GRASSLAND BYPASS PROJECT

MONTHLY DATA REPORT

February 2000

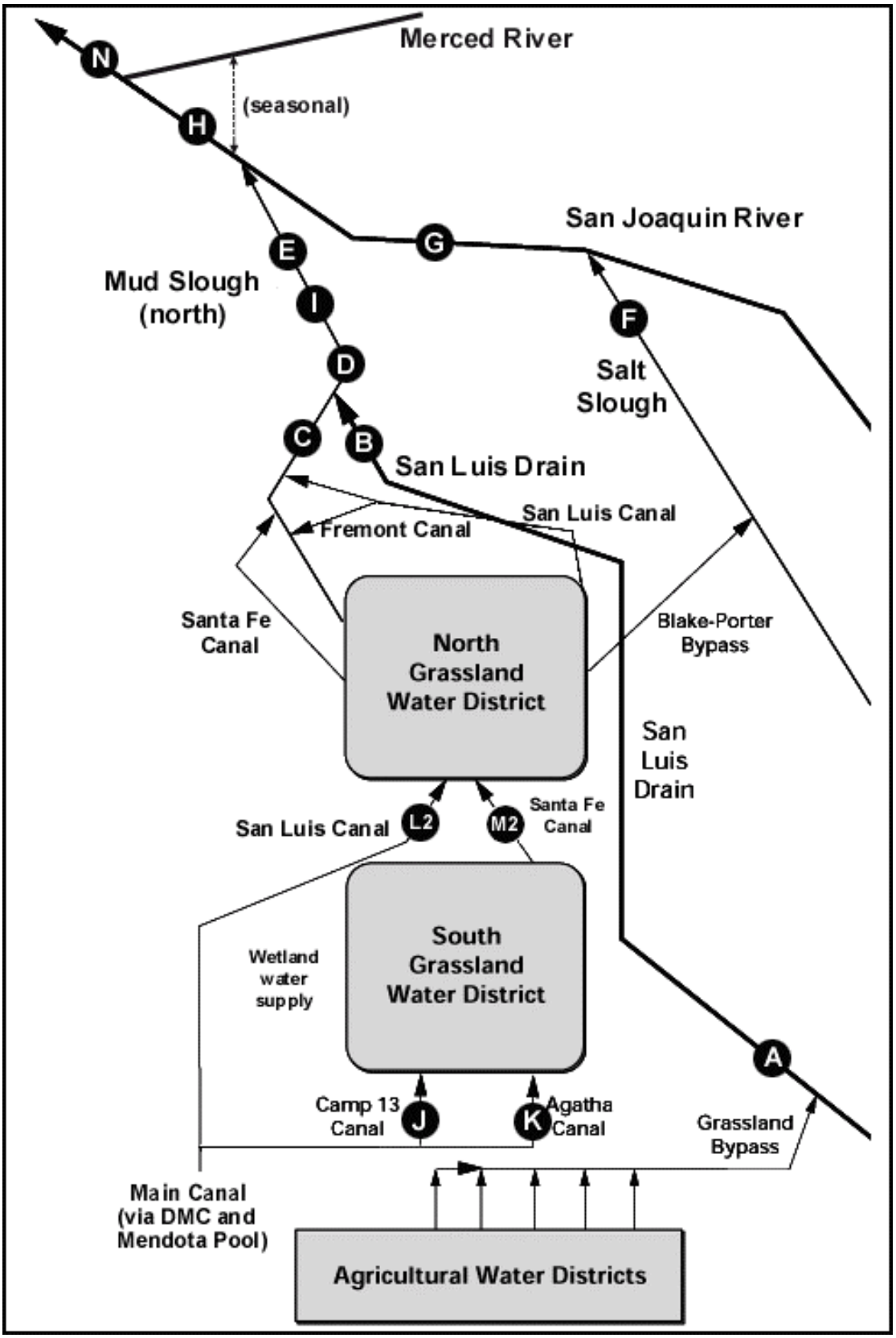
May 08, 2000

Preliminary Results

A cooperative effort of:

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

compiled by San Francisco Estuary Institute


Merced River
(seasonal)
San Joaquin River
Mud Slough
(north)
Salt
Slough
San Luis Drain
San Luis Canal
Fremont Canal
Santa Fe
Canal
North
Grassland
Water District
Blake-Porter
Bypass
San
Luis
Drain
San Luis Canal
Santa Fe
Canal
South
Grassland
Water District
Wetland
water
supply
Camp 13
Canal
Agatha
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GRASSLAND BYPASS PROJECT

MONTHLY DATA REPORT

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Table 1. Continuous water monitoring at Station A (inflow to San Luis Drain), February 2000.
Flow data is reported by SLDMWA since October 1, 1999.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	Specific Conductance
DATA SOURCE	SLDMWA	SLDMWA
UNITS	cfs	µS/cm
Feb-01-2000	31	4,880
Feb-02-2000	31	4,900
Feb-03-2000	33	4,870
Feb-04-2000	35	4,930
Feb-05-2000	39	4,870
Feb-06-2000	40	4,530
Feb-07-2000	41	4,310
Feb-08-2000	47	4,140
Feb-09-2000	47	4,280
Feb-10-2000	45	4,340
Feb-11-2000	43	4,470
Feb-12-2000	47	4,250
Feb-13-2000	49	4,290
Feb-14-2000	60	4,110
Feb-15-2000	57	4,500
Feb-16-2000	59	4,430
Feb-17-2000	71	4,080
Feb-18-2000	67	4,330
Feb-19-2000	63	4,600
Feb-20-2000	70	4,640
Feb-21-2000	68	4,520
Feb-22-2000	59	4,610
Feb-23-2000	67	4,740
Feb-24-2000	60	5,000
Feb-25-2000	51	4,880
Feb-26-2000	64	4,850
Feb-27-2000	69	4,790
Feb-28-2000	69	4,770
Feb-29-2000	68	4,610
	.	.
	.	.
Mean	53	4,570

PRELIMINARY RESULTS

Table 2. Continuous water monitoring at Station B (discharge from San Luis Drain), February 2000.

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-01-2000	36	12.7	7.2	4,660	51.4	10.0
Feb-02-2000	36	12.9	7.6	4,850	60.6	11.8
Feb-03-2000	35	13.0	7.7	4,870	63.6	12.0
Feb-04-2000	38	13.2	7.7	4,880	59.2	12.1
Feb-05-2000	39	13.5	7.7	4,930	59.9	12.6
Feb-06-2000	43	14.1	7.8	4,960	60.3	14.0
Feb-07-2000	44	14.3	7.9	4,950	63.5	15.1
Feb-08-2000	46	14.8	8.0	5,030	66.6	16.5
Feb-09-2000	51	15.3	7.5	4,950	76.9	21.2
Feb-10-2000	52	15.1	6.7	4,700	70.6	19.8
Feb-11-2000	48	14.1	6.8	4,350	54.4	14.1
Feb-12-2000	48	13.1	6.4	4,140	53.2	13.8
Feb-13-2000	50	12.7	6.7	4,410	62.2	16.8
Feb-14-2000	56	13.4	6.9	4,480	59.2	17.9
Feb-15-2000	66	13.5	6.8	4,400	56.9	20.3
Feb-16-2000	63	13.8	6.7	4,430	56.4	19.2
Feb-17-2000	66	13.9	6.0	4,190	50.6	18.0
Feb-18-2000	73	14.3	6.7	4,530	61.2	24.1
Feb-19-2000	68	14.3	6.7	4,340	62.3	22.8
Feb-20-2000	63	14.5	6.4	4,100	52.6	17.9
Feb-21-2000	69	14.3	6.9	4,350	54.4	20.2
Feb-22-2000	65	13.8	7.2	4,610	62.6	21.9
Feb-23-2000	60	13.1	6.9	4,680	73.2	23.7
Feb-24-2000	67	12.6	6.6	4,440	72.5	26.2
Feb-25-2000	61	13.0	7.4	4,770	59.8	19.7
Feb-26-2000	54	13.9	7.2	4,870	68.2	19.9
Feb-27-2000	67	14.4	7.1	5,200	70.8	25.6
Feb-28-2000	73	14.5	7.8	5,070	61.4	24.2
Feb-29-2000	72	14.7	7.9	5,090	76.2	29.6
	.	.	.	.	.	.
	.	.	.	.	.	.
Mean	55	13.8	7.1	4,660	62.1	
Total						**541**

Load Limitation for February 2000	**(lbs)**	**779**

Table 3. Continuous water monitoring at Station D (Mud Slough North downstream of drainage discharges), February 2000.

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-01-2000	270	12.9	1,910
Feb-02-2000	249	13.3	2,140
Feb-03-2000	228	13.1	2,210
Feb-04-2000	202	13.0	2,310
Feb-05-2000	189	13.2	2,380
Feb-06-2000	180	13.9	2,510
Feb-07-2000	175	14.2	2,560
Feb-08-2000	174	15.0	P
Feb-09-2000	177	15.4	P
Feb-10-2000	175	14.9	2,510
Feb-11-2000	169	13.1	2,420
Feb-12-2000	174	12.1	2,330
Feb-13-2000	191	12.0	2,330
Feb-14-2000	236	13.4	2,140
Feb-15-2000	300	13.4	P
Feb-16-2000	315	13.6	P
Feb-17-2000	359	13.3	1,710
Feb-18-2000	362	13.7	1,790
Feb-19-2000	348	13.7	1,750
Feb-20-2000	340	14.0	1,640
Feb-21-2000	342	13.7	1,750
Feb-22-2000	334	13.0	1,780
Feb-23-2000	345	12.3	1,730
Feb-24-2000	356	11.5	1,650
Feb-25-2000	352	12.4	1,550
Feb-26-2000	347	13.9	1,520
Feb-27-2000	346	14.3	1,680
Feb-28-2000	354	13.9	1,810
Feb-29-2000	338	13.6	1,990
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	.	.	.

Table 4. Continuous water monitoring at Station F (Salt Slough at Highway 165), February 2000.

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-01-2000	164	13.0	2,100
Feb-02-2000	161	13.0	2,240
Feb-03-2000	153	13.0	2,250
Feb-04-2000	176	13.3	2,070
Feb-05-2000	180	13.3	2,040
Feb-06-2000	167	13.8	2,010
Feb-07-2000	171	14.0	2,000
Feb-08-2000	163	14.8	1,890
Feb-09-2000	153	15.3	1,890
Feb-10-2000	143	15.1	1,900
Feb-11-2000	140	13.4	1,730
Feb-12-2000	154	12.4	1,650
Feb-13-2000	176	12.3	1,610
Feb-14-2000	232	13.4	1,510
Feb-15-2000	335	13.8	1,520
Feb-16-2000	426	13.8	1,560
Feb-17-2000	398	13.4	1,640
Feb-18-2000	371	13.8	1,720
Feb-19-2000	284	14.0	1,860
Feb-20-2000	224	14.4	1,850
Feb-21-2000	223	14.3	1,740
Feb-22-2000	225	13.7	1,720
Feb-23-2000	235	12.9	1,690
Feb-24-2000	271	12.0	1,570
Feb-25-2000	352	12.4	1,560
Feb-26-2000	331	13.9	1,600
Feb-27-2000	288	14.8	1,570
Feb-28-2000	278	14.4	1,530
Feb-29-2000	373	14.0	1,500
	.	.	.
	.	.	.

Table 5. Continuous water monitoring at Station N (San Joaquin River at Crow's Landing), February 2000.

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-01-2000	1,320	12.4	1,280	1.8
Feb-02-2000	1,260	12.9	1,360	1.8
Feb-03-2000	1,210	12.9	1,450	2.0
Feb-04-2000	1,130	13.0	1,530	2.3
Feb-05-2000	1,080	13.0	1,610	2.6
Feb-06-2000	1,070	13.4	1,590	2.7
Feb-07-2000	1,010	13.8	1,610	2.8
Feb-08-2000	965	14.4	1,670	3.1
Feb-09-2000	940	14.9	1,690	3.3
Feb-10-2000	936	15.0	1,680	4.1
Feb-11-2000	931	13.8	1,650	4.7
Feb-12-2000	1,030	12.9	1,610	3.9
Feb-13-2000	1,570	12.5	1,310	2.4
Feb-14-2000	3,010	12.8	654	1.7
Feb-15-2000	3,740	12.9	466	1.3
Feb-16-2000	4,930	13.1	336	1.0
Feb-17-2000	5,790	12.7	324	0.8
Feb-18-2000	6,280	12.2	372	0.9
Feb-19-2000	6,160	12.4	397	1.0
Feb-20-2000	5,750	12.6	449	1.4
Feb-21-2000	5,280	12.8	482	0.9
Feb-22-2000	5,010	12.4	493	1.2
Feb-23-2000	5,310	11.7	492	1.3
Feb-24-2000	5,590	10.9	496	0.9
Feb-25-2000	5,830	11.0	452	0.9
Feb-26-2000	6,010	11.9	413	0.9
Feb-27-2000	5,870	12.8	502	0.8
Feb-28-2000	5,680	13.0	566	1.1
Feb-29-2000	6,070	12.4	455	1.0
	.	.	.	.
	.	.	.	.

PRELIMINARY RESULTS

Table 6a. Weekly water quality monitoring at Station A (inflow to San Luis Drain), taken from grab samples.
Flow data is reported by SLDMWA since October 1, 1999.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	.	.	Specific Conductance	Total Suspended Solids	Selenium (total)	Selenium (dissolved)	Boron
DATA SOURCE	SLDMWA	.	.	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	.	.	µS/cm	mg/L	µg/L	µg/L	mg/L
Dec-01-1999	22	.	.	4,290	61	54.6	55.2	7.0
Dec-08-1999	15	.	.	4,530	21	47.2	46.9	7.4
Dec-15-1999	14	.	.	5,170	13	95.5	95.1	7.3
Dec-20-1999	15	.	.	5,290	18	98.7	96.3	8.1
Dec-27-1999	14	.	.	5,260	19	103	104	8.2
Jan-05-2000	13	.	.	4,940	11	82.3	78.2	8.1
Jan-12-2000	15	.	.	5,270	54	96.7	94.0	8.6
Jan-19-2000	32	.	.	3,330	130	67.3	72.7	4.5
Jan-26-2000	34	.	.	4,140	72	49.3	P	6.0
Feb-02-2000	31	.	.	5,170	80	Selenium and boron analyses		
Feb-09-2000	47	.	.	4,250	290	from weekly grab		
Feb-16-2000	59	.	.	4,870	320	discontinued 2/1/00.		
Feb-23-2000	67	.	.	4,730	310	.	.	.

Table 6b. Weekly water quality monitoring at Station A (inflow to San Luis Drain), taken from composite samples.
Flow data is reported by SLDMWA since October 1, 1999.

See Table 26 for explanation of footnotes and agency abbreviations.

PARAMETER	Flow	.	.	Specific Conductance	Total Suspended Solids	Selenium (total)	Selenium (dissolved)	Boron
DATA SOURCE	SLDMWA	.	.	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	.	.	µS/cm	mg/L	µg/L	µg/L	mg/L
Dec-07-1999	17	.	.	4,500	.	65.2	.	7.2
Dec-14-1999	16	.	.	5,010	.	91.3	.	7.6
Dec-19-1999	16	.	.	5,320	.	101	.	8.0
Dec-26-1999	13	.	.	5,380	.	104	.	8.1
Jan-04-2000	13	.	.	5,020	.	91.5	.	8.1
Jan-11-2000	16	.	.	5,090	.	93.3	.	8.1
Jan-18-2000	26	.	.	5,020	.	92.1	.	8.1
Jan-25-2000	41	.	.	4,520	.	74.3	.	6.9
Feb-01-2000	31	.	.	5,100	.	67.7	.	P
Feb-08-2000	47	.	.	4,860	.	74.8	.	7.7
Feb-15-2000	57	.	.	4,570	.	66.2	.	7.0
Feb-22-2000	59	.	.	NA	.	70.9	.	7.3
Feb-29-2000	68	.	.	5,180	.	73.5	.	7.8

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

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	USGS	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB	CVRWQCB
UNITS	cfs	°C		µS/cm	mg/L	µg/L	µg/L	mg/L
Dec-02-1999	27	13.5	7.9	4,060	54	40.9	40.1	6.8
Dec-09-1999	22	9.1	7.9	4,540	50	67.1	65.3	7.1
Dec-16-1999	21	8.6	7.6	4,410	50	51.7	51.8	6.8
Dec-21-1999	21	9.7	7.4	4,400	48	49.1	54.4	7.0
Dec-28-1999	22	9.2	6.9	4,880	53	74.2	78.5	7.1
Jan-06-2000	21	7.5	7.3	4,560	48	58.9	59.3	7.1
Jan-13-2000	22	10.0	7.9	4,480	72	52.5	50.4	6.9
Jan-20-2000	39	13.5	7.5	4,750	P	74.3	P	7.4
Jan-27-2000	40	13.3	7.7	4,610	48	70.3	P	6.6
Feb-03-2000	35	13.4	7.6	4,860	72	59.4	P	7.8
Feb-10-2000	52	14.7	7.8	4,690	81	64.6	P	7.2
Feb-17-2000	66	13.4	7.9	4,250	72	55.3	P	6.2
Feb-24-2000	67	11.7	7.6	4,660	57	69.6	P	7.2

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-02-1999	99	11.7	7.6	1,410	<0.4	1.1
Dec-09-1999	94	8.4	7.7	1,600	<0.4	1.2
Dec-16-1999	91	9.2	7.8	1,640	<0.4	1.2
Dec-21-1999	100	10.4	7.9	1,620	<0.4	1.3
Dec-28-1999	102	9.8	7.9	1,670	<0.4	1.2
Jan-06-2000	144	7.5	8.1	1,610	<0.4	1.2
Jan-13-2000	126	11.3	8.0	1,680	<0.4	1.3
Jan-20-2000	142	13.8	7.9	1,680	0.4	1.3
Jan-27-2000	248	12.8	6.7	1,530	<0.4	1.2
Feb-03-2000	193	13.8	7.9	1,720	1.1	1.5
Feb-10-2000	123	15.0	6.7	1,800	0.6	1.5
Feb-17-2000	293	12.5	7.5	1,380	0.7	1.3
Feb-24-2000	289	10.9	7.9	1,280	0.9	1.2

++ 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-02-1999	126	11.5	7.8	2,010	6.6	2.3
Dec-09-1999	116	8.7	7.9	2,220	10.7	2.3
Dec-16-1999	112	9.6	7.9	2,250	9.2	2.2
Dec-21-1999	121	10.0	7.8	2,250	13.3	2.4
Dec-28-1999	124	9.6	7.8	2,320	13.5	2.3
Jan-06-2000	165	7.5	8.0	2,070	6.7	2.0
Jan-13-2000	148	10.8	8.0	2,180	6.5	2.2
Jan-20-2000	181	13.8	7.9	2,420	14.3	2.6
Jan-27-2000	324	12.8	7.5	1,990	9.2	2.0
Feb-03-2000	228	13.8	8.1	2,330	10.1	2.6
Feb-10-2000	175	14.9	7.0	2,710	19.6	3.2
Feb-17-2000	359	13.1	7.9	1,930	10.1	2.2
Feb-24-2000	356	11.0	7.9	1,910	12.4	2.2

Table 10. 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-02-1999	135	10.9	7.6	1,600	0.6	0.9
Dec-09-1999	117	9.5	7.7	1,730	0.9	1.0
Dec-16-1999	96	7.7	7.6	1,840	1.1	1.0
Dec-21-1999	88	9.8	7.7	2,000	0.8	1.1
Dec-28-1999	70	8.2	7.7	2,330	0.5	1.2
Jan-06-2000	69	7.2	7.7	2,170	0.5	1.2
Jan-13-2000	84	10.3	7.9	2,270	<0.4	1.3
Jan-20-2000	114	13.9	7.7	2,140	0.5	1.3
Jan-27-2000	237	12.5	7.4	1,950	1.0	1.4
Feb-03-2000	153	12.1	7.6	2,370	0.7	1.7
Feb-10-2000	143	14.7	7.4	2,000	1.1	1.4
Feb-17-2000	398	12.5	7.4	1,750	1.1	1.3
Feb-24-2000	271	11.5	7.4	1,690	1.6	1.2

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

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
Dec-02-1999	.	10.6	7.7	1,710	0.6	0.9
Dec-09-1999	.	10.3	7.6	1,790	0.9	0.9
Dec-16-1999	.	6.9	7.7	1,960	0.7	1.0
Dec-21-1999	.	8.6	7.2	2,090	0.9	1.0
Dec-28-1999	.	7.2	7.1	2,560	0.4	1.1
Jan-06-2000	.	6.1	7.8	2,360	<0.4	1.0
Jan-13-2000	.	9.3	7.2	2,460	<0.4	1.2
Jan-20-2000	.	13.7	7.1	2,300	0.6	1.1
Jan-27-2000	.	12.3	6.9	764	0.5	0.4
Feb-03-2000	.	11.6	7.6	1,770	0.6	1.1
Feb-10-2000	.	13.9	7.9	1,950	1.0	1.2
Feb-17-2000	.	12.7	7.6	295	0.4	0.1
Feb-24-2000	.	11.2	7.2	627	0.9	0.3

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

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
.	.	.	.	.	.	.
.	Data no longer collected regularly for this station. Contact CVRWQCB for details.					

Table 13. 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-01-1999	15	.	.	515	<0.4	0.2
Dec-08-1999	0	.	.	2,360	2.2	3.5
Dec-15-1999	15	.	.	640	0.5	0.2
Dec-20-1999	15	.	.	725	0.6	0.3
Dec-27-1999	21	.	.	816	0.9	0.3
Jan-05-2000	15	.	.	544	<0.4	0.2
Jan-12-2000	10	.	.	938	1.2	0.6
Jan-19-2000	10	.	.	608	0.5	0.3
Jan-26-2000	2	.	.	883	1.6	0.7
Feb-02-2000	2	.	.	879	1.6	P
Feb-09-2000	2	.	.	839	1.7	0.7
Feb-16-2000	2	.	.	1,030	2.1	1.1
Feb-23-2000	2	.	.	1,220	2.8	1.3

Table 14. 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-01-1999	10	.	.	576	0.6	0.3
Dec-08-1999	0	.	.	802	0.5	0.7
Dec-15-1999	15	.	.	1,330	0.7	1.5
Dec-20-1999	35	.	.	715	1.0	0.4
Dec-27-1999	45	.	.	874	1.0	0.5
Jan-05-2000	55	.	.	572	<0.4	0.2
Jan-12-2000	25	.	.	628	0.5	0.3
Jan-19-2000	25	.	.	811	0.7	0.4
Jan-26-2000	10	.	.	729	1.2	0.5
Feb-02-2000	10	.	.	943	1.0	P
Feb-09-2000	10	.	.	1,250	0.9	1.9
Feb-16-2000	10	.	.	1,220	1.5	1.6
Feb-23-2000	15	.	.	1,030	2.0	1.1

Table 15. 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-01-1999	40	.	.	872	0.8	0.7
Dec-08-1999	40	.	.	829	1.3	0.7
Dec-15-1999	55	.	.	798	1.8	0.6
Dec-20-1999	60	.	.	690	0.5	0.3
Dec-27-1999	65	.	.	898	0.8	0.4
Jan-05-2000	80	.	.	511	<0.4	0.2
Jan-12-2000	50	.	.	935	1.0	0.6
Jan-19-2000	40	.	.	824	0.8	0.6
Jan-26-2000	25	.	.	1,200	1.3	0.8
Feb-02-2000	0	.	.	2,170	3.3	P
Feb-09-2000	2	.	.	2,430	3.6	3.2
Feb-16-2000	12	.	.	1,300	2.1	1.5
Feb-23-2000	30	.	.	983	2.4	0.9

Table 16. 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-01-1999	80	.	.	1,140	0.7	1.2
Dec-08-1999	15	.	.	1,700	1.3	1.9
Dec-15-1999	0	.	.	2,380	1.1	2.7
Dec-20-1999	29	.	.	2,120	0.8	2.4
Dec-27-1999	43	.	.	1,820	0.9	1.9
Jan-05-2000	52	.	.	1,450	0.5	1.4
Jan-12-2000	55	.	.	1,900	0.5	2.1
Jan-19-2000	67	.	.	1,640	0.6	2.0
Jan-26-2000	122	.	.	1,930	0.8	2.5
Feb-02-2000	76	.	.	1,930	0.9	P
Feb-09-2000	43	.	.	2,670	1.8	3.5
Feb-16-2000	99	.	.	2,610	1.9	3.3
Feb-23-2000	120	.	.	2,220	1.8	2.9

Table 17. 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-02-1999	748	12.0	7.6	1,260	1.7	0.9
Dec-09-1999	686	9.2	7.9	1,290	1.7	0.8
Dec-16-1999	630	7.1	7.7	1,370	2.3	0.9
Dec-21-1999	626	8.6	7.7	1,420	2.6	0.9
Dec-28-1999	577	7.4	7.8	1,510	3.0	0.9
Jan-06-2000	639	7.0	7.7	1,480	2.1	0.9
Jan-13-2000	629	11.5	8.0	1,540	2.1	1.0
Jan-20-2000	852	13.6	7.1	1,320	2.2	0.8
Jan-27-2000	1,720	13.2	7.4	1,060	1.8	0.7
Feb-03-2000	1,210	14.0	7.0	1,490	2.0	0.7
Feb-10-2000	936	14.1	7.7	1,690	4.6	1.4
Feb-17-2000	5,790	13.7	7.0	320	0.8	0.2
Feb-23-2000	5,310	NA	NA	492	1.4	0.4

Table 18. Summary of fathead minnow (*Pimephales promelas*) larvae survival in 7-day tests using water samples collected from March 1999 to February 2000. 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-1999	75	58	88	85	65 †	100
Apr-1999	93	88	100	83	73 †	100
May-1999	98	90	93	88	50 †	98
Jun-1999	98	93	100	98	70 †	100
Jul-1999	93	100	90	93	98	100
Aug-1999	93	100	89	68	98	100
Sep-1999	95	85	93	53	93	98
Oct-1999	100	98	90	70*	98	100
Nov-1999	98	38*	60*	50*	87	95
Dec-1999	100	73*	73*	70*	100	100
Jan-2000	98	33*	48*	85	83	100
Feb-2000	95	85	65*	75*	95	98

Table 19. Summary of fathead minnow (*Pimephales promelas*) larvae growth in 7-day tests using water samples collected from March 1999 to February 2000. 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-1999	0.45	0.37	0.55	0.54	0.38	0.56
Apr-1999	0.66	0.61	0.78	0.57	0.48	0.72
May-1999	0.78	0.76	0.74	0.61	0.39	0.71
Jun-1999	0.67	0.68	0.72	0.67	0.43	0.72
Jul-1999	0.72	0.77	0.69	0.67	0.68	0.63
Aug-1999	0.60	0.70	0.54	0.44*	0.65	0.63
Sep-1999	0.65	0.49	0.54	0.35	0.59	0.58
Oct-1999	0.70	0.62	0.58	0.51	0.63	0.65
Nov-1999	0.58	0.20*	0.35*	0.29*	0.51	0.52
Dec-1999	0.67	0.47*	0.49	0.50*	0.68	0.61
Jan-2000	0.68	0.23*	0.37	0.59	0.53	0.64
Feb-2000	0.71	0.60	0.54	0.51*	0.68	0.65

Table 20. Summary of *Daphnia magna* survival in 7-day tests using water samples collected from March 1999 to February 2000. 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-1999	100	90	90	100	80	90
Apr-1999	90	100	100	100	100	100
May-1999	100	90	90	100	100	100
Jun-1999	100	80	90	100	90	90
Jul-1999	90	100	80	90	50 †	90
Aug-1999	100	100	100	100	90	80
Sep-1999	100	100	100	80	100	80
Oct-1999	100	100	100	100	100	80
Nov-1999	100	100	100	100	90	100
Dec-1999	90	100	100	100	90	90
Jan-2000	100	100	100	100	100	100
Feb-2000	90	90	70	70	80	100

Table 21. Summary of *Daphnia magna* reproduction in 7-day tests using water samples collected from March 1999 to February 2000. 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-1999	65.4	69.6	70.9	57.4	45.1	52.7
Apr-1999	17.1	24.4	20.6	21.6	19.9	13.8
May-1999	31.6	36.0	33.8	37.4	30.8	39.2
Jun-1999	23.8	24.0	21.2	18.5	8.6 †††	10.3
Jul-1999	31.1	35.9	32.6	27.2	12.8	15.7
Aug-1999	19.9	23.2	24.3	19.9	11.4	12.3
Sep-1999	29.2	37.7	36.1	28.4	17.9	14.6
Oct-1999	31.7	25.7	28.4	22.2	22.8	16.8
Nov-1999	16.2	11.7	10.1	14.8	5.3	7.3
Dec-1999	34.9	32.0	43.0	37.7	31.2	40.9
Jan-2000	18.9	22.3	23.0	24.9	15.0	14.0
Feb-2000	37.1	29.0	24.5	22.7	22.5	32.1

Table 22. Summary of *Selenastrum capricornutum* growth in 4-day tests using water samples collected from March 1999 to February 2000. 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-1999	14.5	11.8*	15.5	17.6	17.1	22.9
Apr-1999	17.6	14.4*	15.8	23.0	19.6	22.6 ‡
May-1999	12.0	13.3	11.8	8.5	11.5 ‡	14.7 ‡
Jun-1999	9.3	10.1	9.4	11.1	7.4 ††††	11.6
Jul-1999	9.1	10.5	9.9	11.2	7.5 ††††	11.9
Aug-1999	9.2*	10.0	10.2	11.9	13.3 ‡	14.9 ‡
Sep-1999	9.8	11.1	10.8	10.2	14.1	23.5
Oct-1999	9.8	10.7	9.0*	11.4	11.8	12.7
Nov-1999	9.9*	12.8	11.4*	12.9	14.3	15.3
Dec-1999	12.0*	22.7	20.9	20.4	18.8	23.4
Jan-2000	2.3*	6.5	7.5	7.3	6.9 ††††	8.2 ††††
Feb-2000	5.8*	9.4	9.8	6.7*	10.0	10.2 ‡

Table 23. Summary of selenium concentrations in grab water samples collected at study stations for use in laboratory toxicity tests, December 1999 to February 2000.

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-13-1999	54	0.8	9.0	1.0	0.5
Dec-15-1999	40	0.7	9.7	0.9	0.6
Dec-17-1999	72	<0.4	10	0.9	0.7
Jan-03-2000	77	0.8	7.8	0.6	<0.4
Jan-05-2000	55	0.4	6.7	0.9	<0.4
Jan-07-2000	76	0.5	8.4	0.8	<0.4
Feb-07-2000	66	0.8	16	0.7	0.6
Feb-09-2000	72	<0.4	22	0.9	0.6
Feb-11-2000	63	<0.4	17	0.9	0.5

Table 24. Summary of sulfate concentrations in grab water samples collected at study stations for use in laboratory toxicity tests, December 1999 to February 2000.

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	mg/L	mg/L	mg/L	mg/L	mg/L
Dec-13-1999	1,380	203	395	278	64
Dec-15-1999	1,350	222	461	274	30
Dec-17-1999	1,490	216	436	287	80
Jan-03-2000	1,520	182	326	324	51
Jan-05-2000	1,400	206	336	312	25
Jan-07-2000	1,430	205	381	322	25
Feb-07-2000	1,600	233	572	343	107
Feb-09-2000	1,540	222	637	337	99
Feb-11-2000	1,390	260	573	272	64

Table 25. Summary of total suspended solids concentrations in grab water samples collected from December 1999 to February 2000.

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-13-1999	43	35	19	41	19
Dec-15-1999	31	11	15	23	<1
Dec-17-1999	40	14	18	27	<1
Jan-03-2000	36	19	41	24	12
Jan-05-2000	25	13	17	31	4
Jan-07-2000	34	17	21	34	7
Feb-07-2000	23	42	45	72	4
Feb-09-2000	48	40	52	66	21
Feb-11-2000	48	78	53	82	15

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
.	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
(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.
(7)	Heavy silt accumulation was noted in Stations D and F cages and light silt accumulation was observed in both the Windmill Station and Station B.
(8)	Moderate silt accumulation was noted in Stations B and F cages and light silt accumulation was observed in Station D.
(9)	No test deployment was done at the Windmill Station due to extreme conditions (stagnant & pH>9.0). At Station B, replicate A was retrieved with no cork and replicate C lost its cork during retrieval. There were no surviving fish for a growth determination for Station F cages.
*	Significantly reduced from Delta Mendota Canal ($p<0.05$)
†	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.
#	New testing laboratory with reporting limit of 0.4 µg/L as of June 1998.