

GRASSLAND BYPASS PROJECT

MONTHLY DATA REPORT

January 2003

April 08, 2003

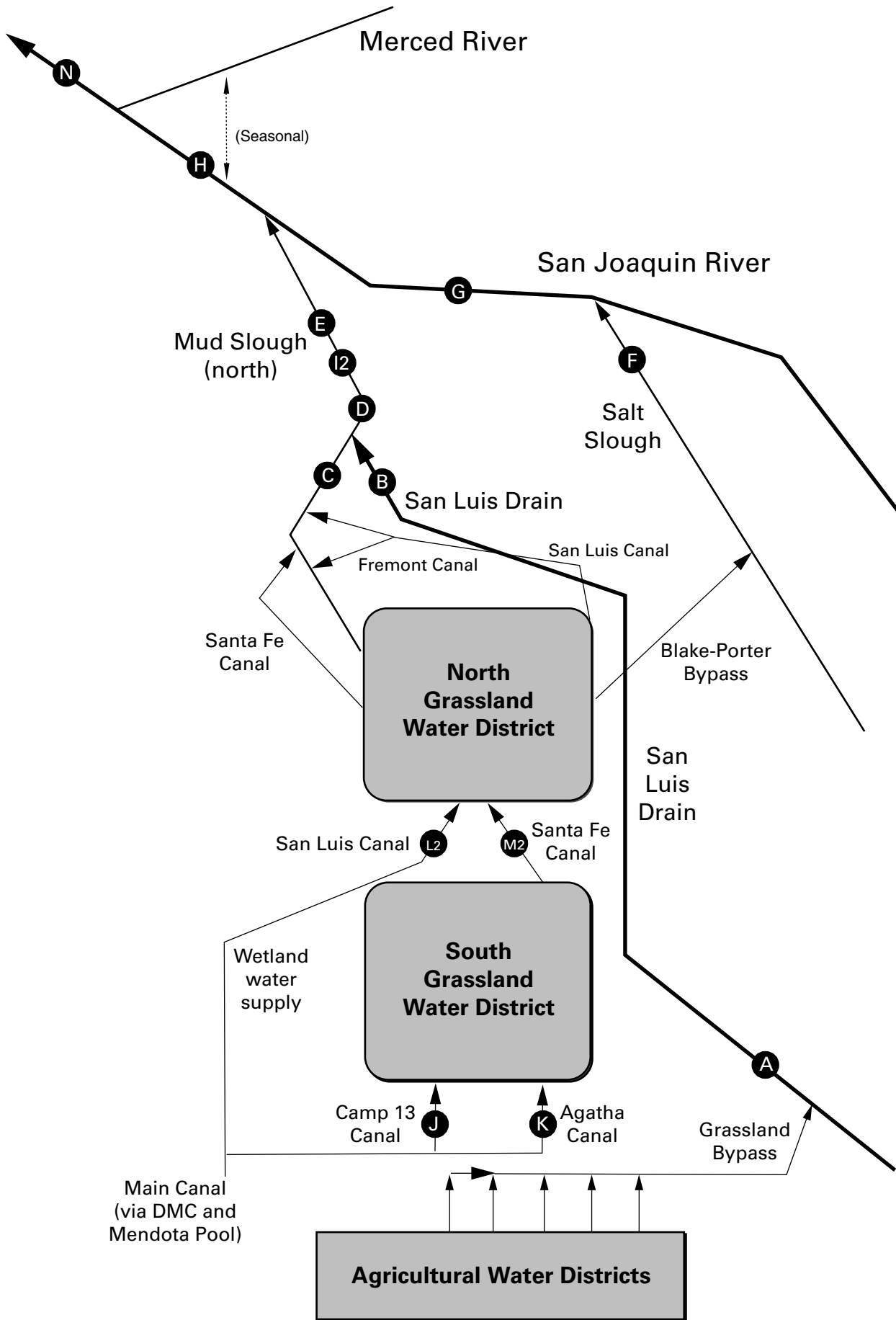
Preliminary Results

A cooperative effort of:

U.S. Bureau of Reclamation
Central Valley Regional Water Quality Control Board
U.S. Fish and Wildlife Service
California Department of Fish and Game
San Luis & Delta-Mendota Water Authority
U.S. Environmental Protection Agency
U.S. Geological Survey

compiled by San Francisco Estuary Institute





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MONTHLY DATA REPORT

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

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Specific Conductance
DATA SOURCE	SLDMWA	SLDMWA
UNITS	cfs	µS/cm
Jan-01-2003	19	4,690
Jan-02-2003	18	4,860
Jan-03-2003	23	4,880
Jan-04-2003	22	4,570
Jan-05-2003	20	4,420
Jan-06-2003	29	4,780
Jan-07-2003	19	4,640
Jan-08-2003	18	4,960
Jan-09-2003	19	5,040
Jan-10-2003	28	4,870
Jan-11-2003	22	4,680
Jan-12-2003	21	4,590
Jan-13-2003	19	4,850
Jan-14-2003	17	4,750
Jan-15-2003	17	4,740
Jan-16-2003	11	5,010
Jan-17-2003	11	5,460
Jan-18-2003	16	5,050
Jan-19-2003	17	4,800
Jan-20-2003	17	4,770
Jan-21-2003	17	4,890
Jan-22-2003	18	4,640
Jan-23-2003	17	4,950
Jan-24-2003	16	5,160
Jan-25-2003	15	4,960
Jan-26-2003	18	4,980
Jan-27-2003	16	4,220
Jan-28-2003	17	4,570
Jan-29-2003	22	4,090
Jan-30-2003	23	4,530
Jan-31-2003	29	4,170
Mean	19	4,760

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

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	Boron	Specific Conductance	Selenium (total)	Selenium (total) Load
DATA SOURCE	usgs	usgs	CVRWQCB	CVRWQCB	CVRWQCB	Computed
UNITS	cfs	°C	mg/L	µS/cm	µg/L	lbs
Jan-01-2003	26	10.0	7.1	4,370	57.2	8.0
Jan-02-2003	27	10.4	7.3	4,350	38.9	5.7
Jan-03-2003	24	10.3	7.3	4,430	32.9	4.3
Jan-04-2003	21	10.3	7.4	4,470	31.4	3.6
Jan-05-2003	28	10.8	7.8	4,560	34.6	5.2
Jan-06-2003	26 e	11.2	7.7	4,680	60.8	8.5
Jan-07-2003	28 e	10.5	7.7	4,560	66.7	10.1
Jan-08-2003	28 e	10.1	8.1	4,620	78.5	11.9
Jan-09-2003	23	10.0	8.3	4,770	84.2	10.4
Jan-10-2003	24	10.4	8.4	4,740	90.1	11.7
Jan-11-2003	27	11.0	7.7	4,580	87.7	12.8
Jan-12-2003	27	11.2	8.4	4,700	73.5	10.7
Jan-13-2003	24	11.2	8.0	4,690	69.3	9.0
Jan-14-2003	24	11.6	8.0	4,680	79.8	10.3
Jan-15-2003	23	12.0	7.8	4,700	77.6	9.6
Jan-16-2003	20	11.6	9.1	4,760	78.4	8.5
Jan-17-2003	19	11.4	8.5	4,660	72.7	7.4
Jan-18-2003	15	11.2	8.6	4,600	68.5	5.5
Jan-19-2003	15	10.8	8.5	4,660	69.8	5.6
Jan-20-2003	20	10.4	8.4	4,670	69.4	7.5
Jan-21-2003	20	10.4	8.2	4,570	66.0	7.1
Jan-22-2003	21	10.6	8.0	4,480	51.2	5.8
Jan-23-2003	22	11.4	8.1	4,350	34.4	4.1
Jan-24-2003	23	12.0	7.8	4,370	36.0	4.5
Jan-25-2003	20	11.8	8.9	4,690	32.9	3.5
Jan-26-2003	19	12.1	8.6	4,620	52.3	5.4
Jan-27-2003	18	12.2	8.5	4,620	45.3	4.4
Jan-28-2003	21	12.8	7.5	4,490	41.7	4.7
Jan-29-2003	20	13.2	7.9	4,490	45.5	4.9
Jan-30-2003	24	13.1	7.6	4,500	44.2	5.7
Jan-31-2003	26	13.2	P	4,810	50.7	7.1
Mean	23	11.3	8.0	4,590	58.8	
Total Acre-feet	1,390				Total (lbs)	224

Load Limitation for January 2003	(lbs)	359
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Figure 2b. Monthly selenium discharges from the terminus of the San Luis Drain into Mud Slough compared to load values.

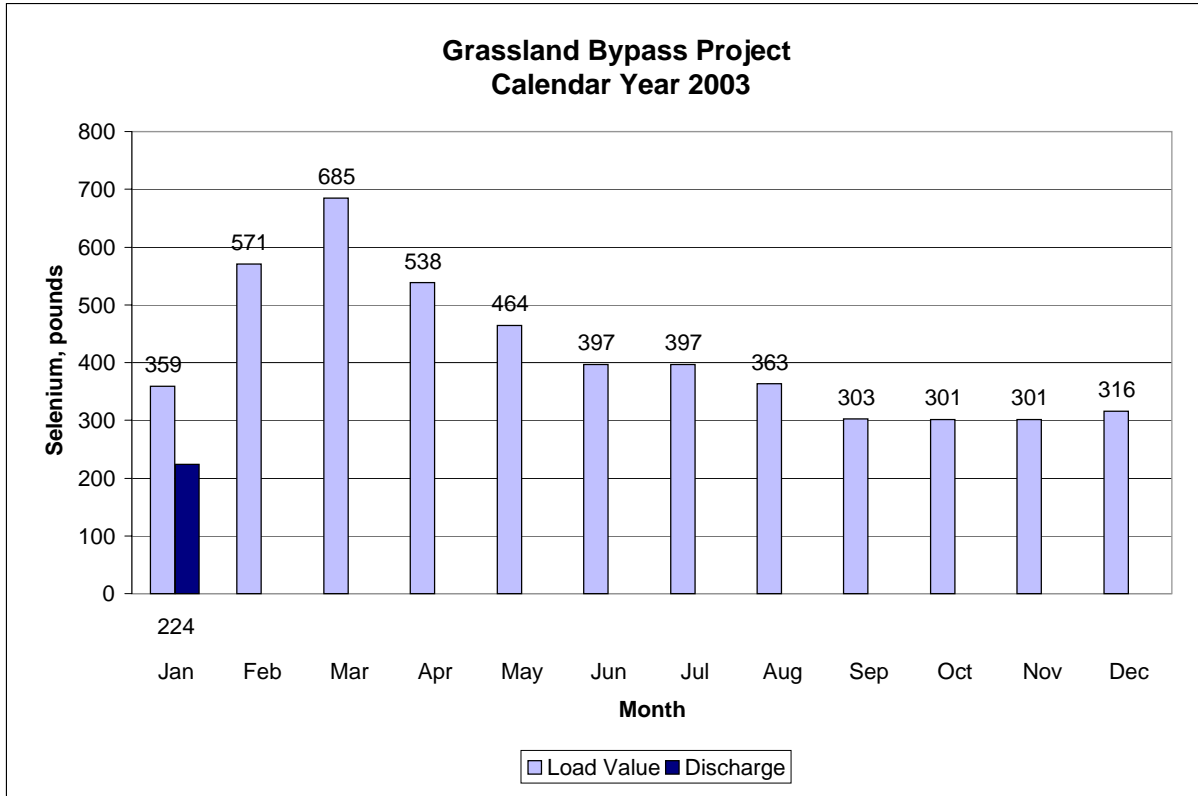


Table 2b. Monthly selenium discharges from the terminus of the San Luis Drain into Mud Slough compared to load values.

PARAMETER	Discharge	Load Value
UNITS	lbs	lbs
Jan	224	359
Feb		571
Mar		685
Apr		538
May		464
Jun		397
Jul		397
Aug		363
Sep		303
Oct		301
Nov		301
Dec		316

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

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	Specific Conductance
DATA SOURCE	usgs	usgs	usgs
UNITS	cfs	°C	µS/cm
Jan-01-2003	333	10.0	1,650
Jan-02-2003	361	10.3	1,580
Jan-03-2003	358	10.3	1,600
Jan-04-2003	305	10.6	1,710
Jan-05-2003	201	11.1	2,200
Jan-06-2003	151	11.6	2,460
Jan-07-2003	133	10.6	2,550
Jan-08-2003	131	10.0	2,640
Jan-09-2003	137	9.9	2,450
Jan-10-2003	148	10.7	2,430
Jan-11-2003	159	11.4	2,310
Jan-12-2003	167	11.6	2,200
Jan-13-2003	175	11.6	2,140
Jan-14-2003	180	12.0	2,070
Jan-15-2003	191	12.6	1,910
Jan-16-2003	192	11.7	1,710
Jan-17-2003	184	11.1	1,680
Jan-18-2003	165	10.9	1,690
Jan-19-2003	131	10.5	1,740
Jan-20-2003	131	10.2	1,840
Jan-21-2003	142	10.2	1,920
Jan-22-2003	144	10.6	2,060
Jan-23-2003	144	11.8	2,340
Jan-24-2003	132	12.6	2,370
Jan-25-2003	120	12.0	2,550
Jan-26-2003	119	12.5	2,550
Jan-27-2003	128	12.5	2,420
Jan-28-2003	135	13.2	2,410
Jan-29-2003	141	13.7	2,360
Jan-30-2003	144	13.2	2,410
Jan-31-2003	141	13.0	2,530
Mean	175	11.4	2,140

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

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	Specific Conductance
DATA SOURCE	usgs	usgs	usgs
UNITS	cfs	°C	µS/cm
Jan-01-2003	329	9.8	1,570
Jan-02-2003	315	10.0	1,610
Jan-03-2003	292	10.0	1,660
Jan-04-2003	270	10.3	1,720
Jan-05-2003	237	10.9	1,770
Jan-06-2003	212	11.5	1,800
Jan-07-2003	199	10.5	1,790
Jan-08-2003	188	10.2	1,810
Jan-09-2003	173	10.4	1,840
Jan-10-2003	171	11.1	1,770
Jan-11-2003	183	11.8	1,700
Jan-12-2003	185	12.0	1,670
Jan-13-2003	184	11.9	1,650
Jan-14-2003	183	12.1	1,640
Jan-15-2003	185	12.7	1,660
Jan-16-2003	186	11.9	1,670
Jan-17-2003	193	11.4	1,650
Jan-18-2003	192	11.3	1,660
Jan-19-2003	182	10.9	1,680
Jan-20-2003	172	10.6	1,730
Jan-21-2003	166	10.7	1,730
Jan-22-2003	170	11.1	1,700
Jan-23-2003	177	12.0	1,650
Jan-24-2003	168	12.8	1,720
Jan-25-2003	164	12.3	1,750
Jan-26-2003	154	12.9	1,790
Jan-27-2003	145	13.0	1,830
Jan-28-2003	147	13.4	1,820
Jan-29-2003	143	13.7	1,840
Jan-30-2003	143	13.2	1,840
Jan-31-2003	136	13.0	1,880
Mean	192	11.6	1,730

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

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	Specific Conductance	Selenium (total)
DATA SOURCE	USGS	USGS	CVRWQCB	CVRWQCB
UNITS	cfs	°C	µS/cm	µg/L
Jan-01-2003	1,310	9.8	1,190	1.2
Jan-02-2003	1,280	10.0	1,140	1.3
Jan-03-2003	1,260	10.0	1,150	1.4
Jan-04-2003	1,240	10.2	1,190	1.1
Jan-05-2003	1,200	10.6	1,230	1.1
Jan-06-2003	1,120	11.3	1,330	1.2
Jan-07-2003	1,040	10.9	1,440	1.4
Jan-08-2003	981	10.3	1,480	1.9
Jan-09-2003	940	10.2	1,530	2.6
Jan-10-2003	924	10.9	1,550	2.0
Jan-11-2003	931	11.5	1,560	2.0
Jan-12-2003	1,040	11.8	1,470	2.0
Jan-13-2003	1,140	11.6	1,220	2.0
Jan-14-2003	1,120	11.8	1,160	1.8
Jan-15-2003	1,080	12.3	1,230	2.0
Jan-16-2003	1,040	11.6	1,300	1.9
Jan-17-2003	1,010	11.2	1,320	2.2
Jan-18-2003	979	11.1	1,390	2.2
Jan-19-2003	952	10.8	1,420	1.9
Jan-20-2003	913	10.5	1,460	1.6
Jan-21-2003	881	10.4	1,530	2.1
Jan-22-2003	866	10.8	1,570	2.3
Jan-23-2003	857	11.8	1,580	2.1
Jan-24-2003	847	12.5	NA	NA
Jan-25-2003	831	12.1	1,600	1.1
Jan-26-2003	822	12.4	1,610	1.1
Jan-27-2003	826	12.6	1,650	1.1
Jan-28-2003	824	13.1	1,660	1.1
Jan-29-2003	814	13.4	1,650	1.1
Jan-30-2003	822	13.3	1,640	1.1
Jan-31-2003	811	13.0	1,630	1.1
Mean	990	11.4	1,430	1.6

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

See Table 26 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-06-2002	15	.	.	3,990	41	.	.	.
Nov-13-2002	14	.	.	5,080	86	.	.	.
Nov-20-2002	9	.	.	5,240	38	.	.	.
Nov-26-2002	8	.	.	4,990	15	.	.	.
Dec-04-2002	19	.	.	5,130	72	.	.	.
Dec-11-2002	20	.	.	5,300	65	.	.	.
Dec-18-2002	23	.	.	4,910	68	.	.	.
Dec-23-2002	16	.	.	5,630	34	.	.	.
Jan-02-2003	18	.	.	5,030	76	.	.	.
Jan-08-2003	18	.	.	5,360	59	.	.	.
Jan-15-2003	17	.	.	4,850	120	.	.	.
Jan-29-2003	22	.	.	4,950	120	.	.	.

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

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	.	.	Specific Conductance	.	Selenium (total)	.	Boron
DATA SOURCE	SLDMWA	.	.	CVRWQCB	.	CVRWQCB	.	CVRWQCB
UNITS	cfs	.	.	µS/cm	.	µg/L	.	mg/L
Nov-05-2002	16	.	.	5,590	.	108.0	.	9.6
Nov-12-2002	14	.	.	4,740	.	89.1	.	7.5
Nov-19-2002	14	.	.	5,000	.	88.5	.	8.6
Nov-25-2002	8	.	.	5,210	.	62.3	.	8.5
Dec-02-2002	18	.	.	5,160	.	90.5	.	8.9
Dec-10-2002	19	.	.	5,200	.	84.2	.	8.4
Dec-17-2002	30	.	.	4,970	.	87.6	.	8.1
Dec-22-2002	15	.	.	4,950	.	69.5	.	7.2
Dec-29-2002	11	.	.	NA	.	62.9	.	9.4
Jan-08-2003	18	.	.	5,190	.	82.5	.	8.7
Jan-14-2003	17	.	.	5,140	.	87.8	.	8.8
Jan-21-2003	17	.	.	5,100	.	46.4	.	8.5
Jan-28-2003	17	.	.	5,090	.	P	.	8.6

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

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	pH	Specific Conductance	Total Suspended Solids	Selenium (total)	.	Boron
DATA SOURCE	USGS	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	.	CVRWQCB
UNITS	cfs	°C	.	µS/cm	mg/L	µg/L	.	mg/L
Nov-07-2002	17	14.1	8.3	4,720	42	72.0	.	7.7
Nov-14-2002	21	14.9	8.0	4,510	35	75.2	.	7.5
Nov-21-2002	15	13.8	8.3	4,390	58	62.7	.	7.1
Nov-26-2002	12	13.3	8.3	4,240	43	63.7	.	6.8
Dec-05-2002	22	11.2	8.1	4,880	42	81.0	.	8.0
Dec-12-2002	22	11.5	7.7	4,830	37	68.2	.	7.4
Dec-19-2002	27	9.8	7.8	4,540	42	69.9	.	7.3
Dec-24-2002	20	8.6	7.1	4,240	33	66.0	.	5.8
Jan-02-2003	27	10.4	7.3	4,510	35	40.0	.	6.9
Jan-09-2003	23	10.2	7.8	4,830	36	72.6	.	8.2
Jan-16-2003	20	11.5	7.8	4,850	40	79.0	.	8.6
Jan-23-2003	22	11.0	7.3	4,510	40	30.3	.	7.4
Jan-30-2003	24	12.9	7.9	4,520	40	44.1	.	8.0

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

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	pH	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	calculated **	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	°C	.	µS/cm	µg/L	mg/L
Nov-07-2002	123	14.0	7.7	1,330	0.5	0.8
Nov-14-2002	203	14.2	7.7	1,300	<0.4	0.9
Nov-21-2002	128	13.4	7.6	1,510	<0.4	P
Nov-26-2002	76	12.4	7.9	1,800	<0.4	1.3
Dec-05-2002	73	10.9	7.8	1,830	<0.4	1.4
Dec-12-2002	122	11.2	7.7	1,640	<0.4	1.2
Dec-19-2002	272	8.8	7.8	1,560	0.5	1.2
Dec-24-2002	476	NA	NA	NA	NA	NA
Jan-02-2003	343	10.4	7.8	1,310	0.5	1.1
Jan-09-2003	118	9.6	7.7	1,990	<0.4	1.6
Jan-16-2003	181	11.6	7.8	1,570	<0.4	1.4
Jan-23-2003	127	10.6	7.5	1,960	<0.4	1.6
Jan-30-2003	121	12.7	7.7	2,030	0.6	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 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	pH	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	usgs	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	°C	.	µS/cm	µg/L	mg/L
Nov-07-2002	137	14.0	7.7	1,900	11.8	1.9
Nov-14-2002	219	14.3	7.8	1,680	7.7	1.6
Nov-21-2002	142	13.2	7.8	1,900	7.2	1.8
Nov-26-2002	93	12.3	8.0	2,200	8.6	2.0
Dec-05-2002	100	10.9	7.9	2,530	16.1	2.8
Dec-12-2002	143	11.3	7.7	2,220	10.3	2.2
Dec-19-2002	285	8.9	7.8	1,940	8.4	1.9
Dec-24-2002	467	8.3	7.6	1,500	4.5	1.3
Jan-02-2003	361	10.4	7.7	1,610	4.0	1.6
Jan-09-2003	137	9.7	7.7	2,540	12.0	2.8
Jan-16-2003	192	11.6	7.8	2,010	8.8	2.2
Jan-23-2003	144	10.7	7.5	2,450	7.2	2.5
Jan-30-2003	144	12.7	7.7	2,500	7.9	3.0

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

See Table 26 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-05-2002	.	7.3	1,740	NA	13.4	2.0
Nov-13-2002	.	7.9	1,960	NA	5.9	1.4
Nov-19-2002	.	7.4	2,020	NA	8.2	2.0
Nov-26-2002	.	7.5	2,320	NA	9.2	2.2
Dec-03-2002	.	8.0	2,490	NA	8.2	2.6
Dec-10-2002	.	7.8	2,310	NA	12.5	2.6
Dec-18-2002	.	8.3	2,050	NA	10.8	2.2
Dec-24-2002	.	7.6	1,790	NA	3.7	1.3
Dec-30-2002	.	7.6	2,000	NA	3.8	1.7
Jan-07-2003	.	7.3	2,580	NA	8.6	2.4
Jan-14-2003	.	7.5	2,260	NA	10.4	2.3
Jan-22-2003	.	7.5	2,500	NA	8.8	2.5
Jan-28-2003	.	7.3	2,510	NA	6.3	2.8

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

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	pH	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	USGS	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	°C	.	µS/cm	µg/L	mg/L
Nov-07-2002	158	13.3	7.9	1,260	<0.4	0.6
Nov-14-2002	240	14.2	7.5	1,300	0.5	0.8
Nov-21-2002	200	12.4	7.3	1,440	0.5	0.9
Nov-26-2002	150	12.3	7.9	1,590	0.4	0.9
Dec-05-2002	147	10.6	7.7	1,510	<0.4	0.9
Dec-12-2002	138	11.5	7.6	1,590	0.5	0.8
Dec-19-2002	351	9.5	7.4	1,360	<0.4	0.9
Dec-24-2002	421	8.0	7.3	1,460	0.7	1.0
Jan-02-2003	315	9.9	7.6	1,630	0.8	1.2
Jan-09-2003	173	10.2	7.6	1,850	1.0	1.1
Jan-16-2003	186	11.7	7.6	1,730	0.4	1.1
Jan-23-2003	177	11.2	7.0	1,700	0.5	1.0
Jan-30-2003	143	12.8	7.6	1,910	0.4	1.2

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

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	.	.	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	SLDMWA ^{††}	.	.	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	.	.	µS/cm	µg/L	mg/L
Nov-06-2002	30	.	.	630	0.5	0.2
Nov-13-2002	10	.	.	665	1.3	0.3
Nov-20-2002	10	.	.	688	2.5	0.4
Nov-26-2002	10	.	.	629	0.7	0.3
Dec-04-2002	10	.	.	697	1.3	0.4
Dec-11-2002	10	.	.	780	1.8	0.5
Dec-18-2002	10	.	.	994	0.9	1.1
Dec-23-2002	10	.	.	757	1.7	0.4
Jan-02-2003	10	.	.	824	2.4	0.5
Jan-08-2003	10	.	.	817	2.0	0.5
Jan-15-2003	10	.	.	719	1.1	0.4
Jan-22-2003	10	.	.	751	1.5	0.5
Jan-29-2003	10	.	.	730	1.2	0.4

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

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	.	.	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	SLDMWA ^{††}	.	.	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	.	.	µS/cm	µg/L	mg/L
Nov-06-2002	70	.	.	630	0.5	0.2
Nov-13-2002	30	.	.	641	0.9	0.2
Nov-20-2002	30	.	.	614	0.7	0.3
Nov-26-2002	50	.	.	623	0.8	0.3
Dec-04-2002	50	.	.	645	0.7	0.3
Dec-11-2002	50	.	.	670	1.0	0.3
Dec-18-2002	50	.	.	627	0.8	0.3
Dec-23-2002	30	.	.	648	1.0	0.3
Jan-02-2003	30	.	.	801	1.9	0.5
Jan-08-2003	30	.	.	843	1.2	0.5
Jan-15-2003	30	.	.	783	3.6	0.5
Jan-22-2003	30	.	.	764	1.1	0.5
Jan-29-2003	30	.	.	674	1.4	0.5

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

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	.	.	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	SLDMWA ^{††}	.	.	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	.	.	µS/cm	µg/L	mg/L
Nov-06-2002	55	.	.	700	0.6	0.3
Nov-13-2002	42	.	.	684	0.7	0.3
Nov-20-2002	0	.	.	1,300	1.3	1.1
Nov-26-2002	0	.	.	1,620	1.0	1.6
Dec-04-2002	0	.	.	1,430	1.4	1.4
Dec-11-2002	0	.	.	1,640	1.2	1.6
Dec-18-2002	61	.	.	340	<0.4	0.3
Dec-23-2002	5	.	.	1,030	0.9	0.9
Jan-02-2003	0	.	.	1,020	1.1	0.8
Jan-08-2003	0	.	.	1,330	1.0	1.2
Jan-15-2003	0	.	.	1,820	1.3	2.0
Jan-22-2003	0	.	.	1,660	1.3	1.8
Jan-29-2003	10	.	.	2,100	1.7	2.4

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

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	.	.	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	SLDMWA ^{††}	.	.	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	.	.	µS/cm	µg/L	mg/L
Nov-06-2002	99	.	.	1,090	0.6	0.7
Nov-13-2002	137	.	.	1,000	0.6	0.8
Nov-20-2002	128	.	.	1,160	0.5	1.0
Nov-26-2002	113	.	.	1,240	0.8	1.1
Dec-04-2002	116	.	.	1,190	0.7	1.1
Dec-11-2002	121	.	.	1,190	0.7	1.0
Dec-18-2002	125	.	.	1,320	0.8	1.3
Dec-23-2002	180	.	.	1,360	1.0	1.3
Jan-02-2003	147	.	.	1,520	1.0	1.7
Jan-08-2003	138	.	.	1,580	0.8	1.7
Jan-15-2003	117	.	.	1,550	0.8	1.7
Jan-22-2003	116	.	.	1,390	1.1	1.4
Jan-29-2003	119	.	.	1,860	2.0	2.0

Table 16. Weekly water quality monitoring at Station G (San Joaquin River at Fremont Ford).

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	pH	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	USGS	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	°C	.	µS/cm	µg/L	mg/L
Nov-07-2002	173	13.3	7.6	1,400	<0.4	0.6
Nov-14-2002	265	14.2	7.5	1,210	0.5	0.7
Nov-21-2002	215	12.8	7.6	1,500	<0.4	0.8
Nov-26-2002	179	12.3	7.7	NA	0.4	0.9
Dec-05-2002	180	10.3	7.7	1,650	0.4	0.9
Dec-12-2002	169	11.2	7.6	1,850	0.4	0.8
Dec-19-2002	665	9.8	7.5	713	0.4	0.4
Dec-24-2002	709	8.2	6.9	1,000	0.7	0.6
Jan-02-2003	520	9.8	7.7	1,210	0.5	0.8
Jan-09-2003	262	9.9	7.9	1,780	0.9	0.9
Jan-16-2003	356	11.5	7.8	1,330	<0.4	0.7
Jan-23-2003	241	11.0	7.2	1,810	<0.4	0.8
Jan-30-2003	194	12.8	7.4	2,070	<0.4	P

Table 17. Weekly water quality monitoring at Station H (San Joaquin River at Hills Ferry).

(Collected data intended for use with biological monitoring.)

See Table 26 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-05-2002	.	.	.	1,670	4.6	1.1
Nov-12-2002	.	.	.	1,260	2.8	0.8
Nov-19-2002	.	.	.	1,560	2.5	1.0
Nov-26-2002	.	.	.	1,980	4.0	1.3
Dec-03-2002	.	.	.	1,960	2.7	1.3
Dec-10-2002	.	.	.	1,890	4.1	1.4
Dec-17-2002	.	.	.	1,450	3.5	1.2
Dec-23-2002	.	.	.	1,130	2.0	0.8
Jan-03-2003	.	.	.	1,390	1.8	1.2
Jan-07-2003	.	.	.	1,770	3.3	1.4
Jan-14-2003	.	.	.	1,480	2.6	1.0
Jan-21-2003	.	.	.	2,080	2.8	1.6
Jan-29-2003	.	.	.	2,240	2.3	1.4

Table 18. Weekly water quality monitoring at Station N (San Joaquin River at Crow's Landing).

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	pH	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	USGS	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	°C	.	µS/cm	µg/L	mg/L
Nov-07-2002	743	13.8	7.7	1,090	2.2	0.7
Nov-14-2002	981	14.6	7.6	1,000	1.7	0.7
Nov-21-2002	822	12.9	7.7	1,160	1.7	P
Nov-26-2002	691	12.1	7.7	1,280	1.5	0.8
Dec-05-2002	663	10.8	7.9	1,330	1.3	0.9
Dec-12-2002	717	11.1	7.4	1,370	2.6	0.9
Dec-19-2002	1,320	9.7	7.8	1,130	2.2	0.7
Dec-24-2002	1,590	8.3	7.4	959	1.5	0.7
Jan-02-2003	1,280	9.7	7.8	1,130	1.5	0.9
Jan-09-2003	940	10.1	7.9	1,530	2.1	1.1
Jan-16-2003	1,040	11.3	7.7	1,330	2.6	0.9
Jan-23-2003	857	11.2	7.6	1,600	2.0	1.0
Jan-30-2003	822	13.1	7.6	1,570	1.3	P

Table 19. Summary of fathead minnow (*Pimephales promelas*) larvae survival in 7-day tests using water samples collected from February 2002 to January 2003. Each value is the mean of 4 replicates with 10 fish in each replicate. See Table 26 for explanation of footnotes and agency abbreviations.

LOCATION	Station B	Station C	Station D	Station F	Delta Mendota Canal	Laboratory Control
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	%	%	%	%	%	%
Feb-2002	93	90	93	95	93	100
Mar-2002	98	90	98	80	88	98
Apr-2002	93	93	85	95	95	98
May-2002	98	95	95	90	85	88
Jun-2002	98	100	100	95	95	100
Jul-2002	100	95	98	93	90	100
Aug-2002	85	88	95	90	95	98
Sep-2002	100	98	98	95	95	93
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

Table 20. Summary of fathead minnow (*Pimephales promelas*) larvae growth in 7-day tests using water samples collected from February 2002 to January 2003. Each value is the mean of 4 replicates with 10 fish in each replicate. See Table 26 for explanation of footnotes and agency abbreviations.

LOCATION	Station B	Station C	Station D	Station F	Delta Mendota Canal	Laboratory Control
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	mg	mg	mg	mg	mg	mg
Feb-2002	0.55	0.47	0.58	0.55	0.52	0.42
Mar-2002	0.40	0.47	0.50	0.41	0.43	0.48
Apr-2002	0.64	0.63	0.50	0.63	0.55	0.58
May-2002	0.63	0.70	0.62	0.65	0.61	0.56
Jun-2002	0.38	0.43	0.41	0.42	0.31	0.50
Jul-2002	0.31	0.33	0.34	0.35	0.31	0.34
Aug-2002	0.49*	0.49	0.49	0.58	0.57	0.55
Sep-2002	0.38	0.38	0.29	0.33	0.31	0.30
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

Table 21. Summary of *Daphnia magna* survival in 7-day tests using water samples collected from February 2002 to January 2002. Each value is the mean of 10 replicates with 1 animal in each replicate. See Table 26 for explanation of footnotes and agency abbreviations.

LOCATION	Station B	Station C	Station D	Station F	Delta Mendota Canal	Laboratory Control
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	%	%	%	%	%	%
Feb-2002	100	80	90	90	100	100
Mar-2002	90	100	100	100	90	100
Apr-2002	100	90	100	90	100	100
May-2002	80	100	80	100	89	30†
Jun-2002	100	90	90	90	100	90
Jul-2002	90	100	100	100	100	100
Aug-2002	100	90	100	60*	100	90
Sep-2002	90	100	90	100	90	90
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

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

See Table 26 for explanation of footnotes and agency abbreviations.

LOCATION	Station B	Station C	Station D	Station F	Delta Mendota Canal	Laboratory Control
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	neonates per female	neonates per female	neonates per female	neonates per female	neonates per female	neonates per female
Feb-2002	42.8(*)	37.7	42.0	40.6	47.4	32.4
Mar-2002	47.2	47.7	49.8	45.8	54.5	50.2
Apr-2002	56.2	43.4	59.8	49.3	49.5	47.3
May-2002	26.4	36.5	30.7	37.2	27.9	2.9†
Jun-2002	40.0	36.1	43.1	24.3*	45.3	28.6
Jul-2002	28.3	29.7	34.6	29.6	33.1	29.1
Aug-2002	40.8	26.6	34.1	20.4	25.6	22.9
Sep-2002	24.4	28.0	28.7	31.1	23.7	16.6
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

(*) Although reproduction values were less at Stations C, D, and F, they were not statistically different from the DMC water. This was due to the increased survival rate at Station B.

Table 23. Summary of *Selenastrum capricornutum* growth in 4-day tests using water samples collected from February 2002 to January 2003. Each value is the mean of 4 replicates.

See Table 26 for explanation of footnotes and agency abbreviations.

LOCATION	Station B	Station C	Station D	Station F	Delta Mendota Canal	Laboratory Control
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	10 ⁵ cells/mL	10 ⁵ cells/mL	10 ⁵ cells/mL	10 ⁵ cells/mL	10 ⁵ cells/mL	10 ⁵ cells/mL
Feb-2002	8.7*	17.3	14.9*	12.7*	18.2	12.6
Mar-2002	8.7*	14.2*	12.9*	18.3	17.8	13.5
Apr-2002	1.44*	7.0	4.4*	6.6	5.8	33.0
May-2002	4.8 †	7.9	6.1	6.3	7.1 †††	3.8 †
Jun-2002	3.7*	9.5	7.7*	6.8*	11.7	10.2
Jul-2002	6.0	10.2	10.3	10.5	6.8	8.7
Aug-2002	NA	NA	NA	NA	NA	NA
Sep-2002	10.9	8.2	7.4	7.6	11.9	12.0
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†

Table 24. Summary of selenium concentrations in grab water samples collected at study stations for use in laboratory toxicity tests, November 2002 to January 2003.

See Table 26 for explanation of footnotes and agency abbreviations.

LOCATION	Station B	Station C	Station D	Station F	Delta Mendota Canal
DATA SOURCE #	SLDMWA/USBR	SLDMWA/USBR	SLDMWA/USBR	SLDMWA/USBR	SLDMWA/USBR
UNITS	µg/L	µg/L	µg/L	µg/L	µg/L
Nov-18-2002	55	0.5	7.6	<0.4	<0.4
Nov-20-2002	67	0.4	7.6	0.5	<0.4
Nov-22-2002	68	0.4	6.5	<0.4	<0.4
Dec-16-2002	78	0.4	12	0.8	0.6
Dec-18-2002	72	<0.4	8.4	0.8	0.6
Dec-20-2002	70	<0.4	9.9	0.7	1.0
Jan-20-2003	72	<0.4	11	<0.4	<0.4
Jan-22-2003	54	<0.4	8.8	<0.4	<0.4
Jan-24-2003	35	<0.4	5.8	0.5	<0.4

Table 25. Summary of total suspended solids concentrations in grab water samples collected from November 2002 to January 2003.

See Table 26 for explanation of footnotes and agency abbreviations.

LOCATION	Station B	Station C	Station D	Station F	Delta Mendota Canal
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	mg/L	mg/L	mg/L	mg/L	mg/L
Nov-18-2002	55	23	35	60	12
Nov-20-2002	82	26	34	94	17
Nov-22-2002	67	43	43	119	24
Dec-16-2002	68	69	82	69	26
Dec-17-2002	63	23	24	85	54
Dec-20-2002	80	36	41	58	18
Jan-20-2003	70	29	30	39	16
Jan-22-2003	53	21	37	46	28
Jan-24-2003	98	58	68	105	56

Table 26. Explanations of footnotes and agency abbreviations.

Footnote	Explanation
CVRWQCB	California Regional Water Quality Control Board, Central Valley Region
SLDMWA	San Luis & Delta-Mendota Water Authority
USBR	U.S. Bureau of Reclamation
USGS	U.S. Geological Survey
e	Estimated value
.	Not applicable
<	Less than MDL. If needed in calculation, use 1/2 MDL
NA	Not analyzed - operator error, data will not be available in the future
NP	Not Provided. Data may be available in the future.
NT	Not tested
P	Pending, data not available at this time but will be available in the future
*	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 ⁶ cell/mL) acceptability criteria.
‡	Control value exceeds suggested maximum variance (20%) acceptability criteria.
‡‡	Fungal growth observed on test organisms.
‡‡‡	Failed cell density requirement of 1E6 cells.
#	New testing laboratory with reporting limit of 0.4 µg/L as of June 1998.
❖	Based on definitive bioassay, NOEC is 50 percent
D	Sample was dechlorinated