

Technical Oversight Committee

August 31, 2010

SETTLEMENT AGREEMENT REPORT

April - June 2010

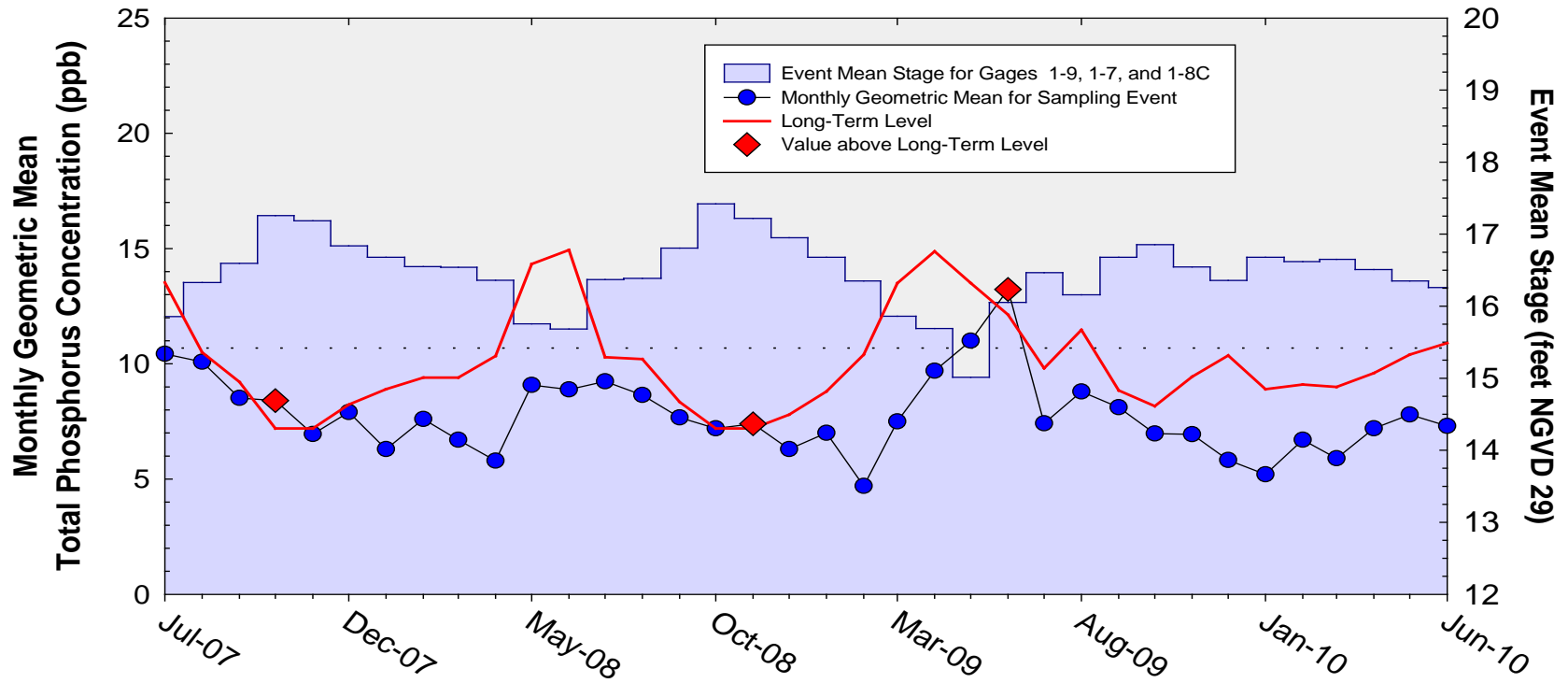
Stuart Van Horn

Section Leader, Routine and Compliance Reporting
Restoration Sciences Department

SUMMARY

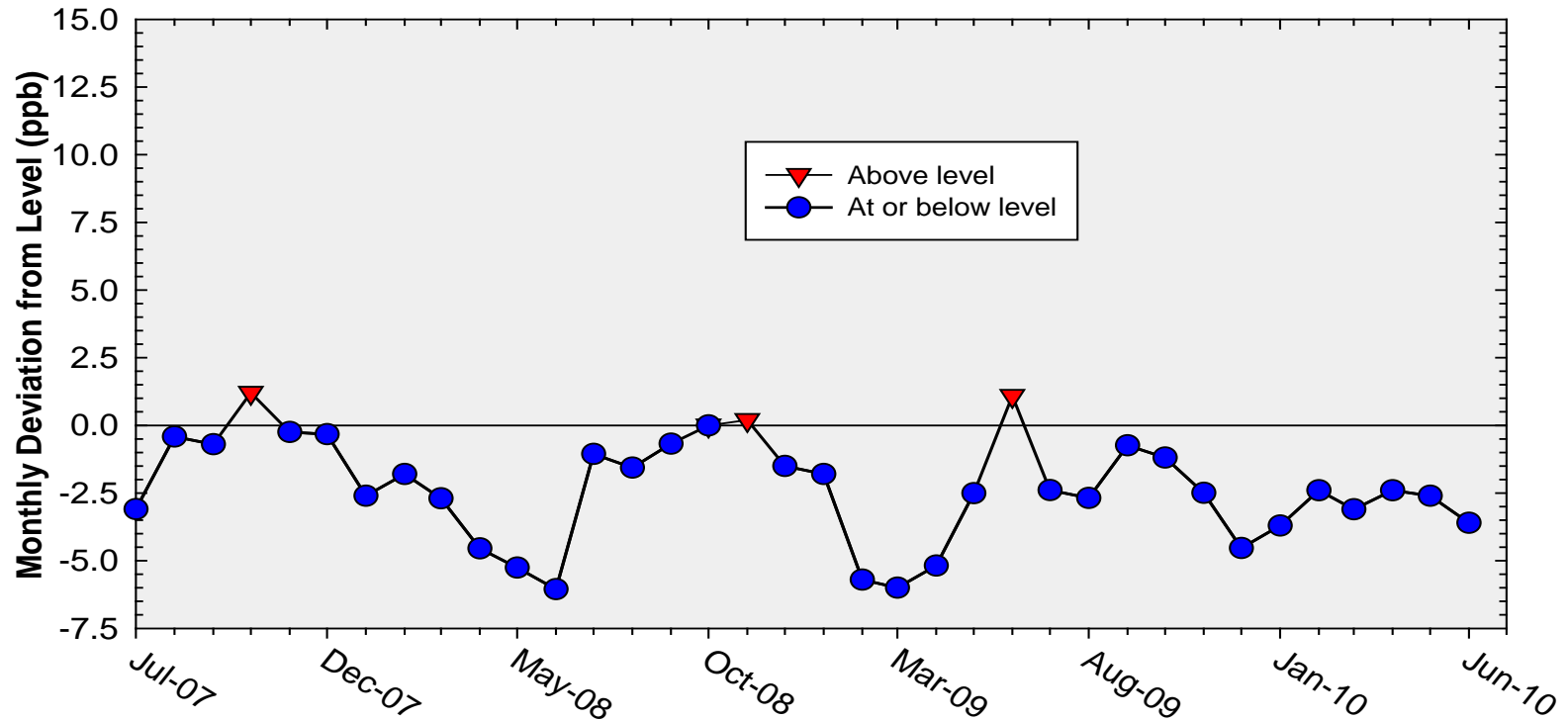
Month	Geometric Mean TP Concentration (ppb)	Long-term Level (ppb)	Mean Stage (ft NGVD 29)	Number of Samples	
Arthur R. Marshall Loxahatchee National Wildlife Refuge					
Apr-2010	7.2	9.6	16.51	14	
May-2010	7.8	10.4	16.35	14	
Jun-2010	7.3	10.9	16.26	14	
12-Month Period Ending	Total Flow (kac-ft)	12-Month 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					
Apr-2010	790.9	9.9	9.0	46.6	37.5
May-2010	869.0	9.9	8.6	44.6	42.3
Jun-2010	861.2	9.0	8.6	44.8	42.3
Everglades National Park – Taylor Slough and Coastal Basins					
Apr-2010	430.6	6.2	11.0	53.1	2.0
May-2010	441.7	5.6	11.0	53.1	0.0
Jun-2010	428.2	5.5	11.0	53.1	0.0

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**

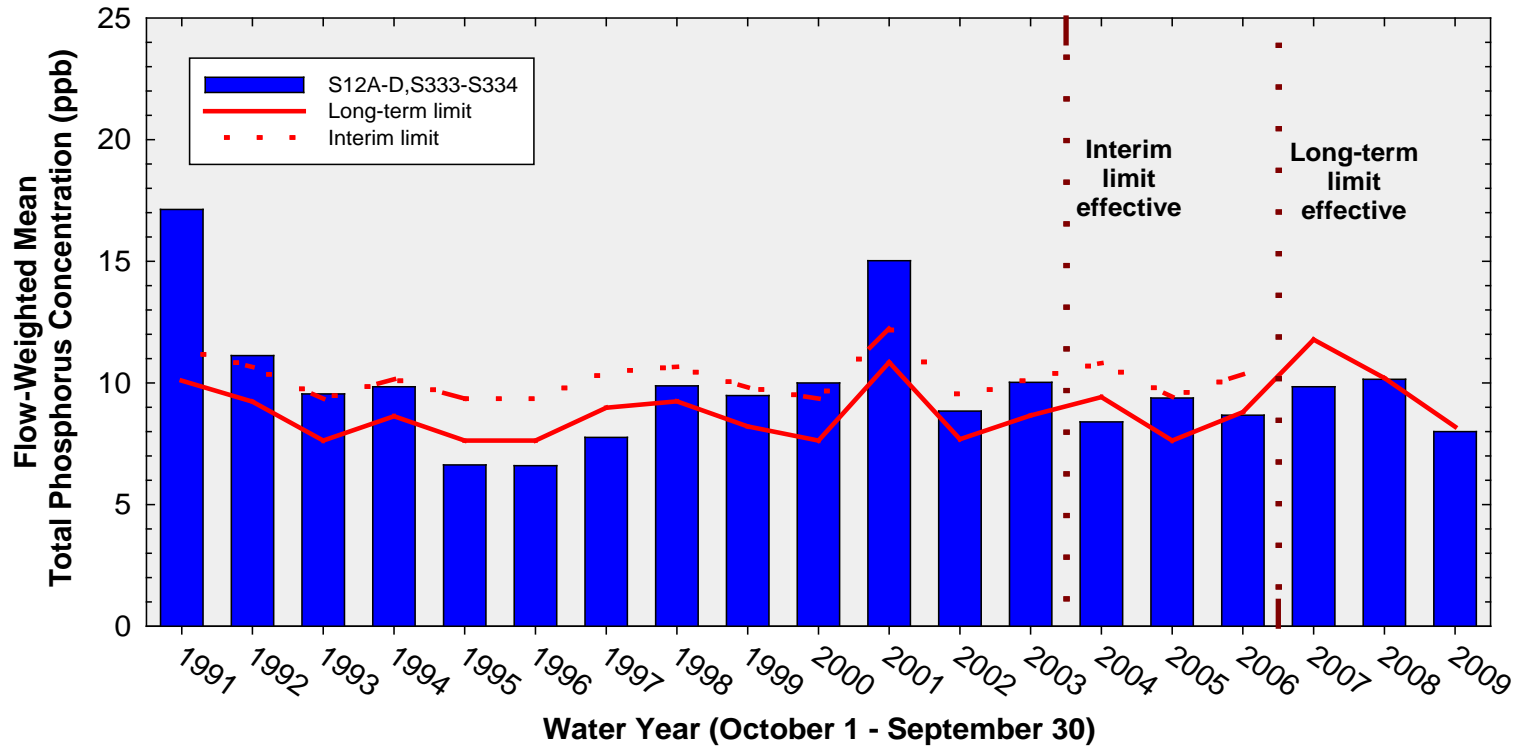
Month	Geometric Mean TP Concentration (ppb)	Long-Term Level (ppb) Effective 12/31/2006	Average Stage ^a (ft NGVD 29)	Number of Samples
Jul-2007	10.4	13.5	15.86	13
Aug-2007	10.1	10.5	16.33	13
Sep-2007	8.5	9.2	16.59	14
Oct-2007	8.4	7.2	17.26	14
Nov-2007	7.0	7.2	17.19	14
Dec-2007	7.9	8.2	16.84	14
Jan-2008	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
Nov-2008	7.4	7.2	17.22	14
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
Jun-2009^c	13.2	12.1	16.05	12
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
Apr-2010	7.2	9.6	16.51	14
May-2010	7.8	10.4	16.35	14
Jun-2010	7.3	10.9	16.26	14

Refuge TP Compliance Tracking For April 2010 - August 2010

Month	Geometric Mean TP Concentration (ppb)	Long-Term Level (ppb) Effective 12/31/2006	Average Stage ^a (ft NGVD 29)	Number of Samples
Apr-2010	7.2	9.6	16.51	14
May-2010	7.8	10.4	16.35	14
Jun-2010	7.3	10.9	16.26	14
Jul-2010	6.9	10.7	16.29	14
Aug-2010	6.1	11.6	16.15	10

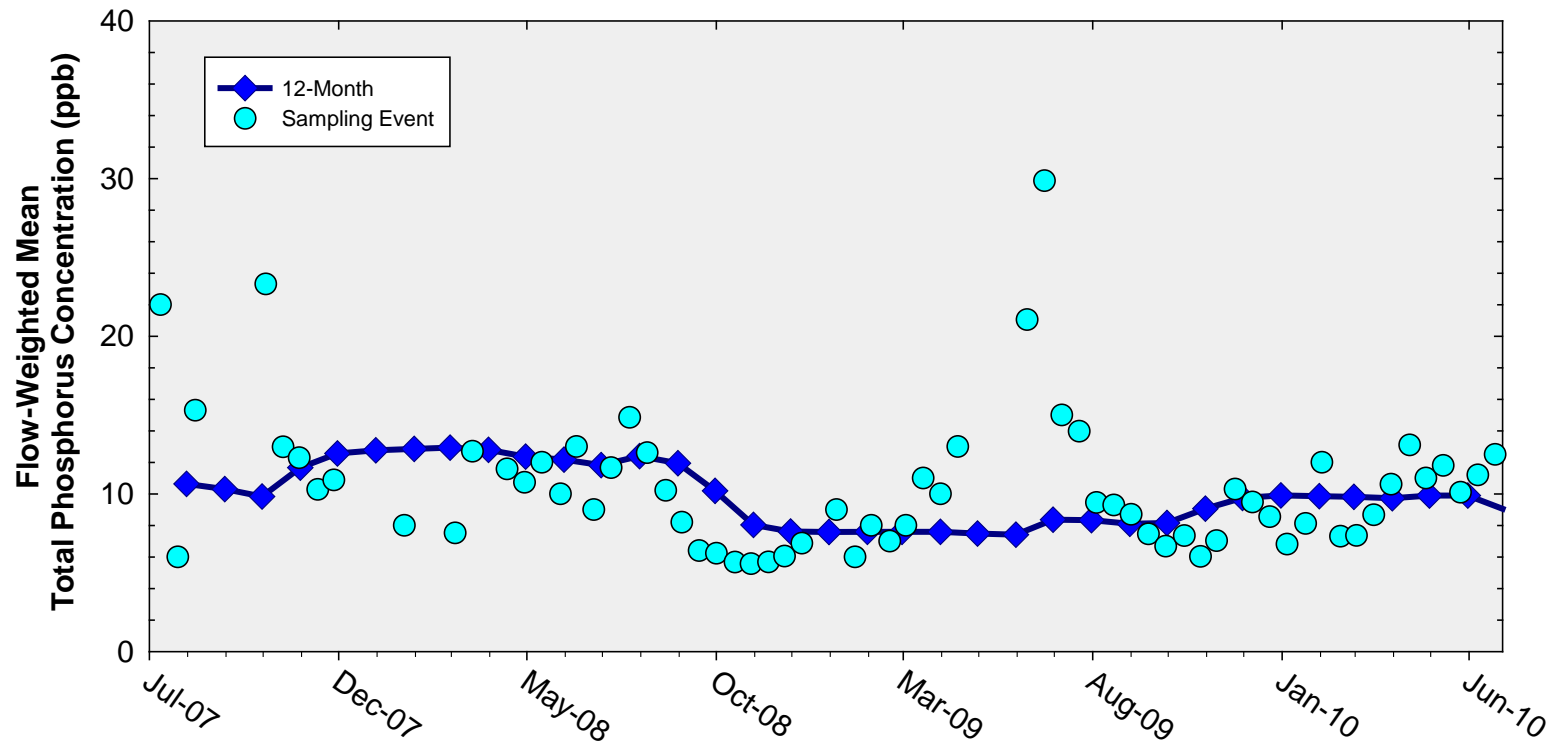
Note: July and August 2010 values are preliminary.

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

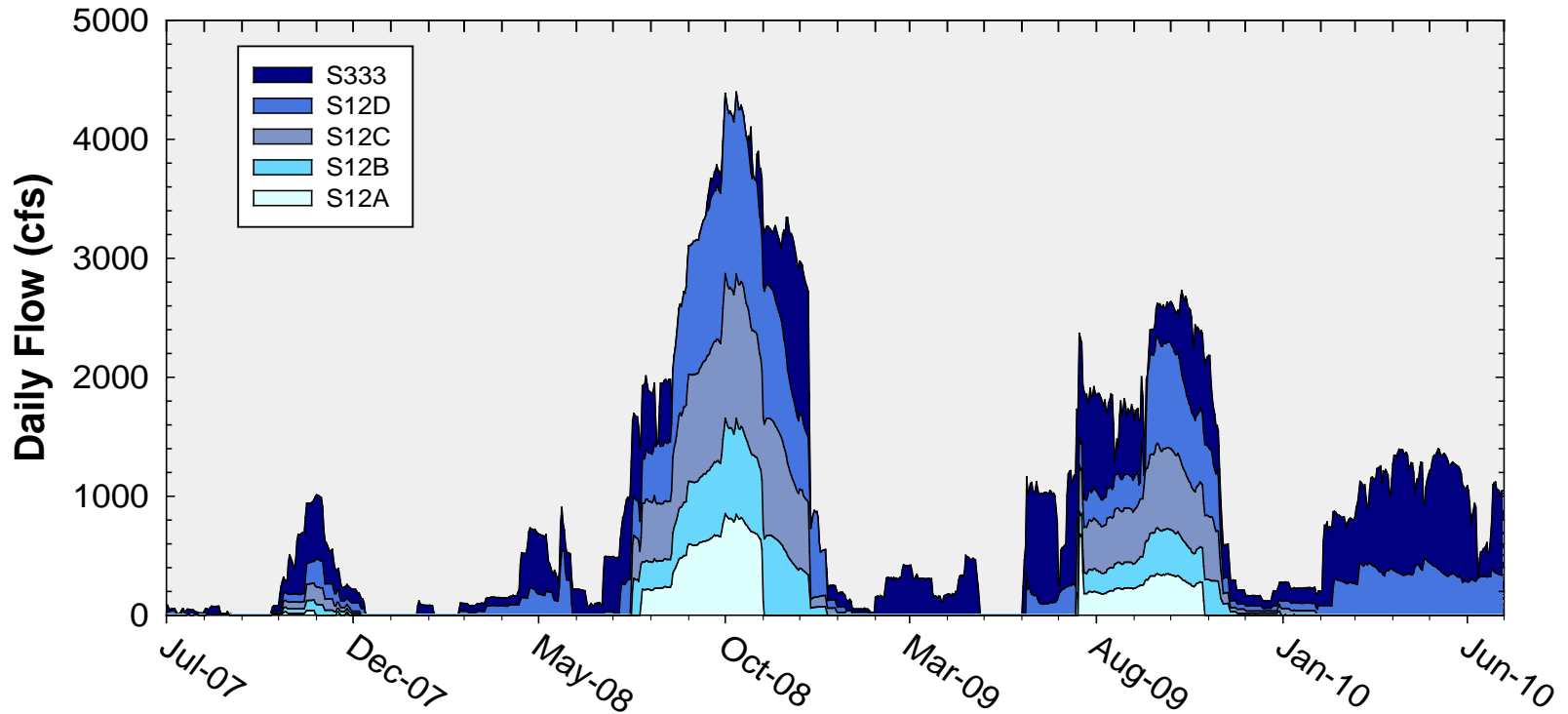
Shark River Slough TP Concentration Compliance Tracking

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
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
Oct 2006 - Sep 2007	289.7	9.8	11.8	62.6	37.5
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
Oct 2007 - Sep 2008	562.0	10.2	10.2	53.3	70.0^b
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
Oct 2008 - Sep 2009	945.3^c	8.2	8.2	42.7	26.1
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
May 2009 - Apr 2010	790.9	9.9	9.0	46.6	37.5
Jun 2009 - May 2010	869.0	9.9	8.6	44.6	42.3
Jul 2009 - Jun 2010	861.2	9.0	8.6	44.8	42.3

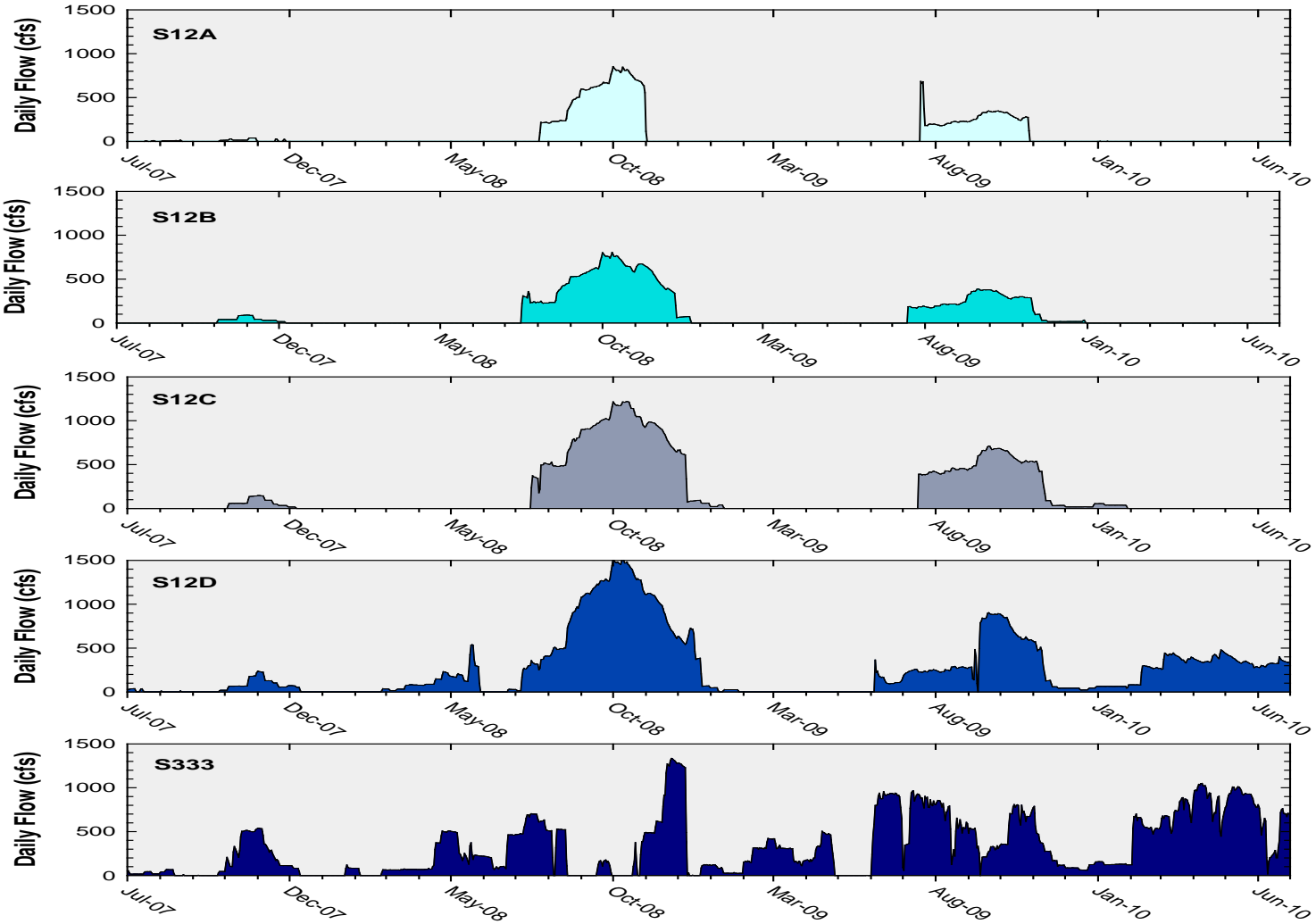
Shark River Slough TP Concentration Compliance Tracking for April 2010 – June 2010

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
May 2009 - Apr 2010	790.9	9.9	9.0	46.6	37.5
Jun 2009 - May 2010	869.0	9.9	8.6	44.6	42.3
Jul 2009 - Jun 2010	861.2	9.0	8.6	44.8	42.3

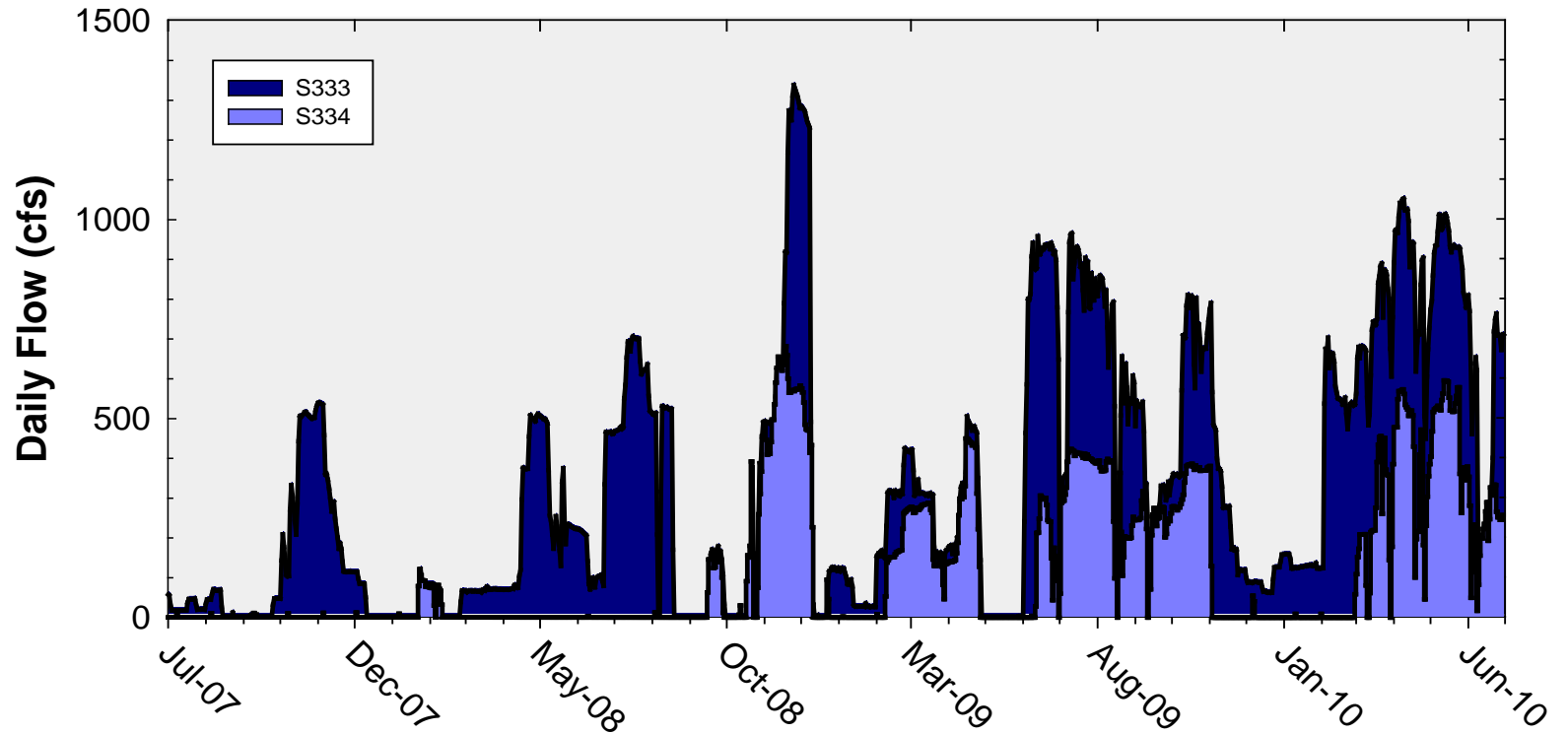
Shark River Slough Daily Flows



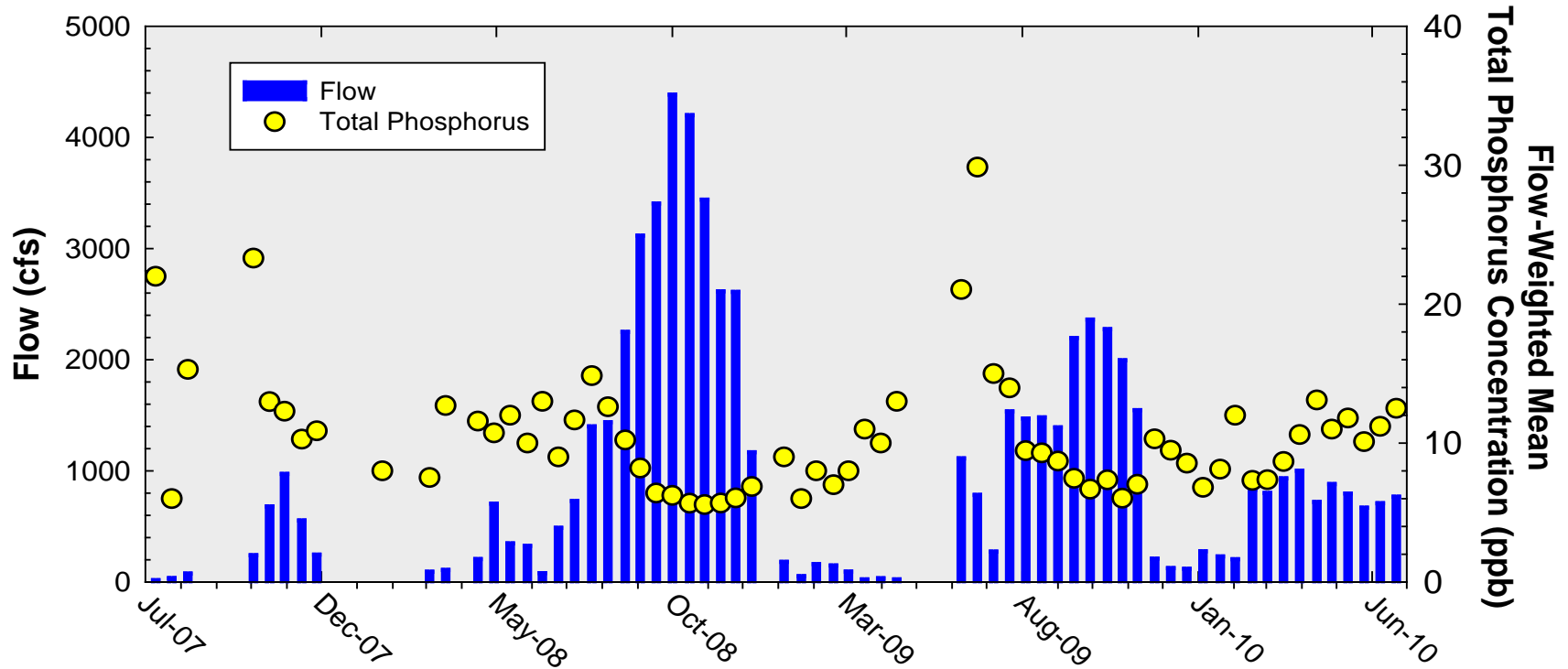
Daily Flows at individual inflow structures to Shark River Slough



Daily Flows at S333 and S334

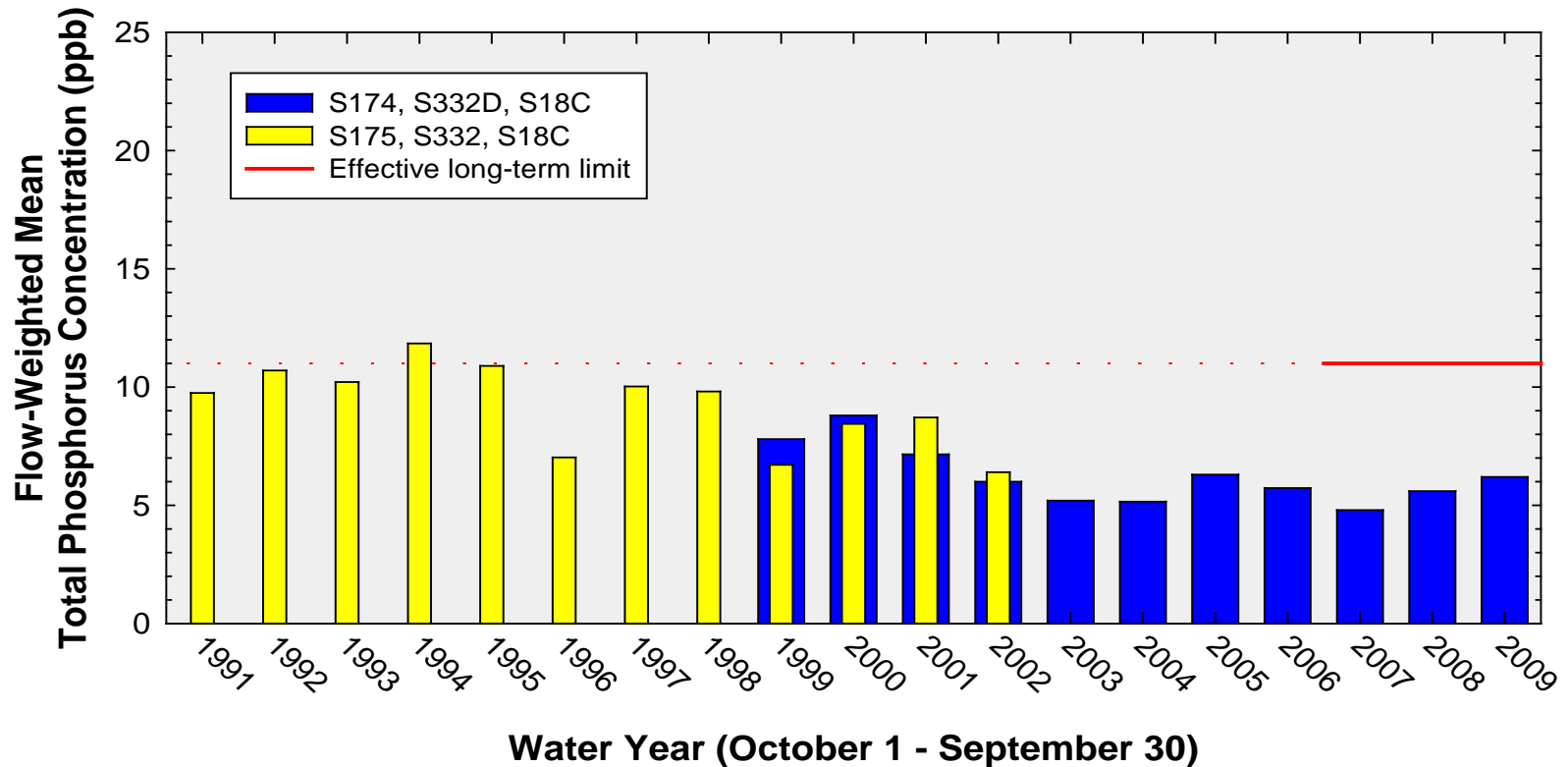


Shark River Slough Sampling Event Flow and FWMC



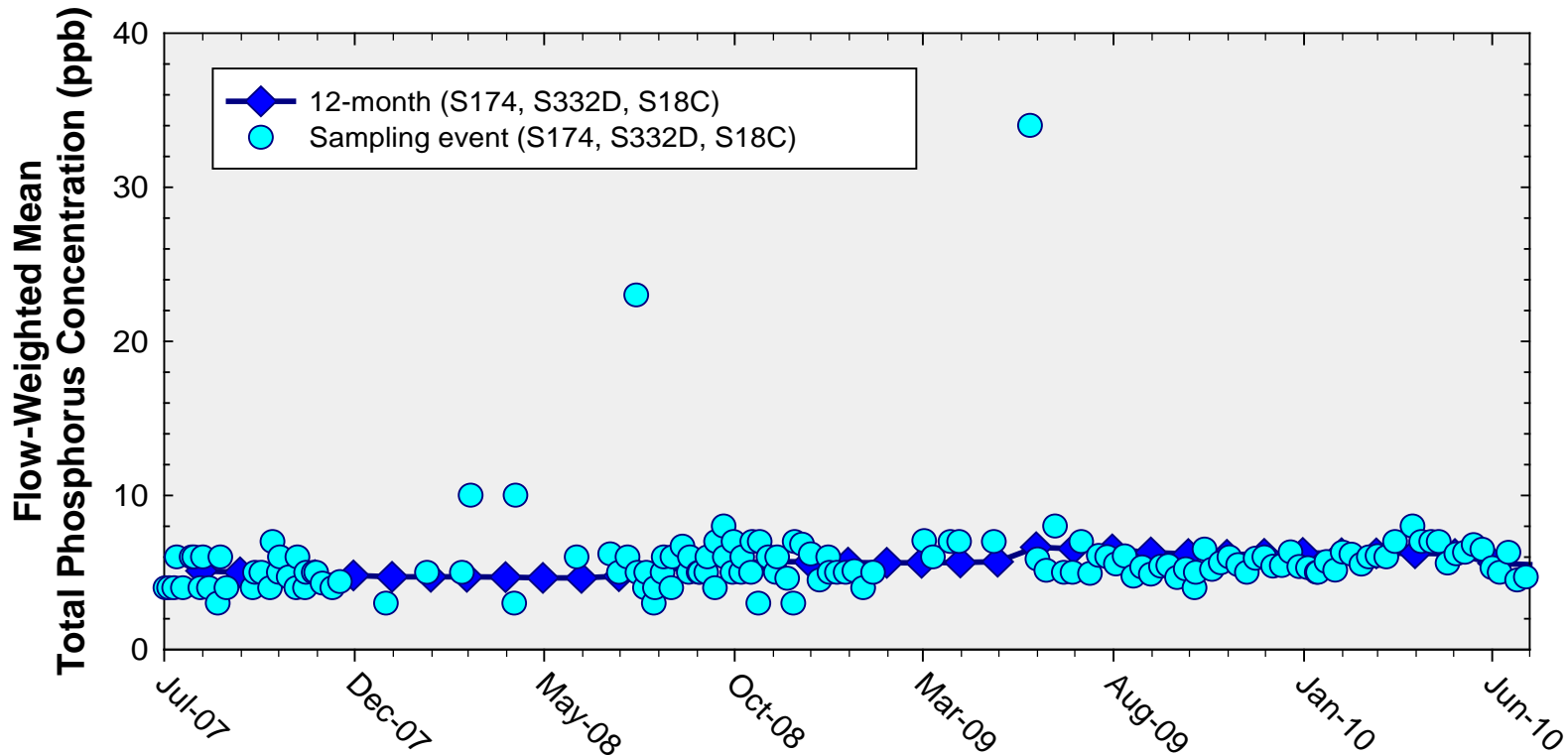
Flow at Shark River Slough structures and the corresponding TP FWMCs for individual sampling events

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

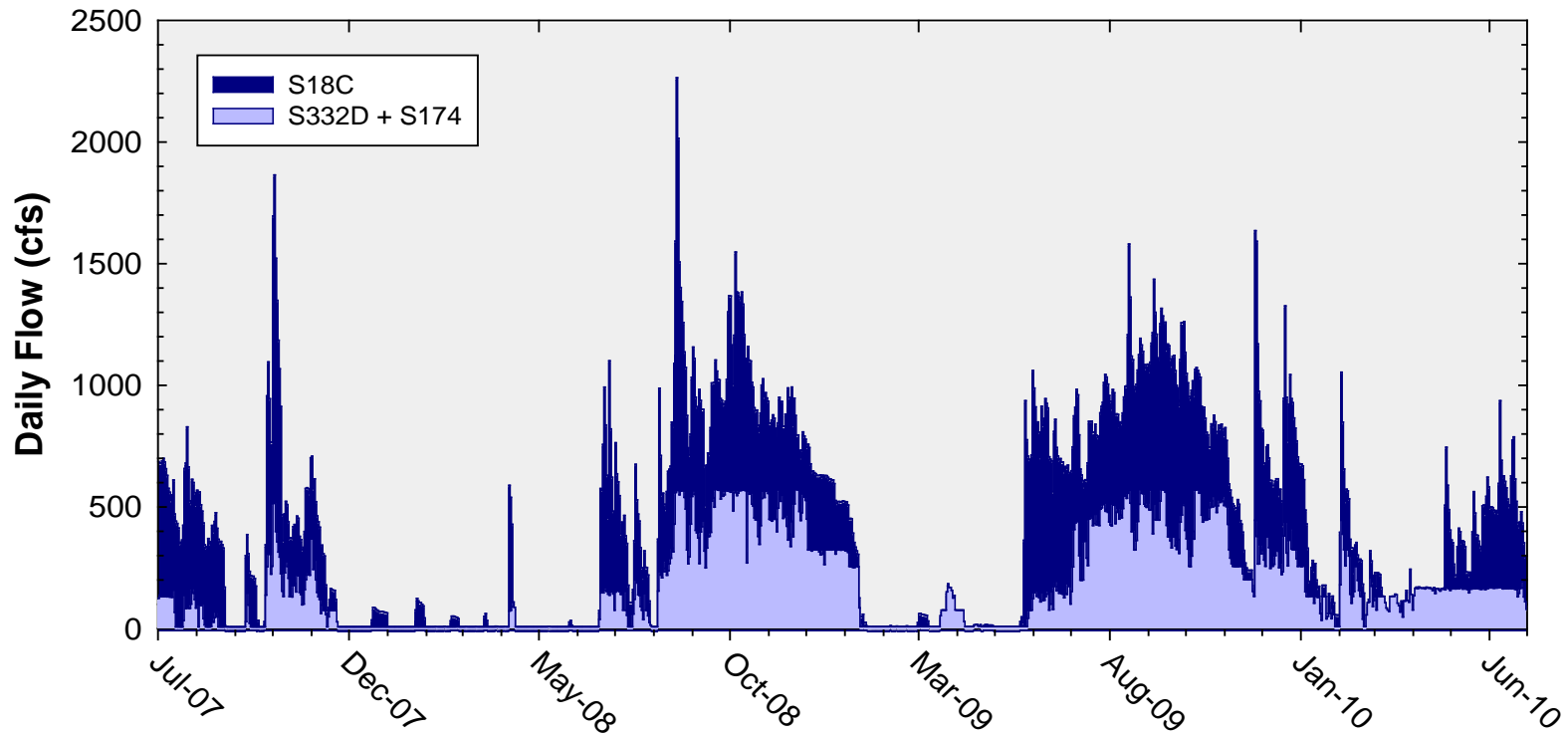
Compliance Tracking

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
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
Oct 2006 - Sep 2007	120.7	4.8	11.0	53.1	4.7
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
Oct 2007 - Sep 2008	207.7	5.6	11.0	53.1	2.2
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
Oct 2008 - Sep 2009	411.4	6.2	11.0	53.1	2.2
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
May 2009 - Apr 2010	430.6	6.2	11.0	53.1	2.0
Jun 2009 - May 2010	441.7	5.6	11.0	53.1	0.0
Jul 2009 - Jun 2010	428.2	5.5	11.0	53.1	0.0

Taylor Slough and Coastal Basins TP Concentration Compliance Tracking for April 2010 – June 2010

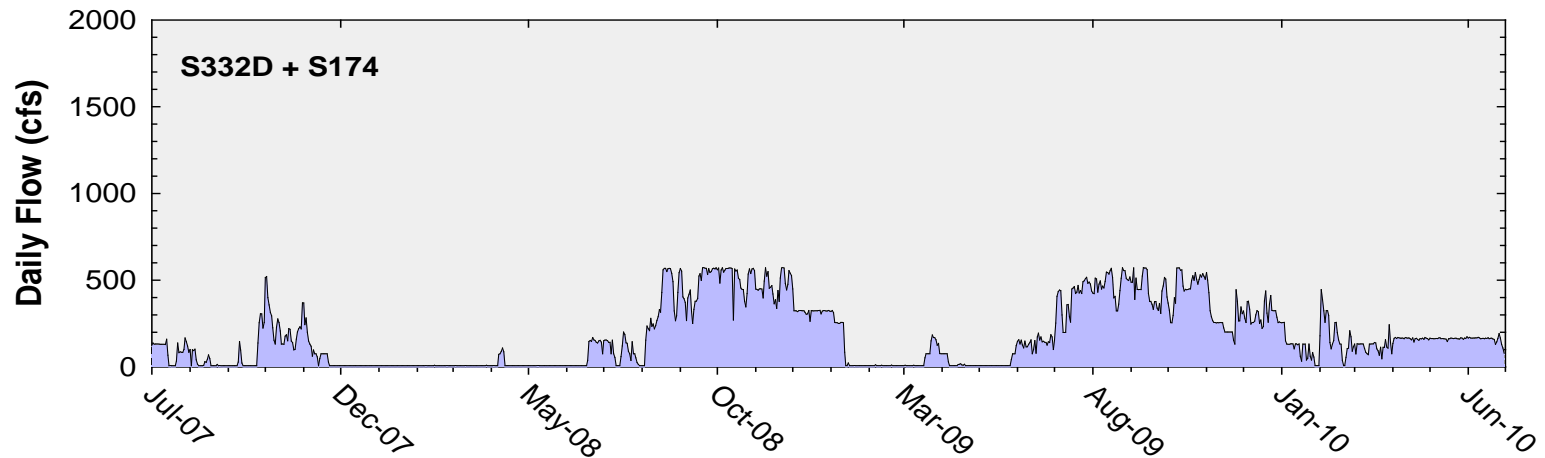
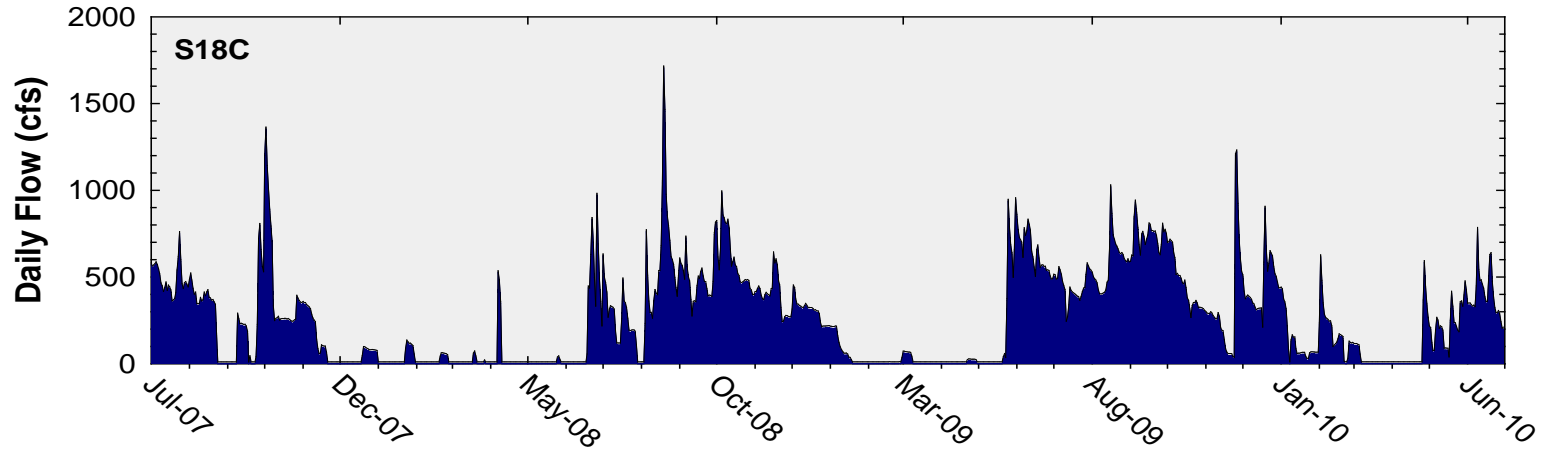
12-Month Period	Total Flow (kac-ft)	Flow-Weighted Mean TP Concentration (ppb)	Long-Term Limit (ppb) <i>Effective 12/31/2006</i>	Percent of Sampling Events Greater than 10 ppb	
				Guideline	Observed
May 2009 - Apr 2010	430.6	6.2	11.0	53.1	2.0
Jun 2009 - May 2010	441.7	5.6	11.0	53.1	0.0
Jul 2009 - Jun 2010	428.2	5.5	11.0	53.1	0.0

Taylor Slough and Coastal Basins Daily Flows

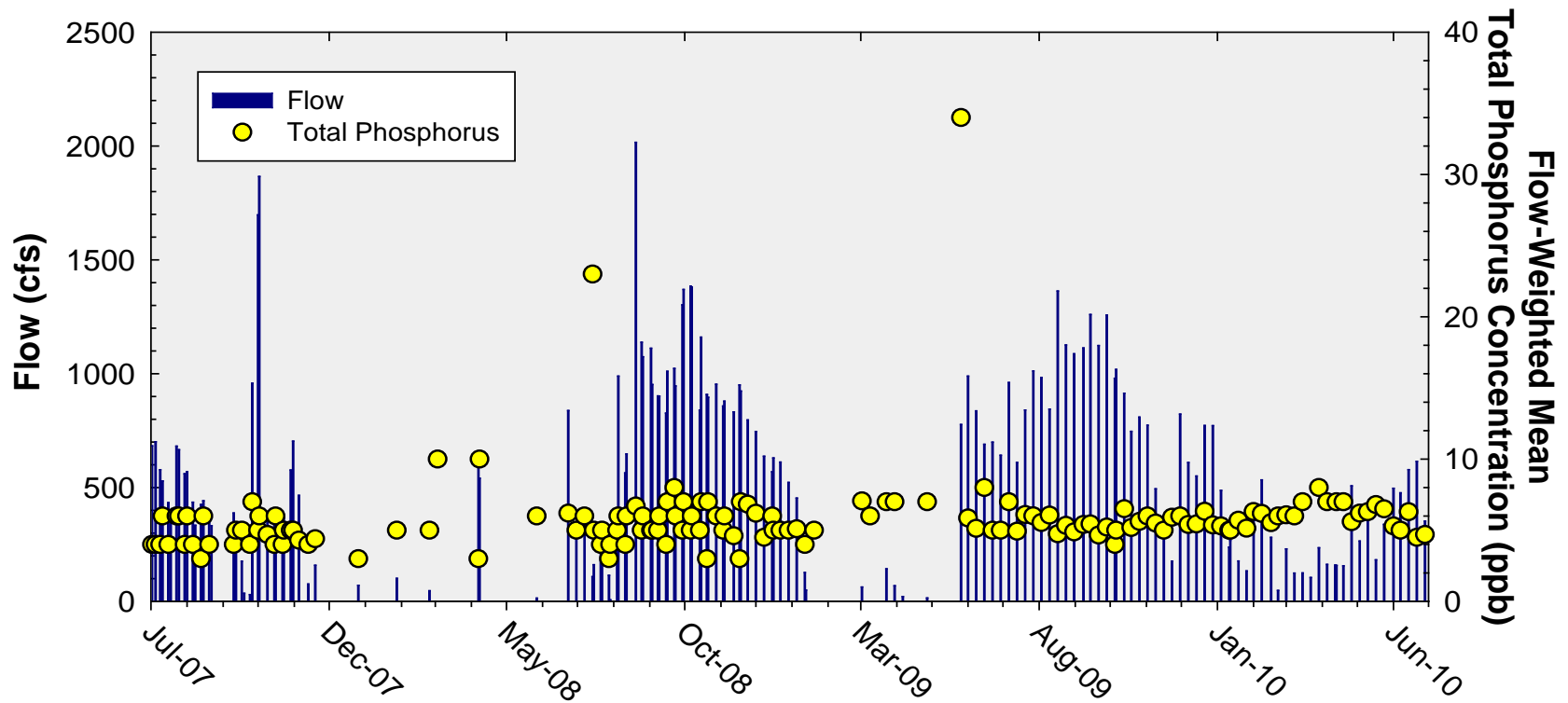


**Daily flows into Everglades National Park
through Taylor Slough and Coastal Basins**

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



Taylor Slough and Coastal Basins Sampling Event Flow and FWMC



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