

Technical Oversight Committee

September 14, 2011

# SETTLEMENT AGREEMENT REPORT

April - June 2011

**Stuart Van Horn**

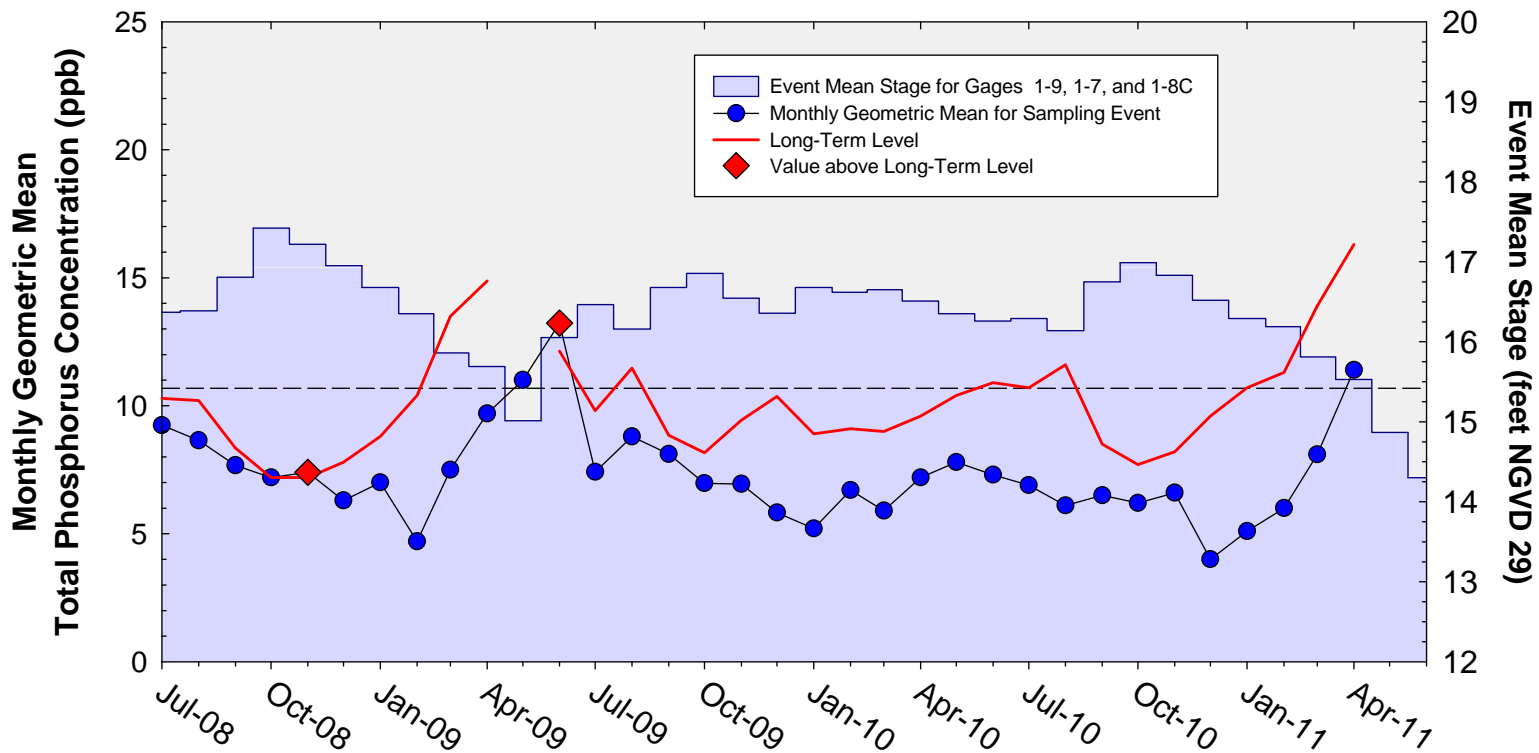
Section Leader, Compliance Assessment and Reporting Section  
Water Quality Bureau

# SUMMARY

Month	Geometric Mean TP Concentration (ppb)	Long-term Level (ppb)	Mean Stage (ft NGVD 29)	Number of Samples	
<b>Arthur R. Marshall Loxahatchee National Wildlife Refuge</b>					
Apr 2011	11.4	16.3	15.53	7	
May 2011	no data	N/A	14.87	0	
Jun 2011	no data	N/A	14.30	0	
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
<b>Everglades National Park – Shark River Slough</b>					
Apr 2011	585.5	9.0	10.1	52.5	54.2
May 2011	526.0	8.8	10.4	54.4	54.2
Jun 2011	484.1	8.6	10.6	55.8	52.2
<b>Everglades National Park – Taylor Slough and Coastal Basins</b>					
Apr 2011	235.2	5.3	11.0	53.1	0.0
May 2011	215.0	5.2	11.0	53.1	7.1
Jun 2011	183.4	5.2	11.0	53.1	8.1

# A.R.M Loxahatchee National Wildlife Refuge

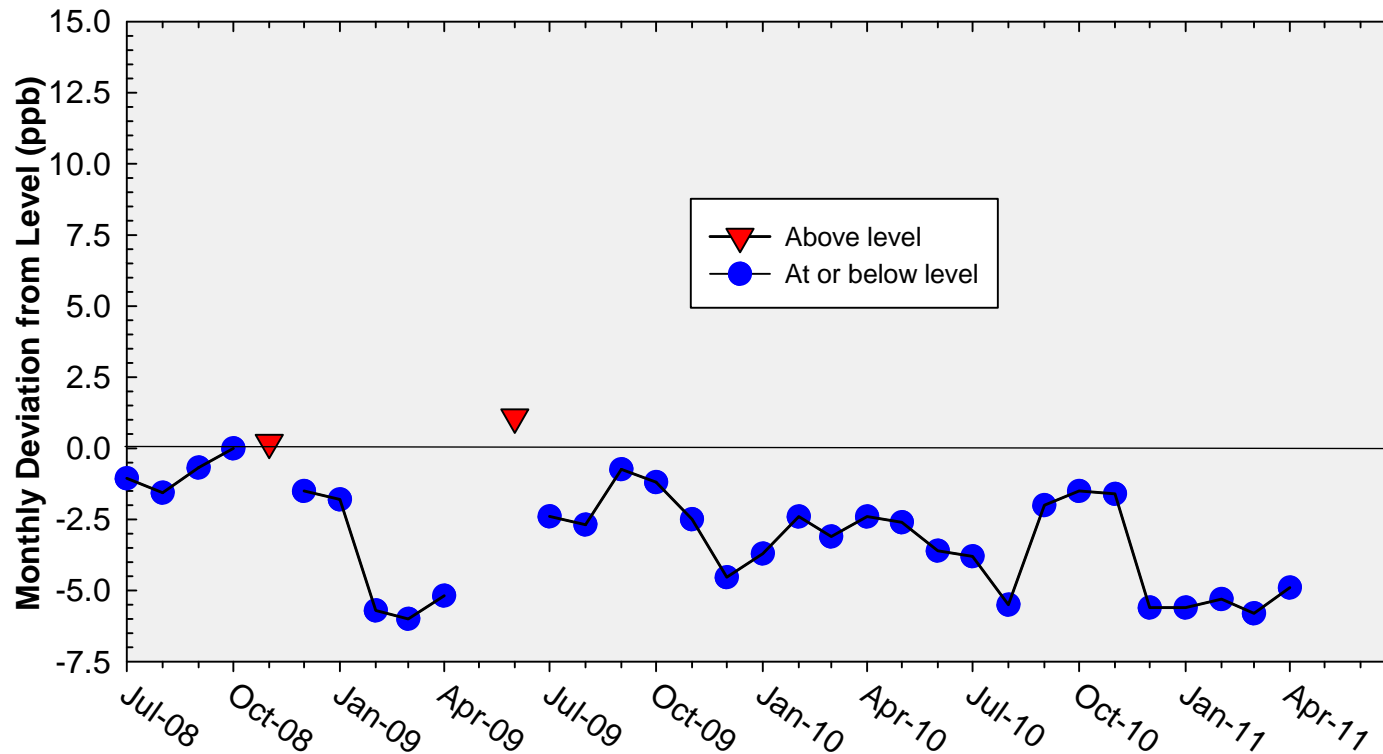
## Monthly Total Phosphorus Geometric Mean Concentrations



Note: Long-term level was not applicable for May 2009, May 2011 and June 2011 (average stage < 15.42 ft).

# A.R.M Loxahatchee National Wildlife Refuge

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



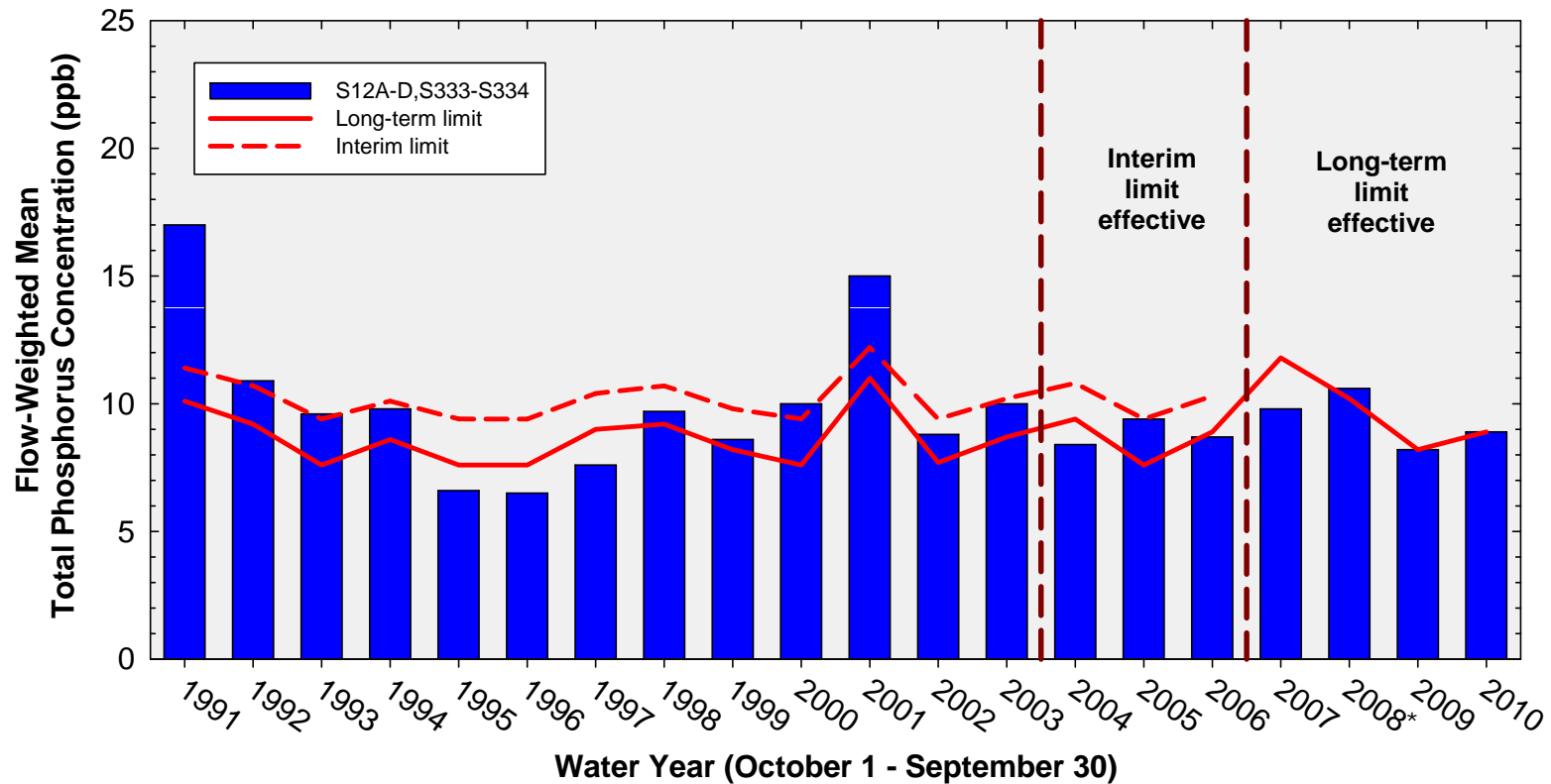
Note: Long-term level was not applicable for May 2009, May 2011 and June 2011 (average stage < 15.42 ft).

## Refuge TP Compliance Tracking for April 2011 – August 2011

Month	Geometric Mean TP Concentration (ppb)	Long-Term Level (ppb) Effective 12/31/2006	Average Stage (ft NGVD 29)	Number of Samples
Apr-2011	11.4	16.3	15.53	7
May-2011	no data	N/A	14.87	0
Jun-2011	no data	N/A	14.30	0
Jul-2011	20.2	N/A	15.11	4
Aug-2011	11.5	16.6	15.50	8

Note: July and August 2011 values are preliminary.

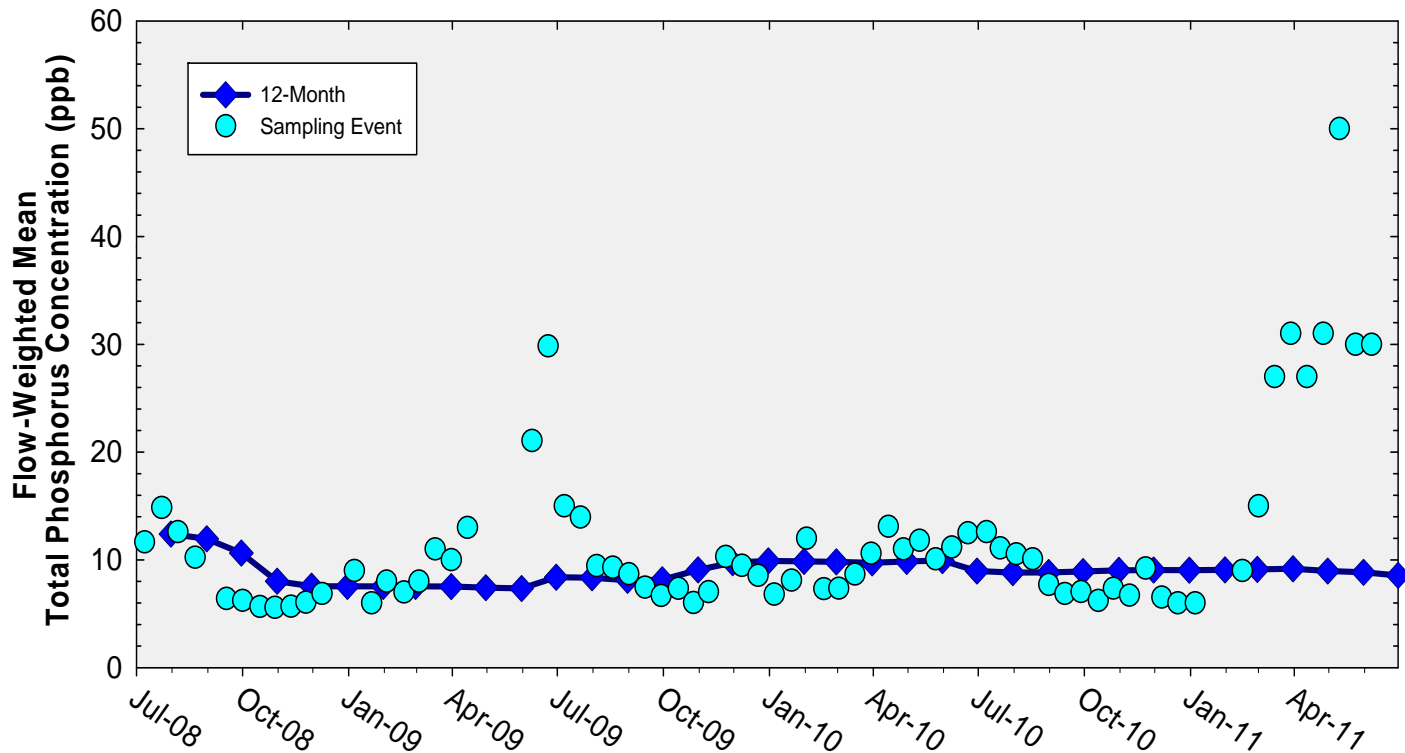
## Annual Flow-weighted Mean Concentrations Inflows to ENP through Shark River Slough



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

\*TOC determined 2008 exceedance did not constitute a violation of the long-term limit.

## 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**

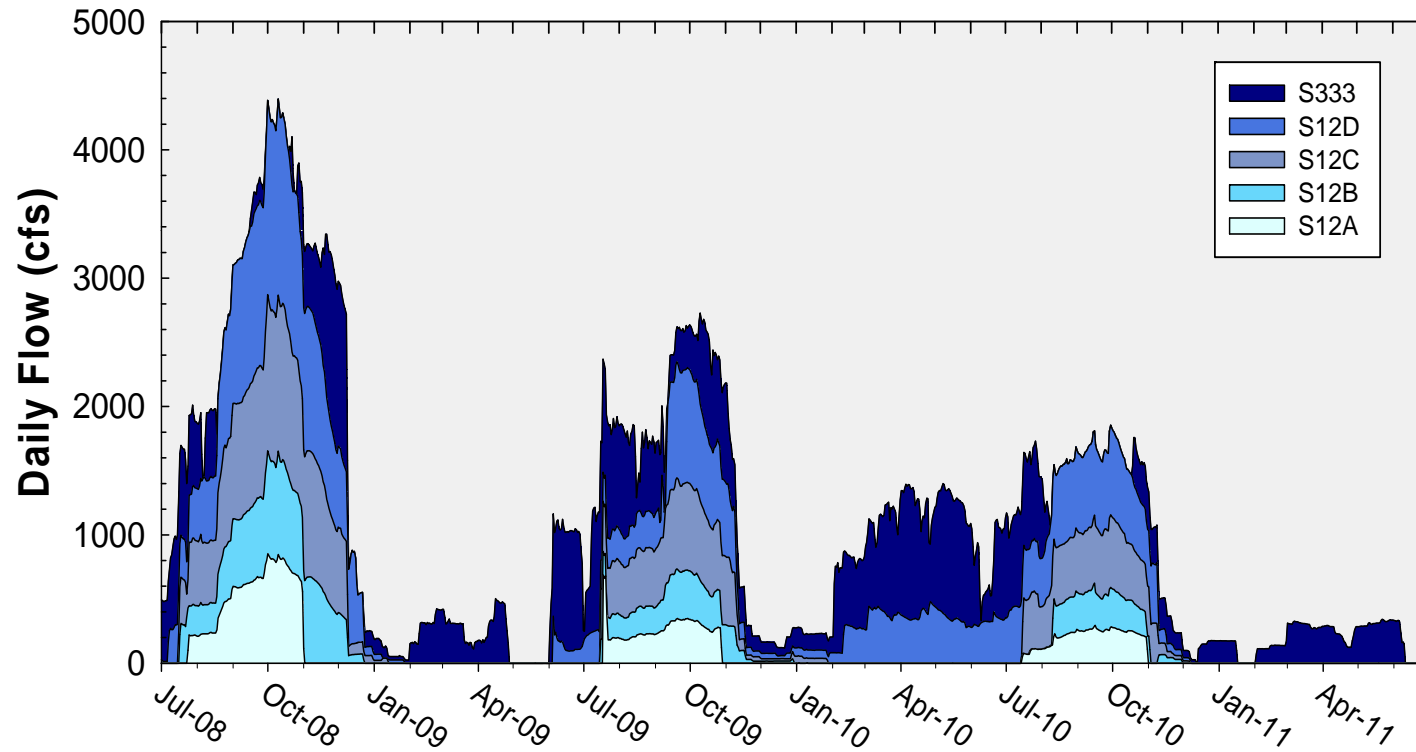
## Shark River Slough TP Concentration Compliance Tracking for April 2011 – August 2011

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 2010 - Apr 2011	585.0	9.0	10.1	52.5	54.2
Jun 2010 - May 2011	526.0	8.8	10.4	54.4	54.2
Jul 2010 - Jun 2011	484.1	8.6	10.6	55.8	52.2
Aug 2010 - Jul 2011	399.7	8.0	11.1	58.5	47.6
Sep 2010 - Aug 2011	311.9	7.4	11.6	61.7	47.4

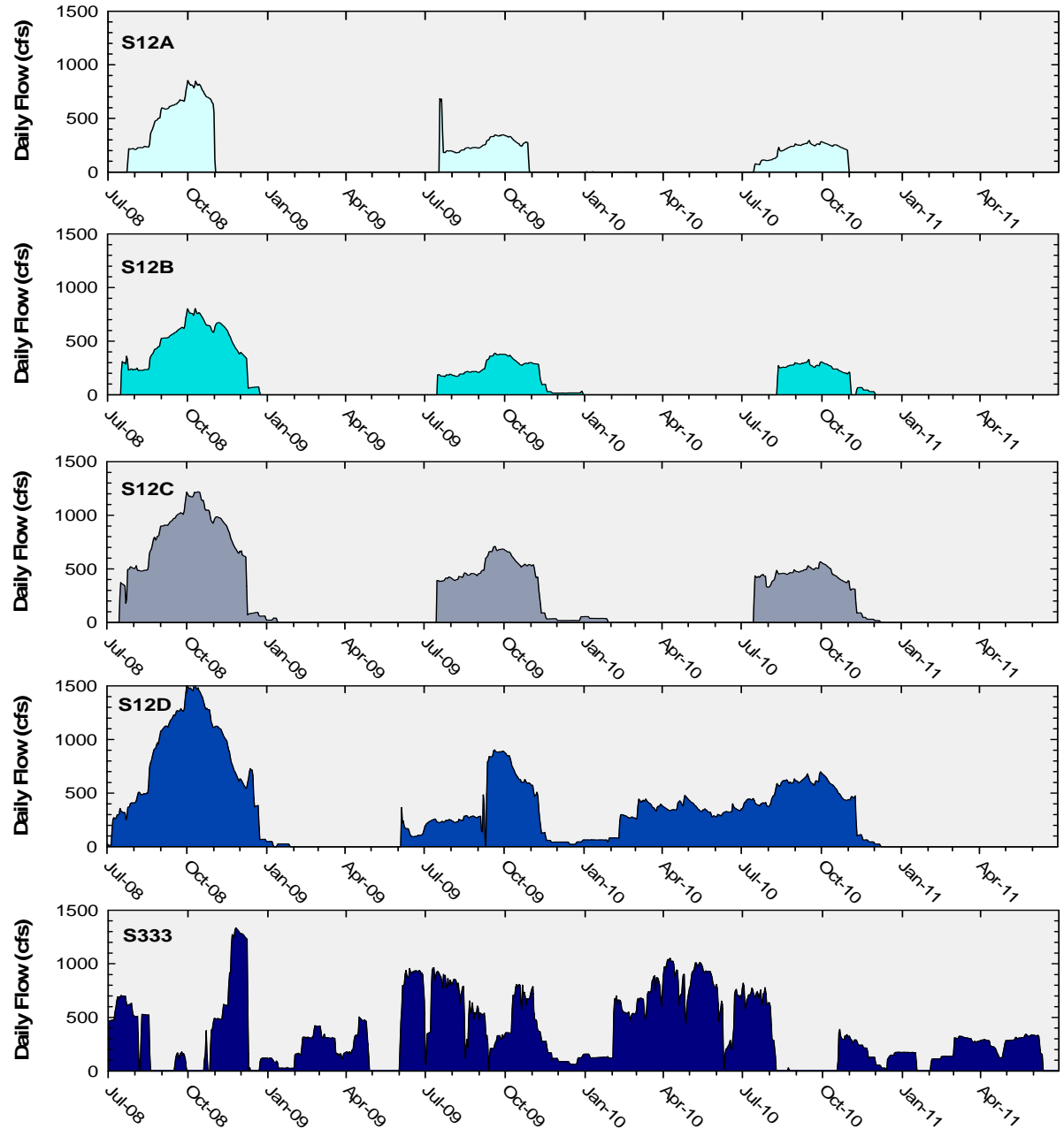
Note: July and August 2011 values are preliminary.



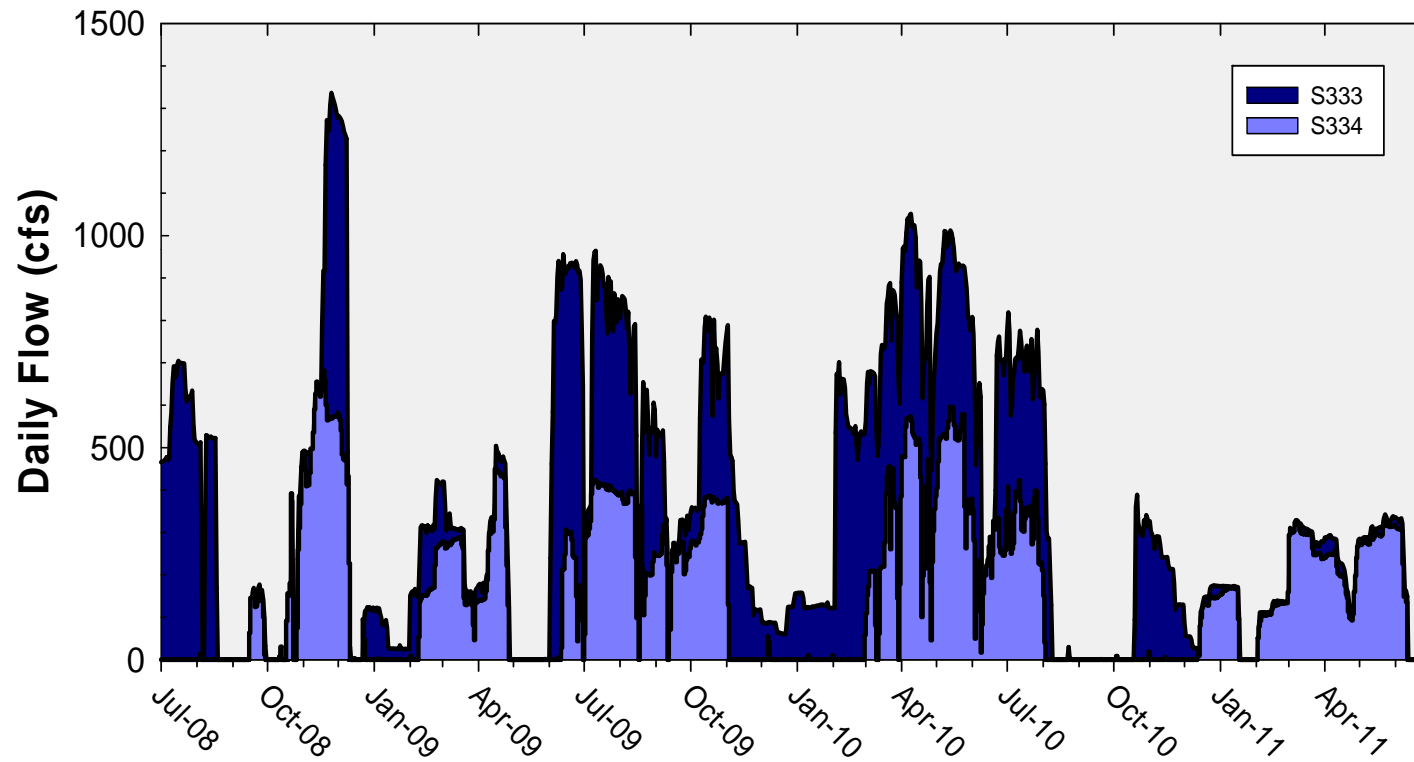
## Shark River Slough Daily Flows



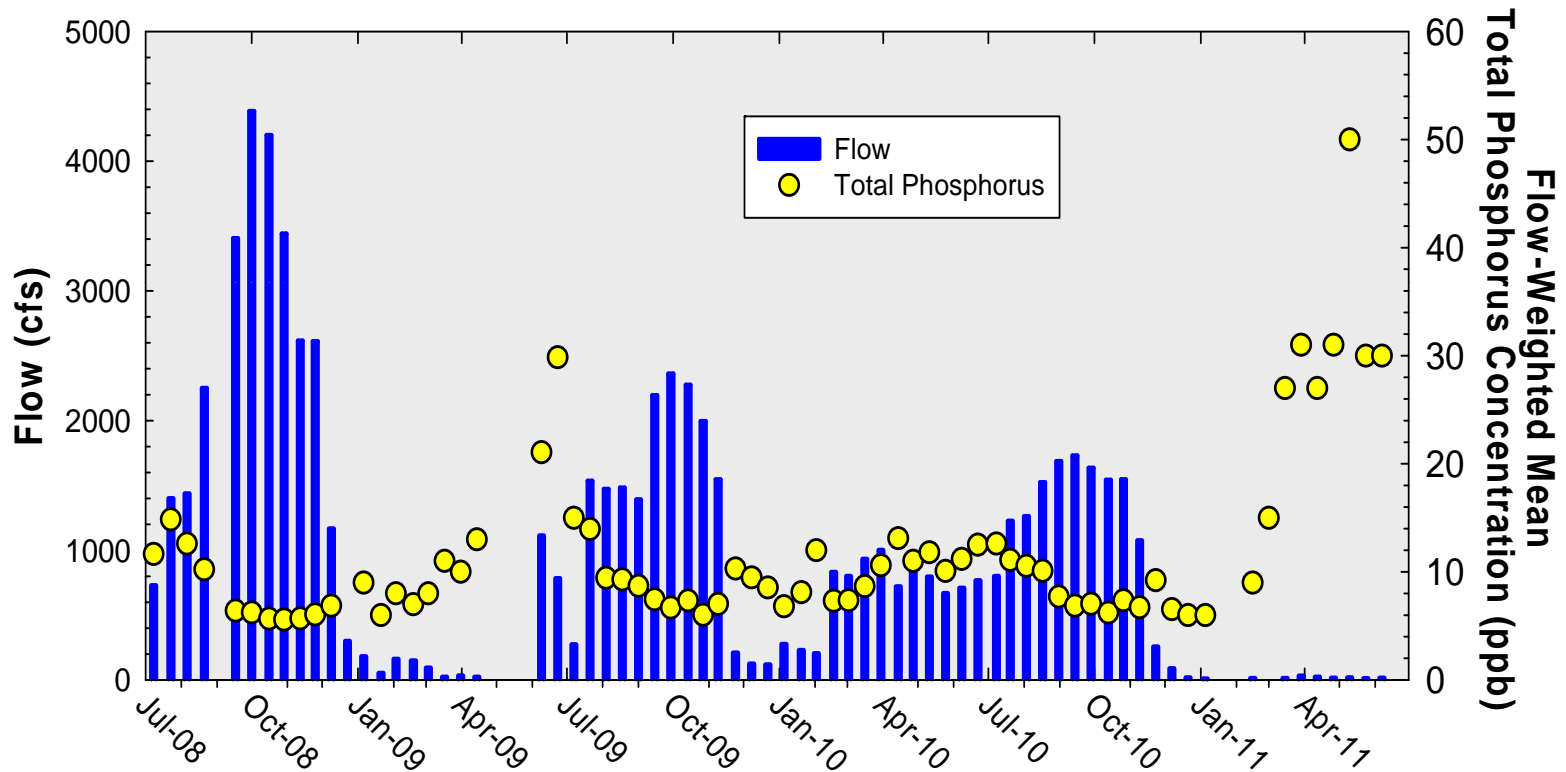
Daily Flows  
at individual  
inflow  
structures  
to Shark  
River Slough



## Daily Flows at S333 and S334



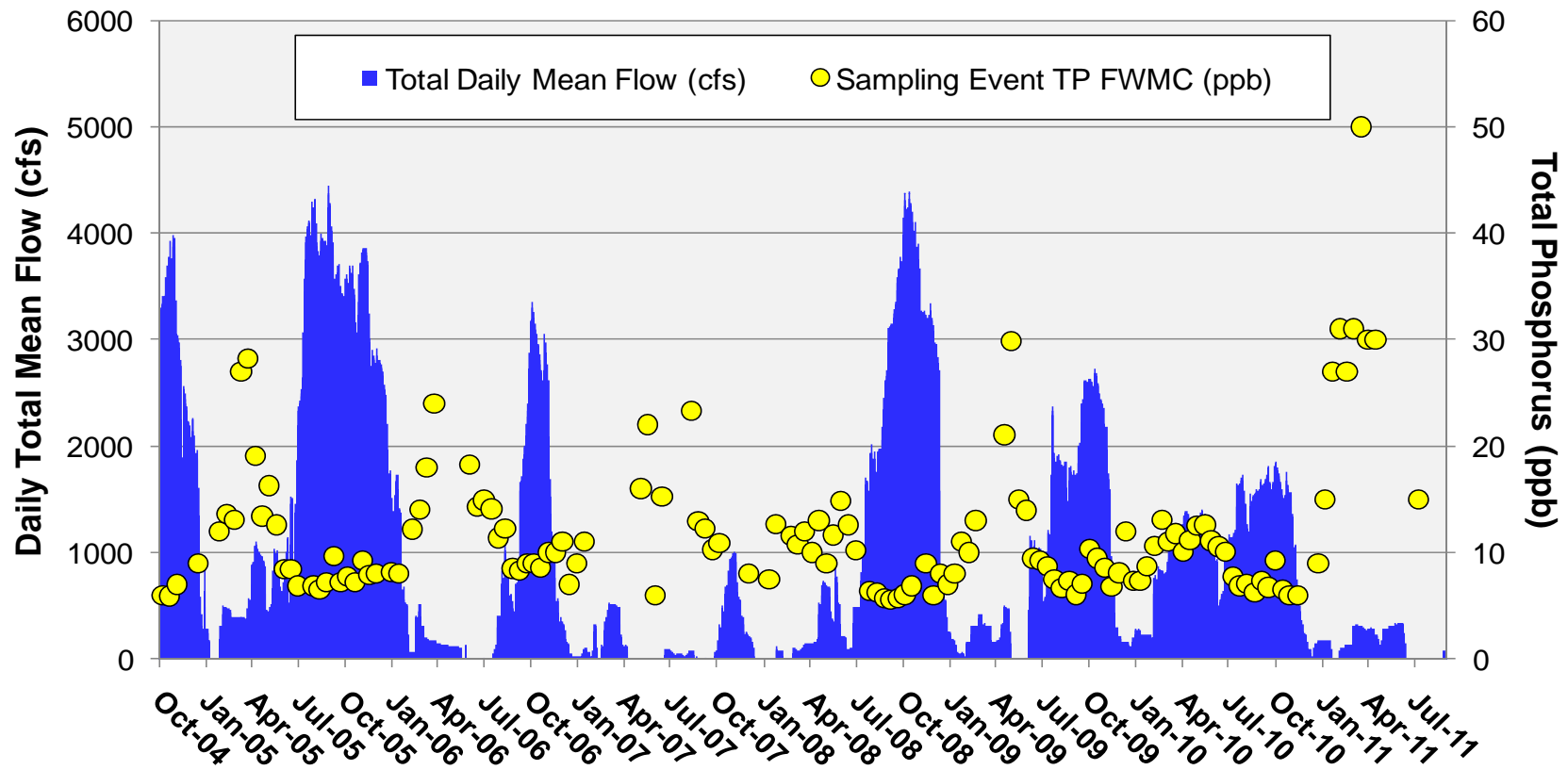
## Shark River Slough Sampling Event Flow and FWMC



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

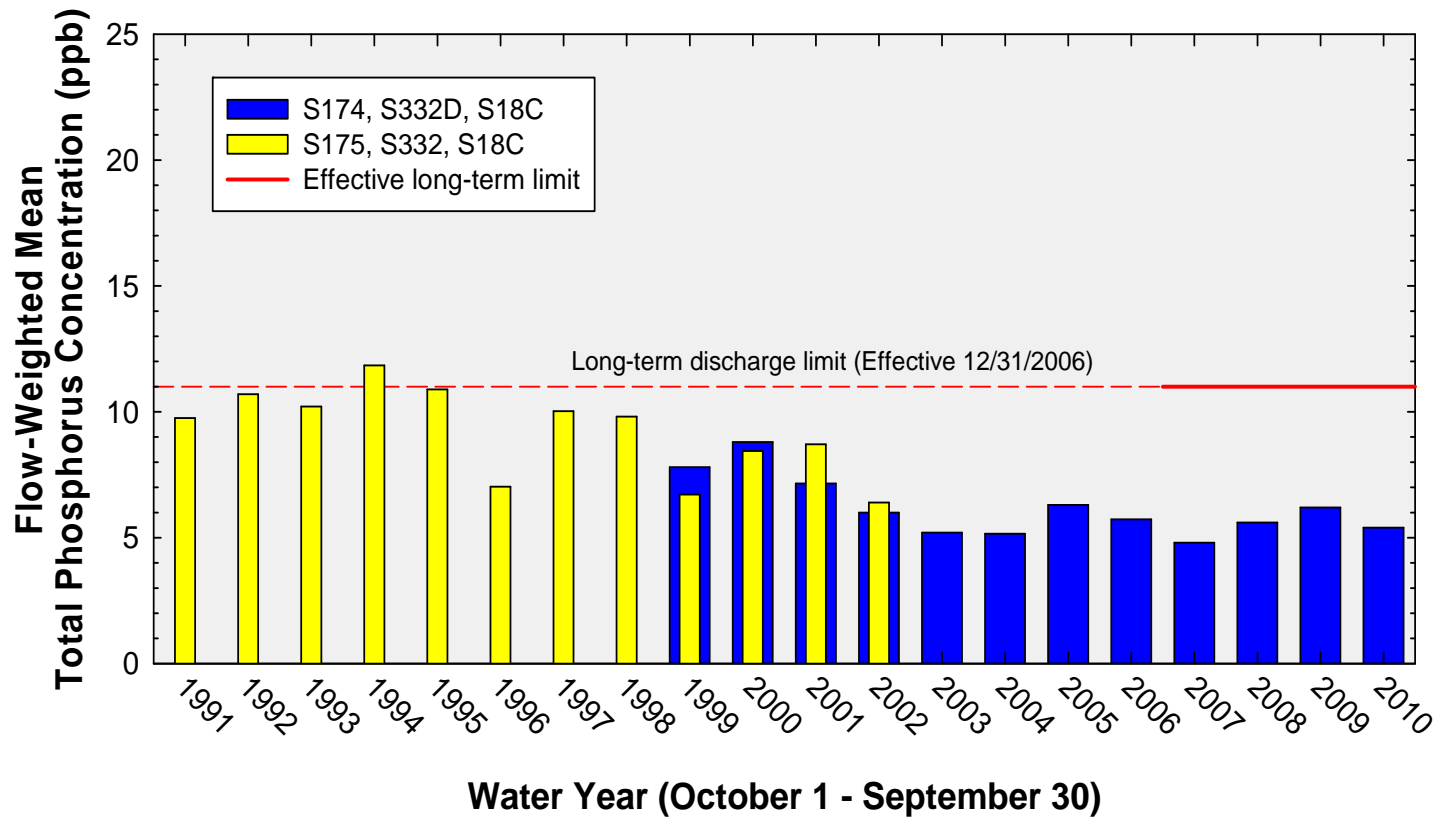
## Shark River Slough

### Total Daily Mean Flow and Sampling Event FWMC for October 2004 through August 2011



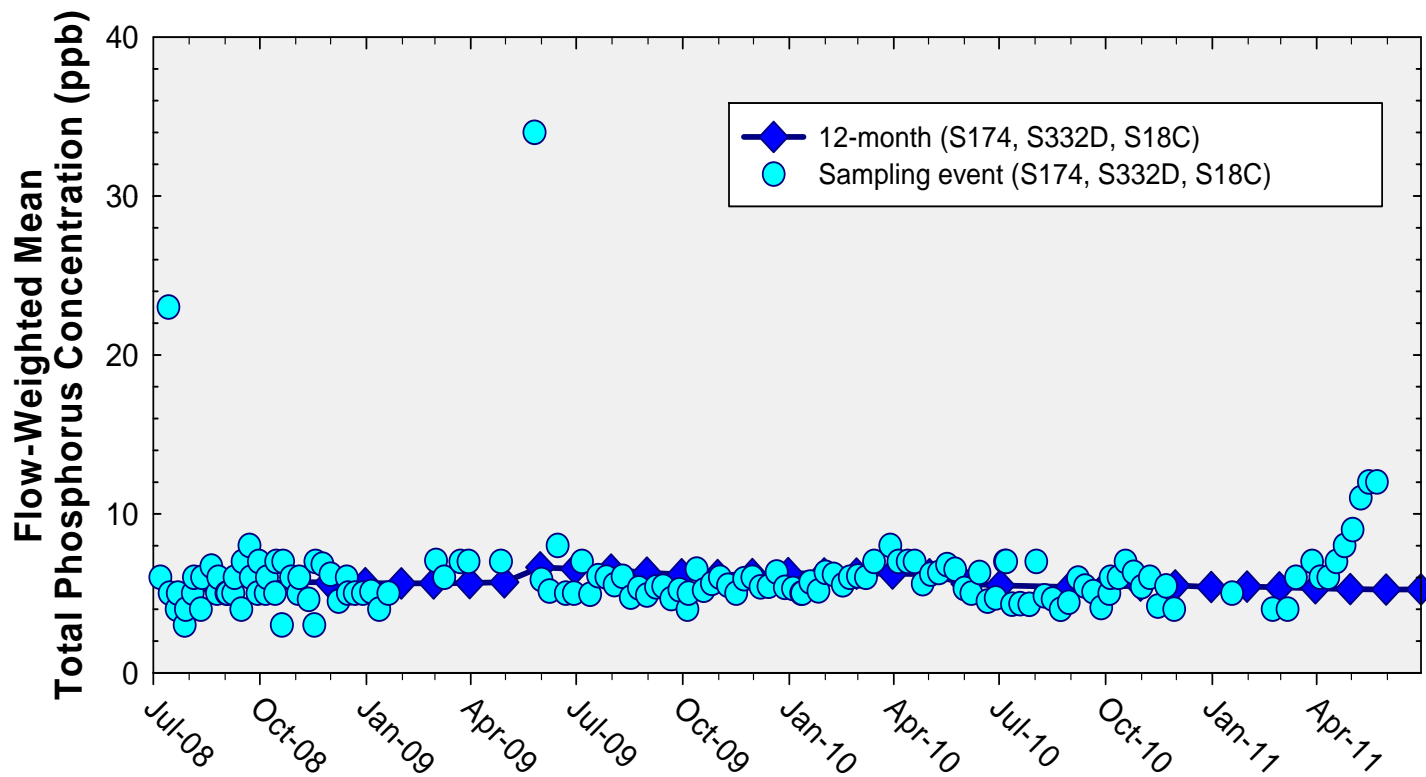
Note: July and August 2011 values are preliminary.

# 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 TP limit

## 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

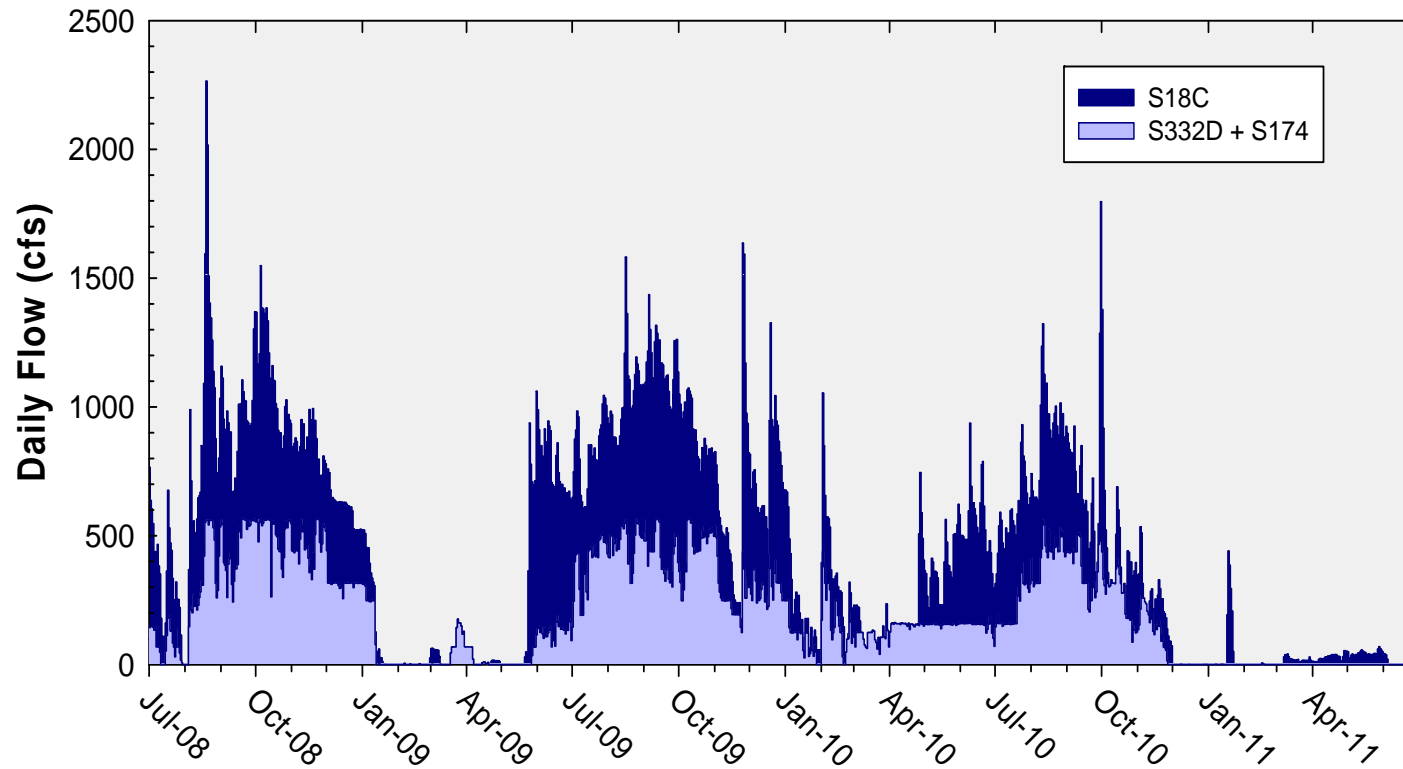
## Taylor Slough and the Coastal Basins TP Concentration Compliance Tracking for April 2011 – August 2011

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 2010 - Apr 2011	235.2	5.3	11.0	53.1	0.0
Jun 2010 - May 2011	215.0	5.2	11.0	53.1	7.1
Jul 2010 - Jun 2011	183.4	5.2	11.0	53.1	8.1
Aug 2010 - Jul 2011	156.3	5.3	11.1	53.1	8.8
Sep 2010 - Aug 2011	126.1	5.5	11.6	53.1	9.1

Note: July and August 2011 values are preliminary.

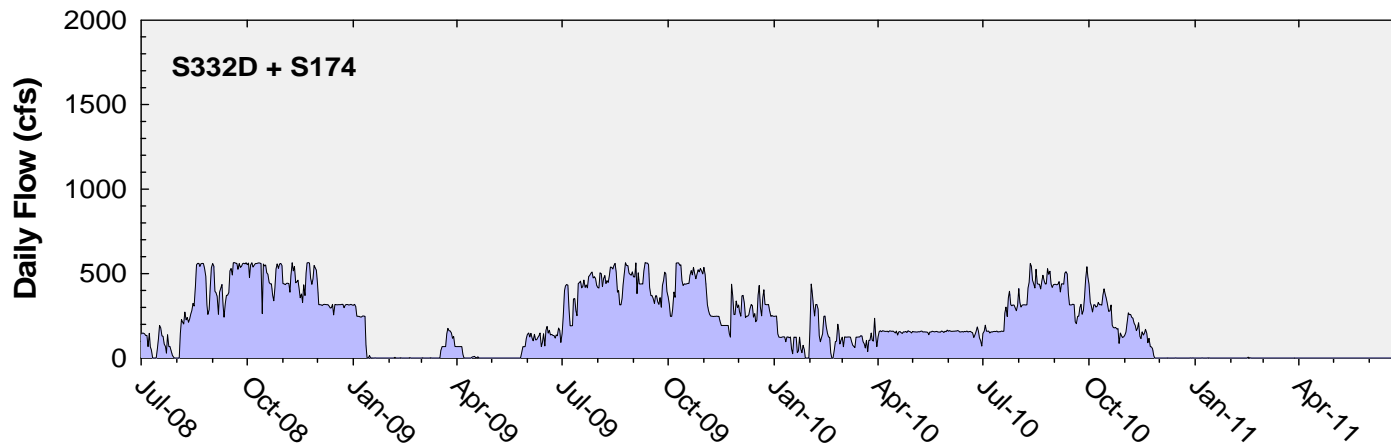
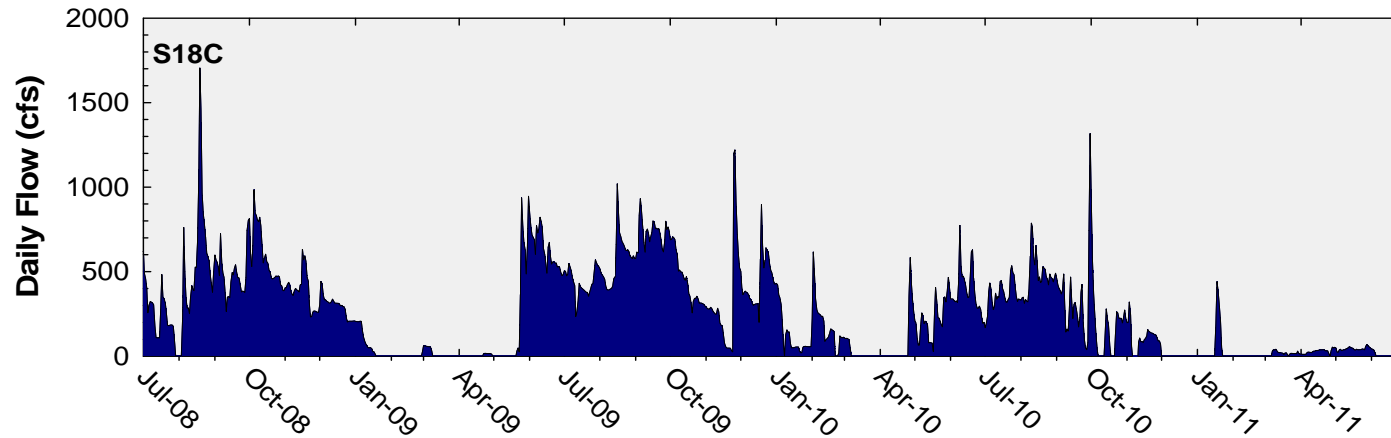


## Taylor Slough and Coastal Basins Daily Flows

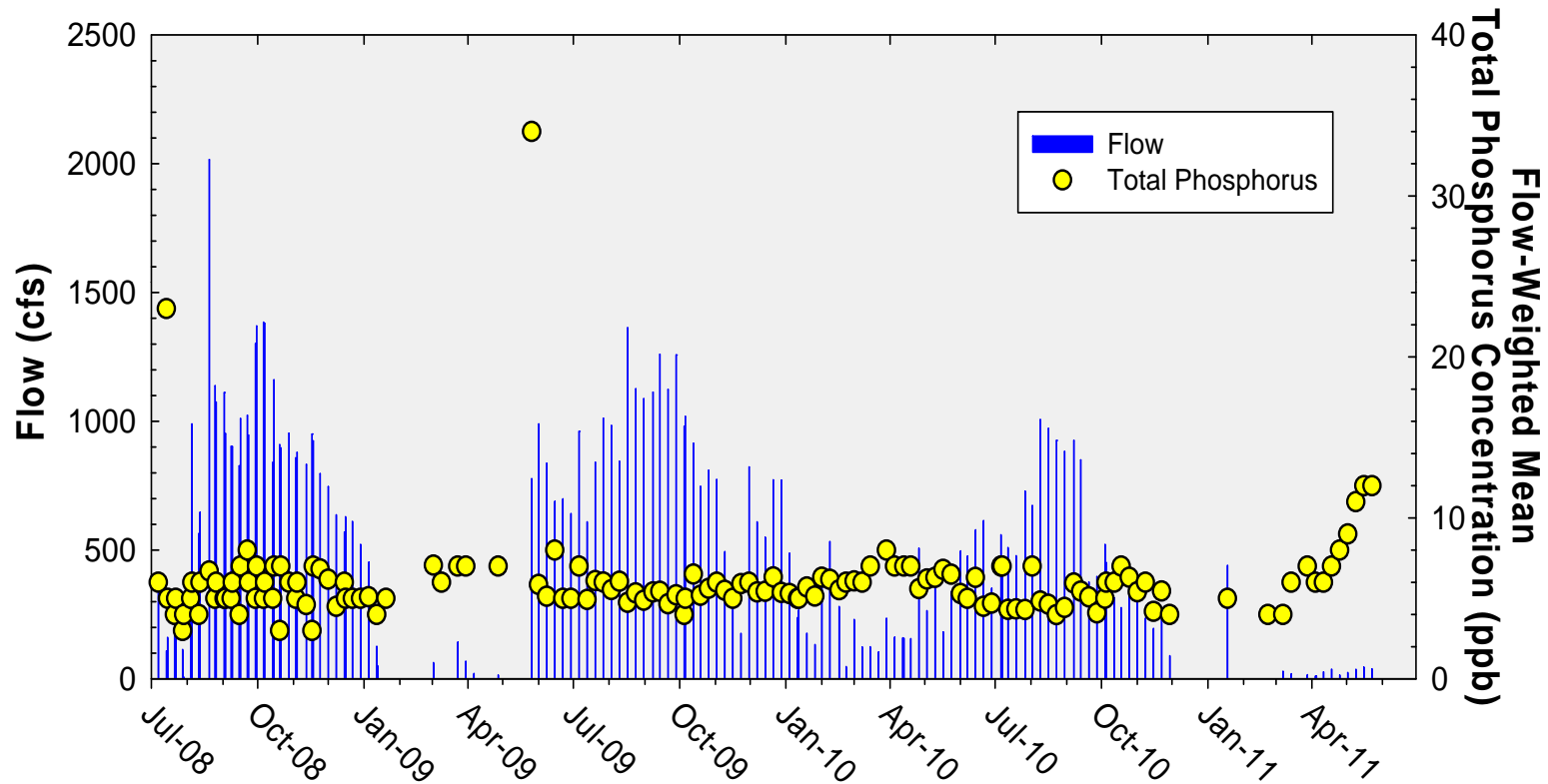


Daily flows into Everglades National Park through Taylor Slough and Coastal Basins

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

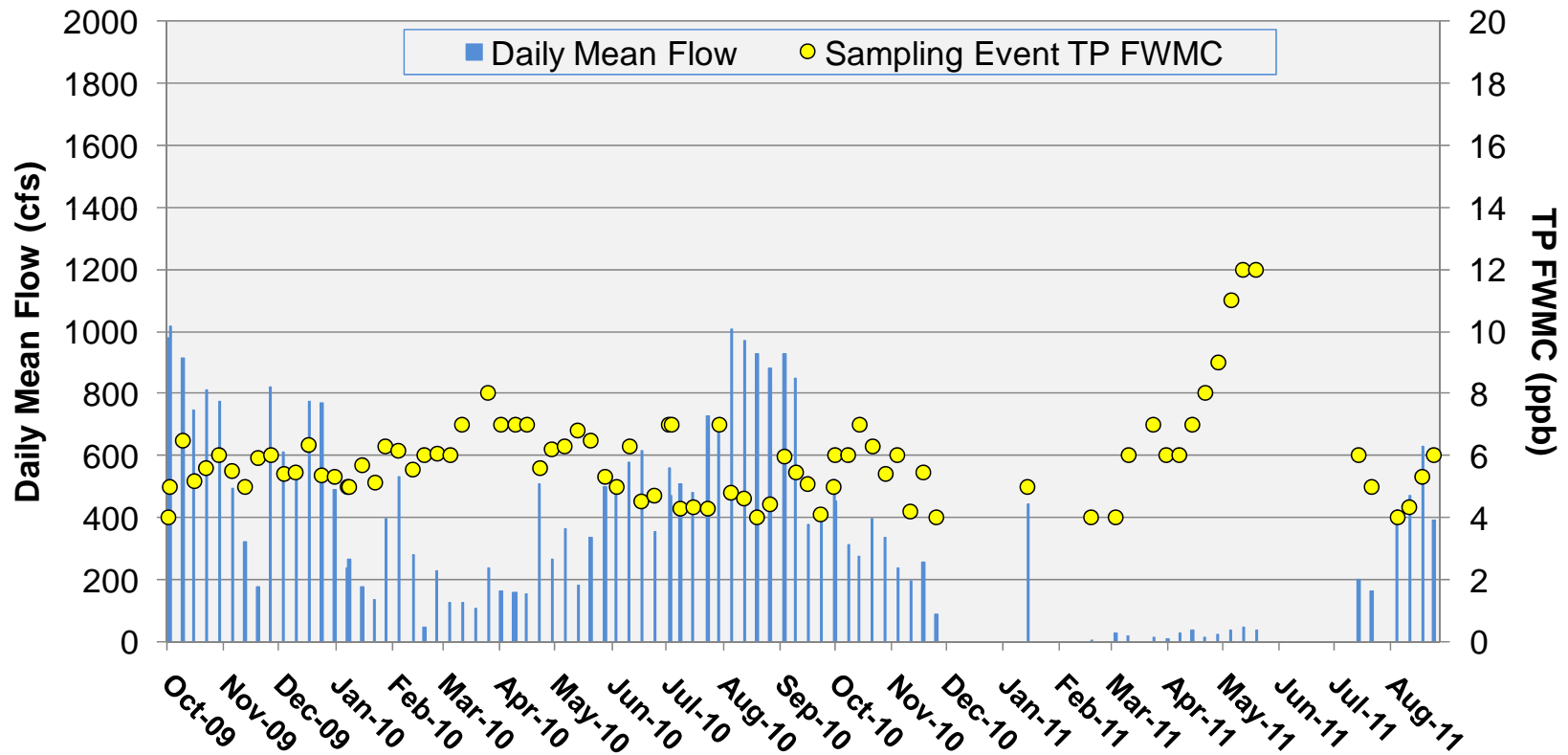


## Taylor Slough and Coastal Basins Sampling Event Flow and FWMC



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

## Taylor Slough and Coastal Basins Sampling Event Flow and FWMC for October 2009 through August 2011



Note: July and August 2011 values are preliminary.