Disclaimer: Information contained in the report addresses environmental conditions only and is not the official South Florida Water Management District operations recommendation or decision.

M E M O R A N D U M

TO: John Mitnik, Assistant Executive Director, Executive Office Staff

FROM: SFWMD Staff Environmental Advisory Team

DATE: July 23, 2025

SUBJECT: Weekly Environmental Conditions for Systems Operations

Summary

Weather Conditions and Forecast

An upper-air disturbance that moved through Atlantic Canada yesterday has driven a cold front well southward over the western Atlantic and into the southeastern U.S., with a weak low-pressure system along it offshore the South Carolina coast. At the same time, a deep-layered low-pressure system tracking across the Bahamas toward the Florida Peninsula has contributed to a temporary weakening of the subtropical ridge of high pressure. In combination with the nearby frontal low development, steering winds have veered to a westerly to northwesterly direction, but are forecast to weaken further by later today, becoming nearly calm or entirely absent. Deep tropical moisture pooling south of the frontal boundary is overspreading the SFWMD and will prevail into peak daytime heating. Coupled with increasing instability and a weak, convergent steering wind flow, these conditions will support a highly active weather pattern today, with numerous showers and thunderstorms expected across nearly the SFWMD. Within this environment, a mesoscale low-pressure area currently located over northern Florida — apparently distinct from the frontal boundary — is expected to surge southeastward, carried along by the northwesterly steering winds. This feature is forecast to drop southward toward the west coast of the SFWMD this afternoon, with its associated outflow boundary intersecting the east coast sea breeze as it moves inland. This interaction is expected to serve as a catalyst for substantial afternoon rainfall—initially focused near Lee County and the adjacent western interior, in proximity to the mesoscale low, and later shifting toward the eastern interior. Depending on the strength of the steering flow, some of this activity could extend into the eastern metropolitan areas of the SFWMD. Should the steering flow collapse altogether, the potential for significant rainfall will further increase. Given the difficulty in capturing the precise evolution and impact of this mesoscale feature, forecast confidence regarding its specific rainfall effects is somewhat low, even as confidence remains moderate with regard to the overall magnitude of the event. Forecast area-averaged rainfall ranges from 0.50 to 0.80 inches, with the greatest values depicted over the eastern interior of the SFWMD where probabilities for heavy rainfall are most peaked. A reasonable worst-case scenario ranges from eight tenths of an inch to 1.25 inches. On Wednesday, the low- to mid-level low over the Bahamas will cross

southern Florida early in the day, merging with low pressure crossing north Florida into the northeastern Gulf of Mexico by afternoon. Cold air aloft associated with the upper-air low will enhance instability, while moisture levels remain well above normal. These factors, along with added lift from the nearby low, will once again support widespread rainfall. With steering winds turning southerly to south-southwesterly around the low, the focus for afternoon storms will again favor the interior and western SFWMD. Though steering flow will strengthen slightly, the risk of locally heavy rainfall will persist, particularly in these areas. By Thursday, the low will shift westward away from the region, while the subtropical ridge re-establishes itself from the western Atlantic into the southern U.S. This will bring a transition to southerly and eventually southeasterly steering winds. While there is some uncertainty in the exact levels of moisture and instability during this transitional period, most model guidance indicates they will remain favorable for additional scattered to numerous afternoon thunderstorm development — particularly over the interior and western SFWMD—with more limited rainfall near the Lower to Middle East Coast. Next, a well-defined Saharan Air Layer (SAL), carrying a moderately dense concentration of Saharan dust, will pass north of the Greater Antilles on Thursday and Friday, with its leading edge expected to reach the eastern SFWMD by Friday afternoon. By the weekend, the core of the SAL will overspread the SFWMD, bringing a marked reduction in both moisture and atmospheric instability. This will significantly suppress rainfall activity. Model guidance has been consistent on this trend, supporting high confidence in a sharp downturn in precipitation through the weekend. Moisture recovery is possible beginning Monday next week, accompanied by a modest rebound in instability; however, total SFWMD rainfall will still likely fall short of climatological averages. Any afternoon rainfall that does occur will most likely be concentrated from the south-central and southwestern interior to the southwest coast, and parts of the Kissimmee Valley. For the seven-day period ending next Tuesday morning, total SFWMD rainfall is forecast to be near-normal. However, forecast confidence is low due to the transitional nature of the pattern.

Kissimmee

In the past week, releases were made from East Lake Toho to slow the rate of lake stage ascension; Lake Toho stage was at the summer pool of the regulation schedule, so that releases were made for flood risk maintenance. Releases from KCH followed the Headwaters Revitalization Schedule (HRS) Increment 1 Temporary Deviation Discharge Plan. Weekly average discharge on July 20, 2025, was 1,300 cfs at S-65 and 1,400 cfs at S-65A, respectively. Mean weekly water depth on the Kissimmee River floodplain increased by 0.08 feet to 0.46 feet. The weekly average concentration of dissolved oxygen in the Kissimmee River decreased from 3.5 mg/L the previous week to 2.8 mg/L, which is above both the potentially lethal level of 1.0 mg/L and the stressful level of 2.0 mg/L (**Figure KB-6**).

Lake Okeechobee

Lake Okeechobee stage was 10.61 feet NAVD88 (11.92 ft NGVD29) on July 20, 2025, which was 0.42 feet higher than the previous week and 0.86 feet higher than a month ago. Average daily inflows (excluding rainfall) were nearly double the previous week, going from 2,590 cfs to 4,730 cfs. Average daily outflows (excluding evapotranspiration) were similar to the previous week, going from 20 cfs to 0 cfs. The July 7-9 WQ sampling

showed *Microcystis aeruginosa* dominated communities at 6 of the 30 sites. Toxins (cylindrospermopsin and microcystins) were detected at 4 sites, all below EPA recreational standards, with a high of 3.4 µg/L of microcystin on the northeast shore. Bloom conditions (>40 µg/L chlorophyll *a*) were recorded at 3 sites, all of which were at the northern end of the Lake. The most recent non-obscured satellite image from July 20, 2025, suggests broad coverage of moderate to high cyanobacteria activity across the lake, primarily in the northern and eastern portions, with widespread accumulation along the north and northwestern shorelines.

Estuaries

Total inflow to the St. Lucie Estuary averaged 2,330 cfs over the past week with no flow coming from Lake Okeechobee. Mean surface salinities decreased at all sites over the past week. Salinity conditions in the middle estuary have recently declined from the optimal range (10-25) into the lower stressed range for adult eastern oysters.

Total inflow to the Caloosahatchee Estuary averaged 4,690 cfs over the past week with no flow coming from Lake Okeechobee. Over the past week, mean salinities remained below 1 at S-79 and Val I-75 and decreased at all sites in the estuary. The mean salinities were in the optimal range (0-10) for tape grass in the upper estuary. Salinities were in the optimal range at Cape Coral and Shell Point and in the upper stressed range at Sanibel.

Stormwater Treatment Areas

For the week ending Sunday, July 20, 2025, no Lake Okeechobee water was delivered to the FEBs/STAs. The total amount of Lake releases sent to the FEBs/STAs in WY2026 is approximately 27,400 ac-feet. The total amount of inflows to the STAs in WY2026 is approximately 213,700 ac-feet. STA cells are at or above target stage except STA-5/6 EAV cells that are below target stage. STA-1E Central Flow-way is offline for construction activities. Operational restrictions are in effect in STA-1E Western Flow-way, STA-2 Flow-ways 2 and 4, and STA-3/4 Eastern Flow-way for vegetation management activities. Additional restrictions are in place in STA-2 Flow-way 1 for inflow canal dredging and in STA-2 Flow-way 3 for post-drawdown vegetation grow-in. This week, if LOSOM recommends Lake releases to the WCAs and conditions allow, releases will be sent to STA-2.

Everglades

Heavy rains at the beginning of last week (then dry conditions) and continued inflows resulted in a good ascension rate in WCA-3A but an elevated rate in WCA-2A. Depths are well below average for this time of year across the EPA with few exceptions. The 30-day moving average of salinity at the Taylor River (TR) station approaches the exceedance threshold. Salinities increased again in Florida Bay (FB) last week, with the western region remaining above the hypersalinity threshold and the central region at the threshold. Average daily flow from the five major creeks into FB was net negative again over the past week. Wading bird surveys have been completed, and a seasonal summary is upcoming.

Supporting Information

Kissimmee Basin

Upper Kissimmee

On July 20, 2025, mean daily lake stages were 55.5 feet NAVD88 (at schedule) in East Lake Toho, 52.4 feet NAVD88 (0.1 feet below schedule) in Lake Toho, and 49.2 feet NAVD88 (1.1 feet below the Increment 1 Temporary Deviation schedule) in Lakes Kissimmee-Cypress-Hatchineha (KCH) (**Table KB-1**, **Figures KB-1-3**).

Lower Kissimmee

For the week ending July 20, 2025, mean weekly discharge was 1,300 cfs at S-65 and 1,400 cfs at S-65A, respectively. Mean weekly discharge from the Kissimmee River was 1,200 cfs and 1,100 cfs at S-65D and S-65E, respectively (**Table KB-2**). Mean weekly headwater stages were 45.3 feet NAVD88 at S-65A and 24.6 feet NAVD88 at S-65D. Mean weekly river channel stage increased by 1.0 feet to 34.9 feet NAVD88 (**Figure KB-4**). Mean weekly water depth on the Kissimmee River floodplain increased by 0.08 feet to 0.46 feet (**Table KB-2**, **Figure KB-5**). The weekly average concentration of dissolved oxygen in the Kissimmee River decreased from 3.5 mg/L the previous week to 2.8 mg/L (**Table KB-2**, **Figure KB-6**).

Water Management Recommendations

When possible, limit stage ascension rate in East Lake Toho to 0.25 ft per 7 days. In KCH, follow the Headwaters Revitalization Schedule (HRS) Increment 1 Temporary Deviation Discharge Plan for S-65/S-65A (**Figure KB-7**). With KCH stage in Zone B2 of Increment 1, target flows of 1400 cfs at S65A until stage rises into Zone B1. Once stage rises into Zone B1, use the Increment 1 Interpolation Tool to determine discharge relative to stage in KCH.

Table KB-1. Average discharge for the preceding seven days, Sunday's average daily stage and Sunday's average daily departure from Kissimmee Chain of Lakes (KCOL) flood regulation lines or temporary schedules. All data are provisional.

Water Body	Structure	Stage Monitoring Site	Weekly (7-Day) Average Discharge (cfs)	Sunday Lake Stage (feet NAVD88)[a]	Schedule Type[b]	Sunday Schedule Stage (feet NAVD88)	Sunday Departure from Regulation (feet)	
							7/20/25	*7/13/25*
Lakes Hart and Mary Jane	S-62	LKMJ	70	58.9	R	58.9	0.0	0.0
Lakes Myrtle, Preston and Joel	S-57	S-57	10	60.0	R	60.0	0.0	0.0
Alligator Chain	S-60	ALLI	86	62.2	R	62.2	0.0	0.0
Lake Gentry	S-63	LKGT	93	59.9	R	59.9	0.0	-0.5
East Lake Toho	S-59	TOHOE	160	55.5	R	55.5	0.0	-0.3
Lake Toho	S-61	TOHOW S-61	470	52.4	R	52.3	0.1	0.0
Lakes Kissimmee, Cypress and Hatchineha	S-65	KUB011 LKIS5B	1300	49.2	T	50.3	-1.1	-1.2

a. Names of in-lake monitoring sites and structures used to determine lake stage. If more than one site is listed, an average is reported.

b. A: projected recession line; R: USACE regulation schedule; S: temporary recession target line; T: temporary schedule; NA: not applicable or not available.

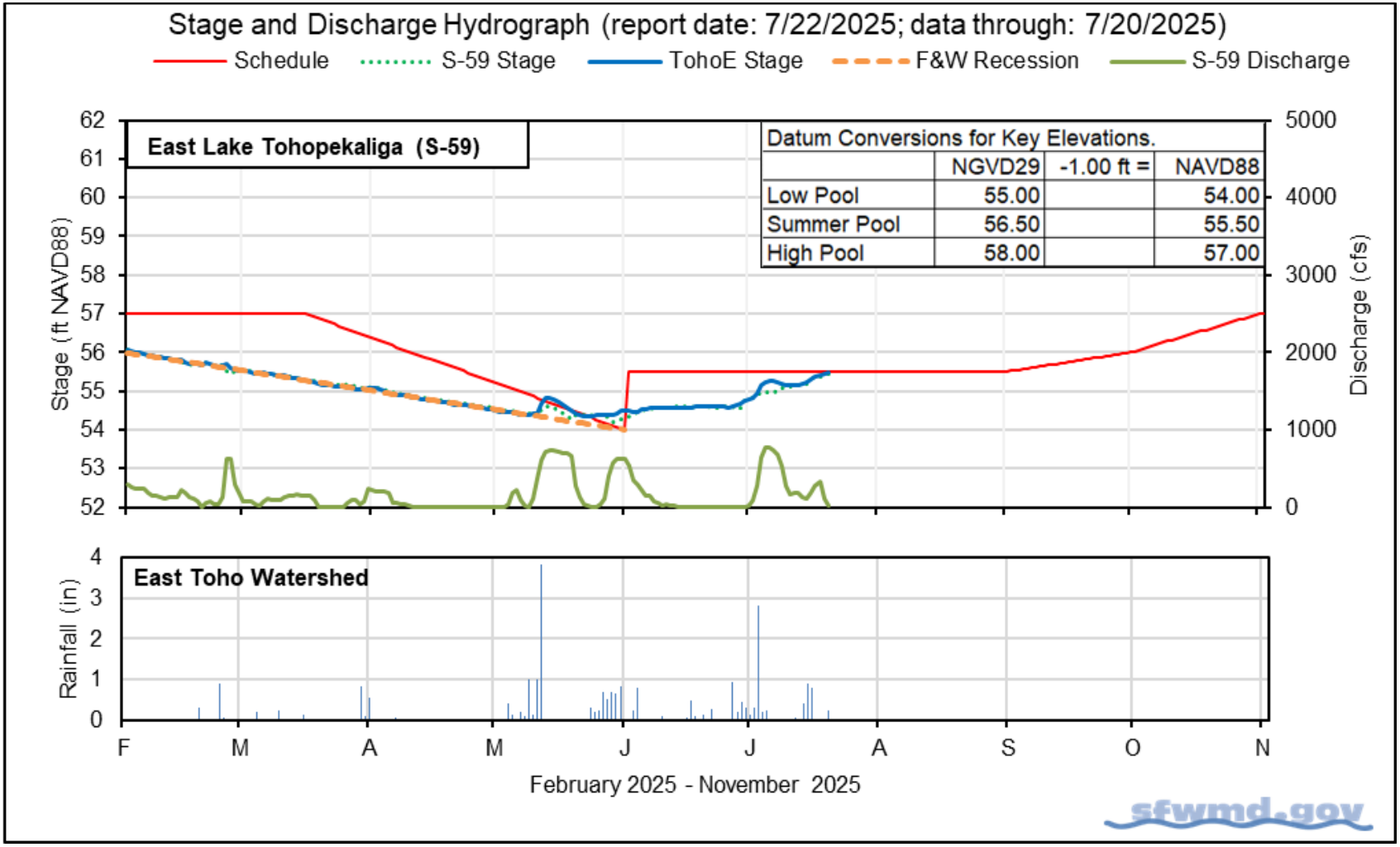


Figure KB-1. East Lake Toho regulation schedule, stage, discharge, and rainfall.

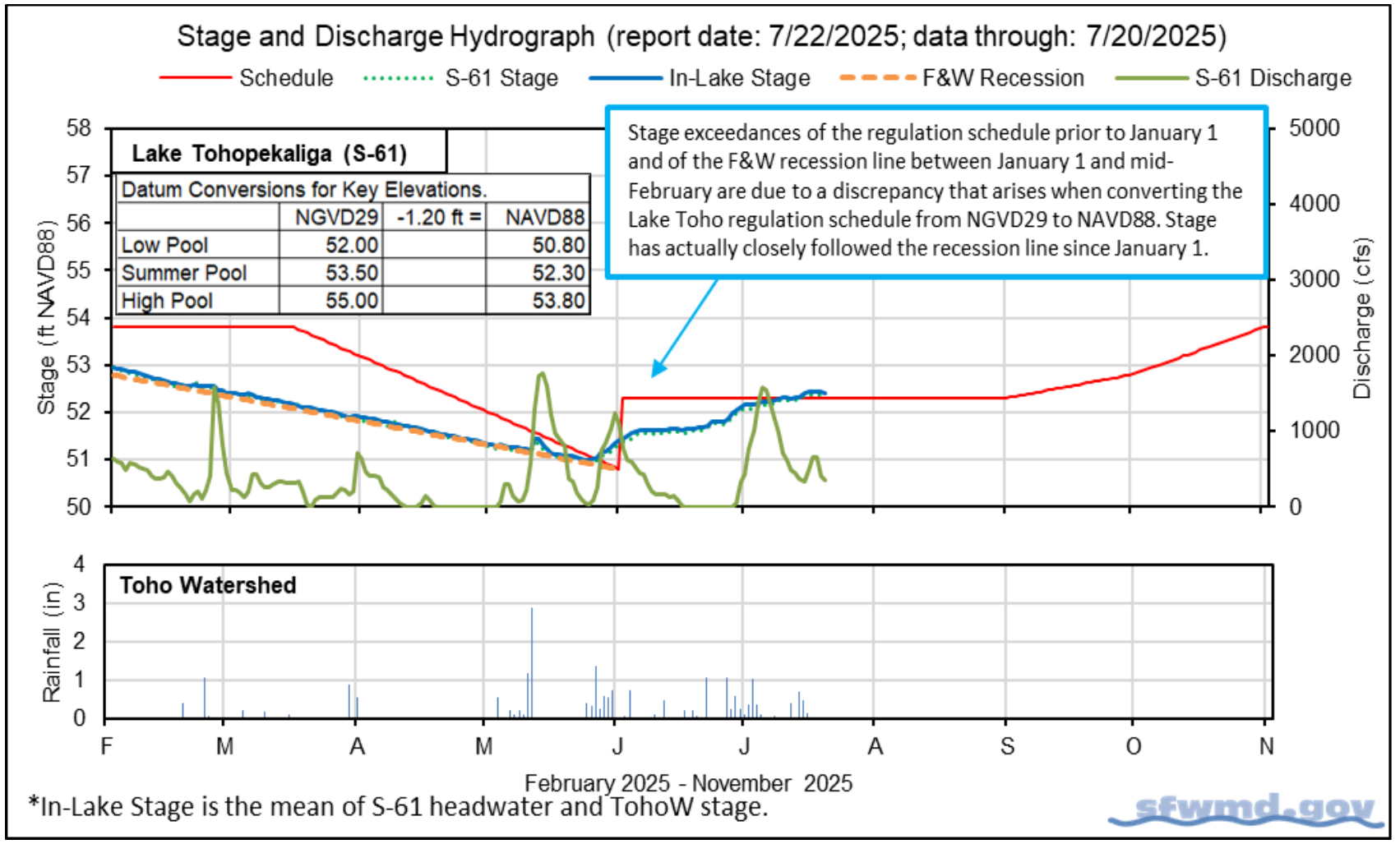


Figure KB-2. Lake Toho regulation schedule, stage, discharge, and rainfall.

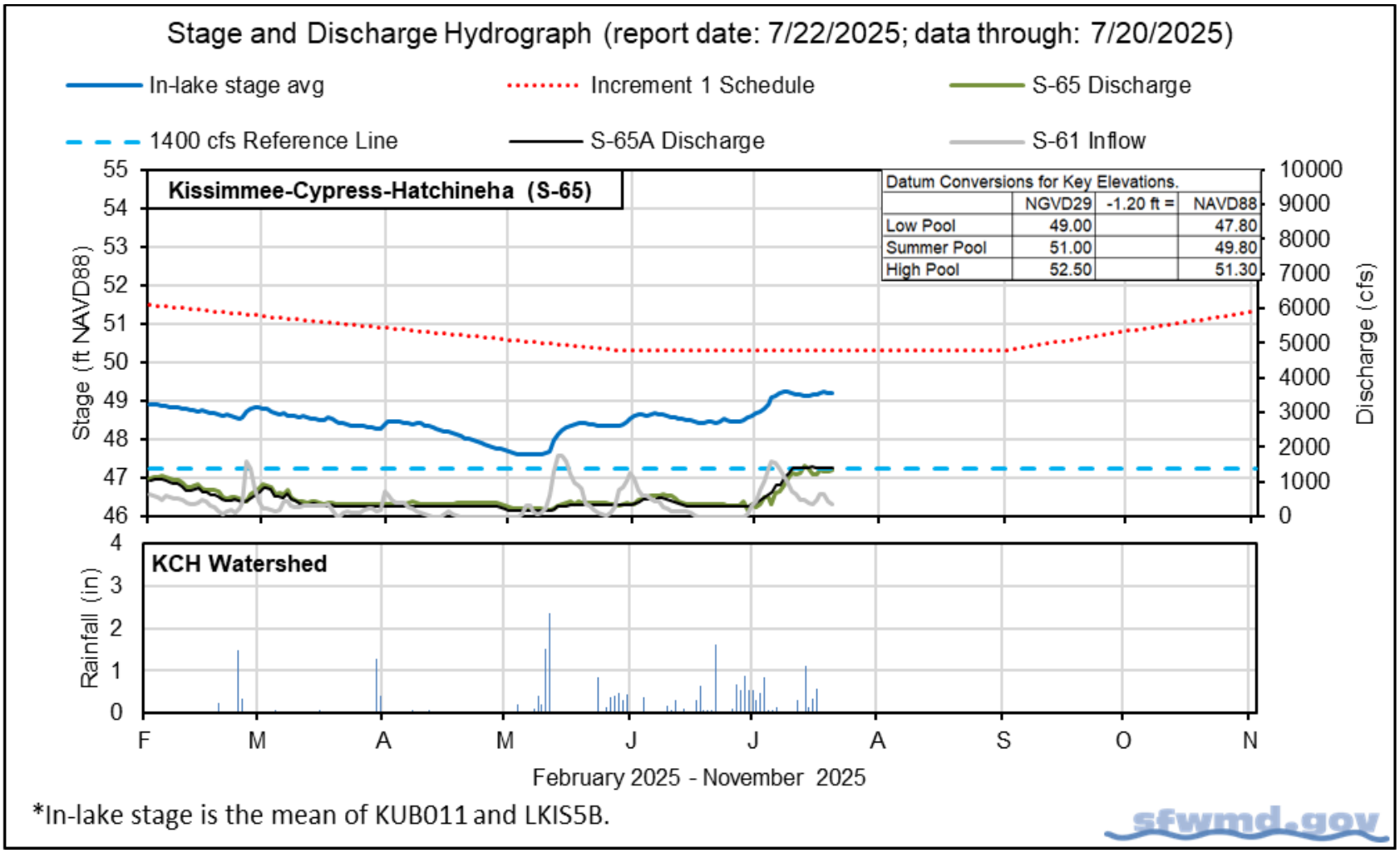


Figure KB-3. Lakes Kissimmee, Cypress and Hatchineha regulation schedule, stage, discharge, and rainfall.

Table KB-2. One- and seven-day average discharge and stage at Lower Kissimmee basin structures, river channel dissolved oxygen concentrations and water depths in the Phase I area floodplain. All data are provisional.

Metric	Location	Sunday Daily Average	Weekly Average for Previous Seven Day Periods			
		7/20/25	7/20/25	7/13/25	7/6/25	6/29/25
Discharge	S-65	1,300	1,300	1,100	440	310
Discharge	S-65A[a]	1,400	1,400	1,300	550	300
Headwater Stage (feet NAVD88)	S-65A	45.3	45.3	45.2	45.3	45.4
Discharge	S-65D[b]	1,200	1,200	900	450	300
Headwater Stage (feet NAVD88)	S-65D[c]	24.7	24.6	24.6	24.6	24.6
Discharge (cfs)	S-65E[d]	1,100	1,100	830	440	250
Discharge (cfs)	S-67	0	0	0	0	0
Dissolved Oxygen (mg/L) [e]	Phase I, II/III river channel	2.8	2.8	3.5	6.0	7.3
River channel mean stage (feet NAVD88) [f]	Phase I river channel	35.0	34.9	33.9	31.5	30.6
Mean depth (feet) [g]	Phase I floodplain	0.47	0.46	0.38	0.33	0.19

a. Combined discharge from main and auxiliary structures.

b. Combined discharge from S-65D, S-65DX1, and S-65DX2.

c. Average stage from S-65D and S-65DX1.

d. Combined discharge from S-65E and S-65EX1.

e. Dissolved oxygen is the average of values from sondes KRBN, PC62, PC33, PD62R, and PD42R.

f. Mean of five river channel stations (PC62, KRDR02, KRBN, PC33, PC11) in the Phase I area.

g. One-day spatial average obtained from the South Florida Water Depth Assessment Tool (SFWDAT).

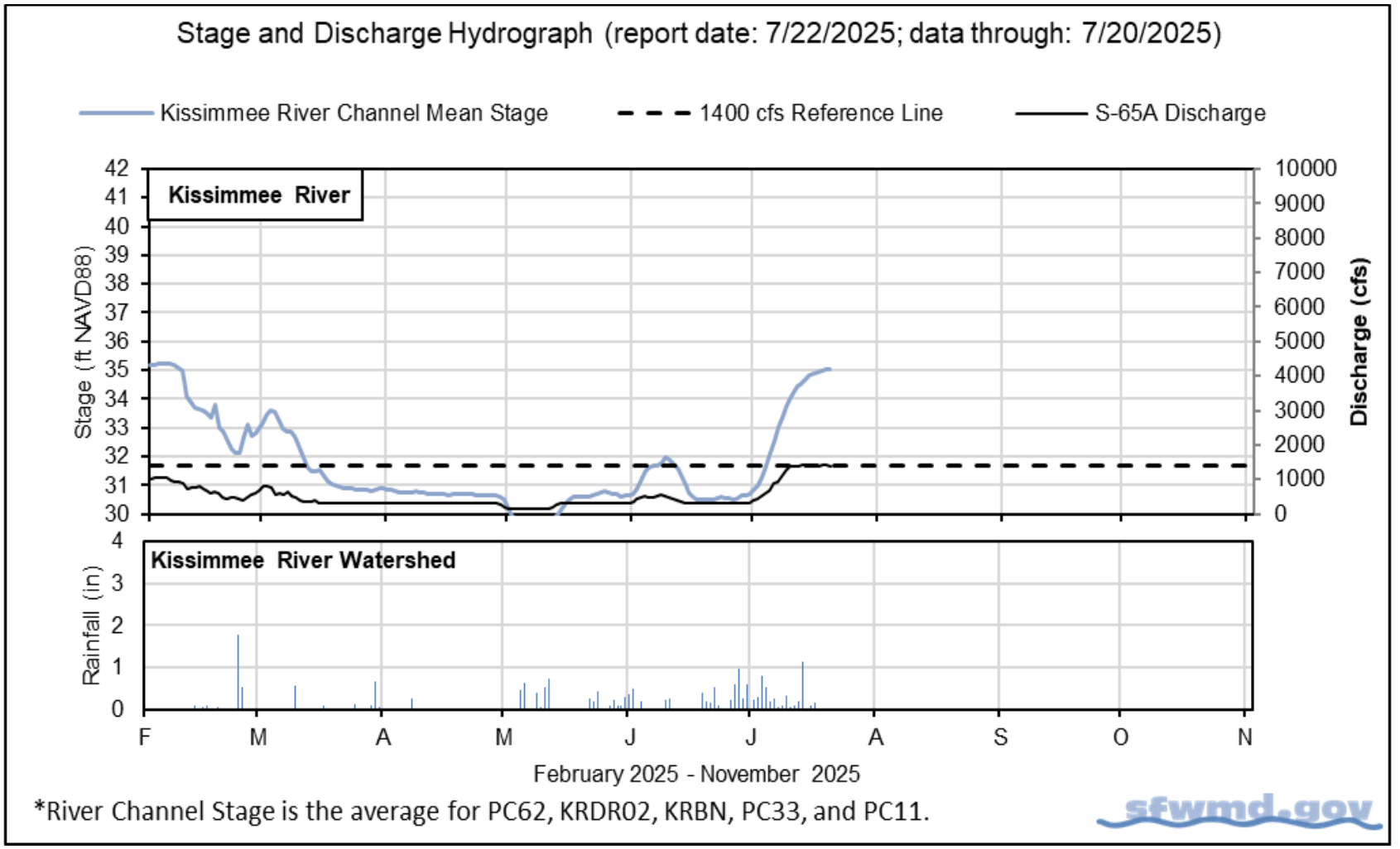


Figure KB-4. Kissimmee River stage, discharge, and rainfall.

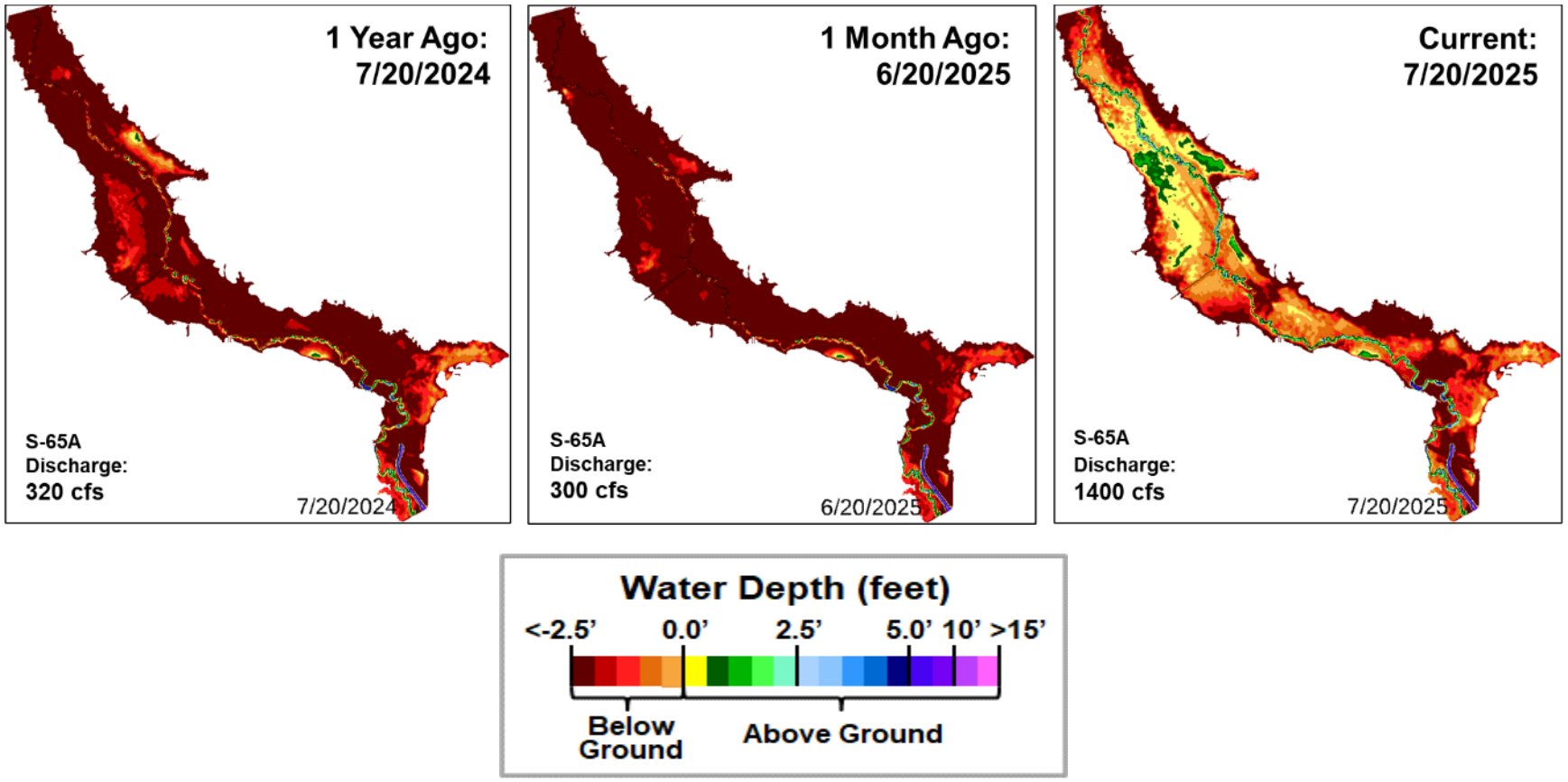


Figure KB-5. Phase I-II-III area Kissimmee River floodplain water depths (from left to right) one year ago, one month ago, and current.

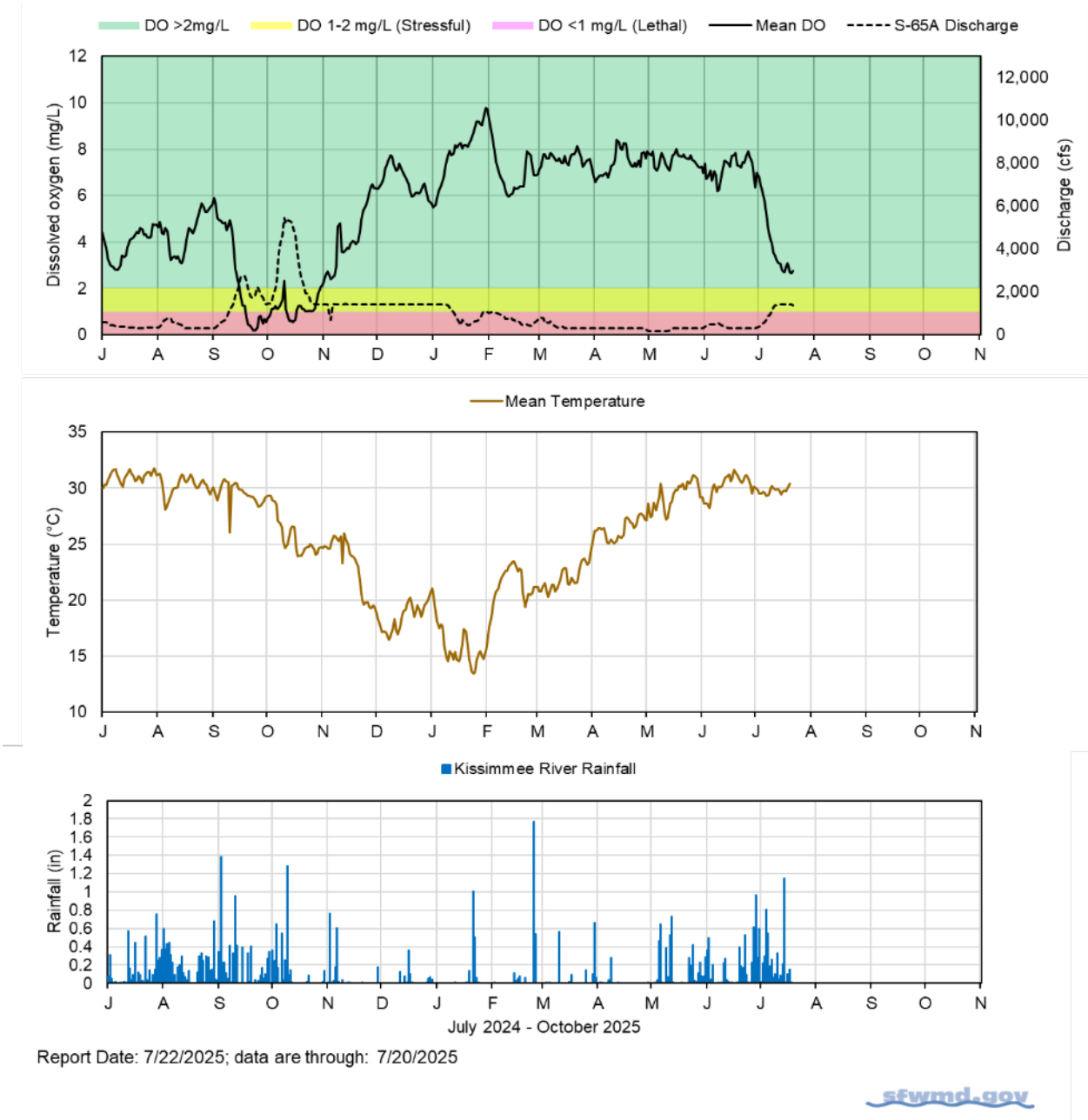


Figure KB-6. Kissimmee River channel mean daily dissolved oxygen concentration (mg/L), S-65A discharge (cfs), temperature (°C) and rainfall (inches). Dissolved oxygen (DO) and temperature are mean daily values averaged for PC62, KRDR02, KRBN, PC33, PC11, PD62R, and PD42R with an average of five stations reporting this week. Rainfall values are daily totals for Kissimmee River (Pool BCD) AHED watershed.

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

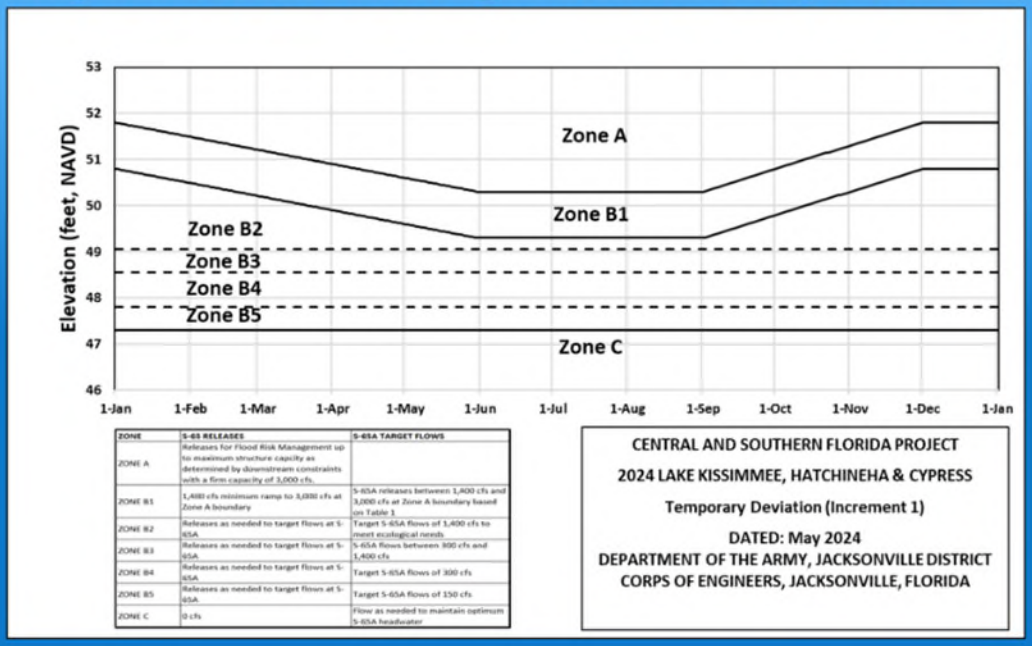
HRS Increment 1 Temporary Deviation Discharge Plan for S-65/S-65A

Discharge Guidance for Increment I Temporary Deviation Discharge Plan		
ZONE	**S-65 RELEASES**	**S-65A TARGET FLOWS**
ZONE A	Releases for Flood Risk Management up to maximum structure capcity as determined by downstream constraints with a firm capacity of 3,000 cfs.	
ZONE B1	1,400 cfs minimum ramp to 3,000 cfs at Zone A boundary	S-65A releases between 1,400 cfs and 3,000 cfs at Zone A boundary based on Table 1
ZONE B2	Releases as needed to target flows at S-65A	Target S-65A flows of 1,400 cfs to meet ecological needs
ZONE B3	Releases as needed to target flows at S-65A	S-65A flows between 300 cfs and 1,400 cfs
ZONE B4	Releases as needed to target flows at S-65A	Target S-65A flows of 300 cfs
ZONE B5	Releases as needed to target flows at S-65A	Target S-65A flows of 150 cfs
ZONE C	0 cfs	Flow as needed to maintain optimum S-65A headwater

Table KB-3. Maximum Rate of Change Limits for S-65A

MAXIMUM Release Rate of Chane Limits for S-65A. **In general recommended rates of change will be slower than shown in this table.**

Q (cfs)	Maximum rate of INCREASE (cfs/day)	Maximum rate of DECREASE (cfs/day)
0-300	50	-50
301-650	75	-75
651-1400	150	-150
1401-3000	300	-600
>3000	1000	-2000



Other Considerations

- When possible, limit lake ascension rate in the Jun 1 - Aug 15 window to 0.25 ft per 7 days in Lakes Kissimmee, Cypress, Hatchineha (S-65), East Toho (S-59) and Toho (S-61).
- If outlook is for extreme dry conditions meet with KB staff to discuss modifications to this plan.

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Figure KB-7. Headwaters Revitalization Schedule (HRS) Increment 1 Temporary Deviation Discharge Plan for S-65/S-65A.

Lake Okeechobee

Lake Okeechobee stage was 10.61 feet NAVD88 (11.92 ft NGVD29) on July 20, 2025, which was 0.42 feet higher than the previous week and 0.86 feet higher than a month ago (**Figure LO-1**). Lake stage is in Zone D of the regulation schedule (**Figure LO-2**) and is within the recovery ecological envelope (**Figure LO-3**). According to NEXRAD, 1.8 inches of rain fell directly over the lake during the previous week, while 1.3 inches were lost to evapotranspiration.

Average daily inflows (excluding rainfall) were nearly double the previous week, going from 2,590 cfs to 4,730 cfs. The highest inflows came from the Indian Prairie basin (1,830 cfs) via the S-84 (990 cfs) and S-71 and S-72 (670 cfs) structures, while the Kissimmee River contributed 1,080 cfs. Average daily outflows (excluding evapotranspiration) were similar to the previous week, going from 20 cfs to 0 cfs. **Figures LO-4 and LO-5** show the combined average daily inflows and outflows for the lake over the past eight weeks, and average inflows and outflows last week, respectively.

In the most recent non-obscured satellite image from July 20, 2025, NOAA's Harmful Algal Bloom Monitoring System suggests broad coverage of moderate to high cyanobacteria activity across the lake, primarily in the northern and eastern portions, with widespread accumulation along the north and northwestern shorelines (**Figure LO-6**).

The routine water quality and phytoplankton monitoring sampling trips are now on the bloom season (May-Nov) schedule and occur twice per month. Provisional phytoplankton results from the July 7-9 sampling showed 6 of the 30 phytoplankton communities were dominated by *Microcystis.* Toxins were detected at 4 sites; 2 had cylindrospermopsin and 2 had microcystin, but none exceeded EPA recreational standards of (15 µg/L and 8 µg/L, respectively). Nine of the sites had chlorophyll *a* concentrations between 20-40 µg/L, and 3 on the north side of the lake had concentrations >40 µg/L (**Figure LO-7**).

Note: All data presented in this report are provisional and are subject to change.

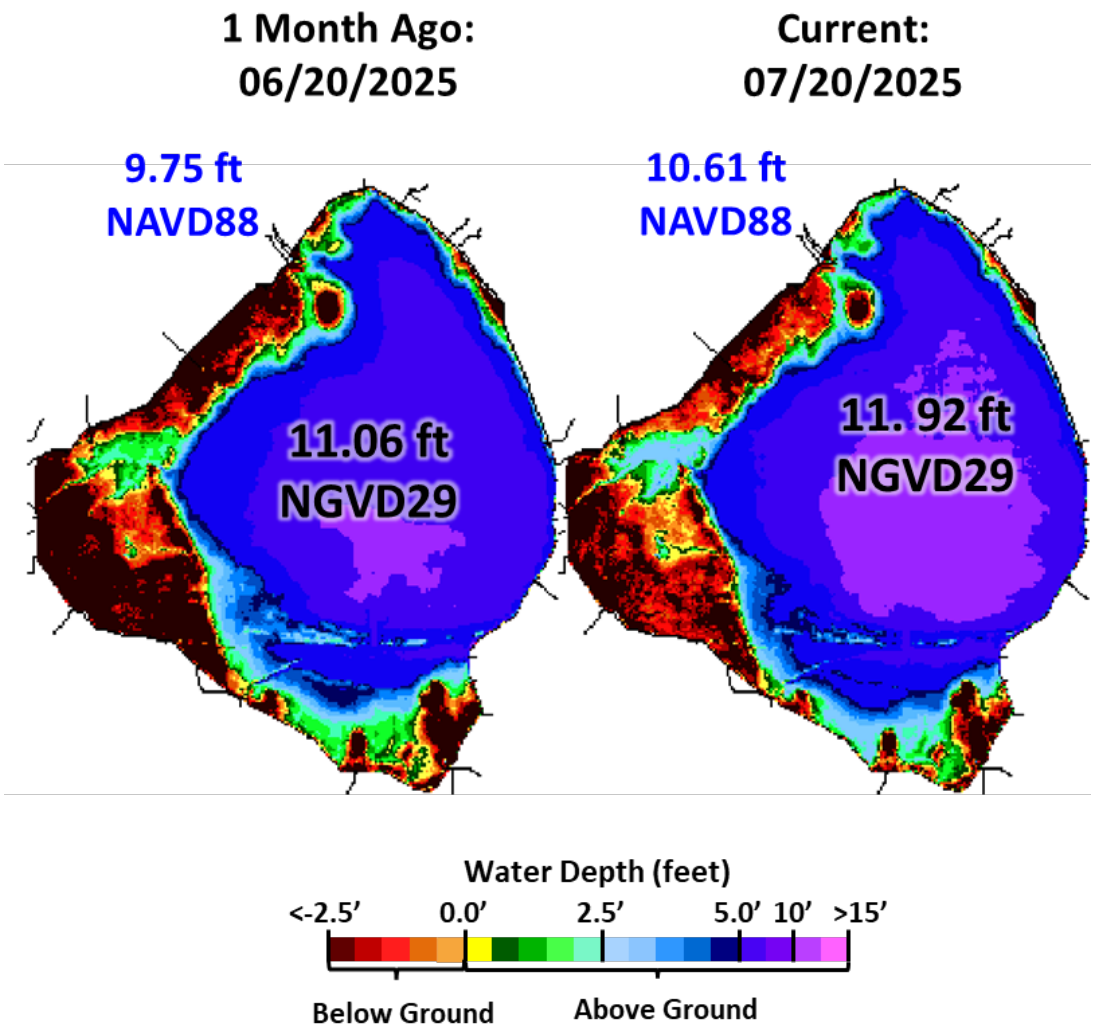

Figure LO-1. Lake Okeechobee water depth estimates based on South Florida Water Depth Assessment Tool (SFWDAT).

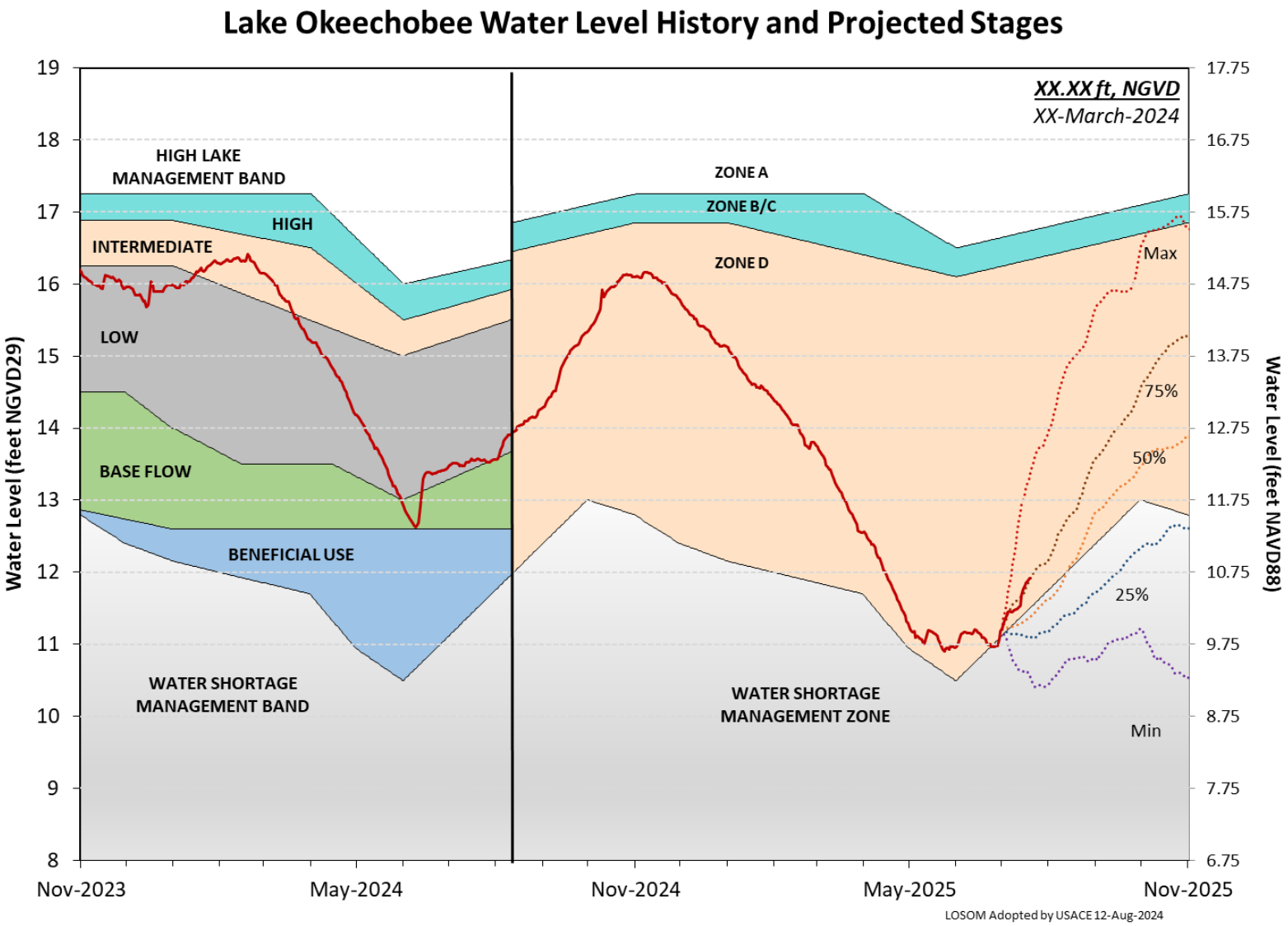

Figure LO-2. Recent Lake Okeechobee stages with projected stages based on a dynamic position analysis. Note: stages are in NGVD29, approximate NAVD88 values are shown for reference.

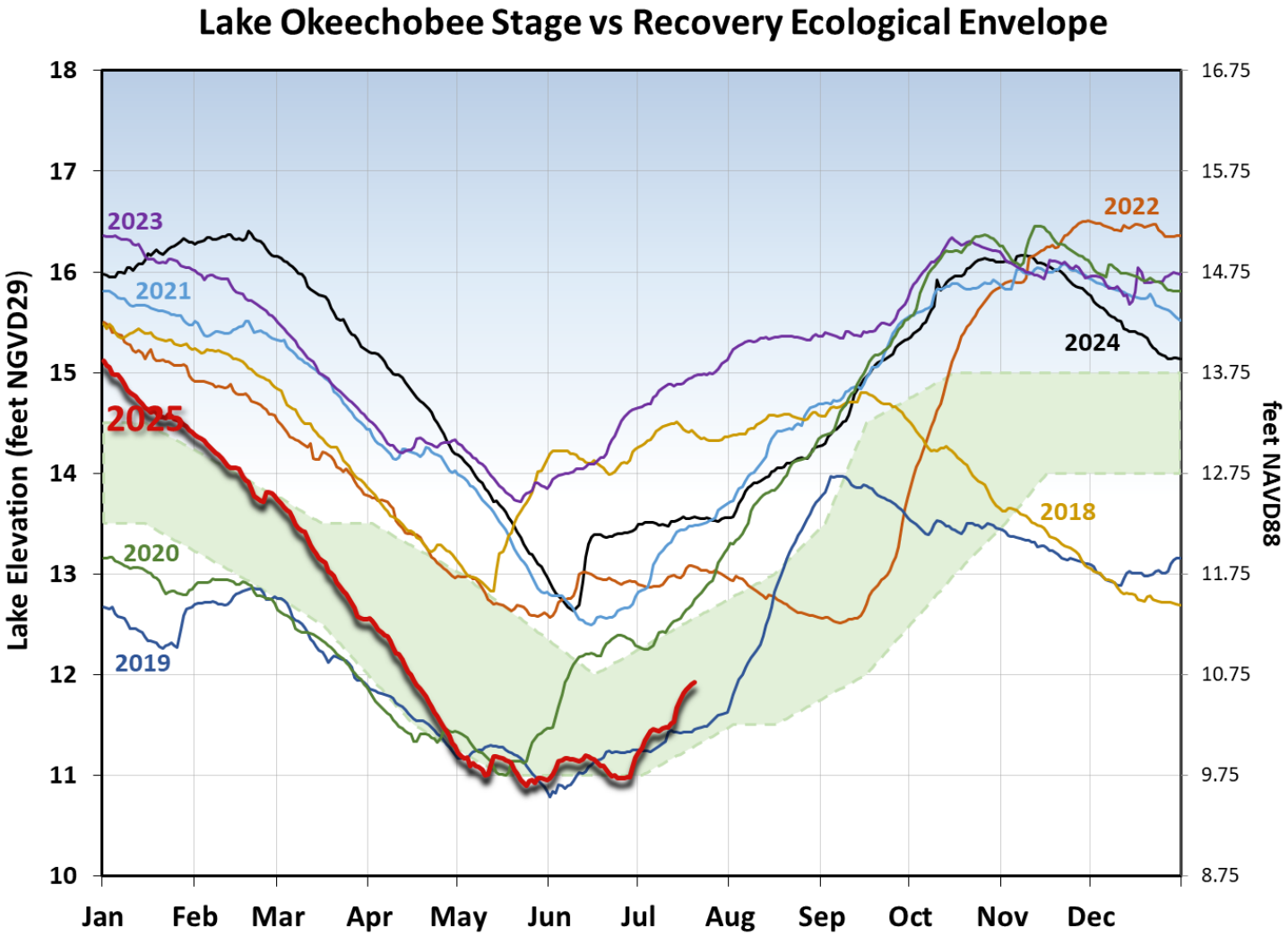

Figure LO-3. The current and seven prior year's annual stage hydrographs for Lake Okeechobee in comparison to the recovery envelope (light green). A shift from the normal ecological envelope to the recovery envelope occurred because the 30-day minimum lake stage (elevations exposed for at least 30 days, nonconsecutively) in the June 1 – July 31, 2023, window was >13 ft NGVD29 (11.75 ft NAVD88).

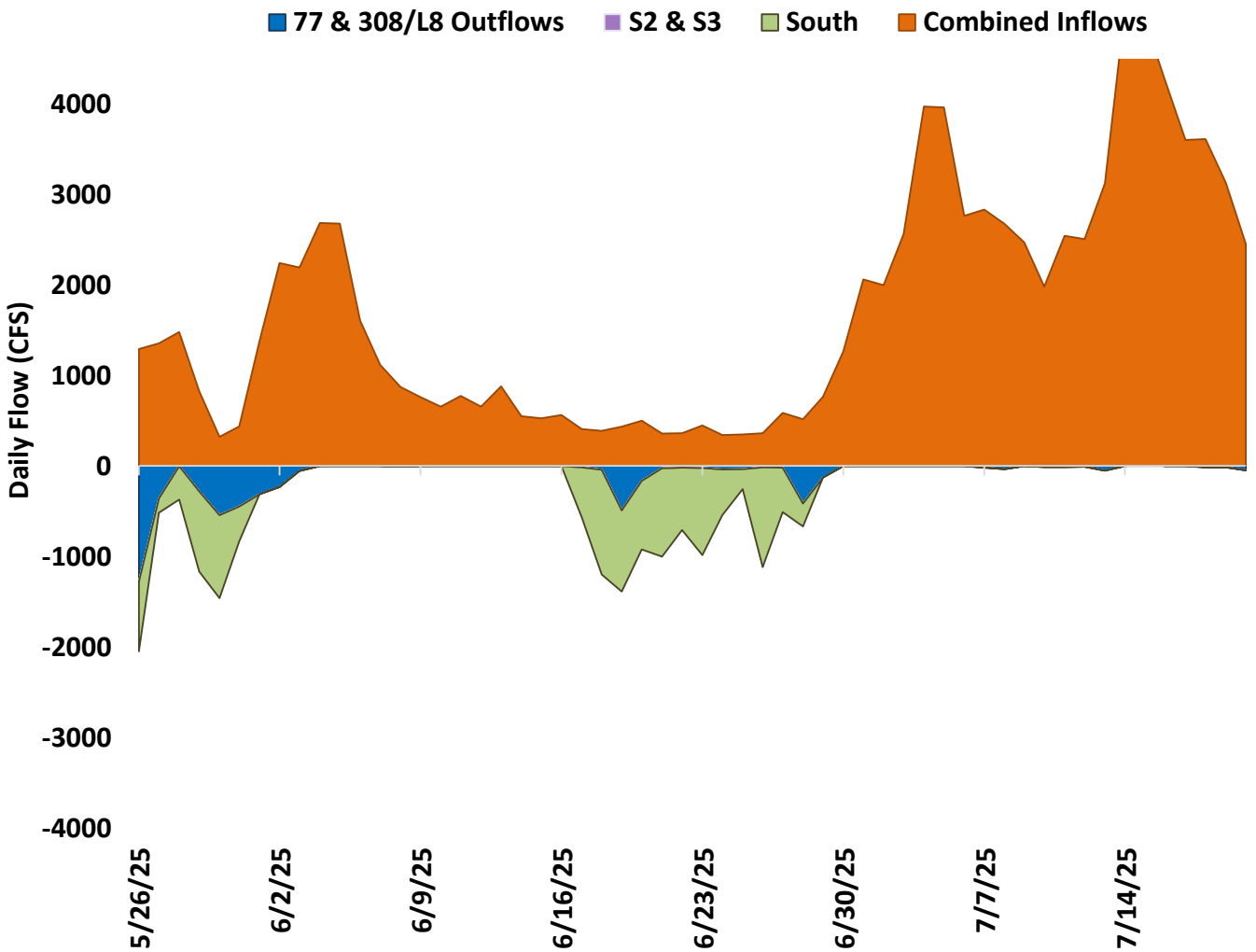

Figure LO-4. Major inflows (orange) to and outflows east and west (blue) from Lake Okeechobee. Outflows south are shown in green. Flows into Lake Okeechobee from the L-8 canal through S-271 (formerly Culvert 10A) or from the C-44 canal through the S-308 are included as inflows. Conversely, flows from Lake Okeechobee into the L-8 or C-44 canals are included with outflows. Inflows are shown as positive values; outflows are negative. Outflows through the S-77 (Caloosahatchee) and S-308 (C-44 Canal) structures are based on downstream gauges to include flows to lock openings for navigation.

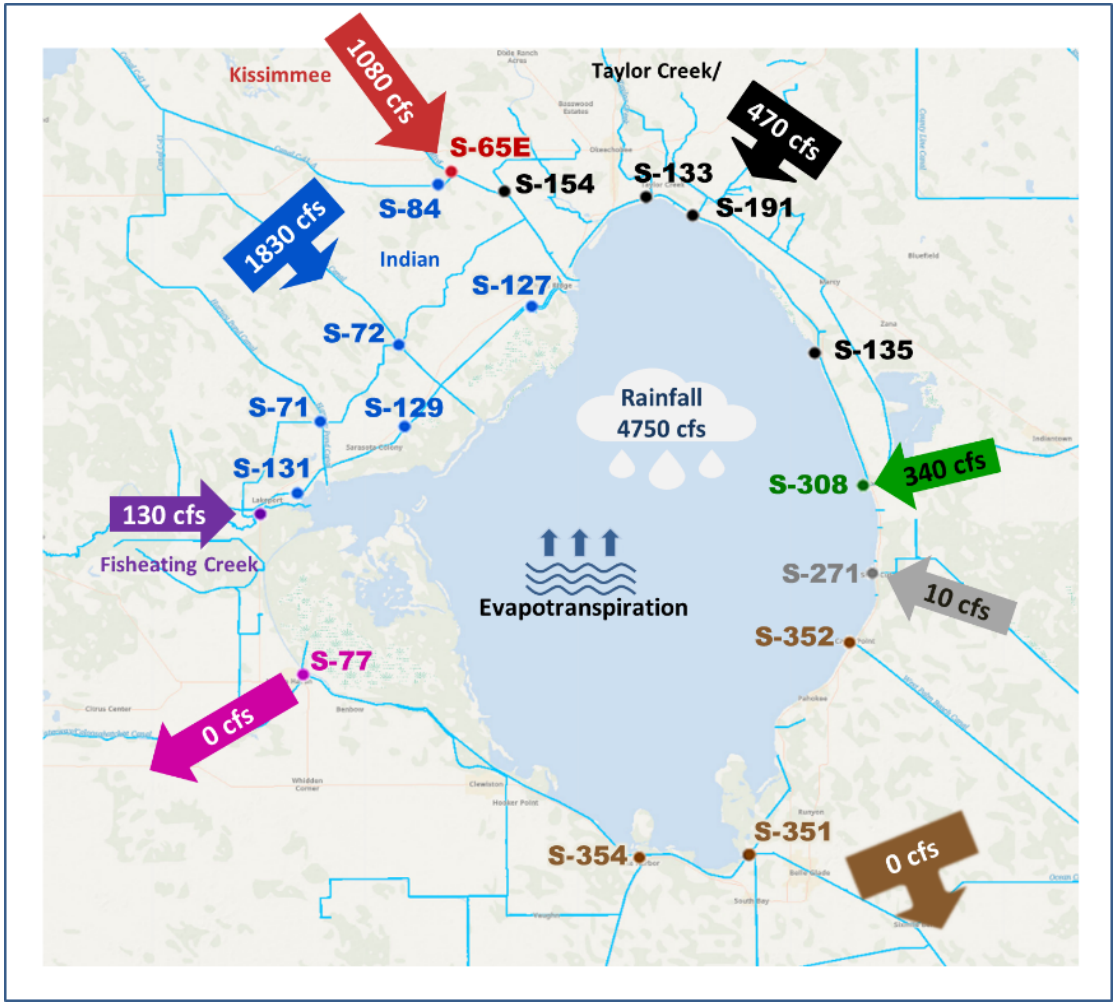

Figure LO-5. Inflows into Lake Okeechobee from Indian Prairie basins, Taylor Creek/Nubbin Slough, Kissimmee River and Fisheating Creek, and outflows to the west via S-77, to the east via S-308, to the south via S-351, S-352, S-354, and to southeast via S-271 (formerly Culvert 10A) for the week of July 14 – July 20, 2025.

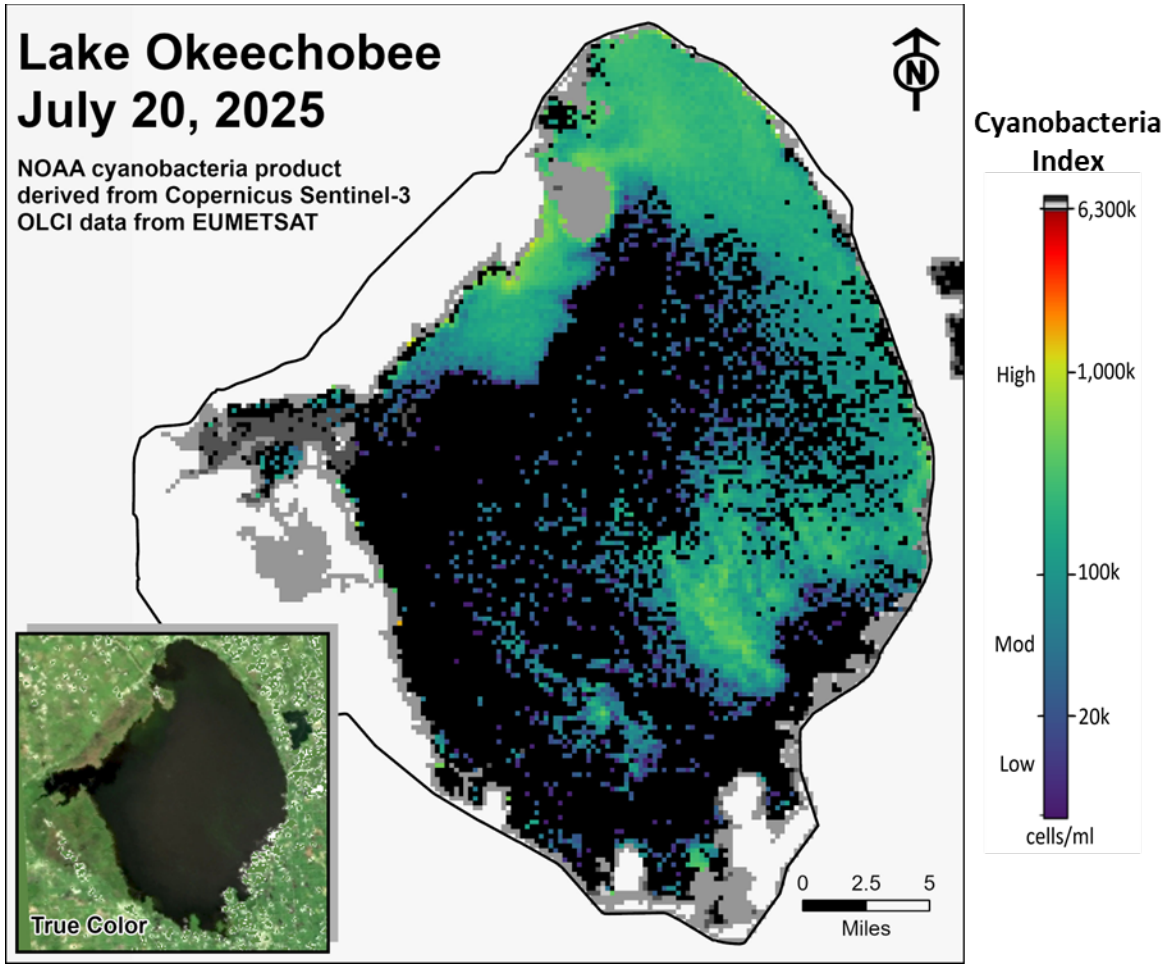

Figure LO-6. Cyanobacteria bloom index level on Lake Okeechobee, based on NOAA's harmful algal bloom monitoring system. Gray color indicates cloud cover. *Provisional NOAA image, subject to change*.

Collection Date: July 07-09, 2025

Station	CHL*a* (ug/L)	TOXIN (ug/L)	TAXA
FEBIN	*NS*	*NS*	*NS*
FEBOUT	*NS*	*NS*	*NS*
KISSR0.0	33.7	BDL	*Microcys*
L005	2.3	BDL	*mixed*
LZ2	17.0	BDL	*mixed*
*KBARSE	44.4	0.6	*Plank/Rhabd*
RITTAE2	P	P	P
PELBAY3	P	P	P
POLE3S	1.3	BDL	*mixed*
LZ25A	P	P	P
PALMOUT	4.0	BDL	*mixed*
PALMOUT1	4.1	BDL	*Dolichos*
PALMOUT2	20.4	BDL	*Microcys*
PALMOUT3	32.2	BDL	*mixed*
POLESOUT	17.4	BDL	*Plank/Rhabd*
POLESOUT1	7.6	BDL	*Planktol*
POLESOUT2	9.8	BDL	*mixed*
POLESOUT3	7.1	BDL	*Microcys*
EASTSHORE	31.6	3.4	*Micro/Plank*
NES135	31.8	1.6	*Microcys*
NES191	50.4	BDL	*Micro/Plank*

Station	CHL*a* (ug/L)	TOXIN (ug/L)	TAXA
L001	38.2	BDL	*Micro/Plank*
L004	13.8	BDL	*Microcys*
L006	17.0	BDL	*mixed*
L007	31.2	BDL	*mixed*
L008	16.5	BDL	*mixed*
LZ30	22.7	BDL	*mixed*
LZ40	12.6	BDL	*Microcys*
CLV10A	22.8	BDL	*Micro/Raphi*
*NCENTER	51.8	0.5	*Raphi/Plank*

S308C	8.0	BDL	*mixed*
S77	P	BDL	*mixed*

- SFWMD considers >40 µg/L Chlorophyll *a* (Chl*a*) an algal bloom
- BDL – Below Detectable Limit of **0.25** µg/L
- ND – No Dominant taxa
- P – Pending (white squares)
- NS – Not Sampled
- Station bold font – crew observed possible BGA
- Chlorophyll *a* analyzed by SFWMD
- Toxin and Taxa analyzed by FDEP:
  Microcys = Microcystis; Raphidio = Raphidiopsis;
  Planktol = Planktolyngbya; Dolicho = Dolichospermum;
  Pseud = Pseudanabaena; Cylindro = Cylindrospermopsis

* Cylindrospermopsin toxin, not microcsytin

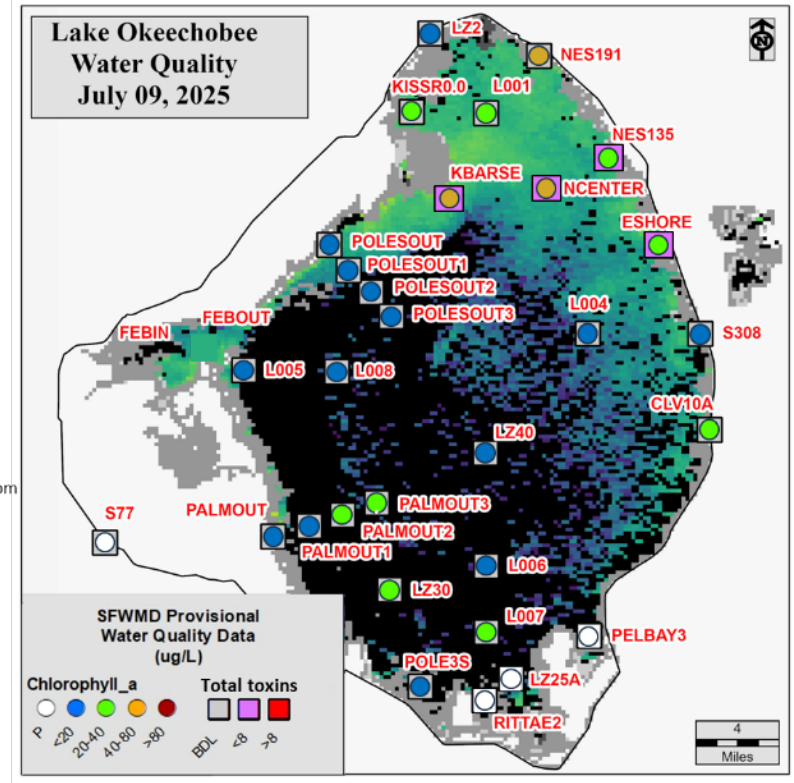

Figure LO-7. Dominant taxa, total toxins (µg/L) and chlorophyll *a* (µg/L) concentration data from July 7-9, 2025. Sampling locations, chlorophyll *a*, and total toxin concentrations are overlaid on the July 9, 2025 image from NOAA's harmful algal bloom monitoring system. Gray color indicates cloud cover.

Estuaries

St. Lucie Estuary

Over the past week, mean total inflow to the St. Lucie Estuary was 2,330 cfs (**Figures ES-1** and **ES-2**), and the previous 30-day mean inflow was 1,650 cfs. For comparison, the historical provisional mean inflows from contributing areas are shown in **Figure ES-2**.

Over the past week, salinities decreased at all sites (**Table ES-1** and **Figure ES-3**). The seven-day moving average of the surface and bottom salinities at the US1 Bridge was 8.7. Salinity conditions in the middle estuary have recently declined from the optimal range into the lower stressful range for adult eastern oysters (**Figure ES-4**). The mean larval oyster recruitment rate reported by the Fish and Wildlife Research Institute (FWRI) for June was 17.7 spat/shell at Rio, which was an increase from the rate recorded in May (**Figure ES-5**).

Caloosahatchee River Estuary

Over the past week, mean total inflow to the Caloosahatchee River Estuary was 4,690 cfs (**Figures ES-6** and **ES-7**), and the previous 30-day mean inflow was 3,390 cfs. For comparison, the historical provisional mean inflows from the contributing areas are shown in **Figure ES-7**.

Over the past week, salinities decreased at all sites in the estuary (**Table ES-2** and **Figures ES-8** and **ES-9**). The seven-day mean salinities (**Table ES-2**) were in the optimal range (0-10) for tape grass in the upper estuary. The seven-day mean salinity values were in the optimal range at Cape Coral and Shell Point and in the upper stressed range at Sanibel (**Figure ES-10**). The mean larval oyster recruitment rates reported by the FWRI in June were 6.2 spat/shell at Iona Cove and 8.1 spat/shell at Bird Island, which was an increase from the rates recorded in May (**Figures ES-11 and ES-12**).

Surface salinity at Val I-75 was forecast for the next two weeks using an autoregression model (Qiu and Wan, 2013[1]) coupled with a linear reservoir model for the tidal basin. Model scenarios included pulse releases at S-79 ranging from 450 to 2,000 cfs, with estimated tidal basin inflows of 1,150 cfs. Model results from all scenarios predict daily salinity to be 0.3 and the 30-day moving average surface salinity to be 0.3 at Val I-75 at the end of the two-week period (**Table ES-3** and **Figure ES-13**). This keeps predicted salinities in the upper estuary within the optimal salinity range (0-10) for tape grass.

[1] Qui, C., and Y. Wan. 2013. Time series modeling and prediction of salinity in the Caloosahatchee River Estuary. *Water Resources Research* 49:5804-5816.

Red Tide

The FWRI reported on July 18, 2025, that *Karenia brevis*, the Florida red tide dinoflagellate, was not observed in any samples collected statewide over the past week.

Water Management Recommendations

Lake stage is in Zone D. Current climatological and hydrological conditions are normal. The LOSOM release guidance suggests up to 2,000 cfs release at S-79 to the Caloosahatchee River Estuary and no releases at S-80 to the St. Lucie Estuary.

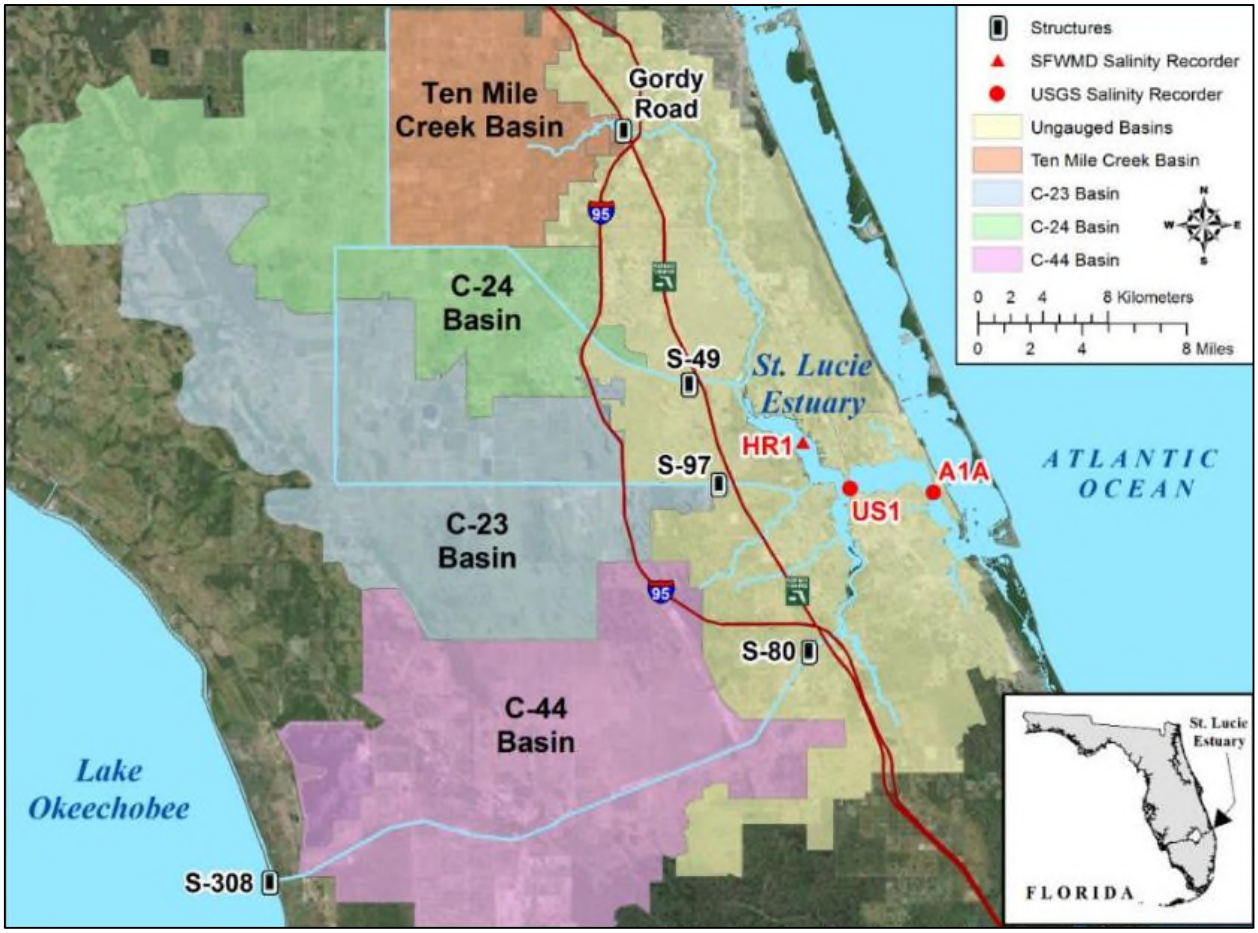

Figure ES-1. Basins, water control structures and salinity monitoring sites in the St. Lucie Estuary.

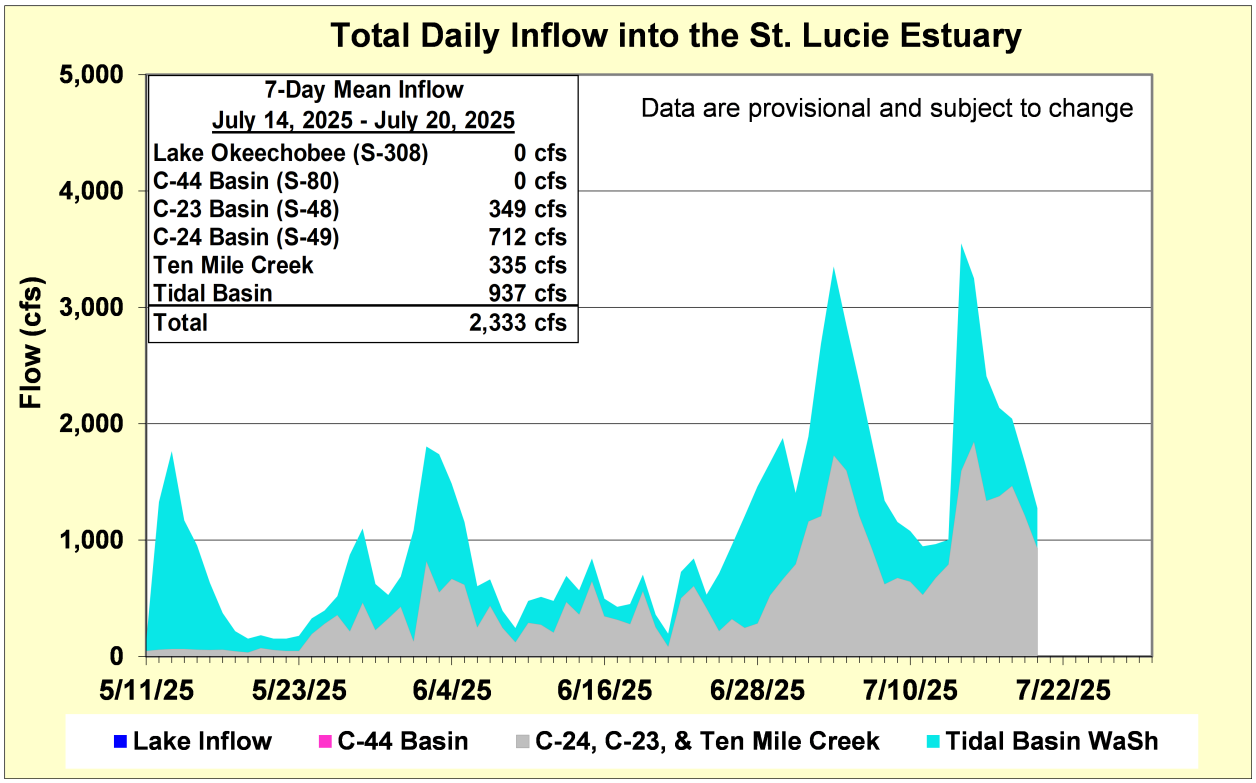

Figure ES-2. Total daily inflows from Lake Okeechobee and runoff from the C-44, C-23, C-24, Ten Mile Creek, and Tidal Basins into the St. Lucie Estuary.

Table ES-1. Seven-day mean salinity at oyster monitoring sites in the St. Lucie Estuary. Current means are in bold font; previous week's means are in parentheses. The envelope reflects the optimum salinity range for adult eastern oysters (*Crassostrea virginica*) in the estuary. Data are provisional.

Sampling Site	Surface	Bottom	Optimum Envelope
HR1 (North Fork)	**2.4** (3.8)	**6.7** (9.8)	10.0 – 25.0
US1 Bridge	**8.1** (10.1)	**9.3** (13.0)	10.0 – 25.0
A1A Bridge	**16.4** (18.3)	**22.0** (25.1)	10.0 – 25.0

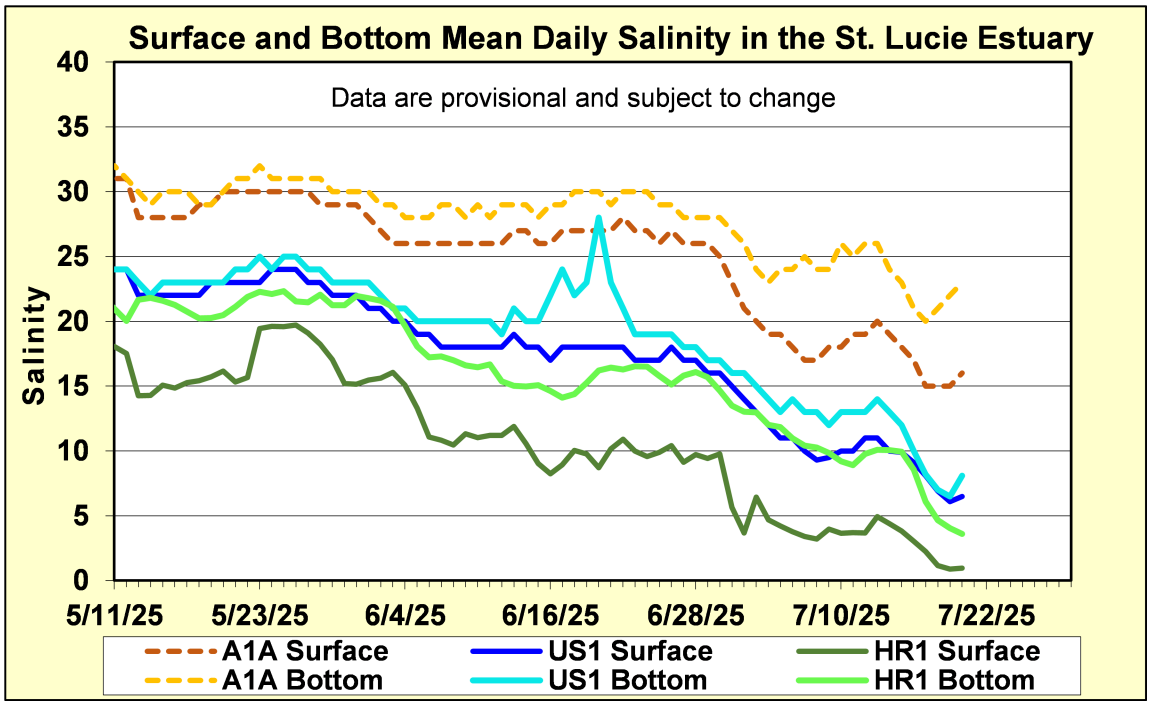

Figure ES-3. Mean daily salinity at the A1A, US1, and HR1 sites in the St. Lucie Estuary.

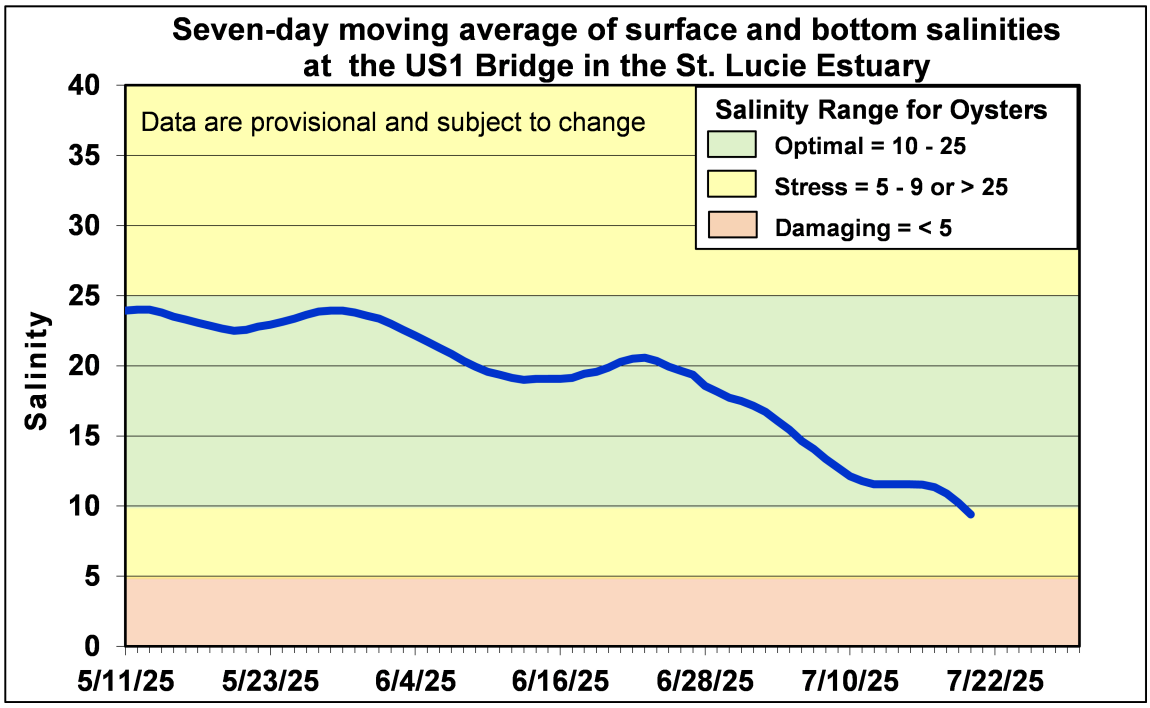

Figure ES-4. Seven-day moving average of the surface and bottom salinities at the US1 Bridge in the St. Lucie Estuary.

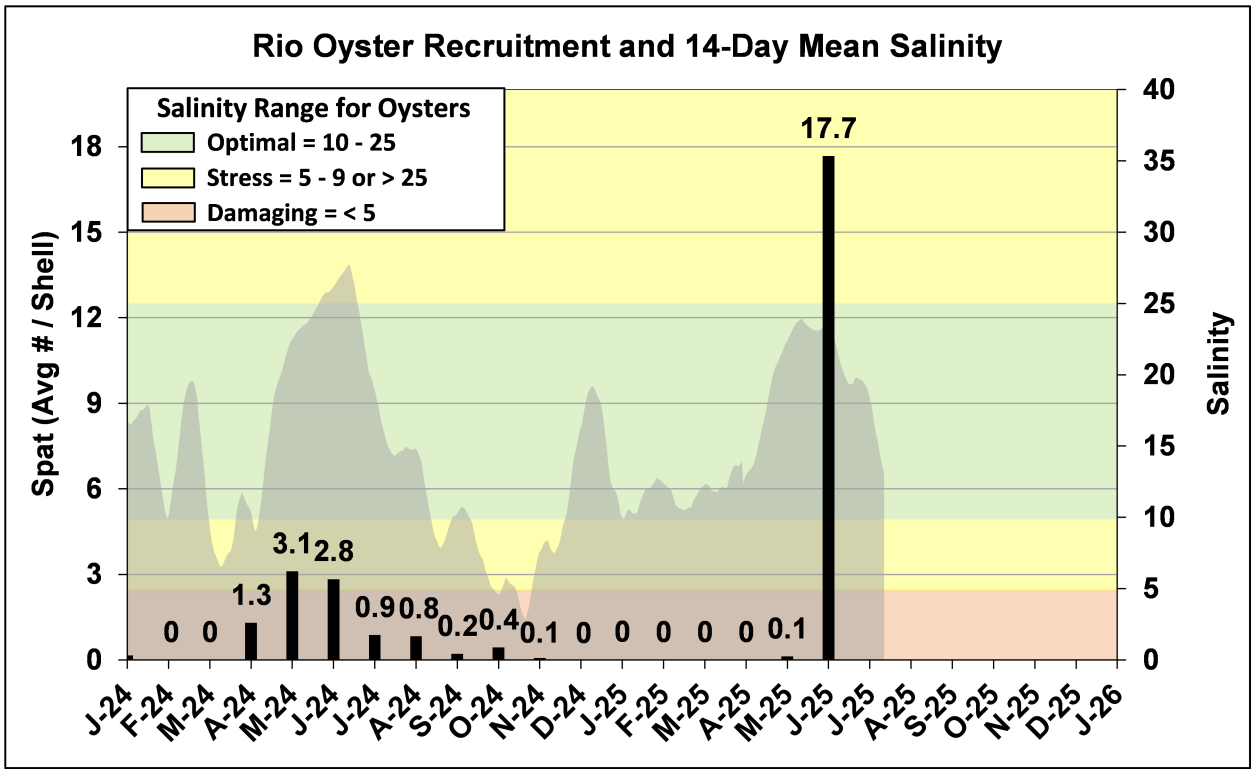

Figure ES-5. Mean oyster recruitment at the Rio oyster monitoring station and 14-day mean salinity at US1 Bridge.

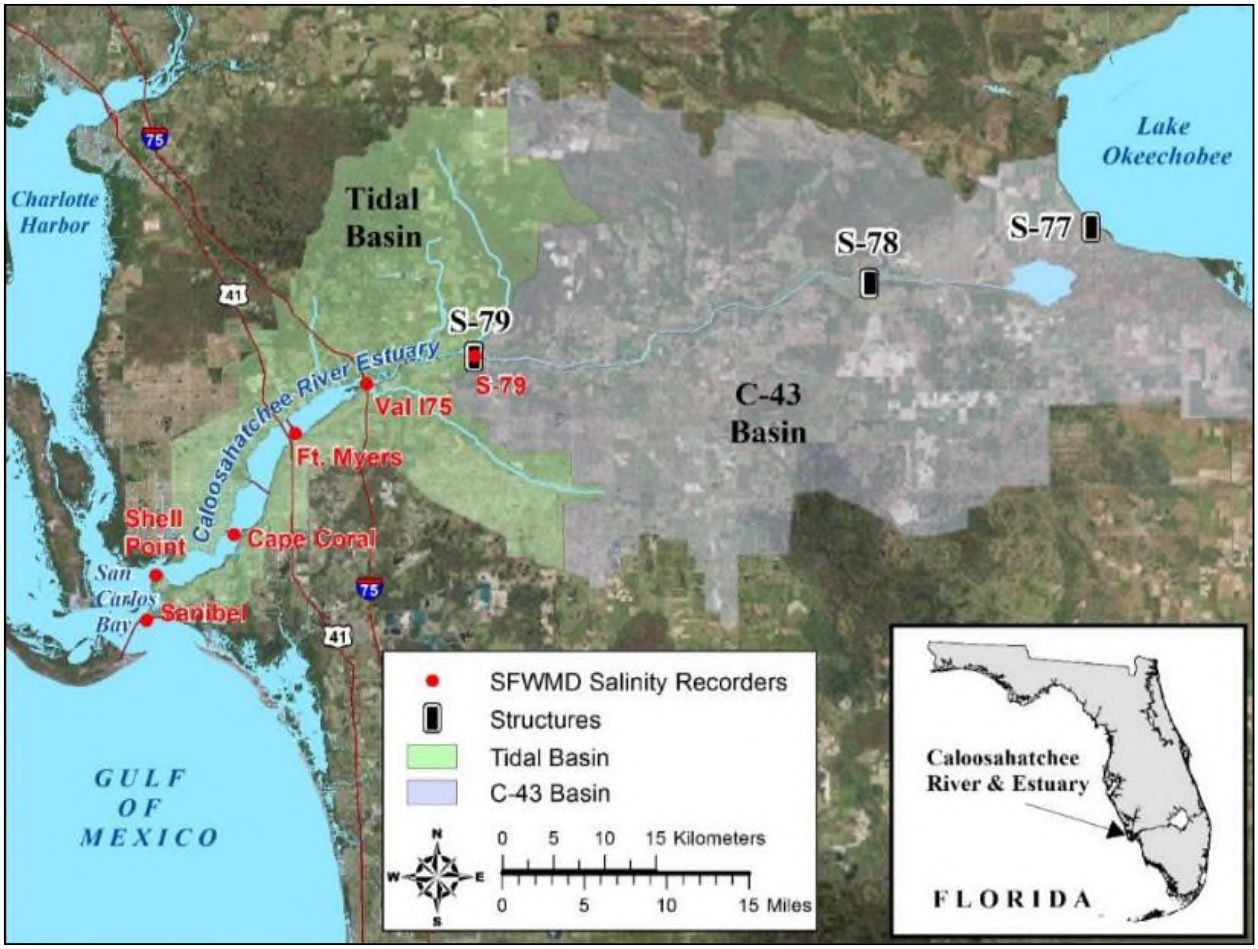

Figure ES-6. Basins, water control structures, and salinity monitoring sites in the Caloosahatchee River Estuary.

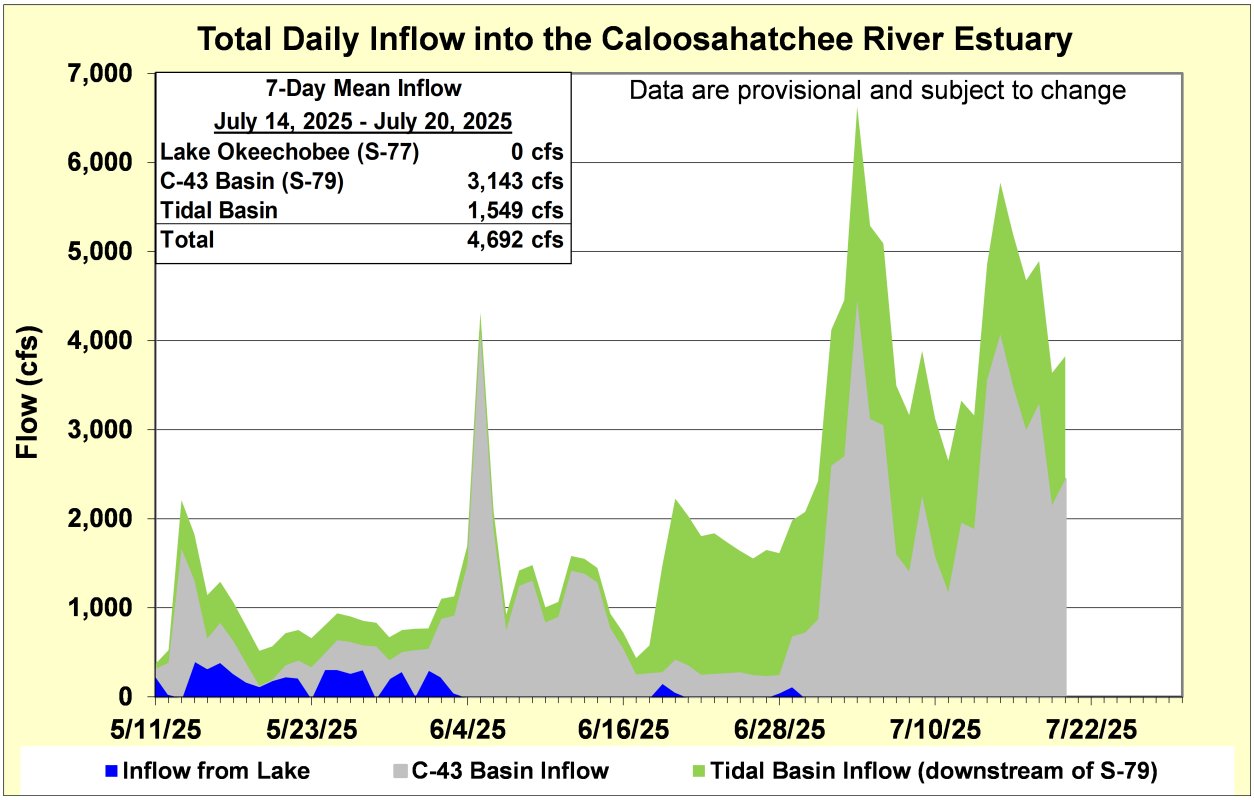

Figure ES-7. Total daily inflows from Lake Okeechobee, and runoff from the C-43 and Tidal basins into the Caloosahatchee River Estuary.

Table ES-2. Seven-day mean salinity at six monitoring sites in the Caloosahatchee River Estuary. Current means are in bold font; previous week's means are in parentheses. The envelope in the upper estuary sites is for the protection of tape grass and the envelope in the lower estuary is the optimum salinity range for adult eastern oysters (*Crassostrea virginica*). Data are provisional.

Sampling Site	Surface	Bottom	Optimum Envelope
S-79 (Franklin Lock)	**0.2** (0.3)	**0.2** (0.3)	0.0 – 10.0
Val I-75	**0.3** (0.4)	**0.3** (0.5)	0.0 – 10.0
Fort Myers Yacht Basin	**1.8** (3.9)	**3.1** (5.8)	0.0 – 10.0
Cape Coral	**8.7** (11.7)	**11.0** (13.2)	10.0 – 25.0
Shell Point	**23.5** (26.0)	**25.2** (27.5)	10.0 – 25.0
Sanibel	**30.2** (30.8)	**31.6** (31.8)	10.0 – 25.0

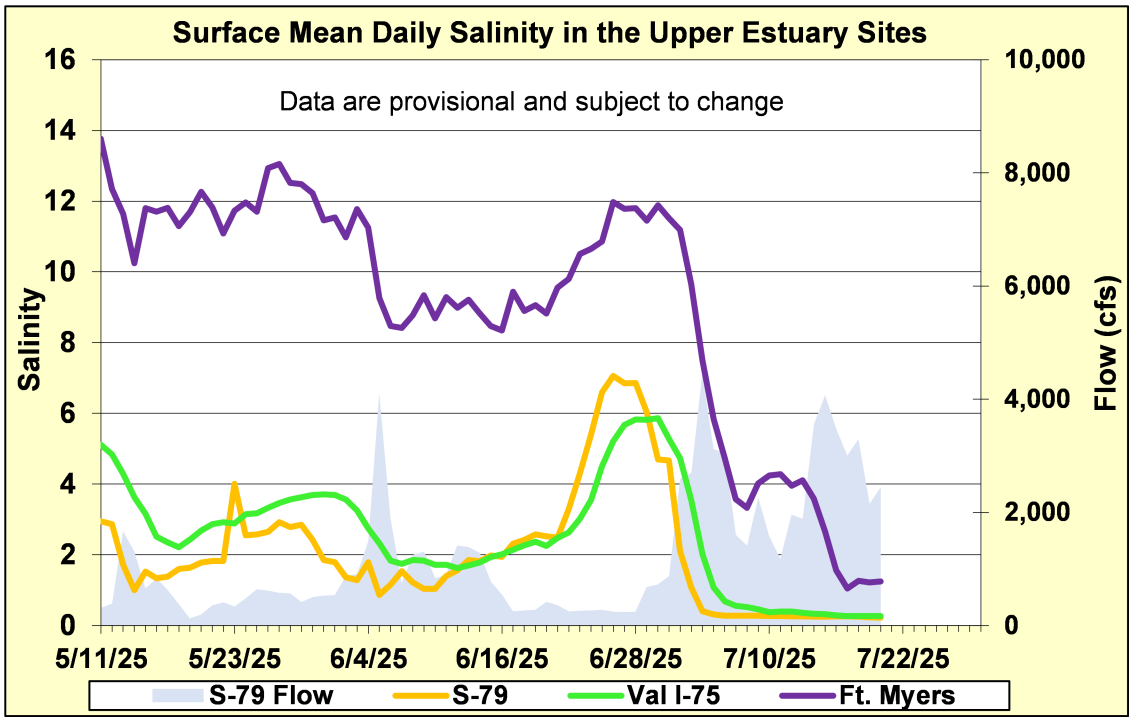

Figure ES-8. Mean daily salinity at upper Caloosahatchee River Estuary monitoring sites and mean daily flow at S-79.

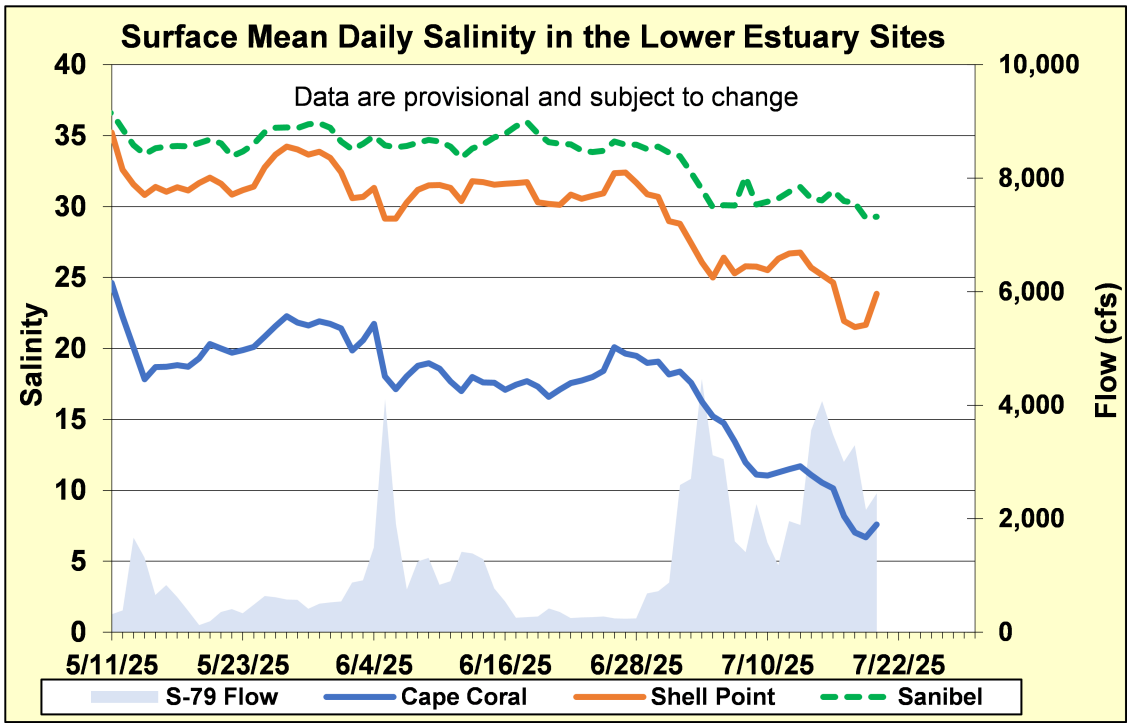

Figure ES-9. Mean daily surface salinity at lower Caloosahatchee River Estuary monitoring sites and mean daily flow at S-79.

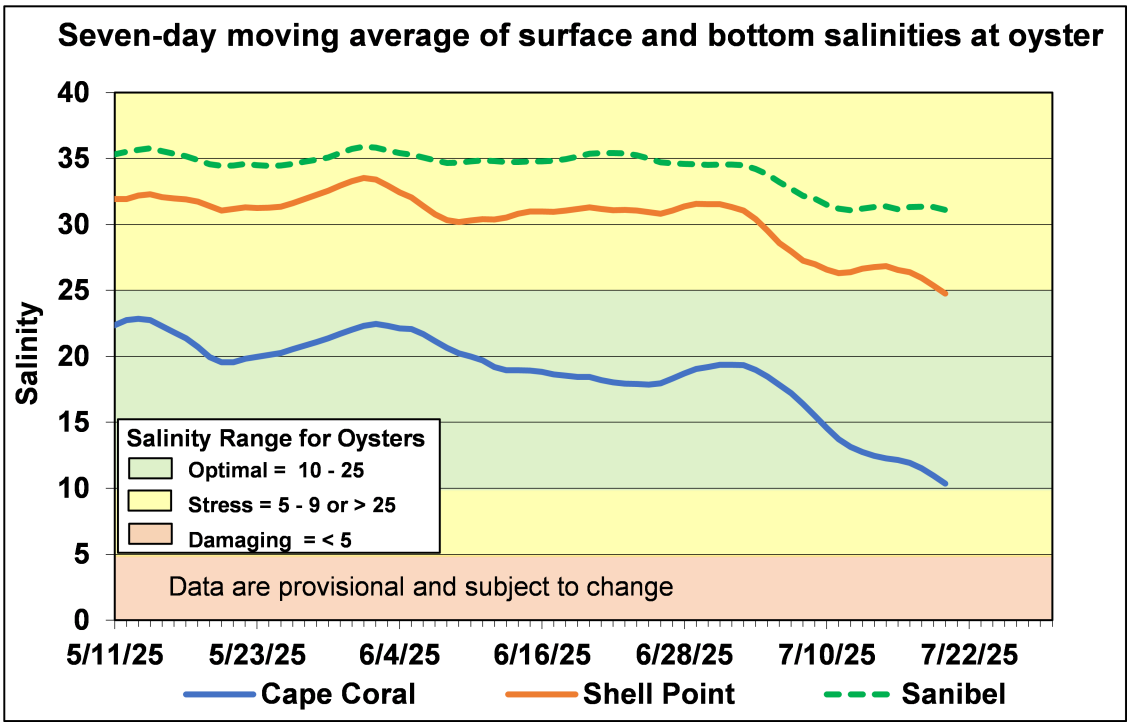

Figure ES-10. Seven-day moving average of surface and bottom salinities at Cape Coral, Shell Point, and Sanibel monitoring sites in the Caloosahatchee River Estuary.

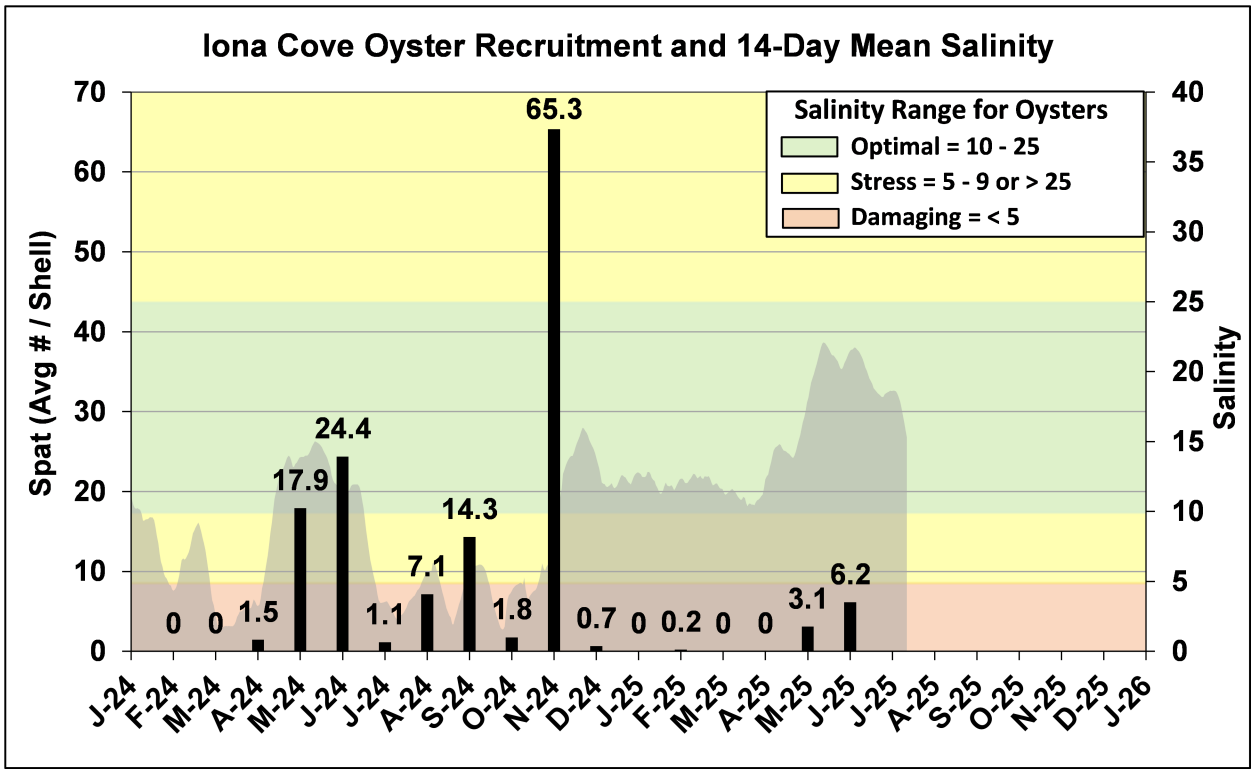

Figure ES-11. Mean oyster recruitment at the Iona Cove oyster monitoring station and 14-day mean salinity at Cape Coral.

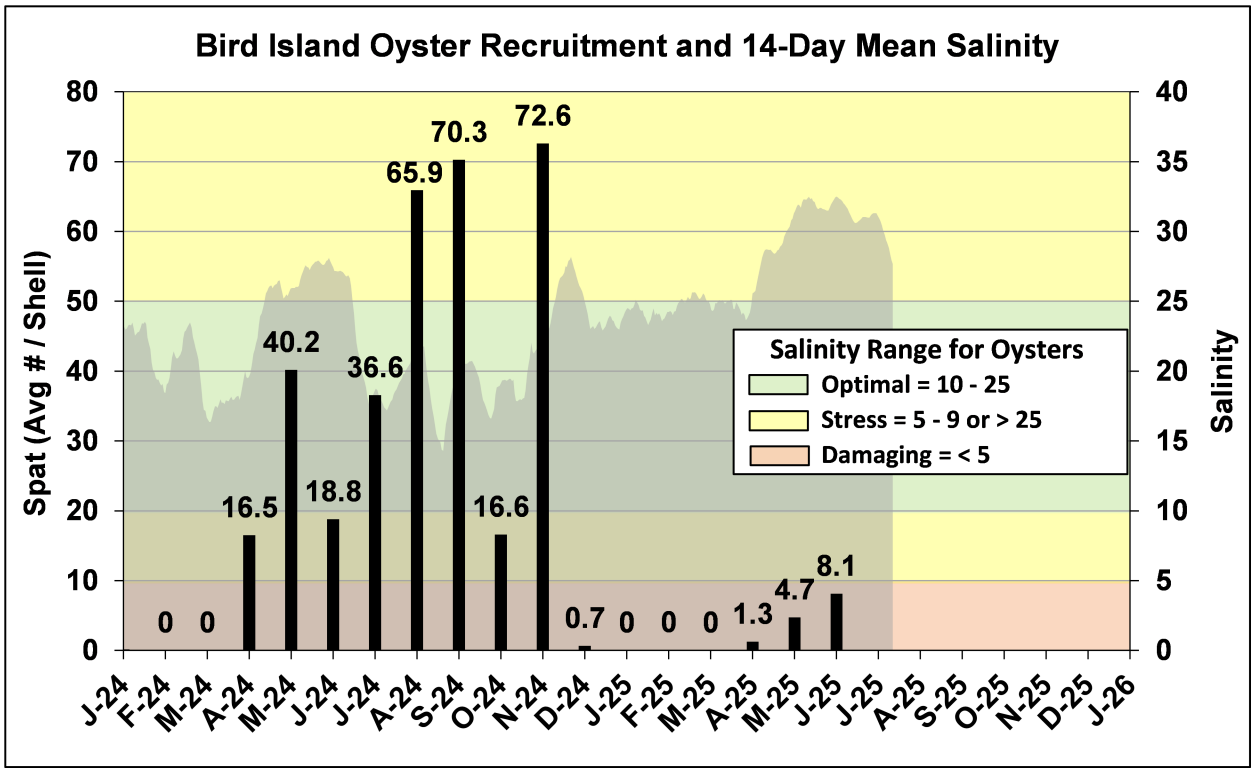

Figure ES-12. Mean oyster recruitment at the Bird Island oyster monitoring station and 14-day mean salinity at Shell Point.

Table ES-3. Predicted salinity at Val I-75 in the Caloosahatchee River Estuary at the end of the forecast period for various S-79 flow release scenarios.

Scenario	Simulated S-79 Flow (cfs)	Tidal Basin Runoff (cfs)	Daily Salinity	30-Day Mean Salinity
A	450	1,151	0.3	0.3
B	750	1,151	0.3	0.3
C	1000	1,151	0.3	0.3
D	1500	1,151	0.3	0.3
E	2000	1,151	0.3	0.3

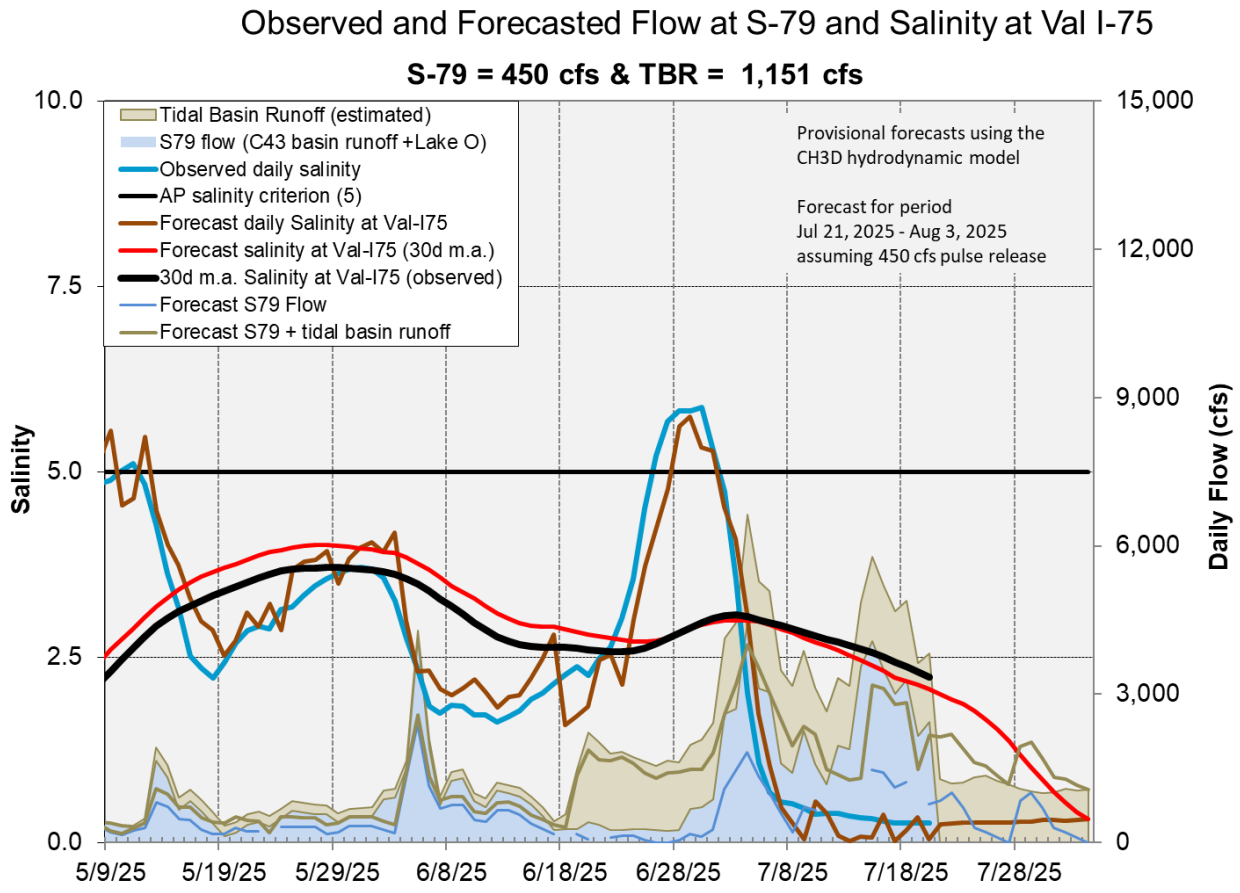

Figure ES-13. Surface salinity forecast at the Val I-75 site assuming a 450 cfs pulse release at S-79.

Stormwater Treatment Areas

STA-1E: STA-1E Central Flow-way is offline for construction activities. An operational restriction is in place in the Western Flow-way for post-construction vegetation grow-in. Online treatment cells are near target stage. The 365-day PLR for the Western Flow-way is below 1.0 g/m^2/year (**Figure S-2**).

STA-1W: STA-1W Eastern Flow-way is online with restrictions for G-253 structure replacements. Treatment cells are near target stage. Vegetation in the Western and Eastern Flow-ways is highly stressed. The 365-day PLRs for the Eastern and Northern Flow-ways are below 1.0 g/m^2/year. The 365-day PLR for the Western Flow-way is high (**Figure S-2**).

STA-2: Operational restrictions are in place in Flow-ways 2 and 4 for vegetation management activities, in Flow-way 3 for post-drawdown vegetation grow-in, and in Flow-way 1 for inflow canal dredging. Online treatment cells are near target stage. Vegetation in Flow-ways 2 is stressed, and in 5 is highly stressed. The 365-day PLRs for Flow-ways 1, 2, 4, and 5 are below 1.0 g/m^2/year (**Figure S-3).**

STA-3/4: An operational restriction is in place in the Eastern Flow-way for post-drawdown vegetation grow-in. Treatment cells are above target stage. Vegetation in the Central Flow-way is highly stressed. The 365-day PLR for the Eastern, Central, and Western Flow-ways are below 1.0 g/m^2/year (**Figure S-3**).

STA-5/6: Most treatment cells are at or near target stage while several EAV cells are below target stage. All treatment cells have highly stressed or stressed vegetation conditions. The 365-day PLRs for Flow-ways 1, 2, 6, 7, and 8 are below 1.0 g/m^2/year, and the 365-day PLRs for Flow-ways 3, 4, and 5 are high. (**Figure S-4**).

For definitions on STA operational language see glossary following figures

Everglades Stormwater Treatment Areas - STAs

- Total WY2026 inflows to STAs (5/1/2025 to 7/20/2025): ~213,700 ac-ft
- Lake Okeechobee releases to FEBs/STAs
  - 7/14/2025 to 7/20/2025: 0 ac-ft
  - WY2026: ~27,400 ac-ft
- Extensive vegetation management activities underway to address stressed and highly stressed vegetation in EAV cells
- Most treatment cells are at or above target water depth except STA-5/6 EAV cells which are below target

Estimated Inflow and Outflow Volumes
Jul. 14 – Jul. 20, 2025 *Includes preliminary data*

	Total Inflow (acre-feet)	Total Outflow (acre-feet)
STA-1E	1,700	2,500
STA-1W	7,900	6,800
STA-2	14,000	13,300
STA-3/4	22,900	21,600
STA-5/6	2,200	2,100

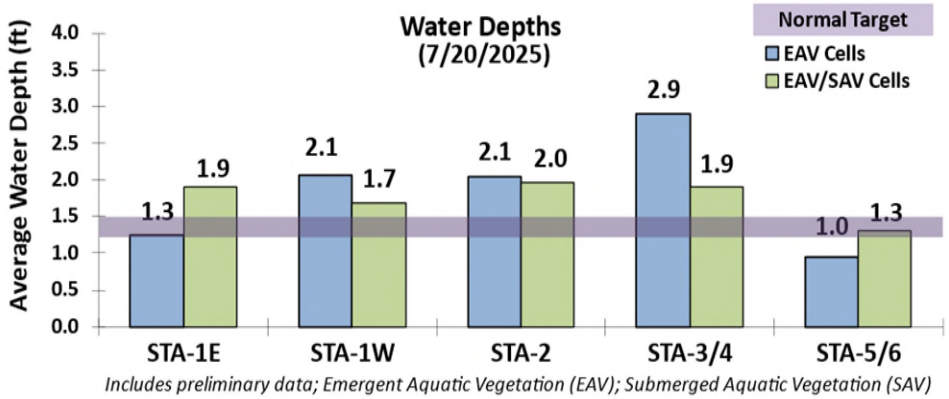

Figure S-1. STA depths and flow volumes

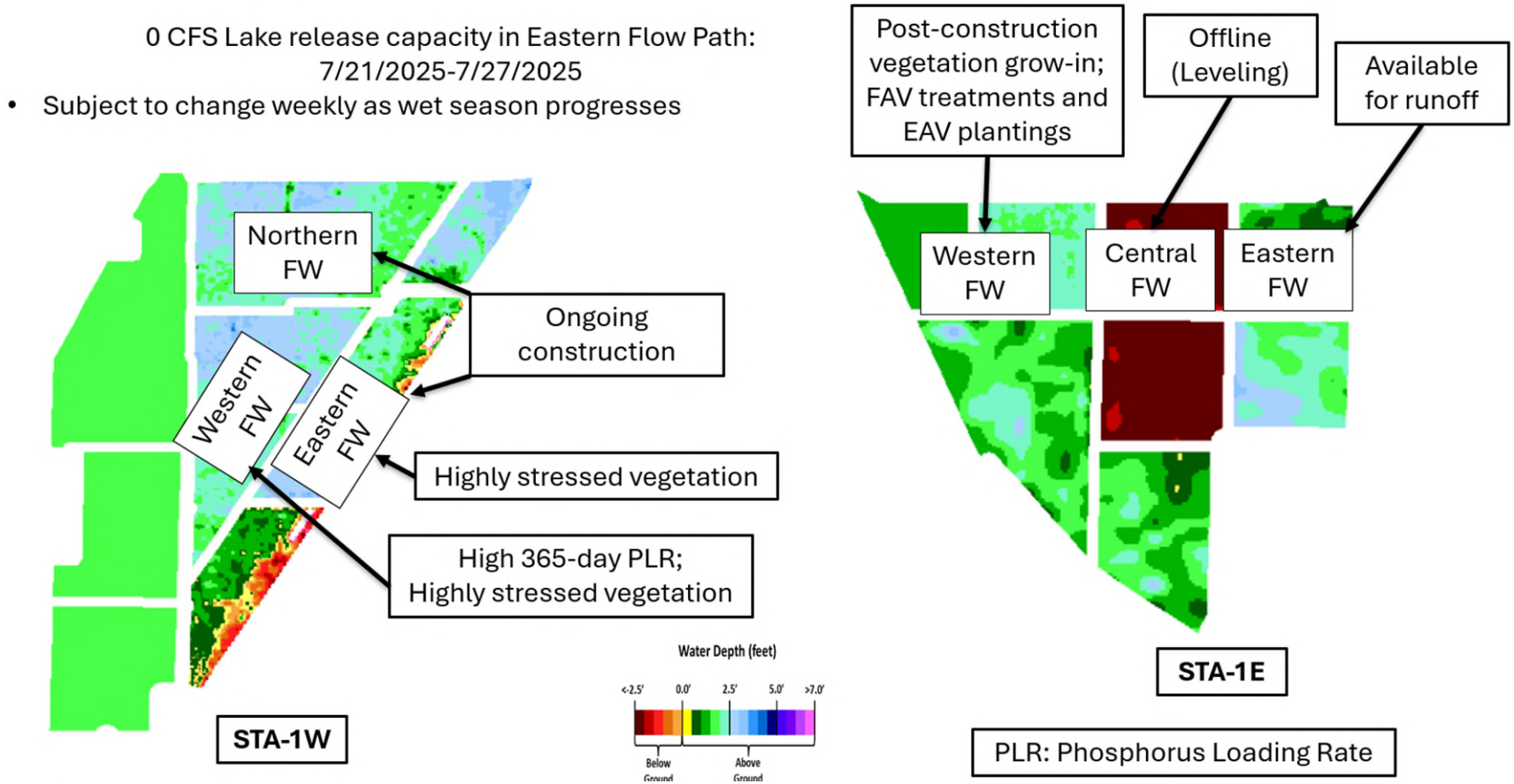

Figure S-2. Eastern Flow Path Weekly Status Report

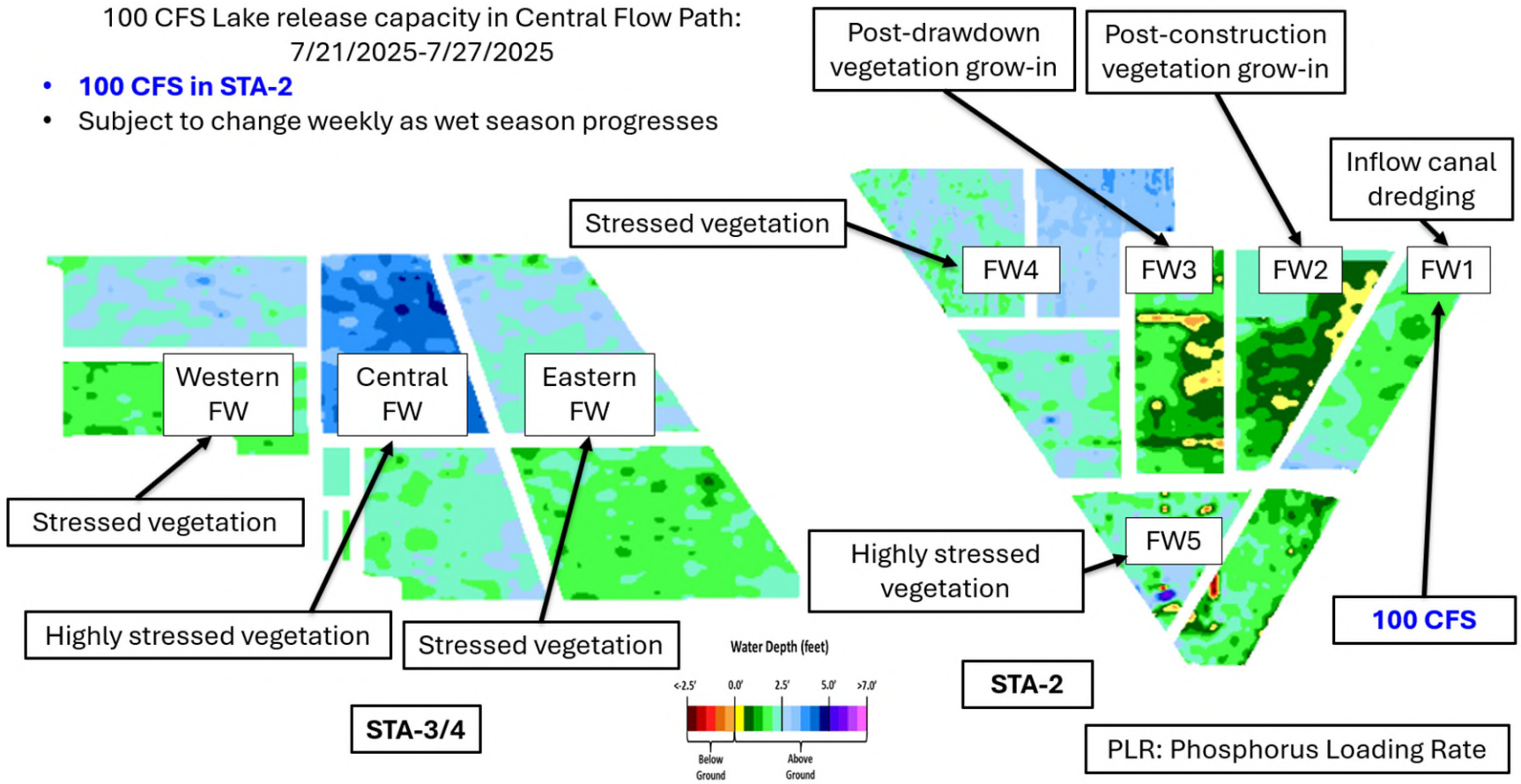

Figure S-3. Central Flow Path Weekly Status Report

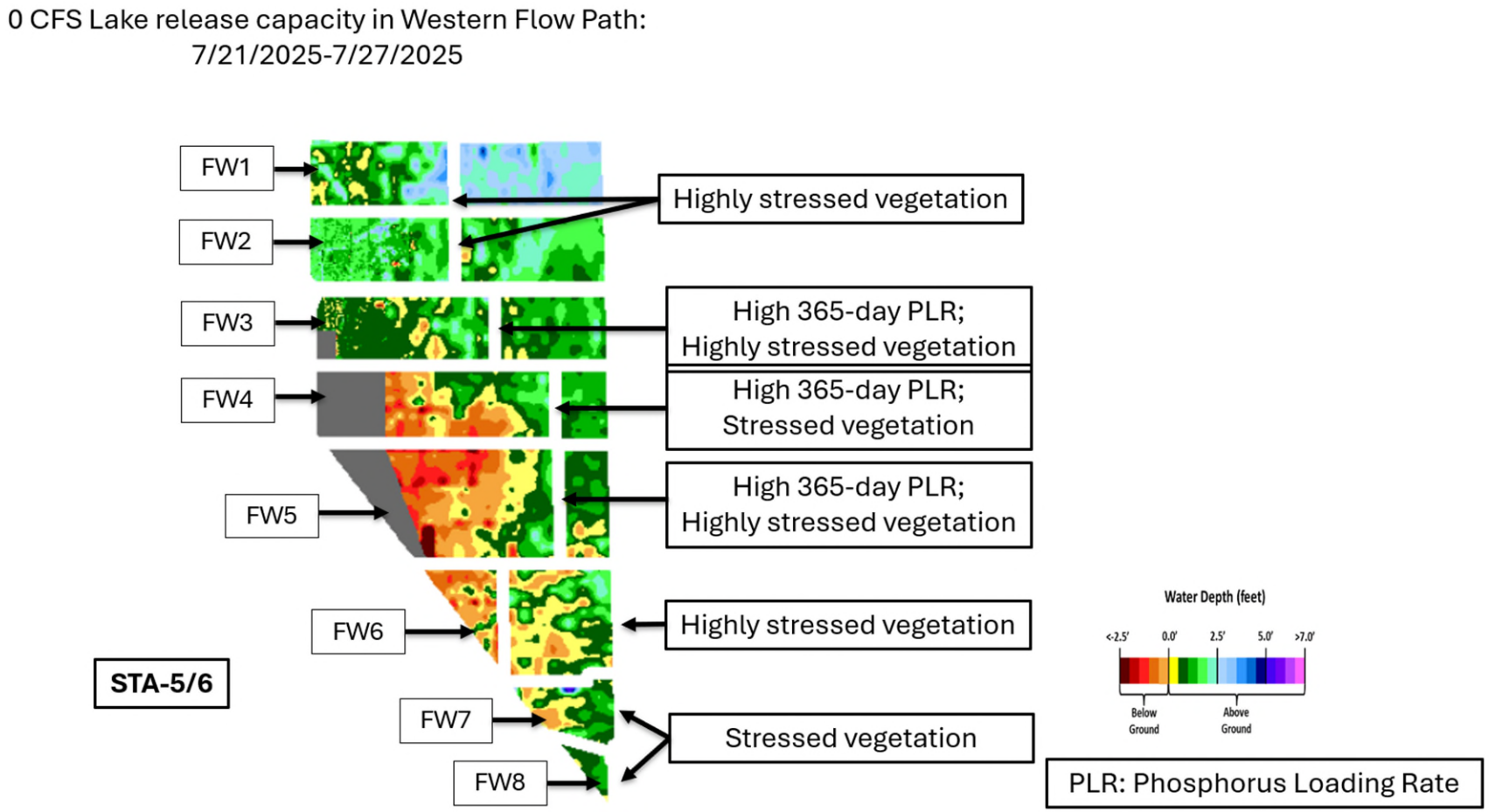

Figure S-4. Western Flow Path Weekly Status Report

Basic Concepts and Definitions for STA Weekly Status Report

- **Inflow**: Sum of flow volume at all inflow structures to an STA.
- **Lake Inflow**: Portion of the STA total inflow volume that originates from Lake Okeechobee.
- **Outflow**: Sum of flow volume at outflow structures from an STA.
- **Total Phosphorus** (TP): Total mass of phosphorus in all its forms; including particulate, dissolved, etc.
- **Inflow Concentration**: TP concentration is the mass of TP in micrograms per liter of water, µg/L or ppb. Inflow concentration refers to the flow-weighted mean TP from all inflow structures over a period of time.
- **Outflow Concentration**: The flow-weighted mean TP from all outflow structures over a period of time. The outflow concentration represents the reduction of inflow TP achieved by STA treatment of the inflow water.
- **WQBEL**: The STA outflow concentration that is required upon completion of the Restoration Strategies projects by December 2025. The outflow concentration shall not exceed 13 ppb as an annual flow weighted mean in more than 3 out of 5 water years on a rolling basis and shall not exceed 19 ppb as an annual flow weighted in any water year.
- **Flow-Way** (FW): One or more treatment cells connected in series. Cells typically have emergent aquatic vegetation (EAV) in the front portion of the flow-way followed by a mix of EAV and submerged aquatic vegetation (SAV)
- **Vegetation Status**: Healthy means the vegetation condition is good and will allow the STA to perform as designed. Stressed means the vegetation is showing signs of poor health, such as browning or areas of vegetation die-off, or the cell contains undesirable vegetation such as floating exotic vegetation requiring treatment. The TP reduction capability of the STA is affected when the vegetation condition is poor.
- **Phosphorus Loading Rate** (PLR): Mass of inflow TP in grams, divided by total treatment area of STA in square meters, per year. In general, a 365-day value of less than 1.0 is needed for an STA to perform optimally. A PLR of 2.0 is considered very high and a PLR of 3.0 is considered extremely high. The TP reduction capability of the STA is affected when the PLR is high, very high and extremely high.
- **Online**: Online status means the FW can receive and treat inflow.
- **Online with Restriction**: The FW can receive and treat inflow, but the amount of flow or water level may be limited temporarily. For example, a vegetation rehabilitation effort may require reduced flows through an area while the new plants are establishing, or nesting by protected species may require a certain water level not to be exceeded.
- **Offline**: The FW is unable to receive and treat inflow due to repairs, construction, or other prohibitive reasons.
- **Depth**: Difference between the average surface water level in a cell and the average ground elevation in that cell. Target depths, or depths between flow events, are between 1.25 ft to 1.5 ft. As depth approaches or drops below zero, an increasing percentage of the cell is considered dry and STA conditions deteriorate. An increase in depth above target depth is expected with increasing flow. However, as depth increases much above the target depth and is sustained over a period of time, it can be detrimental to vegetation health and overall STA treatment performance.
- **Note**: The data provided in this summary report were developed using a combination of provisional and quality-assured flow and water quality data. In some cases, best professional judgment was used to estimate missing data and revise questionable data. Values provided are not considered final but are appropriate for use in STA operational decision-making.

Everglades

Water Conservation Area

Regulation Schedules

WCA-1: Stage at the 3 gauge average rose and then fell last week and was 0.46 feet below the A1 zone regulation line on Sunday, July 6, 2025. WCA-2A: Stage at the 2-17 rose quickly again last week and was 0.71 feet above the zone A regulation line on Sunday. WCA-3A: The 3 gauge average remains in zone B, on Sunday stages were 0.7 feet below the zone A regulation line. WCA-3A North: Stage at Gauge 62 (NW corner) rose last week but remains below the Upper Schedule regulation line, on Sunday stage was 0.42 feet below that line. See figures **EV-1** through **EV-4**.

Water Depths

The SFWDAT model output for July 20, 2025, illustrates the continuation of very dry conditions in WCA-1. Conditions remain relatively dry for this time of year in WCA-3A South and WCA-2A, but depths are steadily increasing in both regions. Big Cypress Basin depths have also increased over the last two months, but dry conditions remain along the eastern boundary and near Tamiami trail. Hydrologic connectivity has improved compared to one month ago in both Shark River and Taylor Sloughs; conditions remain drier to the west but are improving. Depths remain relatively low for this time of year across the EPA with portions of all the major basins at or below the 10th percentile. See figures **EV-5** through **EV-6**.

Taylor Slough and Florida Bay

Most stages increased across Taylor Slough over the past week, with an average increase of 0.36 feet. Changes ranged from −0.01 feet at Craighead Pond (CP) in the southern slough to +1.08 at E112 in the northern slough (**Figure EV-8** and **Figure EV-9**). Taylor Slough water levels remain below the recent average (WY1993-2016) for this time of year by 4.7 inches compared to before the Florida Bay initiative (starting in 2017), an increase of 3.6 inches relative to last week's comparison. The CP and Taylor Slough Bridge (TSB) stages remain below the estimated average for 1900 by 1.13 and 2.23 feet, respectively.

Average Florida Bay salinity was 37.0, an increase of 0.7 from last week. Salinity changes ranged from −1.0 at Long Sound (LS) in the eastern nearshore region to +3.4 at Terrapin Bay (TB) in the central nearshore region (**Figure EV-8**). Salinity is above the estimated average for 1900 and approaching the WY2001-2016 Interquartile Range (IQR) 75th percentile in all three regions. Salinity is at or above the hypersalinity threshold in the central and western regions (**Figure EV-10**). Average Florida Bay salinity is above its recent average (WY1993-2016) for this time of year by 6.1, an increase of 1.5 relative to last week's comparison.

Salinity at the Taylor River (TR) station in the mangrove zone (tracked for the Florida Bay MFL) was 31.5. The 30-day moving average was 29.5 (**Figure EV-11**), an increase of 2.0 from last week. An MFL exceedance will occur if TR salinity remains above 30 for 30 consecutive days. The 365-day moving sum of flow from the five major creeks

(McCormick Creek, Taylor River, Mud Creek, Trout Creek, West Highway Creek) was 206,194 acre-feet, a decrease of 7,529 acre-feet from last week (**Figure EV-11**).

Average rainfall across Taylor Slough and Florida Bay was approximately 1.21 inches over the past week, based on the 18 gauges used for this report. Rainfall ranged from 0.36 inches at CP in the southern slough to 2.22 at TSB in the northern slough (**Figure EV-12**). Wind directions and speeds in Florida Bay ranged from 0.6 mph E on July 14th to 21.7 mph E on July 18th (Figure EV-12).

Average daily flow from the five major creeks totaled −7 acre-feet, with net negative flows over the past week. Total daily creek flow ranged from −1,418 acre-feet on July 15th to 1,423 acre-feet on July 19th (**Figure EV-13**). Average daily flow was 4,105 acre-feet below estimated historical levels (circa 1900).

Implications for water management. The EPA continues to experience unseasonably dry conditions. Without significant rainfall another year of short hydroperiods in the central Everglades could limit prey production necessary for wading bird nesting success next dry season (which would be the fifth year in a row of low productivity). Florida Bay salinity is continuing to increase toward harmful ecological thresholds in the central and western regions, however with an average amount of wet season rainfall those values should decrease before ecologically harmful conditions begin. Florida Bay will continue to benefit from freshwater input to the system and direct rainfall. Individual regional recommendations can be found in **Table EV-2**.

Table EV-2. Previous week's rainfall and water depth changes in Everglades basins.

Everglades Region	Rainfall (inches)	Stage change (feet)
WCA-1	1.39	+0.12
WCA-2A	1.52	+0.49
WCA-2B	2.28	+0.41
WCA-3A	1.69	+0.07
WCA-3B	3.18	+0.26
ENP	1.19	+0.25

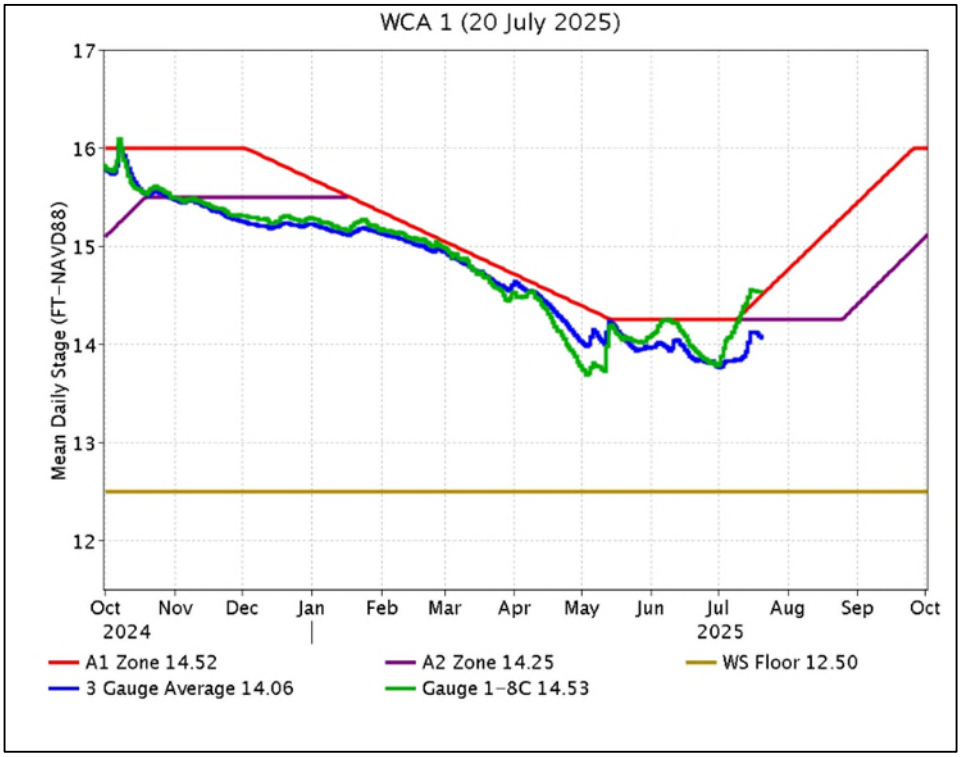

Figure EV-1. WCA-1 stage hydrographs and regulation schedule.

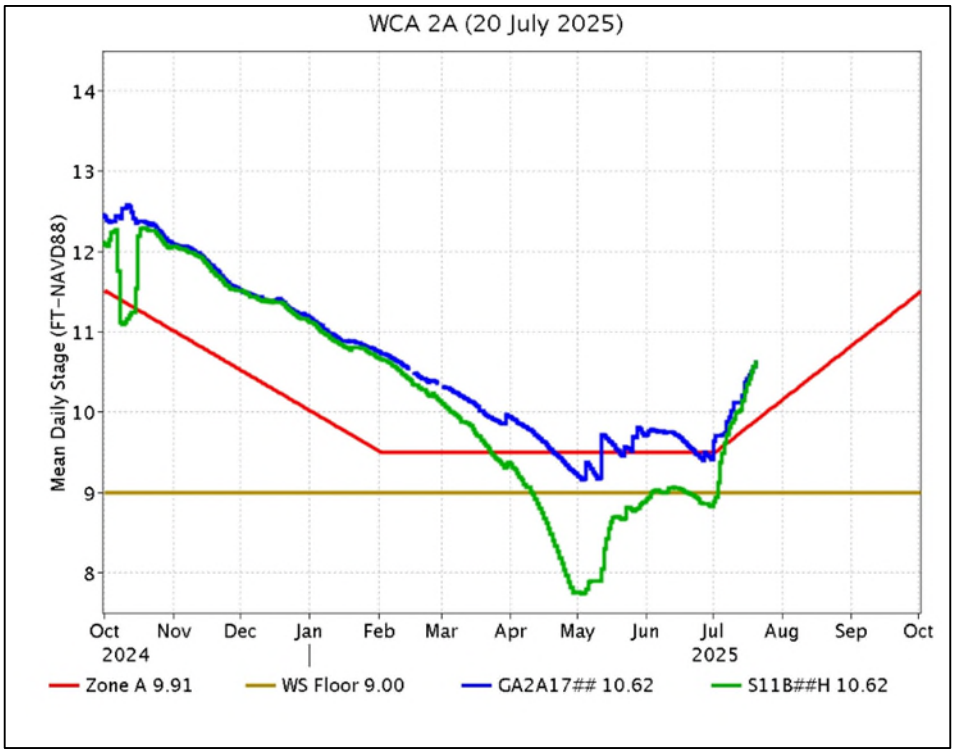

Figure EV-2. WCA-2A stage hydrographs and regulation schedule.

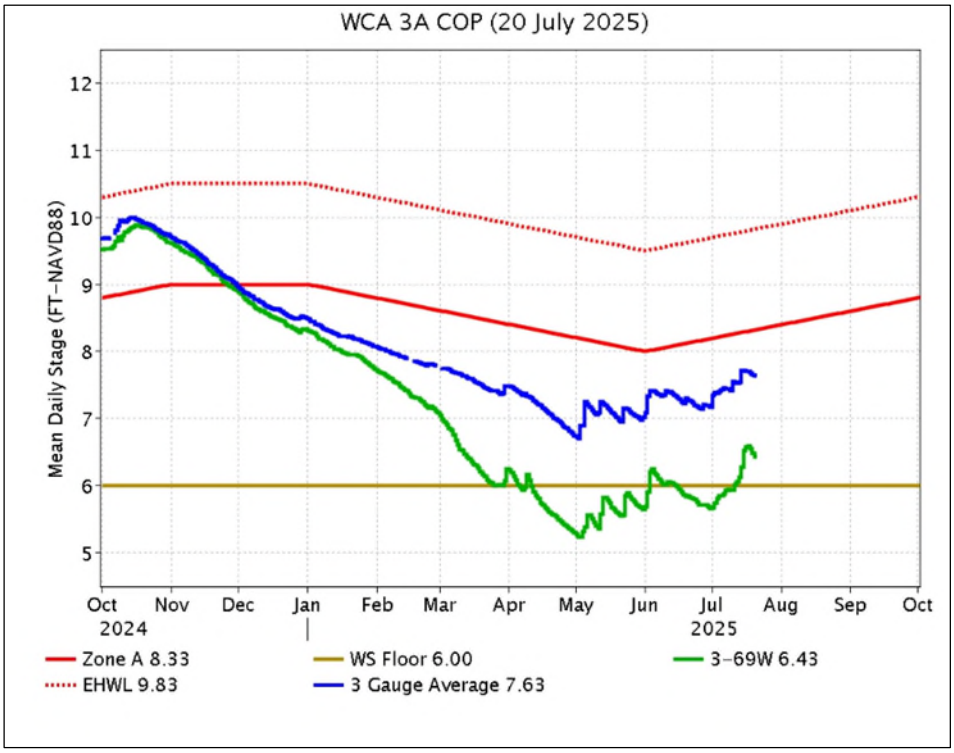

Figure EV-3. WCA-3A stage hydrographs (three-gauge average, 3-69W) and regulation schedule.

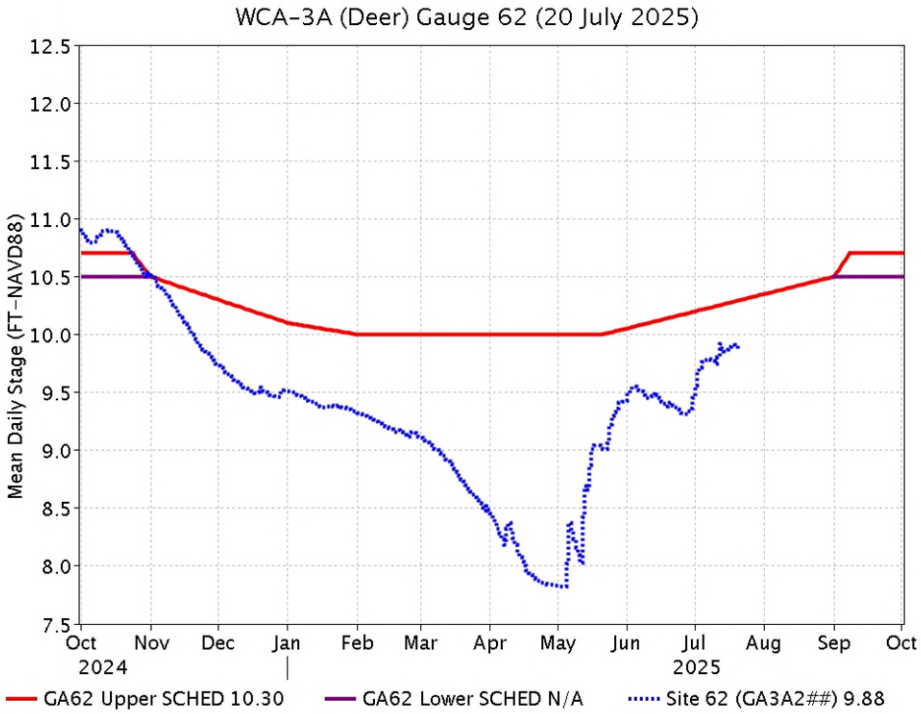

Figure EV-4. WCA-3A stage hydrograph (Deer gauge; Site 62) and GA62 regulation schedule.

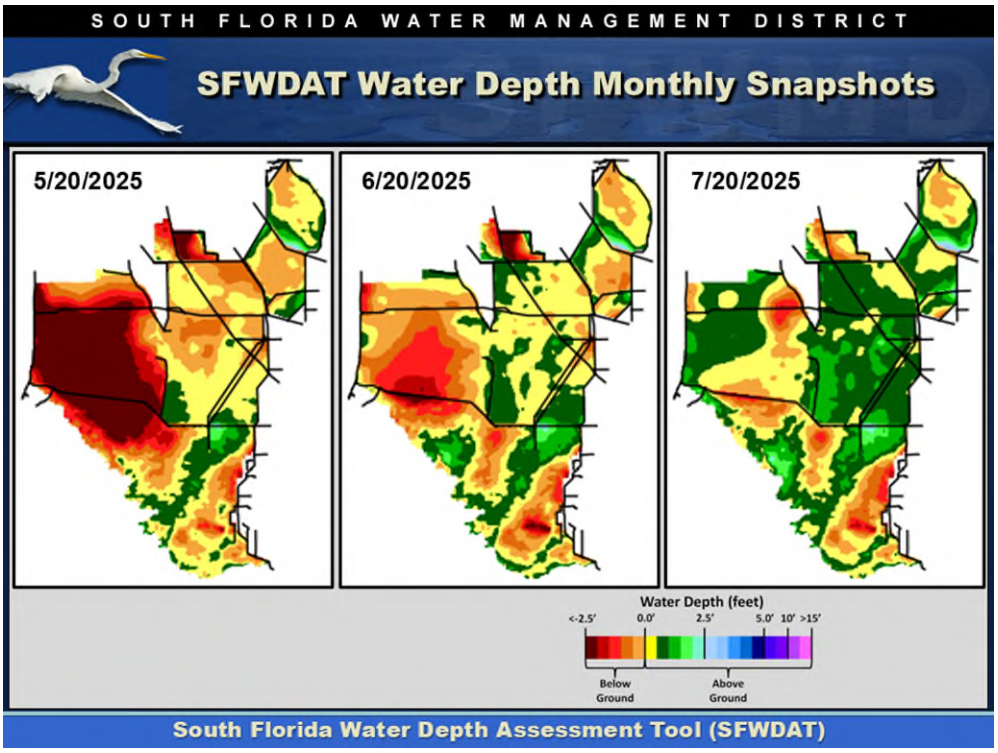

Figure EV-5. Everglades water depths from two months ago (left), one month ago (center) and present (right), based on SFWDAT.

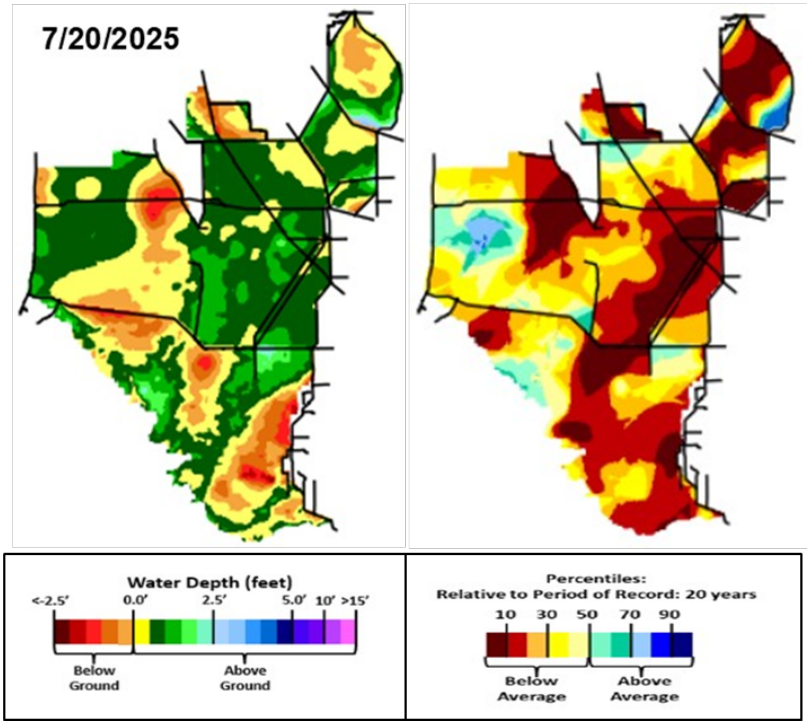

Figure EV-6. Present water depths (July 20, 2025) compared to the day of year relative to average (percentile) over the previous 20 years.

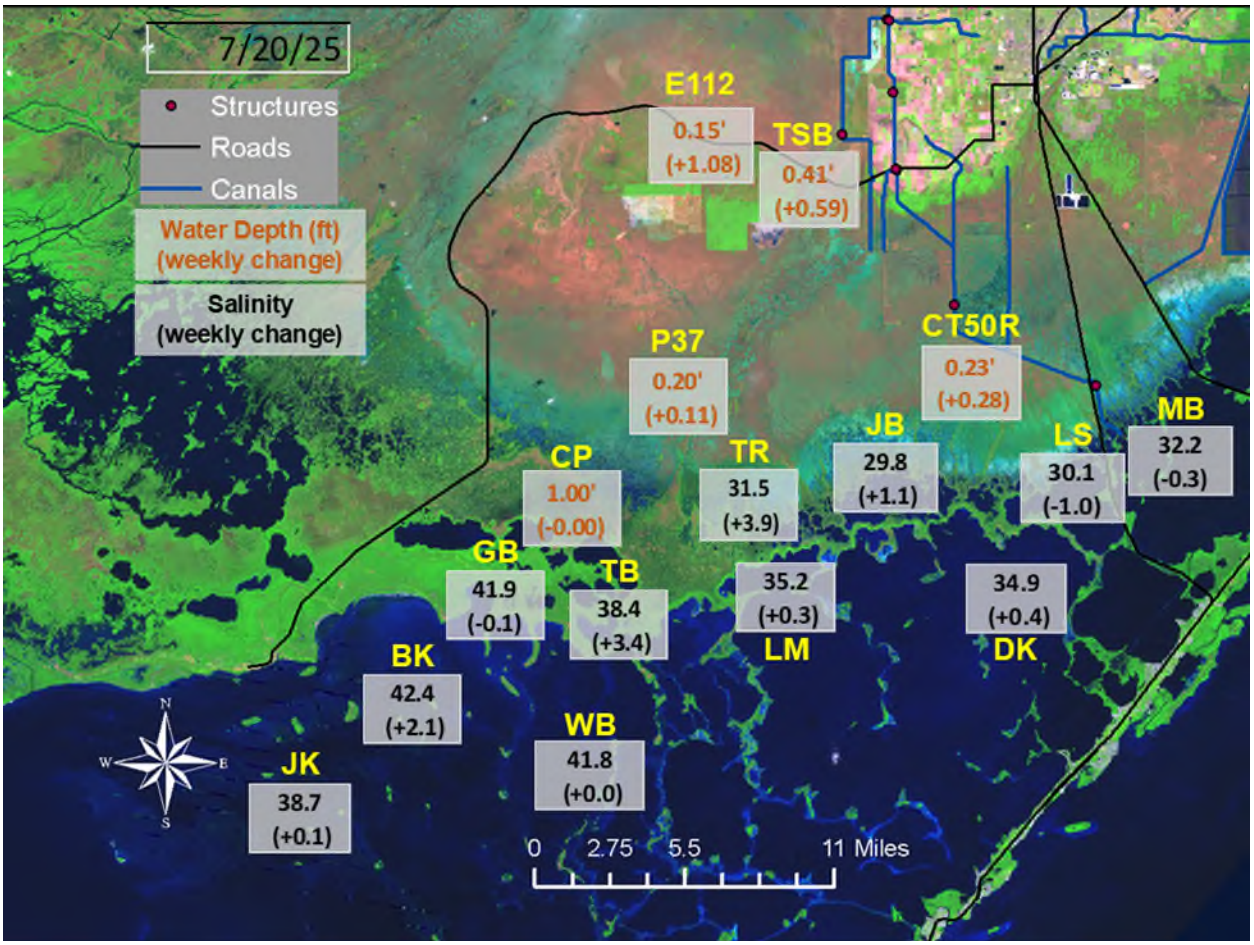

Figure EV-7. Taylor Slough water depths and Florida Bay salinities with changes since a week ago.

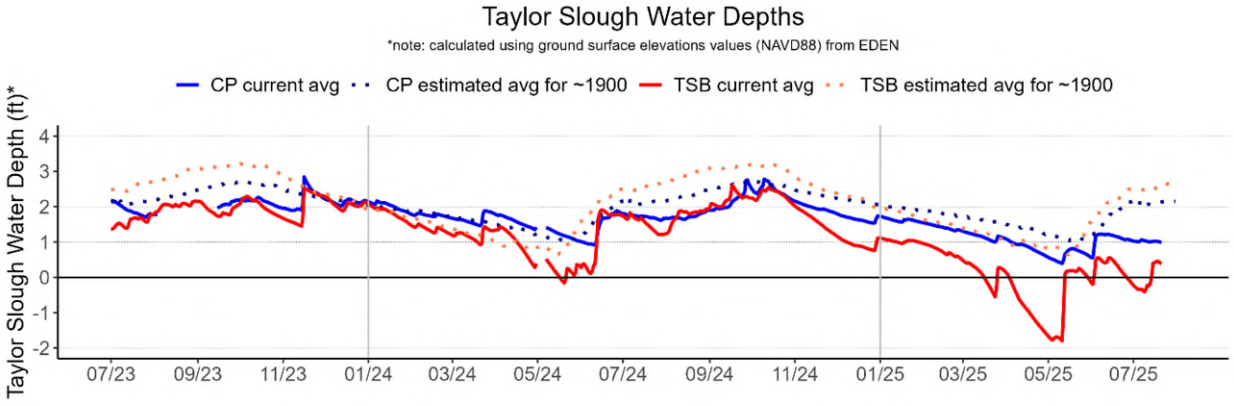

Figure EV-8. Taylor Slough water depth time series for Taylor Slough Bridge (TSB; northern slough) and Craighead Pond (CP; southern slough).

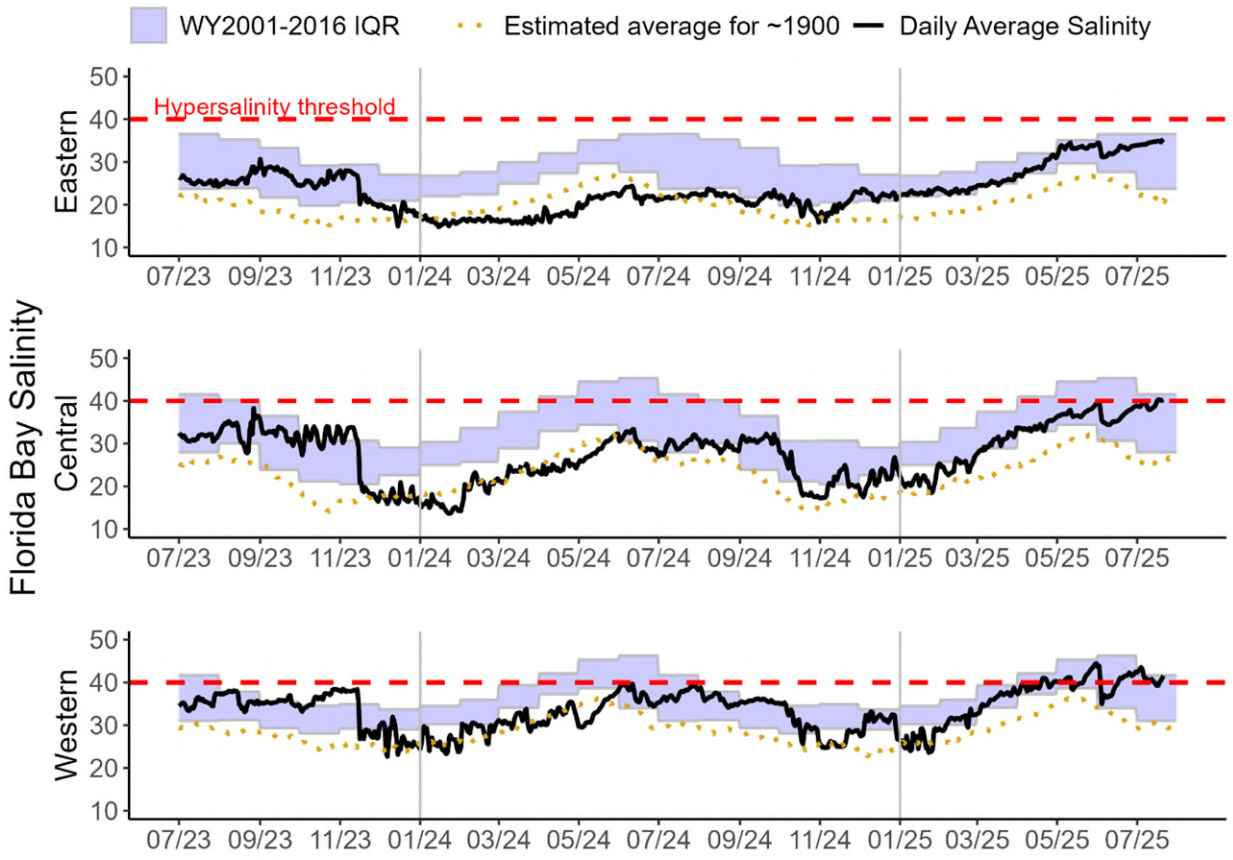

Figure EV-9. Eastern (top panel), Central (middle panel) and Western (bottom panel) Florida Bay daily average salinities with WY2001-2016 interquartile (25-75 percentile) ranges (IQR) and estimated historical daily average salinities. The hypersalinity threshold indicates the level at which salinities start to become harmful to seagrass.

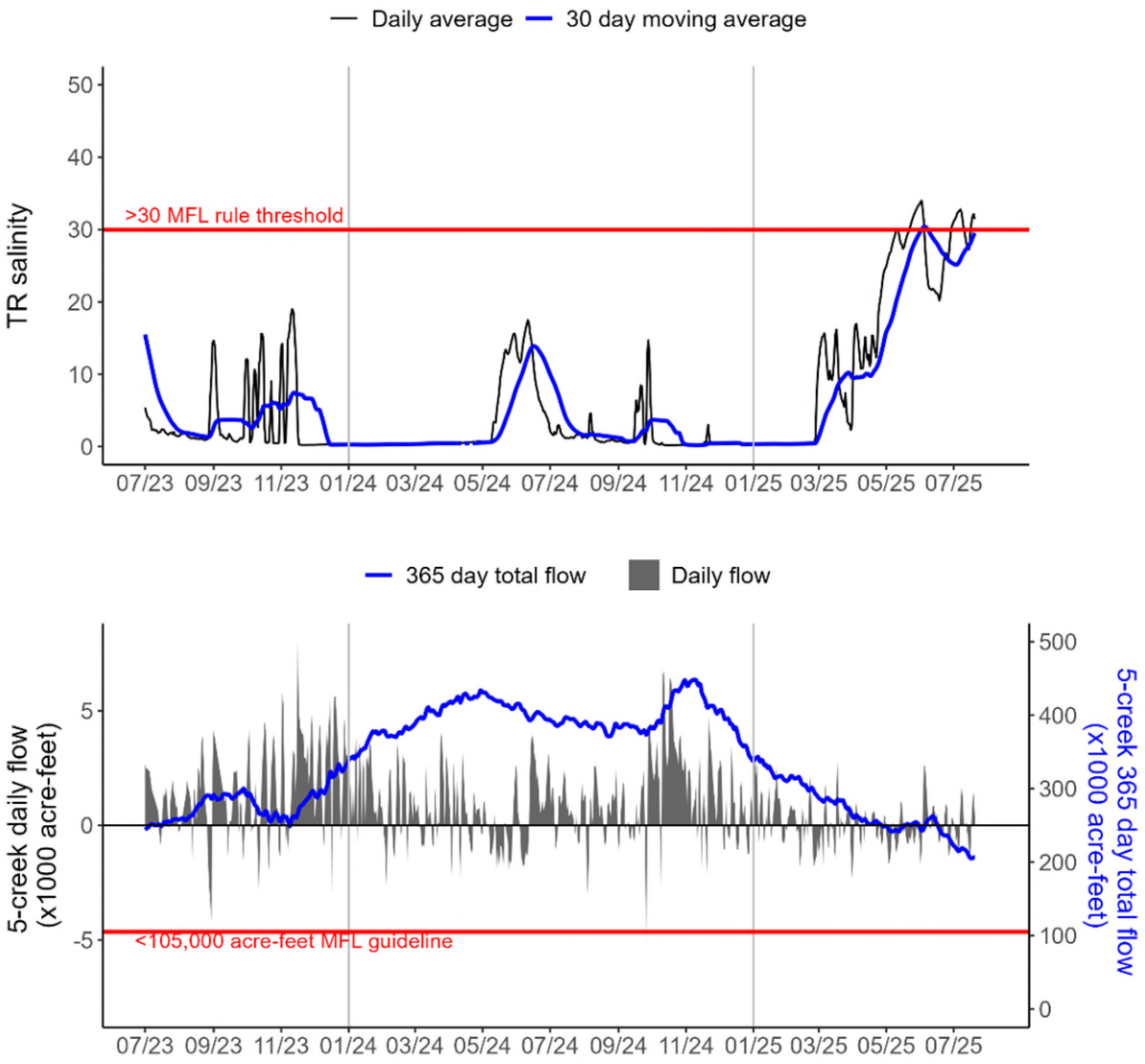

Figure EV-10. Salinity at Taylor River (TR; top) and creek inflow to Florida Bay (bottom) from the five major creeks (McCormick Creek, Taylor River, Mud Creek, Trout Creek, and West Highway Creek). The 30-day moving average salinity and 365-day total creek flow are tracked for the Florida Bay MFL criteria.

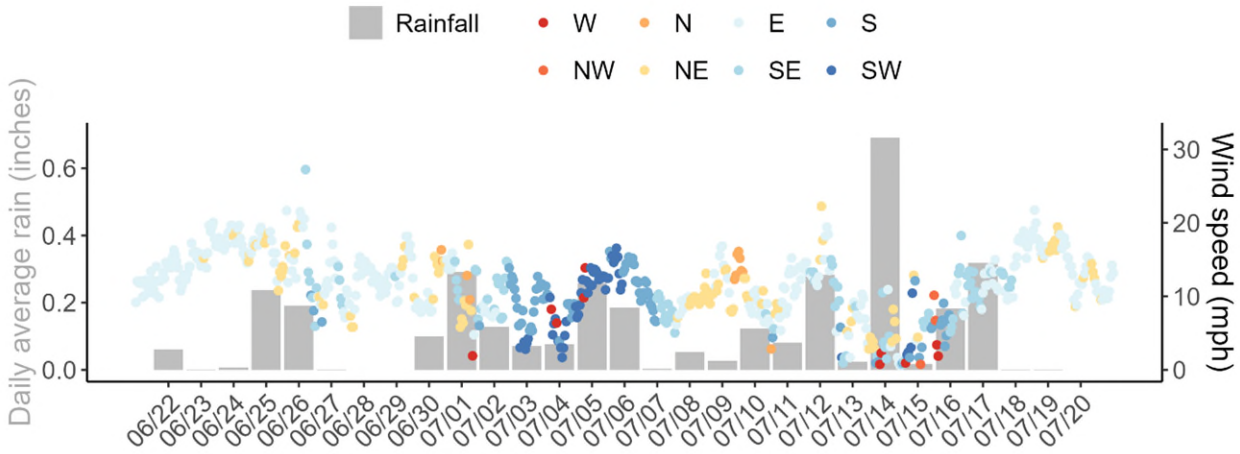

Figure EV-11. Daily average rain across Taylor Slough and Florida Bay, along with hourly average wind speed and direction (measured at Long Key) in Florida Bay over the past four weeks.

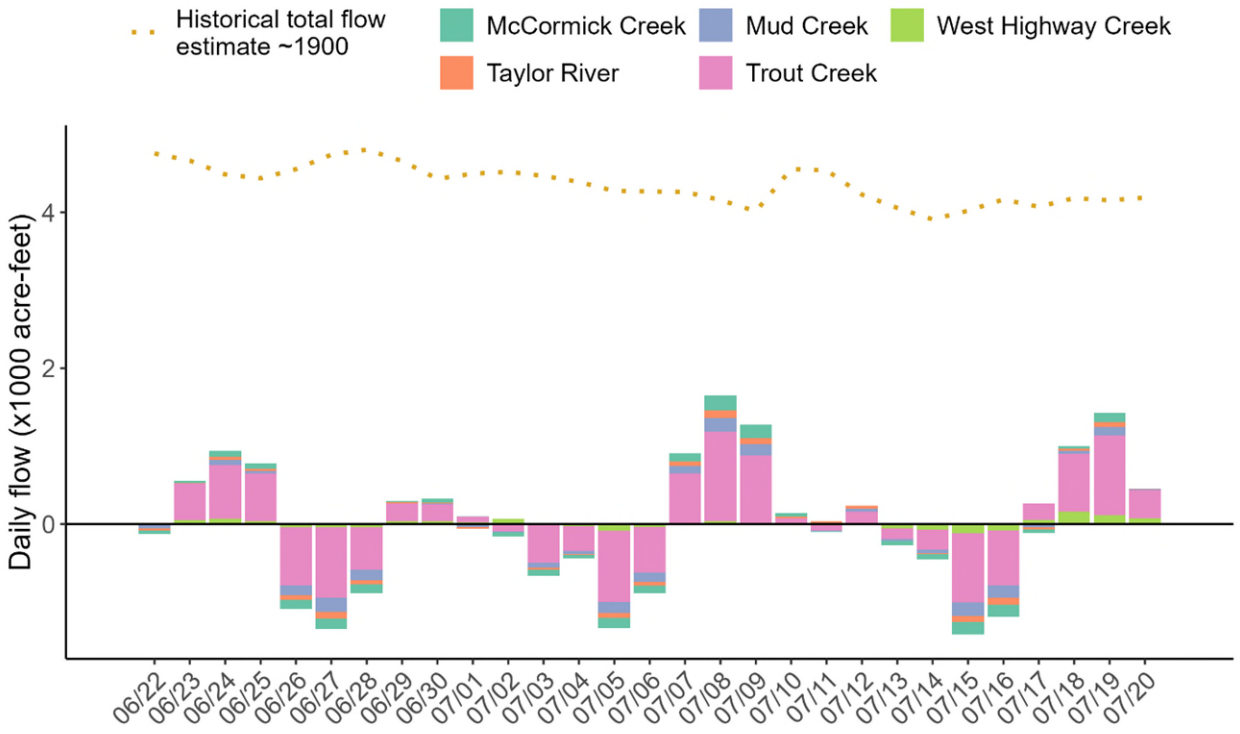

Figure EV-12. Daily average creek flow summed between five creeks with estimated historical daily flow over the past four weeks.

Table EV-2. Weekly water depth changes and water management recommendations

SFWMD Everglades Ecological Recommendations, July 22, 2025 (red is new)			
	Weekly change	Recommendation	Reasons
WCA-1	Stage increased by 0.12 feet	Ascension rate no faster than 0.18 feet per week, or 0.36 feet per two weeks.	Protect within basin and downstream habitat and wildlife.
WCA-2A	Stage increased by 0.49 feet	Ascension rate no faster than 0.18 feet per week, or 0.36 feet per two weeks.	Protect within basin and downstream habitat and wildlife.
WCA-2B	Stage increased by 0.41 feet	Ascension rate no faster than 0.18 feet per week or 0.36 feet per two weeks.	Protect within basin and downstream habitat and wildlife.
WCA-3A NE	Stage increased by 0.05 feet	Ascension rate no faster than 0.18 feet per week or 0.36 feet per two weeks.	Protect within basin and downstream habitat and wildlife.
WCA-3A NW	Stage increased by 0.02 feet	Ascension rate no faster than 0.18 feet per week or 0.36 feet per two weeks.	
Central WCA-3A S	Stage increased by 0.06 feet	Ascension rate no faster than 0.18 feet per week or 0.36 feet per two weeks.	Protect within basin and downstream habitat and wildlife.
Southern WCA-3A S	Stage increased by 0.16 feet		
WCA-3B	Stage increased by 0.26 feet	Ascension rate no faster than 0.18 feet per week or 0.36 feet per two weeks.	Protect within basin and downstream habitat and wildlife.
ENP-SRS	Stage increased by 0.25 feet	Make discharges to ENP according to COP and TTFF protocol while considering upstream and downstream ecological conditions.	Protect within basin and upstream habitat and wildlife.
Taylor Slough	Stage changes ranged from -0.01 feet to +1.08 feet	Move water southward as possible.	When available, provide freshwater to promote water movement.
FB- Salinity	Salinity changes ranged from -1.0 to +3.4	Move water southward as possible.	When available, provide freshwater to promote water movement.