



SETTLEMENT AGREEMENT QUARTERLY REPORT

April – June 2016

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Water Quality Bureau

Technical Oversight Committee
October 18, 2016



SUMMARY

Month	Geometric Mean TP Concentration (ppb)	Long-term Level (ppb)	Mean Stage (feet NGVD 29)	Number of Samples	
Arthur R. Marshall Loxahatchee National Wildlife Refuge					
Apr 2016	6.9	10.3	16.36	14	
May 2016	8.8	12.7	15.96	9	
Jun 2016	7.2	12.7	15.97	9	
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 (Provisional Data)					
Apr 2016	956.1	6.7	8.1	42.5	6.7
May 2016	1042.9	6.9	7.7	40.5	5.6
Jun 2016	1117.9	7.1	7.6	40.1	15.0
Everglades National Park – Taylor Slough and Coastal Basins					
Apr 2016	207.9	5.1	11.0	53.1	0.0
May 2016	247.2	5.2	11.0	53.1	0.0
Jun 2016	278.4	5.2	11.0	53.1	0.0

Refuge TP Compliance Tracking

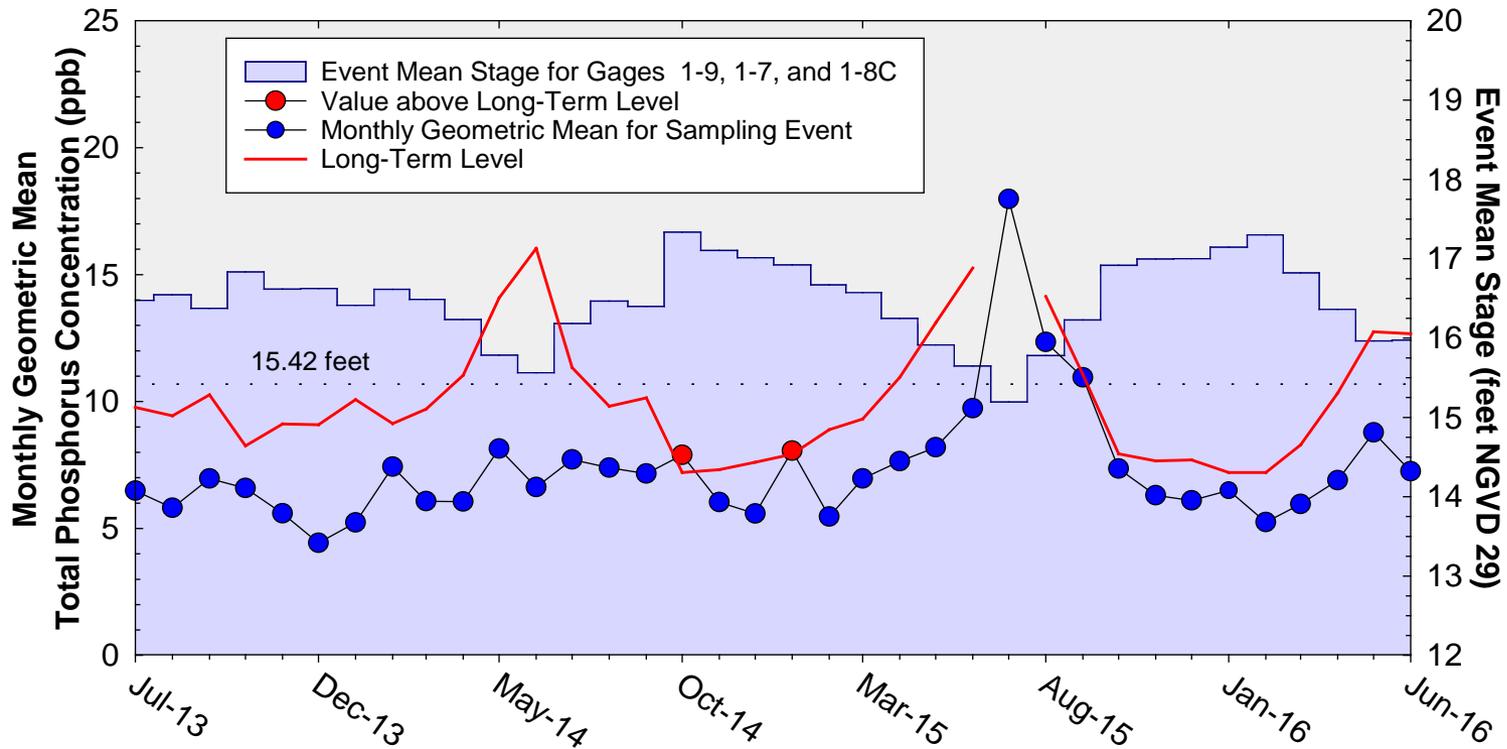
For April 2016 – September 2016

(July – September 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
Apr-2016	6.9	10.3	16.36	14
May-2016	8.8	12.7	15.96	9
Jun-2016	7.2	12.7	15.97	9
Jul-2016	7.1	12.0	16.07	13
Aug-2016	6.6	13.1	15.92	6
Sep-2016	7.3	9.1	16.62	14

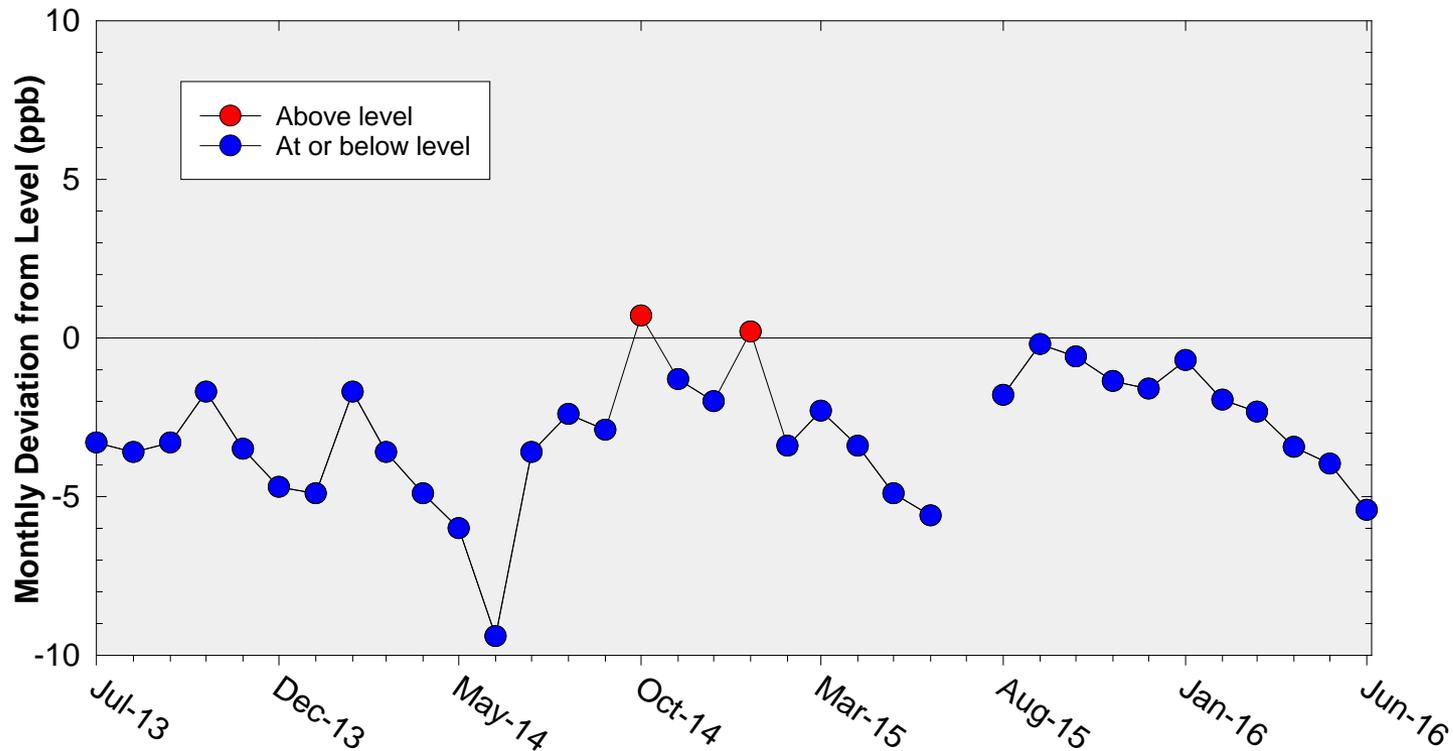
A.R.M Loxahatchee National Wildlife Refuge

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 April 2016 – June 2016

(October 2015–June 2016 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
May 2015 - Apr 2016	956.1	6.7	8.1	42.5	6.7
Jun 2015 - May 2016	1042.9	6.9	7.7	40.5	5.6
Jul 2015 - Jun 2016	1117.9	7.1	7.6	40.1	15.0

Note the following flows have not been incorporated to the results above:

- The 16.6 kac-ft at S355B Temporary Pump flow in March 12 to May 13, 2016
- The flow volume through gate openings at structures S355A and S355B March 1 – 11, 2016. (370 ac-ft as communicated by USACE)

Shark River Slough Compliance Tracking

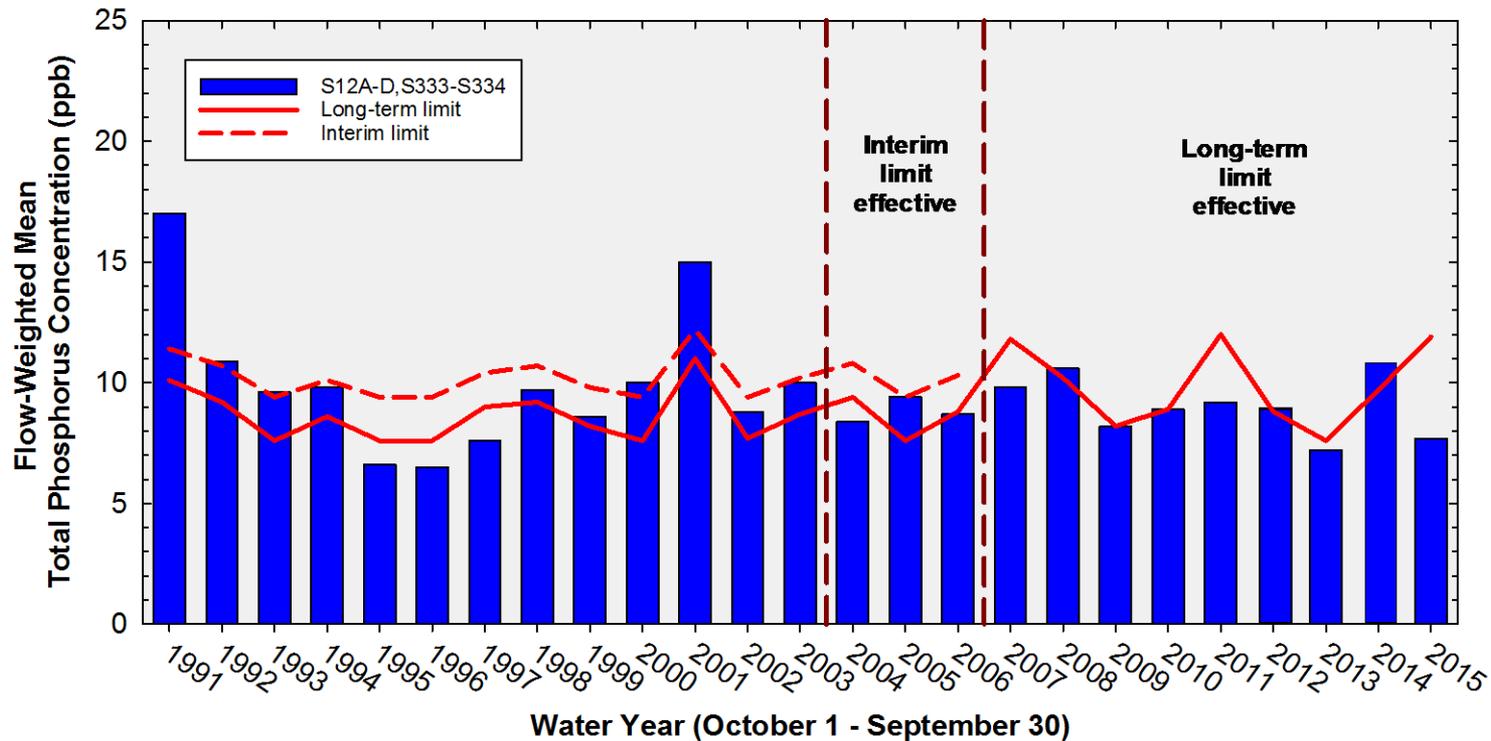
Inflows from S355A, S355B and S356

Flow volumes and TP concentrations to Shark River Slough through S355A, S355B and S356 not currently included in compliance interim tracking:

Structure	WY2016 Period of Operation	Lead Agency	Status of Flow and TP Data
S356	Oct 2015 – Sep 2016	USACE	SFWMD monitored flow and TP
S355A	Mar 2016	USACE	SFWMD monitored TP USACE provisional flow data table
S355B	Mar 2016	USACE	SFWMD monitored TP USACE provisional flow data table
S355B Pumps	Mar – May 2016	SFWMD	SFWMD monitored flow and TP

Note: SFWMD monitored flow and TP data is stored in DBHYDRO

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

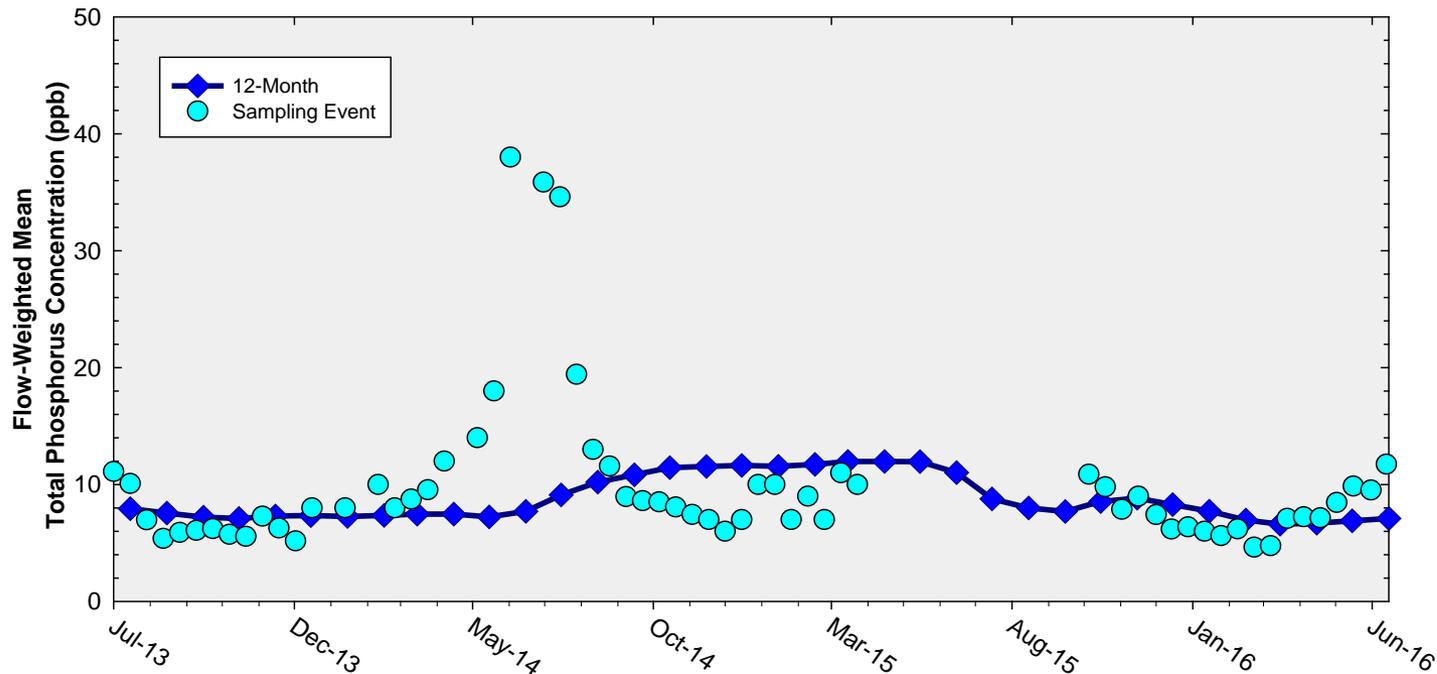


Water year (12-month) FWMC compared to the TP interim and long-term limits

Flow-Weighted Mean Concentrations

Inflows to ENP through Shark River Slough

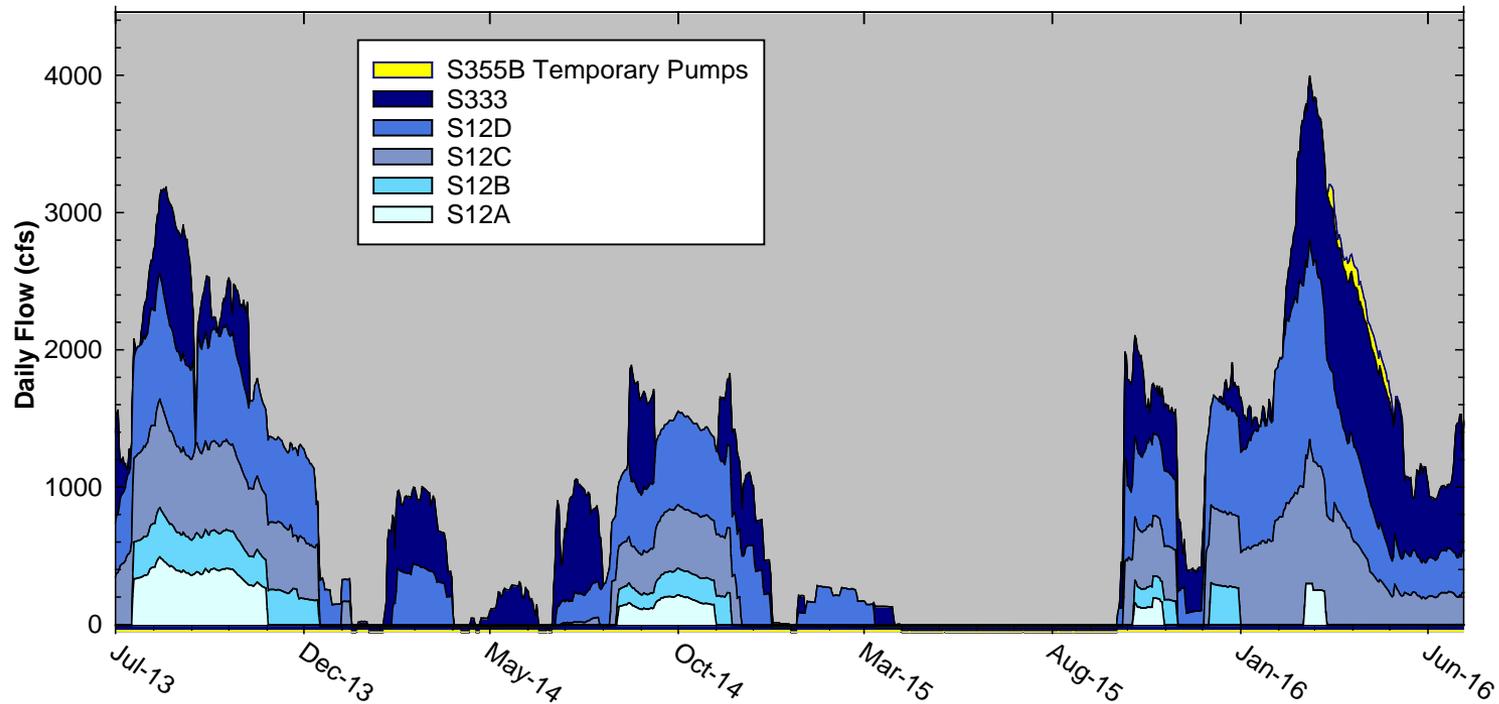
(October 2015–June 2016 Flow Data for S12s are Provisional)



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

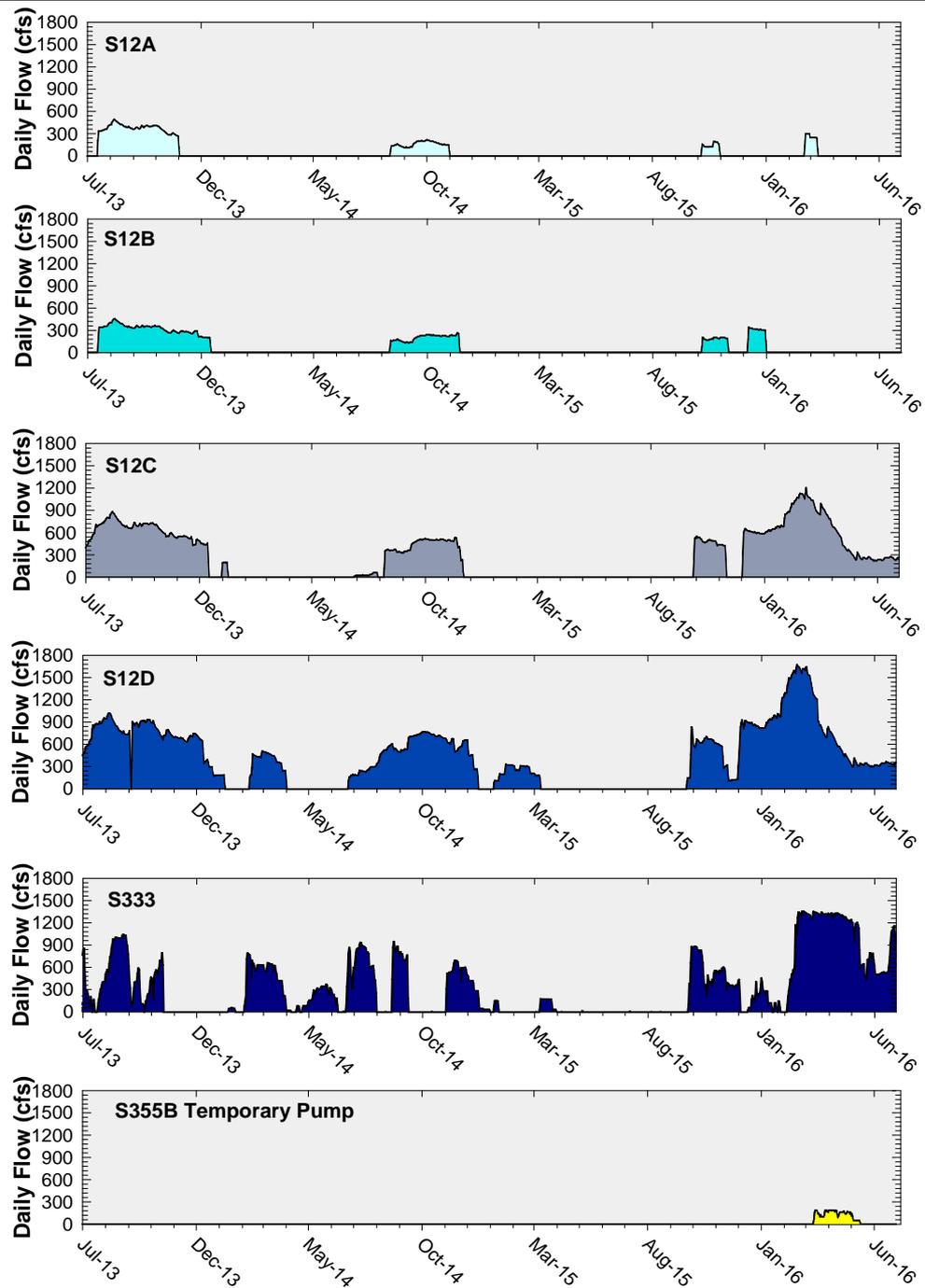
Shark River Slough Daily Flows

(October 2015–June 2016 Flow Data for S12s are Provisional)

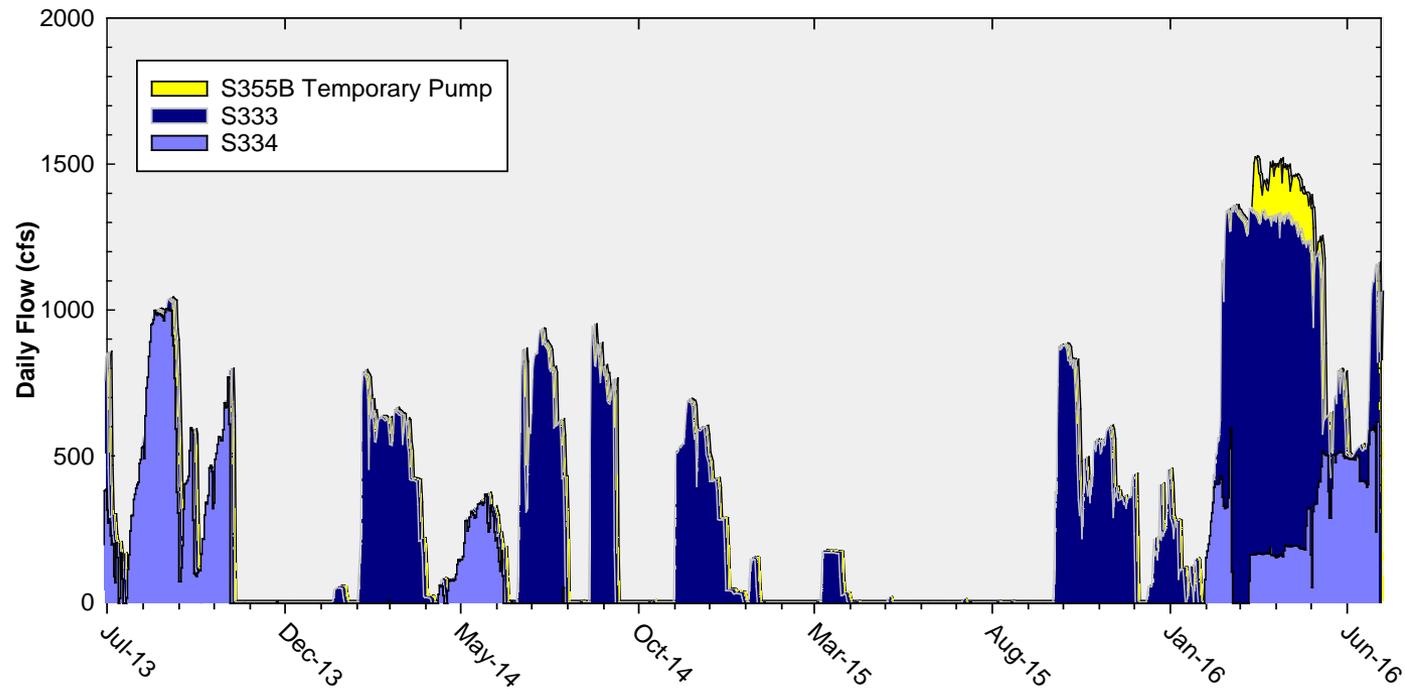


Daily Flows at Individual Inflow Structures to Shark River Slough

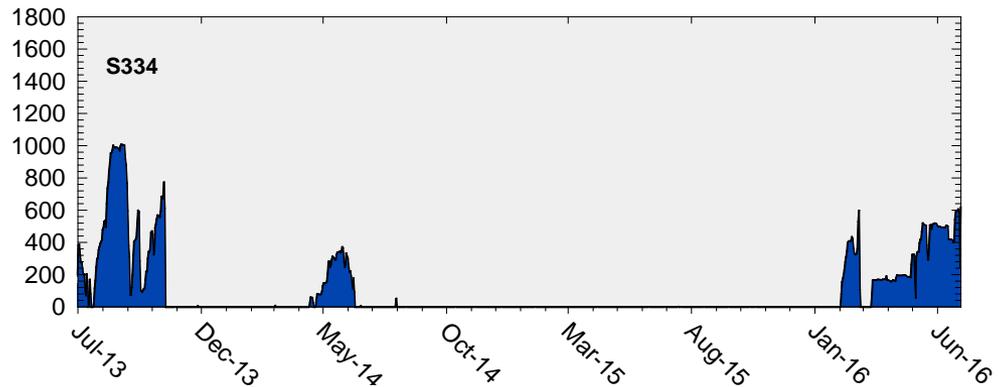
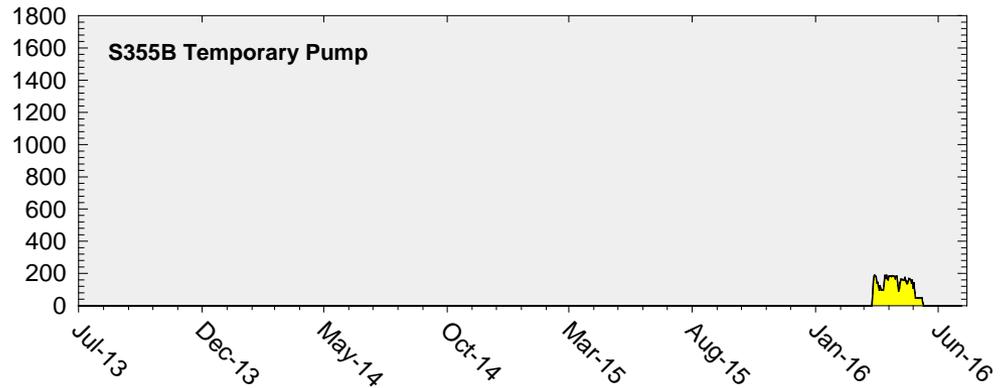
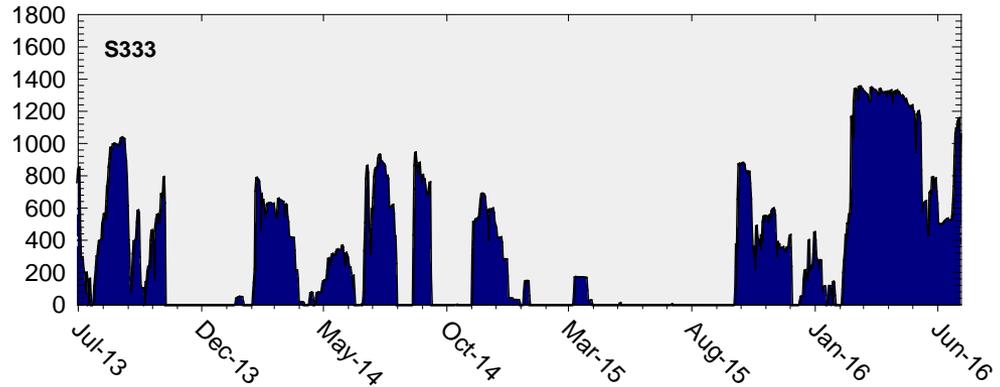
(October 2015–June 2016
Flow Data for S12s are
Provisional)



Daily Flows at S333, S334, and S355B Temporary Pumps



Individual Daily Flows at S333, S355B Temporary Pumps, and S334 into ENP



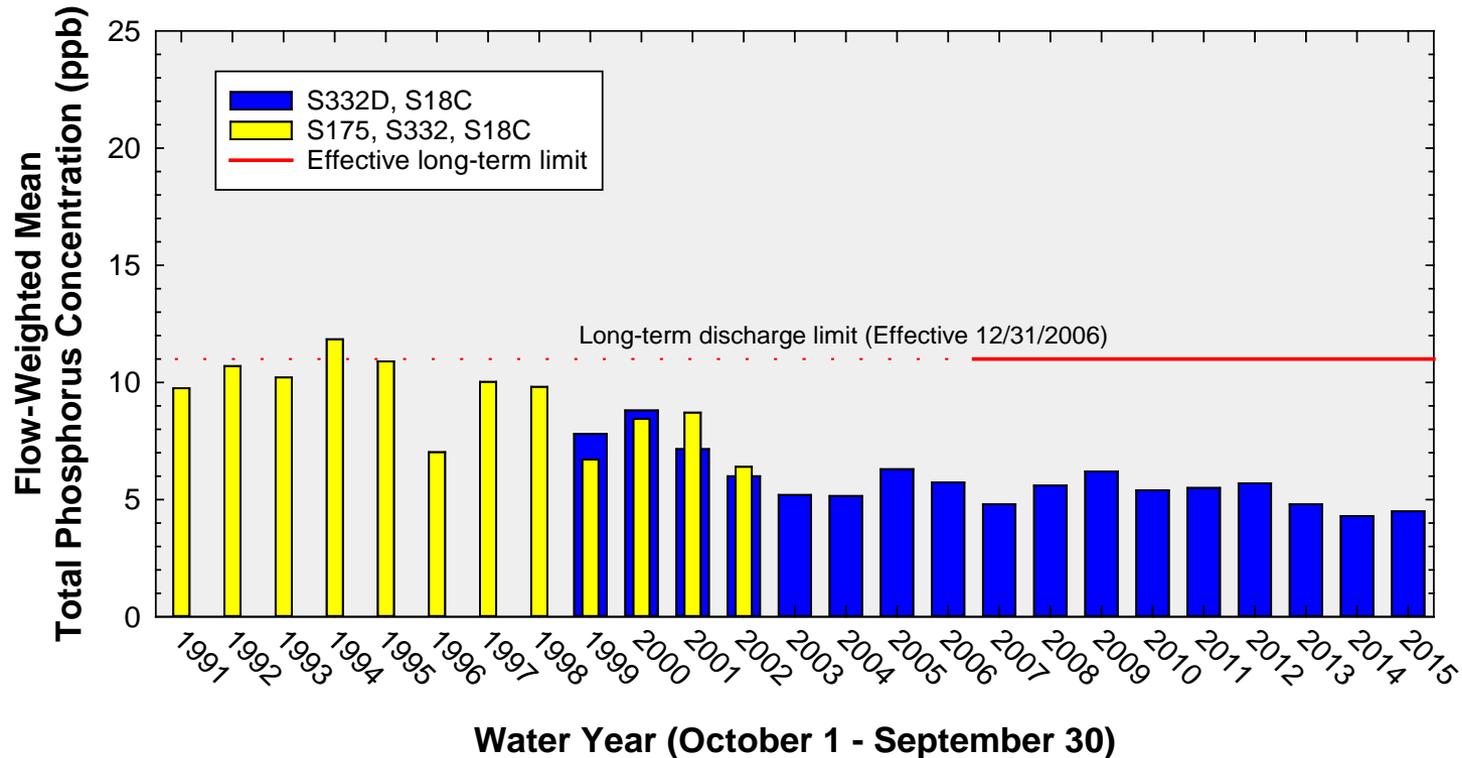
Taylor Slough and Coastal Basins

TP Concentration Compliance Tracking

for April 2016 – June 2016

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 2015 - Apr 2016	207.9	5.1	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

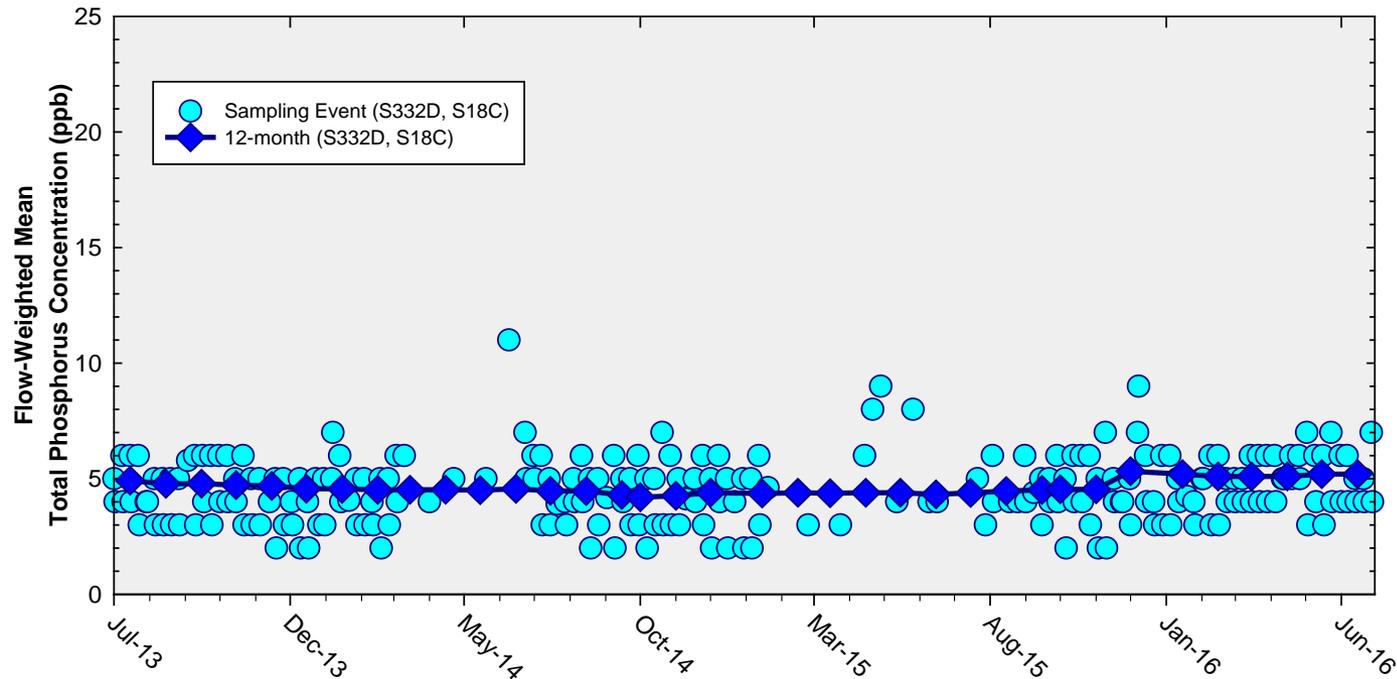


The 12-month FWMC at the end of each water year compared to the 11 ppb long-term TP limit

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

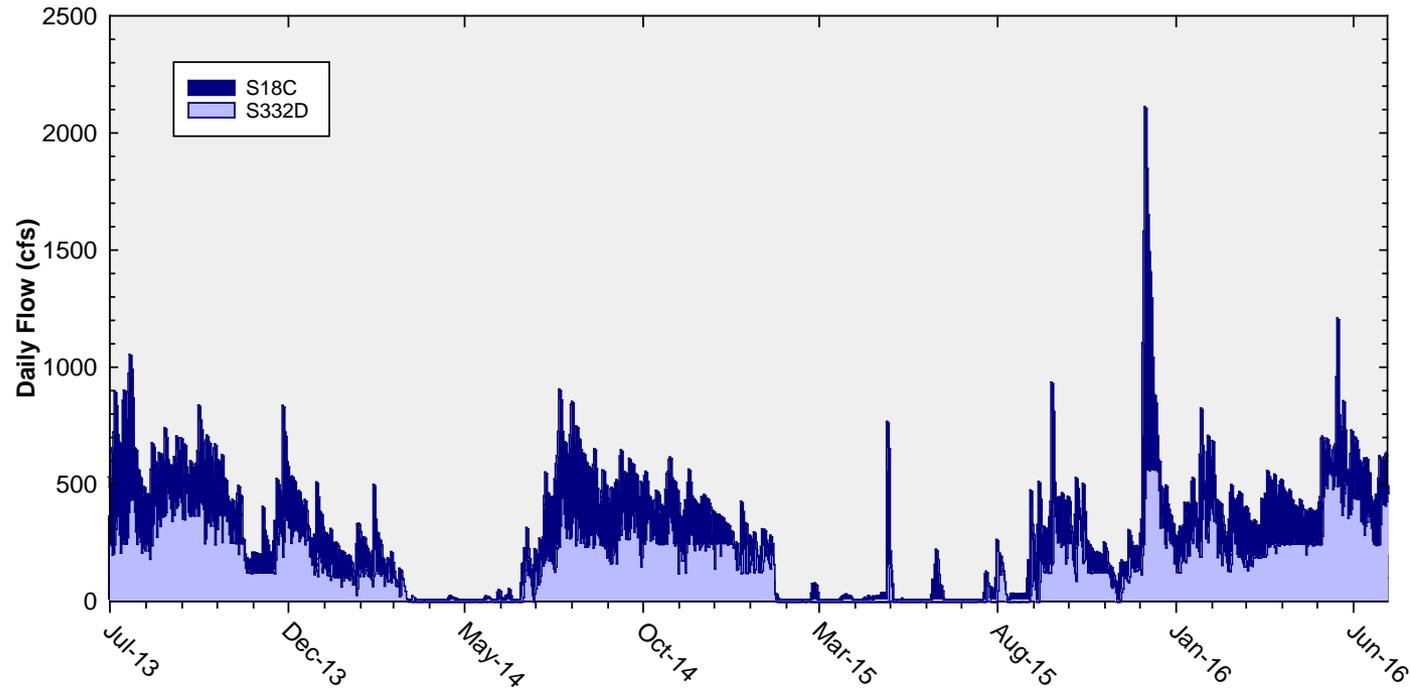
Flow-Weighted Mean Concentrations

Inflows to the ENP through Taylor Slough and Coastal Basins

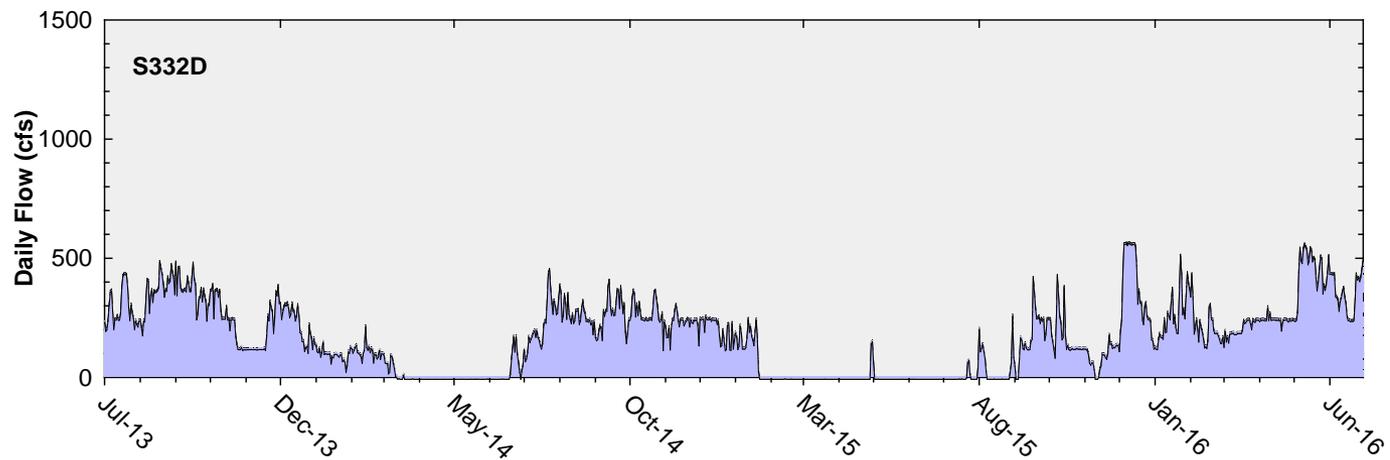
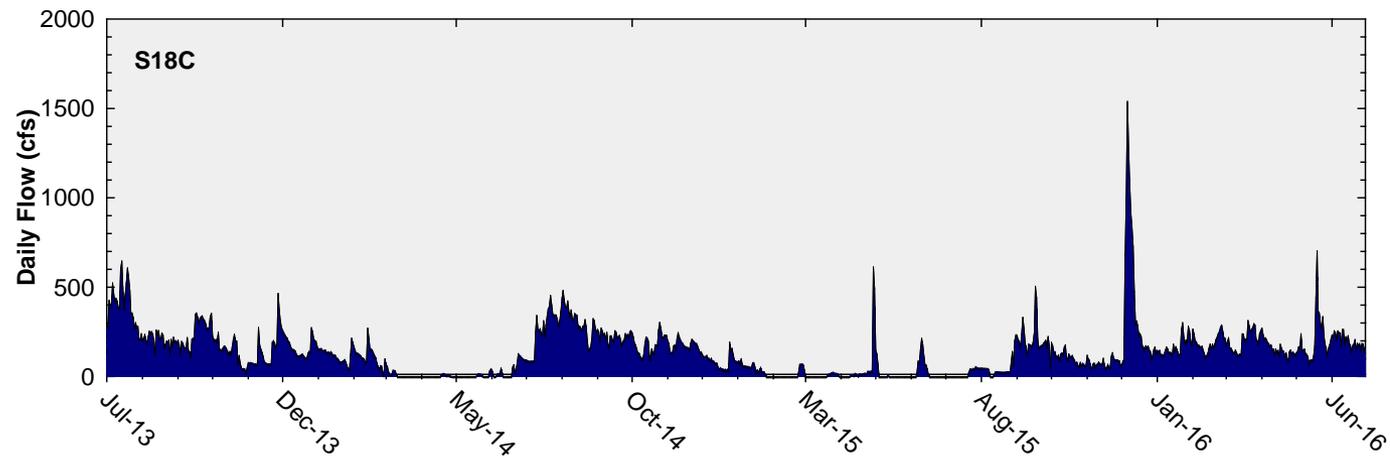


The 12-month FWMC at the end of each month and the composite TP concentration for each sampling event

Daily Flows at Taylor Slough and Coastal Basins Structures into ENP

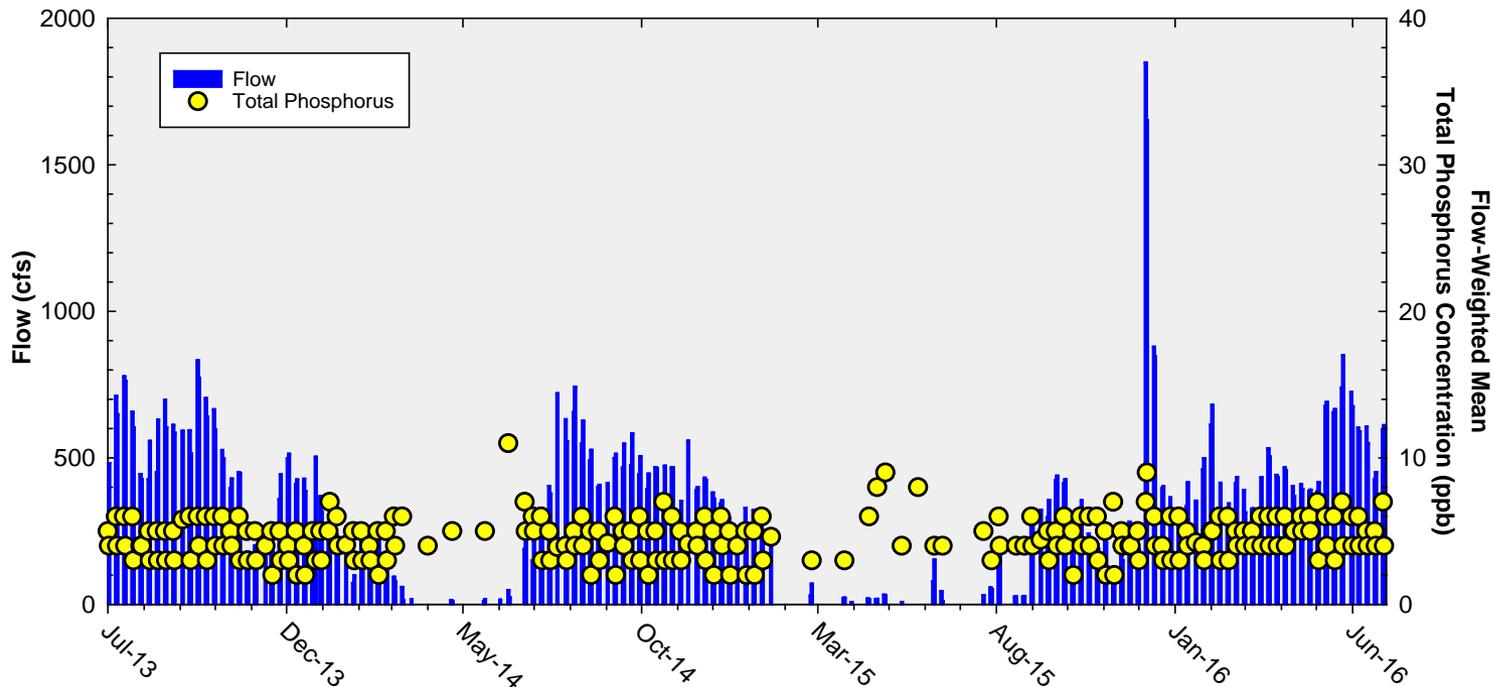


Daily Flows at Individual Taylor Slough and Coastal Basins Structures into ENP



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

