



SETTLEMENT AGREEMENT QUARTERLY REPORT

October – December 2019

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Section Leader

Compliance Assessment & Reporting Section

Water Quality Bureau

Technical Oversight Committee

May 5, 2020



sfwmd.gov

SUMMARY

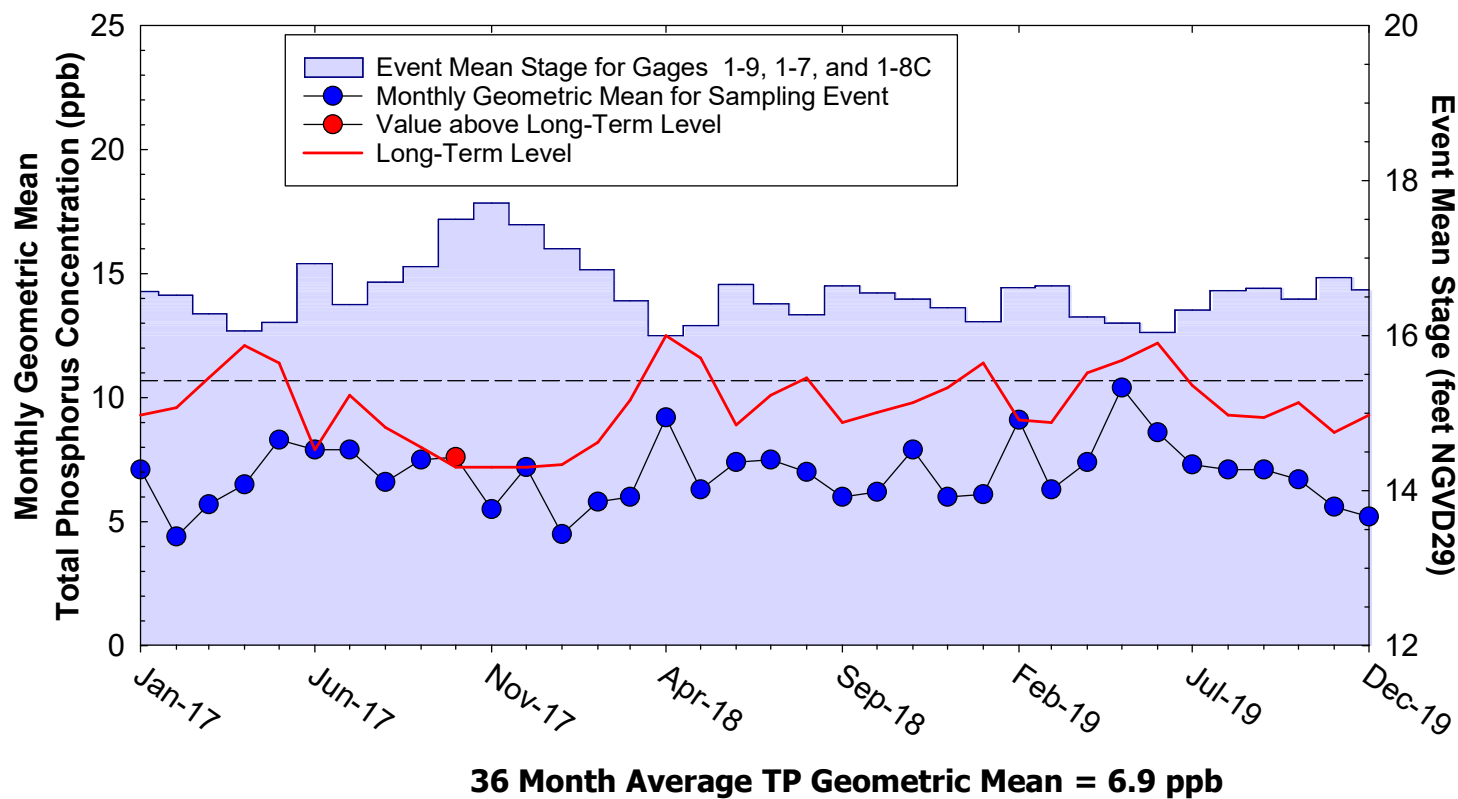
Month	Geometric Mean TP Concentration (ppb)	Long-Term Level (ppb)	Mean Stage (ft NGVD29)	Number of Samples	
Arthur R. Marshall Loxahatchee National Wildlife Refuge					
Oct 2019	6.7	9.8	16.47	13	
Nov 2019	5.6	8.6	16.75	14	
Dec 2019	5.2	9.3	16.59	14	
12-Month Period Ending	Total Flow (kac-ft)	12-Month TP FWMC (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 2019	629.8 (733.1)	10.4 (9.6)	9.8 (9.3)	51.2 (48.2)	54.2 (50.0)
Nov 2019	638.1 (755.1)	10.4 (9.5)	9.8 (9.1)	50.9 (47.6)	50.0 (44.0)
Dec 2019	627.0 (744.0)	10.4 (9.5)	9.8 (9.2)	51.3 (47.9)	54.5 (47.8)
Everglades National Park – Taylor Slough and Coastal Basins					
Oct 2019	229.8 (241.6, 239.8)	5.3 (5.2, 5.0)	11.0	53.1	1.9 (1.9, 1.9)
Nov 2019	228.2 (240.4, 238.6)	5.3 (5.2, 4.9)	11.0	53.1	1.9 (1.9, 1.9)
Dec 2019	231.8 (244.6, 242.8)	5.2 (5.1, 4.9)	11.0	53.1	1.9 (1.9, 1.9)

SRS - Method 1 (left values) computed as S12s+(S333+S355A+S355B-S334) and Method 2 (values in parentheses) computed as S12s+(S333+S355A+S355B+S356-S334). Neither method excludes S334 flow from the total flow for long-term limit calculations.

TS and CB - Method 1 (left values) computed as S332D+S18C, Method 2 (first values in parentheses) computed as S332D+S18C+G737, and Method 3 as (S332D-S332DX1-S328)+S328+G737+S18C.

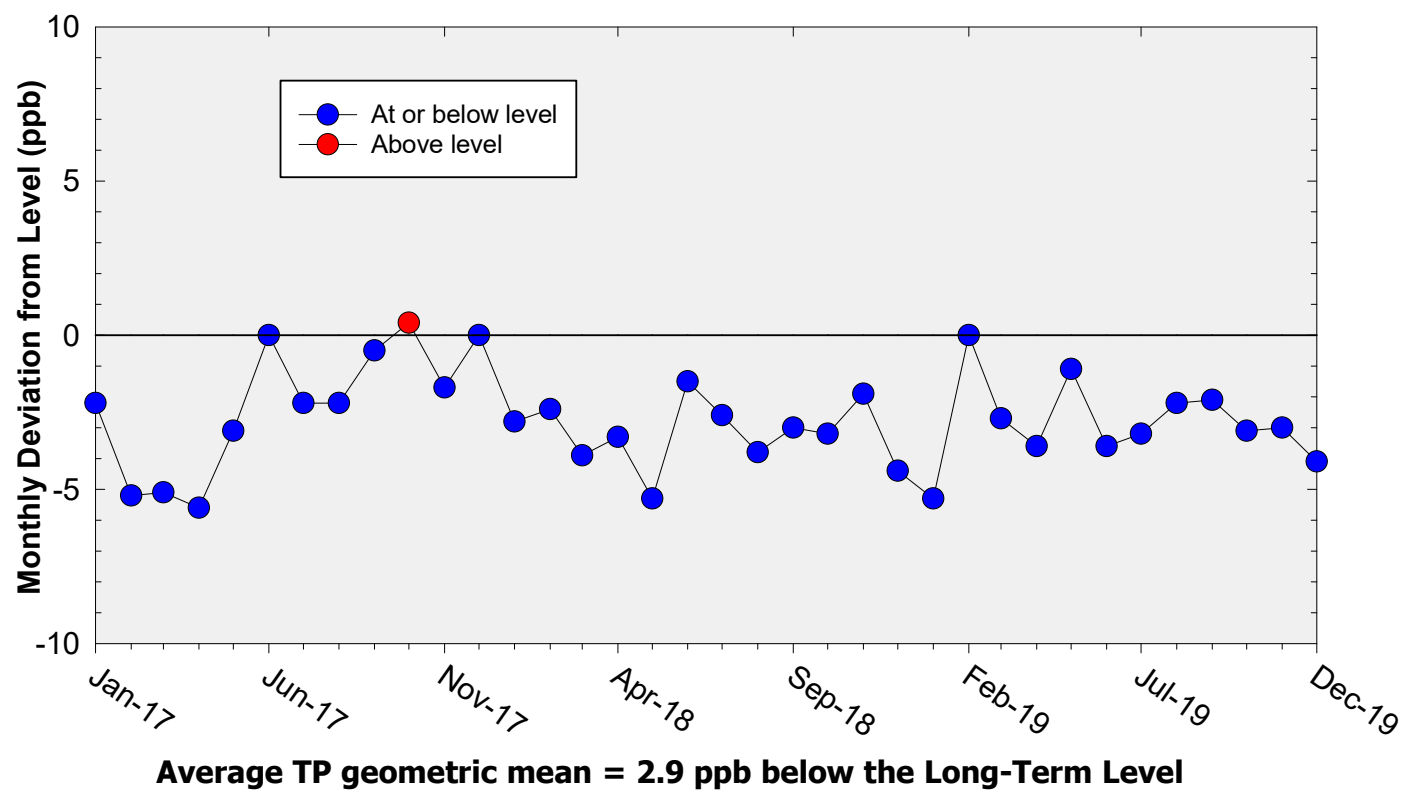
A.R.M Loxahatchee National Wildlife Refuge

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



Refuge TP Compliance Tracking

For October 2019 – April 2020

Month	Geometric Mean TP Concentration (ppb)	Long-Term Level (ppb) Effective 12/31/2006	Average Stage (feet NGVD29)	Number of Samples
4th Quarter 2019 Compliance Tracking				
Oct-2019	6.7	9.8	16.47	13
Nov-2019	5.6	8.6	16.75	14
Dec-2019	5.2	9.3	16.59	14
Preliminary Data Outlook				
Jan-2020	4.8	8.7	16.73	14
Feb-2020	5.8	8.6	16.73	14
Mar-2020	5.2	8.9	16.66	14
Apr-2020	8.2	11.2	16.21	11

Shark River Slough TP Concentration Compliance Tracking

October to December 2019 Flow Data for S12s are Provisional.

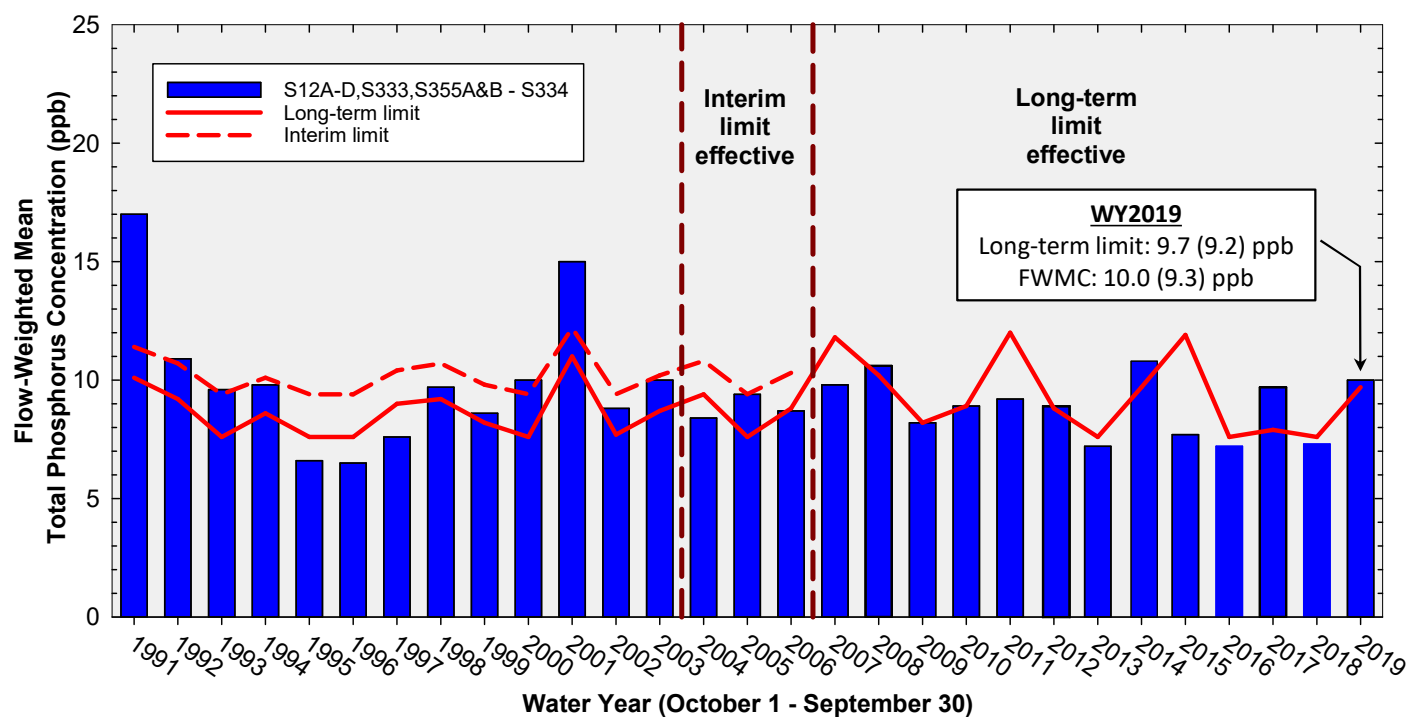
12-Month Period	Total Flow (kac-ft)	Flow-Weighted Mean TP Concentration (ppb)	Long-Term Limit (ppb) <i>Effective 12/31/2006</i>	Percent of Sampling Events Greater than 10 ppb	
				Guideline	Observed
Nov 2018 - Oct 2019	629.8 (733.1)	10.4 (9.6)	9.8 (9.3)	51.2 (48.2)	54.2 (50.0)
Dec 2018 - Nov 2019	638.1 (755.1)	10.4 (9.5)	9.8 (9.1)	50.9 (47.6)	50.0 (44.0)
Jan 2019 - Dec 2019	627.0 (744.0)	10.4 (9.5)	9.8 (9.2)	51.3 (47.9)	54.5 (47.8)

Shark River Slough PROVISIONAL RESULTS:

Method 1 (left values) FWMC computed as S12s+(S333+S355A&B-S334) and Method 2 (in parenthesis) FWMC computed as S12s+(S333+S355A&B+S356-S334) 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.

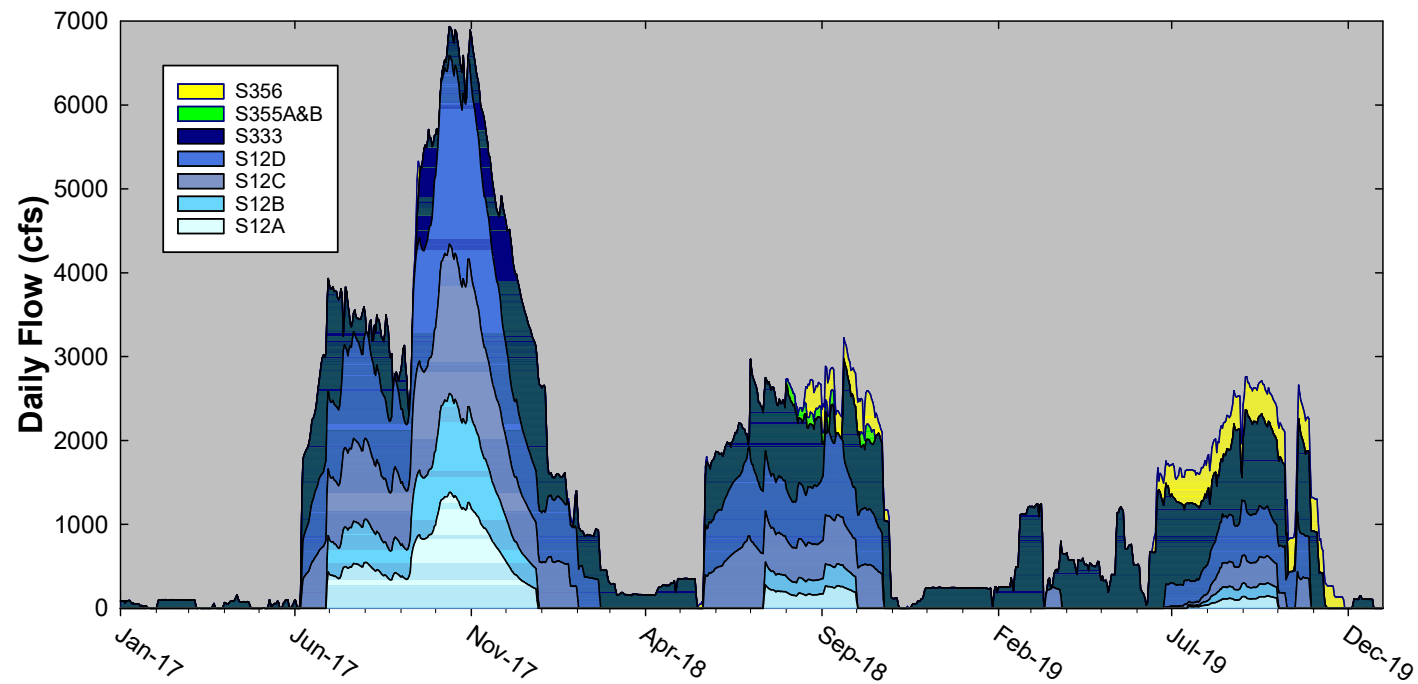
Annual Flow-weighted Mean Concentrations Inflows to ENP through Shark River Slough



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

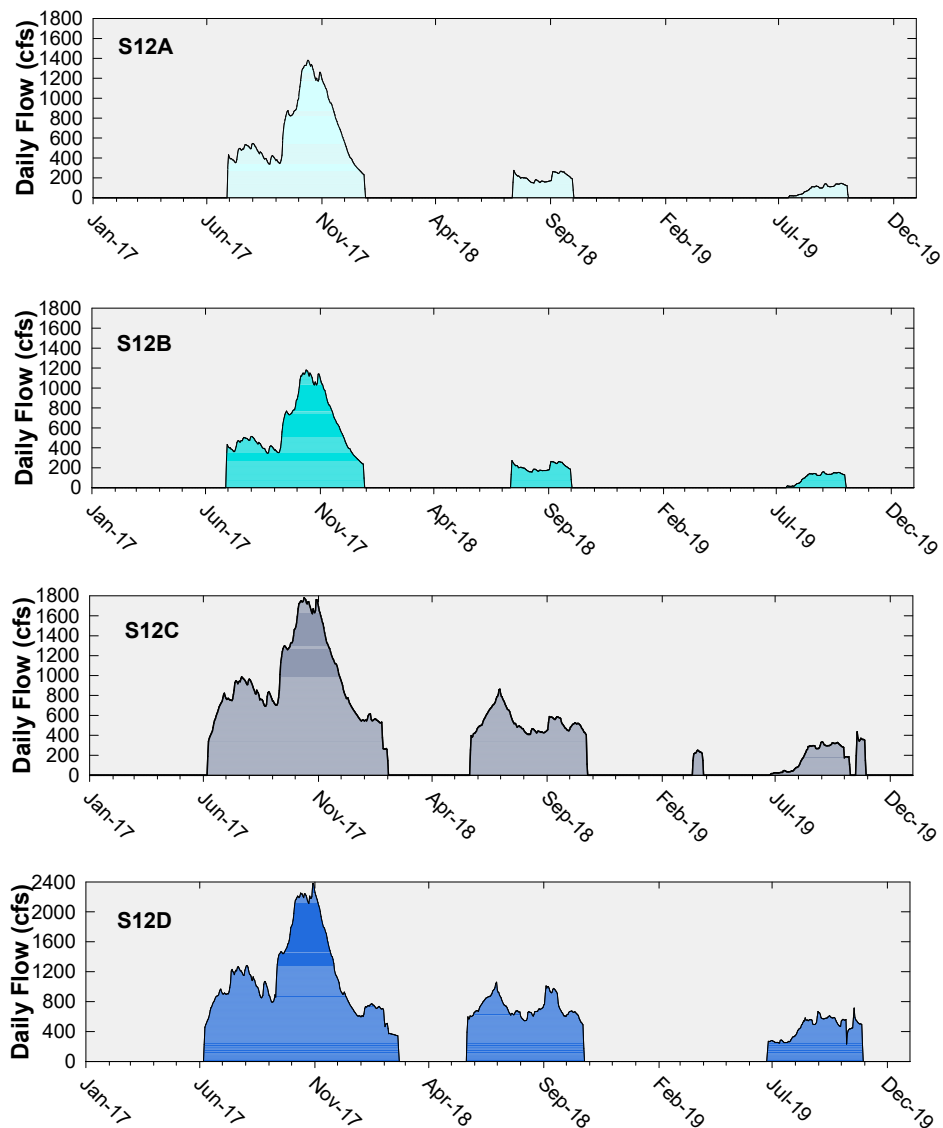
Shark River Slough Structure Daily Flows

October to December 2019 Flow Data for S12s are Provisional.

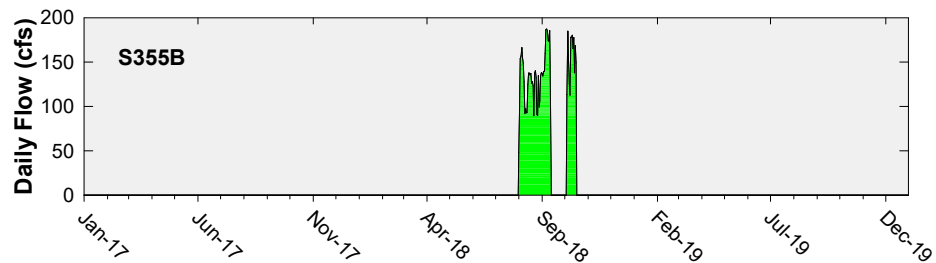
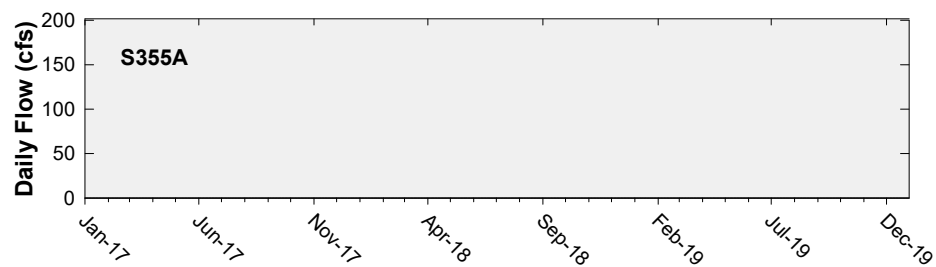
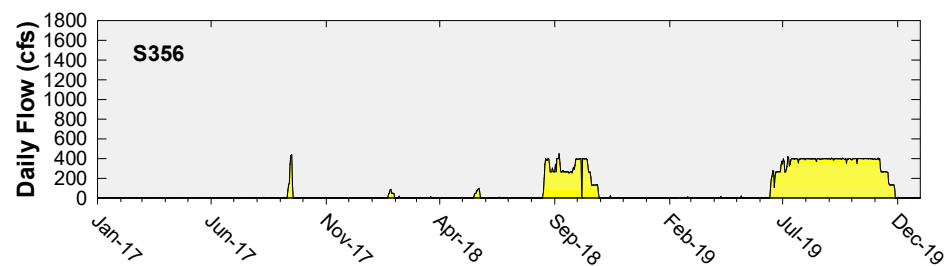
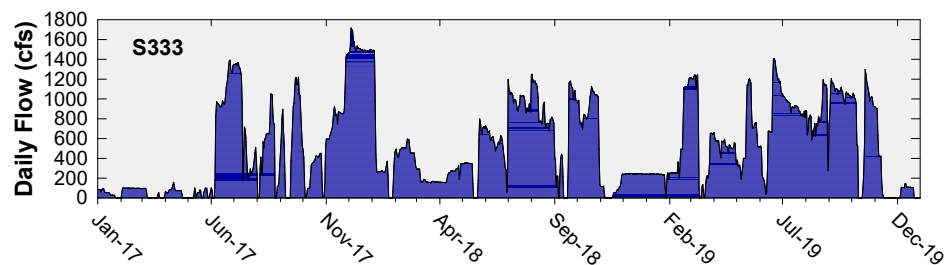


Daily Flows at S12 Structures to Shark River Slough

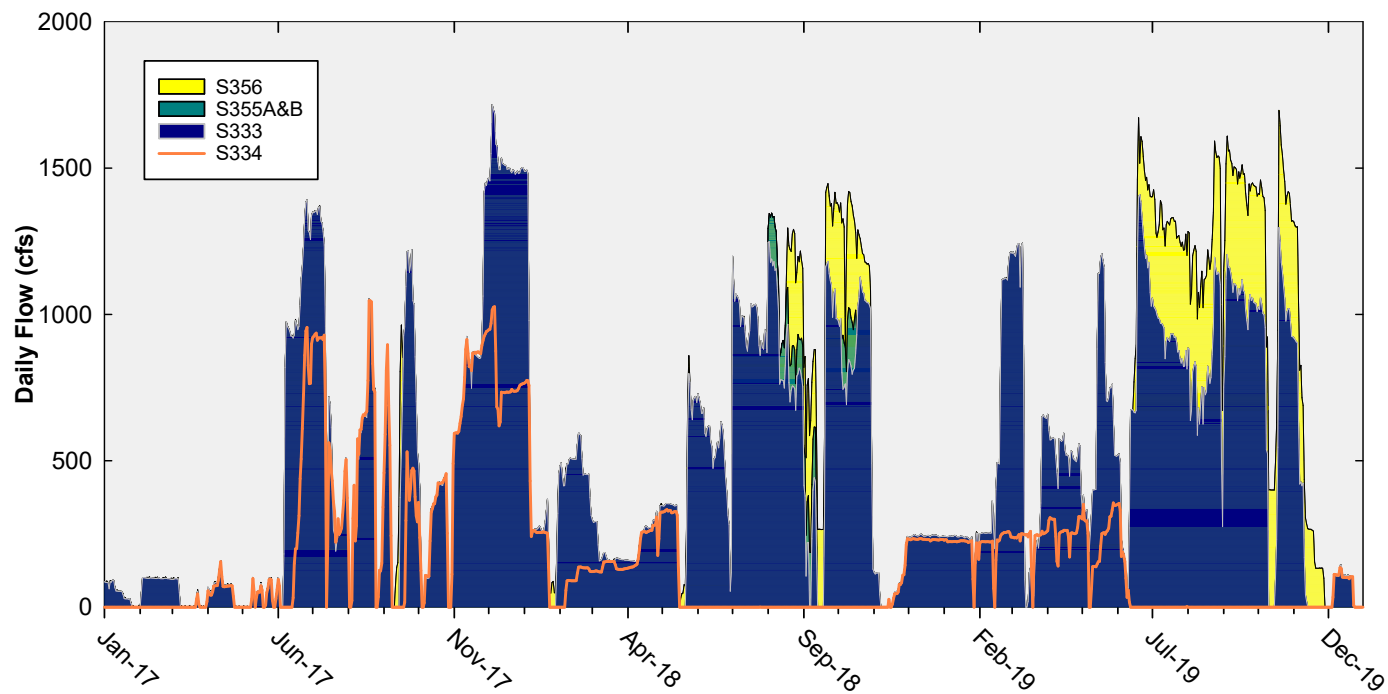
(October to December 2019 Flow Data
for S12s are Provisional.)



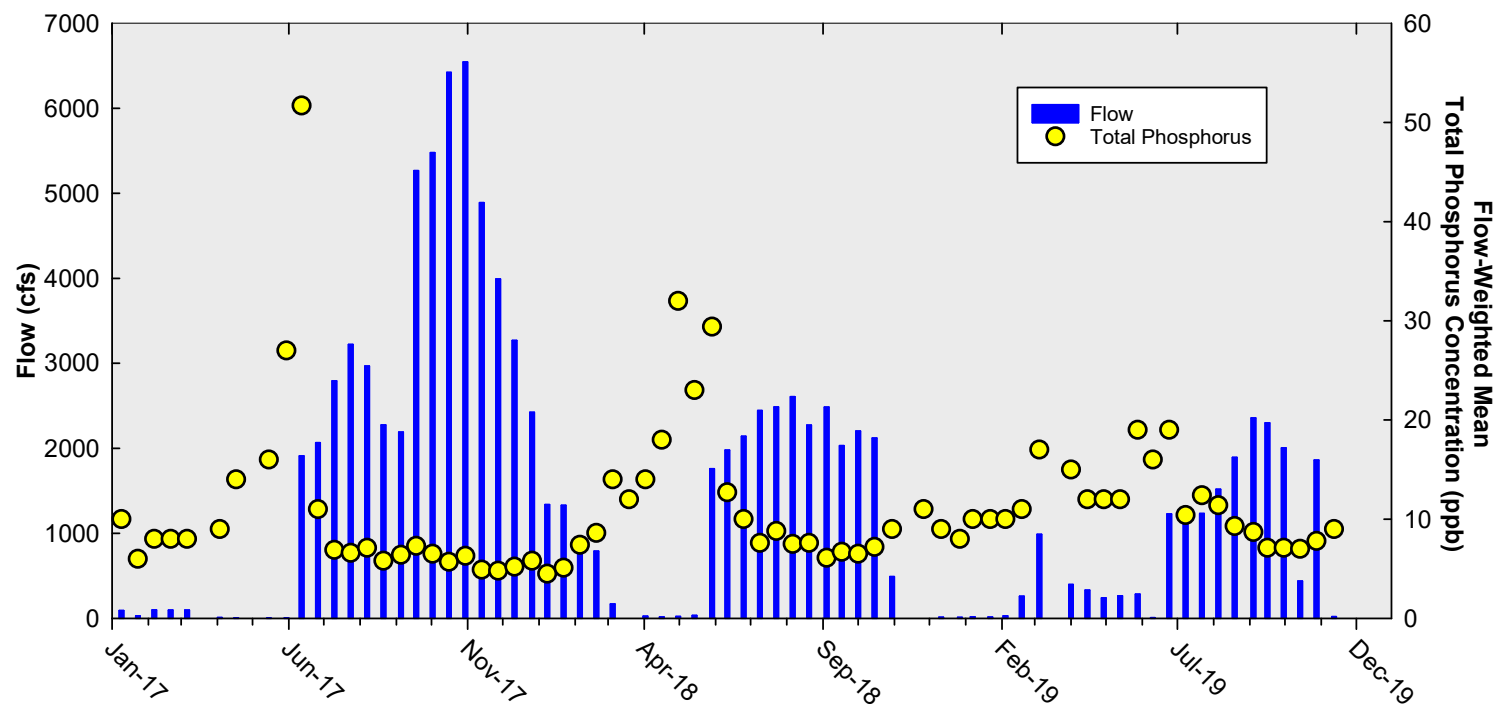
Daily Flows at Individual Inflow Structures to Shark River Slough



Daily Flows Into Shark River Slough through S333, S355A&B, and S356 and Out through S334



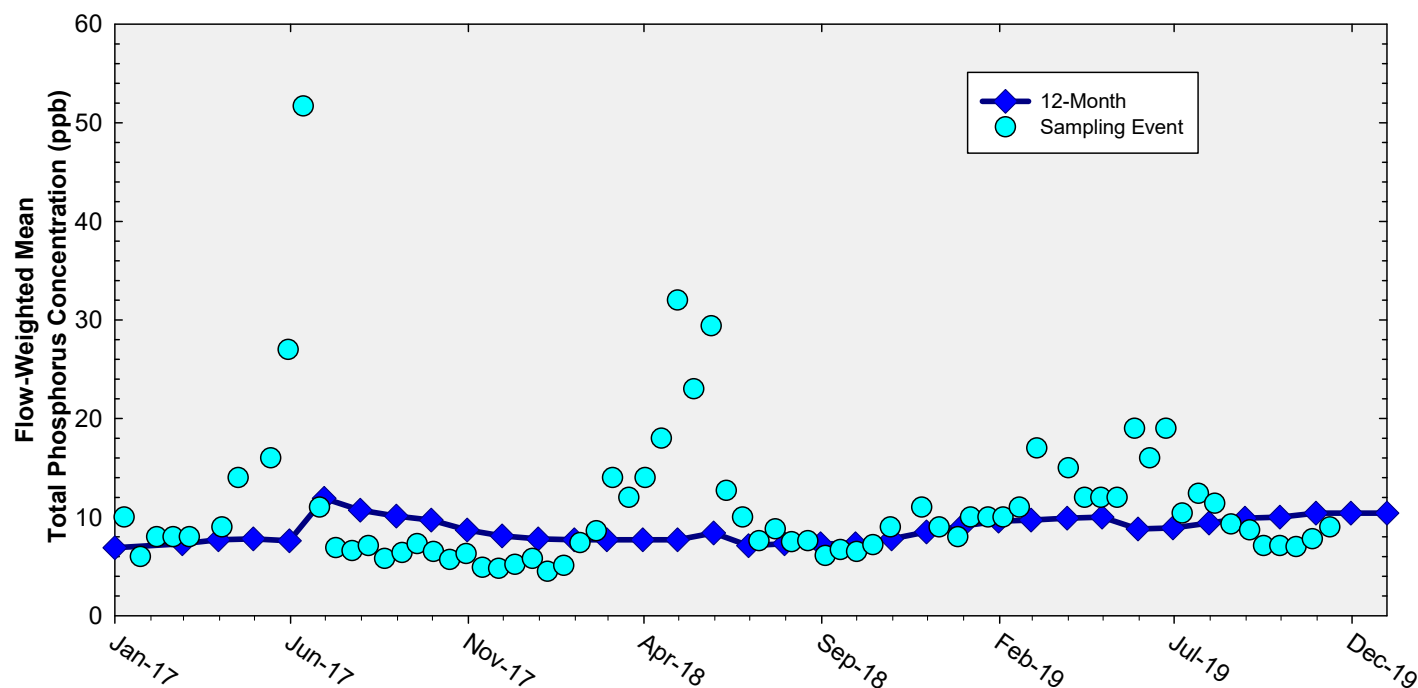
Shark River Slough Sampling Event Flow and FWMC



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

Note: Method 1 results illustrated. October to December 2019 Flow Data for S12s are Provisional.

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. October to December 2019 Flow Data for S12s are Provisional.

Taylor Slough and Coastal Basins

TP Concentration Compliance Tracking

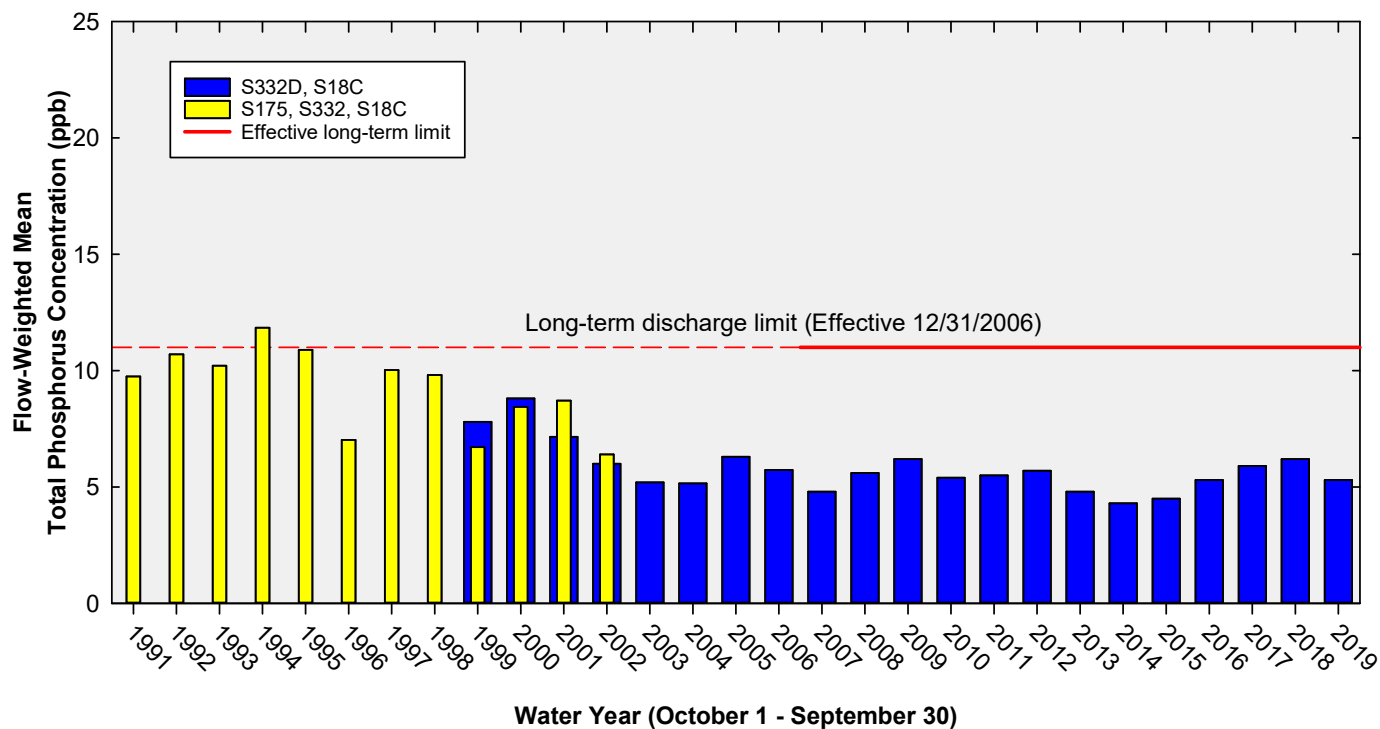
12-Month Period	Total Flow in kac-ft	Flow-Weighted Mean TP Concentration in ppb LTL = 11.0 ppb Effective 12/31/2006	Observed Percent of Sampling Events Greater than 10 ppb Guideline = 53.1%
Nov 2018 - Oct 2019	229.8 (241.6, 239.8)	5.3 (5.2, 5.0)	1.9 (1.9, 1.9)
Dec 2018 - Nov 2019	228.2 (240.4, 238.6)	5.3 (5.2, 4.9)	1.9 (1.9, 1.9)
Jan 2019 - Dec 2019	231.8 (244.6, 242.8)	5.2 (5.1, 4.9)	1.9 (1.9, 1.9)

Method 1 (S332D+S18C) results are the left most values.

Method 2 (S332D+S18C+G737) results are the first values in parentheses.

Method 3 [(S332D-S332DX1-S328)+S328+G737+S18C] results are the second values in parentheses.

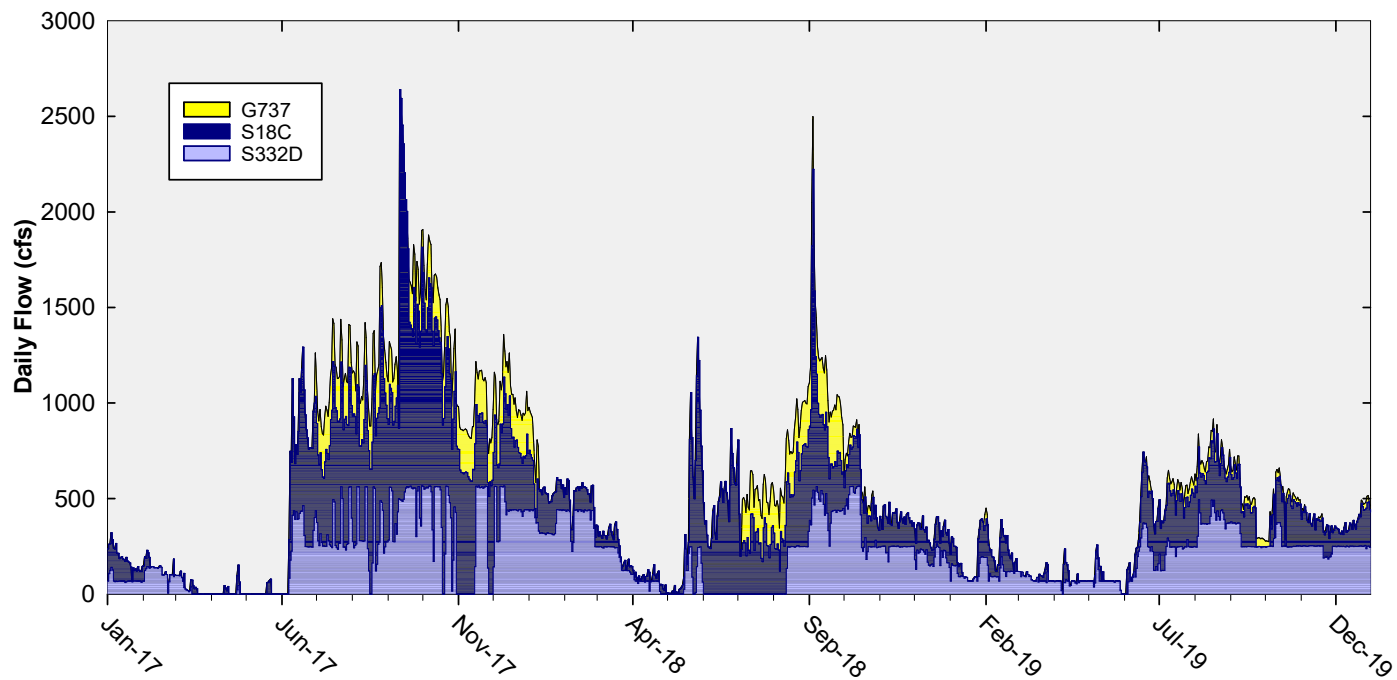
Annual Flow-Weighted Mean Concentrations Inflows to the ENP through Taylor Slough and Coastal Basins



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

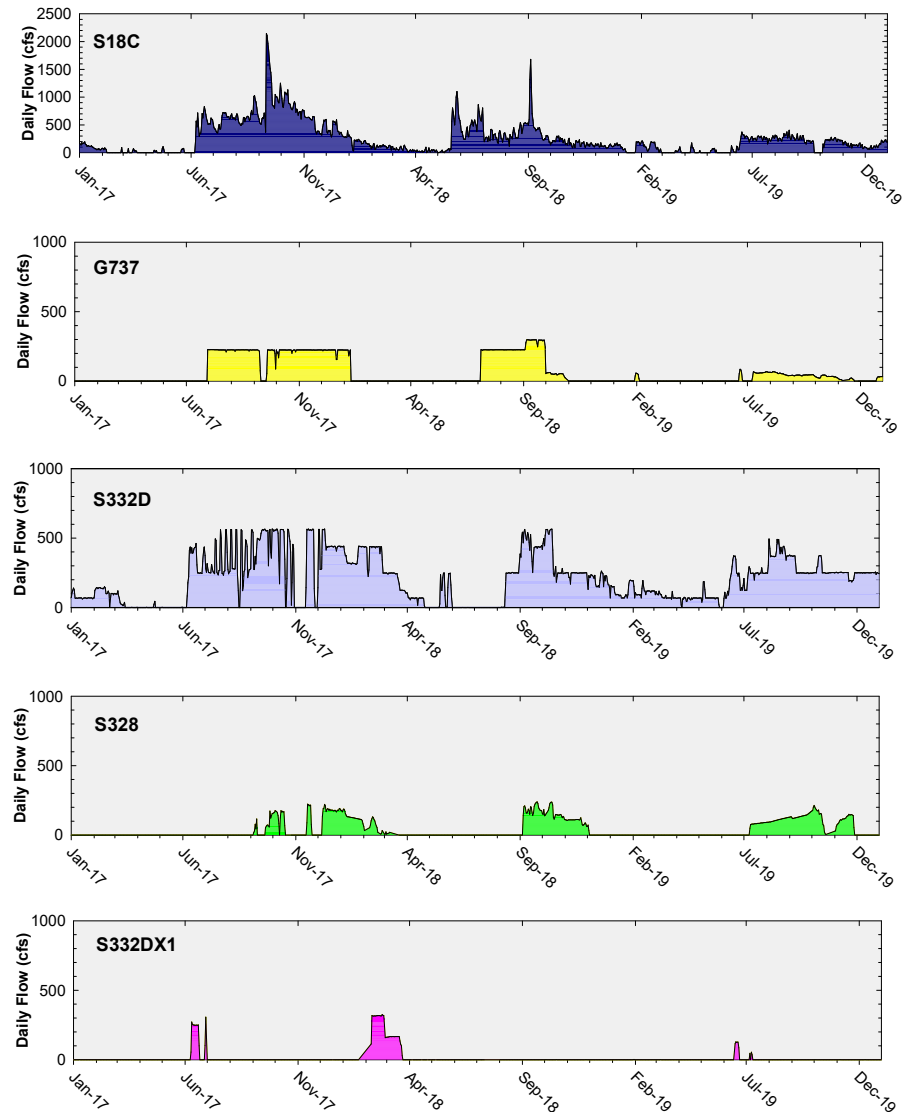
Note: Blue bars show S332D, S18C, & S174 until September 2007 when S174 was plugged.

Daily Flows at Taylor Slough and Coastal Basins Structures into ENP

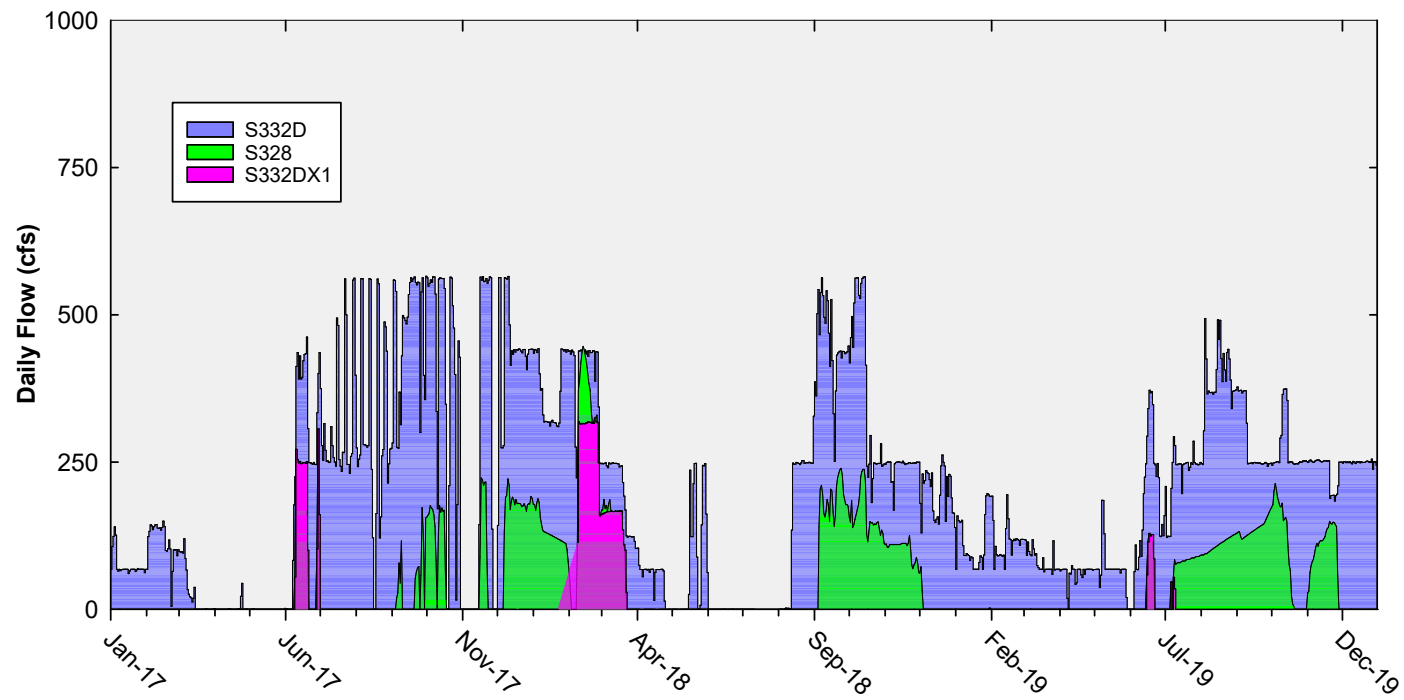


Note: Daily flow data are missing for S18C from September 23 to September 30, 2019.

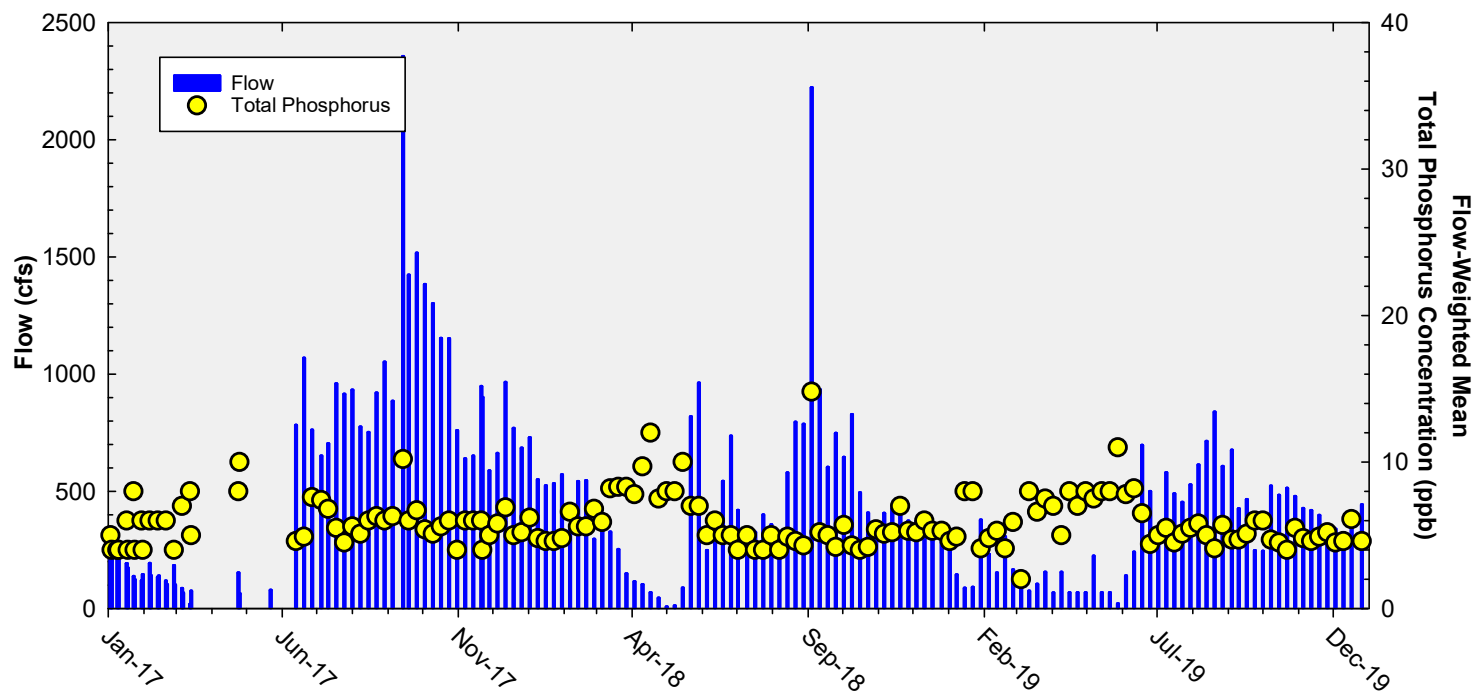
Daily Flows at Individual Taylor Slough and Coastal Basins Structures into ENP



Daily Flows Into and Out of C-111 Detention Area



Taylor Slough and Coastal Basins Sampling Event Flow and FWMC

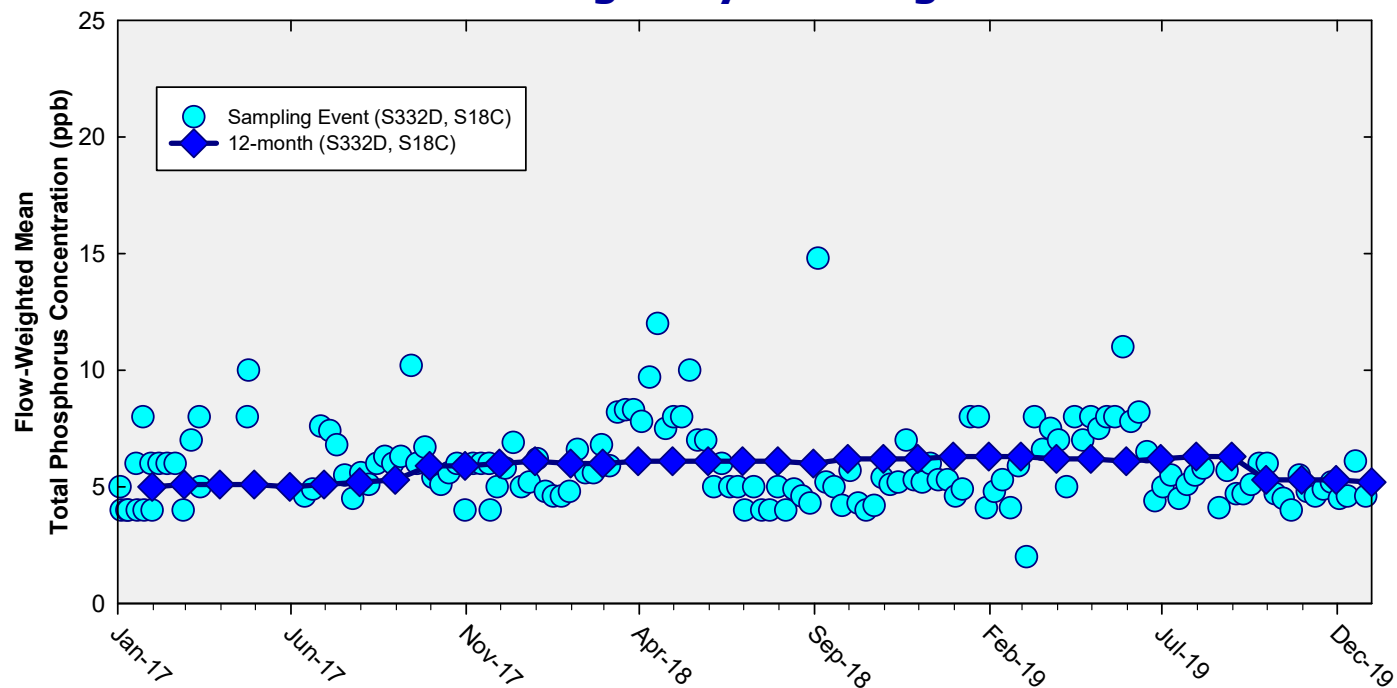


Flow at Taylor Slough and Coastal Basins structures and the corresponding TP FWMCs for individual sampling events

Note: Method 1 results illustrated. Daily flow data are missing for S18C from September 23 to September 30, 2019, including the sampling event date September 24, 2019.

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

Note: Method 1 results illustrated. Daily flow data are missing for S18C from September 23 to September 30, 2019, including the sampling event date September 24, 2019.

Thank You

