



May 31, 2005

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Sacramento, CA 95825-1898

Rudy Schnagl
Central Valley Regional Water Quality Control Board
11020 Sun Center Drive, Suite 200
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Subject: Grassland Bypass Project Floodwaters Report

Dear Kirk and Rudy:

As I indicated in my April 13, 2005 letter, October 2004 through March of 2005 have been extremely high rainfall months within the Grassland Drainage Area. The early storms that saturated the soil profile, along with a continued succession of rainfall events into February, never allowed recovery of drainage flows to manageable levels. This resulted in flows that exceeded the capacity of the Grassland Bypass Channel, and the Project was forced to make discharges through the Grassland Water District for a period of 7 days (February 16 to February 22). In addition, the preliminary calculation of discharges from the Grassland Bypass Project indicates that the monthly load limits were exceeded in January, February and March, 2005. We have prepared a technical report, copy attached, to document the occurrences during this period.

This report serves several purposes. First of all, it documents the discharges of drainage water that were made to the grassland channels including the water quality monitoring that was implemented.

Secondly, provision E-6 of the Waste Discharge Requirements No. 5-01-234 provides for "In the event floodwaters enter the Grassland Drainage Area the Discharger has the option of monitoring the situation and preparing a technical report showing how much of the selenium discharged came from sources outside of the control of the Discharger."

Thirdly we are requesting a declaration that the high selenium loads that we experienced this winter and spring fall under the definition of "Unforeseeable and Uncontrollable Events" (UU) as defined in the Use Agreement (Agreement No. 01-WC-20-2075) paragraph I.P. In 1997 and 1998, the last time drainage discharges were diverted into grassland channels, there was considerable debate over their classification as UU events. Since that time we have demonstrated the determination and ability to comply with

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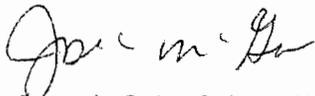
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selenium load targets. This is evidenced by the fact that since October of 1999 the monthly selenium load targets have been met in every month with the exception of a 9 pound (1%) exceedence in March of 2004 (50 of 51 months) and the annual loads have been met in every year (4 consecutive years). The data clearly indicate that the January, February, and March 2005 selenium load exceedances were outside the control of the Grassland Basin Drainers.

Due to the unquestionable commitment of the Grassland Basin Drainers to minimize selenium discharges from the region and despite continuing influences from the extremely high rainfall, our data indicates that loads have been met in April and will be met in May and for the remainder of the year. This extraordinary effort will put us below our annual load target.

Given the uncontrollable nature of the rain induced discharges that occurred in January through March of 2005, the fact that the continued succession of storms could not reasonably be anticipated, and the injustice of imposing penalties for unpreventable events, the exceedances occurring in January, February and March of 2005 should be declared "Unforeseeable and Uncontrollable".

Very truly yours,



Joseph C. McGahan, Watershed Coordinator, Grassland Basin Drainers

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Grassland Bypass Project Storm Event Operations during Winter 2004/2005

Submitted by the Grassland Area Farmers
May 31, 2005

A string of storms, beginning in October 2004 and continuing through April 2005, dropped over twelve inches of rain on the Grassland Drainage Area. This is more than twice the rainfall received the previous year and 150% of the average. Table 1 summarizes the total monthly rainfall measured at Panoche Drainage District as well as the average rainfall for that month (from 1950 to 1999).

Table 1 – Panoche Drainage District Rainfall

Month	1950-99 Average (in)	2004/05 Rainfall (in)
October 2004	0.4	2.57
November	0.9	0.86
December	1.1	2.21
January 2005	1.6	1.81
February	1.4	2.57
March	1.2	1.52
April	0.6	0.99
May	0.2	0.34
June	0.1	
July	0	
August	0	
September	0.2	
Total	7.8	12.87

Source: Panoche Drainage District Rain Gage

Rainfall events in October 2004 caused a 20 cfs jump in flows in the San Luis Drain and forced the Grassland Area Farmers to turn off any accessible sumps until flows subsided. Storms continued to pass through the Grassland Drainage Area through January, with precipitation occurring on 41 of the 86 days from October 17, 2004 through January 11, 2005. The longest period without precipitation during those 86 days was 10 days (November 28th through December 6th). This recurring string of storms created saturated soil conditions throughout the Grassland Drainage Area.

During the period from February 14th through the 16th, 1.6” of rain fell on the Grassland Drainage Area. Rainfall continued to accumulate through the end of February, for a total monthly precipitation of 2.57”. Flow at the inlet to the San Luis Drain (Site A) increased from 47 cfs on Monday, February 14th to 81 cfs on the morning of the 16th (Wednesday). The Grassland Area Farmers shut off sumps that were accessible and notified affected parties (including Grassland Water District, Fish and Game, and the U.S. Fish and Wildlife Service) in accordance with “A Storm Event Plan For Operating the Grassland Bypass Project” dated

August 25, 1997 that drainage diversions into the wetland channels were possible. By 8 pm on Wednesday, February 16, flow at Site A had increased to 151 cfs and the gate to the Agatha Canal was opened to divert drainage through the wetland channels and the storm water sampling program was initiated. Flow at Site A peaked at 159 cfs Wednesday night. By Tuesday, February 22nd, flow at Site A had dropped to 75 cfs and the Agatha gate was closed. Water samples were collected at Salt Slough (at Lander Avenue) starting February 17th and the Agatha Canal (at Mallard Road) starting February 16th, and continued through March 2nd. Additional samples were collected from the Camp 13 Ditch (even though no flow was discharged through Camp 13 Ditch), the San Luis Canal at the Splits, and the Santa Fe Canal at the Splits, starting February 25th and terminating on March 2nd. Samples were analyzed for electrical conductivity, pH, boron, molybdenum, and selenium. With the exception of the Agatha Canal, the selenium results for all channels during the sampled period were less than 5 µg/L, and in most cases were less than 4 µg/L. Table 2 shows the flow and selenium load discharged to the Agatha Canal and Table 3 shows the water quality analyses taken during and after this period. Additionally, the monthly average selenium concentration for January 2005 was 1.24 µg/L and for February 2005 was 2.13 µg/L (see Table 4). This is well below the current applicable basin plan performance goal of 5 µg/L monthly mean. Furthermore, the four-day running average selenium concentration in the San Joaquin River at Crows landing for the period of January 18 through March 3rd 2005 remained at or below 3.13 µg/L (See Table 4). These numbers are well below the long term selenium water quality objective of 5 µg/L 4-day average.

Table 2

GRASSLAND AREA FARMERS FLOOD FLOWS INTO THE AGATHA CANAL

FEBRUARY 2005

DATE	FLOW AF	Selenium		Boron		EC umhos/cm	EC Tons	pH	Mo ug/L
		PPM	Lbs.	PPM	Lbs.				
2/15/2005	0	0	0	0	0	0	0	0	0
2/16/2005	7	0.00346	0.1	3.30	66	1940	20	7.2	12.8
2/17/2005	75	0.00451	0.9	4.44	909	2580	264	7.0	18.4
2/18/2005	50	0.00350	0.5	3.08	414	1860	125	7.2	11.3
2/19/2005	44	0.02650	3.1	6.57	779	3410	202	7.2	22.8
2/20/2005	40	0.03990	4.3	7.50	807	4220	227	7.2	21.7
2/21/2005	40	0.04380	4.7	8.14	876	4650	250	7.3	24.4
2/22/2005	14	0.00369	0.1	5.22	196	2740	51	7.2	19.2
2/23/2005	0	0.04440	0.0	9.48	0	5060	0	7.6	36.4
TOTAL	269		13.8		4,047		1,139		

Source: Flow - Grassland Water District.

Quality - See Table 3

TABLE 3

Salt Slough at Lander Avenue							Agatha Canal at Mallard Road							
EC	pH	Boron	Molybdenum	Selenium	EC	pH	Boron	Molybdenum	Selenium	EC	pH	Boron	Molybdenum	Selenium
(µmhos/cm)		(mg/L)	(µg/L)	(µg/L)	(µmhos/cm)		(mg/L)	(µg/L)	(µg/L)	(µmhos/cm)		(mg/L)	(µg/L)	(µg/L)
2/17/2005	1400	7.1	0.85	8.05	0.828	1940	7.2	3.3	12.8	3.46				
2/18/2005	1350	7	0.885	7.28	0.744	2580	7	4.44	18.4	4.51				
2/19/2005	1400	7.1	0.995	7.7	1.01	1860	7.2	3.05	11.3	3.5				
2/20/2005	1470	7.1	1.14	8.28	1.41	3410	7.2	6.57	22.8	26.5				
2/21/2005	1570	7.2	1.22	9.15	2.31	4220	7.2	7.5	21.7	39.9				
2/22/2005	1660	7.2	1.3	11.3	1.82	4650	7.3	8.14	24.4	43.8				
2/23/2005	1740	7.3	1.27	10	1.55	2740	7.2	5.22	19.2	3.69				
2/24/2005	1700	7.3	1.08	10	1.58	5060	7.6	9.48	36.4	44.4				
2/25/2005	1750	7.4	1.1	9.43	1.34	3420	7.4	6.1	18.8	24.8				
2/26/2005	1750	7.3	1.12	9.32	1.14	3420	7.4	6.11	20.2	24.2				
2/27/2005	1710	7.4	1.08	9.68	1.73	3110	7.4	5.58	16.8	18.6				
2/28/2005	1680	7.4	1.04	9.2	1.68	3030	7.3	5.38	13.3	14.8				
3/1/2005	1500	7.4	0.88	8.45	1.86	4120	7.6	9	31.5	9.27				
3/2/2005	1520	7.4	0.95	8.77	1.72	2270	7.4	3.7	6.68	5.1				
						2020	7.5	3.27	4.85	2.83				

Camp 13 Ditch							San Luis Canal at Splits							
EC	pH	Boron	Molybdenum	Selenium	EC	pH	Boron	Molybdenum	Selenium	EC	pH	Boron	Molybdenum	Selenium
(µmhos/cm)		(mg/L)	(µg/L)	(µg/L)	(µmhos/cm)		(mg/L)	(µg/L)	(µg/L)	(µmhos/cm)		(mg/L)	(µg/L)	(µg/L)
2/25/2005	1010	7.6	0.92	2.83	2.9	2160	7.8	2.74	5.55	3.49				
2/26/2005	1040	7.4	0.99	5.28	3.86	2160	7.8	2.85	6.02	3.32				
2/27/2005	1040	7.4	0.98	2.9	3.82	2070	7.8	2.49	10.3	3.57				
2/28/2005	839	7.7	0.705	1.75	2.46	1230	7.4	1.34	5.08	2.2				
3/1/2005	880	7.5	0.795	2.9	1.77	1720	7.7	1.8	5.4	3.64				
3/2/2005	925	7.5	0.855	2.1	1.97	1660	7.7	1.61	7.8	4.03				

Santa Fe Canal at Splits						
EC	pH	Boron	Molybdenum	Selenium	EC	pH
(µmhos/cm)		(mg/L)	(µg/L)	(µg/L)	(µmhos/cm)	
2/25/2005	2010	7.4	2.4	9.3	2.44	
2/26/2005	2060	7.4	2.51	10.3	1.32	
2/27/2005	2020	7.3	2.4	10.4	1.38	
2/28/2005	1860	7.5	1.92	7.88	1.7	
3/1/2005	1940	7.5	2.25	11.2	1.66	
3/2/2005	2280	7.5	2.82	14.3	1.86	

Source: Samples taken by the Grassland Area Farmers and analyzed by South Dakota State University.

Table 4: San Joaquin River at Crows Landing (Site N)
 Available Data January 2005 through March 2005
 Source: RWQCB (Site Code STC504S)

Site Code	Date	Lab EC (μ mhos/cm)	Boron (mg/L)	Se (μ g/L)	Se 4-Day Average (μ g/L)	Se Monthly Average (μ g/L)	Disch'd to Agatha Canal
STC504S	1/12/2005	NA	NA	NA	NA		
STC504S	1/15/2005	400	0.26	0.6			
STC504S	1/16/2005	478	0.31	0.6			
STC504S	1/17/2005	568	0.36	0.7			
STC504S	1/18/2005	622	0.38	0.8	0.68		
STC504S	1/19/2005	654	0.44	0.9	0.75		
STC504S	1/20/2005	701	0.50	1.0	0.85		
STC504S	1/21/2005	739	0.51	1.1	0.95		
STC504S	1/22/2005	773	0.52	1.3	1.08		
STC504S	1/23/2005	833	0.55	1.3	1.18		
STC504S	1/24/2005	952	0.68	1.5	1.30		
STC504S	1/25/2005	1070	0.75	1.5	1.40		
STC504S	1/26/2005	1140	0.66	1.8	1.53		
STC504S	1/27/2005	1200	0.81	2.1	1.73		
STC504S	1/28/2005	1090	0.71	1.7	1.78		
STC504S	1/29/2005	745	0.50	1.8	1.85		
STC504S	1/30/2005	617	0.40	1.1	1.68		
STC504S	1/31/2005	687	0.45	1.3	1.48	1.24	
STC504S	2/1/2005	839	0.56	1.5	1.43		
STC504S	2/2/2005	962	0.73	1.7	1.40		
STC504S	2/3/2005	1040	0.67	1.5	1.50		
STC504S	2/4/2005	1120	0.68	1.9	1.65		
STC504S	2/5/2005	1200	0.81	2.3	1.85		
STC504S	2/6/2005	1240	0.86	2.4	2.03		
STC504S	2/7/2005	1260	0.77	2.3	2.23		
STC504S	2/8/2005	1310	0.89	2.2	2.30		
STC504S	2/9/2005	1360	0.91	2.1	2.25		
STC504S	2/10/2005	1380	1.0	2.3	2.23		
STC504S	2/11/2005	1420	1.1	2.5	2.28		
STC504S	2/12/2005	1470	1.0	2.9	2.45		
STC504S	2/13/2005	1490	1.0	2.9	2.65		
STC504S	2/14/2005	1450	0.98	3.1	2.85		
STC504S	2/15/2005	1550	1.1	3.6	3.13		
STC504S	2/16/2005	1210	0.80	2.4	3.00		x
STC504S	2/17/2005	1080	0.79	2.1	2.80		x
STC504S	2/18/2005	793	0.61	2.0	2.53		x
STC504S	2/19/2005	778	0.51	1.8	2.08		x
STC504S	2/20/2005	716	0.49	1.1	1.75		x
STC504S	2/21/2005	666	0.48	1.3	1.55		x
STC504S	2/22/2005	747	0.54	1.4	1.40		x
STC504S	2/23/2005	833	0.61	1.5	1.33		
STC504S	2/24/2005	914	0.78	1.4	1.40		
STC504S	2/25/2005	987	0.82	1.9	1.55		
STC504S	2/26/2005	1090	0.91	2.2	1.75		
STC504S	2/27/2005	1170	1.0	2.5	2.00		
STC504S	2/28/2005	1240	1.1	2.9	2.38	2.13	
STC504S	3/1/2005	1250	1.0	3.1	2.68		
STC504S	3/2/2005	1090	0.79	2.8	2.83		
STC504S	3/3/2005	1030	0.80	2.8	2.90		
STC504S	3/4/2005	NA	NA	NA	NA		

In addition to the drainage discharge, rainfall in the coastal range watershed caused Panoche/Silver Creek to run frequently from January through March, 2005. Table 5 shows the total monthly discharge and peak flow of Panoche/Silver Creek during this period. On two occasions, flood waters from Panoche/Silver Creek were diverted into Firebaugh Canal Water District's Third Lift Canal. Although this water was diverted south to the Mendota Pool, rather than discharged through the Grassland Bypass, the ponding likely contributed to increased sump flows.

Table 5: Panoche/Silver Creek Discharge

Month	Peak Flow (cfs)	Total Discharge (AF)
January	91	1107
February	238	1343
March	64	306

Source: USGS Gaging Station at Panoche Creek and I-5

An analysis has been performed to determine the impact of rainfall and applied irrigation water on drainage discharge for January, February, and March of 2005. Available data for applied water and drainage discharges from Panoche Drainage District are shown in Table 6, below.

Table 6: Applied Water and Drainage Discharge for Panoche Drainage District.

	2004		2005		% Increase in Discharge	% Decrease in Applied Water
	Drainage Discharge (AF)	Applied Water (AF)	Drainage Discharge (AF)	Applied Water (AF)		
January	702	5,209	2,912	2,703	315%	48%
February	1,696	5,869	2,454	3,829	45%	35%
March	1,304	4,707	2,275	2,608	74%	45%

Source: Panoche Drainage District

It is apparent from Table 6 that the increase in drainage production from Panoche Drainage District is caused entirely by the 5.9" of rainfall that occurred during these three months, as well as by the 5.64" that fell in the earlier months. Panoche Drainage District is one of the seven districts within the Grassland Drainage Area, and is approximately 40% of the total area. Although data for other districts is not presented here, results are likely similar.

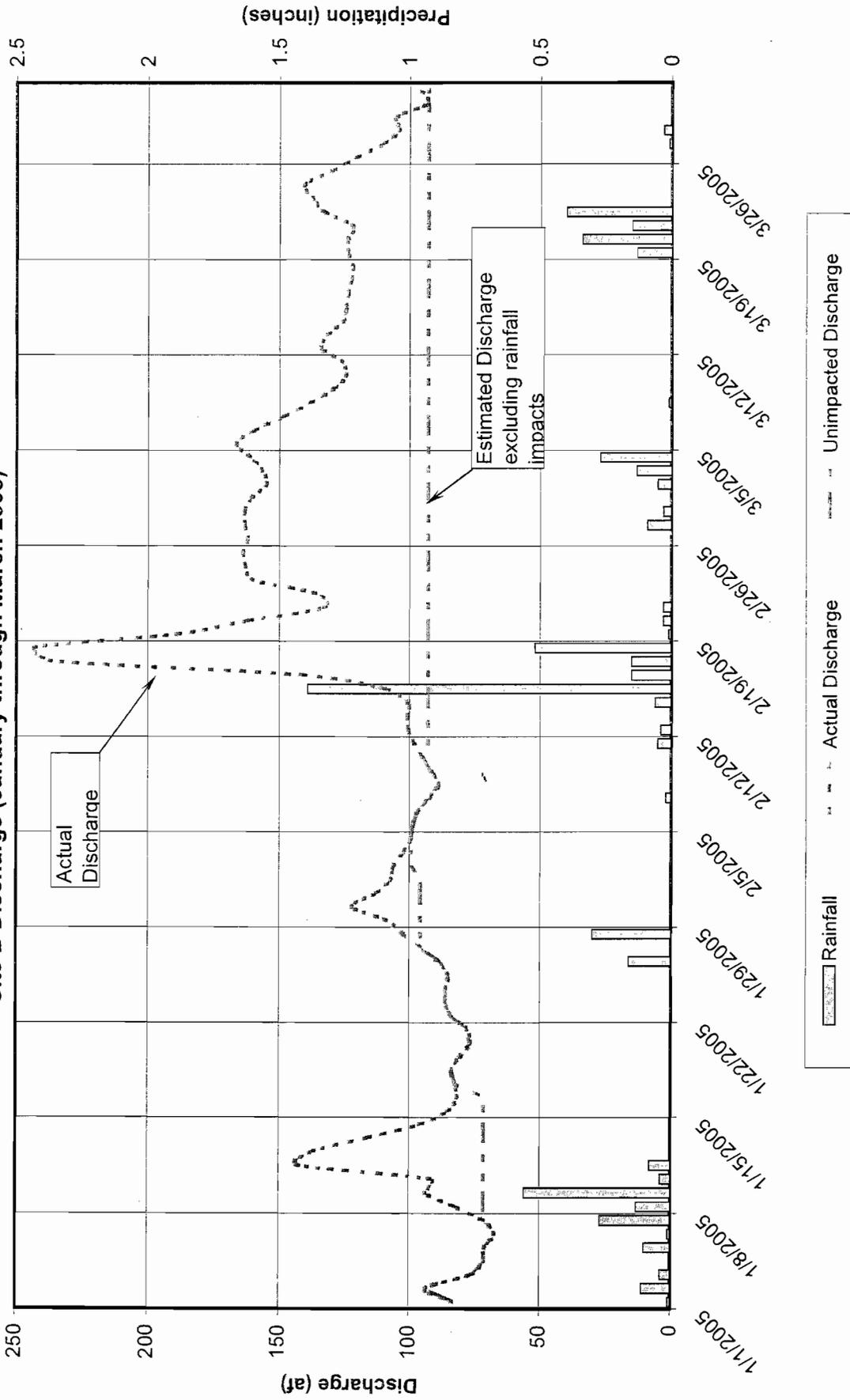
A graphical analysis was performed on the outlet of the San Luis Drain (Site B) to estimate the discharge volume that is caused by rainfall. This is shown in Figure 1. It is estimated that the rainfall contributed 2,600 acre feet and more than 650 pounds of selenium to the drainage discharge. An additional 270 acre feet and 13 pounds of selenium were discharged into the wetlands through the Agatha Canal (Table 2). The estimated rainfall impact includes the drainage volume increase cause by rain, but does not include any drainage reduction that might have occurred through drainage management activities (such as reuse and recirculation). The amount of management activities implemented, and their impact are dependent on a variety of factors including weather conditions and the amount of irrigation deliveries. Table 7, below, shows the estimated drainage discharge and selenium load that would have occurred without the rain events.

	Site B Discharge (incl. GWD) (acre feet)	Site B Selenium 2005 Load Actual (incl. GWD) (lbs)	Site B Selenium 2005 Load w/o rain impacts (lbs)	Site B Selenium Allocation WDR's (lbs)	Site B Selenium Allocation UA (lbs)
January	2,836	391	211	211	289
February	3,975	592	436	488	440
March	4,050	996	564	488	496

It is likely that, under drier circumstances, the Grassland Area Farmers would have implemented management practices that could significantly reduce the volume and load discharged from the above numbers. However, the wet conditions precluded the use of district recirculation systems or reuse on the San Joaquin River Water Quality Improvement Project.

FIGURE 1

Grassland Bypass Project - 2005 Rainfall Impact Analysis
 Site B Discharge (January through March 2005)



Crows Landing Flow
Source: CDEC

Date	Crows Landing Ave daily Flow	Crows Landing Ave 4-day flow	Crows Landing Monthly Equiv. 4-day flow	Load Value	lbs/day at 1.5 ppb Se Conc. At Crows Landing	Actual Site B plus Grassland selenium Discharge	Exemption Amount
1	2	3	4	5	6	7	8
	cfs/day	cfs/4 day ave	AF/month	lbs/day	lbs/day	lbs/day	lbs
12/29/2004	846						
12/30/2004	1090						
12/31/2004	1680						
01/01/2005	2403	1505	92362	9.3	12.1	9.4	0.1
01/02/2005	2762	1984	121763	9.3	16.0	12.0	2.7
01/03/2005	3022	2467	151409	9.3	19.9	9.0	-
01/04/2005	3227	2854	175148	9.3	23.0	8.9	-
01/05/2005	3422	3108	190784	9.3	25.1	8.4	-
01/06/2005	3371	3261	200129	9.3	26.3	7.3	-
01/07/2005	3205	3306	202938	9.3	26.7	7.6	-
01/08/2005	3066	3266	200467	9.3	26.4	10.2	0.9
01/09/2005	3312	3239	198779	9.3	26.1	11.5	2.2
01/10/2005	3847	3358	206083	9.3	27.1	10.5	1.1
01/11/2005	5033	3815	234134	9.3	30.8	17.5	8.2
01/12/2005	5716	4477	274798	9.3	36.1	16.7	7.4
01/13/2005	6091	5172	317442	9.3	41.7	13.1	3.8
01/14/2005	6183	5756	353288	9.3	46.5	9.5	0.2
01/15/2005	5885	5969	366362	9.3	48.2	9.6	0.3
01/16/2005	5205	5841	358521	9.3	47.2	9.7	0.4
01/17/2005	4513	5447	334306	9.3	44.0	9.9	0.6
01/18/2005	3936	4885	299826	9.3	39.4	9.9	0.5
01/19/2005	3478	4283	262891	9.3	34.6	10.8	1.5
01/20/2005	3091	3755	230451	9.3	30.3	11.1	1.7
01/21/2005	2795	3325	204089	9.3	26.8	12.1	2.8
01/22/2005	2583	2987	183327	9.3	24.1	13.3	4.0
01/23/2005	2408	2719	166908	9.3	22.0	13.2	3.9
01/24/2005	2156	2486	152560	9.3	20.1	13.0	3.7
01/25/2005	1950	2274	139593	9.3	18.4	13.3	4.0
01/26/2005	1815	2082	127809	9.3	16.8	15.4	6.1
01/27/2005	1751	1918	117727	9.3	15.5	16.4	6.2
01/28/2005	2130	1912	117328	9.3	15.4	17.7	6.1
01/29/2005	2535	2058	126305	9.3	16.6	18.0	7.3
01/30/2005	3062	2370	145440	9.3	19.1	19.7	9.8
01/31/2005	2918	2661	163348	9.3	21.5	17.9	8.6
Total					844	383	94.0

Design Four-day average low flow, Wet Year, Dec-Jan

19,260 AF

300% 57780 AF

Days greater than design in **bold**

Monthly load value 289 lbs Se

Criteria:

Actual discharge greater than load value	Flow greater than 300% cap	Cap equal to load at 1.5 ppb at Crows Landing
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Notes:

Column 8 If all criteria met, lesser of actual discharge minus load value or 1.5 ppb cap minus load value

Crows Landing Flow
Source: CDEC

Date	Crows Landing Ave daily Flow	Crows Landing Ave 4-day flow	Crows Landing Monthly Equiv. 4-day flow	Load Value	lbs/day at 1.5 ppb Se Conc. At Crows Landing	Actual Site B plus Grassland selenium Discharge	Exemption Amount
	cfs/day	cfs/4 day ave	AF/month	lbs/day	lbs/day	lbs/day	lbs
1	2	3	4	5	6	7	8
01/29/2005	2535						
01/30/2005	3062						
01/31/2005	2918						
02/01/2005	2712	2807	155606	16.9	22.7	15.5	-
02/02/2005	2527	2805	155495	16.9	22.6	15.3	-
02/03/2005	2236	2598	144047	16.9	21.0	16.4	-
02/04/2005	2038	2378	131850	16.9	19.2	16.2	-
02/05/2005	1892	2173	120485	16.9	17.5	16.2	-
02/06/2005	1830	1999	110825	16.9	16.1	15.4	-
02/07/2005	1738	1875	103922	16.9	15.1	15.1	-
02/08/2005	1663	1781	98725	16.9	14.4	14.8	-
02/09/2005	1583	1704	94442	16.9	13.8	15.7	-
02/10/2005	1543	1632	90464	16.9	13.2	17.2	-
02/11/2005	1465	1564	86680	16.9	12.6	18.6	-
02/12/2005	1410	1500	83174	16.9	12.1	18.5	-
02/13/2005	1354	1443	80000	16.9	11.6	19.0	-
02/14/2005	1307	1384	76729	16.9	11.2	18.1	-
02/15/2005	1300	1343	74442	16.9	10.8	19.7	-
02/16/2005	2122	1521	84310	16.9	12.3	25.5	-
02/17/2005	2323	1763	97741	16.9	14.2	43.7	-
02/18/2005	2964	2177	120707	16.9	17.6	31.8	-
02/19/2005	3570	2745	152169	16.9	22.2	20.7	3.9
02/20/2005	4429	3322	184144	16.9	26.8	22.7	5.8
02/21/2005	4797	3940	218434	16.9	31.8	21.9	5.1
02/22/2005	4650	4362	241802	16.9	35.2	15.9	-
02/23/2005	4220	4524	250811	16.9	36.5	28.8	11.9
02/24/2005	3842	4377	242675	16.9	35.3	30.8	13.9
02/25/2005	3502	4054	224726	16.9	32.7	31.2	14.3
02/26/2005	3158	3681	204047	16.9	29.7	32.8	12.9
02/27/2005	2845	3337	184989	16.9	26.9	32.8	10.1
02/28/2005	2622	3032	168080	16.9	24.5	32.5	7.6
Total					580	623	85.4

Design Four-day average low flow, Wet Year, Feb-May

45,623 AF
300% 136869 AF

Days greater than design in bold

Monthly load value 488 lbs Se

Criteria:

Actual discharge greater than load value	Flow greater than 300% cap	Cap equal to load at 1.5 ppb at Crows Landing
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Notes:

Column 8 If all criteria met, lesser of actual discharge minus load value or 1.5 ppb cap minus load value

Crows Landing Flow
Source: CDEC

Date	Crows Landing Ave daily Flow	Crows Landing Ave 4-day flow	Crows Landing Monthly Equiv. 4-day flow	Load Value	lbs/day at 1.5 ppb Se Conc. At Crows Landing	Actual Site B plus Grassland selenium Discharge	Exemption Amount
	cfs/day	cfs/4 day ave	AF/month	lbs/day	lbs/day	lbs/day	lbs
1	2	3	4	5	6	7	8
02/26/2005	3158						
02/27/2005	2845						
02/28/2005	2622						
03/01/2005	2624	2812	172616	16.0	22.7	34.4	6.7
03/02/2005	2714	2701	165803	16.0	21.8	34.0	5.8
03/03/2005	2707	2667	163685	16.0	21.5	34.6	5.5
03/04/2005	2670	2679	164422	16.0	21.6	36.5	5.6
03/05/2005	2572	2666	163624	16.0	21.5	37.4	5.5
03/06/2005	2406	2589	158897	16.0	20.9	38.2	4.9
03/07/2005	2286	2484	152437	16.0	20.0	34.6	4.0
03/08/2005	2180	2361	144918	16.0	19.1	31.9	3.1
03/09/2005	2100	2243	137675	16.0	18.1	31.0	2.1
03/10/2005	2002	2142	131476	16.0	17.3	30.8	-
03/11/2005	1920	2051	125860	16.0	16.6	31.7	-
03/12/2005	1831	1963	120504	16.0	15.8	34.3	-
03/13/2005	1743	1874	115026	16.0	15.1	32.8	-
03/14/2005	1663	1789	109824	16.0	14.4	33.3	-
03/15/2005	1586	1706	104699	16.0	13.8	35.2	-
03/16/2005	1535	1632	100157	16.0	13.2	36.3	-
03/17/2005	1482	1567	96152	16.0	12.6	46.6	-
03/18/2005	1527	1533	94065	16.0	12.4	35.1	-
03/19/2005	1544	1522	93420	16.0	12.3	34.3	-
03/20/2005	1490	1511	92730	16.0	12.2	34.3	-
03/21/2005	1548	1527	93743	16.0	12.3	32.3	-
03/22/2005	1874	1614	99067	16.0	13.0	35.2	-
03/23/2005	2415	1832	112433	16.0	14.8	34.2	-
03/24/2005	3156	2248	137998	16.0	18.1	32.1	2.1
03/25/2005	4193	2910	178585	16.0	23.5	29.3	7.5
03/26/2005	4975	3685	226170	16.0	29.7	25.4	9.4
03/27/2005	5661	4496	275980	16.0	36.3	23.2	7.2
03/28/2005	6355	5296	325068	16.0	42.8	25.4	9.4
03/29/2005	7062	6013	369093	16.0	48.5	23.6	7.6
03/30/2005	7398	6619	406274	16.0	53.4	22.7	6.7
03/31/2005	7368	7046	432468	16.0	56.9	24.6	8.6
Total					692	1005	101.7

Design Four-day average low flow, Wet Year, Feb-May

45,623 AF

300%

136869 AF

Days greater than design in **bold**

Monthly load value

496 lbs Se

Criteria:

Actual discharge greater than load value	Flow greater than 300% cap	Cap equal to load at 1.5 ppb at Crows Landing
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Notes:

Column 8 If all criteria met, lesser of actual discharge minus load value or 1.5 ppb cap minus load value