



# SETTLEMENT AGREEMENT QUARTERLY REPORT

October – December 2015

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Water Quality Bureau

Technical Oversight Committee

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## 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>					
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)	
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>					
Oct 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.				
Nov 2015					
Dec 2015					
<b>Everglades National Park – Taylor Slough and Coastal Basins</b>					
Oct 2015	107.3	4.5	11.0	53.1	0.0
Nov 2015	93.1	4.5	11.0	53.1	0.0
Dec 2015	122.4	5.3	11.0	53.1	0.0

\* December 2015 values for the Refuge including resampled data at LOX14 and LOX15 are in parentheses.

# Refuge TP Compliance Tracking

## For October 2015 – March 2016

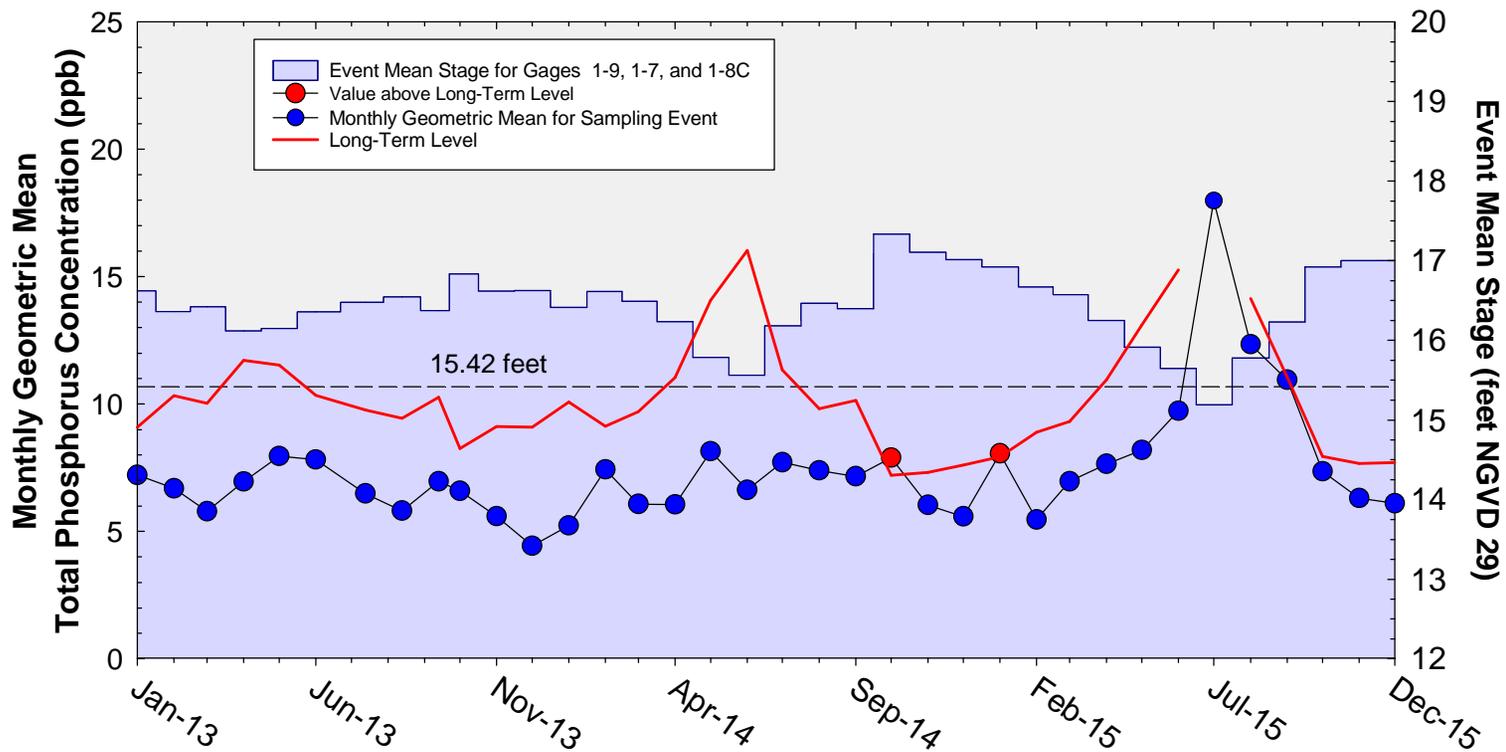
(January - March 2016 values are preliminary)

Month	Geometric Mean TP Concentration (ppb)	Long-Term Level (ppb) Effective 12/31/2006	Average Stage (feet NGVD 29)	Number of Samples
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)
Jan-2016	6.5	7.2	17.15	14
Feb-2016	5.3	7.2	17.30	14
Mar-2016	6.0	8.3	16.82	14

\* December 2015 values including resampled data at LOX14 and LOX15 are in parentheses.

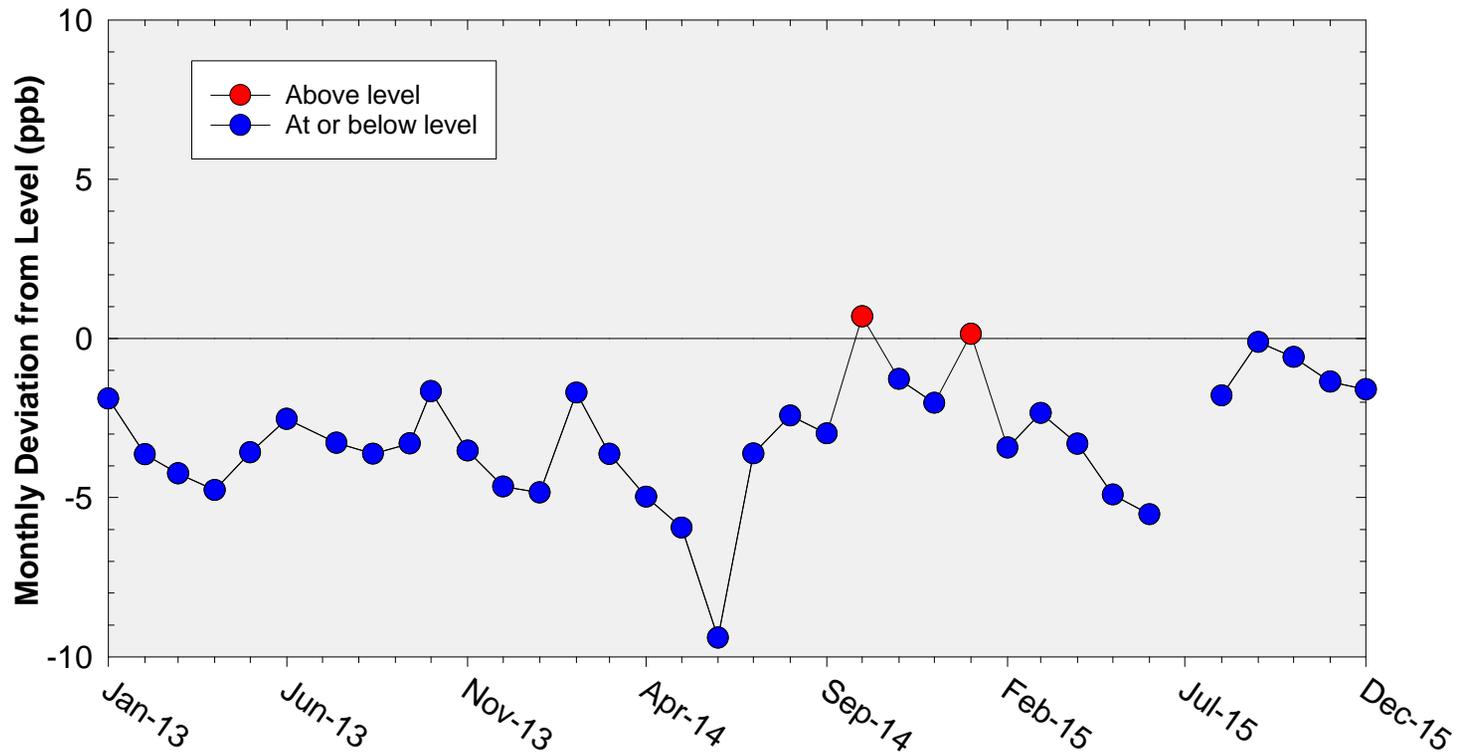
# A.R.M Loxahatchee National Wildlife Refuge

## 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

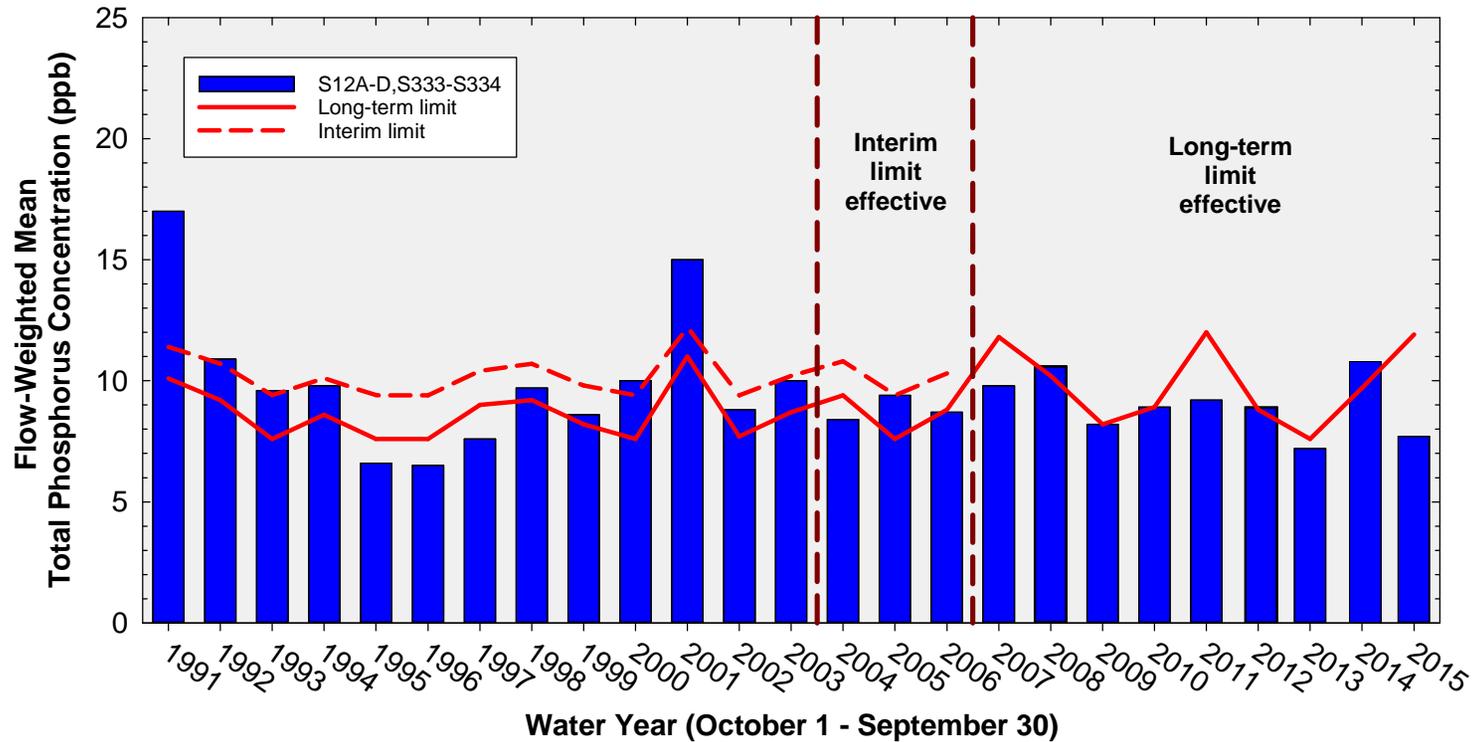
### TP Concentration Compliance Interim Tracking for September 2015–December 2015

(October 2015–December 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
Nov 2014 - Oct 2015	289.4*	8.5	11.8	62.6	15.4
Dec 2014 - Nov 2015	254.9*	8.8	12.0	63.8	15.4
Jan 2015 - Dec 2015	340.2*	8.3	11.5	60.7	15.4

\* Flow data sources: USACE and USGS Provisional.

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

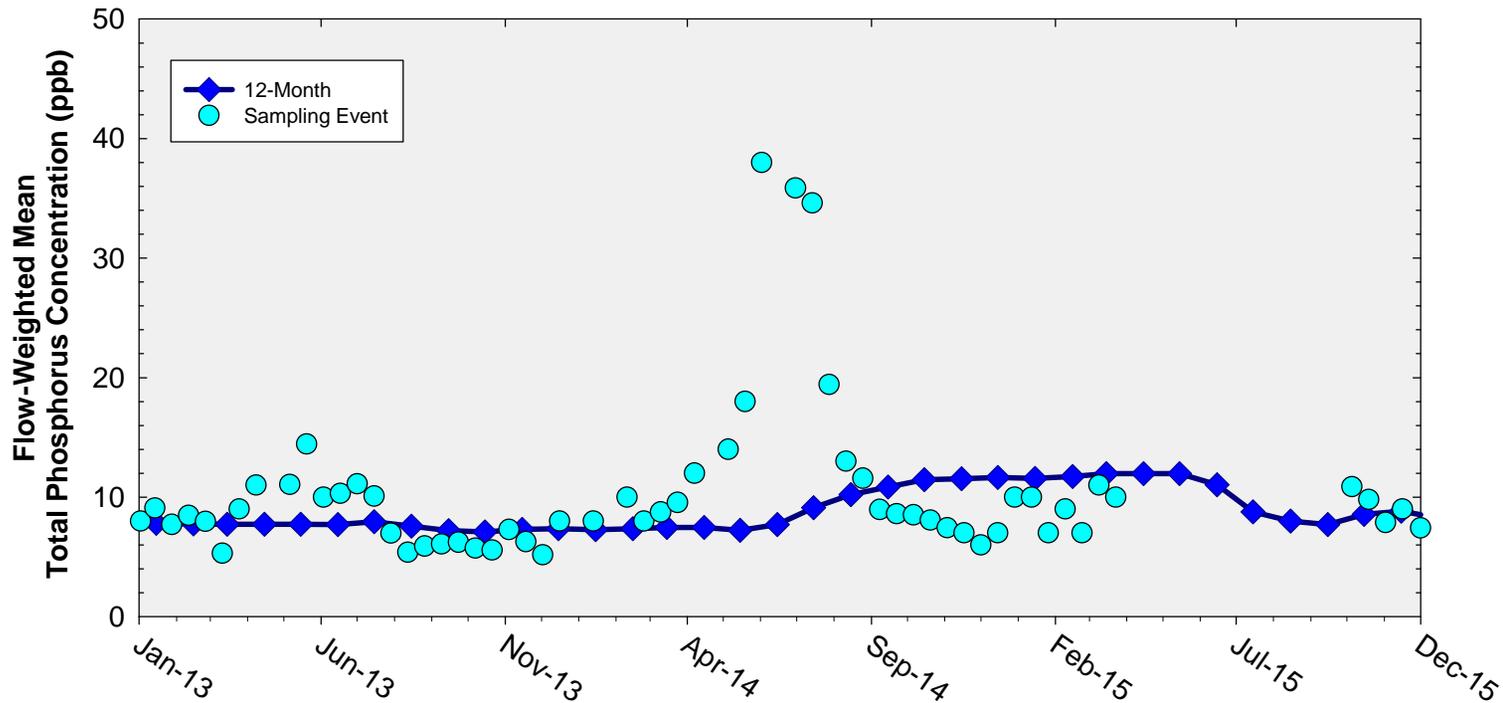


**Water year (12-month) FWMC compared to the TP interim and long-term limits**

# Flow-Weighted Mean Concentrations

## Inflows to ENP through Shark River Slough

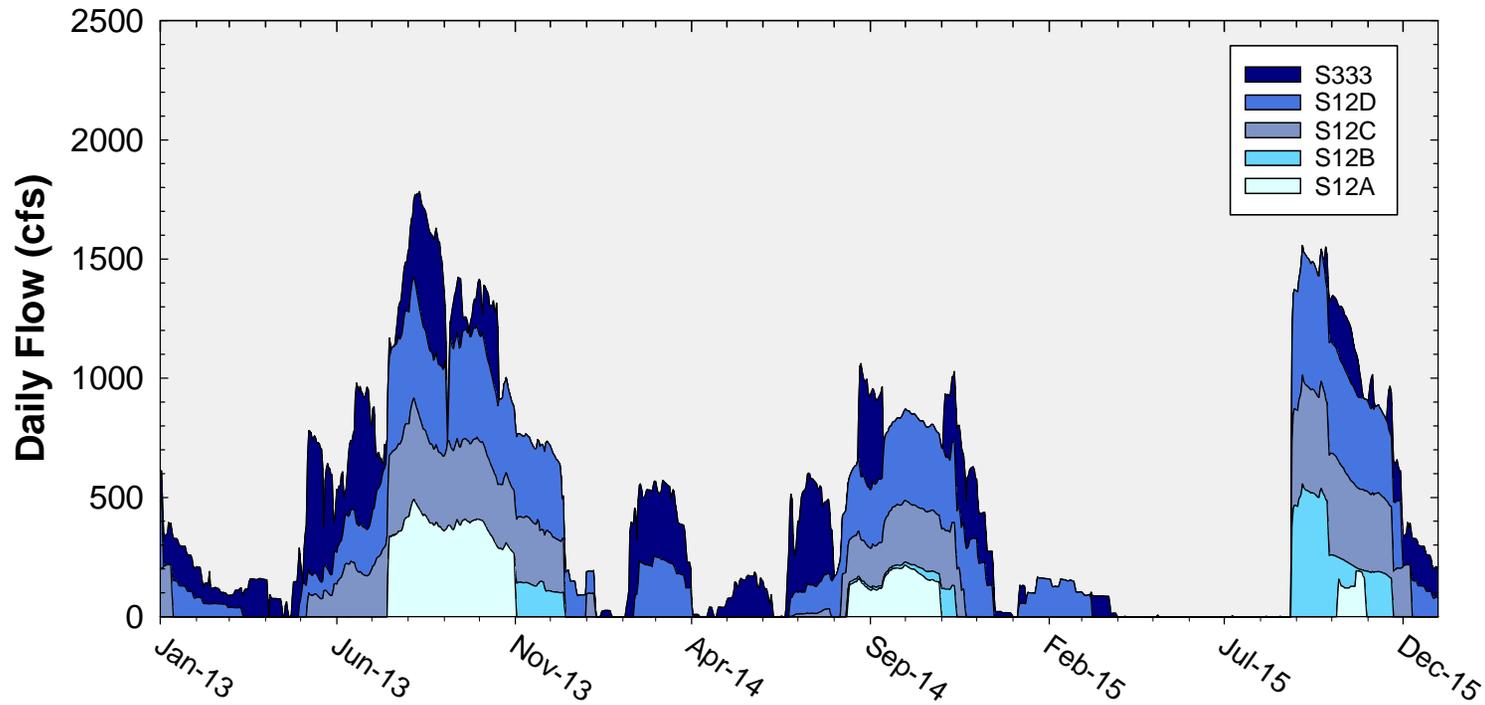
(October 2015–December 2015 Flow Data for S12s are Provisional)



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

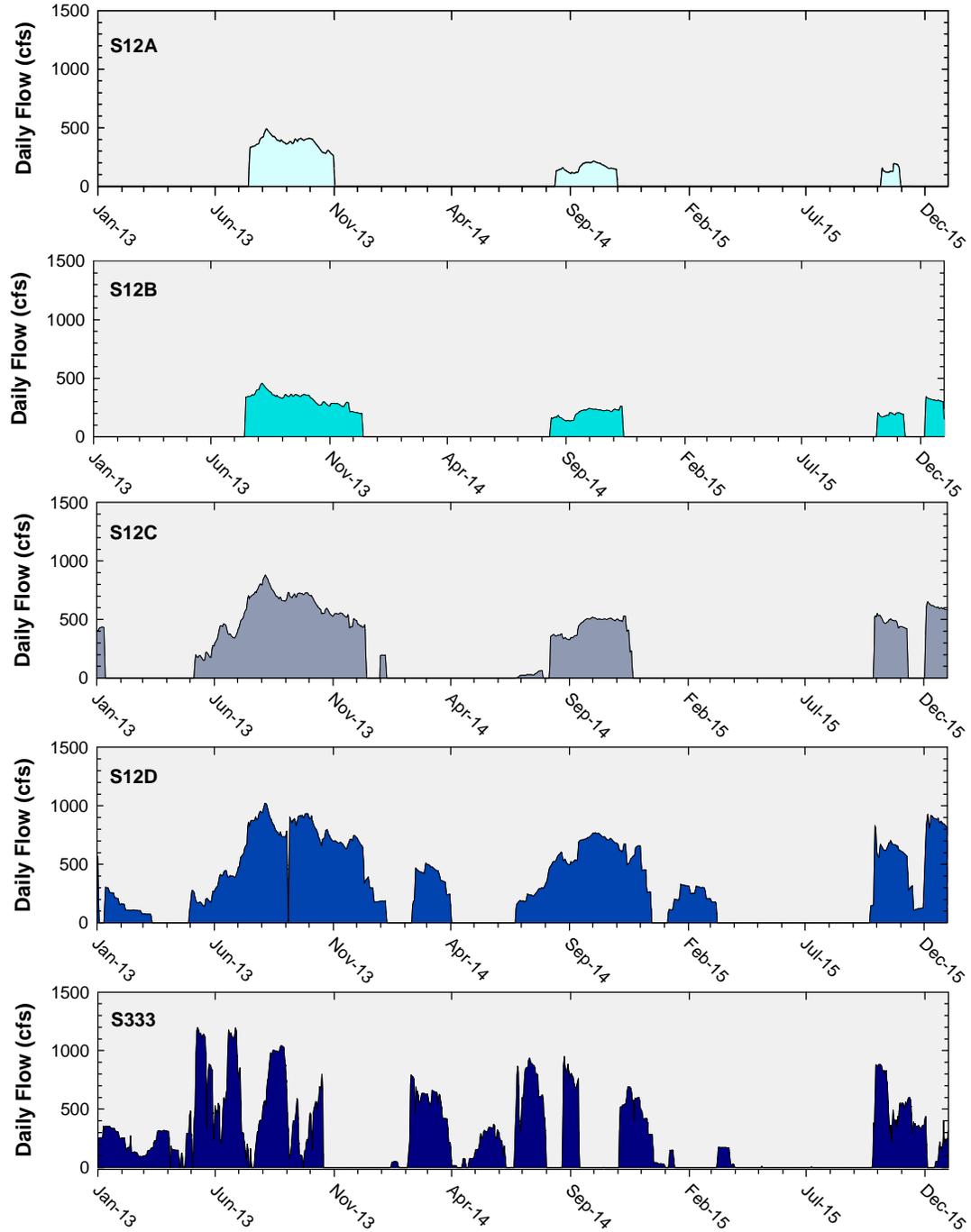
# Shark River Slough Daily Flows

(October 2015–December 2015 Flow Data for S12s are Provisional)

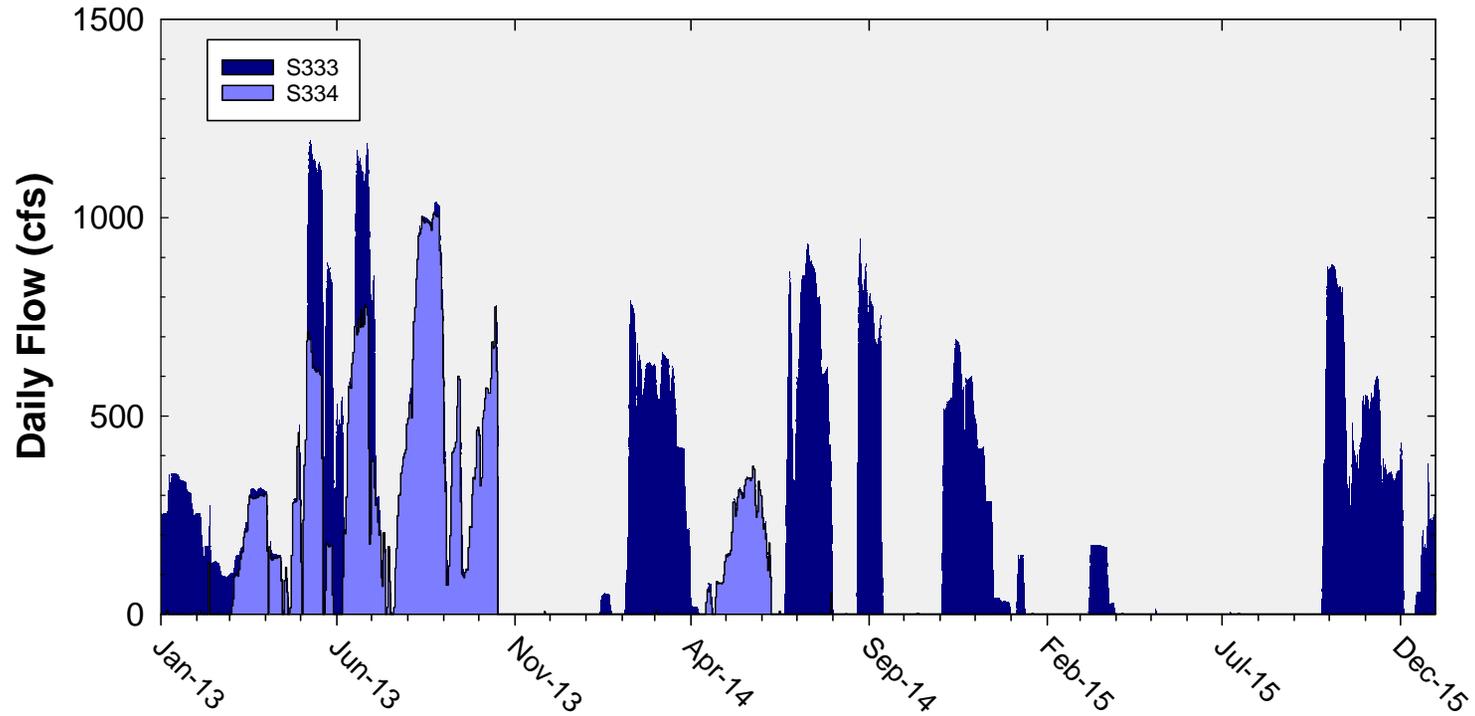


# Daily Flows at Individual Inflow Structures to Shark River Slough

(October 2015–December 2015 Flow Data for S12s are Provisional)



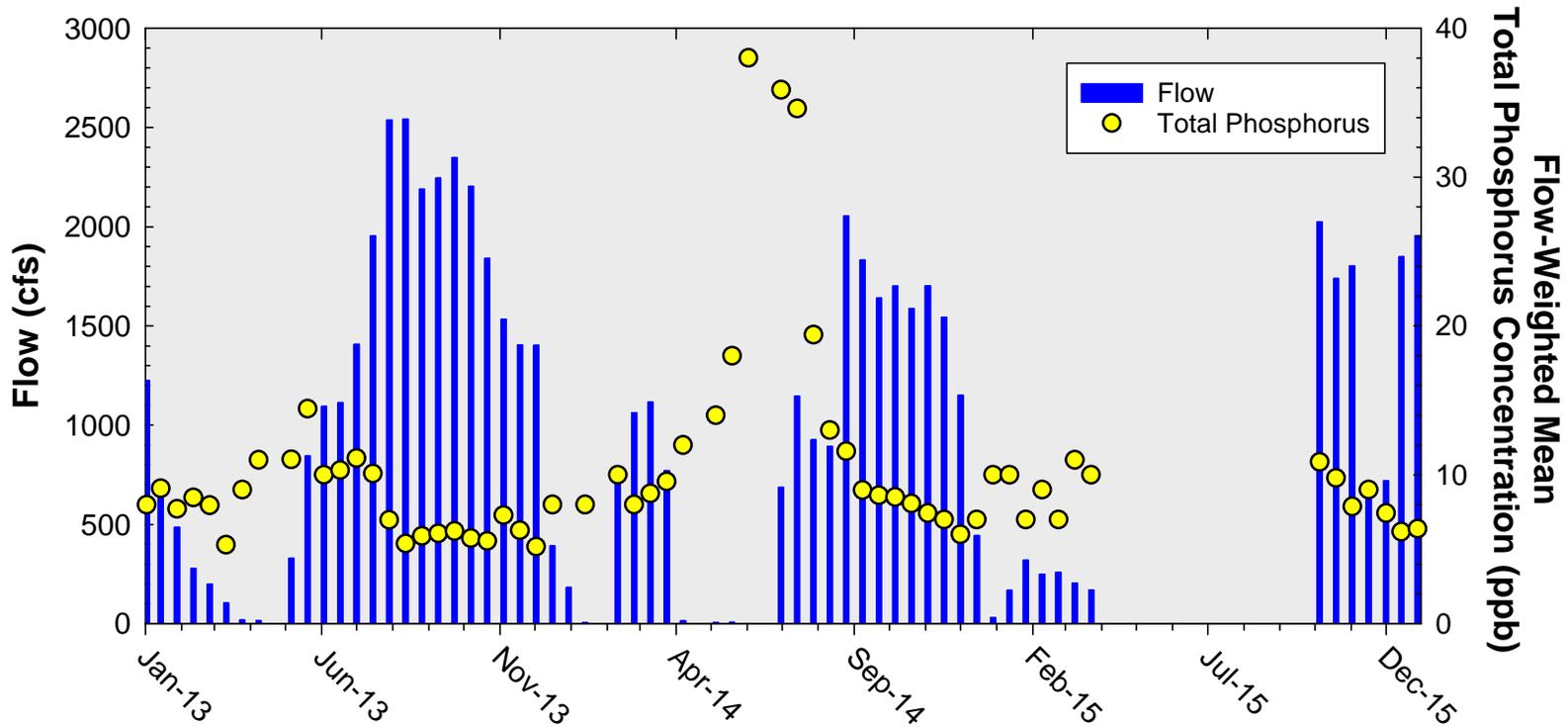
## Daily Flows at S333 and S334



# Shark River Slough

## Sampling Event Flow and FWMC

(October 2015 – December 2015 Flow Data for S12s are Provisional)



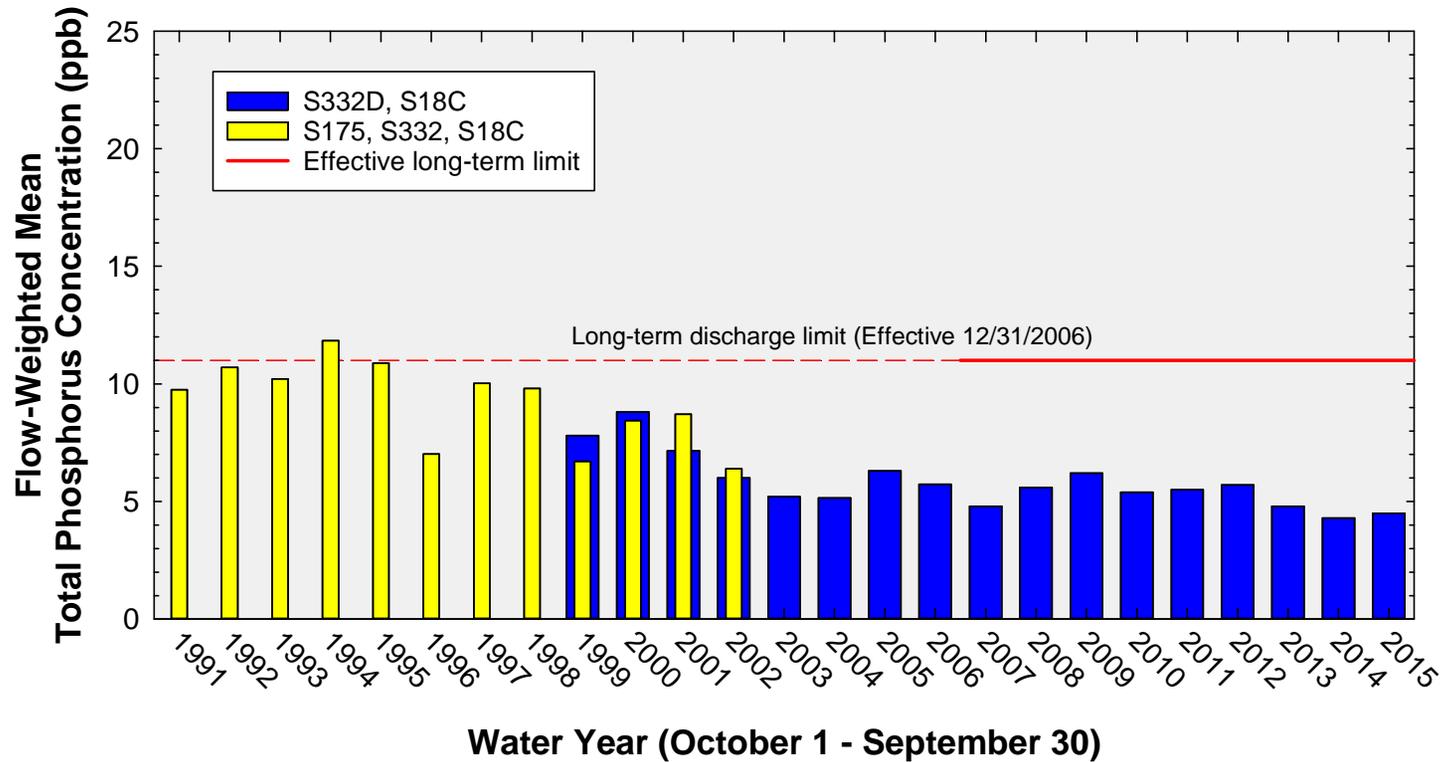
**Flow at Shark River Slough structures and the corresponding TP FWMCs for individual sampling events**

## Taylor Slough and Coastal Basins

### TP Concentration Compliance Tracking for October 2015 – December 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
Nov 2014 - Oct 2015	107.3	4.5	11.0	53.1	0.0
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# Annual Flow-Weighted Mean Concentrations Inflows to the ENP through Taylor Slough and Coastal Basins

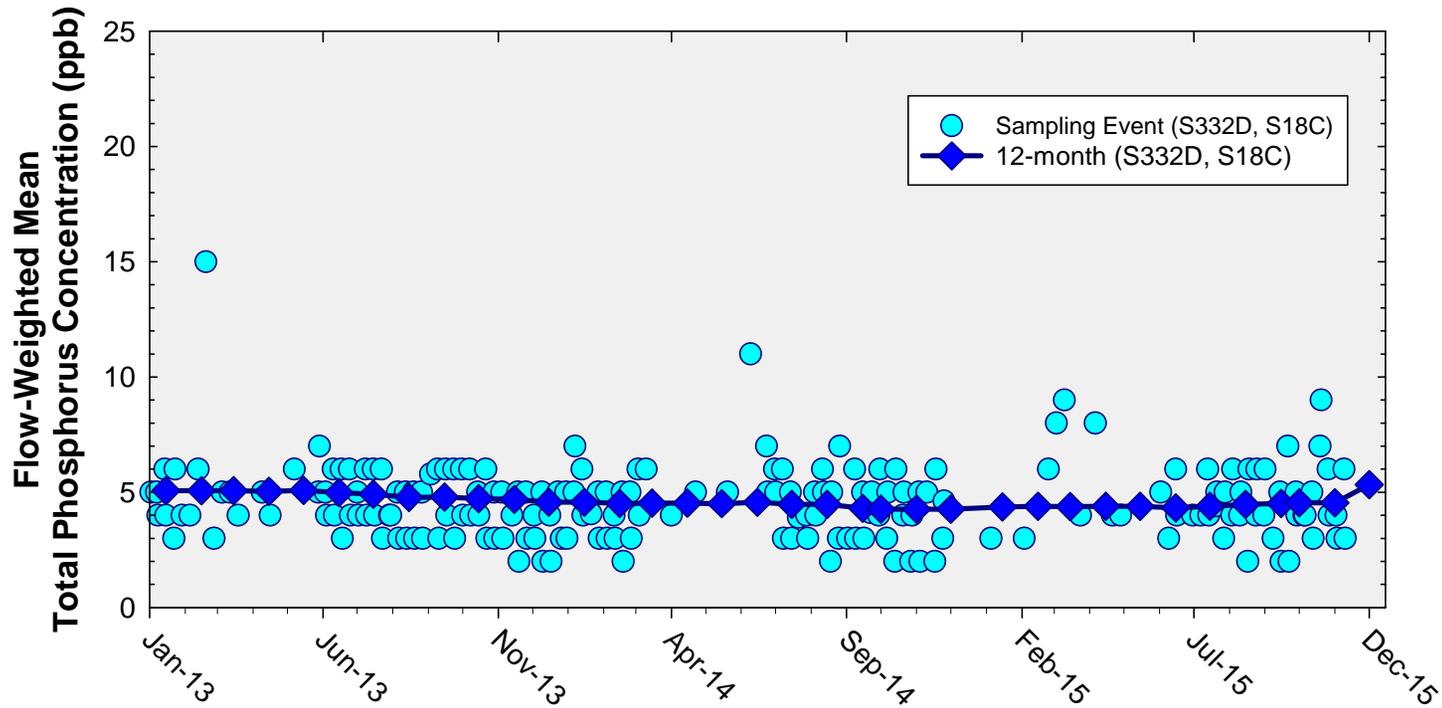


**The 12-month FWMC at the end of each water year compared to the 11 ppb long-term TP limit**

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

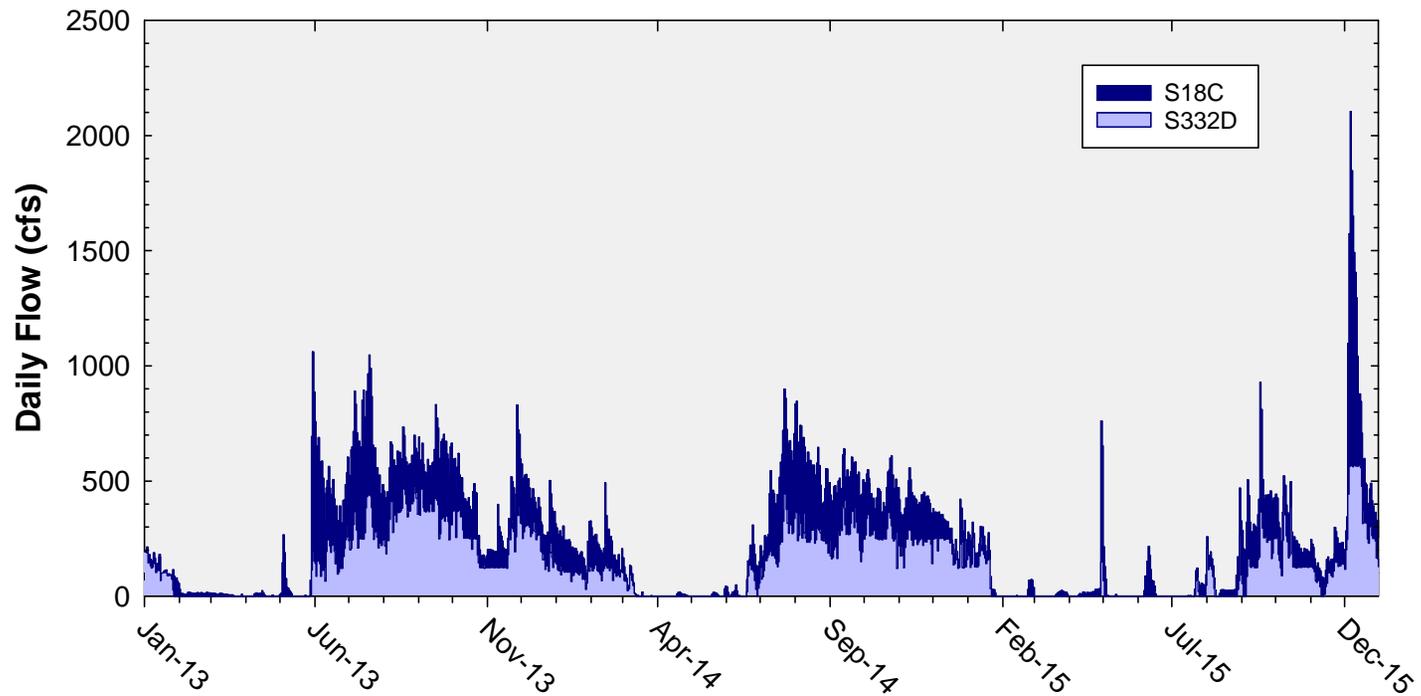
# Flow-Weighted Mean Concentrations

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

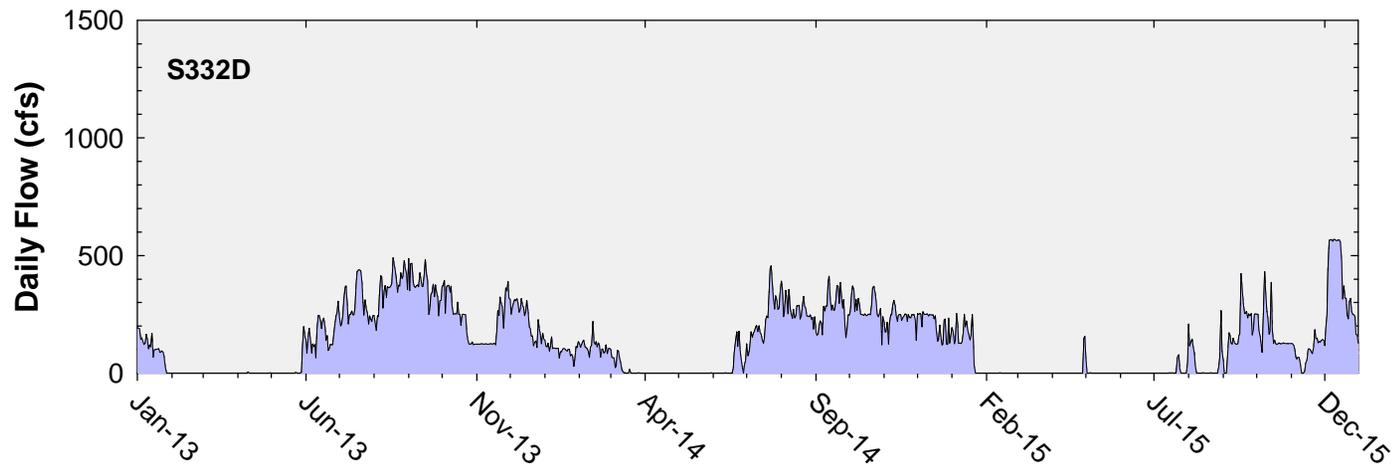
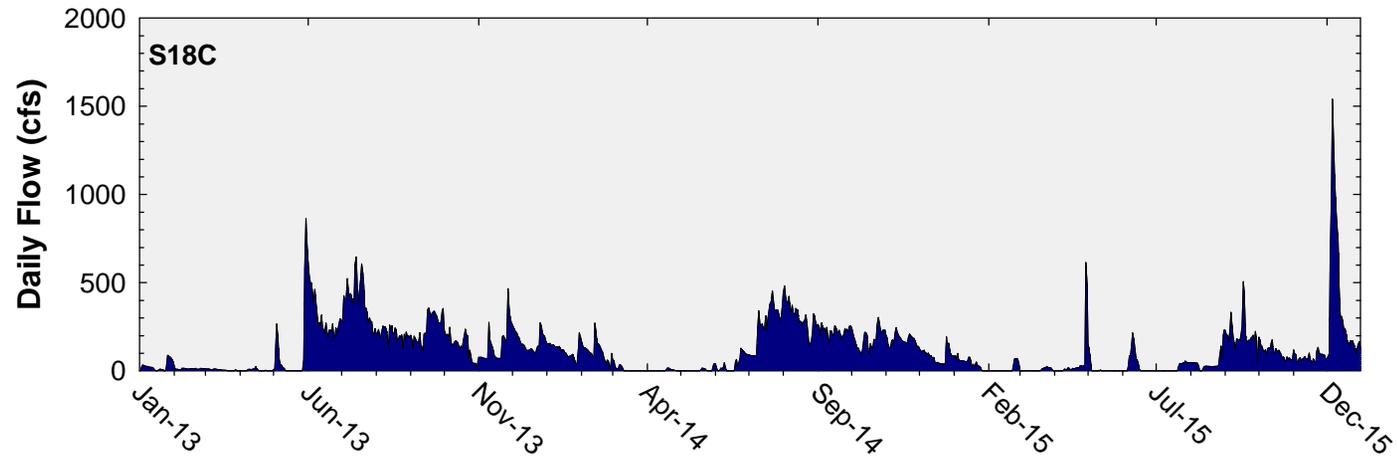


**The 12-month FWMC at the end of each month and the composite TP concentration for each sampling event**

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

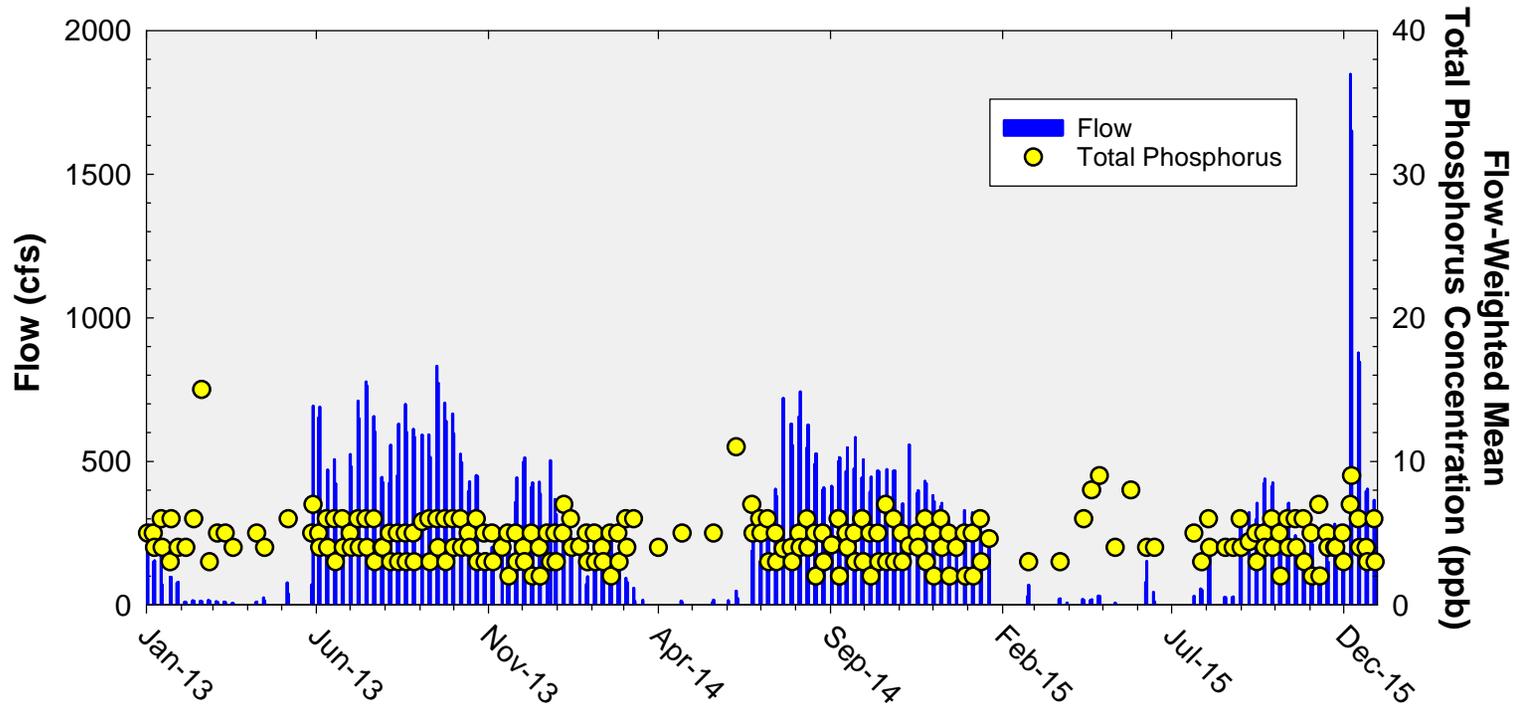


# Daily Flows at Individual Taylor Slough and Coastal Basins Structures into ENP



# 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

