

**Grassland Bypass Project
Interim Baseline Monitoring Program**

Monthly Data Report

December 2014



A Cooperative Effort Of:

U.S. Bureau of Reclamation

Central Valley Regional Water Quality Control Board

U.S. Fish and Wildlife Service

National Marine Fisheries Service

California Department of Fish and Wildlife

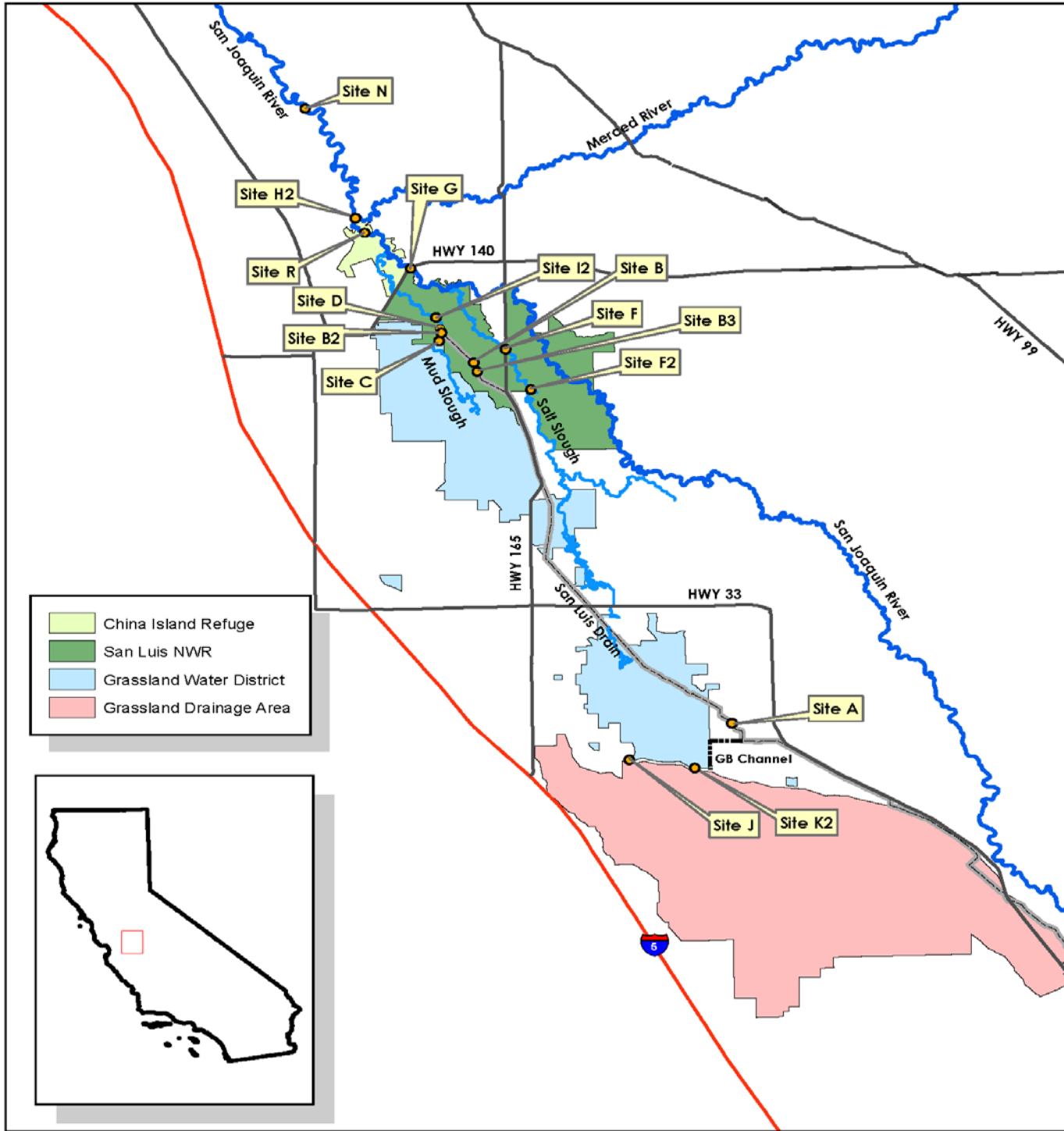
San Luis & Delta-Mendota Water Authority

U.S. Environmental Protection Agency

U.S. Geological Survey

Compiled by San Francisco Estuary Institute

Figure 1. Map of the Grassland Bypass Project area



Grassland Bypass Project

Monitoring Sites

0 2.5 5 10 Miles



Grassland Bypass Project
NAD 1983 California Zone 10
U.S. Bureau of Reclamation



**GRASSLAND BYPASS PROJECT
MONTHLY DATA REPORT**

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Grassland Bypass Project

Table 1a. Water monitoring of inflow to the San Luis Drain (Station A)

PARAMETER	Flow	Temperature	Specific Conductance	Total Dissolved Solids	Total Suspended Solids	Total Selenium	Daily Salt Load
DATA SOURCE	SLDMWA	SLDMWA	SLDMWA	Calculated	SLDMWA	SLDMWA/USBR	Calculated
UNITS	cfs	°C	µS/cm	mg/L	mg/L	µg/L	tons
Dec-01-2014	17	12.9	6,240	4,620		15	211
Dec-02-2014	30	12.6	6,380	4,724		15	385
Dec-03-2014	60	13.5	6,020	4,457		17	724
Dec-04-2014	63	15.4	6,420	4,750		23	810
Dec-05-2014	31	15.6	6,970	5,154		16	424
Dec-06-2014	8	15.9	6,820	5,043		18	109
Dec-07-2014	6	15.3	7,020	5,195		23	78
Dec-08-2014	3	14.9	7,180	5,316		17	37
Dec-09-2014	0	14.4	7,220	5,340		16	4
Dec-10-2014	4	13.5	7,190	5,317		23	57
Dec-11-2014	24	13.9	7,070	5,228		14	343
Dec-12-2014	70	12.9	5,430	4,021		19	755
Dec-13-2014	98	12.4	4,250	3,143		21	827
Dec-14-2014	98	12.0	4,760	3,519		24	927
Dec-15-2014	74	11.3	4,720	3,493		28	695
Dec-16-2014	49	11.7	5,050	3,739		22	499
Dec-17-2014	69	12.9	5,680	4,200		25	785
Dec-18-2014	67	13.6	5,600	4,141		28	749
Dec-19-2014	67	12.8	5,640	4,176		31	755
Dec-20-2014	67	13.7	5,890	4,357		31	788
Dec-21-2014	67	14.6	5,980	4,425		33	800
Dec-22-2014	55	15.2	6,030	4,459		0	657
Dec-23-2014	44	15.0	6,010	4,451		34	523
Dec-24-2014	39	13.5	6,190	4,582		39	487
Dec-25-2014	34	9.8	6,350	4,699		42	432
Dec-26-2014	28	8.3	6,330	4,680		42	358
Dec-27-2014	23	8.4	6,620	4,898		40	302
Dec-28-2014	11	8.8	6,540	4,839		39	143
Dec-29-2014	6	8.5	6,150	4,548		42	68
Dec-30-2014	12	8.1	6,020	4,452		68	144
Dec-31-2014	11	5.2	6,750	4,992		55	145

Notes:

See Table 19 for explanation of footnotes and agency abbreviations.

Preliminary Results

Site A selenium data are not collected by Reclamation and have been deemed unreliable by Reclamation staff.

Table 1b. Monthly Averages and Totals

	Total Flow	Average Temperature	Average Specific Conductance	Average Total Dissolved Solids	Average Total Suspended Solids	Average Selenium	Salt Load	Salt Load Objective
	Calculated	Calculated	Calculated	Calculated	Calculated	Calculated	Calculated	UA3
	acre-feet	°C	µS/cm	mg/L	mg/L	µg/L	tons	tons
Jan-2014	650	9.8	7,320	5,418	46	26	4,620	4,283
Feb-2014	1,040	13.6	6,860	5,074	136	31	6,930	6,779
Mar-2014	600	17.3	7,190	5,323	96	27	3,990	8,031
Apr-2014	360	18.3	7,950	5,112	134	30	1,870	5,910
May-2014	280	21.9	6,200	4,589	97	36	1,690	5,792
Jun-2014	430	24.0	7,000	5,179	154	29.6	2,970	5,991
Jul-2014	280	26.1	6,860	5,079	128	27.5	1,980	6,055
Aug-2014	15	25.1	6,810	3,037	87	13.5	120	5,373
Sep-2014	10	23.2	7,910	5,854	59	9.1	40	2,838
Oct-2014	10	18.9	9,160	6,779		8.5	80	2,180
Nov-2014	230	14.6	7,710	5,706		14.3	3,640	2,265
Dec-2014	2,450	11.3	6,230	4,611		35.6	14,670	2,502
Cumulative Total	6,355						42,600	57,999

Notes:

Salt load objective based on 2014 critical year type.

Table 2a. Water monitoring of San Luis Drain Discharge into Mud Slough (north)
Station B2 (Terminus at Mud Slough) and Station B3 (Gun Club Road)

PARAMETER	Flow (B2)	Temperature (B2)	Specific Conductance (B2)	Total Suspended Solids (B2)	Boron (B3)	Total Selenium (B3)	Daily Selenium Load
DATA SOURCE	SLDMWA♦	SLDMWA	SLDMWA	SLDMWA/USBR	USBR	USBR	Calculated
UNITS	cfs	°C	µS/cm	mg/L	mg/L	µg/L	lbs
Dec-01-2014	11	11.3	11,300	43		3.9	0.2
Dec-02-2014	22	11.7	9,550		11.0	5.9	0.7
Dec-03-2014	35	15.5	5,320		12.0	7.3	1.4
Dec-04-2014	62	16.4	6,470		15.0	12.0	4.0
Dec-05-2014	69	14.3	6,810		15.0	15.8	5.9
Dec-06-2014	40	17.2	7,080		16.0	26.8	5.8
Dec-07-2014	14	12.7	7,110		17.0	22.0	1.7
Dec-08-2014	11	12.8	7,180	38	17.0	18.9	1.1
Dec-09-2014	9	12.1	7,230		17.0	16.4	0.8
Dec-10-2014	7	11.9	7,250		18.0	14.4	0.5
Dec-11-2014	9	14.1	7,280		18.0	13.2	0.7
Dec-12-2014	42	12.2	6,980		15.0	10.5	2.4
Dec-13-2014	88	10.9	6,410		14.0	14.6	6.9
Dec-14-2014	101	11.6	5,440		12.0	14.5	7.9
Dec-15-2014	101	9.4	4,450	78	9.8	20.4	11.1
Dec-16-2014	82	14.7	4,480		12.0	21.2	9.4
Dec-17-2014	66	12.6	4,420		14.0	24.1	8.5
Dec-18-2014	78	12.3	5,920		13.0	26.6	11.2
Dec-19-2014	85	10.4	6,260		13.0	20.4	9.4
Dec-20-2014	69	13.2	6,110		14.0	24.1	9.0
Dec-21-2014	56	15.0	6,060		13.0	25.2	7.6
Dec-22-2014	49	13.6	6,210	57	13.0	30.5	8.1
Dec-23-2014	46	13.3	6,460		13.0	29.5	7.4
Dec-24-2014	45	10.4	6,500		15.0	30.3	7.3
Dec-25-2014	46	10.8	6,550		14.0	31.4	7.7
Dec-26-2014	52	7.3	6,640		13.0	32.1	9.0
Dec-27-2014	44	6.3	6,630		14.0	36.7	8.8
Dec-28-2014	38	8.2	6,820		13.0	38.0	7.7
Dec-29-2014	24	7.3	6,820	27	14.0	38.8	5.1
Dec-30-2014	16	6.8	6,900		14.0	38.4	3.3
Dec-31-2014	14	5.2	6,890		14.0	37.3	2.8

Notes:

See Table 19 for explanation of footnotes and agency abbreviations.
Preliminary Data

Table 2b. Monthly Averages and Totals

	Flow (B2)	Average Temperature (B2)	Average Specific Conductance (B2)	Average Total Suspended Solids	Average Boron (B3)	Average Selenium	Selenium Load	Selenium Load Objective
	Calculated	Calculated	Calculated	Calculated	Calculated	Calculated	Calculated	UA3
	acre-feet	°C	µS/cm	mg/L	mg/L	µg/L	lbs	lbs
Jan-2014	970	10.1	5,290	13	10.2	14.0	39	151
Feb-2014	1,270	12.6	6,100	139	12.6	26.0	88	93
Mar-2014	900	15.0	5,980	50	11.8	20.8	63	92
Apr-2014	490	18.1	6,570	72	13.0	13.8	19	101
May-2014	400	22.1	6,740	46	12.8	13.6	17	105
Jun-2014	410	25.2	8,150	60	14.6	16.9	25	69
Jul-2014	350	28.1	9,710	28	19.1	11.3	11	70
Aug-2014	40	26.1	11,400	43	25.5	10.1	1	75
Sep-2014	30	24.1	14,200	66	29.3	11.7	1	57
Oct-2014	50	20.0	15,300	86	30.5	13.2	2	55
Nov-2014	600	13.3	10,200	74	23.4	11.9	20	55
Dec-2014	2,840	11.7	6,630	49	14.1	22.6	173	152
Cumulative Load Totals	8,350						458	1,075

Notes:

Selenium load objective based on 2014 critical year type
Selenium Load is calculated using the monthly average flow weighted selenium concentration and flow in acre-feet.

Table 2c. Water quality monitoring at Station B3 (discharge from San Luis Drain)

PARAMETER	Physicals					Total Selenium	Total Boron	Total Molybdenum
	Dissolved Oxygen	pH	Specific Conductance	Temperature	Turbidity			
DATA SOURCE	USBR	USBR	USBR	USBR	USBR	USBR	USBR	USBR
UNITS	mg/L	units	µS/cm	°C	NTU	ug/L	mg/L	ug/L
Oct-03-2014	11.8	8.2	12,400	20.1		9	28	
Oct-10-2014	9.5	9.5	14,300	22.1	47.0	9	38	
Oct-17-2014		8.1	12,100	20.1	135	15	29	
Oct-24-2014	9.8	7.9	11,400	16.9	79.6	11	29	
Oct-31-2014	9.2	8.4	9,910	18.6	75.7	12	20	9.0
Nov-07-2014	19.0	8.5	7,080	15.6	19.2	21	14	
Nov-14-2014	17.2	8.3	11,280	16.2	16.6	15	30	
Nov-21-2014	12.1	8.3	10,800	13.2	16.6	10	32	
Nov-28-2014	12.8	8.2	6,820	12.1	10.0	12	14	
Dec-05-2014								
Dec-12-2014		7.9	6,820	13.2	18.6	11	15	
Dec-16-2014	8.0	7.7	5,140	11.3	52.5	20	11	13.0
Dec-23-2014		7.6	6,320	13.8	30.7	28	13	
Dec-30-2014	14.7	8.1	6,740	8.1	16.8	39	13	

Notes:

	Nutrients				
	Nitrates as N (Dissolved)	Ammonia as N	Total Kjeldahl Nitrogen	Total Phosphorous as P	Ortho-phosphate as P
	USBR	USBR	USBR	USBR	USBR
	mg/L	mg/L	mg/L	mg/L	mg/L
Jan-09-2014	0.5	0.1	1.4	0.094 V	0.015 T
Feb-27-2014	3.7 T	0.2 L	1.7	0.095 T	<0.010
Mar-26-2014	<0.02	0.1	2.6	0.190 T	<0.010
Apr-25-2014					
May-08-2014	0.2	0.3	3.0	0.190 T	< 0.010
Jun-26-2014	4.8	1.1 U	3.5	0	< 0.050
Jul-31-2014	< 0.02	0.2 V	3.7	0.150	< 0.010
Aug-31-2014					
Sep-04-2014	< 0.05	0.1	3.9	0.130 T	< 0.010 T
Oct-31-2014	< 0.80	< 0.5	6.7 U	0.350 U	< 2.00
Nov-30-2014					
Dec-16-2014	6.0	0.5	2.5	0.2	0.052

Notes:

Results of the Interim Monitoring Program Oct 2013 - Feb 2014

	General Minerals						
	Calcium	Magnesium	Potassium	Sodium	Chloride (Dissolved)	Sulfate (Dissolved)	Total Organic Carbon
	USBR	USBR	USBR	USBR	USBR	USBR	USBR
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Jan-09-2014	270	110	6.8	620	670	1,400	NA
Feb-27-2014	220	100	4.0	880	750	1,500	8.5

Notes:

	Total Metals								
	Arsenic	Boron	Cadmium	Copper	Lead	Mercury	Molybdenum	Nickel	Zinc
	USBR	USBR	USBR	USBR	USBR	USBR	USBR	USBR	USBR
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Jan-09-2014	5.5	9,000	<1.0	41	<2.5	100	31.0	17.0	<5.0
Feb-27-2014	<10		<1.0	<50	<2.5	<100	24.0	23.0	<10

Notes:

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

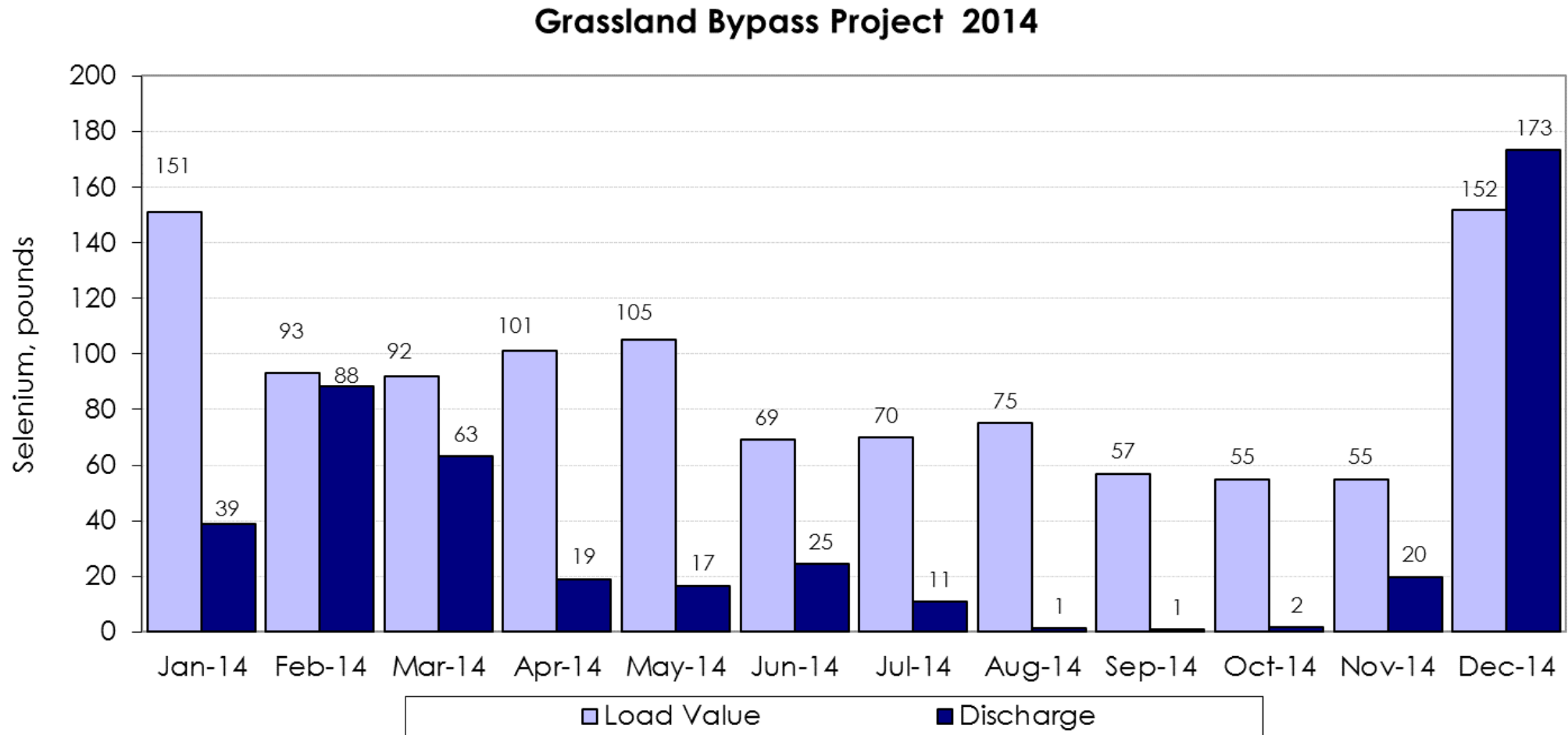


Table 3a. Water monitoring in Mud Slough (north) below San Luis Drain Discharge Station D

PARAMETER	Flow	Temperature	Specific Conductance
DATA SOURCE	USGS	USGS	USGS
UNITS	cfs	°C	µS/cm
Dec-01-2014	22	12.5	3,230
Dec-02-2014	37	12.7	3,380
Dec-03-2014	60	13.3	3,720
Dec-04-2014	94	14.5	5,010
Dec-05-2014	112	15.0	5,170
Dec-06-2014	92	15.5	4,380
Dec-07-2014	67	15.4	3,010
Dec-08-2014	56	15.0	2,810
Dec-09-2014	58	14.5	2,410
Dec-10-2014	75	13.9	2,030
Dec-11-2014	88	13.3	2,080
Dec-12-2014	174	13.0	2,750
Dec-13-2014	309	12.7	2,680
Dec-14-2014	431	11.9	2,440
Dec-15-2014	447	11.3	2,020
Dec-16-2014	427	11.4	2,100
Dec-17-2014	386	12.2	2,090
Dec-18-2014	372	12.7	2,410
Dec-19-2014	358	12.4	2,680
Dec-20-2014	328	12.7	2,500
Dec-21-2014	291	13.4	2,370
Dec-22-2014	269	13.8	2,380
Dec-23-2014	244	13.9	2,520
Dec-24-2014	214	13.5	2,700
Dec-25-2014	187	11.0	2,780
Dec-26-2014	169	9.2	2,870
Dec-27-2014	149	8.8	2,800
Dec-28-2014	125	9.1	2,870
Dec-29-2014	109	9.3	2,530
Dec-30-2014	104	8.9	2,330
Dec-31-2014	81	6.5	2,480

Notes:

See Table 19 for explanation of footnotes and agency abbreviations.
Preliminary Data

Table 3b. Monthly Averages

PARAMETER	Total Flow	Temperature	Specific Conductance
DATA SOURCE	Calculated	USGS	USGS
UNITS	acre-feet	°C	µS/cm
January	3,360	11	3,120
February	4,250	14	3,600
March	5,390	17	3,230
April	1,960	20	4,130
May	270	22	6,530
June	400	25	7,960
July	290	27	8,810
August	20	26	6,200
September	60	24	2,060
October	360	19	2,200
November	1,330	14	4,570
December	11,770	12	2,820

Table 3c. Water quality monitoring in Mud Slough (north) below San Luis Drain discharge (Station D)

PARAMETER	Physicals					Total Selenium	Total Boron	Total Molybdenum
	Dissolved Oxygen	pH	Specific Conductance	Temperature	Turbidity			
	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE			
UNITS	mg/L	units	µS/cm	°C	NTU	ug/L	mg/L	ug/L
Oct-03-2014	11.7	8.2	1,650	21.6		< 0.4	1.6	
Oct-10-2014	10.9	8.0	1,600	21.5	13.1	0.5	1.4	
Oct-17-2014		7.9	1,750	20.6	9.8	0.5	1.6	
Oct-24-2014	10.1	7.8	4,000	17.4	16.3	1.5	6.6	
Oct-31-2014	8.5	7.9	4,010	17.5	20.6	2.2	6.2	22
Nov-07-2014	10.6	8.3	4,770	16.1	20.9	12.4	8.2	
Nov-14-2014	8.9	8.1	5,510	16.5	23.3	5.4	10.0	
Nov-21-2014	7.7	7.9	3,950	13.6	13.8	2.5	6.5	
Nov-28-2014	9.1	7.8	3,780	12.1	9.2	1.9	6.0	
Dec-05-2014								
Dec-12-2014		7.6	2,980	13.0	20.7	3.5	4.7	
Dec-16-2014	9.1	7.4	2,200	11.3	25.0	5.4	3.2	8
Dec-23-2014		7.5	2,660	13.6	15.0	6.5	4.0	
Dec-30-2014	9.6	7.6	2,320	8.8	15.2	3.7	2.6	

Notes:

	Nutrients				
	Nitrates as N (dissolved)	Ammonia as N	Total Kjeldahl Nitrogen	Total phosphorous as P	Ortho-phosphate as P
	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE
UNITS	mg/L	mg/L	mg/L	mg/L	mg/L
Jan-09-2014	0.2	0.2	<5.0	0.12 V	0.046 T
Feb-27-2014	1.0 T	0.2 L	1.5	0.33 T	0.026
Mar-26-2014	0.02	0.2	2.5	0.62 T, U	0.220
Apr-25-2014					
May-08-2014	0.31	0.3	2.5	0.28 T	<0.010
Jun-26-2014	4.80 U	0.8 U	3.5 U	0.18	<0.050
Jul-31-2014	<0.02	0.2V	3.5 L, U	0.13	<0.010
Aug-31-2014					
Sep-04-2015	<0.02	0.1	2.6	0.20 T	<0.010 T
Oct-31-2014	<0.40	<0.5	1.6	0.46	<1.000
Nov-30-2014					
Dec-16-2014	1.80	0.5 U	2.5	0.44	0.280 U

Notes:

Results of the Interim Monitoring Program Oct 2013 - Feb 2014

	General Minerals						
	Calcium	Magnesium	Potassium	Sodium	Chloride (dissolved)	Sulfate (dissolved)	Total Organic Carbon
	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE
UNITS	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Jan-09-2014	120	76	6.5	400	470	650	NA
Feb-27-2014	110	75	6.0	480	480	670	11.0

Notes:

	Total Metals						
	Arsenic	Cadmium	Copper	Lead	Mercury	Nickel	Zinc
	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE
UNITS	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Jan-09-2014	5.3	<1.0	29 L	<2.5	110	10.0	<5.0
Feb-27-2014	<5.0	<1.0	<50	<2.5	<100	16.0	<10

Notes:

Table 4. Water quality monitoring in Mud Slough (north) above the San Luis Drain (Station C)

PARAMETER	Physicals						
	Dissolved Oxygen	Specific Conductance	Turbidity	pH	Boron	Total Selenium	Molybdenum
	WSJRW	WSJRW	WSJRW	USBR	WSJRW	WSJRW	USBR
UNITS	mg/L	µS/cm	NTU	units	mg/L	µg/L	µg/L
Oct-03-2014							
Oct-10-2014	12.3	1,360	11	7.9	0.9	0.4	
Oct-17-2014	NA	1,670	37	7.9	1.1	< 0.4	
Oct-24-2014							
Oct-31-2014	9.8	2,130	11	7.9	1.6	< 0.4	25 U
Nov-07-2014	8.2	1,746	20	7.9	1.2	0.4	
Nov-14-2014							
Nov-21-2014	10.7	2,150	10	7.6	1.4	< 0.4	
Nov-28-2014	62.0	1,120	12	7.4	1.6	0.4	
Dec-05-2014							
Dec-12-2014							
Dec-16-2014	6.2	1,120	12	7.4	0.9	0.5	6.0
Dec-23-2014		1,510	6	7.5	1.4	0.7	
Dec-30-2014	9.9	1,750	12	8.0	1.6	0.7	

Notes:

> Samples only collected when flow is sufficient.

Table 5. Water quality monitoring in Mud Slough (north) backwater below San Luis Drain discharge (Station I2)

PARAMETER	Physicals					Total Selenium
	Dissolved Oxygen	pH	Specific Conductance	Temperature	Turbidity	
DATA SOURCE	USBR	USBR	USBR	USBR	USBR	USBR
UNITS	mg/L	units	µS/cm	°C	NTU	µg/L
Oct-03-2014						
Oct-10-2014						
Oct-17-2014						
Oct-24-2014						
Oct-31-2014						
Nov-07-2014						
Nov-14-2014						
Nov-21-2014						
Nov-28-2014						
Dec-05-2014						
Dec-12-2014						
Dec-16-2014						
Dec-23-2014						
Dec-30-2014						

Notes:

Samples collected only when site is flooded

Site was dry from October through December (no sample collected)

**Table 6a. Water monitoring in Salt Slough at Highway 165
Station F**

PARAMETER	Flow	Temperature	Specific Conductance
DATA SOURCE	USGS	USGS	USGS
UNITS	cfs	°C	µS/cm
Dec-01-2014	66	12.1	1,580
Dec-02-2014	67	12.3	1,550
Dec-03-2014	78	13.4	1,620
Dec-04-2014	84	14.7	1,530
Dec-05-2014	74	14.9	1,630
Dec-06-2014	66	15.3	1,630
Dec-07-2014	59	14.8	1,690
Dec-08-2014	62	14.4	1,700
Dec-09-2014	63	14	1,690
Dec-10-2014	62	13.6	1,700
Dec-11-2014	66	13.2	1,660
Dec-12-2014	96	13	1,730
Dec-13-2014	119	12.8	1,750
Dec-14-2014	157	11.8	1,490
Dec-15-2014	197	11.1	1,410
Dec-16-2014	215	11.3	1,600
Dec-17-2014	219	12.1	1,620
Dec-18-2014	203	12.4	1,610
Dec-19-2014	174	12.1	1,690
Dec-20-2014	147	12.6	1,800
Dec-21-2014	128	13.4	1,820
Dec-22-2014	120	13.6	1,820
Dec-23-2014	114	13.7	1,880
Dec-24-2014	112	13	1,780
Dec-25-2014	99	10.5	1,870
Dec-26-2014	92	9.4	1,880
Dec-27-2014	85	9.3	1,890
Dec-28-2014	78	9.4	1,900
Dec-29-2014	73	9.7	1,910
Dec-30-2014	71	9.2	1,880
Dec-31-2014	70	6.7	1,960

Notes:

See Table 19 for explanation of footnotes and agency abbreviations.
Preliminary Data

Table 6b. Monthly Averages

PARAMETER	Flow	Temperature	Specific Conductance
DATA SOURCE	Calculated	USGS	USGS
UNITS	acre-feet	°C	µS/cm
January	4,820	17	1,760
February	3,800	14	1,960
March	4,600	17	2,170
April	5,480	20	1,820
May	2,810	23	1,640
June	1,900	25	1,360
July	1,790	27	1,050
August	1,880	26	923
September	1,620	24	1,100
October	1,190	23	1,200
November	3,190	14	1,560
December	6,580	12	1,720

Table 6c. Water quality monitoring in Salt Slough at Highway 165 (Station F)

PARAMETER	Physicals					Total Selenium	Total Boron	Total Molybdenum
	Dissolved Oxygen	pH	Specific Conductance	Temperature	Turbidity			
	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE			
UNITS	mg/L	units	µS/cm	°C	NTU	ug/L	mg/L	ug/L
Oct-10-2014	12.7	7.5	1,490	19.9	17.7	< 0.4	0.8	
Oct-17-2014		7.4	1,680	19.7	24.2	< 0.4	0.9	
Oct-24-2014	9.6	7.1	1,890	15.9	27.2	< 0.4	1.0	
Oct-31-2014	9.5	7.8	1,830	17.4	20.8	< 0.4	1.0	12
Nov-07-2014	9.3	7.1	1,720	18.3	25.5	< 0.4	0.9	
Nov-14-2014	10.1	7.6	1,590	17.4	26.1	< 0.4	0.8	
Nov-21-2014	10.0	7.7	1,650	16.0	19.1	< 0.4	0.9	
Nov-28-2014	10.3	7.6	1,460	14.2	25.6	< 0.4	0.7	
Dec-05-2014	10.9	7.7	1,660	14.6	38.2	< 0.4	0.8	
Dec-12-2014		7.5	1,780	15.4	57.7	0.7	0.9	
Dec-16-2014	10.4	8.0	638	13.7	37.9	1.2 U	1.4	6.0
Dec-23-2014		7.6	2,000	12.9	56.0	0.7	1.4	
Dec-30-2014	11.6	7.6	2,020	9.6	105	< 0.4	1.1	

Notes:

	Nutrients				
	Nitrates as N (dissolved)	Ammonia as N	Total Kjeldahl Nitrogen	Total phosphorous	Ortho-phosphate as P
	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE
UNITS	mg/L	mg/L	mg/L	mg/L	mg/L
Jan-09-2014	<10	0.3	0.8	0.095 L,V	0.05 T
Feb-27-2014	1.3 T	0.3 L	1.0	0.320 T	<0.01
Mar-26-2014	0.8	0.1	1.0	0.290 T	0.06
Apr-25-2014					
May-08-2014	0.5	0.1	0.7	0.21 T	0.07
Jun-26-2014	0.5	< 0.5	0.5	0.26	0.09
Jul-31-2014	0.5	0.1 V	1.3	0.22	0.06
Aug-01-2014					
Sep-04-2015	0.1	0.1	0.9	0.28 T	0.05 T
Oct-31-2014	1.2	<0.5	0.7	0.44	<1.00
Nov-30-2014					
Dec-16-2014	1.5	0.2	1.6	0.38	0.150

Notes:

Results of the Interim Monitoring Program Oct 2013 - Feb 2014

	General Minerals						
	Calcium	Magnesium	Potassium	Sodium	Chloride (dissolved)	Sulfate (dissolved)	Total Organic Carbon
	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE
UNITS	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Jan-09-2014	68	40	4.2	220	290	230	NA
Feb-27-2014	85	53	4.6	310	360	280	5.4

Notes:

	Total Metals							
	Arsenic	Cadmium	Copper	Lead	Mercury	Molybdenum	Nickel	Zinc
	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE
UNITS	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Jan-09-2014	<5.0	<1.0	18	<2.5	110	9.4	<10	5.3
Feb-27-2014	<5.0	<1.0	<50	<2.5	<100	12.0	11	<10

Notes:

**Table 7a. Water quality monitoring in Grasslands Wetlands Water Supply Channels
Station J Camp 13 Ditch headworks**

PARAMETER	Flow	Specific Conductance	Temperature	Total Selenium
DATA SOURCE	GWD	USBR	GWD	USBR
UNITS	cfs	µS/cm	°C	µg/L
Oct-06-2014				
Oct-13-2014	196	681	21.1	<0.4
Oct-20-2014	137	754	20.4	0.5
Oct-27-2014	45	870	17.2	0.9
Nov-03-2014	95	807	16.6	0.6
Nov-10-2014	110	707	17.6	<0.4
Nov-17-2010				
Nov-24-2014	65	931	13.9	1.0
Dec-02-2014	100	855	13.5	<0.4
Dec-08-2014	88	869	15.0	1.3
Dec-15-2014	84	813	12.3	1.1
Dec-23-2014	21	837	13.7	0.8
Dec-29-2014				

Notes:

Samples only collected when flow is passing site. Flow of less than 20 cfs does not reach Site C.

**Table 7b. Water quality monitoring in Grasslands Wetlands Water Supply Channels
Station K2 Agatha Canal headworks**

PARAMETER	Flow	Specific Conductance	Temperature	Total Selenium
DATA SOURCE	GWD	USBR	GWD	USBR
UNITS	cfs	µS/cm	°C	µg/L
Oct-06-2014				
Oct-13-2014	196	695	21.1	0.4
Oct-20-2014	136	780	20.4	<0.4
Oct-27-2014	45	845	17.2	0.4
Nov-03-2014	95	819	16.6	0.5
Nov-10-2014	110	717	17.6	<0.4
Nov-17-2010				
Nov-24-2014	65	846	13.9	<0.4
Dec-02-2014	100	875	13.5	0.8
Dec-08-2014	88	893	15.0	1.1
Dec-15-2014	84	813	12.3	1.0
Dec-23-2014	21	807	13.7	0.4
Dec-29-2014				

Notes:

Samples only collected when flow is passing site. Flow of less than 20 cfs does not reach Site C.

Table 8a. Water monitoring in the San Joaquin River above Merced River Station H2

PARAMETER	Flow	Temperature	Specific Conductance
DATA SOURCE	USGS	USGS	USGS
UNITS	cfs	°C	µS/cm
Dec-01-2014	93	11.7	1,750
Dec-02-2014	98	11.9	1,810
Dec-03-2014	109	13.0	1,800
Dec-04-2014	118	14.5	1,860
Dec-05-2014	119	14.6	2,210
Dec-06-2014	125	15.0	2,840
Dec-07-2014	138	14.9	2,900
Dec-08-2014	130	14.5	2,550
Dec-09-2014	114	14.0	2,200
Dec-10-2014	98	13.6	2,100
Dec-11-2014	112	13.3	1,860
Dec-12-2014	227	12.9	1,540
Dec-13-2014	322	12.3	1,500
Dec-14-2014	410	11.6	1,800
Dec-15-2014	493	11.1	1,810
Dec-16-2014	592	11.3	1,710
Dec-17-2014	623	12.0	1,720
Dec-18-2014	605	12.5	1,800
Dec-19-2014	571	12.2	1,730
Dec-20-2014	540	12.3	1,620
Dec-21-2014	517	13.0	1,680
Dec-22-2014	484	13.6	1,660
Dec-23-2014	453	13.5	1,660
Dec-24-2014	419	13.1	1,680
Dec-25-2014	393	11.1	1,720
Dec-26-2014	360	9.5	1,790
Dec-27-2014	330	8.9	1,840
Dec-28-2014	307	9.0	1,860
Dec-29-2014	286	9.0	1,890
Dec-30-2014	266	8.7	1,910
Dec-31-2014	249	6.6	1,880

Notes:

See Table 19 for explanation of footnotes and agency abbreviations.
Preliminary Data

Table 8b. Monthly Averages

PARAMETER	Flow	Temperature	Specific Conductance
DATA SOURCE	Calculated	USGS	USGS
UNITS	acre-feet	°C	µS/cm
January	11,780	13	2,600
February	12,100	14	2,580
March	13,040	17	2,680
April	10,030	20	2,590
May	4,100	23	3,170
June	2,250	25	3,200
July	1,570	27	2,390
August	1,530	26	1,940
September	1,580	24	1,800
October	3,160	19	2,070
November	4,580	14	2,160
December	19,240	12	1,890

Table 9. Water quality monitoring in the San Joaquin River above Merced River at China Island Refuge Station R

PARAMETER	Physicals					Total Selenium	Total Boron	Total Molybdenum
	Dissolved Oxygen	pH	Specific Conductance	Temperature	Turbidity			
	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE			
UNITS	mg/L	units	µS/cm	°C	NTU	ug/L	mg/L	ug/L
Oct-03-2014								
Oct-10-2014	17.9	8.1	240	23.8	14.1	< 0.4	1.0	
Oct-17-2014		8.1	1,830	20.8	29.9	< 0.4	0.6	
Oct-24-2014								
Oct-31-2014	10.1	8.0	2,430	16.9	10.8	< 0.4	1.7	13
Nov-07-2014	14.3	8.5	2,830	16.5	22.9	3.1	3.5	
Nov-14-2014	9.5	7.9	1,920	16.7	47.1	0.7	1.6	
Nov-21-2014								
Nov-28-2014	11.3	7.9	1,960	12.0	22.3	0.6	1.8	
Dec-05-2014								
Dec-12-2014								
Dec-16-2014								
Dec-23-2014								
Dec-30-2014	9.0	7.6	2,580	8.3	14.3	3.2	2.4	

Notes:

	Nutrients				
	Nitrates as N (Dissolved)	Total ammonia	Total Kjeldahl Nitrogen	Total phosphorous	Ortho-phosphate as P
	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE
UNITS	mg/L	mg/L	mg/L	mg/L	mg/L
Jan-09-2014	0.16	0.098	0.85	0.16V	0.054 T
Feb-27-2014					
Mar-26-2014	0.05	0.110	2.00	0.53 T	0.150
Apr-25-2014					
May-08-2014	<0.01	0.051	1.00	0.20 T	<0.010
Jun-26-2014	<1.00	<0.50	1.60	0.30	<0.050
Aug-01-2014					
Sep-04-2015	<0.01	0.08	0.78	0.17 T	0.052 T
Oct-31-2014	<0.40	<0.50	0.55	0.49	<1.00
Nov-30-2014					
Dec-16-2014					

Notes: No nutrients, general minerals or total minerals collected at Site R in February due to unsafe site conditions

Results of the Interim Monitoring Program Oct 2013 - Feb 2014

	General Minerals							
	Calcium	Magnesium	Potassium	Sodium	Chloride (Dissolved)	Sulfate (Dissolved)	Total Organic Carbon	Total Dissolved Solids
	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE
UNITS	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	Units	mg/L
Jan-09-2014	91	59	5.1	310	430	430	NA	NA
Feb-27-2014								

Notes: No nutrients, general minerals or total minerals collected at Site R in February due to unsafe site conditions

	Total Metals									
	Arsenic	Boron	Cadmium	Copper	Lead	Mercury	Molybdenum	Nickel	Zinc	
	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE	DATA SOURCE	
UNITS	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
Jan-09-2014	<5.0	1,800	<1.0	23	<2.5	<100	12	<10	<5.0	
Feb-27-2014										

Notes: No nutrients, general minerals or total minerals collected at Site R in February due to unsafe site conditions

Table 10a. Water monitoring in the San Joaquin River at Fremont Ford (Station G)

PARAMETER	Flow	Temperature	Specific Conductance
DATA SOURCE	USGS	USGS	USGS
UNITS	cfs	°C	µS/cm
Dec-01-2014	82	11.7	1,490
Dec-02-2014	83	11.9	1,510
Dec-03-2014	85	13.1	1,530
Dec-04-2014	89	14.5	1,520
Dec-05-2014	90	14.6	1,480
Dec-06-2014	86	15.0	1,560
Dec-07-2014	82	14.6	1,590
Dec-08-2014	77	14.4	1,660
Dec-09-2014	73	13.8	1,680
Dec-10-2014	66	13.5	1,730
Dec-11-2014	71	13.1	1,750
Dec-12-2014	109	12.8	1,550
Dec-13-2014	112	12.5	1,640
Dec-14-2014	154	11.6	1,540
Dec-15-2014	229	11.2	1,480
Dec-16-2014	292	11.4	1,500
Dec-17-2014	295	12.1	1,590
Dec-18-2014	281	12.4	1,600
Dec-19-2014	258	12.0	1,620
Dec-20-2014	238	12.3	1,740
Dec-21-2014	217	13.1	1,880
Dec-22-2014	191	13.6	1,950
Dec-23-2014	191	13.5	1,970
Dec-24-2014	158	13.0	2,030
Dec-25-2014	147	10.8	2,060
Dec-26-2014	130	9.3	2,160
Dec-27-2014	117	8.8	2,130
Dec-28-2014	108	9.1	2,090
Dec-29-2014	101	9.2	2,190
Dec-30-2014	96	9.0	2,280
Dec-31-2014	93	6.8	2,370

Notes:

See Table 19 for explanation of footnotes and agency abbreviations.
Preliminary Data

Table 10b. Monthly Averages

PARAMETER	Flow	Temperature	Specific Conductance
DATA SOURCE	Calculated	USGS	USGS
UNITS	acre-feet	°C	µS/cm
January	6,310	10	1,990
February	6,040	14	2,150
March	6,900	17	2,270
April	6,670	20	2,230
May	2,770	23	2,310
June		25	2,040
July		27	1,580
August	2,020	26	1,220
September	1,810	24	1,670
October	1,840	19	1,960
November	3,820	14	1,470
December	8,730	12	1,770

Table 11a. Water monitoring in the San Joaquin River at Crows Landing (Station N)

PARAMETER	Flow	Temperature	Specific Conductance	Total Selenium
DATA SOURCE	USGS	USGS	USGS	USBR
UNITS	cfs	°C	µS/cm	µg/L
Dec-01-2014	312	12.1	880	< 0.4
Dec-02-2014	332	12.3	890	< 0.4
Dec-03-2014	340	13.0	920	< 0.4
Dec-04-2014	349	14.4	970	< 0.4
Dec-05-2014	354	14.7	1,050	0.4
Dec-06-2014	357	14.9	1,280	0.9
Dec-07-2014	363	15.0	1,570	1.8
Dec-08-2014	381	14.6	1,460	1.7
Dec-09-2014	366	14.1	1,280	1.7
Dec-10-2014	346	13.9	1,140	0.9
Dec-11-2014	354	13.5	1,070	0.7
Dec-12-2014	570	13.0	880	< 0.4
Dec-13-2014	616	12.4	930	0.4
Dec-14-2014	690	11.7	980	0.6
Dec-15-2014	756	11.2	1,110	0.9
Dec-16-2014	955	11.3	1,160	1.2
Dec-17-2014	1014	12.0	1,160	1.5
Dec-18-2014	956	12.4	1,240	1.8
Dec-19-2014	917	12.3	1,290	2.0
Dec-20-2014	864	12.4	1,370	2.2
Dec-21-2014	826	13.0	1,470	2.3
Dec-22-2014	792	13.6	1,550	2.2
Dec-23-2014	757	13.4	1,570	2.0
Dec-24-2014	719	13.0	1,580	2.1
Dec-25-2014	687	11.4	1,590	2.1
Dec-26-2014	650	9.8	1,610	2.0
Dec-27-2014	612	9.2	1,620	2.3
Dec-28-2014	579	9.2	1,640	2.1
Dec-29-2014	551	9.2	1,640	2.0
Dec-30-2014	526	9.0	1,640	2.1
Dec-31-2014	497	6.9	1,640	1.8

Notes:

Preliminary Data

11b. Monthly Averages

PARAMETER	Flow	Temperature	Specific Conductance	Selenium
DATA SOURCE	Calculated	Calculated	Calculated	Calculated
UNITS	acre-feet	°C	µS/cm	µg/L
January	22,200	10	1,620	0.7
February	22,450	13	1,760	1.3
March	22,480	17	2,180	1.1
April	11,060	20	1,710	0.5
May	21,700	17	2,110	1.1
June	6,040	25	1,880	0.8
July	4,200	27	1,700	0.8
August	4,080	25	1,500	0.6
September	5,560	24	1,320	0.5
October	14,580	19	1,170	0.4
November	21,500	14	784	0.7
December	36,470	12	1,300	1.6

Table 11c. Water quality monitoring in the San Joaquin River at Crows Landing (Station N)

PARAMETER	Physicals					Selenium	Boron	Molybdenum
	Dissolved Oxygen	pH	Specific Conductance	Temperature	Turbidity			
DATA SOURCE	USBR	USBR	USBR	USBR	USBR	USBR	USBR	USBR
UNITS	mg/L	units	µS/cm	°C	NTU	µg/L	mg/L	mg/L
Oct-03-2014	12.2	7.8	1,360	20.7		< 0.4	0.5	
Oct-10-2014	13.7	7.8	1,110	21.7	17.6	< 0.4	0.4	
Oct-17-2014		8.0	1,540	19.4	13.5	< 0.4	0.5	
Nov-07-2014	10.5	8.5	818	16.3	12.0	0.7	0.8	
Nov-14-2014	9.0	7.8	796	16.4	8.8	0.6	0.5	
Nov-21-2014	9.3	7.8	859	13.7	7.5	< 0.4	0.6	
Nov-28-2014	10.9	7.8	926	12.1	4.9	< 0.4	0.7	
Dec-05-2014	7.8	7.7	1,060	14.6	13.7	0.5	0.9	
Dec-12-2014		7.6	833	13.1	159	< 0.4	0.5	
Dec-23-2014		7.7	1,660	13.3	23.8	1.9	1.8	
Dec-30-2014	10.9	7.8	1,710	9.0	12.8	2.0	2.7	

Notes:

Table 12. Summary of fathead minnow (*Pimephales promelas*) larvae survival in 7-day tests using water samples collected from March 2014 to March 2016. Each value is the mean of 4 replicates with 10 fish in each replicate.

See Table 19 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-2014	90	93	98	93	73 ^a	95
Jun-2014	95	98	88	98	95	95
Sep-2014	5*	95	98	88*	100	93
Dec-2014						
Mar-2015						
Jun-2015						
Sep-2015						
Mar-2016						

Table 13. Summary of fathead minnow (*Pimephales promelas*) larvae growth in 7-day tests using water samples collected from March 2014 to March 2016. Each value is the mean of 4 replicates with 10 fish in each replicate.

See Table 19 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-2014	0.84	0.70	0.78	0.68	0.74	0.74
Jun-2014	0.67	0.62	0.75	0.83	0.62	0.67
Sep-2014	0.01*	0.65	0.58	0.63	0.61	0.58
Dec-2014						
Mar-2015						
Jun-2015						
Sep-2015						
Mar-2016						

Table 14. Summary of *Daphnia magna* survival in 7-day tests using water samples collected from March 2014 to March 2016. Each value is the mean of 10 replicates with 1 animal in each replicate.

See Table 19 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-2014	100	90	100	100	100	100
Jun-2014	100	100	90	20*	90	80
Sep-2014	0*	100	100	100	100	100
Dec-2014						
Mar-2015						
Jun-2015						
Sep-2015						
Mar-2016						

Evaluation of the Toxicity of Grasslands Bypass Project Ambient Water Samples for the samples that were collected in September 2014.

Chronic Toxicity of Grasslands Bypass Project Ambient Water to *Selenastrum capricornutum*

There were significant reductions in algal growth in the Site B sample. However, it is important to note that there was also a significant reduction in algal growth in the conductivity control, which suggests that the elevated conductivity (ranging between 13,000-14,000 $\mu\text{S}/\text{cm}$) alone can cause a reduction in algal growth. There were no significant reductions in algal growth in any of the other Grasslands Bypass Project ambient water samples.

Chronic Toxicity of Grasslands Bypass Project Ambient Water to *Daphnia magna*

There was a significant reduction in *D. magna* survival and reproduction in the Site B sample. However, it is important to note that there were also significant reductions in survival and reproduction in the conductivity control, which suggests that the elevated conductivity (ranging between 13,000-14,000 $\mu\text{S}/\text{cm}$) alone can cause a reduction in *D. magna* survival and reproduction. There were no significant reductions in survival or reproduction in any of the other Grasslands Bypass Project ambient water samples.

Chronic Toxicity of Grasslands Bypass Project Ambient Water to Fathead Minnows

There were significant reductions in fathead minnow survival in the Site B and F samples. There was a significant reduction in growth in the site B sample. There were no significant reductions in survival or growth in any of the other Grasslands Bypass Project ambient water samples.

Table 15. Summary of *Daphnia magna* reproduction in 7-day tests using water samples collected from March 2014 to March 2016. Each value is the mean of 10 replicates with 1 animal in each replicate.

See Table 19 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-2014	67.4*	72.3	86.9	88.8	85.0	82.9
Jun-2014	72.4	88.1	53.1*	41.7*	68.8	61.3
Sep-2014	0*	17.9	16.6	23.2	21.3	16.1
Dec-2014						
Mar-2015						
Jun-2015						
Sep-2015						
Mar-2016						

Table 16. Summary of *Selenastrum capricornutum* growth in 4-day tests using water samples collected from March 2014 to March 2016. Each value is the mean of 4 replicates.

See Table 19 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-2014	4.2*	7.2	7.9	7.7 ^a	7.3	4.1
Jun-2014	2.2*		2.8*	5.4*	6.2	4.2
Sep-2014		5.5	4.8	6.0	4.9	2.8
Dec-2014						
Mar-2015						
Jun-2015						
Sep-2015						
Mar-2016						

Table 17. Summary of selenium concentrations in grab water samples collected at study stations for use in laboratory toxicity tests

See Table 19 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
17-Mar-14	18	< 0.8	1.3	0.5	< 0.4
19-Mar-14	18	< 0.8	1.5	0.5	< 0.4
21-Mar-14	18	< 0.8	1.7	0.4	< 0.4
9-Jun-14	16	< 0.8	7.2	< 0.4	< 0.4
11-Jun-14	15	< 0.8	3.3	< 0.4	< 0.4
13-Jun-14	15	< 0.8	11	< 0.4	< 0.4
15-Sep-14	8	< 0.4	< 0.8	< 0.4	< 0.4
17-Sep-14	8	< 0.4	< 0.8	< 0.4	< 0.4
19-Sep-14	10	< 0.4	< 0.8	< 0.4	< 0.4
Dec-2014					
Mar-2015					
Jun-2015					
Sep-2015					
Mar-2016					

Table 18. Summary of total suspended solids concentrations in grab water samples collected at study stations for use in laboratory toxicity tests

See Table 19 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
17-Mar-14	87 **	61	79	60	6.0
19-Mar-14	< 5.0 T,V **	69 T,V	62 T,V	62 T,V	5.8 T,V
21-Mar-14	46	64	59	58	6.0
9-Jun-14	50 T	58 T	31 T	24 T	<0.5 T
11-Jun-14	51 T	49	16 T	110	23.0
13-Jun-14	47	39	57	<0.5 T	<0.5 T
15-Sep-14	57 T	8.3 T	9.5 T	26 T	<0.5 T
17-Sep-14	95 T	<5.0 T	14 T	26 T	<0.5 T
19-Sep-14	36	7.0	6.0	34	<0.5
Dec-2014					
Mar-2015					
Jun-2015					
Sep-2015					
Mar-2016					

Table 19. Explanations of footnotes and agency abbreviations.

Agency	
CVRWQCB	California Regional Water Quality Control Board, Central Valley Region
GWD	Grasslands Water District
SLDMWA	San Luis & Delta-Mendota Water Authority
USBR	U.S. Bureau of Reclamation
USGS	U.S. Geological Survey
WSJRWC	Westside San Joaquin River Watershed Coalition (WSJRWC)
Water Quality Monitoring	
e	Estimated value
.	Not applicable
<	Less than MDL
D	Sample was dechlorinated
G	Data from records of the Grassland Water District.
H	Result may have high bias
J	Result is between the MDL and RL
L	Result may have low bias
MDL	Minimum detection level
	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
RL	Reporting level
T	Result obtained past the holding time
U	Result determined to be an outlier at the time of data validation
V	Result may vary excessively from the true value
UA3	Use Agreement for Continued Use of the San Luis Drain January 2010 - December 2019
Toxicity	
*	Significantly reduced from Delta Mendota Canal ($p < 0.05$)
**	Sample re-analyzed and result confirmed.
L	Result may be biased low. Sample was not preserved in the field
†	DMC water failed to meet the survival (>80%) acceptability criteria.
†††	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 $0.4 \mu\text{g/L}$ as of June 1998.
v	Based on definitive bioassay, NOEC is 50 percent
a	The growth response for one of the replicates at this test treatment was determined