	FW EC	TDS	Salt load
UNITS	cfs	acre-feet	µS/cm	mg/L	tons
CY 1997	5,064	3,592,879	975	605	2,953,778
CY 1998	7,087	5,067,377	453	281	1,935,584
CY 1999	1,206	865,098	1,017	631	741,851
CY 2000	1,465	1,059,833	905	561	808,754
CY 2001	882	638,495	1,174	728	632,057
CY 2002	722	523,242	1,235	766	544,909
CY 2003 to date	728	393,963	1,327	823	440,705

Note: All totals and averages calculated from USGS preliminary data.

Table 31. Summary of sediment monitoring results from November 2001 to July 2003. Concentrations in µg/g dry weight.

See Table 32 for explanation of footnotes and agency abbreviations.

Station Code	PARAMETER	Selenium			Organic Carbon			Percent Moisture		
Station Name	DEPTH	0-3 cm	3-8 cm	Whole Core	0-3 cm	3-8 cm	Whole Core	0-3 cm	3-8 cm	Whole Core
	SOURCE	USBR	USBR	USBR	USBR	USBR	USBR	USBR	USBR	USBR
	UNITS	µg/g (dry)	µg/g (dry)	µg/g (dry)	%	%	%	%	%	%
Station C:	Nov-13-2001	0.09	0.10	0.08	0.02	0.29	0.15	28.90	31.60	27.90
Mud Slough North	Mar-01-2002	0.10	0.23	0.10	0.07	0.34	0.01	27.60	28.40	24.40
upstream of	Jun-18-2002	0.18	0.11	0.12	0.27	0.43	0.60	28.40	28.50	29.80
drainage discharges	Sep-24-2002	0.19	0.13	0.15	0.39	0.29	0.39	22.40	25.50	29.10
	Nov-13-2002	0.10	0.19	0.07	0.10	0.48	0.17	27.10	31.60	30.10
	Mar-02-2003	<0.10	<0.10	<0.10	0.22	0.50	0.32	28.98	29.16	27.84
	Jun-01-2003	0.16	0.27	0.10	0.28	0.32	0.59	22.77	25.12	31.88
Station D:	Nov-13-2001	0.15	0.18	0.09	0.15	0.06	0.08	24.10	25.10	25.50
Mud Slough North	Mar-01-2002	0.11	0.10	0.16	0.08	0.08	0.01	19.60	18.80	23.30
downstream of	Jun-18-2002	0.14	0.10	0.14	0.14	0.12	0.12	25.80	22.50	24.50
drainage discharges	Sep-24-2002	0.50	0.32	0.22	0.12	0.14	0.09	25.40	22.50	18.40
	Nov-13-2002	0.34	0.20	0.28	0.07	0.05	0.08	19.70	22.00	22.50
	Mar-02-2003	0.31	0.22	<0.10	0.25	0.27	0.05	26.00	23.73	24.37
	Jun-01-2003	0.22	<0.10	0.15	0.07	0.07	0.13	24.53	23.89	23.57
Station E:	Nov-13-2001	0.80	0.45	0.31	0.25	0.37	0.15	26.70	32.30	28.00
Mud Slough at Highway 140	Mar-01-2002	0.38	0.46	0.74	0.15	0.20	0.26	24.60	20.60	26.80
	Jun-19-2002	0.77	1.10	0.48	0.37	0.46	0.31	34.70	32.70	28.30
	Sep-24-2002	0.51	0.41	0.81	0.16	0.21	0.45	23.90	22.70	32.00
	Nov-13-2002	1.50	1.20	1.10	0.58	0.54	0.57	42.70	37.90	39.70
	Mar-02-2003	1.50	1.80	1.90	0.75	0.92	1.02	42.30	46.82	48.77
	Jun-01-2003	0.37	0.21	0.59	0.14	0.17	0.34	18.89	24.34	29.92
Station F:	Nov-13-2001	0.20	0.23	0.30	0.38	0.42	0.46	28.90	31.00	27.60
Salt Slough at Highway 165	Mar-01-2002	0.43	0.73	0.46	0.69	0.20	0.55	36.40	20.50	25.60
	Jun-19-2002	0.36	0.71	0.24	0.27	0.31	0.29	25.50	28.20	26.40
	Sep-24-2002	0.29	0.37	0.57	0.36	0.23	0.28	29.60	21.20	20.10
	Nov-13-2002	0.51	0.59	0.28	0.30	0.20	0.16	28.10	28.00	28.30
	Mar-02-2003	0.23	0.20	0.19	0.51	0.35	0.36	29.92	25.96	27.97
	Jun-01-2003	0.38	0.50	0.75	0.20	0.19	0.23	21.78	26.89	25.23
Station I2:	Nov-14-2001	6.10	3.70	3.50	1.93	1.51	1.63	60.90	48.20	49.80
Mud Slough:	Mar-01-2002	8.30	5.70	2.60	2.65	2.58	2.04	59.60	58.10	51.10
Seasonal backwater tributary	Jun-18-2002	8.50	4.70	6.20	2.17	2.10	1.89	61.40	53.30	57.30
	Sep-24-2002	7.00	4.50	3.80	1.70	0.62	1.84	56.30	49.60	52.80
	Nov-13-2002	5.00	3.00	2.70	2.10	2.38	1.70	57.70	56.90	48.50
	Mar-02-2003	7.20	2.30	3.10	3.64	1.83	1.73	58.20	46.75	49.58
	Jun-01-2003	7.40	6.60	2.50	2.26	2.31	1.76	67.63	59.32	23.08

Table 32. 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 (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.
‡‡	Fungal growth observed on test organisms.
#	New testing laboratory with reporting limit of 0.4 µg/L as of June 1998.
v	Based on definitive bioassay, NOEC is 50 percent
S	Source
EC	Electrical conductivity
FW	Flow-weighted average concentration
G	US Geological Survey published data
L	Lawrence Berkeley Laboratory 15 minute flow and EC data
TDS	Total dissolved solids