



# SETTLEMENT AGREEMENT REPORT

July – September 2015

Stuart Van Horn, P.E.

Bureau Chief

Water Quality Bureau

Water Resources Division

Technical Oversight Committee

January 26, 2016



[sfwmd.gov](http://sfwmd.gov)

# SUMMARY

Month	Geometric Mean TP Concentration (ppb)	Long-term Level (ppb)	Mean Stage (feet NGVD 29)	Number of Samples	
<b>Arthur R. Marshall Loxahatchee National Wildlife Refuge</b>					
Jul 2015	18.0	NA	15.19	2	
Aug 2015	12.3	14.1	15.78	8	
Sep 2015	10.9	11.1	16.23	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
<b>Everglades National Park – Shark River Slough</b>					
Jul 2015	The quarterly flow and TP data for this table are posted separately on the TOC website. The annual compliance result for the 12-month flow-weighted mean TP concentration for the federal water year ending on September 30 will be published in this report when the final approved flow data are available.				
Aug 2015					
Sep 2015					
<b>Everglades National Park – Taylor Slough and Coastal Basins</b>					
Jul 2015	154.4	4.4	11.0	53.1	0.0
Aug 2015	124.1	4.5	11.0	53.1	0.0
Sep 2015	117.8	4.5	11.0	53.1	0.0

# Refuge TP Compliance Tracking

For July 2015 – December 2015

(October - December 2015 values are preliminary)

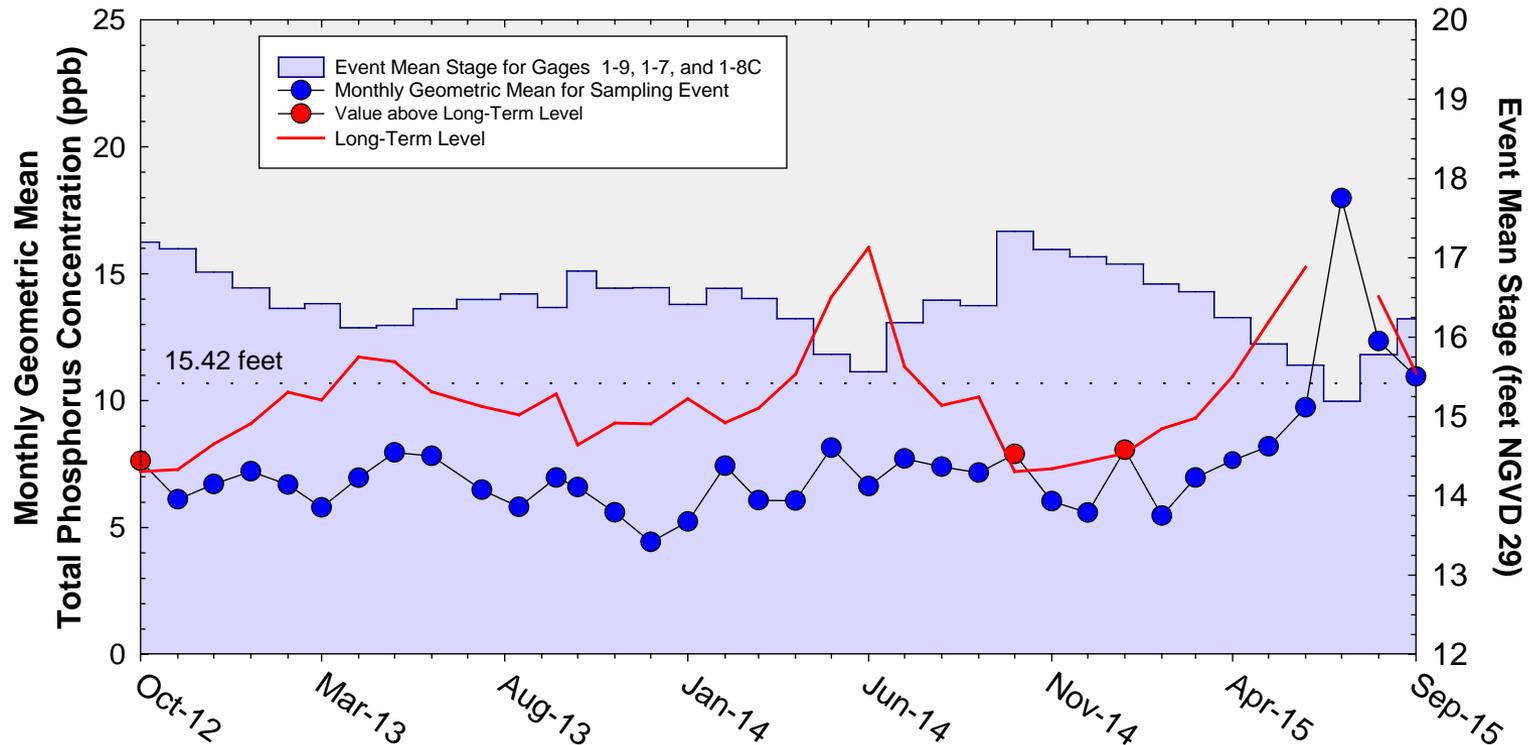
Month	Geometric Mean TP Concentration (ppb)	Long-Term Level (ppb) Effective 12/31/2006	Average Stage (feet NGVD 29)	Number of Samples
Jul-2015	18.0	NA*	15.19	2
Aug-2015	12.3	14.1	15.78	8
Sep-2015	10.9	11.1	16.23	14
Oct-2015	7.4	7.9	16.92	14
Nov-2015	6.3	7.7	17.00	14
Dec-2015**	6.1 (5.9)	7.7 (7.6)	17.00 (17.02)	12 (14)

\* The long-term level is not applicable (NA) when average stage is below 15.42 feet NGVD 29.

\*\* Values including resampled data (at LOX14 and LOX15 on December 2015) are presented in parentheses.

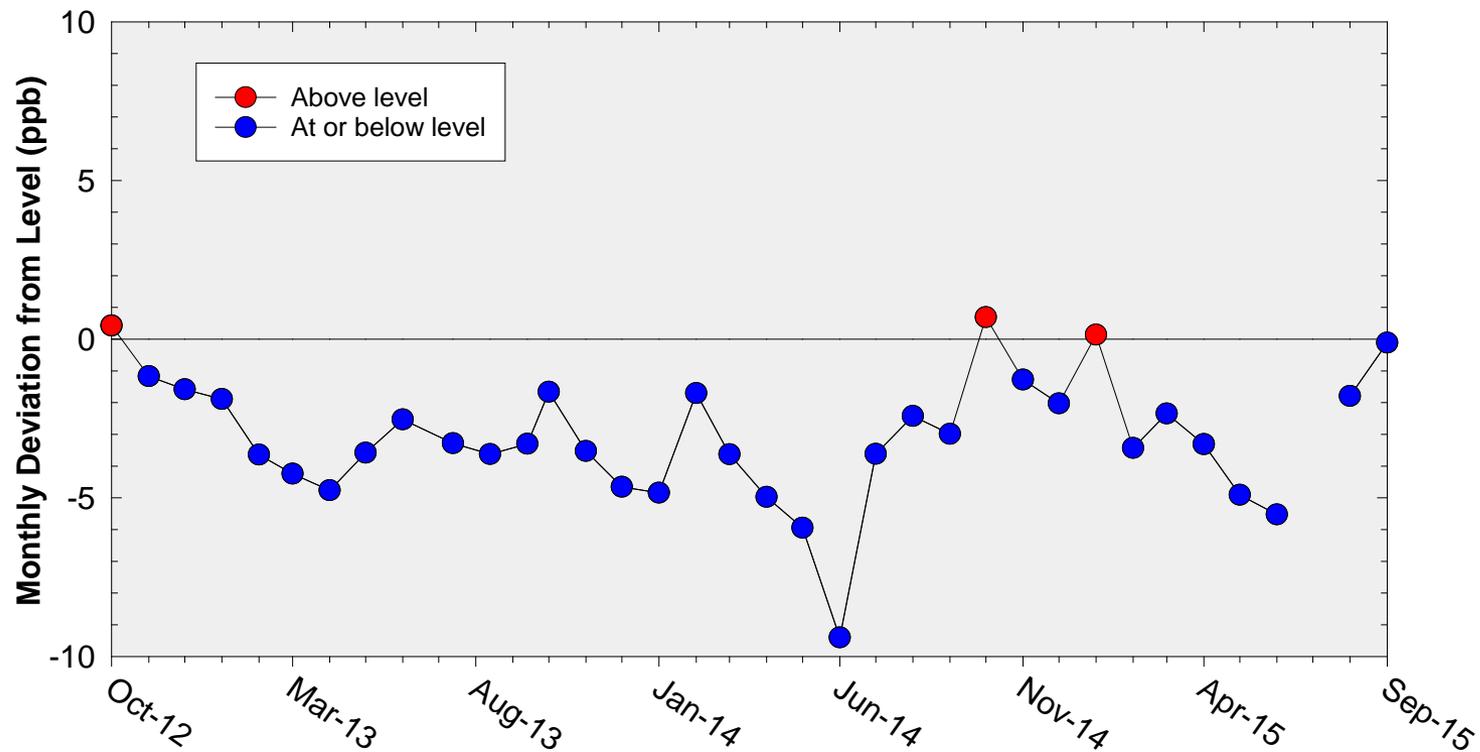
# A.R.M Loxahatchee National Wildlife Refuge

## 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



# Shark River Slough

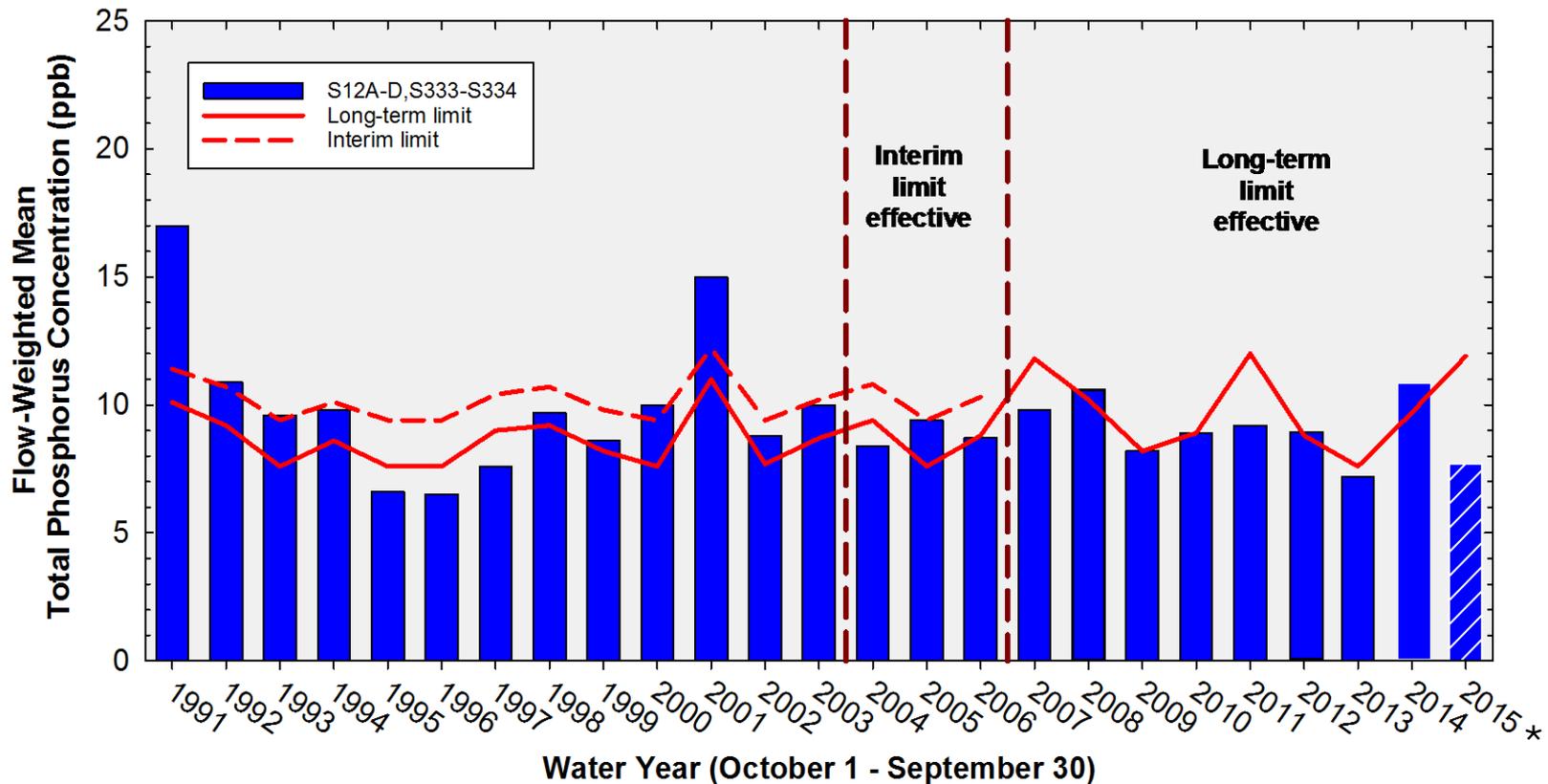
## TP Concentration Compliance Interim Tracking for July 2015 – September 2015

(October 2014 – September 2015 Flow Data for S12s are Provisional)

12-Month Period	Total Flow (kac-ft)	Flow-Weighted Mean TP Concentration (ppb)	Long-Term Limit (ppb) Effective 12/31/2006	Percent of Sampling Events Greater than 10 ppb	
				Guideline	Observed
Aug 2014 - Jul 2015	438.5*	8.8	10.9	57.3	17.6
Sep 2014 - Aug 2015	363.0*	8.0	11.3	59.9	6.7
Oct 2014 - Sep 2015	275.7*	7.7	11.9	63.1	7.7

\* Flow data sources: USCOE and USGS Provisional.  
Note: All values are preliminary.

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



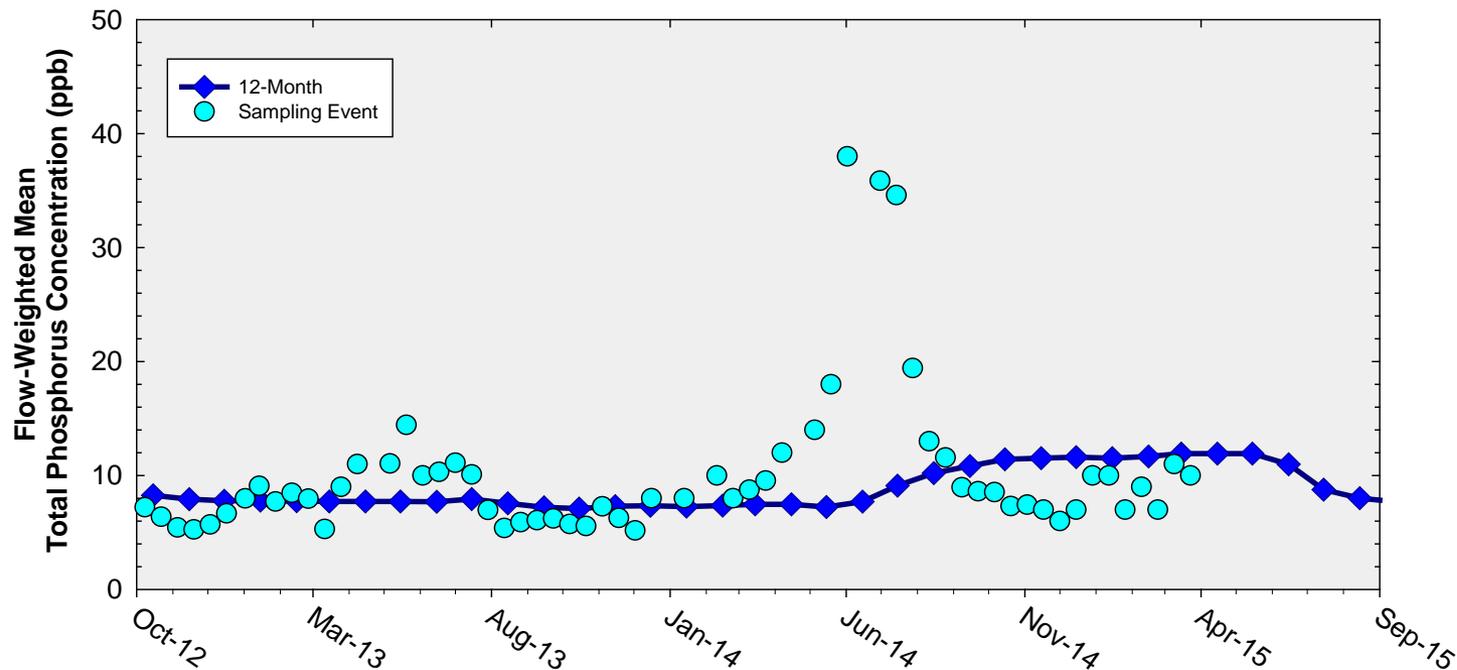
**12-month FWMC at the end of each water year compared to the TP interim and long-term limits**

\* WY2015 value is preliminary.

# Flow-Weighted Mean Concentrations

## Inflows to ENP through Shark River Slough

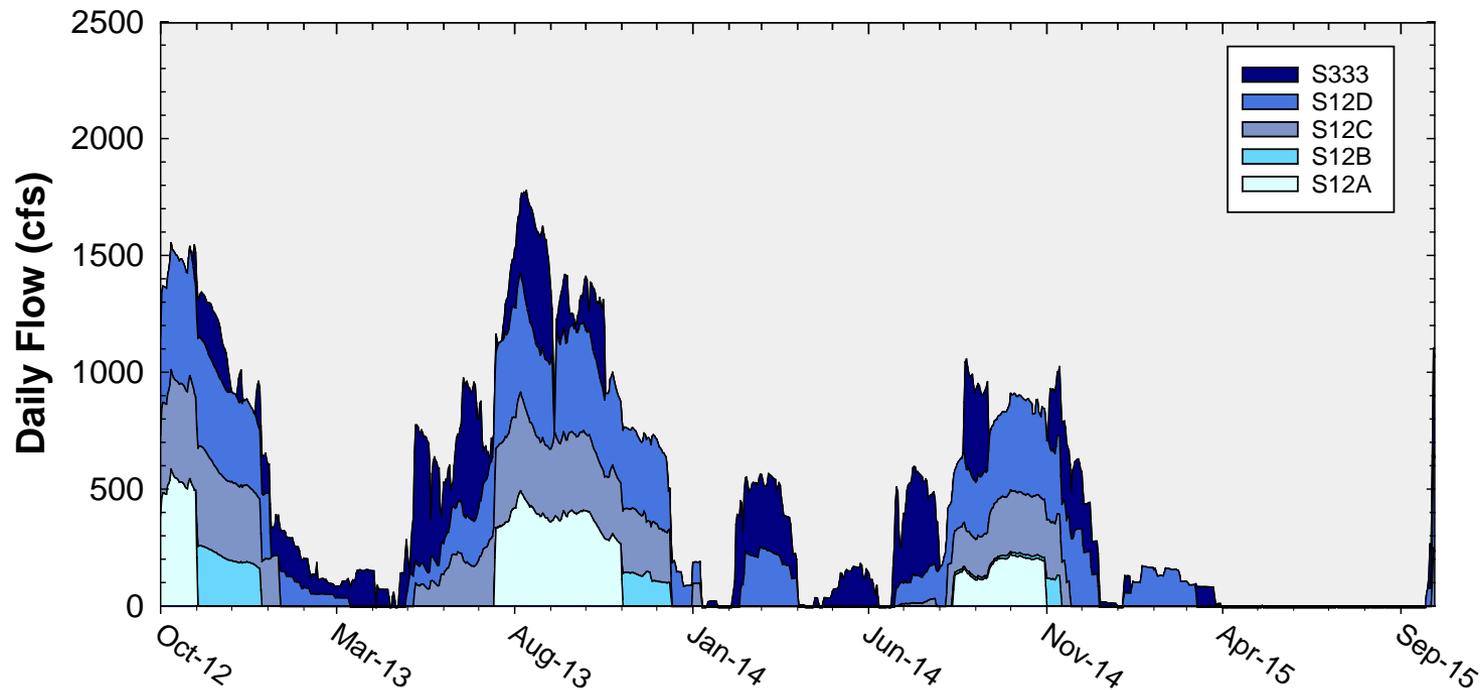
(October 2014 – September 2015 Flow Data for S12s are Provisional)



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

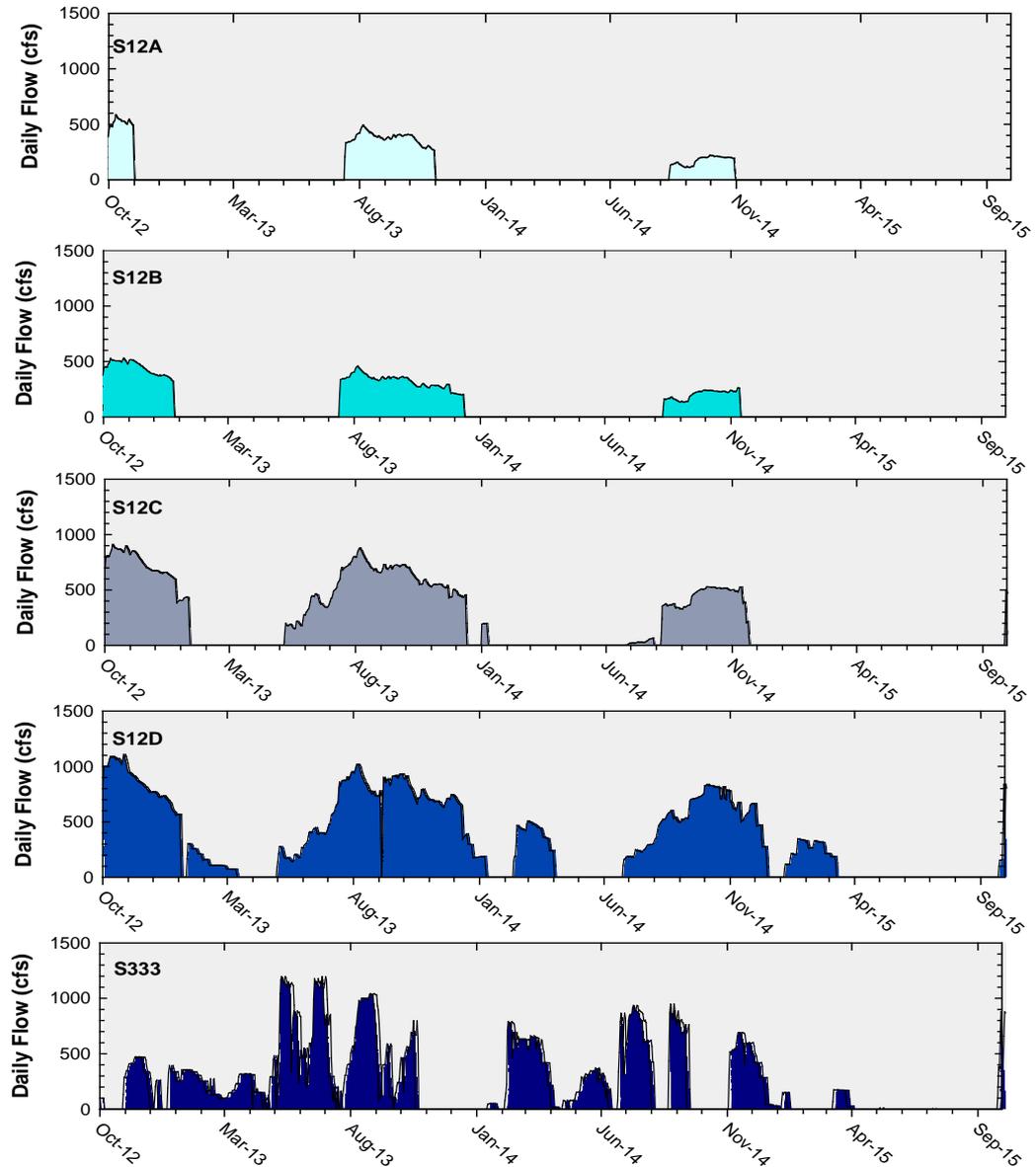
# Shark River Slough Daily Flows

(October 2014 – September 2015 Flow Data for S12s are Provisional)

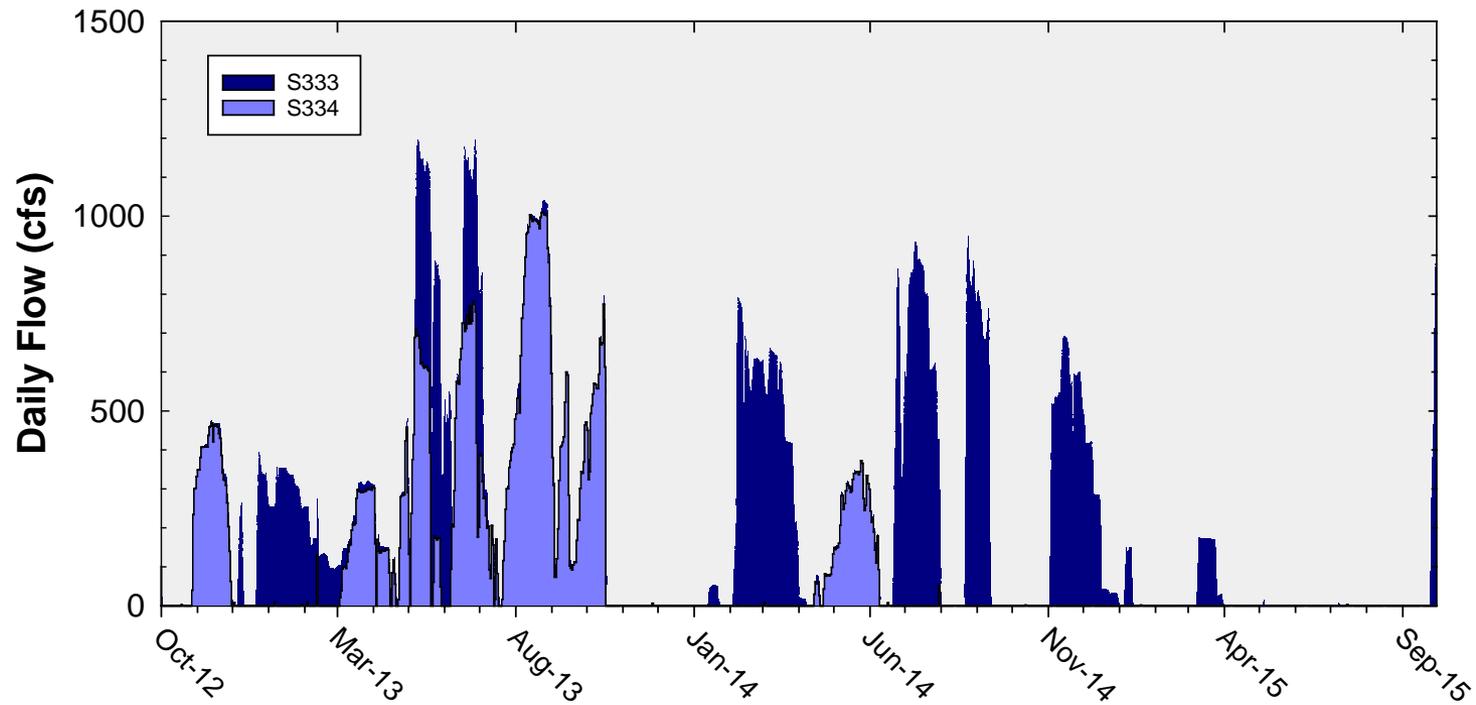


# Daily Flows at Individual Inflow Structures to Shark River Slough

(October 2014 – September 2015 Flow Data for S12s are Provisional)



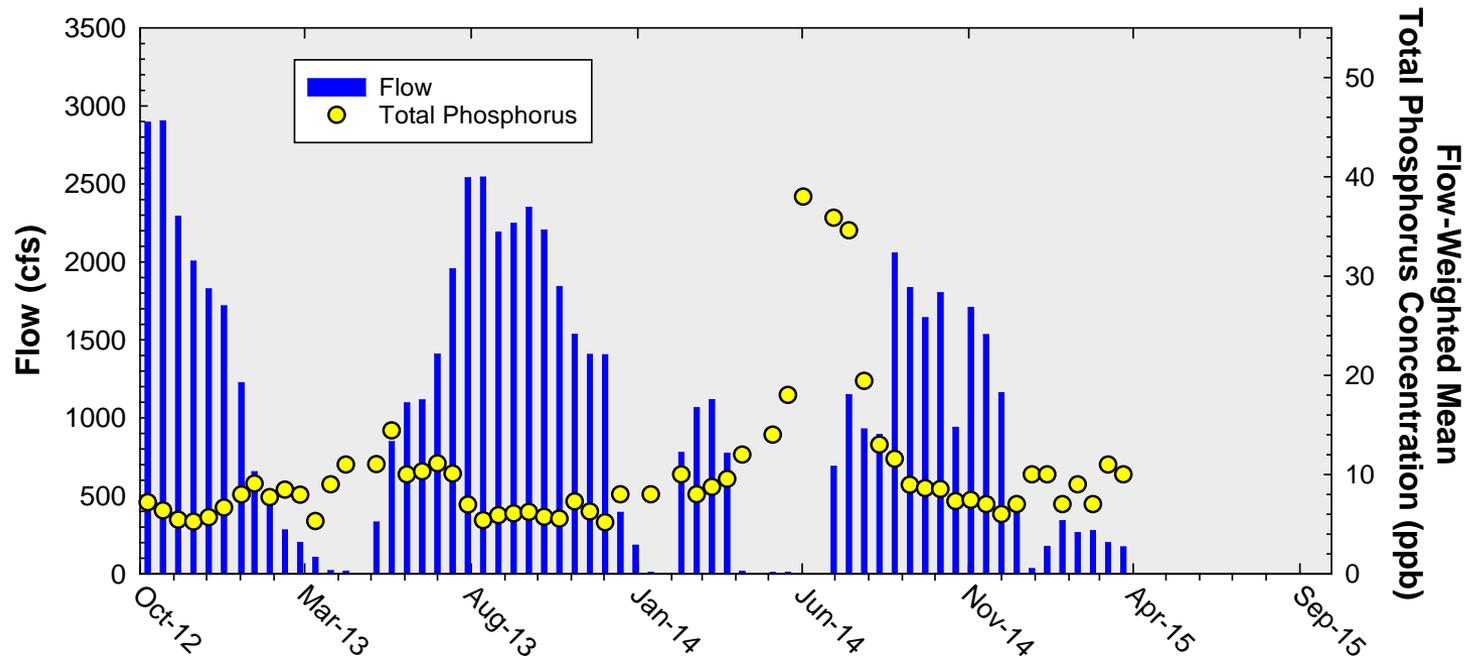
## Daily Flows at S333 and S334



# Shark River Slough

## Sampling Event Flow and FWMC

(October 2014 – September 2015 Flow Data for S12s are Provisional)



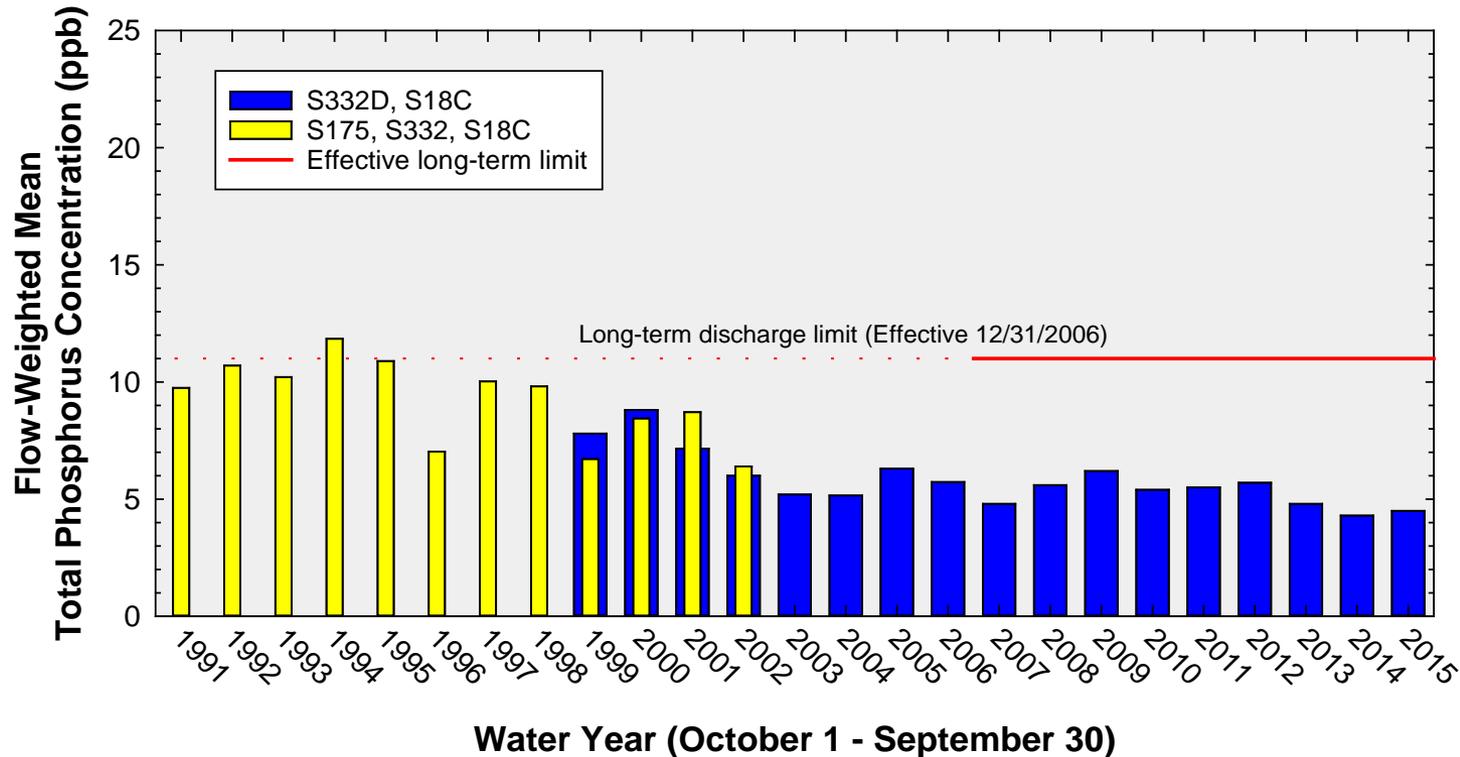
**Flow at Shark River Slough structures and the corresponding TP FWMCs for individual sampling events**

# Taylor Slough and Coastal Basins

## TP Concentration Compliance Tracking for July 2015 – September 2015

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 2014 - Jul 2015	154.4	4.4	11.0	53.1	0.0
Sep 2014 - Aug 2015	124.1	4.5	11.0	53.1	0.0
Oct 2014 - Sep 2015	117.8	4.5	11.0	53.1	0.0

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

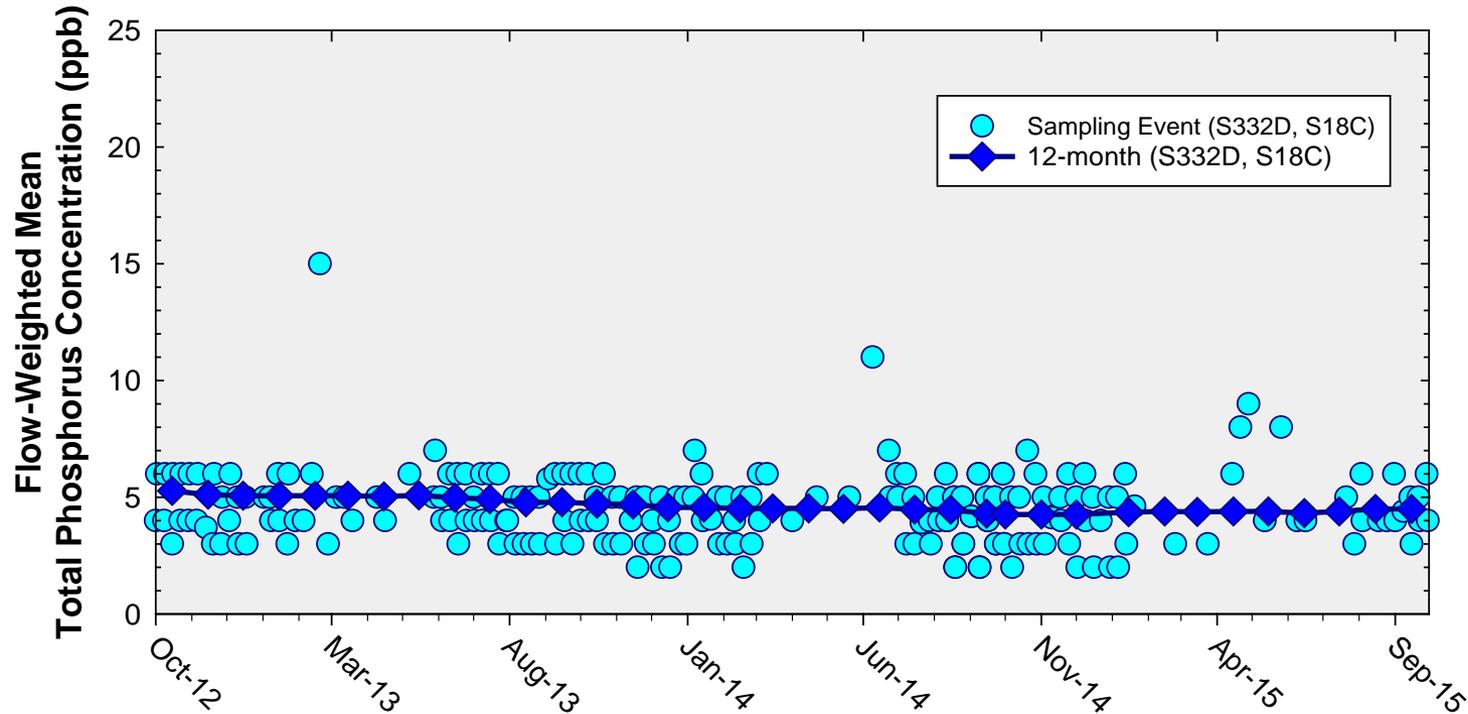


The 12-month FWMC at the end of each water year compared to the 11 ppb long-term TP limit

Note: Blue bars show S332D, S18C & S174 until September 2007 when S174 was plugged.

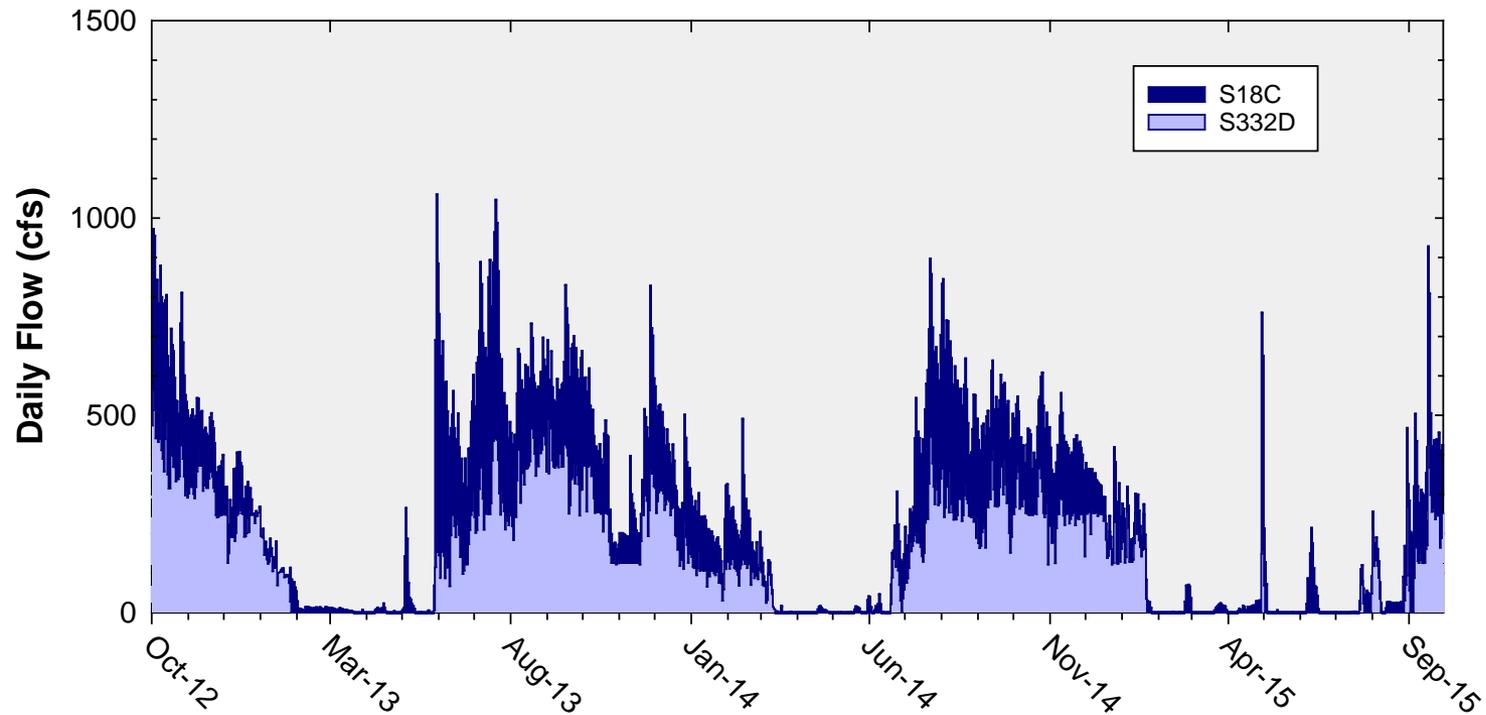
# Flow-Weighted Mean Concentrations

## Inflows to the ENP through Taylor Slough and Coastal Basins

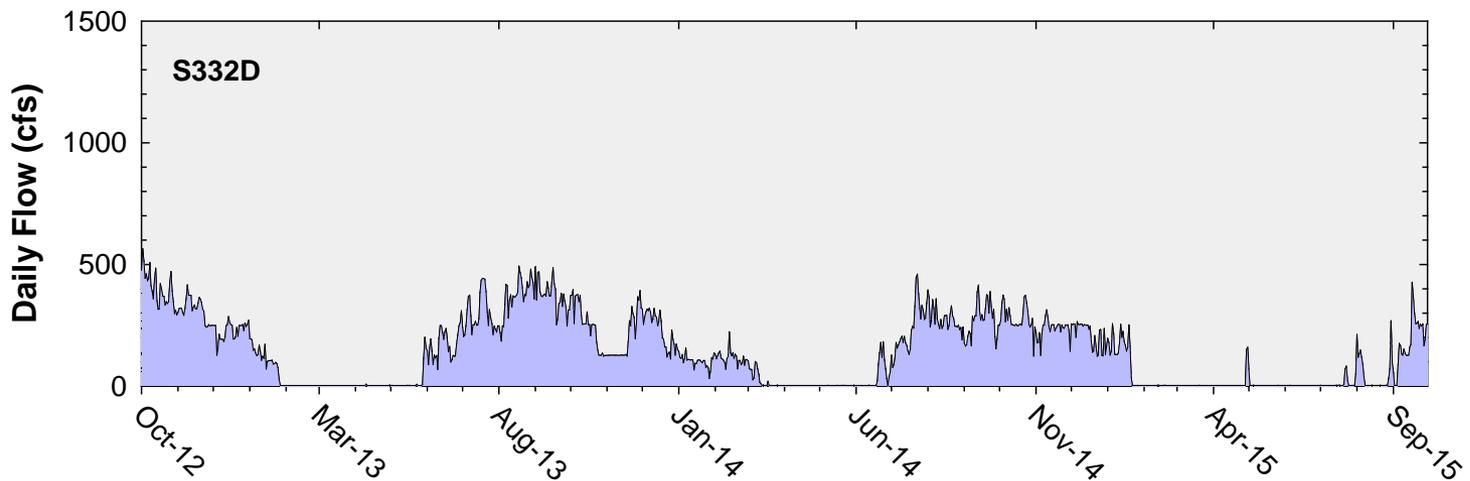
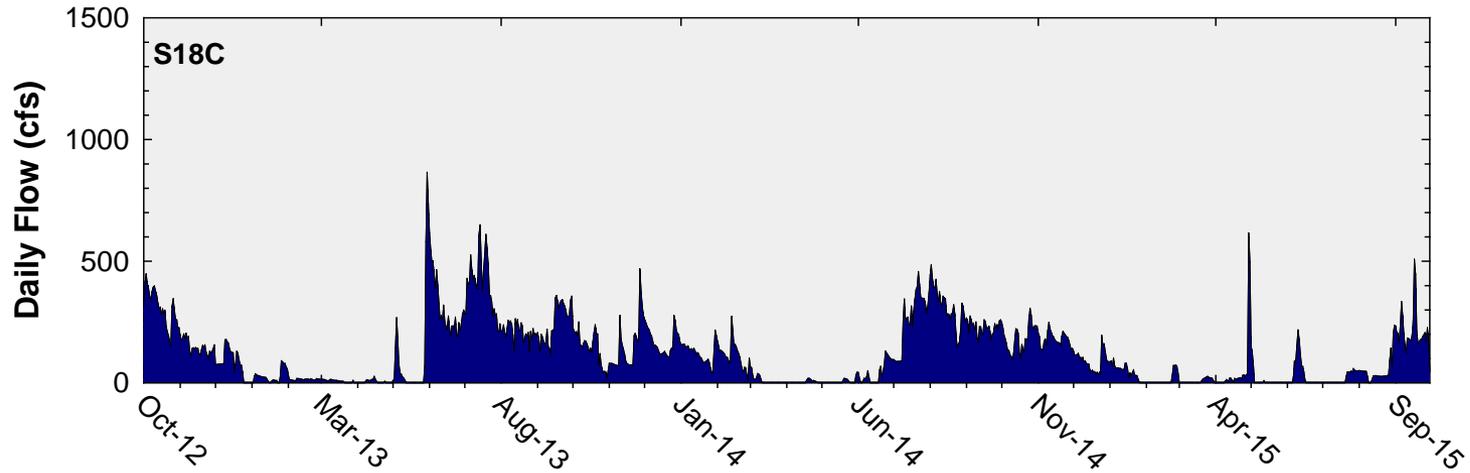


The 12-month FWMC at the end of each month and the composite TP concentration for each sampling event

# Daily Flows at Taylor Slough and Coastal Basins Structures into ENP

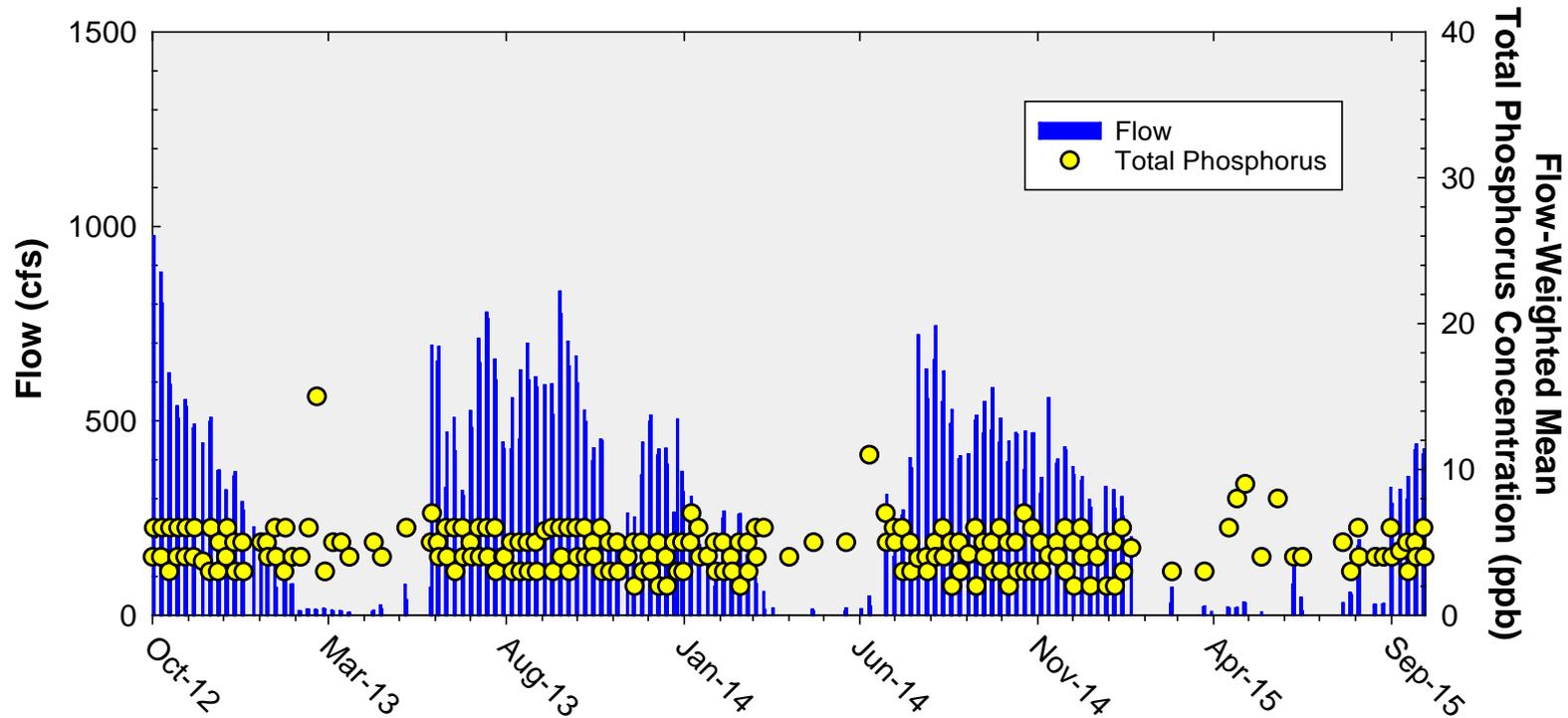


# Daily Flows at Individual Taylor Slough and Coastal Basins Structures into ENP



# 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

Thank You

