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: February 12, 2025

SUBJECT: Weekly Environmental Conditions for Systems Operations

Summary

Weather Conditions and Forecast

On Wednesday, an influx of shallow moisture over the southern third to half of the SFWMD is forecast to produce widely scattered, afternoon showers over this region, with the greatest focus most likely over the southwestern to south-central interior portions of the area. By Thursday, a mid-level high pressure will strengthen over Florida later in the day. An associated cold front will advance through the southeastern U.S. on Thursday, reaching north Florida by the evening and pushing southward to near Orlando by Friday morning. Increasing moisture ahead of the front, coupled with modest instability, should lead to scattered, afternoon showers, primarily from the Kissimmee Valley to the upper east coast of the SFWMD. On Friday, the cold front could reach the northern half of the SFWMD and stall. Enhanced moisture near the stalled boundary should result in scattered to numerous showers and a few thunderstorms, particularly over the same region, with a potential southward shift in activity compared to Thursday. An overall good coverage of rainfall is possible. By Saturday, the cold front will lift rapidly northward as a warm front. As a result, moisture levels will decrease in relative terms, as well as instability. Thus, Saturday most likely will be rain-free, except possibly for some light showers along the east coast, while breezy and very warm temperatures prevail. A cold front could reach north-central Florida by Sunday afternoon and sweep through the SFWMD by late Sunday. A surge of deep moisture ahead of the front, combined with frontal ‘lift,’ a destabilized atmosphere, and forced ascent from the upper disturbance, is expected to support a fast-moving line of showers and thunderstorms. These storms will likely affect areas north and west of Lake Okeechobee but weaken rapidly as upper-level support shifts away. Ahead of the cold front, windy conditions and record heat are possible, followed by much cooler and even stronger northwesterly winds after its passage and an abrupt end to rainfall. Dry and much cooler weather will dominate Monday, with these conditions possibly persisting into Tuesday. For the week ending next Tuesday morning, total SFWMD rainfall is expected to be below normal but could result closer to normal if the Friday and Sunday rainfall is greater than forecast.

Kissimmee

Releases were made as needed from East Lake Toho and Lake Toho to continue snail kite nesting season stage recessions to reach low pool by June 1, 2025. Weekly average discharge on February 9, 2025, was 1,100 cfs at S-65 and 990 cfs at S-65A, respectively. Mean weekly water depth on the Kissimmee River floodplain increased by 0.07 feet to 0.52 feet. The weekly average concentration of dissolved oxygen in the Kissimmee River decreased from 9.3 mg/L the previous week to 7.3 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 12.88 feet NAVD88 (14.18 ft NGVD29) on February 9, 2025, which was 0.18 feet lower than the previous week and 0.62 feet lower than a month ago. Average daily inflows (excluding rainfall) increased slightly from 880 cfs the previous week, to 960 cfs. Average daily outflows (excluding evapotranspiration) decreased from 5,470 cfs the previous week to 5,050 cfs. The most recent non-obscured satellite image from February 9, 2025, suggests low and very scattered bloom activity on Lake Okeechobee.

Estuaries

Total inflow to the St. Lucie Estuary averaged 1,370 cfs over the past week with most of the flow coming from Lake Okeechobee. Mean salinities decreased at HR1 and US1 Bridge sites and remained similar at the A1A Bridge site. Salinity in the middle estuary was in the optimal range (10-25) for adult eastern oysters.

Total inflow to the Caloosahatchee Estuary averaged 2,109 cfs over the past week with 1,487 cfs coming from Lake Okeechobee. Mean salinities remained below 1 at S-79 and Val I-75 and decreased at the remaining stations over the past week. Salinities were in the optimal range (0-10) for tape grass in the upper estuary. Salinities were in the optimal range (10-25) for adult eastern oysters at Cape Coral and Shell Point, and in the upper stressed range (>25) at Sanibel.

Stormwater Treatment Areas

For the week ending Sunday, February 9, 2025, 17,300 ac-ft of Lake Okeechobee water was delivered to the FEBs/STAs. The total amount of Lake releases sent to the FEBs/STAs in WY2025 (since May 1, 2024) is approximately 221,300 ac-feet. The total amount of inflows to the STAs in WY2025 is approximately 1,093,000 ac-feet. STA cells are near or above target stage except STA-5/6 Emergent Aquatic Vegetation (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 Submerged Aquatic Vegetation (SAV) recovery drawdown. Operational restrictions are in effect in STA-1E Western Flow-way, STA-1W Northern Flow-way, STA-2 Flow-ways 2 and 4, and STA-3/4 Eastern Flow-way for vegetation management activities. 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-1W, STA-2, A-1 FEB/STA-3/4, and STA-5/6.

Everglades

Last week, recession rates were characterized in the good range across the Everglades Protection Area (EPA); the fastest recession was experienced in central and southern WCA-3A (an important region for wading bird foraging as we move further into the dry season). Current recession rates in WCA-3A North remain at a moderate pace and conditions now seem moderately favorable for triggering white ibis nesting at the Alley North colony but are probably too shallow to support successful wood stork nesting in northern & central WCA-3A. Slower recession rates in these areas will benefit nesting wood storks and white ibis. Water depths in Taylor Slough and salinities in Florida Bay remain well positioned for this time of dry season. Florida Bay minimum flows and levels (MFL) metrics also remain well outside the thresholds of harm.

Biscayne Bay

Total inflow to Biscayne Bay averaged 235 cfs, and the previous 30-day mean inflow averaged 315 cfs. The seven-day mean salinity was 27.2 at BBCW8 and 23.3 at BBCW10, both within the ideal salinity range for estuarine organisms in this region (salinity less than 35). Data were provided by Biscayne National Park.

Supporting Information

Kissimmee Basin

Upper Kissimmee

On February 9, 2025, mean daily lake stages were 55.9 feet NAVD88 (1.1 feet below schedule) in East Lake Toho, 52.8 feet NAVD88 (1.0 feet below schedule) in Lake Toho, and 48.8 feet NAVD88 (2.6 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 February 9, 2025, mean weekly discharge was 1,100 cfs at S-65 and 990 cfs at S-65A, respectively. Mean weekly discharge from the Kissimmee River was 1,100 cfs and 920 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 increased by 0.6 feet to 35.2 feet NAVD88 (**Figure KB-4**). Mean weekly water depth on the Kissimmee River floodplain increased by 0.07 feet to 0.52 feet (**Table KB-2**, **Figure KB-5**). The weekly average concentration of dissolved oxygen in the Kissimmee River decreased from 9.3 mg/L the previous week to 7.3 mg/L (**Table KB-2**, **Figure KB-6**).

Water Management Recommendations

Continue the stage recessions in East Lake Toho and Lake Toho lakes to reach their low pools on June 1, 2025. Follow the Headwaters Revitalization Schedule (HRS) Increment 1 Temporary Deviation Discharge Plan for S-65/S-65A (**Figure KB-7**). Maintain at least minimum flow (250-300 cfs) at S-65A.

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)	
							2/9/25	*2/2/25*
Lakes Hart and Mary Jane	S-62	LKMJ	25	59.9	R	59.9	0.0	0.0
Lakes Myrtle, Preston and Joel	S-57	S-57	13	60.2	R	60.2	0.0	0.0
Alligator Chain	S-60	ALLI	0	62.8	R	63.0	-0.2	-0.2
Lake Gentry	S-63	LKGT	0	60.4	R	60.4	0.0	0.0
East Lake Toho	S-59	TOHOE	190	55.9	R	57.0	-1.1	-1.0
Lake Toho	S-61	TOHOW S-61	530	52.8	R	53.8	-1.0	-0.9
Lakes Kissimmee, Cypress and Hatchineha	S-65	KUB011 LKIS5B	1100	48.8	T	51.4	-2.6	-2.6

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.

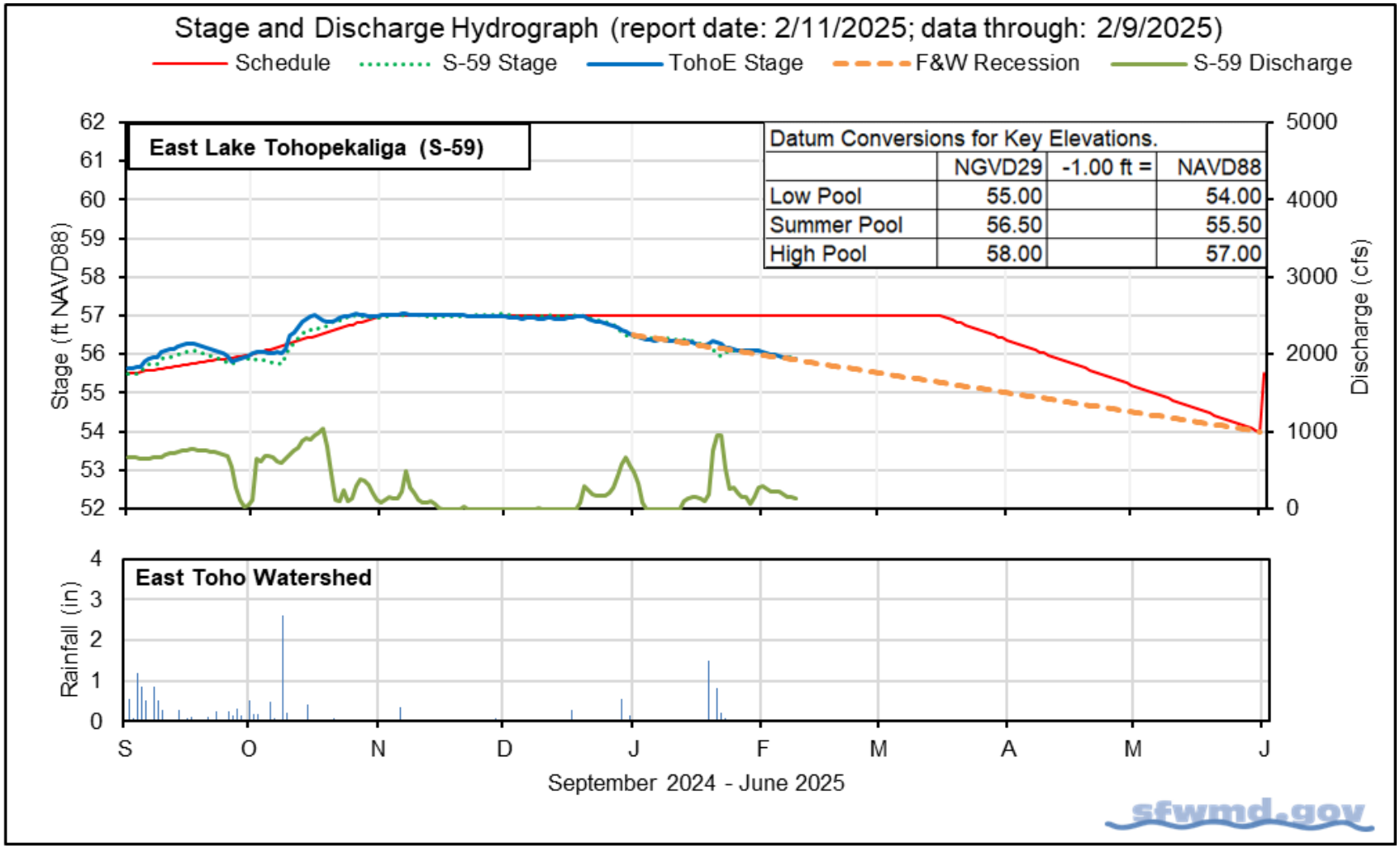


Figure KB-1. East Lake Toho regulation schedule, stage, discharge, and rainfall.

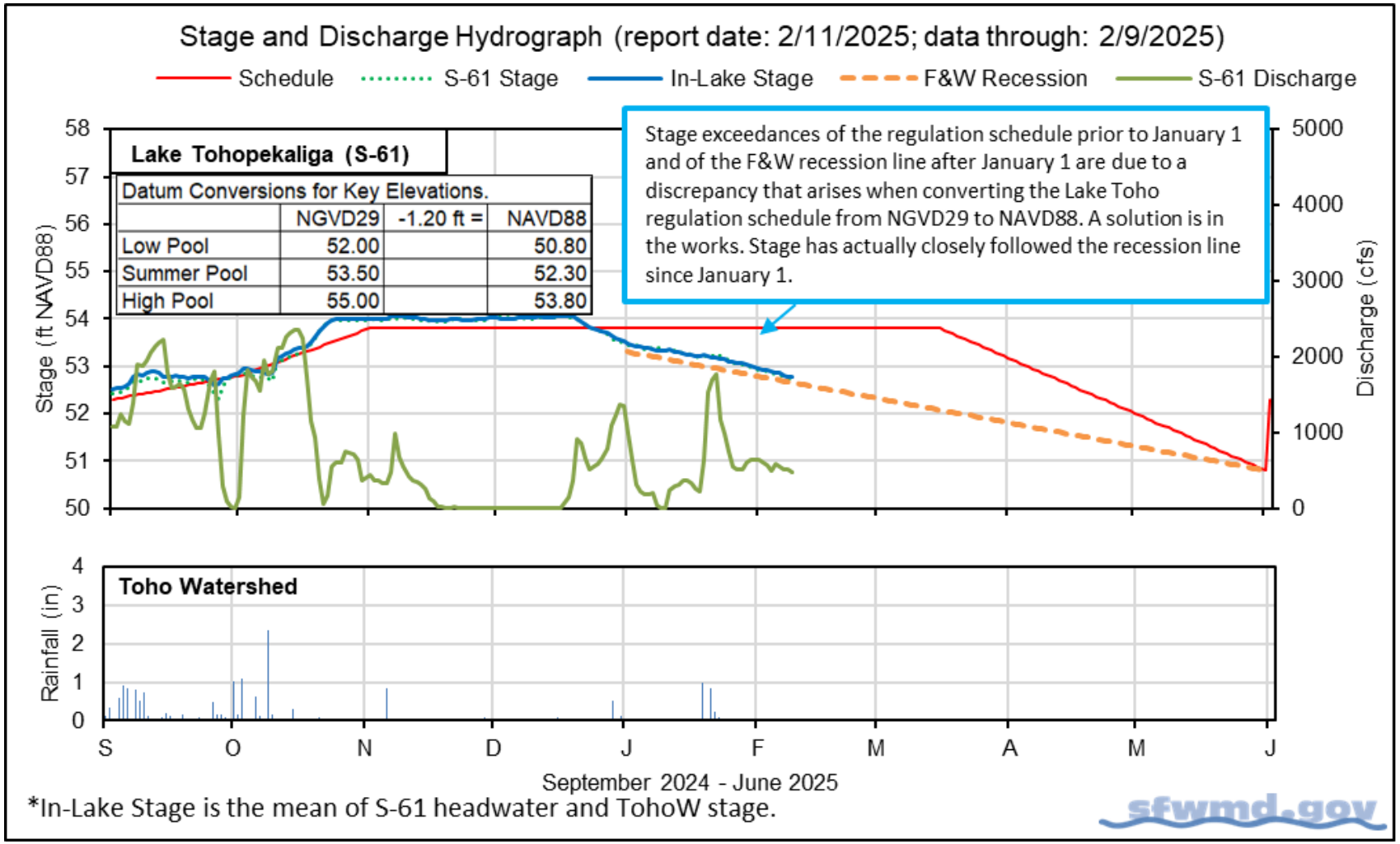


Figure KB-2. Lake Toho regulation schedule, stage, discharge, and rainfall.

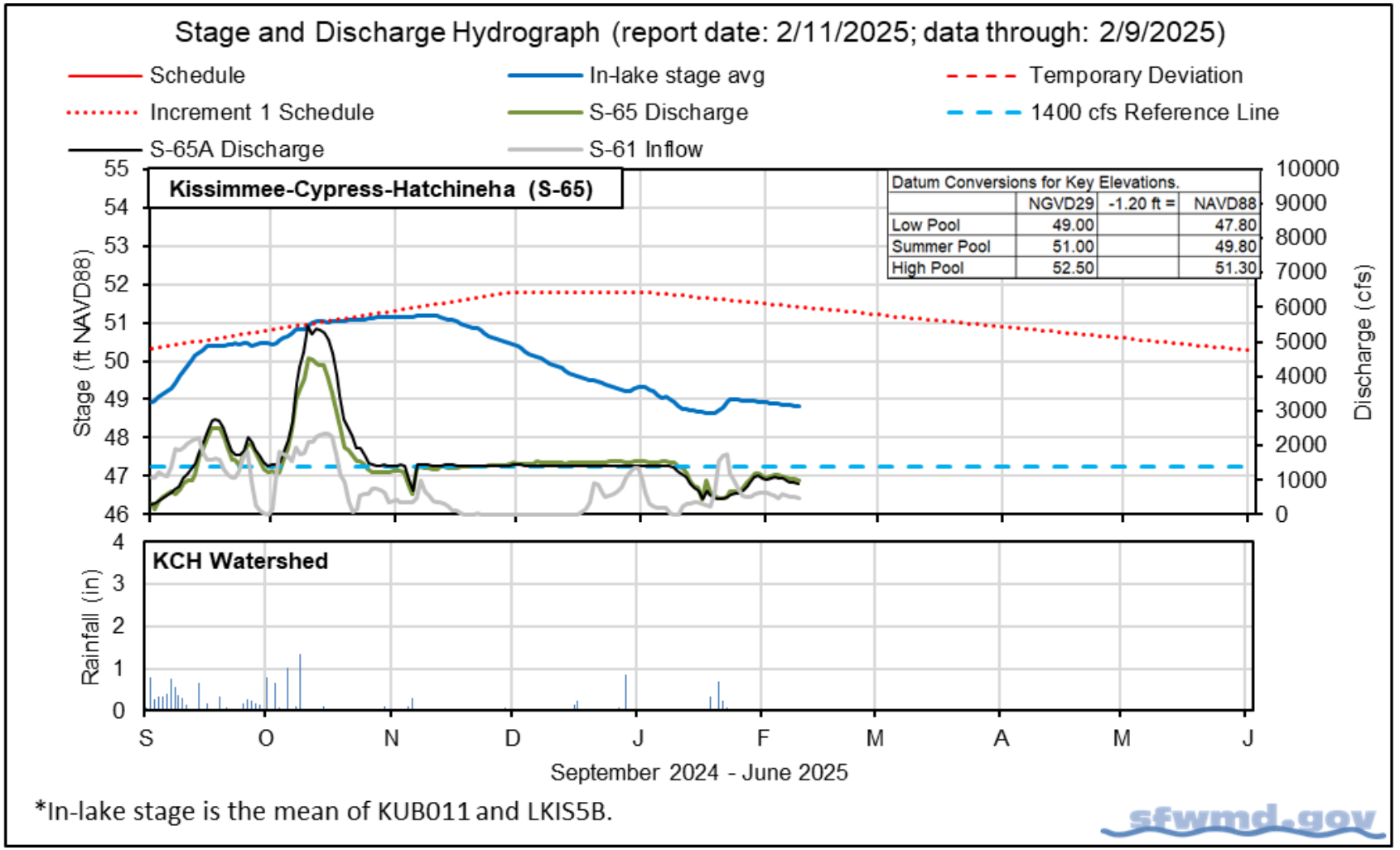


Figure KB-3. Lakes Kissimmee, Cypress and Hatchineha regulation schedule, stage, discharge, and rainfall.

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			
		2/9/25	2/9/25	2/2/25	1/26/25	1/19/25
Discharge	S-65	980	1,100	1,100	600	750
Discharge	S-65A[a]	880	990	1,000	560	660
Headwater Stage (feet NAVD88)	S-65A	45.1	45.2	45.3	45.2	45.2
Discharge	S-65D[b]	1,100	1,100	960	770	1,200
Headwater Stage (feet NAVD88)	S-65D[c]	24.7	24.6	24.6	24.6	24.6
Discharge (cfs)	S-65E[d]	990	920	840	720	1,100
Discharge (cfs)	S-67	0	0	0	1	0
Dissolved Oxygen (mg/L) [e]	Phase I, II/III river channel	6.5	7.3	9.3	8.7	8.1
River channel mean stage (feet NAVD88) [f]	Phase I river channel	35.1	35.2	34.6	33.3	34.4
Mean depth (feet) [g]	Phase I floodplain	0.50	0.52	0.45	0.42	0.54

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).

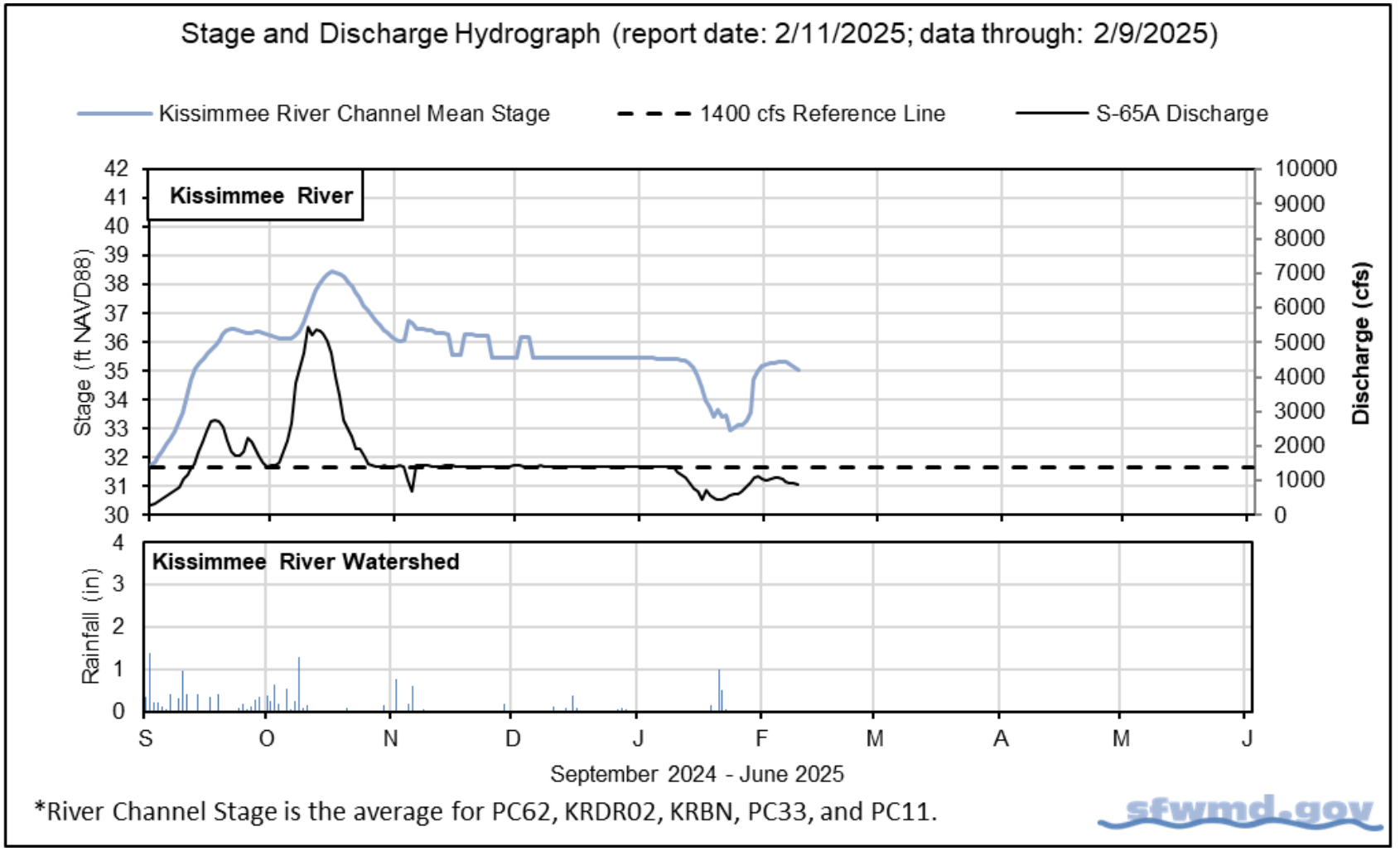


Figure KB-4. Kissimmee River stage, discharge, and rainfall.

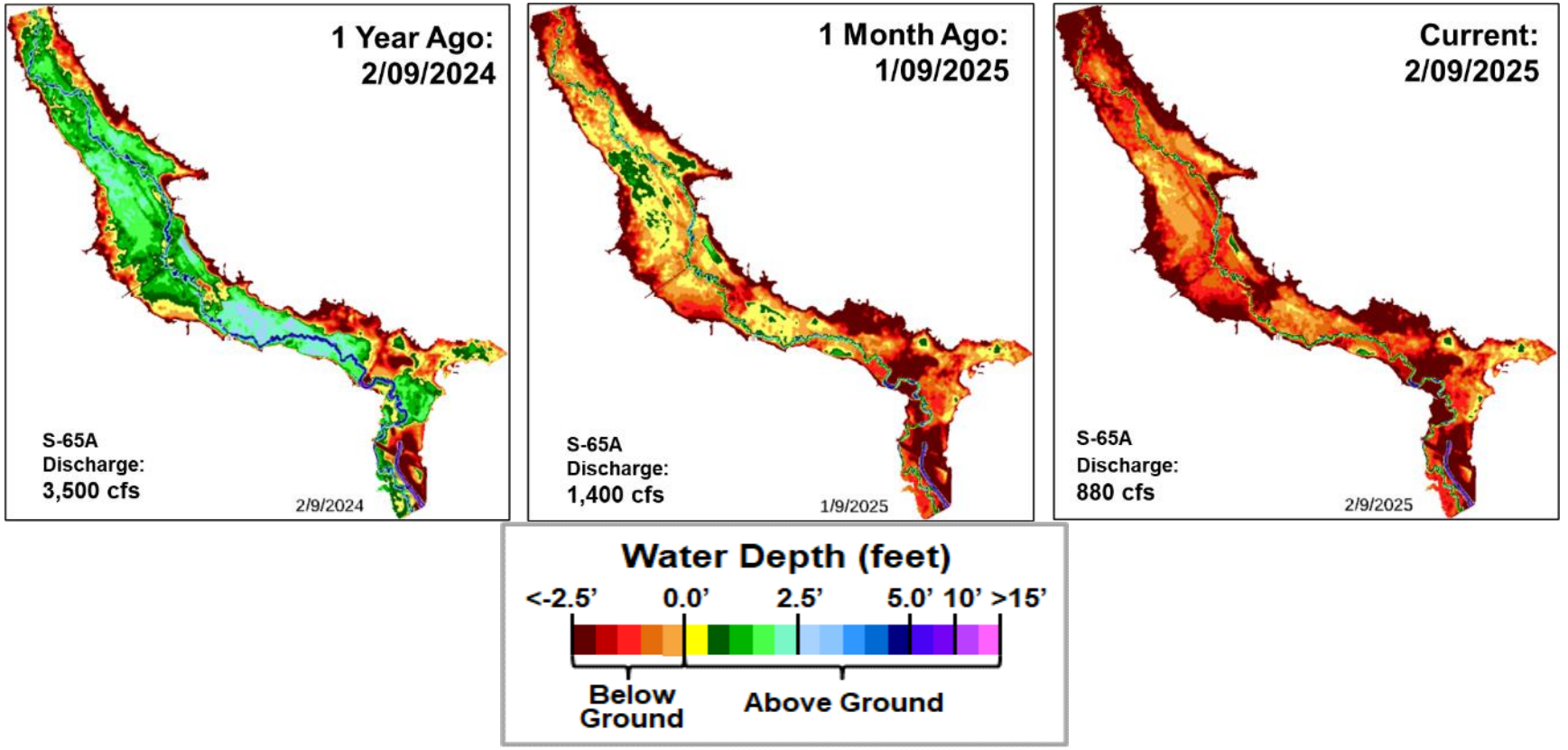


Figure KB-5. Phase I-II-III area Kissimmee River floodplain water depths (from left to right) one year ago, one month ago, and current.

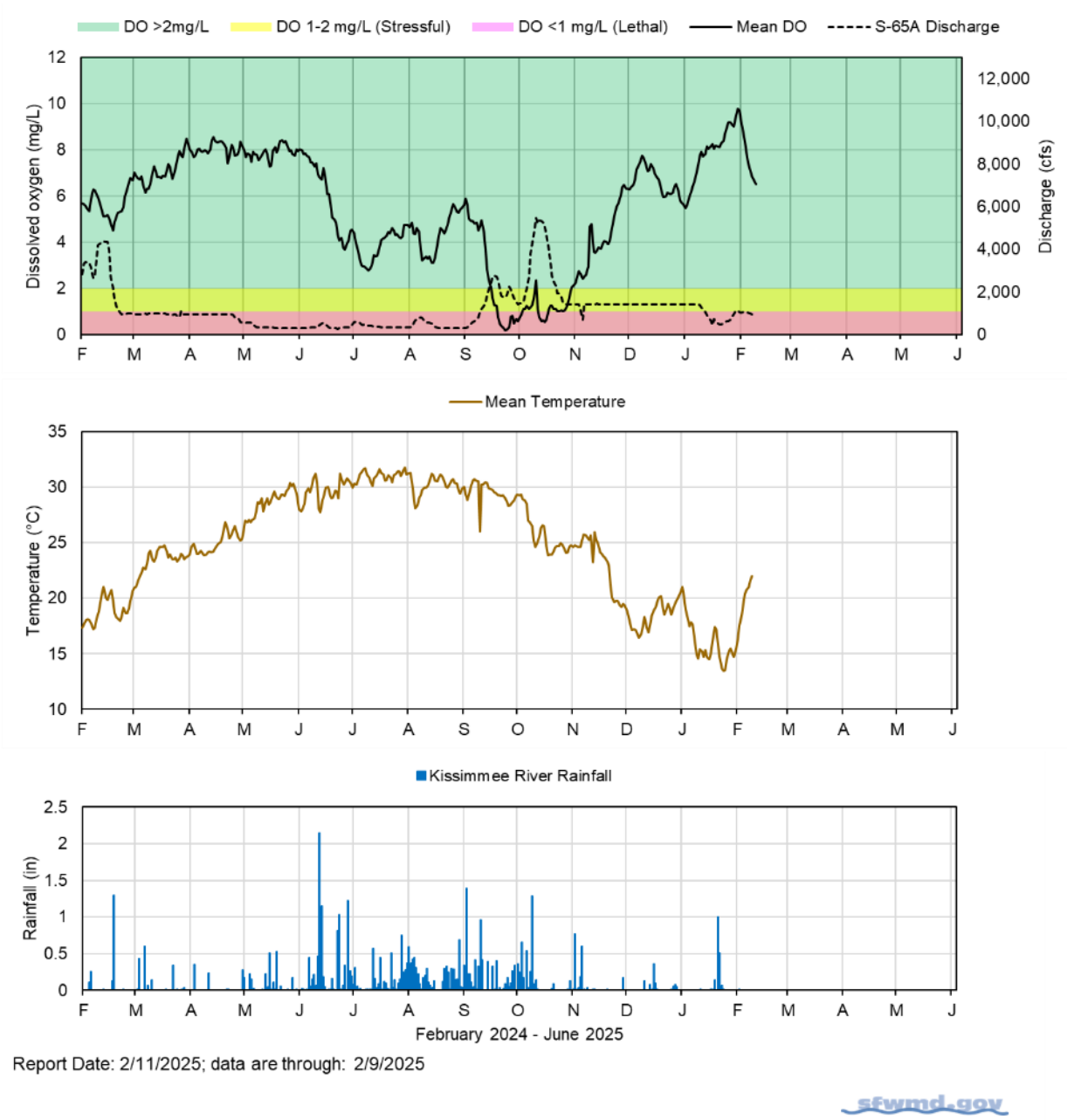


Figure KB-6. Kissimmee River channel mean daily dissolved oxygen concentration (mg/L), S-65A discharge (cfs), temperature (°C) and rainfall (inches). Dissolved oxygen (DO) and temperature are mean daily values averaged for PC62, KRDR02, KRBN, PC33, PC11, PD62R, and PD42R with an average of five stations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

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

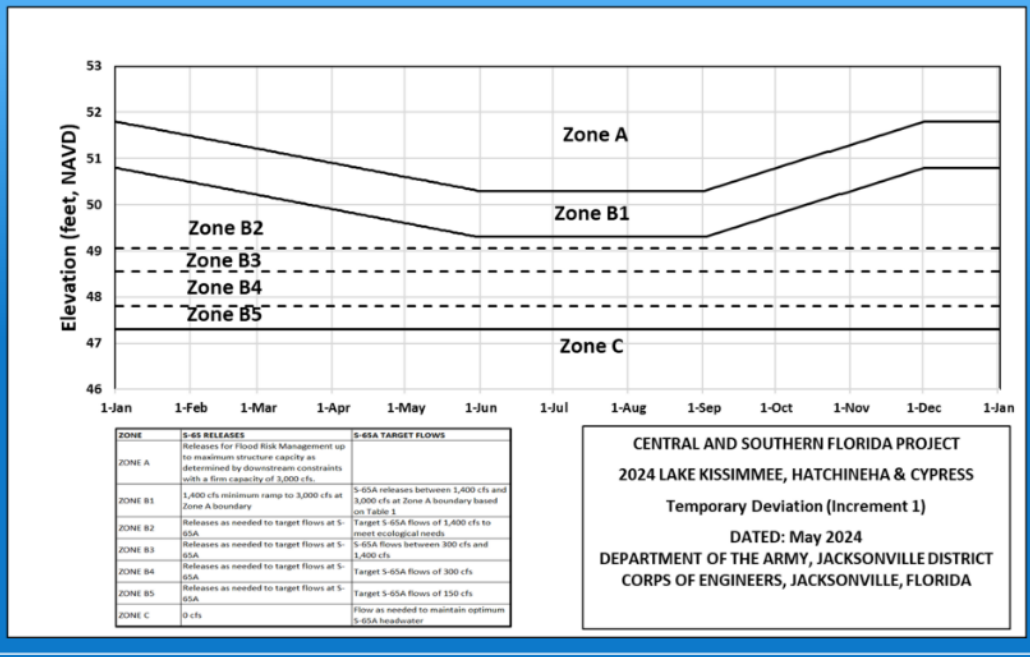
HRS Increment 1 Temporary Deviation Discharge Plan for S-65/S-65A

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 12.88 feet NAVD88 (14.18 ft NGVD29) on February 9, 2025, which was 0.18 feet lower than the previous week and 0.62 feet lower than a month ago (**Figure LO-1**). Lake stage is in Zone D of the regulation schedule (**Figure LO-2**) and is 0.08 feet above the upper limit of the recovery ecological envelope (**Figure LO-3**). According to NEXRAD, no rain fell directly over the Lake for the second consecutive week.

Average daily inflows (excluding rainfall) increased slightly from 880 the previous week, to 960 cfs. The largest single inflow came from the Kissimmee River via the S-65E structure (920 cfs). Average daily outflows (excluding evapotranspiration) decreased from 5,470 cfs the previous week to 5,050 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 February 9, 2025, NOAA's Harmful Algal Bloom Monitoring System suggests low and very scattered bloom activity on Lake Okeechobee (**Figure LO-6**).

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

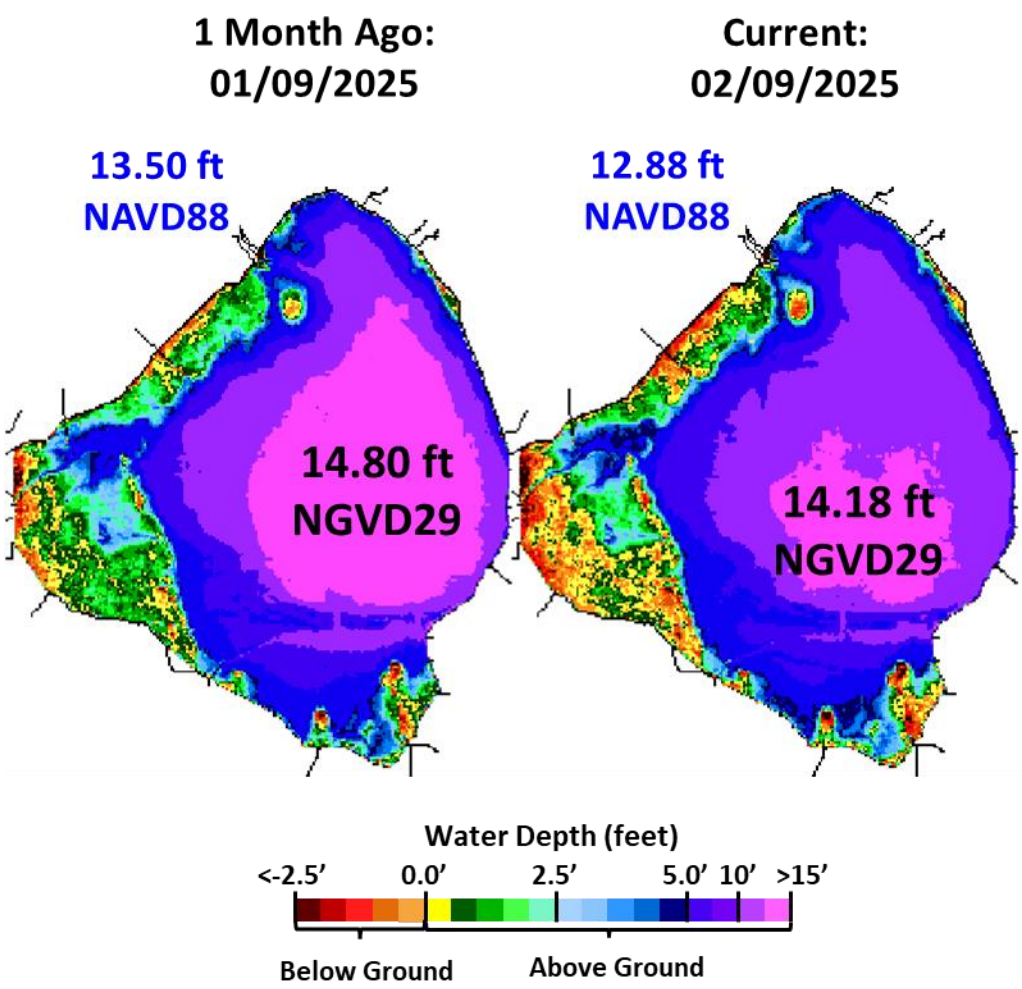


Figure LO-1. Lake Okeechobee water depth estimates based on South Florida Water Depth Assessment Tool (SFWDAT).

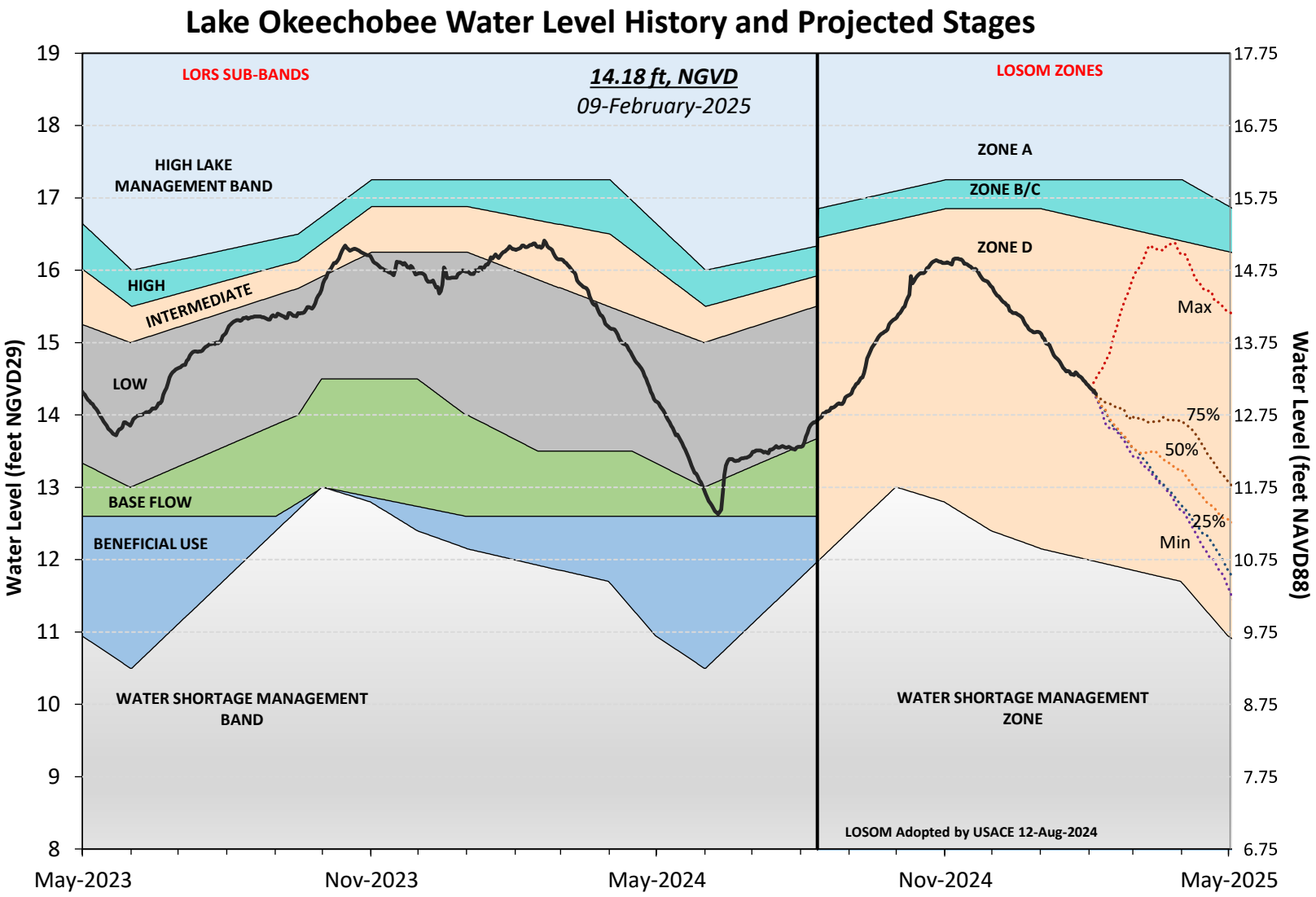


Figure LO-2. Recent Lake Okeechobee stages with projected stages based on a dynamic position analysis.
Note: stages are in NGVD29, approximate NAVD88 values are shown for reference.

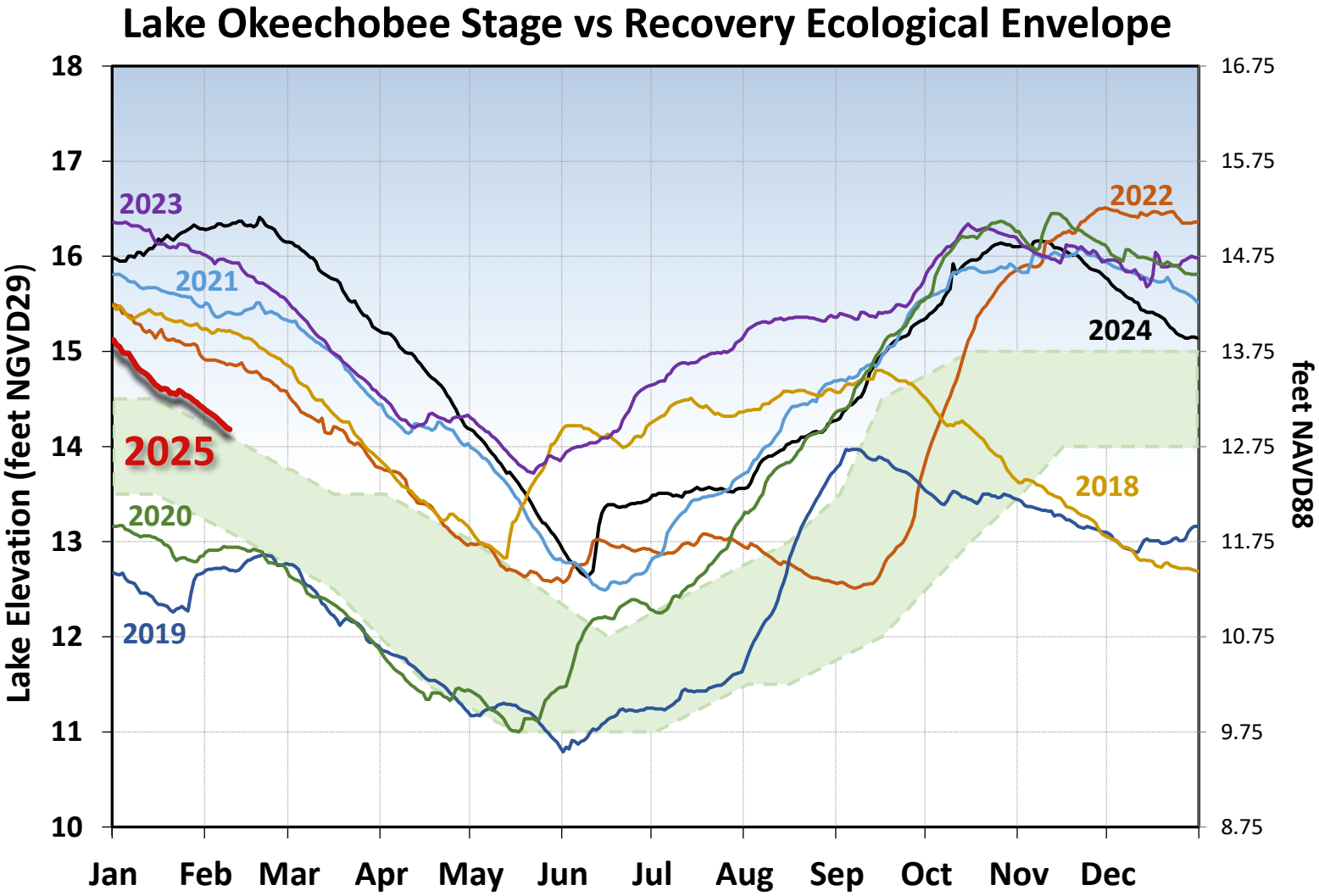


Figure LO-3. The current and seven prior year's annual stage hydrographs for Lake Okeechobee in comparison to the recovery envelope (light green). A shift from the normal ecological envelope to the recovery envelope occurred because the 30-day minimum lake stage (elevations exposed for at least 30 days,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

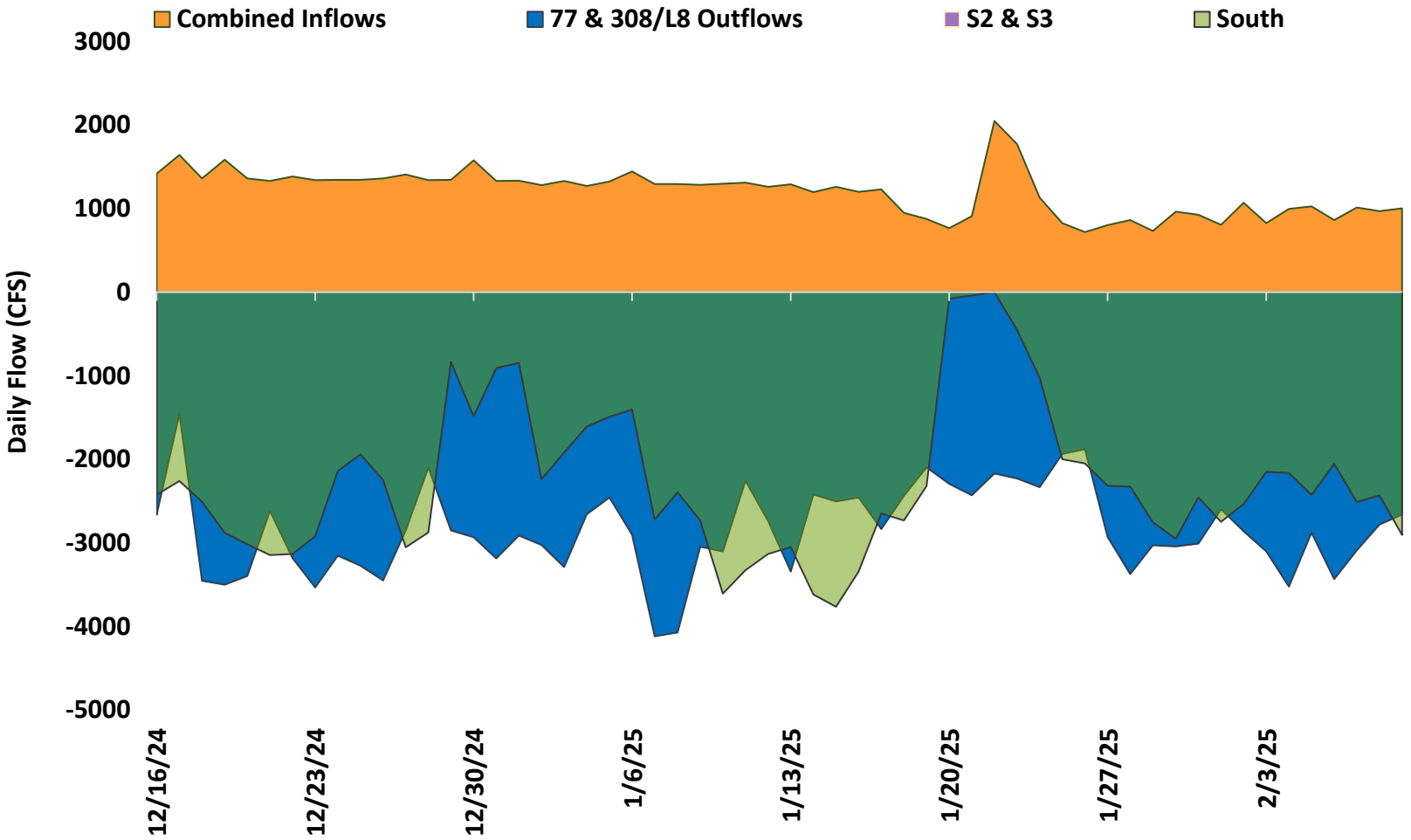


Figure LO-4. Major inflows (orange) to and outflows east and west (blue) from Lake Okeechobee. Outflows south are shown in green. Flows into Lake Okeechobee from the L-8 canal through S-271 (formerly Culvert 10A) or from the C-44 canal through the S-308 are included as inflows. Conversely, flows from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

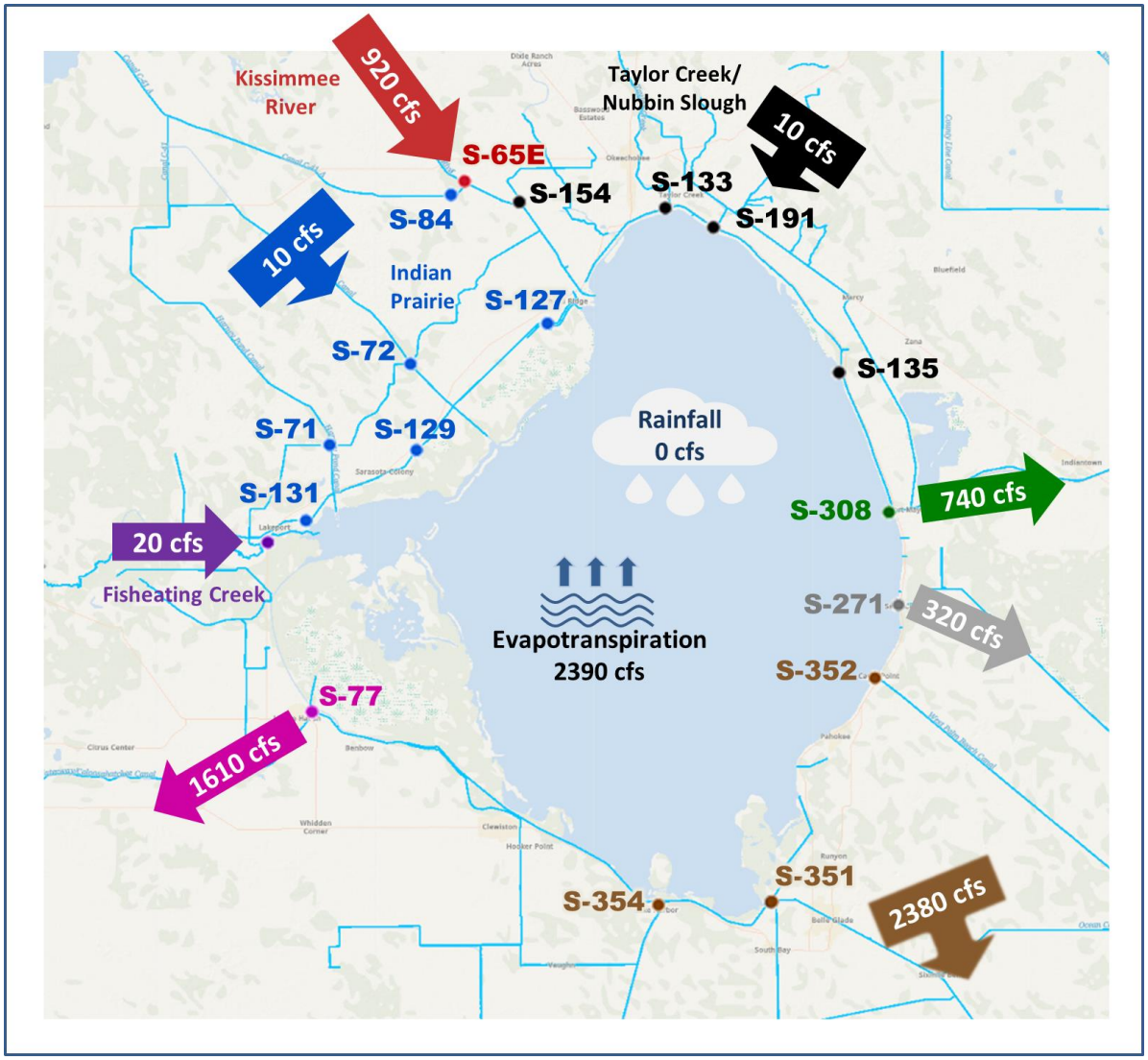


Figure LO-5. Inflows into Lake Okeechobee from Indian Prairie basins, Taylor Creek/Nubbin Slough, Kissimmee River and Fisheating Creek, and outflows to the west via S-77, to the east via S-308, to the south via S-351, S-352, S-354, and to southeast via S-271 (formerly Culvert 10A) for the week of February 3 - 9, 2025.

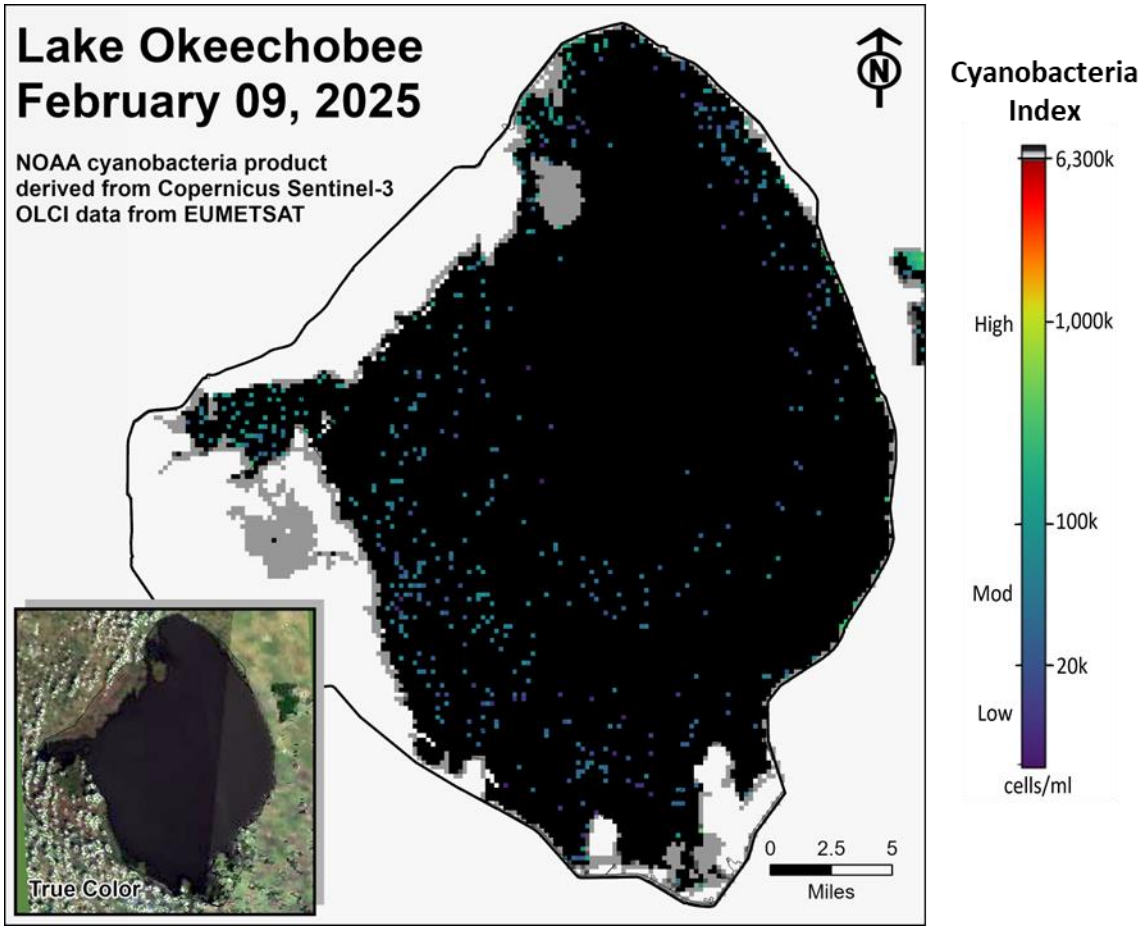


Figure LO-6. Cyanobacteria bloom index level on Lake Okeechobee, based on NOAA's harmful algal bloom monitoring system. Gray color indicates cloud cover. *Provisional NOAA image, subject to change*.

Estuaries

St. Lucie Estuary

Over the past week, mean total inflow to the St. Lucie Estuary was 1,370 cfs (**Figures ES-1** and **ES-2**), and the previous 30-day mean inflow was 622 cfs. For comparison, the historical provisional mean inflows from the contributing areas are shown in **Figure ES-2**.

Over the past week, salinities decreased at the HR1 and US1 Bridge sites and remained similar at the A1A Bridge site (**Table ES-1** and **Figure ES-3**). The seven-day moving average of the surface and bottom salinities at the US1 Bridge was 10.4. 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) was 0.02 spat/shell for January, which is higher than the previous month (**Figure ES-5**).

Caloosahatchee River Estuary

Over the past week, mean total inflow to the Caloosahatchee River Estuary was 2,109 cfs (**Figures ES-6** and **ES-7**), and the previous 30-day mean inflow was 1,928 cfs. For comparison, the historical provisional mean inflows from the contributing areas are shown in **Figure ES-7**.

Over the past week, salinities remained below 1 at S-79 and Val I-75 and decreased at the remaining 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 within the optimal range for adult eastern oysters at Cape Coral and Shell Point and in the upper stressed range at Sanibel (**Figure ES-10**). No larval oyster recruitment was reported by the FWRI at either Iona Cove and Bird Island for January, which is a decrease for both sites from the previous month (**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 58 cfs. Model results from all scenarios predict daily salinity to be 0.4 or lower, and the 30-day moving average surface salinity to be 0.3 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 February 7, 2025, that *Karenia brevis*, the Florida red tide dinoflagellate, was observed at background to high concentrations in and offshore of Lee County, background to medium concentrations in Collier County, and low to medium concentrations offshore of Monroe County. On the east coast, red tide was not observed in samples from Martin and Palm Beach counties.

Water Management Recommendations

Lake stage is in Zone D. Current climatological and hydrological conditions are normal. The LOSOM release guidance suggests up to 2,100 cfs release at S-79 to the Caloosahatchee River Estuary and up to 1,400 cfs total flow from S-80, S-97, S-49, and Gordy Road combined to the St. Lucie Estuary.

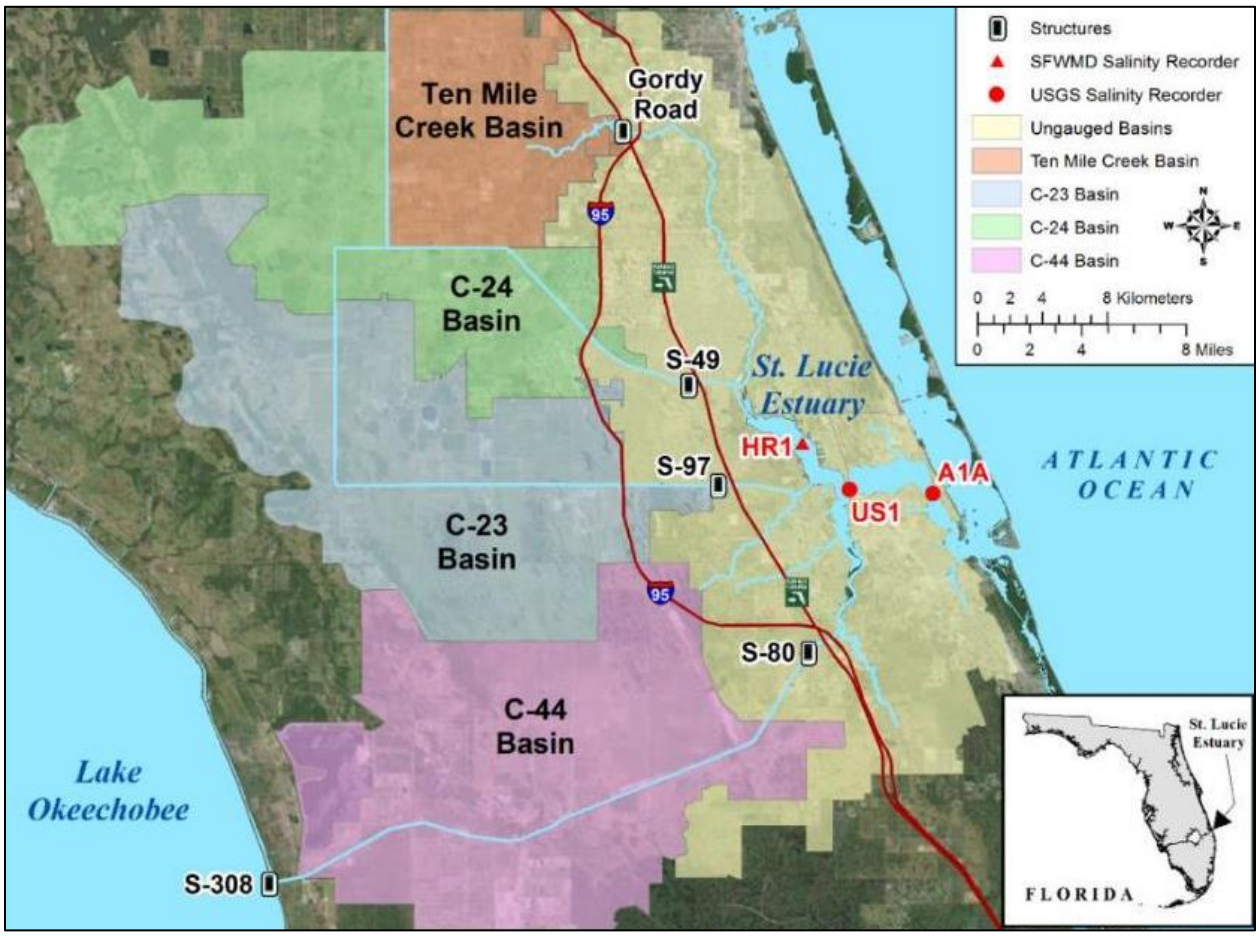


Figure ES-1. Basins, water control structures and salinity monitoring sites in the St. Lucie Estuary.

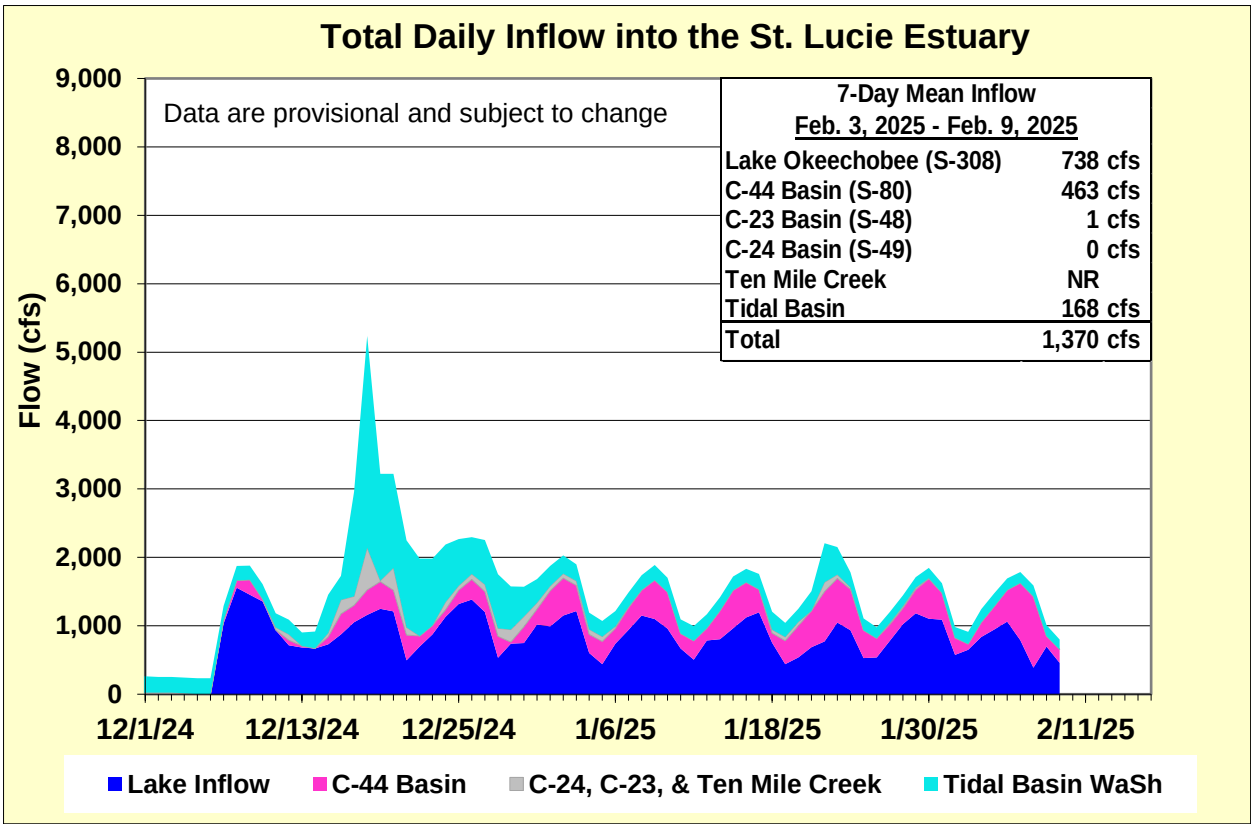


Figure ES-2. Total daily inflows from Lake Okeechobee and runoff from the C-44, C-23, C-24, Ten Mile Creek, and Tidal Basins into the St. Lucie Estuary.

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)	**3.2** (5.6)	**8.3** (10.5)	10.0 – 25.0
US1 Bridge	**9.9** (10.5)	**10.8** (11.9)	10.0 – 25.0
A1A Bridge	**17.7** (17.7)	**23.9** (23.4)	10.0 – 25.0

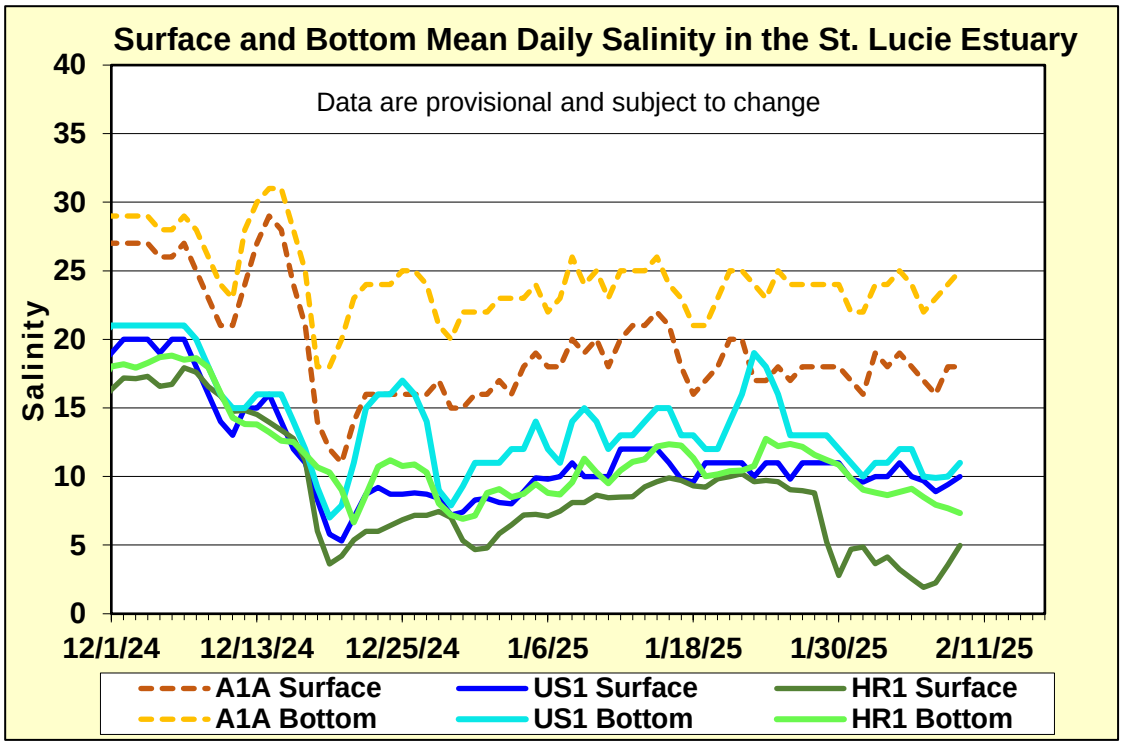


Figure ES-3. Mean daily salinity at the A1A, US1, and HR1 sites in the St. Lucie Estuary.

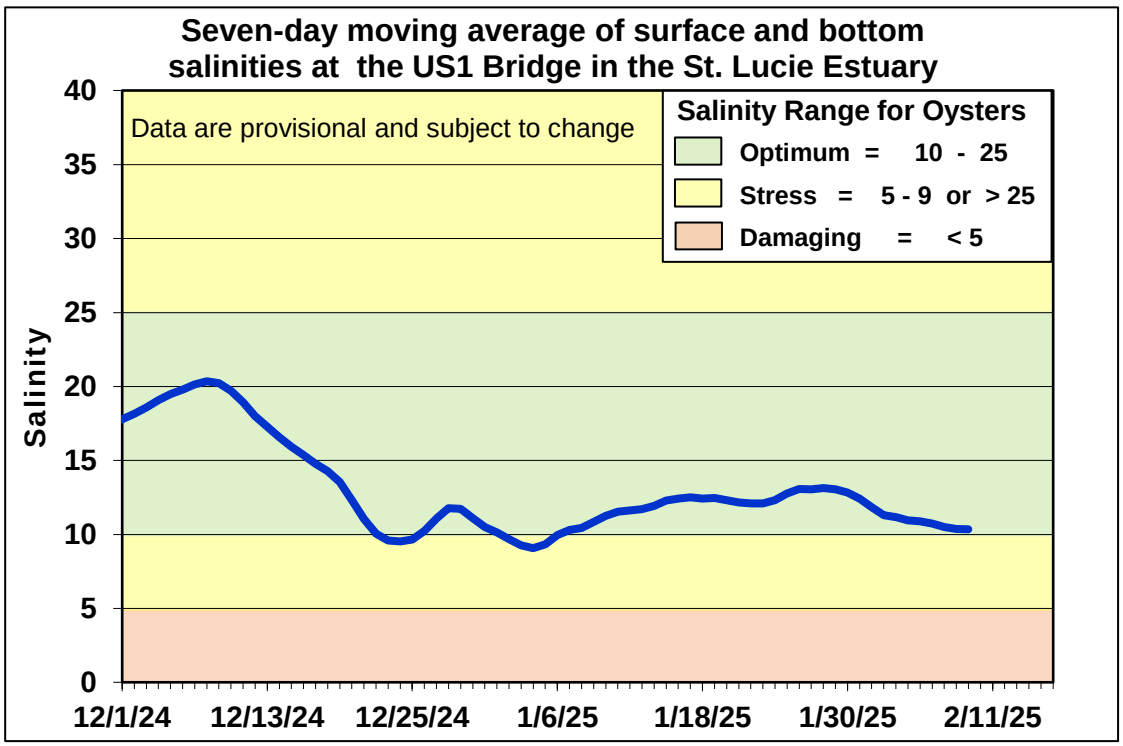


Figure ES-4. Seven-day moving average of the surface and bottom salinities at the US1 Bridge in the St. Lucie Estuary.

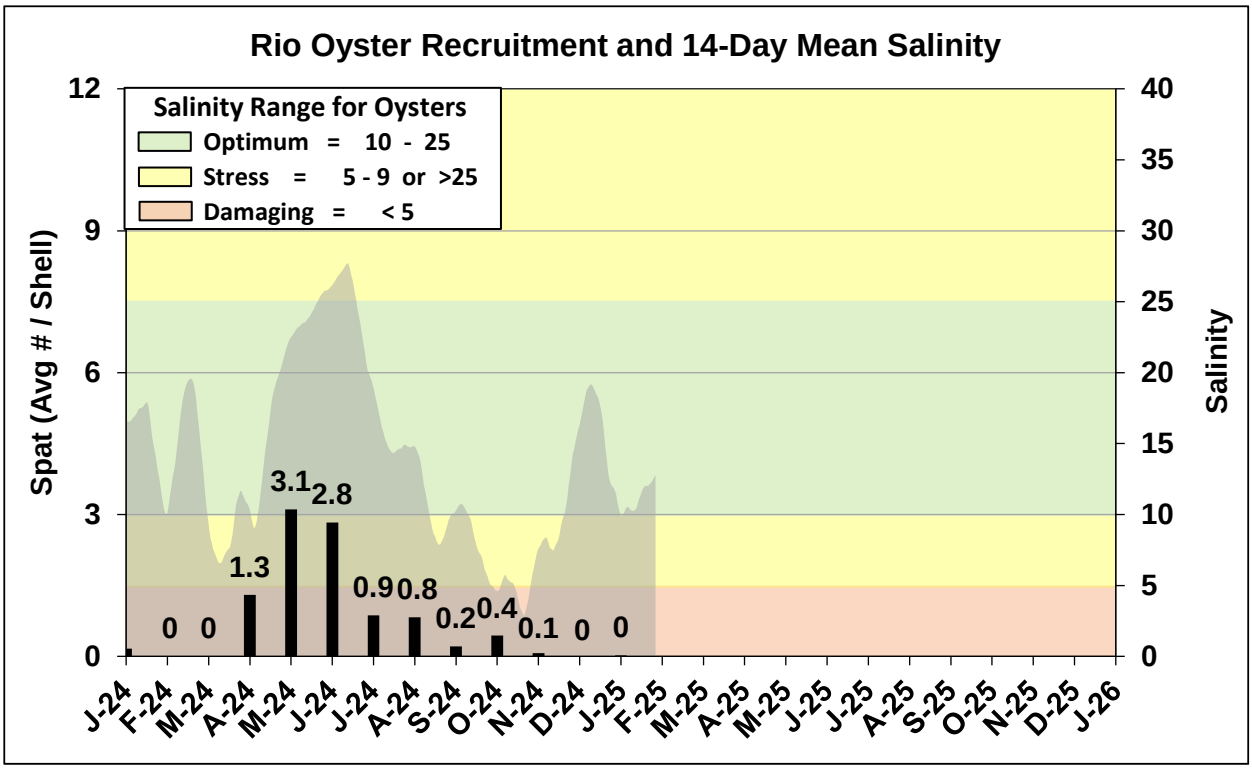


Figure ES-5. Mean oyster recruitment at the Rio oyster monitoring station and 14-day mean salinity at US1 Bridge.

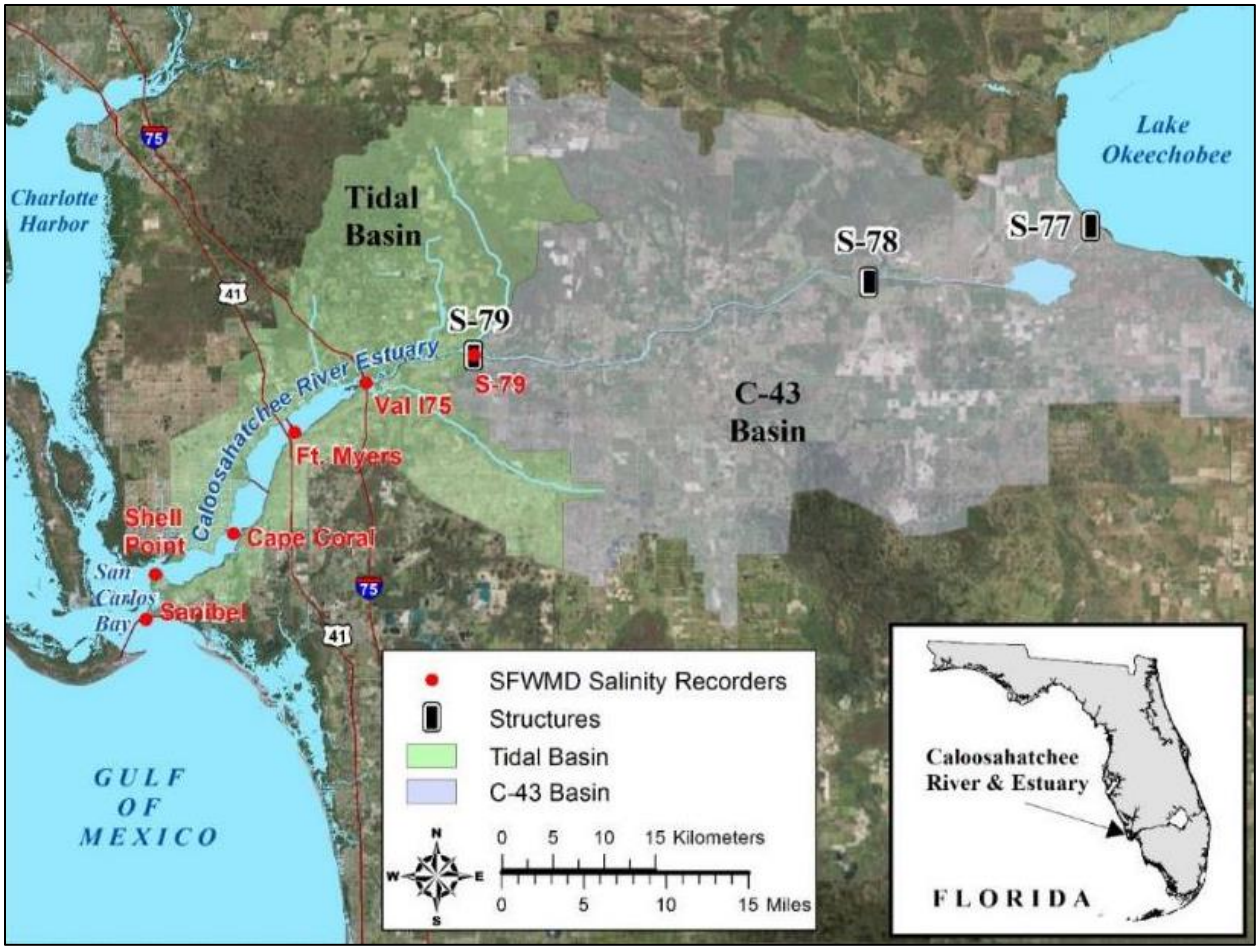


Figure ES-6. Basins, water control structures, and salinity monitoring sites in the Caloosahatchee River Estuary.

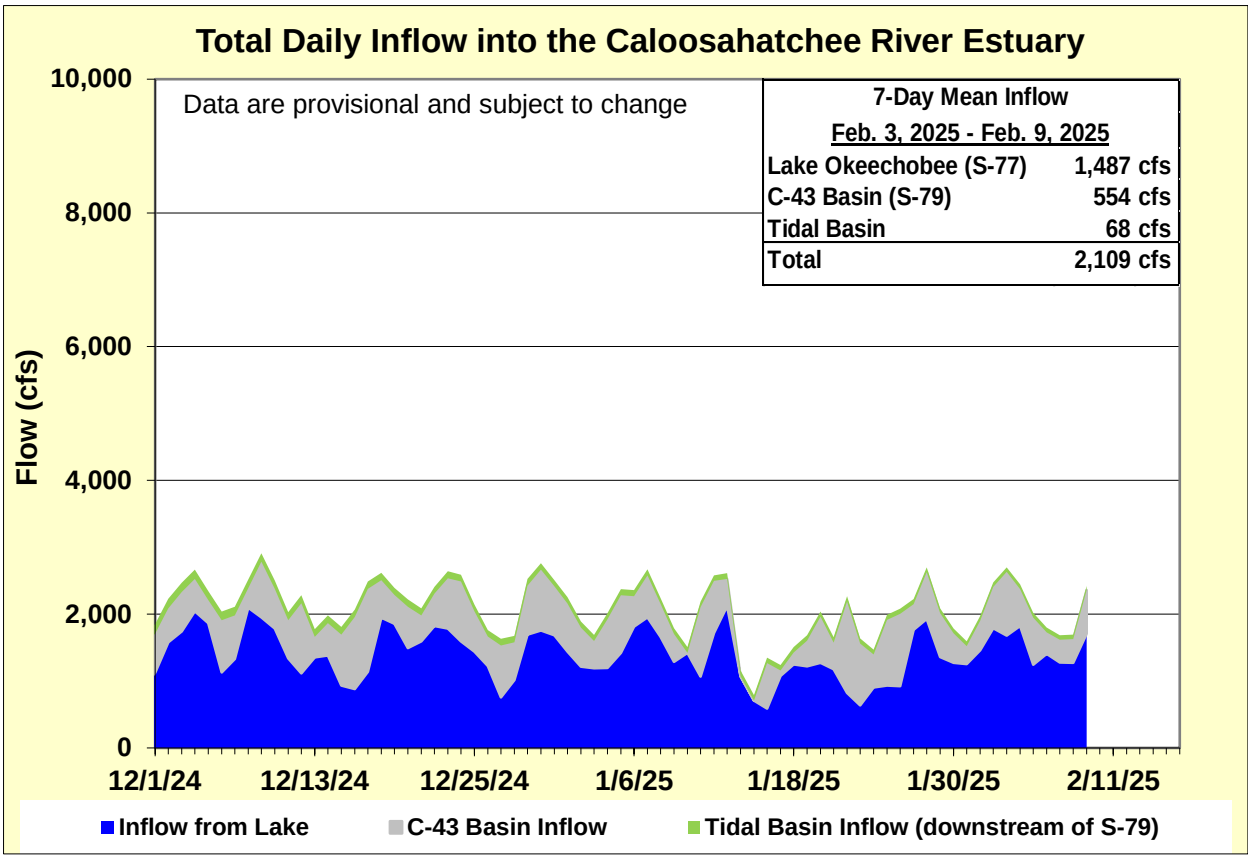


Figure ES-7. Total daily inflows from Lake Okeechobee, and runoff from the C-43 and Tidal basins into the Caloosahatchee River Estuary.

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** (0.2)	**0.2** (0.2)	0.0 – 10.0
Val I-75	**0.3** (0.3)	**0.3** (0.5)	0.0 – 10.0
Fort Myers Yacht Basin	**4.1** (5.1)	**7.4** (8.9)	0.0 – 10.0
Cape Coral	**10.5** (11.8)	**13.4** (15.0)	10.0 – 25.0
Shell Point	**23.4** (25.7)	**24.9** (26.4)	10.0 – 25.0
Sanibel	**29.5** (29.9)	**29.0** (29.1)	10.0 – 25.0

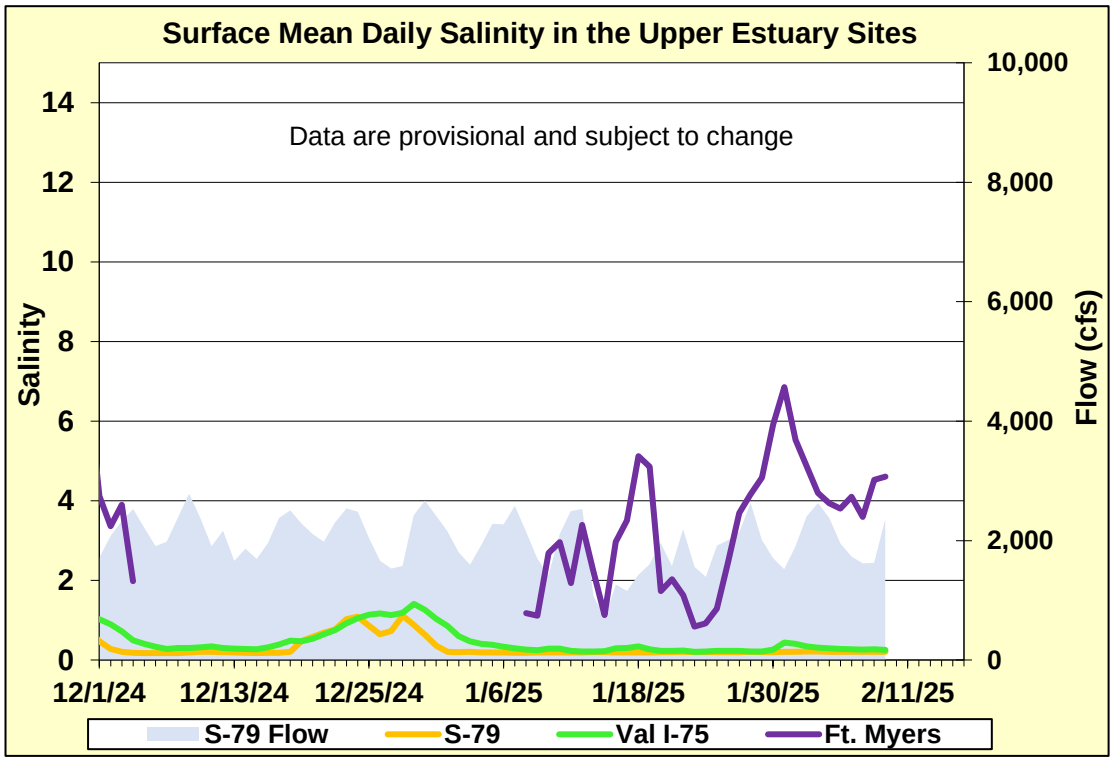


Figure ES-8. Mean daily salinity at upper Caloosahatchee River Estuary monitoring sites and mean daily flow at S-79.

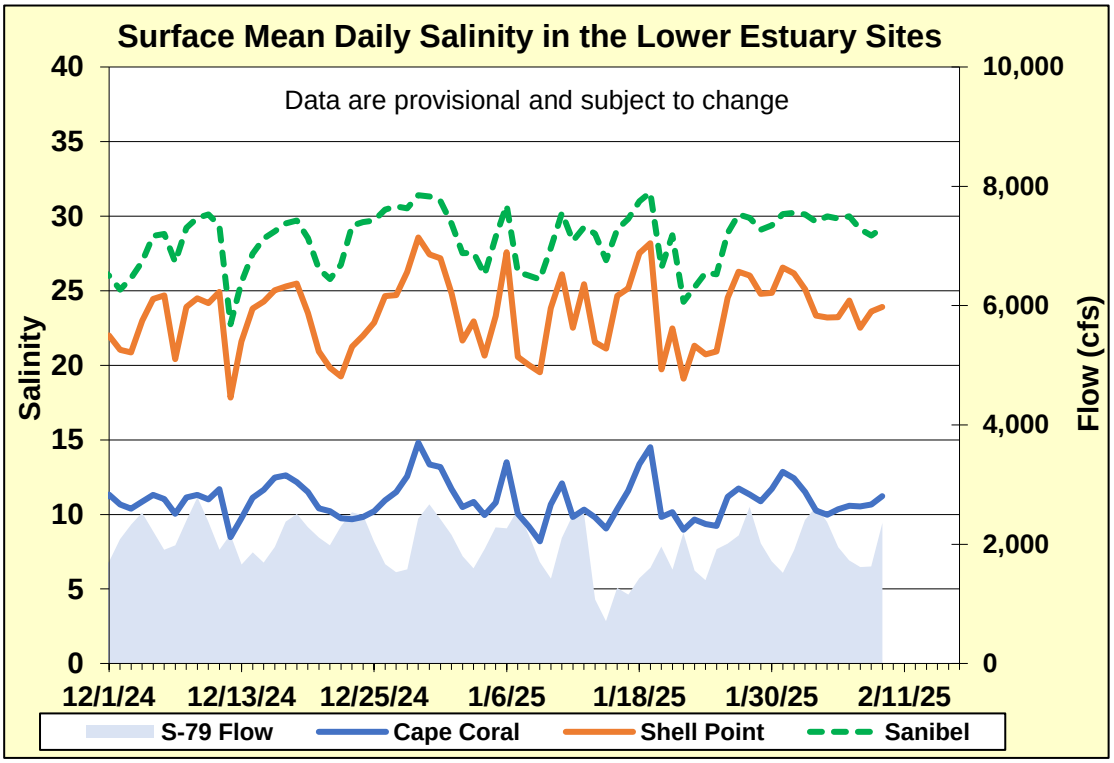


Figure ES-9. Mean daily surface salinity at lower Caloosahatchee River Estuary monitoring sites and mean daily flow at S-79.

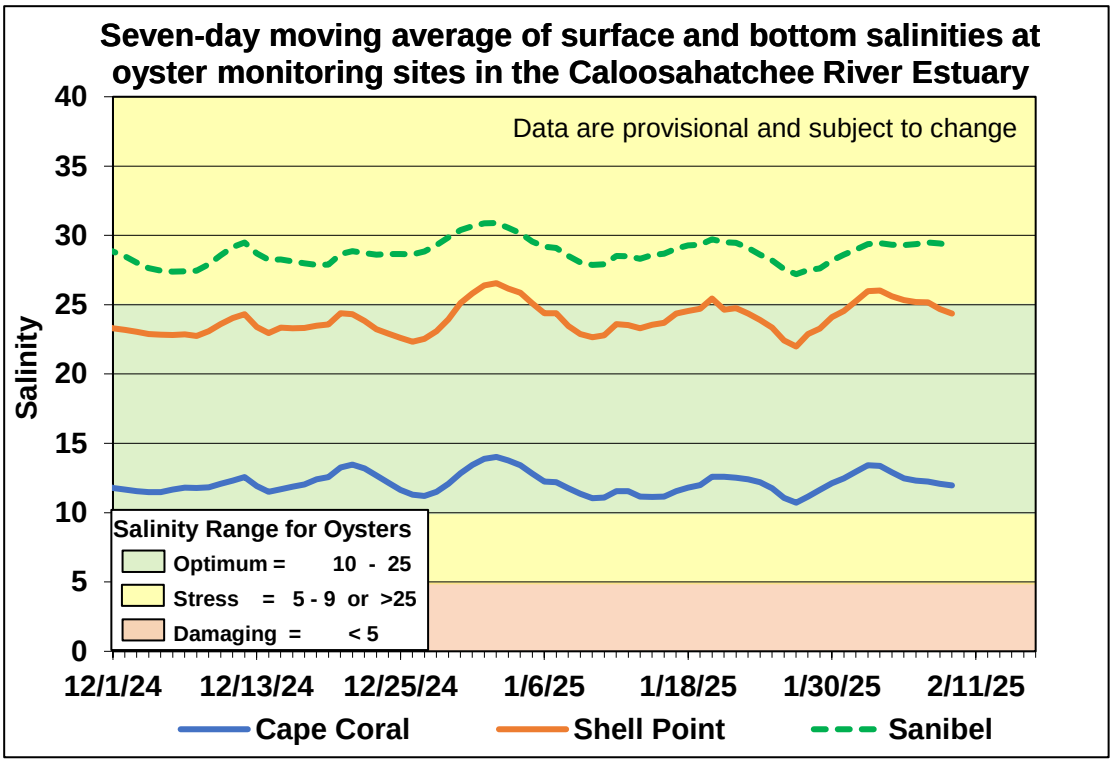


Figure ES-10. Seven-day moving average of surface and bottom salinities at Cape Coral, Shell Point, and Sanibel monitoring sites in the Caloosahatchee River Estuary.

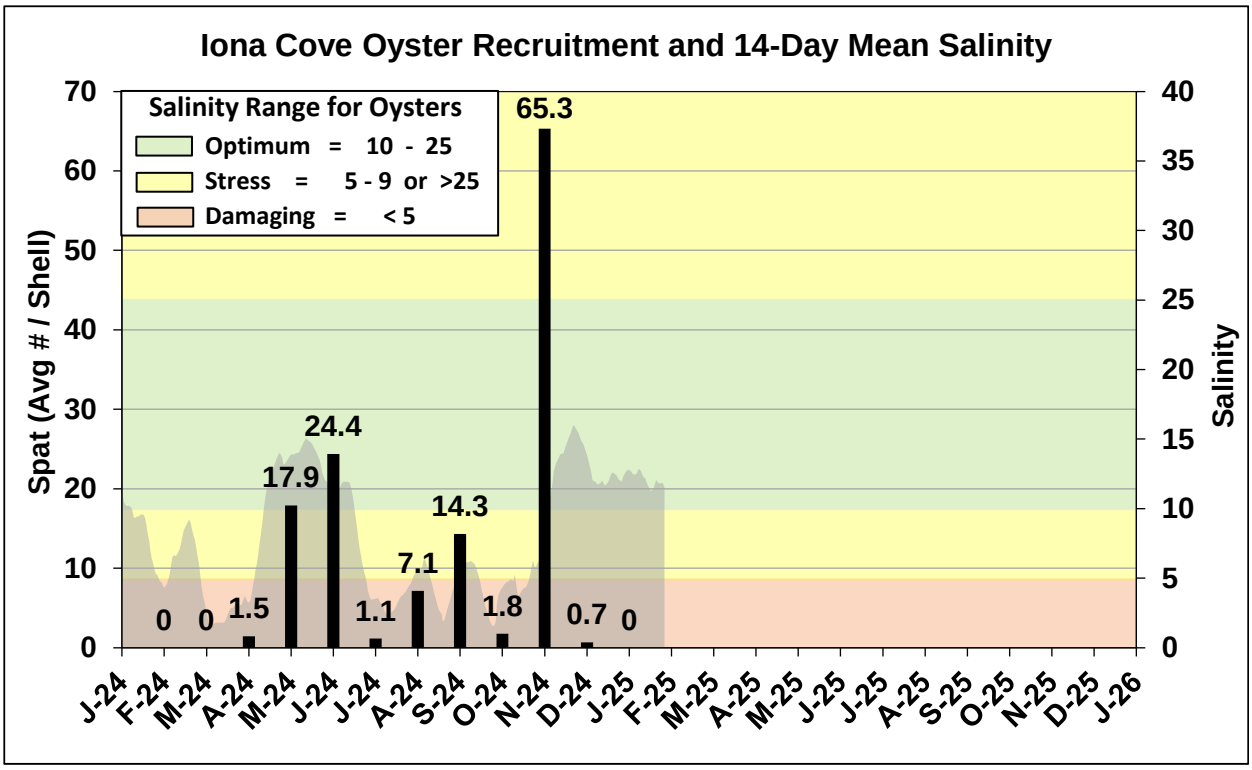


Figure ES-11. Mean oyster recruitment at the Iona Cove oyster monitoring station and 14-day mean salinity at Cape Coral.

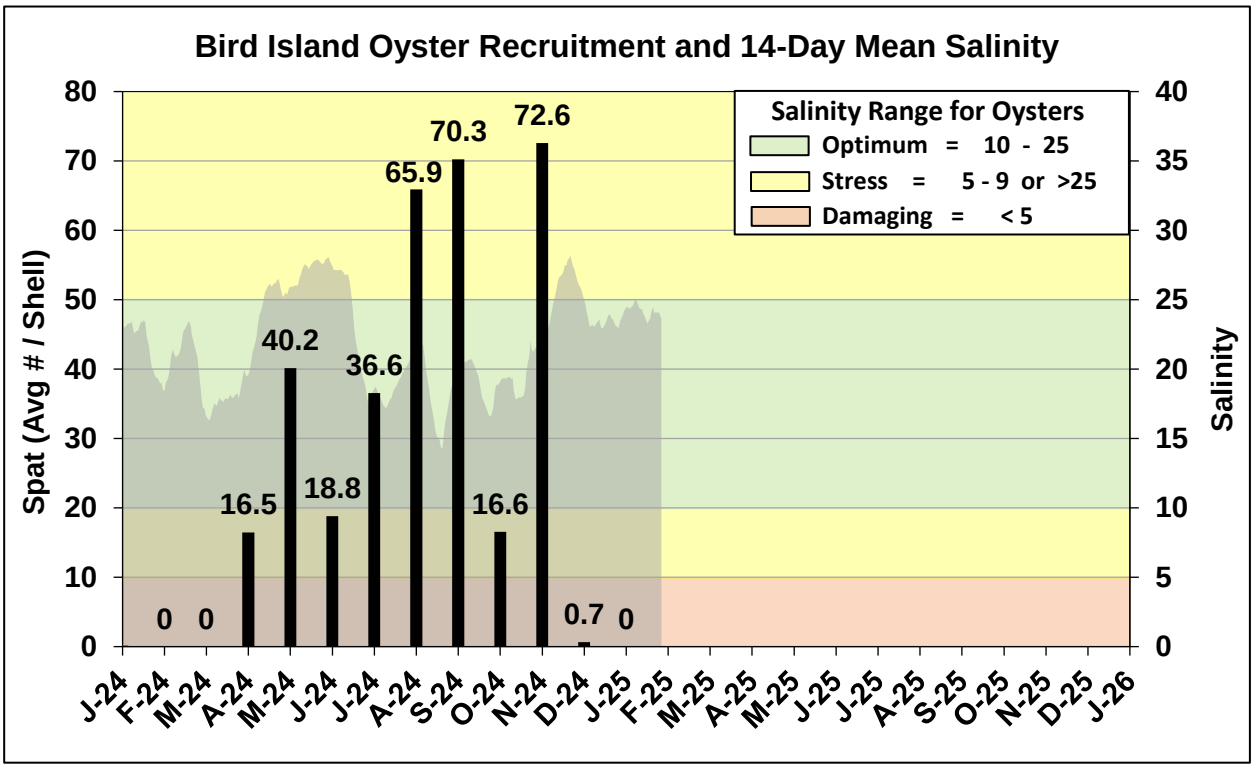


Figure ES-12. Mean oyster recruitment at the Bird Island oyster monitoring station and 14-day mean salinity at Shell Point.

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	58	0.4	0.3
B	650	58	0.3	0.3
C	1200	58	0.3	0.3
D	2000	58	0.3	0.3

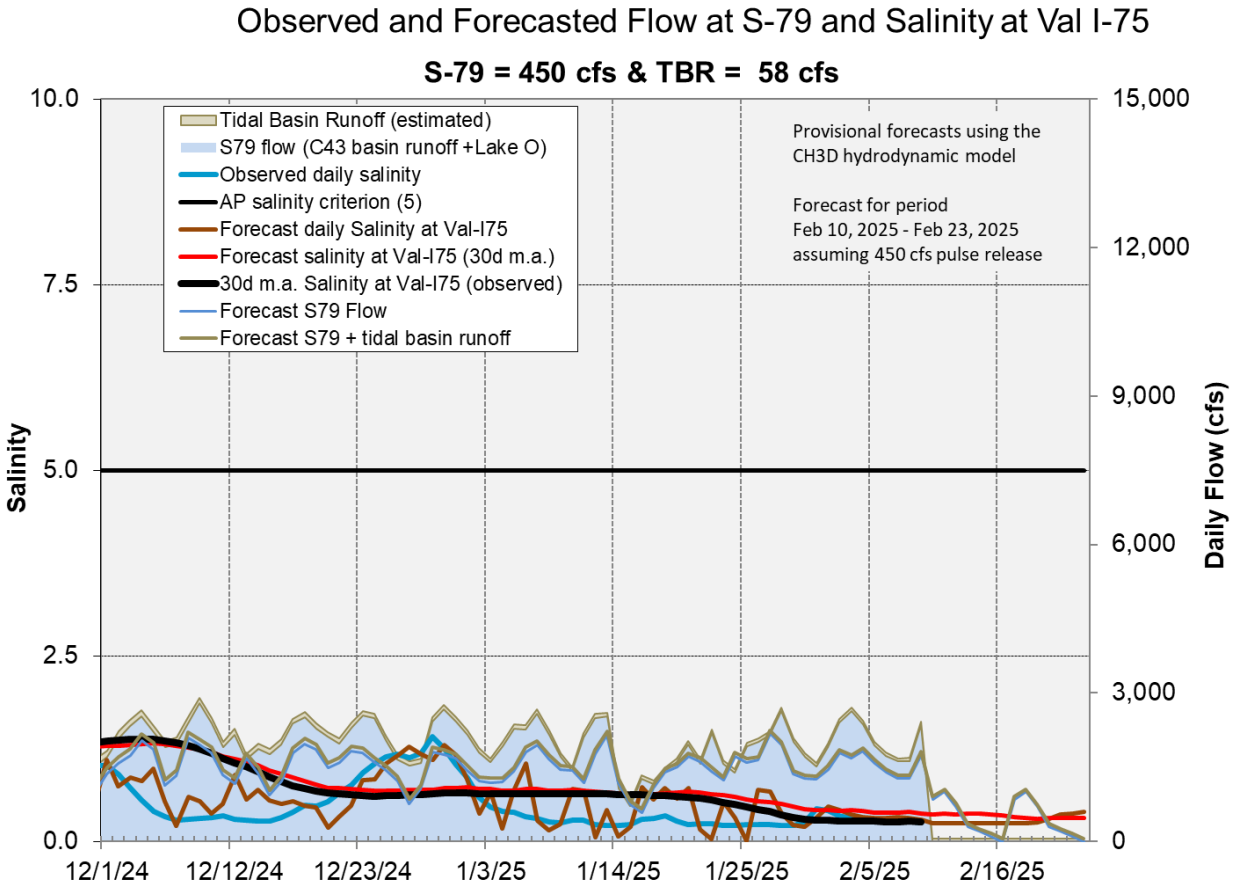


Figure ES-13. Surface salinity forecast at the Val I-75 site assuming a 450 cfs pulse release at S-79.

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-1**).

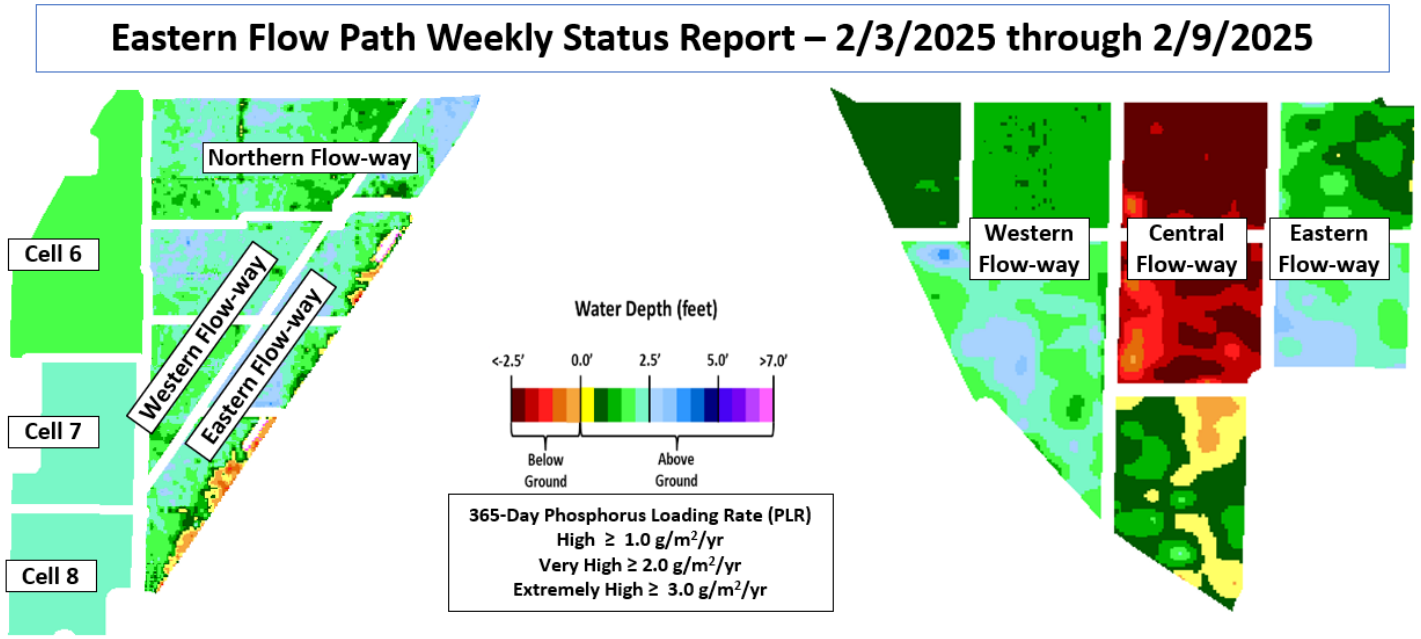
STA-1W: An operational restriction is in place in the Northern Flow-way for vegetation management activities. Treatment cells are above target stage. Vegetation in the Western and Eastern flow-ways is highly stressed. The 365-day PLRs for the Eastern, Western, and Northern Flow-ways are high (**Figure S-1**).

STA-2: STA-2 Flow-way 3 is offline for a SAV recovery drawdown. Operational restrictions are in place in Flow-ways 2 and 4 for vegetation management activities. 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-2).**

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 PLRs for the Central and Western Flow-ways are high (**Figure S-2**).

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-3**).

For definitions on STA operational language see glossary following figures.

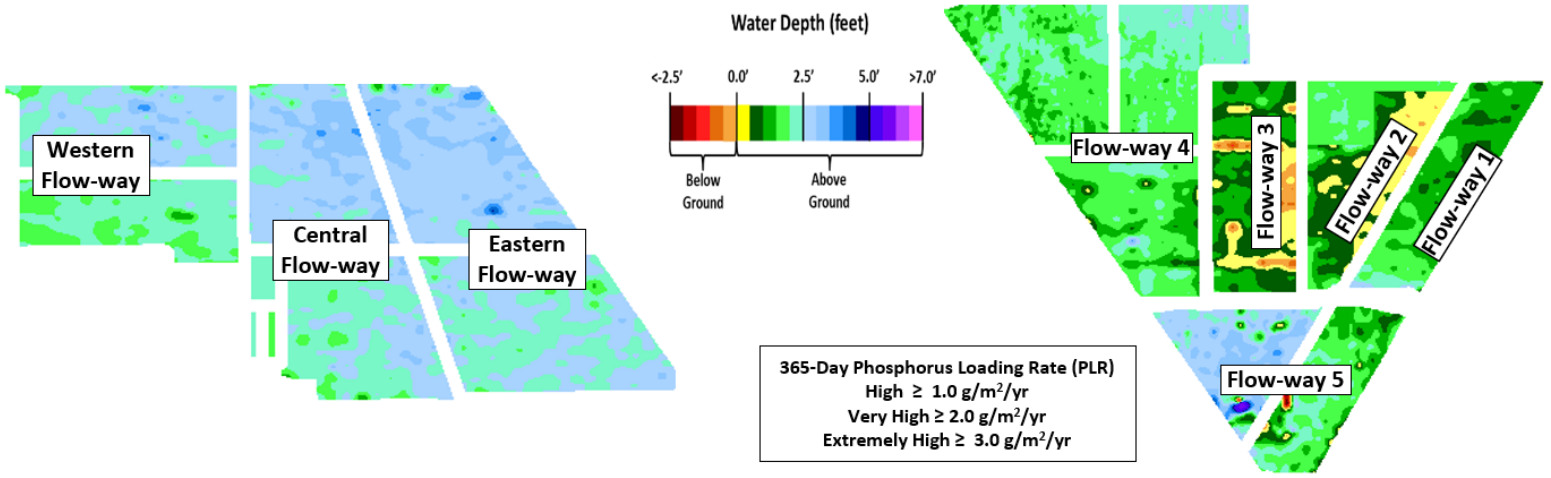


STA-1W	Flow-way Status
Western	• High 365-day PLR • Highly stressed vegetation conditions
Eastern	• High 365-day PLR • Highly stressed vegetation conditions
Northern	• Stressed vegetation conditions • Planting emergent vegetation
Cell 6	
Cell 7+8	

STA-1E	Flow-way Status
Western	• Post-construction vegetation grow-in
Central	• Offline for construction activities
Eastern	

Figure S-1. Eastern Flow Path Weekly Status Report

Central Flow Path Weekly Status Report – 2/3/2025 through 2/9/2025

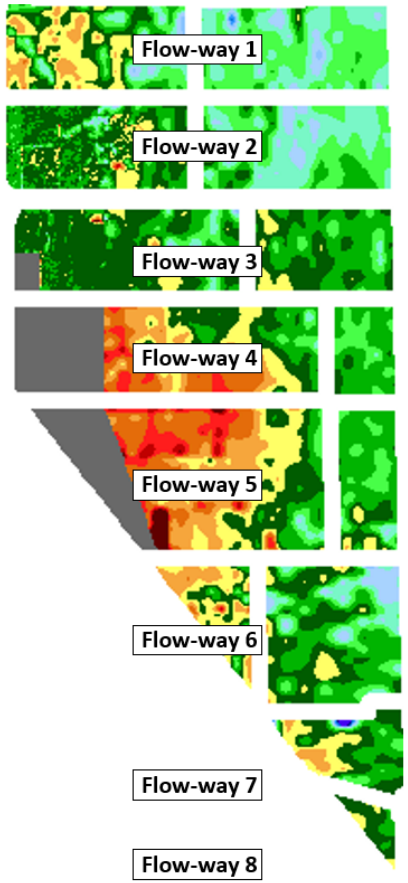


STA-3/4	Flow-way Status
Western	• High 365-day PLR
Central	• Highly stressed vegetation conditions • High 365-day PLR
Eastern	• Post-drawdown vegetation grow-in

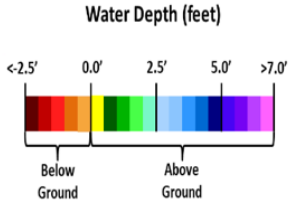
STA-2	Flow-way Status
Flow-way 1	• Upstream nuisance vegetation control
Flow-way 2	• High 365-day PLR • Post-construction vegetation grow-in • Stressed vegetation conditions • Upstream nuisance vegetation control
Flow-way 3	• Offline for SAV Recovery drawdown
Flow-way 4	• Planting emergent vegetation
Flow-way 5	• Highly stressed vegetation conditions

Figure S-2. Central Flow Path Weekly Status Report

Western Flow Path Weekly Status Report – 2/3/2025 through 2/9/2025



STA-5/6	Flow-way Status
Flow-way 1	• Highly stressed vegetation conditions
Flow-way 2	• Highly stressed vegetation conditions • High 365-day PLR
Flow-way 3	• Highly stressed vegetation conditions • High 365-day PLR
Flow-way 4	• Stressed vegetation conditions • High 365-day PLR
Flow-way 5	• Highly stressed vegetation conditions • High 365-day PLR
Flow-way 6	• Highly stressed vegetation conditions
Flow-way 7	• Stressed vegetation conditions
Flow-way 8	• Stressed vegetation conditions



365-Day Phosphorus Loading Rate (PLR)
High ≥ 1.0 g/m^2/yr
Very High ≥ 2.0 g/m^2/yr
Extremely High ≥ 3.0 g/m^2/yr

Figure S-3. 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

Well below average rainfall occurred throughout the Everglades Protection Area (EPA) last week. WCA-1: Stage change was minimal within the Refuge with the 3-gauge average now below the A1 zone regulation line by 0.18 on Sunday, February 2, 2025. WCA-2A: Stage recession at gauge 2A-17 continues to decrease toward the now flat Zone A regulation line. The average on Sunday was 1.13 feet above the Zone A line. WCA-3A: The 3-Gauge average recession rate increased last week; stages remain below the Zone A regulation line by about 0.78 feet on Sunday. WCA-3A North: Stage at Gauge 62 (NW corner) receded slightly last week with the average on Sunday 0.75 feet below the Upper Schedule. See figures **EV-1** through **EV-4**.

Water Depths

The SFWDAT model output for February 9, 2025, illustrates shallower conditions across the EPA compared to the past couple of months. Northern WCA-3A continues to dry out expanding now further west of the Miami Canal and approaches the soil surface. The ponded conditions in southern WCA3A are now absent and continuing to diminish. Most of the Big Cypress Basin, both to the north and south of Tamiami trail, is below soil surface, with some areas now significantly so. Hydrologic connectivity within the major sloughs of Everglades National Park (ENP) has diminished over the past two months but remains conducive for water flow to the south. Below average conditions are present along the L-67 levees and have expanded across most of central and southern WCA-3A. See figures **EV-5** through **EV-6**.

Taylor Slough and Florida Bay

Nearly all stages across Taylor Slough decreased over the past week, with an average decrease of 0.06 feet. Changes ranged from −0.11 feet at Taylor Slough Bridge (TSB) in the northern slough to +0.03 feet at CT50R in the C-111 area (**Figure EV-8 and Figure EV-9**). Taylor Slough water levels remain above the recent average for this time of year by 6.2 inches compared to before the Florida Bay initiative (starting in 2017), a decrease of 0.2 inches relative to last week's comparison. The Craighead Pond (CP) and TSB stages remain below the estimated average for 1900 by 0.38 and 0.77 feet, respectively.

Average Florida Bay salinity was 25.1, an increase of 0.4 from last week. Salinity increased at most sites with changes ranging from −2.9 at Terrapin Bay (TB) in the central nearshore region to +6.1 at Garfield Bight (GB) in the western nearshore region (**Figure EV-8**). Salinity is above the estimated average for 1900 and within the WY2001-2016 Interquartile Range (IQR) in the eastern and western regions, and below the IQR in the central region (**Figure EV-10**). Average Florida Bay salinity remains below its recent average for this time of year by 1.1, an increase of 0.8 relative to last week's comparison.

Salinity at the Taylor River (TR) station in the mangrove zone (tracked for the Florida Bay MFL) was 0.4. The 30-day moving average was 0.4 (**Figure EV-11**), with no change from last week. The 365-day moving sum of flow from the five major creeks (McCormick Creek,

Taylor River, Mud Creek, Trout Creek, West Highway Creek) was 314,174 acre-feet, an increase of 1,808 acre-feet from last week (**Figure EV-11**).

Average rainfall across Taylor Slough and Florida Bay was 0.04 inches over the past week, based on the 18 gauges used for this report. Rainfall ranged from 0.0 inches at 14 stations to 0.43 inches at Buoy Key in the western region (**Figure EV-12**). Wind directions and speeds in Florida Bay ranged from 2.1 mph NE on February 3rd to 18.6 mph E on February 5th (**Figure EV-12**).

Average daily flow from the five major creeks totaled 556 acre-feet, with net positive flows over the past week. Total daily creek flow ranged from −295 acre-feet on February 9th to 905 acre-feet on February 4th (**Figure EV-13**). Average daily flow was 2,992 acre-feet below estimated historical levels (circa 1900).

Implications for water management

The ecology of the Everglades benefits from recession rates from 0.0 to 0.12 feet per week this time of year, with an ecologically ideal rate near 0.06 given the drier than average rainfall amounts predicted. Maintaining a hydroperiod supportive of upcoming wading bird nesting at the critical Alley North colony in WCA-3A North is critical to the overall ecology of the region. Depths near the colony are below 1.0 foot and la Nina climatic conditions persist which suggest a drier than average dry season. Continuing to support a below average recession rate in this region (S-150) will be beneficial to wading bird nesting success at this Colony, made more ecologically important as wading birds have experienced poor nesting the last three years. Florida Bay salinity is at a good position as we continue into the dry season and will continue to benefit from maintaining freshwater input to the system when available. Maintaining higher water depths in central WCA-3A now can help support wading bird nesting success throughout the nesting season. Conserving water in WCA-3A might be a concern if Florida Bay salinities are seen to rise rapidly and approach hypersalinity. Current favorable salinity levels in Florida Bay may provide an opportunity to deliver broader landscape-wide ecological benefits across the EPA while balancing ecological priorities. 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	0.00	−0.07
WCA-2A	0.00	−0.08
WCA-2B	0.00	−0.03
WCA-3A	0.02	−0.08
WCA-3B	0.00	−0.08
ENP	0.03	−0.12

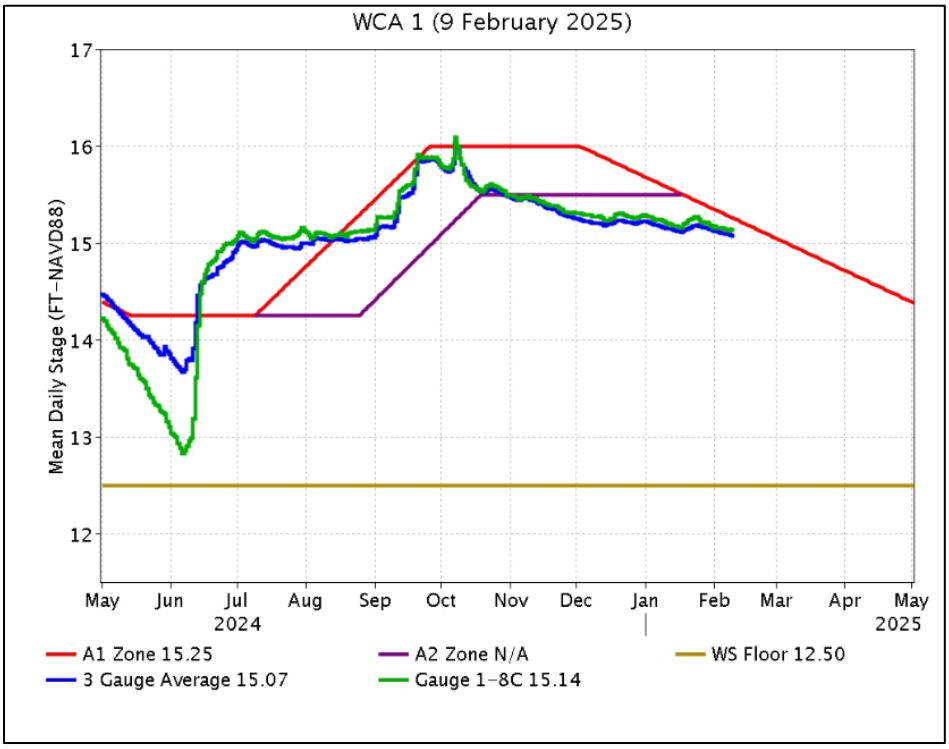


Figure EV-1. WCA-1 stage hydrographs and regulation schedule.

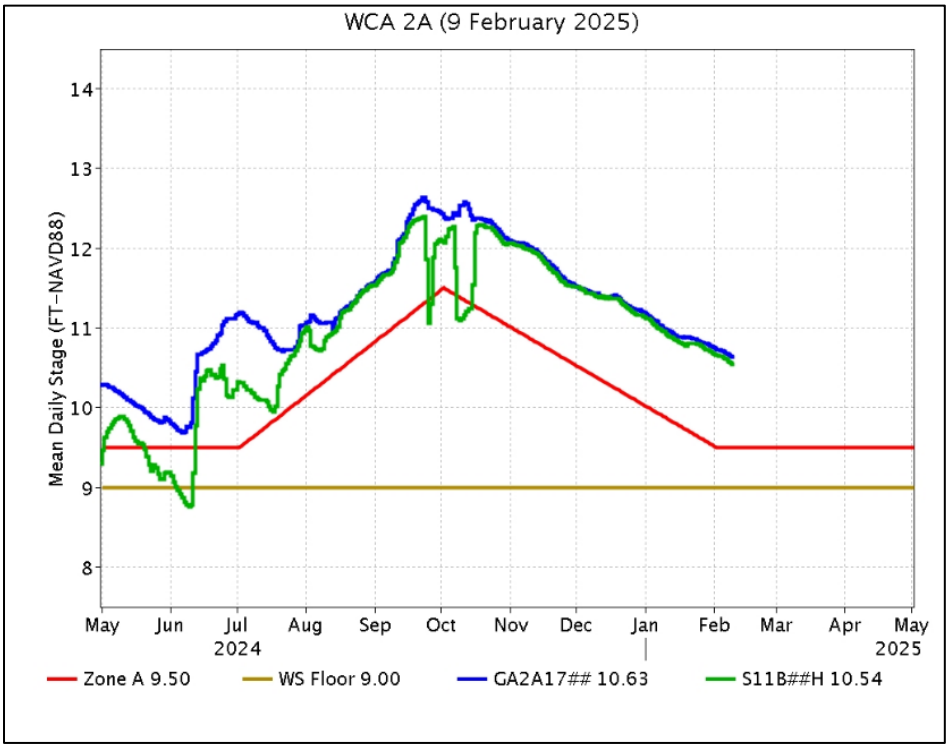


Figure EV-2. WCA-2A stage hydrographs and regulation schedule.

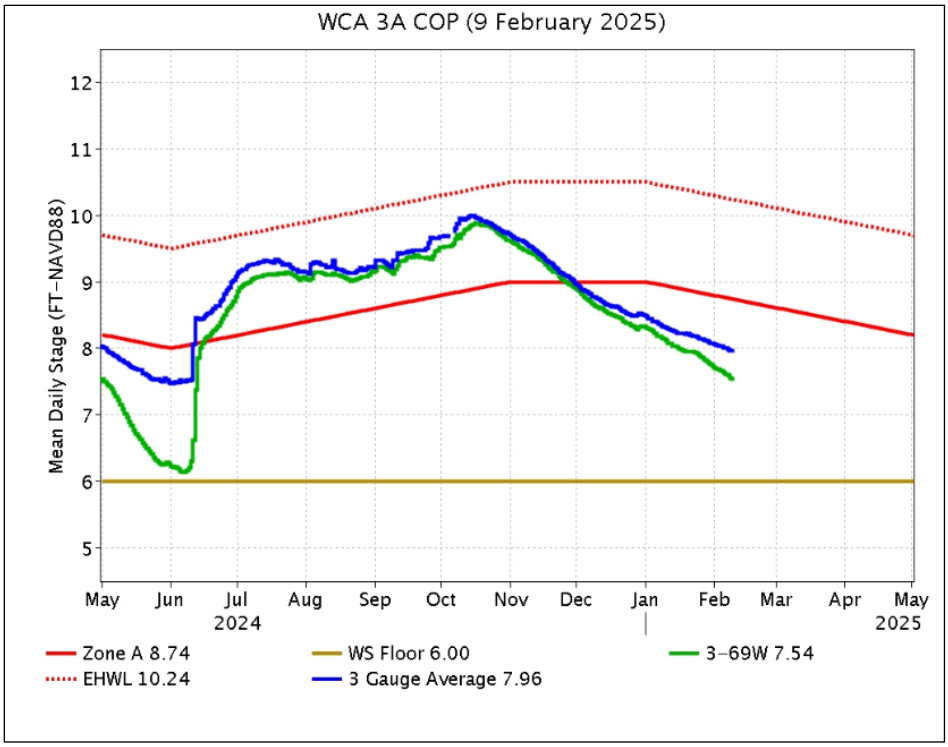


Figure EV-3. WCA-3A stage hydrographs (three-gauge average, 3-69W) and regulation schedule.

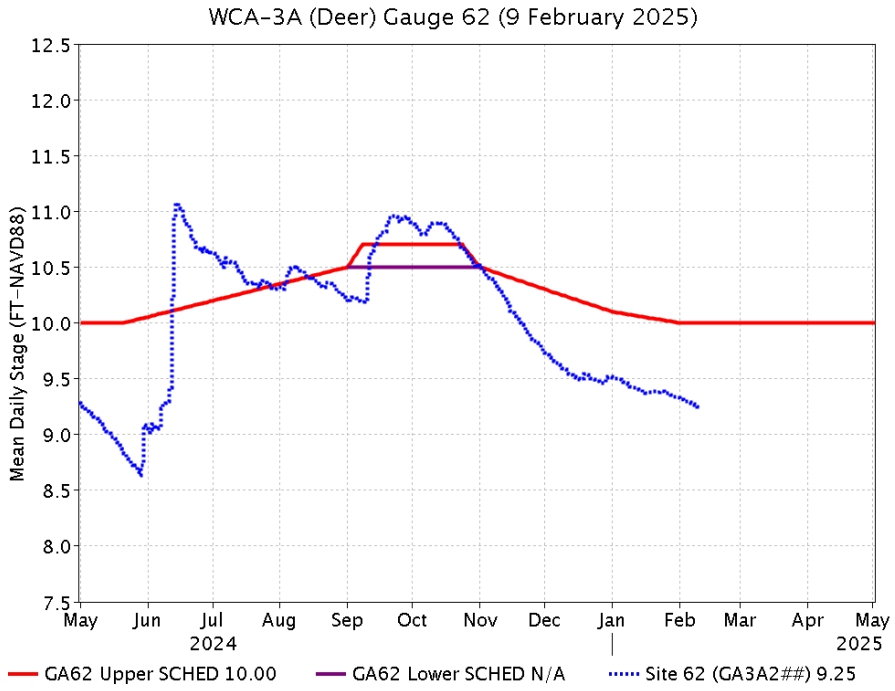


Figure EV-4. WCA-3A stage hydrograph (Deer gauge; Site 62) and GA62 regulation schedule.

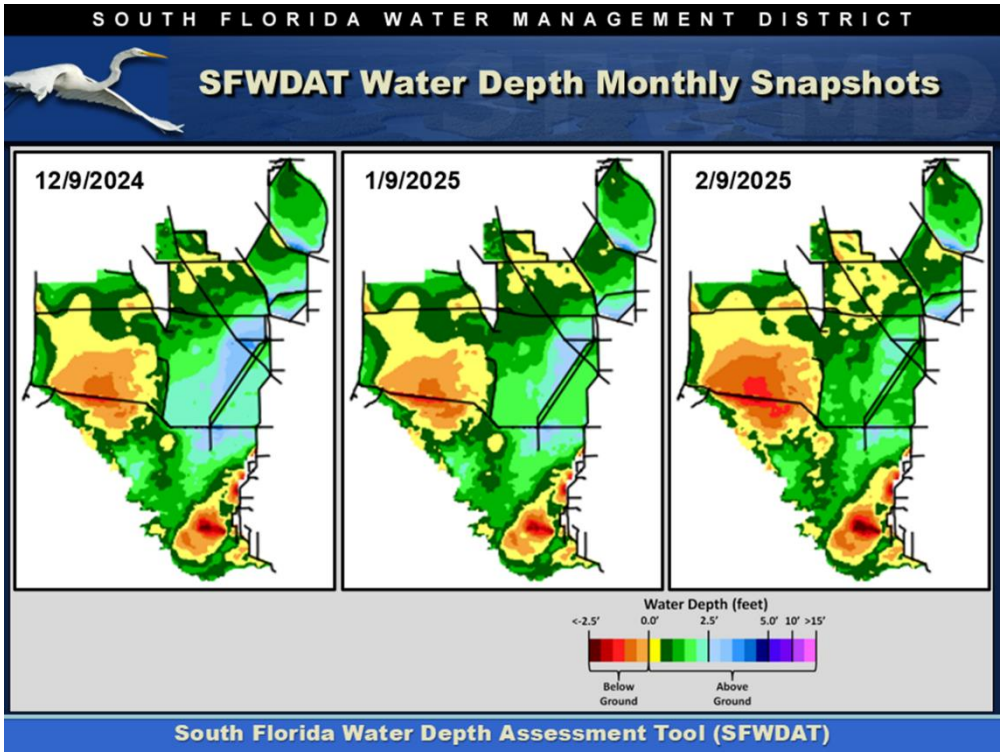


Figure EV-5. Everglades water depths from two months ago (left), one month ago (center) and present (right), based on SFWDAT.

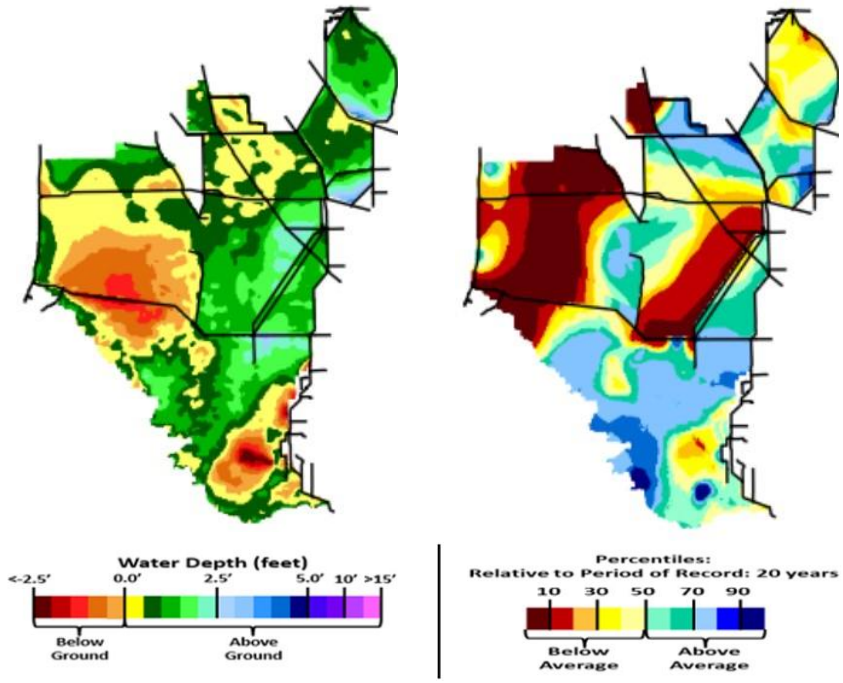


Figure EV-6. Present water depths (February 10, 2025) compared to the day of year average over the previous 20 years.

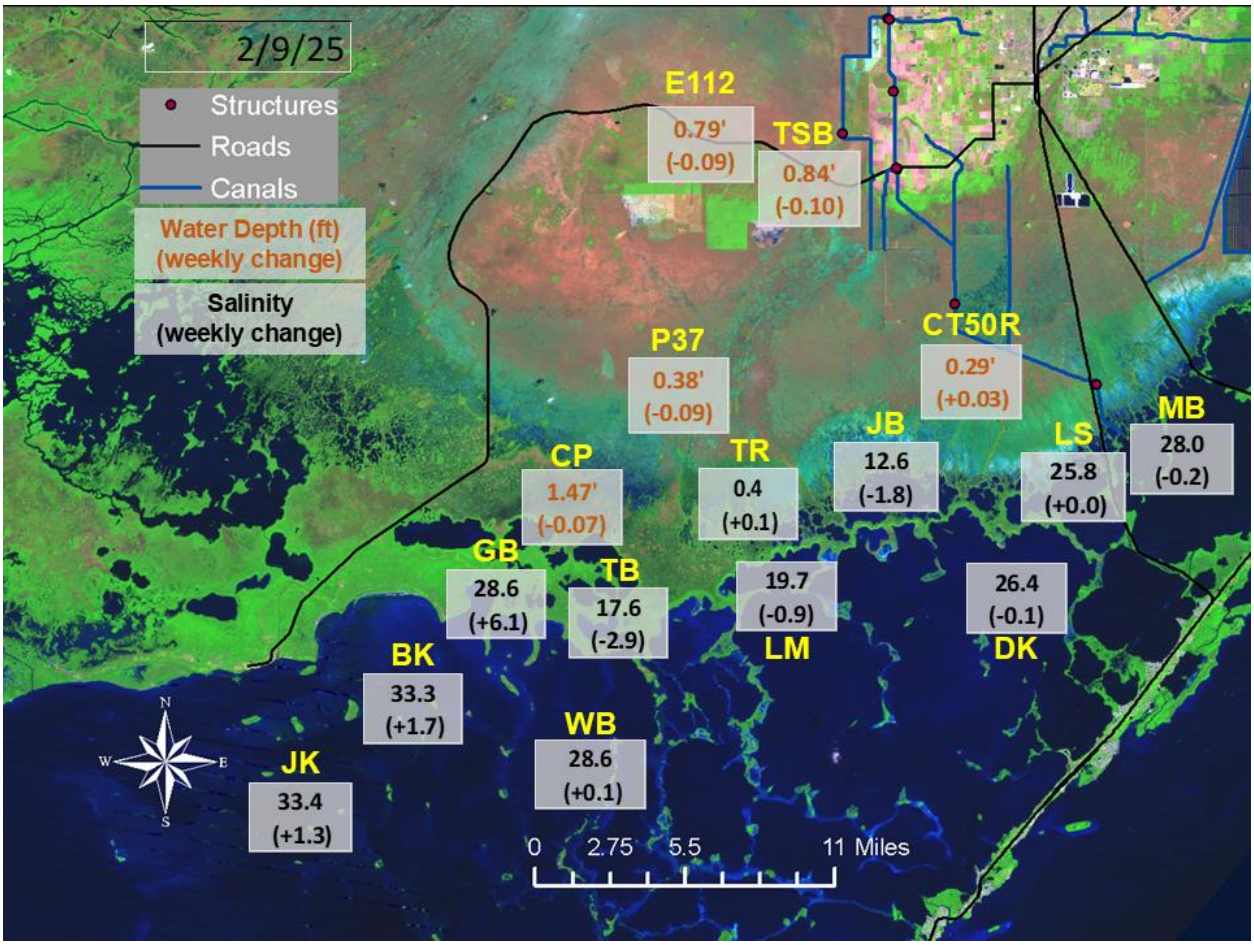


Figure EV-8. Taylor Slough water depths and Florida Bay salinities with changes since January 16th.

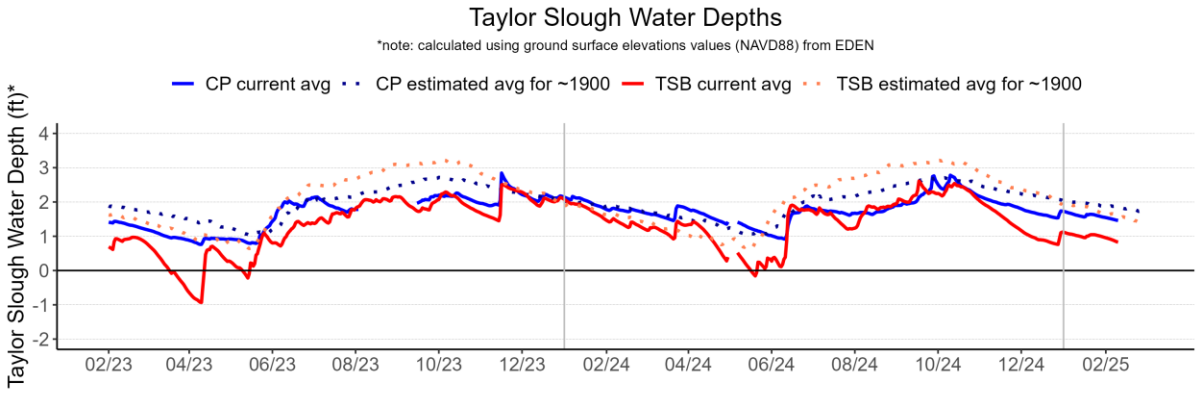


Figure EV-9. Taylor Slough water depth time series for Taylor Slough Bridge (TSB; northern slough) and Craighead Pond (CP; southern slough).

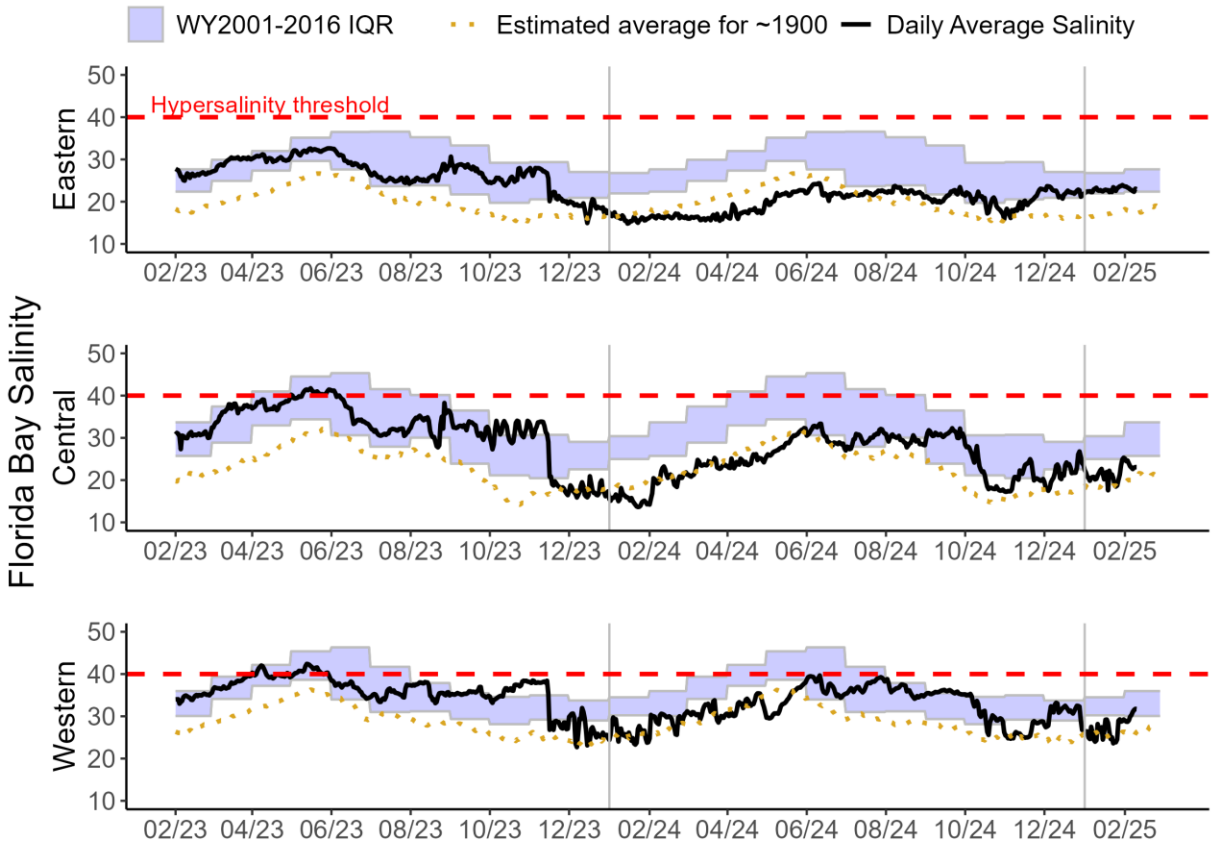


Figure EV-10. Eastern (top panel), Central (middle panel) and Western (bottom panel) Florida Bay daily average salinities with WY2001-2016 interquartile (25-75 percentile) ranges (IQR) and estimated historical daily average salinities. The hypersalinity threshold indicates the level at which salinities start to become harmful to seagrass.

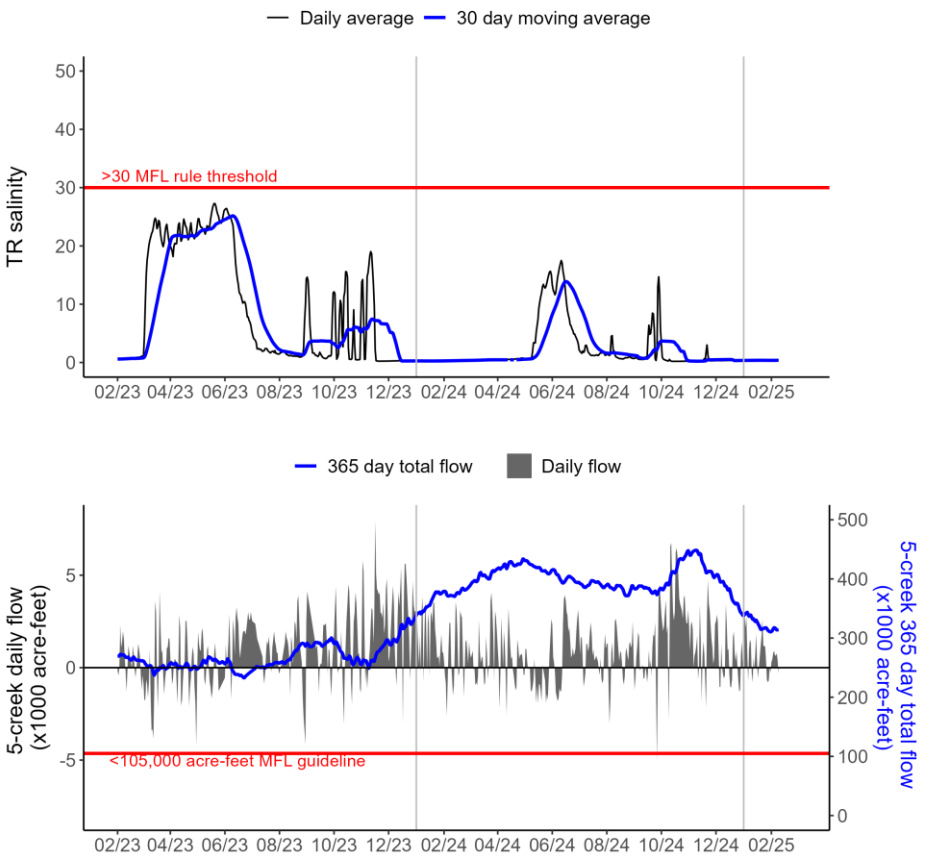


Figure EV-11. Salinity at Taylor River (TR; top) and creek inflow to Florida Bay (bottom) from the five major creeks (McCormick Creek, Taylor River, Mud Creek, Trout Creek, and West Highway Creek). The 30-day moving average salinity and 365-day total creek flow are tracked for the Florida Bay MFL criteria.

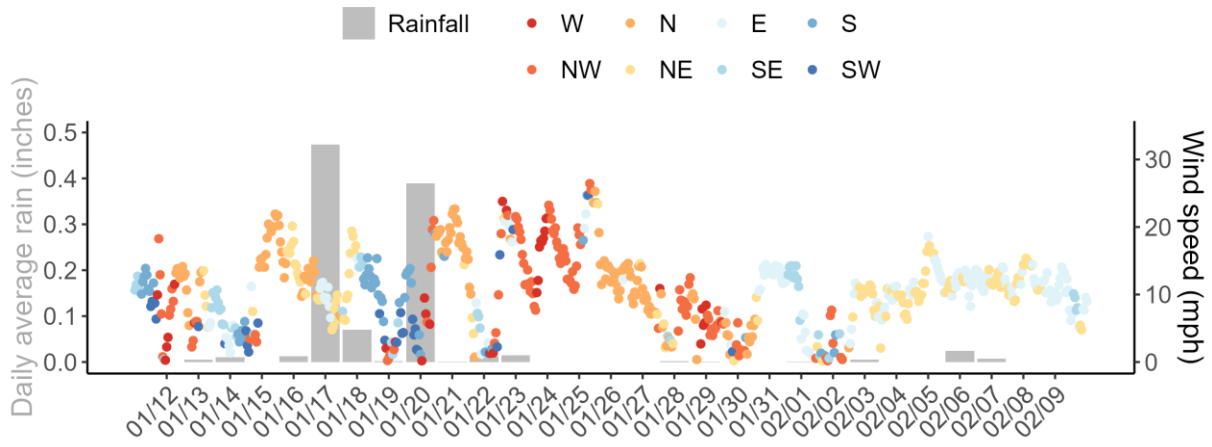


Figure EV-12. Daily average rain across Taylor Slough and Florida Bay, along with hourly average wind speed and direction (measured at Long Key) in Florida Bay over the past four weeks.

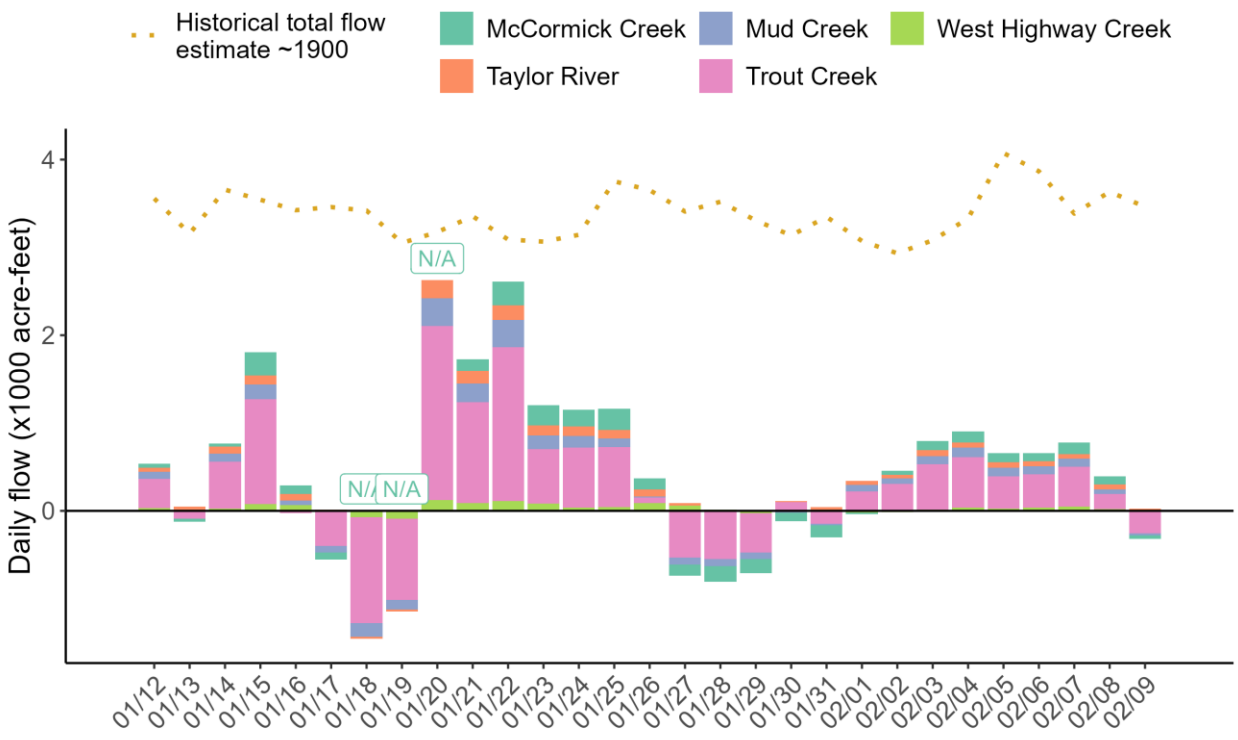


Figure EV-13. Daily average creek flow summed between five creeks with estimated historical daily flow over the past four weeks.

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

SFWMD Everglades Ecological Recommendations, February 10, 2025 (red is new)			
	Weekly change	Recommendation	Reasons
WCA-1	Stage decreased by 0.07 feet	Recession rate of less than 0.06 feet per week.	Protect within basin and downstream habitat and wildlife.
WCA-2A	Stage decreased by 0.08 feet	Recession rate of less than 0.12 feet per week.	Protect within basin and downstream habitat and wildlife.
WCA-2B	Stage increased by 0.03 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 0.06 feet	Recession rate of less than 0.06 feet per week.	Protect within basin and downstream habitat and wildlife.
WCA-3A NW	Stage decreased by 0.06 feet	Recession rate of less than 0.06 feet per week.	
Central WCA-3A S	Stage decreased by 0.09 feet	Recession rate of less than 0.06 feet per week.	Protect within basin and downstream habitat and wildlife.
Southern WCA-3A S	Stage decreased by 0.10 feet		
WCA-3B	Stage decreased by 0.08 feet	Recession rate of less than 0.12 feet per week.	Protect within basin wildlife.
ENP-SRS	Stage decreased by 0.12 feet	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 −0.11 feet' to +0.03 feet	Move water southward as possible.	When available, provide freshwater to promote water movement.
FB- Salinity	Salinity changes ranged from –2.9 to +6.1	Move water southward as possible.	When available, provide freshwater to promote water movement.

Biscayne Bay

As shown in **Figure BB-1**, mean total inflow to Biscayne Bay was 235 cfs, and the previous 30-day mean inflow was 315 cfs. The seven-day mean salinity was 27.2 at BBCW8 and 23.3 at BBCW10, both within the ideal salinity range for estuarine organisms in this region (salinity less than 35). Data were provided by Biscayne National Park.

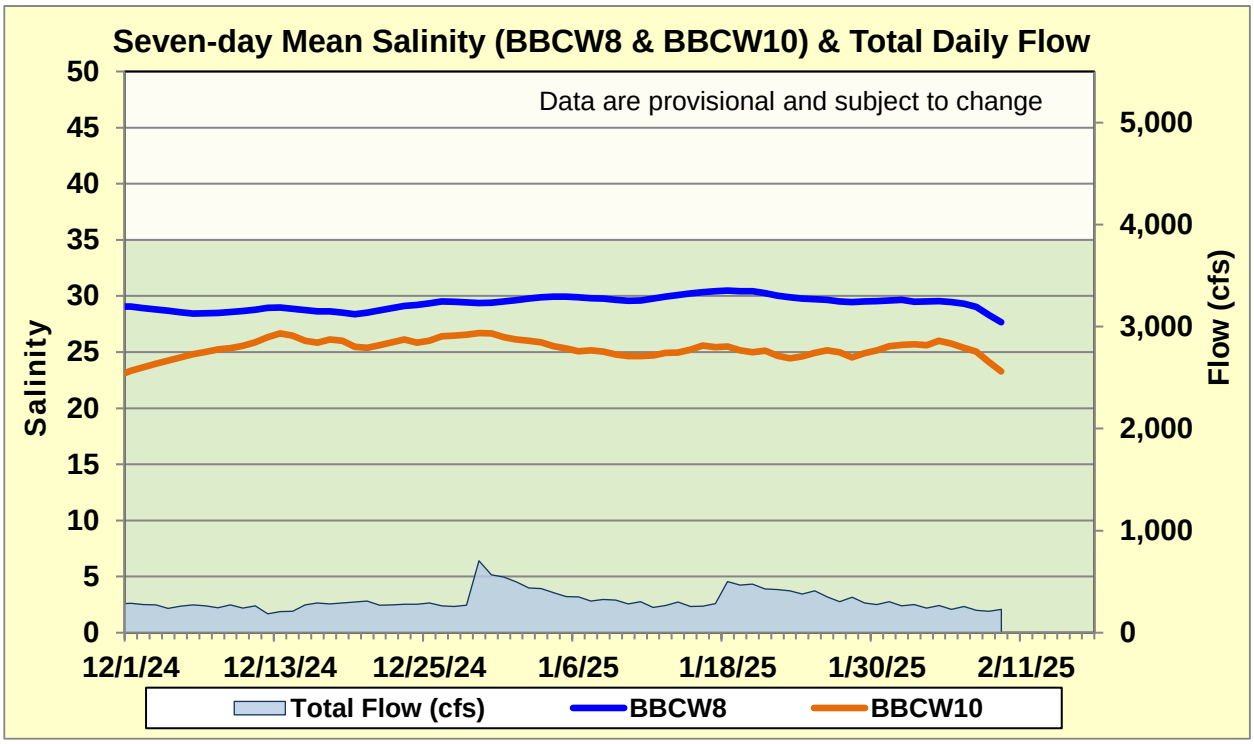


Figure BB-1. Seven-day mean salinity at BBCW8 and BBCW10 and total daily flow in Biscayne Bay. Total daily flow was calculated using flow from structures S20G, S20F, S21, S21A, S123, and S700P.