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: June 4, 2025

SUBJECT: Weekly Environmental Conditions for Systems Operations

Summary

Weather Conditions and Forecast

On Wednesday, a Saharan Air Layer (SAL) is expected to overspread portions of the SFWMD southeast of Lake Okeechobee -- though its arrival timing remains uncertain. Compared to previous runs, current model guidance favors reduced rainfall across southeastern portions of the SFWMD on Wednesday, and this is reflected in the Day-2 QPF. However, southeasterly to southerly steering flow, combined with persistent deep moisture to the north and west of the Lake, will likely support additional heavy rainfall, possibly extending into the evening, with area-averaged rainfall of at least half of an inch. On Thursday and Friday, the SAL is expected to exert increasing influence across the SFWMD, particularly over southern areas where rainfall will sharply decrease following the early-week deluge. With high pressure located to the southeast and westerly steering winds becoming more dominant across the SFWMD during this time, afternoon rains will focus over the central and eastern interior of the SFWMD, especially north and northeast of Lake Okeechobee where moisture is forecast to be greatest. Heading into the weekend and early next week, rainfall will gain focus from the central interior to the eastern part of the area during the afternoon hours, while little to no rain occurs along and near the southwest coast. Aside from Sunday, when a passing upper-level disturbance could bring a modest uptick in rainfall, moisture levels across the SFWMD will trend near to below normal, with only average instability in place. This, along with a continued unfavorable upper-level wind pattern, will support below-normal rainfall totals for most areas through early next week. Nevertheless, for the seven-day period ending Tuesday morning, total SFWMD rainfall is expected to fall within the near- to somewhat above-normal range, primarily due to the significant early-week contributions.

Kissimmee

In the past week, releases from East Lake Toho and Lake Toho were managed to allow their stages to cross the Zone A lines above their respective low pool stages on June 1. Lake stage is rising in East Lake Toho, Lake Toho and Lakes Kissimmee-Cypress-Hatchineha. Weekly average discharge on June 1, 2025, was 350 cfs at S-65 and 320 cfs at S-65A, respectively. Mean weekly water depth on the Kissimmee River floodplain

remained at 0.23 feet. The weekly average concentration of dissolved oxygen in the Kissimmee River decreased from 6.0 mg/L the previous week to 5.8 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 9.66 feet NAVD88 (10.97 ft NGVD29) on June 1, 2025, which was 0.04 feet higher than the previous week and 0.22 feet lower than a month ago. Average daily inflows (excluding rainfall) increased from 430 cfs the previous week to 980 cfs. Average daily outflows (excluding evapotranspiration) decreased from 2,360 cfs the previous week to 710 cfs. The most recent non-obscured satellite image from May 29, 2025, suggests moderate to high cyanobacteria bloom potential in most nearshore areas of the lake, especially in the north. Of the 31 water samples collected on May 6-7, five were dominated by *Microcystis*, but no samples had detectable toxin levels. In the May 22 wading bird survey approximately 2,500 birds across 10 flocks were seen actively foraging around the Lake.

Estuaries

Total inflow to the St. Lucie Estuary averaged 679 cfs over the past week with no flow coming from Lake Okeechobee. Mean surface salinities decreased slightly at all sites over the past week. Salinity in the middle estuary was in the optimal range (10-25) for adult eastern oysters.

Total inflow to the Caloosahatchee Estuary averaged 792 cfs over the past week with 206 cfs coming from Lake Okeechobee. Over the past week, salinities increased at all sites within the estuary. Salinities were in the optimal range (0-10) for tape grass in the upper estuary. Salinities were in the optimal range for adult oysters at Cape Coral and in the upper stressed range at Shell Point and Sanibel.

Stormwater Treatment Areas

For the week ending Sunday, June 1, 2025, 3,800 ac-ft of Lake Okeechobee water was delivered to the FEBs/STAs. The total amount of Lake releases sent to the FEBs/STAs in WY2026 is approximately 21,600 ac-feet. The total amount of inflows to the STAs in WY2026 is approximately 36,000 ac-feet. STA cells are near 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, and STA-2 Flow-way 3 is offline for a SAV recovery drawdown. 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. An additional restriction is in place in STA-2 Flow-way 1 for inflow canal dredging. STA-1W Eastern Flow-way and Cell 8 and STA-2 Cell 3 contain nests of Migratory Bird Treaty Act protected species. This week, if LOSOM Recovery Operations to lower the lake level recommends Lake releases to the WCAs and conditions allow, releases will be sent to STA-2.

Everglades

Slightly above average rainfall was recorded last week, and more ascension events occurred with the start of the wet season. Over the past few weeks, WCA-3A — an important region for wading bird foraging in the late dry season — has experienced both

stage ascension and recession. These patterns could be beneficial for wading birds by helping to maintain water depths needed for optimal foraging habitat and nest success. Stork and white ibis nesting success has already diminished due to below average dry season depths and the rapid decline in suitable foraging habitat. However, for the ~375 wood stork nests in WCA-3A and eastern Big Cypress, the moderate rainfall and inflows—along with the resulting stage ascensions and reduced recession rates—may enhance nesting success at these sites. Meanwhile, salinities in Florida Bay remain well-positioned for the start of the wet season and reductions are expected as rainfall and flows south increase. Florida Bay's minimum flows and levels (MFL) metrics remain outside of harmful thresholds, but salinities at Taylor River are trending towards the threshold there.

Supporting Information

Kissimmee Basin

Upper Kissimmee

On June 1, 2025, mean daily lake stages were 54.5 feet NAVD88 (0.5 feet above schedule) in East Lake Toho, 51.4 feet NAVD88 (0.6 feet above schedule) in Lake Toho, and 48.6 feet NAVD88 (1.7 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 June 1, 2025, mean weekly discharge was 350 cfs at S-65 and 320 cfs at S-65A, respectively. Mean weekly discharge from the Kissimmee River was 300 cfs and 260 cfs at S-65D and S-65E, respectively (**Table KB-2**). Mean weekly headwater stages were 45.2 feet NAVD88 at S-65A and 24.6 feet NAVD88 at S-65D. Mean weekly river channel stage remained at 30.7 feet NAVD88 (**Figure KB-4**). Mean weekly water depth on the Kissimmee River floodplain remained at 0.23 feet (**Table KB-2**, **Figure KB-5**). The weekly average concentration of dissolved oxygen in the Kissimmee River decreased from 6.0 mg/L the previous week to 5.8 mg/L (**Table KB-2**, **Figure KB-6**).

Water Management Recommendations

The dry season preferred stage recession lines in East Lake Toho and Lake Toho ended on June 1, and lake stages are rising. When possible, limit lake stage ascension rate in those lakes 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 rising and entering Zone B3 of Increment 1; target flows at S-65A of 300 cfs while stage is at the bottom of Zone B3; and gradually increase flow to 1400 cfs as stage rises to the top of Zone B3. 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)	
							6/1/25	*5/25/25*
Lakes Hart and Mary Jane	S-62	LKMJ	91	58.5	R	58.4	0.1	-0.1
Lakes Myrtle, Preston and Joel	S-57	S-57	19	59.1	R	59.0	0.1	0.0
Alligator Chain	S-60	ALLI	42	61.4	R	61.0	0.4	0.0
Lake Gentry	S-63	LKGT	72	58.5	R	58.4	0.1	-0.1
East Lake Toho	S-59	TOHOE	420	54.5	R	54.0	0.5	0.1
Lake Toho	S-61	TOHOW S-61	760	51.4	R	50.8	0.6	-0.1
Lakes Kissimmee, Cypress and Hatchineha	S-65	KUB011 LKIS5B	350	48.6	T	50.3	-1.7	-2.0

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.

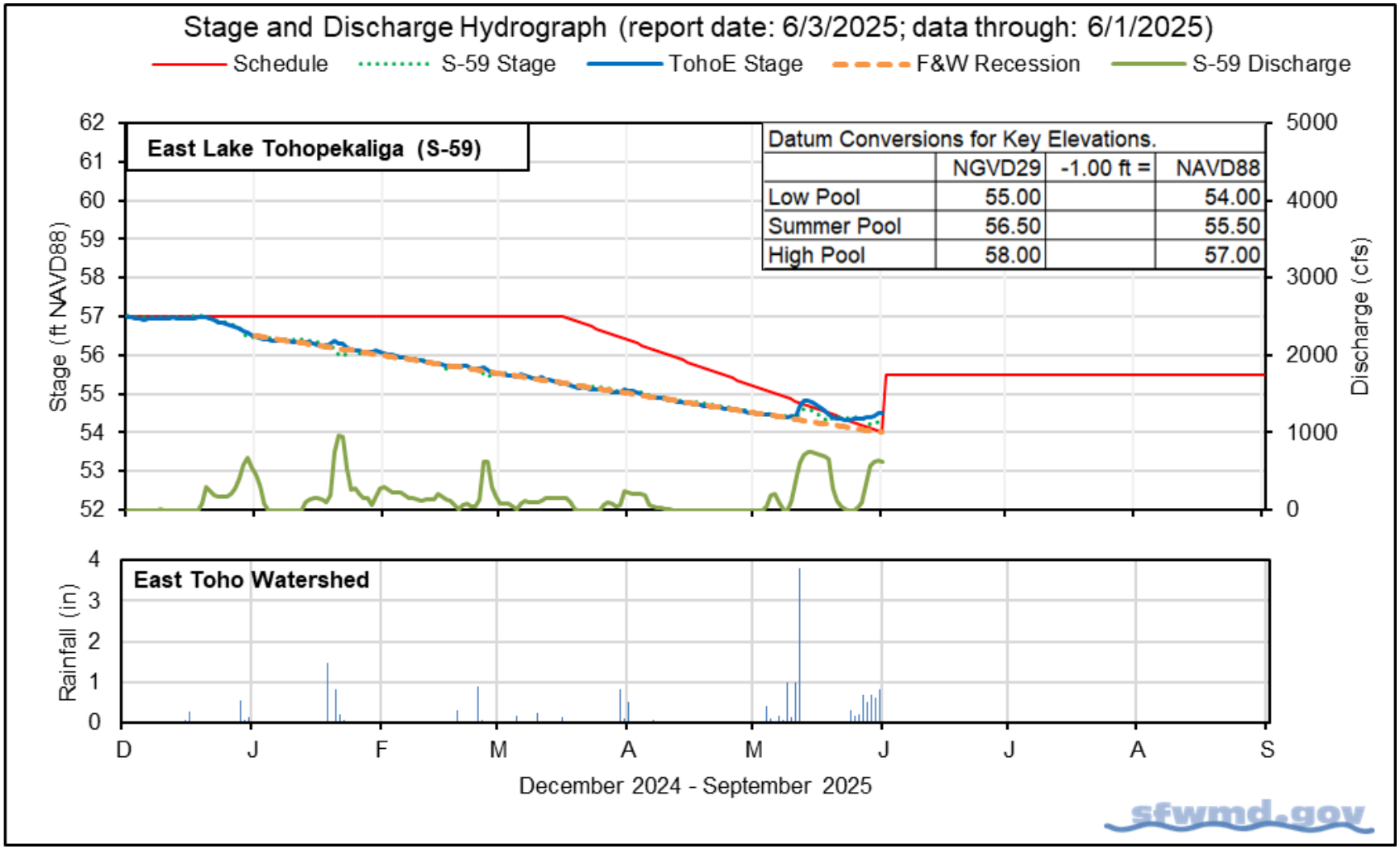


Figure KB-1. East Lake Toho regulation schedule, stage, discharge, and rainfall.

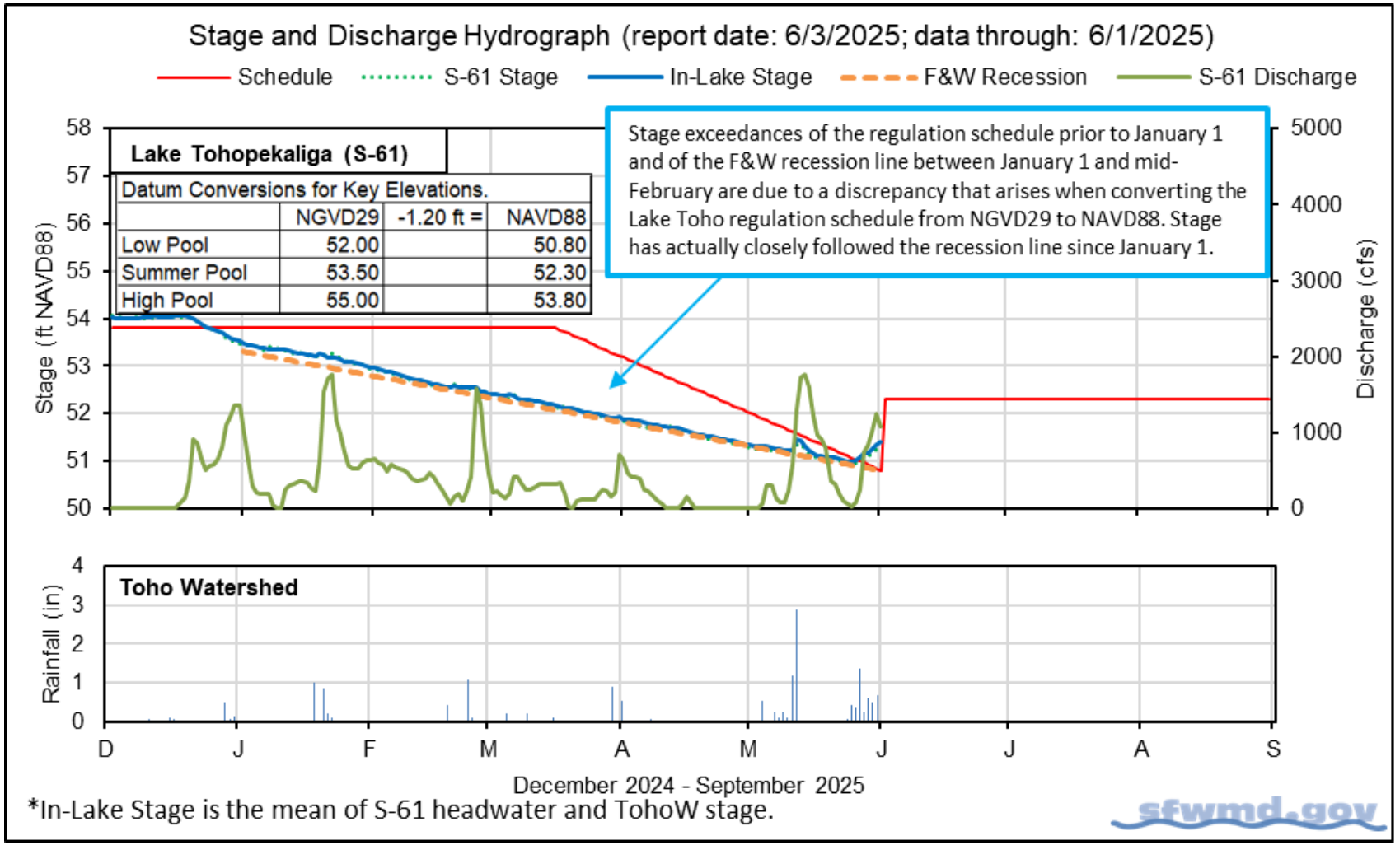


Figure KB-2. Lake Toho regulation schedule, stage, discharge, and rainfall.

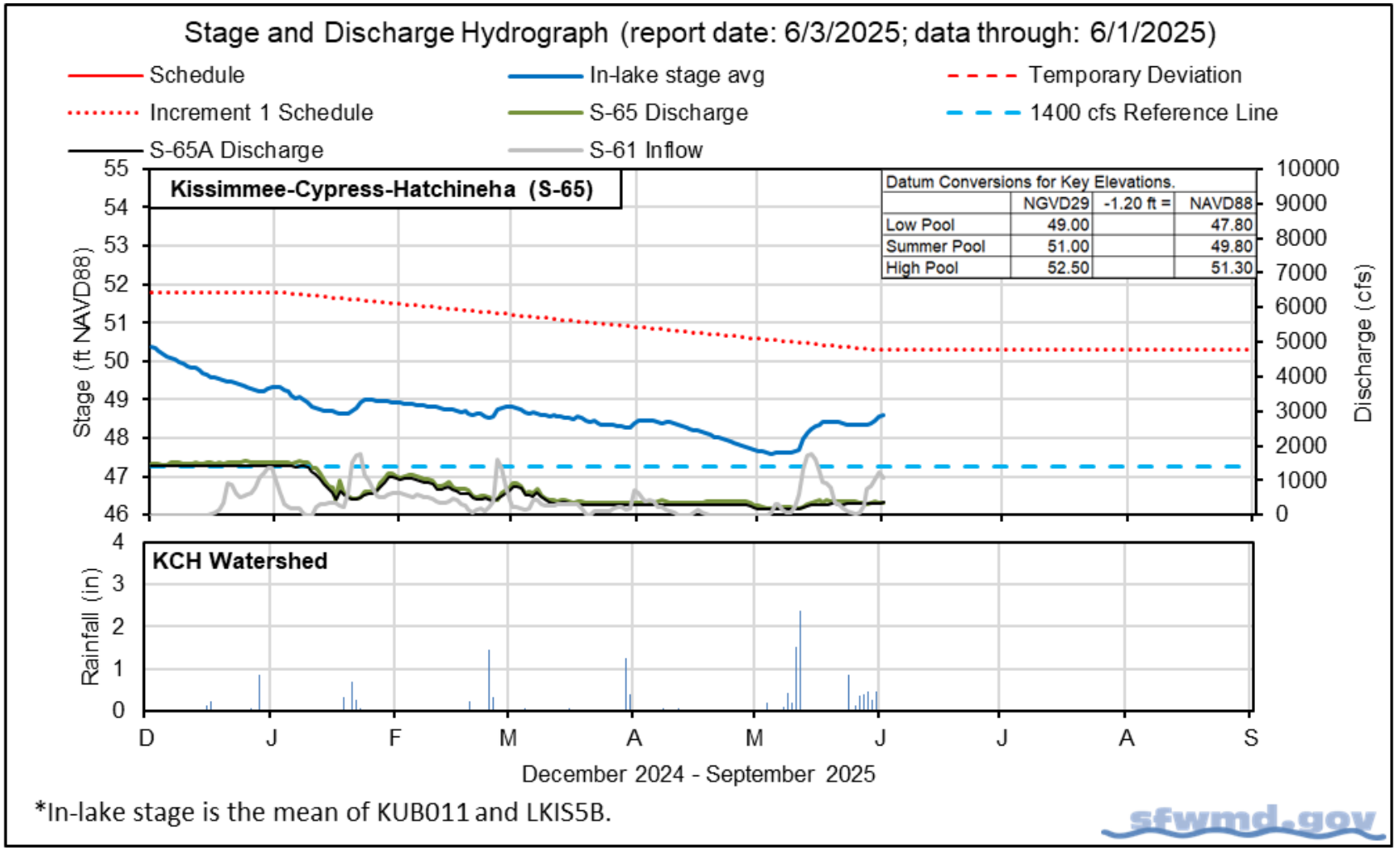


Figure KB-3. Lakes Kissimmee, Cypress and Hatchineha regulation schedule, stage, discharge, and rainfall.

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			
		6/1/25	6/1/25	5/25/25	5/18/25	5/11/25
Discharge	S-65	360	350	390	360	210
Discharge	S-65A[a]	360	320	310	290	160
Headwater Stage (feet NAVD88)	S-65A	45.2	45.2	45.2	45.2	45.3
Discharge	S-65D[b]	300	300	310	250	160
Headwater Stage (feet NAVD88)	S-65D[c]	24.7	24.6	24.6	24.7	24.5
Discharge (cfs)	S-65E[d]	280	260	250	230	110
Discharge (cfs)	S-67	0	0	0	0	0
Dissolved Oxygen (mg/L) [e]	Phase I, II/III river channel	5.7	5.8	6.0	5.5	6.7
River channel mean stage (feet NAVD88) [f]	Phase I river channel	30.7	30.7	30.7	30.3	29.8
Mean depth (feet) [g]	Phase I floodplain	0.23	0.23	0.23	0.23	0.22

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).

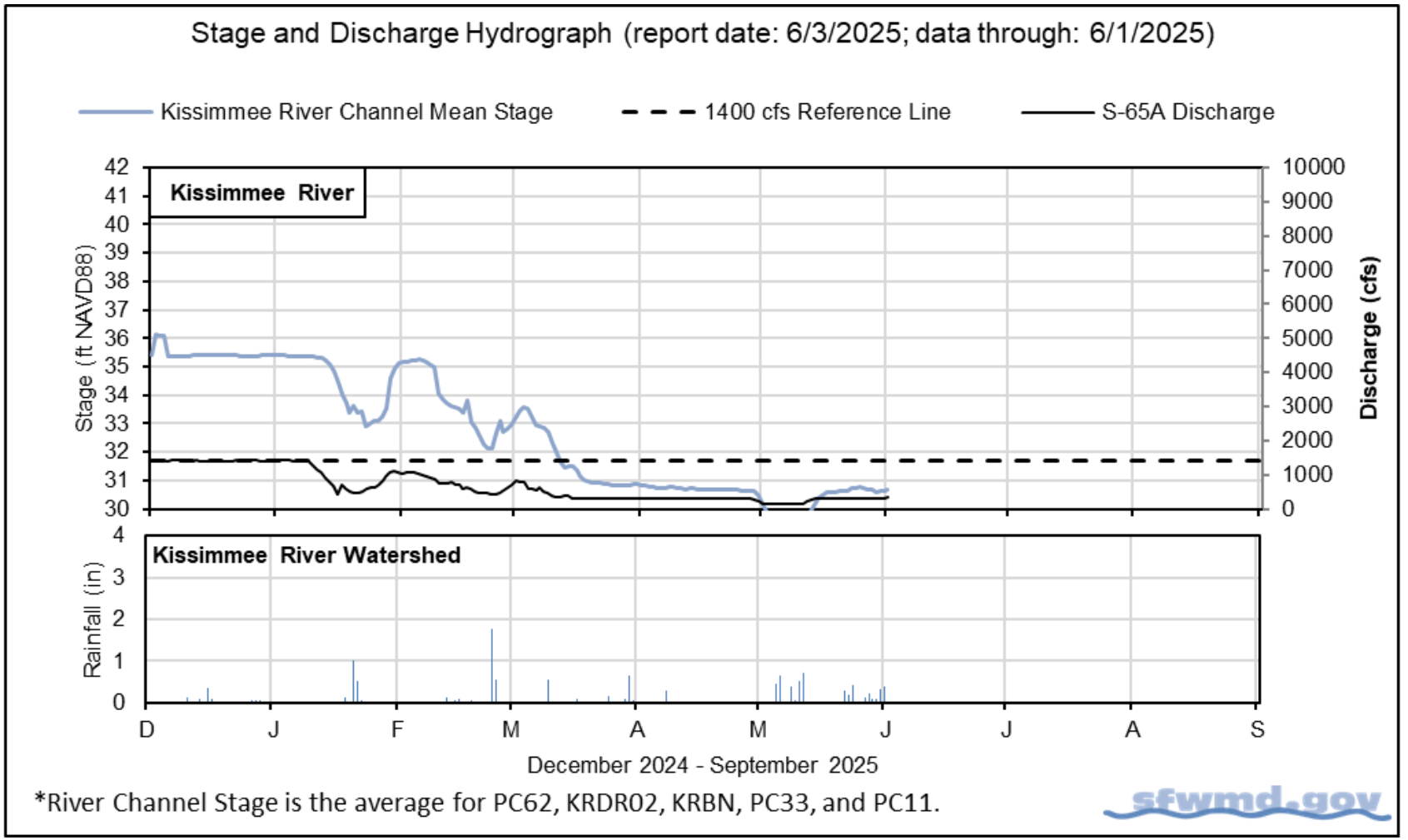


Figure KB-4. Kissimmee River stage, discharge, and rainfall.

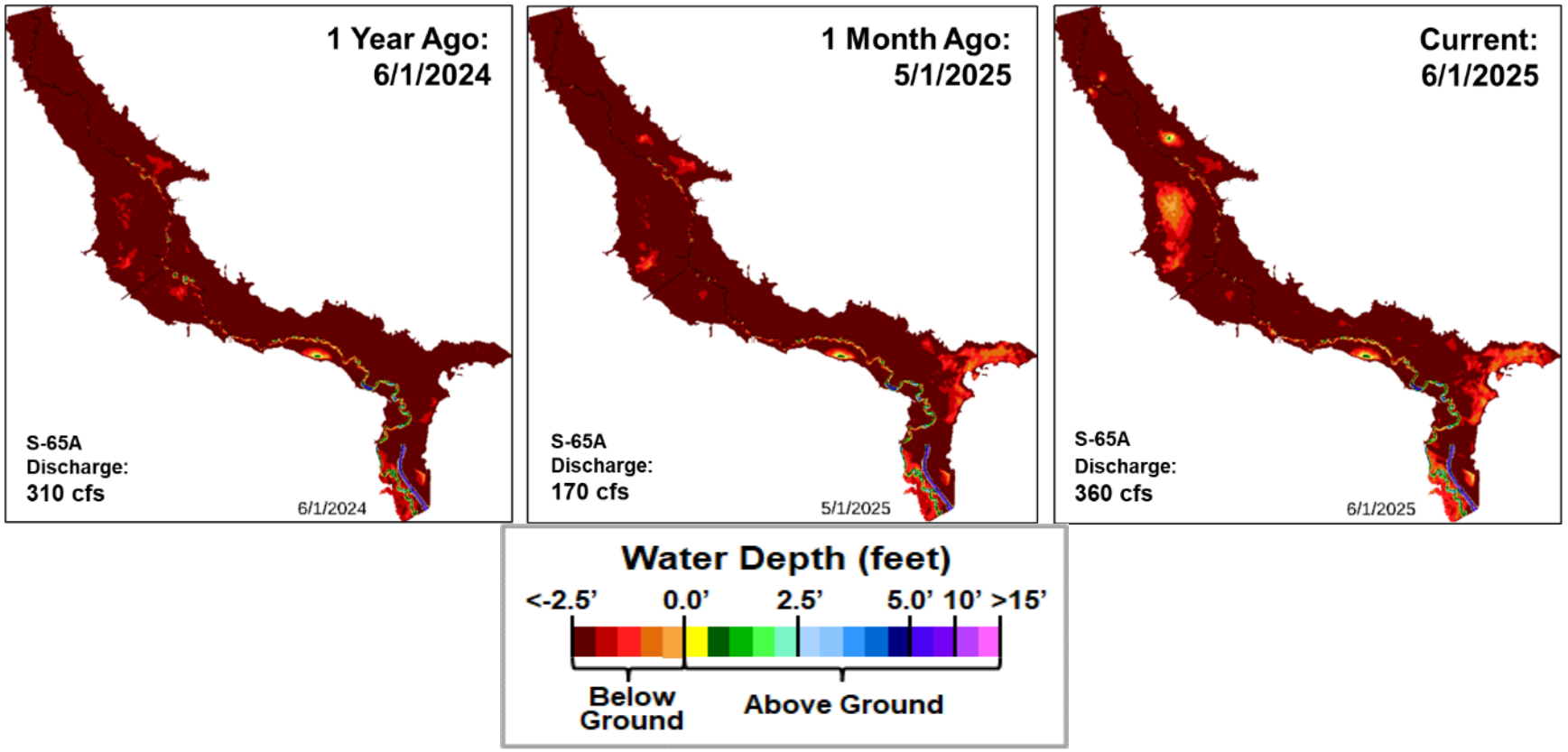


Figure KB-5. Phase I-II-III area Kissimmee River floodplain water depths (from left to right) one year ago, one month ago, and current.

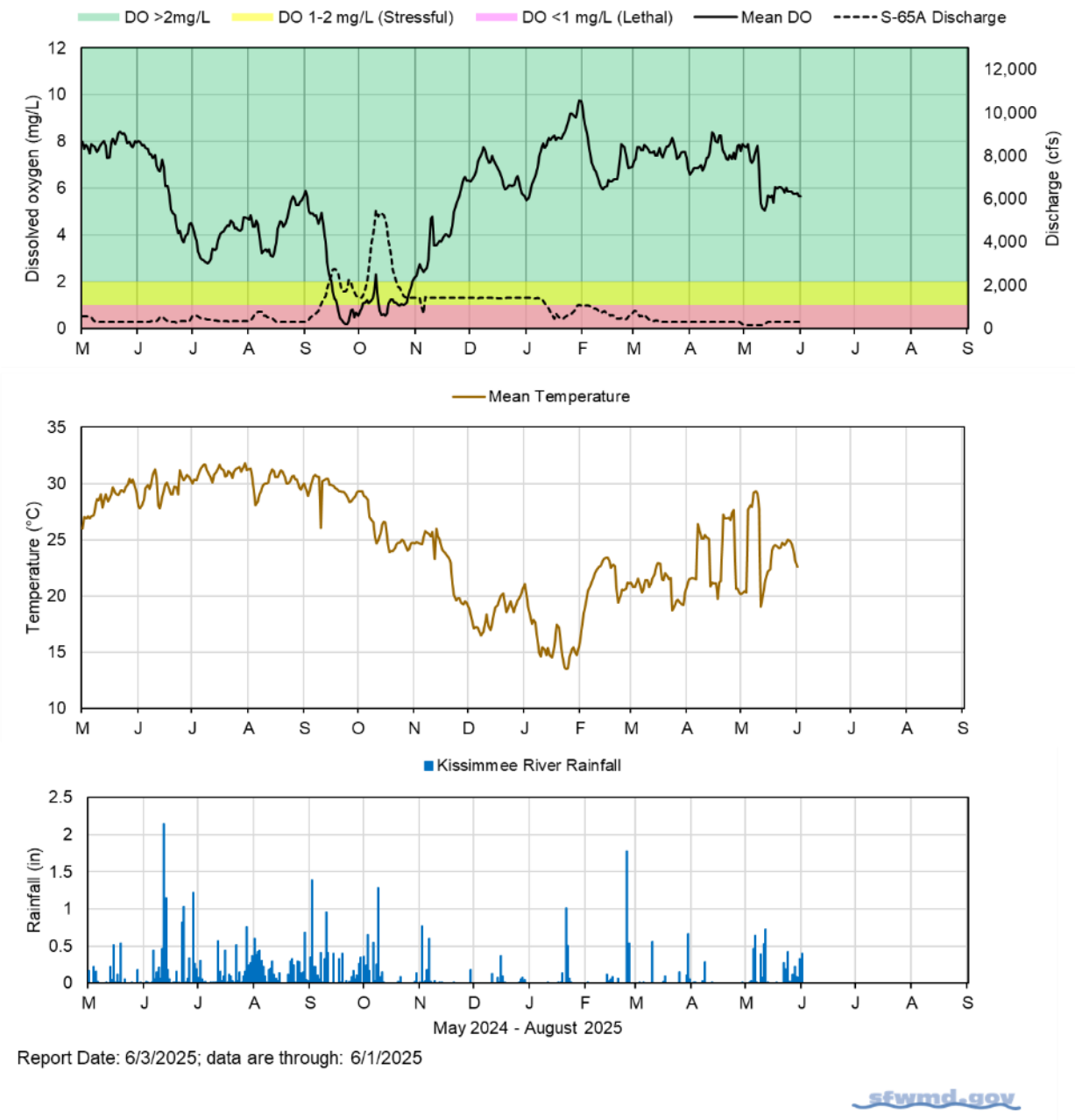


Figure KB-6. Kissimmee River channel mean daily dissolved oxygen concentration (mg/L), S-65A discharge (cfs), temperature (°C) and rainfall (inches). Dissolved oxygen (DO) and temperature are mean daily values averaged for PC62, KRDR02, KRBN, PC33, PC11, PD62R, and PD42R with an average of five stations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

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

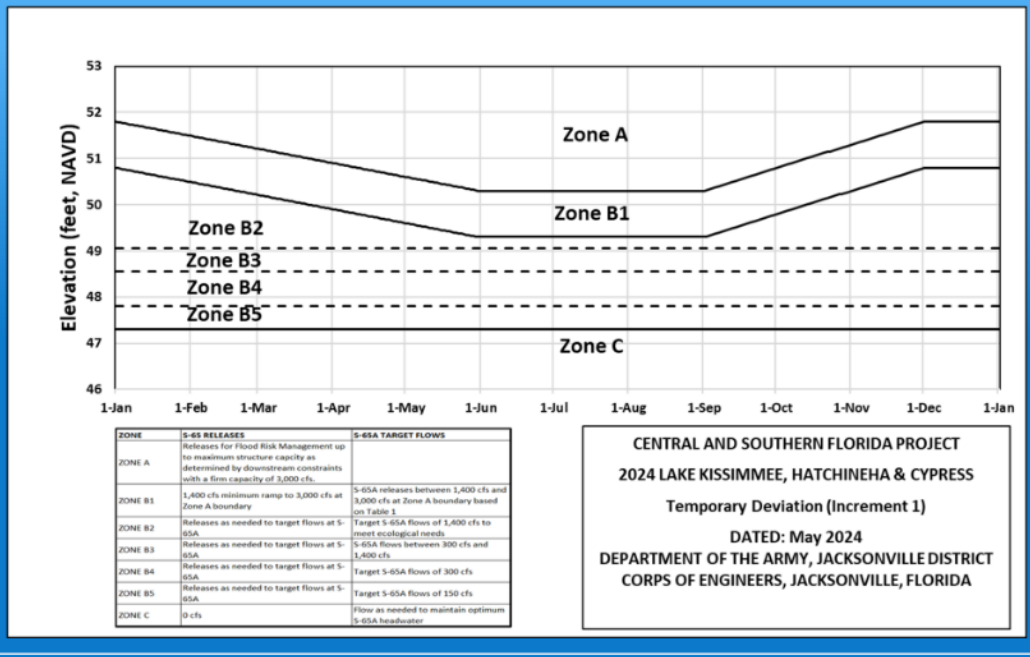
HRS Increment 1 Temporary Deviation Discharge Plan for S-65/S-65A

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



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

CENTRAL AND SOUTHERN FLORIDA PROJECT

2024 LAKE KISSIMMEE, HATCHINEHA & CYPRESS

Temporary Deviation (Increment 1)

DATED: May 2024

DEPARTMENT OF THE ARMY, JACKSONVILLE DISTRICT
CORPS OF ENGINEERS, JACKSONVILLE, FLORIDA

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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Slide Revised 7/29/2024

10

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

Lake Okeechobee

Lake Okeechobee stage was 9.66 feet NAVD88 (10.97 ft NGVD29) on June 1, 2025, which was 0.04 feet higher than the previous week and 0.22 feet lower than a month ago (**Figure LO-1**). Lake stage is in Zone D of the regulation schedule, 0.47 feet above the Water Shortage Management Band, (**Figure LO-2**) and 0.03 feet below the lower limit of the recovery ecological envelope (**Figure LO-3**). According to NEXRAD, 1.5 inches of rain fell directly over the Lake during the previous week.

Average daily inflows (excluding rainfall) increased from 430 cfs the previous week to 980 cfs. The highest inflow came from the Kissimmee River via the S-65E structure (250 cfs). Average daily outflows (excluding evapotranspiration) decreased from 2,360 cfs the previous week to 710 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 May 29, 2025, NOAA's Harmful Algal Bloom Monitoring System suggests moderate to high cyanobacteria bloom potential in most nearshore areas of the lake, especially in the north (**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 May 6-7 sampling showed 5 of the 31 phytoplankton communities were dominated by *Microcystis*, but no samples had detectable toxin levels. Of the 31 sites sampled for water quality parameters, 10 had chlorophyll *a* concentration between 20-40 µg/L, and 4 had concentrations >40 µg/L (**Figure LO-7**). Mean turbidity values and dissolved inorganic nitrogen (DIN) levels continued to decrease slightly from the previous month, especially the DIN at the deeper sites (**Figure LO-8**).

The latest wading bird survey of the 2025 season occurred on May 22, 2025. Approximately 2,500 birds across 10 flocks were seen actively foraging around the Lake (**Figure LO-9**). This is less than half of the 5-year moving average.

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

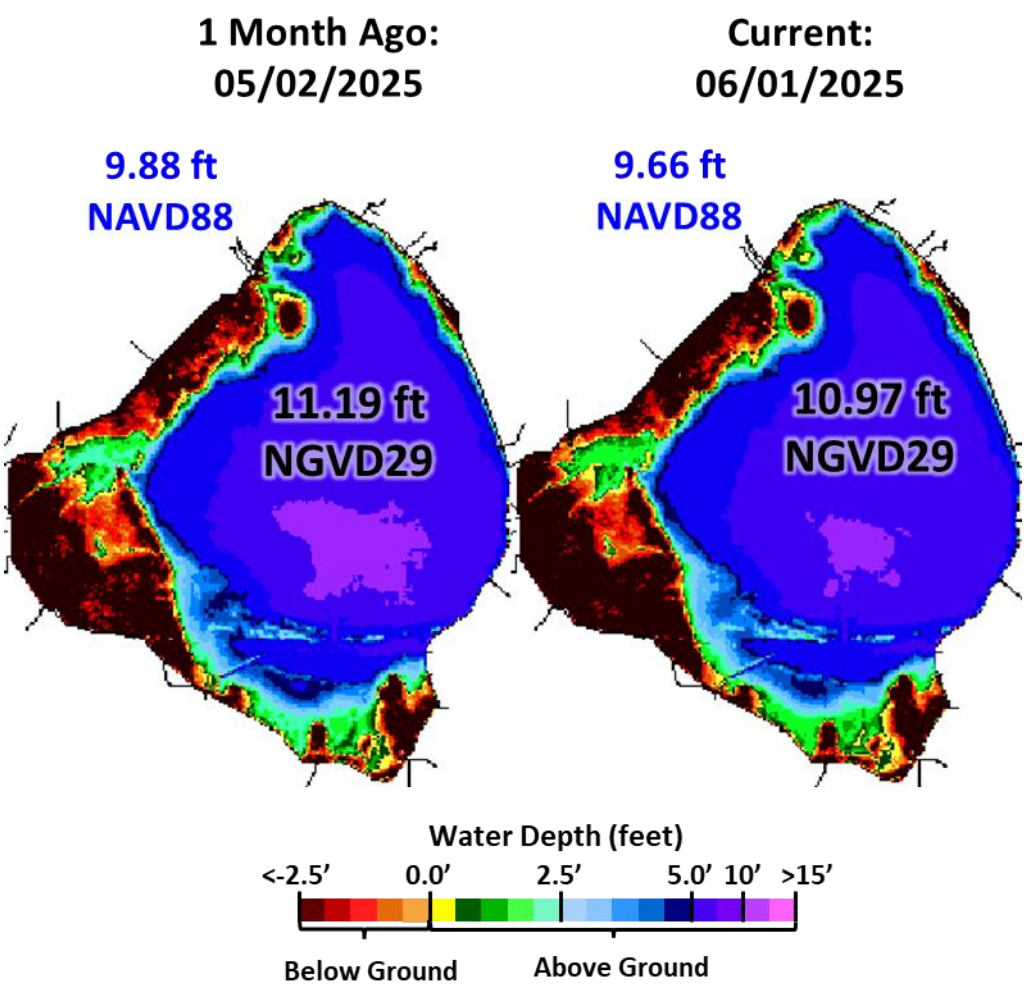

Figure LO-1. Lake Okeechobee water depth estimates based on South Florida Water Depth Assessment Tool (SFWDAT).

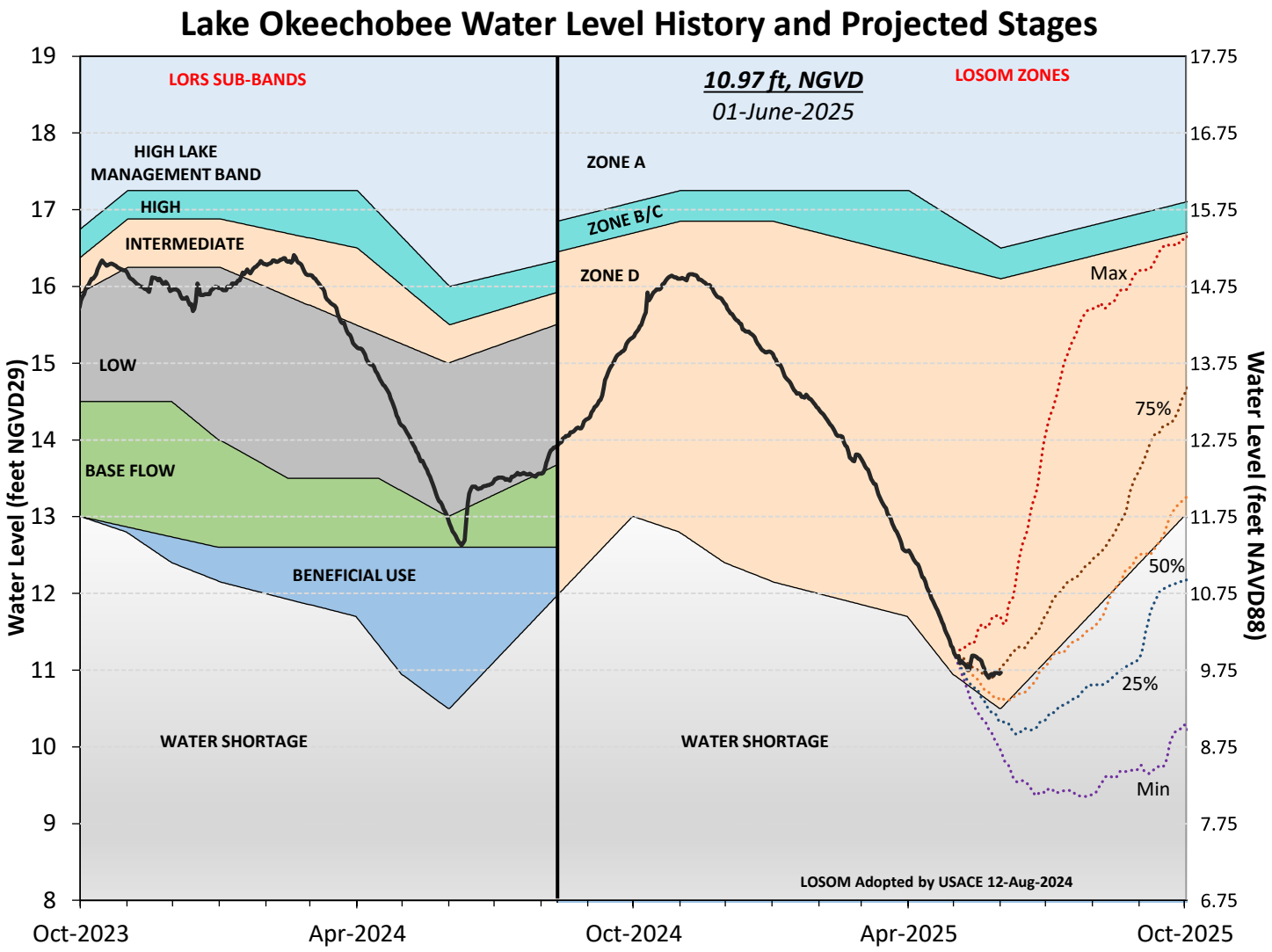

Figure LO-2. Recent Lake Okeechobee stages with projected stages based on a dynamic position analysis. Note: stages are in NGVD29, approximate NAVD88 values are shown for reference.

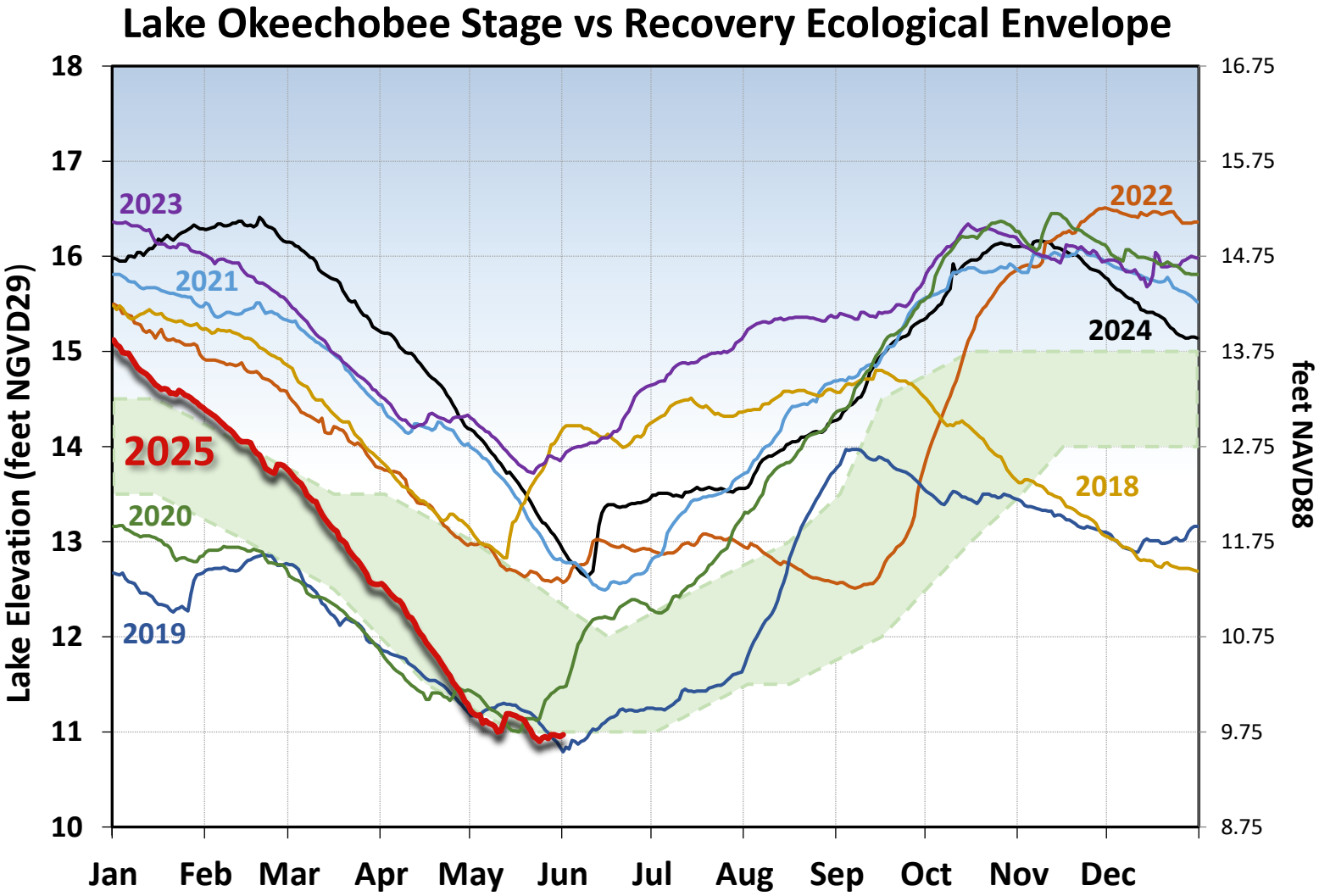

Figure LO-3. The current and seven prior year's annual stage hydrographs for Lake Okeechobee in comparison to the recovery envelope (light green). A shift from the normal ecological envelope to the recovery envelope occurred because the 30-day minimum lake stage (elevations exposed for at least 30 days,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

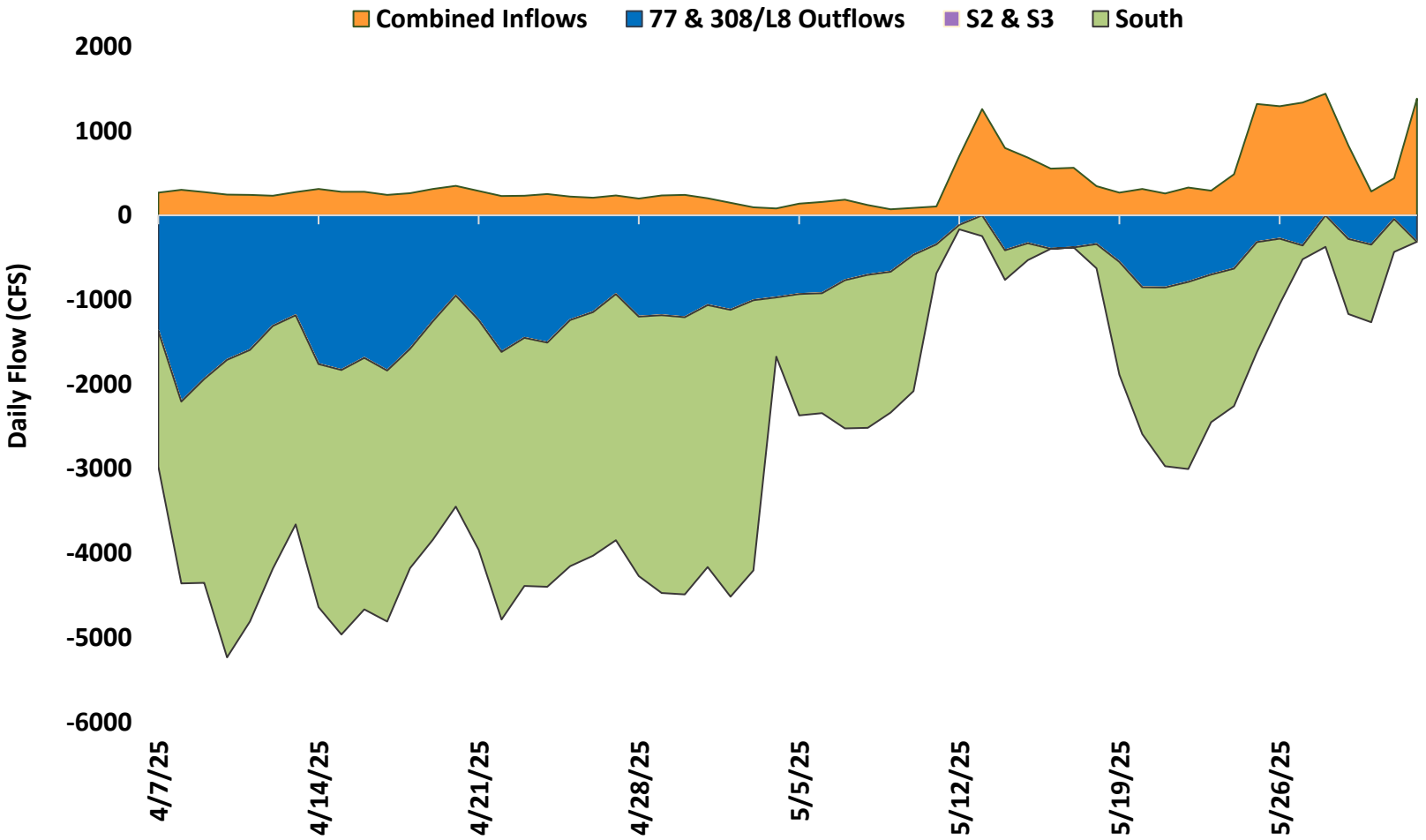

Figure LO-4. Major inflows (orange) to and outflows east and west (blue) from Lake Okeechobee. Outflows south are shown in green. Flows into Lake Okeechobee from the L-8 canal through S-271 (formerly Culvert 10A) or from the C-44 canal through the S-308 are included as inflows. Conversely, flows from 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.

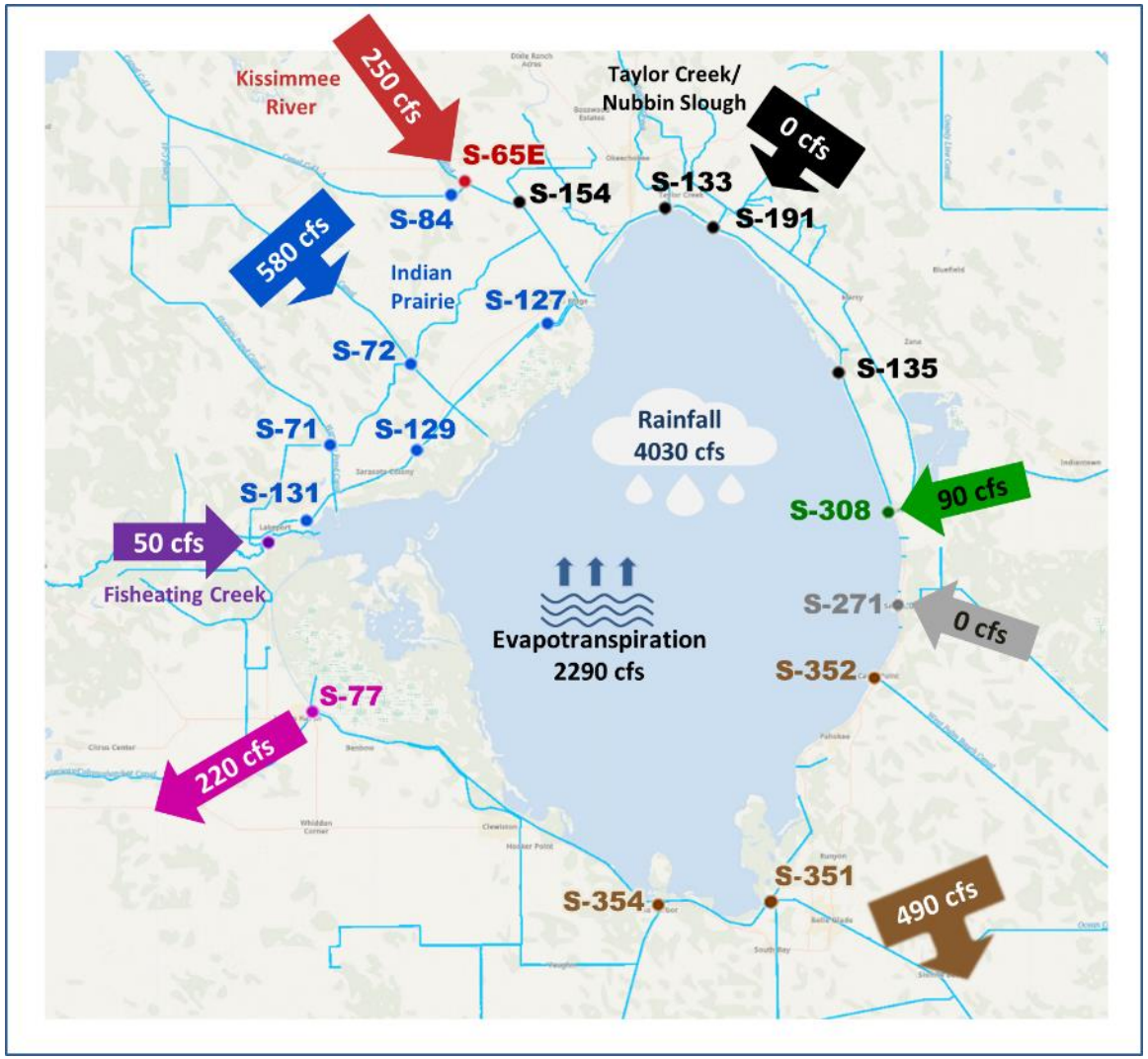

Figure LO-5. Inflows into Lake Okeechobee from Indian Prairie basins, Taylor Creek/Nubbin Slough, Kissimmee River and Fisheating Creek, and outflows to the west via S-77, to the east via S-308, to the south via S-351, S-352, S-354, and to southeast via S-271 (formerly Culvert 10A) for the week of May 26 – June 1, 2025.

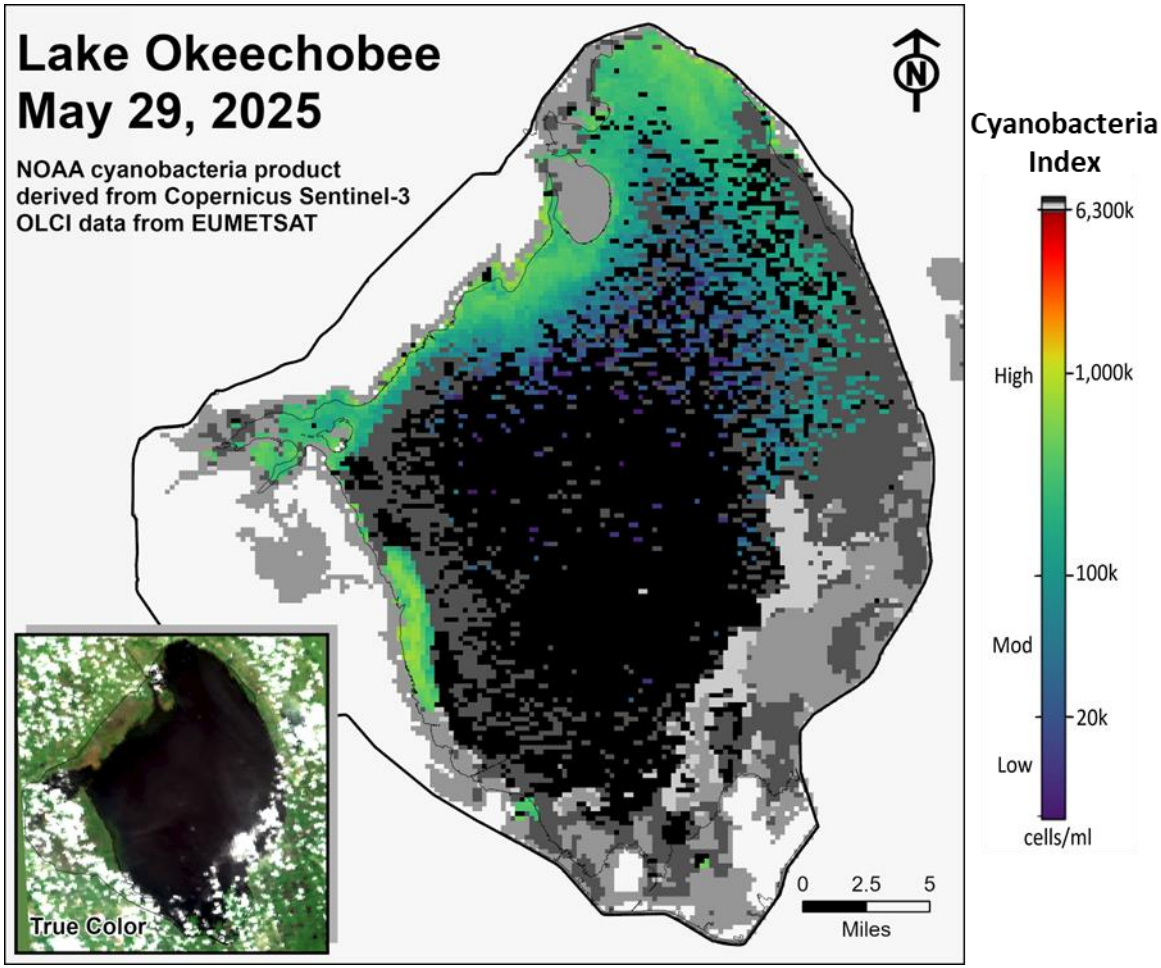

Figure LO-6. Cyanobacteria bloom index level on Lake Okeechobee, based on NOAA's harmful algal bloom monitoring system. Gray color indicates cloud cover. *Provisional NOAA image, subject to change*.

Collection Date: May 6-7, 2025

Station	CHL*a* (ug/L)	TOXIN (ug/L)	TAXA
FEBIN	*NS*	*NS*	*NS*
FEBOUT	43.3	BDL	*Planktol*
KISSR0.0	38.4	BDL	mixed
L005	10.0	BDL	*Microcys*
LZ2	53.5	BDL	*Dolic/Plank*
KBARSE	32.5	BDL	*Dolichos*
RITTAE2	6.3	BDL	mixed
PELBAY3	15.8	BDL	*Microcys*
POLE3S	6.8	BDL	mixed
LZ25A	7.7	BDL	mixed
PALMOUT	7.5	BDL	mixed
PALMOUT1	28.8	BDL	*Microcys*
PALMOUT2	15.4	BDL	mixed
PALMOUT3	7.2	BDL	mixed
POLESOUT	44.7	BDL	*Dolic/Plank*
POLESOUT1	32.7	BDL	mixed
POLESOUT2	38.1	BDL	*Microcys*
POLESOUT3	24.6	BDL	*Microcys*
EASTSHORE	23.2	BDL	*Dolichos*
NES135	17.2	BDL	mixed
NES191	16.2	BDL	*Dolichos*

Station	CHL*a* (ug/L)	TOXIN (ug/L)	TAXA
L001	39.2	BDL	mixed
L004	22.5	BDL	mixed
L006	27.0	BDL	mixed
L007	27.9	BDL	mixed
L008	18.8	BDL	mixed
LZ30	31.2	BDL	mixed
LZ40	16.1	BDL	mixed
CLV10A	15.3	BDL	mixed
NCENTER	31.7	BDL	mixed
S308C	20.9	BDL	mixed
S77	40.3	BDL	*Planktol*

- 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

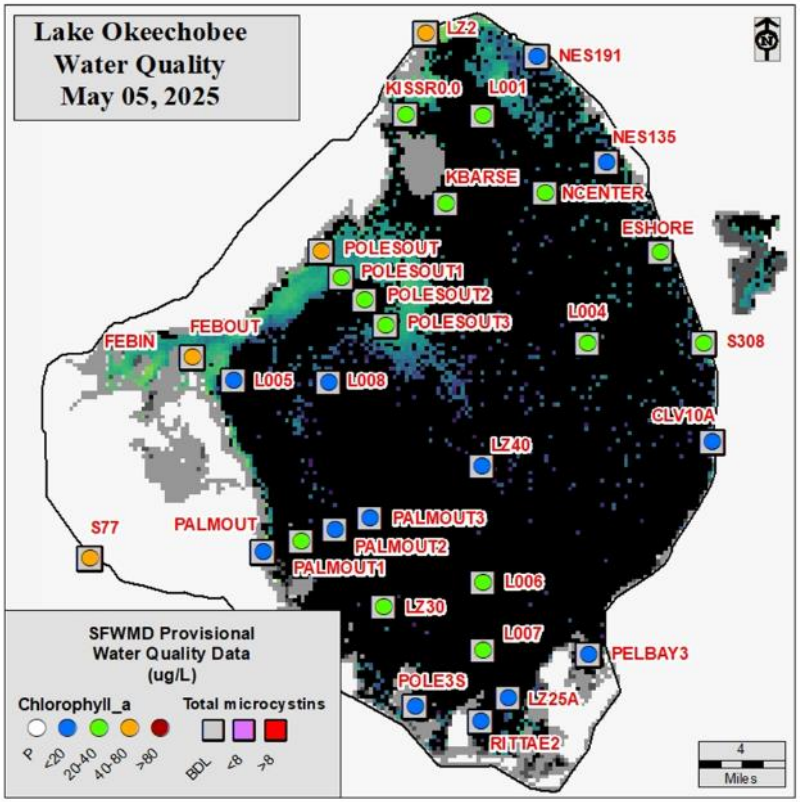

Figure LO-7. Dominant taxa, total microcystin (µg/L) and chlorophyll *a* (µg/L) concentration data from May 6-7, 2025. Sampling locations, chlorophyll *a*, and total microcystin concentrations are overlaid on the May 5, 2025, image from NOAA's harmful algal bloom monitoring system. Gray color indicates cloud cover.

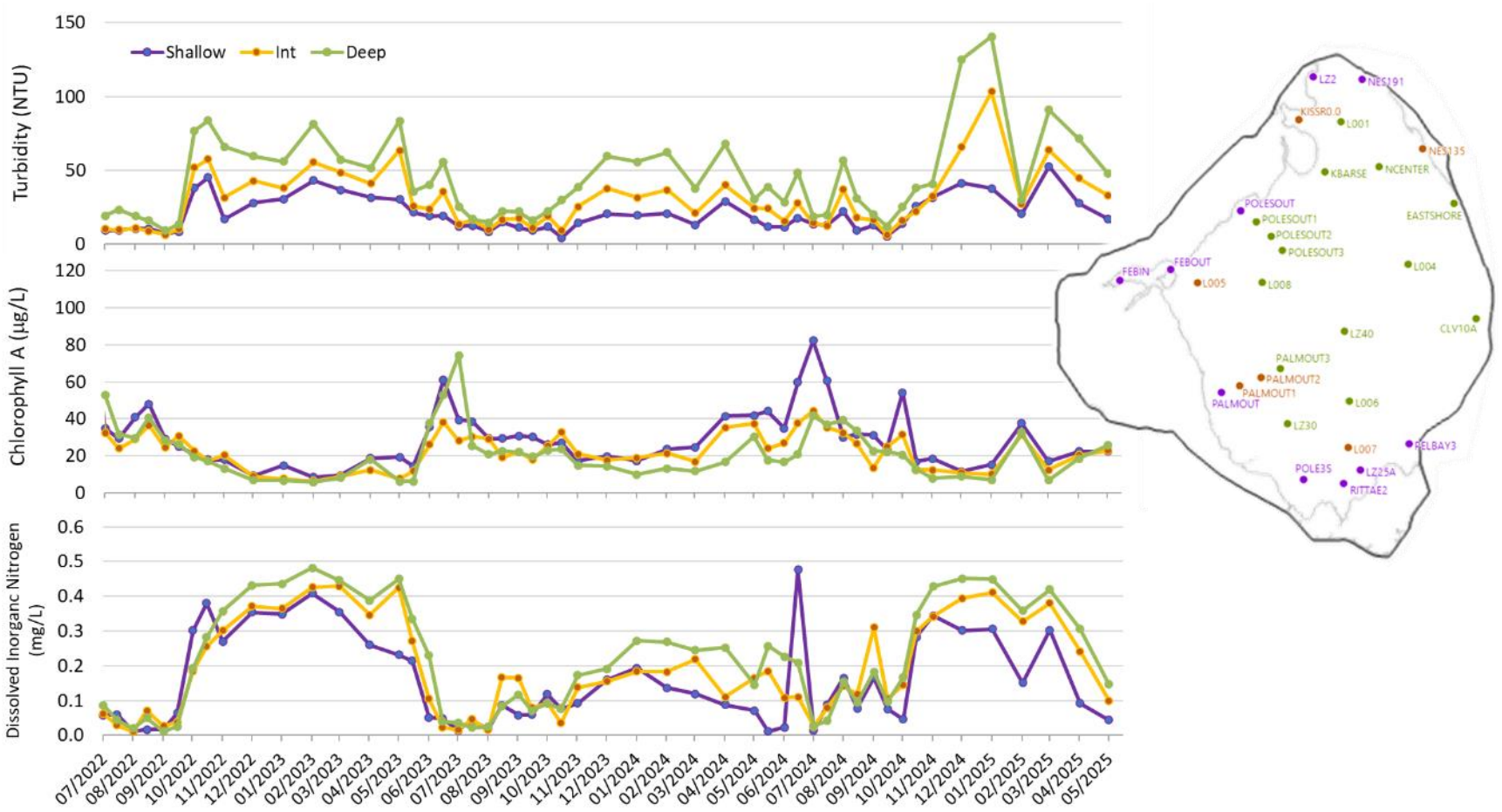

Figure LO-8. Select water quality parameters from July 2022 to the sampling on May 6-7, 2025. Graphs show mean turbidity, chlorophyll *a*, and dissolved inorganic nitrogen values from sites in shallow, intermediate and deep portion of the lake. Inset map shows the locations of the different sampling sites.

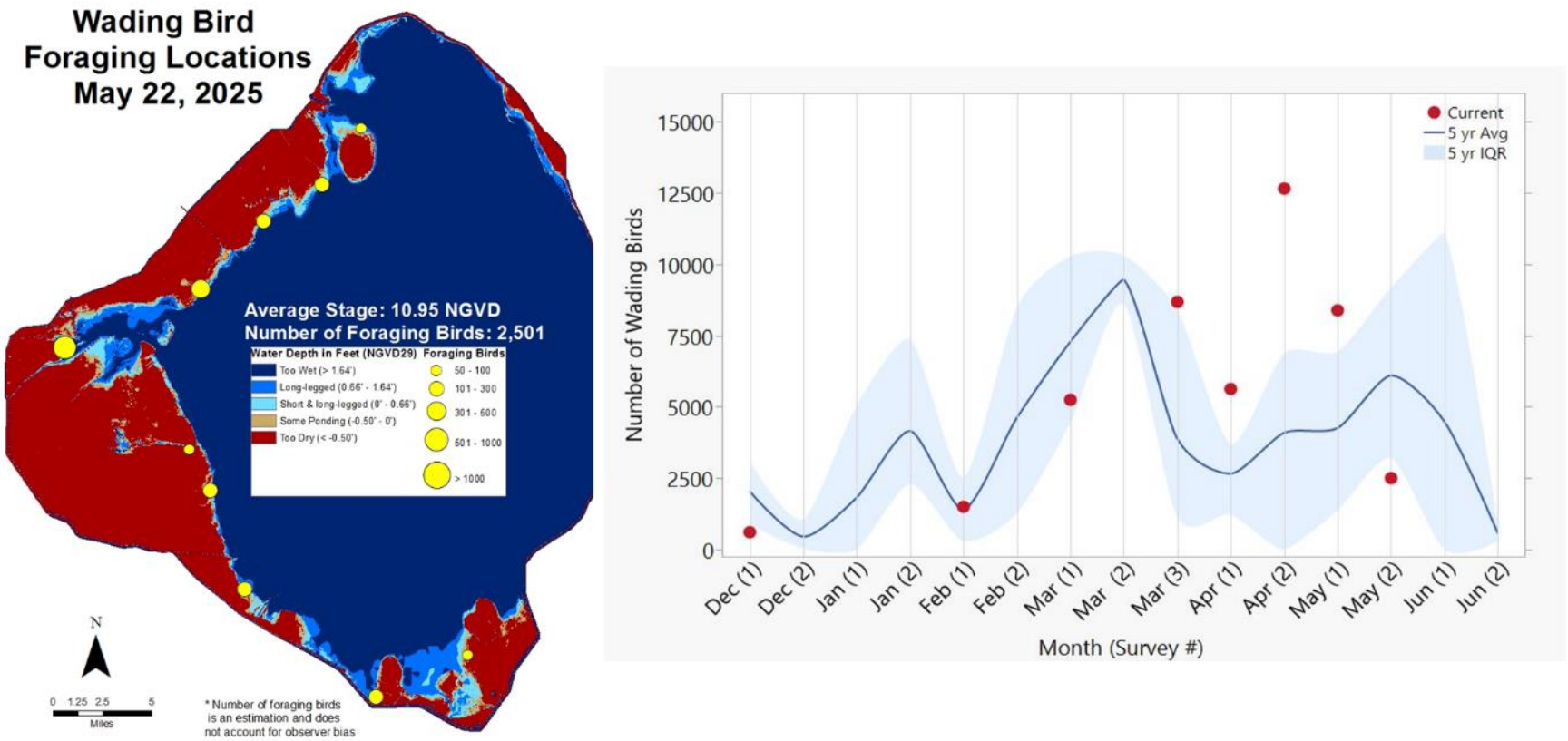

Figure LO-9. Results from the wading bird survey flight conducted on May 22, 2025. Map graphic indicates location of flocks and approximate abundance of actively foraging wading birds on Lake Okeechobee. Graph compares the current seasons wading bird counts (red dots) to the mean and interquartile ranges from the preceding 5 years of surveys.

Estuaries

St. Lucie Estuary

Over the past week, mean total inflow to the St. Lucie Estuary was 679 cfs (**Figures ES-1** and **ES-2**), and the previous 30-day mean inflow was 438 cfs. For comparison, the historical provisional mean inflows from contributing areas are shown in **Figure ES-2**.

Over the past week, surface salinities decreased slightly at all sites in the estuary (**Table ES-1** and **Figure ES-3**). The seven-day moving average of the surface and bottom salinities at the US1 Bridge was 23.0. Salinity conditions in the middle estuary were estimated to be within the optimal range for adult eastern oysters (**Figure ES-4**). The mean larval oyster recruitment rate reported by the Fish and Wildlife Research Institute (FWRI) for May was 0.1 spat/shell at Rio, indicating that spawning activity likely began in late April (**Figure ES-5**).

Caloosahatchee River Estuary

Over the past week, mean total inflow to the Caloosahatchee River Estuary was 792 cfs (**Figures ES-6** and **ES-7**), and the previous 30-day mean inflow was 764 cfs. For comparison, the historical provisional mean inflows from the contributing areas are shown in **Figure ES-7**.

Over the past week, salinities increased 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 at S-79 and Val I-75 and greater than the optimal range (>10) at Ft. Myers. The seven-day mean salinity values were within the optimal range for adult eastern oysters at Cape Coral and in the upper stressed range at Shell Point and Sanibel (**Figure ES-10**). The mean larval oyster recruitment rates reported by the FWRI in May were 3.1 spat/shell at Iona Cove and 4.7 spat/shell at Bird Island, indicating that spawning is occurring at both stations in the CRE (**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 1,025 cfs. Model results from all scenarios predict daily salinity to be 4.8 or lower and the 30-day moving average surface salinity to be 4.2 or lower 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 May 30, 2025, that *Karenia brevis*, the Florida red tide dinoflagellate, was not observed at bloom concentrations in any samples collected within the District region.

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.

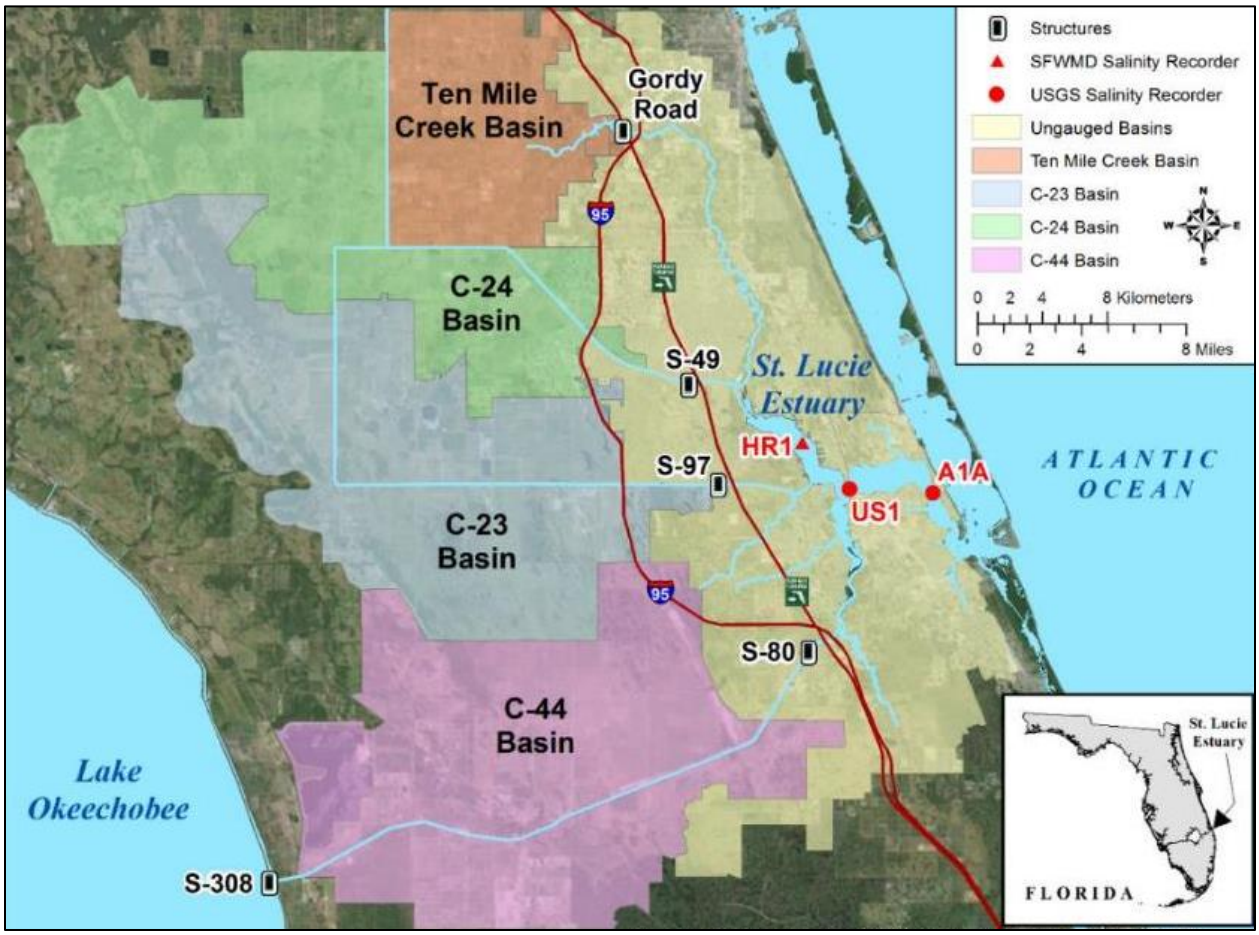

Figure ES-1. Basins, water control structures and salinity monitoring sites in the St. Lucie Estuary.

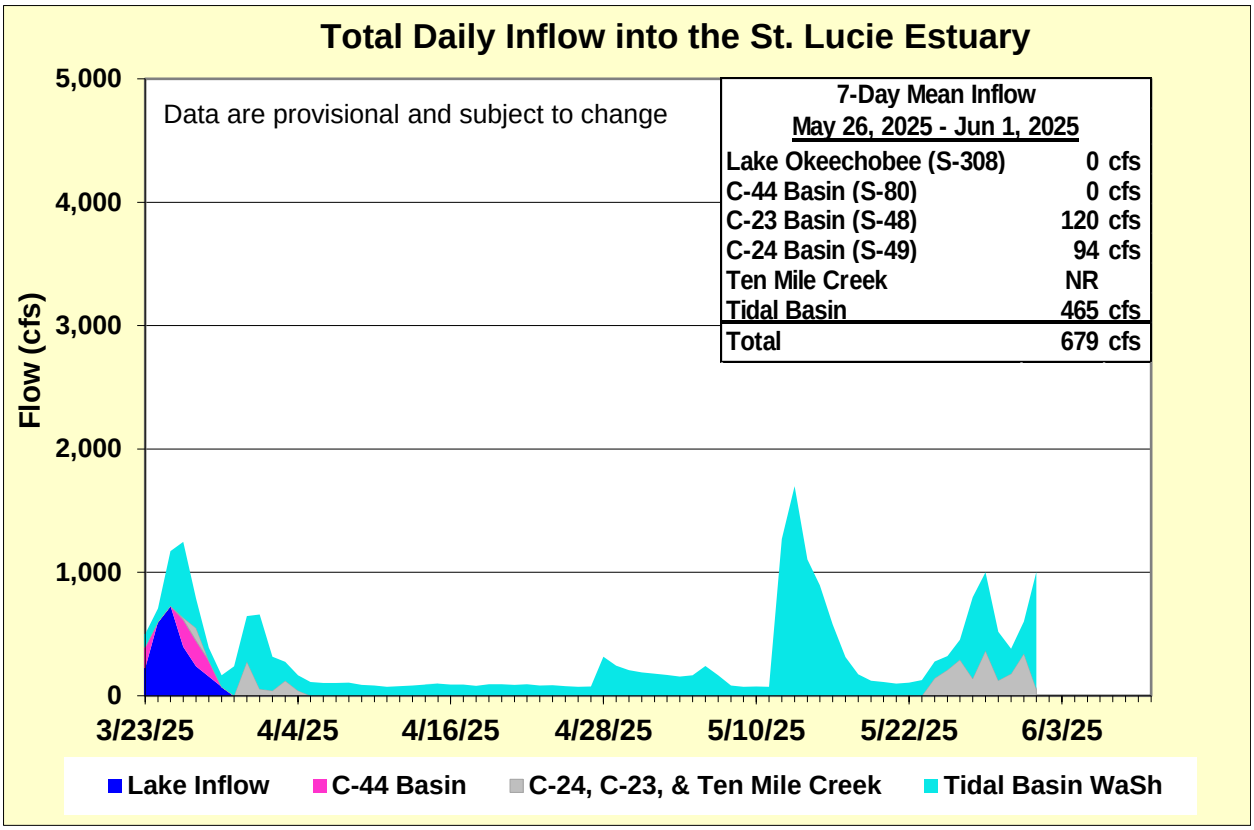

Figure ES-2. Total daily inflows from Lake Okeechobee and runoff from the C-44, C-23, C-24, Ten Mile Creek, and Tidal Basins into the St. Lucie Estuary.

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)	**17.1** (17.4)	**21.6** (21.5)	10.0 – 25.0
US1 Bridge	**22.4** (23.3)	**23.6** (24.0)	10.0 – 25.0
A1A Bridge	**29.1** (29.9)	**30.4** (30.7)	10.0 – 25.0

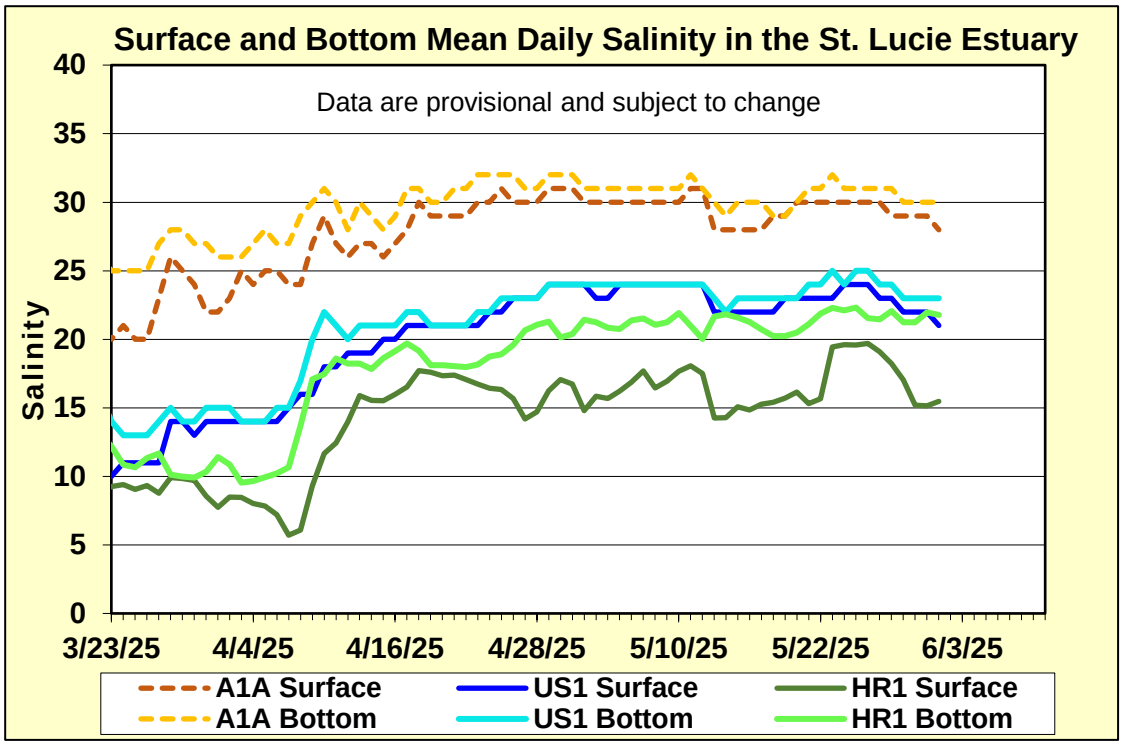

Figure ES-3. Mean daily salinity at the A1A, US1, and HR1 sites in the St. Lucie Estuary.

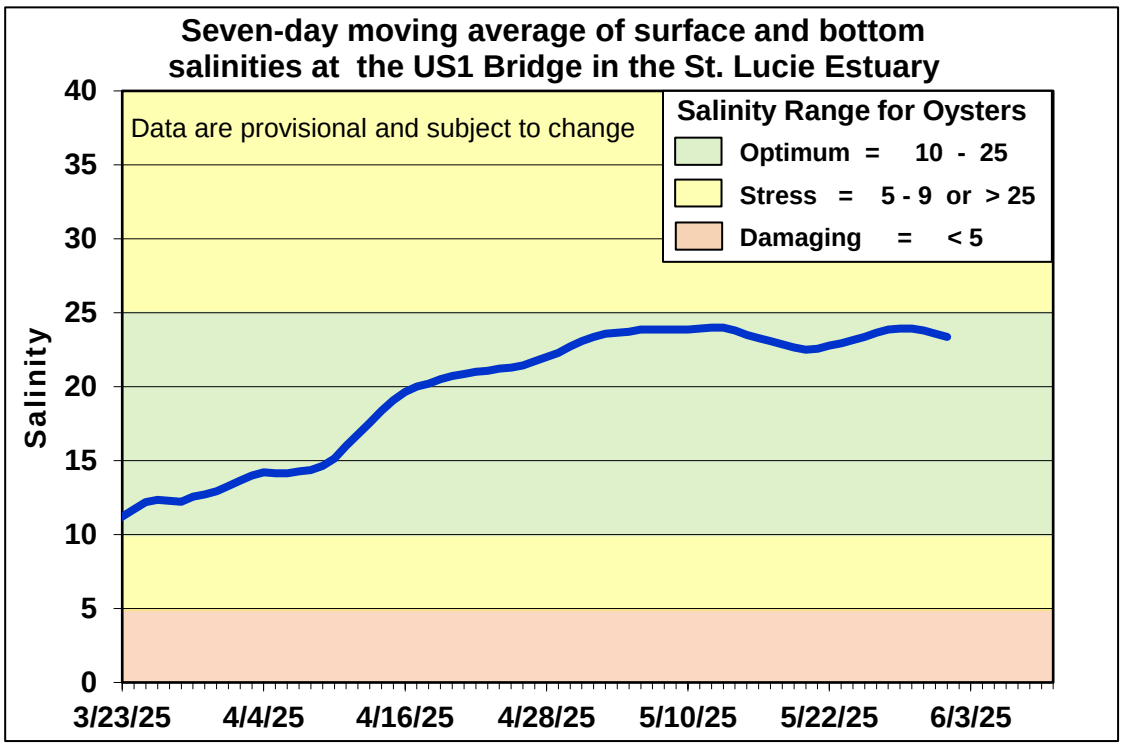

Figure ES-4. Seven-day moving average of the surface and bottom salinities at the US1 Bridge in the St. Lucie Estuary.

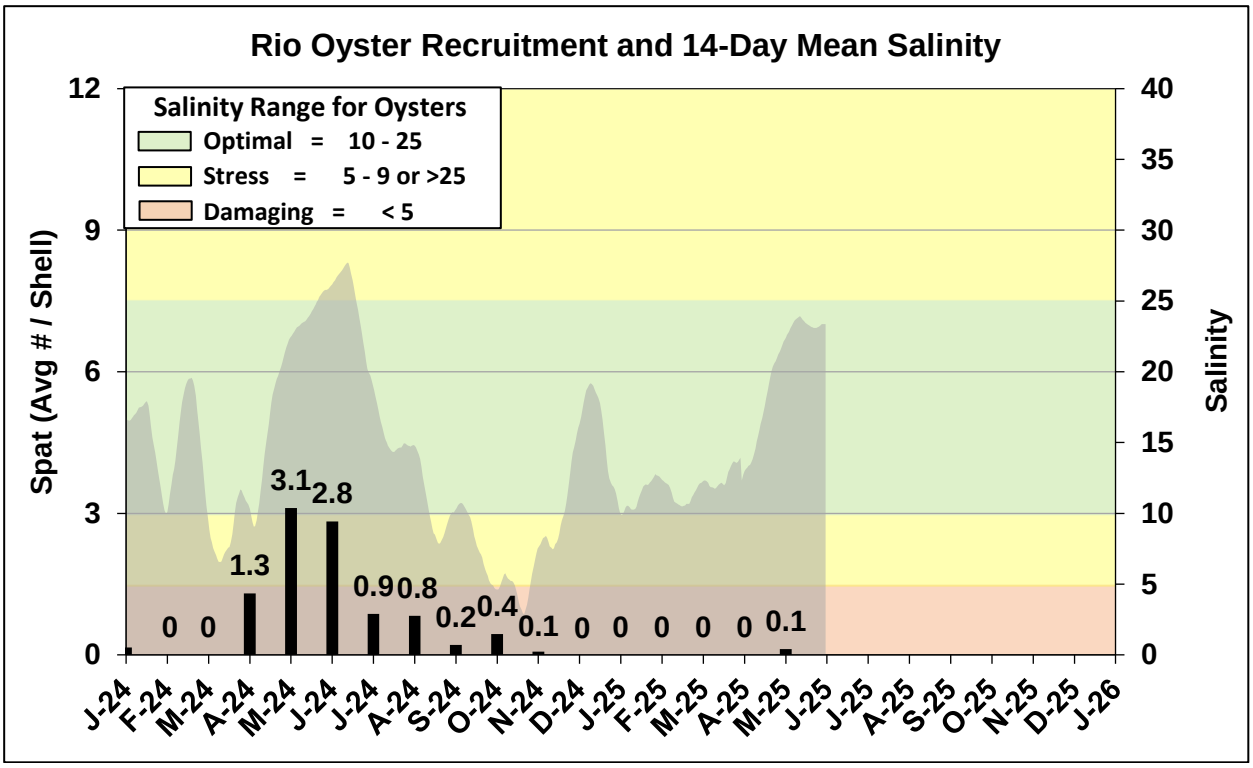

Figure ES-5. Mean oyster recruitment at the Rio oyster monitoring station and 14-day mean salinity at US1 Bridge.

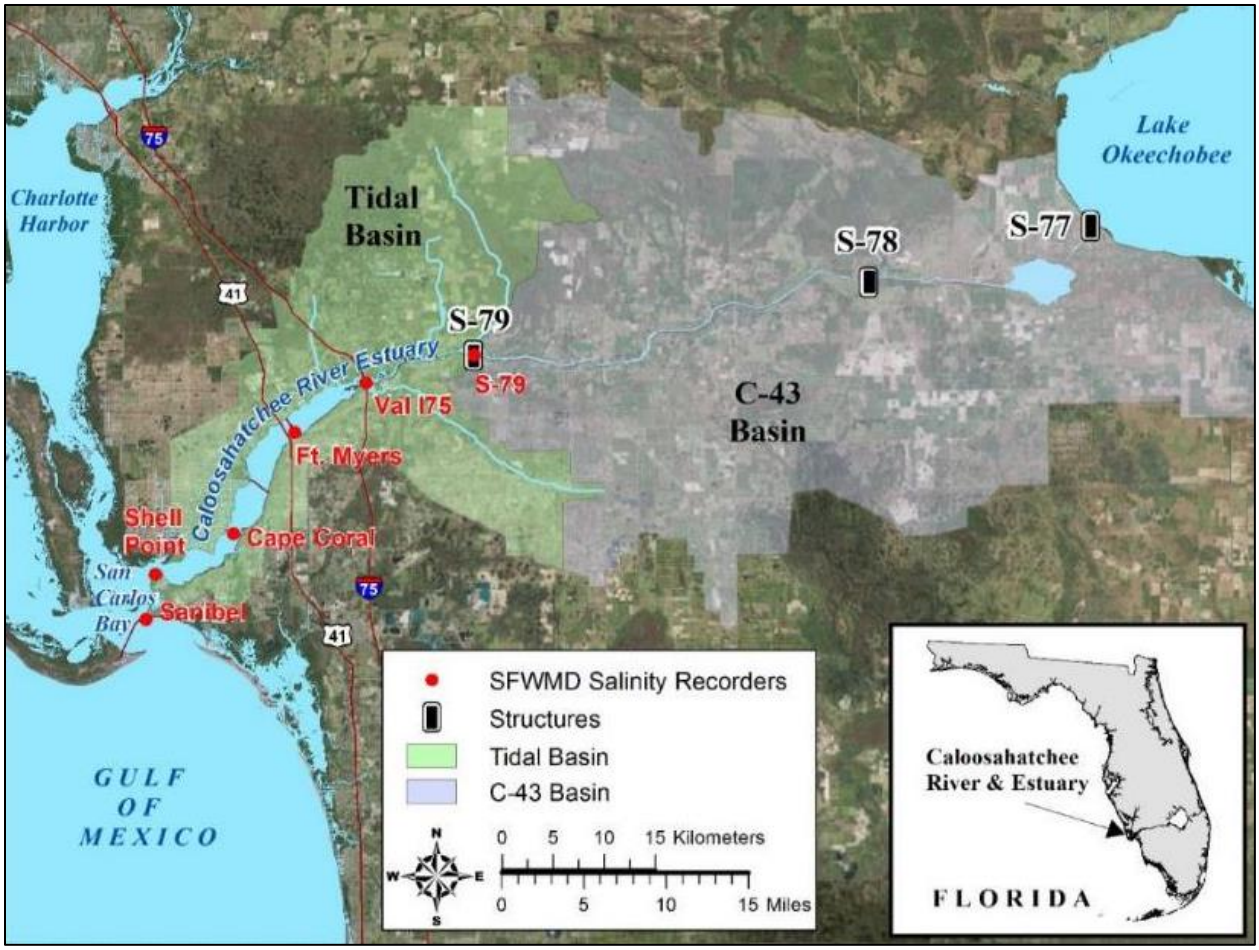

Figure ES-6. Basins, water control structures, and salinity monitoring sites in the Caloosahatchee River Estuary.

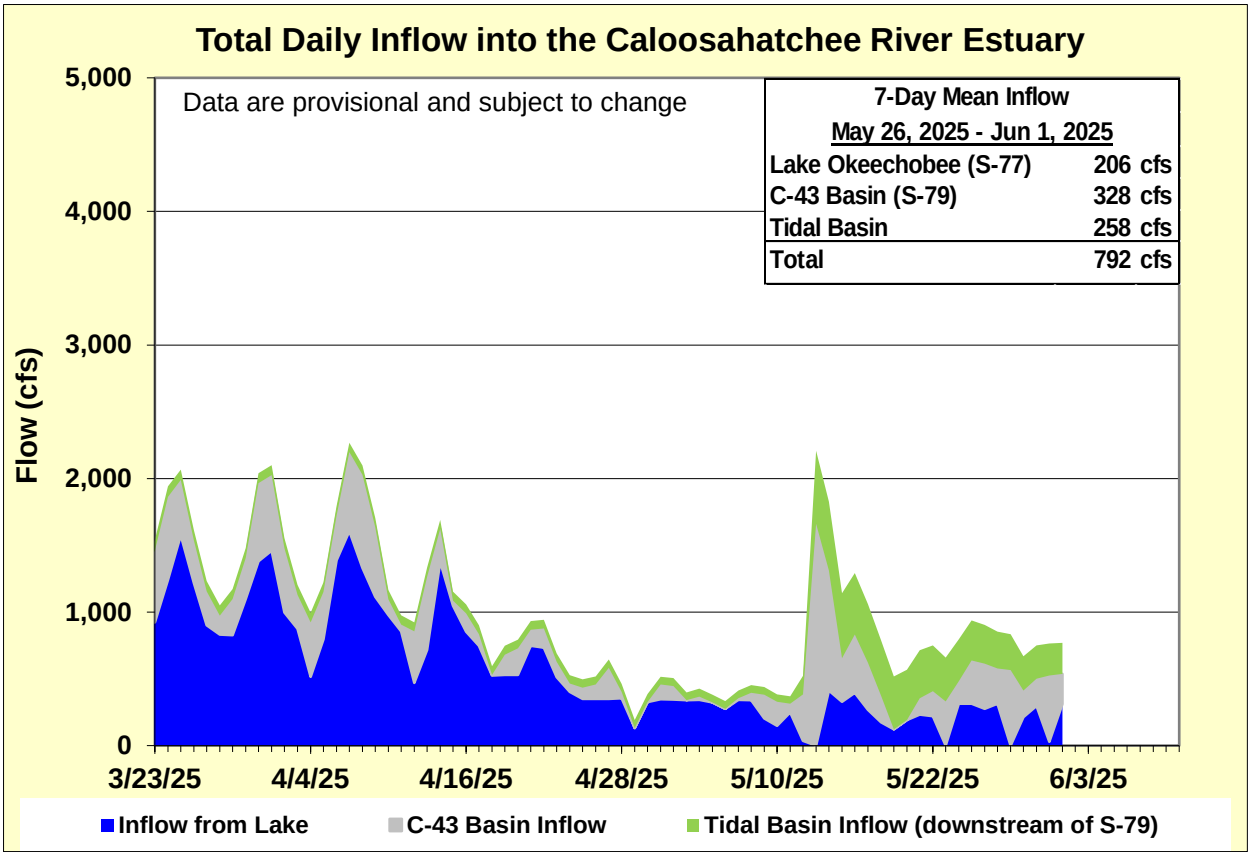

Figure ES-7. Total daily inflows from Lake Okeechobee, and runoff from the C-43 and Tidal basins into the Caloosahatchee River Estuary.

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)	**2.5** (2.3)	**2.5** (2.1)	0.0 – 10.0
Val I-75	**3.6** (2.9)	**4.6** (4.4)	0.0 – 10.0
Fort Myers Yacht Basin	**12.3** (11.7)	**13.0** (12.4)	0.0 – 10.0
Cape Coral	**21.8** (20.0)	**23.2** (21.1)	10.0 – 25.0
Shell Point	**33.6** (31.6)	**33.2** (31.6)	10.0 – 25.0
Sanibel	**35.5** (34.4)	**36.2** (34.8)	10.0 – 25.0

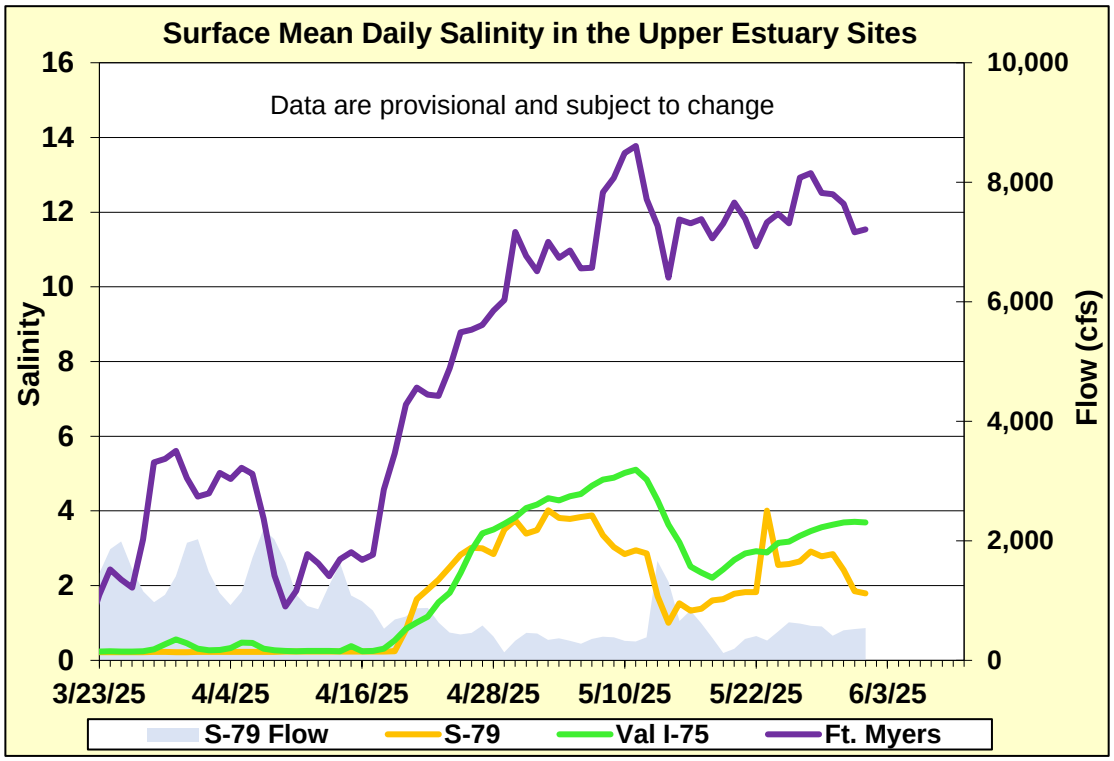

Figure ES-8. Mean daily salinity at upper Caloosahatchee River Estuary monitoring sites and mean daily flow at S-79.

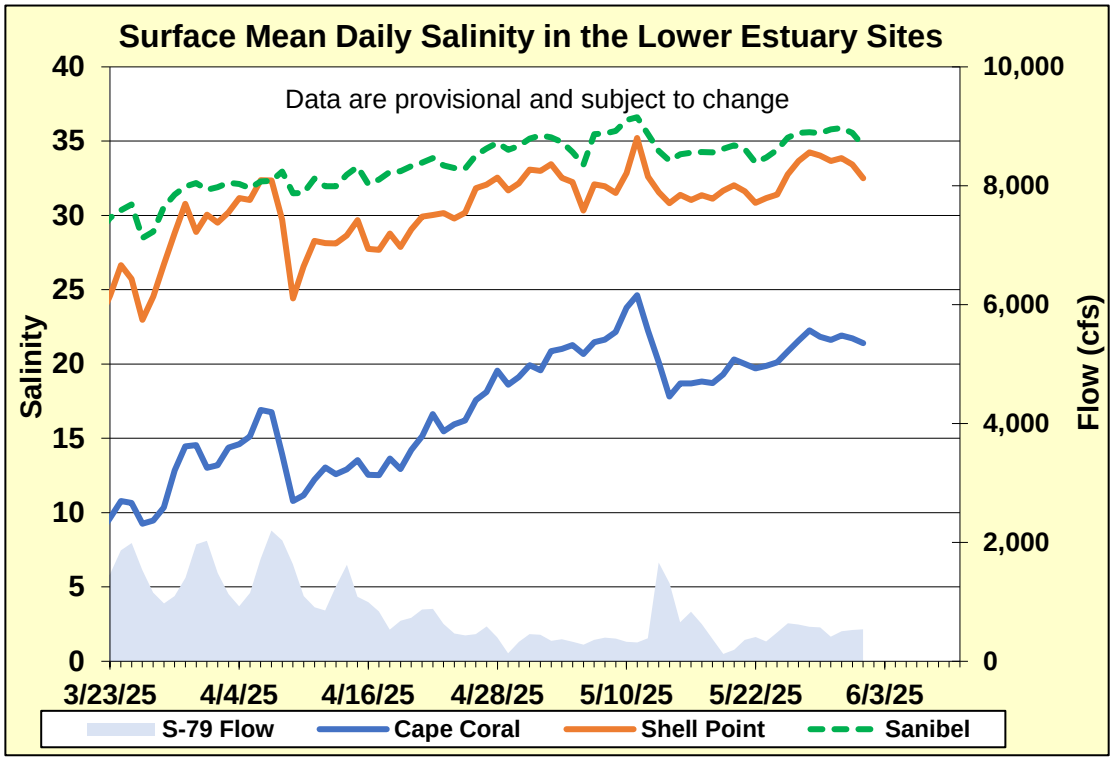

Figure ES-9. Mean daily surface salinity at lower Caloosahatchee River Estuary monitoring sites and mean daily flow at S-79.

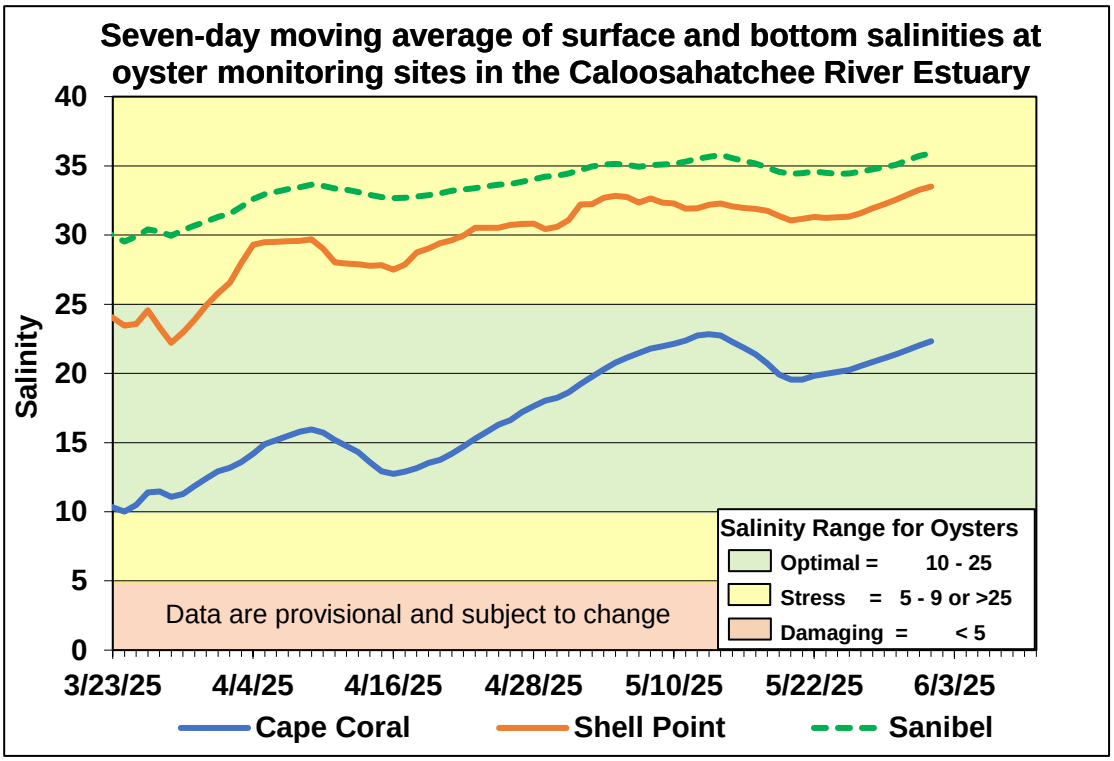

Figure ES-10. Seven-day moving average of surface and bottom salinities at Cape Coral, Shell Point, and Sanibel monitoring sites in the Caloosahatchee River Estuary.

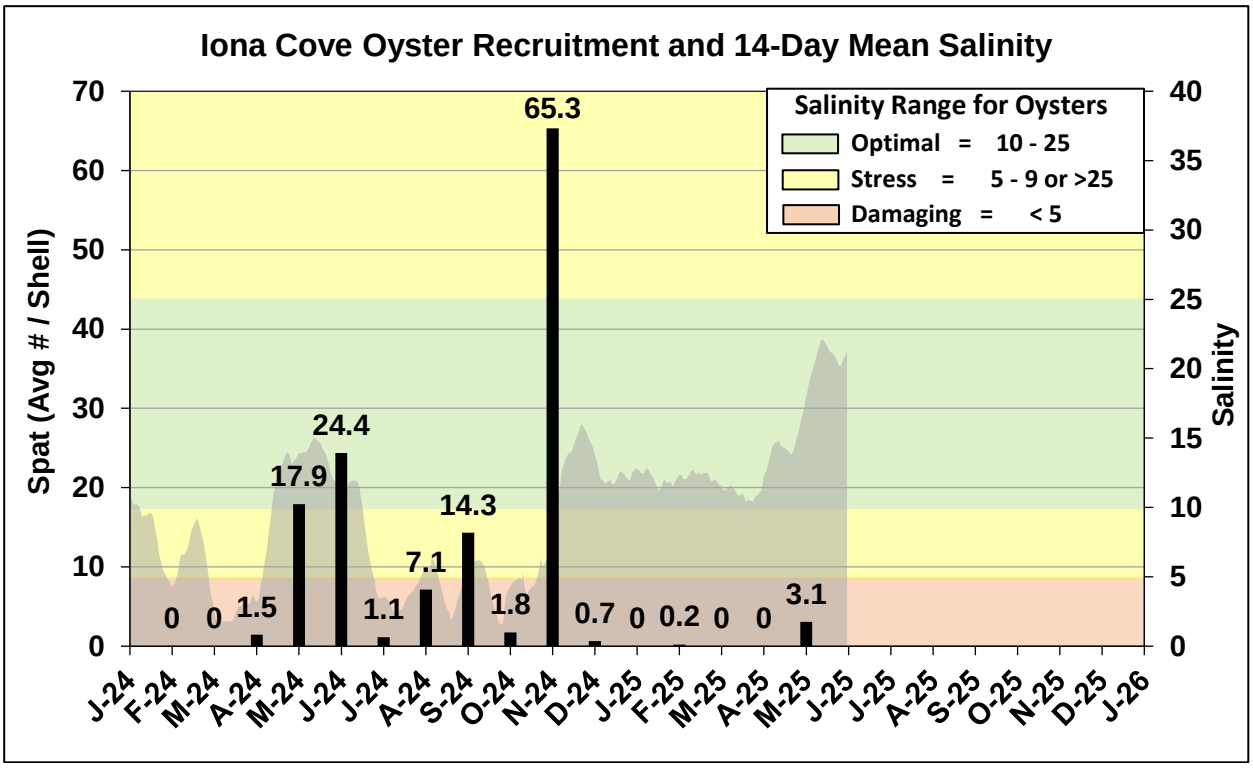

Figure ES-11. Mean oyster recruitment at the Iona Cove oyster monitoring station and 14-day mean salinity at Cape Coral.

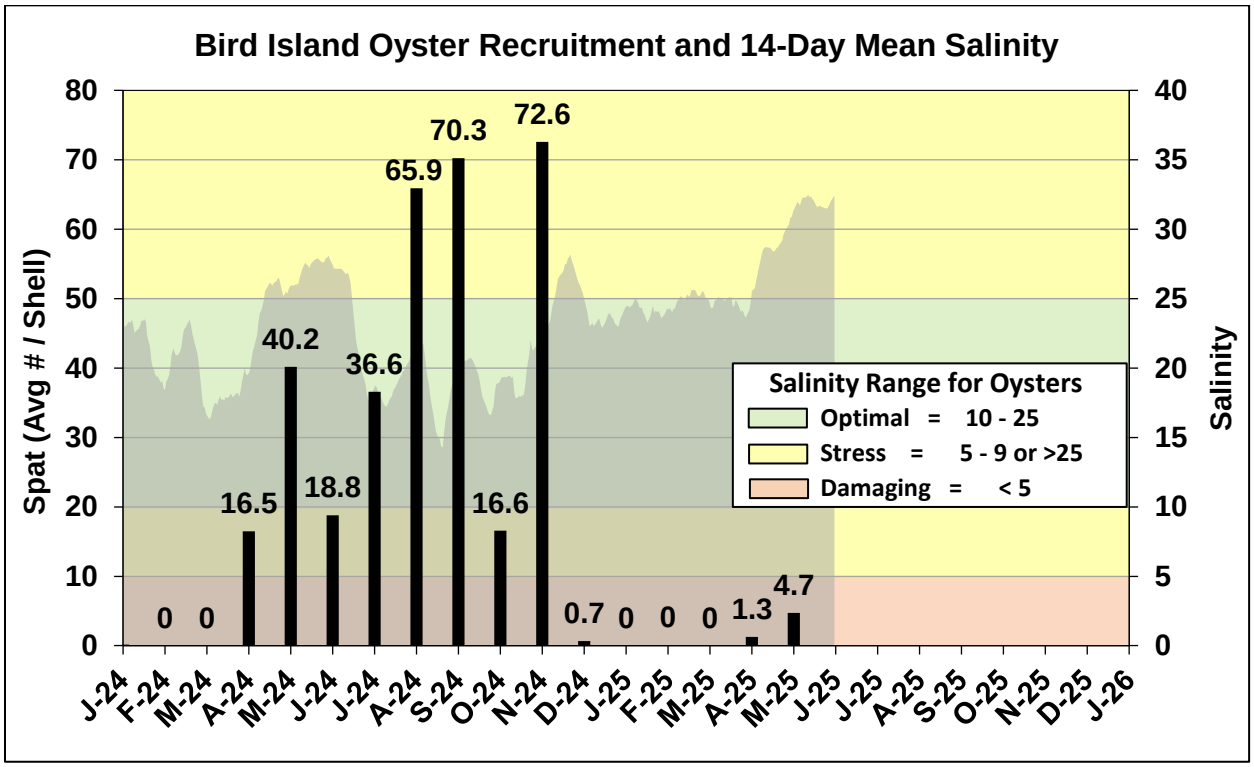

Figure ES-12. Mean oyster recruitment at the Bird Island oyster monitoring station and 14-day mean salinity at Shell Point.

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	1,026	4.8	4.2
B	650	1,026	3.9	4.0
C	750	1,026	3.4	3.9
D	1,000	1,026	2.8	3.6
E	1,200	1,026	2.1	3.5

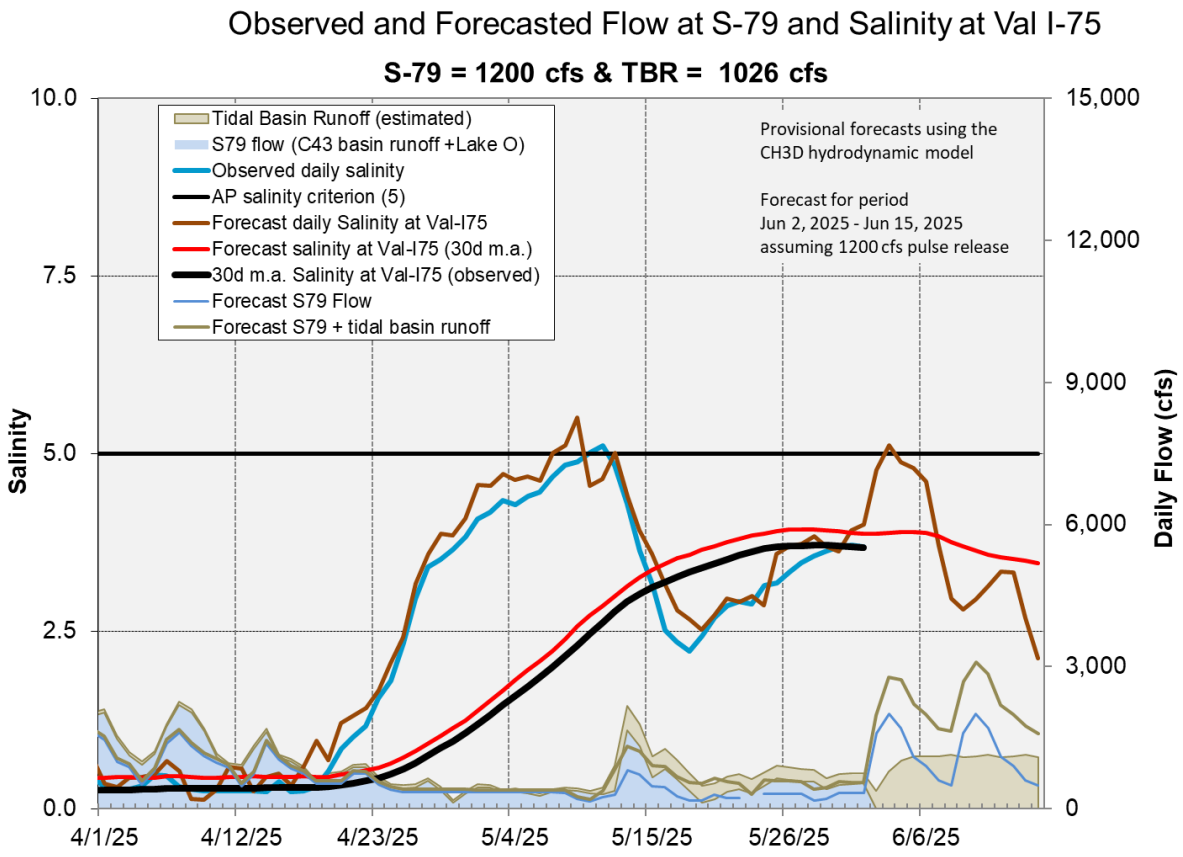

Figure ES-13. Surface salinity forecast at the Val I-75 site assuming a 450 cfs pulse release at S-79.

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: The Eastern Flow-way and Cell 6 contain nests of Migratory Bird Treaty Act protected species. Treatment cells are near target stage. Vegetation in the Western and Eastern flow-ways is highly stressed. The 365-day PLRs for the Eastern, Western and Northern Flow-ways are high (**Figure S-2**).

STA-2: STA-2 Flow-way 3 is offline for post-drawdown vegetation grow-in and contains nests of Migratory Bird Treaty Act protected species. Operational restrictions are in place in Flow-ways 2 and 4 for vegetation management activities. An additional restriction is in place for inflow canal dredging in Flow-way 1. 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, 4, and 5 are below 1.0 g/m^2/year. The 365-day PLR for Flow-way 2 is high (**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 near or above target stage. Vegetation in the Central Flow-way is highly stressed. The 365-day PLR for the Eastern Flow-way is below 1.0 g/m^2/year. The 365-day PLRs for the Central and Western Flow-ways are high (**Figure S-3**).

STA-5/6: Treatment cells are near or below targets 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 6/1/2025): ~36,000 ac-ft
- Lake Okeechobee releases to FEBs/STAs
  - 5/26/2025 to 6/1/2025: ~3,800 ac-ft
  - WY2026: ~21,600 ac-ft
- Extensive vegetation management activities underway to address stressed and highly stressed vegetation in EAV cells
- Most treatment cells are near or above target water depth except STA-5/6 EAV cells which are below target

Estimated Inflow and Outflow Volumes
May 26 – Jun. 1, 2025 *Includes preliminary data*

	Total Inflow (acre-feet)	Total Outflow (acre-feet)
STA-1E	1,700	2,100
STA-1W	2,900	100
STA-2	2,000	1,400
STA-3/4	200	600
STA-5/6	0	0

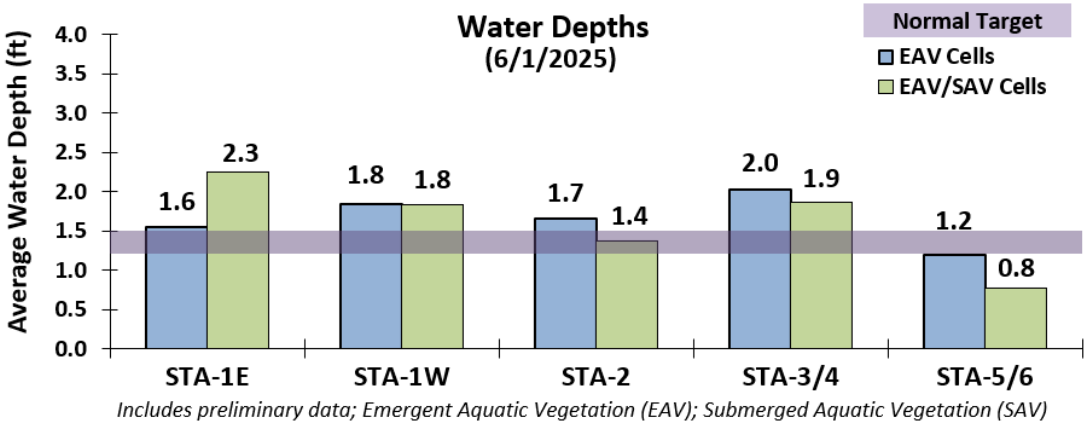

Figure S-1. STA depths and flow volumes

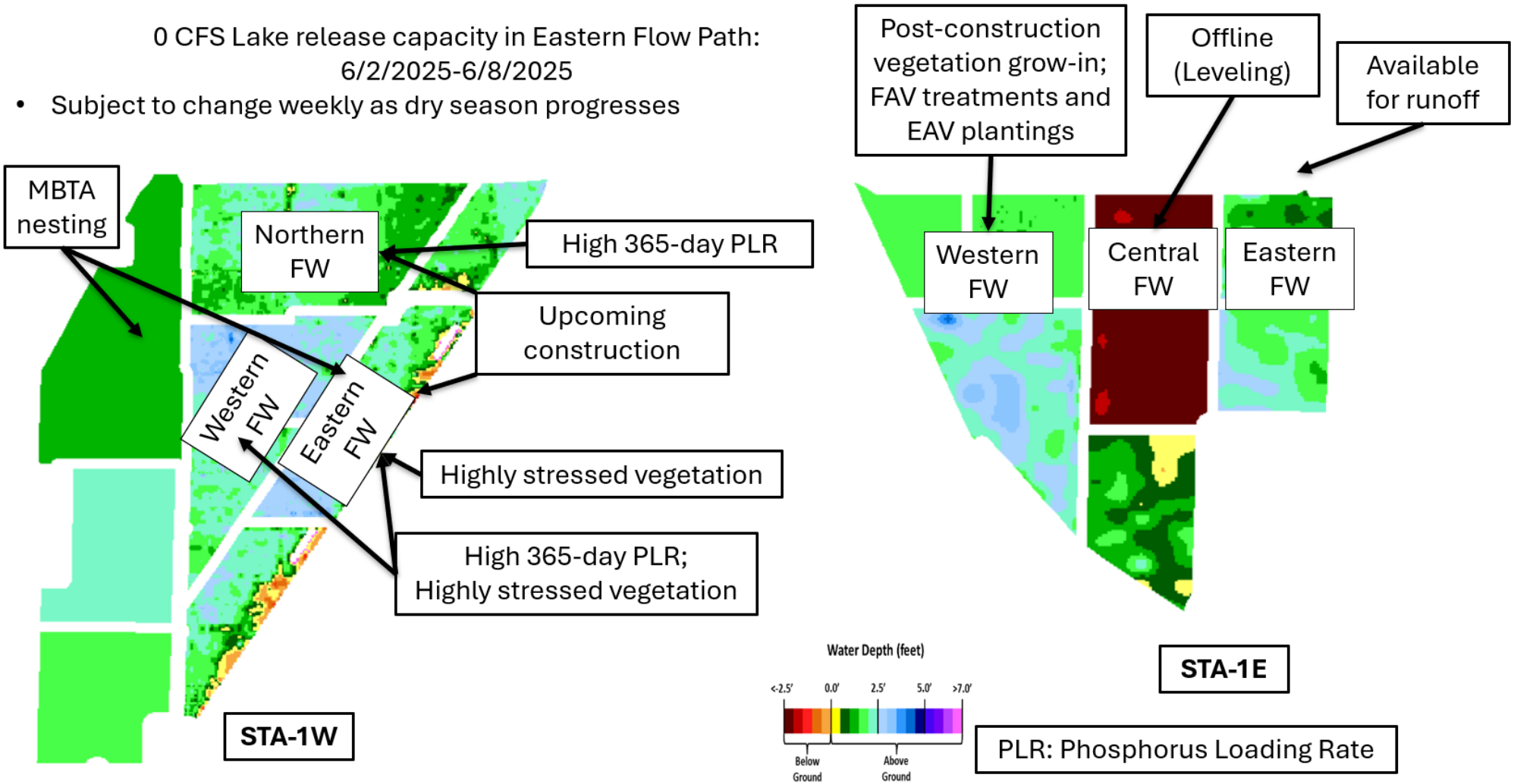

Figure S-2. Eastern Flow Path Weekly Status Report

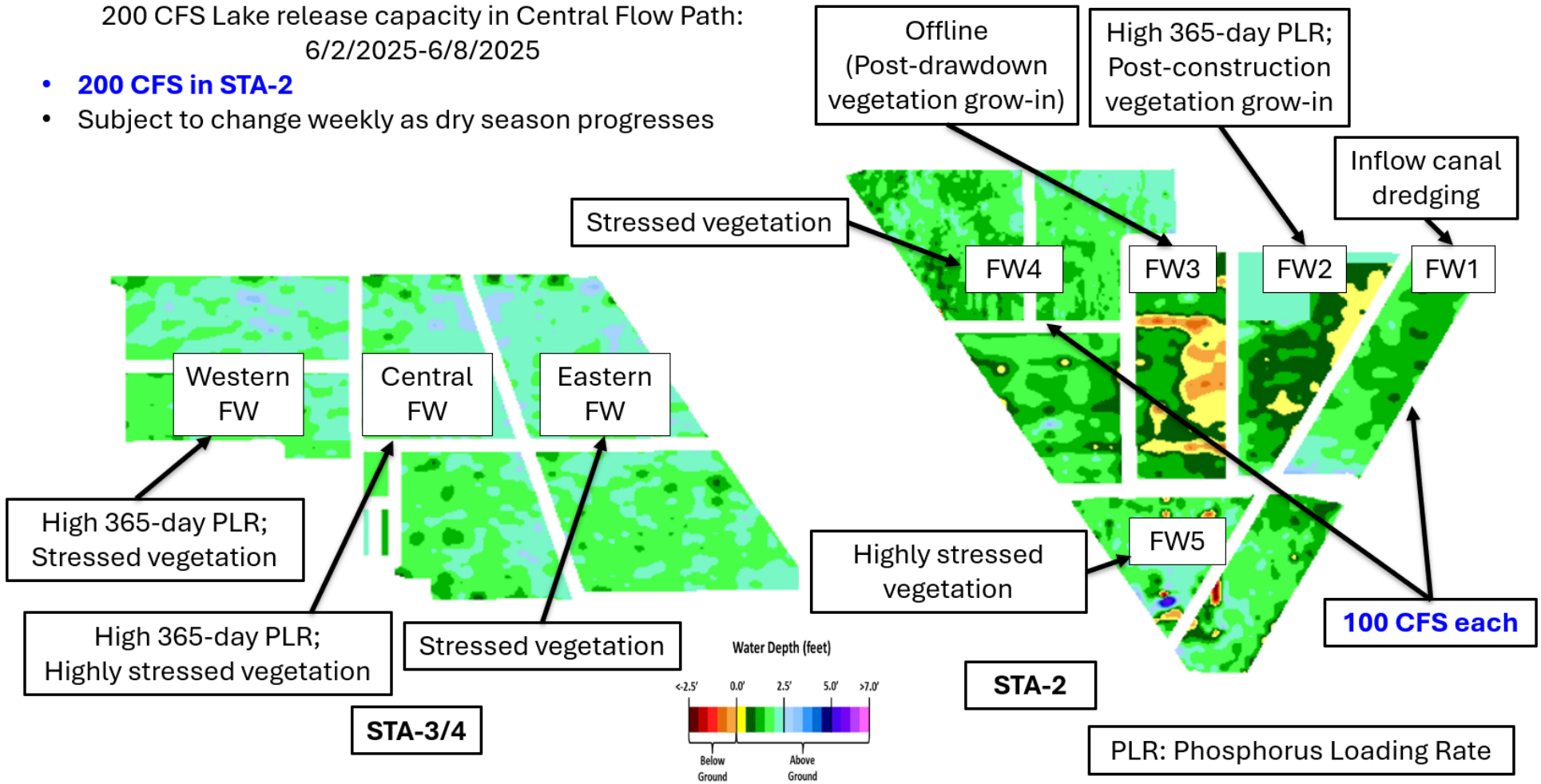

Figure S-3. Central Flow Path Weekly Status Report

0 CFS Lake release capacity in Western Flow Path:
6/2/2025-6/8/2025

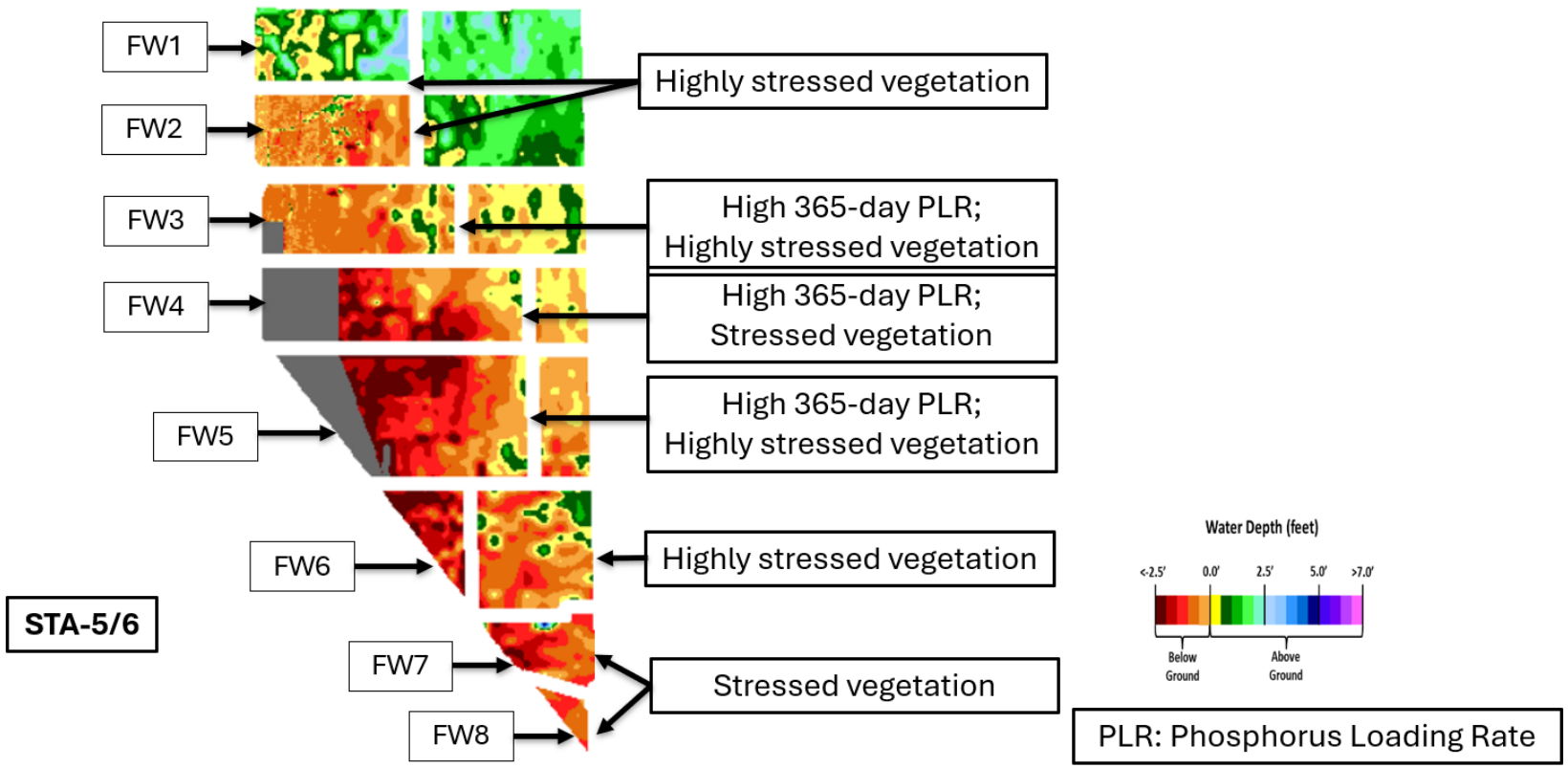

Figure S-4. Western Flow Path Weekly Status Report

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

Rainfall in South Florida was slightly above average towards the end of the week. WCA-1: Stage at the 1-8C gauge on Sunday, June 1, 2025, showed a slight uptick and is now below the A1 zone regulation line by 0.16 feet. WCA-2A: S11B stage rose last week but remained below the water supply line. On Sunday, stage was 0.59 feet below that line. WCA-3A: The 3-69W gauge remains well below the Zone A regulation line. Stages were below that line by 2.32 feet on Sunday. WCA-3A North: Stage at Gauge 62 (NW corner) continues to rise quickly but remains below the Upper Schedule regulation line; on Sunday, stage was 0.57 feet below that line. See **Figures EV-1** through **EV-4**.

Water Depths

The SFWDAT model output for May 29, 2025, illustrates continued dry conditions across the Everglades Protection Area (EPA), though early signs of rehydration are emerging compared to a month ago. This is beneficial for reducing peat oxidation and preserving soil integrity. Water levels in WCA-2A are recovering at a rate supportive of vegetation health. Northern and central WCA-3A are showing increasing depths. Maintaining stable water levels in southern WCA-3A is important to support wading bird foraging as the nesting season concludes. Big Cypress Basin remains significantly below the soil surface, though peripheral areas are showing slight increases in depth. Hydrologic connectivity is beginning to return in Shark River and Taylor Slough, now showing some above ground conditions indicating more connectivity to the coast and Florida Bay. Lostmans Slough still shows below ground conditions. See **Figures EV-5** through **EV-6**.

Taylor Slough and Florida Bay

All stages decreased across Taylor Slough over the past week, with an average decrease of 0.12 feet. Changes ranged from −0.50 feet at E112 in the northern slough to −0.07 feet at CT50R and EPSW in the C-111 area (**Figure EV-8 and Figure EV-9**). The Taylor Slough Bridge (TSB) stage has again dropped below ground, indicating a lack of water at the head of the slough. Taylor Slough water levels are now just below the recent average (WY1993-2016) for this time of year by 0.6 inches compared to before the Florida Bay initiative (starting in 2017), a decrease of 5.5 inches relative to last week's comparison. The Craighead Pond (CP) and TSB stages remain below the estimated average for 1900 by 0.64 and 1.74 feet, respectively.

Average Florida Bay salinity was 38.9, an increase of 1.0 from last week. Salinity changes ranged from −1.3 at Buoy Key (BK) in the western offshore region to +4.8 at Garfield Bight (GB) in the western nearshore region (**Figure EV-8**). Salinity is at or above the hypersalinity threshold in the central and western regions but remains within the WY2001-2016 Interquartile Range (IQR) for all three regions (**Figure EV-10**). Average Florida Bay salinity remains above its recent average (WY1993-2016) for this time of year by 2.8, an increase of 1.7 relative to last week's comparison.

Salinity at the Taylor River (TR) station in the mangrove zone (tracked for the Florida Bay MFL) was 33.8. The 30-day moving average was 29.8 (**Figure EV-11**), an increase of 1.8

from last week. A Minimum Flows and Levels (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 244,426 acre-feet, a decrease of 7,552 acre-feet from last week (**Figure EV-11**).

Average rainfall across Taylor Slough and Florida Bay was approximately 0.02 inches over the past week, based on the 18 gauges used for this report. Rainfall ranged from 0.0 inches at 14 stations to 0.17 inches at Manatee Bay (MB) in the eastern nearshore region (**Figure EV-12**). Wind directions and speeds in Florida Bay ranged from 0.7 mph SW on May 31st to 16.9 mph E on May 29th (**Figure EV-12**).

Average daily flow from the five major creeks totaled −551 acre-feet, with net negative flows over the past week. Total daily creek flow ranged from −1,679 acre-feet on June 1st to −73 acre-feet on May 29th (**Figure EV-13**). Average daily flow was 3,792 acre-feet below estimated historical levels (circa 1900).

Implications for water management

Given the continued dry conditions, our focus is on conserving water in the WCA's. As the wet season begins to ramp up, continued increases in water depths are expected, and maintaining recession rates that hold depths steady in southern 3A are recommended. Maintaining a hydroperiod supportive of wading bird nesting in WCA-3A is critical as wading birds have had below average nesting success for the last three years. Recent rainfall may have helped to extend suitable foraging in that region but the response of the wading birds to those recent reversals are unknown at this point. Therefore, we expect maintaining stable depths across this region as rainfall increases will provide the most suitable environment for late foraging to occur and older nestlings to fledge. Florida Bay salinity remains in a good position as the dry season progresses and will continue to benefit from maintaining freshwater input to the system when available. 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	1.24	+0.03
WCA-2A	1.40	+0.19
WCA-2B	0.70	−0.19
WCA-3A	1.60	+0.02
WCA-3B	0.78	−0.14
ENP	0.19	+0.00

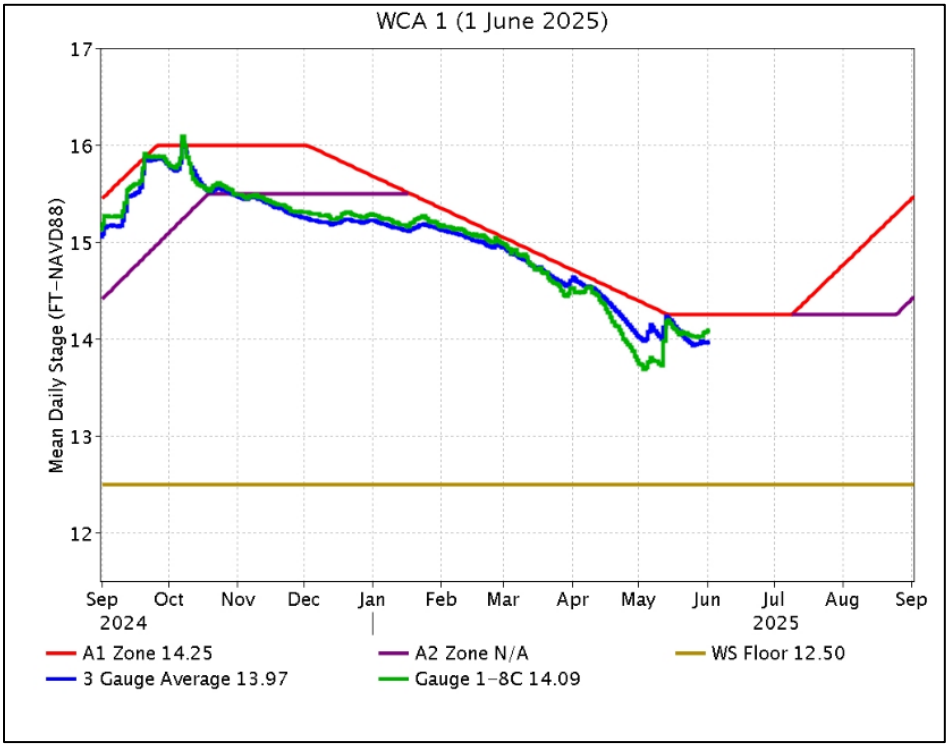

Figure EV-1. WCA-1 stage hydrographs and regulation schedule.

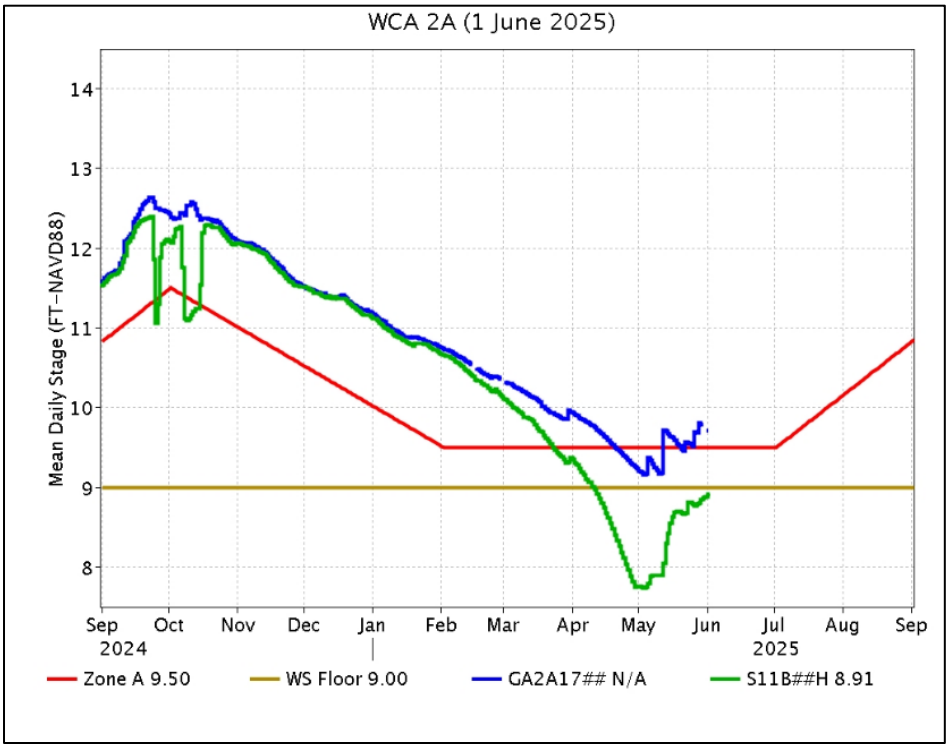

Figure EV-2. WCA-2A stage hydrographs and regulation schedule.

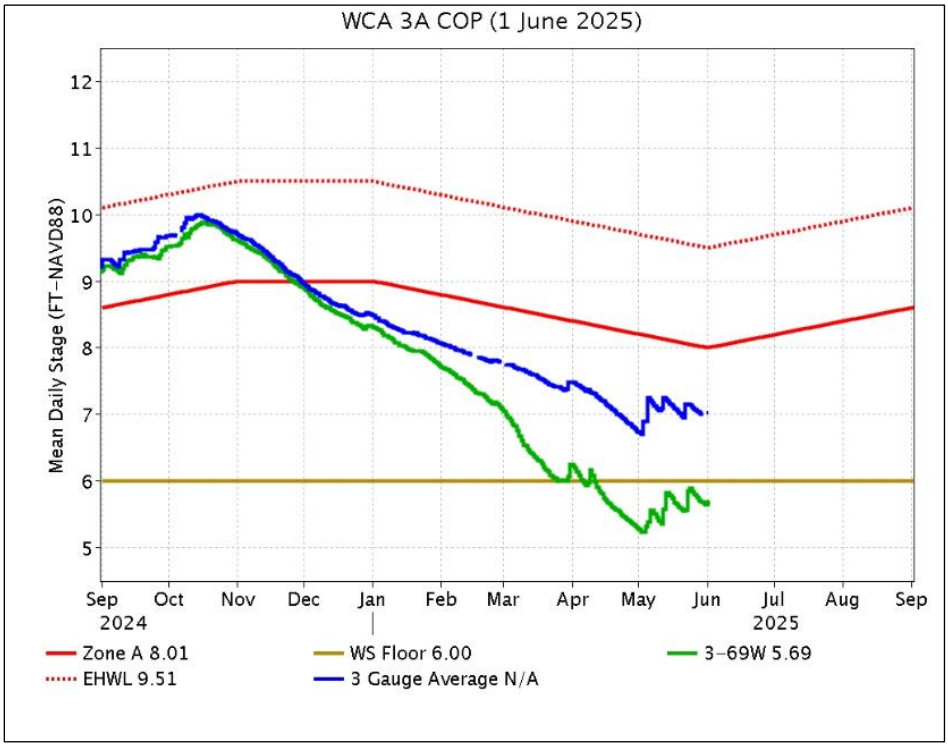

Figure EV-3. WCA-3A stage hydrographs (three-gauge average, 3-69W) and regulation schedule.

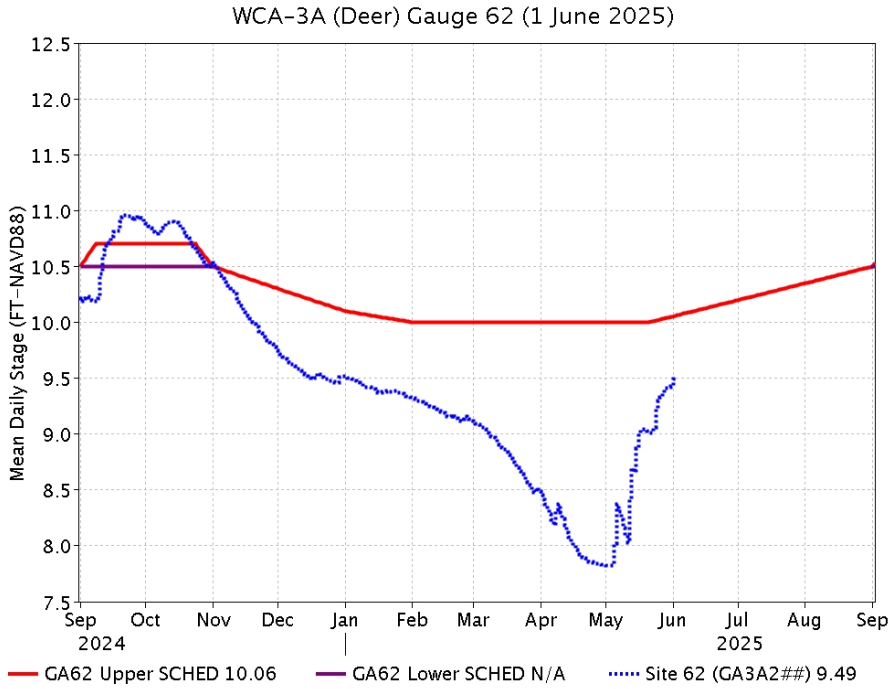

Figure EV-4. WCA-3A stage hydrograph (Deer gauge; Site 62) and GA62 regulation schedule.

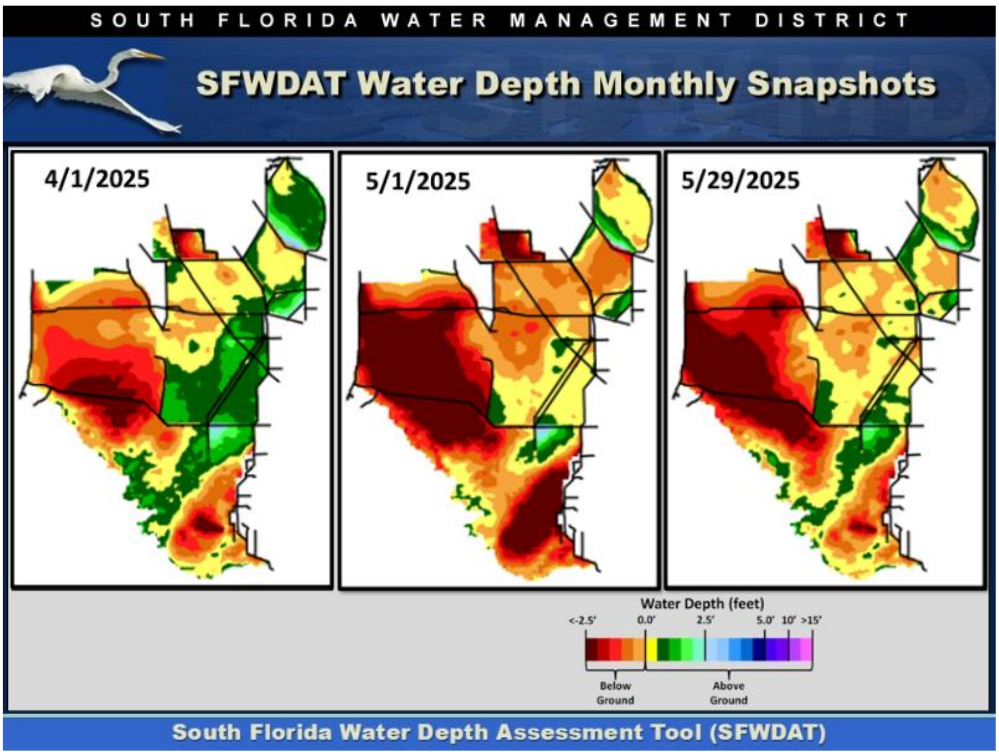

Figure EV-5. Everglades water depths from two months ago (left), one month ago (center) and present (right), based on SFWDAT.

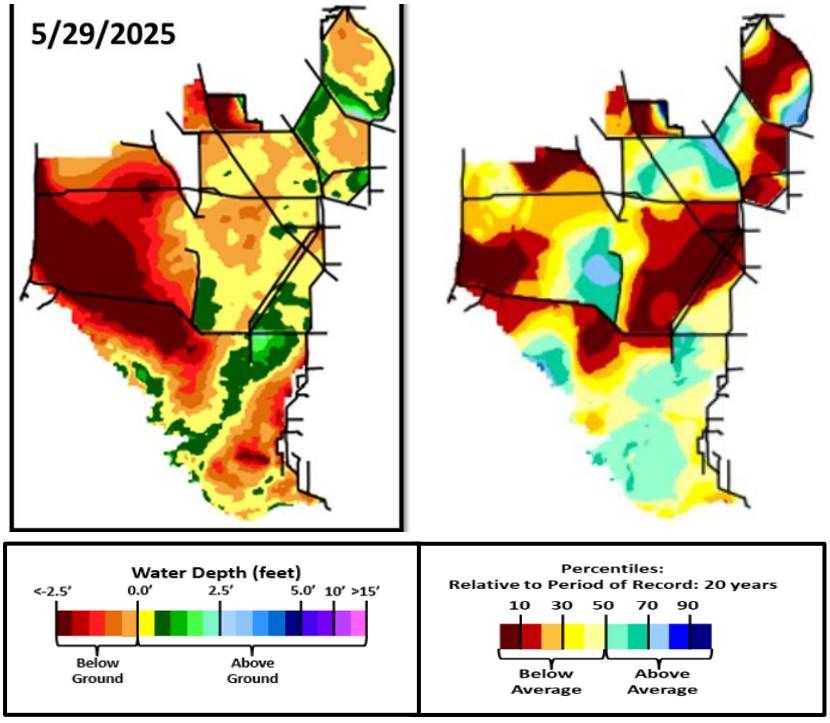

Figure EV-6. Present water depths (June 2, 2025) compared to the day of year relative to average (percentile) over the previous 20 years.

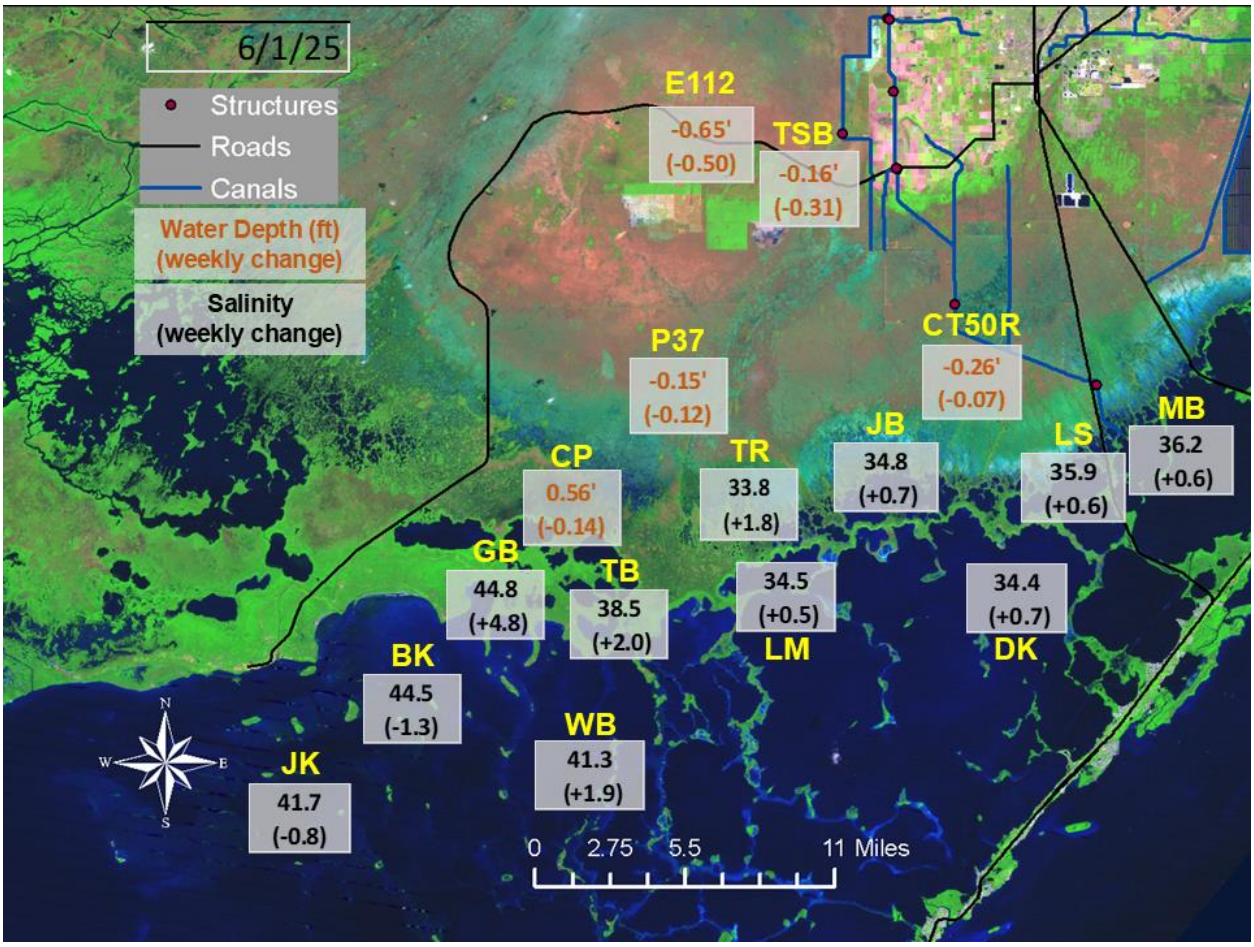

Figure EV-7. Taylor Slough water depths and Florida Bay salinities with changes since a week ago.

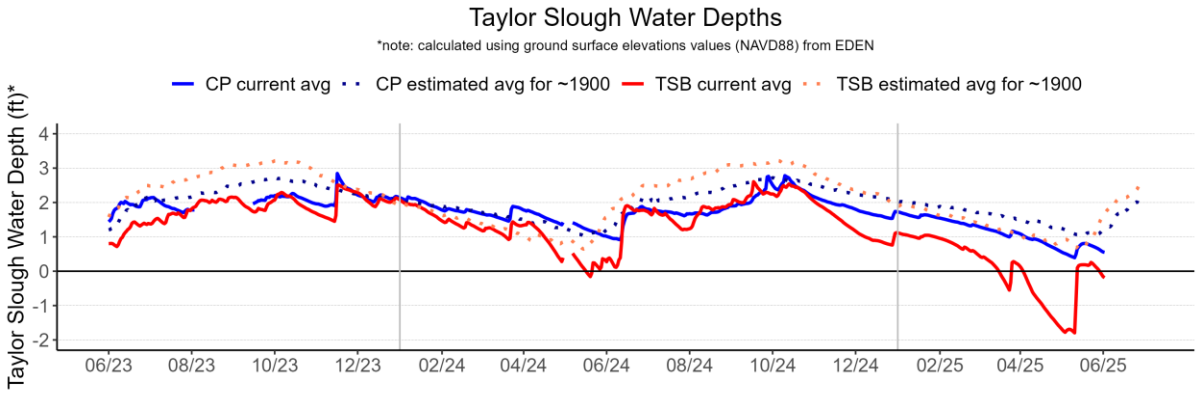

Figure EV-8. Taylor Slough water depth time series for Taylor Slough Bridge (TSB; northern slough) and Craighead Pond (CP; southern slough).

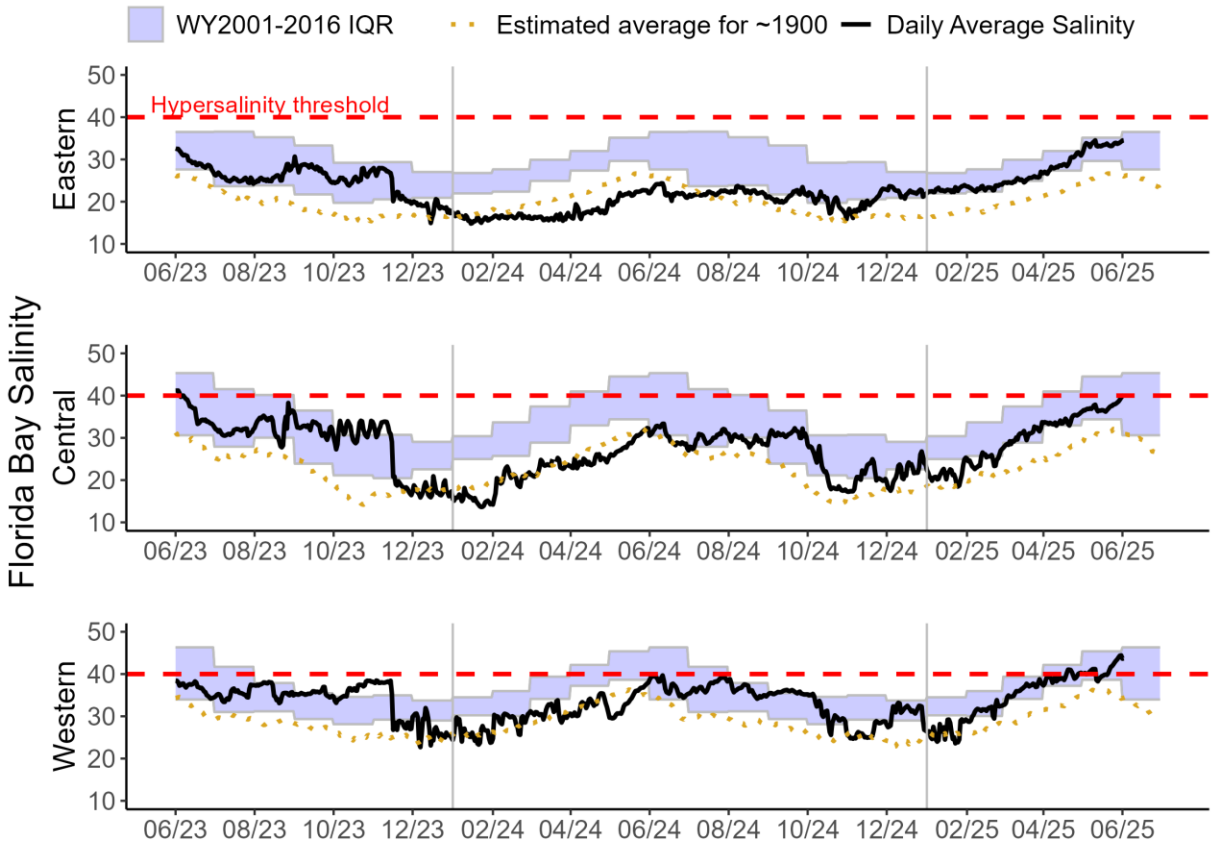

Figure EV-9. Eastern (top panel), Central (middle panel) and Western (bottom panel) Florida Bay daily average salinities with WY2001-2016 interquartile (25-75 percentile) ranges (IQR) and estimated historical daily average salinities. The hypersalinity threshold indicates the level at which salinities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

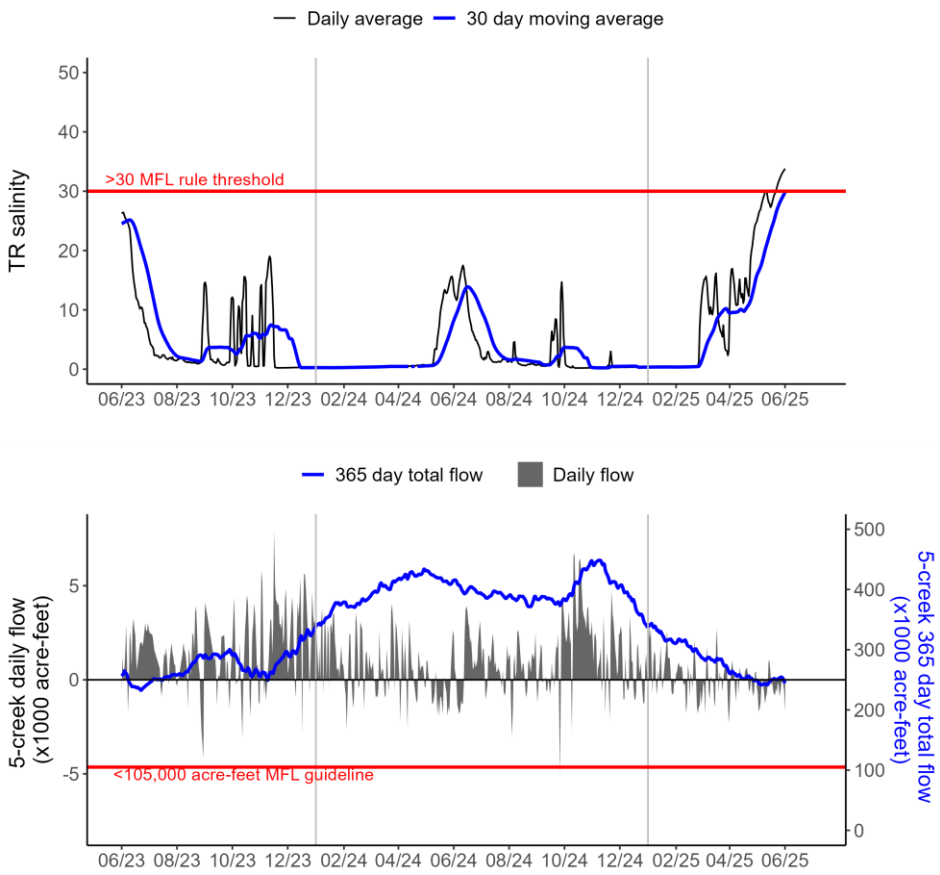

Figure EV-10. Salinity at Taylor River (TR; top) and creek inflow to Florida Bay (bottom) from the five major creeks (McCormick Creek, Taylor River, Mud Creek, Trout Creek, and West Highway Creek). The 30-day moving average salinity and 365-day total creek flow are tracked for the Florida Bay MFL criteria.

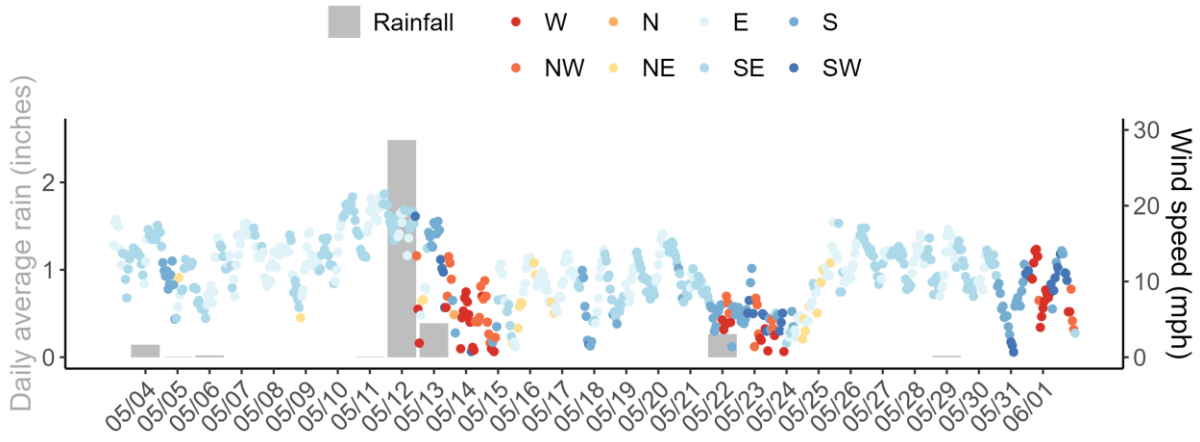

Figure EV-11. Daily average rain across Taylor Slough and Florida Bay, along with hourly average wind speed and direction (measured at Long Key) in Florida Bay over the past four weeks.

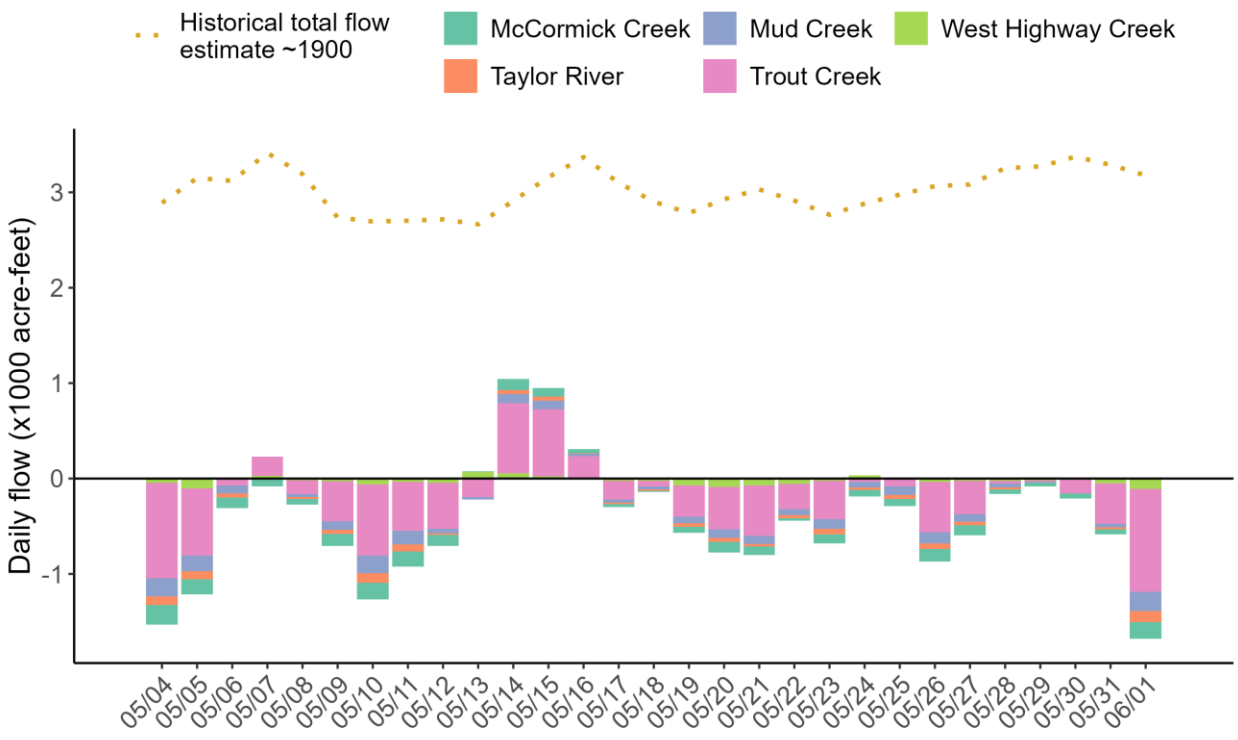

Figure EV-12. Daily average creek flow summed between five creeks with estimated historical daily flow over the past four weeks.

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

SFWMD Everglades Ecological Recommendations, June 2, 2025 (red is new)			
	Weekly change	Recommendation	Reasons
WCA-1	Stage increased by 0.03 feet	Recession rate of less than 0.06 feet per week.	Protect within basin and downstream habitat and wildlife. Preserving suitable wading bird foraging habitat throughout the nesting season.
WCA-2A	Stage increased by 0.19 feet	Ascension rate no faster than 0.18 feet per week.	Protect within basin and downstream habitat and wildlife. Preserving suitable wading bird foraging habitat throughout the nesting season.
WCA-2B	Stage decreased by 0.19 feet	Recession rate of less than 0.12 feet per week.	Protect within basin and downstream habitat and wildlife.
WCA-3A NE	Stage decreased by 0.08 feet	Ascension rate no faster than 0.18 feet per week.	Protect within basin and downstream habitat and wildlife. Preserving suitable wading bird foraging habitat throughout the nesting season.
WCA-3A NW	Stage increased by 0.19 feet	Ascension rate no faster than 0.18 feet per week.	
Central WCA-3A S	Stage increased by 0.09 feet	Recession rate of less than 0.03 feet per week.	Protect within basin and downstream habitat and wildlife. Preserving suitable wading bird foraging habitat throughout the nesting season.
Southern WCA-3A S	Stage decreased by 0.11 feet		
WCA-3B	Stage decreased by 0.14 feet	Recession rate of less than 0.12 feet per week.	Protect within basin wildlife.
ENP-SRS	Stage showed no change	Make discharges to ENP according to COP and TTFF protocol while adaptively considering upstream and downstream ecological conditions.	Protect within basin and upstream habitat and wildlife.
Taylor Slough	Stage changes ranged from -0.50 feet to -0.07 feet	Move water southward as possible.	When available, provide freshwater to promote water movement.
FB- Salinity	Salinity changes ranged from -1.3 to +4.8	Move water southward as possible.	When available, provide freshwater to promote water movement.