



SETTLEMENT AGREEMENT QUARTERLY REPORT

April – June 2020

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Compliance Assessment & Reporting Section

Water Quality Bureau

Technical Oversight Committee

October 27, 2020



sfwmd.gov

SUMMARY

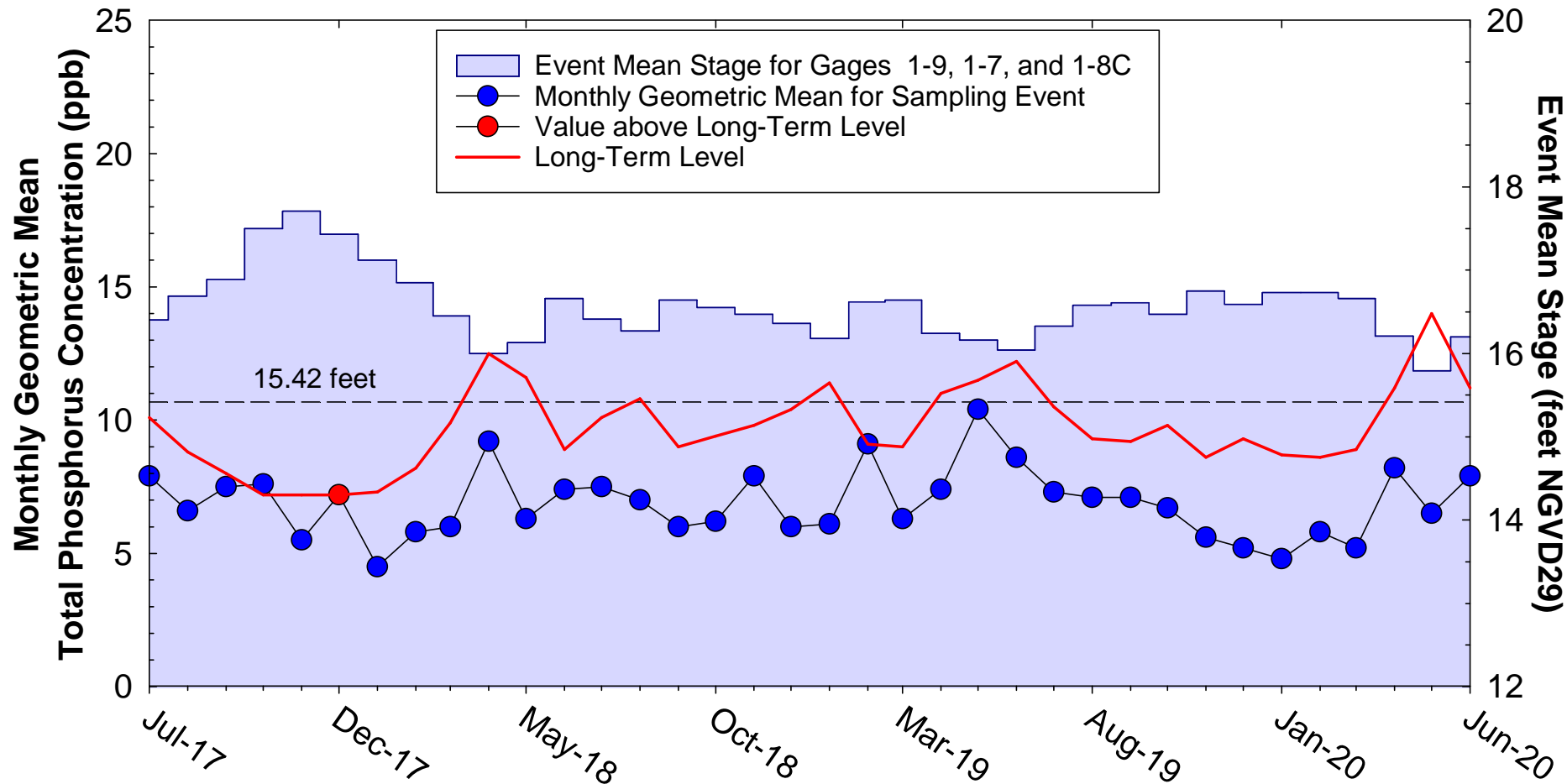
Month	Geometric Mean TP Concentration (ppb)		Long-Term Level (ppb)	Mean Stage (ft NGVD29)	Number of Samples
Arthur R. Marshall Loxahatchee National Wildlife Refuge					
Apr 2020	8.2		11.2	16.21	11
May 2020	6.5		14.0	15.79	6
Jun 2020	7.9		11.2	16.20	12
12-Month Period Ending	Total Flow (kac-ft)	12-Month 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>					
Apr 2020	587.3	9.5	10.0	52.2	47.6
May 2020	575.4	9.3	10.1	52.8	45.0
Jun 2020	616.4	9.2	9.9	51.6	45.0
Everglades National Park – Taylor Slough and Coastal Basins					
Apr 2020	255.9	4.9	11.0	53.1	2.1
May 2020	268.7	5.5	11.0	53.1	2.2
Jun 2020	282.8	5.3	11.0	53.1	2.1

SRS - computed as $S_{12s} + [S_{333} + S_{355A} + S_{355B} + \min(S_{356}, S_{335}) - S_{334}]$. S334 flow is not excluded from the total flow for long-term limit calculations.

TS and CB – computed as $(S_{332D} - S_{332DX1} - S_{328}) + S_{328} + G_{737} + S_{18C}$.

A.R.M Loxahatchee National Wildlife Refuge

Monthly Total Phosphorus Geometric Mean Concentrations

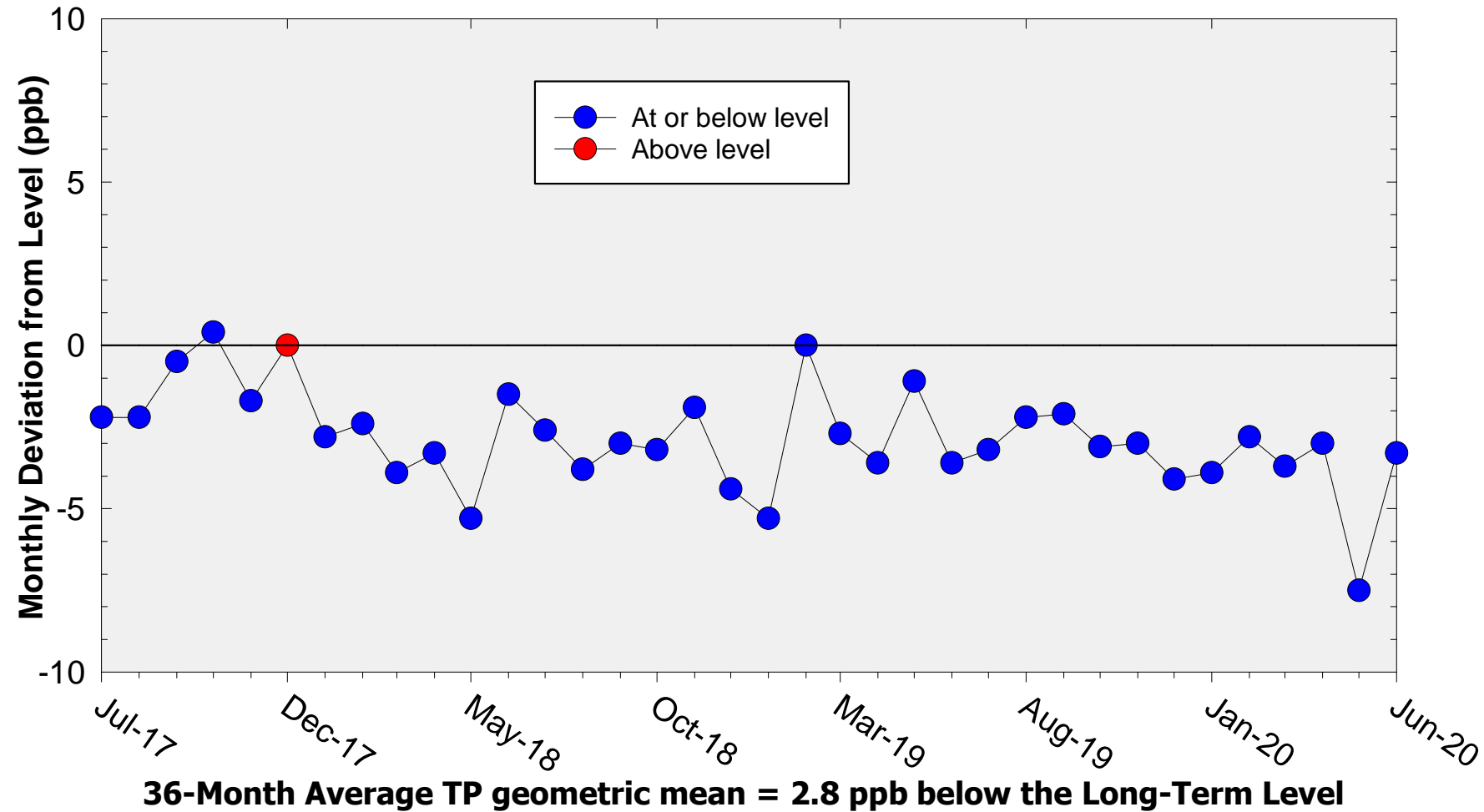


36-Month Average TP Geometric Mean = 6.9 ppb

36-Month Average TP Long-term Level is = 9.7 ppb

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 April – October 2020

Month	Geometric Mean TP Concentration (ppb)	Long-Term Level (ppb) Effective 12/31/2006	Average Stage (feet NGVD29)	Number of Samples
1st Quarter 2020 Compliance Tracking				
Apr-2020	8.2	11.2	16.21	11
May-2020	6.5	14.0	15.79	6
Jun-2020	7.9	11.2	16.20	12
Preliminary Data Outlook				
Jul-2020	6.2	11.6	16.15	12
Aug-2020	6.8	9.3	16.57	14
Sep-2020	7.8	7.2	17.19	14
Oct-2020	6.4	7.2	17.45	14

Note: 17.14 ft NGVG29 was used for the long-term level calculation for September and October 2020.

Shark River Slough

TP Concentration Compliance Tracking

October 2019 to June 2020 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
May 2019 - Apr 2020	597.3	9.5	10.0	52.2	47.6
Jun 2019 - May 2020	575.4	9.3	10.1	52.8	45.0
Jul 2019 - Jun 2020	616.4	9.2	9.9	51.6	45.0

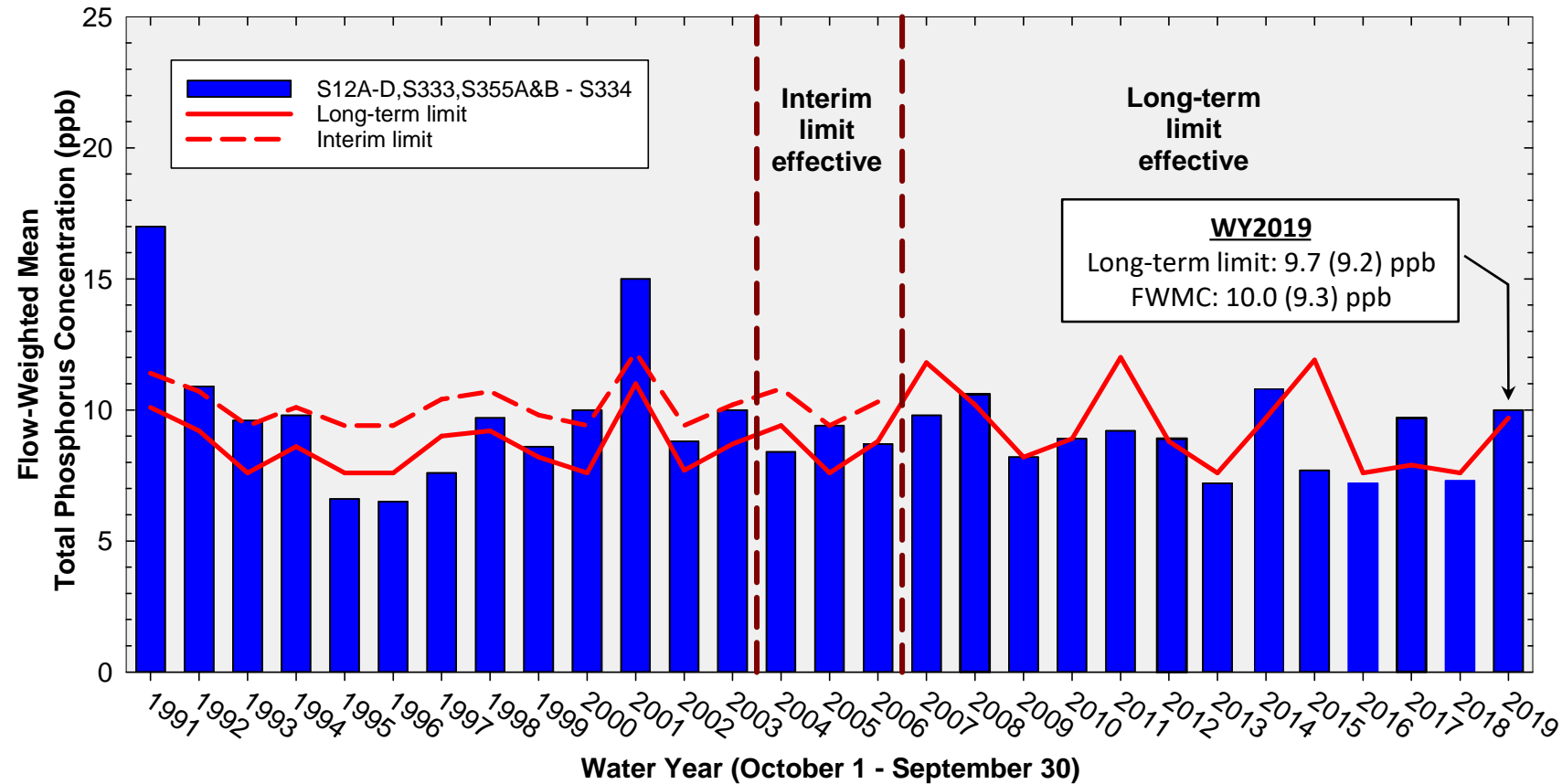
Shark River Slough PROVISIONAL RESULTS:

FWMC computed as S12s + [S333 + S355A + S355B + minimum of (S356, S335) – S334] using all flow and TP grabs on bi-weekly compliance sampling dates.

S334 flow was not excluded from the flow for long-term limit calculations.

Annual Flow-weighted Mean Concentrations

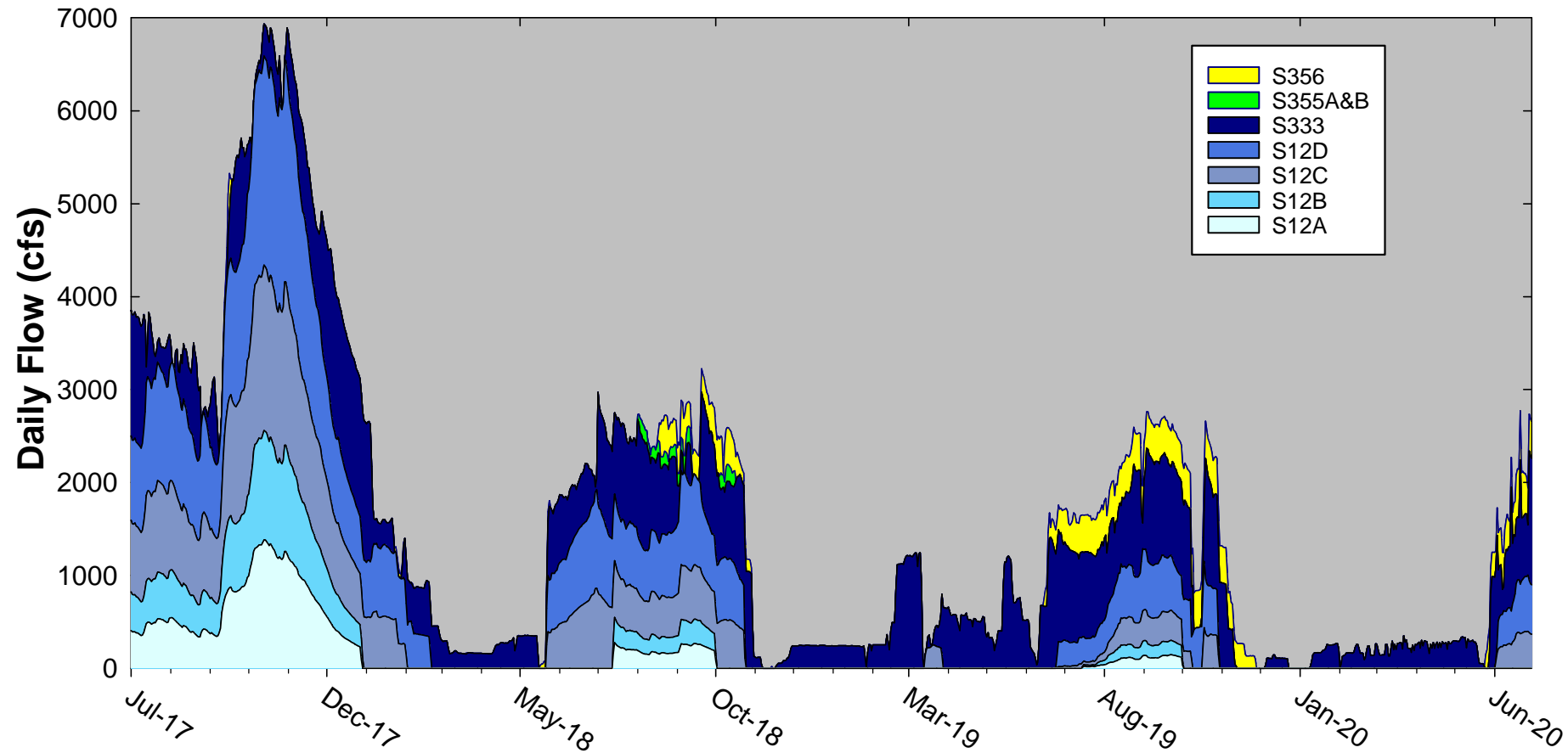
Inflows to ENP through Shark River Slough



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

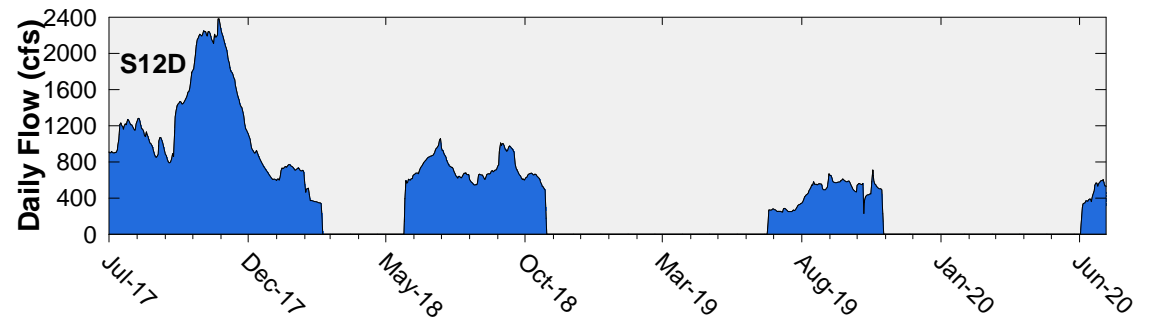
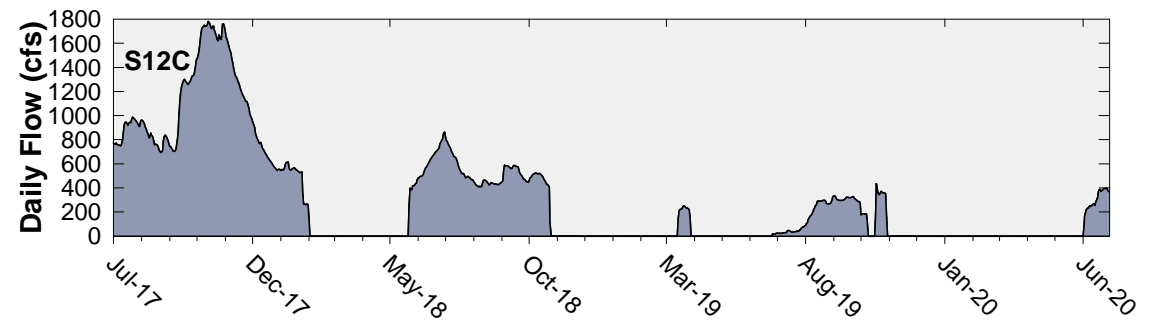
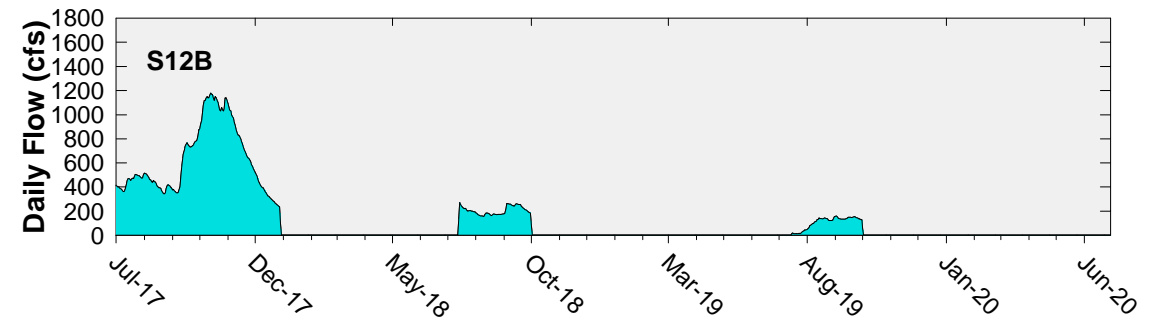
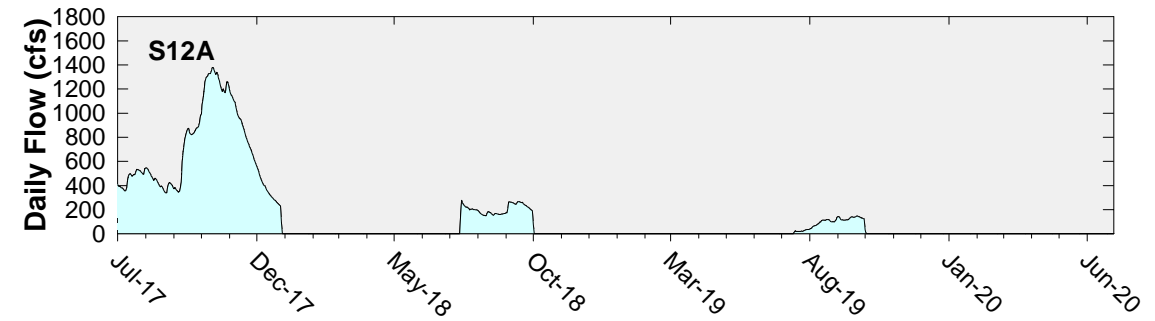
Shark River Slough Structure Daily Flows

October 2019 to June 2020 Flow Data for S12s are Provisional.

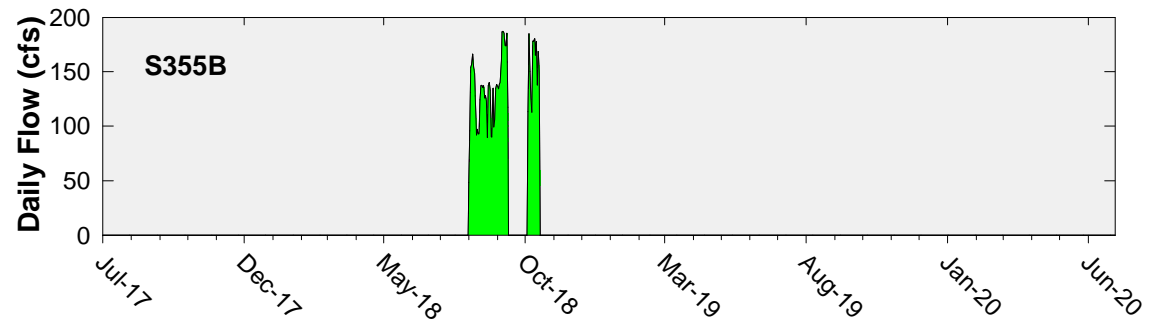
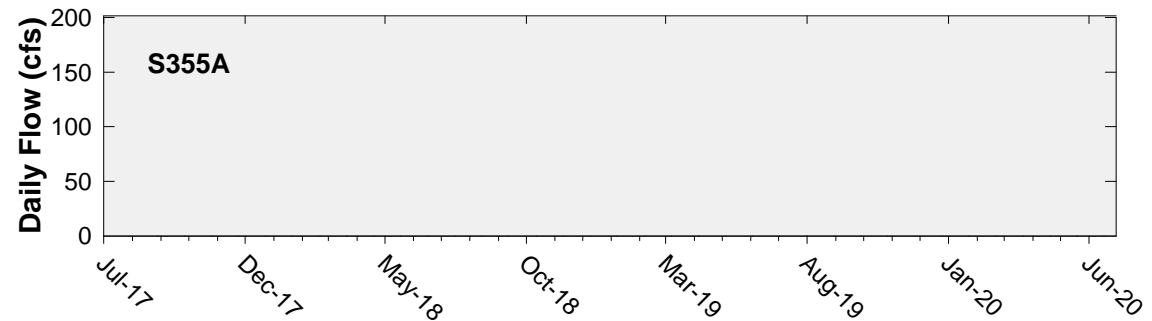
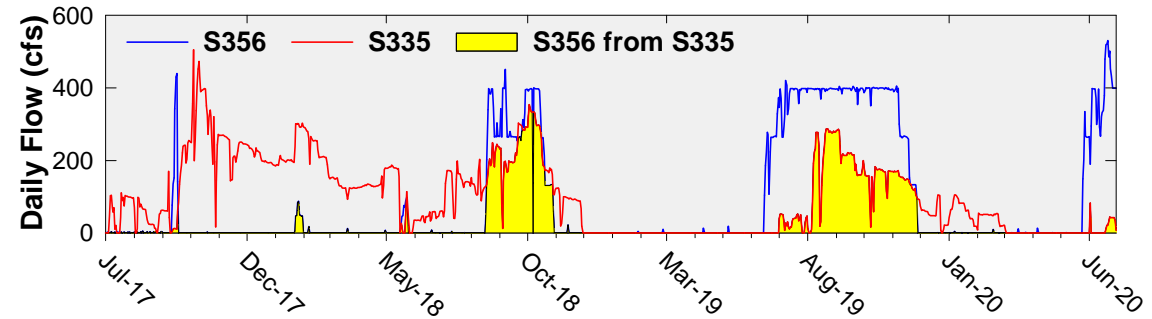
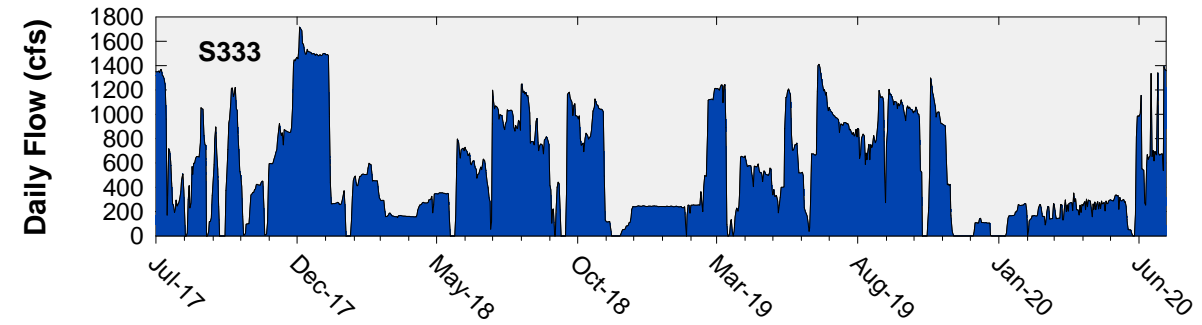


Daily Flows at S12 Structures to Shark River Slough

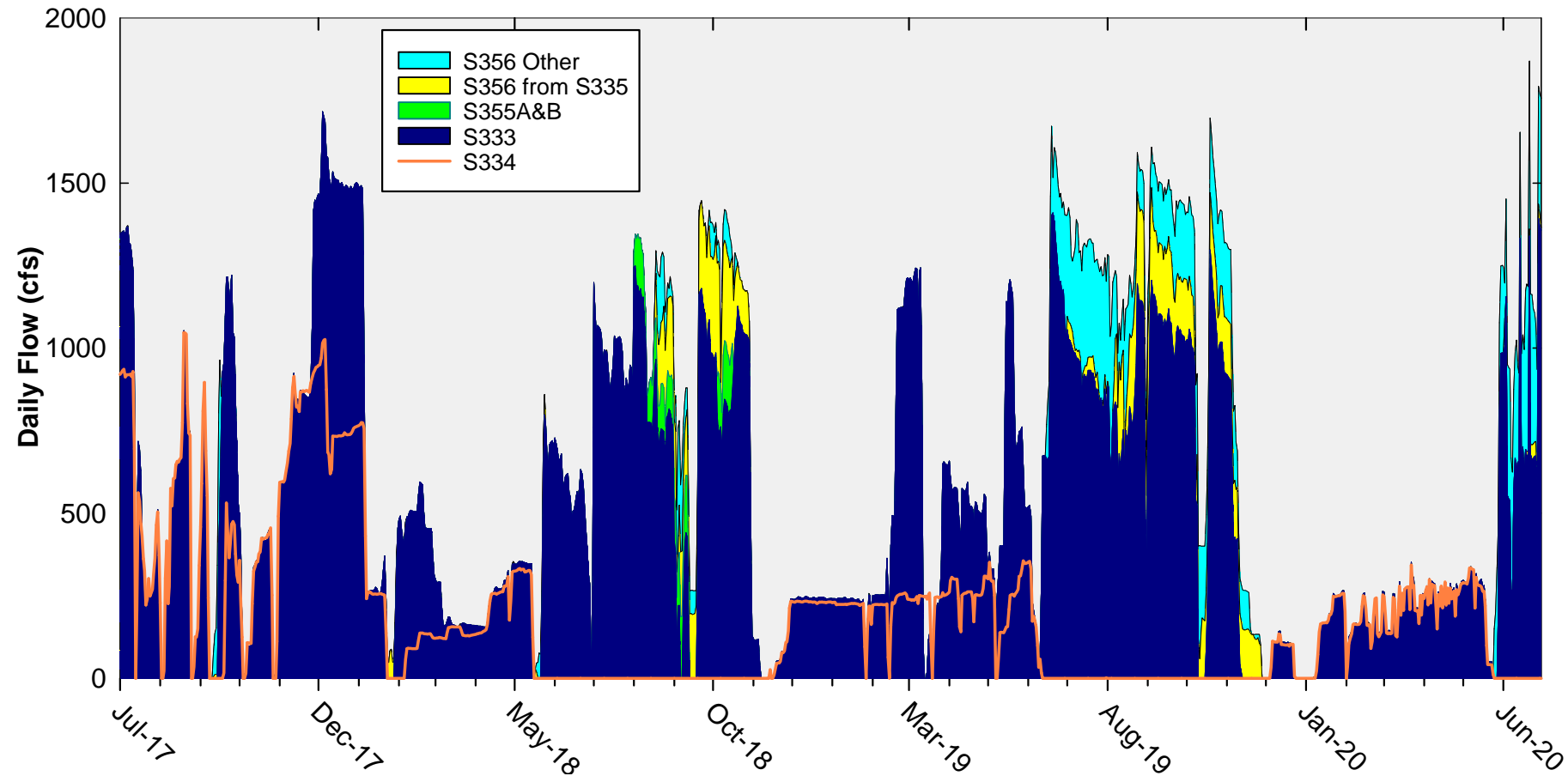
(October 2019 to June 2020 Flow Data
for S12s are Provisional.)



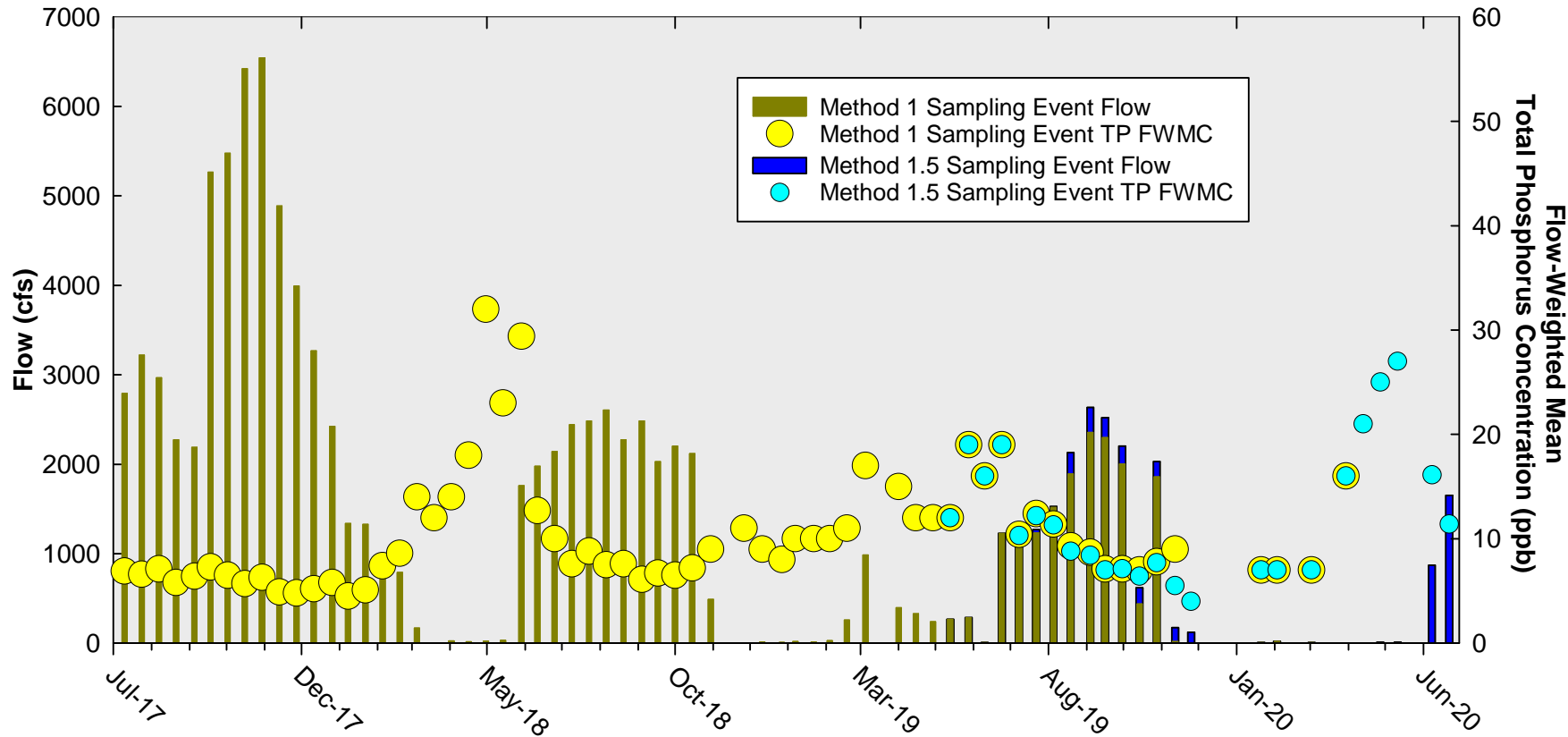
Daily Flows at Individual Inflow Structures to Shark River Slough



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



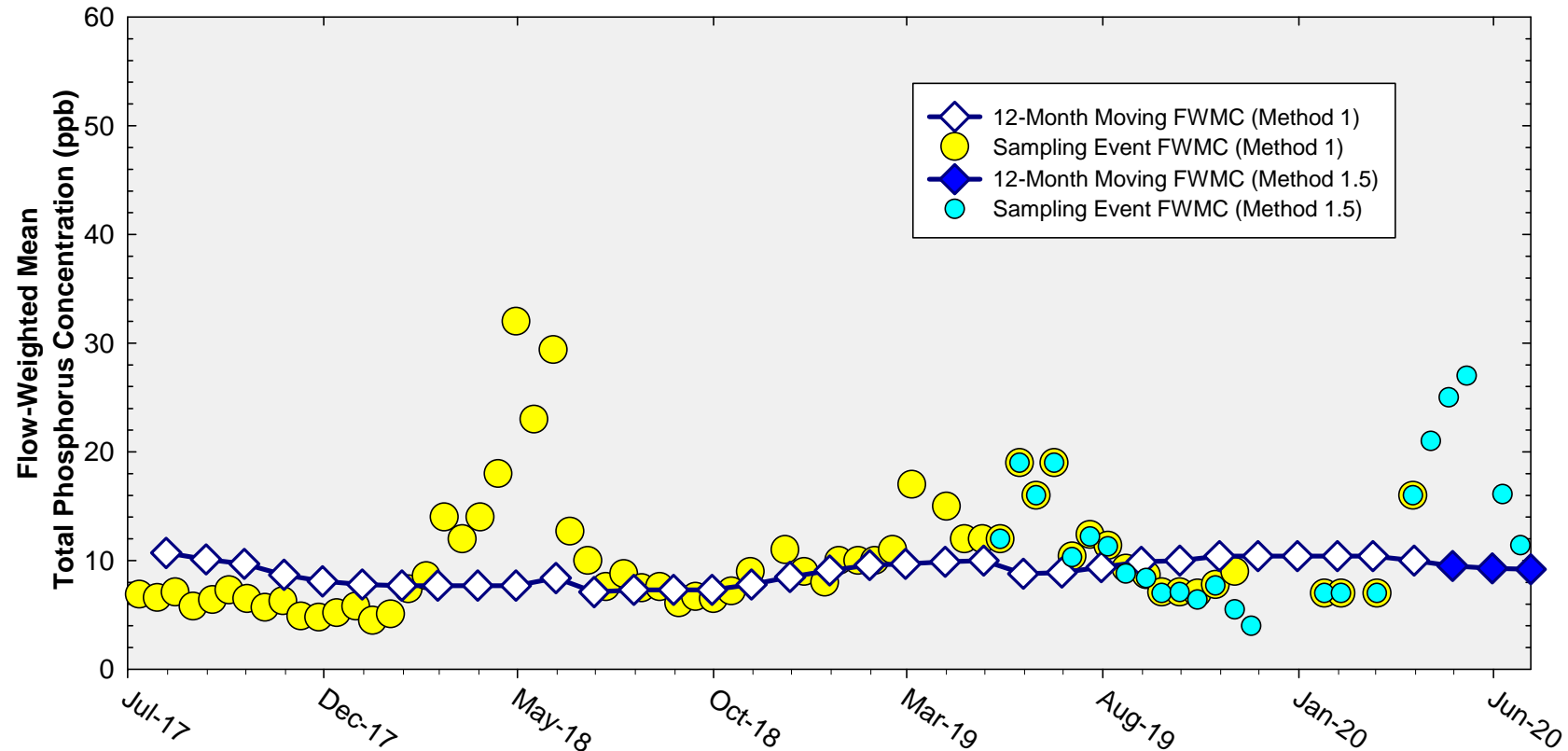
Shark River Slough Sampling Event Flow and FWMC



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

Note: October 2019 to June 2020 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

October 2019 to June 2020 Flow Data for S12s are Provisional.

Taylor Slough and Coastal Basins

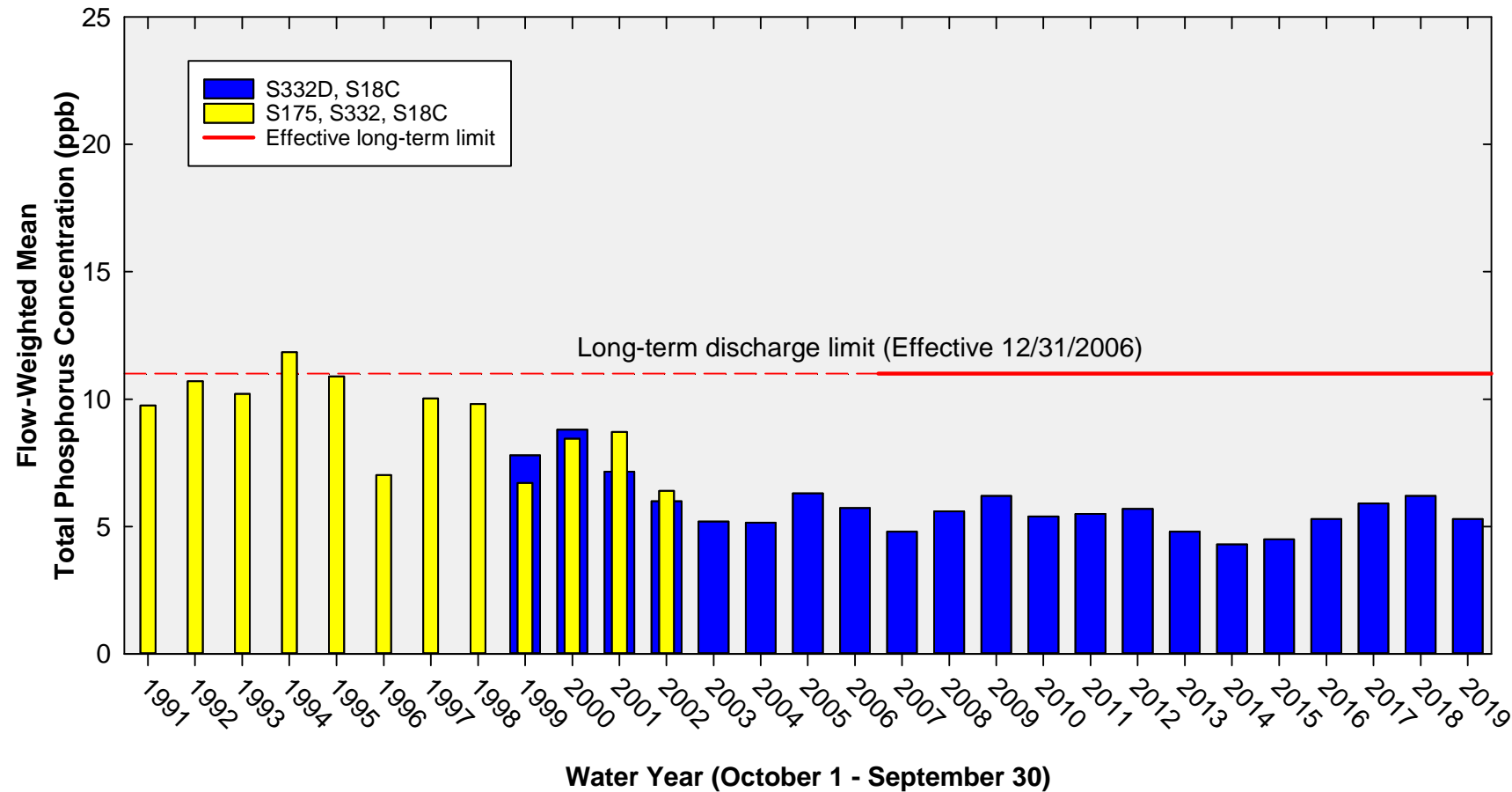
TP Concentration Compliance Tracking

12-Month Period	Total Flow (kac-ft)	Flow-Weighted Mean TP Concentration in ppb LTL = 11.0 ppb	Observed Percent of Sampling Events Greater than 10 ppb Guideline = 53.1%
May 2019 - Apr 2020	255.9	4.9	2.1
Jun 2019 - May 2020	268.7	5.5	2.2
Jul 2019 - Jun 2020	282.8	5.3	2.1

FWMC computed as $[(S332D-S332DX1-S328)+S328+G737+S18C]$ using all flow and TP grabs on weekly compliance sampling.

Total flow is $(S332D-S332DX1)+G737+S18C]$

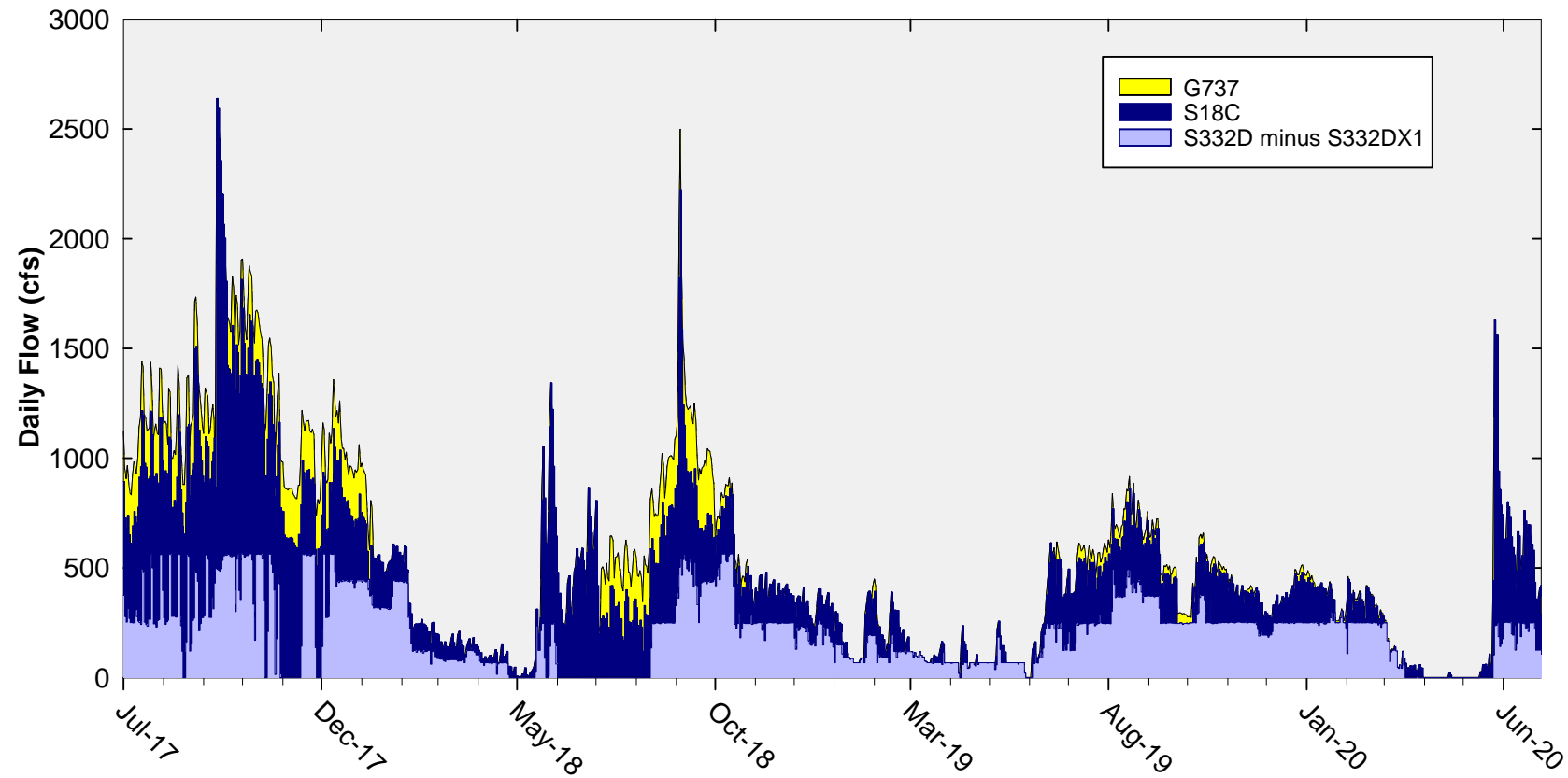
Annual Flow-Weighted Mean Concentrations Inflows to the ENP through Taylor Slough and Coastal Basins



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

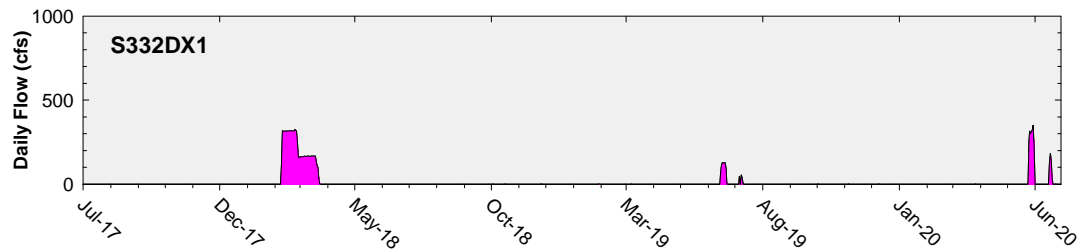
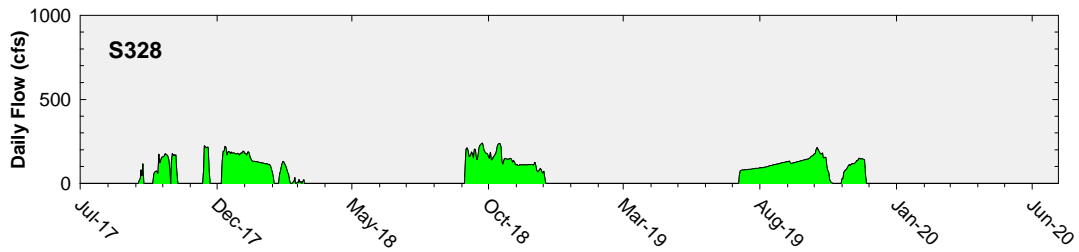
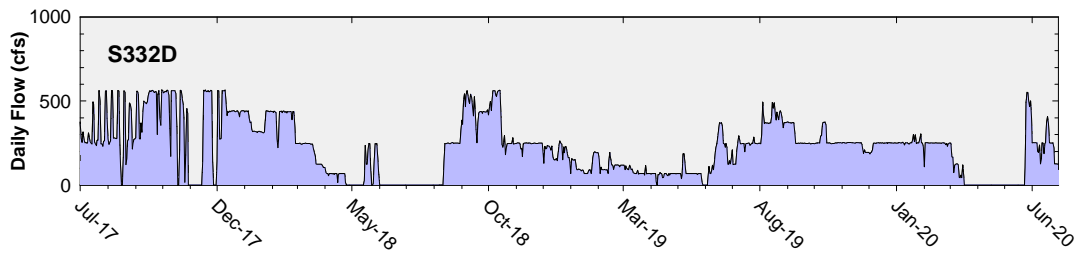
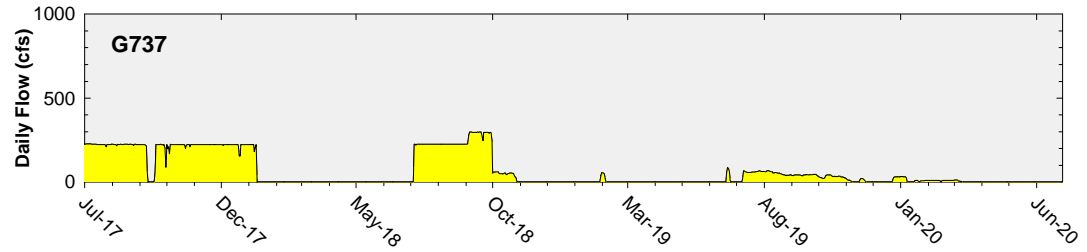
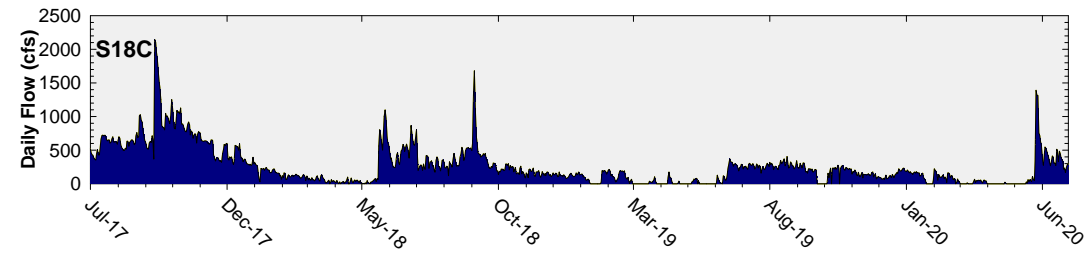
Note: Blue bars show S332D, S18C, & S174 until September 2007 when S174 was plugged.

Daily Flows at Taylor Slough and Coastal Basins Structures into ENP

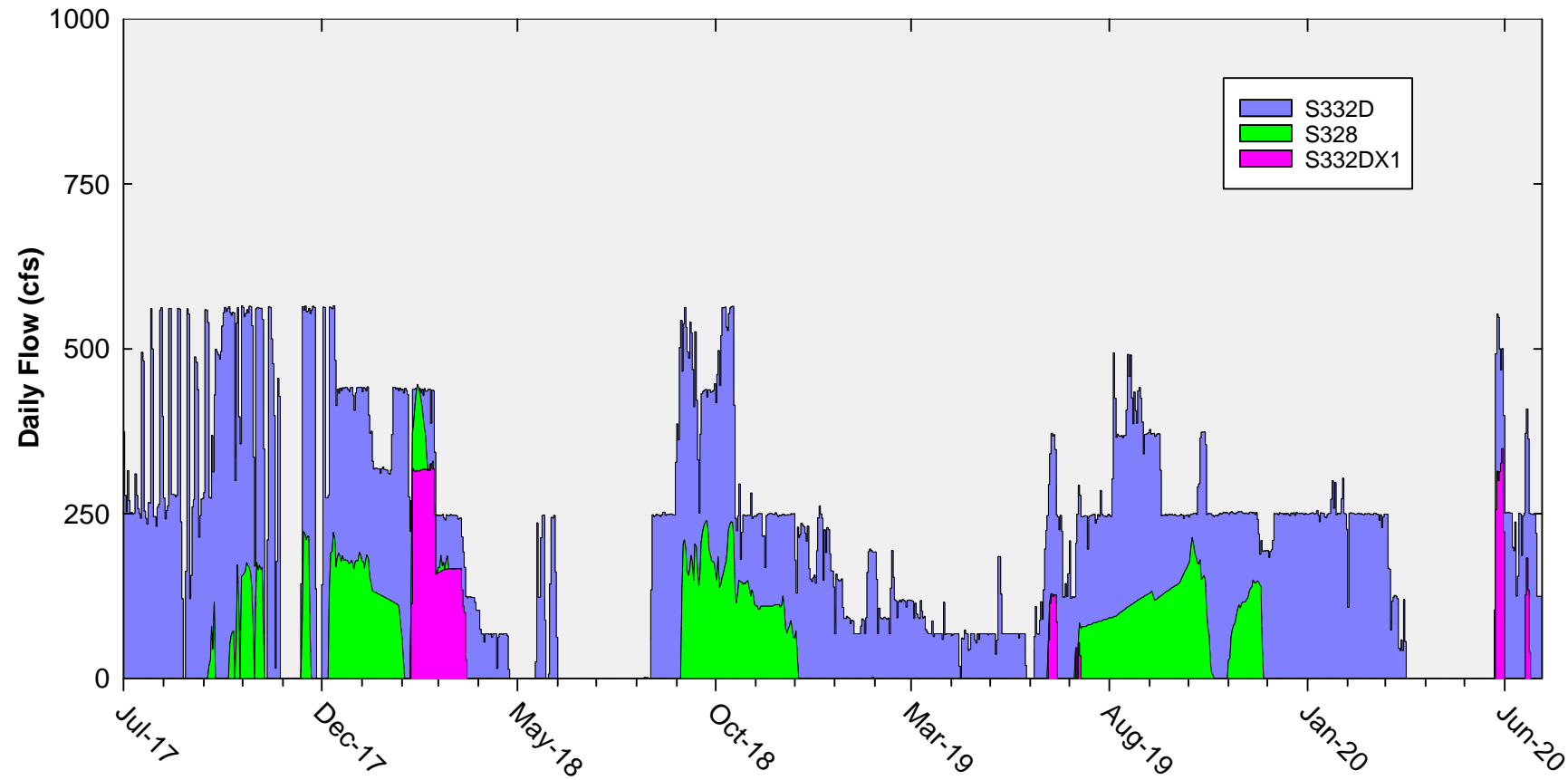


Note: Daily flow data are missing for S18C from September 23 to September 30, 2019.

Daily Flows at Individual Taylor Slough and Coastal Basins Structures

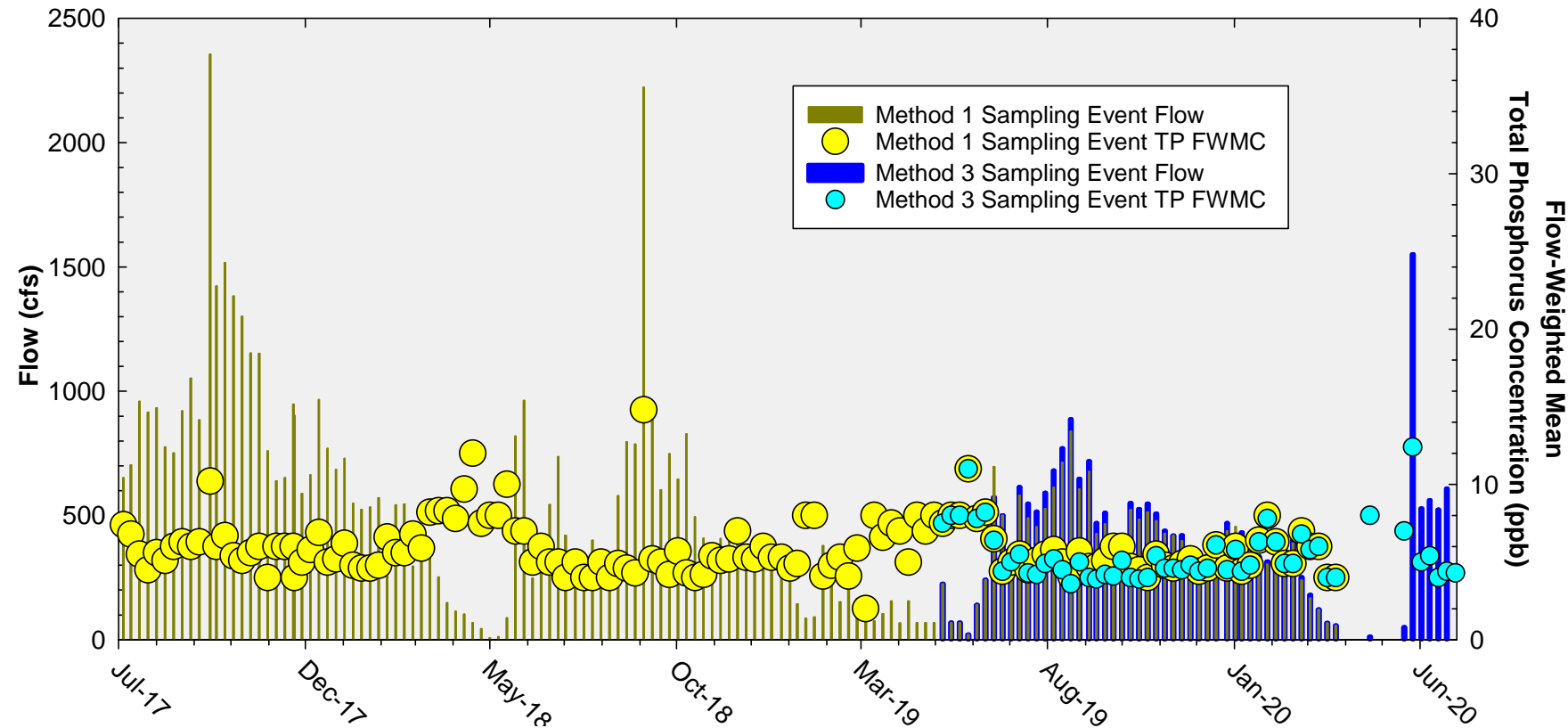


Daily Flows Into and Out of C-111 Detention Area



Taylor Slough and Coastal Basins

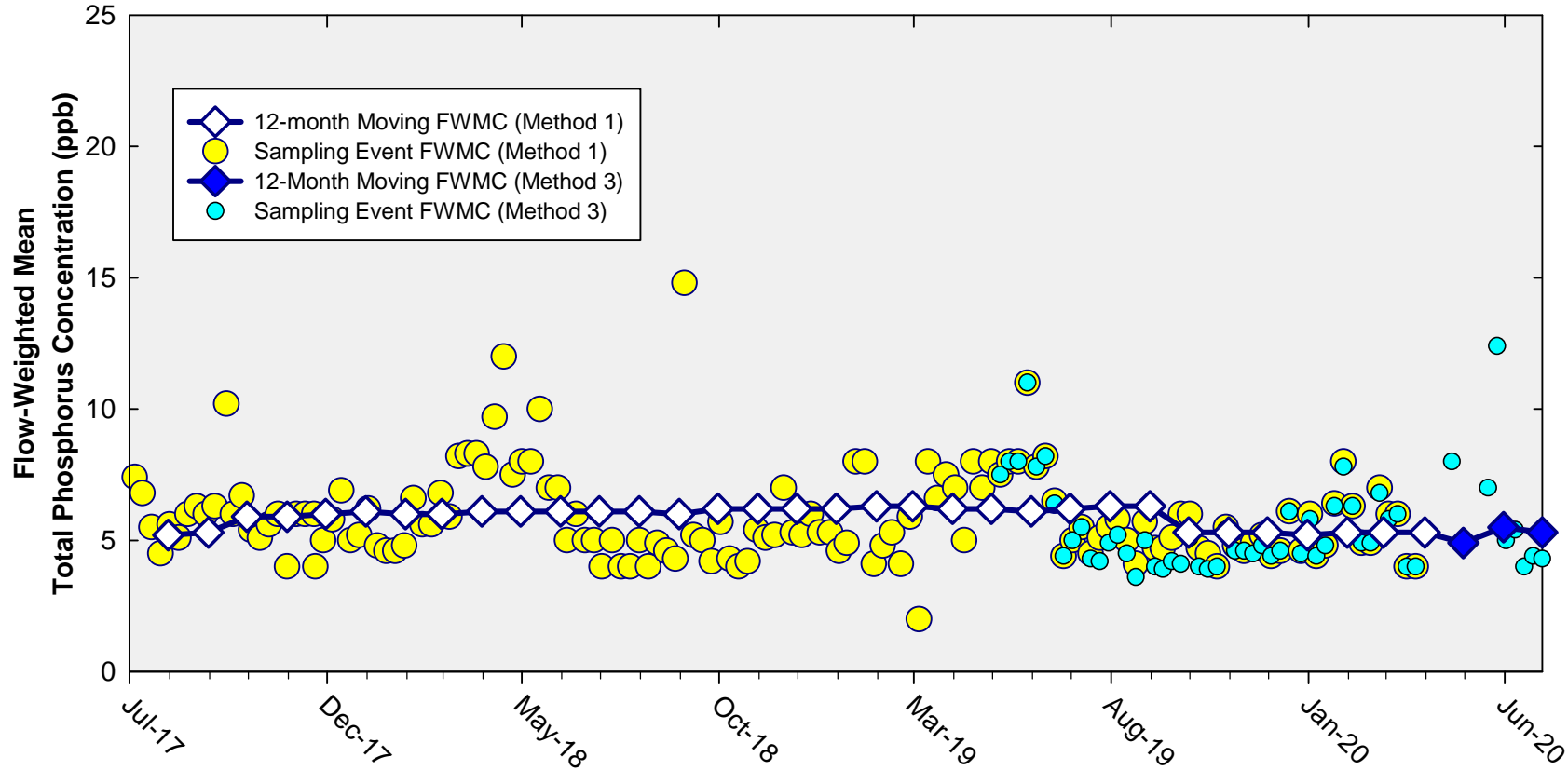
Sampling Event Flow and FWMC



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

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

Thank You

