

Shark River Slough Final Water Year 2025 Annual Compliance Results & Water Quality Conditions for Everglades National Park, Water Year 2025, Shark River Slough

Technical Oversight Committee Meeting
September 15, 2026

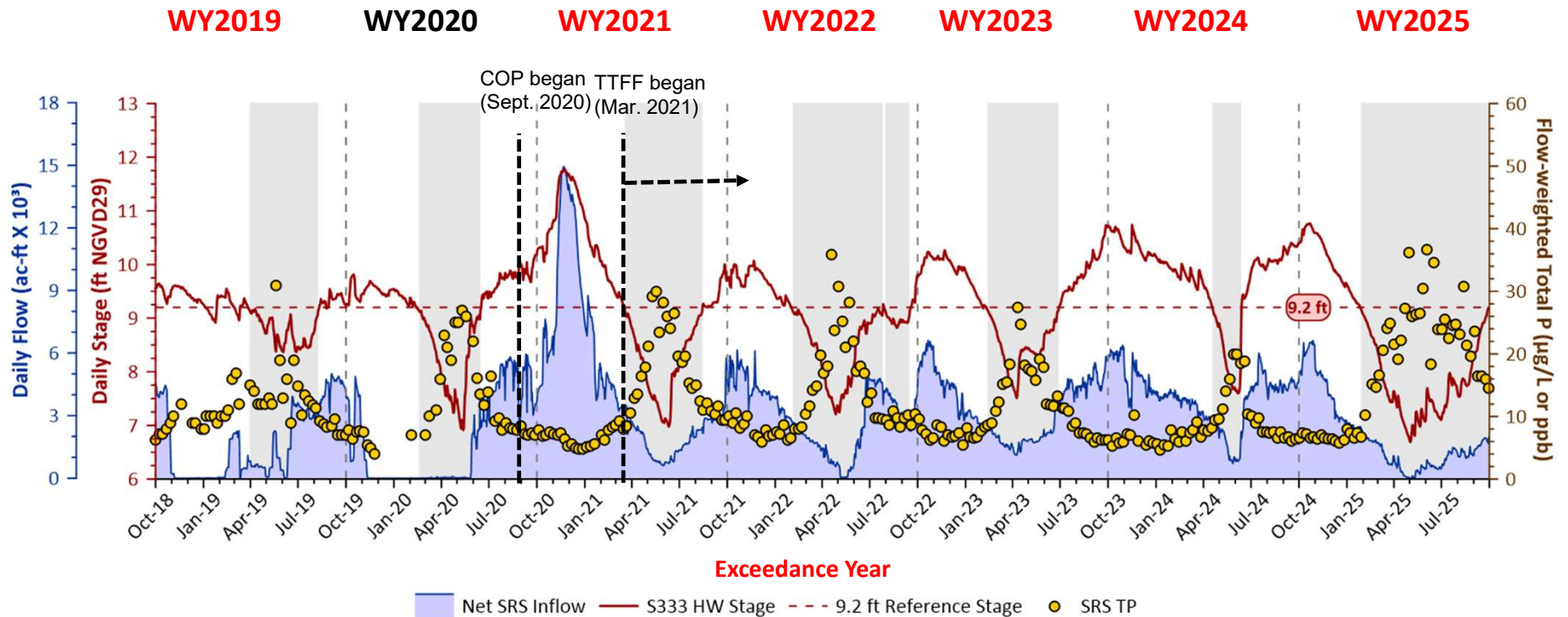
SRS WY2025 Results

12-Month Period	Total Flow (kac-ft)	Long-Term Limit (ppb) <i>Effective 12/31/2006</i>	Flow-Weighted Mean TP Concentration (ppb)	Percent of Sampling Events Greater than 10 ppb	
				Guideline (%)	Observed (%)
3rd Quarter 2025 Compliance Tracking					
Aug 2024 - Jul 2025	980.1	8.0	9.2	41.9	48.0
Sep 2024 - Aug 2025	873.0	8.5	10.1	44.5	56.0
Oct 2024 - Sep 2025	780.8	9.0	11.1	46.9	64.0

WY2025 RESULTS

SRS FWMC- computed as $S12s + [S333 + S333N + S355A + S355B + \min(S356, S335) - S334]$. S334 flow is not excluded from the total flow for long-term limit calculations.

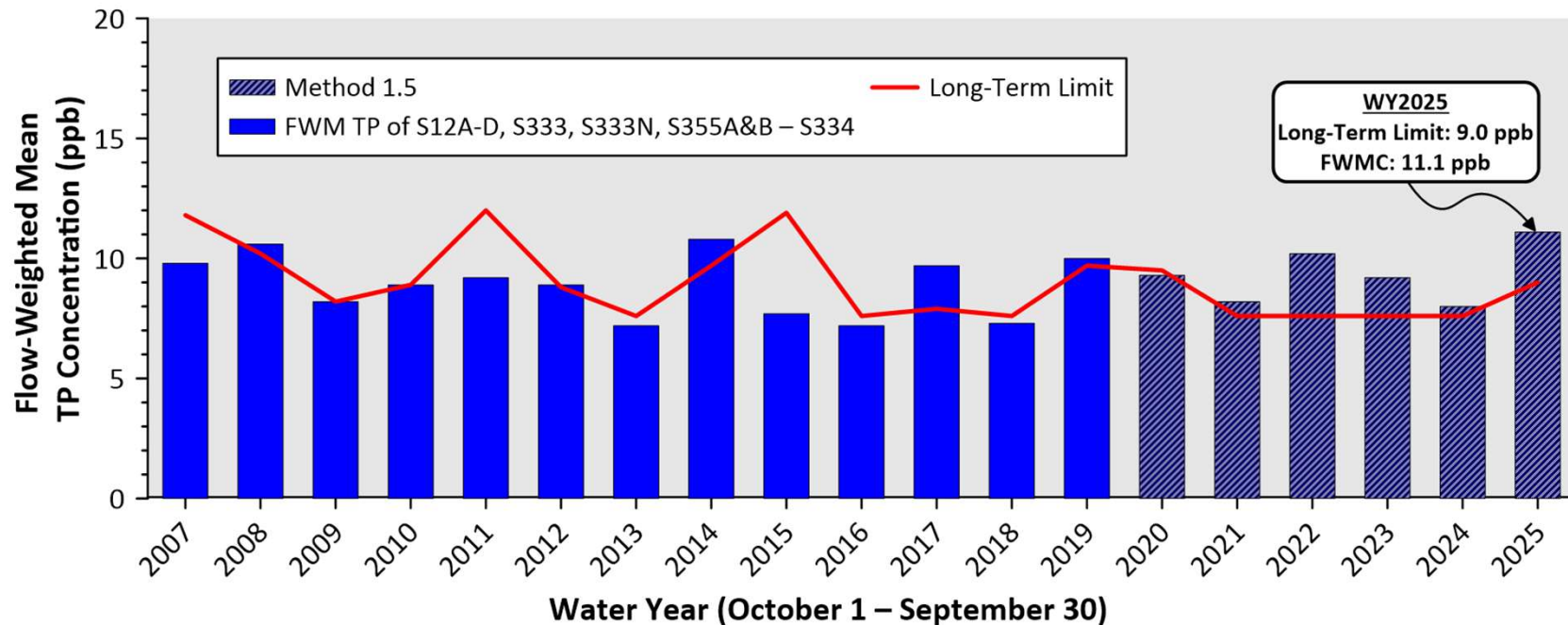
TP – Stage Relationship and SRS Inflow



Shaded region depicts the period where S333 HW stage was consistently below 9.2 ft

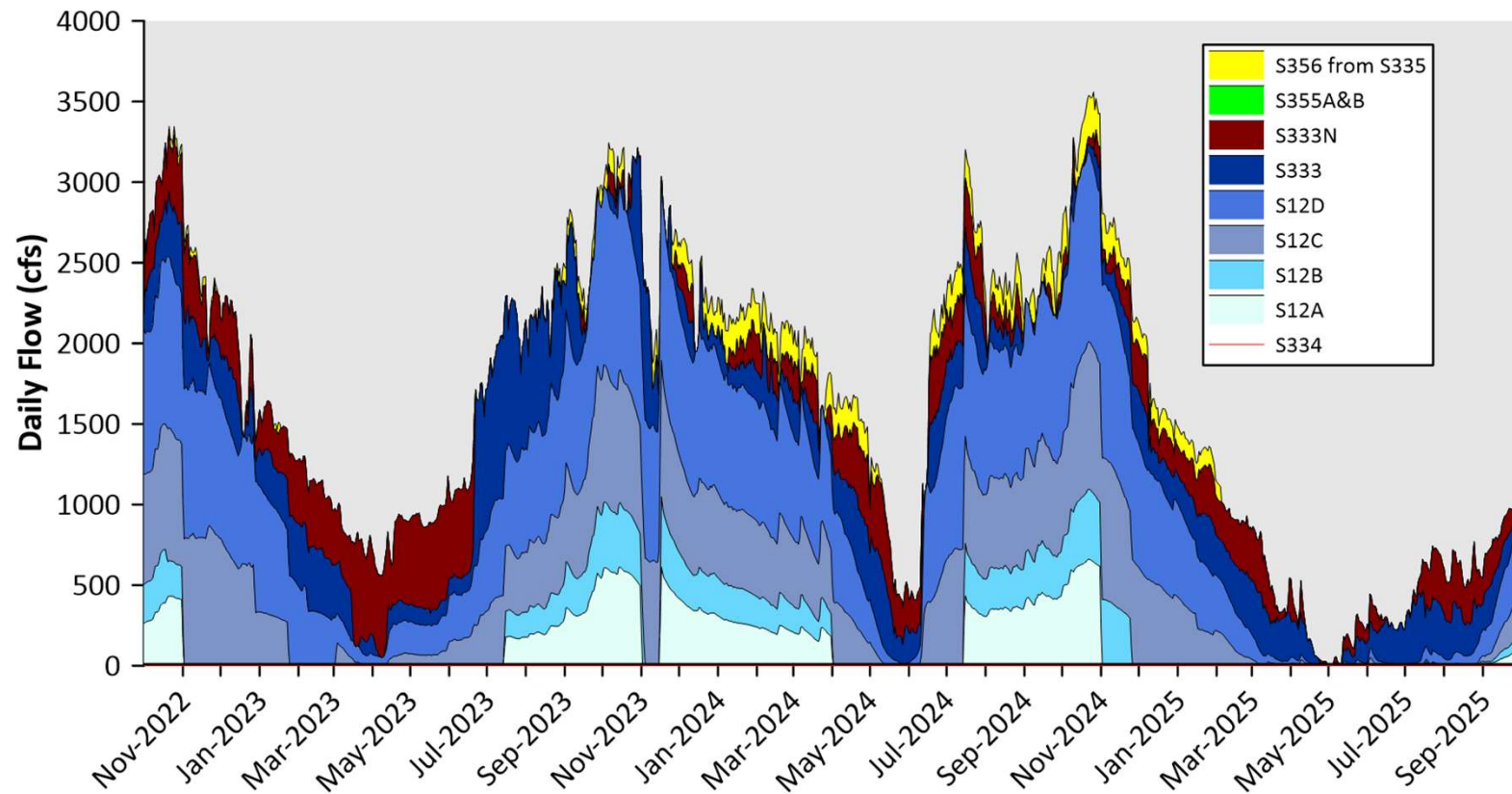
Net SRS inflow is computed as $S12s + [S333 + S333N + \min(S356, S335) - S334]$.

SRS WY2025 Results: Annual FWM Concentrations of Inflows to SRS



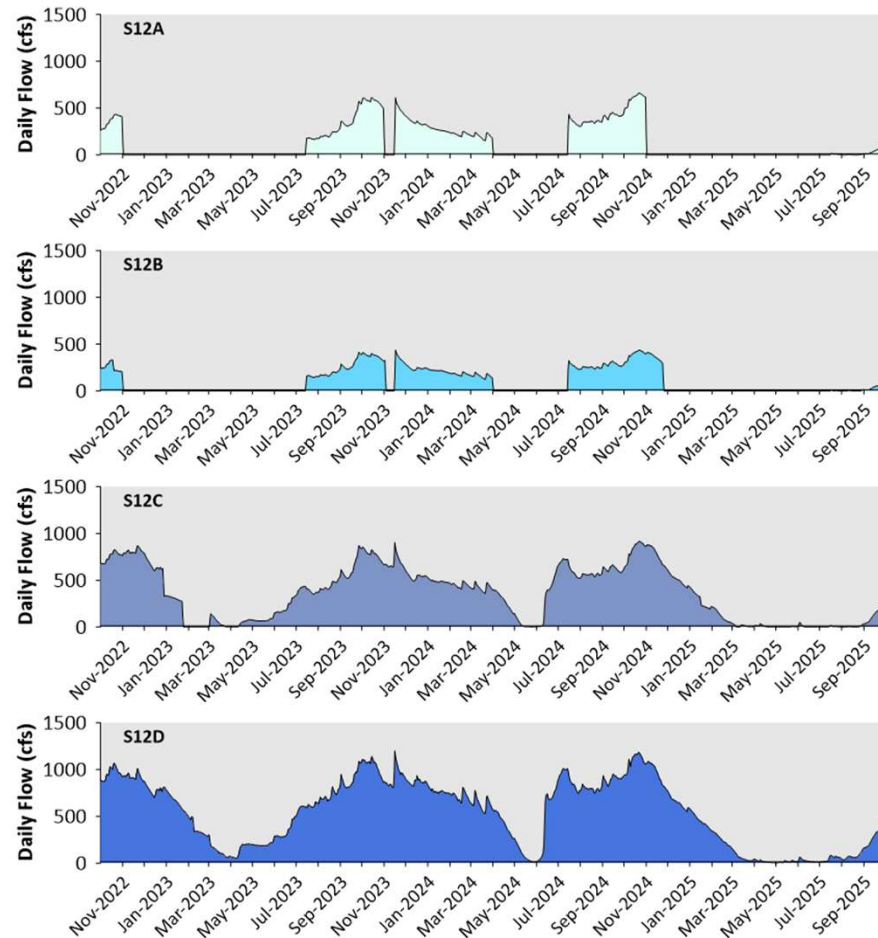
12-Month FWMC at the end of each water year compared to the TP long-term limit

SRS WY2025 Results: Structure Daily Flows



SRS WY2025 Results: Structure Daily Flows

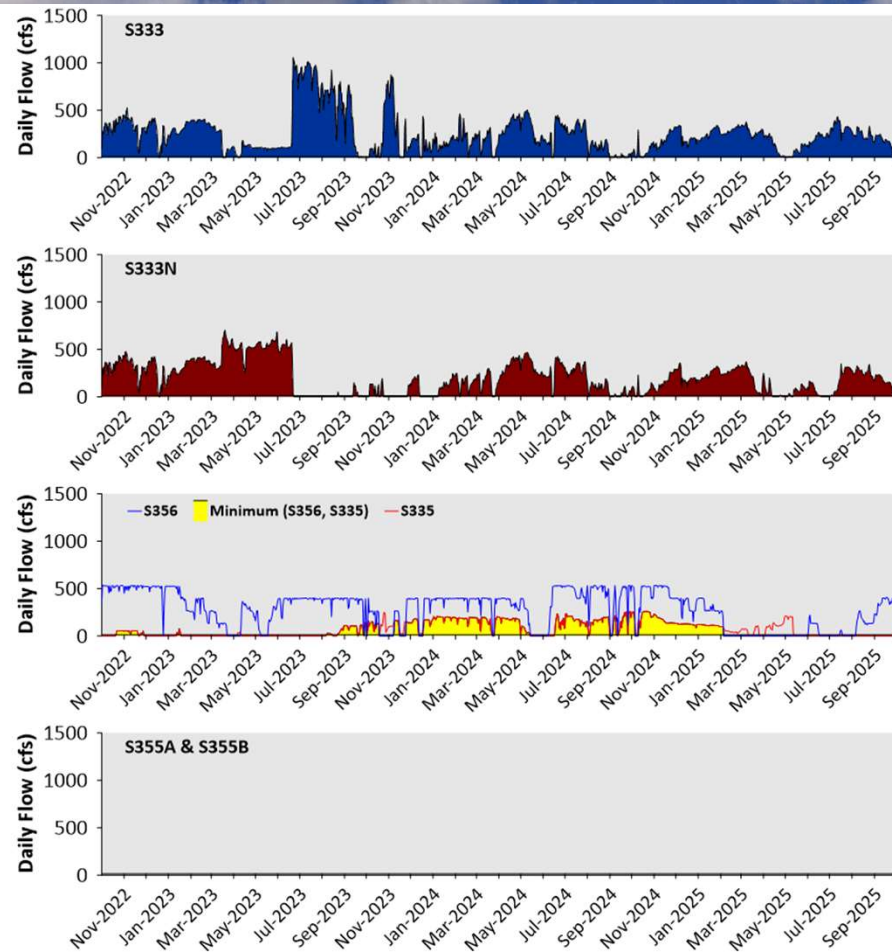
Daily Flows at S12 Structures to Shark River Slough



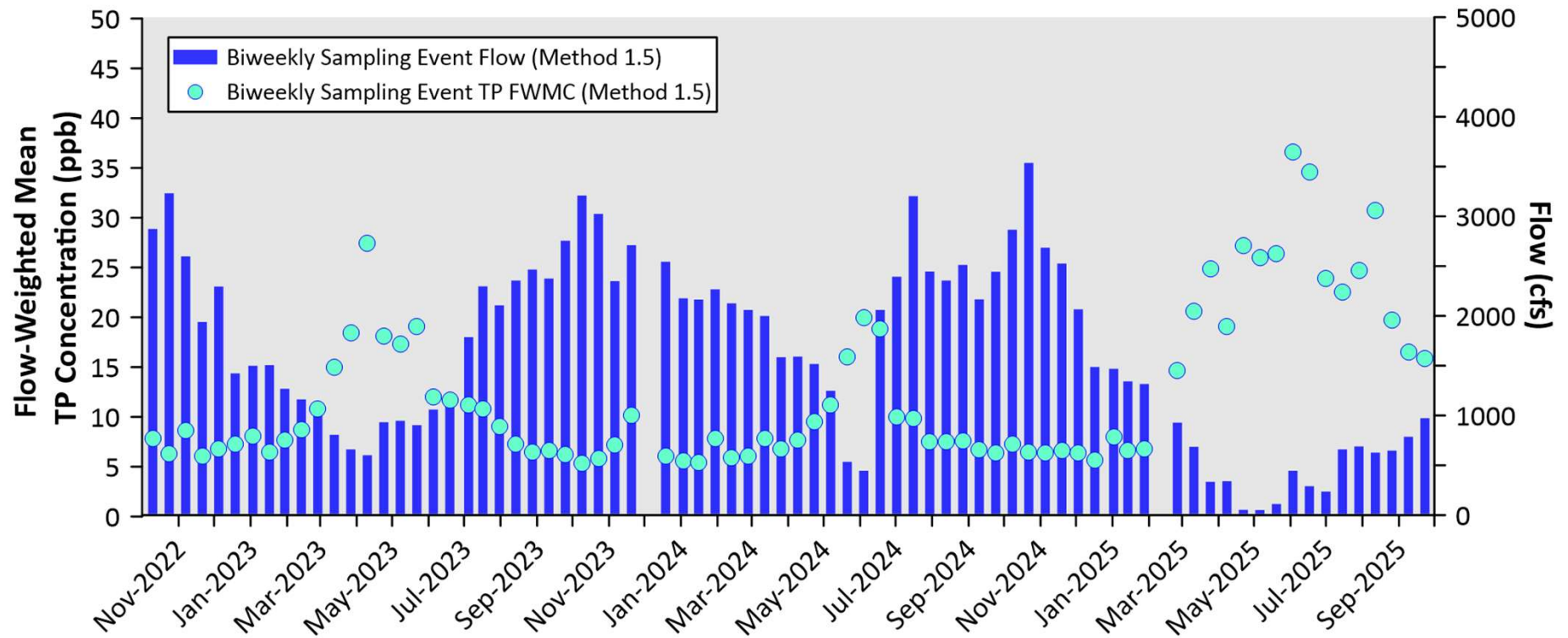
SRS WY2025 Results: Structure Daily Flows

Daily Flows at Individual Inflow Structures to Shark River Slough

(Note: There was no flow at S355A or S355B during the period)

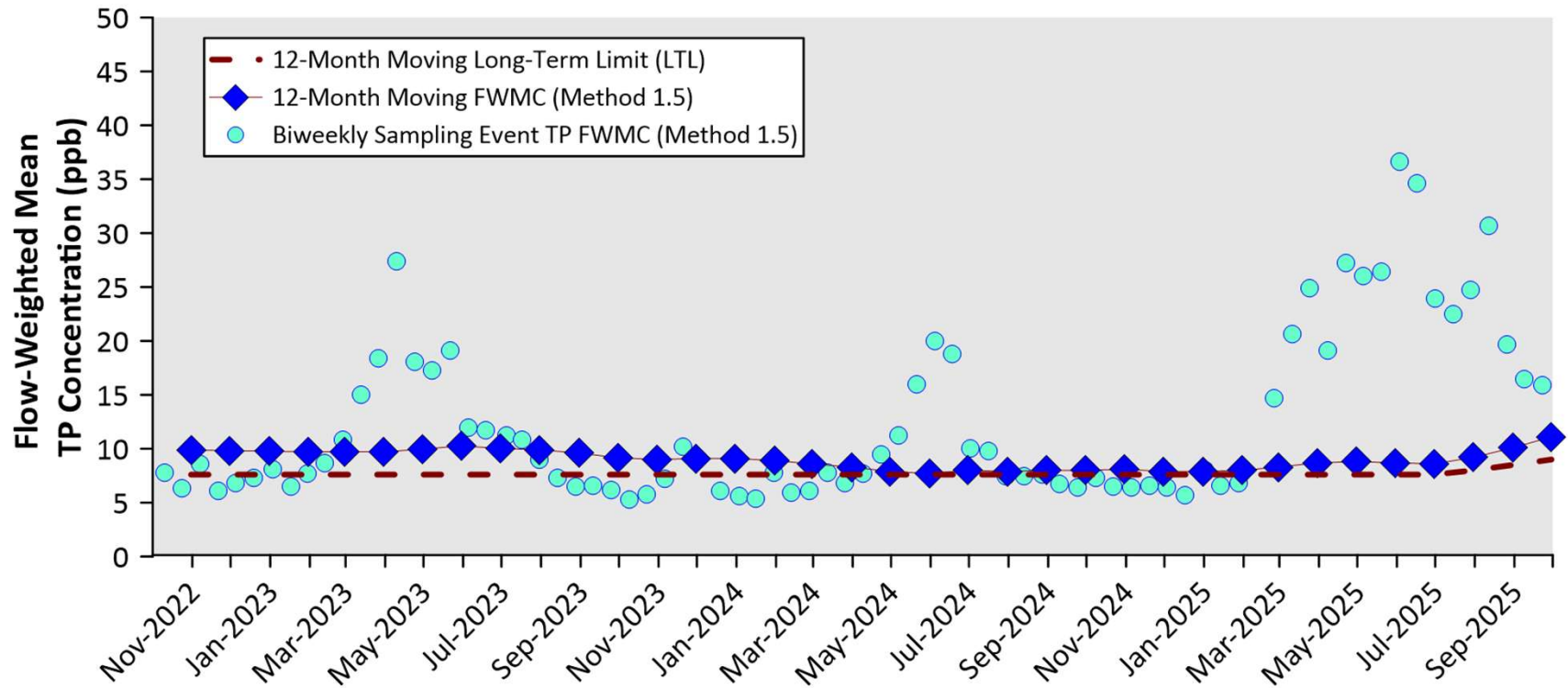


SRS WY2025 Results: Sampling Event Flow and FWMC



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

SRS WY2025 Results: Sampling Event Flow and FWMC



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

SRS Water Quality Conditions – Outline

Evaluation of the WY2025 Exceedance

Evaluation under the Consent Decree	Data errors?
	Extraordinary natural phenomena?
What occurred throughout the year?	System operations

SRS Water Quality Conditions – Data Errors?

Evaluation of Data Errors

Potential Data Issues	Flow	Water Quality	Effects on Compliance Results
Missing data	☒	☒ 0 samples	
Suspicious (Qualified) data	☒	☒ 1 event	Sensitivity analyses were conducted on the annual FWM. Results indicate no effect on compliance.

SRS Water Quality Conditions – Data Errors?

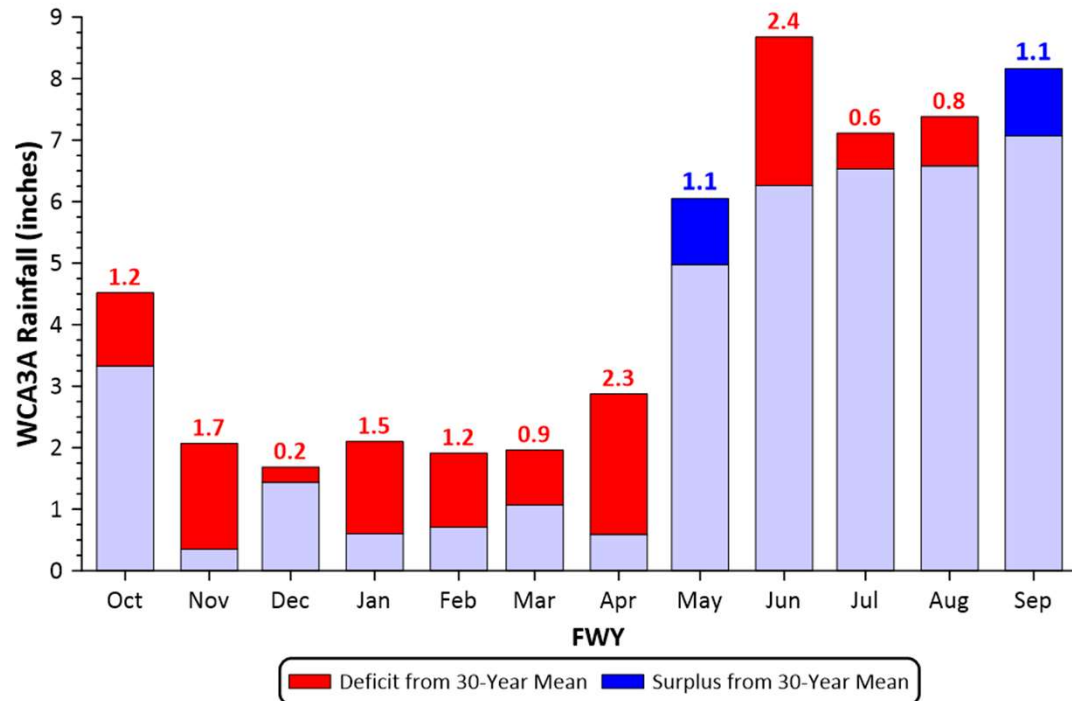
Influence of Qualified Water Quality Data

Case	Location	Annual SRS FWM (ppb)
1 event ¹	S12ABCD, S333/S333N, and S356	11.1
Sensitivity tests using substitute samples	Use samples in the previous week	11.0 or
	Use samples in the following week	11.2

¹ The compliance event samples were qualified at S12ABCD, S333/S333N, and S356 on 2/11/2025 because analyte was detected at or above the method detection limit in both the sample and the associated field blank, equipment blank, or trip blank.

The exceedance was not attributed to data errors.

SRS Water Quality Conditions - Extraordinary Natural Phenomena?

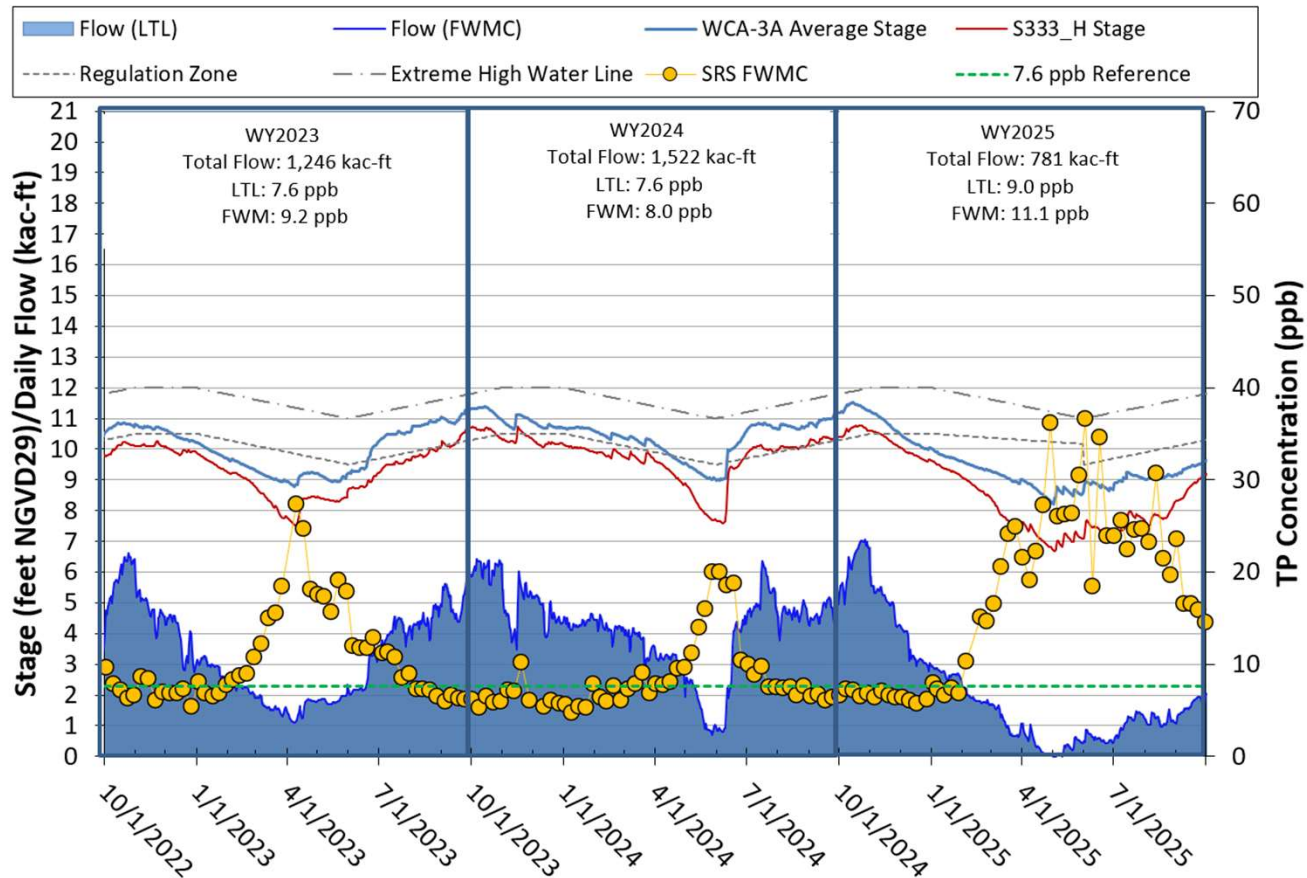


- WY2025 rainfall: 41.7" (10.6" deficit from the 30-year average of 52.3")
- Rainfall in both the dry season (November – May) and wet season (June – October) was below the 30-year average.

South Florida's wet season generally runs from June through October, while the dry season runs from November through May, with May and October as transitional months.

The exceedance was not attributed to Extraordinary Natural Phenomena.

SRS Water Quality Conditions – WCA3A Stage and SRS Inflow & TP FWMC



Units used in this presentation:

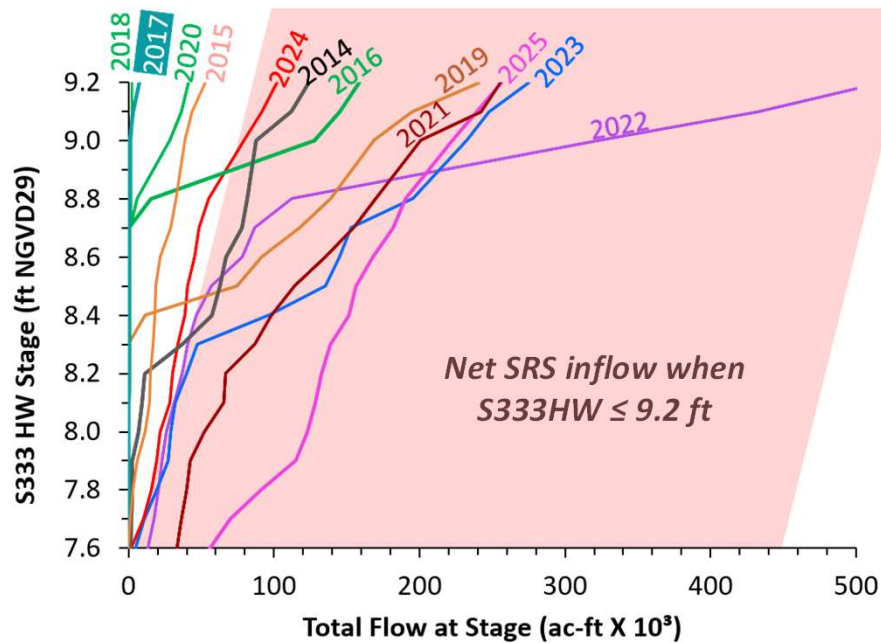
Stage (headwater) – NGVD29 ft.
 TP concentration (TP) – ppb ($\mu\text{g/L}$).
 Flow – 1,000 ac-ft (kac-ft).

SRS Water Quality Conditions

The persistence of a localized phenomenon

- TP – stage relationship
- Flows during low stages
- Trends of the annual flow, LTL, and FWM TP

SRS Water Quality Conditions: Flow during Low Stages



* Net SRS inflow is computed as $S12s + [S333 + S333N + \min(S356, S335) - S334]$.

The pink box highlights flow magnitude at or below 9.2 ft and the stage at which flow began. Exceedance years generally had higher low-stage flow and/or flow beginning at lower stages, indicating a greater likelihood of exceedance.

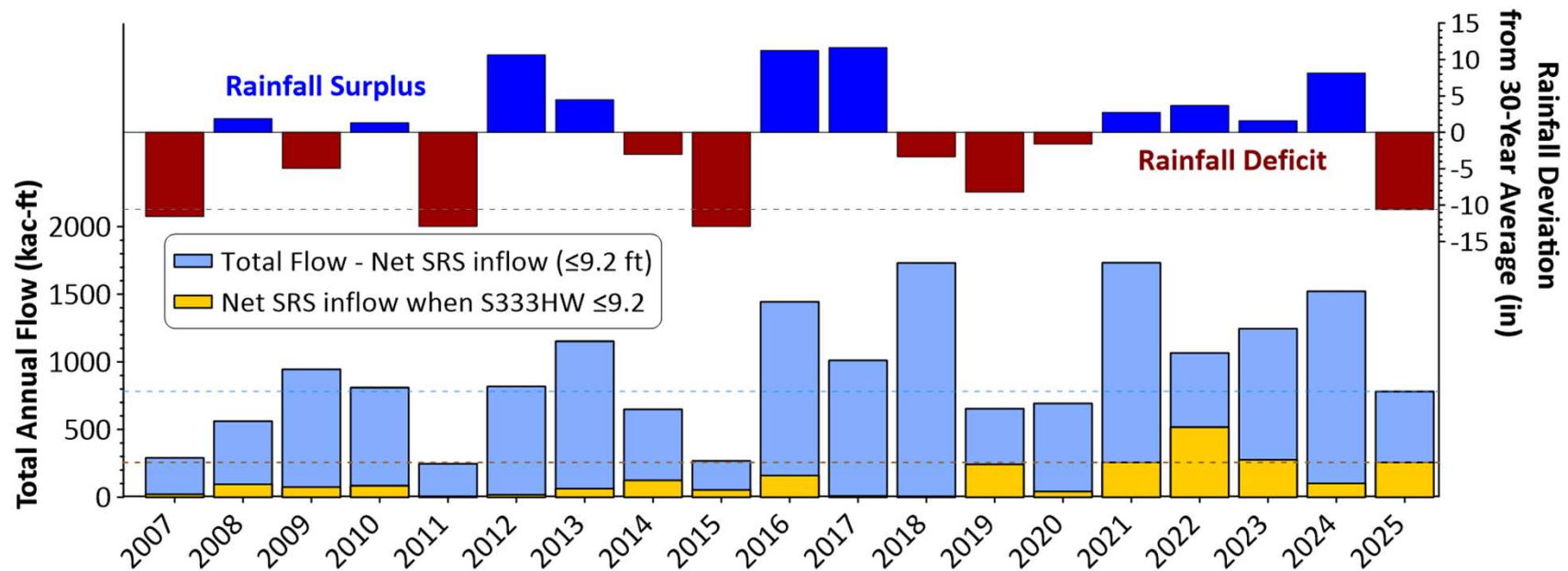
The highest net SRS inflows at or below 9.2 ft in WY2007–2024, ranked in order, are: 2022, 2023, 2025, 2021, 2019, 2016, 2014, and 2024. In 2016, flow occurred at higher stages.

FWY	LTL	FWM	FWM - LTL	Net SRS inflow when $S333 \leq 9.2$ ft (ac-ft X 10^3)*
	(µg/L or ppb)			
2014	9.7	10.8	1.1	124
2015	11.9	7.7	-4.2	52
2016	7.6	7.2	-0.4	159
2017	7.9	9.7	1.8	7
2018	7.6	7.3	-0.3	2
2019	9.7	10.0	0.3	241
2020	9.5	9.3	-0.2	41
2021	7.6	8.2	0.6	256
2022	7.6	10.2	2.6	517
2023	7.6	9.2	1.6	275
2024	7.6	8.0	0.4	102
2025	9.0	11.1	2.1	257

Extraordinary natural phenomena

Exceedance year

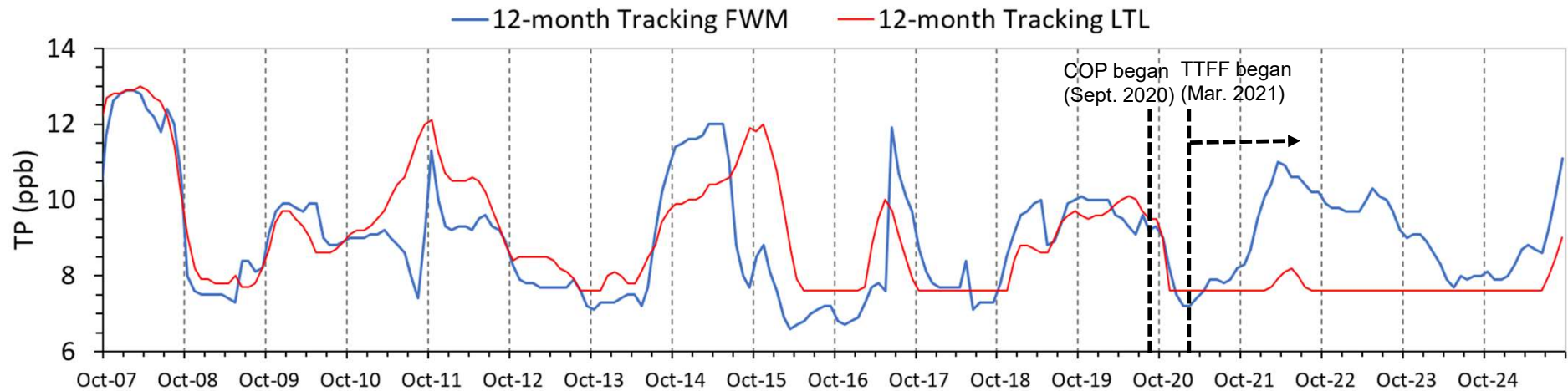
SRS Water Quality Conditions: Comparing WY2025 LTL to other years



- WY2025: 41.7" rainfall (17th pctl*) yet 781 Kac-ft inflow (40th pctl) — high flow relative to rainfall.
- 9.0 ppb LTL is low for a dry year. At 17th pctl inflow (559 Kac-ft), corresponding to 17th pctl rainfall, LTL would be 10.2 ppb.
- Operation-increased low-stage flow (257 Kac-ft, 90th pctl; 247 days ≤9.2 ft — record) with high TP pushed FWM to 11.1 ppb.

*pctl = percentile

SRS Water Quality Conditions: 12-month Tracking LTL & FWMC Patterns



TTFB impact: 1. increases low-stage flow, 2. drains WCA3A, worsening low rainfall condition (247 days ≤ 9.2 ft — record)

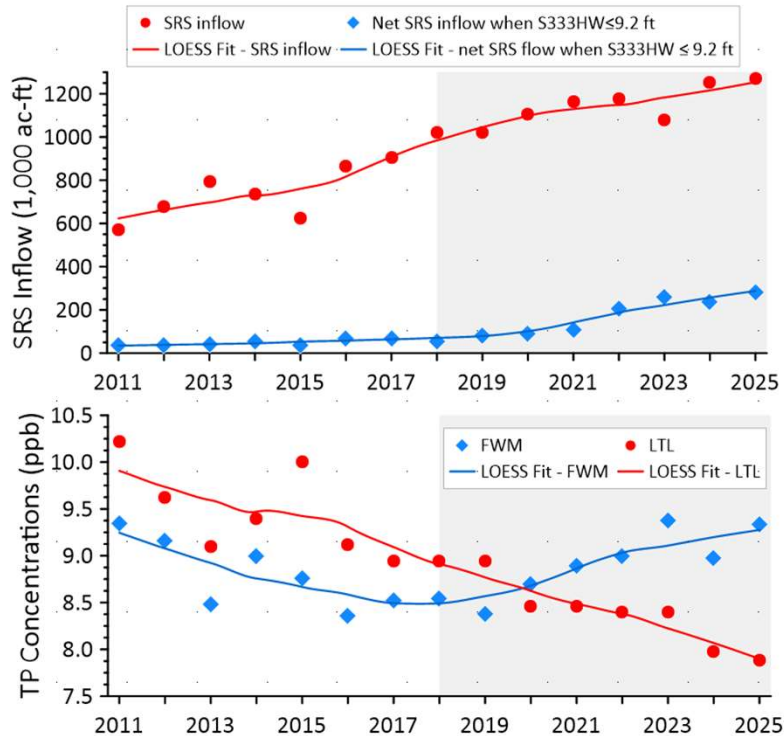
More flow at low stages (90th pctl), coupled with high TP, increases 12-month FWMC

12-month FWMC > 12-month LTLs

COP increases total flow relative to rainfall (17th pctl rainfall, 40th pctl flow)

Per Appendix A equation, higher flow results in lower LTL

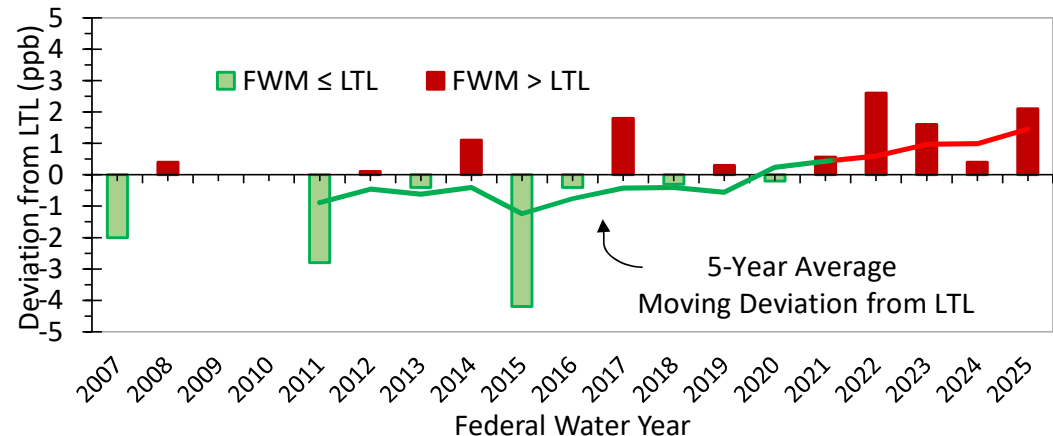
SRS Water Quality Conditions: Trends of SRS Inflow, LTL, and Annual FWMC



The gray shaded area indicates a shift from the previous downward FWM trend, with the 5-year FWM showing a notable upward trend after an inflection point in 2018, driven by increased low-stage flows under Increment 2 and COP operations.

Federal Water	5-year average of flow (ac-ft X 10 ³)		5-year average of TP (µg/L or ppb)	
	SRS Inflow	* Net WCA3A to SRS inflow when S333HW ≤ 9.2 ft	LTL	FWM
2018	1021	69	8.9	8.5
2019	1022	92	8.9	8.4
2020	1107	90	8.5	8.7
2021	1164	110	8.5	8.9
2022	1176	212	8.4	9.0
2023	1078	266	8.4	9.4
2024	1252	238	8.0	9.0
2025	1270	281	7.9	9.3

* Net flow to SRS is computed as $S12s + [S333 + S333N + \min(S356, S335) - S334]$.



QUESTIONS