

GRASSLAND BYPASS PROJECT

MONTHLY DATA REPORT

November 1996

January 23, 1997

Preliminary Results

A cooperative effort of:

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

compiled by San Francisco Estuary Institute

GRASSLAND BYPASS PROJECT

MONTHLY DATA REPORT

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Table 1. Continuous water monitoring at Station A (inflow to San Luis Drain), November 1996.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow
DATA SOURCE	USBR
UNITS	cfs
01-Nov-96	31.0
02-Nov-96	25.7
03-Nov-96	22.3
04-Nov-96	21.3
05-Nov-96	21.6
06-Nov-96	20.9
07-Nov-96	20.2
08-Nov-96	20.9
09-Nov-96	20.7
10-Nov-96	20.9
11-Nov-96	21.8
12-Nov-96	22.3
13-Nov-96	22.1
14-Nov-96	22.6
15-Nov-96	23.9
16-Nov-96	23.9
17-Nov-96	23.8
18-Nov-96	23.6
19-Nov-96	26.5
20-Nov-96	30.1
21-Nov-96	34.3
22-Nov-96	40.9
23-Nov-96	37.5
24-Nov-96	29.3
25-Nov-96	25.7
26-Nov-96	19.4
27-Nov-96	17.1
28-Nov-96	18.4
29-Nov-96	19.1
30-Nov-96	16.8

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PRELIMINARY RESULTS

Table 2. Continuous water monitoring at Station B (discharge from San Luis Drain), November 1996.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	Specific Conductance	Selenium (total)	Selenium (total) Load
DATA SOURCE	USBR	USBR	USBR	CVRWQCB	Computed
UNITS	cfs	°C	µS/cm	µg/l	lbs
Nov-01-1996	32.7	13.5	3,868	43.6	7.7
Nov-02-1996	30.1	14.1	4,005	43.9	7.1
Nov-03-1996	25.2	14.3	4,150	53.4	7.3
Nov-04-1996	22.1	14.4	4,174	63.2	7.5
Nov-05-1996	22.0	14.0	4,168	57.5	6.8
Nov-06-1996	21.4	13.3	4,104	80.3	9.3
Nov-07-1996	21.6	13.2	3,636	59.2	6.9
Nov-08-1996	21.2	13.5	3,396	45.0	5.1
Nov-09-1996	22.0	13.8	3,377	43.6	5.2
Nov-10-1996	21.8	13.9	3,308	36.6	4.3
Nov-11-1996	20.8	14.1	3,459	38.3	4.3
Nov-12-1996	21.0	14.2	3,721	50.9	5.8
Nov-13-1996	21.8	15.0	3,998	56.6	6.7
Nov-14-1996	21.9	15.0	4,204	61.5	7.3
Nov-15-1996	22.5	14.5	4,183	59.4	7.2
Nov-16-1996	24.3	13.9	4,240	55.5	7.3
Nov-17-1996	26.6	13.4	4,415	63.8	9.2
Nov-18-1996	27.0	14.4	4,410	73.6	10.7
Nov-19-1996	25.8	14.9	4,376	75.2	10.5
Nov-20-1996	28.7	15.3	4,154	69.6	10.8
Nov-21-1996	30.6	15.4	4,047	68.2	11.3
Nov-22-1996	34.0	15.7	3,998	73.4	13.5
Nov-23-1996	48.7	15.1	3,823	69.8	18.3
Nov-24-1996	43.5	15.1	3,468	61.4	14.4
Nov-25-1996	31.4	15.0	3,209	51.8	8.8
Nov-26-1996	30.0	14.5	3,272	52.4	8.5
Nov-27-1996	24.1	13.8	3,581	63.9	8.3
Nov-28-1996	22.0	13.0	3,478	68.2	8.1
Nov-29-1996	24.2	11.4	3,364	57.3	7.5
Nov-30-1996	22.1	10.8	3,368	53.3	6.4
.
Mean	26.4	14.1	3,832	58.3	
Total					252

Load Limitation for November 1996 (lbs)	348
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Table 3. Continuous water monitoring at Station D
(Mud Slough North downstream of drainage discharges), November 1996.

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
01-Nov-96	159	13.3	1,730
02-Nov-96	156	13.8	1,720
03-Nov-96	144	14.2	1,710
04-Nov-96	148	13.8	1,610
05-Nov-96	149	13.1	1,560
06-Nov-96	153	12.1	1,560
07-Nov-96	157	12.2	1,470
08-Nov-96	157	12.9	1,400
09-Nov-96	156	13.3	1,390
10-Nov-96	152	13.9	1,370
11-Nov-96	151	14.3	1,380
12-Nov-96	149	14.7	1,460
13-Nov-96	154	15.4	1,530
14-Nov-96	157	14.8	1,550
15-Nov-96	151	14.1	1,660
16-Nov-96	152	13.0	1,710
17-Nov-96	173	12.7	1,650
18-Nov-96	190	14.5	1,600
19-Nov-96	193	15.1	1,590
20-Nov-96	194	15.6	1,620
21-Nov-96	207	15.7	1,630
22-Nov-96	249	15.5	1,530
23-Nov-96	288	14.7	1,580
24-Nov-96	298	14.3	1,530
25-Nov-96	281	14.3	1,360
26-Nov-96	263	13.6	1,400
27-Nov-96	230	12.6	1,440
28-Nov-96	222	11.8	1,470
29-Nov-96	204	10.2	1,490
30-Nov-96	183	9.9	1,580

Table 4. Continuous water monitoring at Station F (Salt Slough at Highway 165), November 1996.

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
01-Nov-96	277	13.5	977
02-Nov-96	263	14.0	1,060
03-Nov-96	257	14.4	1,040
04-Nov-96	250	14.2	1,030
05-Nov-96	234	13.4	1,070
06-Nov-96	222	12.6	1,130
07-Nov-96	203	12.6	1,220
08-Nov-96	192	13.1	1,260
09-Nov-96	185	13.4	1,300
10-Nov-96	184	13.8	1,310
11-Nov-96	178	14.4	1,410
12-Nov-96	170	14.8	1,470
13-Nov-96	161	15.3	1,490
14-Nov-96	162	14.7	1,470
15-Nov-96	164	13.9	1,410
16-Nov-96	174	13.0	1,370
17-Nov-96	185	13.0	1,360
18-Nov-96	226	14.7	1,250
19-Nov-96	243	15.2	1,200
20-Nov-96	229	15.7	1,200
21-Nov-96	166	15.6	1,230
22-Nov-96	192	15.6	1,250
23-Nov-96	217	14.9	1,180
24-Nov-96	241	14.3	1,190
25-Nov-96	244	14.1	1,240
26-Nov-96	234	13.4	1,260
27-Nov-96	241	12.6	1,180
28-Nov-96	240	11.8	1,220
29-Nov-96	227	10.4	1,260
30-Nov-96	217	10.1	1,340

Table 5. Continuous water monitoring at Station N (San Joaquin River at Crow's Landing), November 1996.

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
01-Nov-96	1,330	13.0	643	1.6
02-Nov-96	1,340	13.3	649	1.7
03-Nov-96	1,280	13.7	695	1.7
04-Nov-96	1,190	14.0	744	1.6
05-Nov-96	1,110	13.4	773	1.7
06-Nov-96	1,020	12.5	807	1.8
07-Nov-96	963	12.4	843	1.9
08-Nov-96	896	12.8	936	2.2
09-Nov-96	844	13.2	953	1.8
10-Nov-96	807	13.5	1,004	1.7
11-Nov-96	781	14.0	1,013	1.5
12-Nov-96	759	14.2	1,041	1.5
13-Nov-96	738	14.6	1,088	1.9
14-Nov-96	714	14.4	1,123	2.0
15-Nov-96	707	13.8	1,136	2.2
16-Nov-96	713	13.0	1,130	2.4
17-Nov-96	791	13.0	1,052	2.3
18-Nov-96	852	14.4	1,037	2.2
19-Nov-96	872	14.9	1,018	2.6
20-Nov-96	892	15.0	1,001	2.5
21-Nov-96	964	15.3	962	2.4
22-Nov-96	1,100	15.3	939	2.2
23-Nov-96	1,190	14.9	902	2.4
24-Nov-96	1,420	14.3	947	2.4
25-Nov-96	1,530	14.2	942	2.5
26-Nov-96	1,470	13.6	768	1.9
27-Nov-96	1,330	12.7	948	1.8
28-Nov-96	1,180	12.0	899	1.8
29-Nov-96	1,080	11.0	952	2.0
30-Nov-96	1,010	10.3	998	1.9

Table 6. Weekly water quality monitoring at Station A (inflow to San Luis Drain), 1996.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	pH	Specific Conductance	Total Suspended Solids	Selenium (total)	Selenium (dissolved)	Boron
DATA SOURCE	USBR	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	°C		µS/cm	mg/l	µg/l	µg/l	mg/l
03-Oct-96	20.1	21.0	8.1	5,210	P	77.4 ^L	79.1	P
08-Oct-96	20.4	25.4	8.3	4,220	44	75.5	NP	P
18-Oct-96	22.7	16.6	7.1	3,940	140	38.6	37.5 ^L	P
25-Oct-96	18.3	14.3	8.3	4,270	P	51.4	49.5	P
29-Oct-96	19.1	12.1	8.1	4,020	P	62.0	61.6	P
01-Nov-96	31.0	16.6	7.3	3,610	P	NA	NP	P
08-Nov-96	20.9	14.3	6.8	4,250	42	61.3	61.1 ^F	P
08-Nov-96	20.9	.	.	.	.	.	61.8 ^L	P
14-Nov-96	22.6	14.3	8.1	4,390	51	76.8	NA	P
19-Nov-96	26.5	17.7	7.7	3,460	77	56.2	57.0 ^F	P
26-Nov-96	19.4	15.4	7.4	3,470	64	40.6	39.6 ^F	P

Table 7. Weekly water quality monitoring at Station B (discharge from San Luis Drain), 1996.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	pH	Specific Conductance	Total Suspended Solids	Selenium (total)	Selenium (dissolved)	Boron
DATA SOURCE	USBR	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	°C		µS/cm	mg/l	µg/l	µg/l	mg/l
03-Oct-96	18.1	21.0	7.9	4,340	P	66.8	65.8	P
08-Oct-96	19.3	23.2	7.3	4,330	8	62.5	NP	P
18-Oct-96	21.7	16.6	6.9	3,590	67	43.0	41.8	P
25-Oct-96	18.3	14.3	8.0	4,280	P	79.8	77.2	P
29-Oct-96	17.8	12.1	7.6	4,260	P	54.6	NP	P
01-Nov-96	32.7	15.4	7.4	4,010	P	NA	NP	P
08-Nov-96	21.2	12.7	8.0	3,570	12	43.2	42.1 ^F	P
08-Nov-96	21.2	.	.	.	.	.	43.4 ^L	P
14-Nov-96	21.9	14.3	7.6	4,330	8	58.0	NA	P
19-Nov-96	25.8	16.6	7.2	4,770	10	75.8	75.2	P
26-Nov-96	30.0	15.4	7.4	3,300	<1	58.9	56.4	P

Table 8. Weekly water quality monitoring at Station C (Mud Slough North upstream of drainage discharges), 1996.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Temperature	pH	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	°C		µS/cm	µg/l	mg/l
03-Oct-96	18.2	6.3	1,048	0.7	P
08-Oct-96	21.6	8.0	744	0.6	P
18-Oct-96	14.3	5.2	967	0.8	P
25-Oct-96	13.8	7.8	953	0.5	P
29-Oct-96	13.2	7.8	1,124	0.5	P
01-Nov-96	14.9	5.4	1,016	NA	P
08-Nov-96	12.1	7.3	1,050	0.4	P
14-Nov-96	14.3	6.1	1,024	0.4	P
19-Nov-96	16.6	6.5	1,074	0.4	P
26-Nov-96	14.9	7.3	1,000	0.5	P

Table 9. Weekly water quality monitoring at Station D (Mud Slough North downstream of drainage discharges), 1996.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	pH	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	USBR	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	°C		µS/cm	µg/l	mg/l
03-Oct-96	44	19.9	7.0	3,490	56.7	P
08-Oct-96	68	22.7	8.0	1,890	20.3	P
18-Oct-96	114	14.9	6.0	1,683	13.5	P
25-Oct-96	128	14.3	8.0	1,544	13.8	P
29-Oct-96	94	13.2	7.4	1,878	12.2	P
02-Nov-96	156	14.9	6.4	1,807	NA	P
08-Nov-96	157	12.1	7.6	1,510	8.0	P
14-Nov-96	158	14.3	6.5	1,591	9.1	P
19-Nov-96	194	16.6	6.5	1,707	11.2	P
26-Nov-96	265	14.9	6.5	1,432	9.0	P

Table 10. Weekly water quality monitoring at Station F (Salt Slough at Highway 165), 1996.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	pH	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	USBR	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	°C		µS/cm	µg/l	mg/l
03-Oct-96	88	19.3	5.6	1,400	1.2	P
08-Oct-96	124	NP	NP	NP	1.1	P
17-Oct-96	102	18.2	6.7	1,790	0.8	P
24-Oct-96	125	14.9	6.1	1,355	0.7	P
31-Oct-96	257	13.8	5.7	1,000	1.0	P
07-Nov-96	203	14.3	5.3	1,280	0.8	P
15-Nov-96	164	13.8	7.5	1,425	0.8	P
22-Nov-96	192	17.7	7.4	1,315	1.0	P
27-Nov-96	241	14.3	7.1	1,319	NP	P

Table 11. Weekly water quality monitoring at Station G (San Joaquin River at Fremont Ford), 1996.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Temperature	pH	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	°C		µS/cm	µg/l	mg/l
03-Oct-96	19.9	6.7	714	0.6	P
08-Oct-96	21.6	8.0	1,150	0.9	P
17-Oct-96	17.1	5.6	1,490	0.6	P
24-Oct-96	14.3	7.1	777	0.5	P
31-Oct-96	13.8	6.8	728	0.9	P
07-Nov-96	12.7	6.0	1,080	0.7	P
15-Nov-96	14.9	7.7	1,594	0.8	P
22-Nov-96	17.7	7.6	1,180	0.8	P
27-Nov-96	14.3	7.2	889	0.6	P

Table 12. Weekly water quality monitoring at Station H (San Joaquin River at Hills Ferry), 1996.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Temperature	pH	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	°C		µS/cm	µg/l	mg/l
03-Oct-96	19.3	6.8	1,172	6.8	P
08-Oct-96	22.7	7.7	1,480	5.2	P
17-Oct-96	19.3	7.5	1,690	5.9	P
24-Oct-96	14.9	7.5	1,006	2.3	P
31-Oct-96	14.9	7.9	989	2.9	P
07-Nov-96	14.3	6.2	1,230	3.3	P
15-Nov-96	15.4	7.8	1,707	4.2	P
22-Nov-96	18.8	7.7	1,355	4.0	P
27-Nov-96	15.4	7.5	1,079	2.5	P

Table 13. Weekly water quality monitoring at Station J (Camp 13 Ditch), 1996.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Temperature	pH	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	°C		µS/cm	µg/l	mg/l
03-Oct-96	20.4	8.3	382	0.8	P
08-Oct-96	22.1	8.7	347	0.8	P
18-Oct-96	17.7	8.5	360	0.6	P
25-Oct-96	14.9	8.7	394	0.8	P
01-Nov-96	17.1	9.0	394	0.8	P
08-Nov-96	13.2	7.5	491	0.9	P
14-Nov-96	14.9	8.7	434	0.7	P
19-Nov-96	16.0	8.4	483	0.9	P
26-Nov-96	16.0	8.1	445	1.0	P

Table 14. Weekly water quality monitoring at Station K (Agatha Canal), 1996.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Temperature	pH	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	°C		µS/cm	µg/l	mg/l
03-Oct-96	21.0	8.5	481	1.0	P
08-Oct-96	23.2	8.7	324	0.7	P
18-Oct-96	17.7	7.9	358	0.6	P
25-Oct-96	14.9	8.6	412	0.7	P
01-Nov-96	16.6	7.7	407	1.0	P
08-Nov-96	13.8	6.6	427	0.7	P
14-Nov-96	14.9	8.5	445	0.8	P
19-Nov-96	16.0	8.5	528	0.9	P
26-Nov-96	15.4	8.3	418	1.0	P

Table 15. Weekly water quality monitoring at Station L (San Luis Canal at Henry Miller Road), 1996.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Temperature	pH	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	°C		µS/cm	µg/l	mg/l
01-Nov-96	15.4	8.7	467	1.0	P
08-Nov-96	12.1	7.0	482	0.8	P
15-Nov-96	13.8	7.3	573	0.9	P
22-Nov-96	17.1	6.9	620	1.0	P
27-Nov-96	12.7	6.5	705	1.2	P

Table 16. Weekly water quality monitoring at Station M (Santa Fe Canal at Henry Miller Road), 1996.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Temperature	pH	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	°C		µS/cm	µg/l	mg/l
01-Nov-96	NP	8.2	828	1.1	P
08-Nov-96	NP	7.5	943	1.1	P
15-Nov-96	NP	7.4	967	1.0	P
22-Nov-96	NP	7.1	910	1.1	P
27-Nov-96	NP	7.1	1,018	1.1	P

Table 17. Weekly water quality monitoring at Station N (San Joaquin River at Crow's Landing), 1996.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Temperature	pH	Specific Conductance	Selenium (total)	Boron
DATA SOURCE	USBR	CVRWOBC	CVRWQCB	CVRWOBC	CVRWOBC	CVRWOBC
UNITS	cfs	°C		µS/cm	µg/l	mg/l
03-Oct-96	715	19.9	7.0	846	3.0	P
08-Oct-96	537	21.6	7.8	967	2.3	P
17-Oct-96	1,400	17.7	8.0	524	1.4	P
24-Oct-96	1,280	14.3	7.8	503	0.9	P
31-Oct-96	1,290	14.9	7.9	638	1.5	P
07-Nov-96	955	14.3	6.4	857	1.8	P
15-Nov-96	NP	15.4	7.9	1,134	2.2	P
22-Nov-96	1,100	18.2	7.9	945	2.4	P
27-Nov-96	1,320	14.9	7.5	857	2.1	P

Table 18. Summary of fathead minnow (*Pimephales promelas*) larvae survival in 7-day tests using water samples collected from December 1995 to November 1996. 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	%	%	%	%	%	%
December-95	NT	83	95	93	90	93
March-96	NT	93	95	93	95	96
August-96	NT	98	93	90	90	100
October-96	68	83	88	88	93	98
November-96	98	98	95	85	95	93

Table 19. Summary of fathead minnow (*Pimephales promelas*) larvae growth in 7-day tests using water samples collected from December 1995 to November 1996. 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	grams	grams	grams	grams	grams	grams
December-95	NT	0.32	0.27	0.32	0.32	0.32
March-96	NT	0.43	0.44	0.44	0.47	0.48
August-96	NT	0.56	0.45	0.44	0.50	0.47
October-96	0.56	0.56	0.53 *	0.59	0.60	0.59
November-96	0.53	0.57	0.63	0.53	0.55	0.59

Table 20. Summary of *Daphnia magna* survival in 7-day tests using water samples collected from December 1995 to November 1996. 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	%	%	%	%	%	%
December-95	NT	100	100	100	100	100
March-96	NT	90	90	100	100	100
August-96	NT	100	100	100	100	100
October-96	90	100	100	100	100	70
November-96	100	90	90	100	100	100

Table 21. Summary of *Daphnia magna* reproduction in 7-day tests using water samples collected from December 1995 to November 1996. 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/female	neonates/female	neonates/female	neonates/female	neonates/female	neonates/female
December-95 ⁽¹⁾	NT	21.5 *	18.5 *	18.4 *	19.8	16.9
March-96	NT	18.8	23.9 *	18.2	20.1	19.9
August-96	NT	27.0	32.8 *	27.4	27.8	26.4
October-96	16.8	20.2	17.9	13.1	12.9	16.0
November-96	30.6	21.8	21.9	22.4	21.5	15.9

Table 22. Summary of *Selenastrum capricornutum* growth in 7-day tests using water samples collected from December 1995 to November 1996. 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
December-95	NT	22.0 *	12.0	11.0 *	12.0	11.0
March-96	NT	94.0 *	11.3	14.7	11.9	10.7
August-96	NT	6.2 *	5.6 *	13.8	16.8	14.7
October-96 ⁽²⁾	4.3 *	12.3	11.3	8.5	3.5	36.6
November-96 ⁽³⁾	16.6	56.1	48.9	33.5	39.7	91.1

Table 23. Summary of selenium concentrations in grab water samples collected at study sites for use in laboratory toxicity tests, December 1995 to November 1996.

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
December 11, 1995	NT	1	1	12	<1
December 12, 1995	NT	<1	<1	14	<1
December 15, 1995	NT	<1	<1	12	<1
March 18, 1996	NT	<1	<1	17	<1
March 21, 1996	NT	<1	<1	16	<1
March 23, 1996	NT	<1	<1	18	<1
March 27, 1996	NT	1	<1	19	<1
August 6, 1996	NT	3	2	13	<1
August 8, 1996	NT	<1	1	13	<1
August 10, 1996	NT	2	2	11	<1
August 13, 1996	NT	NT	NT	NT	NT
October 8, 1996	65	<1	20	1	<1
October 10, 1997	62	<1	16	1	<1
October 12, 1997	72	<1	19	<1	<1
November 1996 #1	P	P	P	P	P
November 1996 #2	P	P	P	P	P
November 1996 #3	P	P	P	P	P
November 1996 #4	P	P	P	P	P

Table 24. Summary of sulfate concentrations in grab water samples collected at study sites for use in laboratory toxicity tests, December 1995 to November 1996. Analysis was completed at USBR.

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
December 11, 1995	NT	NT	NT	NT	NT
December 12, 1995	NT	NT	NT	NT	NT
December 15, 1995	NT	NT	NT	NT	NT
March 18, 1996	NT	320	320	520	55
March 21, 1996	NT	330	360	490	52
March 23, 1996	NT	350	370	530	52
March 27, 1996	NT	350	330	550	51
August 6, 1996	NT	220	270	410	55
August 8, 1996	NT	680	450	390	20
August 10, 1996	NT	260	370	370	48
August 13, 1996	NT	NT	NT	NT	NT
October 8, 1996	1,400	89	480	140	32
October 10, 1997	1,400	89	480	140	31
October 12, 1997	1,600	85	540	150	26
November 1996 #1	P	P	P	P	P
November 1996 #2	P	P	P	P	P
November 1996 #3	P	P	P	P	P
November 1996 #4	P	P	P	P	P

Table 25. Summary of quarterly in situ bioassay results from December 1995 to November 1996.

Results are the number of live fathead minnows (*Pimephales promelas*) per number of fish recovered at the end of the 7 day deployment at each station (initial count of 80 used at each station).

See Table 26 for explanation of footnotes and agency abbreviations.

LOCATION	Windmill (4 day old larvae)	Station B (4 day old larvae)	Station D (4 day old larvae)	Station D (14 day old larvae)	Station F (4 day old larvae)	Station F (14 day old larvae)
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA	SLDMWA
UNITS	# alive/total count	# alive/total count	# alive/total count	# alive/total count	# alive/total count	# alive/total count
December-95 ⁽⁴⁾	NT	NT	NT	NT	NT	NT
March-96 ⁽⁵⁾	80/80	NT	NT	44/44	NT	70/70
August-96 ⁽⁶⁾	NT	NT	13/19	22/29	28/40	20/49
November-96	46/62	63/68	0/2	.	16/36	.

Table 26. Explanations of footnotes and agency abbreviations.

Footnote	Explanation
USBR	U.S. Bureau of Reclamation
CVRWQCB	California Regional Water Quality Control Board, Central Valley Region
E	estimated value - average of 11/24/96 - 11/26/96
E5	estimated value determined by using method for 5 consecutive missing values
NP	data not provided - future unknown
P	pending, data not available at this time but will be available in the future
.	Not applicable
USGS	U.S. Geological Survey
F	Sample filtered in the field
L	Sample filtered in the lab
<	less than
NA	not analyzed - operator error, data will not be available in the future
*	Significantly different from Delta Mendota Canal ($p < 0.05$)
(1)	This test used <i>Ceriodaphnia dubia</i> in water with high hardness. Results were compared to hard water and moderately hard water for definitive bioassays. All treatment means were significantly different from the laboratory control (hard water) for definitive tests.
NT	not tested
SLDMWA	San Luis & Delta-Mendota Water Authority
(2)	Selenate added
(3)	Lab Control was significantly different from DMC, Site B, and Site F samples. (There was no significant difference for site samples versus DMC water.)
(4)	In situ cages could not be deployed due to wet weather conditions.
(5)	Baseline results for 3/96 are for 14-day old larvae. There was no survival for the 24-hour old larvae.
(6)	Windmill station was dry due to water drainage. Use of plastic screened beakers for Station F during 8/96 with use of 4-day old larvae resulted in 0/39. Apparent cause of mortality was elevated temperature and sediment which was found in all cages and beakers.