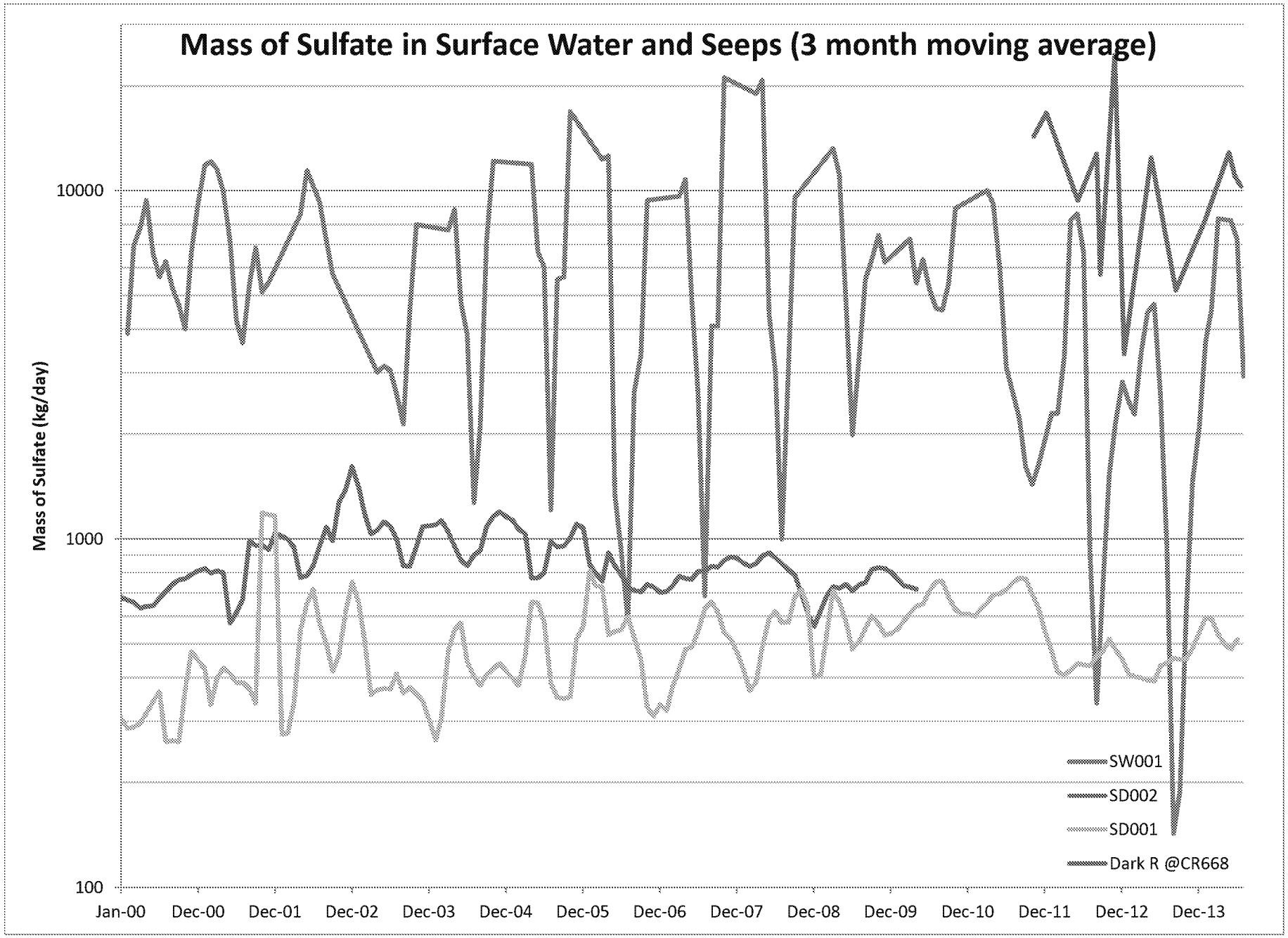
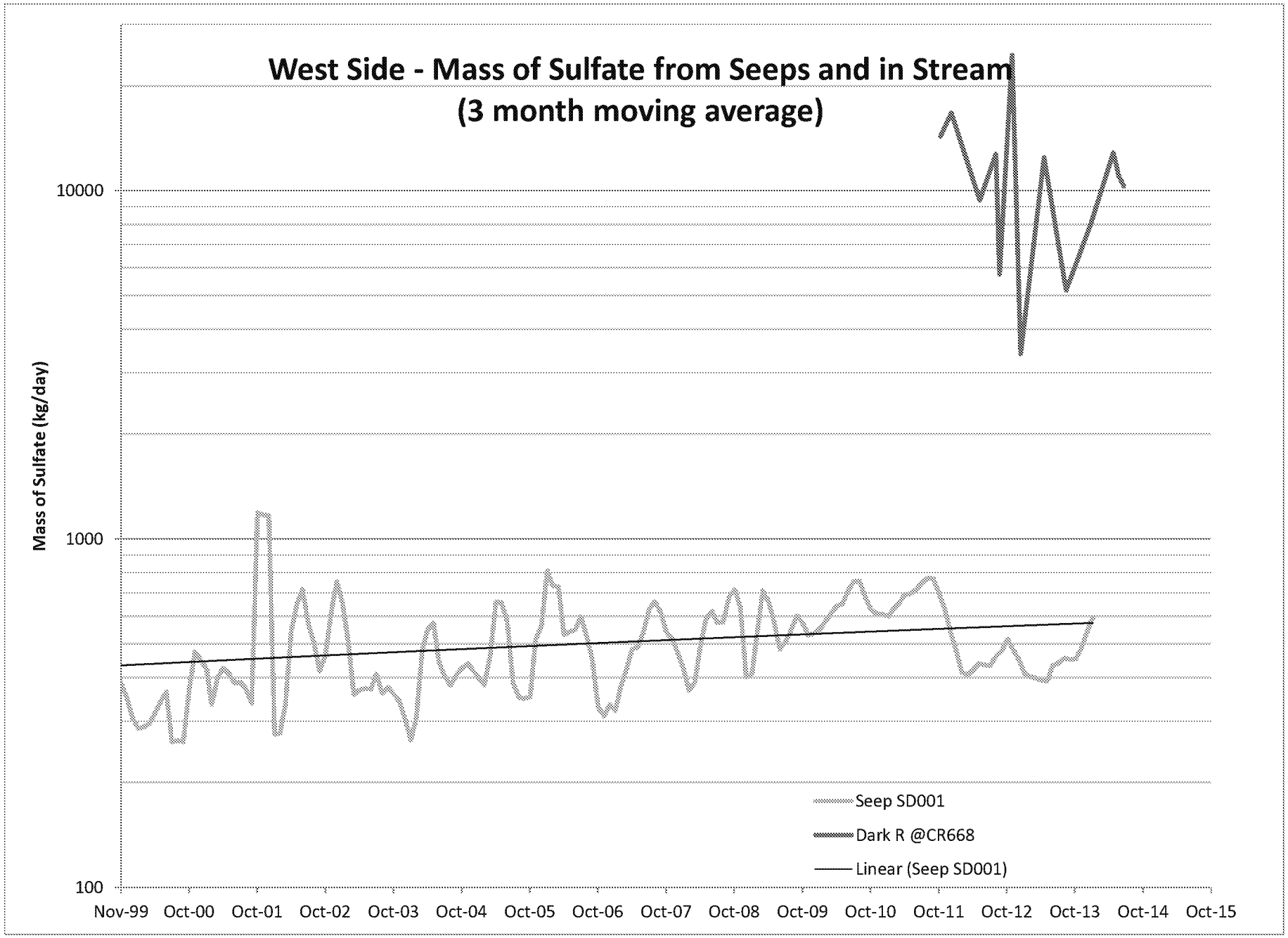
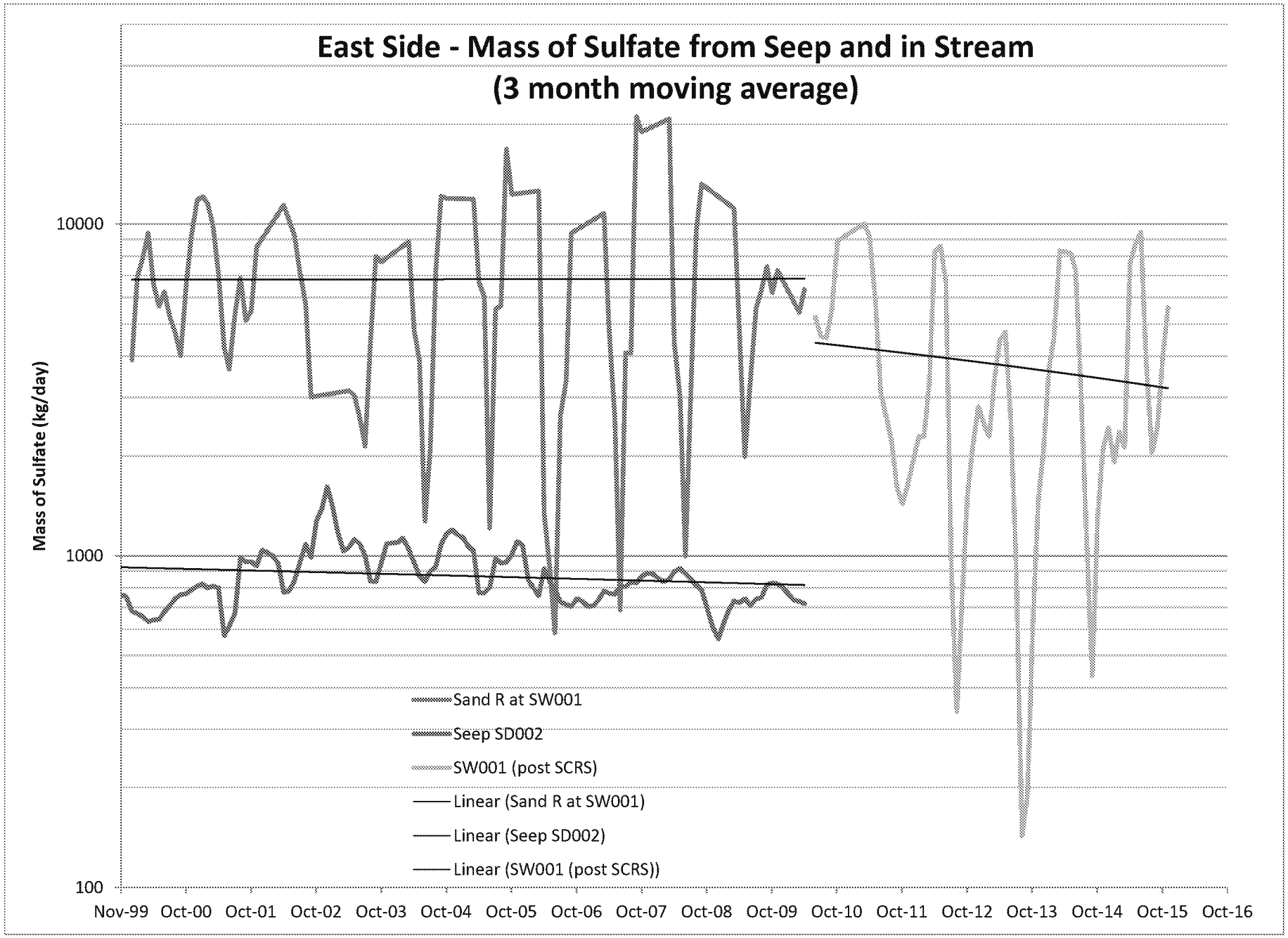
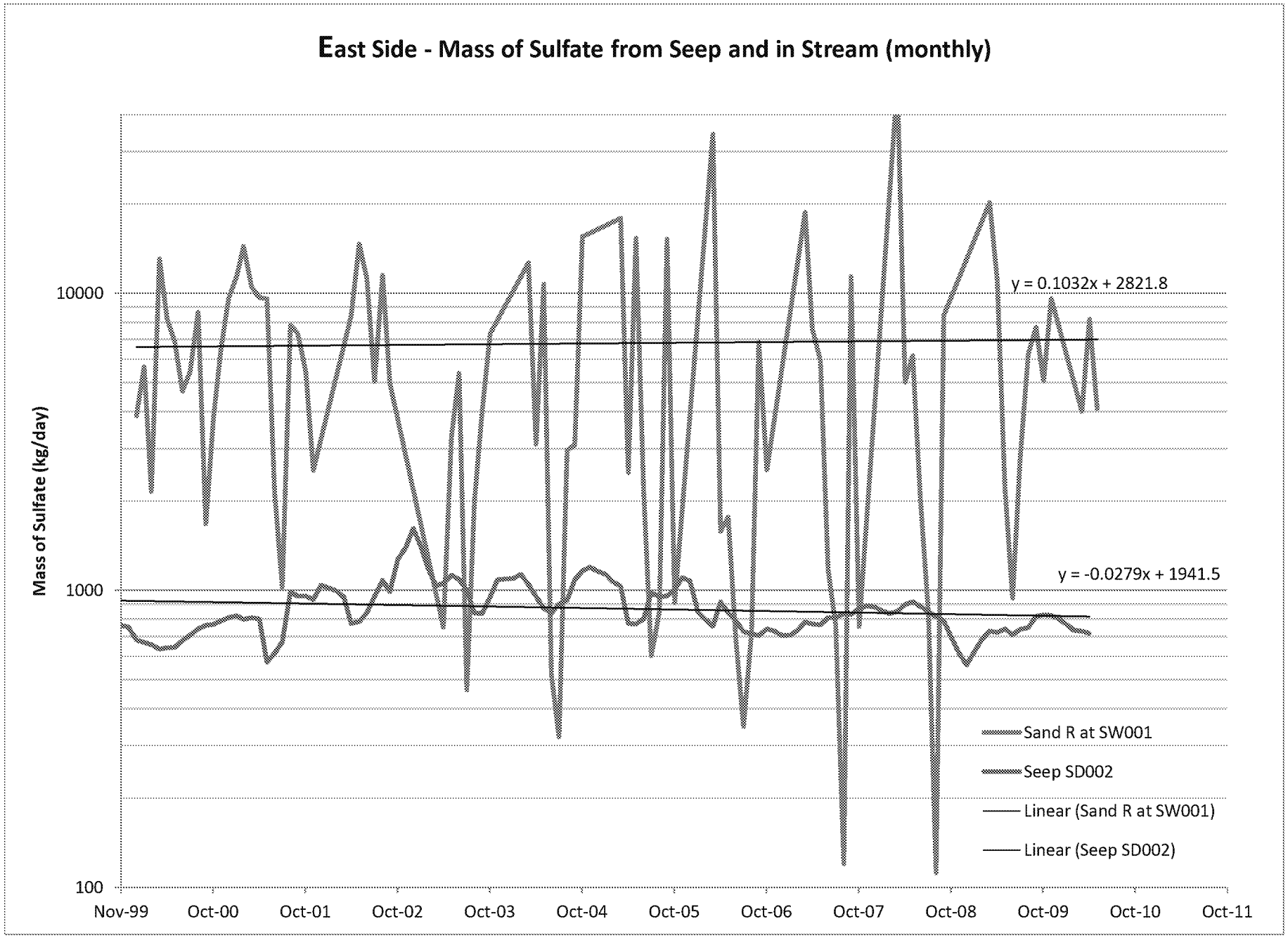
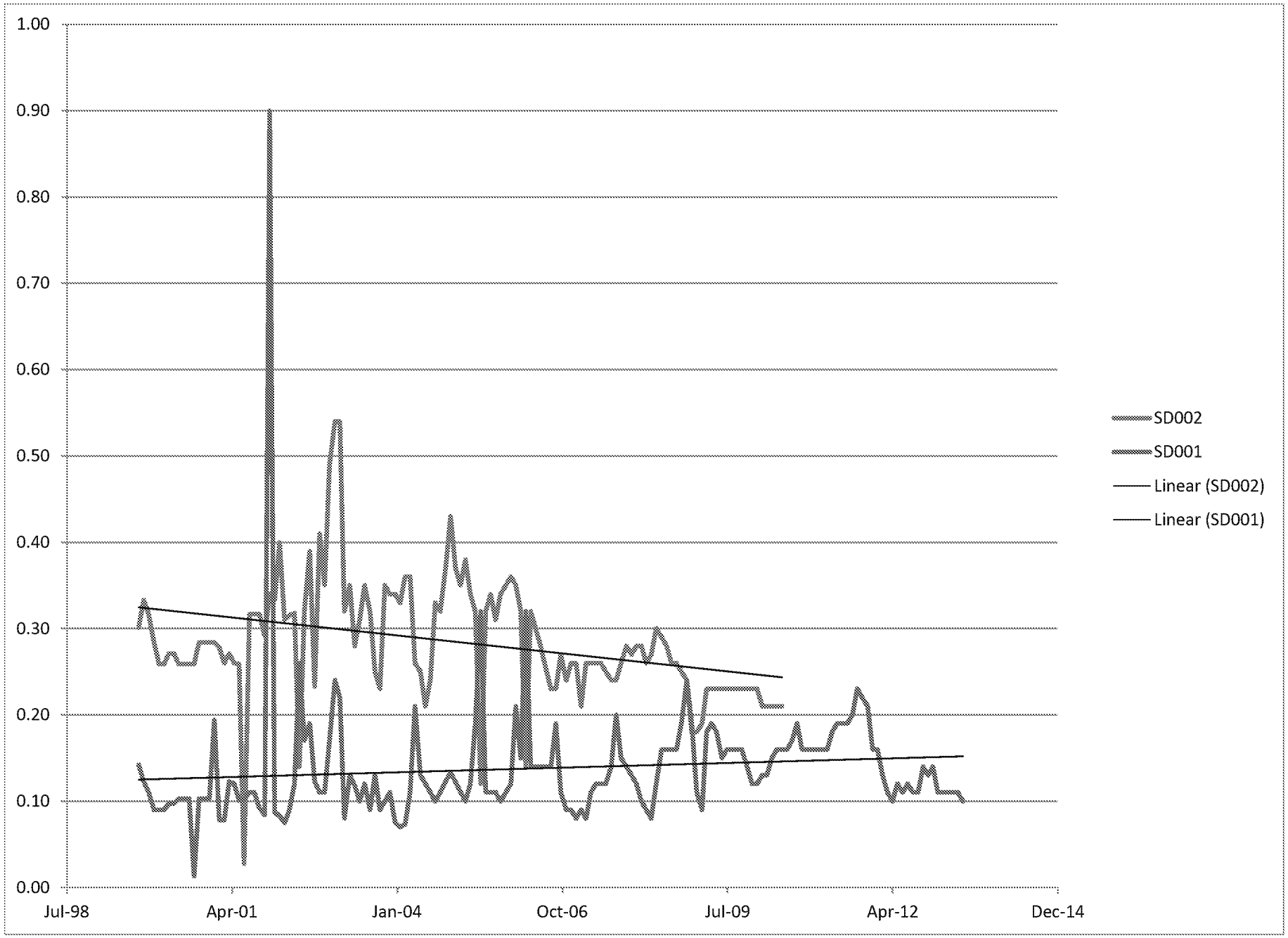
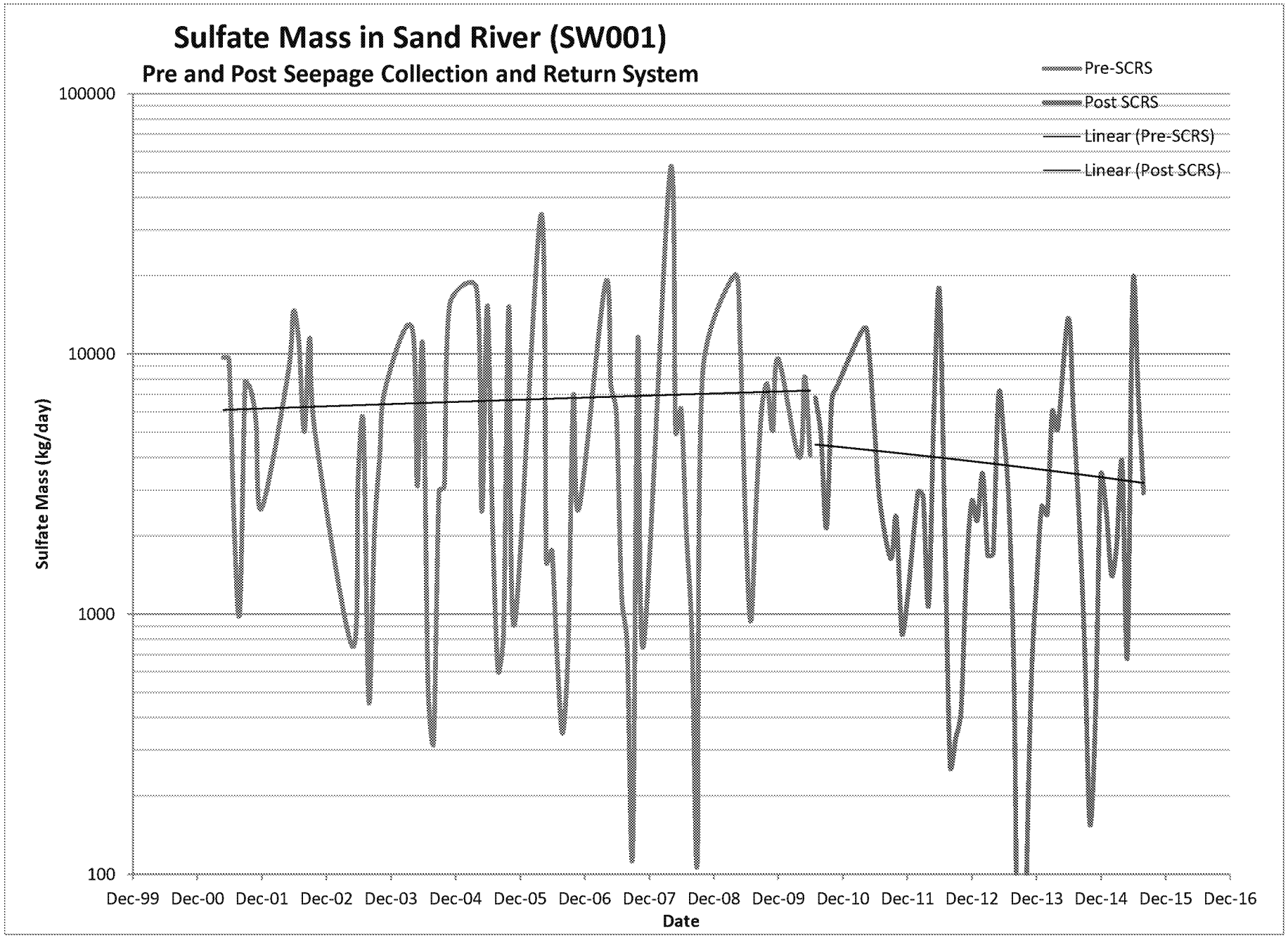

Mass of Sulfate in Surface Water and Seeps (3 month moving average)
Mass of Sulfate (kg/day)
10000
1000
100
Jan-00
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
SW001
SD002
SD001
Dark R @CR668

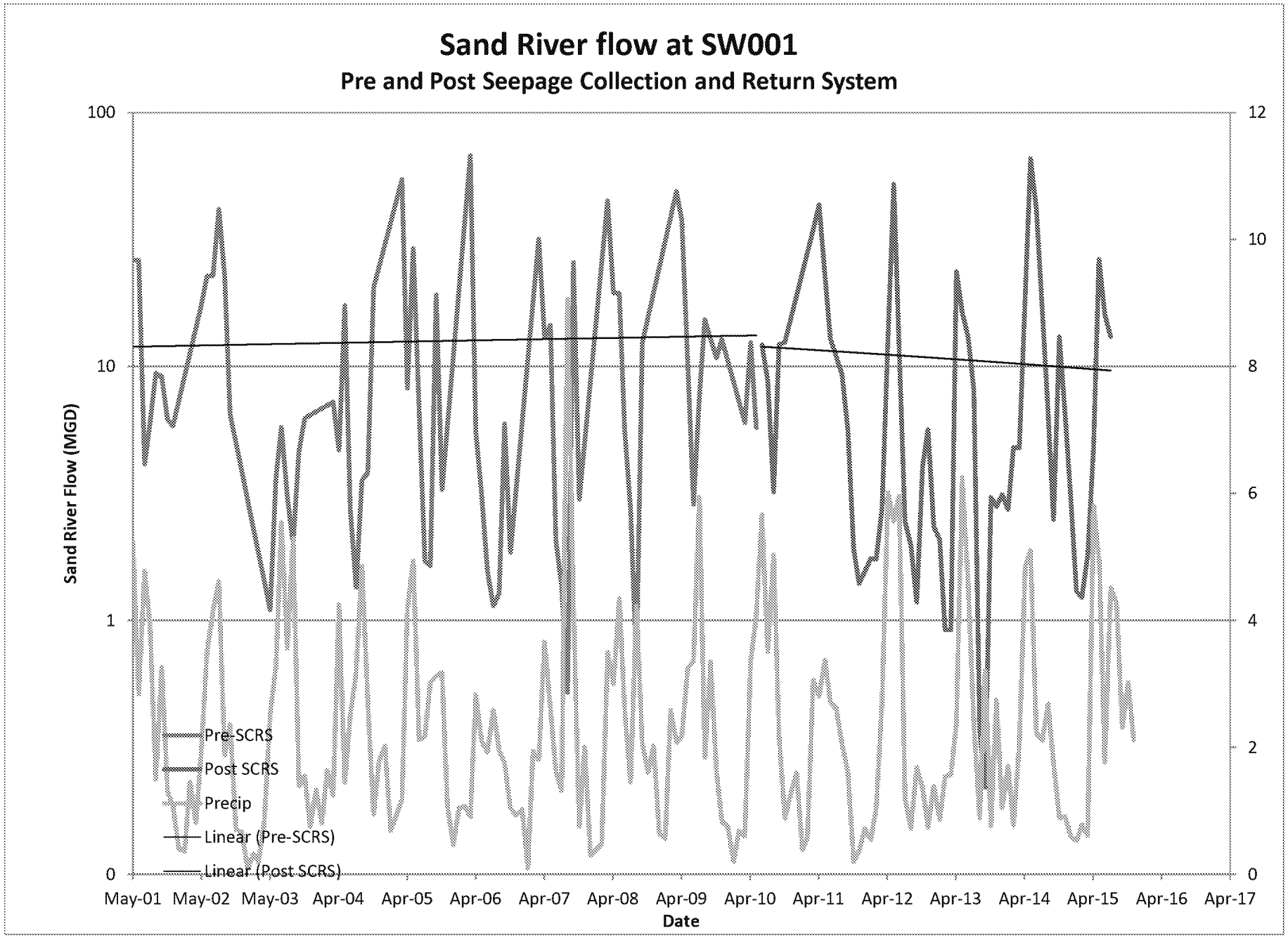

West Side - Mass of Sulfate from Seeps and in Stream
(3 month moving average)
Mass of Sulfate (kg/day)
10000
1000
100
Nov-99
Oct-00
Oct-01
Oct-02
Oct-03
Oct-04
Oct-05
Oct-06
Oct-07
Oct-08
Oct-09
Oct-10
Oct-11
Oct-12
Oct-13
Oct-14
Oct-15
Seep SD001
Dark R @CR668
Linear (Seep SD001)

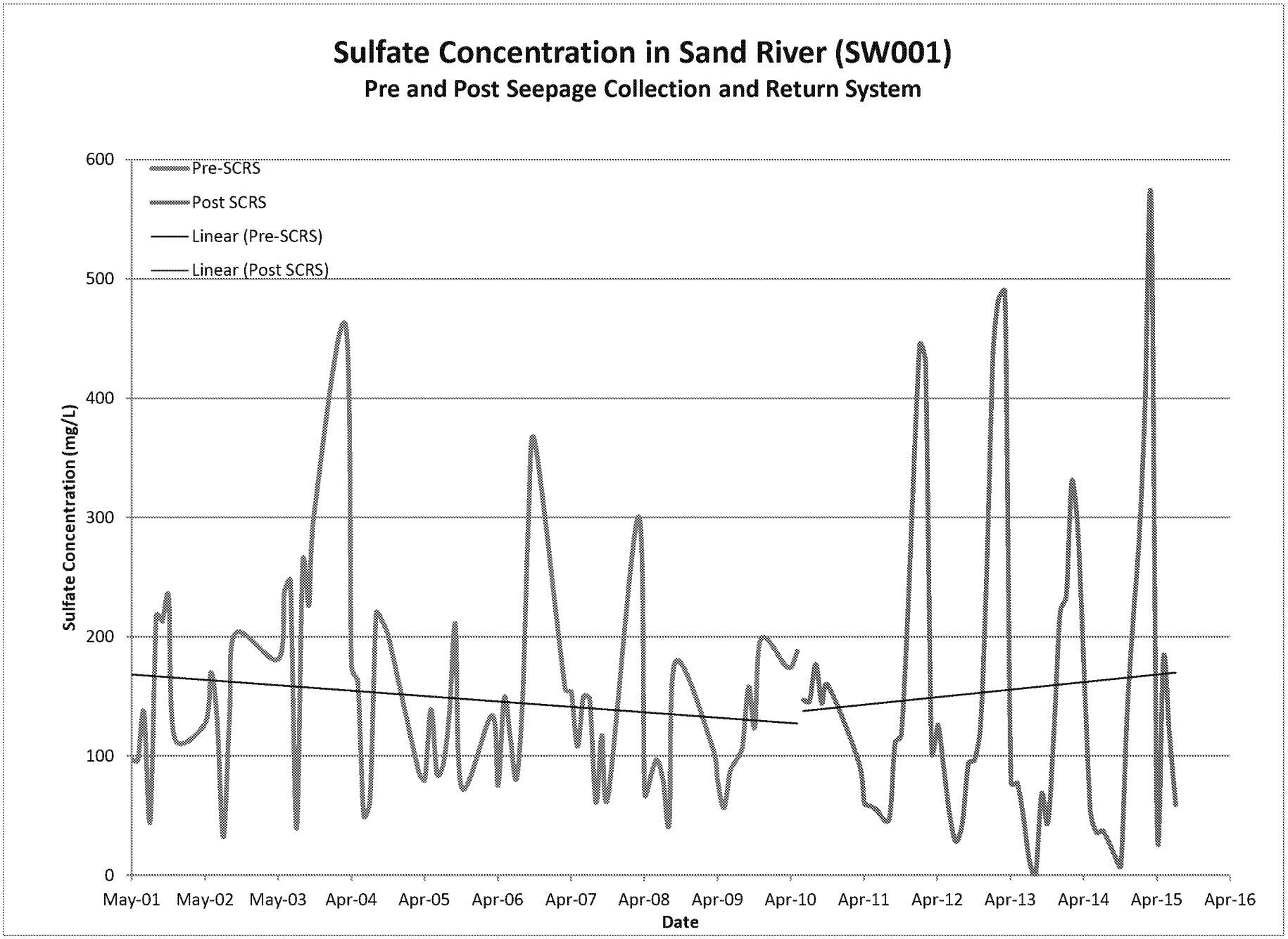

East Side - Mass of Sulfate from Seep and in Stream
(3 month moving average)
Mass of Sulfate (kg/day)
10000
1000
100
Nov-99
Oct-00
Oct-01
Oct-02
Oct-03
Oct-04
Oct-05
Oct-06
Oct-07
Oct-08
Oct-09
Oct-10
Oct-11
Oct-12
Oct-13
Oct-14
Oct-15
Oct-16
Sand R at SW001
Seep SD002
SW001 (post SCRS)
Linear (Sand R at SW001)
Linear (Seep SD002)
Linear (SW001 (post SCRS))


East Side - Mass of Sulfate from Seep and in Stream (monthly)
Mass of Sulfate (kg/day)
10000
1000
100
Nov-99
Oct-00
Oct-01
Oct-02
Oct-03
Oct-04
Oct-05
Oct-06
Oct-07
Oct-08
Oct-09
Oct-10
Oct-11
y = 0.1032x + 2821.8
y = -0.0279x + 1941.5
Sand R at SW001
Seep SD002
Linear (Sand R at SW001)
Linear (Seep SD002)


1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
Jul-98
Apr-01
Jan-04
Oct-06
Jul-09
Apr-12
Dec-14
SD002
SD001
Linear (SD002)
Linear (SD001)


Sulfate Mass in Sand River (SW001)
Pre and Post Seepage Collection and Return System
Pre-SCRS
Post SCRS
Linear (Pre-SCRS)
Linear (Post SCRS)
Sulfate Mass (kg/day)
100000
10000
1000
100
Dec-99
Dec-00
Dec-01
Dec-02
Dec-03
Dec-04
Dec-05
Dec-06
Dec-07
Dec-08
Dec-09
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Date


Sand River flow at SW001
Pre and Post Seepage Collection and Return System
Sand River Flow (MGD)
100
10
1
0
12
10
8
6
4
2
0
Pre-SCRS
Post SCRS
Precip
Linear (Pre-SCRS)
Linear (Post SCRS)
May-01
May-02
May-03
Apr-04
Apr-05
Apr-06
Apr-07
Apr-08
Apr-09
Apr-10
Apr-11
Apr-12
Apr-13
Apr-14
Apr-15
Apr-16
Apr-17
Date


Sulfate Concentration in Sand River (SW001)
Pre and Post Seepage Collection and Return System
Pre-SCRS
Post SCRS
Linear (Pre-SCRS)
Linear (Post SCRS)
Sulfate Concentration (mg/L)
600
500
400
300
200
100
0
May-01
May-02
May-03
Apr-04
Apr-05
Apr-06
Apr-07
Apr-08
Apr-09
Apr-10
Apr-11
Apr-12
Apr-13
Apr-14
Apr-15
Apr-16
Date

Month	Precip	Distance	Twnshp	Range	Section		water year	
Jan-90	0.94	10 mi.	57N	17W	5	NWS		
Feb-90	1.02	7 mi.	58N	19W	16	SWCD		
Mar-90	2.33	7 mi.	58N	19W	16	SWCD		
Apr-90	4.85	10 mi.	57N	17W	5	NWS		
May-90	0.97	5 mi.	58N	17W	6	SWCD		
Jun-90	5.6	5 mi.	58N	17W	6	SWCD		
Jul-90	2.62	5 mi.	58N	17W	6	SWCD		
Aug-90	0.92	5 mi.	58N	17W	6	SWCD		
Sep-90	2.27	5 mi.	58N	17W	6	SWCD		
Oct-90	4.01	5 mi.	58N	17W	6	SWCD		2005
Nov-90	0.64	7 mi.	58N	19W	16	SWCD		2006
Dec-90	1.18	7 mi.	58N	19W	16	SWCD		2007
Jan-91	0.94	7 mi.	58N	19W	16	SWCD		2008
Feb-91	0.94	7 mi.	58N	19W	16	SWCD		2009
Mar-91	1.8	7 mi.	58N	19W	16	SWCD		2010
Apr-91	2.5	5 mi.	58N	17W	6	SWCD		2011
May-91	4.6	5 mi.	58N	17W	6	SWCD		2012
Jun-91	3.89	5 mi.	58N	17W	6	SWCD		2013
Jul-91	4.72	5 mi.	58N	17W	6	SWCD		
Aug-91	1.96	5 mi.	58N	17W	6	SWCD		
Sep-91	7.25	5 mi.	58N	17W	6	SWCD	34.43	
Oct-91	1.75	6 mi.	58N	17W	7	SWCD		
Nov-91	4.44	7 mi.	58N	19W	16	SWCD		
Dec-91	0.58	10 mi.	57N	17W	5	NWS		
Jan-92	0.31	10 mi.	57N	17W	5	NWS		
Feb-92	0.86	7 mi.	58N	19W	16	SWCD		
Mar-92	0.89	7 mi.	58N	19W	16	SWCD		
Apr-92	1.32	5 mi.	58N	17W	6	SWCD		
May-92	2.88	5 mi.	58N	17W	6	SWCD		
Jun-92	3.43	6 mi.	58N	17W	7	SWCD		
Jul-92	3.45	6 mi.	58N	17W	7	SWCD		
Aug-92	3.96	5 mi.	58N	17W	6	SWCD		
Sep-92	3.19	5 mi.	58N	17W	6	SWCD	27.06	
Oct-92	0.46	5 mi.	58N	17W	6	SWCD		
Nov-92	0.84	5 mi.	58N	17W	6	SWCD		
Dec-92	0.98	6 mi.	58N	17W	7	SWCD		
Jan-93	0.93	6 mi.	58N	17W	7	SWCD		
Feb-93	0.05	6 mi.	58N	17W	7	SWCD		
Mar-93	0.43	6 mi.	58N	17W	7	SWCD		
Apr-93	2.18	5 mi.	58N	17W	6	SWCD		
May-93	0.9	5 mi.	58N	17W	6	SWCD		
Jun-93	5.05	5 mi.	58N	17W	6	SWCD		
Jul-93	9.63	5 mi.	58N	17W	6	SWCD		
Aug-93	3.38	5 mi.	58N	17W	6	SWCD		
Sep-93	3.25	5 mi.	58N	17W	6	SWCD	28.08	
Oct-93	0.95	5 mi.	58N	17W	6	SWCD		

target location: Saint louis--Brittmount 59N 18W S21 (latitude: 47.58600 longitude: 92.64500)

Nearest Station Precipitation Data Retrieval

Minnesota's precipitation data archive is searched for data closest to a selected target location for each month. Values fr

http://climate.umn.edu/HIDradius/radius_new.asp

Nov-Oct

27.07
20.89
29.36
25.1
29.4
28.5
22.94
26.73
27.16

om the site closest to the target location are returned below after clicking the retrieve

Apr-Oct
20.72
14.05
24.33
21.18
21.99
24.42
18.23
23.84
21.27

Nov-93	1.26	6 mi.	58N	17W	7	SWCD	
Dec-93	0.77	6 mi.	58N	17W	7	SWCD	
Jan-94	0.55	6 mi.	58N	17W	18	SWCD	
Feb-94	0.26	6 mi.	58N	17W	7	SWCD	
Mar-94	0.46	6 mi.	58N	17W	18	SWCD	
Apr-94	2.67	5 mi.	58N	17W	6	SWCD	
May-94	2.35	5 mi.	58N	17W	6	SWCD	
Jun-94	3.62	5 mi.	58N	17W	6	SWCD	
Jul-94	2.4	5 mi.	58N	17W	6	SWCD	
Aug-94	1.95	5 mi.	58N	17W	6	SWCD	
Sep-94	4.66	5 mi.	58N	17W	6	SWCD	21.9
Oct-94	3.02	5 mi.	58N	17W	6	SWCD	
Nov-94	1.23	5 mi.	58N	17W	6	SWCD	
Dec-94	0.48	6 mi.	58N	17W	18	SWCD	
Jan-95	0.8	6 mi.	58N	17W	18	SWCD	
Feb-95	0.67	6 mi.	58N	17W	18	SWCD	
Mar-95	0.74	5 mi.	58N	17W	6	SWCD	
Apr-95	1.2	5 mi.	58N	17W	6	SWCD	
May-95	2.05	5 mi.	58N	17W	6	SWCD	
Jun-95	1.19	5 mi.	58N	17W	6	SWCD	
Jul-95	7.49	5 mi.	58N	17W	6	SWCD	
Aug-95	3.8	5 mi.	58N	17W	6	SWCD	
Sep-95	5.6	5 mi.	58N	17W	6	SWCD	28.27
Oct-95	3.45	5 mi.	58N	17W	6	SWCD	
Nov-95	1.25	6 mi.	58N	17W	18	SWCD	
Dec-95	1.21	6 mi.	58N	17W	18	SWCD	
Jan-96	1.36	6 mi.	58N	17W	18	SWCD	
Feb-96	1.76	6 mi.	58N	17W	18	SWCD	
Mar-96	0.58	6 mi.	58N	17W	18	SWCD	
Apr-96	0.93	6 mi.	58N	17W	18	SWCD	
May-96	1.75	5 mi.	58N	17W	6	SWCD	
Jun-96	3.13	5 mi.	58N	17W	6	SWCD	
Jul-96	4.11	5 mi.	58N	17W	6	SWCD	
Aug-96	2.57	5 mi.	58N	17W	6	SWCD	
Sep-96	2.44	5 mi.	58N	17W	6	SWCD	24.54
Oct-96	3.98	5 mi.	58N	17W	6	SWCD	
Nov-96	2.98	6 mi.	58N	17W	18	SWCD	
Dec-96	1.13	6 mi.	58N	17W	18	SWCD	
Jan-97	1.31	6 mi.	58N	17W	18	SWCD	
Feb-97	0.21	6 mi.	58N	17W	18	SWCD	
Mar-97	1.38	6 mi.	58N	17W	18	SWCD	
Apr-97	0.87	5 mi.	58N	17W	6	SWCD	
May-97	2.1	5 mi.	58N	17W	6	SWCD	
Jun-97	4.17	5 mi.	58N	17W	6	SWCD	
Jul-97	3.12	5 mi.	58N	18W	17	SWCD	
Aug-97	2.26	5 mi.	58N	18W	17	SWCD	
Sep-97	2.61	5 mi.	58N	18W	17	SWCD	26.12

Oct-97	2.62	5 mi.	58N	18W	17	SWCD	
Nov-97	2.03	5 mi.	58N	18W	17	SWCD	
Dec-97	0.61	5 mi.	58N	18W	17	SWCD	
Jan-98	0.98	5 mi.	58N	18W	17	SWCD	
Feb-98	1.52	5 mi.	58N	18W	17	SWCD	
Mar-98	1.82	5 mi.	58N	18W	17	SWCD	
Apr-98	0.56	5 mi.	58N	18W	17	SWCD	
May-98	2.79	5 mi.	58N	18W	17	SWCD	
Jun-98	4.65	5 mi.	58N	18W	17	SWCD	
Jul-98	3.65	5 mi.	58N	18W	17	SWCD	
Aug-98	3.4	5 mi.	58N	18W	17	SWCD	
Sep-98	2.97	5 mi.	58N	18W	17	SWCD	27.6
Oct-98	4.37	5 mi.	58N	18W	17	SWCD	
Nov-98	2.91	5 mi.	58N	18W	17	SWCD	
Dec-98	2.18	5 mi.	58N	18W	17	SWCD	
Jan-99	1.49	5 mi.	58N	18W	17	SWCD	
Feb-99	1.05	5 mi.	58N	18W	17	SWCD	
Mar-99	1.15	5 mi.	58N	18W	17	SWCD	
Apr-99	2.04	5 mi.	58N	18W	17	SWCD	
May-99	5.39	5 mi.	58N	18W	17	SWCD	
Jun-99	6.6	5 mi.	58N	18W	17	SWCD	
Jul-99	9.97	5 mi.	58N	18W	17	SWCD	
Aug-99	4.01	5 mi.	58N	18W	17	SWCD	
Sep-99	4.81	5 mi.	58N	17W	6	SWCD	45.97
Oct-99	2.1	5 mi.	58N	18W	17	SWCD	
Nov-99	0.04	5 mi.	58N	18W	17	SWCD	
Dec-99	0	5 mi.	58N	18W	17	SWCD	
Jan-00	0.85	5 mi.	58N	18W	17	SWCD	
Feb-00	0.84	5 mi.	58N	18W	17	SWCD	
Mar-00	1.85	5 mi.	58N	18W	17	SWCD	
Apr-00	1.45	5 mi.	58N	17W	6	SWCD	
May-00	2.93	5 mi.	58N	17W	6	SWCD	
Jun-00	5.39	5 mi.	60N	18W	26	SWCD	
Jul-00	2.68	5 mi.	60N	18W	26	SWCD	
Aug-00	4.29	5 mi.	60N	18W	26	SWCD	
Sep-00	1.48	5 mi.	58N	17W	6	SWCD	23.9
Oct-00	3.55	5 mi.	58N	17W	6	SWCD	
Nov-00	1.87	5 mi.	58N	17W	6	SWCD	
Dec-00	0.84	6 mi.	58N	17W	5	SWCD	
Jan-01	0.94	6 mi.	58N	17W	5	SWCD	
Feb-01	1.78	6 mi.	58N	17W	5	SWCD	
Mar-01	0.4	6 mi.	58N	17W	5	SWCD	
Apr-01	5.06	5 mi.	58N	17W	6	SWCD	
May-01	5.22	5 mi.	60N	18W	26	SWCD	
Jun-01	2.84	5 mi.	60N	18W	26	SWCD	
Jul-01	4.78	5 mi.	60N	18W	26	SWCD	
Aug-01	3.91	5 mi.	60N	18W	26	SWCD	

SW001	Sulfate mg/L	Flow MGD				
Jan-00	625.00	1.64		0.85		
Feb-00	647.00	2.31	1.69	0.84		
Mar-00	381.00	1.49	2.69	1.85		
Apr-00	136.00	25.41	3.3	1.45		
May-00	117.00	18.48	4.38	2.93		
Jun-00	157.00	11.55	8.32	5.39	11.55	8.32
Jul-00	157.00	7.89	8.07	2.68	7.89	8.07
Aug-00	181.00	7.93	6.97	4.29	7.93	6.97
Sep-00	192.00	11.90	5.77	1.48	11.90	5.77
Oct-00	113.00	3.91	5.03	3.55	3.91	5.03
Nov-00	172.00	5.83	5.42	1.87	5.83	5.42
Dec-00	297.00	5.83	2.71	0.84	26.23	10.28
Jan-01	437.00	5.83	1.78	0.94	26.23	8.06
Feb-01	518.00	5.83	2.72	1.78	4.12	7.62
Mar-01	653.00	5.83	2.18	0.4	5.99	8.69
Apr-01	474.00	5.85	5.46	5.06	9.43	5.41
May-01	97.50	26.23	10.28	5.22	9.10	4.77
Jun-01	96.40	26.23	8.06	2.84	6.19	4.56
Jul-01	137.00	4.12	7.62	4.78	22.75	5.47
Aug-01	45.20	5.99	8.69	3.91	22.75	7.66

Sep-01	1.5	5 mi.	60N	18W	26	SWCD	32.69
Oct-01	3.27	5 mi.	60N	18W	26	SWCD	
Nov-01	1.29	5 mi.	58N	17W	6	SWCD	
Dec-01	1.09	5 mi.	58N	17W	6	SWCD	
Jan-02	0.4	6 mi.	58N	17W	5	SWCD	
Feb-02	0.36	6 mi.	58N	17W	5	SWCD	
Mar-02	1.46	6 mi.	58N	17W	5	SWCD	
Apr-02	0.81	5 mi.	58N	17W	6	SWCD	
May-02	1.95	5 mi.	60N	18W	26	SWCD	
Jun-02	3.52	5 mi.	60N	18W	26	SWCD	
Jul-02	4.14	5 mi.	60N	18W	26	SWCD	
Aug-02	4.61	5 mi.	60N	18W	26	SWCD	
Sep-02	1.87	5 mi.	60N	18W	26	SWCD	24.77
Oct-02	2.36	5 mi.	58N	17W	6	SWCD	
Nov-02	0.71	5 mi.	60N	18W	26	SWCD	
Dec-02	0.66	5 mi.	60N	18W	26	SWCD	
Jan-03	0.09	5 mi.	60N	18W	26	SWCD	
Feb-03	0.32	5 mi.	60N	18W	26	SWCD	
Mar-03	0.19	5 mi.	60N	18W	26	SWCD	
Apr-03	0.83	5 mi.	58N	17W	6	SWCD	
May-03	2.52	5 mi.	58N	17W	6	SWCD	
Jun-03	3.28	5 mi.	60N	18W	26	SWCD	
Jul-03	5.55	5 mi.	60N	18W	26	SWCD	
Aug-03	3.56	5 mi.	60N	18W	26	SWCD	
Sep-03	5.29	5 mi.	60N	18W	26	SWCD	25.36
Oct-03	1.39	5 mi.	58N	17W	6	SWCD	
Nov-03	1.55	6 mi.	58N	17W	5	SWCD	
Dec-03	0.75	6 mi.	58N	17W	5	SWCD	
Jan-04	1.33	6 mi.	58N	17W	5	SWCD	
Feb-04	0.8	6 mi.	58N	17W	5	SWCD	
Mar-04	1.64	5 mi.	58N	17W	6	SWCD	
Apr-04	1.24	5 mi.	58N	17W	6	SWCD	
May-04	4.25	5 mi.	58N	17W	6	SWCD	
Jun-04	1.45	5 mi.	58N	17W	6	SWCD	
Jul-04	2.51	5 mi.	58N	17W	6	SWCD	
Aug-04	3.17	5 mi.	58N	17W	6	SWCD	
Sep-04	4.85	5 mi.	58N	17W	6	SWCD	24.93
Oct-04	2.72	5 mi.	58N	17W	6	SWCD	
Nov-04	0.94	5 mi.	58N	17W	6	SWCD	
Dec-04	1.78	6 mi.	58N	17W	5	SWCD	
Jan-05	2.02	6 mi.	58N	17W	5	SWCD	
Feb-05	0.69	6 mi.	58N	17W	5	SWCD	
Mar-05	0.92	6 mi.	58N	17W	5	SWCD	
Apr-05	1.18	5 mi.	58N	17W	6	SWCD	
May-05	4.17	5 mi.	58N	17W	6	SWCD	
Jun-05	4.94	5 mi.	58N	17W	6	SWCD	
Jul-05	2.12	5 mi.	58N	17W	6	SWCD	

Sep-01	218.00	9.43	5.41	1.5	41.58	8.75
Oct-01	213.00	9.10	4.77	3.27	22.75	6.48
Nov-01	234.00	6.19	4.56	1.29	6.48	4.23
Dec-01	115.00	5.83	2.38	1.09	1.10	3.35
			1.49	0.4	3.67	5.8
			0.76	0.36	5.76	8.83
			1.82	1.46	3.09	9.11
			2.27	0.81	2.00	8.85
May-02	127.00	17.42	2.76	1.95	4.64	6.68
Jun-02	170.00	22.75	5.47	3.52	6.26	2.94
Jul-02	130.00	22.75	7.66	4.14	17.42	5.7
Aug-02	32.00	41.58	8.75	4.61	2.77	3.96
Sep-02	134.00	22.75	6.48	1.87	1.35	5.68
Oct-02	203.00	6.48	4.23	2.36	3.56	8.02
			3.07	0.71	3.82	7.57
			1.37	0.66	20.48	3.66
			0.75	0.09	8.24	5.35
			0.41	0.32	29.15	9.11
			0.51	0.19	6.83	7.06
			1.02	0.83	1.71	4.29
May-03	181.00	1.10	3.35	2.52	1.64	5.19
Jun-03	237.00	3.67	5.8	3.28	19.16	6.14
Jul-03	247.00	5.76	8.83	5.55	3.27	6.3
Aug-03	39.40	3.09	9.11	3.56	5.55	3.74
Sep-03	263.00	2.00	8.85	5.29	3.13	4.93
Oct-03	226.00	4.64	6.68	1.39	1.56	4.02
Nov-03	309.00	6.26	2.94	1.55	1.14	4.51
			2.3	0.75	1.28	4.54
			2.08	1.33	5.97	3.7
			2.13	0.8	1.85	2.79
			2.44	1.64	13.00	5.47
Apr-04	461.00	7.26	2.88	1.24	14.50	6.26
May-04	175.00	4.69	5.49	4.25	2.07	4.22
Jun-04	163.00	17.42	5.7	1.45	1.36	2.94
Jul-04	49.70	2.77	3.96	2.51	0.52	10.38
Aug-04	62.80	1.35	5.68	3.17	25.70	13.32
Sep-04	220.00	3.56	8.02	4.85	3.00	5.01
Oct-04	213.00	3.82	7.57	2.72	19.50	6.5
Nov-04	200.00	20.48	3.66	0.94	19.50	7.35
			2.72	1.78	5.59	6.93
			3.8	2.02	2.77	4.03
			2.71	0.69	0.67	5.67
			1.61	0.92	12.40	6.3
Apr-05	86.70	54.40	2.1	1.18	10.40	5.42
May-05	79.70	8.24	5.35	4.17	2.87	6.6
Jun-05	139.00	29.15	9.11	4.94	7.65	9.3
Jul-05	84.70	6.83	7.06	2.12	15.30	7.78

Aug-05	2.17	5 mi.	58N	17W	6	SWCD			
Sep-05	3.02	5 mi.	58N	17W	6	SWCD	26.67		
Oct-05	3.12	5 mi.	58N	17W	6	SWCD		20.72	5
Nov-05	3.18	5 mi.	58N	17W	6	SWCD			
Dec-05	1.08	6 mi.	58N	17W	5	SWCD			
Jan-06	0.47	6 mi.	58N	17W	5	SWCD			
Feb-06	1.04	6 mi.	58N	17W	5	SWCD			
Mar-06	1.07	5 mi.	58N	17W	6	SWCD			
Apr-06	0.91	5 mi.	58N	17W	6	SWCD			
May-06	2.83	5 mi.	58N	17W	6	SWCD			
Jun-06	2.1	5 mi.	58N	17W	6	SWCD			
Jul-06	1.92	5 mi.	58N	17W	6	SWCD			
Aug-06	2.59	5 mi.	58N	17W	6	SWCD			
Sep-06	1.95	5 mi.	58N	17W	6	SWCD	22.26		
Oct-06	1.75	5 mi.	58N	17W	6	SWCD		14.05	6
Nov-06	1.04	6 mi.	58N	17W	5	SWCD			
Dec-06	0.93	6 mi.	58N	17W	5	SWCD			
Jan-07	1.02	6 mi.	58N	17W	5	SWCD			
Feb-07	0.1	4 mi.	59N	17W	18	BYRG			
Mar-07	1.94	6 mi.	58N	17W	5	SWCD			
Apr-07	1.81	4 mi.	59N	17W	18	BYRG			
May-07	3.66	4 mi.	59N	17W	18	BYRG			
Jun-07	2.6	4 mi.	59N	17W	18	BYRG			
Jul-07	1.62	4 mi.	59N	17W	18	BYRG			
Aug-07	1.32	5 mi.	58N	17W	6	SWCD			
Sep-07	9.06	5 mi.	58N	17W	6	SWCD	26.85		
Oct-07	4.26	5 mi.	58N	17W	6	SWCD		24.33	7
Nov-07	0.75	6 mi.	58N	17W	5	SWCD			
Dec-07	2	6 mi.	58N	17W	5	SWCD			
Jan-08	0.3	6 mi.	58N	17W	5	SWCD			
Feb-08	0.39	6 mi.	58N	17W	5	SWCD			
Mar-08	0.48	6 mi.	58N	17W	5	SWCD			
Apr-08	3.5	5 mi.	58N	17W	6	SWCD			
May-08	3	5 mi.	58N	17W	6	SWCD			
Jun-08	4.35	5 mi.	58N	17W	6	SWCD			
Jul-08	2.58	5 mi.	58N	17W	6	SWCD			
Aug-08	1.45	5 mi.	58N	17W	6	SWCD			
Sep-08	4.22	4 mi.	59N	17W	18	BYRG	27.28		
Oct-08	2.08	4 mi.	59N	17W	18	BYRG		21.18	8
Nov-08	1.6	6 mi.	58N	17W	5	SWCD			
Dec-08	2.03	4 mi.	59N	17W	18	BYRG			
Jan-09	0.64	4 mi.	59N	17W	18	BYRG			
Feb-09	0.56	4 mi.	59N	17W	18	BYRG			
Mar-09	2.58	4 mi.	59N	17W	18	BYRG			
Apr-09	2.08	4 mi.	59N	17W	18	BYRG			
May-09	2.18	4 mi.	59N	17W	18	BYRG			
Jun-09	3.24	4 mi.	59N	17W	18	BYRG			

Aug-05	92.90	1.71	4.29	2.17	12.85	5.19
Sep-05	136.00	1.64	5.19	3.02	10.80	4.96
Oct-05	210.00	19.16	6.14	3.12	12.80	2.44
Nov-05	73.30	3.27	6.3	3.18	5.74	7.41
			4.26	1.08	12.2	9.72
			1.55	0.47	8.76	9.18
			1.51	1.04	3.2	8.55
			2.11	1.07	12.16	7.23
Apr-06	134.00	67.82	1.98	0.91	12.5	3.07
May-06	75.30	5.55	3.74	2.83	22.9	6.18
Jun-06	149.00	3.13	4.93	2.1	12.9	6.1
Jul-06	116.00	1.56	4.02	1.92	9.29	4.65
Aug-06	80.60	1.14	4.51	2.59	5.6	3.66
Sep-06	149.00	1.28	4.54	1.95	1.9	1.82
Oct-06	303.00	5.97	3.7	1.75	52.4	11.57
Nov-06	363.00	1.85	2.79	1.04	11.7	11.52
			1.97	0.93	2.45	7.15
			1.95	1.02	1.98	1.91
			1.12	0.1	1.18	2.4
			2.04	1.94	4.05	3.04
Apr-07	156.00	31.80	3.75	1.81	5.64	2.1
May-07	154.00	13.00	5.47	3.66	16.4	8.62
Jun-07	108.00	14.50	6.26	2.6	13.1	10.88
Jul-07	150.00	2.07	4.22	1.62	8.08	6.98
Aug-07	148.00	1.36	2.94	1.32	0.37	3.24
Sep-07	61.00	0.52	10.38	9.06	0.22	4.1
Oct-07	117.00	25.70	13.32	4.26	3.05	3.98
Nov-07	66.40	3.00	5.01	0.75	41.5	9.94
			2.75	2	16.73	7.33
			2.3	0.3	7.1	4.34
			0.69	0.39	2.5	4.79
			0.87	0.48	13.1	4.43
Apr-08	301.00	44.90	3.98	3.5	6.76	2.64
May-08	68.00	19.50	6.5	3	16	10.72
Jun-08	83.50	19.50	7.35	4.35	13.1	6.67
Jul-08	96.70	5.59	6.93	2.58	2.85	6.29
Aug-08	79.90	2.77	4.03	1.45	9.66	8.8
Sep-08	44.10	0.67	5.67	4.22	8.96	6.59
Oct-08	179.00	12.40	6.3	2.08	12.9	5.33
			3.68	1.6	13.4	5.13
			3.63	2.03		
			2.67	0.64		
			1.2	0.56		
			3.14	2.58		
Apr-09	109.00	48.90	4.66	2.08		
May-09	77.60	37.60	4.26	2.18		
Jun-09	56.40	10.40	5.42	3.24		

Jul-09	3.36	4 mi.	59N	17W	18	BYRG			
Aug-09	5.94	4 mi.	59N	17W	18	NWS			
Sep-09	1.84	4 mi.	59N	17W	18	NWS	28.13		
Oct-09	3.35	4 mi.	59N	17W	18	NWS		21.99	9
Nov-09	1.61	4 mi.	59N	17W	18	NWS			
Dec-09	0.83	4 mi.	59N	17W	18	NWS			
Jan-10	0.76	4 mi.	59N	17W	18	NWS			
Feb-10	0.2	4 mi.	59N	17W	18	NWS			
Mar-10	0.68	4 mi.	59N	17W	18	NWS			
Apr-10	0.6	4 mi.	59N	17W	18	NWS			
May-10	3.36	4 mi.	59N	17W	18	NWS			
Jun-10	4.05	4 mi.	59N	17W	18	NWS			
Jul-10	5.67	4 mi.	59N	17W	18	NWS			
Aug-10	3.51	4 mi.	59N	17W	18	NWS			
Sep-10	5.04	5 mi.	58N	17W	6	SWCD	29.66		
Oct-10	2.19	4 mi.	59N	17W	18	NWS		24.42	10
Nov-10	0.88	4 mi.	59N	17W	18	NWS			
Dec-10	1.27	4 mi.	59N	17W	18	NWS			
Jan-11	1.6	4 mi.	59N	17W	18	NWS			
Feb-11	0.38	6 mi.	58N	17W	5	SWCD			
Mar-11	0.58	4 mi.	59N	17W	18	NWS			
Apr-11	3.06	4 mi.	59N	17W	18	NWS			
May-11	2.8	4 mi.	59N	17W	18	NWS			
Jun-11	3.38	4 mi.	59N	17W	18	NWS			
Jul-11	2.72	5 mi.	58N	17W	6	SWCD			
Aug-11	2.61	4 mi.	59N	17W	18	NWS			
Sep-11	2.04	4 mi.	59N	17W	18	NWS	23.51		
Oct-11	1.62	4 mi.	59N	17W	18	NWS		18.23	11
Nov-11	0.2	4 mi.	59N	17W	18	NWS			
Dec-11	0.37	6 mi.	58N	17W	5	SWCD			
Jan-12	0.72	6 mi.	58N	17W	5	SWCD			
Feb-12	0.55	6 mi.	58N	17W	5	SWCD			
Mar-12	1.05	5 mi.	58N	17W	6	SWCD			
Apr-12	2.72	5 mi.	58N	17W	6	SWCD			
May-12	6.01	5 mi.	58N	17W	6	SWCD			
Jun-12	5.56	5 mi.	58N	17W	6	SWCD			
Jul-12	5.96	5 mi.	58N	17W	6	SWCD			
Aug-12	1.19	5 mi.	58N	17W	6	SWCD			
Sep-12	0.72	5 mi.	58N	17W	6	SWCD	26.67		
Oct-12	1.68	5 mi.	58N	17W	6	SWCD		23.84	12
Nov-12	1.36	5 mi.	58N	17W	6	SWCD			
Dec-12	0.74	6 mi.	58N	17W	5	SWCD			
Jan-13	1.39	6 mi.	58N	17W	5	SWCD			
Feb-13	0.86	6 mi.	58N	17W	5	SWCD			
Mar-13	1.54	6 mi.	58N	17W	5	SWCD			
Apr-13	1.57	5 mi.	58N	17W	6	SWCD			
May-13	2.37	5 mi.	58N	17W	6	SWCD			

Jul-09	86.60	2.87	6.6	3.36
Aug-09	96.70	7.65	9.3	5.94
Sep-09	108.00	15.30	7.78	1.84
Oct-09	158.00	12.85	5.19	3.35
Nov-09	124.00	10.80	4.96	1.61
Dec-09	198.00	12.80	2.44	0.83
			1.59	0.76
			0.96	0.2
			0.88	0.68
Apr-10	176.00	6.00	1.28	0.6
May-10	174.00	12.41	3.96	3.36
Jun-10	188.00	5.74	7.41	4.05
Jul-10	147.00	12.20	9.72	5.67
Aug-10	146.00	8.76	9.18	3.51
Sep-10	177.00	3.20	8.55	5.04
Oct-10	144.00	12.16	7.23	2.19
Nov-10	159.00	12.50	3.07	0.88
			2.15	1.27
			2.87	1.6
			1.98	0.38
			0.96	0.58
Apr-11	95.80	34.60	3.64	3.06
May-11	60.90	43.40	5.86	2.8
Jun-11	58.00	22.90	6.18	3.38
Jul-11	54.80	12.90	6.1	2.72
			5.33	2.61
Sep-11	46.50	9.29	4.65	2.04
Oct-11	111.00	5.60	3.66	1.62
Nov-11	118.00	1.90	1.82	0.2
Dec-11	209.00	1.40	0.57	0.37
			1.09	0.72
Feb-12	445.00	1.75	1.27	0.55
Mar-12	430.00	1.74	1.6	1.05
Apr-12	103.00	2.78	3.77	2.72
May-12	126.00	12.73	8.73	6.01
Jun-12	88.40	52.40	11.57	5.56
Jul-12	48.80	11.70	11.52	5.96
Aug-12	28.10	2.45	7.15	1.19
Sep-12	44.50	1.98	1.91	0.72
Oct-12	93.80	1.18	2.4	1.68
Nov-12	96.60	4.05	3.04	1.36
Dec-12	127.00	5.64	2.1	0.74
Jan-13	260.00	2.33	2.13	1.39
Feb-13	438.00	2.09	2.25	0.86
Mar-13	484.00	0.92	2.4	1.54
Apr-13	490.00	0.92	3.11	1.57
May-13	76.90	23.70	3.94	2.37

Jun-13	6.25	5 mi.	58N	17W	6	SWCD			
Jul-13	4.63	5 mi.	58N	17W	6	SWCD			
Aug-13	2.35	5 mi.	58N	17W	6	SWCD			
Sep-13	0.89	5 mi.	58N	17W	6	SWCD	25.63		
Oct-13	3.21	5 mi.	58N	17W	6	SWCD		21.27	13
Nov-13	0.77	6 mi.	58N	17W	5	SWCD			
Dec-13	2.75	8 mi.	58N	18W	33	SWCD			
Jan-14	1.05	6 mi.	58N	17W	5	SWCD			
Feb-14	1.71	6 mi.	58N	17W	5	SWCD			
Mar-14	0.77	6 mi.	58N	17W	5	SWCD			
Apr-14	2.04	5 mi.	58N	17W	6	SWCD			
May-14	4.84	5 mi.	58N	17W	6	SWCD			
Jun-14	5.1	5 mi.	58N	17W	6	SWCD			
Jul-14	2.23	5 mi.	58N	17W	6	SWCD			
Aug-14	2.11	5 mi.	58N	17W	6	SWCD			
Sep-14	2.68	8 mi.	58N	17W	5	SWCD	29.26		
Oct-14	1.75	3 mi.	58N	17W	5	SWCD		20.75	14
Nov-14	0.89	3 mi.	58N	17W	5	SWCD			
Dec-14	0.91	3 mi.	58N	17W	5	SWCD			
Jan-15	0.58	3 mi.	58N	17W	5	SWCD			
Feb-15	0.53	3 mi.	58N	17W	5	SWCD			
Mar-15	0.78	3 mi.	58N	17W	5	SWCD			
Apr-15	0.61	2 mi.	58N	17W	6	SWCD			
May-15	5.82	2 mi.	58N	17W	6	SWCD			
Jun-15	4.9	2 mi.	58N	17W	6	SWCD			
Jul-15	1.77	2 mi.	58N	17W	6	SWCD			
Aug-15	4.52	2 mi.	58N	17W	6	SWCD			
Sep-15	4.28	3 mi.	58N	17W	5	SWCD	27.34		
Oct-15	2.31	2 mi.	58N	17W	6	SWCD		24.21	15
Nov-15	3.02	2 mi.	58N	17W	6	SWCD			
Dec-15	2.11	7 mi.	58N	18W	33	SWCD			

Jun-13	77.40	16.40	8.62	6.25
Jul-13	49.8	13.1	10.88	4.63
Aug-13	12.1	8.08	6.98	2.35
Sep-13	1.3	0.37	3.24	0.89
Oct-13	68.10	0.22	4.1	3.21
Nov-13	44.10	3.05	3.98	0.77
Dec-13	120.00	2.81	3.52	2.75
Jan-14	220	3.12	3.8	1.05
Feb-14	235	2.73	2.76	1.71
Mar-14	331	4.8	2.48	0.77
Apr-14	285	4.78	2.81	2.04
May-14	55	66	6.88	4.84
Jun-14	36.2	41.5	9.94	5.1
Jul-14	37.2	16.73	7.33	2.23
Aug-14	28.1	7.1	4.34	2.11
Sep-14	16.5	2.5	4.79	2.68
Oct-14	7.9	13.1	4.43	1.75
Nov-14	132.0	6.8	2.64	0.89
Dec-14	214	3	1.8	0.91
Jan-15	286	1.3	1.49	0.58
Feb-15	393	1.23	1.11	0.53
Mar-15	563	1.8	1.31	0.78
Apr-15	38	4.8	1.39	0.61
May-15	183	26.4	6.43	5.82
Jun-15	118	16	10.72	4.9
Jul-15	58.9	13.1	6.67	1.77
Aug-15	125	2.85	6.29	4.52
Sep-15	51.6	9.66	8.8	4.28
Oct-15	121.0	8.96	6.59	2.31
Nov-15	124.0	12.9	5.33	3.02
Dec-15	131.0	13.4	5.13	2.11

SW001	Sulfate mg/L	Flow MGD	Sulfate mass kg/day	SO4 kg/day 3 mo MA
Jan-00	625.00	1.64	3868	
Feb-00	647.00	2.31	5657	3893
Mar-00	381.00	1.49	2153	6963
Apr-00	136.00	25.41	13080	7806
May-00	117.00	18.48	8184	9376
Jun-00	157.00	11.55	6864	6579
Jul-00	157.00	7.89	4690	5663
Aug-00	181.00	7.93	5435	6258
Sep-00	192.00	11.90	8648	5252
Oct-00	113.00	3.91	1671	4705
Nov-00	172.00	5.83	3795	4007
Dec-00	297.00	5.83	6554	6664
Jan-01	437.00	5.83	9643	9209
Feb-01	518.00	5.83	11430	11828
Mar-01	653.00	5.83	14409	12112
Apr-01	474.00	5.85	10495	11528
May-01	97.50	26.23	9680	9916
Jun-01	96.40	26.23	9572	7130
Jul-01	137.00	4.12	2138	4245
Aug-01	45.20	5.99	1024	3648
Sep-01	218.00	9.43	7781	5381
Oct-01	213.00	9.10	7336	6865
Nov-01	234.00	6.19	5478	5117
Dec-01	115.00	5.83	2538	5463
May-02	127.00	17.42	8374	8517
Jun-02	170.00	22.75	14638	11402
Jul-02	130.00	22.75	11194	10290
Aug-02	32.00	41.58	5036	9256
Sep-02	134.00	22.75	11539	7185
Oct-02	203.00	6.48	4979	5756
May-03	181.00	1.10	752	3008
Jun-03	237.00	3.67	3292	3143
Jul-03	247.00	5.76	5385	3046
Aug-03	39.40	3.09	461	2612
Sep-03	263.00	2.00	1991	2140
Oct-03	226.00	4.64	3969	4427
Nov-03	309.00	6.26	7321	7986
Apr-04	461.00	7.26	12668	7699
May-04	175.00	4.69	3107	8841
Jun-04	163.00	17.42	10747	4792
Jul-04	49.70	2.77	521	3863
Aug-04	62.80	1.35	321	1269
Sep-04	220.00	3.56	2964	2120
Oct-04	213.00	3.82	3076	7181
Nov-04	200.00	20.48	15503	12144

5 mo MA

6588
7187
6994
7651
6764
5462
4848
5221
6062
6619
9166
10506
11132
11117
9259
6582
6039
5570
4752
4831
6301
7673
8444
8356
10156
9477
6700
5119
5189
2974
2376
3020
3825
5282
5811
7562
6873
5473
3532
3526
4477
7943
8376

Yearly Avg Flow	Sulfate mg/L	SD002 Date	Flow MGD	SO4	SO4 kg/day	SO4 kg/day 3 mo MA
		Oct-99	0.30	641	730	
		Nov-99	0.33	685	863	764
		Dec-99	0.32	582	698	753
		Jan-00	0.28	649	698	680
	117.00	Feb-00	0.26	657	644	669
	157.00	Mar-00	0.26	678	665	657
	157.00	Apr-00	0.27	647	664	633
	181.00	May-00	0.27	557	571	640
	192.00	Jun-00	0.26	699	685	643
	113.00	Jul-00	0.26	686	672	677
		Aug-00	0.26	686	672	707
8.68		Sep-00	0.26	793	777	741
		Oct-00	0.28	720	774	764
		Nov-00	0.28	689	741	769
		Dec-00	0.28	737	792	791
		Jan-01	0.28	781	840	810
	97.50	Feb-01	0.28	758	798	822
	96.40	Mar-01	0.26	841	828	799
	137.00	Apr-01	0.27	752	771	811
	45.20	May-01	0.26	846	833	801
	218.00	Jun-01	0.26	815	799	574
	213.00	Jul-01	0.03	870	90	614
		Aug-01	0.32	795	953	671
9.70		Sep-01	0.32	808	969	987
	127.00	Oct-01	0.32	866	1039	957
	170.00	Nov-01	0.29	784	864	959
	130.00	Dec-01	0.34	754	973	932
	32.00	Jan-02	0.33	760	958	1039
	134.00	Feb-02	0.40	783	1185	1019
	203.00	Mar-02	0.31	779	914	997
	181.00	Apr-02	0.32	748	892	946
	237.00	May-02	0.32	857	1032	774
	247.00	Jun-02	0.14	753	399	784
	39.40	Jul-02	0.32	760	921	841
	263.00	Aug-02	0.39	815	1203	954
	226.00	Sep-02	0.23	838	739	1082
		Oct-02	0.41	841	1305	990
		Nov-02	0.35	700	927	1276
	175.00	Dec-02	0.49	860	1595	1388
	163.00	Jan-03	0.54	803	1641	1616
	49.70	Feb-03	0.54	788	1611	1405
	62.80	Mar-03	0.32	794	962	1183
	220.00	Apr-03	0.35	737	976	1035
	213.00	May-03	0.28	1100	1166	1060
		Jun-03	0.31	885	1038	1122

Flow (MGD)	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**
Jan	1.64	5.83							
Feb	2.31	5.83							
Mar	1.49	5.83							
Apr	25.41	5.85			7.26	54.40	67.82	31.80	44.90
May	18.48	26.23	17.42	1.10	4.69	8.24	5.55	13.00	19.50
Jun	11.55	26.23	22.75	3.67	17.42	29.15	3.13	14.50	19.50
Jul	7.89	4.12	22.75	5.76	2.77	6.83	1.56	2.07	5.59
Aug	7.93	5.99	41.58	3.09	1.35	1.71	1.14	1.36	2.77
Sep	11.90	9.43	22.75	2.00	3.56	1.64	1.28	0.52	0.67
Oct	3.91	9.10	6.48	4.64	3.82	19.16	5.97	25.70	12.40
Nov	5.83	6.19		6.26	20.48	3.27	1.85	3.00	
Dec	5.83	5.83							
	87.07	86.95	133.73	20.26	40.87	121.13	86.45	88.95	105.33

Mawss - NONDEGRADATION

SW001	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**
Apr	13,080	10,495			12,668	17,852	34,398	18,777	51,154
May	8,184	9,680	8,374	752	3,107	2,486	1,582	7,578	5,019
Jun	**6,864**	**9,572**	**14,638**	3,292	10,747	15,336	1,765	5,927	6,163
Jul	4,690	2,138	11,194	5,385	521	2,190	685	1,175	2,046
Aug	5,435	1,024	5,036	461	321	601	348	762	838
Sep	8,648	7,781	11,539	1,991	2,964	844	722	120	112
Oct	1,671	7,336	4,979	3,969	3,076	15,229	6,847	11,381	8,401
Nov	3,795	5,478		7,321	15,503	907	2,542	754	
Dec	6,554	2,538							
Median	6,149	7,559	9,784	3,292	3,091	2,338	1,674	3,551	5,019
Mean	6,546	6,688	9,293	3,310	6,113	6,931	6,111	5,809	10,533
SUM (Apr-Nov)	52,367	53,505			48,907	55,446	48,888	46,474	73,732

2009	2010	2011	2012	2013	2014
				2.33	3.12
			1.75	2.09	2.73
			1.74	0.92	
48.90	6.00	34.60	2.78	0.92	
37.60	12.41	43.40	12.73	23.70	
10.40	5.74	22.90	52.40	16.40	
2.87	12.20	12.90	11.70	13.1	
7.65	8.76	9.29	2.45	8.08	
15.30	3.20	5.60	1.98	0.37	
12.85	12.16	1.90	1.18	0.22	
10.80	12.50	1.40	4.05	3.05	
12.80			5.64	2.81	
135.57	60.47	130.59	85.22	62.79	

2009	2010	2011	2012	2013	2014	1991	AVG
20,174	3,997	12,546	1,084	1,706		9,971	15,992
11,044	8,173	10,004	6,071	6,898		7,720	6,445
2,220	4,084	5,027	17,533	4,805		2,730	7,380
941	6,788	2,676	2,161	2,469		11,017	3,738
2,800	4,841	1,635	261	370			1,767
6,254	2,144	2,353	333	2		8,258	3,604
7,685	6,628	849	419	57		2,701	5,415
5,069	7,523	1,107	1,481	509		4,272	4,328
9,593			2,711	1,276		1,754	4,071
5,662	5,734	2,514	1,282	1,108		7,720	
7,023	5,522	4,525	3,668	2,102		6,667	
56,187	44,178	36,197	29,342	16,816		46,670	

Apr-05	86.70	54.40	17852	11947
May-05	79.70	8.24	2486	11891
Jun-05	139.00	29.15	15336	6671
Jul-05	84.70	6.83	2190	6042
Aug-05	92.90	1.71	601	1212
Sep-05	136.00	1.64	844	5558
Oct-05	210.00	19.16	15229	5660
Nov-05	73.30	3.27	907	16845
Apr-06	134.00	67.82	34398	12296
May-06	75.30	5.55	1582	12582
Jun-06	149.00	3.13	1765	1344
Jul-06	116.00	1.56	685	933
Aug-06	80.60	1.14	348	585
Sep-06	149.00	1.28	722	2639
Oct-06	303.00	5.97	6847	3370
Nov-06	363.00	1.85	2542	9388
Apr-07	156.00	31.80	18777	9632
May-07	154.00	13.00	7578	10761
Jun-07	108.00	14.50	5927	4893
Jul-07	150.00	2.07	1175	2621
Aug-07	148.00	1.36	762	686
Sep-07	61.00	0.52	120	4088
Oct-07	117.00	25.70	11381	4085
Nov-07	66.40	3.00	754	21096
Apr-08	301.00	44.90	51154	18976
May-08	68.00	19.50	5019	20779
Jun-08	83.50	19.50	6163	4409
Jul-08	96.70	5.59	2046	3016
Aug-08	79.90	2.77	838	999
Sep-08	44.10	0.67	112	3117
Oct-08	179.00	12.40	8401	9562
Apr-09	109.00	48.90	20174	13206
May-09	77.60	37.60	11044	11146
Jun-09	56.40	10.40	2220	4735
Jul-09	86.60	2.87	941	1987
Aug-09	96.70	7.65	2800	3332
Sep-09	108.00	15.30	6254	5580
Oct-09	158.00	12.85	7685	6336
Nov-09	124.00	10.80	5069	7449
Dec-09	198.00	12.80	9593	6220
Apr-10	176.00	6.00	3997	7254
May-10	174.00	12.41	8173	5418
Jun-10	188.00	5.74	4084	6349
Jul-10	147.00	12.20	6788	5238
Aug-10	146.00	8.76	4841	4591
Sep-10	177.00	3.20	2144	4537
Oct-10	144.00	12.16	6628	5431

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	Jul-03	0.35	877	1162	1087
79.70	Aug-03	0.32	876	1061	1001
139.00	Sep-03	0.25	824	780	838
84.70	Oct-03	0.23	772	672	835
92.90	Nov-03	0.35	796	1055	949
136.00	Dec-03	0.34	870	1120	1085
210.00	Jan-04	0.34	841	1082	1093
73.30	Feb-04	0.33	862	1077	1097
134.00	Mar-04	0.36	831	1132	1130
75.30	Apr-04	0.36	867	1181	1048
149.00	May-04	0.26	844	831	952
116.00	Jun-04	0.25	892	844	871
80.60	Jul-04	0.21	1180	938	837
149.00	Aug-04	0.24	802	729	899
303.00	Sep-04	0.33	824	1029	926
363.00	Oct-04	0.32	843	1021	1084
156.00	Nov-04	0.37	859	1203	1163
154.00	Dec-04	0.43	778	1266	1197
108.00	Jan-05	0.37	801	1122	1158
150.00	Feb-05	0.35	819	1085	1132
148.00	Mar-05	0.38	826	1188	1068
61.00	Apr-05	0.34	724	932	1034
117.00	May-05	0.32	811	982	773
66.40	Jun-05	0.12	892	405	772
301.00	Jul-05	0.32	766	928	801
68.00	Aug-05	0.34	832	1071	982
83.50	Sep-05	0.31	808	948	950
96.70	Oct-05	0.34	645	830	956
79.90	Nov-05	0.35	822	1089	1007
44.10	Dec-05	0.36	808	1101	1104
179.00	Jan-06	0.35	846	1121	1076
109.00	Feb-06	0.32	830	1005	844
77.60	Mar-06	0.14	768	407	800
56.40	Apr-06	0.32	816	988	757
86.60	May-06	0.30	772	877	914
96.70	Jun-06	0.28	827	876	838
108.00	Jul-06	0.26	789	762	791
158.00	Aug-06	0.23	843	734	725
124.00	Sep-06	0.23	782	681	713
198.00	Oct-06	0.27	710	726	704
176.00	Nov-06	0.24	777	706	741
174.00	Dec-06	0.26	805	792	728
188.00	Jan-07	0.26	698	687	703
147.00	Feb-07	0.21	793	630	707
146.00	Mar-07	0.26	816	803	733
177.00	Apr-07	0.26	777	765	782
144.00	May-07	0.26	792	779	770

Nov-10	159.00	12.50	7523	8899
Apr-11	95.80	34.60	12546	10024
May-11	60.90	43.40	10004	9192
Jun-11	58.00	22.90	5027	5902
Jul-11	54.80	12.90	2676	3113
Sep-11	46.50	9.29	1635	2221
Oct-11	111.00	5.60	2353	1612
Nov-11	118.00	1.90	849	1436
Dec-11	209.00	1.40	1107	1635
Feb-12	445.00	1.75	2948	2296
Mar-12	430.00	1.74	2832	2288
Apr-12	103.00	2.78	1084	3329
May-12	126.00	12.73	6071	8229
Jun-12	88.40	52.40	17533	8588
Jul-12	48.80	11.70	2161	6651
Aug-12	28.10	2.45	261	918
Sep-12	44.50	1.98	333	338
Oct-12	93.80	1.18	419	744
Nov-12	96.60	4.05	1481	1537
Dec-12	127.00	5.64	2711	2162
Jan-13	260.00	2.33	2293	2823
Feb-13	438.00	2.09	3465	2481
Mar-13	484.00	0.92	1685	2286
Apr-13	490.00	0.92	1706	3430
May-13	76.90	23.70	6898	4470
Jun-13	77.40	16.40	4805	4724
Jul-13	49.8	13.1	2469	2548
Aug-13	12.1	8.08	370	947
Sep-13	1.3	0.37	2	143
Oct-13	68.10	0.22	57	189
Nov-13	44.10	3.05	509	614
Dec-13	120.00	2.81	1276	1461
Jan-14	220	3.12	2598	2101
Feb-14	235	2.73	2428	3680
Mar-14	331	4.8	6014	4533
Apr-14	285	4.78	5156	8303
May-14	55	66	13740	8194
Jun-14	36.2	41.5	5686	7260
Jul-14	37.2	16.73	2356	2932
Aug-14	28.1	7.1	755	1089
Sep-14	16.5	2.5	156	434
Oct-14	7.9	13.1	392	1308
Nov-14	132.0	6.8	3377	2093
Dec-14	214	3	2511	2432
Jan-15	286	1.3	1407	1916
Feb-15	393	1.23	1830	2358
Mar-15	563	1.8	3836	2119

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	159.00	Jun-07	0.26	778	766	765
	95.80	Jul-07	0.25	793	750	808
	60.90	Aug-07	0.24	1000	908	808
	58.00	Sep-07	0.24	844	767	834
	54.80	Oct-07	0.26	840	827	829
	46.50	Nov-07	0.28	843	893	867
	111.00	Dec-07	0.27	863	882	888
	118.00	Jan-08	0.28	838	888	880
16.50	209.00	Feb-08	0.28	822	871	853
	445.00	Mar-08	0.26	814	801	835
	430.00	Apr-08	0.27	815	833	849
	103.00	May-08	0.30	804	913	894
	126.00	Jun-08	0.29	854	937	914
	88.40	Jul-08	0.28	840	890	884
	48.80	Aug-08	0.26	837	824	850
	28.10	Sep-08	0.26	850	836	816
	44.50	Oct-08	0.25	831	786	790
	93.80	Nov-08	0.24	823	748	695
	96.60	Dec-08	0.18	808	550	613
8.95	127.00	Jan-09	0.18	796	542	561
	260.00	Feb-09	0.19	821	590	626
	438.00	Mar-09	0.23	857	746	685
	484.00	Apr-09	0.23	826	719	730
	490.00	May-09	0.23	833	725	721
	76.90	Jun-09	0.23	826	719	742
	77.40	Jul-09	0.23	899	783	708
	49.8	Aug-09	0.23	716	623	739
	12.1	Sep-09	0.23	932	811	750
	1.3	Oct-09	0.23	935	814	817
	68.10	Nov-09	0.23	949	826	827
	44.10	Dec-09	0.23	966	841	823
6.17	120.00	Jan-10	0.23	922	803	802
	220	Feb-10	0.21	960	763	767
	235	Mar-10	0.21	924	734	735
	331	Apr-10	0.21	890	707	728
	285	May-10	0.21	934	742	717
	55	Jun-10	0.21	881	700	
	36					
	37					
	28					
	16.5					
	7.9					
	132.0	Avg.	0.28	811	868	
14.35	214					
	286					
	393					
	563					

Apr-15	38	4.8	690	7604
May-15	183	26.4	18286	8708
Jun-15	118	16	7146	9451
Jul-15	58.9	13.1	2920	3805
Aug-15	125	2.85	1348	2052
Sep-15	51.6	9.66	1887	2446
Oct-15	121.0	8.96	4104	4015
Nov-15	124.0	12.9	6054	5601
Dec-15	131.0	13.4	6644	

	Concentration		Mass	
	Pre-SCRS	Post-SCRS	Pre-SCRS	Post-SCRS
Average	180.60	154.33	6779	3796
Median	149.00	114.50	5053	2469

	avg	med	avg	med
% change	-14.5	-23.2	-44.0	-51.1

	Discharge	Discharge	Sulfate Conc	Sulfate Mass
	ft3/s	MGD	mg/L	kg/day
4/26/1958	12	7.76	7.5	225.4
5/21/1958	11	7.11	7.8	214.9
6/25/1958	22	14.22	9.5	523.4
8/4/1959	3.1	2.00	9.5	73.8
8/26/1959	18	11.63	10	450.8
9/4/1959	313	202.28	12	9406.2
7/6/1960	8.6	5.56	11	236.9
10/29/1960	4.4	2.84	9.3	102.5
11/16/1960	8.9	5.75	7.3	162.7
12/22/1960	0.85	0.55	10	21.3
1/23/1961	0.37	0.24	5.5	5.1
2/21/1961	0.54	0.35	2	2.7
5/11/1961	43	27.79	6	646.1
6/21/1961	5	3.23	7.3	91.4
7/17/1961	1.3	0.84	1.8	5.9
8/14/1961	0.38	0.25	2.8	2.7
9/13/1961	23	14.86	26	1497.6
Average	28.0	18.1	8.5	804.1
Median	8.6	5.6	7.8	162.7

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Possible discharge error - 3x greater than any other measurement. Check against precip records or other nearby streams

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9.37

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CR668	Flow (MGD)	Sulfate	Sulfate (kg/d)
11/8/2011	5.1	741	14303.9
1/6/2012	4.86	909	16721.1
6/5/2012	8.31	298	9374.3
9/1/2012	4.74	709.8	12734.5
9/19/2012	1.99	763	5748.5
11/27/2012	8.62	750	24473.6
1/10/2013	0.98	920	3398.2
5/17/2013	9.80	335	12431.2
9/12/2013	1.98	689	5174.1
11/25/2013	2.28	767	6622.9
1/24/2014	2.63	814	8104.0
5/23/2014	14.29	238	12872.0
6/20/2014	15.54	187	11001.1
7/18/2014	5.91	459	10273.4

SD001	Sulfate mg/L	Flow MGD	Sulfate kg/day
Oct-99	743.00	0.14	399.34
Nov-99	878.00	0.12	408.76
Dec-99	855.00	0.11	355.98
Jan-00	851.00	0.09	289.89
Feb-00	807.00	0.09	274.90
Mar-00	863.00	0.09	293.98
Apr-00	809.00	0.10	297.02
May-00	805.00	0.10	295.55
Jun-00	919.00	0.10	358.28
Jul-00	954.00	0.10	371.92
Aug-00	928.00	0.10	361.79
Sep-00	1040.00	0.01	51.17
Oct-00	971.00	0.10	378.55
Nov-00	913.00	0.10	355.94
Dec-00	953.00	0.10	371.53
Jan-01	946.00	0.19	694.64
Feb-01	938.00	0.08	276.93
Mar-01	1010.00	0.08	298.18
Apr-01	920.00	0.12	428.31
May-01	1030.00	0.12	467.83
Jun-01	1000.00	0.10	382.29
Jul-01	994.00	0.10	383.75
Aug-01	940.00	0.11	391.37
Sep-01	928.00	0.11	386.37
Oct-01	972.00	0.09	338.47
Nov-01	906.00	0.08	288.05
Dec-01	864.00	0.90	2943.22
Jan-02	881.00	0.09	290.11
Feb-02	884.00	0.08	277.71
Mar-02	904.00	0.08	256.62
Apr-02	871.00	0.09	296.71
May-02	1010.00	0.12	458.74
Jun-02	896.00	0.26	881.75
Jul-02	970.00	0.17	624.15
Aug-02	897.00	0.19	645.08
Sep-02	954.00	0.12	444.14
Oct-02	988.00	0.11	411.35
Nov-02	950.00	0.11	395.53
Dec-02	915.00	0.17	588.76
Jan-03	957.00	0.24	869.34
Feb-03	966.00	0.22	804.39
Mar-03	962.00	0.08	291.29
Apr-03	898.00	0.13	441.86
May-03	761.00	0.12	339.89
Jun-03	858.00	0.10	324.75

Sulfate 3 mo MA
kg/day

	399.34
388.03	408.76
351.54	355.98
306.93	289.89
286.26	274.90
288.64	293.98
295.52	297.02
316.95	295.55
341.92	358.28
363.99	371.92
261.63	361.79
263.84	51.17
261.89	378.55
368.67	355.94
474.04	371.53
447.70	694.64
423.25	276.93
334.47	298.18
398.11	428.31
426.14	467.83
411.29	382.29
385.80	383.75
387.17	391.37
372.07	386.37
337.63	338.47
1189.91	288.05
1173.79	2943.22
1170.35	290.11
274.81	277.71
277.01	256.62
337.36	296.71
545.73	458.74
654.88	881.75
716.99	624.15
571.12	645.08
500.19	444.14
417.01	411.35
465.21	395.53
617.88	588.76
754.16	869.34
655.01	804.39
512.51	291.29
357.68	441.86
368.83	339.89
372.79	324.75

Jul-03	999.00	0.12	453.75
Aug-03	983.00	0.09	334.86
Sep-03	900.00	0.13	442.85
Oct-03	898.00	0.09	305.90
Nov-03	995.00	0.10	376.61
Dec-03	944.00	0.11	393.03
Jan-04	916.00	0.08	260.03
Feb-04	972.00	0.07	257.53
Mar-04	1004.00	0.07	277.41
Apr-04	933.00	0.11	388.45
May-04	970.00	0.21	771.00
Jun-04	994.00	0.13	489.10
Jul-04	1020.00	0.12	463.28
Aug-04	911.00	0.11	379.29
Sep-04	970.00	0.10	367.15
Oct-04	953.00	0.11	396.78
Nov-04	987.00	0.12	459.50
Dec-04	833.00	0.13	419.34
Mar-05	1010.00	0.10	382.29
Apr-05	834.00	0.12	378.80
May-05	866.00	0.19	622.78
Jun-05	808.00	0.32	978.65
Jul-05	877.00	0.11	365.14
Aug-05	949.00	0.11	395.12
Sep-05	949.00	0.11	395.12
Oct-05	699.00	0.10	264.57
Nov-05	925.00	0.11	385.12
Dec-05	900.00	0.12	408.78
Jan-06	948.00	0.21	753.52
Feb-06	924.00	0.15	524.60
Mar-06	954.00	0.32	1155.48
Apr-06	985.00	0.14	521.95
May-06	951.00	0.14	503.93
Jun-06	1070.00	0.14	566.99
Jul-06	1050.00	0.14	556.40
Aug-06	990.00	0.14	524.60
Sep-06	990.00	0.19	711.96
Oct-06	788.00	0.11	328.08
Nov-06	921.00	0.09	313.74
Dec-06	1010.00	0.09	344.06
Jan-07	896.00	0.08	271.31
Feb-07	1140.00	0.09	388.34
Mar-07	1000.00	0.08	302.80
Apr-07	1050.00	0.11	437.17
May-07	1160.00	0.12	526.87
Jun-07	1060.00	0.12	481.45
Jul-07	1020.00	0.12	463.28

371.12	453.75
410.48	334.86
361.20	442.85
375.12	305.90
358.52	376.61
343.22	393.03
303.53	260.03
264.99	257.53
307.80	277.41
478.96	388.45
549.52	771.00
574.46	489.10
443.89	463.28
403.24	379.29
381.07	367.15
407.81	396.78
425.21	459.50
439.42	419.34
380.54	382.29
461.29	378.80
660.08	622.78
655.52	978.65
579.63	365.14
385.12	395.12
351.60	395.12
348.27	264.57
352.83	385.12
515.81	408.78
562.30	753.52
811.20	524.60
734.01	1155.48
727.12	521.95
530.96	503.93
542.44	566.99
549.33	556.40
597.65	524.60
521.55	711.96
451.26	328.08
328.63	313.74
309.70	344.06
334.57	271.31
320.82	388.34
376.10	302.80
422.28	437.17
481.83	526.87
490.54	481.45
542.77	463.28

Aug-07	1290.00	0.14	683.57
Sep-07	988.00	0.20	747.92
Oct-07	965.00	0.15	547.88
Nov-07	1040.00	0.14	551.10
Dec-07	1050.00	0.13	516.65
Jan-08	1070.00	0.12	485.99
Feb-08	1090.00	0.10	412.57
Mar-08	1080.00	0.09	367.90
Apr-08	1060.00	0.08	320.97
May-08	1050.00	0.12	476.91
Jun-08	1110.00	0.16	672.22
Jul-08	1030.00	0.16	623.77
Aug-08	932.00	0.16	564.42
Sep-08	893.00	0.16	540.80
Oct-08	870.00	0.19	625.66
Nov-08	965.00	0.24	876.61
Dec-08	898.00	0.19	645.80
Jan-09	930.00	0.11	387.21
Feb-09	505.00	0.09	172.03
Mar-09	984.00	0.18	670.40
Apr-09	1060.00	0.19	762.30
May-09	1030.00	0.18	701.74
Jun-09	913.00	0.15	518.36
Jul-09	845.00	0.16	511.73
Aug-09	692.00	0.16	419.08
Sep-09	979.00	0.16	592.88
Oct-09	1070.00	0.16	647.99
Nov-09	1070.00	0.14	566.99
Dec-09	1110.00	0.12	504.16
Jan-10	1140.00	0.12	517.79
Feb-10	1190.00	0.13	585.54
Mar-10	1120.00	0.13	551.10
Apr-10	1070.00	0.15	607.49
May-10	1120.00	0.16	678.27
Jun-10	1050.00	0.16	635.88
Jul-10	1060.00	0.16	641.94
Aug-10	1320.00	0.17	849.35
Sep-10	1070.00	0.19	769.49
Oct-10	1080.00	0.16	654.05
Nov-10	1020.00	0.16	617.71
Dec-10	1010.00	0.16	611.66
Jan-11	984.00	0.16	595.91
Feb-11	1020.00	0.16	617.71
Mar-11	973.00	0.16	589.25
Apr-11	996.00	0.18	678.57
May-11	968.00	0.19	696.14
Jun-11	980.00	0.19	704.77

631.59	683.57
659.79	747.92
615.63	547.88
538.54	551.10
517.91	516.65
471.74	485.99
422.15	412.57
367.15	367.90
388.59	320.97
490.03	476.91
590.96	672.22
620.13	623.77
576.33	564.42
576.96	540.80
681.02	625.66
716.02	876.61
636.54	645.80
401.68	387.21
409.88	172.03
534.91	670.40
711.48	762.30
660.80	701.74
577.28	518.36
483.05	511.73
507.90	419.08
553.32	592.88
602.62	647.99
573.05	566.99
529.65	504.16
535.83	517.79
551.47	585.54
581.38	551.10
612.29	607.49
640.55	678.27
652.03	635.88
709.06	641.94
753.59	849.35
757.63	769.49
680.42	654.05
627.81	617.71
608.43	611.66
608.43	595.91
600.96	617.71
628.51	589.25
654.65	678.57
693.16	696.14
697.34	704.77

Jul-11	961.00	0.19	691.10
Aug-11	990.00	0.20	749.43
Sep-11	929.00	0.23	808.74
Oct-11	914.00	0.22	761.09
Nov-11	923.00	0.21	733.65
Dec-11	973.00	0.16	589.25
Jan-12	938.00	0.16	568.05
Feb-12	956.00	0.13	470.40
Mar-12	935.00	0.11	389.29
Apr-12	1020.00	0.10	386.07
May-12	988.00	0.12	448.75
Jun-12	1020.00	0.11	424.68
Jul-12	981.00	0.12	445.57
Aug-12	1050.00	0.11	437.17
Sep-12	998.00	0.11	415.52
Oct-12	1000.00	0.14	529.90
Nov-12	991.00	0.13	487.62
Dec-12	997.00	0.14	528.31
Jan-13	1030.00	0.11	428.84
Feb-13	953.00	0.11	396.78
Mar-13	968.00	0.11	403.03
Apr-13	984.00	0.11	409.69
May-13	926.00	0.11	385.54
Jun-13	1020.00	0.10	386.07
Jul-13	1060.00	0.1	401.21
Aug-13	1120.00	0.12	508.70
Sep-13	1090.00	0.1	412.57
Oct-13	1070.00	0.11	445.49
Nov-13	1090.00	0.12	495.08
Dec-13	1000.00	0.11	416.35
Jan-14	1110.00	0.13	546.18
Feb-14	1080.00	0.16	654.05
Mar-14	1100.00	0.14	582.89
Apr-14	1090.00	0.13	536.33
May-14	1060.00	0.12	481.45
Jun-14	1060.00	0.12	481.45
Jul-14	1070.00	0.12	485.99
Aug-14	1170.00	0.13	575.70
Sep-14		0.12	
Oct-14		0.12	
Nov-14		0.13	
Dec-14	964	0.12	
Jan-15		0.15	
Feb-15		0.18	
Mar-15		0.17	
Apr-15		0.18	
May-15		0.19	

715.10	691.10
749.76	749.43
773.09	808.74
767.83	761.09
694.66	733.65
630.32	589.25
542.57	568.05
475.91	470.40
415.25	389.29
408.04	386.07
419.83	448.75
439.67	424.68
435.80	445.57
432.75	437.17
460.86	415.52
477.68	529.90
515.28	487.62
481.59	528.31
451.31	428.84
409.55	396.78
403.17	403.03
399.42	409.69
393.77	385.54
390.94	386.07
431.99	
440.83	
455.59	
451.05	
452.31	
485.87	
538.86	
594.37	
591.09	
533.56	
499.75	
482.97	
514.38	

Jun-15	0.19
Jul-15	0.16

	Sand River	
	Concentration (mg/L)	Mass (kg/day)
Seep	811	868
Stream (pre SCS)	180	6780
Stream (post SCS)	151	3652
Difference in Stream (pre-post SCS)		3128
*Estimated mass recovered by SCS		2400

* 545 gpm at conc of 811 mg/L (Flow from Table 6.2 "Simulated Versus Estimated Seep Flow Ra
and Groundwater Discharge Rates" - CRA June 2013 Report:)

784800

SD001	505
Dark River Cr 668	10800
SD002	868
Sand River (pre SCS)	6780
Sand River (post SCS)	4094

6.370174666

1.966828123
6813

Dark River	
Concentration (mg/L)	Mass (kg/day)
965	505
605	10,800
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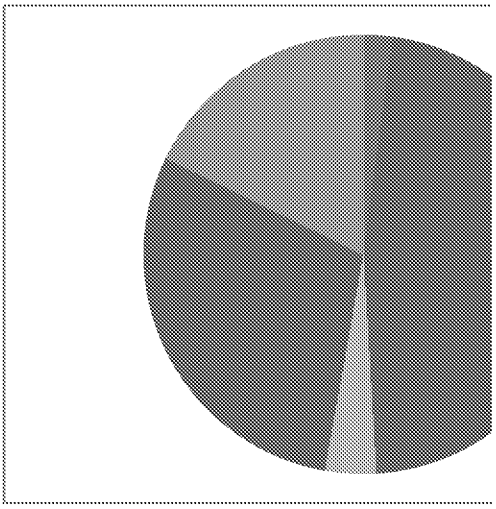

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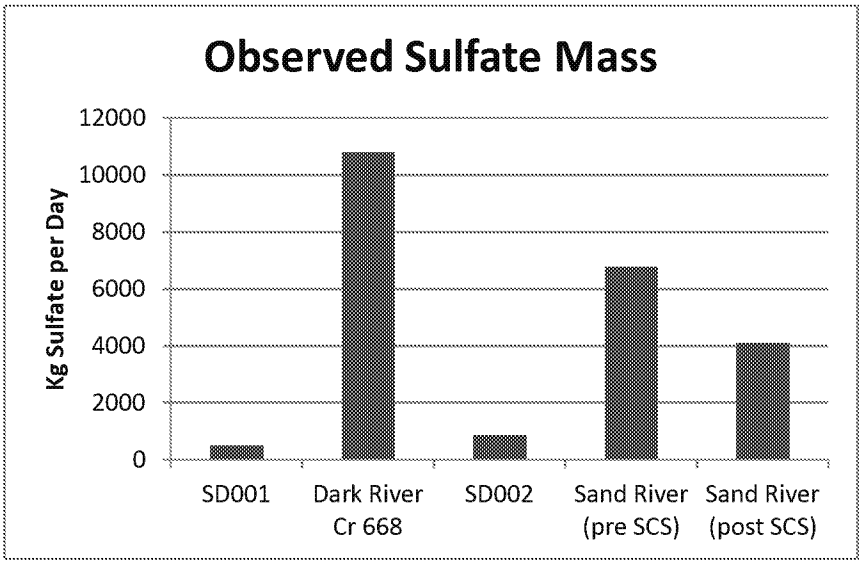
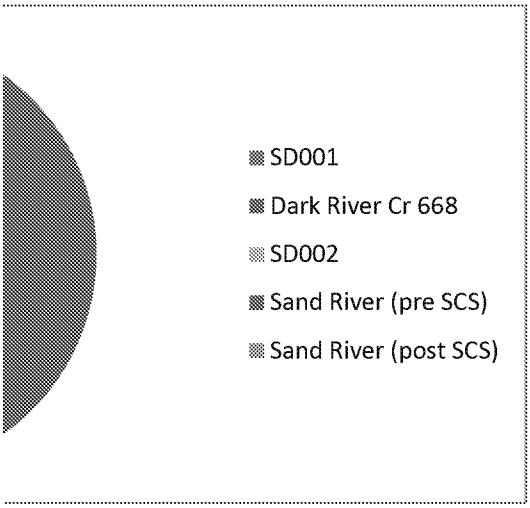
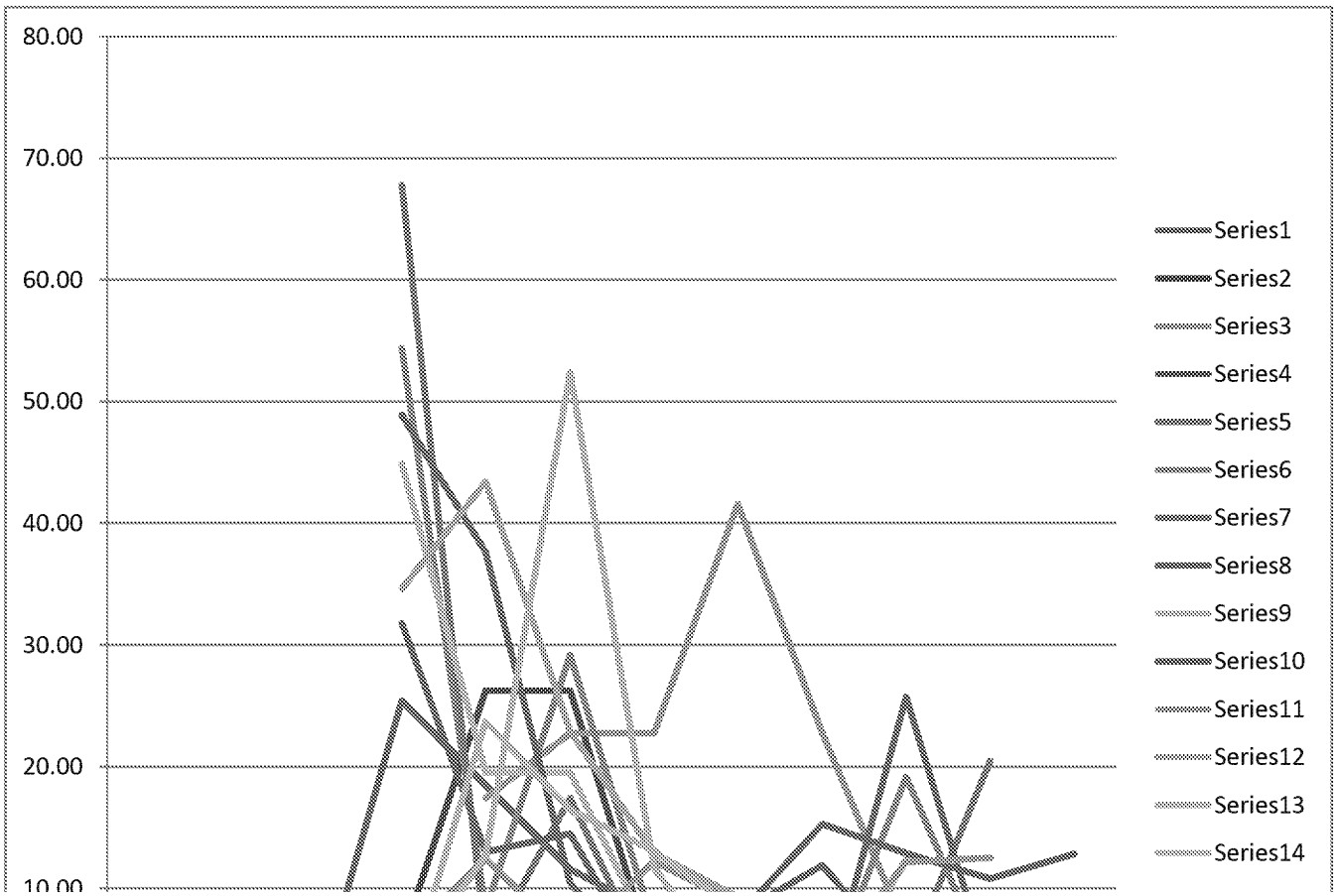


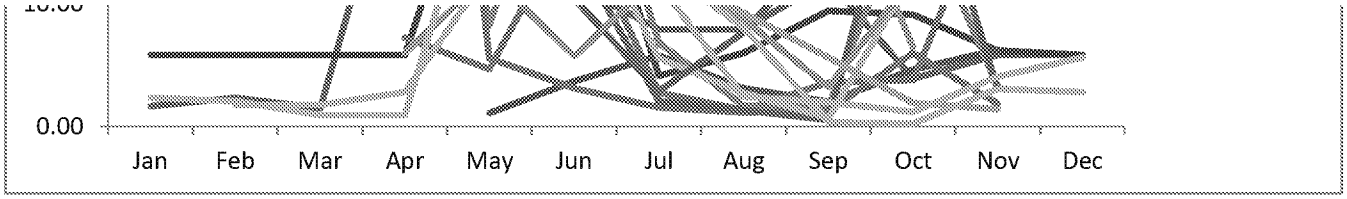

SD001
Dark River Cr 668
SD002
Sand River (pre SCS)
Sand River (post SCS)

SW001 Flow

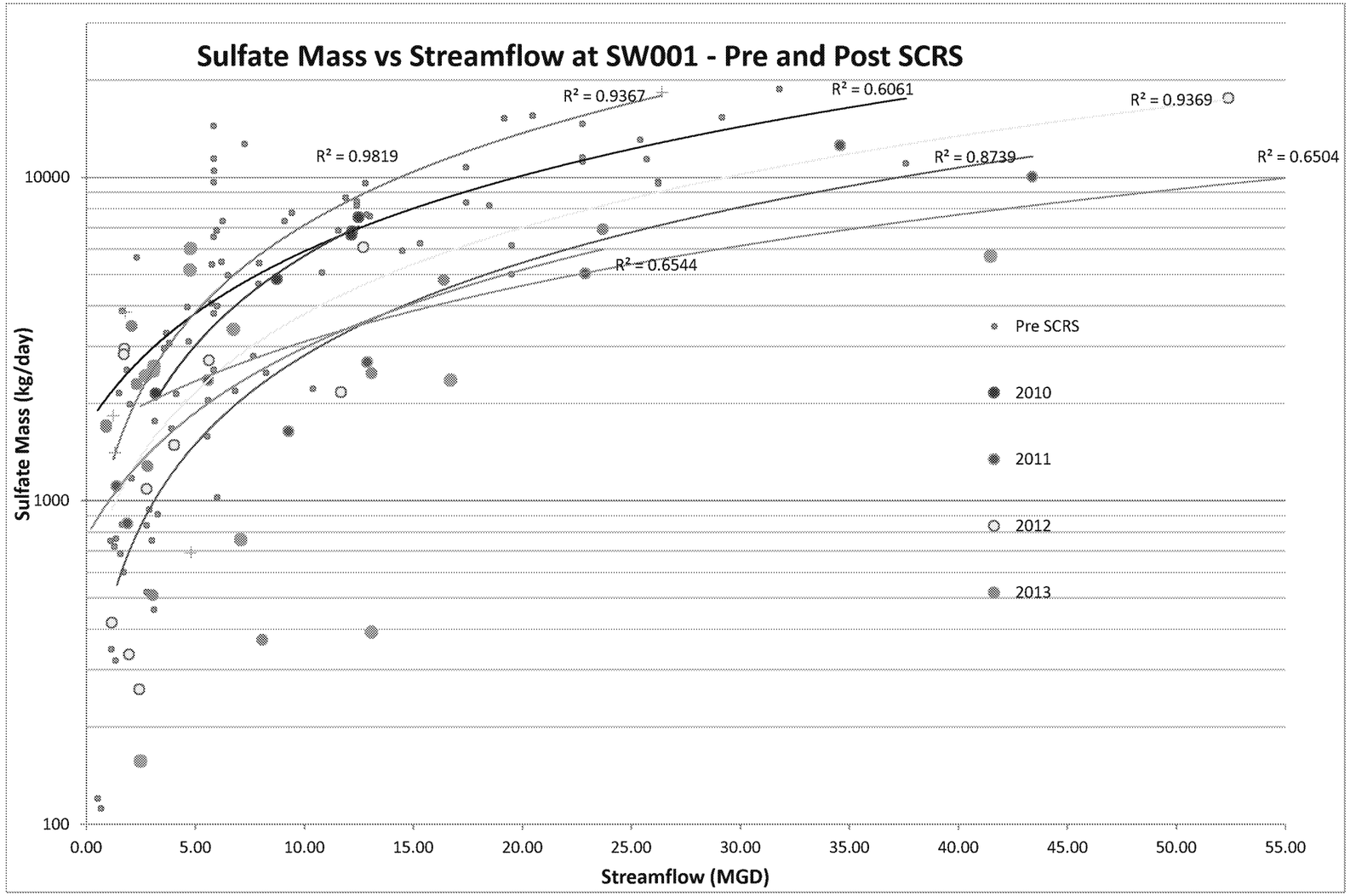
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Jan	1.64	5.83												2.33
Feb	2.31	5.83											1.75	2.09
Mar	1.49	5.83											1.74	0.92
Apr	25.41	5.85			7.26	54.40	67.82	31.80	44.90	48.90	6.00	34.60	2.78	0.92
May	18.48	26.23	17.42	1.10	4.69	8.24	5.55	13.00	19.50	37.60	12.41	43.40	12.73	23.70
Jun	11.55	26.23	22.75	3.67	17.42	29.15	3.13	14.50	19.50	10.40	5.74	22.90	52.40	16.40
Jul	7.89	4.12	22.75	5.76	2.77	6.83	1.56	2.07	5.59	2.87	12.20	12.90	11.70	13.1
Aug	7.93	5.99	41.58	3.09	1.35	1.71	1.14	1.36	2.77	7.65	8.76	9.29	2.45	8.08
Sep	11.90	9.43	22.75	2.00	3.56	1.64	1.28	0.52	0.67	15.30	3.20	5.60	1.98	0.37
Oct	3.91	9.10	6.48	4.64	3.82	19.16	5.97	25.70	12.40	12.85	12.16	1.90	1.18	0.22
Nov	5.83	6.19		6.26	20.48	3.27	1.85	3.00		10.80	12.50	1.40	4.05	3.05
Dec	5.83	5.83								12.80			5.64	2.81
	12.4	12.4	22.3	3.4	5.8	17.3	12.4	12.7	15.0	19.4	8.6	18.7	12.2	

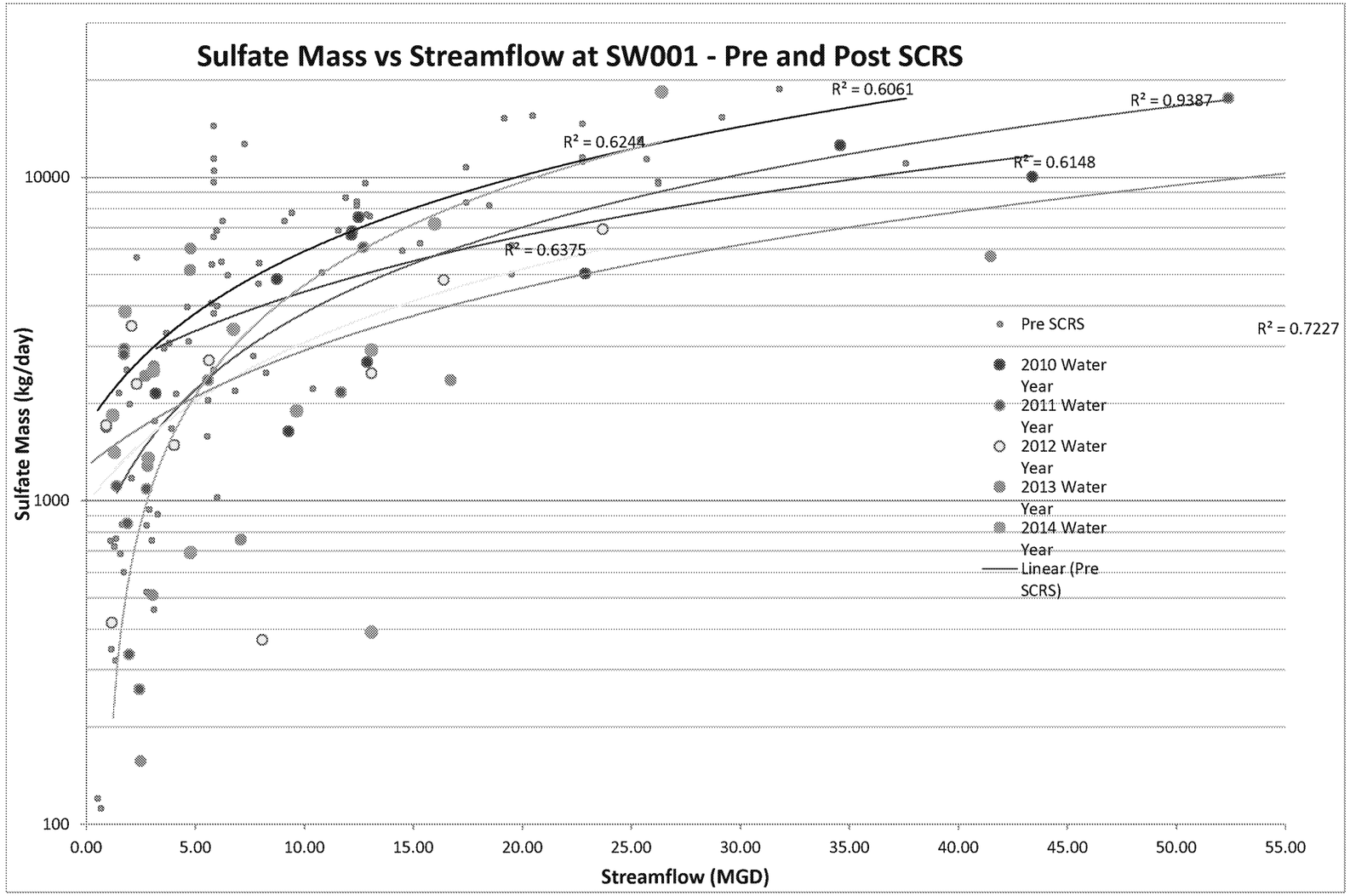


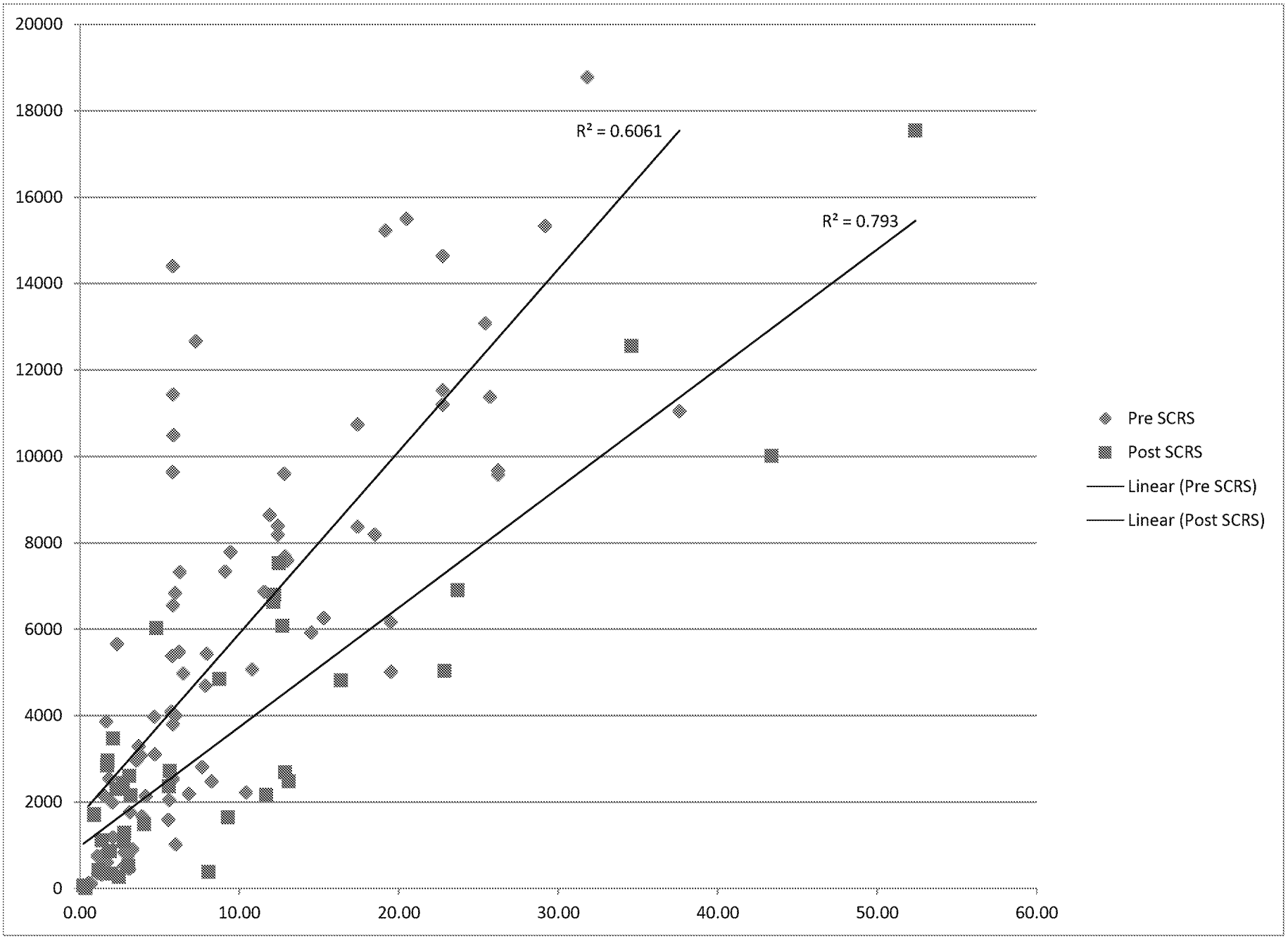
1384772400	900000		
3793896.986			
432000			
	21000000000		
Kg/day	57,534,247	57534.24658	
liters/day solid)	19,178,082	2397.260274	
liters/day (+30% por)	27,397,260		
cubic meters	27,397		
pore space (m^3)	8,219		
gallons	2,170,225		7891726.027
	1384772400		
	3,793,897		
MGD	6,500,000		
cu ft/day	868,984		
cu ft/ft/day	18		
flux/ sq ft	0.45		
			0.00625
	75.00		
	1.00		
	0.0074		0.01182708
	0.20		0.0042
	0.060		


0.00
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec

0.00182


Sulfate Mass vs Streamflow at SW001 - Pre and Post SCRS
R² = 0.9367
R² = 0.6061
R² = 0.9369
R² = 0.9819
R² = 0.8739
R² = 0.6504
R² = 0.6544
Pre SCRS
2010
2011
2012
2013
Sulfate Mass (kg/day)
10000
1000
100
0.00
5.00
10.00
15.00
20.00
25.00
30.00
35.00
40.00
45.00
50.00
55.00
Streamflow (MGD)


Sulfate Mass vs Streamflow at SW001 - Pre and Post SCRS
R² = 0.6061
R² = 0.9387
R² = 0.6244
R² = 0.6148
R² = 0.6375
R² = 0.7227
Pre SCRS
2010 Water Year
2011 Water Year
2012 Water Year
2013 Water Year
2014 Water Year
Linear (Pre SCRS)
Sulfate Mass (kg/day)
10000
1000
100
0.00
5.00
10.00
15.00
20.00
25.00
30.00
35.00
40.00
45.00
50.00
55.00
Streamflow (MGD)


20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
0.00
10.00
20.00
30.00
40.00
50.00
60.00
R² = 0.6061
R² = 0.793
Pre SCRS
Post SCRS
Linear (Pre SCRS)
Linear (Post SCRS)

SW001	Sulfate mg/L	Flow MGD	Sulfate mass kg/day					
Jan-00	625.00	1.64	3868	Jan	3867.796875	1		
Feb-00	647.00	2.31	5657	Feb	5656.94745	2		
Mar-00	381.00	1.49	2153	Mar	2153.032905	3		
Apr-00	136.00	25.41	13080	Apr	13080.0516	4		
May-00	117.00	18.48	8184	May	8183.7756	5		
Jun-00	157.00	11.55	6864	Jun	6863.52975	6		
Jul-00	157.00	7.89	4690	Jul	4689.78154	7		
Aug-00	181.00	7.93	5435	Aug	5435.46439	8		
Sep-00	192.00	11.90	8648	Sep	8647.968	9		
Oct-00	113.00	3.91	1671	Oct	1671.47114	10		
Nov-00	172.00	5.83	3795	Nov	3795.4466	11		
Dec-00	297.00	5.83	6554	Dec	6553.76535	12		
Jan-01	437.00	5.83	9643	Jan	9643.08235	1		
Feb-01	518.00	5.83	11430	Feb	11430.4729	2		
Mar-01	653.00	5.83	14409	Mar	14409.45715	3		
Apr-01	474.00	5.85	10495	Apr	10495.4265	4		
May-01	97.50	26.23	9680	May	9679.853625	5		
Jun-01	96.40	26.23	9572	Jun	9572.104516	6		
Jul-01	137.00	4.12	2138	Jul	2138.47958	7		
Aug-01	45.20	5.99	1024	Aug	1024.096852	8		
Sep-01	218.00	9.43	7781	Sep	7780.9759	9		
Oct-01	213.00	9.10	7336	Oct	7336.4655	10		
Nov-01	234.00	6.19	5478	Nov	5477.99265	11		
Dec-01	115.00	5.83	2538	Dec	2537.65325	12		
May-02	127.00	17.42	8374	May	8373.7069	5		
Jun-02	170.00	22.75	14638	Jun	14638.4875	6		
Jul-02	130.00	22.75	11194	Jul	11194.1375	7		
Aug-02	32.00			Aug	5036.1696	8	41.58	5036
Sep-02	134.00	22.75	11539	Sep	11538.5725	9		
Oct-02	203.00	6.48	4979	Oct	4978.9404	10		
May-03	181.00	1.10	752	May	751.538245	5		
Jun-03	237.00	3.67	3292	Jun	3292.15515	6		
Jul-03	247.00	5.76	5385	Jul	5384.9952	7		
Aug-03	39.40	3.09	461	Aug	460.80861	8		
Sep-03	263.00	2.00	1991	Sep	1990.91	9		
Oct-03	226.00	4.64	3969	Oct	3969.1024	10		
Nov-03	309.00	6.26	7321	Nov	7321.4769	11		
Apr-04	461.00	7.26	12668	Apr	12667.8651	4		
May-04	175.00	4.69	3107	May	3106.53875	5		
Jun-04	163.00	17.42	10747	Jun	10747.3561	6		
Jul-04	49.70	2.77	521	Jul	521.077165	7		
Aug-04	62.80	1.35	321	Aug	320.8923	8		
Sep-04	220.00	3.56	2964	Sep	2964.412	9		
Oct-04	213.00	3.82	3076	Oct	3075.672075	10		
Nov-04	200.00	20.48	15503	Nov	15503.36	11		

	Log	
	Post	Pre
2	1484	741
4	3098	4111
6	4041	6083
8	4711	7482
10	5230	8567
12	5655	9454
14	6014	10204
16	6324	10853
18	6599	11426
20	6844	11938
22	7066	12402
24	7268	12825
26	7455	13214
28	7627	13574
30	7788	13910
32	7938	14224
34	8079	14518
36	8212	14796
38	8338	15059
40	8457	15309
42	8571	15546
44	8679	15772
46	8783	15988
48	8882	16195
50	8977	16394
52	9068	16585
54	9156	16768
56	9240	16945
58	9322	17116
60	9401	17281

Linear		Log-Lin	pre-post	
Post	Pre	Post	Linear	
1438	2358	46	920	459.795
1994	3263	1103	1269	317.1575
2551	4168	1491	1618	269.6116667
3107	5074	1604	1967	245.83875
3663	5979	1567	2316	231.575
4219	6884	1435	2665	222.0658333
4776	7790	1238	3014	215.2735714
5332	8695	993	3363	210.179375
5888	9600	710	3712	206.2172222
6444	10505	399	4061	203.0475
7001	11411	65	4410	200.4540909
7557	12316	-289	4759	198.2929167
8113	13221	-659	5108	196.4642308
8669	14127	-1042	5457	194.8967857
9226	15032	-1438	5806	193.5383333
9782	15937	-1844	6155	192.3496875
10338	16843	-2259	6504	191.3008824
10895	17748	-2683	6853	190.3686111
11451	18653	-3113	7202	189.5344737
12007	19558	-3550	7551	188.78375
12563	20464	-3993	7900	188.1045238
13120	21369	-4441	8249	187.4870455
13676	22274	-4893	8598	186.9232609
14232	23180	-5350	8948	186.4064583
14788	24085	-5812	9297	185.931
15345	24990	-6277	9646	185.4921154
15901	25896	-6745	9995	185.0857407
16457	26801	-7217	10344	184.7083929
17013	27706	-7691	10693	184.357069
17570	28611	-8169	11042	184.0291667

Apr-05	86.70			Apr	17851.8768	4	54.40	17852
May-05	79.70	8.24	2486	May	2485.71548	5		
Jun-05	139.00	29.15	15336	Jun	15336.25225	6		
Jul-05	84.70	6.83	2190	Jul	2189.626285	7		
Aug-05	92.90	1.71	601	Aug	601.281315	8		
Sep-05	136.00	1.64	844	Sep	844.2064	9		
Oct-05	210.00	19.16	15229	Oct	15229.326	10		
Nov-05	73.30	3.27	907	Nov	907.230435	11		
Apr-06	134.00			Apr	34397.6258	4	67.82	34398
May-06	75.30	5.55	1582	May	1581.808275	5		
Jun-06	149.00	3.13	1765	Jun	1765.21045	6		
Jul-06	116.00	1.56	685	Jul	684.9336	7		
Aug-06	80.60	1.14	348	Aug	347.78094	8		
Sep-06	149.00	1.28	722	Sep	721.8752	9		
Oct-06	303.00	5.97	6847	Oct	6846.72435	10		
Nov-06	363.00	1.85	2542	Nov	2541.81675	11		
Apr-07	156.00	31.80	18777	Apr	18776.628	4		
May-07	154.00	13.00	7578	May	7577.57	5		
Jun-07	108.00	14.50	5927	Jun	5927.31	6		
Jul-07	150.00	2.07	1175	Jul	1175.2425	7		
Aug-07	148.00	1.36	762	Aug	761.8448	8		
Sep-07	61.00	0.52	120	Sep	120.0602	9		
Oct-07	117.00	25.70	11381	Oct	11381.1165	10		
Nov-07	66.40	3.00	754	Nov	753.972	11		
Apr-08	301.00			Apr	51153.8965	4	44.90	51154
May-08	68.00	19.50	5019	May	5018.91	5		
Jun-08	83.50	19.50	6163	Jun	6162.92625	6		
Jul-08	96.70	5.59	2046	Jul	2045.993105	7		
Aug-08	79.90	2.77	838	Aug	837.707555	8		
Sep-08	44.10	0.67	112	Sep	111.835395	9		
Oct-08	179.00	12.40	8401	Oct	8401.186	10		
Apr-09	109.00			Apr	20174.4285	11	48.90	20174
May-09	77.60	37.60	11044	May	11043.7216	5		
Jun-09	56.40	10.40	2220	Jun	2220.1296	6		
Jul-09	86.60	2.87	941	Jul	940.73147	7		
Aug-09	96.70	7.65	2800	Aug	2799.972675	8		
Sep-09	108.00	15.30	6254	Sep	6254.334	9		
Oct-09	158.00	12.85	7685	Oct	7684.6855	10		
Nov-09	124.00	10.80	5069	Nov	5068.872	11		
Dec-09	198.00	12.80	9593	Dec	9592.704	12		
Apr-10	176.00	6.00	3997	Apr	3996.96	4		
May-10	174.00	12.41	8173	May	8173.1019	5		
Jun-10	188.00	5.74	4084	Jun	4084.4692	6		
Jul-10	147.00	12.20	6788	Jul	6788.019	7		
Aug-10	146.00	8.76	4841	Aug	4840.8636	8		
Sep-10	177.00	3.20	2144	Sep	2143.824	9		
Oct-10	144.00	12.16	6628	Oct	6627.6864	10		

Nov-10	159.00	12.50	7523	Nov	7522.6875	11
Apr-11	95.80	34.60	12546	Apr	12546.0638	4
May-11	60.90	43.40	10004	May	10003.9821	5
Jun-11	58.00	22.90	5027	Jun	5027.237	6
Jul-11	54.80	12.90	2676	Jul	2675.6922	7
Sep-11	46.50	9.29	1635	Sep	1635.063225	9
Oct-11	111.00	5.60	2353	Oct	2352.756	10
Nov-11	118.00	1.90	849	Nov	848.597	11
Dec-11	209.00	1.40	1107	Dec	1107.491	12
Feb-12	445.00	1.75	2948	Feb	2947.56875	2
Mar-12	430.00	1.74	2832	Mar	2831.937	3
Apr-12	103.00	2.78	1084	Apr	1083.7969	4
May-12	126.00	12.73	6071	May	6071.0643	5
Jun-12	88.40	52.40	17533	Jun	17532.7256	6
Jul-12	48.80	11.70	2161	Jul	2161.0836	7
Aug-12	28.10	2.45	261	Aug	260.578325	8
Sep-12	44.50	1.98	333	Sep	333.49635	9
Oct-12	93.80	1.18	419	Oct	418.93894	10
Nov-12	96.60	4.05	1481	Nov	1480.80555	11
Dec-12	127.00	5.64	2711	Dec	2711.1198	12
Jan-13	260.00	2.33	2293	Jan	2292.953	1
Feb-13	438.00	2.09	3465	Feb	3464.8647	2
Mar-13	484.00	0.92	1685	Mar	1685.3848	3
Apr-13	490.00	0.92	1706	Apr	1706.278	4
May-13	76.90	23.70	6898	May	6898.27605	5
Jun-13	77.40	16.40	4805	Jun	4804.5276	6
Jul-13	49.8	13.1	2469	Jul	2469.2583	7
Aug-13	12.1	8.08	370	Aug	370.05188	8
Sep-13	1.3	0.37	2	Sep	1.820585	9
Oct-13	68.1	0.22	57	Oct	57	10
Nov-13	44.1	3.05	509	Nov	509	11
Dec-13	120.00	2.81	1276	Dec	1276	12
Jan-14	220	3.12	2598	Jan	2598	1
Feb-14	235	2.73	2428	Feb	2428	2
Mar-14	331	4.8	6014	Mar	6014	3
Apr-14	285	4.78	5156	Apr	5156	4
May-14	55	66	13740	May	13740	5
Jun-14	36.2	41.5	5686	Jun	5686	6
Jul-14	37.2	16.73	2356	Jul	2356	7
Aug-14	28.1	7.1	755	Aug	755	8
Sep-14	16.5	2.5	156	Sep	156	9
Oct-14	7.9	13.1	392	Oct	392	10
Nov-14	132.0	6.8	3377	Nov	3377	11
Dec-14	214	3.1	2511	Dec	2511	12
Jan-15	286	1.3	1407	Jan	1407	1
Feb-15	393	1.23	1830	Feb	1830	2
Mar-15	563	1.8	3836	Mar	3836	3

Apr-15	38	4.8	690	Apr	690	4
May-15	183	26.4	18286	May	18286	5
Jun-15	118	16	7146			
Jul-15	58.9	13.1	2920			
Aug-15	125	2.85	1348			
Sep-15	51.6	9.66	1887			
Oct-15	121.0	8.96	4104			
Nov-15	124.0	12.9	6054			
Dec-15	131.0	13.4	6644			

Dark River	MGD
11/8/11	5.099
11/23/11	7.070
1/6/12	4.860

0.52	120.0602
0.67	111.835395
1.097	751.538245
1.14	347.78094
1.28	721.8752
1.35	320.8923
1.36	761.8448
1.493	2153.032905
1.56	684.9336
1.635	3867.796875
1.64	844.2064
1.71	601.281315
1.85	2541.81675
2	1990.91
2.07	1175.2425
2.31	5656.94745
2.77	521.077165
2.77	837.707555
2.87	940.73147
3	753.972
3.09	460.80861
3.13	1765.21045
3.27	907.230435
3.56	2964.412
3.67	3292.15515
3.815	3075.672075
3.908	1671.47114
4.124	2138.47958
4.64	3969.1024
4.69	3106.53875
5.55	1581.808275
5.59	2045.993105
5.74	4084.4692
5.76	5384.9952
5.83	3795.4466
5.83	6553.76535
5.83	9643.08235
5.83	11430.4729
5.83	14409.45715
5.83	2537.65325
5.85	10495.4265
5.97	6846.72435
5.986	1024.096852
6	3996.96
6.185	5477.99265
6.26	7321.4769

0.37	1.820585
0.92	1685.3848
0.92	1706.278
1.18	418.93894
1.4	1107.491
1.74	2831.937
1.75	2947.56875
1.9	848.597
1.98	333.49635
2.09	3464.8647
2.33	2292.953
2.45	260.578325
0.22	57
3.05	509
2.81	1276
3.12	2598
2.73	2428
4.8	6014
2.78	1083.7969
3.2	2143.824
4.05	1480.80555
5.6	2352.756
5.64	2711.1198
8.08	370.05188
8.76	4840.8636
9.29	1635.063225
11.7	2161.0836
12.16	6627.6864
12.2	6788.019
12.5	7522.6875
12.73	6071.0643
12.9	2675.6922
13.1	2469.2583
16.4	4804.5276
22.9	5027.237
23.7	6898.27605
34.6	12546.0638
43.4	10003.9821
52.4	17532.7256

Pre SCRS		Post SCRS
0.67	111.835395	0.37
0.52	120.0602	0.22
1.35	320.8923	2.45
1.14	347.78094	1.98
3.09	460.80861	8.08
2.77	521.077165	1.18
1.71	601.281315	3.05
1.56	684.9336	1.9
1.28	721.8752	2.78
1.10	751.538245	1.4
3.00	753.972	2.81
1.36	761.8448	4.05
2.77	837.707555	9.29
1.64	844.2064	0.92
3.27	907.230435	0.92
2.87	940.73147	3.2
5.99	1024.096852	11.7
2.07	1175.2425	2.33
5.55	1581.808275	5.6
3.91	1671.47114	2.73
3.13	1765.21045	13.1
2.00	1990.91	3.12
5.59	2045.993105	12.9
4.12	2138.47958	5.64
1.49	2153.032905	1.74
6.83	2189.626285	1.75
10.40	2220.1296	2.09
8.24	2485.71548	16.4
5.83	2537.65325	8.76
1.85	2541.81675	22.9
7.65	2799.972675	4.8
3.56	2964.412	12.73
3.82	3075.672075	12.16
4.69	3106.53875	12.2
3.67	3292.15515	23.7
5.83	3795.4466	12.5
1.64	3867.796875	43.4
4.64	3969.1024	34.6
6.00	3996.96	52.4
5.74	4084.4692	
7.89	4689.78154	
6.48	4978.9404	
19.50	5018.91	
10.80	5068.872	
5.76	5384.9952	
7.93	5435.46439	

1.820585
56.70687
260.578325
333.49635
370.05188
418.93894
509.101425
848.597
1083.7969
1107.491
1276.302
1480.80555
1635.063225
1685.3848
1706.278
2143.824
2161.0836
2292.953
2352.756
2428.26675
2469.2583
2598.024
2675.6922
2711.1198
2831.937
2947.56875
3464.8647
4804.5276
4840.8636
5027.237
6013.608
6071.0643
6627.6864
6788.019
6898.27605
7522.6875
10003.9821
12546.0638
17532.7256

6.48	4978.9404
6.83	2189.626285
7.26	12667.8651
7.65	2799.972675
7.892	4689.78154
7.934	5435.46439
8.24	2485.71548
9.1	7336.4655
9.43	7780.9759
10.4	2220.1296
10.8	5068.872
11.55	6863.52975
11.9	8647.968
12.4	8401.186
12.41	8173.1019
12.8	9592.704
12.85	7684.6855
13	7577.57
14.5	5927.31
15.3	6254.334
17.42	8373.7069
17.42	10747.3561
18.48	8183.7756
19.16	15229.326
19.5	5018.91
19.5	6162.92625
20.48	15503.36
22.75	14638.4875
22.75	11194.1375
22.75	11538.5725
25.41	13080.0516
25.7	11381.1165
26.23	9679.853625
26.234	9572.104516
29.15	15336.25225
31.8	18776.628
37.6	11043.7216
41.58	5036.1696
44.9	51153.8965
48.9	20174.4285
54.4	17851.8768
67.82	34397.6258

6.19	5477.99265
2.31	5656.94745
14.50	5927.31
19.50	6162.92625
15.30	6254.334
5.83	6553.76535
5.97	6846.72435
11.55	6863.52975
6.26	7321.4769
9.10	7336.4655
13.00	7577.57
12.85	7684.6855
9.43	7780.9759
12.41	8173.1019
18.48	8183.7756
17.42	8373.7069
12.40	8401.186
11.90	8647.968
26.23	9572.104516
12.80	9592.704
5.83	9643.08235
26.23	9679.853625
5.85	10495.4265
17.42	10747.3561
37.60	11043.7216
22.75	11194.1375
25.70	11381.1165
5.83	11430.4729
22.75	11538.5725
7.26	12667.8651
25.41	13080.0516
5.83	14409.45715
22.75	14638.4875
19.16	15229.326
29.15	15336.25225
20.48	15503.36
31.80	18776.628

SW001	Sulfate (mg/L)	Flow (MGD)	Sulfate mass	Flow Rank	Mass Rank	
Apr-08	301	44.9	51153.9	6	1	
Apr-06	134	67.82	34397.6	1	2	
Apr-09	109	48.9	20174.4	5	3	
Apr-07	156	31.8	18776.6	12	4	
Apr-05	86.7	54.4	17851.9	3	5	
Jun-12	88.4	52.4	17532.7	4	6	Post 18
Nov-04	200	20.48	15503.4	23	7	
Jun-05	139	29.15	15336.3	13	8	
Oct-05	210	19.16	15229.3	26	9	
Jun-02	170	22.75	14638.5	20	10	
Mar-01	653	5.83	14409.5	75	11	
May-14	55	66	13739.6	2	12	Post 41
Apr-00	136	25.41	13080.1	17	13	
Apr-04	461	7.26	12667.9	60	14	
Apr-11	95.8	34.6	12546.1	11	15	Post 6
Sep-02	134	22.75	11538.6	22	16	
Feb-01	518	5.83	11430.5	74	17	
Oct-07	117	25.7	11381.1	16	18	
Jul-02	130	22.75	11194.1	21	19	
May-09	77.6	37.6	11043.7	10	20	
Jun-04	163	17.42	10747.4	29	21	
Apr-01	474	5.85	10495.4	70	22	
May-11	60.9	43.4	10004.0	7	23	Post 7
May-01	97.5	26.23	9679.9	15	24	
Jan-01	437	5.83	9643.1	73	25	
Dec-09	198	12.8	9592.7	39	26	
Jun-01	96.4	26.234	9572.1	14	27	
Sep-00	192	11.9	8648.0	46	28	
Oct-08	179	12.4	8401.2	43	29	
May-02	127	17.42	8373.7	28	30	
May-00	117	18.48	8183.8	27	31	
May-10	174	12.41	8173.1	42	32	
Sep-01	218	9.43	7781.0	51	33	
Oct-09	158	12.85	7684.7	38	34	
May-07	154	13	7577.6	36	35	
Nov-10	159	12.5	7522.7	41	36	Post 5
Oct-01	213	9.1	7336.5	53	37	
Nov-03	309	6.26	7321.5	65	38	
May-13	76.9	23.7	6898.3	18	39	Post 29
Jun-00	157	11.55	6863.5	48	40	
Oct-06	303	5.97	6846.7	69	41	
Jul-10	147	12.2	6788.0	44	42	Post 1
Oct-10	144	12.16	6627.7	45	43	Post 4
Dec-00	297	5.83	6553.8	72	44	
Sep-09	108	15.3	6254.3	32	45	

Jun-08	83.5	19.5	6162.9	25	46	
May-12	126	12.73	6071.1	40	47	Post 17
Mar-14	331	4.8	6013.6	83	48	Post 39
Jun-07	108	14.5	5927.3	33	49	
Jun-14	36.2	41.5	5686.2	9	50	Post 42
Feb-00	647	2.31	5656.9	109	51	
Nov-01	234	6.185	5478.0	66	52	
Aug-00	181	7.934	5435.5	57	53	
Jul-03	247	5.76	5385.0	77	54	
Apr-14	285	4.78	5156.3	84	55	Post 40
Nov-09	124	10.8	5068.9	49	56	
Aug-02	32	41.58	5036.2	8	57	
Jun-11	58	22.9	5027.2	19	58	Post 8
May-08	68	19.5	5018.9	24	59	
Oct-02	203	6.48	4978.9	64	60	
Aug-10	146	8.76	4840.9	54	61	Post 2
Jun-13	77.4	16.4	4804.5	31	62	Post 30
Jul-00	157	7.892	4689.8	58	63	
Jun-10	188	5.74	4084.5	78	64	
Apr-10	176	6	3997.0	67	65	
Oct-03	226	4.64	3969.1	86	66	
Jan-00	625	1.635	3867.8	120	67	
Nov-00	172	5.83	3795.4	71	68	
Feb-13	438	2.09	3464.9	110	69	Post 26
Nov-14	132.0	6.8	3377.4	63	70	Post 47
Jun-03	237	3.67	3292.2	91	71	
May-04	175	4.69	3106.5	85	72	
Oct-04	213	3.815	3075.7	90	73	
Sep-04	220	3.56	2964.4	92	74	
Feb-12	445	1.75	2947.6	116	75	Post 14
Mar-12	430	1.74	2831.9	117	76	Post 15
Aug-09	96.7	7.65	2800.0	59	77	
Dec-12	127	5.64	2711.1	79	78	Post 24
Jul-11	54.8	12.9	2675.7	37	79	Post 9
Jan-14	220	3.12	2598.0	96	80	Post 37
Nov-06	363	1.85	2541.8	115	81	
Dec-01	115	5.83	2537.7	76	82	
May-05	79.7	8.24	2485.7	55	83	
Jul-13	49.8	13.1	2469.3	34	84	Post 31
Feb-14	235	2.73	2428.3	105	85	Post 38
Jul-14	37.2	16.73	2355.6	30	86	Post 43
Oct-11	111	5.6	2352.8	80	87	Post 11
Jan-13	260	2.33	2293.0	108	88	Post 25
Jun-09	56.4	10.4	2220.1	50	89	
Jul-05	84.7	6.83	2189.6	62	90	
Jul-12	48.8	11.7	2161.1	47	91	Post 19
Mar-00	381	1.493	2153.0	122	92	

Sep-10	177	3.2	2143.8	94	93	Post 3
Jul-01	137	4.124	2138.5	87	94	
Jul-08	96.7	5.59	2046.0	81	95	
Sep-03	263	2	1990.9	112	96	
Jun-06	149	3.13	1765.2	95	97	
Apr-13	490	0.92	1706.3	131	98	Post 28
Mar-13	484	0.92	1685.4	130	99	Post 27
Oct-00	113	3.908	1671.5	89	100	
Sep-11	46.5	9.29	1635.1	52	101	Post 10
May-06	75.3	5.55	1581.8	82	102	
Nov-12	96.6	4.05	1480.8	88	103	Post 23
Dec-13	120	2.81	1276.3	101	104	Post 36
Jul-07	150	2.07	1175.2	111	105	
Dec-11	209	1.4	1107.5	123	106	Post 13
Apr-12	103	2.78	1083.8	102	107	Post 16
Aug-01	45.2	5.986	1024.1	68	108	
Jul-09	86.6	2.87	940.7	100	109	
Nov-05	73.3	3.27	907.2	93	110	
Nov-11	118	1.9	848.6	114	111	Post 12
Sep-05	136	1.64	844.2	119	112	
Aug-08	79.9	2.77	837.7	104	113	
Aug-07	148	1.36	761.8	124	114	
Aug-14	28.1	7.1	755.1	61	115	Post 44
Nov-07	66.4	3	754.0	99	116	
May-03	181	1.097	751.5	129	117	
Sep-06	149	1.28	721.9	126	118	
Jul-06	116	1.56	684.9	121	119	
Aug-05	92.9	1.71	601.3	118	120	
Jul-04	49.7	2.77	521.1	103	121	
Nov-13	44.1	3.05	509.1	98	122	Post 35
Aug-03	39.4	3.09	460.8	97	123	
Oct-12	93.8	1.18	418.9	127	124	Post 22
Oct-14	7.9	13.1	391.7	35	125	Post 46
Aug-13	12.1	8.08	370.1	56	126	Post 32
Aug-06	80.6	1.14	347.8	128	127	
Sep-12	44.5	1.98	333.5	113	128	Post 21
Aug-04	62.8	1.35	320.9	125	129	
Aug-12	28.1	2.45	260.6	107	130	Post 20
Sep-14	16.5	2.5	156.1	106	131	Post 45
Sep-07	61	0.52	120.1	133	132	
Sep-08	44.1	0.67	111.8	132	133	
Oct-13	68.1	0.22	56.7	135	134	Post 34
Sep-13	1.3	0.37	1.8	134	135	Post 33