



SETTLEMENT AGREEMENT QUARTERLY REPORT

October – December 2016

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Section Leader

Compliance Assessment & Reporting Section

Water Quality Bureau

Technical Oversight Committee

May 23, 2017



SUMMARY

Month	Geometric Mean TP Concentration (ppb)	Long-term Level (ppb)	Mean Stage (feet NGVD29)	Number of Samples	
Arthur R. Marshall Loxahatchee National Wildlife Refuge					
Oct 2016	6.1	7.8	16.96	14	
Nov 2016	6.9	8.4	16.78	14	
Dec 2016	5.6	9.0	16.64	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 – <i>PROVISIONAL DATA and RESULTS</i>					
Oct 2016	1,443 (1,484)	6.8 (6.8)	7.6 (7.6)	40.1 (40.1)	11.1 (11.1)
Nov 2016	1,462 (1,487)	6.7 (6.7)	7.6 (7.6)	40.1 (40.1)	11.1 (11.1)
Dec 2016	1,344 (1,358)	6.8 (6.8)	7.6 (7.6)	40.1 (40.1)	11.5 (11.5)
Everglades National Park – Taylor Slough and Coastal Basins					
Oct 2016	391.0	5.2	11.0	53.1	0.0
Nov 2016	423.0	5.2	11.0	53.1	0.0
Dec 2016	399.5	5.0	11.0	53.1	0.0

Note: Explanation of multiple values reported for SRS is provided on WY2016 compliance tracking slide.

Refuge TP Compliance Tracking

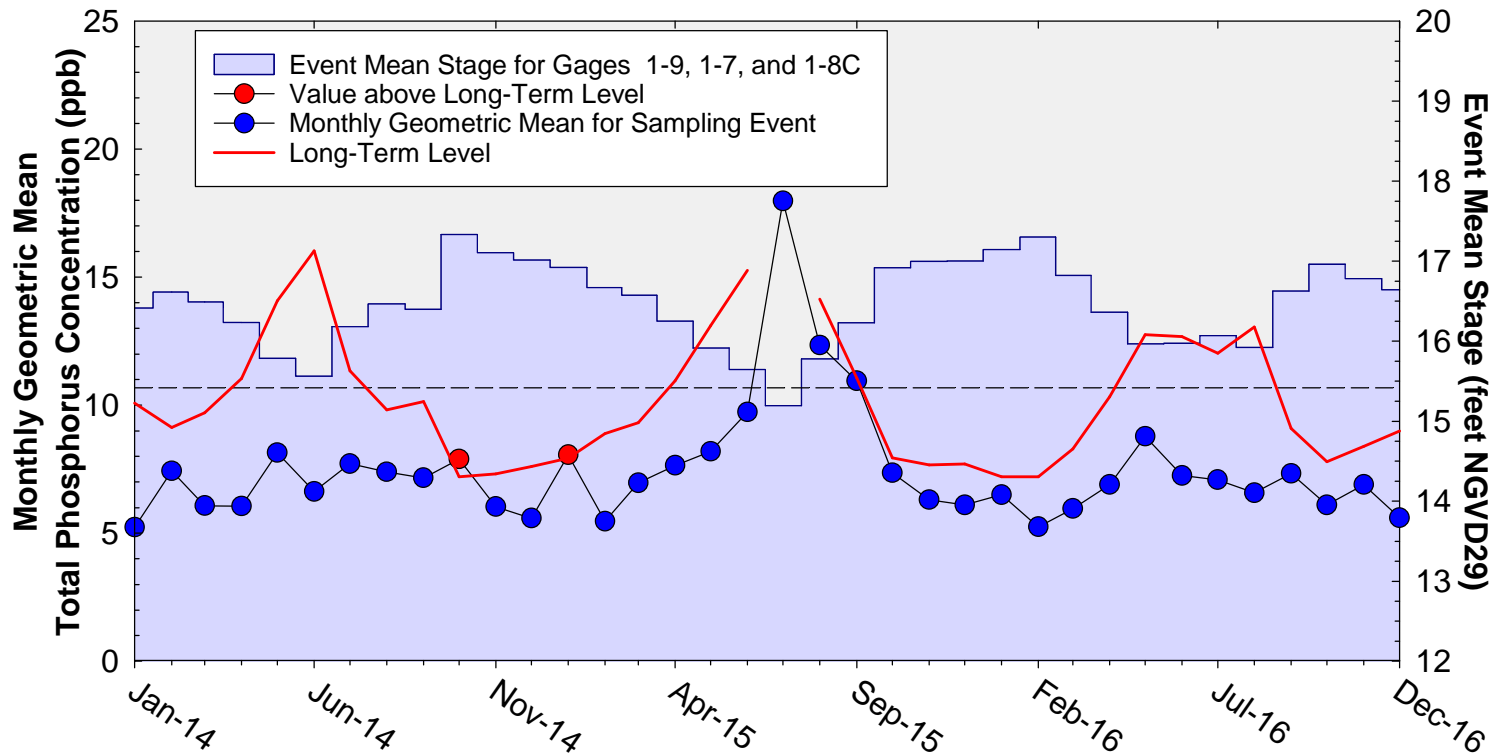
For October 2016 – April 2017

(January – April 2017 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-2016	6.1	7.8	16.96	14
Nov-2016	6.9	8.4	16.78	14
Dec-2016	5.6	9.0	16.64	14
Jan-2017	7.1	9.3	16.57	13
Feb-2017	4.4	9.6	16.52	13
Mar-2017	5.8	10.8	16.28	12
Apr-2017	6.5	12.1	16.06	7

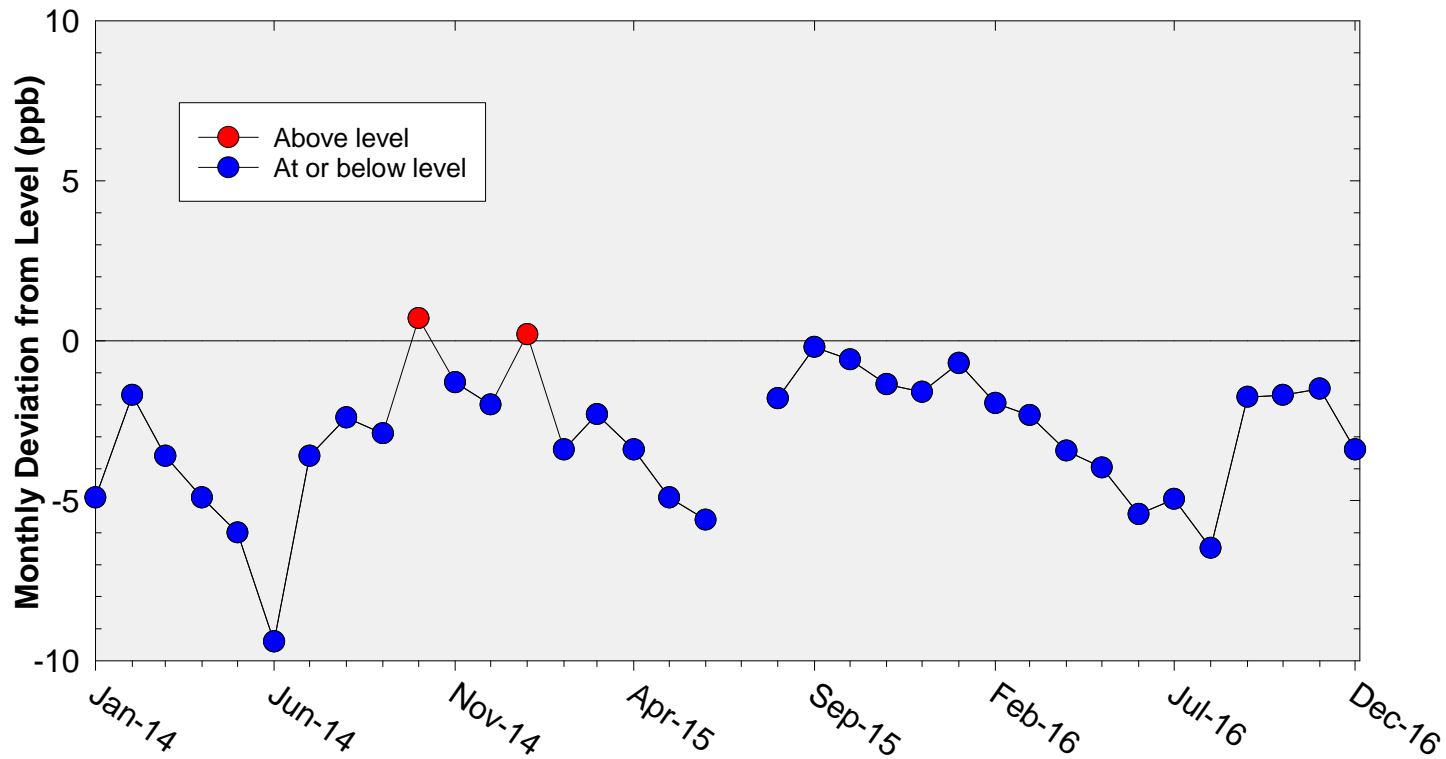
A.R.M Loxahatchee National Wildlife Refuge

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 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
Nov 2015 - Oct 2016	1,443 (1,484)	6.8 (6.8)	7.6 (7.6)	40.1 (40.1)	11.1 (11.1)
Dec 2015 - Nov 2016	1,462 (1,487)	6.7 (6.7)	7.6 (7.6)	40.1 (40.1)	11.1 (11.1)
Jan 2016 - Dec 2016	1,344 (1,358)	6.8 (6.8)	7.6 (7.6)	40.1 (40.1)	11.1 (11.1)

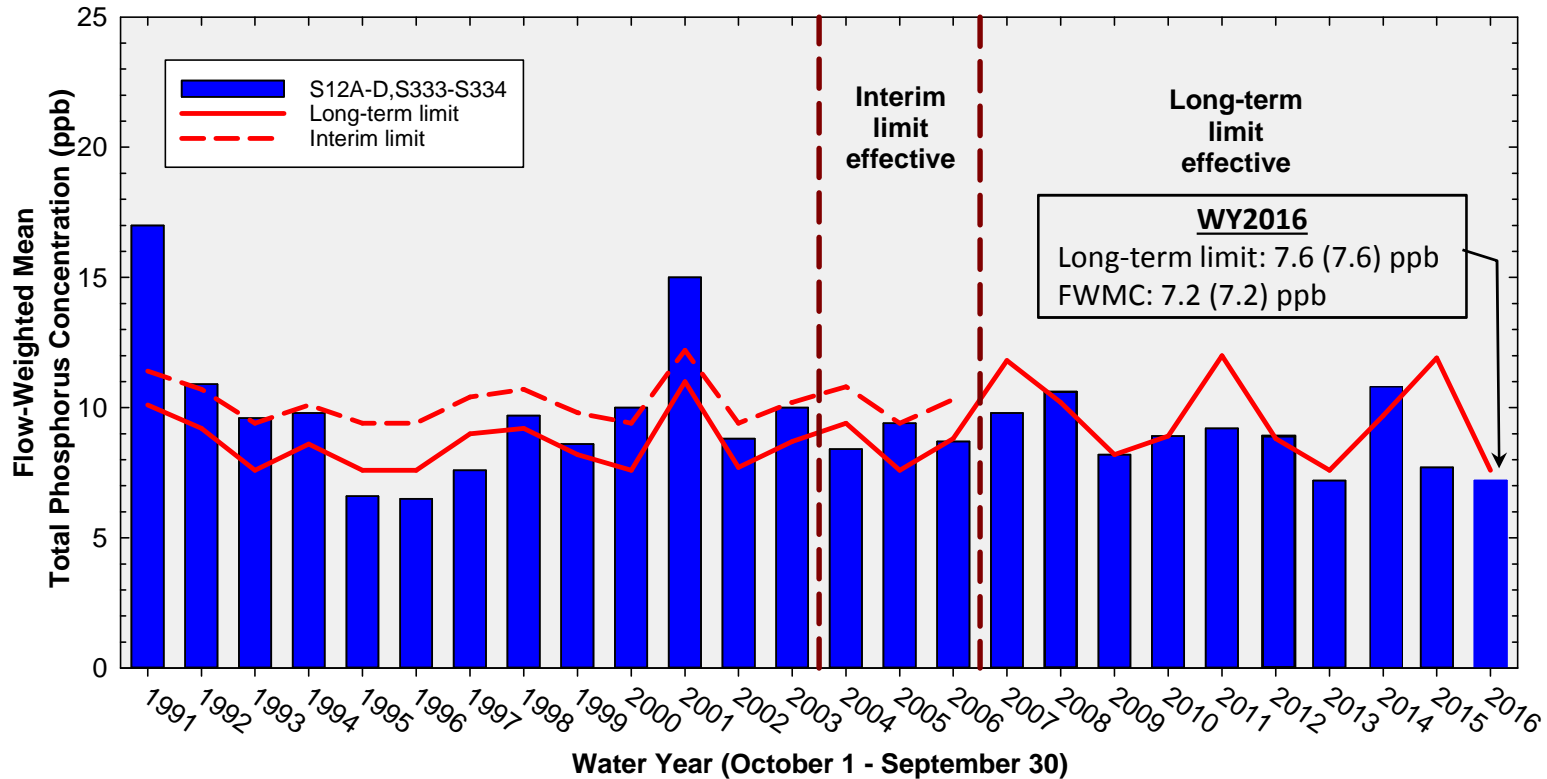
Shark River Slough WY2016 RESULTS:

Method 1 (left values) FWMC computed as $S_{12s} + (S_{333} + S_{355A\&B} - S_{334})$ and

Method 2 (in parenthesis) FWMC computed as $S_{12s} + (S_{333} + S_{355A\&B} + S_{356} - S_{334})$ using all flow and TP grabs on bi-weekly compliance sampling dates.

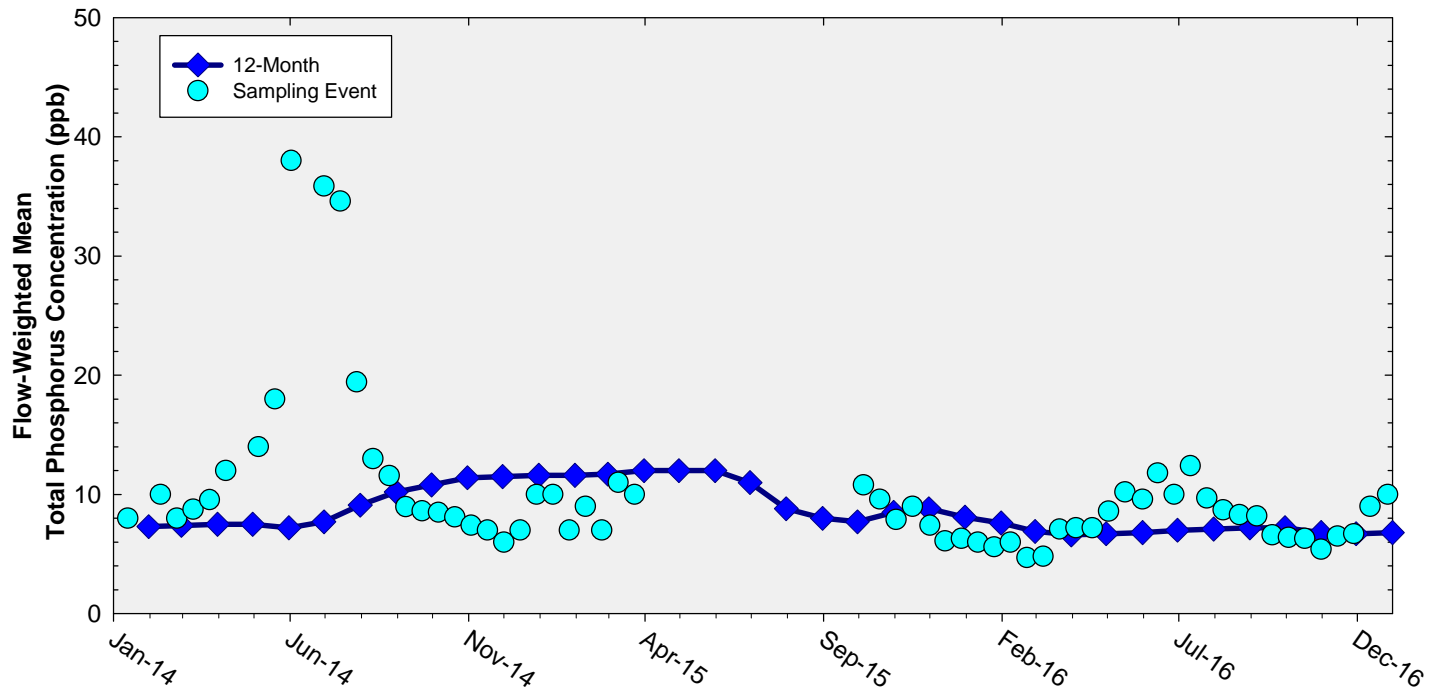
Neither method excludes S334 flow from the flow for long-term limit calculations.

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

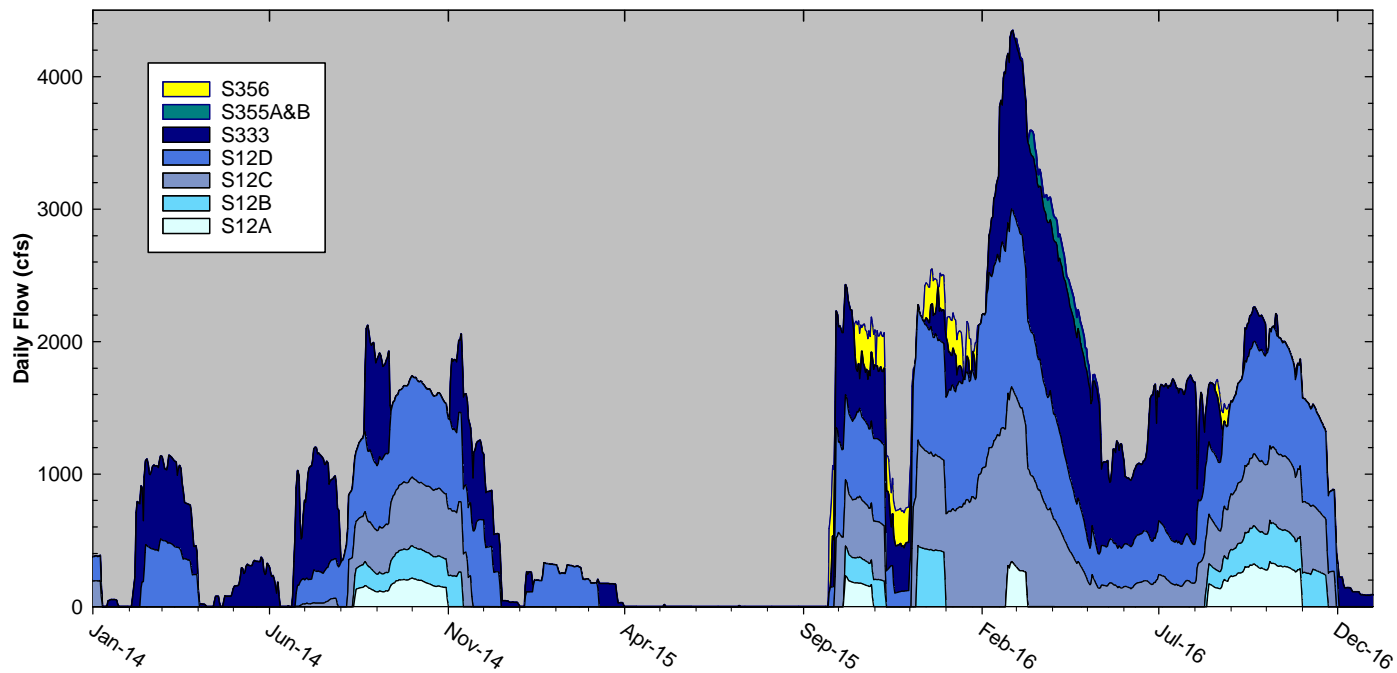


The composite TP concentration and 12-month FWMC at the end of each month for each sampling event

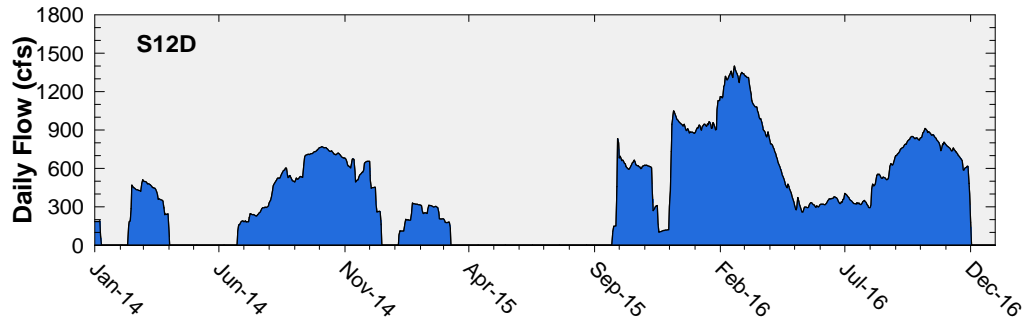
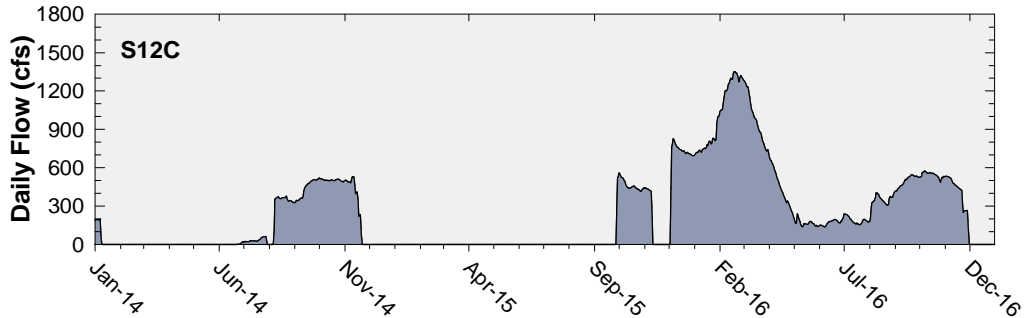
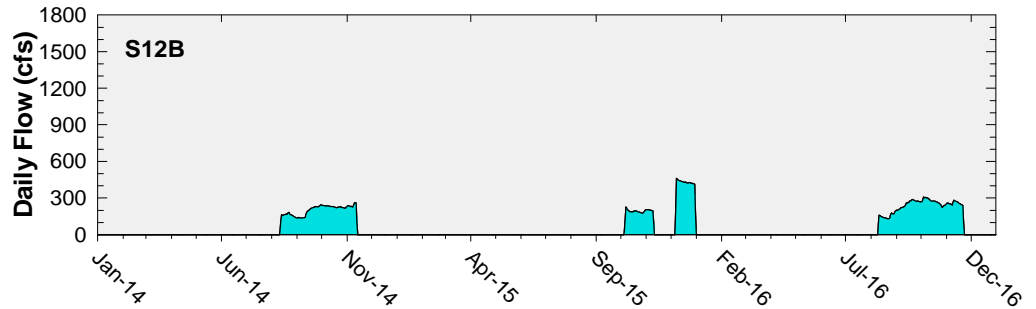
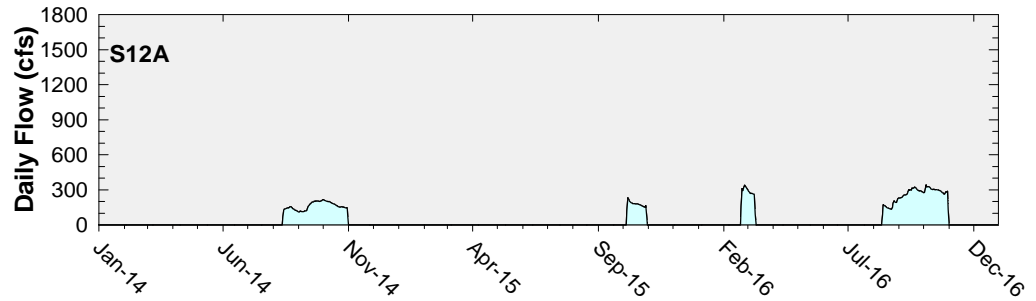
Note: Method 1 results illustrated

Shark River Slough Daily Flows

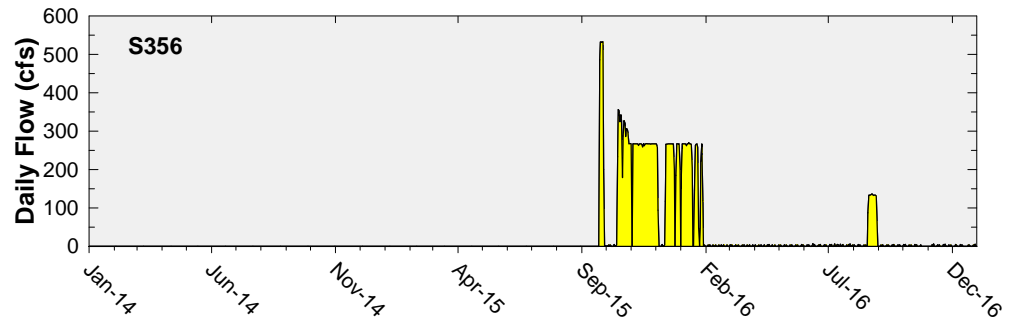
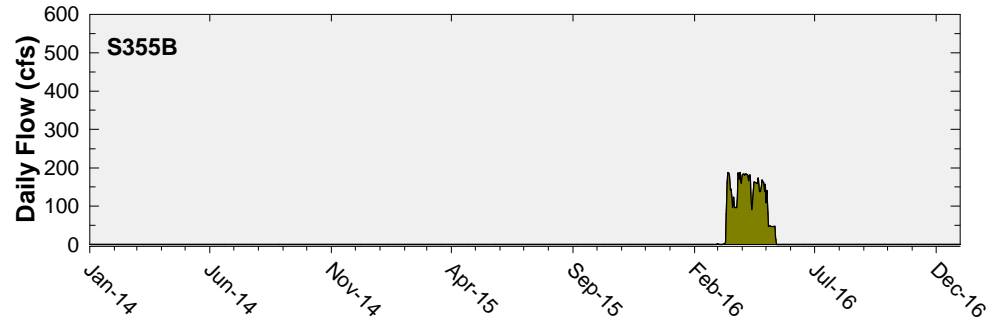
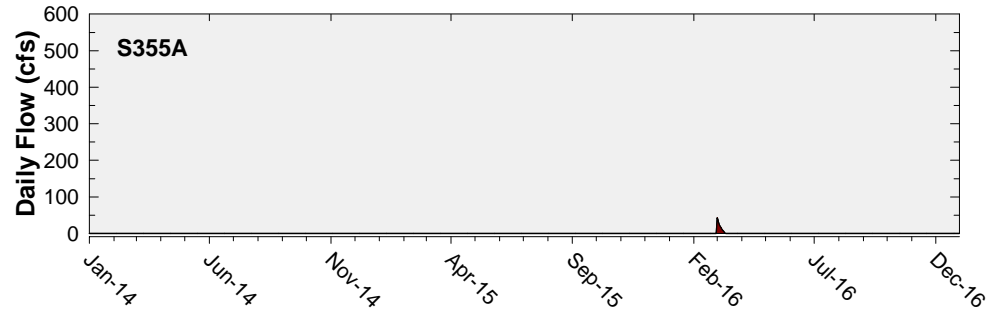
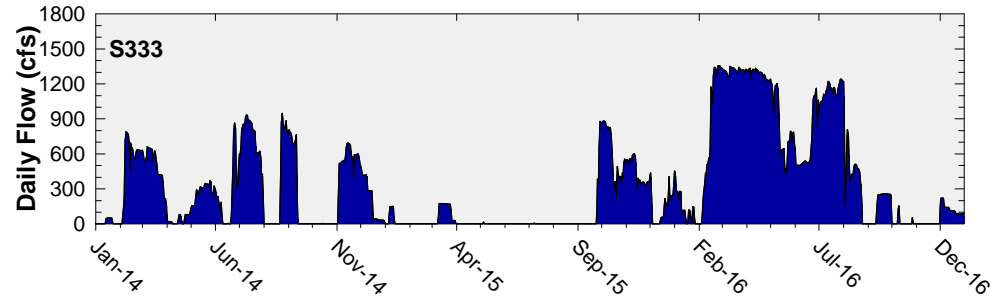
(Flow Data from October 1, 2016 are Provisional)



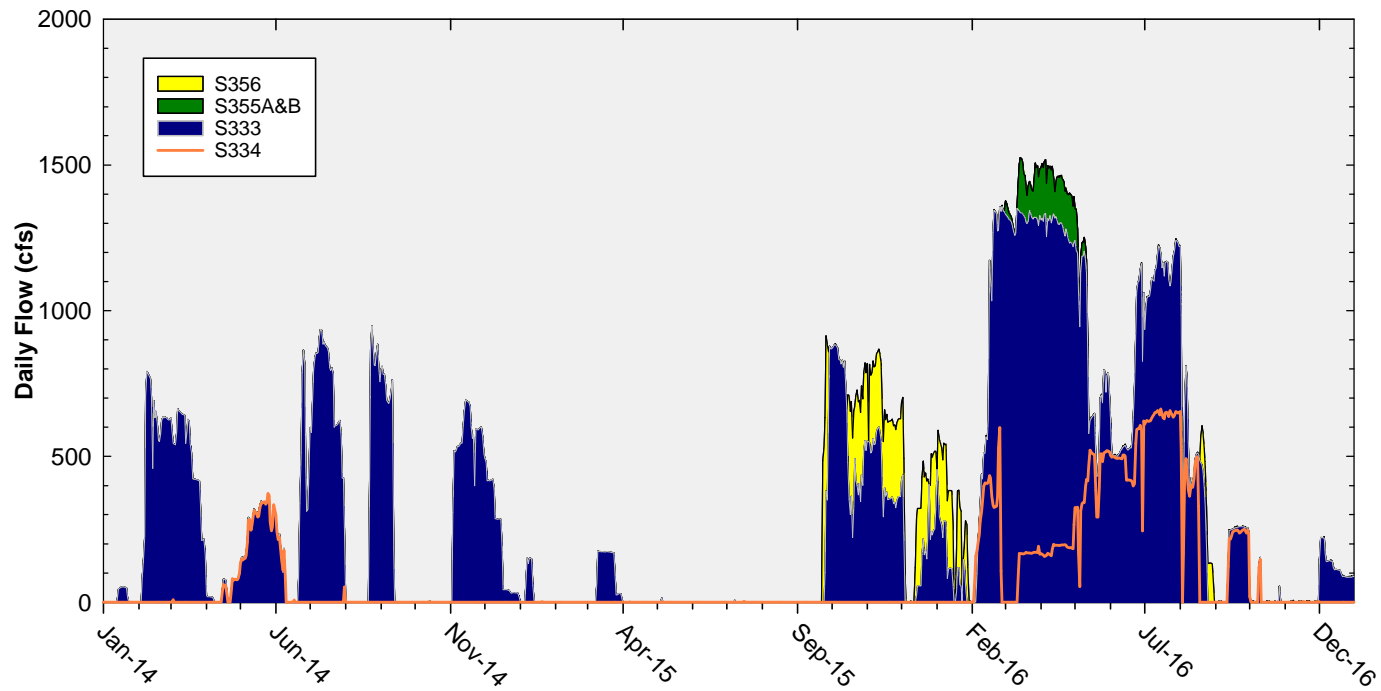
Daily Flows at S12 Structures to Shark River Slough



Daily Flows at Individual Inflow Structures to Shark River Slough

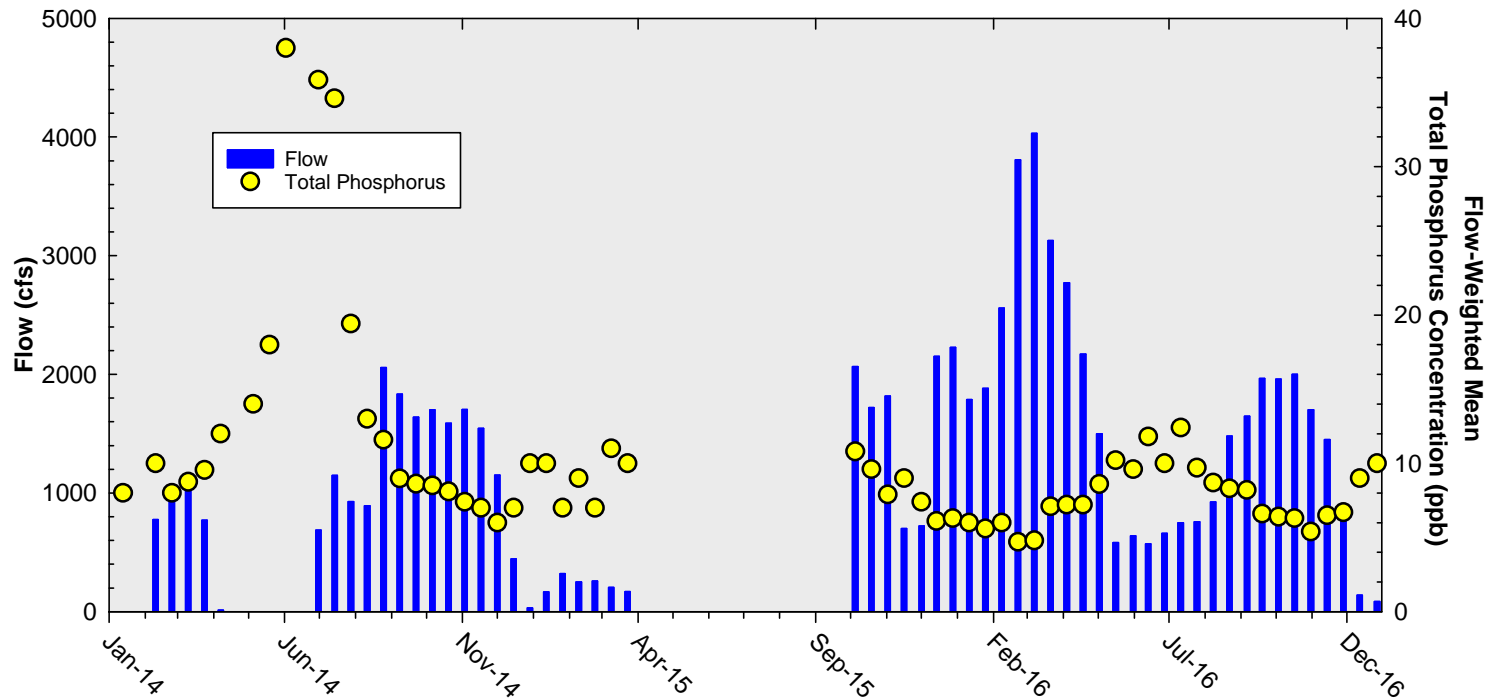


Daily Flows Into and Out from the L-29 Canal



Shark River Slough

Sampling Event Flow and FWMC



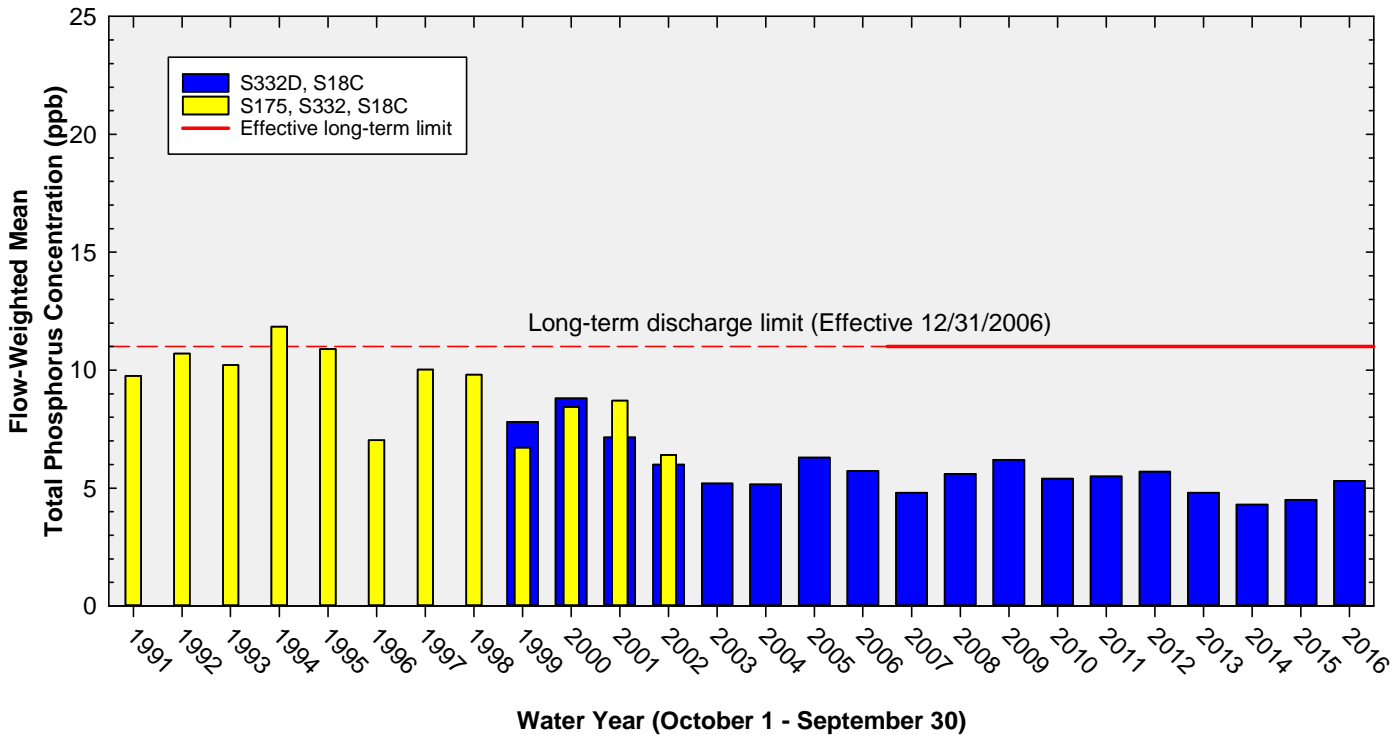
Flow at Shark River Slough structures and the corresponding TP FWMCs for individual sampling events

Note: Method 1 results illustrated

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
Nov 2015 - Oct 2016	391.0	5.2	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

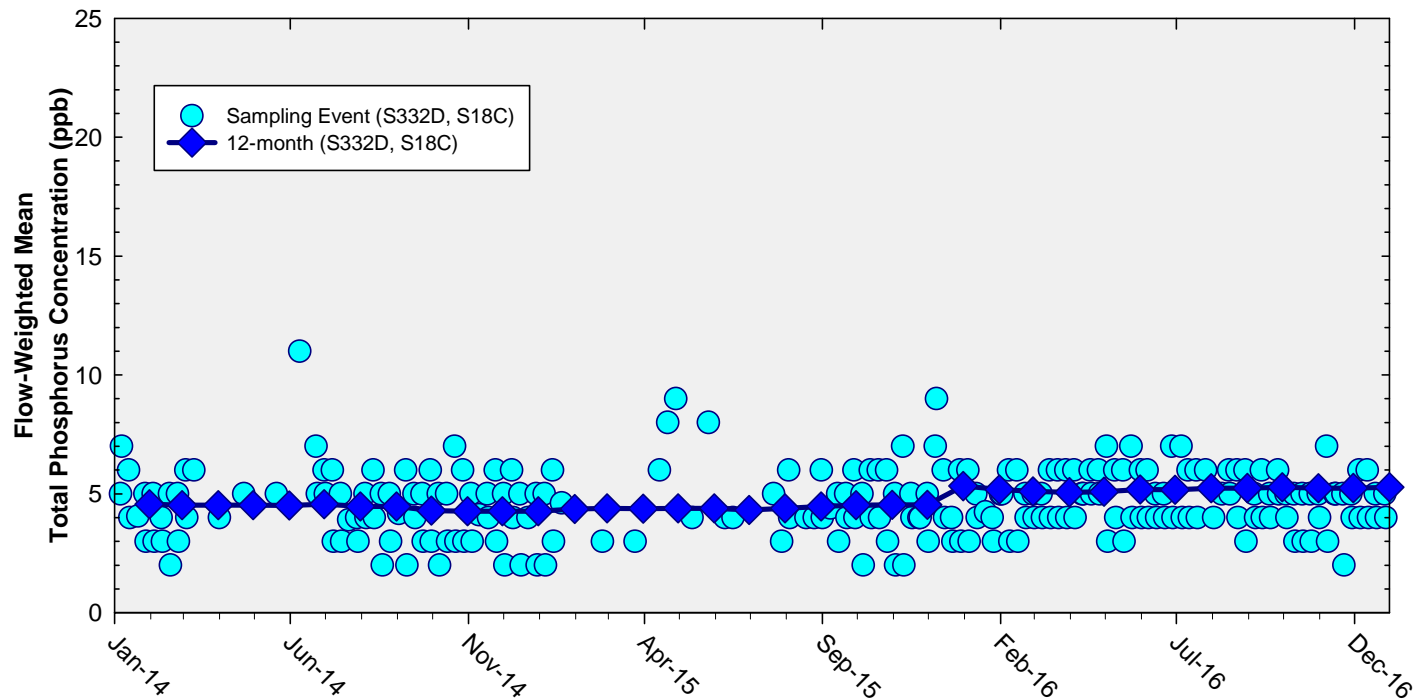


The 12-month FWMC at the end of each water year compared to the 11 ppb long-term TP limit

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

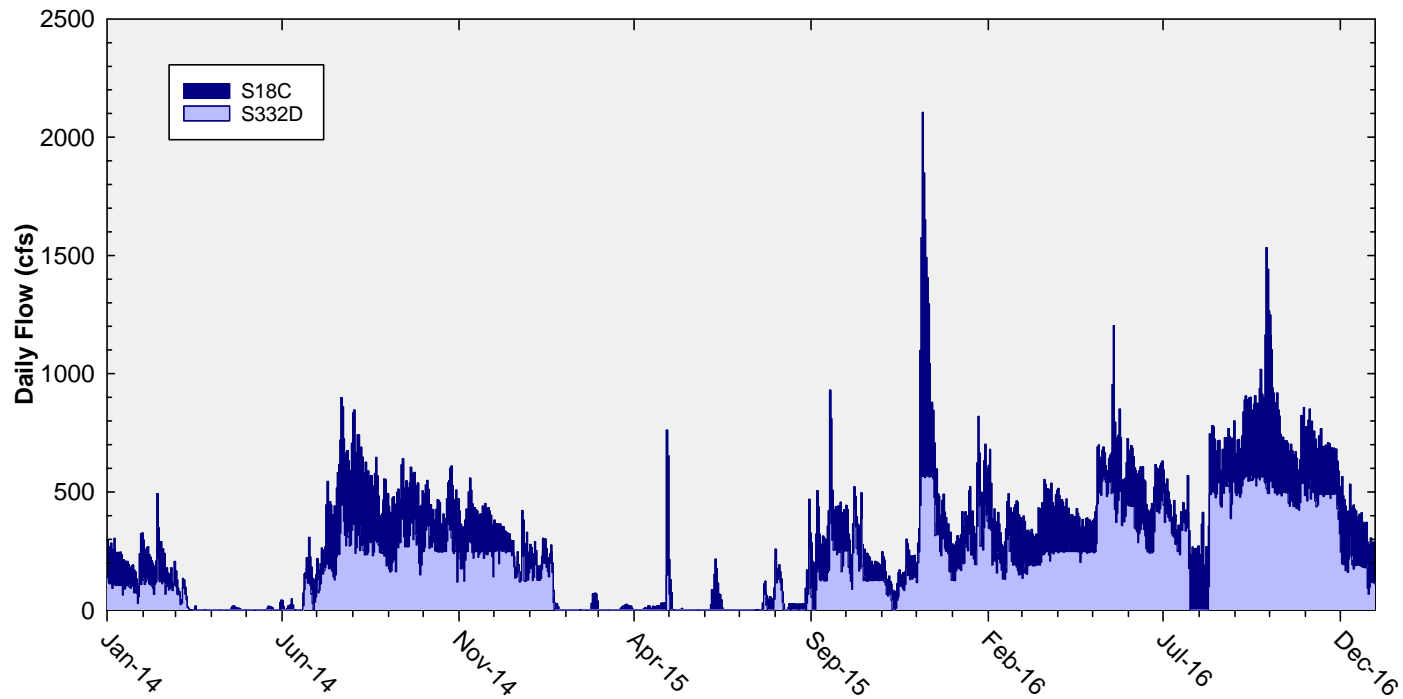
Flow-Weighted Mean Concentrations

Inflows to the ENP through Taylor Slough and Coastal Basins

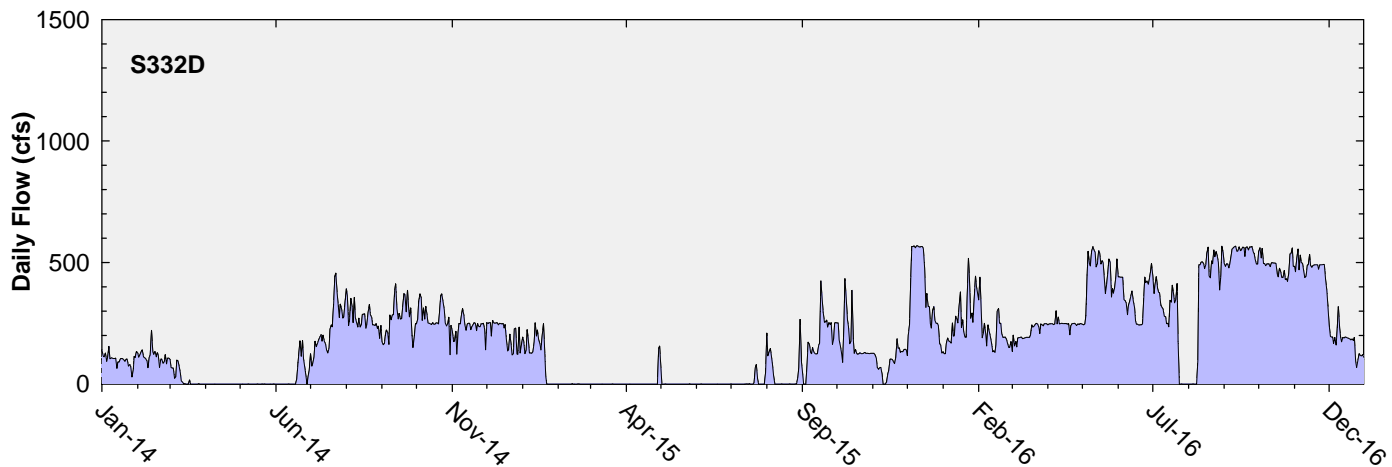
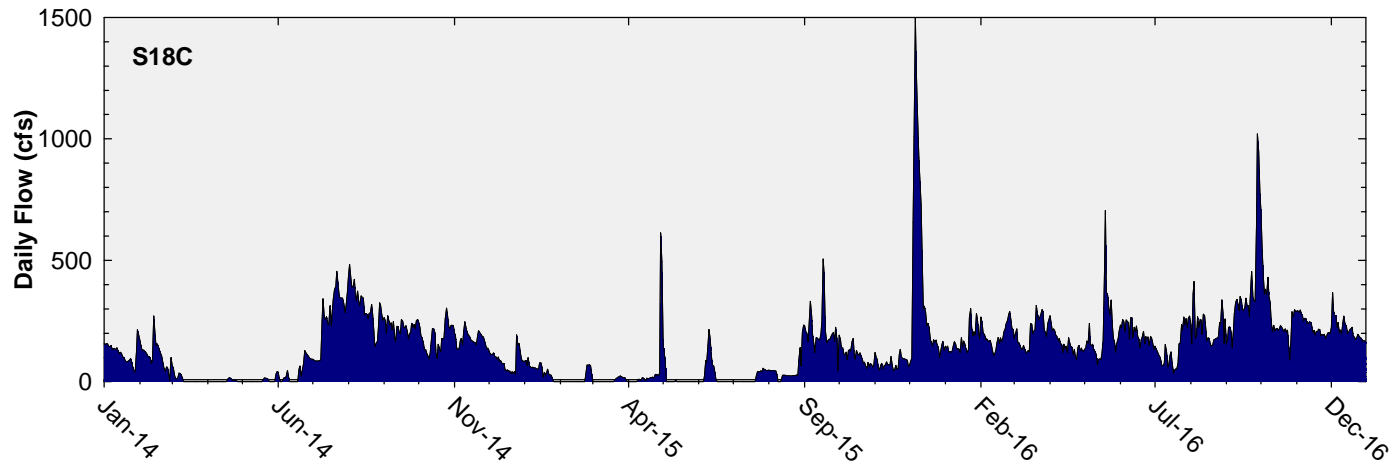


The 12-month FWMC at the end of each month and the composite TP concentration for each sampling event

Daily Flows at Taylor Slough and Coastal Basins Structures into ENP

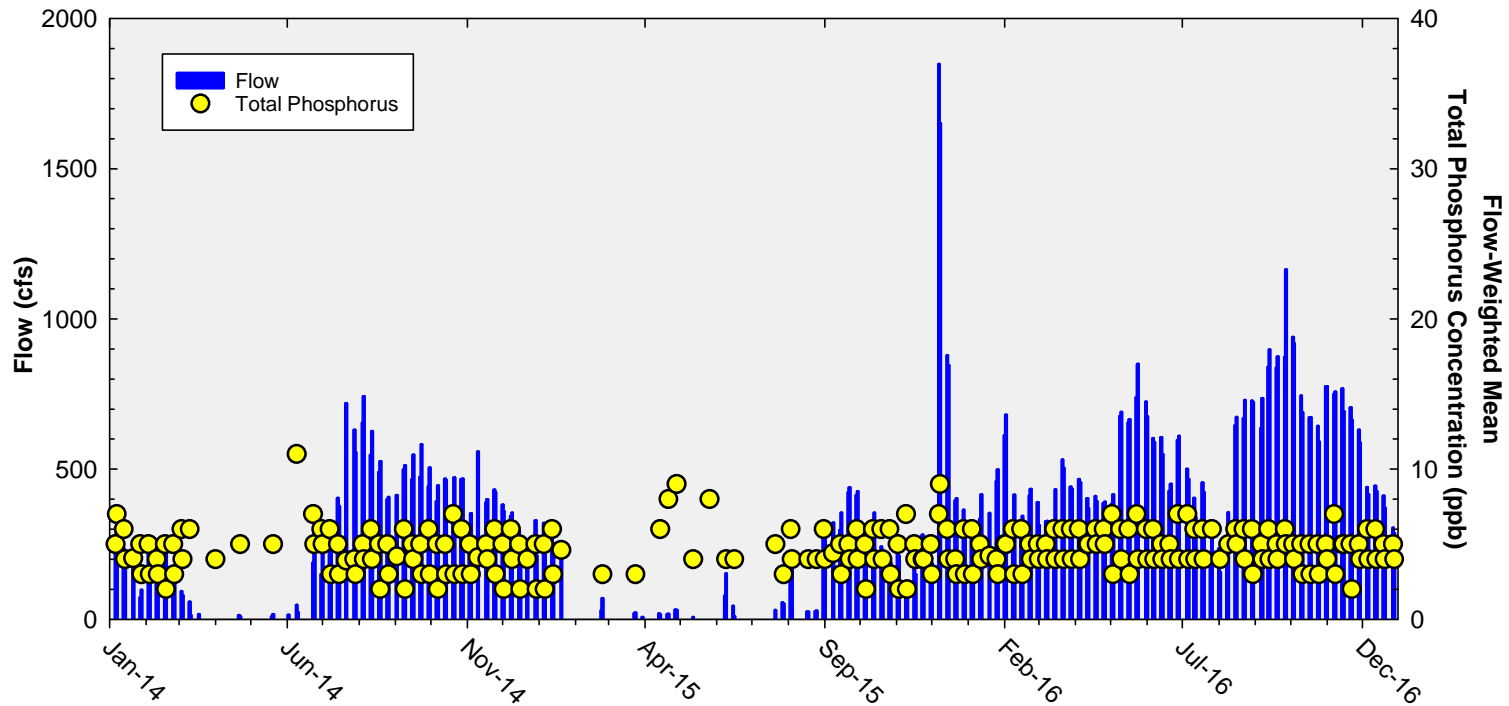


Daily Flows at Individual Taylor Slough and Coastal Basins Structures into ENP



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

