

Technical Oversight Committee

May 18, 2010

SETTLEMENT AGREEMENT REPORT

January - March 2010

Stuart Van Horn

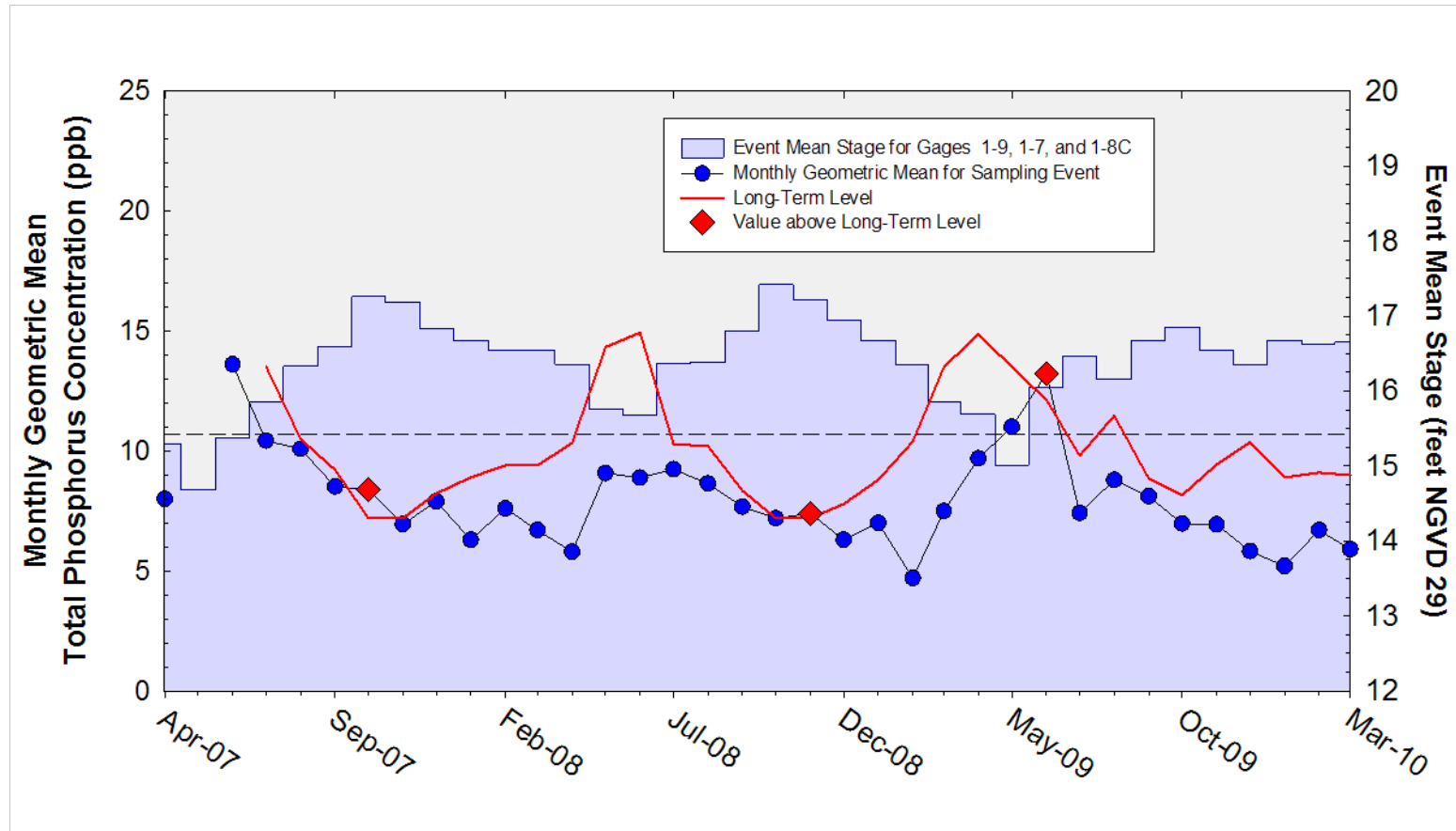
Section Leader

Restoration Sciences Department

SUMMARY

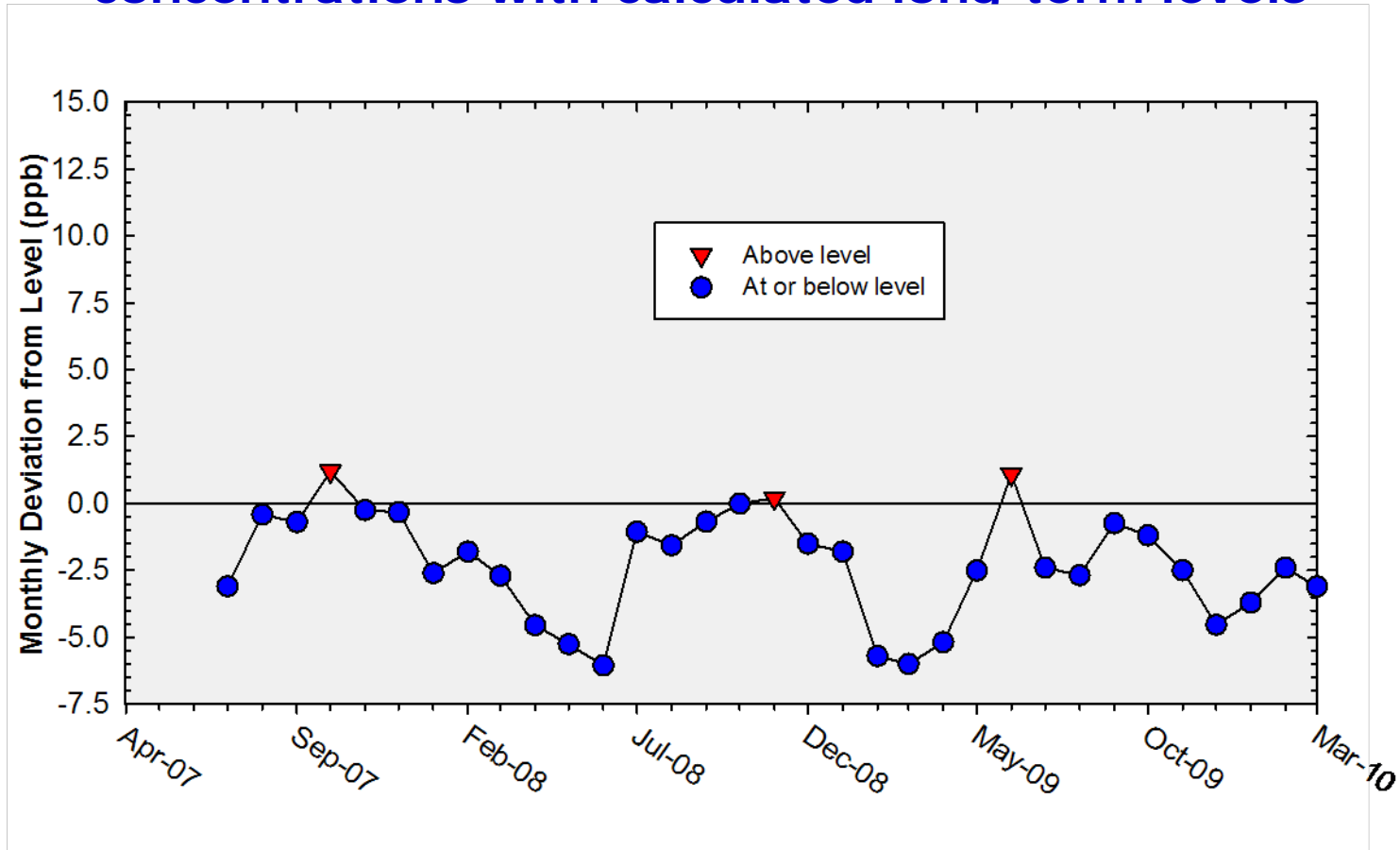
Month		Geometric Mean TP Concentration (ppb)	Long-term Level (ppb)	Mean Stage (ft NGVD 29)	Number of Samples	
Arthur R. Marshall Loxahatchee National Wildlife Refuge						
Jan-2010		5.2	8.9	16.68	14	
Feb-2010		6.7	9.1	16.62	14	
Mar-2010		5.9	9.0	16.65	14	
12-Month Period Ending	Total Flow (kac-ft)	12-Month Flow-weighted Mean TP Concentration (ppb)	Long-term Limit (ppb)	Percent of Sampling Events Greater than 10 ppb		
				Guideline	Observed	
Everglades National Park – Shark River Slough						
Jan-2010	656.3	9.9	9.7	50.4	30.4	
Feb-2010	682.1	9.8	9.5	49.6	34.8	
Mar-2010	733.9	9.7	9.3	48.2	34.8	
Everglades National Park – Taylor Slough and Coastal Basins						
Jan-2010	395.0	6.2	11.0	53.1	2.3	
Feb-2010	414.5	6.2	11.0	53.1	2.1	
Mar-2010	418.5	6.2	11.0	53.1	2.1	

A.R.M Loxahatchee National Wildlife Refuge Monthly Total Phosphorus Geometric Mean Concentrations



A.R.M Loxahatchee National Wildlife Refuge

Deviation of monthly geometric mean total phosphorus concentrations with calculated long-term levels



Loxahatchee National Wildlife Refuge

Total Phosphorus Compliance Tracking

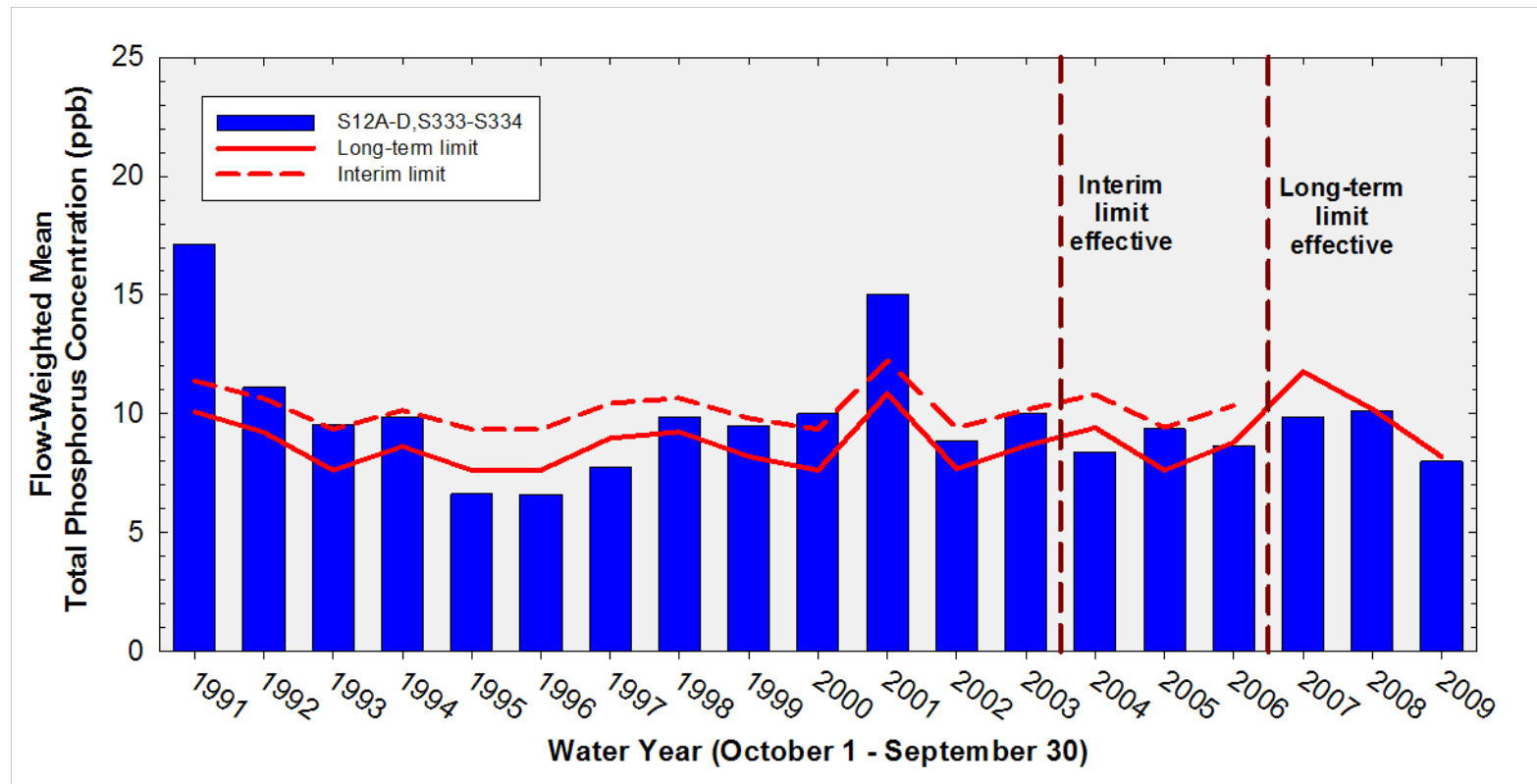
Month	Geometric Mean TP Concentration (ppb)	Long-Term Level (ppb) Effective 12/31/2006	Average Stage ^a (ft NGVD 29)	Number of Samples
Apr-2007	8.0	N/A^b	15.30	3
May-2007	—	N/A^b	14.68	0
Jun-2007	13.6	N/A^b	15.37	4
Jul-2007	10.4	13.5	15.86	13
Aug-2007	10.1	10.5	16.33	13
Sep-2007	8.5	9.2	16.59	14
<i>Oct-2007</i>	<i>8.4</i>	<i>7.2</i>	<i>17.26</i>	<i>14</i>
Nov-2007	7.0	7.2	17.19	14
Dec-2007	7.9	8.2	16.84	14
Jan-2008	6.3	8.9	16.68	14
Feb-2008	7.6	9.4	16.55	14
Mar-2008	6.7	9.4	16.54	14
Apr-2008	5.8	10.3	16.36	14
May-2008	9.1	14.3	15.76	9
Jun-2008	8.9	14.9	15.68	8
Jul-2008	9.2	10.3	16.37	14
Aug-2008	8.6	10.2	16.39	14
Sep-2008	7.7	8.3	16.81	14
Oct-2008	7.2	7.2	17.42	14
<i>Nov-2008</i>	<i>7.4</i>	<i>7.2</i>	<i>17.22</i>	<i>14</i>
Dec-2008	6.3	7.8	16.95	14
Jan-2009	7.0	8.8	16.68	14
Feb-2009	4.7	10.4	16.35	12
Mar-2009	7.5	13.5	15.86	9
Apr-2009	9.7	14.9	15.69	8
May-2009	11.0	N/A^b	15.01	1
<i>Jun-2009^c</i>	<i>13.2</i>	<i>12.1</i>	<i>16.05</i>	<i>12</i>
Jul-2009	7.4	9.8	16.47	14
Aug-2009	8.8	11.5	16.16	14
Sep-2009	8.1	8.9	16.68	14
Oct-2009	7.0	8.2	16.86	14
Nov-2009	6.9	9.4	16.55	14
Dec-2009	5.8	10.4	16.36	12
Jan-2010	5.2	8.9	16.68	14
Feb-2010	6.7	9.1	16.62	14
Mar-2010	5.9	9.0	16.65	14

Refuge TP Compliance Tracking For January 2010 - March 2010

Month	Geometric Mean TP Concentration (ppb)	Long-Term Level (ppb) Effective 12/31/2006	Average Stage ^a (ft NGVD 29)	Number of Samples
Jan-2010	5.2	8.9	16.68	14
Feb-2010	6.7	9.1	16.62	14
Mar-2010	5.9	9.0	16.65	14
Apr-2010	7.2	9.4	16.56	14

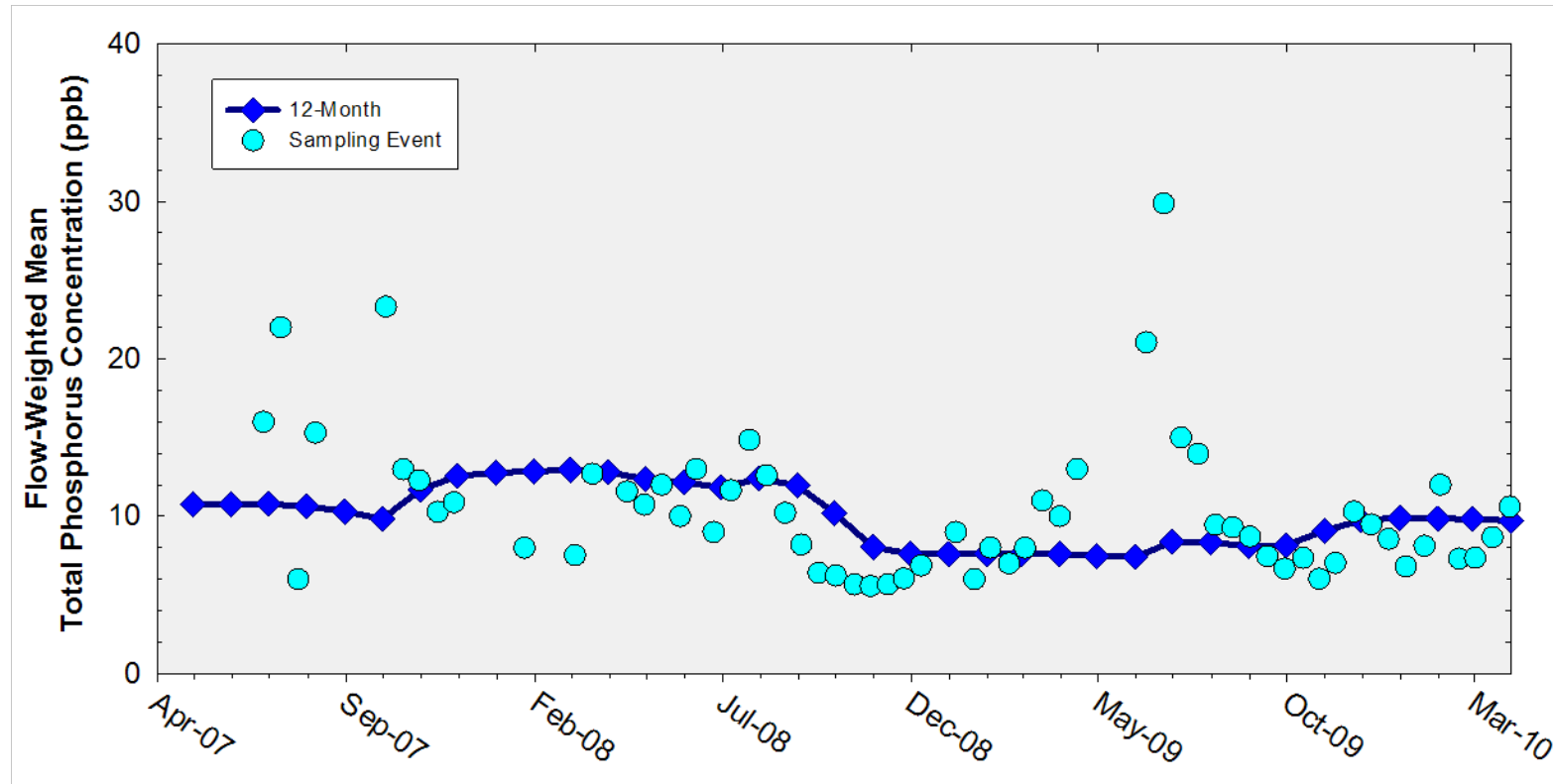
Note: April 2010 values are preliminary.

Annual Flow-weighted Mean Concentrations Inflows to ENP through Shark River Slough



12-month FWMC at the end of each water year compared to the TP interim and long-term limits

12-Month Flow-Weighted Mean Concentrations Inflows to ENP through Shark River Slough



12-month FWMC at the end of each month and the composite TP concentration for each sampling event

Shark River Slough

TP Concentration

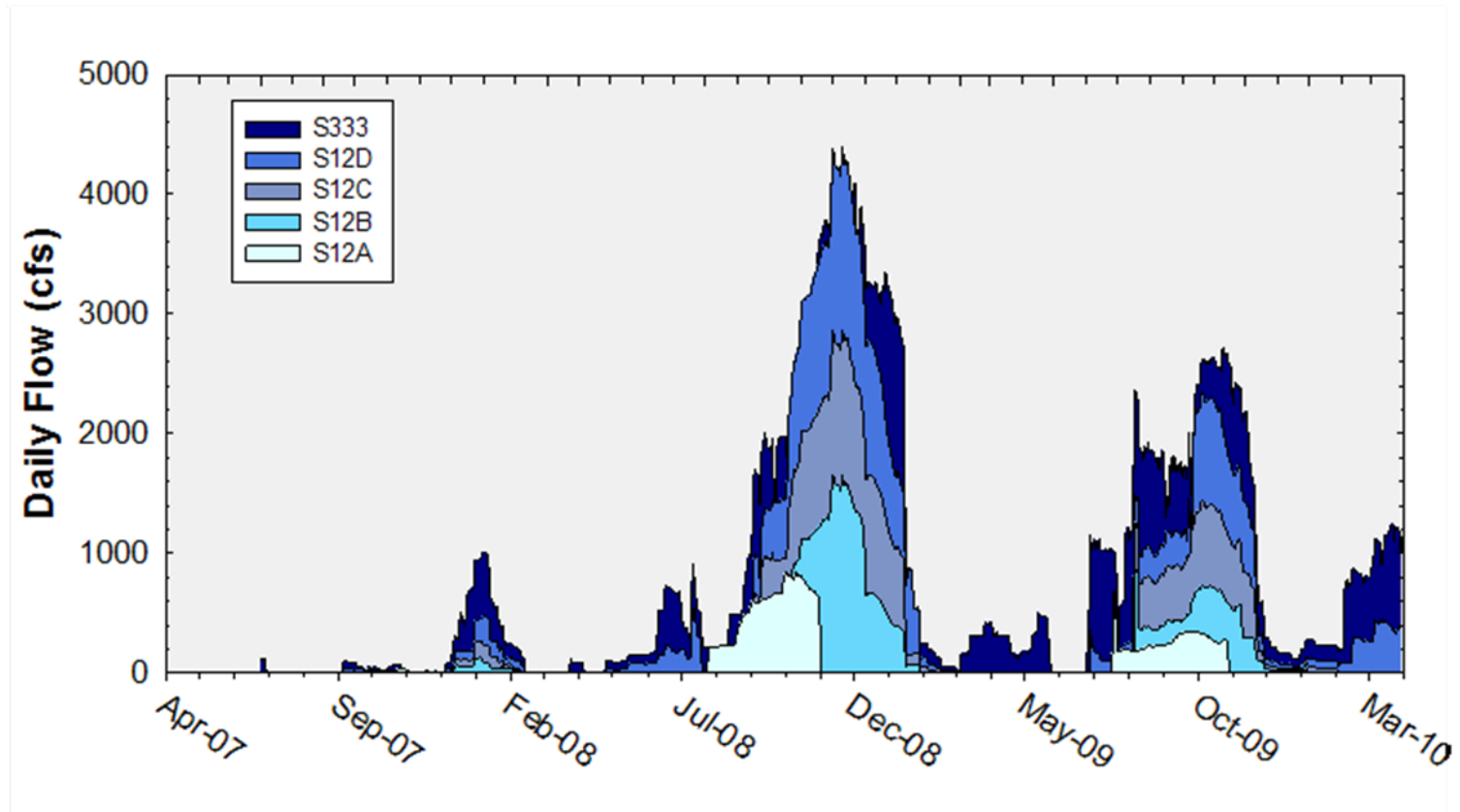
Compliance Tracking

12-Month Period	Total Flow (kac-ft)	Flow-Weighted Mean TP Concentration (ppb)	Long-Term Limit (ppb) <i>Effective 12/31/2006</i>	Percent of Sampling Events Greater than 10 ppb	
				Guideline	Observed
May 2006 - Apr 2007	449.5 ^a	10.8	10.8	56.9	52.6
Jun 2006 - May 2007	445.5 ^a	10.7	10.9	57.1	47.1
Jul 2006 - Jun 2007	447.6 ^a	10.8	10.8	57.0	50.0
Aug 2006 - Jul 2007	444.6 ^a	10.6	10.9	57.1	47.4
Sep 2006 - Aug 2007	401.0	10.3	11.1	58.6	44.4
<i>Oct 2006 - Sep 2007</i>	<i>289.7</i>	<i>9.8</i>	<i>11.8</i>	<i>62.6</i>	<i>37.5</i>
Nov 2006 - Oct 2007	147.9	11.7	12.7	67.9	50.0
Dec 2006 - Nov 2007	121.2	12.6	12.8	68.9	62.5
Jan 2007 - Dec 2007	118.2	12.8	12.8	69.1	71.4 ^b
Feb 2007 - Jan 2008	115.8	12.9	12.9	69.2	69.2
Mar 2007 - Feb 2008	106.8	12.9	12.9	69.5	81.8 ^b
Apr 2007 - Mar 2008	88.9	12.8	13.0	70.2	75.0 ^b
May 2007 - Apr 2008	110.9	12.4	12.9	69.4	78.6 ^b
Jun 2007 - May 2008	142.3	12.2	12.7	68.1	75.0 ^b
Jul 2007 - Jun 2008	153.6	11.8	12.6	67.7	70.6 ^b
Aug 2007 - Jul 2008	227.4	12.4	12.2	64.9	76.5 ^b
Sep 2007 - Aug 2008	356.8	12.0	11.4	60.1	77.8 ^b
<i>Oct 2007 - Sep 2008</i>	<i>562.0</i>	<i>10.2</i>	<i>10.2</i>	<i>53.3</i>	<i>70.0^b</i>
Nov 2007 - Oct 2008	775.9	8.0	9.0	47.0	55.0 ^b
Dec 2007 - Nov 2008	935.4	7.6	8.2	43.0	45.0 ^b
Jan 2008 - Dec 2008	1003.1	7.6	7.9	41.4	42.9 ^b
Feb 2008 - Jan 2009	1007.1	7.6	7.9	41.3	40.9
Mar 2008 - Feb 2009	1021.5	7.6	7.8	41.0	37.5
Apr 2008 - Mar 2009	1030.3	7.6	7.8	40.8	36.0
May 2008 - Apr 2009	1024.2	7.5	7.8	40.9	33.3
Jun 2008 - May 2009	992.8	7.4	8.0	41.6	31.8
Jul 2008 - Jun 2009	1035.1	8.4	7.8	40.7	36.4
Aug 2008 - Jul 2009	1045.1 ^c	8.3	7.7	40.4 ^c	36.4
Sep 2008 - Aug 2009	1019.4 ^c	8.1	7.8	41.0	27.3
<i>Oct 2008 - Sep 2009</i>	<i>945.3^c</i>	<i>8.2</i>	<i>8.2</i>	<i>42.7</i>	<i>26.1</i>
Nov 2008 - Oct 2009	847.5	9.1	8.7	45.1	27.3
Dec 2008 - Nov 2009	708.3	9.8	9.4	48.9	31.8
Jan 2009 - Dec 2009	647.6	9.9	9.7	50.7	30.4
Feb 2009 - Jan 2010	656.3	9.9	9.7	50.4	30.4
Mar 2009 - Feb 2010	682.1	9.8	9.5	49.6	34.8
Apr 2009 - Mar 2010	733.9	9.7	9.3	48.2	34.8

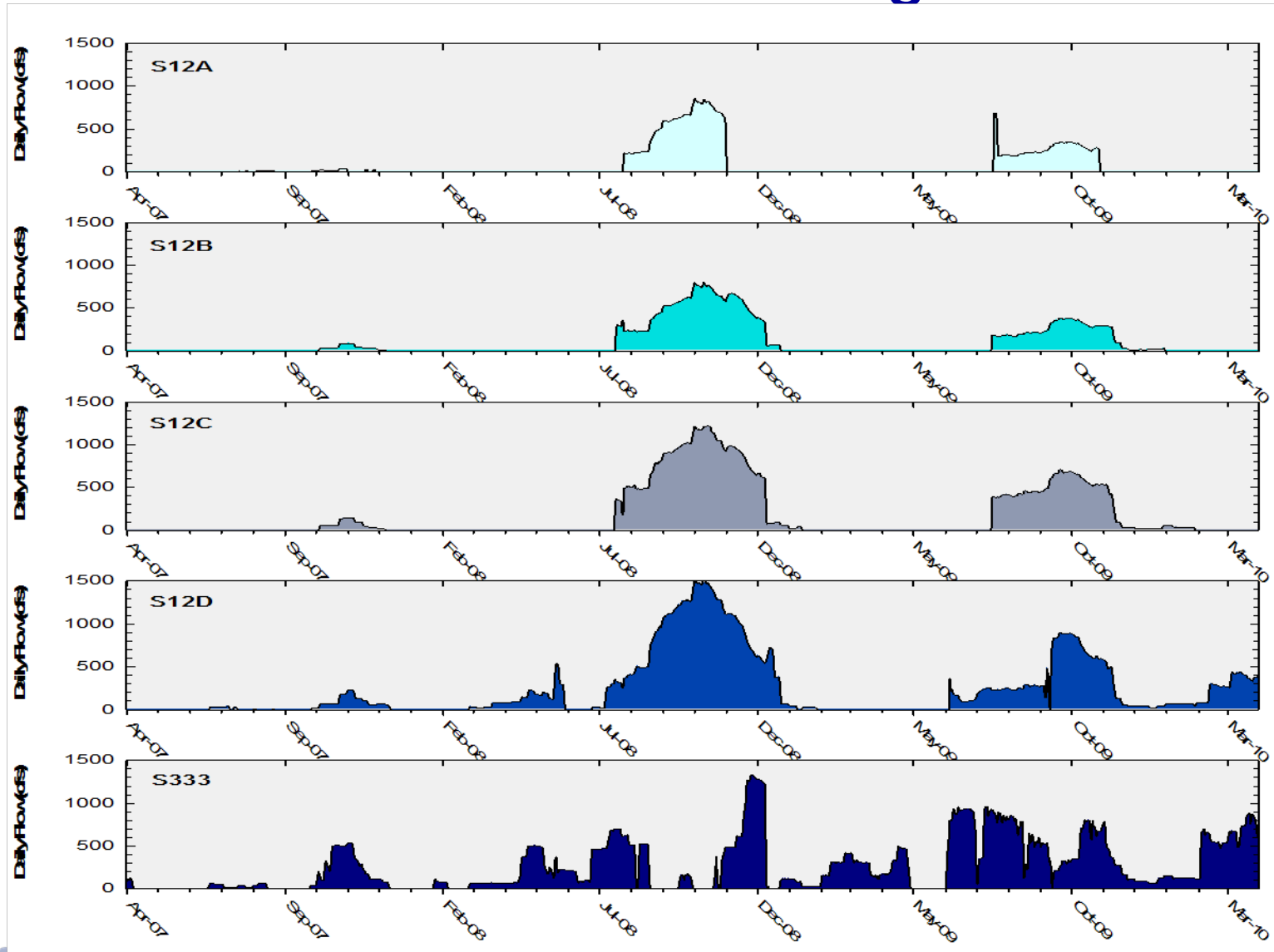
Shark River Slough TP Concentration Compliance Tracking for January 2010 – March 2010

12-Month Period	Total Flow (kac-ft)	Flow-Weighted Mean TP Concentration (ppb)	Long-Term Limit (ppb) <i>Effective 12/31/2006</i>	Percent of Sampling Events Greater than 10 ppb	
				Guideline	Observed
Feb 2009 - Jan 2010	656.3	9.9	9.7	50.4	30.4
Mar 2009 - Feb 2010	682.1	9.8	9.5	49.6	34.8
Apr 2009 - Mar 2010	733.9	9.7	9.3	48.2	34.8

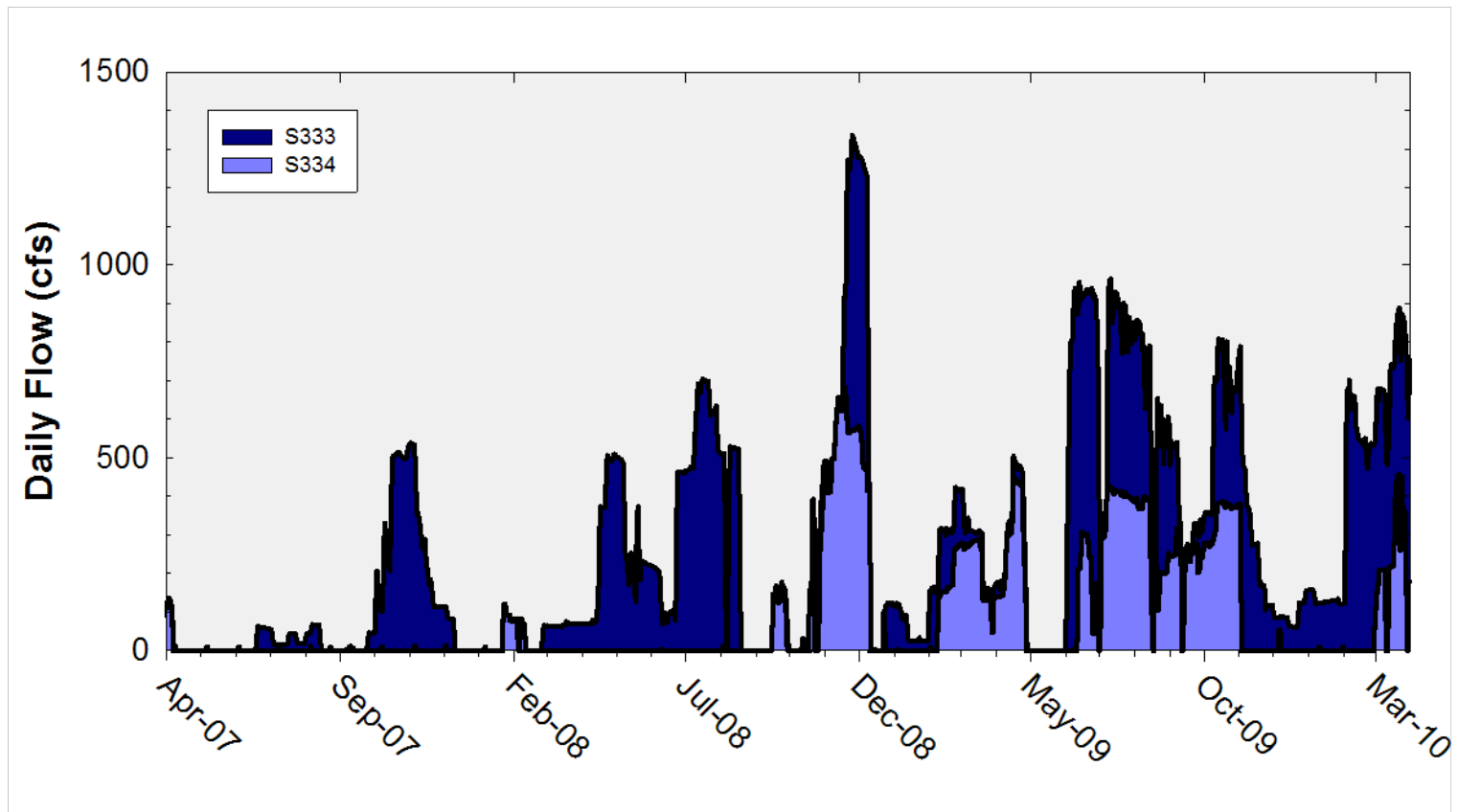
Shark River Slough Daily Flows



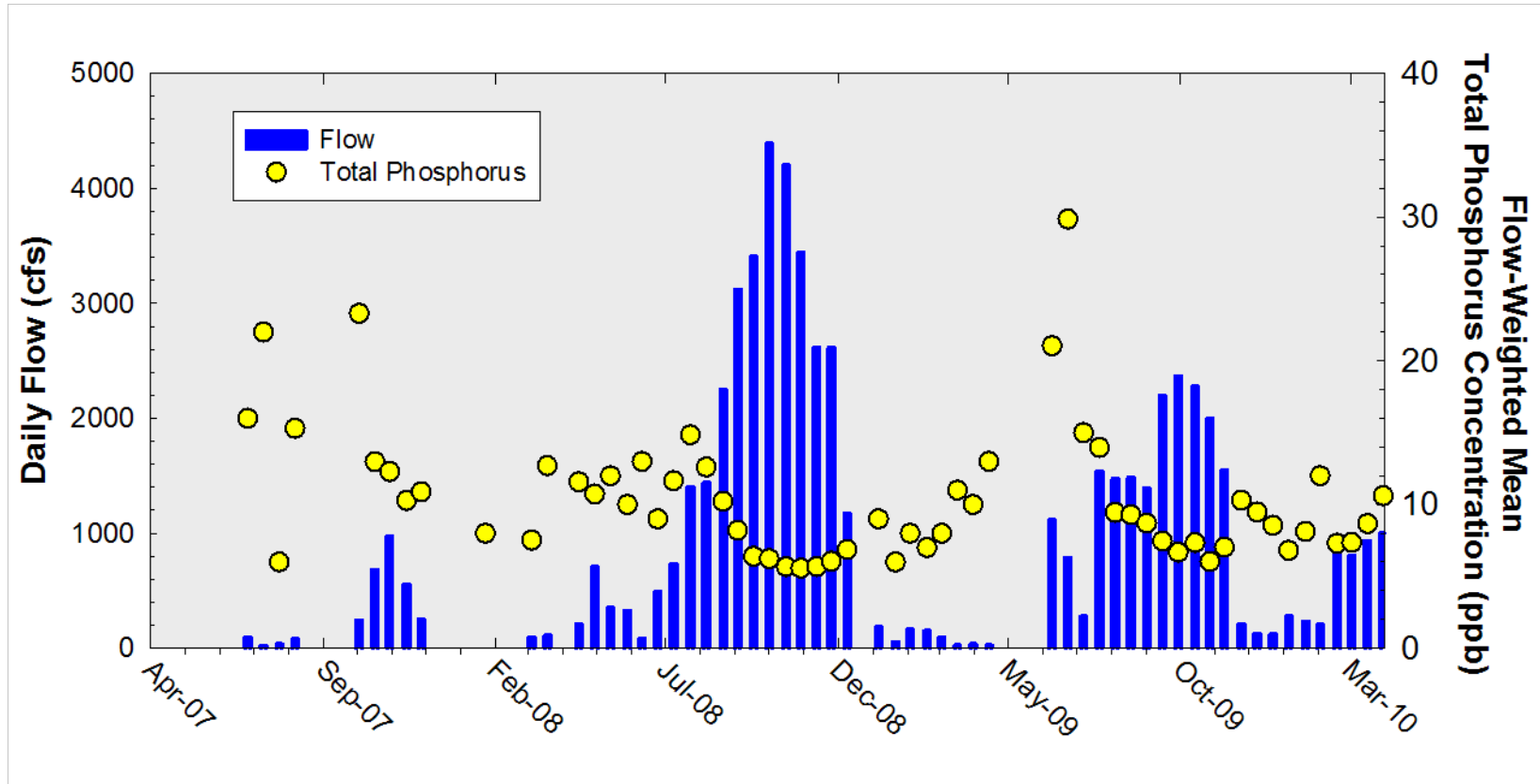
Daily Flows at individual inflow structures to Shark River Slough



Daily Flows at S333 and S334

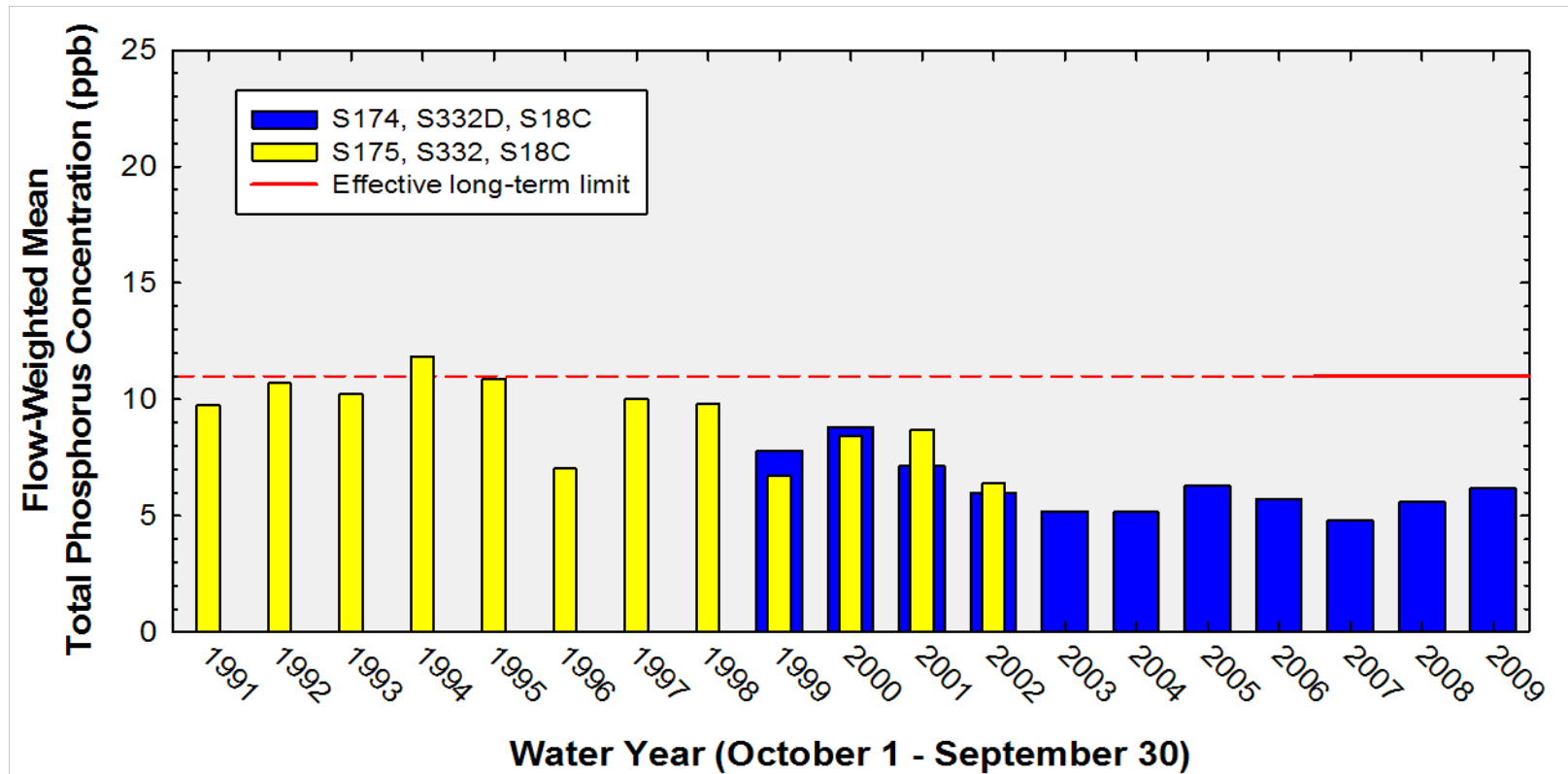


Shark River Slough Sampling Event Daily Flows and FWMC



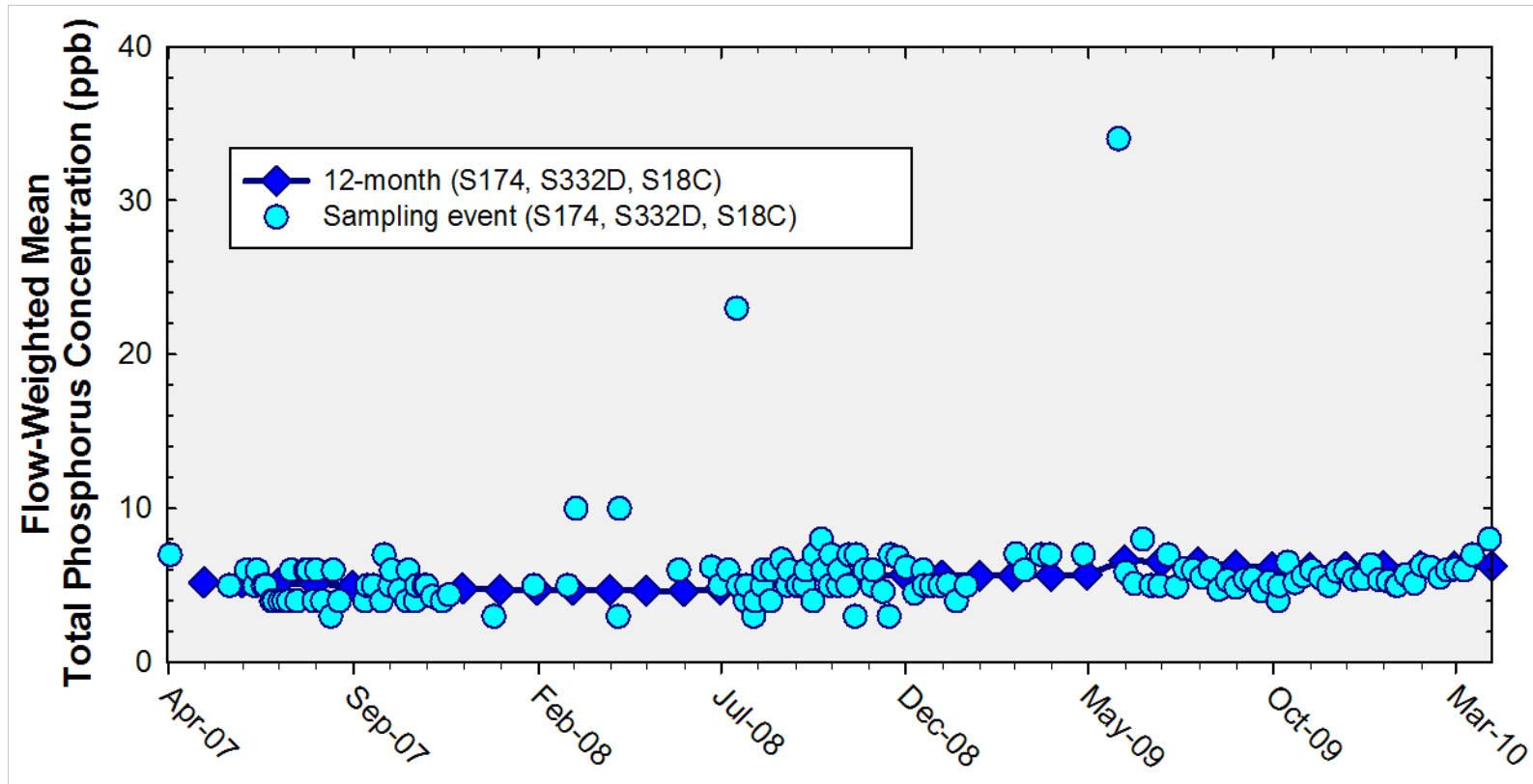
Daily flow at Shark River Slough structures and the corresponding TP FWMCs for individual sampling events

Annual Flow-Weighted Mean Concentrations Inflows to the ENP through Taylor Slough and Coastal Basins



The 12-month FWMC at the end of each water year compared to the 11 ppb long-term total phosphorus limit

12-Month Flow-Weighted Mean Concentrations Inflows to the ENP through Taylor Slough and Coastal Basins



The 12-month FWMC at the end of each month and the composite TP concentration for each sampling event

Taylor Slough and Coastal Basins

TP Concentration

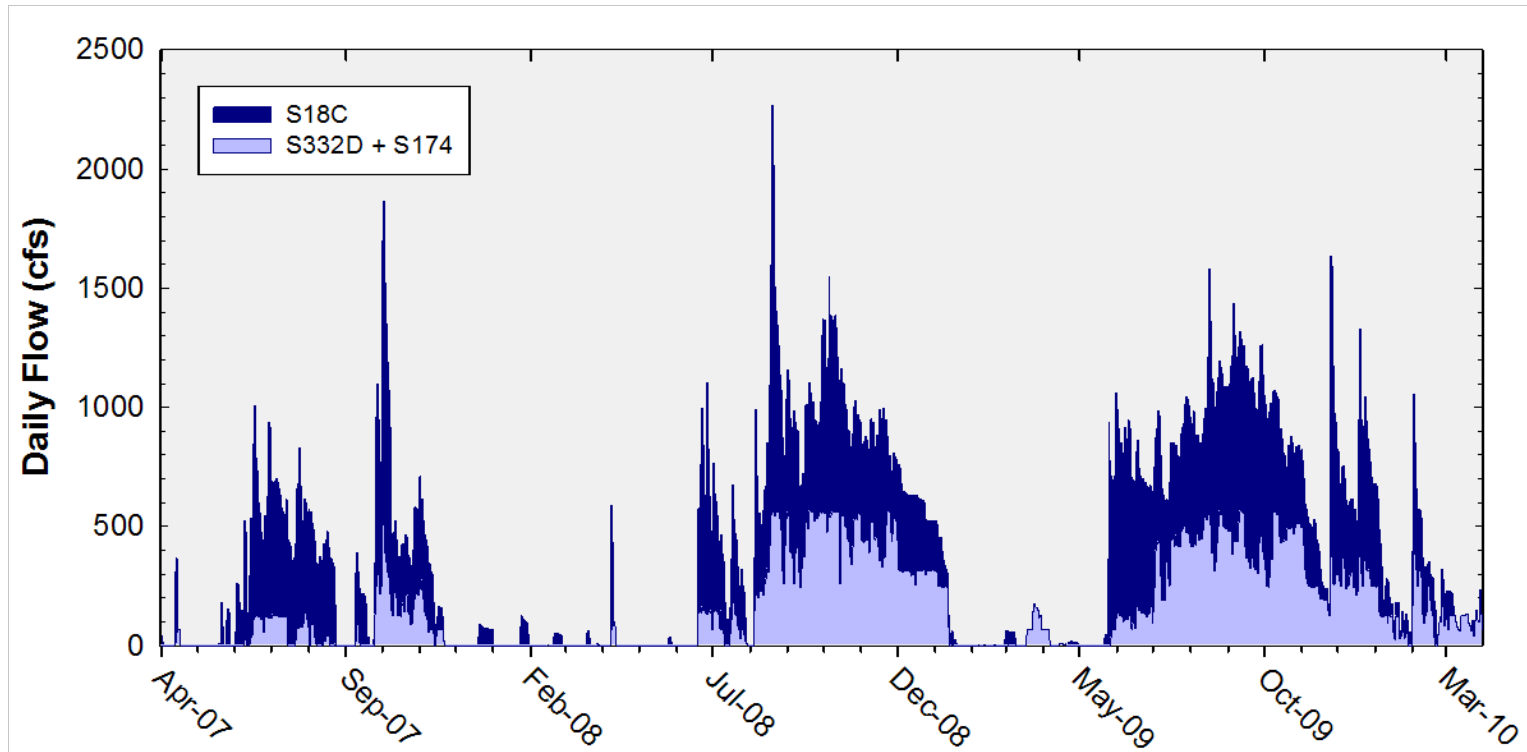
Compliance Tracking

12-Month Period	Total Flow (kac-ft)	Flow-Weighted Mean TP Concentration (ppb)	Long-Term Limit (ppb) <i>Effective 12/31/2006</i>	Percent of Sampling Events Greater than 10 ppb	
				Guideline	Observed
May 2006 - Apr 2007	125.4	5.2	11.0	53.1	10.0
Jun 2006 - May 2007	126.0	5.2	11.0	53.1	7.5
Jul 2006 - Jun 2007	153.0	5.1	11.0	53.1	6.5
Aug 2006 - Jul 2007	153.4	5.1	11.0	53.1	6.4
Sep 2006 - Aug 2007	143.5	5.0	11.0	53.1	6.5
<i>Oct 2006 - Sep 2007</i>	<i>120.7</i>	<i>4.8</i>	<i>11.0</i>	<i>53.1</i>	<i>4.7</i>
Nov 2006 - Oct 2007	150.3	4.8	11.0	53.1	4.3
Dec 2006 - Nov 2007	155.7	4.8	11.0	53.1	4.4
Jan 2007 - Dec 2007	154.6	4.7	11.0	53.1	2.3
Feb 2007 - Jan 2008	155.5	4.7	11.0	53.1	2.3
Mar 2007 - Feb 2008	156.1	4.7	11.0	53.1	2.3
Apr 2007 - Mar 2008	155.4	4.7	11.0	53.1	0.0
May 2007 - Apr 2008	157.1	4.6	11.0	53.1	0.0
Jun 2007 - May 2008	155.9	4.6	11.0	53.1	0.0
Jul 2007 - Jun 2008	145.0	4.8	11.0	53.1	0.0
Aug 2007 - Jul 2008	130.0	5.0	11.0	53.1	2.6
Sep 2007 - Aug 2008	165.6	5.5	11.0	53.1	2.5
<i>Oct 2007 - Sep 2008</i>	<i>207.7</i>	<i>5.6</i>	<i>11.0</i>	<i>53.1</i>	<i>2.2</i>
Nov 2007 - Oct 2008	234.8	5.7	11.0	53.1	2.3
Dec 2007 - Nov 2008	273.0	5.7	11.0	53.1	2.2
Jan 2008 - Dec 2008	308.8	5.6	11.0	53.1	2.0
Feb 2008 - Jan 2009	317.1	5.6	11.0	53.1	1.9
Mar 2008 - Feb 2009	316.5	5.6	11.0	53.1	1.9
Apr 2008 - Mar 2009	320.0	5.6	11.0	53.1	1.8
May 2008 - Apr 2009	317.6	5.7	11.0	53.1	1.9
Jun 2008 - May 2009	329.2	6.6	11.0	53.1	3.7
Jul 2008 - Jun 2009	358.3	6.5	11.0	53.1	3.5
Aug 2008 - Jul 2009	388.8	6.5	11.0	53.1	1.9
Sep 2008 - Aug 2009	398.6	6.3	11.0	53.1	1.9
<i>Oct 2008 - Sep 2009</i>	<i>411.4</i>	<i>6.2</i>	<i>11.0</i>	<i>53.1</i>	<i>2.2</i>
Nov 2008 - Oct 2009	399.3	6.1	11.0	53.1	2.3
Dec 2008 - Nov 2009	383.5	6.2	11.0	53.1	2.3
Jan 2009 - Dec 2009	391.5	6.3	11.0	53.1	2.4
Feb 2009 - Jan 2010	395.0	6.2	11.0	53.1	2.3
Mar 2009 - Feb 2010	414.5	6.2	11.0	53.1	2.1
Apr 2009 - Mar 2010	418.5	6.2	11.0	53.1	2.1

Taylor Slough and Coastal Basins TP Concentration Compliance Tracking for January 2010 – March 2010

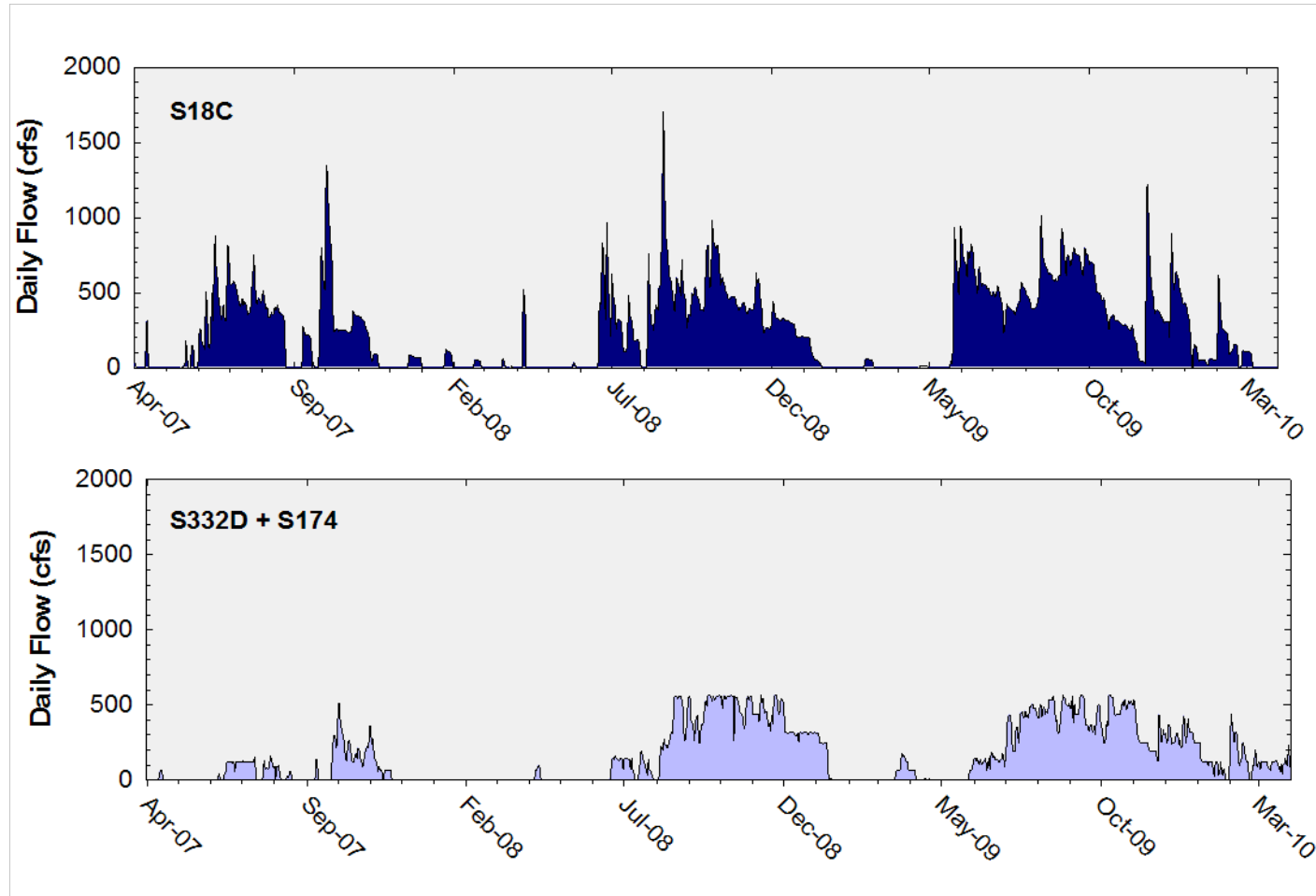
12-Month Period	Total Flow (kac-ft)	Flow-Weighted Mean TP Concentration (ppb)	Long-Term Limit (ppb) <i>Effective 12/31/2006</i>	Percent of Sampling Events Greater than 10 ppb	
				Guideline	Observed
Feb 2009 - Jan 2010	395.0	6.2	11.0	53.1	2.3
Mar 2009 - Feb 2010	414.5	6.2	11.0	53.1	2.1
Apr 2009 - Mar 2010	418.5	6.2	11.0	53.1	2.1

Taylor Slough and Coastal Basins Daily Flows

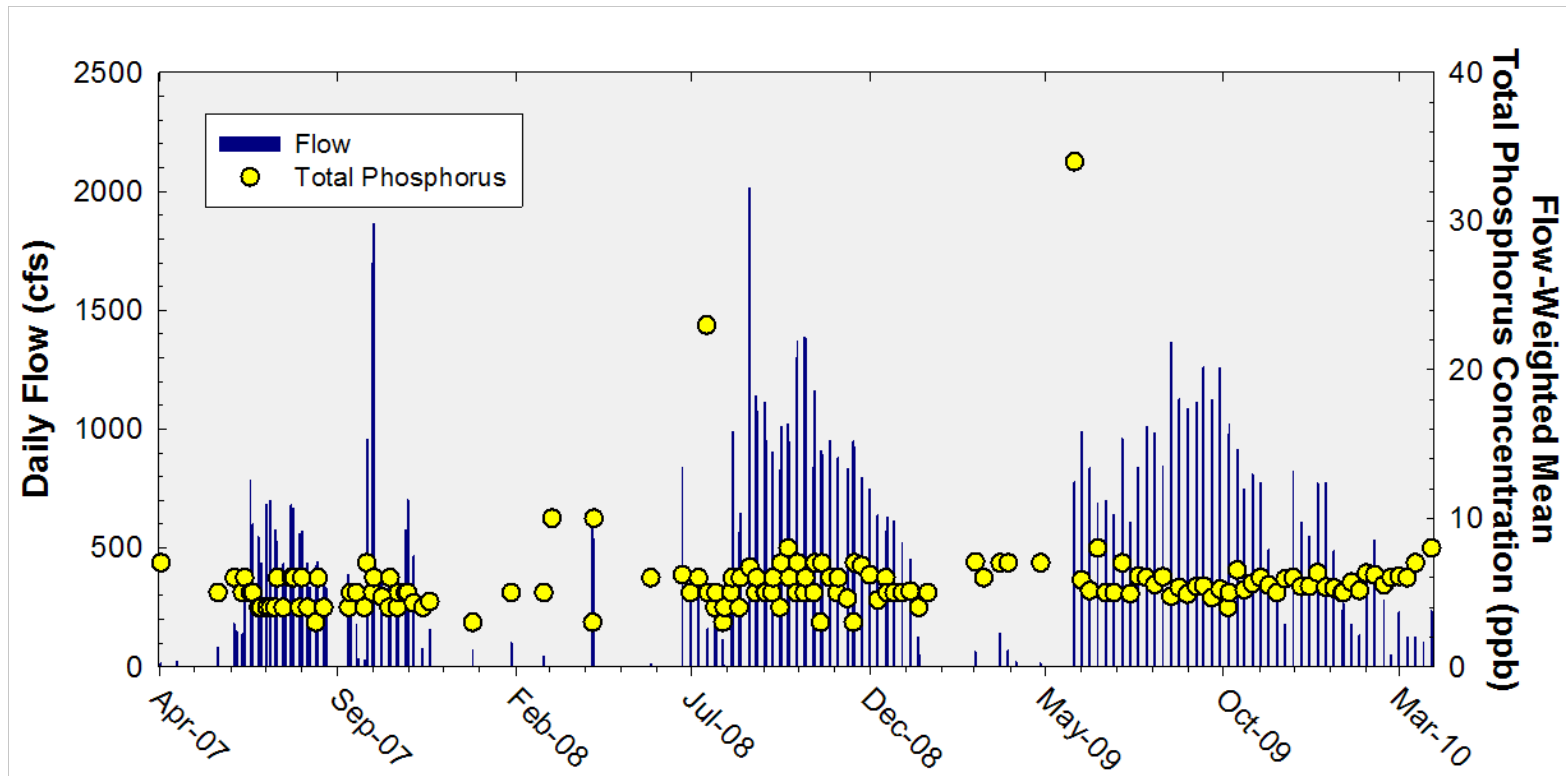


**Daily flows into Everglades National Park
through Taylor Slough and Coastal Basins**

Daily Flows at individual Taylor Slough and Coastal Basins structures into the ENP



Taylor Slough and Coastal Basins Sampling Event Flows and FWMC



Daily flows at Taylor Slough and Coastal Basins structures and the corresponding TP FWMCs for individual sampling events