



AGENDA MEMORANDUM

*Natural Resources
Department*

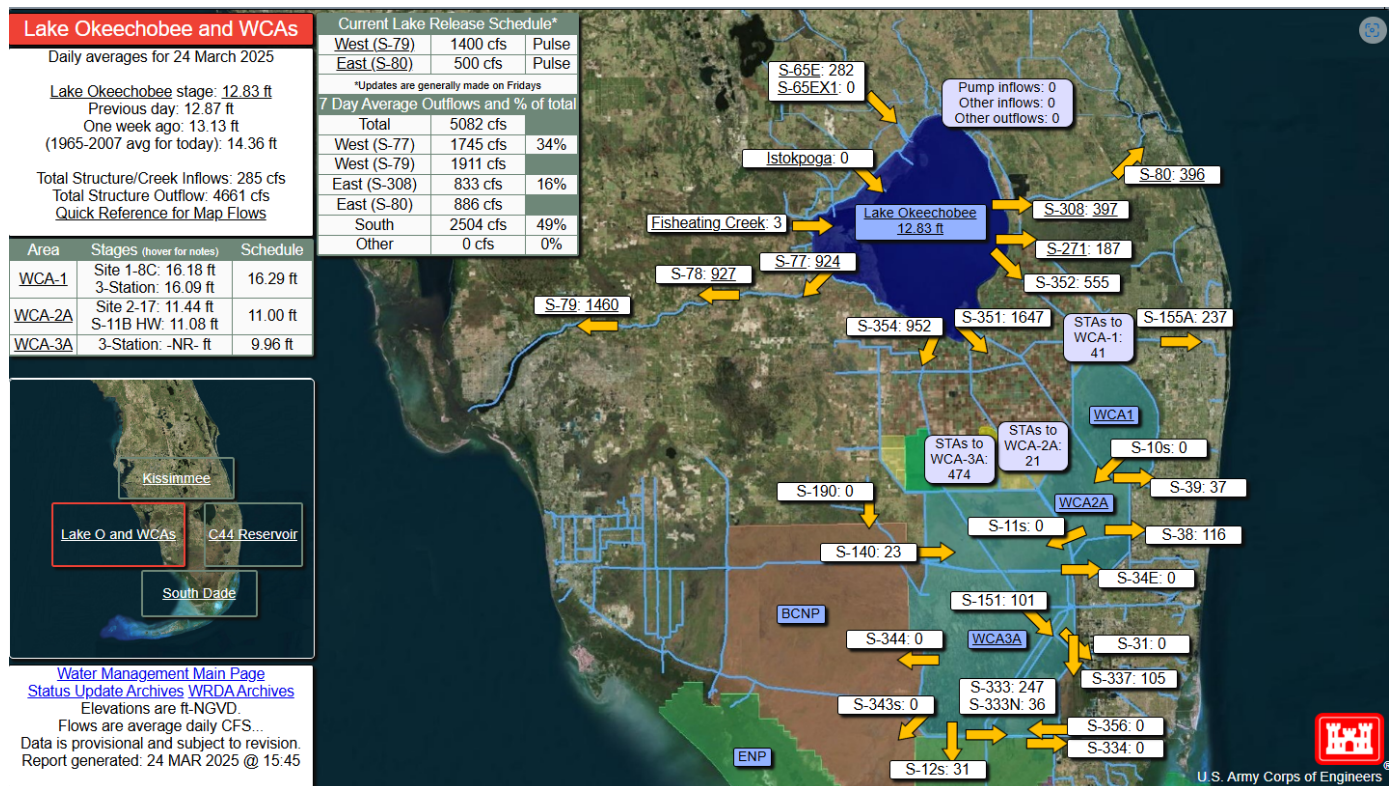
City Council Regular Meeting Date: April 1, 2025

To: City Council
From: Holly Milbrandt, Natural Resources Director
Date: March 24, 2025

SUBJECT: Natural Resources Water Quality Updates

BACKGROUND:

CALOOSAHAATCHEE RIVER & ESTUARY CONDITIONS REPORT



Click to view: [March 17, 2025 Caloosahatchee Conditions Report](#)

LAKE OKEECHOBEE RECOVERY OPERATIONS

The Corps began Lake Okeechobee recovery operations (ROs) on December 7, 2024. Recovery operations is a strategy included in LOSOM to address ecological recovery in Lake Okeechobee necessitated by prolonged high lake stages. The goal of lake ROs is to lower lake stages (referred to as a drawdown) during the winter/spring before the onset of the wet season to help expedite the reestablishment of submerged aquatic vegetation (SAV) within the lake.

Water levels in Lake O have been above the ecological envelope (i.e. too high to support seagrass growth) for Lake Okeechobee since Hurricane Ian in 2022. The last time the lake was less than 12-feet was in 2019, at which time there was more than 25,000 acres of submerged aquatic vegetation (SAV). Higher lake levels over the last 5 years have reduced the SAV to less than 5,000 acres.

The operational strategy for RO intends to slowly bring water levels down by making moderate, non-harmful releases to the estuaries and to the Everglades. Recovery operations may only occur when the Lake elevation is in Zone D. Zone D is the largest operational band in LOSOM and allows flows west to the Caloosahatchee of up to 2,000 cfs and provides for no flow east to the St. Lucie.

However, under recovery operations additional flows are authorized. The Corps initiated releases in accordance with the RO limits established in LOSOM:

- up to 2,100 cfs at S-79
- up to 1,400 cfs total St Lucie Estuary (SLE) inflows (accounting for other SLE inflows in addition to S-80)
- up to 300 cfs to the Lake Worth Lagoon at S-271 and S-352
- up to maximum practicable south at S-351 and S-354

As of March 24, 2025, Lake Okeechobee is at 12.83 feet, down 3.1 feet from 15.93 feet when recovery operations began 3.5 months ago. On March 22, 2025, with Lake recession proceeding ahead of schedule and conditions even drier than expected, the Corps reduced releases to the Caloosahatchee from 2,100 cfs to 1,400 cfs at S-79. Flow to the St Lucie was reduced from 1,200 cfs to 500 cfs at S-80. Flows to both estuaries remain within the optimal flow ranges (750-2100 cfs for the Caloosahatchee; 150-1400 cfs for St Lucie) and are suitable for spawning season of oysters and fishes. Approximately 49% of the Lake outflows are moving south. As the dry season continues, more water may be directed south and flows to the estuaries decreased further.

For RO to be considered successful, the Lake stage must recede to less than 12 feet for 90 days or 11.5 feet for 60 days. Based on the Corps initial modelling and assumptions, implementing ROs would bring the lake stage to around 12 feet by the first week of May. There is currently a high chance of successful recovery operations if current conditions persist.

Sanibel is and shall remain a barrier island sanctuary

CURRENT RAINFALL AND CLIMATE OUTLOOK

SFWMD rainfall for March to date (3/11/2025) was below normal at 0.21" (24% of normal). Lake Okeechobee and regions directly north & east had above normal rainfall (21-59%); the Southwest Coast received only 0.08" (10% of normal).

<https://www.sfwmd.gov/weather-radar/rainfall-historical/monthly>

For the 2024-2025 dry season to date (November 1, 2024-March 11, 2025), the SFWMD received 5.81" of rain (48% of normal); the Southwest Coast received 4.99" (44% of normal).

<https://www.sfwmd.gov/weather-radar/rainfall-historical/seasonal>

The NOAA Climate Prediction Center one-month Probability Outlook for April 2025 indicates a 40-50% chance of below normal rainfall for Florida.

https://www.cpc.ncep.noaa.gov/products/predictions/long_range/lead14/

The three-month outlook for Apr-May-Jun 2025 indicates equal chances of above normal, normal, and below normal rainfall for Florida.

https://www.cpc.ncep.noaa.gov/products/predictions/long_range/lead01/off01_prdp.gif

NOAA ENSO Report (updated on 3/24/2025):

- La Niña conditions are present.
- Equatorial sea surface temperatures (SSTs) are near-to-below average in the central Pacific Ocean and are above-average in the eastern Pacific Ocean.
- ENSO-neutral is favored to develop in the next month and persist through Northern Hemisphere summer (62% chance in June-August 2025).
- https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/enso_evolution-status-fcsts-web.pdf

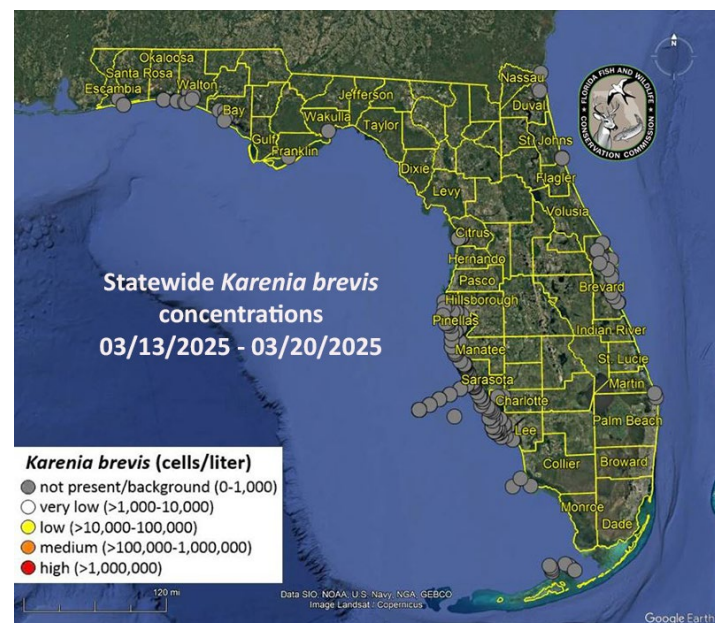
ALGAE BLOOMS

Red Tide: FWC Red Tide Update for March 21, 2025

<https://myfwc.com/research/redtide/statewide/>

Over the past week, the red tide organism *Karenia brevis* was detected at background concentrations in three samples. The patches of elevated surface chlorophyll visible over the past few months in the chlorophyll satellite imagery appear to have dissipated.

In Southwest Florida over the past week, *K. brevis* was not observed. *K. brevis* was observed at background concentrations in one sample each from Okaloosa and Bay counties (Northwest Florida) and at background concentrations in one sample from Palm Beach County (Florida East Coast).



Fish kills or respiratory irritation suspected to be related to red tide were not reported over the past week in Florida.

Sanibel is and shall remain a barrier island sanctuary

Blue-Green Algae: DEP Weekly Update (March 14-March 20, 2025)

<https://floridadep.gov/AlgalBloomWeeklyUpdate>

There were 7 reported site visits in the past seven days with 7 samples collected. Algal bloom conditions were observed by samplers at 4 of the sites.

Satellite imagery for Lake Okeechobee from 3/20 shows scattered low to moderate bloom potential, primarily on the northern end of the lake but also at very low density around the perimeter of the lake.

Satellite imagery for the Caloosahatchee Estuary from 3/20 was partially obscured by cloud cover and shows a no significant bloom potential. Satellite imagery for the St. Lucie Estuary from 3/20 is partially obscured by cloud cover and shows an area of low bloom potential spanning the South Fork of the St. Lucie River into the upper estuary.

Red Drift Algae: No reports

Trichodesmium: No reports

Sargassum: No reports

PAST MEETING HIGHLIGHTS & UPDATES

SFWMD Governing Board Meeting

March 13, 2025

West Palm Beach, FL

<https://www.sfwmd.gov/news-events/meetings>

Discussion Agenda --Caloosahatchee River Watershed Projects

A. Caloosahatchee Water Quality Improvement Projects, Lee County

- a. Three water quality improvement projects in Lee County have been awarded grant funding through the Florida Department of Environmental Protection (DEP) Caloosahatchee Watershed Grant Program. The 627-acre Frank Mann Preserve Project will be implemented at a cost of \$15.5 Million by the Lehigh Acres Municipal Services Improvement District. The project has two phases and includes design, permitting, and construction, with completion expected in August 2028, and a contract end-date of December 31, 2028. Lee County will implement both the 8-acre Palm Creek Lower Filter Marsh Project and the 47.14-acre Bob Janes Preserve Restoration Project, at a cost of \$1.5 Million and \$2.5 Million, respectively. These projects are being funded for construction, with completion expected by July 2027, and a contract end-date of October 31, 2027.
- b. **Action:** The Governing Board unanimously approved agreements with grant-eligible entities for the Caloosahatchee River Water Quality Improvement Projects in an approximate amount of \$19,500,000, for which \$6,000,000 in dedicated funds (State Grants) is budgeted in Fiscal Year 2024-2025, and the remainder is subject to Governing Board approval of future years' budgets.

Sanibel is and shall remain a barrier island sanctuary

B. Lake Hicpochee Hydrologic Enhancement - Phase 2 Expansion Project, Glades County

- a. As part of the Northern Everglades and Estuaries Protection Program, the Lake Hicpochee Hydrologic Enhancement - Phase 2 Expansion Project, located in Glades County, will expand the Phase 1 670-acre Flow Equalization Basin (FEB) with its current storage capacity of 1,279 acre-feet by 2,200 acres and increase storage capacity by 8,058 acre-feet. The original FEB project was designed to redirect runoff from the C-19 basin through the FEB and into Lake Hicpochee. The expansion project aims to capture and store excess stormwater runoff from the Caloosahatchee Watershed and gradually release it back into the Caloosahatchee River through Lake Hicpochee to enhance the historic lakebed's hydrology.
- b. **Action:** The Governing Board unanimously approved a 1,075-day contract with Phillips & Jordan, Inc., the lowest responsive and responsible bidder, for the Lake Hicpochee Hydrologic Enhancement - Phase 2 Expansion Project in the amount of \$126,074,200, for which \$18,000,000 in dedicated funds (Land Acquisition Trust Fund and State Grant) are budgeted in Fiscal Year 2024-2025 and the remainder is subject to Governing Board approval of future years' budgets.

SFWMD 2025 Open House for the 2025 South Florida Environmental Report

March 12 & 13, 2025

West Palm Beach, FL

<https://www.sfwmd.gov/science-data/scientific-publications-sfer>

- [2025 South Florida Environmental Report Highlights](#)

South Florida Ecosystem Restoration Task Force

Joint Working Group (WG) and Science Coordination Group (SCG) Meeting

March 29, 2025

West Palm Beach, FL (SFWMD)

<https://www.evergladesrestoration.gov/working-group/feb192025wgscg>

- An Evaluation of the Relationships between the Duration of Red Tide Blooms and Watershed Nitrogen Loads in Southwest Florida; Jennifer Hecker Coastal & Heartland National Estuary Partnership
 - Purpose: A presentation on the study investigating the relationship between land-based nitrogen loads in Southwest Florida and the duration of red tide events.
 - This was an important presentation to familiarize members of the WG and SCG with the red tide issues that plague the Caloosahatchee estuary and can be exacerbated by Lake Okeechobee operations.

UPCOMING MEETINGS & EVENTS

SFWMD Governing Board Meeting

April 10, 2025, 2025

9:00 AM

West Palm Beach, FL

<https://www.sfwmd.gov/news-events/meetings>

Sanibel is and shall remain a barrier island sanctuary

CHNEP Technical Advisory Committee Meeting

April 10, 2025, 2025

9:30-2:00 AM

Port Charlotte, FL

<https://www.chnep.org/technical-advisory-committee>

FUNDING SOURCE: N/A

RECOMMENDED ACTION: N/A

Sanibel is and shall remain a barrier island sanctuary