SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Water Quality Conditions for Everglades National Park, Water Year 2024 Shark River Slough

Technical Oversight Committee Quarterly Meeting
June 24, 2025

sfwmd.gov

1

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

SRS Water Quality Conditions – WY2024 Results

12-Month Period	Total Flow (kac-ft)	Long-Term Limit (ppb) *Effective 12/31/2006*	Flow-Weighted Mean TP Concentration (ppb)	Percent of Sampling Events Greater than 10 ppb	
				Guideline (%)	Observed (%)
3rd Quarter 2024 Compliance Tracking					
Aug 2023 - Jul 2024	1,531.0	7.6	7.9	40.1	20.0
Sep 2023 - Aug 2024	1,534.3	7.6	8.0	40.1	20.0
Oct 2023 - Sep 2024	1,521.8	7.6	8.0	40.1	20.0

WY2024 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.

sfwmd.gov 2

2

SRS Water Quality Conditions – Outline

Evaluation of the WY2024 Exceedance

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

3

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.

4

SRS Water Quality Conditions – Data Errors?

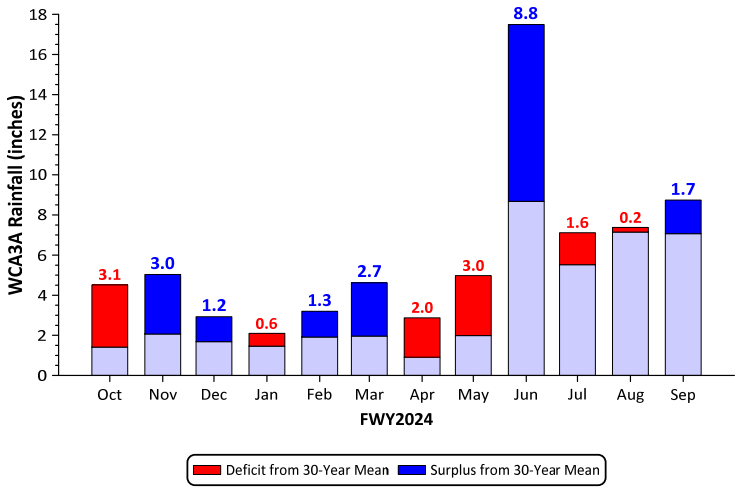
Influence of Qualified Water Quality Data

Case	Location	Annual SRS FWM (ppb)
1 event [1]	S12ABCD, S333/S333N, and S356	8.0
Sensitivity tests using substitute samples	Use samples in the previous week	8.2 or
	Use samples in the following week	7.9

[1] The compliance event samples were qualified at S12ABCD, S333/S333N, and S356 on 12/5/2023 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?

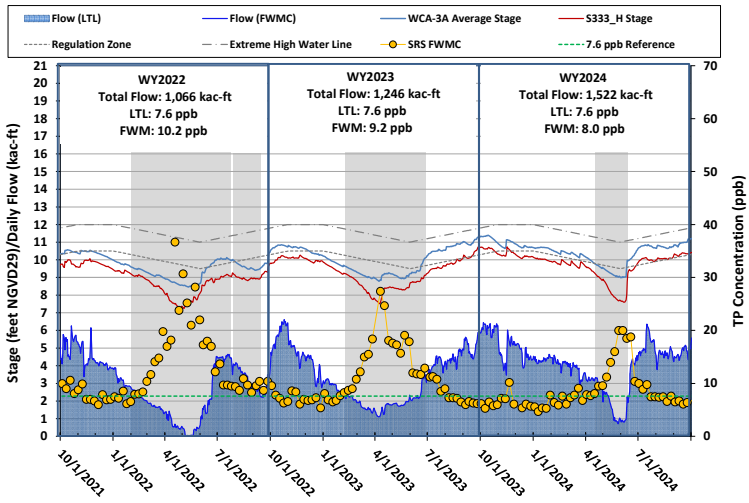


- WY2024 rainfall: 60.5” (30-year average = 52.3”)
- The dry season rainfall (November to March) was higher than the 30-year average due to the El Niño event.

The exceedance was not attributed to Extraordinary Natural Phenomena.

System Operations

WCA-3A Average Stage, Flow and TP Flow-weighted Mean Concentration to Shark River Slough



Units used in this presentation:

Stage (headwater) – NGVD29 ft.
TP concentration (TP) – ppb (µg/L).
Flow – 1,000 ac-ft (kac-ft).

7

SRS Water Quality Conditions

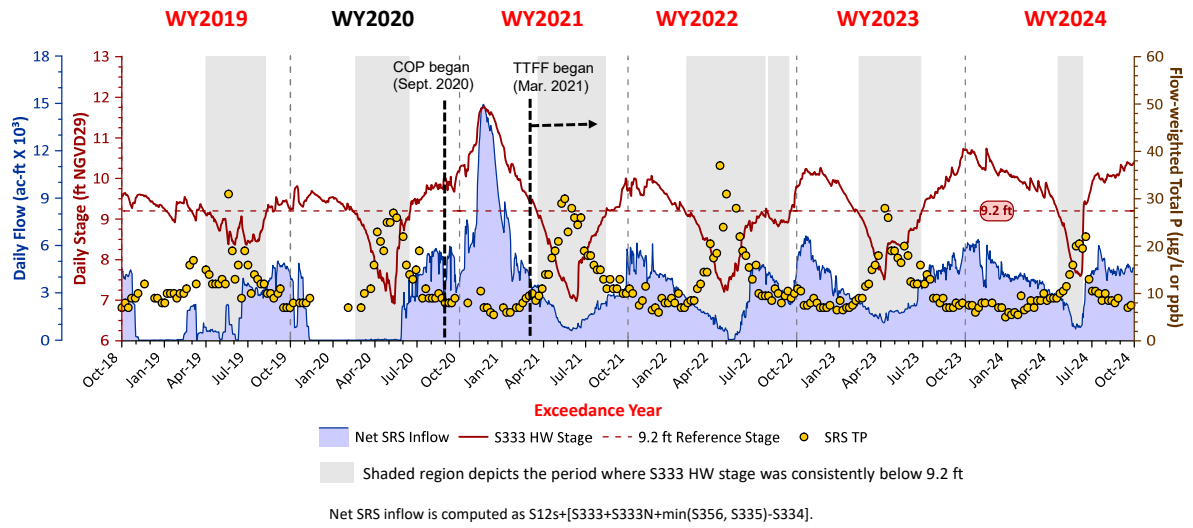
The persistence of a localized phenomenon

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

8

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

TP – Stage Relationship

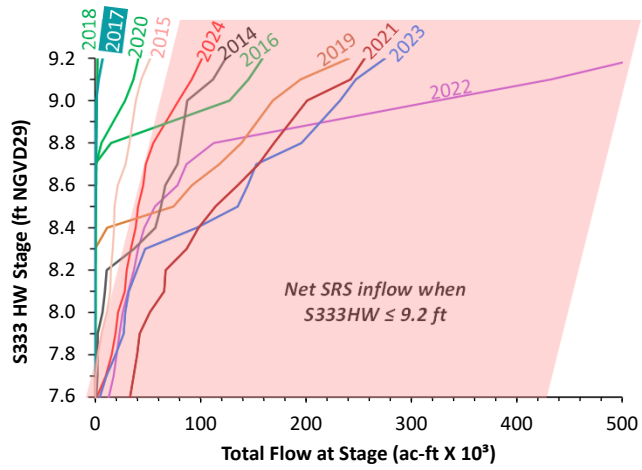


Net SRS inflow is computed as S12s+[S333+S333N+min(S356, S335)-S334].

9

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Flow during Low Stages



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

FWY	LTL	FWM	FWM - LTL	Net SRS inflow when S333 ≤ 9.2 ft
	(µg/L or ppb)			(ac-ft X 10³)*
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

Extraordinary natural phenomena

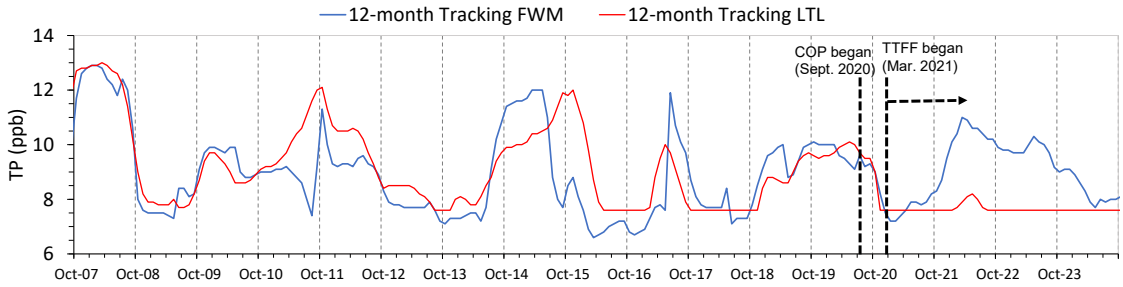
Exceedance year

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

10

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

12-month Tracking LTL & FWMC Patterns



TTFF implementation increases flow during low stages

More flow coupled with expected high TP at low stages results in increases to the 12-month FWMC

COP operation increases 12-month flow

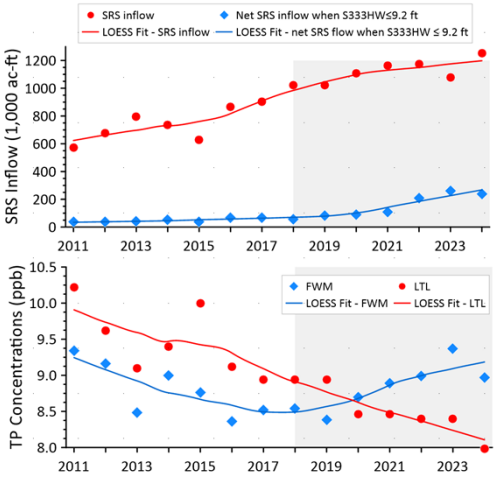
Based on Appendix A equation, high flow results in low LTL

12-month FWMC > 12-month LTLs

11

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

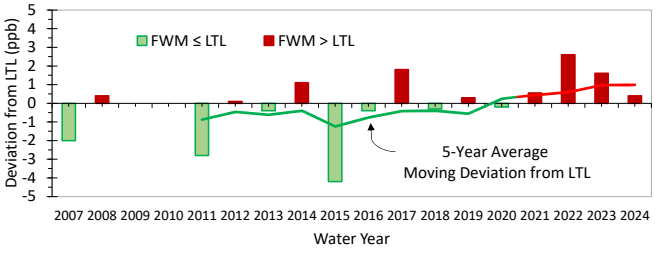
Trends of SRS Inflow, LTL, and Annual FWMC



The gray shaded area signals a shift in the previous trend, with a notable upward trajectory in the 5-year FWM following an inflection point in 2018.

Federal Water	5-year average of flow (ac-ft X 10^3)		5-year average of TP (µg/L or ppb)	
	SRS Inflow	* Net SRS inflow when S333HW ≤ 9.2 ft	LTL	FWM
2018	1021	56	8.9	8.5
2019	1022	82	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

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



12


SOUTH FLORIDA WATER MANAGEMENT DISTRICT
QUESTIONS
sfwmd.gov
13

13