

GRASSLAND BYPASS PROJECT

MONTHLY DATA REPORT

February 2003

April 28, 2003

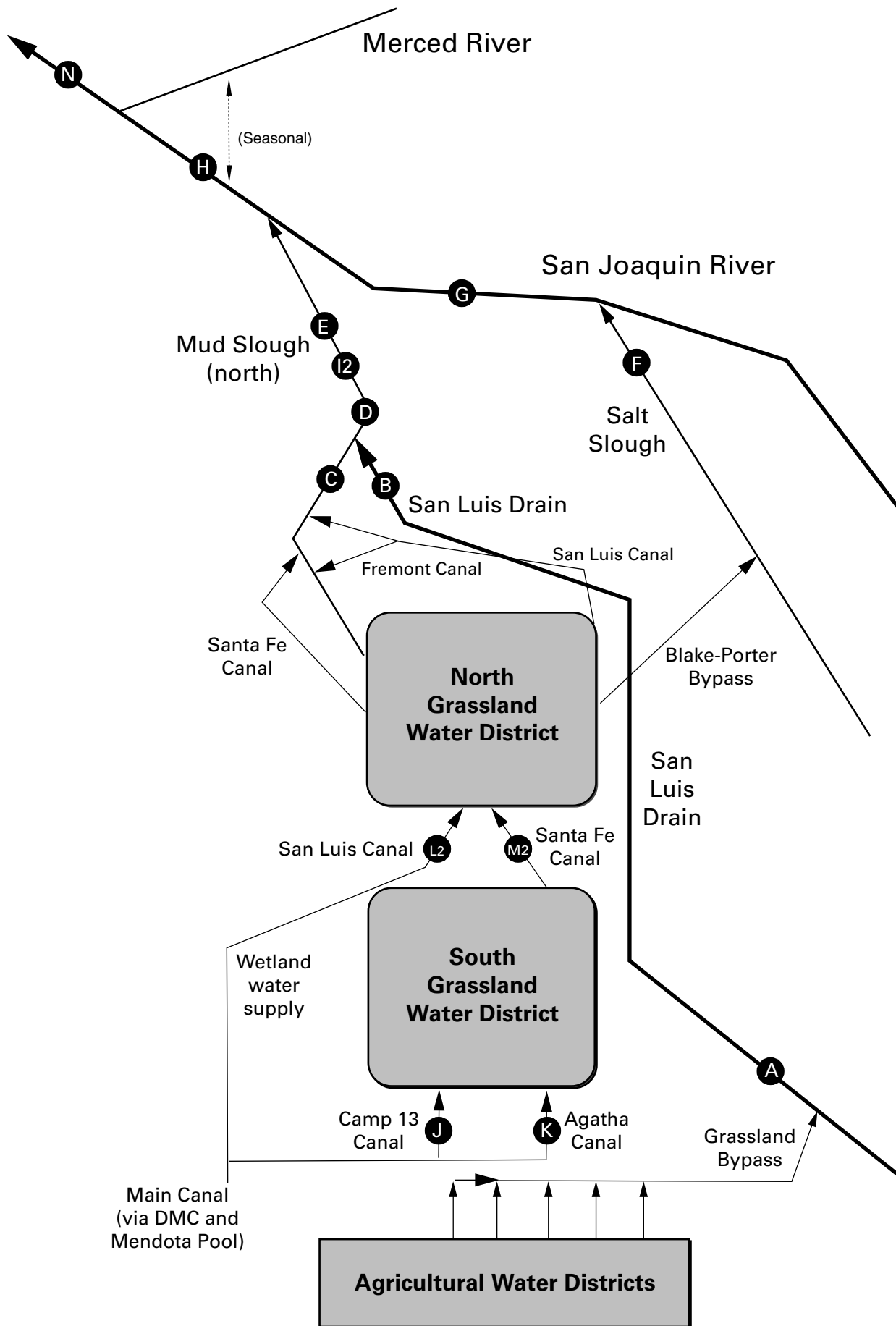
Preliminary Results

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), February 2003.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Specific Conductance
DATA SOURCE	SLDMWA	SLDMWA
UNITS	cfs	µS/cm
Feb-01-2003	34	4,180
Feb-02-2003	34	4,160
Feb-03-2003	32	4,510
Feb-04-2003	33	4,760
Feb-05-2003	33	4,820
Feb-06-2003	37	4,810
Feb-07-2003	42	4,640
Feb-08-2003	46	4,560
Feb-09-2003	49	4,590
Feb-10-2003	50	4,590
Feb-11-2003	52	4,690
Feb-12-2003	54	4,510
Feb-13-2003	59	4,360
Feb-14-2003	63	4,220
Feb-15-2003	65	3,940
Feb-16-2003	60	4,070
Feb-17-2003	54	4,200
Feb-18-2003	52	4,380
Feb-19-2003	54	4,300
Feb-20-2003	57	4,380
Feb-21-2003	55	4,560
Feb-22-2003	59	4,620
Feb-23-2003	59	4,610
Feb-24-2003	58	4,740
Feb-25-2003	72	4,260
Feb-26-2003	82	4,000
Feb-27-2003	77	4,270
Feb-28-2003	70	4,430
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Mean	53	4,430

Table 2a. Continuous water monitoring at Station B (discharge from San Luis Drain), February 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
Feb-01-2003	32	13.3	7.5	4,770	44.3	7.6
Feb-02-2003	40	12.0	7.5	4,660	45.1	9.7
Feb-03-2003	37 e	11.8	7.5	4,510	46.1	9.2
Feb-04-2003	36 e	11.8	7.9	4,680	48.6	9.4
Feb-05-2003	36 e	11.2	7.7	4,630	64.3	12.5
Feb-06-2003	36 e	10.9	7.8	4,630	59.5	11.6
Feb-07-2003	42	10.7	8.0	4,750	66.6	15.1
Feb-08-2003	48 e	10.4	8.1	4,730	63.8	16.5
Feb-09-2003	49 e	10.4	8.4	4,930	69.4	18.3
Feb-10-2003	51 e	10.7	8.7	4,810	68.2	18.8
Feb-11-2003	53	10.9	8.3	4,640	74.6	21.3
Feb-12-2003	54	10.9	7.4	4,510	66.9	19.5
Feb-13-2003	59	12.0	7.7	4,470	67.1	21.4
Feb-14-2003	61	13.2	7.5	4,680	64.1	21.1
Feb-15-2003	65	13.7	7.3	4,540	59.7	20.9
Feb-16-2003	66	14.3	7.3	4,440	57.2	20.4
Feb-17-2003	62	13.9	6.6	4,330	56.0	18.7
Feb-18-2003	57	13.3	6.4	4,080	53.6	16.5
Feb-19-2003	56	13.1	6.8	4,170	49.0	14.8
Feb-20-2003	58	12.5	6.8	4,340	52.6	16.5
Feb-21-2003	60	12.8	7.3	4,500	54.0	17.5
Feb-22-2003	59	13.3	7.4	4,440	53.5	17.0
Feb-23-2003	63	13.6	7.6	4,520	61.1	20.8
Feb-24-2003	62	14.0	7.7	4,720	58.5	19.6
Feb-25-2003	65	14.2	7.3	4,760	59.6	20.9
Feb-26-2003	75	13.8	7.8	4,780	62.1	25.1
Feb-27-2003	82	13.5	7.8	4,880	63.6	28.1
Feb-28-2003	77	13.4	P	4,180	63.6 e	26.4
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Mean	55	12.5	7.6	4,570	59.0	
Total Acre-feet	3,060				Total (lbs)	495

Load Limitation for February 2003	(lbs)	571
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Figure 2b. Monthly selenium discharges from the terminus of the San Luis Drain into Mud Slough compared to load values.

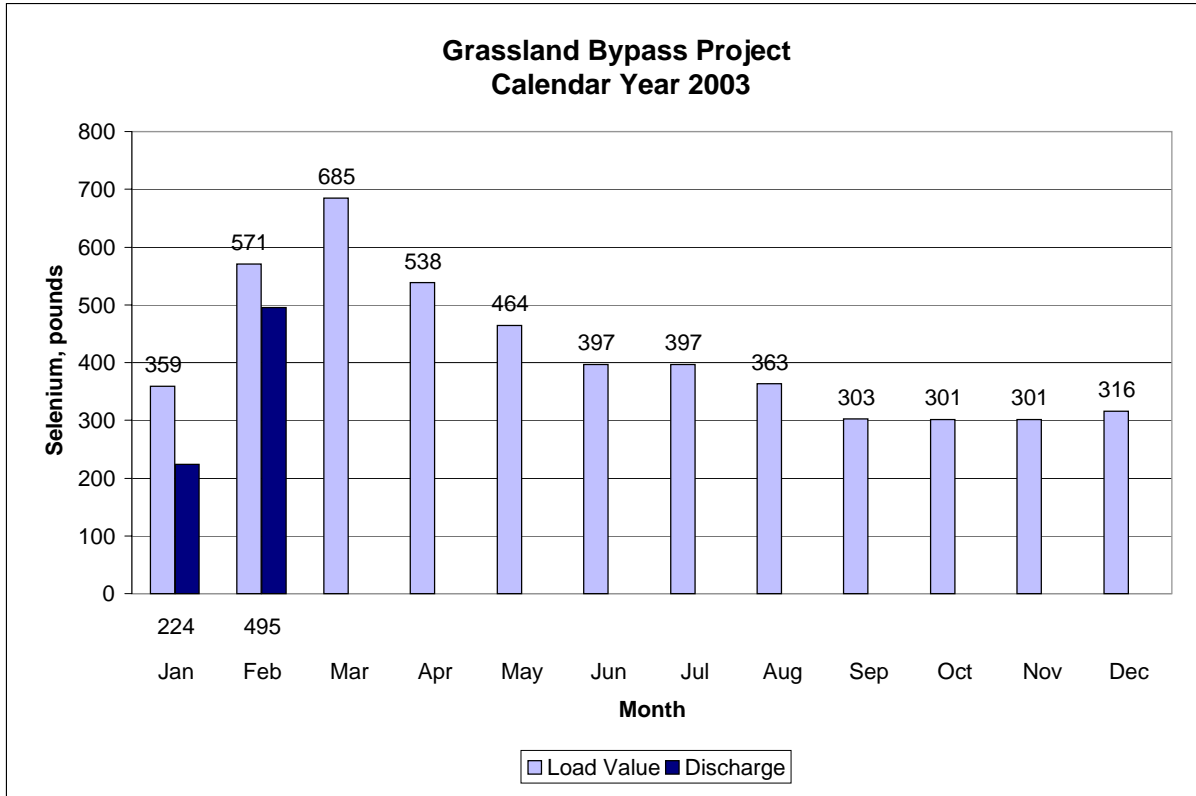


Table 2b. Monthly selenium discharges from the terminus of the San Luis Drain into Mud Slough compared to load values.

PARAMETER	Discharge	Load Value
UNITS	lbs	lbs
Jan	224	359
Feb	495	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), February 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
Feb-01-2003	141	13.2	2,600
Feb-02-2003	160	11.7	2,600
Feb-03-2003	160	11.4	2,600
Feb-04-2003	149	11.6	2,640
Feb-05-2003	148	10.8	2,760
Feb-06-2003	141	10.6	2,850
Feb-07-2003	134	10.6	3,040
Feb-08-2003	146	10.2	2,990
Feb-09-2003	155	10.4	2,980
Feb-10-2003	157	10.8	2,930
Feb-11-2003	159	11.3	2,840
Feb-12-2003	166	11.3	2,720
Feb-13-2003	189	12.9	2,650
Feb-14-2003	198	14.3	2,720
Feb-15-2003	207	14.6	2,740
Feb-16-2003	215	14.7	2,690
Feb-17-2003	210	13.9	2,680
Feb-18-2003	209	13.3	2,610
Feb-19-2003	207	13.1	2,610
Feb-20-2003	208	12.9	2,650
Feb-21-2003	212	13.3	2,680
Feb-22-2003	213	13.9	2,610
Feb-23-2003	214	14.1	2,660
Feb-24-2003	206	14.4	2,660
Feb-25-2003	204	14.3	2,790
Feb-26-2003	216	14.1	2,820
Feb-27-2003	222	13.8	2,890
Feb-28-2003	230	13.6	2,550
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.	.	.	.
.	.	.	.
Mean	185	12.7	2,730

Table 4. Continuous water monitoring at Station F (Salt Slough at Highway 165), February 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
Feb-01-2003	135	13.4	1,900
Feb-02-2003	127	12.1	1,970
Feb-03-2003	139	11.7	1,900
Feb-04-2003	140	11.7	1,960
Feb-05-2003	116	11.2	2,080
Feb-06-2003	112	11.0	2,110
Feb-07-2003	125	10.9	2,000
Feb-08-2003	117	10.7	2,120
Feb-09-2003	117	10.8	2,130
Feb-10-2003	118	11.0	2,090
Feb-11-2003	130	11.3	1,940
Feb-12-2003	123	11.5	1,950
Feb-13-2003	126	13.5	1,970
Feb-14-2003	156	14.5	1,740
Feb-15-2003	175	14.3	1,560
Feb-16-2003	191	14.3	1,510
Feb-17-2003	209	13.4	1,420
Feb-18-2003	225	12.5	1,350
Feb-19-2003	241	12.2	1,290
Feb-20-2003	241	11.9	1,350
Feb-21-2003	252	12.4	1,310
Feb-22-2003	283	12.8	1,300
Feb-23-2003	299	13.1	1,320
Feb-24-2003	326	13.4	1,300
Feb-25-2003	353	13.6	1,330
Feb-26-2003	382	13.4	1,350
Feb-27-2003	406	13.1	1,380
Feb-28-2003	409	13.0	1,400
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.	.	.	.
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Mean	206	12.5	1,680

Table 5. Continuous water monitoring at Station N (San Joaquin River at Crow's Landing), February 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
Feb-01-2003	813	13.1	1,630	2.0
Feb-02-2003	814	12.2	1,660	2.0
Feb-03-2003	816	11.6	1,700	2.3
Feb-04-2003	839	11.6	1,690	2.3
Feb-05-2003	844	10.8	1,650	2.2
Feb-06-2003	832	10.5	1,640	2.4
Feb-07-2003	818	10.6	1,700	3.2
Feb-08-2003	805	10.3	1,760	3.5
Feb-09-2003	795	10.3	1,780	4.1
Feb-10-2003	794	10.7	1,810	4.5
Feb-11-2003	785	11.1	1,820	5.2
Feb-12-2003	819	11.3	1,800	5.6
Feb-13-2003	813	12.5	1,740	5.2
Feb-14-2003	807	14.1	1,780	5.5
Feb-15-2003	838	14.5	1,760	5.3
Feb-16-2003	857	14.6	1,720	5.6
Feb-17-2003	879	14.0	1,670	5.3
Feb-18-2003	891	13.2	1,640	5.3
Feb-19-2003	905	12.8	1,600	4.8
Feb-20-2003	933	12.5	1,590	3.9
Feb-21-2003	946	13.0	1,550	3.7
Feb-22-2003	928	13.5	1,620	3.9
Feb-23-2003	940	13.4	1,660	4.5
Feb-24-2003	985	13.7	1,570	4.0
Feb-25-2003	1,000	13.9	1,570	4.4
Feb-26-2003	1,020	14.0	1,580	4.2
Feb-27-2003	1,040	14.4	1,600	4.6
Feb-28-2003	1,060	13.6	1,650	5.6
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Mean	880	12.6	1,680	4.1

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	SJDMWA	.	.	CVRWQCB	CVRWQCB	.	.	.
UNITS	cfs	.	.	µS/cm	mg/L	.	.	.
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	.	.	.
Feb-05-2003	33	.	.	4,960	130	.	.	.
Feb-12-2003	54	.	.	4,630	P	.	.	.
Feb-19-2003	54	.	.	4,350	160	.	.	.
Feb-26-2003	82	.	.	4,210	180	.	.	.

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	SJDMWA	.	.	CVRWQCB	.	CVRWQCB	.	CVRWQCB
UNITS	cfs	.	.	µS/cm	.	µg/L	.	mg/L
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	.	50.2	.	8.6
Feb-04-2003	33	.	.	4,830	.	64.0	.	7.6
Feb-11-2003	52	.	.	4,750	.	70.3	.	7.3
Feb-18-2003	52	.	.	4,390	.	57.7	.	7.0
Feb-25-2003	72	.	.	4,690	.	59.9	.	7.7

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
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
Feb-06-2003	36 e	10.4	7.9	4,610	44	60.6	.	7.2
Feb-13-2003	59	11.8	8.0	4,510	46	63.2	.	6.6
Feb-20-2003	58	12.4	8.1	4,280	54	54.4	.	6.8
Feb-27-2003	82	13.4	8.0	4,920	54	63.6	.	7.6

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
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
Feb-06-2003	105	9.1	7.9	2,310	0.8	2.0
Feb-13-2003	130	13.1	7.9	1,890	1.3	1.6
Feb-20-2003	150	12.1	8.0	1,960	1.2	1.8
Feb-27-2003	140	12.6	7.9	1,930	0.8	1.7

++ 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
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
Feb-06-2003	141	9.4	7.9	2,940	14.5	3.3
Feb-13-2003	189	12.6	7.8	2,780	21.1	3.1
Feb-20-2003	208	12.1	8.0	2,640	14.5	3.1
Feb-27-2003	222	13.3	7.9	3,100	23.6	3.9

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
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
Feb-02-2003	.	7.8	2,546	NA	9.8	3.2
Feb-10-2003	.	7.8	3,060	NA	21.6	3.8
Feb-19-2003	.	7.4	2,560	NA	13.8	3.1
Feb-26-2003	.	7.2	2,870	NA	19.8	3.6

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
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
Feb-06-2003	112	9.7	7.7	2,230	0.5	1.2
Feb-13-2003	126	13.0	7.7	2,080	1.2	1.2
Feb-20-2003	241	11.3	7.8	1,340	1.0	0.8
Feb-27-2003	406	12.6	7.6	1,440	1.3	0.9

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
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
Feb-05-2003	10	.	.	736	2.7	0.6
Feb-12-2003	10	.	.	666	3.1	0.4
Feb-19-2003	10	.	.	683	1.7	0.5
Feb-26-2003	10	.	.	810	2.2	0.6

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
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
Feb-05-2003	30	.	.	769	2.4	0.5
Feb-12-2003	30	.	.	961	2.1	0.6
Feb-19-2003	30	.	.	672	1.1	0.5
Feb-26-2003	30	.	.	993	2.4	0.8

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
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
Feb-05-2003	0	.	.	1,980	2.3	2.2
Feb-12-2003	25	.	.	887	3.1	0.6
Feb-19-2003	25	.	.	882	1.8	0.6
Feb-26-2003	41	.	.	997	2.2	0.9

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
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
Feb-05-2003	107	.	.	1,840	3.2	1.9
Feb-12-2003	112	.	.	1,910	4.7	2.2
Feb-19-2003	108	.	.	1,970	3.7	2.3
Feb-26-2003	78	.	.	1,920	3.4	2.4

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
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
Feb-06-2003	153	9.4	7.7	2,450	<0.4	1.0
Feb-13-2003	152	12.3	7.7	2,420	0.9	1.1
Feb-20-2003	268	11.2	7.9	1,470	1.0	0.8
Feb-27-2003	401	13.1	7.8	1,490	1.2	0.9

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
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
Feb-04-2003	.	.	.	2,400	3.7	1.8
Feb-11-2003	.	.	.	2,570	8.2	2.0
Feb-18-2003	.	.	.	2,160	7.0	1.8

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
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
Feb-06-2003	832	9.6	7.8	1,650	2.7	1.1
Feb-13-2003	813	11.7	7.7	1,730	6.0	1.3
Feb-20-2003	933	11.4	7.8	1,560	3.7	1.3
Feb-27-2003	1,040	13.9	7.8	1,570	4.8	1.3

Table 19. Summary of fathead minnow (*Pimephales promelas*) larvae survival in 7-day tests using water samples collected from March 2002 to February 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	%	%	%	%	%	%
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
Feb-2003	98	78	73	88	98	100

Table 20. Summary of fathead minnow (*Pimephales promelas*) larvae growth in 7-day tests using water samples collected from March 2002 to February 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
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
Feb-2003	0.27	0.24	0.22	0.25	0.26	0.30

Table 21. Summary of *Daphnia magna* survival in 7-day tests using water samples collected from March 2002 to February 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	%	%	%	%	%	%
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
Feb-2003	100	100	100	100	100	100

Table 22. Summary of *Daphnia magna* reproduction in 7-day tests using water samples collected from March 2002 to February 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
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	29†
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
Feb-2003	36.1	38.0	32.9	37.0	35.0	28.7

^(*) 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 March 2002 to February 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
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†
Feb-2003	0.6*	2.0*†	1.0*†	1.5*	3.0††††	1.2††††

Table 24. Summary of selenium concentrations in grab water samples collected at study stations for use in laboratory toxicity tests, December 2002 to February 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
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
Feb-17-2002	57	1.2	18	1.1	<0.4
Feb-19-2002	54	1.0	15	0.9	0.6
Feb-21-2002	56	1.0	15	1.0	<0.4

Table 25. Summary of total suspended solids concentrations in grab water samples collected from December 2002 to February 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
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
Feb-17-2003	117	70	88	164	19
Feb-19-2003	108	49	75	150	56
Feb-21-2003	92	65	72	103	37

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