



South Florida Water Management District

GOVERNING BOARD MONTHLY MEETING AGENDA

June 8, 2023

9:00 AM

District Headquarters - B-1 Auditorium
3301 Gun Club Road
West Palm Beach, FL 33406

FINAL

1. Call to Order - Chauncey Goss, Chairman, Governing Board
2. Pledge of Allegiance
3. Employee Recognitions
 - May Employee of the Month: Tevis Brown, HR Corporate Trainer
 - May Team of the Month: Taylor Slough Flow Improvement Project Team
 - June Employee of the Month: Tom Wilde, Right of Way Specialist - Supervisor
 - June Team of the Month: Central Everglades Planning Project North Team
 - 25-Year Service Award: Ashie Akpoji, Section Leader
 - 25-Year Service Award: Arthur Green, Chemist 4
 - 30-Year Service Award & Good Samaritan Award: Jim Laing, Sr Environmental Scientist
 - 35-Year Service Award: James Elmore, Land Management Tech
 - 35-Year Service Award: Randy Van Zee, Systems Data Modeler Architect
4. Special Recognition
 - Award to SFWMD - Presented by Wounded Warrior Project and Operation Outdoor Freedom
5. Agenda Revisions
6. Agenda Item Abstentions by Board Members

7. Consider Approval of the Minutes for the May 11, 2023 Meeting
8. Executive Director's Report - Drew Bartlett
9. General Public Comment
10. Board Comment
11. Move Consent Agenda Items to Discussion Agenda
12. Public Comment on Consent Agenda Items
13. Board Vote on Consent Agenda

Consent Agenda

14. Release of Reservations (Staff contact, Ray Palmer)

Agenda Item Background:

The District has certain reserved rights to construct canal and road right of ways. Applications requesting release of these reservations are received as they constitute a defect on title which must be resolved prior to a property sale, especially when financing is involved. Applications are reviewed to determine if there is a present or future need for the reservations. If it has been determined there is no present or future need, staff recommend that the reservations are released for payment of a value based on the appraised value of the land on the Property Appraiser's website in the county where the property is located.

It has been determined by a District-wide routing that there is no present or future need for the reservations listed below, therefore, staff recommends approval of the following:

Palm Beach County

- Release District canal reservations for Boynton Beach Associates 30, LLLP (File No.18921) for 10 reserving deeds referencing 12 platted tracts, the largest of which is 15 +/- acres, that add up to the requested release totaling 146.15 +/- acres; subject to payment of release value of \$548,039.
- Release District canal reservations for 156th Court South Associates, LLC (File No.18922) for 5.21 +/- acres; subject to payment of release value of \$26,962.
- Release District canal reservations for 9231 155th Lane, LLC, (File No.18923) for 9.93 +/- acres; subject to payment of release value of \$82,311.

Recommended Action:

Resolution No. 2023 - 0601 Authorize the release of District canal reservations.

[Maps](#)

[Memorandum Exhibit A](#)

[Resolution No. 2023-0601](#)

[Resolution Exhibit A](#)

15. Water Quality Monitoring and Reporting Services Contracts (Staff contact, Lawrence Glenn)

Agenda Item Background:

To comply with legal mandates and to provide water quality information used to assess watershed trends and support water management decisions, the District utilizes contractors to provide services for water quality monitoring sample collection and data evaluation and reporting on an as-needed basis throughout the District’s boundary. The services are needed to provide additional capacity to the Water Quality Bureau to accomplish field sampling overseen by the Water Quality Monitoring Section, and data evaluation and reporting overseen by the Compliance Assessment and Reporting Section. The services will cover the areas of bloom response monitoring for Bluegreen Algae (BGA) to support the DEP, bloom treatment monitoring to support District BGA mitigation activities, expanded monitoring in priority watersheds and water bodies in both the Northern and Southern Everglades, and new or existing permit or operational monitoring associated with Everglades Restoration projects. The services do not include support for additional environmental laboratory analysis. The existing Water Quality Monitoring Services contract expires on June 30, 2023 and the District intends to issue new 3-year work order contracts with two 1-year renewal options to replace the expiring contract. The new contracts are issued in response to RFB 6000001423.

Recommended Action:

Resolution No. 2023 - 0602 Authorize entering into 3-year work order contracts, with two 1-year renewal options, with the six lowest responsive and responsible bidders listed below, for water quality monitoring and reporting services in an amount not-to-exceed \$8,890,000 for all six work order contracts, for which \$200,000 in Ad Valorem and dedicated funds (Land Acquisition Trust Fund, Save Our Everglades Trust Fund, and General Revenue) are budgeted in Fiscal Year 2022-2023 and the remainder is subject to Governing Board approval of future years budgets.

Firm	Contract No.
The Transit Group dba Ecological Associates, Inc.	4600004769
South Florida Engineering and Consulting LLC	4600004767
Environmental Science Associates Corp.	4600004776
Coastal Science Associates, Southern Affiliates, Inc.	4600004775
WSP USA Environment and Infrastructure, Inc.	4600004768
DB Environmental Laboratories, Inc.	4600004770

[Resolution No. 2023-0602](#)

16. Datalogger Recorder Maintenance Services at Monitoring Sites in the Central and Northern Regions of the District (Staff contact, Duane Piper)

Agenda Item Background:

Supervisory Control and Data Acquisition (SCADA) Telemetry Service uses contractual services to maintain approximately 189 sites for a period of five years. The sites are located within the counties of Orange, Osceola, Polk, Highlands, Okeechobee, St. Lucie, Martin, Glades, and Hendry. These SCADA sites provide continuous monitoring of surface and ground water levels, gate and pump status, and water quality hydrogeological and meteorological parameters.

This network provides information to District staff responsible for flood control, environmental monitoring and assessment, and is in support of the Central and Southern Florida Project, authorized by Chapter 373, Florida Statutes, which requires the operations and maintenance of water management infrastructure, flood mitigation, water supply and environmental enhancement; and the Comprehensive Everglades Restoration Plan (CERP), authorized by the Water Resources Development Act of 2000.

The existing contract expires on July 16, 2023, and the District intends to issue a new five-year contract to replace the expiring contract.

Recommended Action:

Resolution No. 2023 - 0603 Authorize entering into a five-year contract with DNK Environmental Inc., the lowest responsive and responsible bidder, for Datalogger Recorder Maintenance Services at sites which provide continuous monitoring of surface and ground water levels, water quality, hydrogeological and meteorological parameters, and gate and pump status in the Central and Northern regions of the District in an amount not-to-exceed \$900,000, for which \$30,854 in Ad Valorem funds are budgeted in Fiscal Year 2022-2023 and the remainder is subject to Governing Board approval of future years budgets. (Contract No. 4600004766)

[Resolution No. 2023-0603](#)

17. *ITEM POSTPONED* S-6 Pump Station Bridge Project, Palm Beach County (Staff contact, Alan Shirkey)

Agenda Item Background:

As part of the Operations and Maintenance Capital Improvement Program, the S-6 Pump Station Bridge Project consists of constructing a bridge crossing to support the future construction of the new G-6A Pump Station for STA-2 and the refurbishment of the existing S-6 Pump Station on the L-15 Canal. The intake of the new G-6A Pump Station will draw water from the L-15 Canal via the existing Spur Canal. Currently, a box culvert provides access over the Spur Canal to the S-6 Pump Station. The District is proposing to replace this box culvert with a bridge and widen the channel of the Spur Canal to significantly increase its flow capacity.

The plan is to construct a new (one-lane HL-93) four-span bridge over the Spur Canal and excavate a portion of the Spur Canal to the specified design cross section in the immediate vicinity of the bridge. The new bridge will be designed in accordance with Florida Department of Transportation Plans Preparation Manual and Structure Design Guidelines that incorporate American Association of State Highway Transportation

Officials Load Resistance Factor Bridge Design Specifications.

The lowest responsive and responsible bidder is recommended for award. In accordance with District policy and consistent with state law for Request for Bids procurements, this item was competitively bid through a sealed bid process.

Recommended Action:

Resolution No. 2023 - 0604 Authorize entering into a 600-day contract with Cone & Graham, Inc., the lowest responsive and responsible bidder for the S-6 Pump Station Bridge Project, in the amount of \$3,725,497.02, for which \$300,000 in Ad Valorem funds are budgeted in Fiscal Year 2022-2023 and the remainder is subject to Governing Board approval of future years budgets. (Contract No. 4600004778)

[Resolution No. 2023-0604](#)

[Backup Document](#)

[Bid Tab Form](#)

18. *ITEM POSTPONED* STA-1E Cell 2 Resiliency and Refurbishment Project, Outflow Structure Emergency Power Generator Project, Palm Beach County (Staff contact, Alan Shirkey)

Agenda Item Background:

As part of the Operations and Maintenance Capital Improvement Program and to increase STA resilience, the STA-1E Cell 2 - Outflow Structure Emergency Power Generator Project will improve the District's ability to manage operations during power outages and protect STA performance. Currently, in anticipation of power outages that would leave the STA-1E Cell 2 gates inoperable, the Cell 2 discharge gates are opened and then held open during storm events. This causes a rapid drawdown of Cell 2 and uncontrolled flows during storm events which have caused extensive erosion to the cell, compromising the cell's water quality treatment performance. This project involves retrofitting S-365B with permanent backup power, a new generator building, and miscellaneous site-civil improvements. Once complete, the flows through Cell 2 can be managed in a manner that supports treatment performance.

The lowest responsive and responsible bidder is recommended for award. In accordance with District policy and consistent with state law for Request for Bids procurements, this item was competitively bid through a sealed bid process.

Recommended Action:

Resolution No. 2023 - 0605 Authorize entering into a 415-day contract with Expert Construction Managers, Inc., the lowest responsive and responsible bidder, for the STA-1E Cell 2 - Outflow Structure Emergency Generator Project, in the amount of \$2,177,000, for which \$300,000 in Ad Valorem funds is budgeted in Fiscal Year 2022-2023 and the remainder is subject to Governing Board approval of future years budgets. (Contract No. 4600004792)

[Resolution No. 2023-0605](#)

[Backup Document](#)

[Bid Tab Form](#)

19. Concurrence on Filing a Lawsuit styled South Florida Water Management District v. C-

43 Water Management Builders JV, The Lane Construction Corporation, and Webuild S.p.A. Inc. f/k/a Salini Impregilo S.p.A. Inc., Case No. 50-2023-CA-010842 (Fla. 15th Cir. Ct.) (Staff contact, Maricruz R. Fincher)

Agenda Item Background:

In March 2019, the District contracted with C-43 Water Management Builders, JV (“Contractor”) to build the C-43 West Caloosahatchee Basin Storage Reservoir - Part 2, Hendry County, FL Project (“Project”). The Contractor did not adhere to the contract’s required schedule, which set forth a mandatory substantial completion date and final completion date. The Contractor also refused to make the necessary changes to get back on schedule or prevent further delay. As a result, the District terminated the Contractor for defaulting on the contract. Damages to the District resulting from this breach of contract include, without limitation, compensatory damages, consequential damages, damages for delay, and liquidated damages. Therefore, on May 19, 2023, the District filed a breach of contract suit against the Contractor.

District Policy Sec. 101-43 authorizes the initiation of any legal proceeding where there exists a significant threat of financial loss, with subsequent concurrence of the Governing Board at its next regularly scheduled meeting. Given the direct and ancillary financial losses the District sustained and continues to sustain as a result of the Contractor’s breach, the District filed a breach of contract complaint seeking compensation for those damages. This item requests the Governing Board’s concurrence with the initiation of this lawsuit.

Recommended Action:

Resolution No. 2023 - 0606 Concur with the filing of a lawsuit styled South Florida Water Management District v. C-43 Water Management Builders JV, The Lane Construction Corporation, and Webuild S.p.A. Inc. f/k/a Salini Impregilo S.p.A. Inc., Case No. 50-2023-CA-010842 (Fla. 15th Cir. Ct.)

[Resolution No. 2023-0606](#)

Discussion Agenda

- 20. Flood Awareness Month (Staff contact, Jesus Carrasco)

Agenda Item Background:

June is Flood Awareness Month. The District operates and maintains the regional water management system known as the Central and Southern Florida Project, which was authorized by Congress more than 60 years ago to protect residents and businesses from floods and droughts. This primary system of canals and natural waterways connects to community drainage districts and hundreds of smaller neighborhood systems to effectively manage floodwaters during heavy rain. As a result of this interconnected drainage system, flood control in South Florida is a shared responsibility between the District, county and city governments, local drainage districts, homeowner associations and residents. This presentation will highlight the efforts of the District’s hard-working staff to operate and maintain the District’s flood protection system throughout its 16 counties. No Governing Board action is required.

21. Grant Agreements and Interlocal Agreement, Resilient Florida Grant Program (Staff contact, Carolina Maran)

Agenda Item Background:

On February 6, 2023, the DEP awarded the District a sum of approximately \$19 million for the execution of three resiliency projects through the Resilient Florida Grant Program, and a sum of approximately \$7.7 million to Palm Beach County (PBC) for the execution of one additional resiliency project, as summarized below:

Grants Awarded to the District:

- \$6,290,625 for Coastal Structures Enhancement and Self-Preservation Mode
- \$8,500,000 for Hardening of S-2, S-3, S-4, S-7, and S-8 Engine Control Panels - Building Resiliency in Water Management South of Lake Okeechobee
- \$4,000,000 for L8 FEB / G-539 Pump Resiliency Upgrades

Grant Awarded to PBC:

- \$7,705,000 for JW Corbett Wildlife Management Area Hydrologic Restoration and Corbett Levee Resiliency

This agenda item is requesting authorization from the Governing Board to enter into three grant agreements between the District and DEP for the plan, design, and construction of the first three projects listed above and one Interlocal Agreement between the District and PBC to work collaboratively with PBC to plan, design, and construct the Corbett Levee Resiliency Project.

Recommended Action:

Resolution No. 2023 - 0607 Authorize entering into three grant agreements with the Florida Department of Environmental Protection and one interagency agreement with Palm Beach County for the planning, designing, and constructing of four projects awarded through the Resilient Florida Grant Program:

- **Coastal Structures Enhancement and Self-Preservation Mode Project (Contract No. 4600004788)**
- **Hardening of S-2, S-3, S-4, S-7, and S-8 Engine Control Panels - Building Resiliency in Water Management South of Lake Okeechobee Project (Contract No. 4600004789)**
- **L8 FEB/G-539 Pump Resiliency Upgrades (Contract No. 4600004790)**
- **JW Corbett Wildlife Management Area (WMA) Hydrologic Restoration and Corbett Levee Resiliency (Contract No. 4600004787)**

[Resolution No. 2023-0607](#)

Technical Reports

22. Water Conditions Report - John P. Mitnik
23. Ecological Conditions Report - Lawrence Glenn

Staff Reports

24. Monthly Financial Report - Candida Heater, Division Director - Administrative Services
25. General Counsel's Report - Maricruz R. Fincher, General Counsel
26. General Public Comment
27. Board Comment
28. Adjourn

Presentations for item numbers 20, 21, 22, and 23.

Agenda Item Background:

[20 Carrasco Flood Awareness Month](#)

[21 Maran Resilient Florida Grant Awards Agreements](#)

[22 Mitnik Water Conditions Report](#)

[23 Glenn Ecological Conditions Report](#)

Public Comment Procedure

The South Florida Water Management District Governing Board encourages the public to provide comment and input to the Governing Board. Public comment is accepted at the two dedicated General Public Comment periods at the beginning and the end of the meeting. Public comment is also accepted on the Consent Agenda and each Discussion Agenda item.

MEMORANDUM

TO: Governing Board Members
FROM: Ray Palmer, Real Estate
DATE: June 8, 2023
SUBJECT: Release of Reservations

Agenda Item Background:

The District has certain reserved rights to construct canal and road right of ways. Applications requesting release of these reservations are received as they constitute a defect on title which must be resolved prior to a property sale, especially when financing is involved. Applications are reviewed to determine if there is a present or future need for the reservations. If it has been determined there is no present or future need, staff recommend that the reservations are released for payment of a value based on the appraised value of the land on the Property Appraiser's website in the county where the property is located.

It has been determined by a District-wide routing that there is no present or future need for the reservations listed below, therefore, staff recommends approval of the following:

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- Release District canal reservations for 156th Court South Associates, LLC (File No.18922) for 5.21 +/- acres; subject to payment of release value of \$26,962.
- Release District canal reservations for 9231 155th Lane, LLC, (File No.18923) for 9.93 +/- acres; subject to payment of release value of \$82,311.

Additional Item Background:

See Memorandum Exhibit "A" and maps attached hereto and made a part hereof, which contain the details and locations of the releases to be issued.

Core Mission and Strategic Priorities:

Pursuant to Section 373.096 of the Florida Statutes, the Governing Board of the District may release any reservation for which it has no present or apparent use under terms and conditions determined by the Board.

Staff Contact and/or Presenter:

Ray Palmer, rpalmer@sfwmd.gov, 561-682-2246

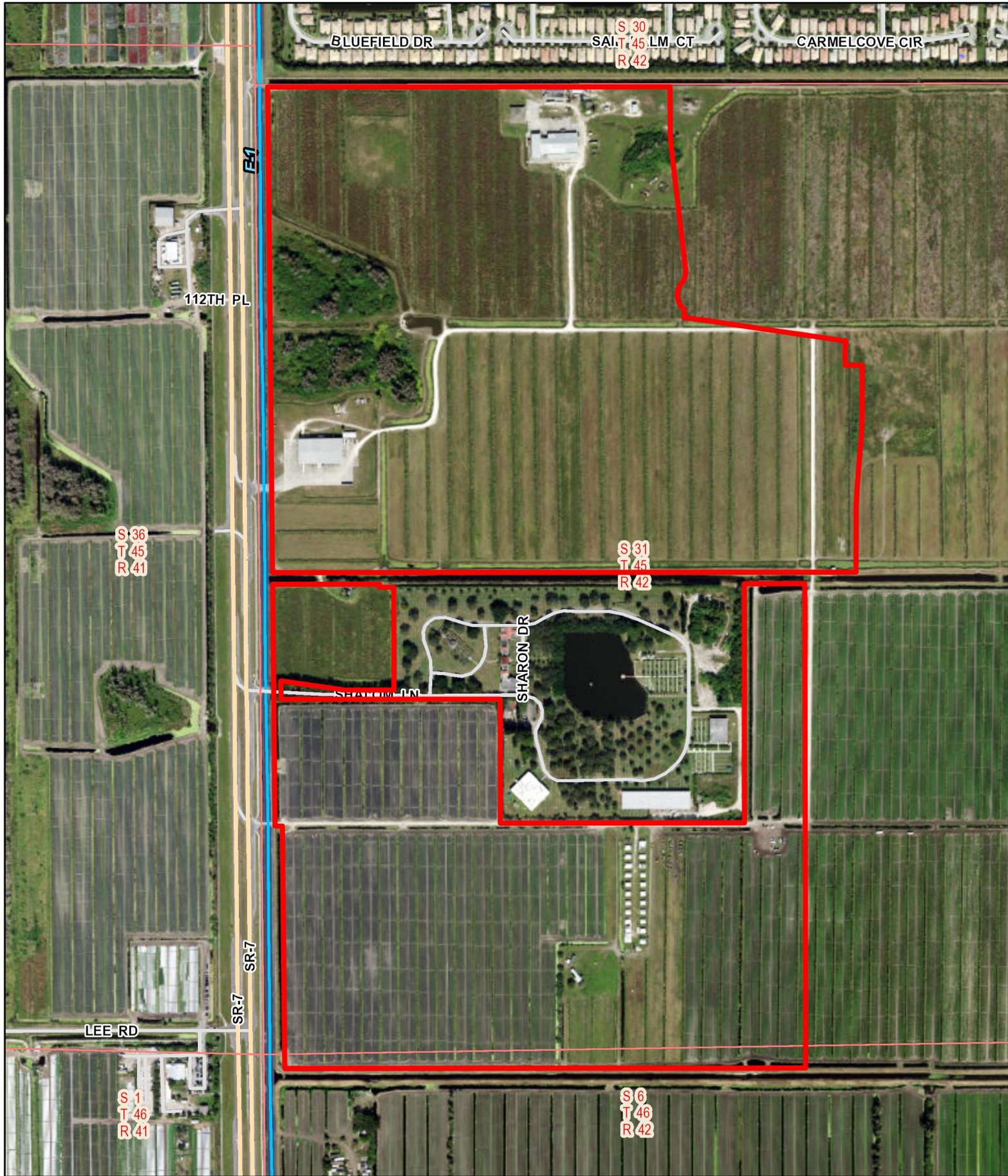
ATTACHMENTS:

[Maps](#)

Memorandum Exhibit A

Resolution No. 2023-0601

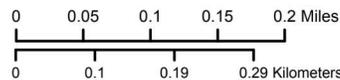
Resolution Exhibit A



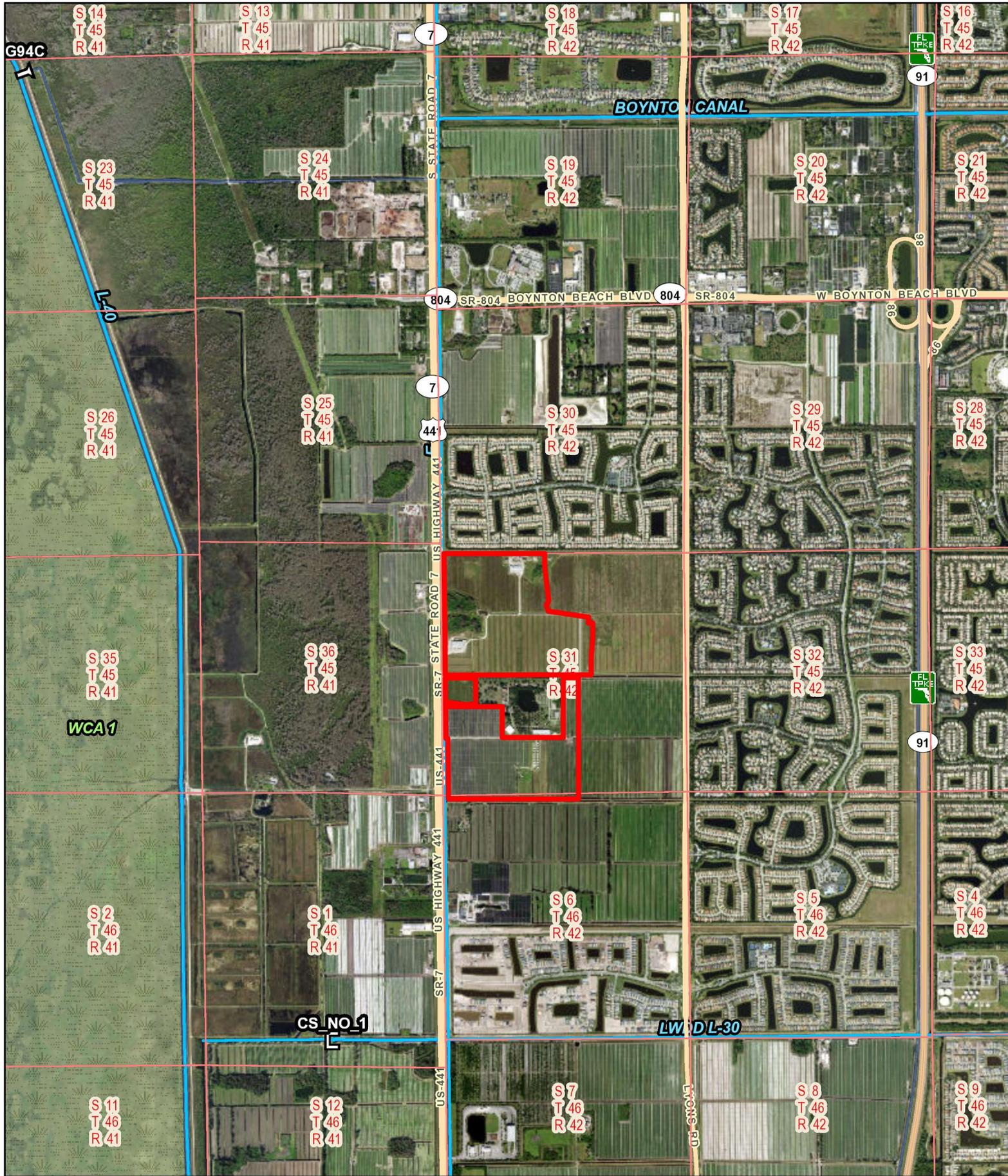
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South Florida Water Management District
 3301 Gun Club Road, West Palm Beach, Florida 33406
 561-686-8800; www.sfwmd.gov



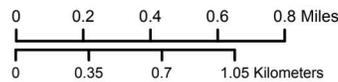
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18921



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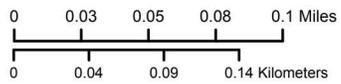
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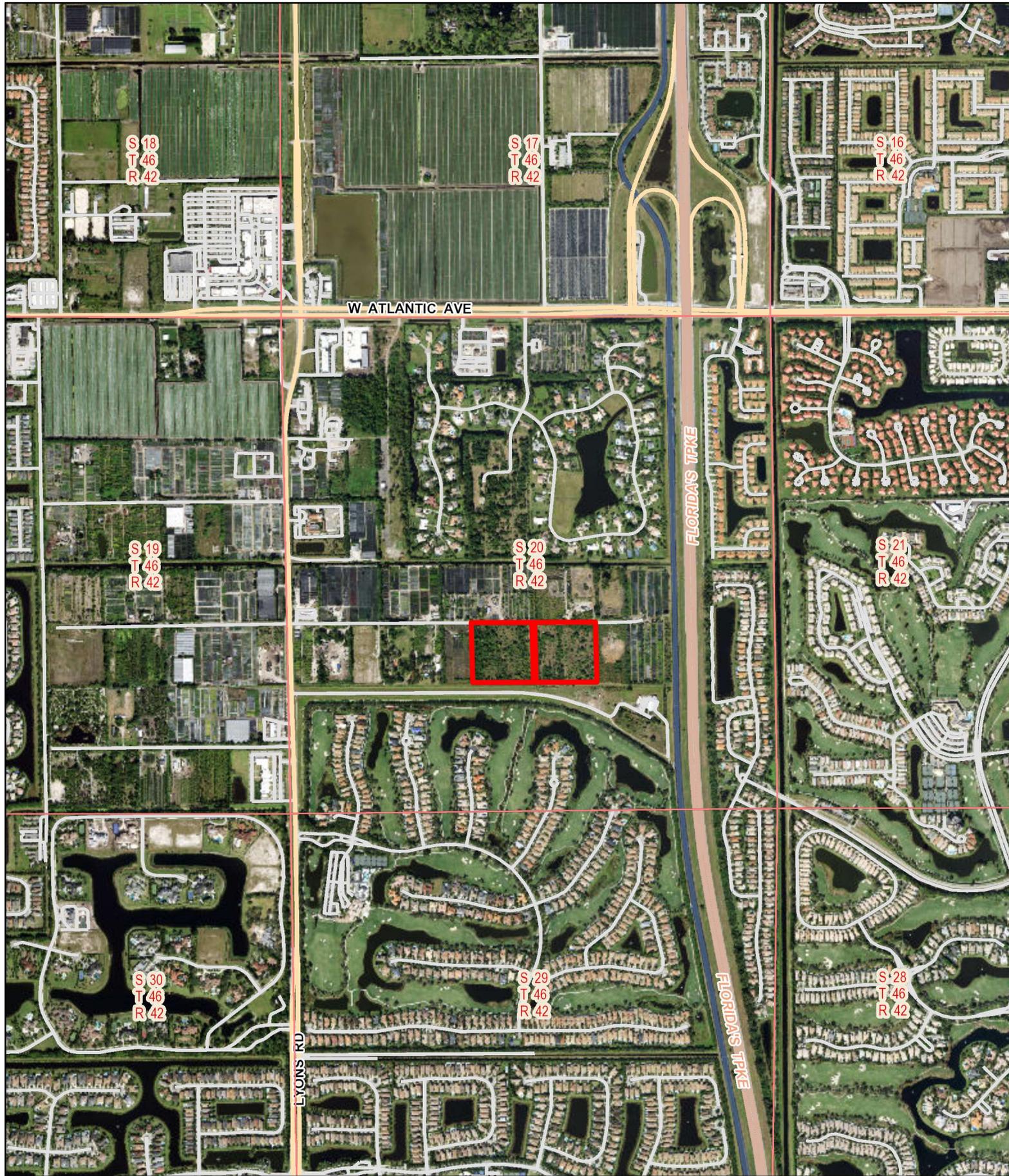
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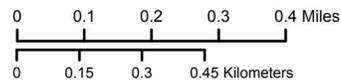
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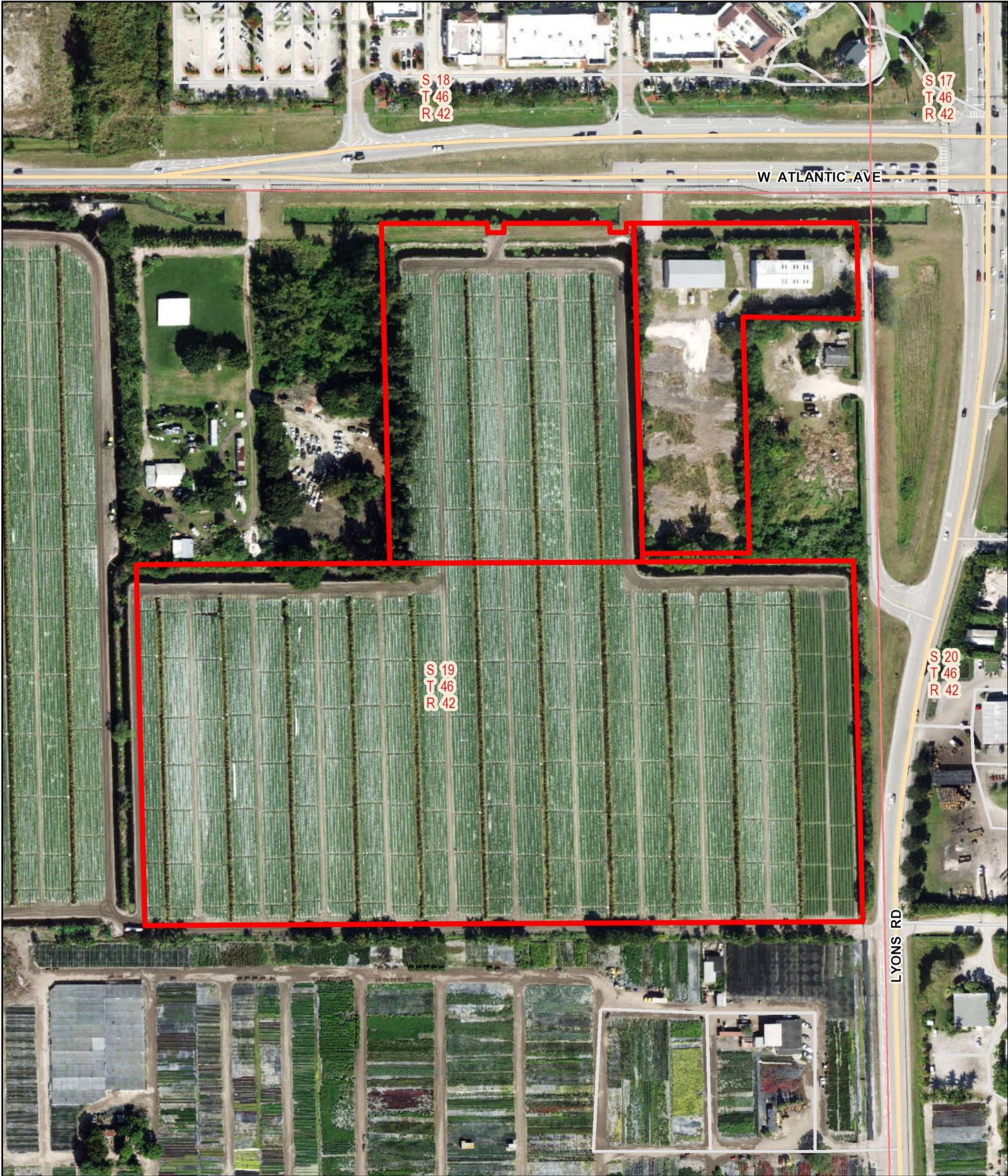
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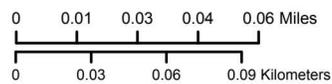
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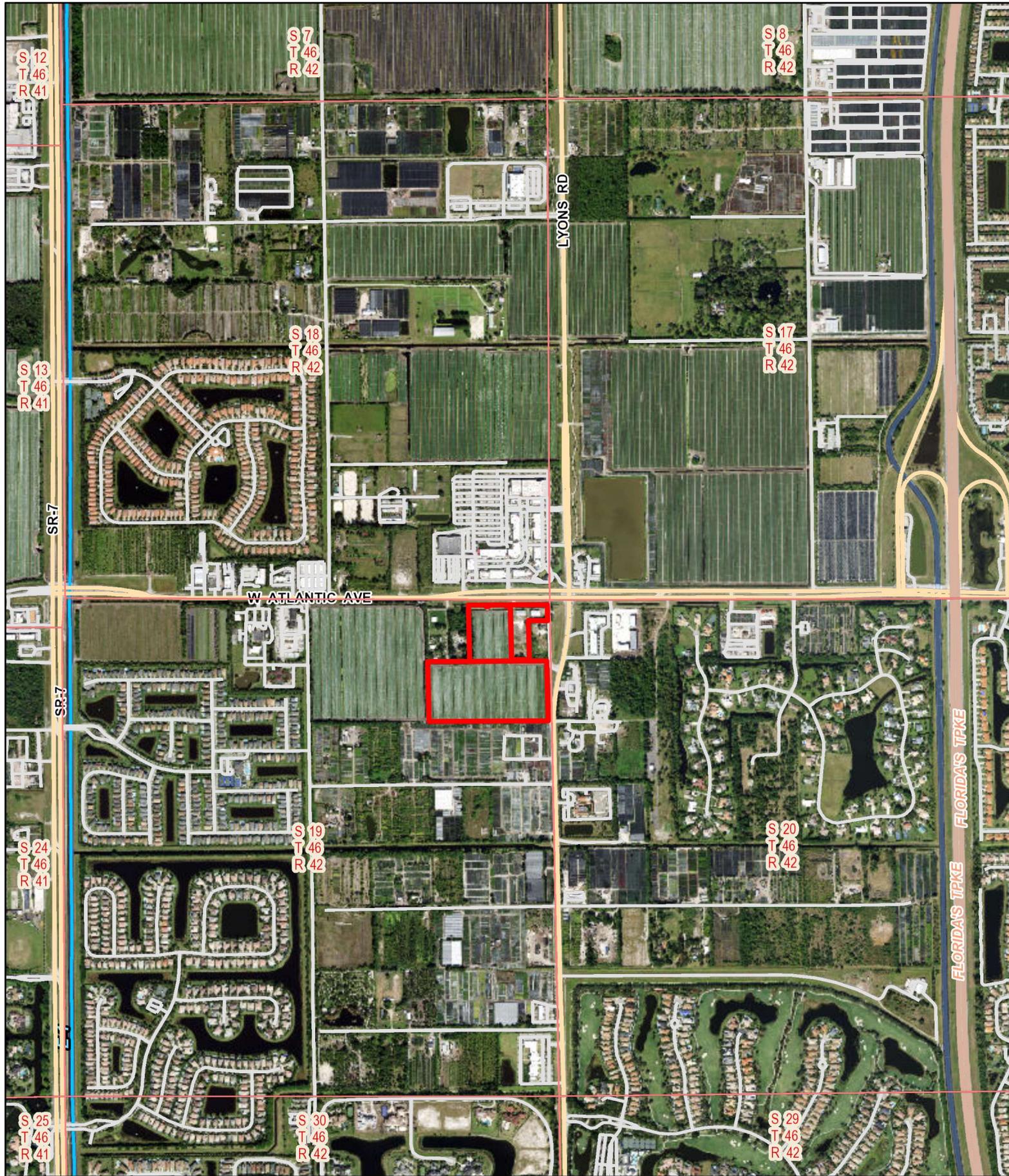


18923



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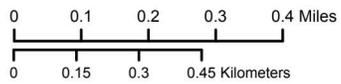
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MEMORANDUM – EXHIBIT “A”

Palm Beach County

File No: 18921
Applicant: Boynton Beach Associates 30, LLLP, a Florida limited liability limited partnership
Reserving Deeds: T-3078 (DB 338-292, 12/31/1925), T-4385 (DB 357-516, 3/31/1926), T-2822 (DB 370-104, 11/30/1925), T-3968 (DB 375-106, 2/25/1926), T-4386 (DB 375-212, 3/31/1926), E-4934 (DB 763-264, 5/2/1946), E-5985 (DB 794-147, 1/9/1947), E-6626 (DB 844-251, 4/8/1948), E-7016 (DB 928-364, 12/12/1950) and E-7012 (DB 929-169, 12/12/1950)
Application Fee Paid: \$250.00
Release Value: \$548,039.00 (unpaid)
Action: Release District canal reservations, subject to payment of \$548,039.00 for release of District real property interests
Acres: 146.15 acres, more or less
Legal Description: Portions of Tracts 13, 37, 56, 60, 65, 80, 81, 82, 85, 87, 88 and 89, Block 60, THE PALM BEACH FARMS CO. PLAT NO. 3, PB 2-45, Section 31, Township 45 South, Range 42 East
Location: 11050 and 11400 S. State Road 7, Boynton Beach, Palm Beach County
Reviewed By: Field Operations Division, Water Supply Development Section, Right of Way Section, Environmental Recourse Permitting Bureau, Ecosystem Restoration and Capital Projects Division, Lake Worth Drainage District, and Palm Beach County Right-of-Way Division

File No: 18922
Applicant: 156th Court South Associates, LLC, a Florida limited liability company
Reserving Deed: T-4385 (DB 357-516, 3/31/1926)
Application Fee Paid: \$250.00
Release Value: \$26,962.00 (unpaid)
Action: Release District canal reservations, subject to payment of \$26,962.00 for release of District real property interests
Acres: 5.21 acres, more or less
Legal Description: Tract 89, THE PALM BEACH FARMS CO. PLAT NO. 1, PB 2-26, Section 20, Township 46 South, Range 42 East
Location: 8464 156th Court South, Delray Beach, Palm Beach County
Reviewed By: Field Operations Division, Water Supply Development Section, Right of Way Section, Environmental Recourse Permitting Bureau, Ecosystem Restoration and Capital Projects Division, Lake Worth Drainage District, and Palm Beach County Right-of-Way Division

File No: 18923
Applicant: 9231 155th Lane, LLC, a Florida limited liability company
Reserving Deed: E-6768 (DB 865-189, 1/6/1949)
Application Fee Paid: \$250.00
Release Value: \$82,311.00 (unpaid)
Action: Release District canal reservations, subject to payment of \$82,311.00 for release of District real property interests
Acres: 9.93 acres, more or less
Legal Description: Portions of Blocks 2, 3 and 4, ATLANTIC PARK, PB 14-1, Section 19, Township 46 South, Range 42 East
Location: 15023 Lyons Road, Delray Beach, Palm Beach County
Reviewed By: Field Operations Division, Water Supply Development Section, Right of Way Section, Environmental Recourse Permitting Bureau, Ecosystem Restoration and Capital Projects Division, Lake Worth Drainage District, and Palm Beach County Right-of-Way Division

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Resolution No. 2023 - 06XX

A Resolution of the Governing Board of the South Florida Water Management District to authorize the release of District canal reservations; providing an effective date.

WHEREAS, the applicants have requested that the South Florida Water Management District release certain District canal reservations; and

WHEREAS, the District is empowered to grant such releases pursuant to Section 373.096, Florida Statutes.

NOW THEREFORE, BE IT RESOLVED BY THE GOVERNING BOARD OF THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT:

Section 1. The Governing Board of the South Florida Water Management District hereby authorizes the release of District canal reservations, as described in Resolution Exhibit "A" attached hereto and made a part hereof.

Section 2. This Resolution shall take effect immediately upon adoption.

PASSED and ADOPTED this 8th day of June, 2023.

RESOLUTION – EXHIBIT “A”

Palm Beach County

File No: 18921
Applicant: Boynton Beach Associates 30, LLLP, a Florida limited liability limited partnership
Reserving Deeds: T-3078 (DB 338-292, 12/31/1925), T-4385 (DB 357-516, 3/31/1926), T-2822 (DB 370-104, 11/30/1925), T-3968 (DB 375-106, 2/25/1926), T-4386 (DB 375-212, 3/31/1926), E-4934 (DB 763-264, 5/2/1946), E-5985 (DB 794-147, 1/9/1947), E-6626 (DB 844-251, 4/8/1948), E-7016 (DB 928-364, 12/12/1950) and E-7012 (DB 929-169, 12/12/1950)
Release Value: \$548,039.00 (unpaid)
Action: Release District canal reservations, subject to payment of \$548,039.00 for release of District real property interests
Acres: 146.15 acres, more or less
Legal Description: Portions of Tracts 13, 37, 56, 60, 65, 80, 81, 82, 85, 87, 88 and 89, Block 60, THE PALM BEACH FARMS CO. PLAT NO. 3, PB 2-45, Section 31, Township 45 South, Range 42 East
Location: 11050 and 11400 S. State Road 7, Boynton Beach, Palm Beach County

File No: 18922
Applicant: 156th Court South Associates, LLC, a Florida limited liability company
Reserving Deed: T-4385 (DB 357-516, /31/1926)
Release Value: \$26,962.00 (unpaid)
Action: Release District canal reservations, subject to payment of \$26,962.00 for release of District real property interests
Acres: 5.21 acres, more or less
Legal Description: Tract 89, THE PALM BEACH FARMS CO. PLAT NO. 1, PB 2-26, Section 20, Township 46 South, Range 42 East
Location: 8464 156th Court South, Delray Beach, Palm Beach County

File No: 18923
Applicant: 9231 155th Lane, LLC, a Florida limited liability company
Reserving Deed: E-6768 (DB 865-189, 1/6/1949)
Release Value: \$82,311.00 (unpaid)
Action: Release District canal reservations, subject to payment of \$82,311.00 for release of District real property interests
Acres: 9.93 acres, more or less
Legal Description: Portions of Blocks 2, 3 and 4, ATLANTIC PARK, PB 14-1, Section 19, Township 46 South, Range 42 East
Location: 15023 Lyons Road, Delray Beach, Palm Beach County

MEMORANDUM

TO: Governing Board Members

FROM: Lawrence Glenn, Water Resources Division

DATE: June 8, 2023

SUBJECT: Water Quality Monitoring and Reporting Services Contracts

Agenda Item Background:

To comply with legal mandates and to provide water quality information used to assess watershed trends and support water management decisions, the District utilizes contractors to provide services for water quality monitoring sample collection and data evaluation and reporting on an as-needed basis throughout the District's boundary. The services are needed to provide additional capacity to the Water Quality Bureau to accomplish field sampling overseen by the Water Quality Monitoring Section, and data evaluation and reporting overseen by the Compliance Assessment and Reporting Section. The services will cover the areas of bloom response monitoring for Bluegreen Algae (BGA) to support the DEP, bloom treatment monitoring to support District BGA mitigation activities, expanded monitoring in priority watersheds and water bodies in both the Northern and Southern Everglades, and new or existing permit or operational monitoring associated with Everglades Restoration projects. The services do not include support for additional environmental laboratory analysis. The existing Water Quality Monitoring Services contract expires on June 30, 2023 and the District intends to issue new 3-year work order contracts with two 1-year renewal options to replace the expiring contract. The new contracts are issued in response to RFB 6000001423.

Additional Item Background:

Core Mission and Strategic Priorities:

This item supports the District's core mission of providing water quality improvements by monitoring water quality for District projects and programs and reporting the status of water quality conditions. The water quality monitoring data will provide information to support District priorities and assist with management decision making on Everglades Restoration efforts and BGA conditions and mitigation activities.

Funding Source:

This action only establishes a pool of qualified firms for anticipated work in the future. The contracted services are on an as-needed basis. The \$8,890,000 represents a not-to-exceed estimate for the five-year term of all work order contracts combined, for which the Fiscal year 2023-2024 budget includes Ad Valorem and dedicated funds (Land Acquisition trust Funds, Save Our Everglades Trust Funds, and General Revenue), and the remainder is subject to Governing Board approval of the Fiscal Year 2024 – 2028 budgets.

Staff Contact and/or Presenter:

Lawrence Glenn, lglenn@sfwmd.gov, 561-682-6499

ATTACHMENTS:

Resolution No. 2023-0602

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Resolution No. 2023 - 06XX

A Resolution of the Governing Board of the South Florida Water Management District to authorize entering into 3-year work order contracts, with two 1-year renewal options, with the six lowest responsive and responsible bidders listed below, for water quality monitoring and reporting services in amount not-to-exceed \$8,890,000 for all six work order contracts, for which \$200,000 in Ad Valorem and dedicated funds (Land Acquisition Trust Fund, Save Our Everglades Trust Fund, and General Revenue) are budgeted in Fiscal Year 2022-2023, and the remainder is subject to Governing Board approval of future years budgets; providing an effective date.

Company	Contract Numbers
The Transit Group dba Ecological Associates, Inc.	4600004769
South Florida Engineering and Consulting LLC	4600004767
Environmental Science Associates Corp.	4600004776
Coastal Science Associates, Southern Affiliates, Inc.	4600004775
WSP USA Environment and Infrastructure, Inc.	4600004768
DB Environmental Laboratories, Inc.	4600004770

WHEREAS, the Governing Board of the South Florida Water Management District deems it necessary, appropriate, and in the public interest to enter into 3-year work order contracts, with two 1-year renewal options, with the following six lowest and responsive and responsible bidders: The Transit Group dba Ecological Associates, Inc.; South Florida Engineering and Consulting LLC; Environmental Science Associates Corp.; Coastal Science Associates, Southern Affiliates, Inc; WSP USA Environment and Infrastructure, Inc.; and DB Environmental Laboratories, Inc., to provide Water Quality Monitoring and Reporting Services in an amount not-to-exceed \$8,890,000 for all contracts combined, for which \$200,000 in Ad Valorem and dedicated funds (Land Acquisition Trust Fund, Save Our Everglades Trust Fund, and General Revenue) are budgeted in Fiscal Year 2022-2023 and the remainder is subject to Governing Board approval of future years budgets.

NOW THEREFORE, BE IT RESOLVED BY THE GOVERNING BOARD OF THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT:

Section 1. The Governing Board of the South Florida Water Management District hereby authorizes entering into contracts with the following lowest responsive and responsible bidders, in an amount not-to-exceed \$8,890,000 for all six work order contracts for which \$200,000 in Ad Valorem and dedicated funds (Land Acquisition Trust Fund, Save Our Everglades Trust Fund, and General Revenue) are budgeted in Fiscal Year 2022-2023.

Company	Contract Numbers
The Transit Group dba Ecological Associates, Inc.	4600004769
South Florida Engineering and Consulting LLC	4600004767
Environmental Science Associates Corp.	4600004776
Coastal Science Associates, Southern Affiliates, Inc.	4600004775
WSP USA Environment and Infrastructure, Inc.	4600004768
DB Environmental Laboratories, Inc.	4600004770

Section 2. This Resolution shall take effect immediately upon adoption.

PASSED and **ADOPTED** this 8th day of June, 2023.

MEMORANDUM

TO: Governing Board Members

FROM: Duane Piper, Information Technology

DATE: June 8, 2023

SUBJECT: Datalogger Recorder Maintenance Services at Monitoring Sites in the Central and Northern Regions of the District

Agenda Item Background:

Supervisory Control and Data Acquisition (SCADA) Telemetry Service uses contractual services to maintain approximately 189 sites for a period of five years. The sites are located within the counties of Orange, Osceola, Polk, Highlands, Okeechobee, St. Lucie, Martin, Glades, and Hendry. These SCADA sites provide continuous monitoring of surface and ground water levels, gate and pump status, and water quality hydrogeological and meteorological parameters.

This network provides information to District staff responsible for flood control, environmental monitoring and assessment, and is in support of the Central and Southern Florida Project, authorized by Chapter 373, Florida Statutes, which requires the operations and maintenance of water management infrastructure, flood mitigation, water supply and environmental enhancement; and the Comprehensive Everglades Restoration Plan (CERP), authorized by the Water Resources Development Act of 2000.

The existing contract expires on July 16, 2023, and the District intends to issue a new five-year contract to replace the expiring contract.

Additional Item Background:

The mission of the District is to manage and protect water resources of the region by balancing and improving water quality, flood control, natural systems, and water supply. To support its mission, the District operates and maintains a surface and ground water network that includes 2,175 miles of canals, 2,130 miles of levees/berms, 89 pumping stations, 915 water control structures and weirs, and a SCADA system which monitors and/or controls a network of over 1,000 sites.

This item impacts the Operations and Maintenance, Operations Control, Hydro Data Management, Information Technology and SCADA Field Operation staff, who will be managing or utilizing data and resources supplied by this contract. The maintenance services of this contract will be utilized throughout the District's central and northern coverage area.

STS does not have the necessary manpower to perform the required maintenance, data collection and verification and repairs at these sites to ensure the accuracy of the hydrologic records and continuous uninterrupted data flow. These activities are vital to support the District's mission of flood control, environmental monitoring and assessment and mandated requirements.

This request is to enter into a five-year contract with DNK Environmental Inc., the lowest responsive and responsible bidder, for Central & Northern Area Datalogger Maintenance Services, in an amount not to exceed \$900,000. This item was competitively bid through a sealed bid process. The bid opening date was April 25, 2023.

Core Mission and Strategic Priorities:

Data derived from these monitoring sites is critical in supporting the District's mission of flood control, environmental monitoring, assessment, and protection, as mandated by the Federal Government.

Funding Source:

This is a five-year contract with DNK Environmental Inc., for a not to exceed amount of \$900,000, for which ad valorem funds in the amount of \$30,854 are budgeted In Fiscal Year 2022-2023 and the remainder is subject to Governing Board approval future years budgets.

Staff Contact and/or Presenter:

Garnett Ritchie, gritchis@sfwmd.gov, 561-756-2400 x4616

ATTACHMENTS:

[Resolution No. 2023-0603](#)

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Resolution No. 2023 - 06XX

A Resolution of the Governing Board of the South Florida Water Management District to authorize entering into a five-year contract with DNK Environmental Inc., the lowest responsive and responsible bidder, for Datalogger Recorder Maintenance Services at sites which provide continuous monitoring of surface and ground water levels, water quality, hydrogeological and meteorological parameters, and gate and pump status in the Central and Northern regions of the District in an amount not to exceed \$900,000, for which \$30,854 in Ad Valorem funds are budgeted in Fiscal Year 2022-2023 and the remainder is subject to Governing Board approval of future years budgets; providing an effective date. (Contract No. 4600004766)

WHEREAS, the District obtained these services from Request for Bids Number 6000001431; and

WHEREAS, the Governing Board of the South Florida Water Management District deems it necessary, appropriate, and in the public interest to enter into a five-year contract with DNK Environmental Inc., for Datalogger Recorder Maintenance Services at sites which provide continuous monitoring of surface and ground water levels, water quality, hydrogeological and meteorological parameters, and gate and pump status in the Central & Northern regions of the District, in an amount not-to-exceed \$900,000.

NOW THEREFORE, BE IT RESOLVED BY THE GOVERNING BOARD OF THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT:

Section 1. The Governing Board of the South Florida Water Management District hereby authorizes entering into a five-year contract with DNK Environmental, Inc., for Datalogger Recorder Maintenance Services at sites which provide continuous monitoring of surface and ground water levels, water quality, hydrogeological and meteorological parameters, and gate and pump status in the Central and Northern regions of the District, in an amount not-to-exceed \$900,000. (Contract No. 4600004766)

Section 2. This Resolution shall take effect immediately upon adoption.

PASSED and ADOPTED this 8th day of June, 2023.

MEMORANDUM

TO: Governing Board Members

FROM: Alan Shirkey, Ecosystem Restoration & Capital Projects

DATE: June 8, 2023

SUBJECT: *ITEM POSTPONED* S-6 Pump Station Bridge Project, Palm Beach County

Agenda Item Background:

As part of the Operations and Maintenance Capital Improvement Program, the S-6 Pump Station Bridge Project consists of constructing a bridge crossing to support the future construction of the new G-6A Pump Station for STA-2 and the refurbishment of the existing S-6 Pump Station on the L-15 Canal. The intake of the new G-6A Pump Station will draw water from the L-15 Canal via the existing Spur Canal. Currently, a box culvert provides access over the Spur Canal to the S-6 Pump Station. The District is proposing to replace this box culvert with a bridge and widen the channel of the Spur Canal to significantly increase its flow capacity.

The plan is to construct a new (one-lane HL-93) four-span bridge over the Spur Canal and excavate a portion of the Spur Canal to the specified design cross section in the immediate vicinity of the bridge. The new bridge will be designed in accordance with Florida Department of Transportation Plans Preparation Manual and Structure Design Guidelines that incorporate American Association of State Highway Transportation Officials Load Resistance Factor Bridge Design Specifications.

The lowest responsive and responsible bidder is recommended for award. In accordance with District policy and consistent with state law for Request for Bids procurements, this item was competitively bid through a sealed bid process.

Additional Item Background:

The S-6 Pump Station Bridge Project supports the District's core missions of flood control and water supply.

Staff Contact and/or Presenter:

Alan Shirkey, ashirkey@sfwmd.gov, 561-682-2579

ATTACHMENTS:

[Resolution No. 2023-0604](#)

[Backup Document](#)

[Bid Tab Form](#)

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Resolution No. 2023 - 06XX

A Resolution of the Governing Board of the South Florida Water Management District to authorize entering into a 600-day contract with Cone & Graham, Inc., the lowest responsive and responsible bidder for the S-6 Pump Station Bridge Project, in the amount of \$3,725,497.02, for which \$300,000.00 in Ad Valorem funds are budgeted in Fiscal Year 2022-2023 and the remainder is subject to Governing Board approval of future years budgets; providing an effective date. (Contract No. 4600004778)

WHEREAS, the Governing Board of the South Florida Water Management District deems it necessary, appropriate, and in the public interest to authorize entering into a 600-day contract with Cone & Graham, Inc., the lowest responsive and responsible bidder for the S-6 Pump Station Bridge Project, in the amount of \$3,725,497.02.

NOW THEREFORE, BE IT RESOLVED BY THE GOVERNING BOARD OF THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT:

Section 1. The Governing Board of the South Florida Water Management District hereby authorizes entering into a 600-day contract with Cone & Graham, Inc., the lowest responsive and responsible bidder, for the S-6 Pump Station Bridge Project, in the amount of \$3,725,497.02, for which \$300,000.00 in Ad Valorem funds are budgeted in Fiscal Year 2022-2023 and the remainder is subject to Governing Board approval of future years budgets. (Contract No. 4600004778)

Section 2. This Resolution shall take effect immediately upon adoption.

PASSED and ADOPTED this 8th day of June, 2023.



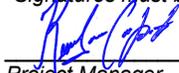
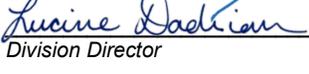
**SOUTH FLORIDA WATER MANAGEMENT DISTRICT
NOTICE OF INTENT TO AWARD**

RFB No.: 600001213	Title: S-6 PUMP STATION BRIDGE, PALM BEACH COUNTY, FL
SBE Subcontracting Goal: 25%	Opening Date: 5/17/2023
Total Bids Received: 4	Advertised Date: 4/14/2023
Bids Received from SBEs: 0	Advertisement: Palm Beach Post
Total Number of Planholders: 26	
Total SBE Planholders: 15	
Contract Specialist: Jason Bezak	
Project Manager: Kenson Coupet	

BIDDERS	BID AMOUNT
CONE & GRAHAM, INC.	\$3,725,497.02
GLF CONSTRUCTION CORPORATION	\$4,595,460.00
KIEWIT INFRASTRUCTURE SOUTH CO.	\$4,905,000.00
HARRY PEPPER & ASSOCIATES, INC.	\$5,928,286.00

The bid amounts indicated above are as submitted at the bid opening and are subject to verification. Award of the contracts to the lowest bidder is subject to the District's determination that the bid is responsive and that the bidder is responsible as indicated by the signatures below.

Approvals required in numerical order. Signatures must be dated.

Project Manager - Attach detailed justification that recommended bidder is responsive and responsible.	1. 	05/22/2023
Recommendation for award to low bidder? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2. 	5/23/23
If no, recommend award to:	3. 	5/24/2023
Basis of recommendation: _____	4. 	5/23/23
_____	5. _____	_____
_____	6. _____	_____
Governing Board approval of award or contract required? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7. _____	_____
	8. _____	_____

NOTE: This form shall serve as the District's Notice of a decision or intended decision as defined in Section 120.57(3)(a) Florida Statutes and Chapter 28-110, Florida Administrative Code. Failure to file a protest within the time prescribed in Section 120.57(3), Florida Statutes or failure to post the bond or other security required by law within the time allowed for filing a bond shall constitute a waiver of proceedings under chapter 120, Florida Statutes. Any protest or bond or other security must be filed with the District Clerk.

Posting Date: _____
Posting Time: _____
Initials: _____

MEMORANDUM

TO: Governing Board Members

FROM: Alan Shirkey, Ecosystem Restoration & Capital Projects

DATE: June 8, 2023

SUBJECT: *ITEM POSTPONED* STA-1E Cell 2 Resiliency and Refurbishment Project, Outflow Structure Emergency Power Generator Project, Palm Beach County

Agenda Item Background:

As part of the Operations and Maintenance Capital Improvement Program and to increase STA resiliency, the STA-1E Cell 2 - Outflow Structure Emergency Power Generator Project will improve the District's ability to manage operations during power outages and protect STA performance. Currently, in anticipation of power outages that would leave the STA-1E Cell 2 gates inoperable, the Cell 2 discharge gates are opened and then held open during storm events. This causes a rapid drawdown of Cell 2 and uncontrolled flows during storm events which have caused extensive erosion to the cell, compromising the cell's water quality treatment performance. This project involves retrofitting S-365B with permanent backup power, a new generator building, and miscellaneous site-civil improvements. Once complete, the flows through Cell 2 can be managed in a manner that supports treatment performance.

The lowest responsive and responsible bidder is recommended for award. In accordance with District policy and consistent with state law for Request for Bids procurements, this item was competitively bid through a sealed bid process.

Additional Item Background:

Core Mission and Strategic Priorities:

This project supports the District's core missions of flood control, water quality, and ecosystem restoration.

Staff Contact and/or Presenter:

Alan Shirkey, ashirkey@sfwmd.gov, 561-682-2579

ATTACHMENTS:

[Resolution No. 2023-0605](#)

[Backup Document](#)

[Bid Tab Form](#)

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Resolution No. 2023 - 06XX

A Resolution of the Governing Board of the South Florida Water Management District to authorize entering into a 415-day contract with Expert Construction Managers, Inc., the lowest responsive and responsible bidder, for the STA-1E Cell 2 - Outflow Structure Emergency Generator Project, in the amount of \$2,177,000, for which \$300,000 in Ad Valorem funds is budgeted in Fiscal Year 2022-2023 and the remainder is subject to Governing Board approval of future years budgets; providing an effective date. (Contract No. 4600004792)

WHEREAS, the Governing Board of the South Florida Water Management District deems it necessary, appropriate, and in the public interest to authorize entering into a 415-day contract with Expert Construction Managers, Inc., the lowest responsive and responsible bidder, for the STA-1E Cell 2 - Outflow Structure Emergency Generator Project, in the amount of \$2,177,000.

NOW THEREFORE, BE IT RESOLVED BY THE GOVERNING BOARD OF THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT:

Section 1. The Governing Board of the South Florida Water Management District hereby authorizes entering into a 415-day contract with Expert Construction Managers, Inc., the lowest responsive and responsible bidder, for the STA-1E Cell 2 - Outflow Structure Emergency Generator Project, in the amount of \$2,177,000, for which \$300,000 in Ad Valorem funds is budgeted in Fiscal Year 2022-2023 and the remainder is subject to Governing Board approval of future years budgets. (Contract No. 4600004792)

Section 2. This Resolution shall take effect immediately upon adoption.

PASSED and **ADOPTED** this 8th day of June, 2023.

Background



Figure 1 (Facing East):
Nov. 2020, post Tropical Storm Eta
Scouring & vegetation damage to cell treatment areas



Figure 2 (Facing East):
Nov. 2020, post Tropical Storm Eta
Sediment and boat ramp damage at collection canal

MEMORANDUM

TO: Governing Board Members

FROM: Maricruz R. Fincher, Office of Counsel

DATE: June 8, 2023

SUBJECT: Concurrence on Filing a Lawsuit styled South Florida Water Management District v. C-43 Water Management Builders JV, The Lane Construction Corporation, and Webuild S.p.A. Inc. f/k/a Salini Impregilo S.p.A. Inc., Case No. 50-2023-CA-010842 (Fla. 15th Cir. Ct.)

Agenda Item Background:

In March 2019, the District contracted with C-43 Water Management Builders, JV (“Contractor”) to build the C-43 West Caloosahatchee Basin Storage Reservoir - Part 2, Hendry County, FL Project (“Project”). The Contractor did not adhere to the contract’s required schedule, which set forth a mandatory substantial completion date and final completion date. The Contractor also refused to make the necessary changes to get back on schedule or prevent further delay. As a result, the District terminated the Contractor for defaulting on the contract. Damages to the District resulting from this breach of contract include, without limitation, compensatory damages, consequential damages, damages for delay, and liquidated damages. Therefore, on May 19, 2023, the District filed a breach of contract suit against the Contractor.

District Policy Sec. 101-43 authorizes the initiation of any legal proceeding where there exists a significant threat of financial loss, with subsequent concurrence of the Governing Board at its next regularly scheduled meeting. Given the direct and ancillary financial losses the District sustained and continues to sustain as a result of the Contractor’s breach, the District filed a breach of contract complaint seeking compensation for those damages. This item requests the Governing Board’s concurrence with the initiation of this lawsuit.

Staff Contact and/or Presenter:

Maricruz R. Fincher, mfincher@sfwmd.gov, 561-682-6457

ATTACHMENTS:

[Resolution No. 2023-0606](#)

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Resolution No. 2023 - 06XX

A Resolution of the Governing Board of the South Florida Water Management District concurring with the filing of a lawsuit styled *South Florida Water Management District v. C-43 Water Management Builders JV, The Lane Construction Corporation, and Webuild S.p.A. Inc. f/k/a Salini Impregilo S.p.A. Inc.*, Case No. 50-2023-CA-010842 (Fla. 15th Cir. Ct.); providing an effective date.

WHEREAS, in March 2019, the District contracted with C-43 Water Management Builders, JV (“Contractor”) to build the C-43 West Caloosahatchee Basin Storage Reservoir – Part 2, Hendry County, FL Project (“Project”); and

WHEREAS, Contractor did not adhere to the contract’s required schedule, which set forth a mandatory substantial completion date and final completion date, and Contractor also refused to make the necessary changes to get back on schedule or prevent further delay; and

WHEREAS, as a result, the District terminated Contractor for defaulting on the contract; and

WHEREAS, Damages to the District resulting from this breach of contract include, without limitation, compensatory damages, consequential damages, damages for delay, and liquidated damages; and

WHEREAS, District Policy Sec. 101-43 authorizes the initiation of any legal proceeding where there exists a significant threat of financial loss, with subsequent concurrence of the Governing Board at its next regularly scheduled meeting; and

WHEREAS, on May 19, 2023, the District filed a breach of contract suit against the Contractor styled *South Florida Water Management District v. C-43 Water Management Builders JV, The Lane Construction Corporation, and Webuild S.p.A., Inc. f/k/a Salini Impregilo S.p.A. Inc.*, Case No. 50-2023-CA-010842.

NOW THEREFORE, BE IT RESOLVED BY THE GOVERNING BOARD OF THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT:

Section 1. The Governing Board of the South Florida Water Management District hereby concurs with the filing of the lawsuit styled *South Florida Water Management District v. C-43 Water Management Builders JV, The Lane Construction Corporation, and Webuild S.p.A. Inc. f/k/a Salini Impregilo S.p.A. Inc.*, Case No. 50-2023-CA-010842 (Fla. 15th Cir. Ct.).

Section 2. This Resolution shall take effect immediately upon adoption.

PASSED and ADOPTED this 8th day of June, 2023.

MEMORANDUM

TO: Governing Board Members

FROM: Jesus Carrasco, Field Operations Division

DATE: June 8, 2023

SUBJECT: Flood Awareness Month

Agenda Item Background:

June is Flood Awareness Month. The District operates and maintains the regional water management system known as the Central and Southern Florida Project, which was authorized by Congress more than 60 years ago to protect residents and businesses from floods and droughts. This primary system of canals and natural waterways connects to community drainage districts and hundreds of smaller neighborhood systems to effectively manage floodwaters during heavy rain. As a result of this interconnected drainage system, flood control in South Florida is a shared responsibility between the District, county and city governments, local drainage districts, homeowner associations and residents. This presentation will highlight the efforts of the District's hard-working staff to operate and maintain the District's flood protection system throughout its 16 counties. No Governing Board action is required.

Staff Contact and/or Presenter:

Rich Virgil, rvirgil@sfwmd.gov, 561-682-6759
Jesus Carrasco, jcarrasc@sfwmd.gov, 561-682-2948

ATTACHMENTS:

MEMORANDUM

TO: Governing Board Members

FROM: Carolina Maran, Executive Office

DATE: June 8, 2023

SUBJECT: Grant Agreements and Interlocal Agreement, Resilient Florida Grant Program

Agenda Item Background:

On February 6, 2023, the DEP awarded the District a sum of approximately \$19 million for the execution of three resiliency projects through the Resilient Florida Grant Program, and a sum of approximately \$7.7 million to Palm Beach County (PBC) for the execution of one additional resiliency project, as summarized below:

Grants Awarded to the District:

- \$6,290,625 for Coastal Structures Enhancement and Self-Preservation Mode
- \$8,500,000 for Hardening of S-2, S-3, S-4, S-7, and S-8 Engine Control Panels - Building Resiliency in Water Management South of Lake Okeechobee
- \$4,000,000 for L8 FEB / G-539 Pump Resiliency Upgrades

Grant Awarded to PBC:

- \$7,705,000 for JW Corbett Wildlife Management Area Hydrologic Restoration and Corbett Levee Resiliency

This agenda item is requesting authorization from the Governing Board to enter into three grant agreements between the District and DEP for the plan, design, and construction of the first three projects listed above and one Interlocal Agreement between the District and PBC to work collaboratively with PBC to plan, design, and construct the Corbett Levee Resiliency Project.

Additional Item Background:

The purpose of the Coastal Structures Enhancement and Self-Preservation Mode Project is to retrofit structures with systems that make the structure and its operation more resilient. A self-preservation mode system includes a backup system that can be programmed to operate the structure appropriately and independently. Adding self-preservation mode capabilities to critical water control structures will allow water managers to manage the system for flood control, water supply, environmental restoration, and saltwater intrusion prevention even when communication with the structure is lost due to weather or other circumstances and, consequently, reduce the need for locking these structures with the gates open during storm operations. Additionally, in some structures, the tops of structure gates will be extended to maximize the ability to protect against storm surge. The total cost estimate for this project is approximately \$12.6 million.

The purpose of the Hardening of S-2, S-3, S-4, S-7, and S-8 Engine Control Panels - Building Resiliency in Water Management South of Lake Okeechobee Project is to replace all pump engine monitoring/control panels at these five pump stations, with modern and standardized

equipment and install equipment to implement new emergency shutdown features. These pump stations are critical features of the stormwater infrastructure and need to be upgraded, as they are at the end of their useful service life, limiting the capacity of the pump station operator to take critical actions necessary to prevent the failure of a pump engine. This project will reduce the risk of compound flooding across Palm Beach and down South in Broward County. The total cost estimate for this project is approximately \$17 million.

The purpose of the L8 FEB / G-539 Pump Resiliency Upgrades Project is to refurbish a regionally significant asset, the G-539 pump and the L-8 Flood Equalization Basin to reduce the impacts of flooding and sea-level rise (SLR) throughout the C-51 and S-5A drainage basins. Enhancing the pump operation will attenuate peak flows to tide during storm events, providing stormwater management to areas beyond a single municipality boundary. This project replaces the six existing electrical submersible pumps configured in two pumping stages to reduce the total static head on each pump. Replacement pumps will ensure the reliability and resiliency of flood protection and flood attenuation. The total cost estimate for this project is approximately \$8 million.

The Corbett Levee Resiliency Project aims to repair and update the Corbett Levee, allowing the Corbett WMA to safely retain water within Corbett WMA for hydrologic restoration. Phase I of this project, completed in 2016, included strengthening 2.6 miles of the levee. Phase II pertains to the remaining portion of the Corbett Levee, approximately three miles long. Completing the levee will improve stormwater infrastructure in the region and increase the operational flexibility of the secondary water control system. Restoration of a more natural hydroperiod within the Corbett WMA will improve fish and wildlife habitat, making the WMA more resilient. The total cost estimate for this project is approximately \$15.4 million.

In the proposed grant agreements with DEP, the District agrees to plan, design, and construct the first three projects described above over a three-year period, using funds from the approved District's Capital Improvement Plan and receiving a 50% reimbursement from DEP, up to approximately \$19 million.

In the proposed interlocal agreement between the District and PBC, PBC agrees to reimburse the District the DEP-awarded funds from the DEP Resilient Florida Program and transfer PBC match funds to the District to complete Phase II of the Corbett Levee Resiliency Project.

The Governing Board's authorization of the grant agreements between the District and DEP and the 2023 Interlocal Agreement with PBC is required for the District to move forward with construction and receipt of funds by FDEP and PBC. The deadline to complete the construction of the projects is on June 30, 2026.

The Resilient Florida Program was established on May 12, 2021, when Governor Ron DeSantis signed Senate Bill 1954 into law. This comprehensive legislation, updated in 2022 through the execution of House Bill 7053, ensures a coordinated approach to Florida's coastal and inland resilience and provides the largest investment in Florida's history to prepare communities for the impacts of sea level rise, intensified storms and flooding.

All four (4) projects funded through the Resilient Florida Program are part of the District's Sea Level Rise and Flood Resiliency Plan. The plan, updated annually, is the first District initiative to compile a comprehensive list of priority resiliency projects to reduce the risks of flooding, sea level rise, and other climate impacts on water resources and increase community and

ecosystem resiliency in South Florida. As part of the Resilient Florida Program Implementation, the District submits the list of priority projects supported by the District's Sea Level Rise and Flood Resiliency Plan to DEP by September 1 every year.

Funding Source:

Sources from DEP Resilient Florida grant award and matching funds, including in-kind services, from District and PBC, will be provided.

Staff Contact and/or Presenter:

Dr. Ana Carolina Maran, cmaran@sfwmd.gov, 561-682-6868

ATTACHMENTS:

[Resolution No. 2023-0607](#)

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Resolution No. 2023 - 06XX

A Resolution of the Governing Board of the South Florida Water Management District authorizing entering into three (3) grant agreements with the Florida Department of Environmental Protection and one (1) interagency agreement with Palm Beach County for the planning, designing, and constructing of four (4) projects awarded through the Resilient Florida Grant Program; providing an effective date.

- **Coastal Structures Enhancement and Self-Preservation Mode Project (Contract No. 4600004788, grant agreement between the South Florida Water Management District (SFWMD) and Florida Department of Environmental Protection (FDEP))**
- **Hardening of S-2, S-3, S-4, S-7, and S-8 Engine Control Panels - Building Resiliency in Water Management South of Lake Okeechobee Project (Contract No. 4600004789, grant agreement between SFWMD and FDEP)**
- **L8 FEB/G-539 Pump Resiliency Upgrades (Contract No. 4600004790, grant agreement between SFWMD and FDEP)**
- **JW Corbett Wildlife Management Area (WMA) Hydrologic Restoration and Corbett Levee Resiliency (Contract No. 4600004787, Interagency Agreement between SFWMD and Palm Beach County)**

WHEREAS, South Florida is susceptible to increased inundation, erosion, and loss of critical habitats resulting from natural disasters, sea level rise, and climate change impacts; and

WHEREAS, the Resilient Florida Program was established on May 12, 2021, upon Governor Ron DeSantis's signature of Senate Bill 1954 into law; and

WHEREAS, the Resilient Florida Program ensures a coordinated approach to Florida's coastal and inland resilience and provides the largest investment in Florida's history to prepare communities for the impacts of sea level rise, intensified storms and flooding; and

WHEREAS, the SFWMD Sea Level Rise and Flood Resiliency Plan, updated annually, is the first District initiative to compile a comprehensive list of priority resiliency projects with the goal of reducing the risks of flooding, sea level rise, and other climate impacts on water resources and increasing community and ecosystem resiliency in South Florida; and

WHEREAS, the District submits, as part of the Resilient Florida Program Implementation, the list of priority projects, supported by the SFWMD Sea Level Rise and Flood Resiliency Plan, to FDEP by September 1 every year; and

WHEREAS, on February 2023, FDEP awarded SFWMD a sum of approximately \$19 million for the execution of three projects, and Palm Beach County (PBC) a sum of approximately \$7.7 million for the execution of one additional project through the Resilient Florida Grant Program, pursuant to Section 380.093, Florida Statutes; and

WHEREAS, the District assumes responsibility for the final design and construction of the three (3) projects awarded to the District, including procurement and documentation of executed payments as required by the Grant; and

WHEREAS, Palm Beach County has allocated a sum of \$2,000,000 to upgrade the Corbett Levee and serve as a match to the Resilient Florida Grant Program pursuant to Section 380.093, Florida Statutes; and

WHEREAS, the SFWMD and the County agree to collaborate on planning, designing, and constructing the remaining portion of the Corbett Levee; and SFWMD assumes responsibility for the final design and construction of the project, including procurement and documentation of executed payments as required by the Grant; and

WHEREAS, the County agrees to reimburse a portion of the granted funds and transfer match funds to SFWMD for the planning, designing, and construction for the Corbett Levee Project, up to \$9,625,000.

NOW, THEREFORE, BE IT RESOLVED BY THE GOVERNING BOARD OF THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT:

Section 1. The Governing Board of the South Florida Water Management District hereby authorizes the Executive Director, or designee, to enter into three (3) grant agreements with the Florida Department of Environmental Protection for the reimbursement of up to \$19 million for the planning designing and construction of three (3) projects: Coastal Structures Enhancement Self Preservation Model Project; Hardening of S-2, S-3, S-4, S-7, and S-8 Engine Control Panels Project; and the L8 FEB/G-539 Pump Resiliency Upgrades Project. (Contracts No 4600004788, 4600004789, and 4600004790)

Section 2. The Governing Board of the South Florida Water Management District hereby authorizes the Executive Director, or designee, to enter into an agreement with Palm Beach County for the reimbursement of up to \$7.7 million of award funds and transfer of \$2 million of PBC match funds to SFWMD for the planning, designing, and construction of remaining portions of the Corbett Levee. (Contract No. 4600004787)

Section 3. This Resolution shall take effect immediately upon adoption.

PASSED and **ADOPTED** this 8th day of June, 2023.

MEMORANDUM

TO: Governing Board Members
FROM: , Office of Communications & Public Engagement
DATE: June 8, 2023
SUBJECT: Presentations for item numbers 20, 21, 22, and 23.

Agenda Item Background:

Staff Contact and/or Presenter:

ATTACHMENTS:

[20 Carrasco Flood Awareness Month](#)

[21 Maran Resilient Florida Grant Awards Agreements](#)

[22 Mitnik Water Conditions Report](#)

[23 Glenn Ecological Conditions Report](#)

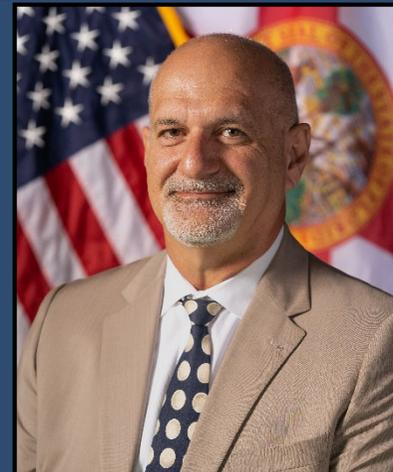
JUNE IS FLOOD AWARENESS MONTH



S-5A Pump Station
C-51 Canal Palm Beach County

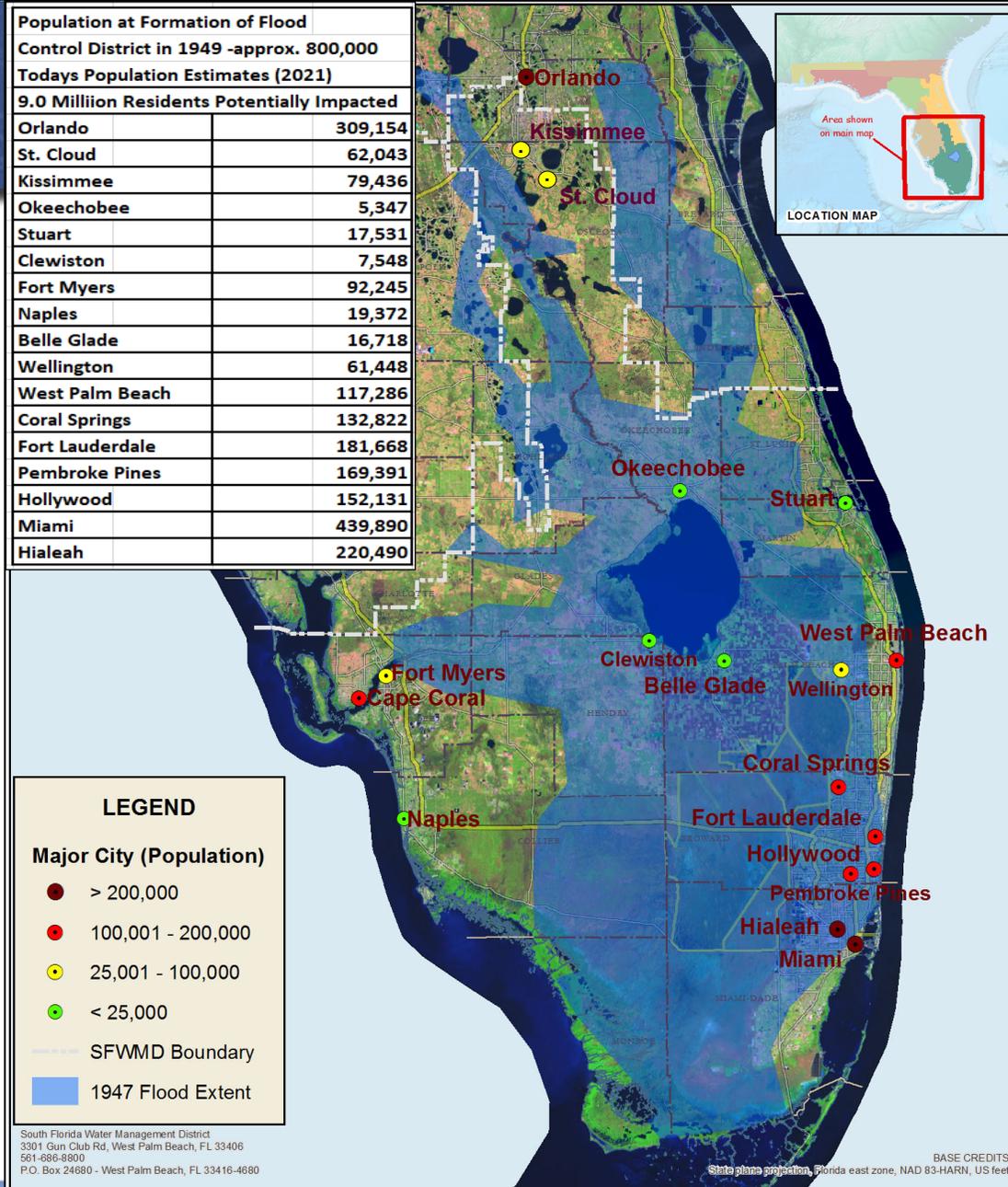
Flood Awareness Month

Jesus Carrasco
Bureau Chief Region 2 - Field Operations
South Florida Water Management District
Governing Board Meeting
June 8, 2023



Flood Control Still Crucial

➤ Without the flood control system currently in place, if the 1947 Hurricane happened today, millions of residents in major cities throughout the District 16 Counties would be flooded.



SFWMD Flood Protection Role: Before Hurricane Ian

- Prior to Hurricane Ian the District continuously monitored weather conditions and water levels.
- Gates were opened, pump stations increased their operations and primary canal water levels were lowered in anticipation of the storm arrival.



One 42", Three 30" and Four 8" Pumps at S-58

SFWMD Flood Protection Role: Before Hurricane Ian

- All necessary preparations were made such as:
 - Securing field station buildings, pump stations and Headquarters.
 - Topping off fuel supplies.
 - Placement of critical heavy equipment including helicopters in secure facilities.
- Staff was given time to prepare their homes and families prior to hurricane Ian which included working extended shifts.



Securing helicopter inside Pump Station S-319

SFWMD Flood Protection Role: Before Hurricane Ian

- Emergency Operation Center was activated and staffed as part of the storm preparations.
- Strategic placement of temporary pumps and heavy equipment were staged throughout the South Florida Water Management District for quick deployment prior to Ian's arrival.
- All pumps and equipment were fueled and tested prior to the storm.



Pumps being loaded for deployment by WPB FS Staff

SFWMD Flood Protection Role: After Hurricane Ian

- Once the all clear was received the Rapid Inspection Assessment Team (RIAT) was deployed to the impacted areas.
- Debris teams removed vegetation, trees, and debris that could cause increased risk of flooding due to blockage of canals and structures.



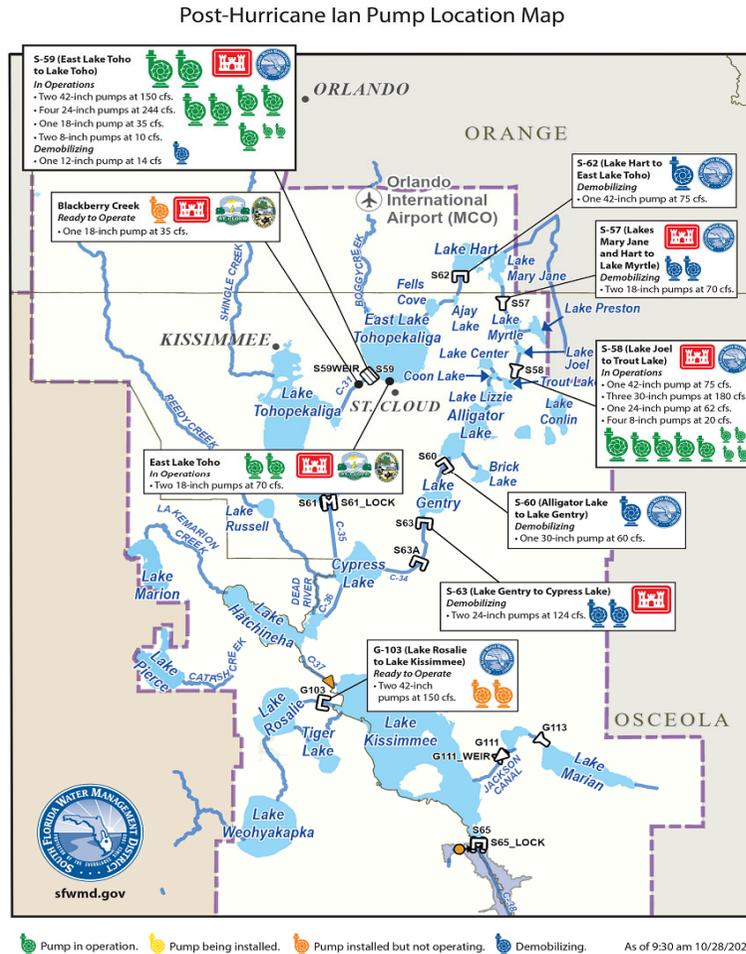
Removal of debris from canal after storm

SFWMD Flood Protection Role: After Hurricane Ian

➤ Staff worked night and day to reduce flood damage to communities.



24/7 Pump Operations continued until water receded



Staff installed portable pumps in the Upper Chain of Lakes after Hurricane Ian

30 Portable Pumps - Upper Chain of Lakes

SFWMD Flood Protection Role: After Hurricane Ian

➤ Flight reconnaissance after the storm event allowed the District to quickly assess damages and make critical decisions on the distribution of resources.



Aerial Inspection



Helicopter in route to Upper Chain of Lakes after Hurricane Ian

SFWMD Flood Protection Role: Wet Season Starts

- With the start of the wet season, a portable pump was deployed to mitigate flooding conditions for the Miccosukee Tribe.
- Pump was deployed and operating within a 6-hour period.



SFWMD's Core Function: Flood Control

➤ Field Station Area of Responsibility:

- Field Operations - Region 1
 - St. Cloud Field Station
 - Okeechobee Field Station
 - Right of Way Section

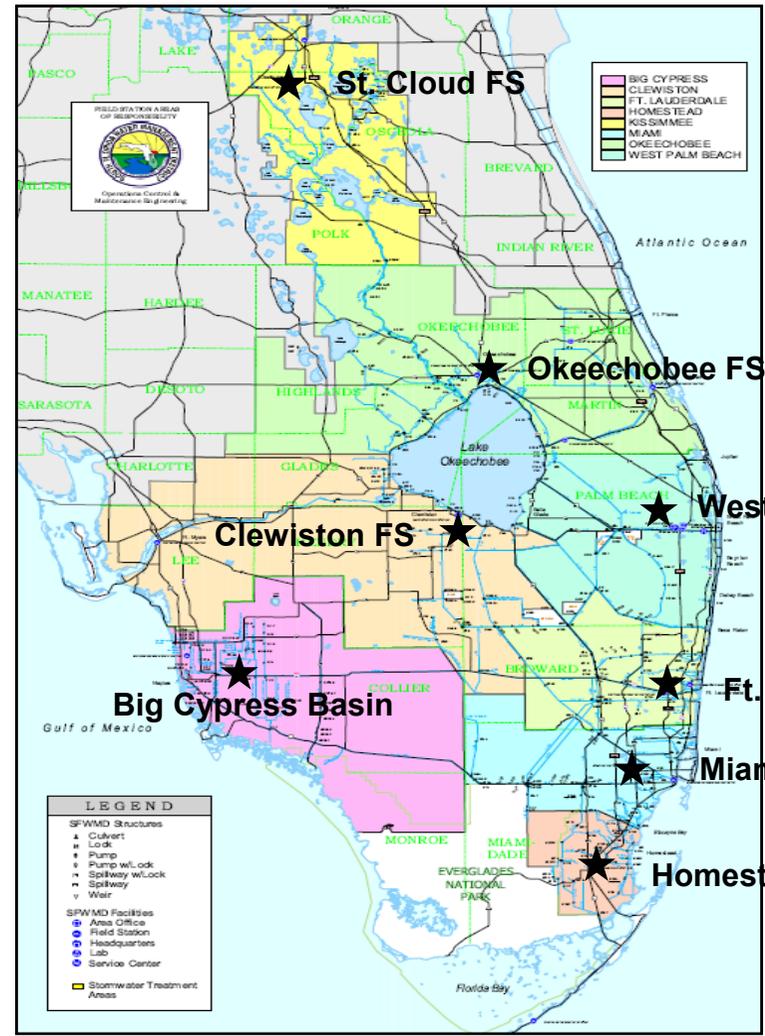
- Field Operations – Region 2
 - Ft. Lauderdale Field Station
 - Big Cypress Basin Field Station
 - Miami Field Station
 - Homestead Field Station

- Field Operations – Region 3
 - West Palm Beach Field Station
 - Clewiston Field Station
 - Fleet & Flight Operations

Juan Bethencourt
Bureau Chief

Jesus Carrasco
Bureau Chief

Tom DeBold
Bureau Chief



Field Station Area of Responsibility Map

SFWMD's Core Function: Flood Control

- Operate & maintain multi-purpose system:
 - Approximately 4,310 miles of canals/levees
 - 918 + Water Control Structures
 - 621 + Project Culverts
 - 90 Pump Stations
- Flood Control Scope:
 - Our regional network moves more than 20-million-acre feet during an average year.



S-65E on the Kissimmee River has a design capacity of 24,000 cfs

Flood Protection: Major Engine & Pump Overhaul Program

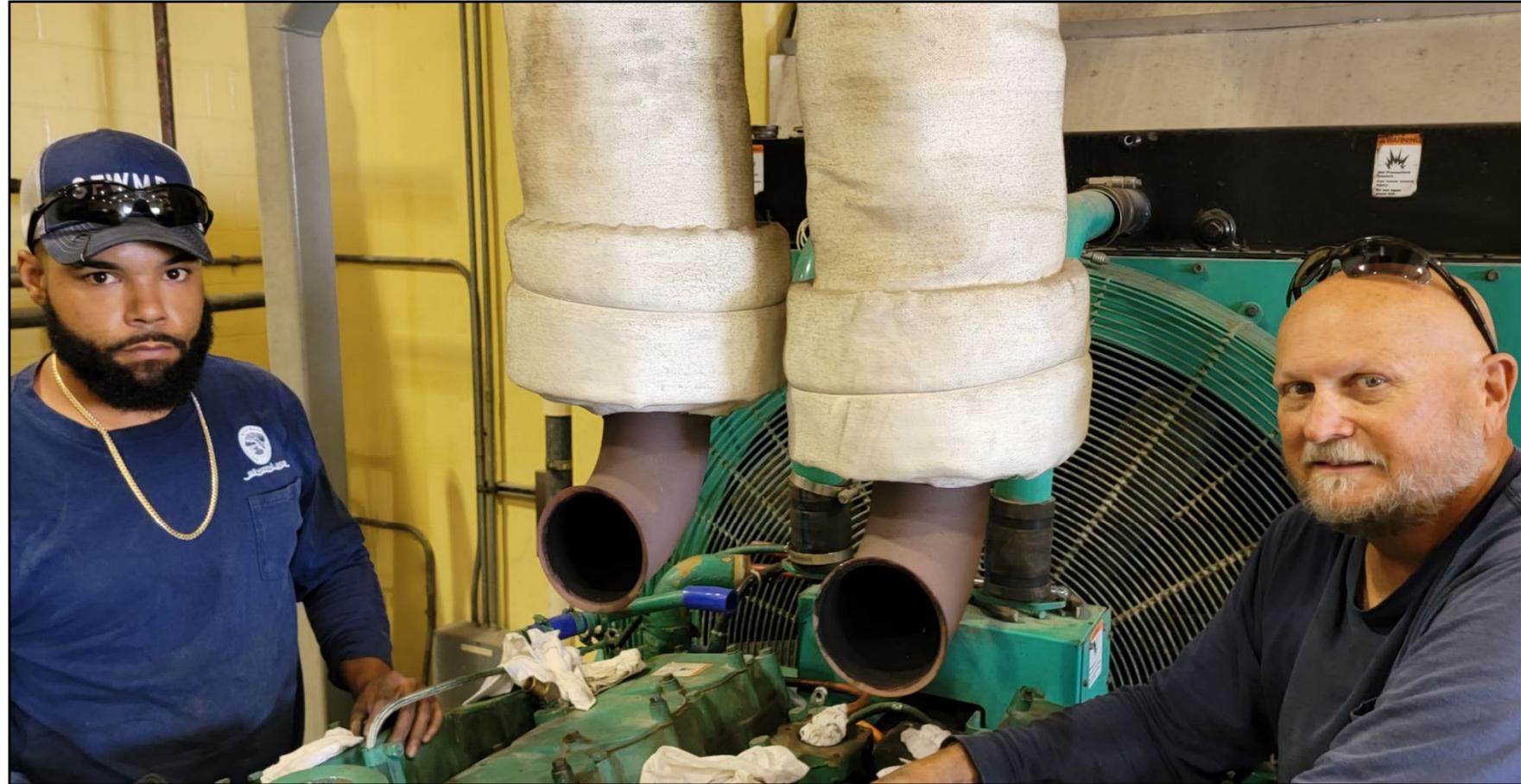
- Under the Capital Refurbishment Program, the Major Engine and Pump Overhaul Program conducts key life-cycle interval services on major facility components.



Chris Lewkutz performs the 10,000 hr. cylinder head replacement on an engine

Flood Protection: Major Engine & Pump Overhaul Program

- Pump Stations are required to have redundant emergency generators to ensure power is always available should there be an outage.



Christopher Grayson & Robert Congleton - from the WPB FS Trade Support Section performing maintenance on a generator

Flood Protection: Trade and Electrical Support Groups

- Scheduled Preventative maintenance is performed to make sure the flood control system is ready for rainy season.



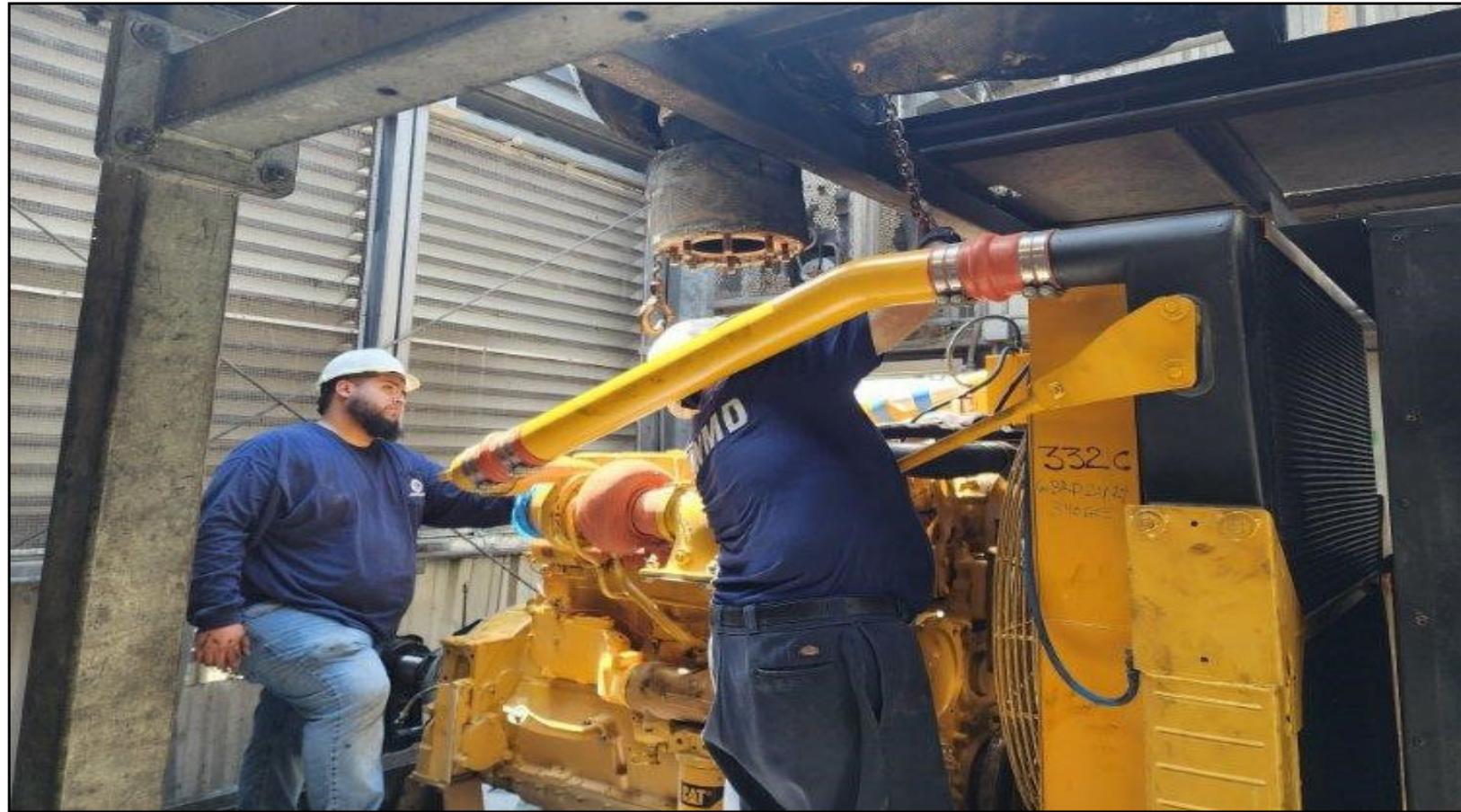
Instrumentation & Controls Technicians Robert VanValkenburg & Scott Tack from the Clewiston Field Station re-wiring air compressor.

Flood Protection: Trade Support & Pump Station Sections

- Trade Support and Pump Station Sections work together to change out recently overhauled engine.



Engine swap out utilizing the roof hatch



Christopher Gonzalez – Homestead Stat Diesel Eng/Operator – Lead
Ricky Lastra – Fort Lauderdale Diesel Specialist Trade Support

Flood Protection: Trade Support & Pump Station Sections

- Trade Support Section from Miami removes and prepares pump for shipment.
- District Class A CDL Driver will deliver pump to a repair facility in Tampa.



Damaged Impeller



Repaired Impeller



Staff from Miami Field Station remove pump

Flood Protection: Canal - Levee Section

- Okeechobee Field Station's Canal Levee Section completes the C-40 Canal bank stabilization project post dredging of the C-40 Canal.



Flood Protection: Canal Sediment Removal Program

- Okeechobee Field Station crews are removing more than 50 years of accumulated sediment out of the C-25, C-24 & C-23 Canals in St. Lucie and Martin Counties to improve flow.



Okeechobee FS build containment area to store dredge material from the C-23 Canal

Flood Protection: Land Management Section

- Land Management Section Maintains thousands of Acres of District own land for water storage, conservation, restoration and public use.



James Elmore cleans a drainage ditch at Harmony Ranch to ensure flood protection to surrounding communities.

Flood Protection: Vegetation & Debris Removal

- Each field station with the support of the Vegetation Management Staff remove hazardous trees from the Canal Right of Way as part of the Tree Management Program.



Ryan Brown of the Vegetation Management Section Celebrates the downing of the dangerous Australian Pine Tree.

Flood Protection: Right of Way Inspections

- The Right of Way Section performs inspections to ensure permit compliance and to minimize unwanted encroachments which could be potential impediments to flow.



Nick Giep checks low member clearance on the C-33 Canal



Steven Diaz & Manny Rodriguez inspect Biscayne Trail

Flood Protection: Fleet Management

➤ District Fleet Inventory: 1098

- On Road vehicles
 - Light Duty: 496
 - Mediums Duty: 73
 - Heavy Duty: 66
- Construction (Dozers, Loaders, Excavators, etc.): 97
- Marine (Airboats, Towboats: 102
- ATVs: 33
- Trailers: 200
- Tractors: 26



Dredge Drag Line used for canal sediment removal

Flood Protection: Fleet Management

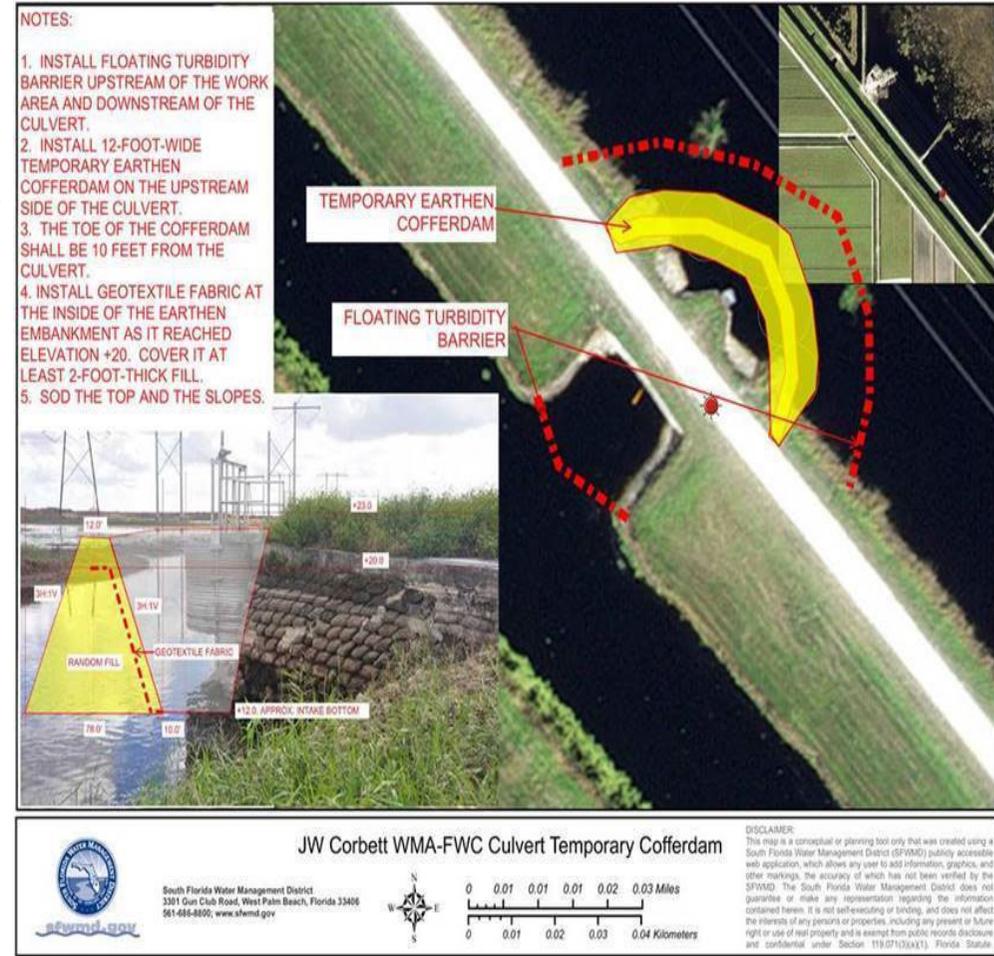
- District Technicians maintain and repair the District's fleet at each of the 8 field stations located throughout the 16 County area of responsibility.



Fleet Technician Adrian Alvarenga performs preventative maintenance

Restoration Project Support Corbett/L-8 Culvert Repairs

➤ A failed gated culvert on the L8 canal was found after Hurricane Ian and required installation of temporary earthen cofferdam.



Corbett/L-8 Location aerial view



Failed gated culvert

Restoration Project Support Corbett/L-8 Culvert Repairs



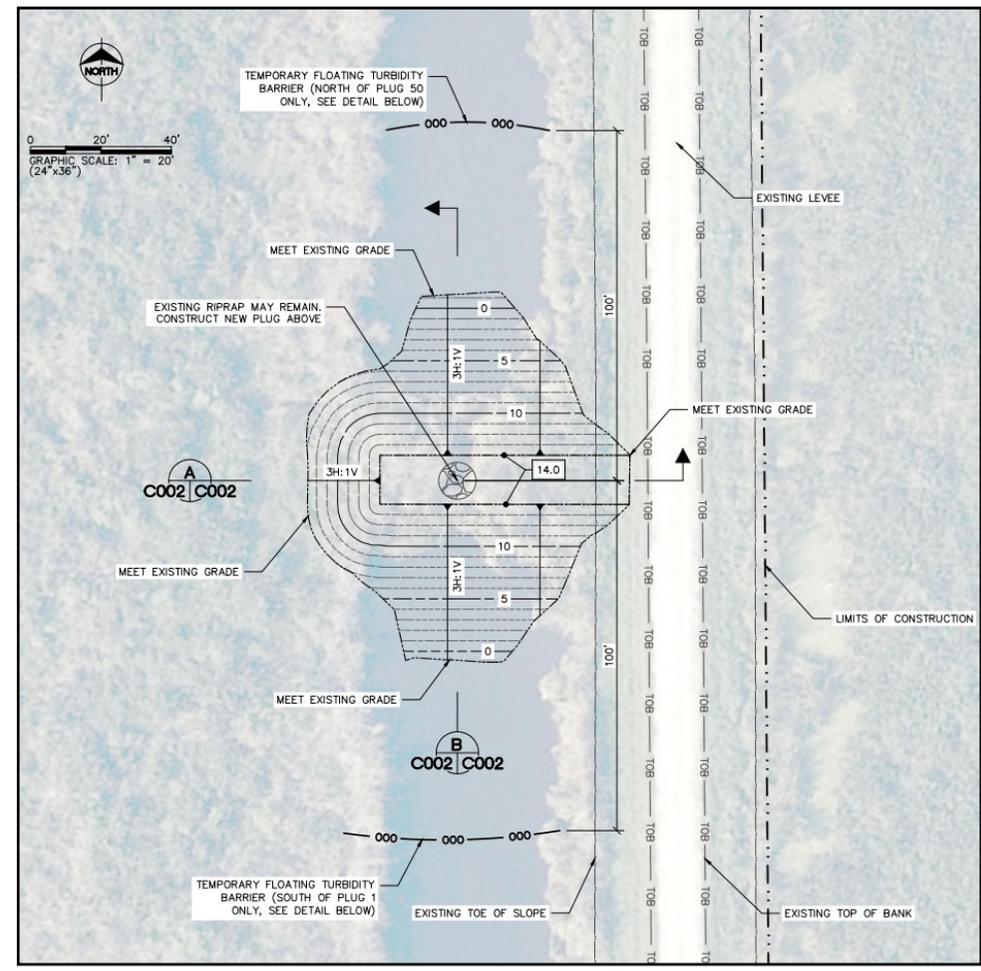
Culvert repairs in progress



Culvert site final completion

Restoration Project Support Storm Treatment Area-2 Cell 3 Plug Installation

➤ Installation of 50 earthen plugs along the east side of Cell 3 within Storm Treatment Areas makes our STA's more resilient for flood control.



Typical Plug Layout



First 12 Plugs

Restoration Project Support Storm Treatment Area-2 Cell 3 Plug Installation



Bulldozer working plug No. 10



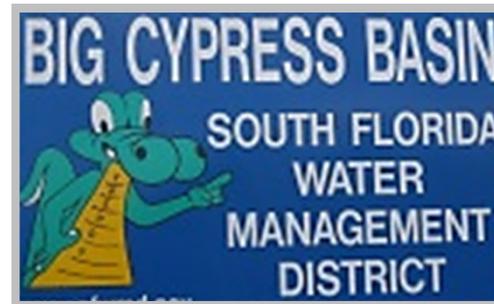
Long Reach Backhoe working Plug No. 12

Flood Protection: Big Cypress Basin

- Big Cypress Basin in Collier County maintains 134 miles of canals
- Staff maintains 34 structures for flood protection
- 825,000-acre feet of stormwater moved through BCB structures annually.



Merritt Pump Station S-488



Curry Canal Structure No. 1



Flood Protection: Big Cypress Basin



Before



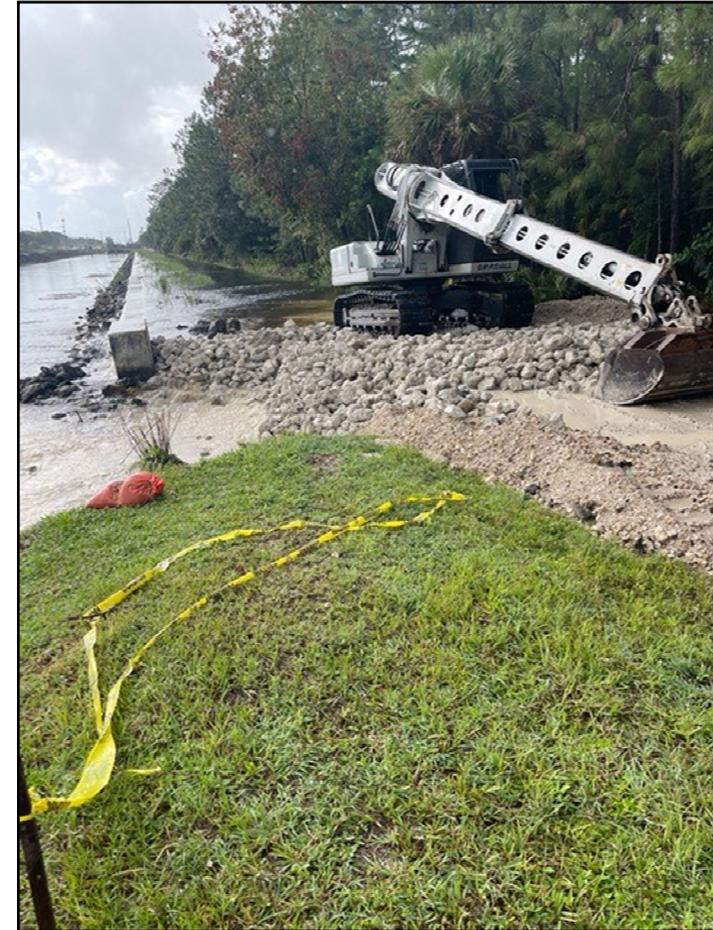
After



Vegetation Removal from the Miller Canal

➤ Miller Canal
Maintenance

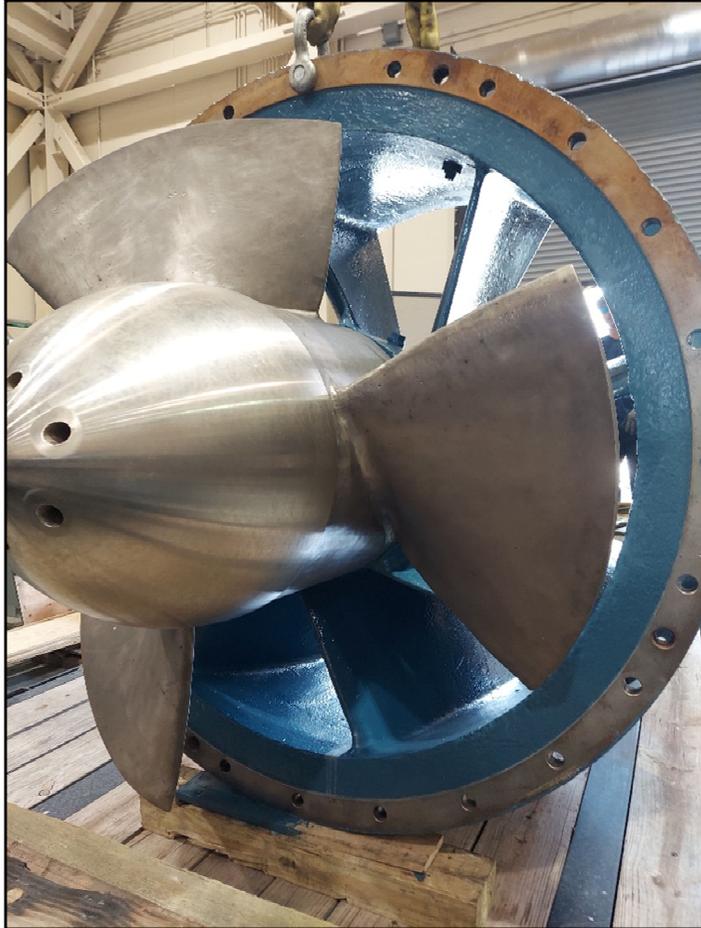
Flood Protection: Big Cypress Basin



Mako Touchet repairing the washout of the Bird Rookery Weir on Cocohatchee Canal

Flood Protection: Big Cypress Basin

➤ Pump Station Staff replaced refurbished components at a Picayune Restoration Pump Station.



Refurbished pump impeller & diffuser



Eric Weston operating the crane during pump removal

Our People Make the Difference



**Brian Ferland – Crane Operator
C-113 PC-05 Culvert Replacement
Homestead Field Station**



**Ozelle Jones - Heavy Equipment Operator
C-102 Aquatic Vegetation Harvesting
Homestead Field Station**

Our People Make the Difference



**Charles Lovitt – Fleet Technician
Tire Replacement
Homestead Field Station**



**Henry Picado-Soto – Fleet Technician
Completing Engine Repairs
Homestead Field Station**

Our People Make the Difference



Daniel Bidwell, Rohan Muir, & Juan Gato
S-25B Pump Replacement
Miami Field Station



Alex Lemus & Carlos Quijano - Structure Technicians
S-22 Gate Overhaul
Miami Field Station

Our People Make the Difference



Elna Victor - Heavy Equipment Operator
Carl Dean - Heavy Equipment Operator
Arch Creek Debris Removal - Miami FS



Lenora Cilli - Administrative Assistant III
Performing Duties
Miami Field Station

Our People Make the Difference



**Mike Perry - Lead Operator
Performing Turbo boot installation
BCB Field Station**



**Eric Weston - Pump Station Crew Chief
Performing 250 Hr. Engine Maintenance
BCB Field Station**

Our People Make the Difference



**Adam Kinnaird - Instrumentation Tech 1
Performing Instrumentation Maintenance
BCB Field Station**



**Josh Charles - Stationary Engine Operator
Performing Preventative Maintenance
BCB Field Station**

Our People Make the Difference



**Jorge Caridad - Senior Fleet Technician
Installing Safety Equipment in New Vehicle
Ft. Lauderdale Field Station**



**Francisco Naranjo - Diesel Engine Specialist
Engine Overhaul for Pump Station S-332B
Ft. Lauderdale Field Station**

Our People Make the Difference

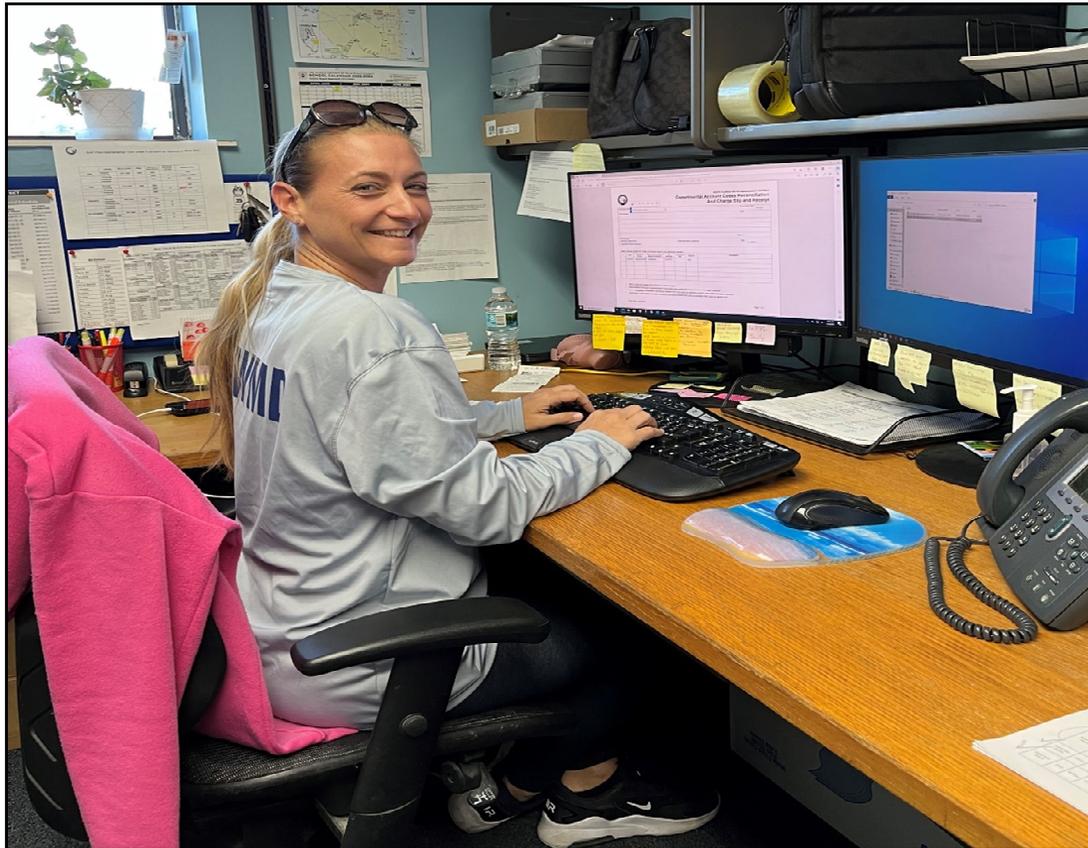


**Kristofer Ruman – Heavy Equip Operator
C-10 Spur Debris Removal
FT. Lauderdale Field Station**



**Stephen Coombs - Heavy Equip Operator
C-10 Spur Debris Removal
FT. Lauderdale Field Station**

Our People Make the Difference



**Allyson DeOliveira - Schedule Planner
STA 2 Plug Project
West Palm Beach Field Station**



**Corey Hall - Heavy Equipment Operator
STA 2 Plug Project
West Palm Beach Field Station**

Our People Make the Difference



**Richard Smith - Crew Chief
Tree Removal Project
West Palm Beach Field Station**



**Trey Nichols - Diesel Engine Specialist
STA 2 Plug Project
West Palm Beach Field Station**

Our People Make the Difference



**Orelvis Ruiz- Lead Millwright
Air Compressor Repair
Clewiston Field Station**

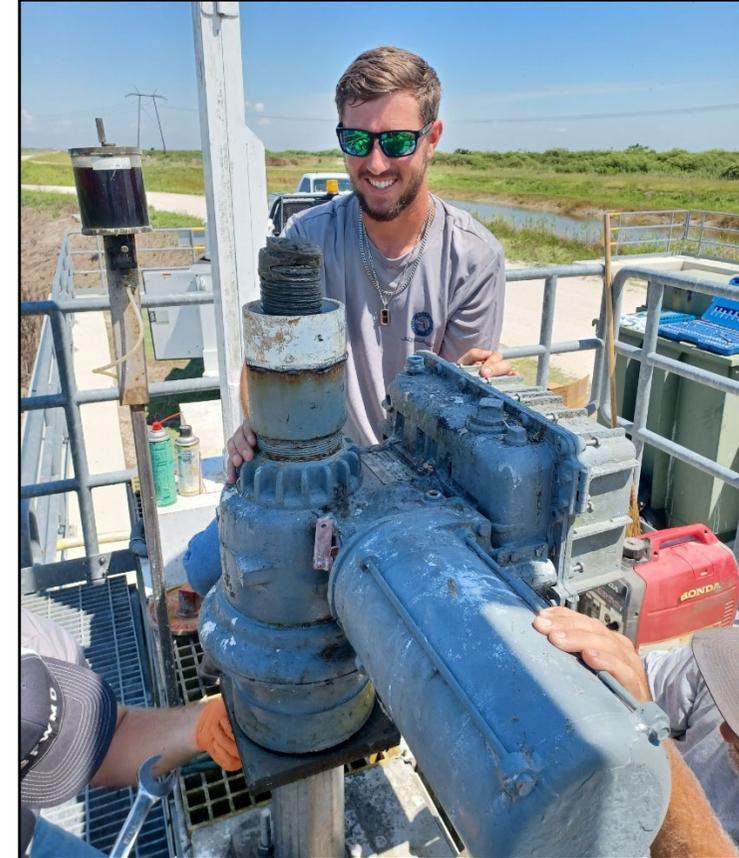


**Thomas Guerry- Diesel Engine Specialist
Air Compressor Repair
Clewiston Field Station**

Our People Make the Difference



**Gregory Mathis - Welder
Craig Means - Crew Chief
Clewiston Field Station**



**Daniel Whitehead - Structure Technician
Gate Actuator Removal
Clewiston Field Station**

Our People Make the Difference



**William Weaver - Fleet Technician
Greasing Fitting on Tractor
Okeechobee Field Station**



**Robert Hancock - Welder Fabricator
Repairing Dragline Bucket
Okeechobee Field Station**

Our People Make the Difference



Wayne Place - Fleet Technician
Repairing ATV
Okeechobee Field Station



Donna Robertson - Parts Coordinator
Managing Purchase Orders
Okeechobee Field Station

Our People Make the Difference



**William Moore - Heavy Equipment Operator
Excavating at Rolling Meadows
St. Cloud Field Station**



**Keith Brown - Contract Inspection Specialist
Surveying at Lake Marian
St. Cloud Field Station**

Our People Make the Difference



**Danny Garcia - Structure Technician
Replacing grease fitting at S-65.
St. Cloud Field Station**



**James Dunn & Danny Garcia - Structure Technicians
Painting the field stations fuel tank.
St. Cloud Field Station**

Our People Make the Difference



**James Davies - Senior Pilot
Flight Services
Palm Beach International Airport**



**JK Wells - Senior Pilot
Flight Services
Palm Beach International Airport**

JUNE IS FLOOD AWARENESS MONTH

STA 3/4 Inflow Pump
Station G-372



Questions



Flood Awareness Month: Resilient Florida Grant Agreements and Interlocal Agreement for the Construction of Flood Resiliency Projects



Carolina Maran, P.E., Ph.D., District Resiliency Officer
June 8, 2023

FLOOD CONTROL: Central & Southern Florida Project



INTERIM REPORT
OF
FLOOD DAMAGE
FLORIDA
EVERGLADES
DRAINAGE
DISTRICT
1927



1926 AND 1928
DEVASTATING HURRICANES
... LOSS OF 2,500 LIVES

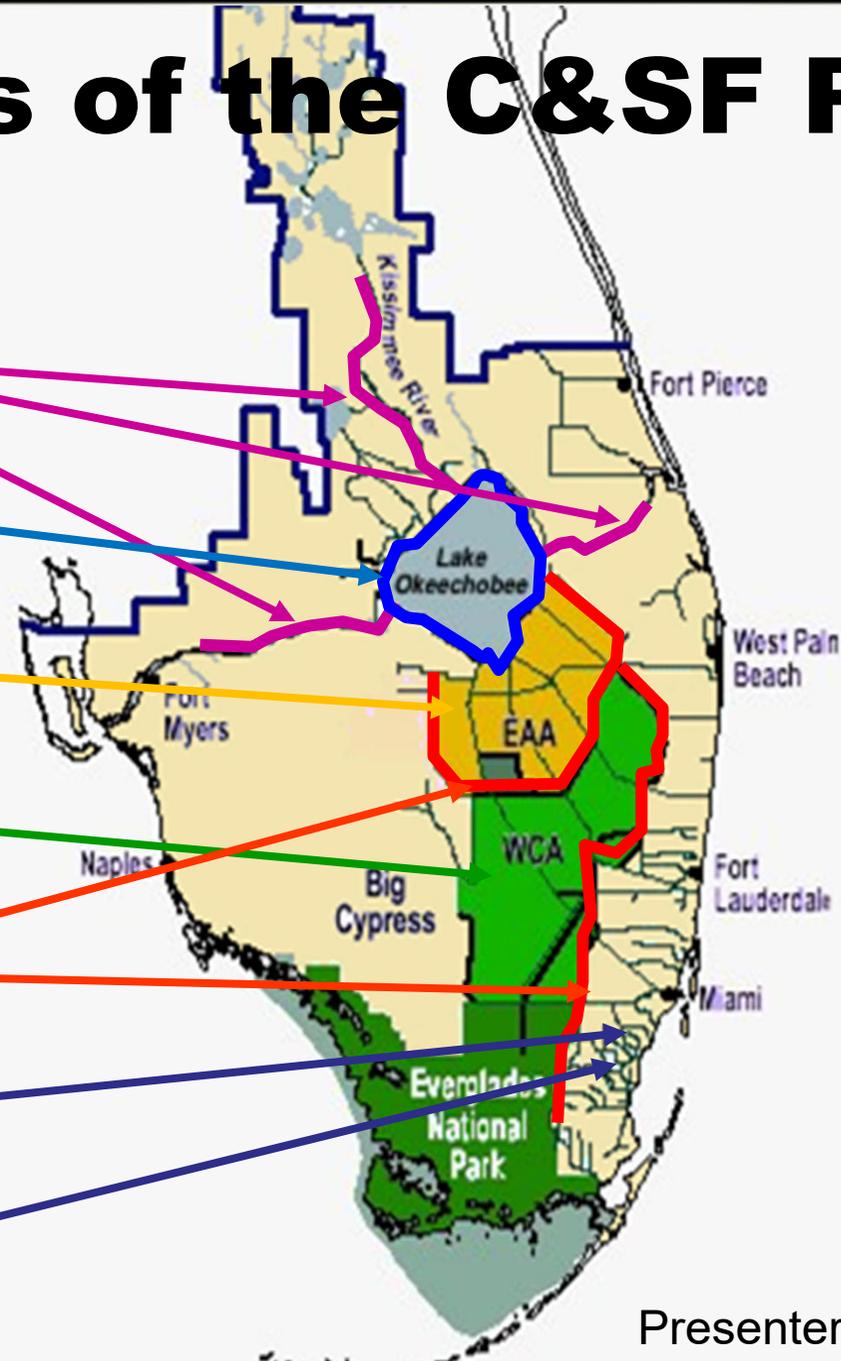
HOOVER DIKE AUTHORIZED 1930

... **COMPLETED 1937**



Major Features of the C&SF Project

- River Channelization
- Herbert Hoover Dike
- Everglades Agricultural Area
- Water Conservation Areas
- Protective Levees
- Salinity Structures
- Drainage Network



Major Project Features
Construction 1950's
– 1970's



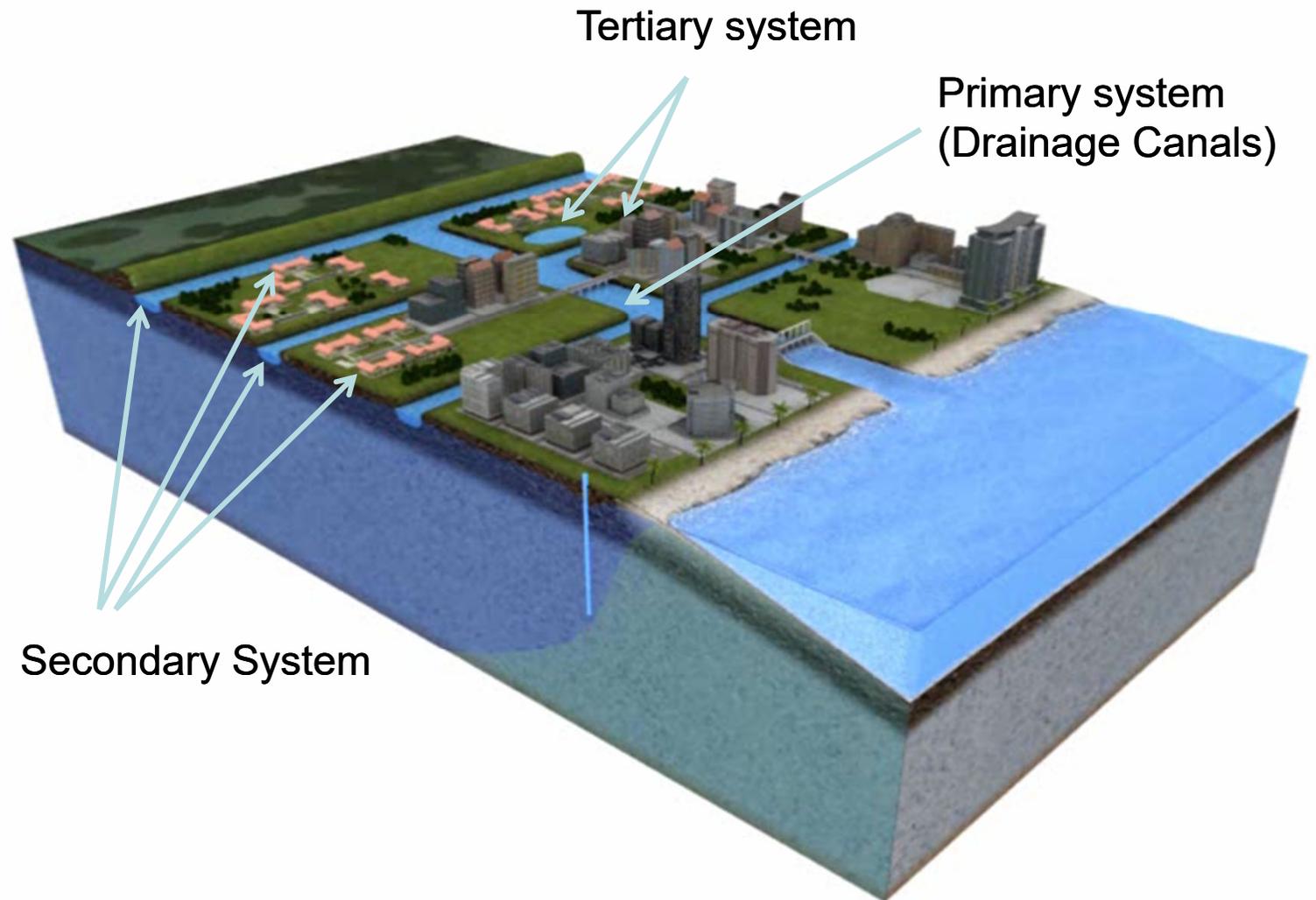
Operation & Maintenance
1970's to 2020's
(beyond design life)



2000's: Ecosystem
Restoration Projects
(Unintended
Consequences)

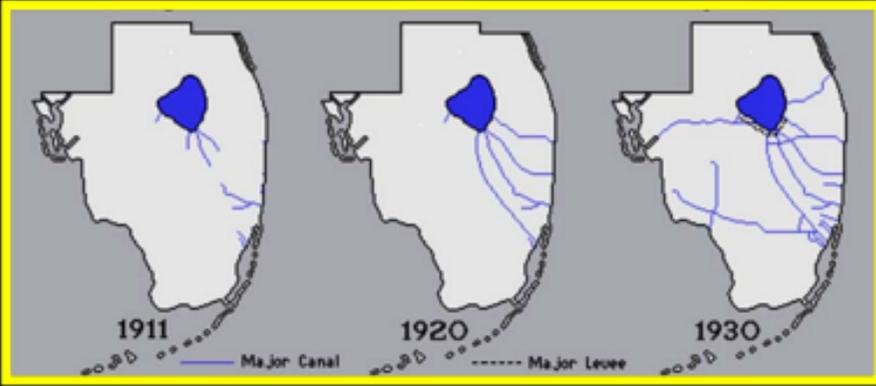
Flood Protection Responsibility

- Primary
 - USACE
 - SFWMD
- Secondary
 - Local Governments
 - Special Districts
- Tertiary
 - Homeowners Associations
 - Private Landowners



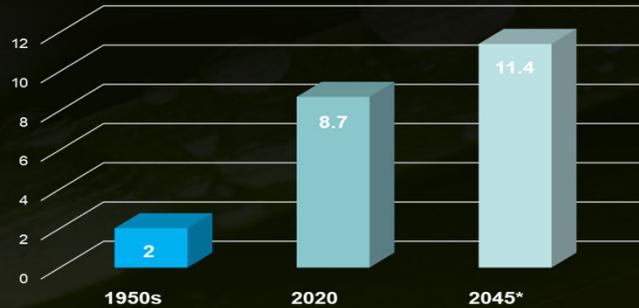
Recognizing Changed Conditions

Pre-1948 Drainage Projects

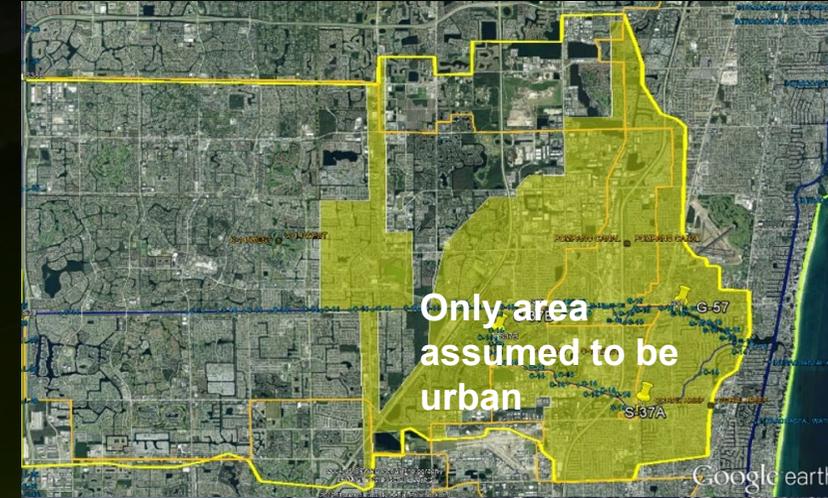


POPULATION GROWTH

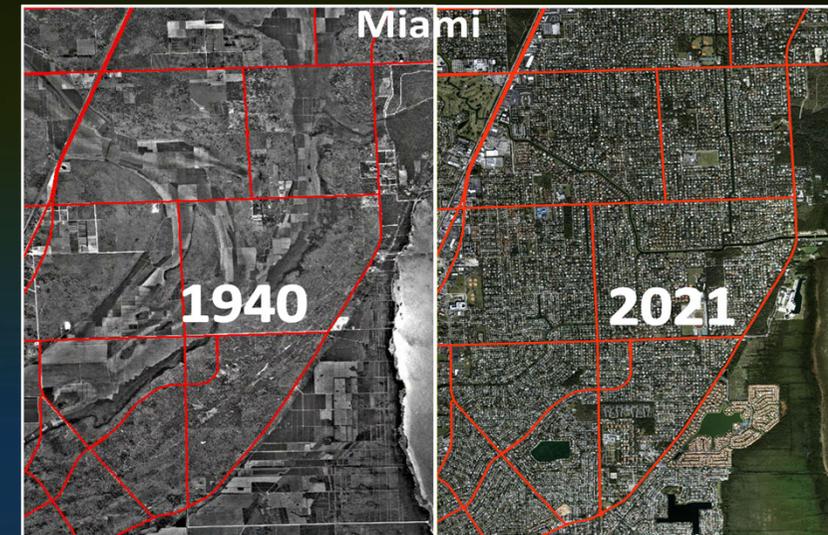
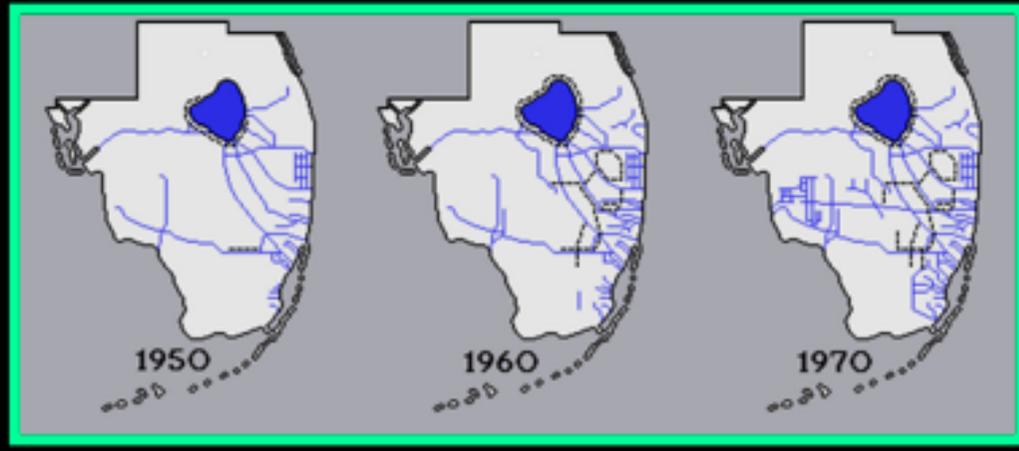
Population (million)



* Estimate taken from BEBR 2017 publication (Median, SFWMD boundaries)



Post-1948 C & S Florida Project

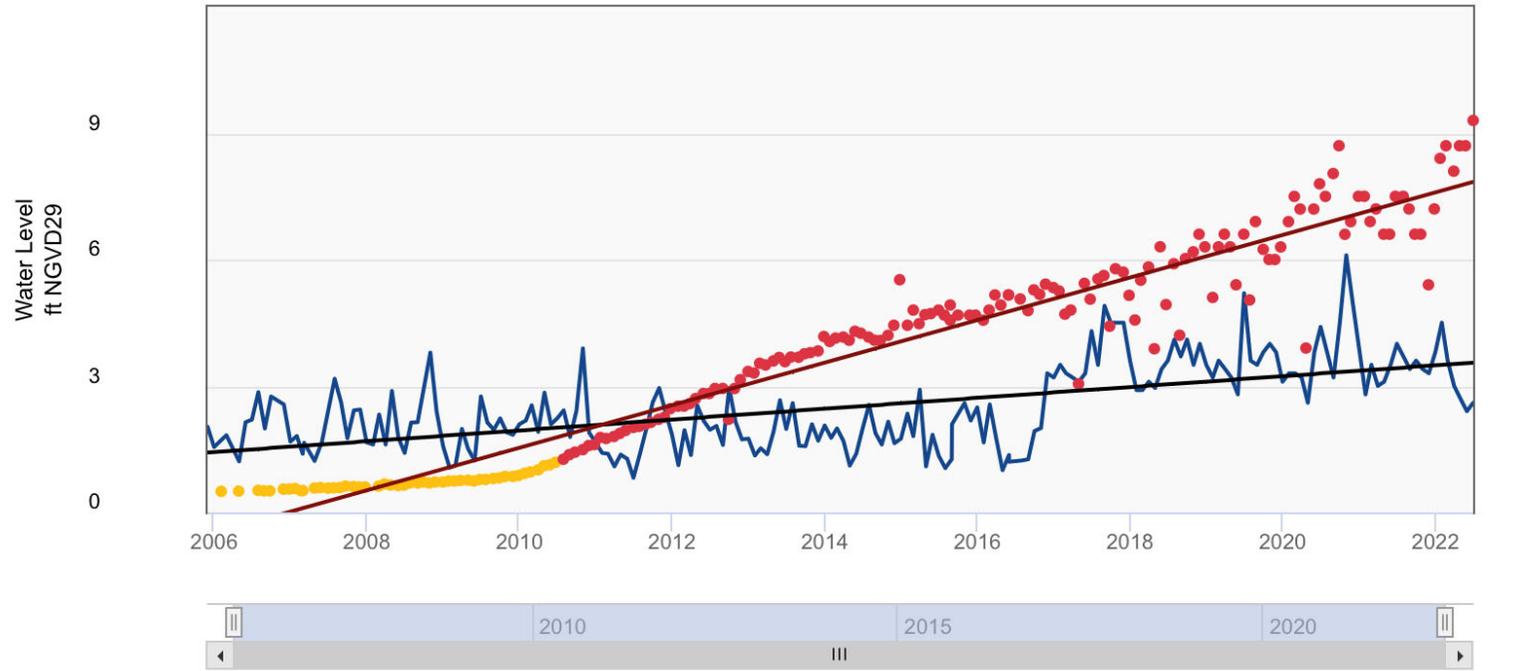


Recognizing Changed Conditions: Emerging Trends in Regional Resiliency

HALLANDALE

As of Thursday, July 28, 2022 at 7:00:49 PM GMT-04:00

Zoom 6m 1y All



—●— Ground Water
 ● ● ● Chloride Depth n/a
 — Ground Water Trend (eq=y = 0x + -3.21)
 — Chloride Trend n/a (eq=y = 0x + -15555.6)

Chloride Concentration mg/L

● < 100	● ≥ 100 and < 250
● ≥ 250 and < 1000	● ≥ 1000

101

Chloride Level mg/L

SFWM Data and Support

DBHYDRO
DBHydro Insights

[DBHydro Insights](#)

DBHYDRO is the South Florida Water Management District's corporate environmental database that stores hydrologic, meteorologic, hydrogeologic and water quality data.

[Details](#) [View](#)

SFWM GIS Hub

Our Open Data site is where our publicly available spatial datasets can be viewed and downloaded. Additional Web Apps and Story Maps are featured to explore and learn more about the data.

[Details](#) [View](#)

SFWM SFER 2021

[SFWM SFER 2021](#)

As the South Florida Water Management District works to Achieve More Now For Florida's Environment, we are pleased to present the 2021 South Florida Environmental Report (SFER).

[Details](#) [View](#)

Local Agencies' Information

Local Agencies are using their resources to help us understand the potential risks that come with Coastal Resiliency efforts.

BROWARD COUNTY FLORIDA

[Broward County Resiliency Dashboard](#)

Broward County continues to build resiliency at a number of scales, internally for government operations, and county-wide through coordination with municipalities and regionally across Southeast Florida.

[Details](#) [Main Page](#)

MIAMI-DADE COUNTY SEA LEVEL RISE STRATEGY

Miami-Dade County faces an unprecedented challenge in the coming decades to adapt to climate change and sea level rise.

[Details](#) [Main Page](#)

Palm Beach County Office of Resilience

The Office of Resilience (OOR) works to ensure that Palm Beach County remains a great place to live, work, and play while addressing physical, social, and economic challenges including climate change.

[Details](#) [Main Page](#)

Federal and State Agencies' Information

Federal and State Agencies are using their resources to help us understand the potential risks that come with Coastal Resiliency efforts.

USGS Water Mapper

This website is designed to conduct automated statistical and graphical analyses on water-level and salinity data collected from sites monitored by the U.S. Geological Survey (USGS) in South Florida.

[Details](#) [View](#)

FDEP Florida Resilient Coastlines Program

The Florida Department of Environmental Protection is committed to marshaling resources to prepare Florida's coastal communities and habitats for the effects of climate change, especially rising sea levels.

[Details](#) [View](#)

NOAA Resilience HUB

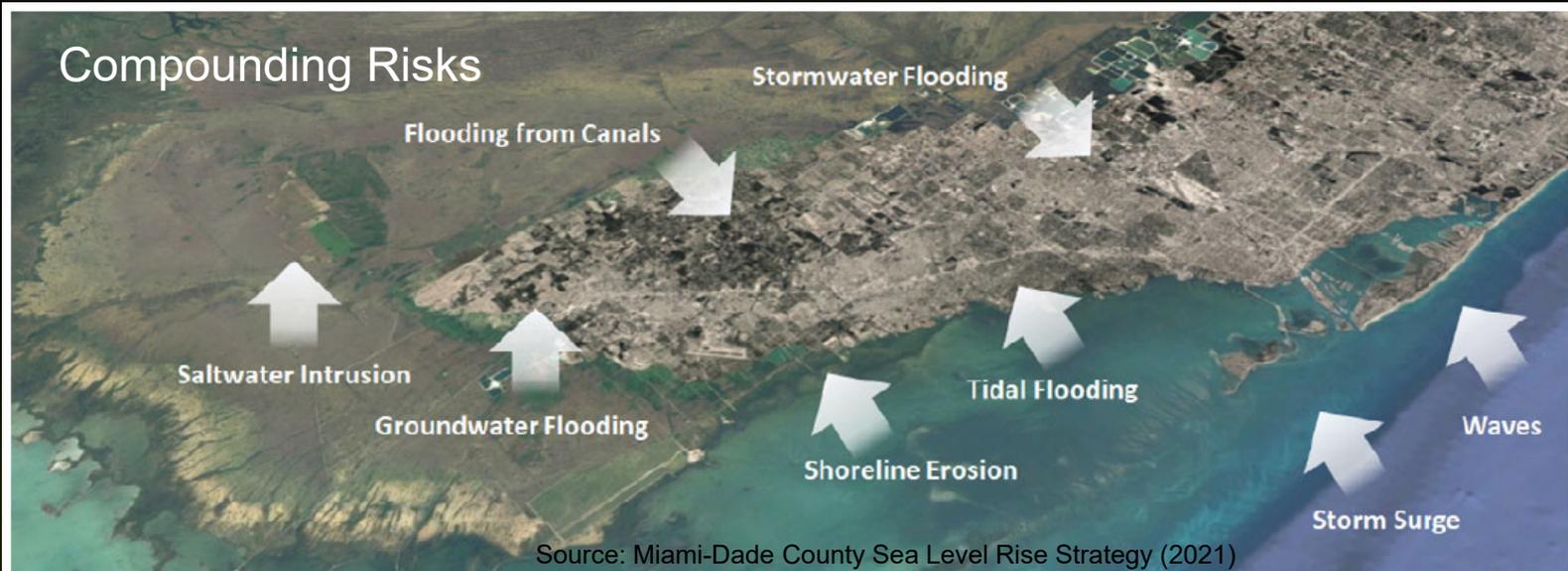
This page is a hub for NOAA-related resilience resources. Here you can peruse the agency's related assets, explore ELP-funded resilience projects, and learn more about our grantee community. The ELP Community Resilience Education Theory of Change can also be found on this hub.

[Details](#) [View](#)

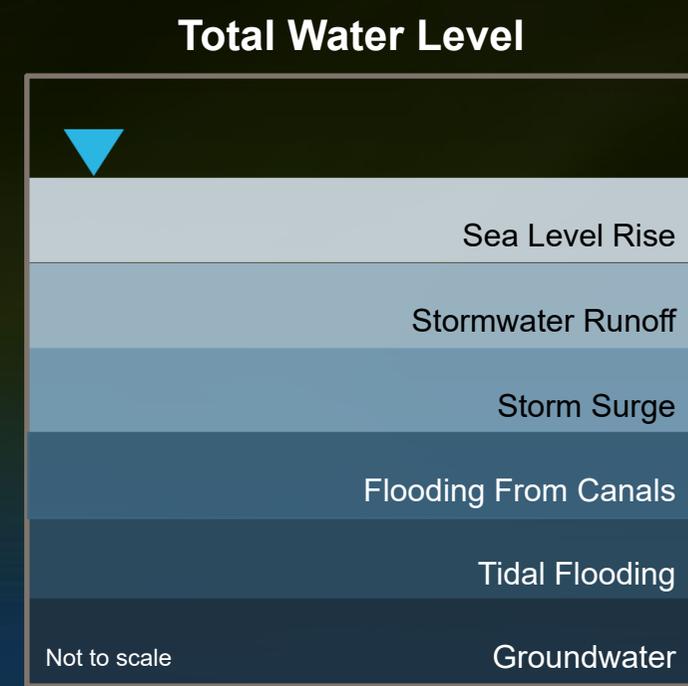
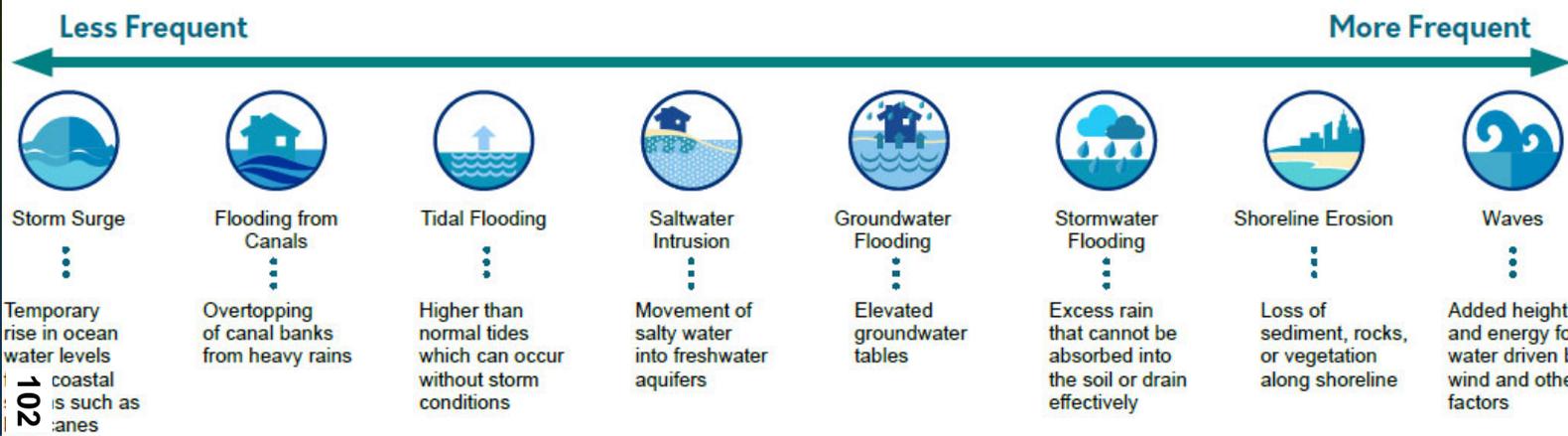
Presenter: Carolina Maran

Flooding: Sources and Impacts

Understanding Coastal and Inland Compounding Effects



Sea level rise and future extreme rainfall will increase the frequency and impact for all sources of flooding



Flood Protection Level of Service Program

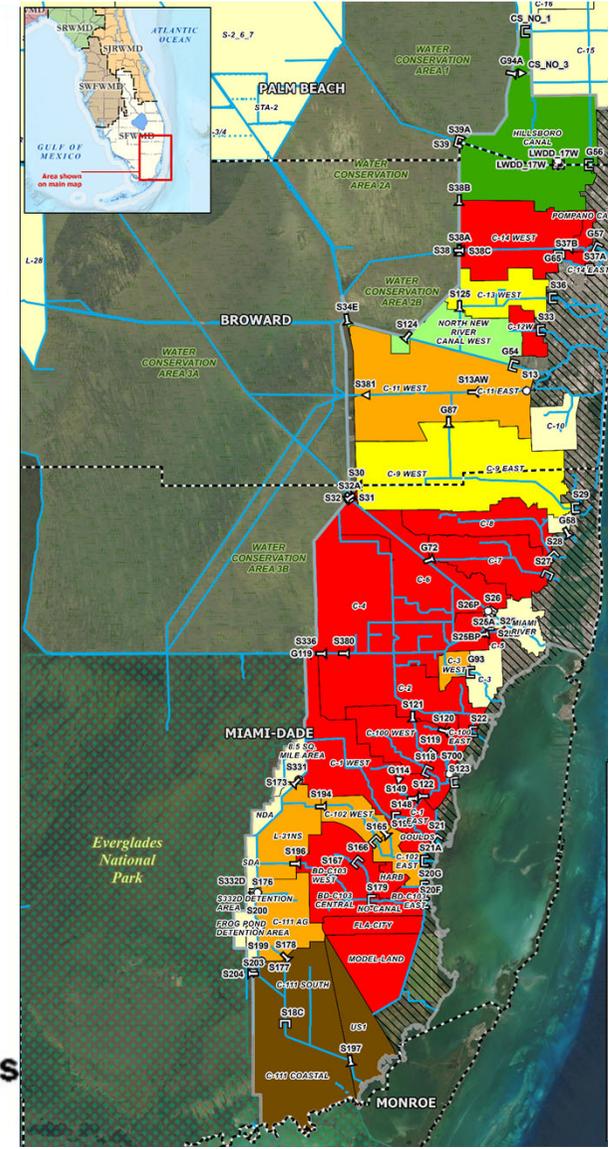
District strategy for assessing the impacts of land development and changing climate on flood control

- Evaluate current and future flood risks to communities in South Florida
 - Well defined performance metrics: canal stages, discharge capacity, overland flood inundation and duration
 - Considers rainfall, groundwater levels, tides, storm surge and sea level: compound flooding analysis
 - Basin-wide integrated modeling: supports the assessment of structural, non-structural and nature based solutions

➤ Support decision making on prioritizing and sequencing infrastructure investments

Legend

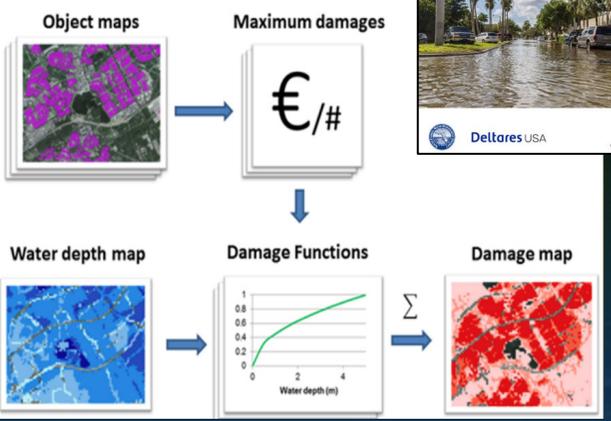
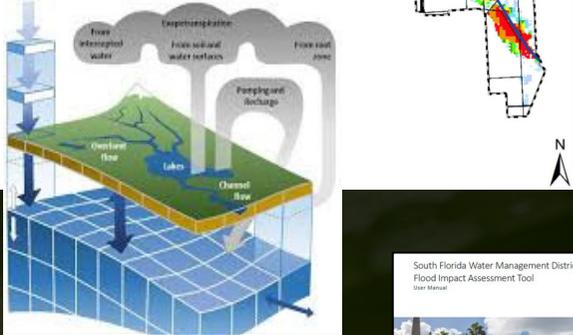
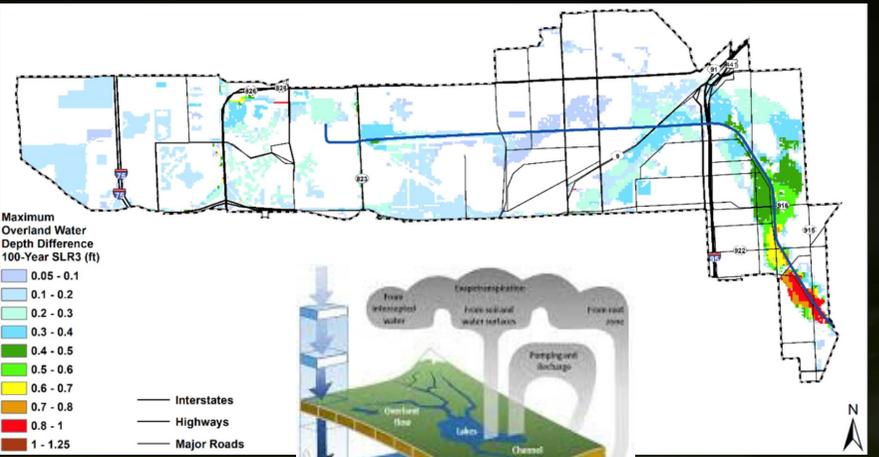
- AHED Watersheds
- Structures**
 - ⤵ CULVERT
 - ⊕ PUMP
 - ⌌ SPILLWAY
- Status**
 - XXX Completed
 - ⋯ Future
 - Ongoing
- Future Level of Service**
 - 100-Year Event
 - 25-Year Event
 - 10-Year Event
 - 5-Year Event
 - < 5-Year Event
 - No Results
- Downstream Areas**
 -
- Water Conservation Areas**
 -



District Resiliency Planning

Reducing the risks of flooding, sea level rise and other climate impacts on water resources and increasing community and ecosystem resiliency in South Florida

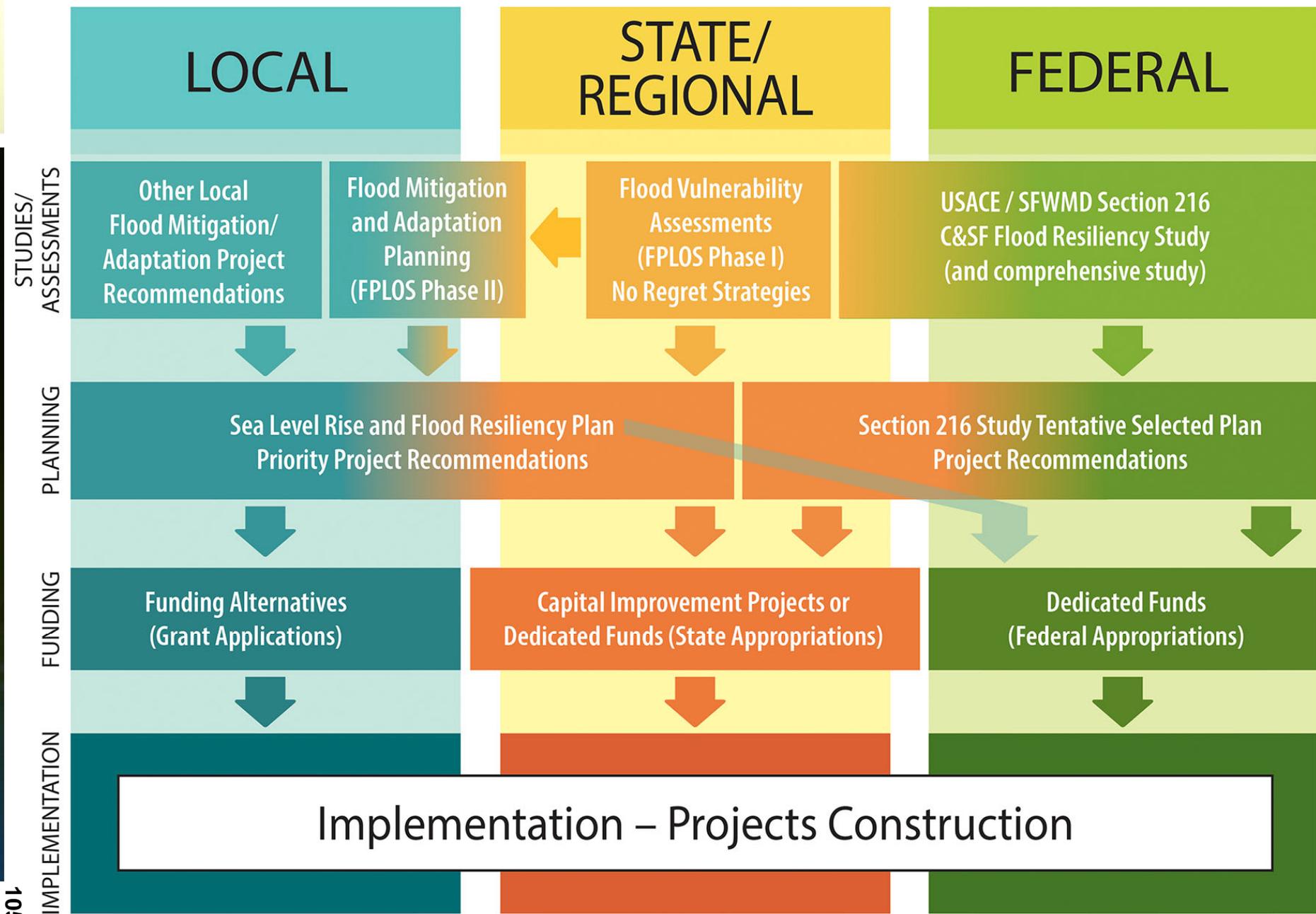
Draft 2023 Update open for Public Comments until June 23rd



2023 SEA LEVEL RISE AND FLOOD RESILIENCY PLAN

DRAFT JUNE 2023

Building Resilience and Mitigating Risks to South Florida's Water Resources



Governor DeSantis' Executive Order 23-06: Achieving Even More Now for Florida's Environment

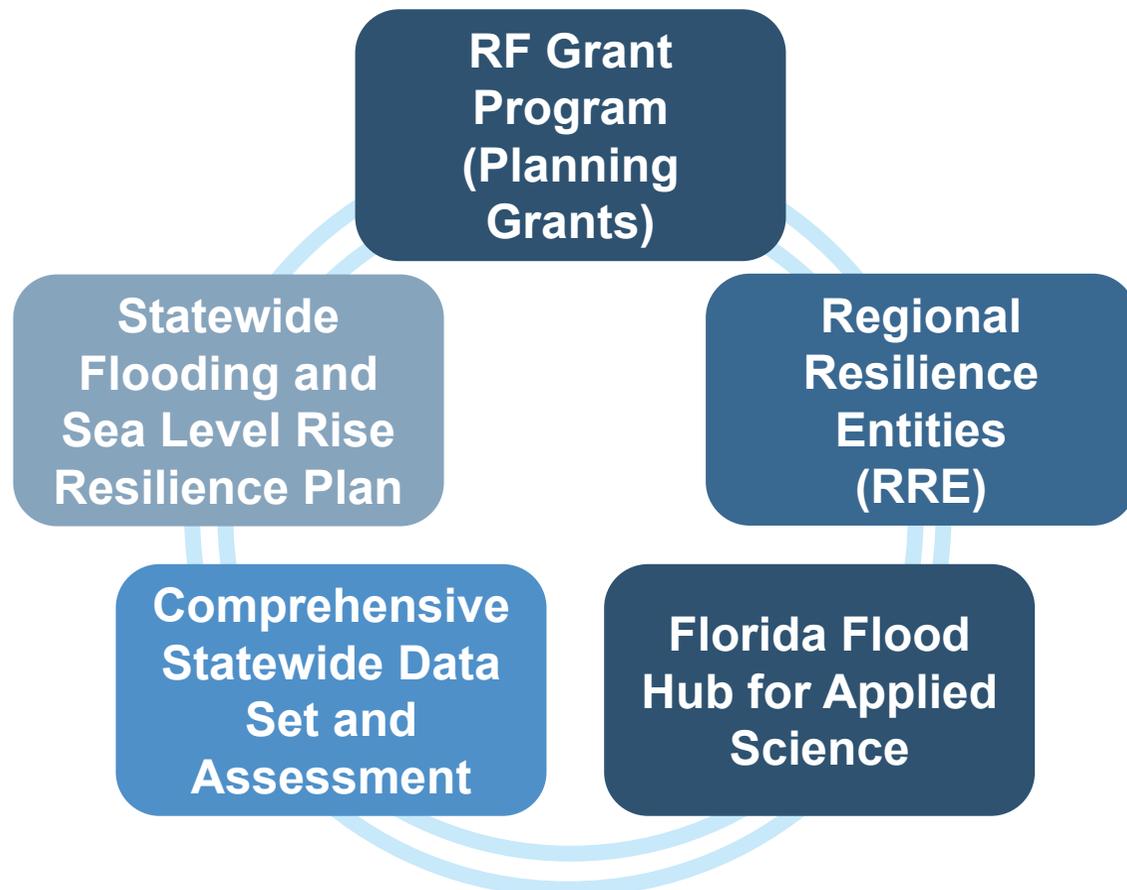
Exec. Order further advances the protection of Florida's environment and water quality.

Ramps up efforts to accomplish even more by securing \$3.5 billion over four years for:

- Everglades restoration and the protection of water resources
- Continuing to expedite the Comprehensive Everglades Restoration Plan projects
- Strengthening resiliency efforts, through the Resilient Florida Program



FDEP Resilient Florida



**“Always Ready Bill” Establishing
the Program and 380.093, F.S.**

**Senate Bill 1954/2021 &
House Bill 7019/2021**

***Unanimously passed in
both chambers.***

Presenter: Carolina Maran

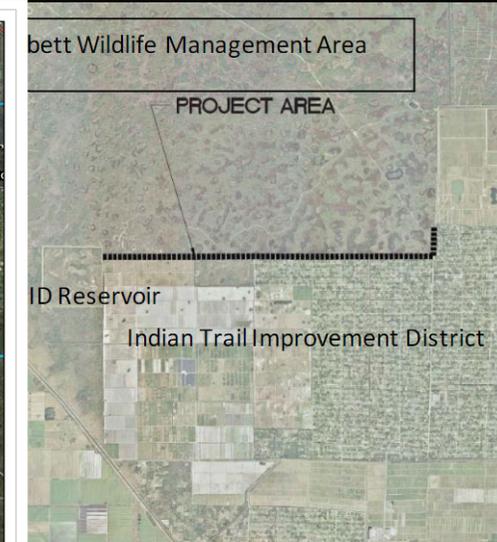
2022 SFWMD Applications to RF

- JW Corbett Wildlife Management Area and Levee Resiliency
- ~~Everglades Mangrove Migration Assessment (not awarded)~~
- Coastal Structures Hardening & Self Preservation Mode
- ~~C 8 Basin Resiliency (not awarded, FEMA BRIC)~~
- ~~C 9/C 11 Basins Resiliency (not awarded)~~
- ~~C 4/C 5/C 6/C 7 Basins Resiliency (not awarded)~~
- S2, S3, S4, S7, S8 Engine Control Panel
- L8 FEB / G539 Pump Upgrades

Deadline to complete projects: June 30, 2026

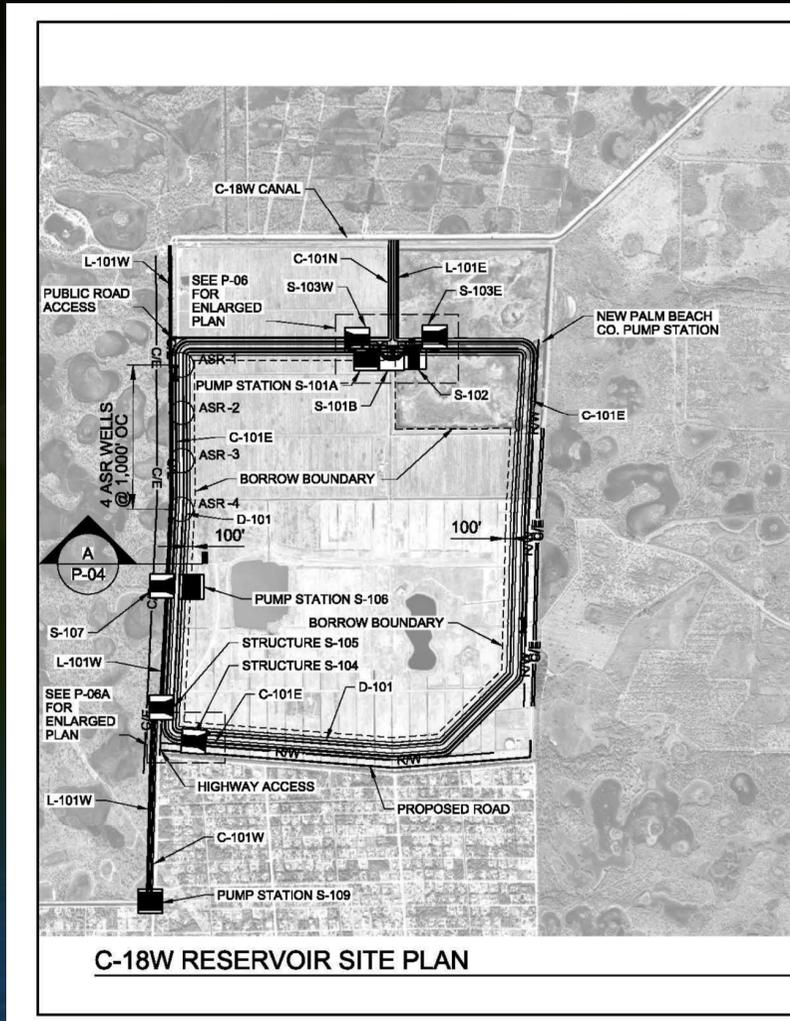
JW Corbett Wildlife Management Area Hydrologic Restoration & Corbett Levee Resiliency

- Repair and update the Corbett Levee
- Improve stormwater infrastructure in the region and increase the operational flexibility of the secondary water control system, by ITID
- Allow to safely retain water for hydrologic restoration within the JW Corbett WMA: total of 60,000 acres of critical habitat area
- Restoration of more natural hydroperiod within the WMA will improve fish and wildlife habitat
- Phase I (2016): strengthened 2.6 miles of the levee
- Phase II: remaining 3-mile portion of the Levee
- Protection of 36K people and critical infrastructure
- FDEP – Resilient Florida is providing ~\$7.7M, into a 50% cost-share agreement with Palm Beach County



Integration with CERP Loxahatchee River Watershed Restoration Project

- Co-implementation with the C18W Impoundment west inflow canal levee, part of the CERP Loxahatchee River Watershed Restoration Project, Flow way 2
- 0.6 N/S Levee segment is needed to fully restore natural hydroperiod and improve wildlife at the JW Corbett Wildlife Management Area



CENTRAL AND SOUTHERN FLORIDA
COMPREHENSIVE EVERGLADES RESTORATION
LOXAHATCHEE RIVER WATERSHED RESTORATION PROJECT
C-18W RESERVOIR

PLATE NO. **P-02**

0 2000' 4000'

N

Coastal Structures Hardening and Self Preservation Mode

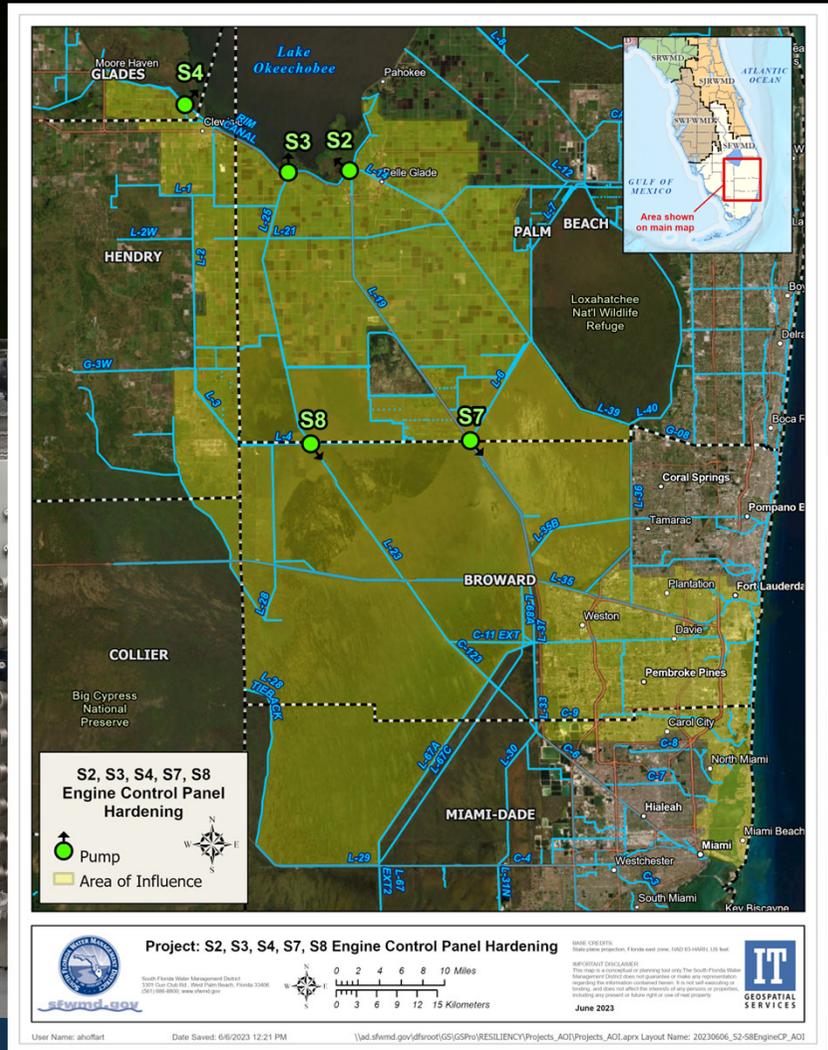
- Urgent need to optimize and harden operation of structures during storm surge and higher tide events, addressing Hurricane Ian/Irma/Matthew/Dorian gate-open lockouts
- Water Supply exposure to saltwater intrusion: wellfield protection zones vulnerability – **Regional Significant Assets**
- Exacerbated upstream flood risks (reflected in FEMA Coastal Zone A Maps)
- Short-term benefits: “self-preservation lockdown” system for several highly vulnerable critical structures
- Focus on enhancing electronic/mechanical components, extending top of gates and floodproofing of coastal structures
- FDEP – Resilient Florida is providing ~\$6.3M, into a 50% cost-share agreement with SFWMD



Additional Programming; storm resilient Back Up Controller instrument and platform	Install Backup Controller and other automation features	Modify gates for added high tide protection against reverse flow	Modify Structure by adding seals	Other automation and floodproofing needs	Control Panel Upgrades / Hardening
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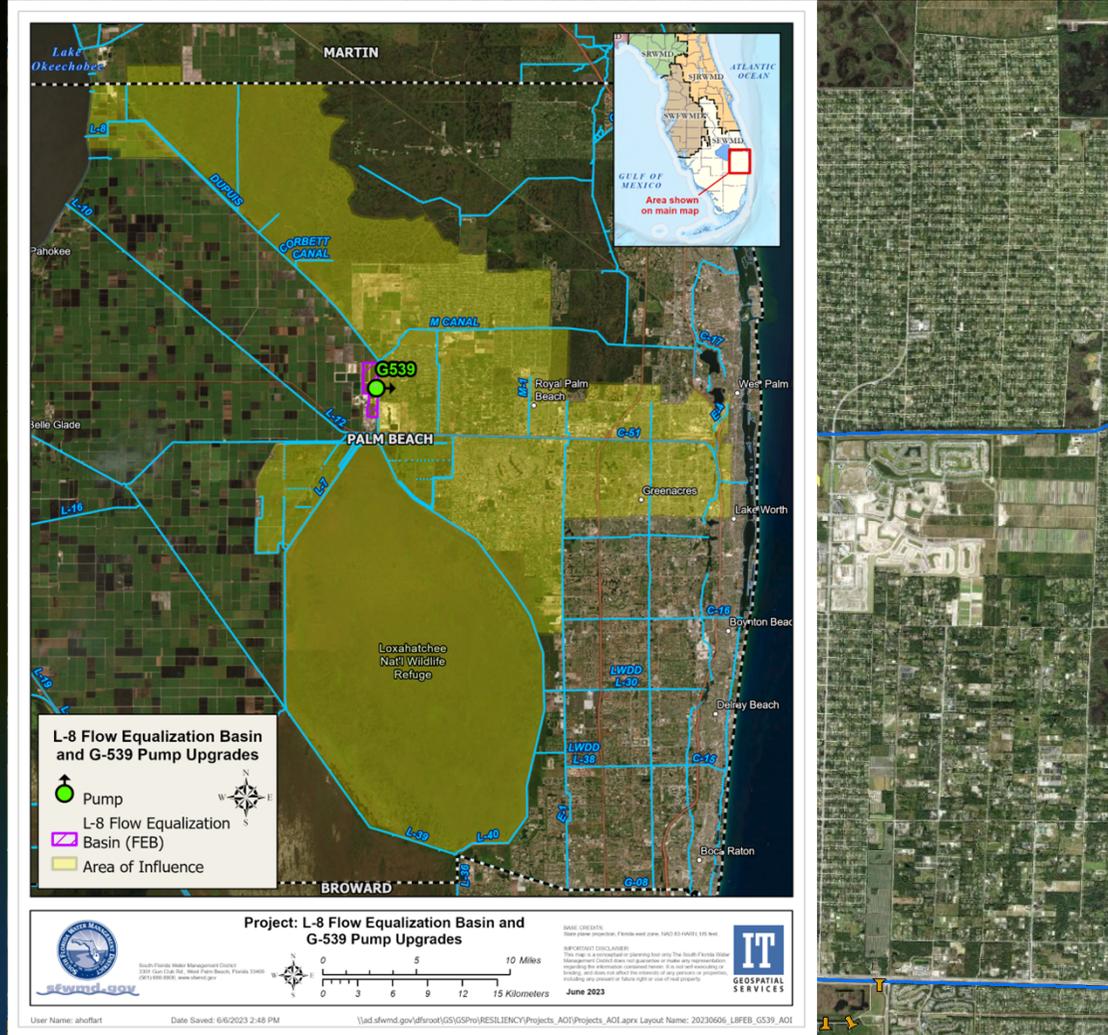
Hardening of S-2, S-3, S-4, S-7, S-8 Engine Control Panels, Building Resiliency South of Lake Okeechobee

- S2 (4-engines), S3 (3-engines), S7 (3-engines), and S8 (4-engines) pump stations were built in the 1950's. S4 (3-engines) was built in 1974.
- Pump engine control panels need replacement (end of useful life) to reduce flooding risks and increase water management flexibility
- New Emergency Shutdown equipment
- Self Preservation Mode: control room will be able to monitor each engine of the pump station
- Compound flooding risk reduction across Palm Beach and down South in Broward County
- Construction Initiated
- FDEP – Resilient Florida is providing up to \$8.5M, into a 50% cost-share agreement with SFWMD



L-8 FEB / G-539 Pump Resiliency Upgrades

- Enhance reliability of G-539 pump and L-8 Flood Equalization Basin by replacing 6 existing electrical submersible pumps configured in 2 pumping stages
- Reduce flood risks; increase water management flexibility
- L-8 FEB: receive flows from C-51 West and S-5A drainage basins and add 45,000 ac-ft of storage capacity that reduces flows to tide during storm events and provides storage instead of sending water south when the system is at capacity
- Water supply protection associated benefits through operation of C-51 reservoir
- New Self Preservation Mode Functionality: control room will be able to monitor each engine of the pump station
- FDEP – Resilient Florida is providing ~\$4M, into a 50% cost-share agreement with SFWMD



Governing Board Resolution

A Resolution of the Governing Board of the South Florida Water Management District authorizing entering into three grant agreements with the Florida Department of Environmental Protection and one interagency agreement with Palm Beach County for the planning, designing, and constructing of four projects awarded through the Resilient Florida Grant Program:

- **Coastal Structures Enhancement and Self-Preservation Mode Project (Contract No. 4600004788)**
- **Hardening of S-2, S-3, S-4, S-7, and S-8 Engine Control Panels - Building Resiliency in Water Management South of Lake Okeechobee Project (Contract No. 4600004789)**
- **L8 FEB/G-539 Pump Resiliency Upgrades (Contract No. 4600004790)**
- **JW Corbett Wildlife Management Area (WMA) Hydrologic Restoration and Corbett Levee Resiliency (Contract No. 4600004787)**

Carolina Maran
cmaran@sfwmd.gov
Chief of District Resiliency

Thank You



South Florida Water Management District
www.sfwmd.gov/resiliency

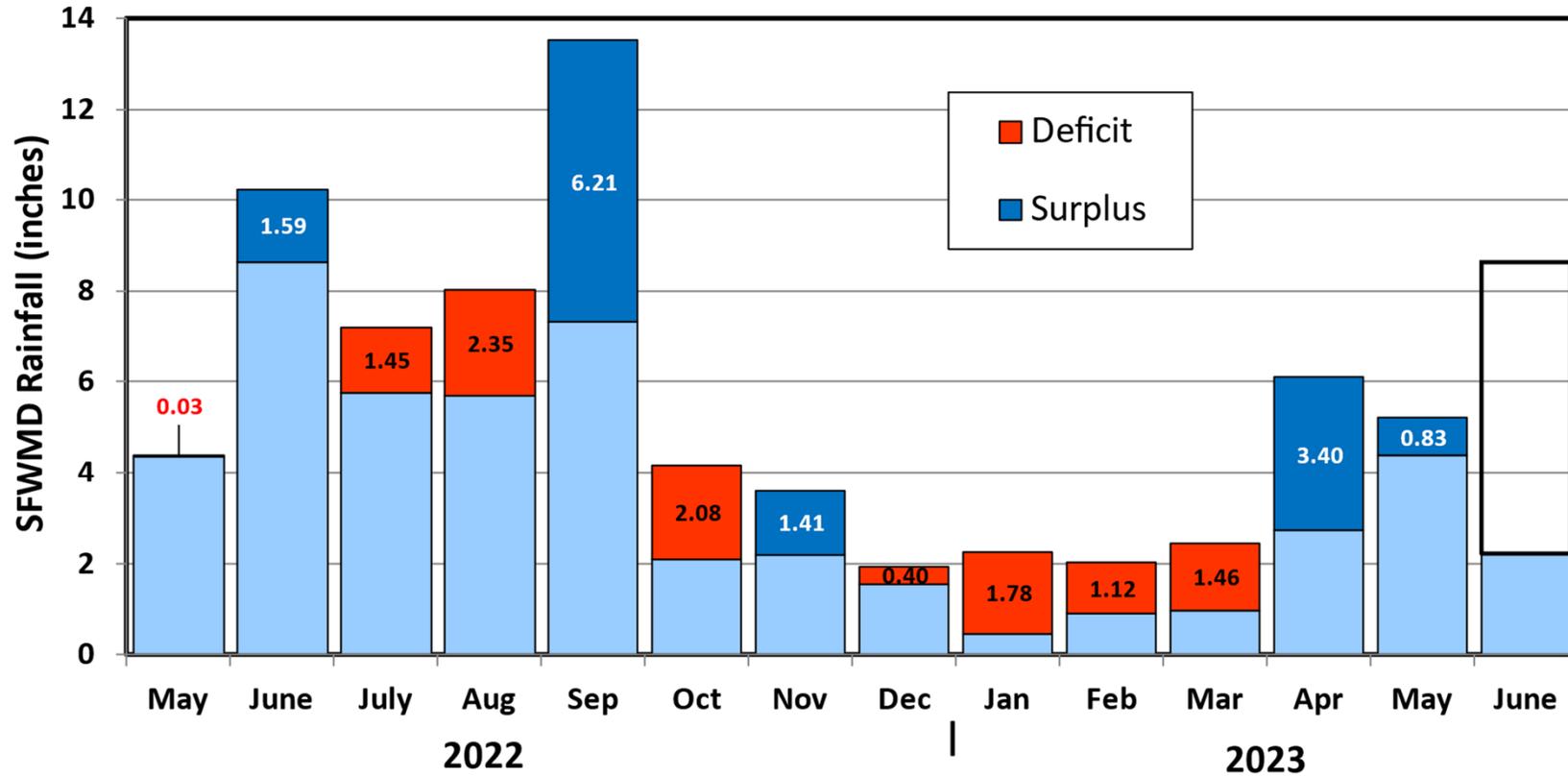
Water Conditions Summary

**South Florida Water Management District
Governing Board Meeting
June 8, 2023**



John P. Mitnik, PE
Chief District Engineer
Assistant Executive Director

SFWMD Rainfall Distribution Comparison (May 2022 - June 2023)



District Wide Average Rainfall

Month	Average (inches)
Jan	2.24
Feb	2.01
Mar	2.43
Apr	2.71
May	4.37
Jun	8.65
Jul	7.20
Aug	8.03
Sep	7.31
Oct	4.15
Nov	2.18
Dec	1.94

Wet Season

2022 WET SEASON

- Started 5/13/2022 – Ended 9/28/2022
- May ~ 100%, Jun ~ 120%, Jul ~ 80%, Aug ~ 65%
- Sep 2022 total 13.52", 191% of Normal
- Sep 26-29, Hurricane Ian ~ 5.3"

2022-2023 DRY SEASON

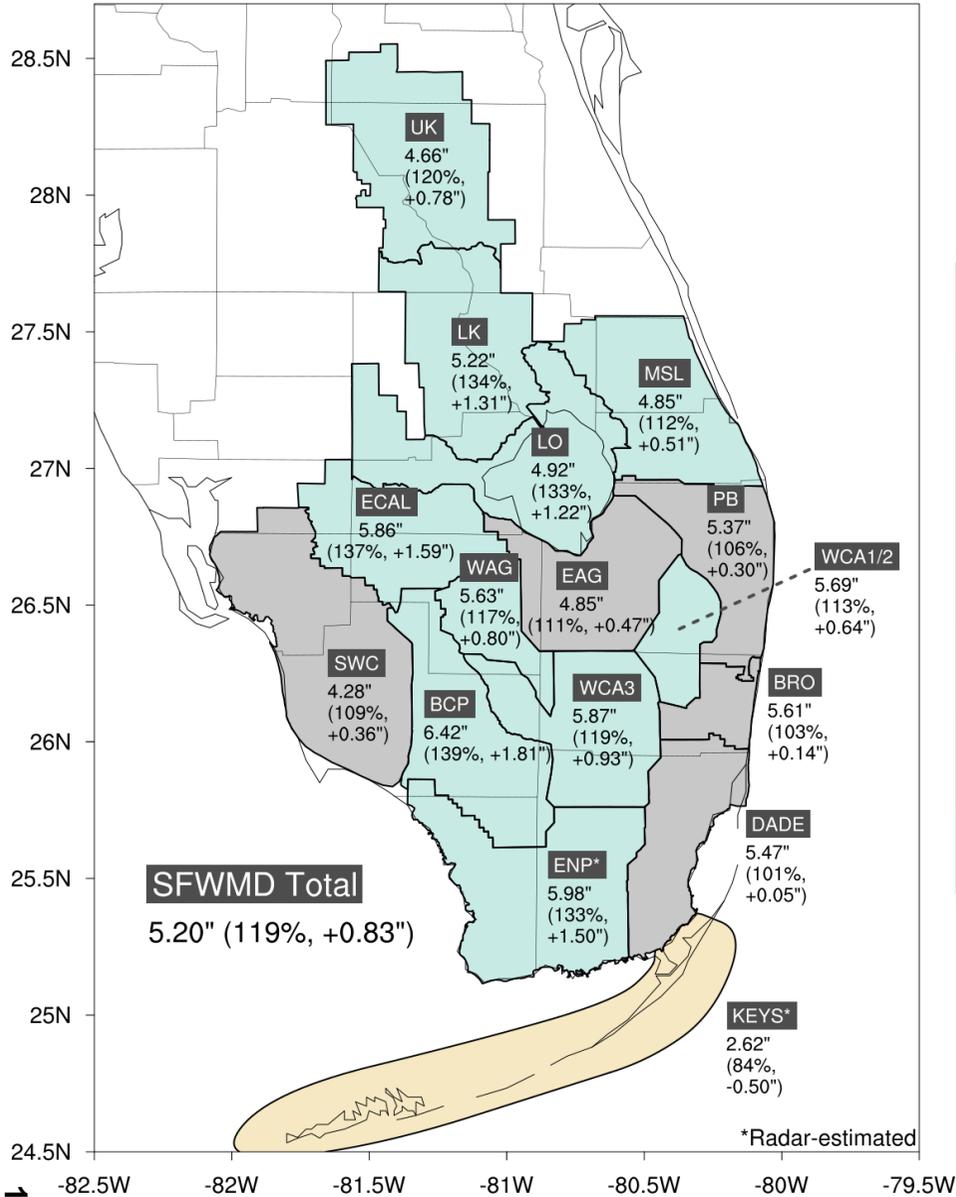
- Started 9/29/2022 and ended 5/13/2023
- Including October, 5/6 full months are below Normal
- 4/6 full months are more than 50% below Normal
- April was ~ 225% normal.

2023 WET SEASON

- Started 5/14/2023
- May 2023 was about ~120% Normal

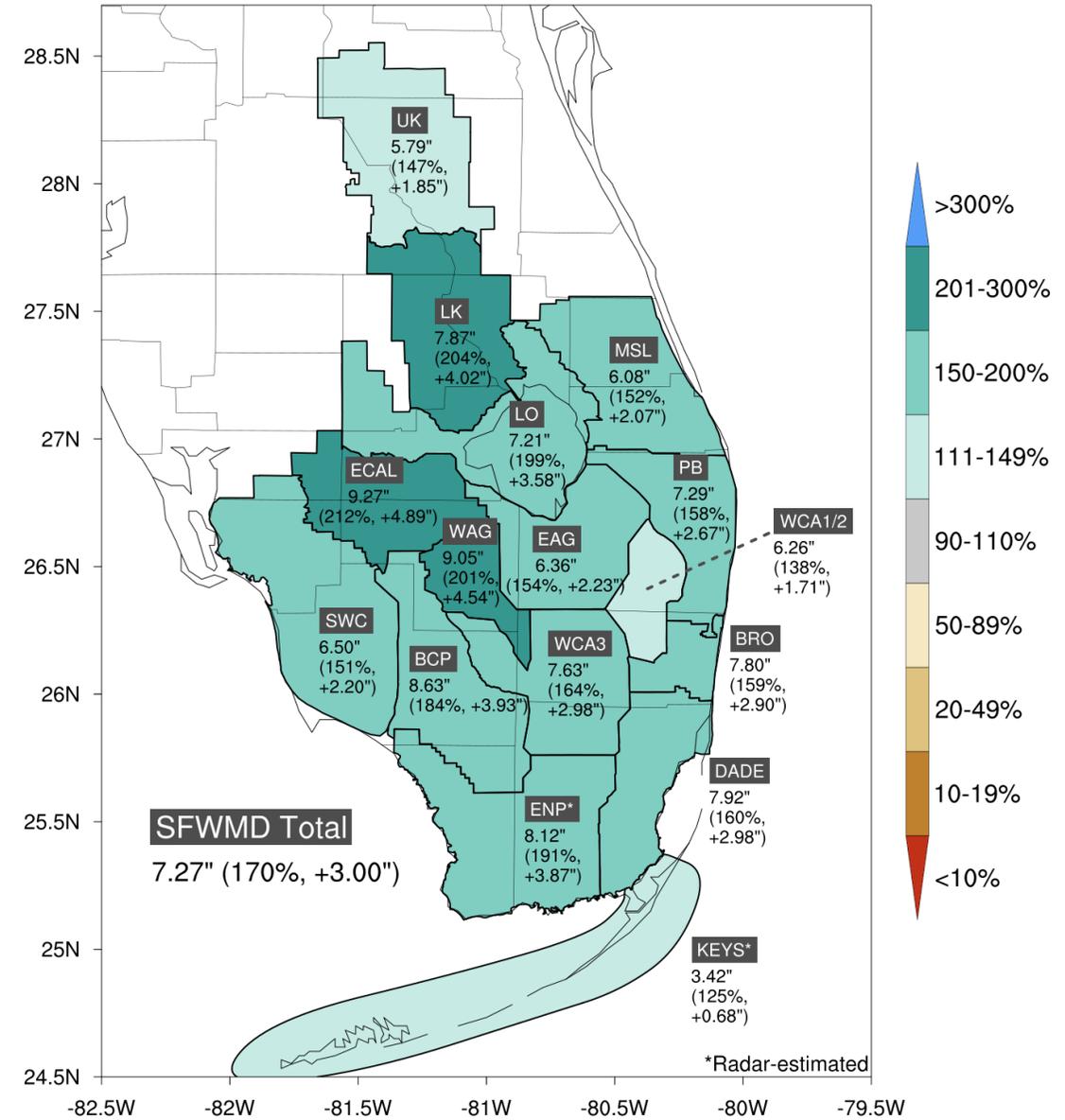
May 2023

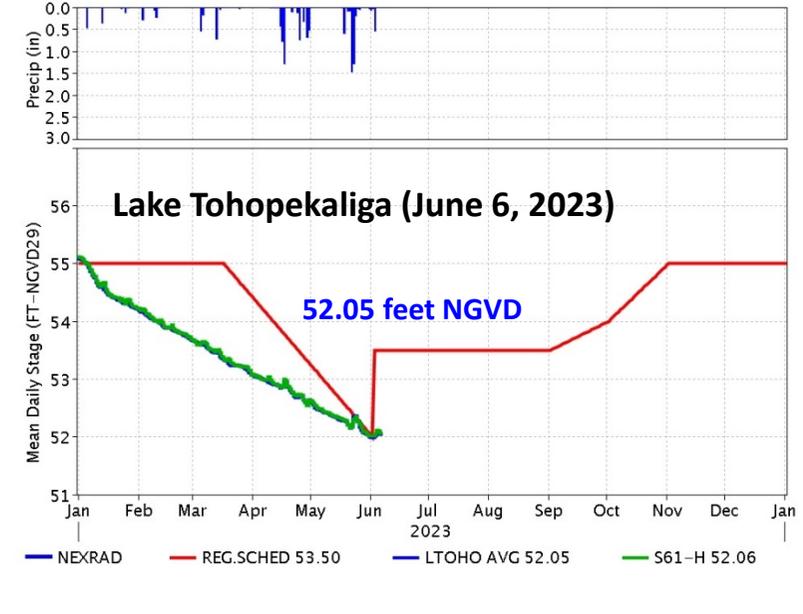
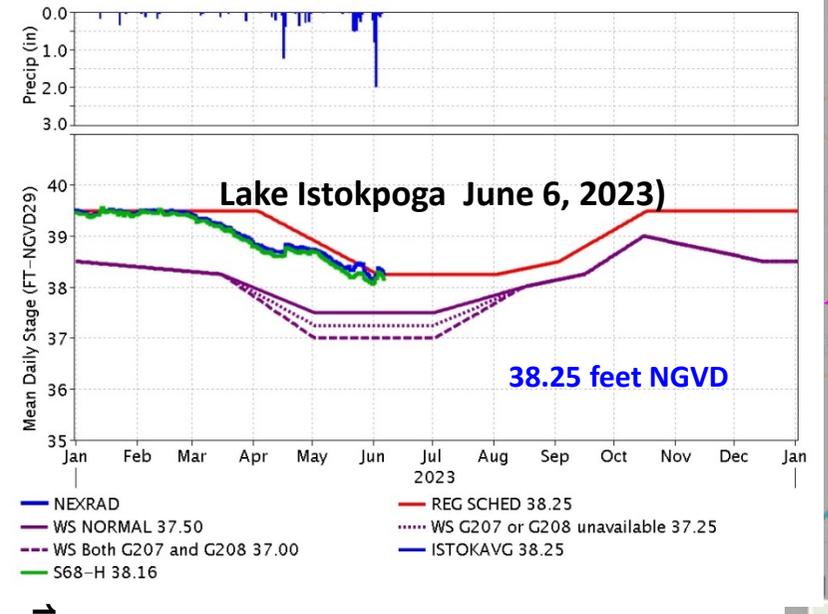
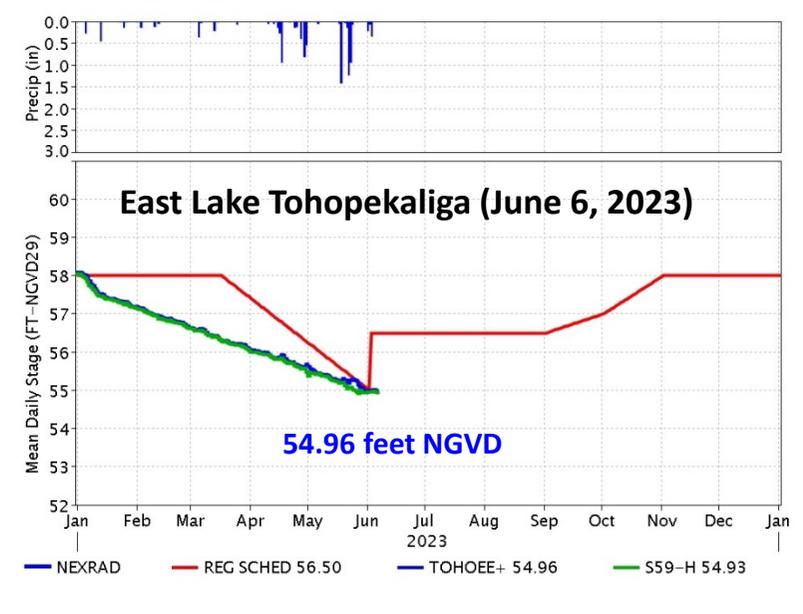
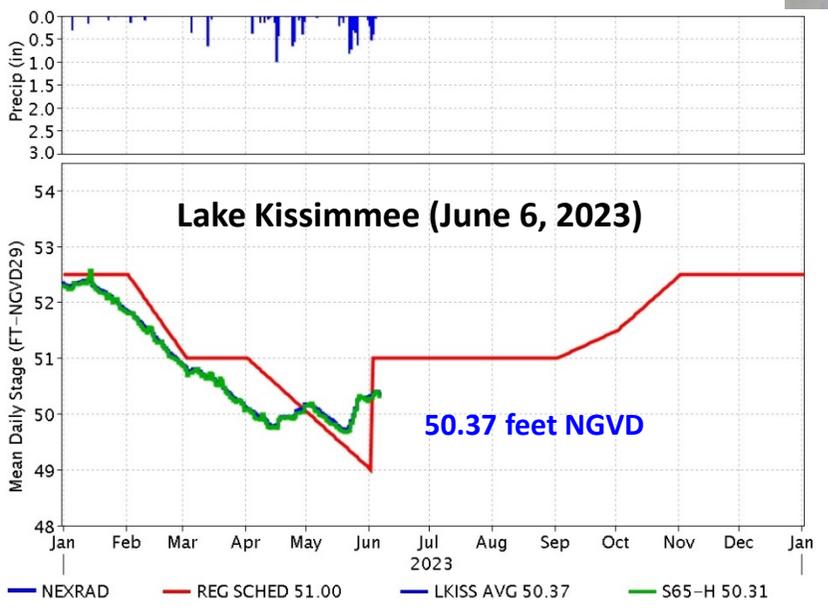
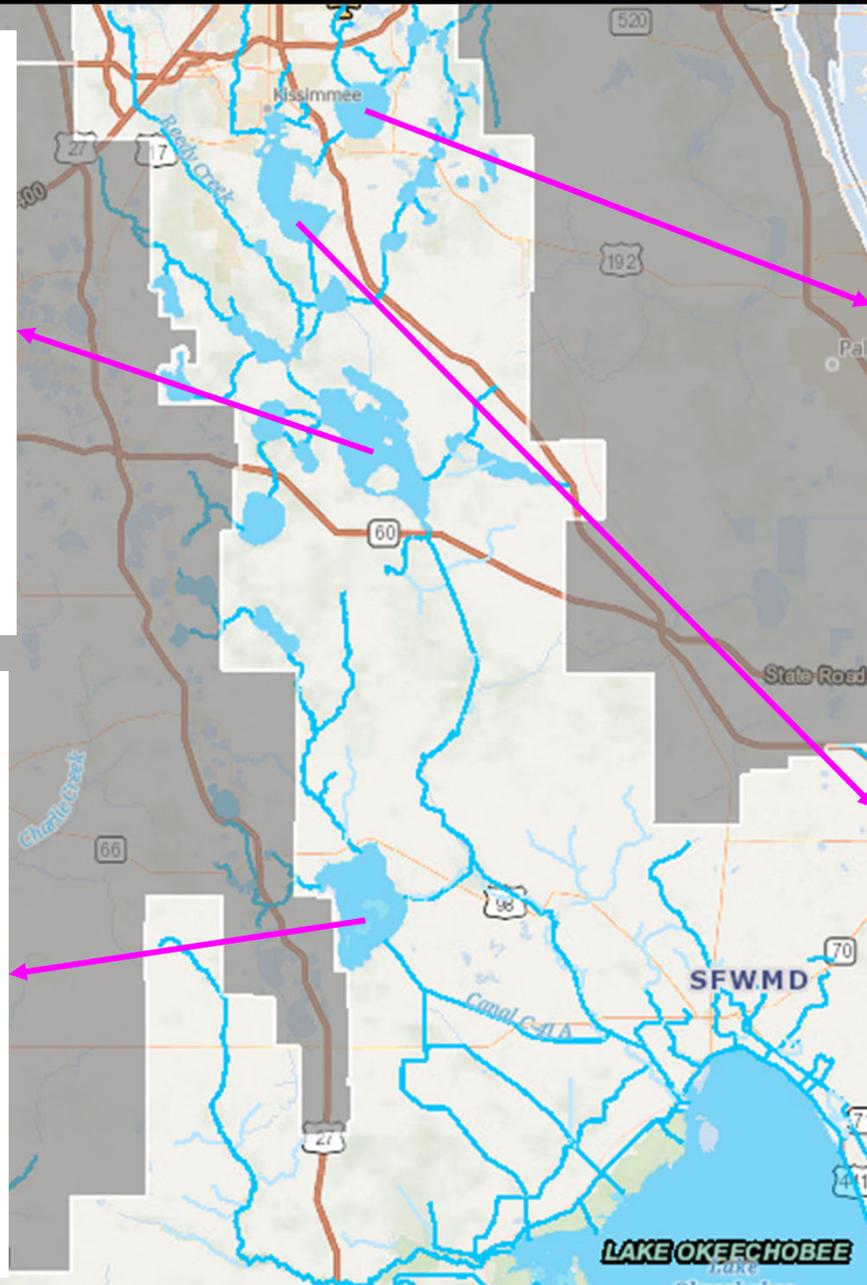
Rainfall, Percent of Normal, and Departures



2023 Dynamic Wet Season (5/14/23 to 6/6/23)

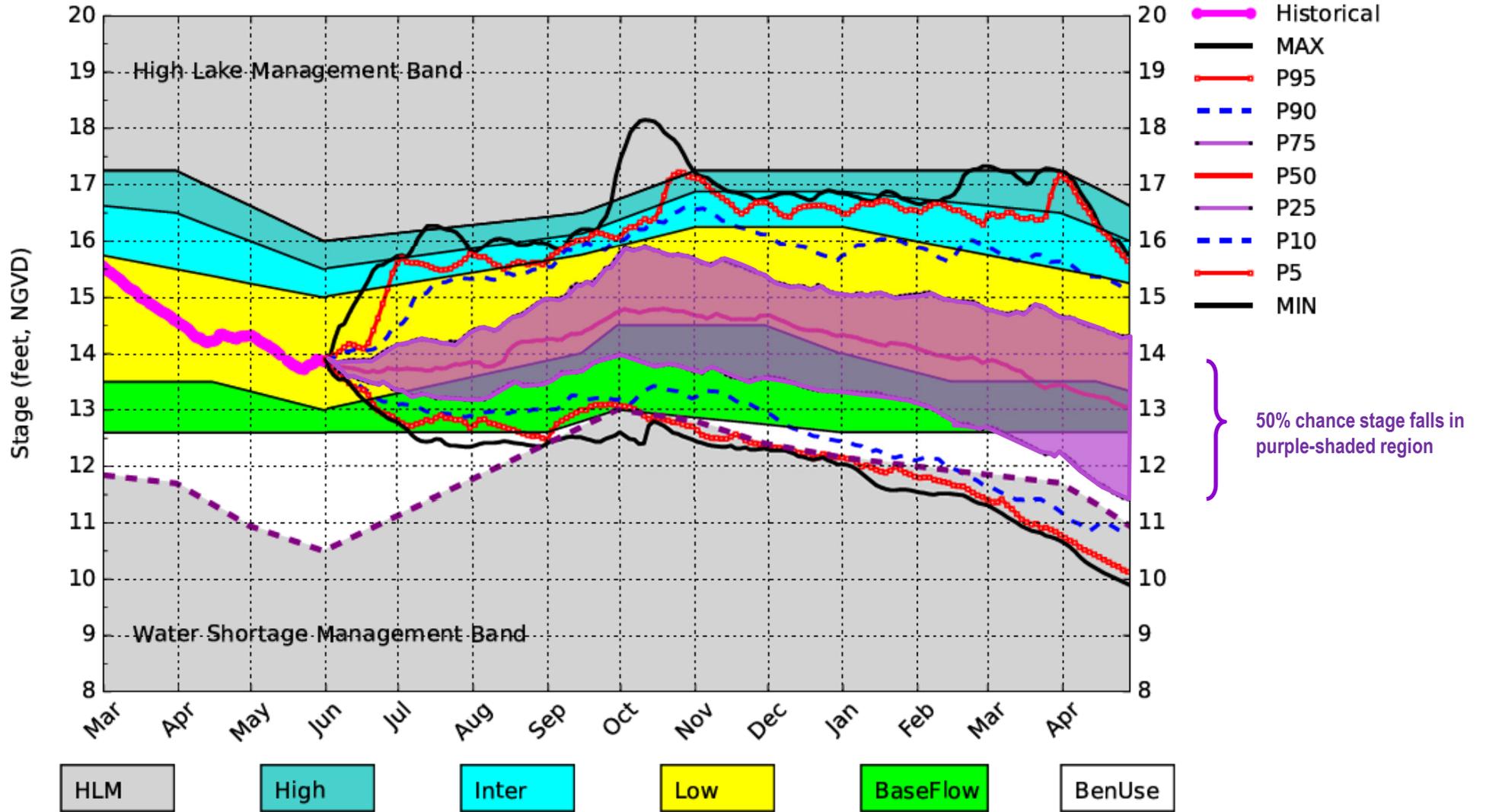
Rainfall, Percent of Normal, and Departures





Lake Okeechobee SFWMM June 2023 Position Analysis

Percentiles PA



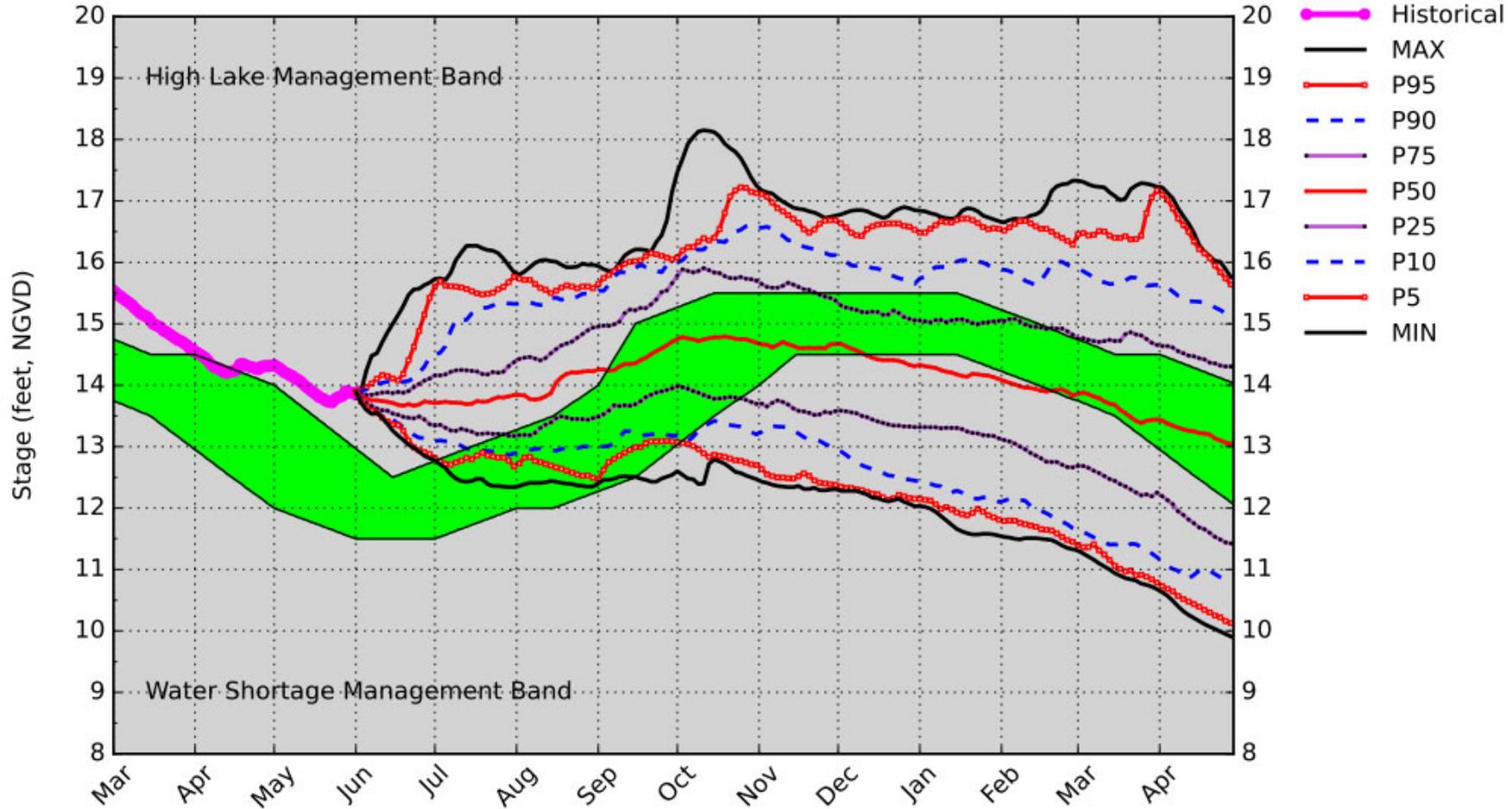
(See assumptions on the Position Analysis Results website)

06/04/23 15:55:23

Presenter: John Mitnik

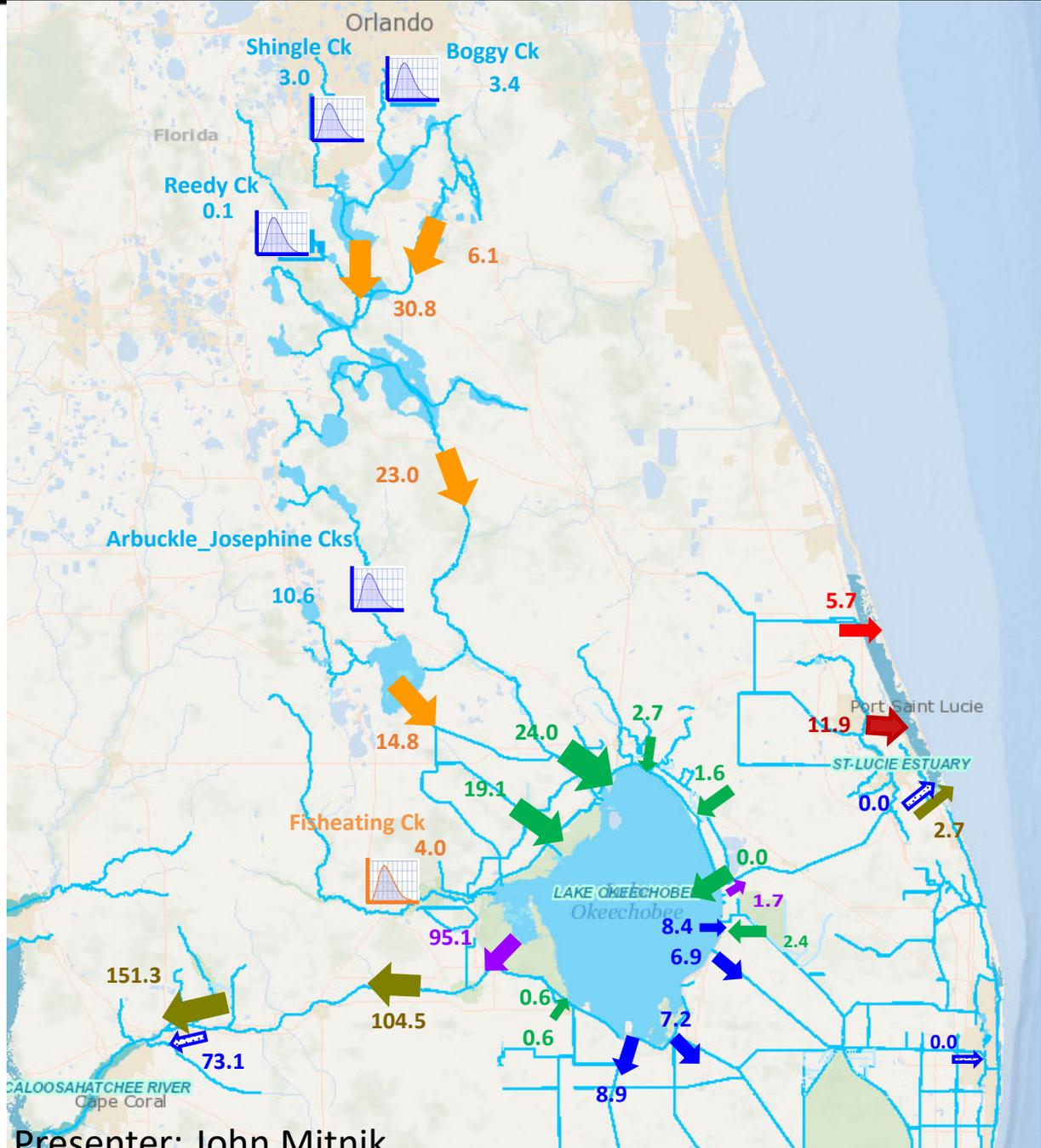
Lake Okeechobee SFWMM June 2023 Position Analysis

Percentiles PA



(See assumptions on the Position Analysis Results website)

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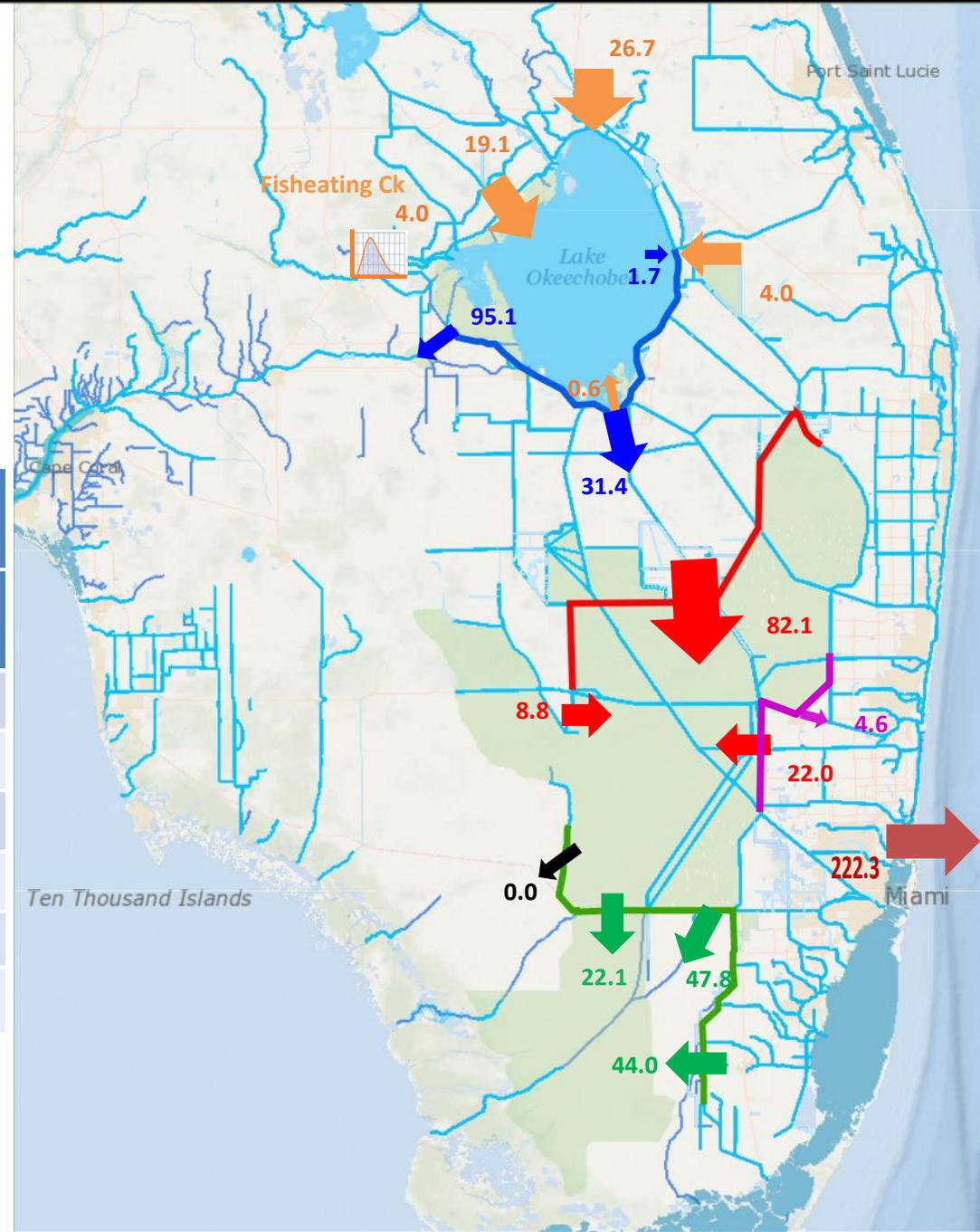


SFWMD – Selected Release Volumes for the Period May 1, 2023 to June 6, 2023
(volumes in 1,000 acre-feet)

Symbol	Description	Volume (1,000 acre- feet)	
		WYR2024	Last Month
	Upper Kissimmee to Lower Kissimmee	23.0	19.3
	Inflows to Lake Okeechobee (including Fisheating Creek)	54.4	49.4
	Lake Releases and Basin Runoff	154.0	133.1
	Lake Releases East and West	96.8	80.0
	Lake Flood Control to Estuaries	73.1	59.4
	Total Lake Releases South	31.4	29.9
	Releases to Indian River Lagoon	5.7	5.3
	Upper East Coast discharges to St. Lucie Estuary	11.9	11.8
	Uncontrolled flows - Creeks (does not include Fisheating Creek)	17.1	15.3

1,000 acre-feet = 325.9 Million Gallons

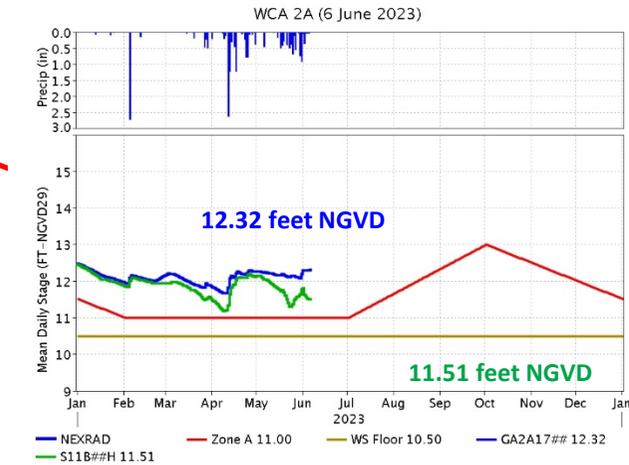
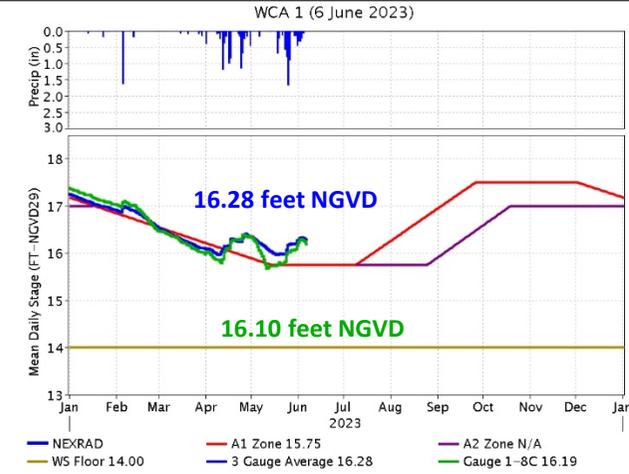
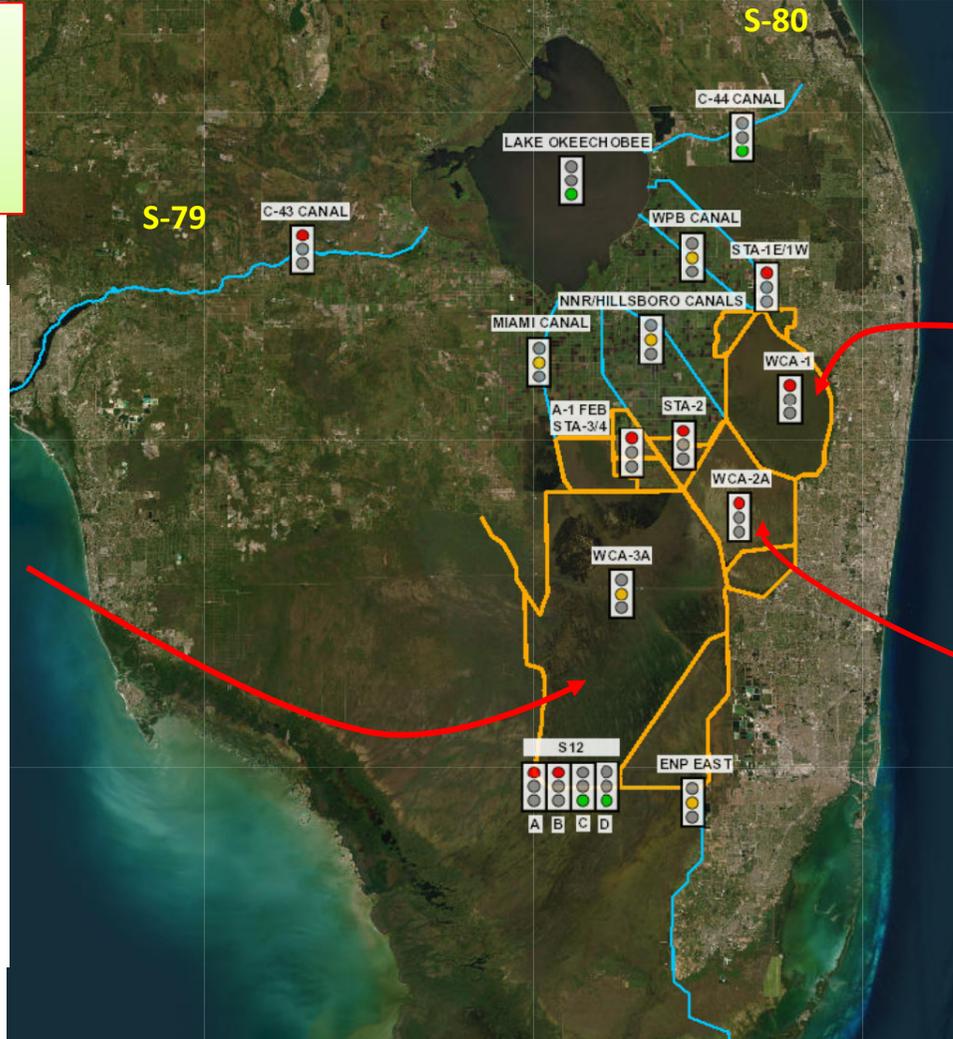
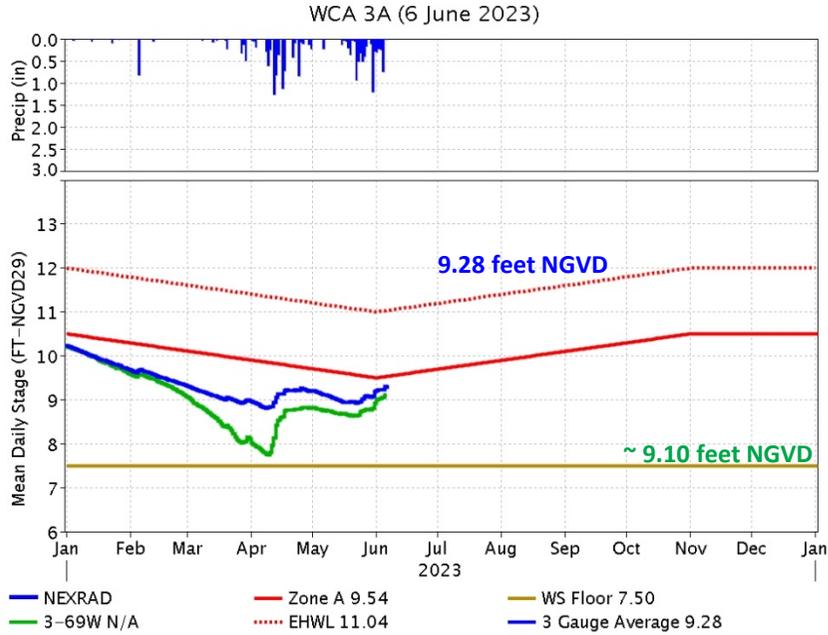
**SFWMD –Volumes Flowing
Down the System for the
Period May 1, 2023 to June 6, 2023**
(volumes in 1,000 acre-feet)



Symbol	Description	Volume (1,000 acre- feet)	
		WYR 2024	Last Month
	Lake Okeechobee Inflows	54.4	49.4
	Lake Okeechobee Outflows	128.2	109.9
	WCAs Inflows	112.9	89.7
	ENP / Detention Cell Inflows	113.9	98.4
	WCAs to East	4.6	3.4
	Flows to Intracoastal	222.3	203.2

1,000 acre-feet = 325.9 Million Gallons

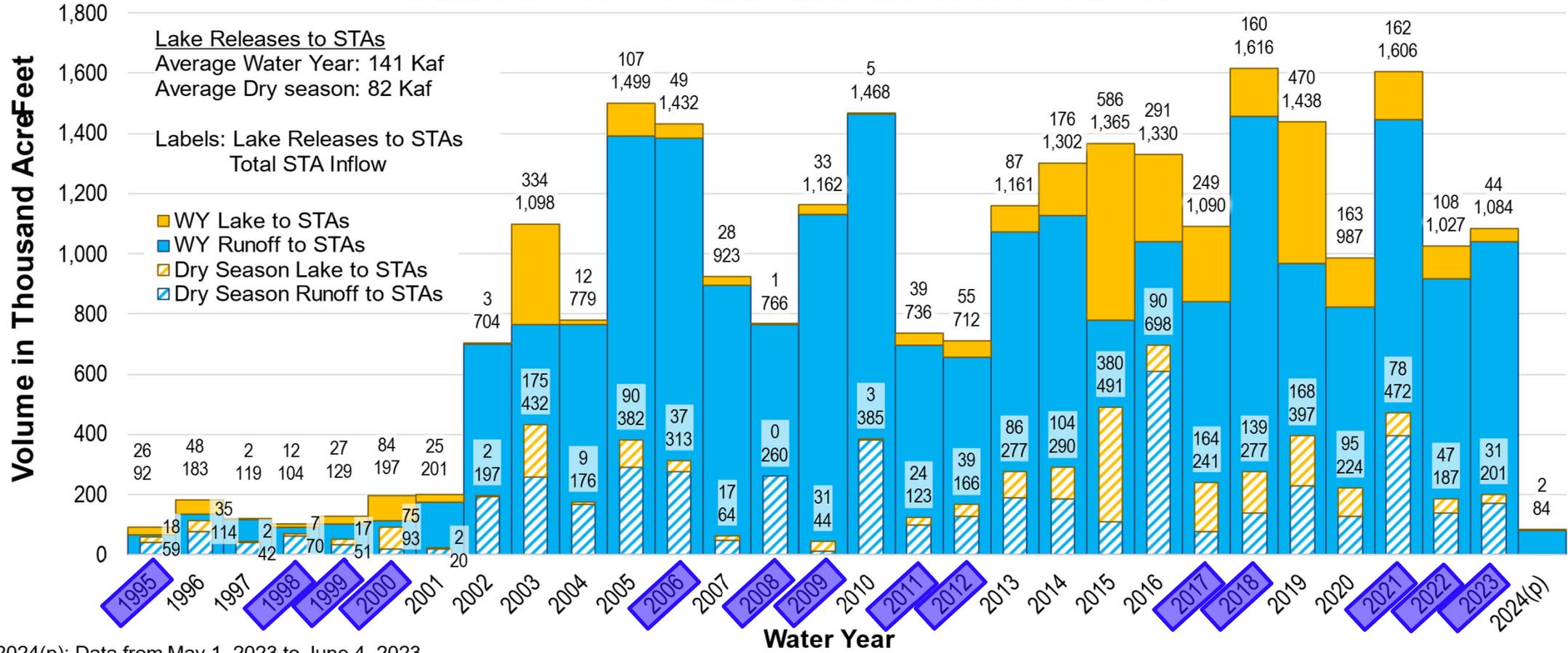
Lake Okeechobee stage is in the Low Sub-band of the LORS-2008 Regulation schedule. LORS release guidance suggests up to Maximum Practicable to the WCAs if desirable or with minimum Everglades impact; otherwise no releases to WCAs. S-79 up to 3,000 cfs and S-80 up to 1,170 cfs.



For this week, the Tamiami Trail Flow Formula calls for 1,095 cfs releases from WCA-3A to NESRS. Current L-29 stage constraint is at 8.3 feet NGVD. South Dade Conveyance System is stable. S-356 is pumping 1-2 units, rotating units for maintenance. S-332s are pumping as needed. S-176 is closed. S-177 and S-18C are currently open and S-197 is closed. LPG-2 stage at 8.5 SMA is below ground. S-357 is pumping as needed to maintain stages 4.0 to 4.5 ft NGVD in the C-357 canal. S-190 and S-200 are secured due to CSSS restrictions.

WCA-1 stage is above regulation schedule in Zone A; WCA-2A stage is above regulation schedule; WCA-3A stage is below regulation schedule in Zone B. S-10s and S-11s are open, passing ~ 1,600 and ~ 1,850 cfs, respectively. S-12A and S-12 B are closed. S-12C and S-12D are fully open passing ~460 cfs total. S-333 and S-333N total flow ~ 650 cfs. S-343 A and B are closed, and so is S-344.

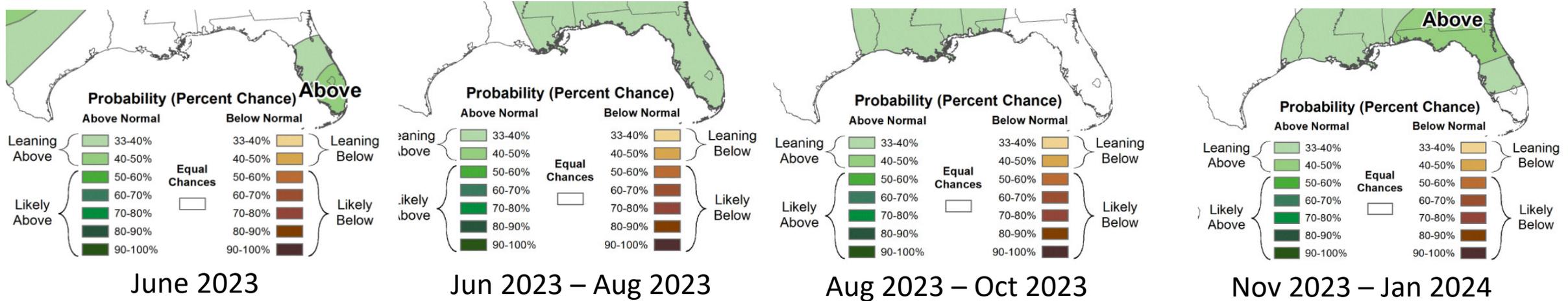
Total STA Inflow and Lake Releases to STAs



2024(p): Data from May 1, 2023 to June 4, 2023.

La Niña Water Years

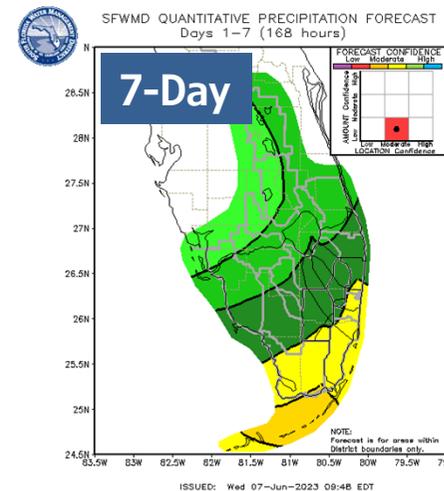
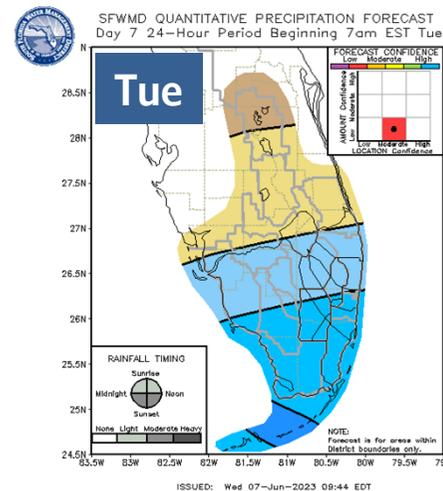
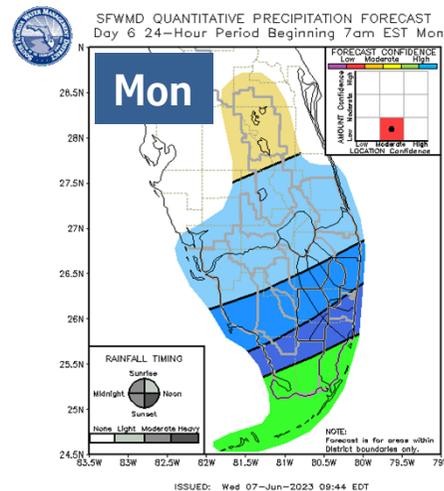
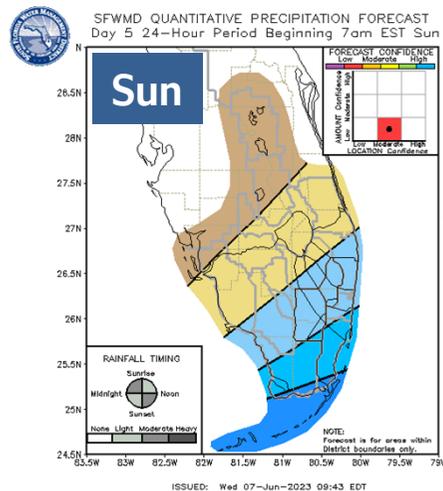
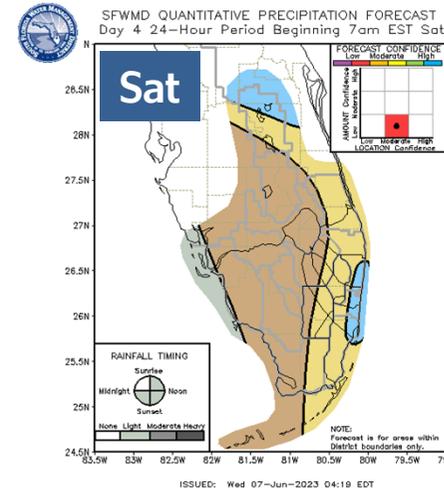
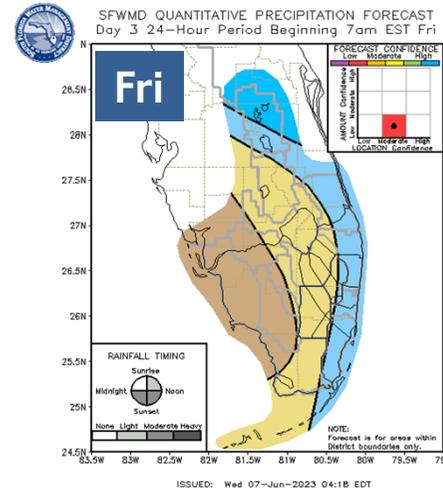
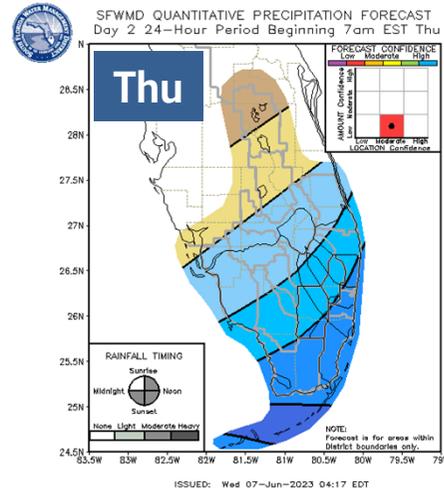
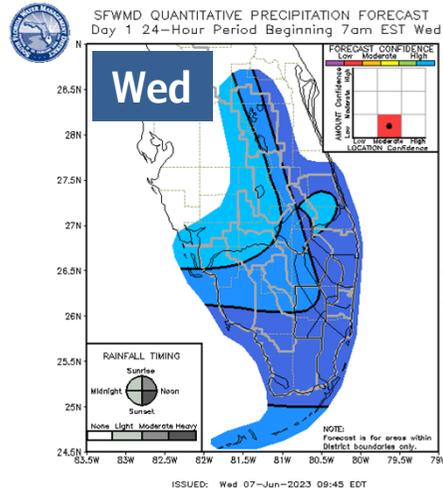
CPC Precipitation Outlook for South Florida



- The most recent CPC precipitation outlooks for South Florida for June 2023 is for increased chances of above normal rainfall for most of the District. Areas in the northern show slightly increased chances of above normal rainfall.
- The 3-month window of Jun-Aug shows slightly increased chances of above normal rainfall.
- The 3-month windows of Jul-Sep to Sep-Nov indicate equal chances of below normal, normal and above normal rainfall for south Florida.
- The 3-month windows Oct-Dec to Jan-Mar (2024) on indicate slightly above normal rainfall for the transition and the first half of the 2023-2024 dry season, with the caveat that the 3-month window Nov 2023 – Jan 2024 shows equal chances of below, normal and above normal rainfall for Lake Okeechobee and areas south of the lake.

Updated May 18, 2023

Short-, Medium-, & Extended-Range Outlooks

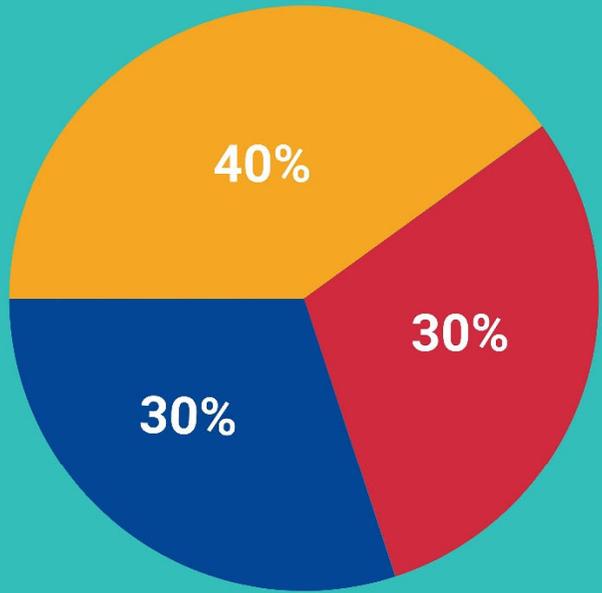


Weekly Summary

Week 1 (Historical Avg: 2.07"): Much below normal
 Week 2 (Historical Avg: 2.03"): Much below normal



2023 Atlantic Hurricane Season Outlook



■ Above normal ■ Near normal ■ Below normal

Season probability

Named storms
12 - 17

Hurricanes
5 - 9

Major hurricanes
1 - 4

- Slightly below-average activity
- Considerable uncertainty as to how strong an El Niño would be if it develops
- Sea surface temperatures in the eastern and central Atlantic are much warmer than normal
- Larger-than-normal uncertainty exists with this outlook

Be prepared: Visit hurricanes.gov and follow @NWS and @NHC_Atlantic on Twitter.

May 2023

Ecological Conditions Update

Governing Board Meeting
June 8, 2023

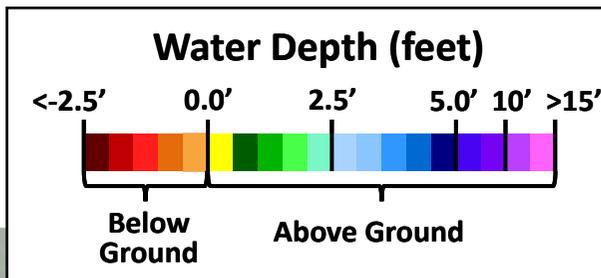
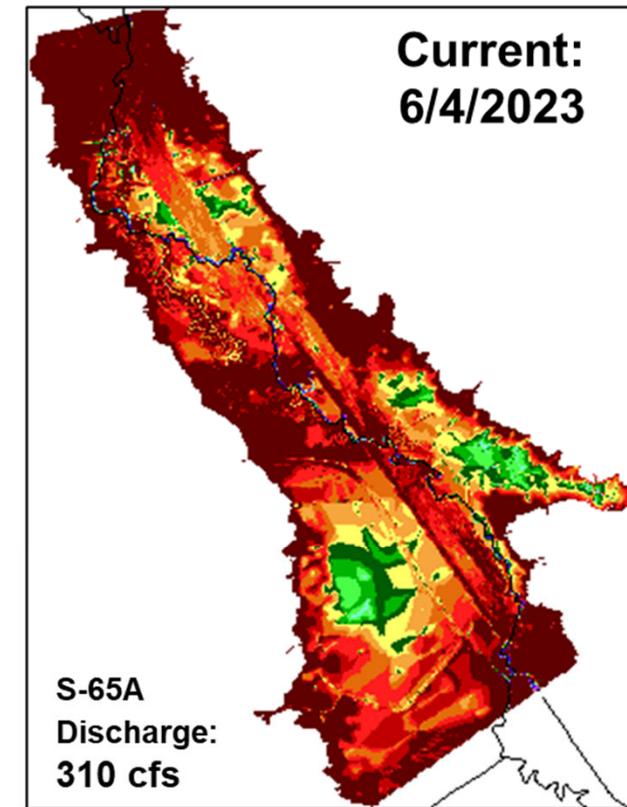
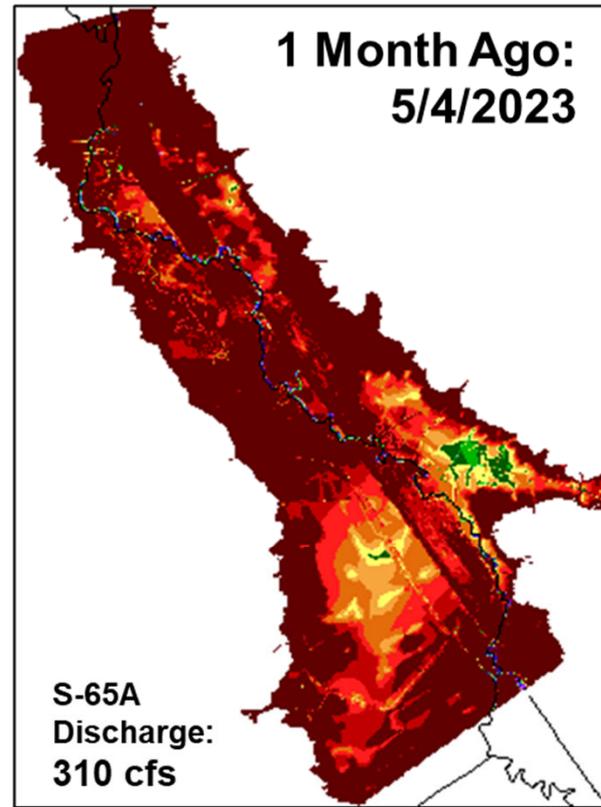
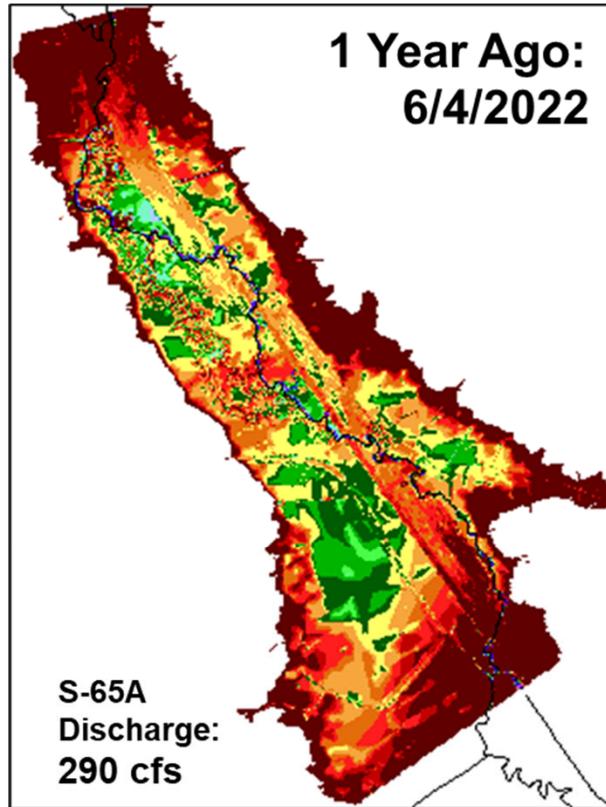


Lawrence Glenn
Division Director
Water Resources

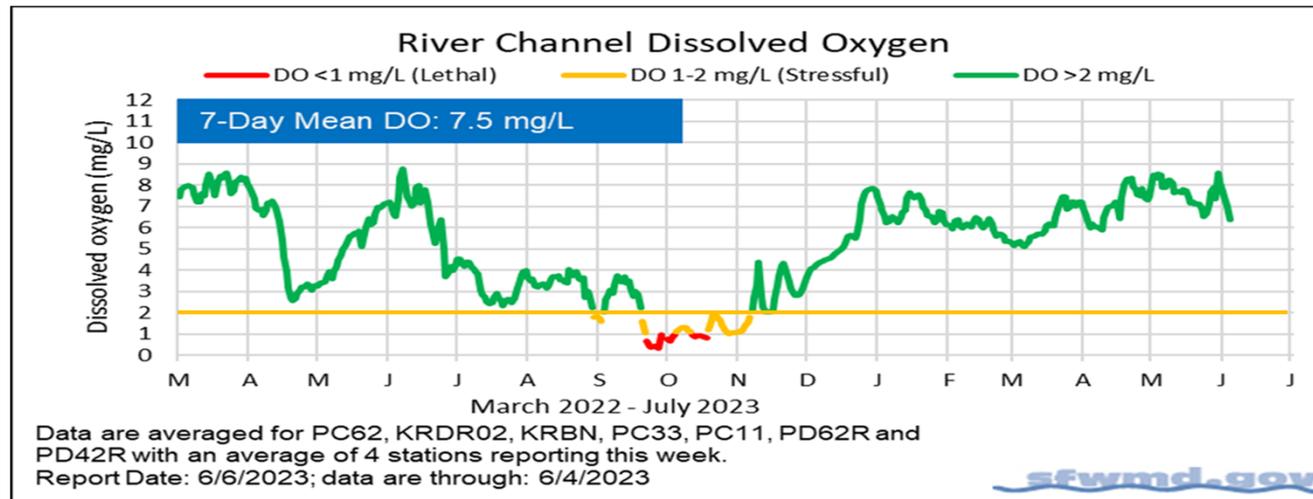
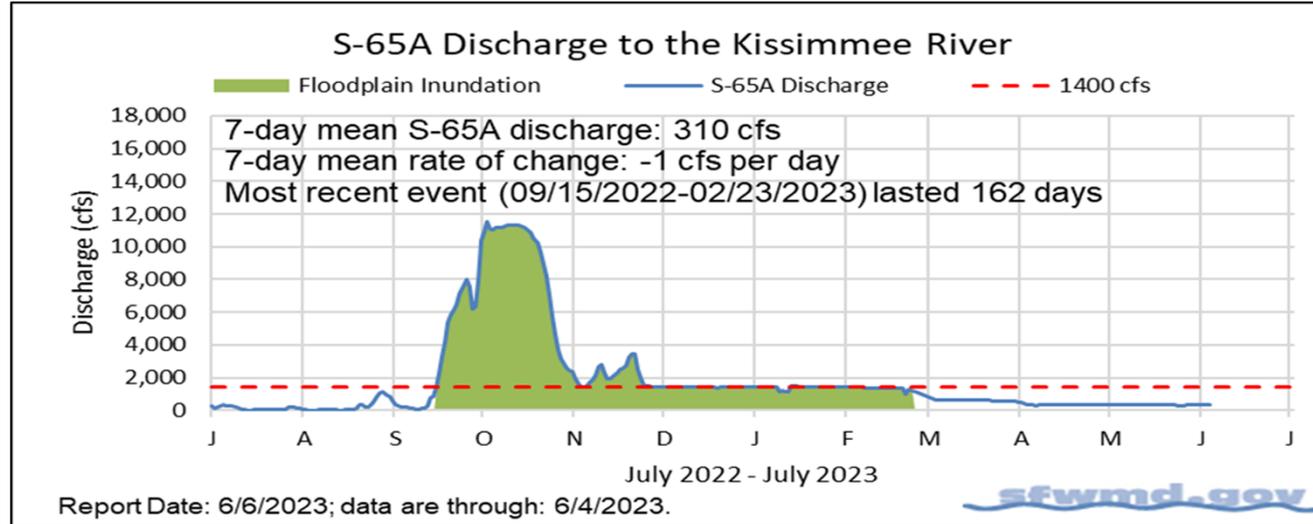
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St. Lucie Estuary, January 2023
Photograph courtesy of SFWMD Staff

Kissimmee River (Phase I) Floodplain Water Depth Maps

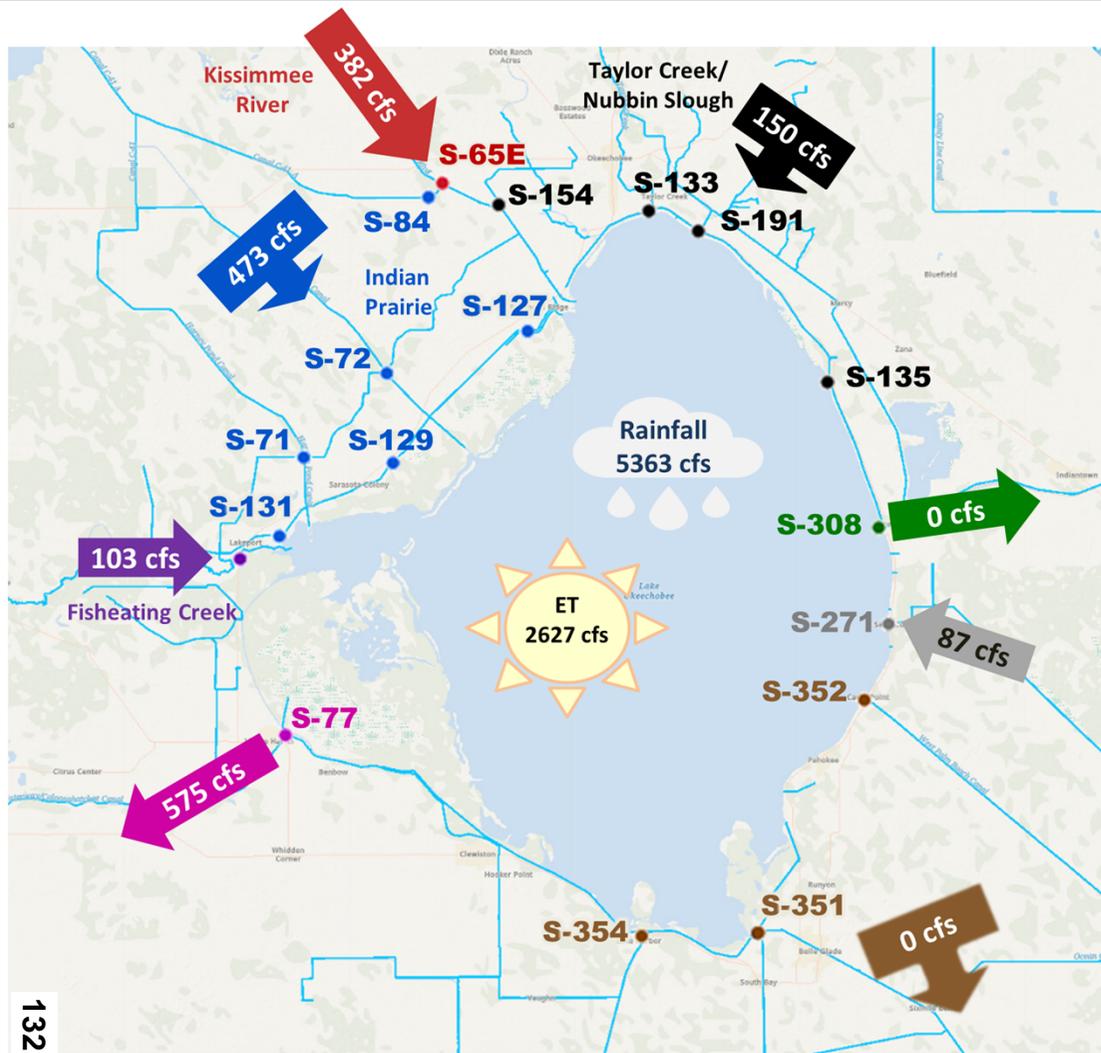


Kissimmee River Discharge and Dissolved Oxygen

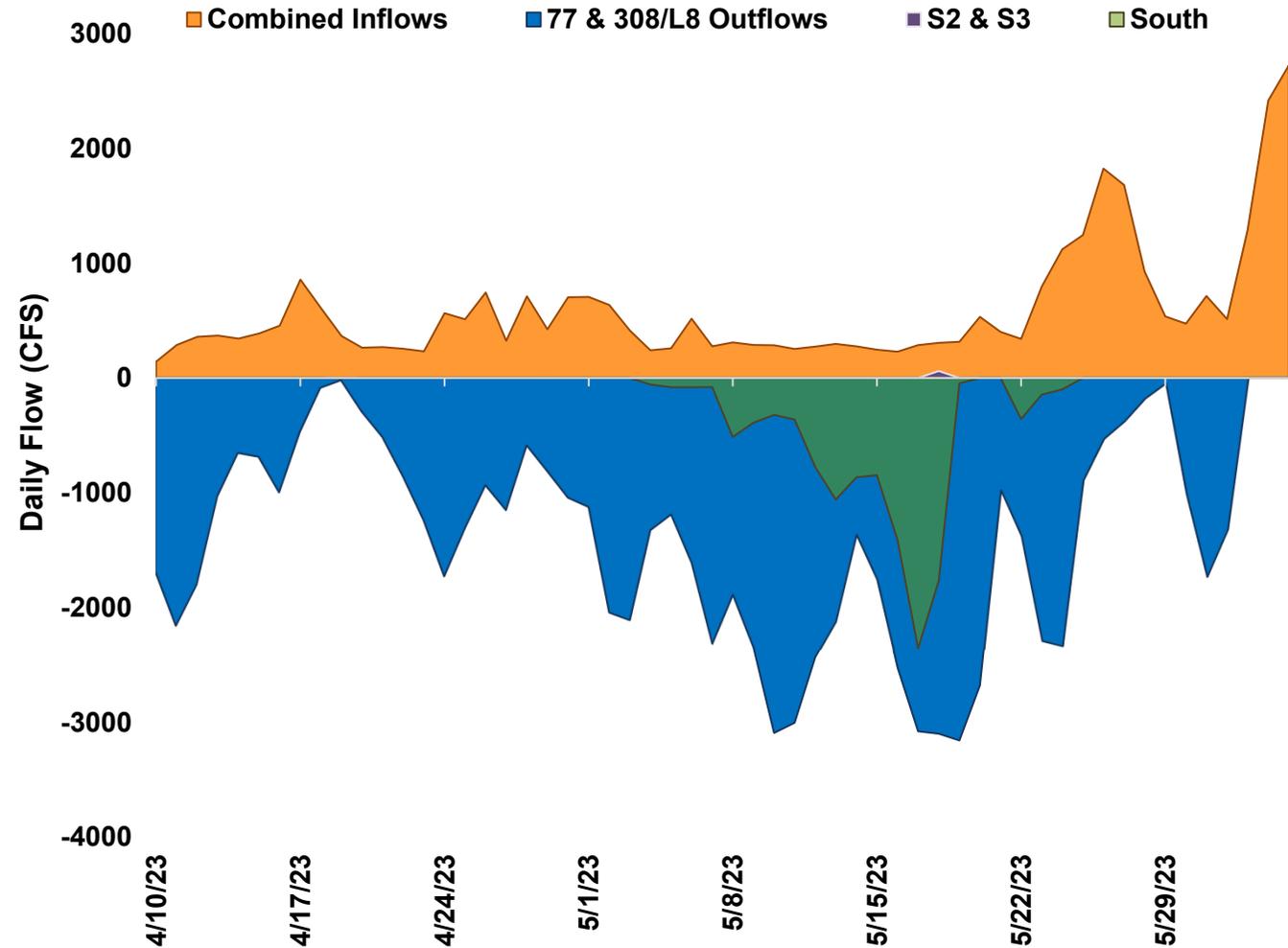


Lake Okeechobee Hydrology (*Provisional Data)

May 29 – June 04, 2023 Inflows and Outflows

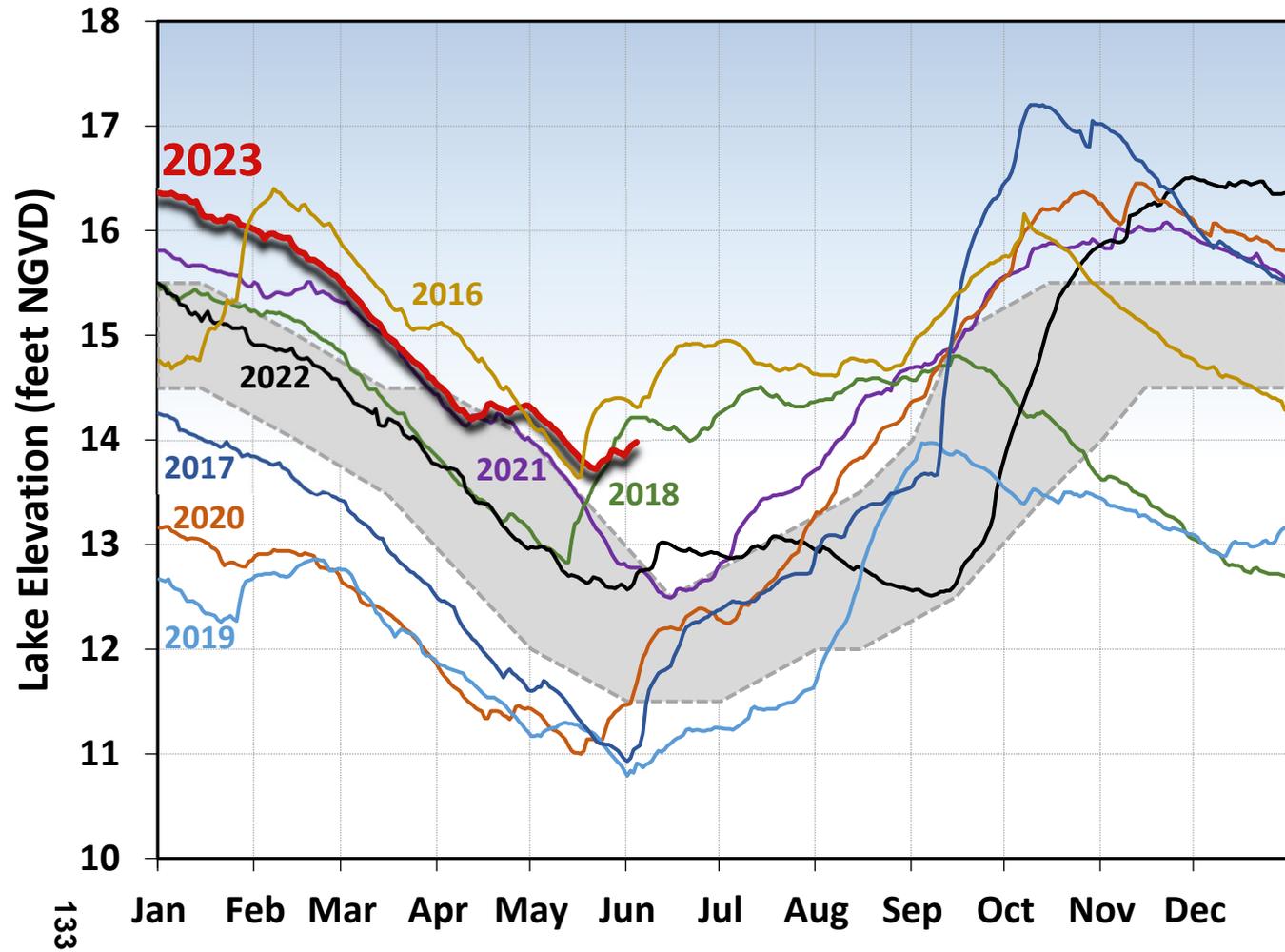


Prior 8 Weeks Inflows and Outflows

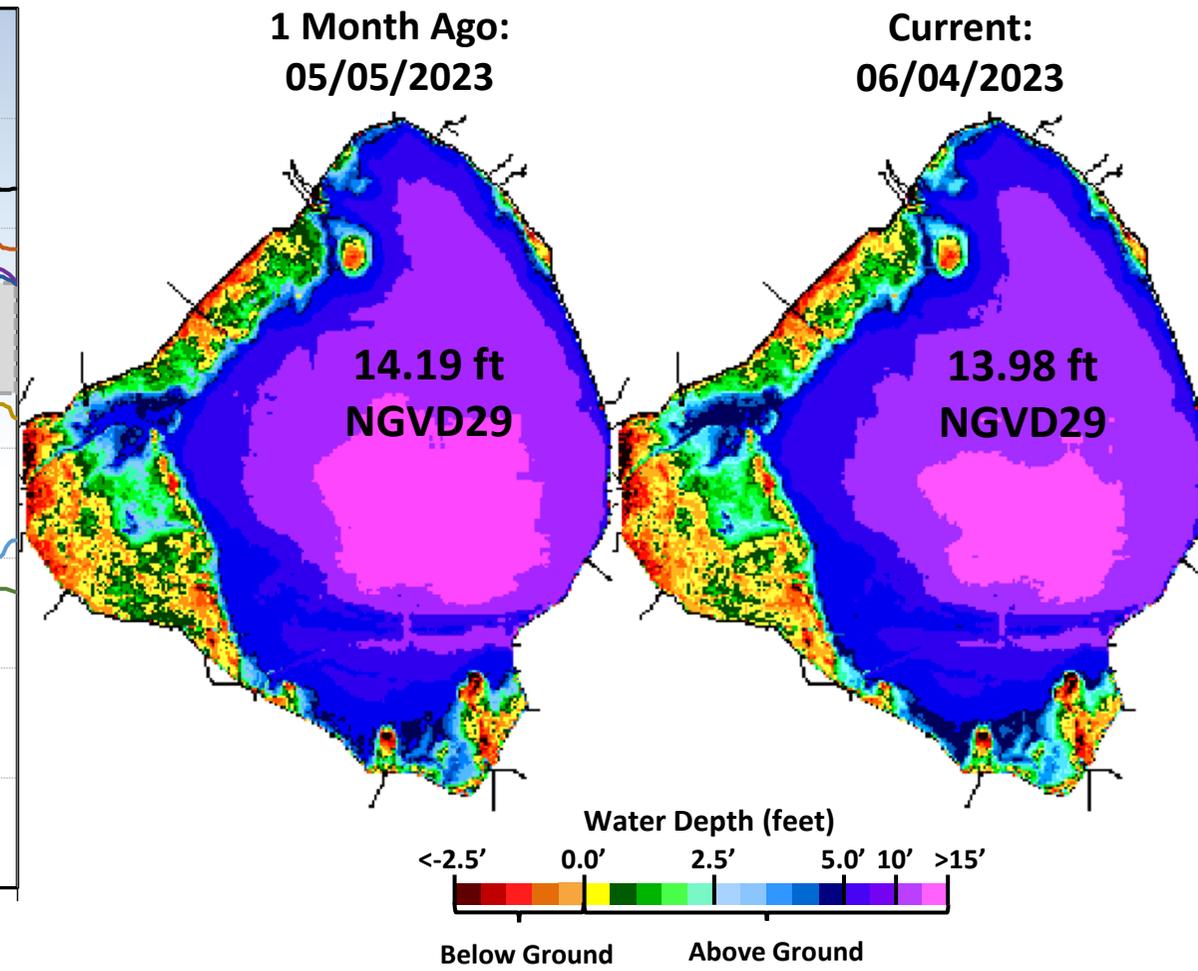


Ecological Envelope and Water Depths

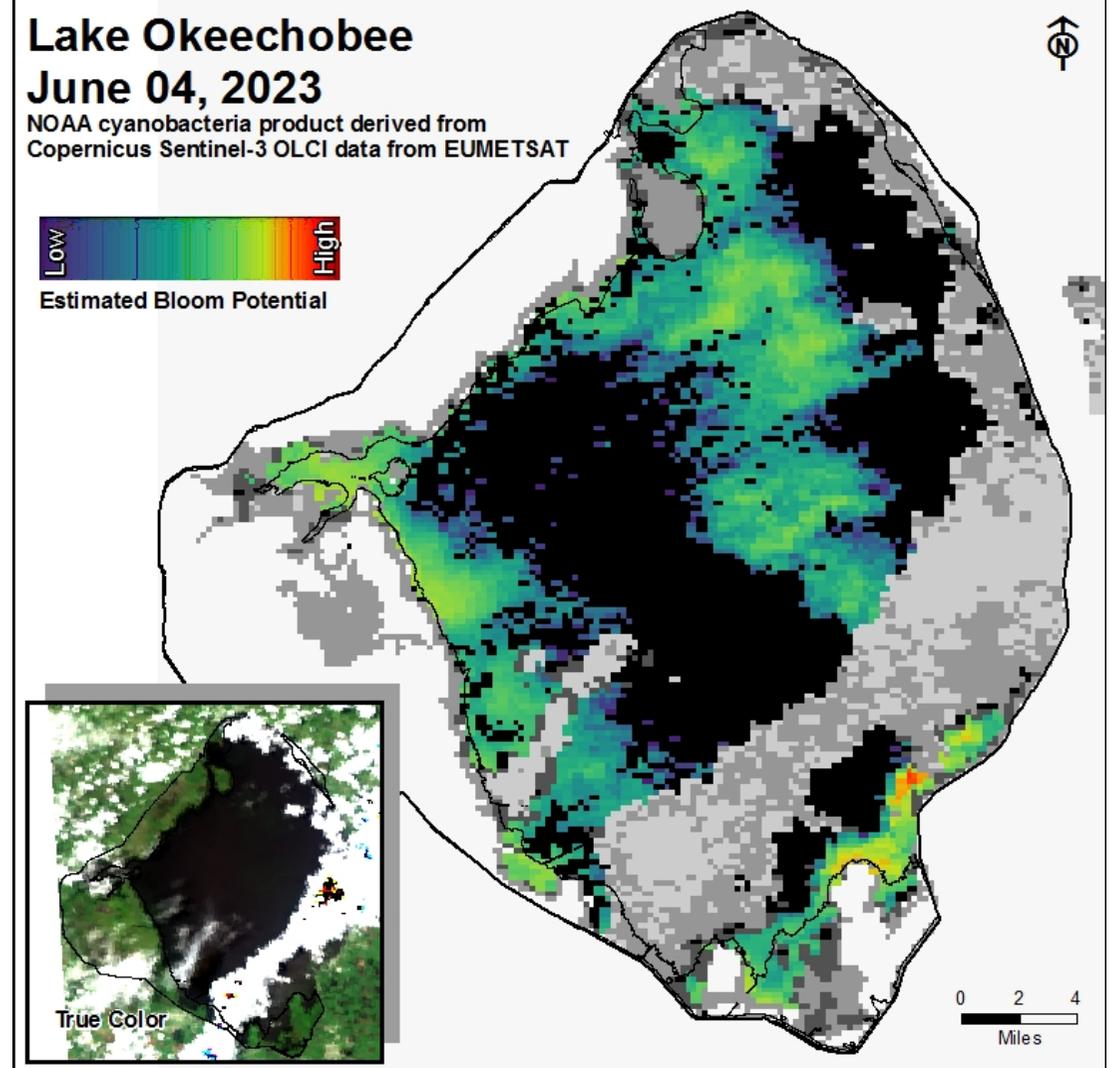
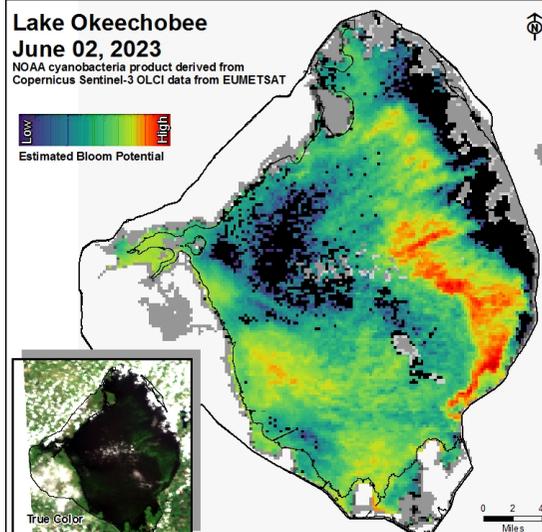
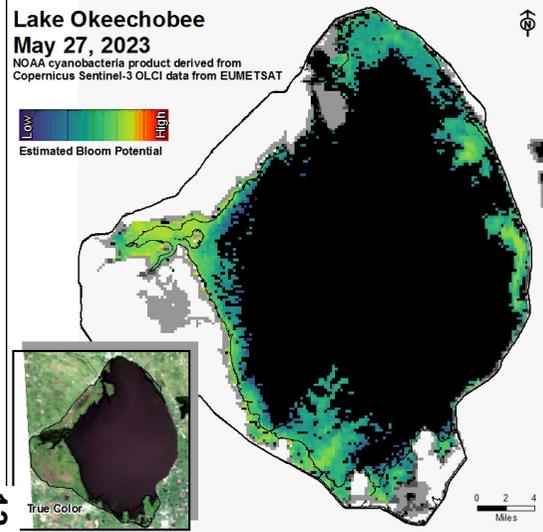
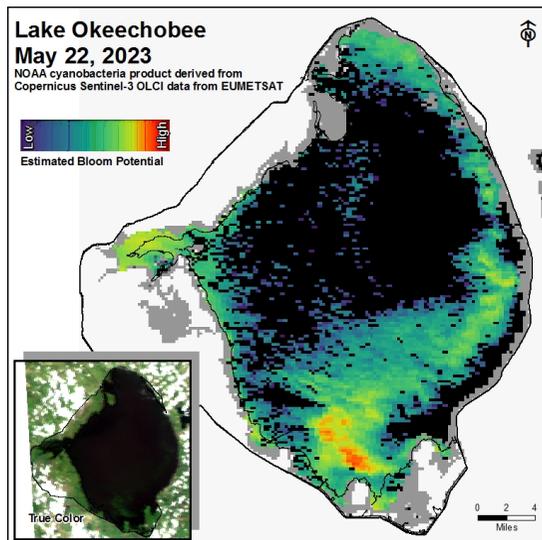
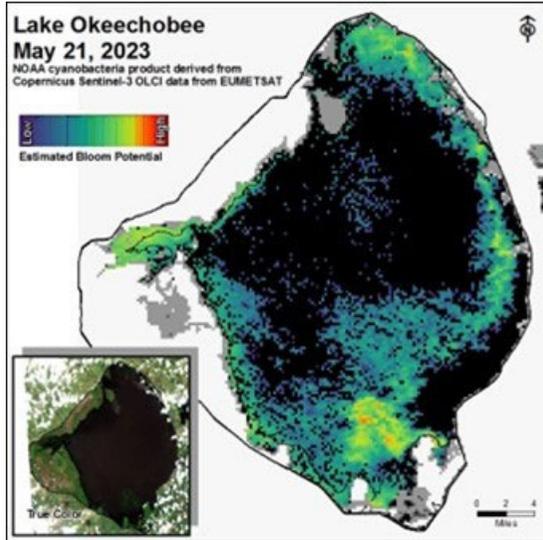
Lake Okeechobee Stage vs Ecological Envelope



Changes in Water Depth



Lake Okeechobee Cyanobacteria Bloom Potential



NOAA cyanobacteria product derived from Copernicus Sentinel-3 OLCI data from EUMETSAT

Lake Okeechobee Cyanobacteria Bloom Potential

2021

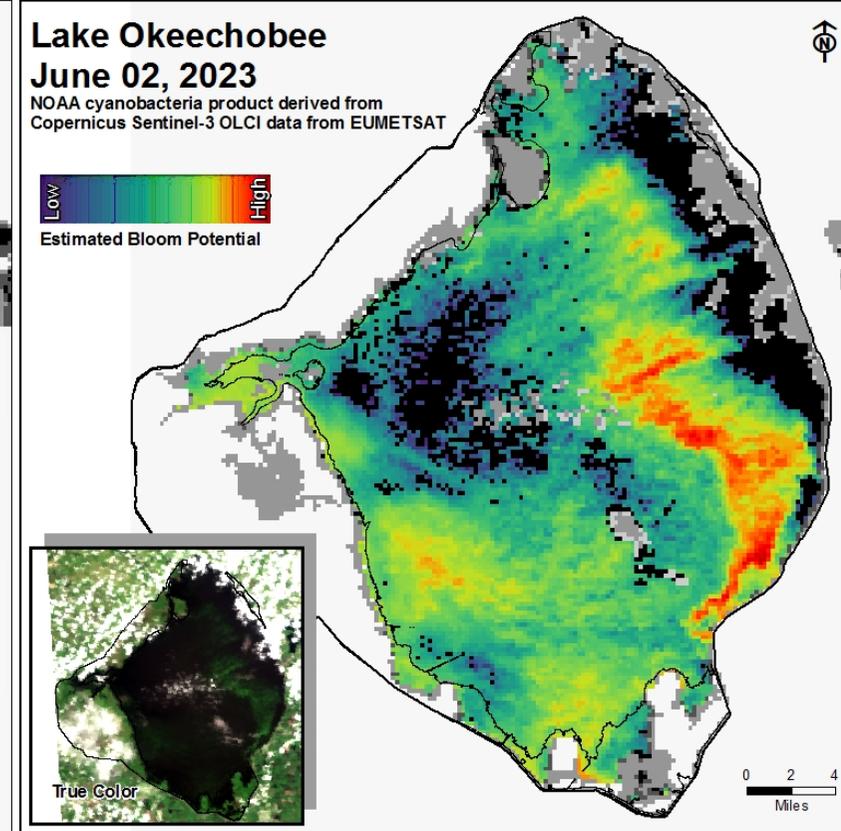
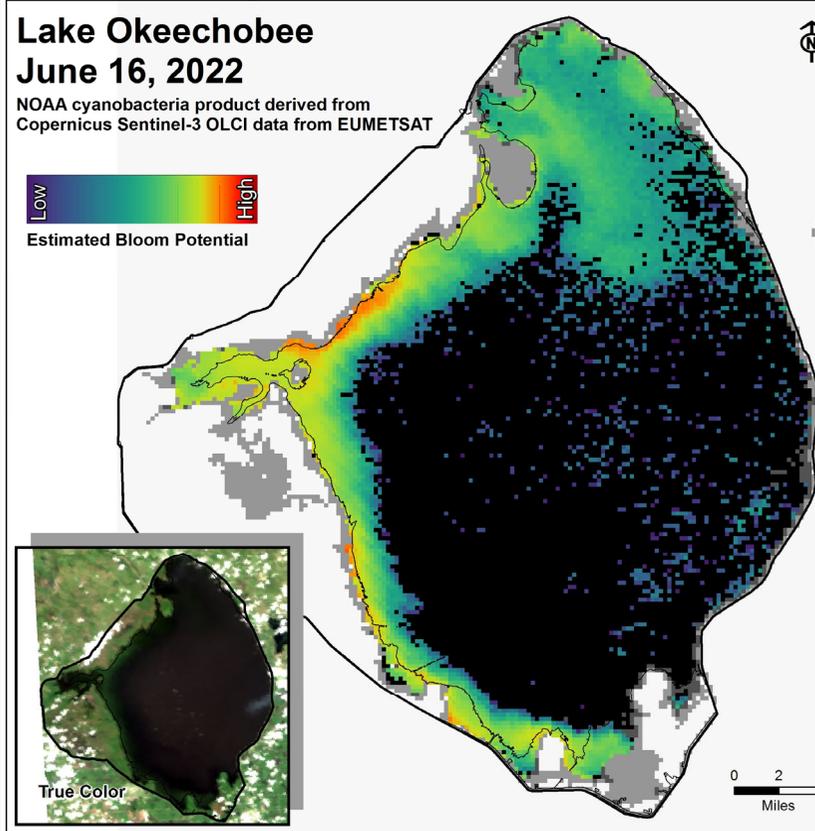
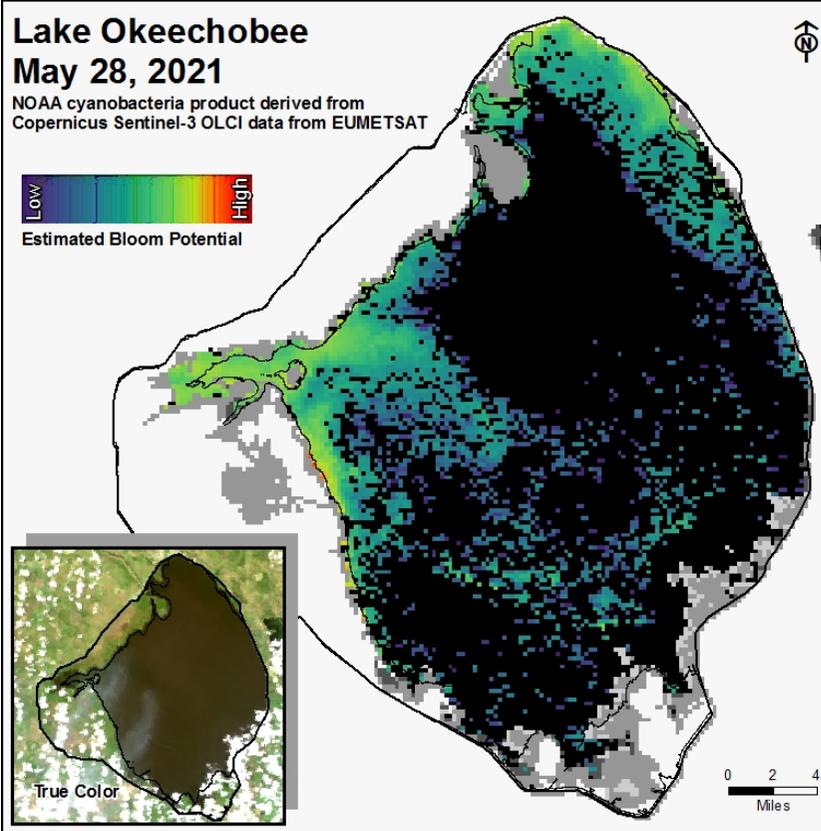
Stage = 12.86 ft. NGVD

2022

Stage = 12.98 ft. NGVD

2023

Stage = 13.94 ft. NGVD



NOAA cyanobacteria product derived from Copernicus Sentinel-3 OLCI data from EUMETSAT

Lake Okeechobee

Chlorophyll *a*, Total Microcystins, and Dominant Taxa

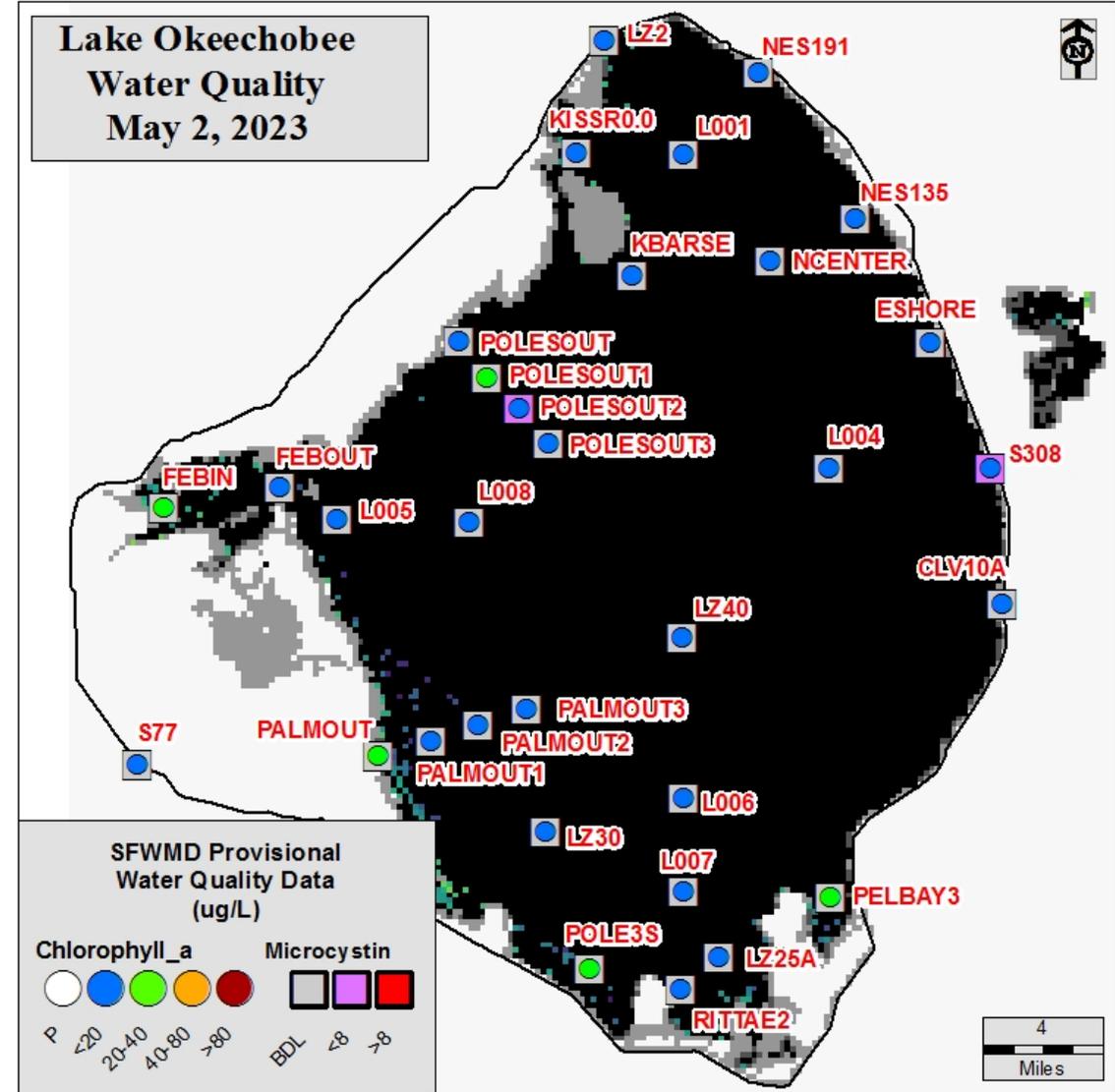
*Provisional Data

Collection Date: May 1-3, 2023

Station	CHL <i>a</i> (ug/L)	TOXIN (ug/L)	TAXA
FEBIN	33.3	BDL	mixed
FEBOUT	12.0	BDL	mixed
KISSR0.0	3.9	BDL	mixed
L005	5.3	BDL	mixed
LZ2	17.3	BDL	mixed
KBARSE	7.4	BDL	<i>Microcys</i>
RITTAE2	19.9	BDL	mixed
PELBAY3	20.3	BDL	<i>Microcys</i>
POLE3S	31.0	BDL	<i>Microcys</i>
LZ25A	10.0	BDL	<i>Microcys</i>
PALMOUT	21.1	BDL	mixed
PALMOUT1	10.9	BDL	mixed
PALMOUT2	5.4	BDL	mixed
PALMOUT3	5.8	BDL	mixed
POLESOUT	13.9	BDL	mixed
POLESOUT1	22.2	BDL	mixed
POLESOUT2	5.4	0.9	mixed
POLESOUT3	5.2	BDL	mixed
EASTSHORE	1.6	BDL	mixed
NES135	10.3	BDL	<i>Microcys</i>
NES191	14.1	BDL	mixed

Station	CHL <i>a</i> (ug/L)	TOXIN (ug/L)	TAXA
L001	4.7	BDL	mixed
L004	2.1	BDL	mixed
L006	6.3	BDL	mixed
L007	6.9	BDL	mixed
L008	4.8	BDL	mixed
LZ30	5.2	BDL	mixed
LZ40	5.7	BDL	mixed
CLV10A	9.0	BDL	mixed
NCENTER	2.8	BDL	mixed
S308C	14.5	2.8	<i>Microcys</i>
S77	8.7	BDL	mixed

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



*Provisional Data

Lake Okeechobee

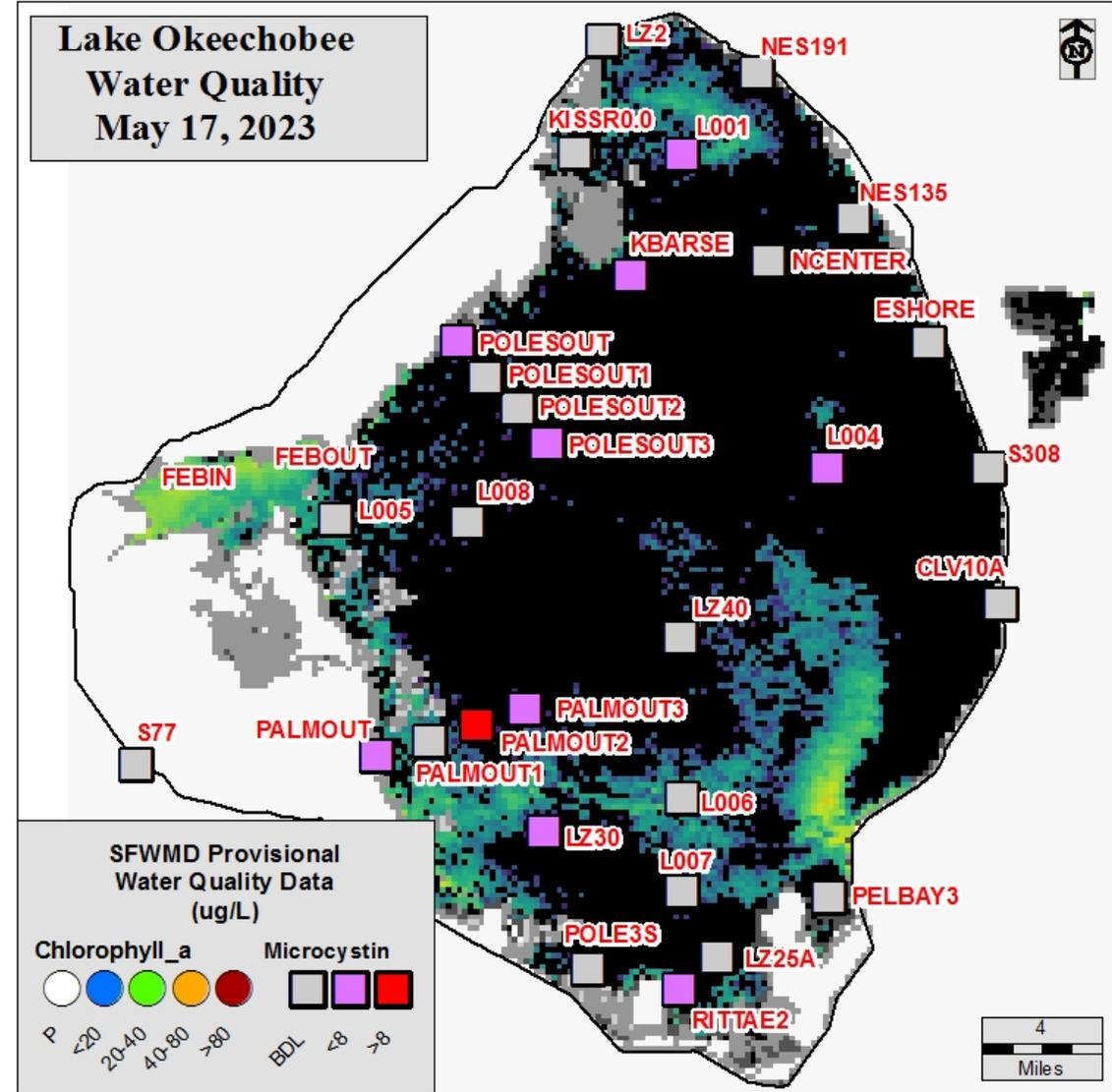
Chlorophyll *a*, Total Microcystins, and Dominant Taxa

Collection Date: May 15-17, 2023

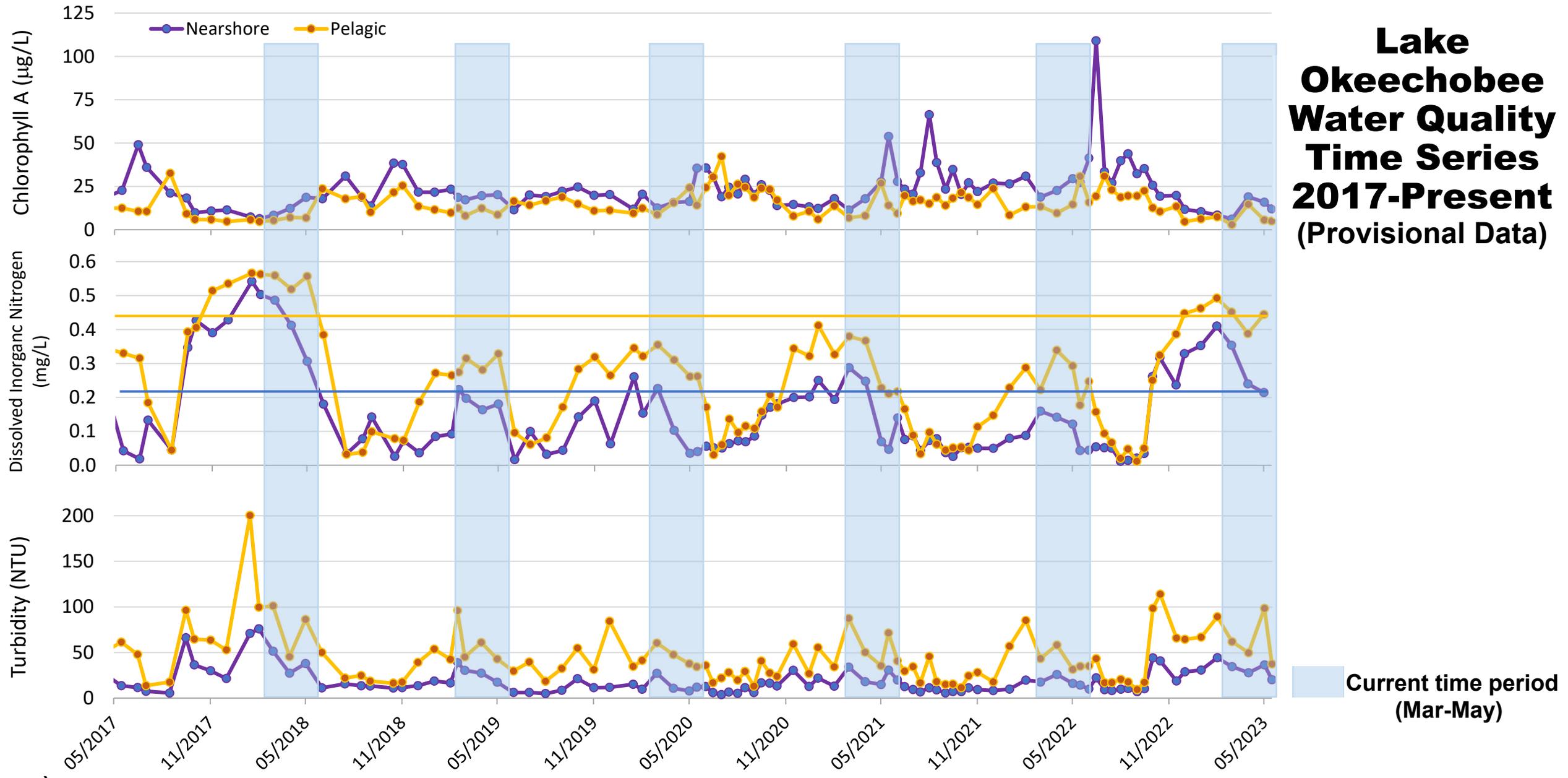
Station	CHLa (ug/L)	TOXIN (ug/L)	TAXA
FEBIN	NS	NS	NS
FEBOUT	NS	NS	NS
KISSR0.0	P	BDL	<i>mixed</i>
L005	P	BDL	<i>Microcys</i>
LZ2	P	BDL	<i>Mixed</i>
KBARSE	P	0.4	<i>Microcys</i>
RITTAE2	P	0.5	<i>Microcys</i>
PELBAY3	P	BDL	<i>Microcys</i>
POLE3S	P	BDL	<i>Mixed</i>
LZ25A	P	BDL	<i>Mixed</i>
PALMOUT	P	0.6	<i>Microcys</i>
PALMOUT1	P	BDL	<i>Microcys</i>
PALMOUT2	P	10.6	<i>Microcys</i>
PALMOUT3	P	3.2	<i>Microcys</i>
POLESOUT	P	1.0	<i>Microcys</i>
POLESOUT1	P	BDL	<i>Microcys</i>
POLESOUT2	P	BDL	<i>Microcys</i>
POLESOUT3	P	0.5	<i>Microcys</i>
EASTSHORE	P	BDL	<i>Mixed</i>
137 NES135	P	BDL	<i>Microcys</i>
NES191	P	BDL	<i>mixed</i>

Station	CHLa (ug/L)	TOXIN (ug/L)	TAXA
L001	P	0.4	<i>Microcys</i>
L004	P	0.6	<i>Microcys</i>
L006	P	BDL	<i>Microcys</i>
L007	P	0.1	<i>Microcys</i>
L008	P	BDL	<i>Microcys</i>
LZ30	P	3.7	<i>Microcys</i>
LZ40	P	BDL	<i>Microcys</i>
CLV10A	P	BDL	<i>Microcys</i>
NCENTER	P	BDL	<i>Microcys</i>
S308C	4.8	BDL	<i>Mixed</i>
S77	P	BDL	<i>Microcys</i>

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



Lake Okeechobee Water Quality Time Series 2017-Present (Provisional Data)



Bluegreen Algae Treatment at Davis Boat Ramp



Monday - June 5, 2023



Wednesday - June 7, 2023

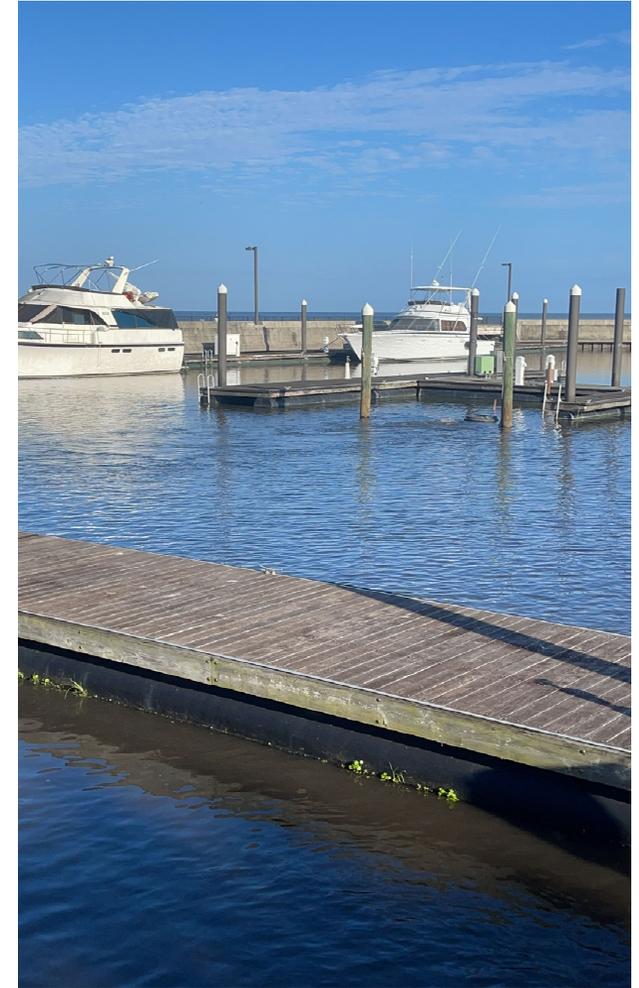
Bluegreen Algae Treatment At Pahokee Marina



Friday - June 2, 2023

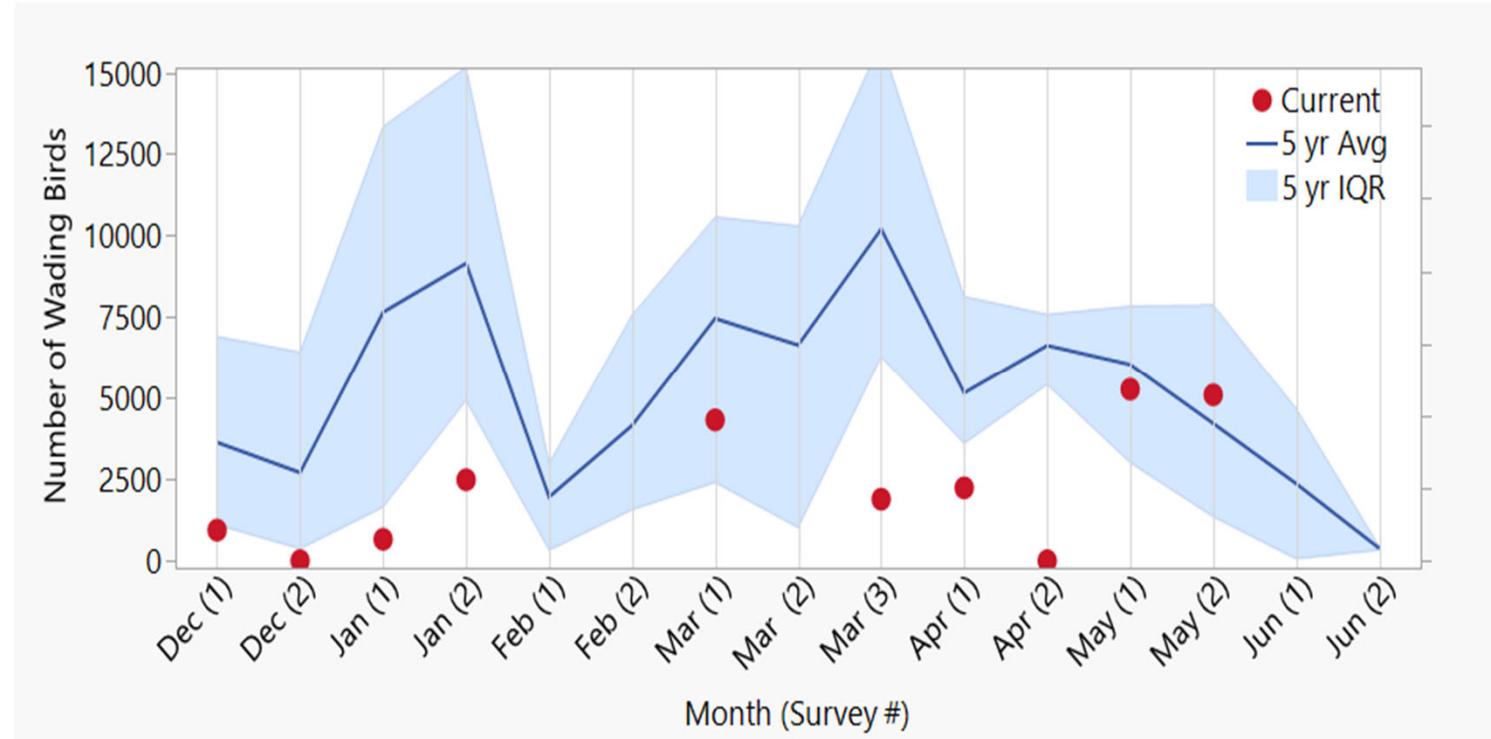
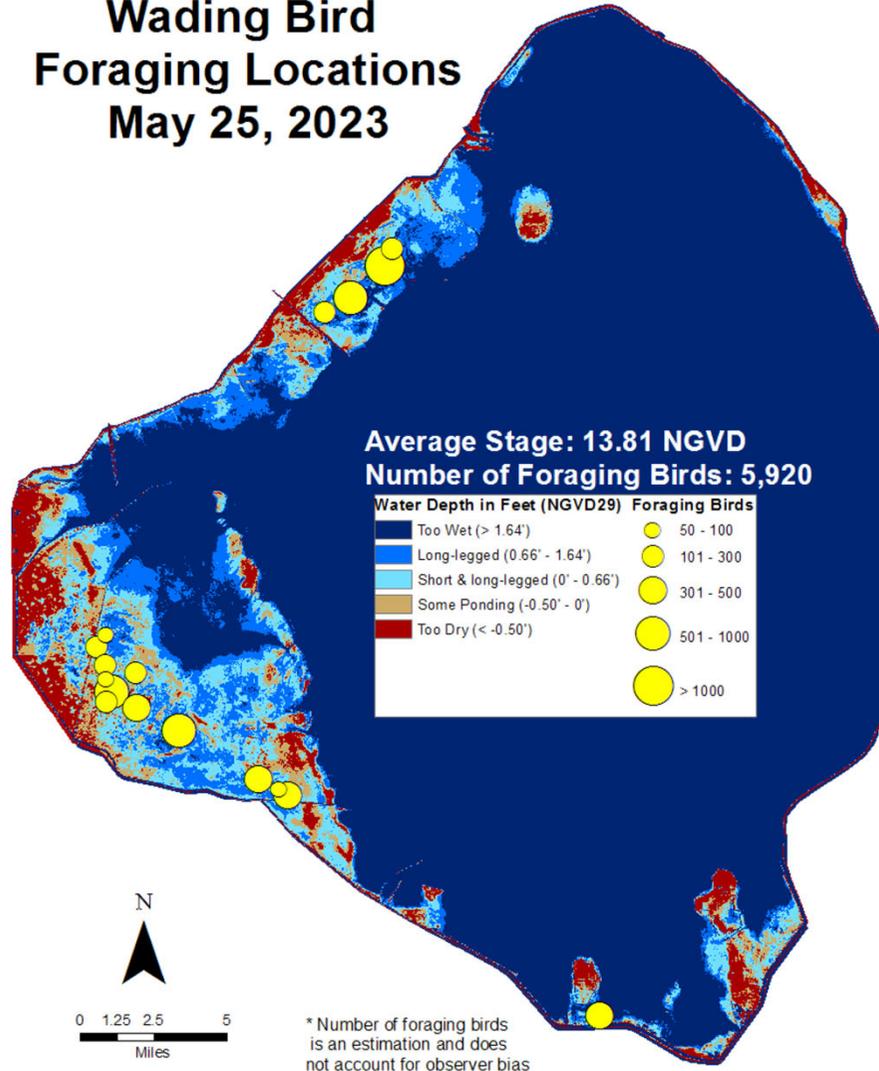


Wednesday - June 7, 2023

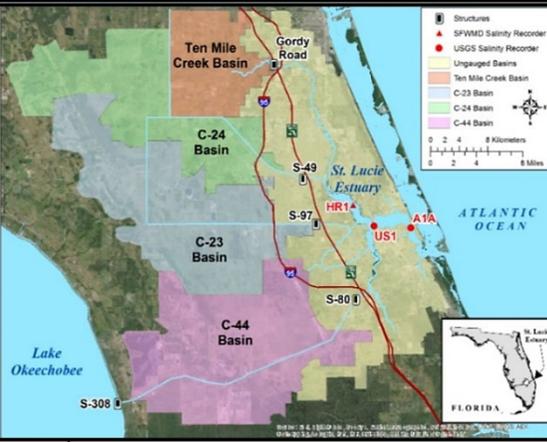


Lake Okeechobee Foraging Wading Birds

Wading Bird
Foraging Locations
May 25, 2023



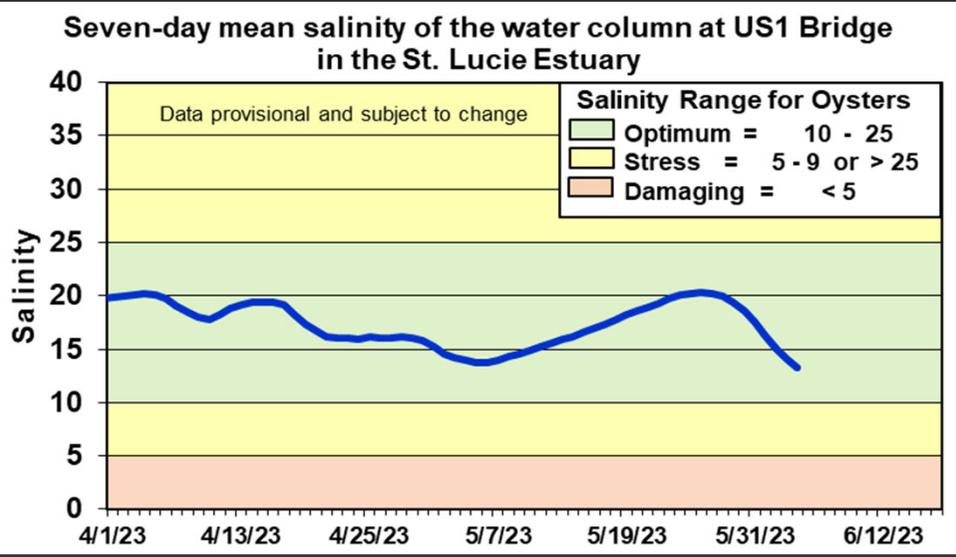
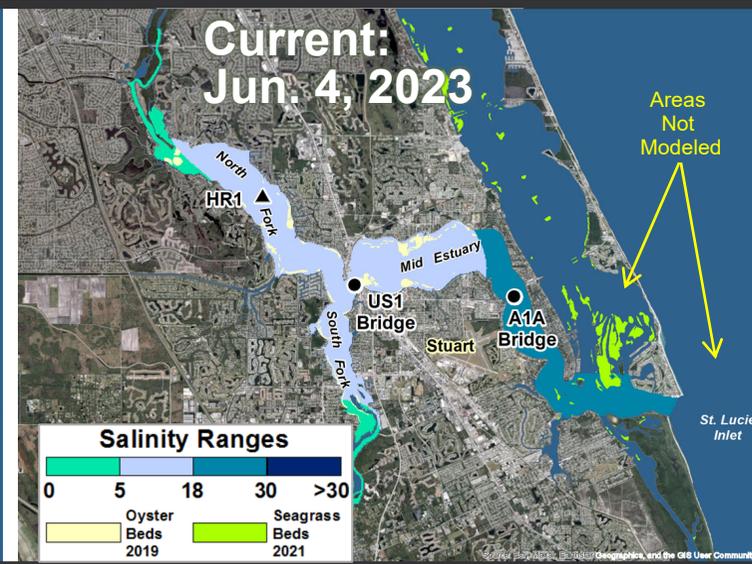
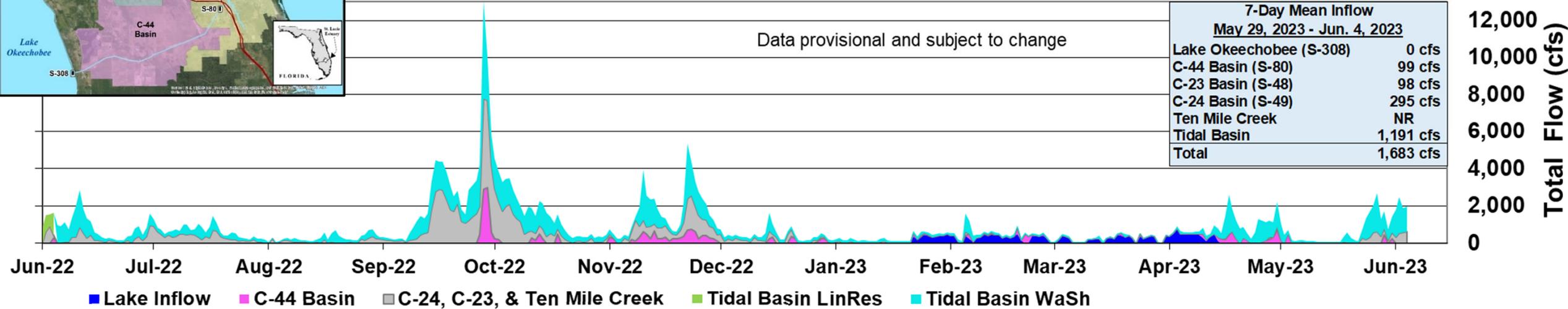
St. Lucie Inflows and Salinity Conditions



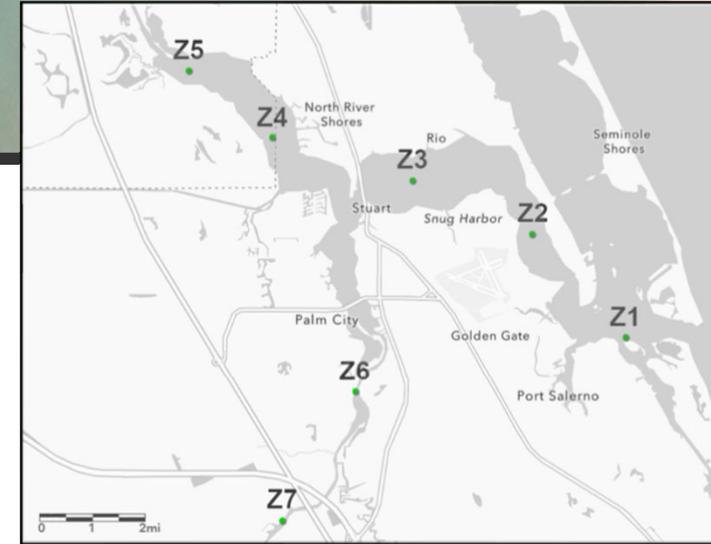
Total Daily Inflow into the St. Lucie Estuary

Data provisional and subject to change

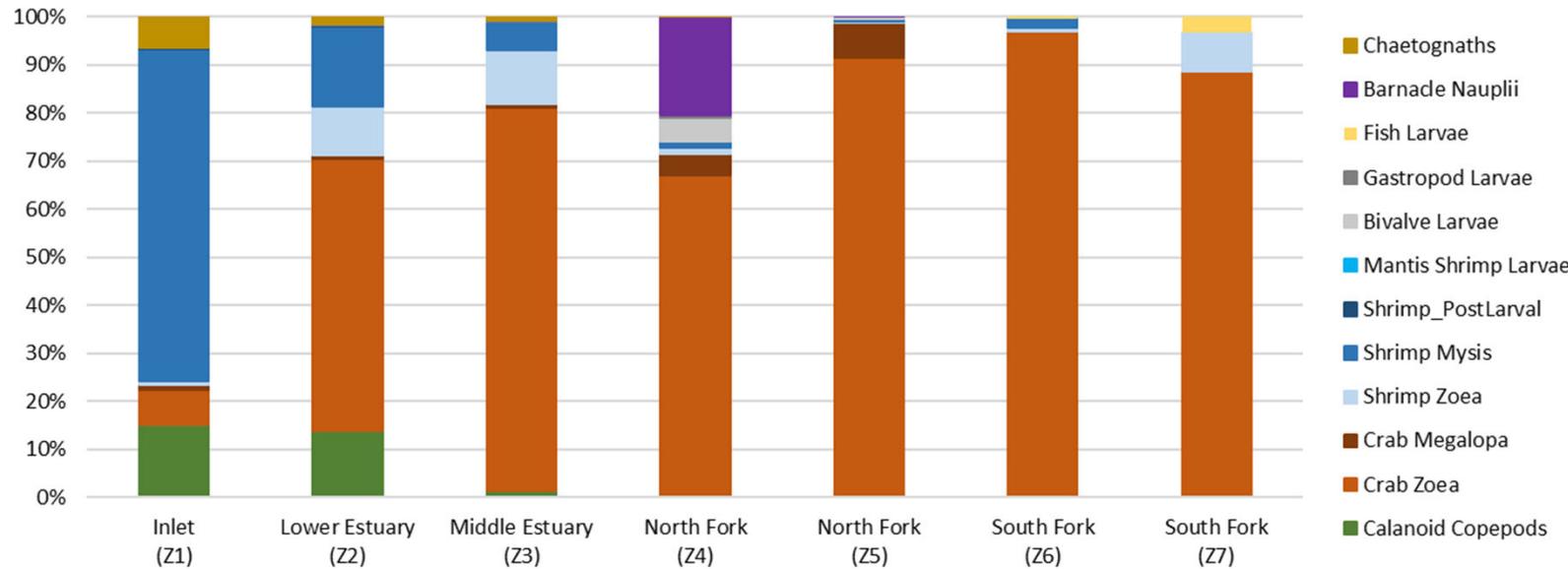
7-Day Mean Inflow May 29, 2023 - Jun. 4, 2023	
Lake Okeechobee (S-308)	0 cfs
C-44 Basin (S-80)	99 cfs
C-23 Basin (S-48)	98 cfs
C-24 Basin (S-49)	295 cfs
Ten Mile Creek	NR
Tidal Basin	1,191 cfs
Total	1,683 cfs



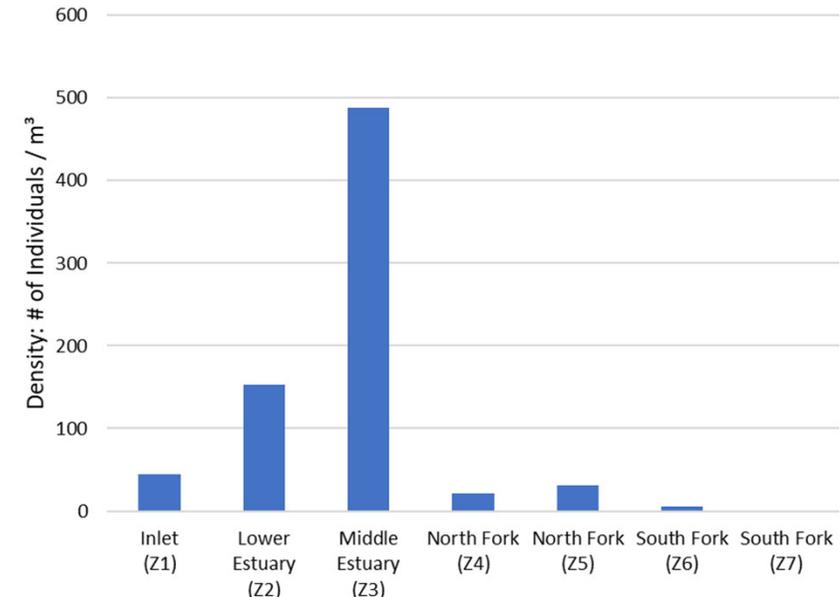
St. Lucie Estuary – Zooplankton Monitoring



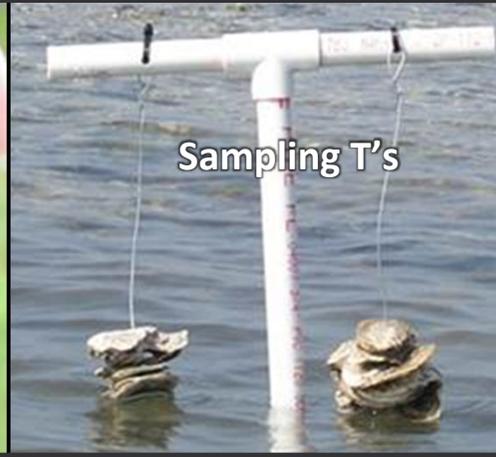
Zooplankton Communities in the St. Lucie Estuary



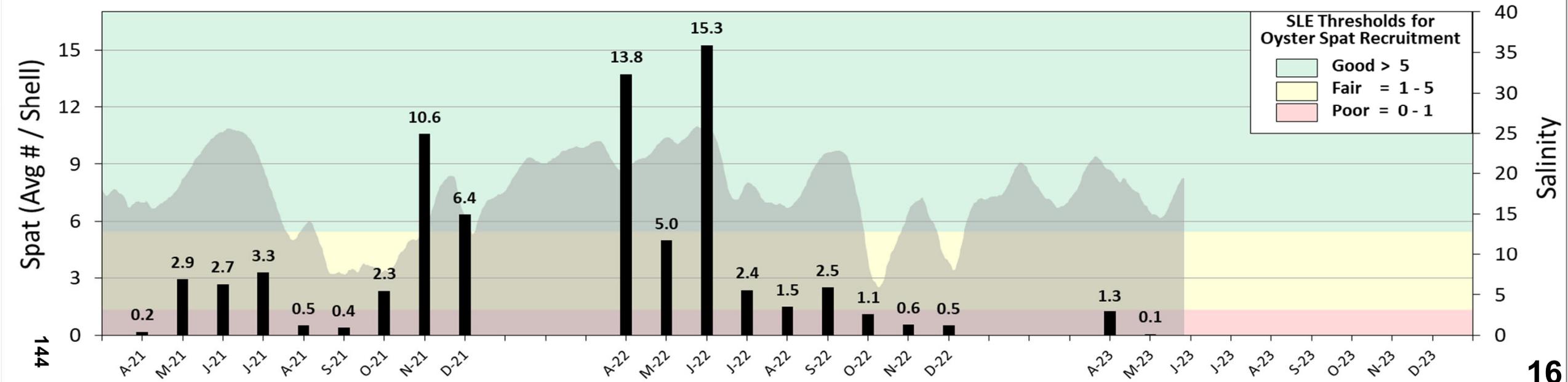
Zooplankton Density in the St. Lucie Estuary



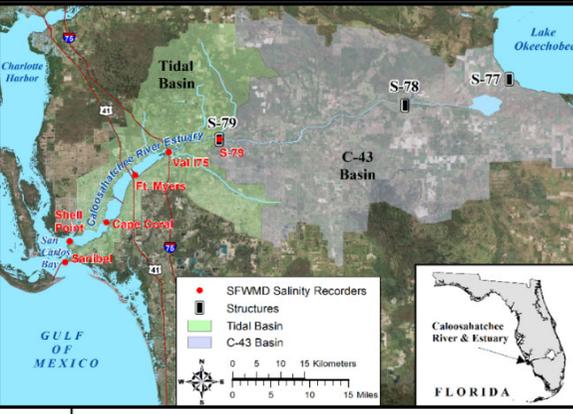
St. Lucie Estuary – Oyster Recruitment



2021 - 2023 Rio Oyster Recruitment and 14-Day Mean Salinity at US1 Bridge

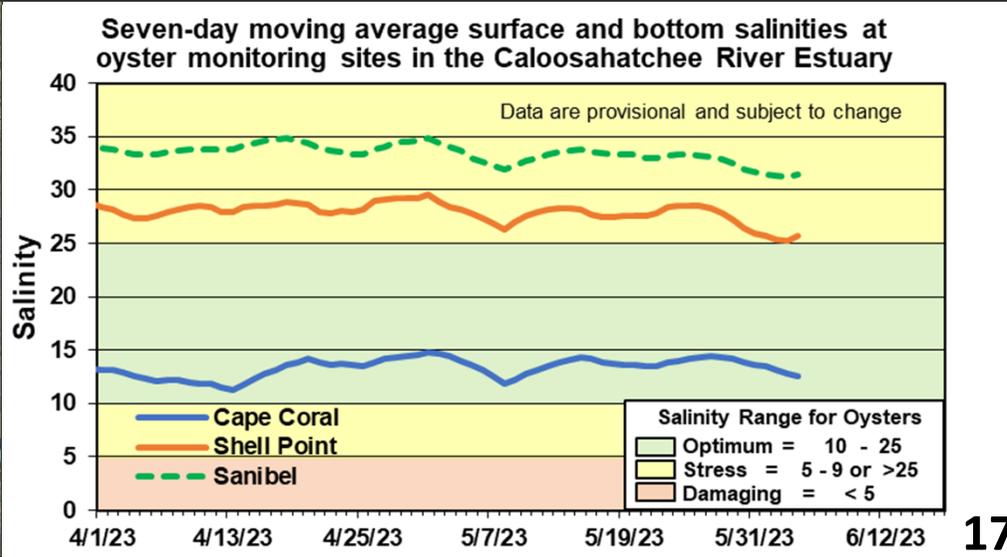
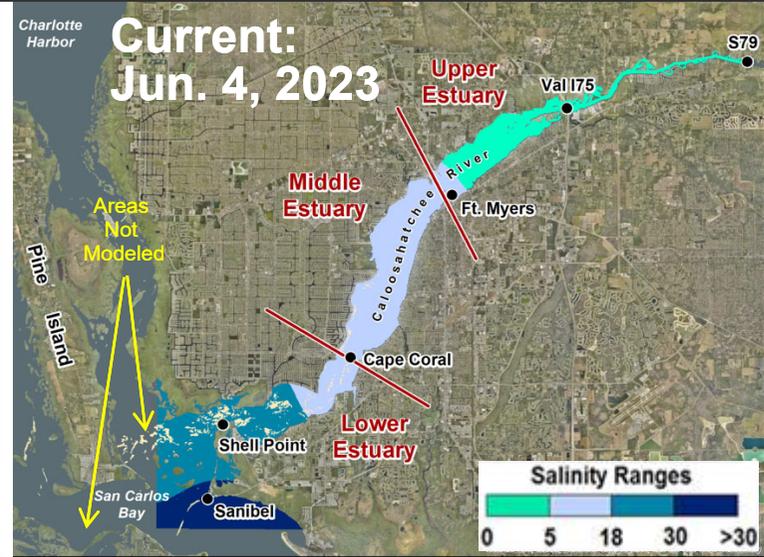
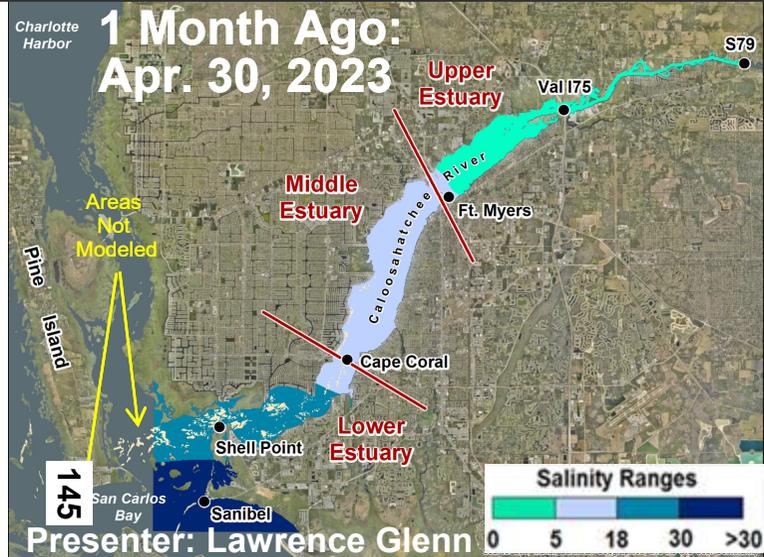
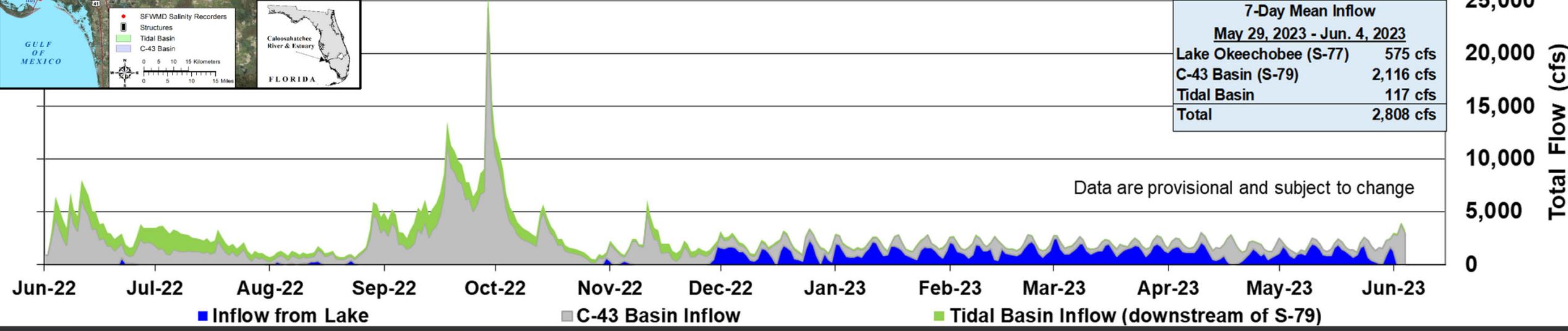


Caloosahatchee Inflows and Salinity Conditions

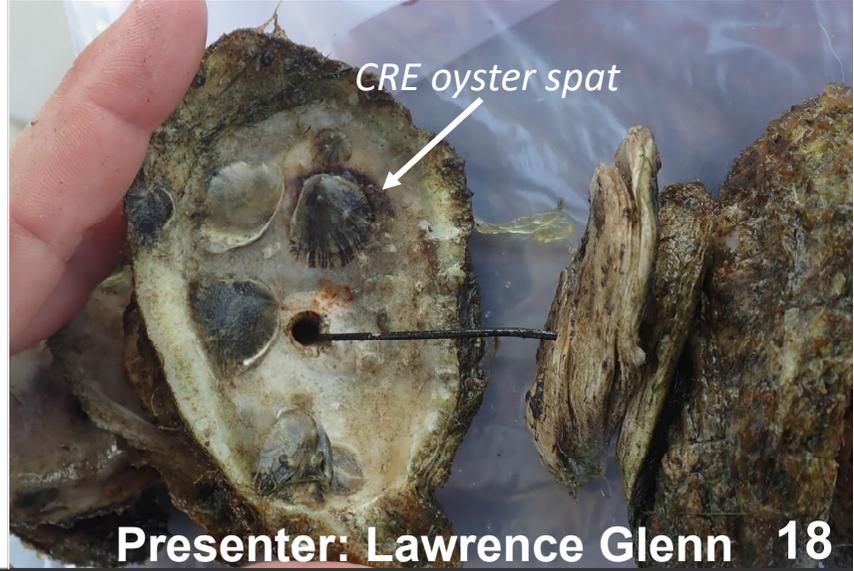
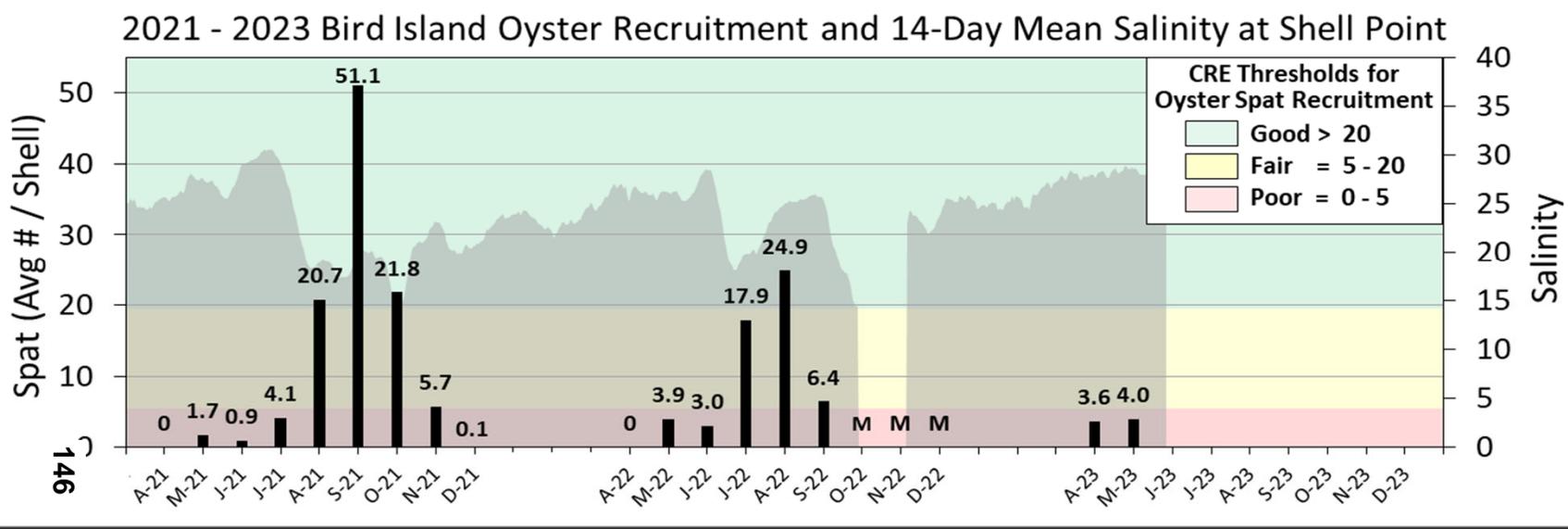
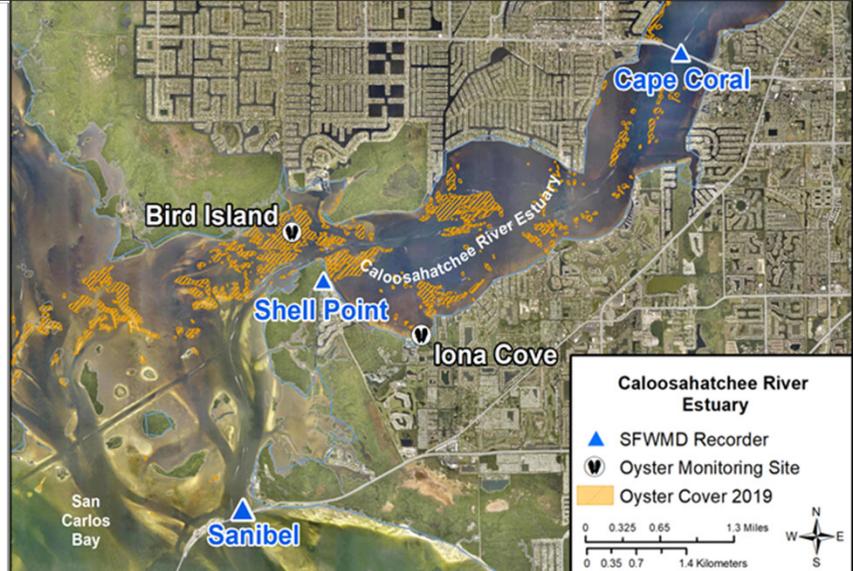
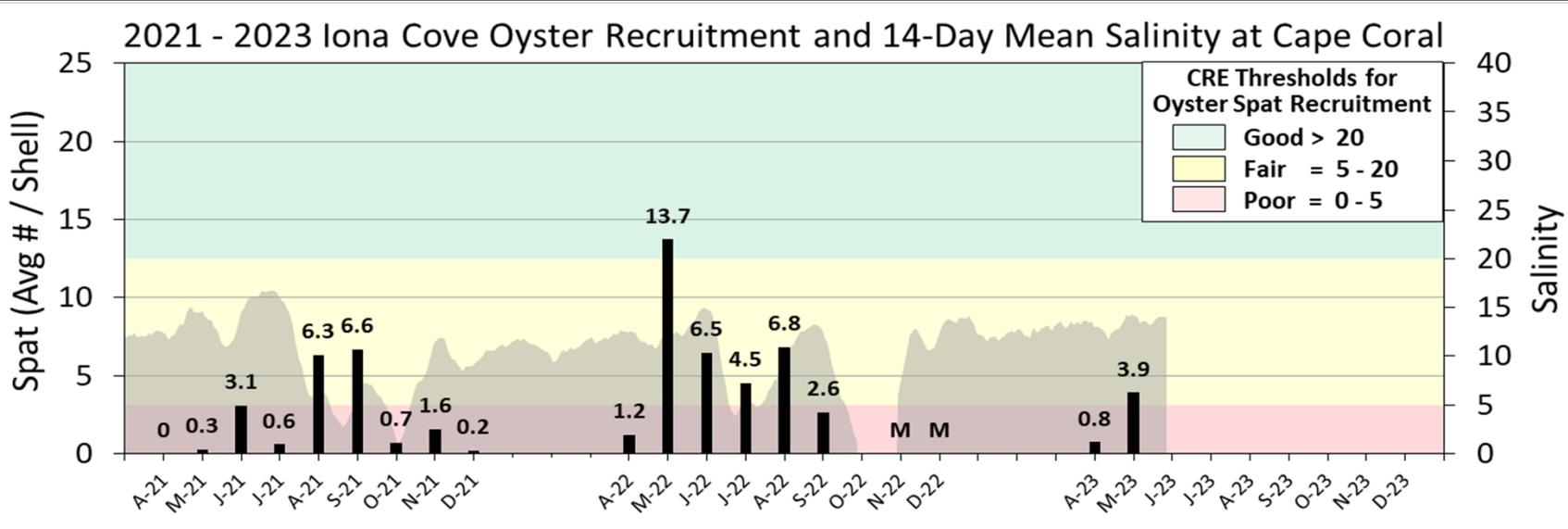


Total Daily Inflow into the Caloosahatchee River Estuary

7-Day Mean Inflow May 29, 2023 - Jun. 4, 2023	
Lake Okeechobee (S-77)	575 cfs
C-43 Basin (S-79)	2,116 cfs
Tidal Basin	117 cfs
Total	2,808 cfs

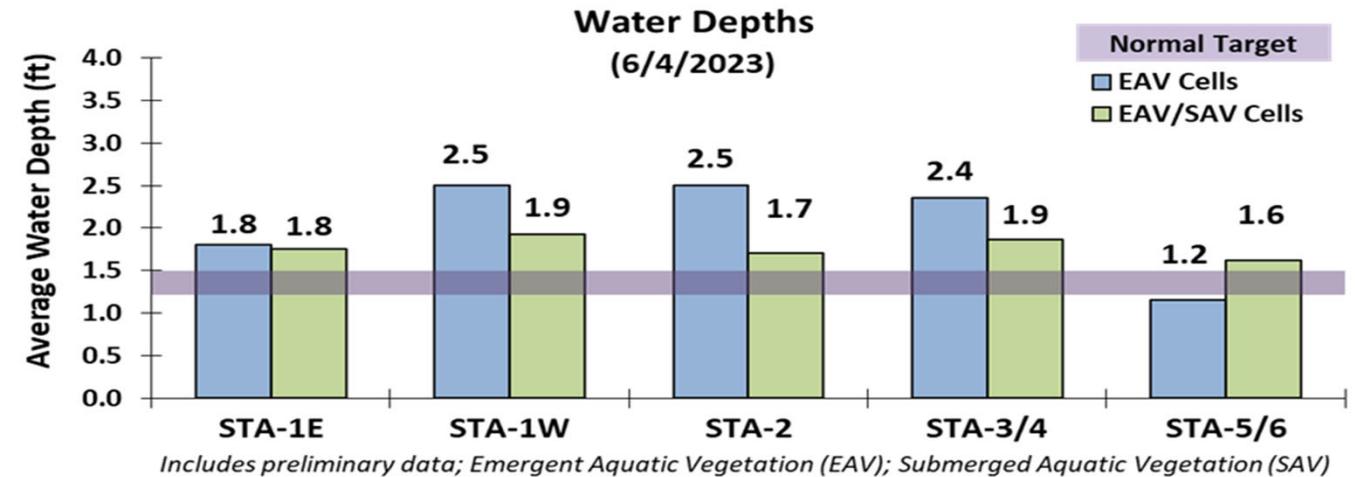
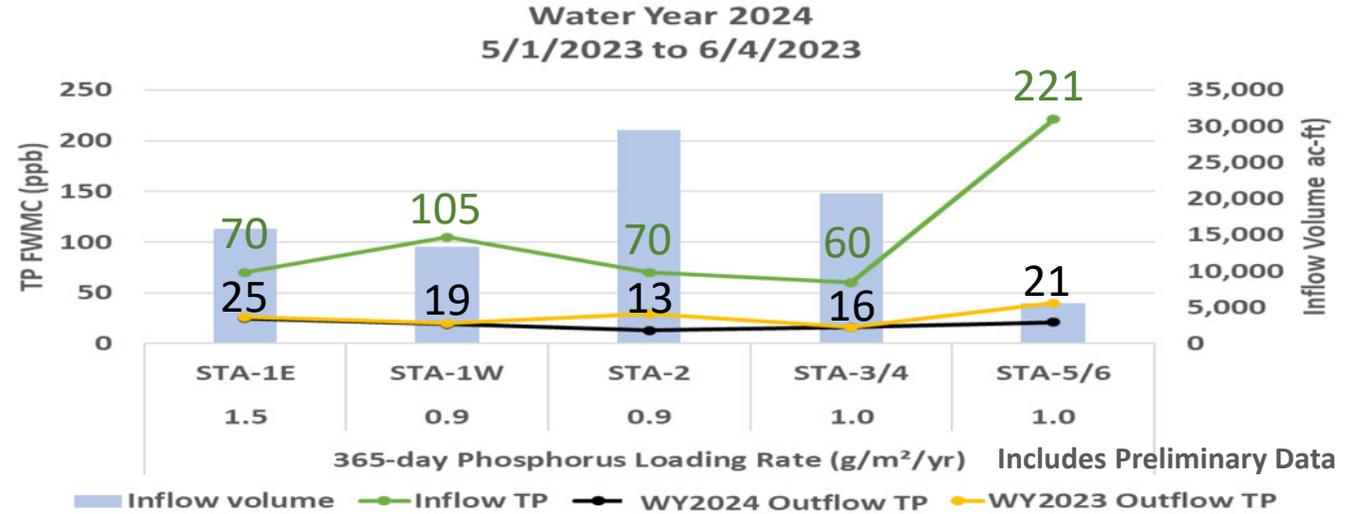


Caloosahatchee Estuary – Oyster Recruitment

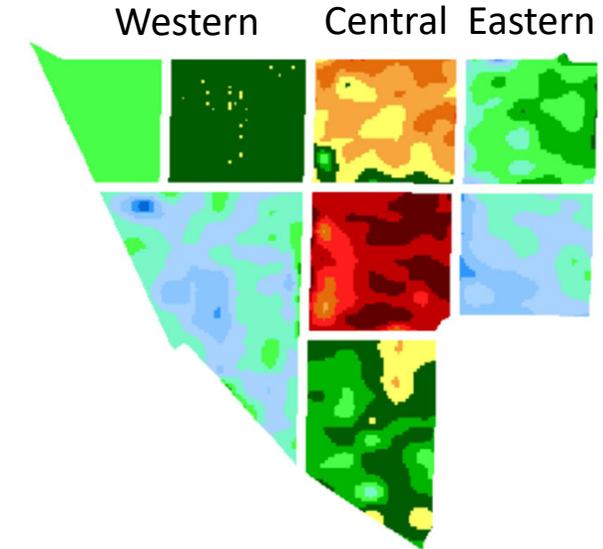
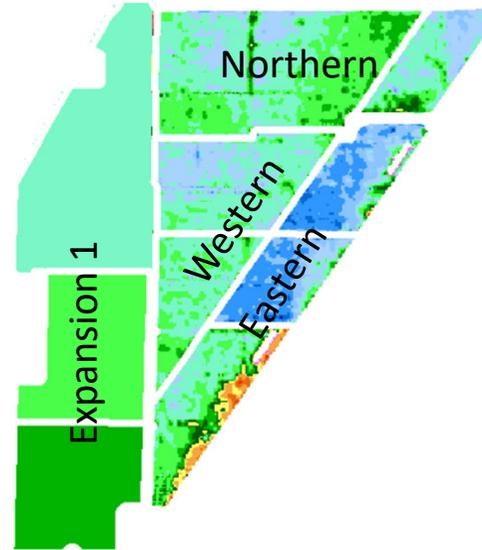
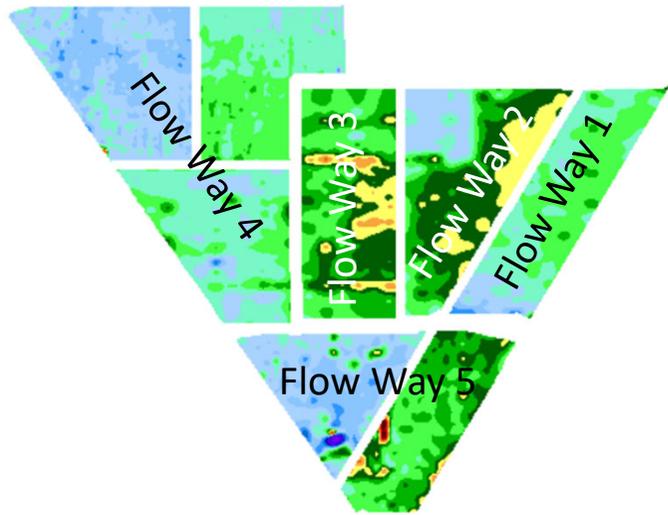


Everglades Stormwater Treatment Areas (STAs)

- STAs treated basin runoff and Lake Okeechobee releases in May
 - Total WY2024 inflows to STAs (5/1/2023 to 6/4/2023): ~84,000 ac-ft
 - Lake Okeechobee releases to FEB/STAs in WY2024: ~2,000 ac-ft
- Extensive vegetation management activities underway to address stressed and highly stressed vegetation especially in EAV cells
- Most treatment cells are near or above target depth



Stormwater Treatment Area Water Depths



Flow Way	Restrictions	Back on-line
1	On-line	
2	Off-line; post-construction grow in	July
3	On-line; vegetation management, MBTA	
4	On-line; vegetation management	
5	On-line	

STA-2

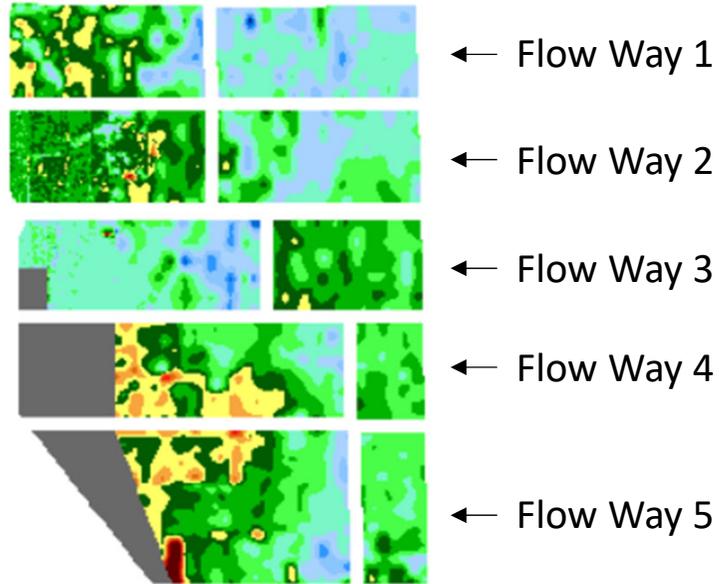
Flow Way	Restrictions
Northern	On-line; vegetation management, MBTA
Eastern	On-line; vegetation management
Western	On-line; vegetation management
Expansion	On-line; construction activities, MBTA

STA-1W

Flow Way	Restrictions	Back on-line
Western	Off-line; post-construction grow in	Late July
Central	Off-line; refurbishments survey	Mid June
Eastern	On-line	

STA-1E

Stormwater Treatment Area Water Depths



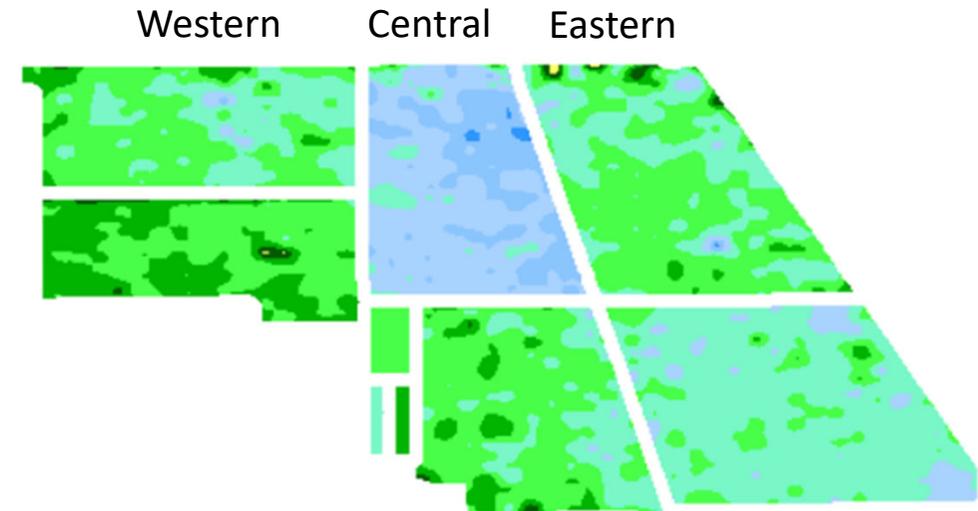
Flow Way 6 →

Flow Way 7 →

Flow Way 8 →

STA-5/6

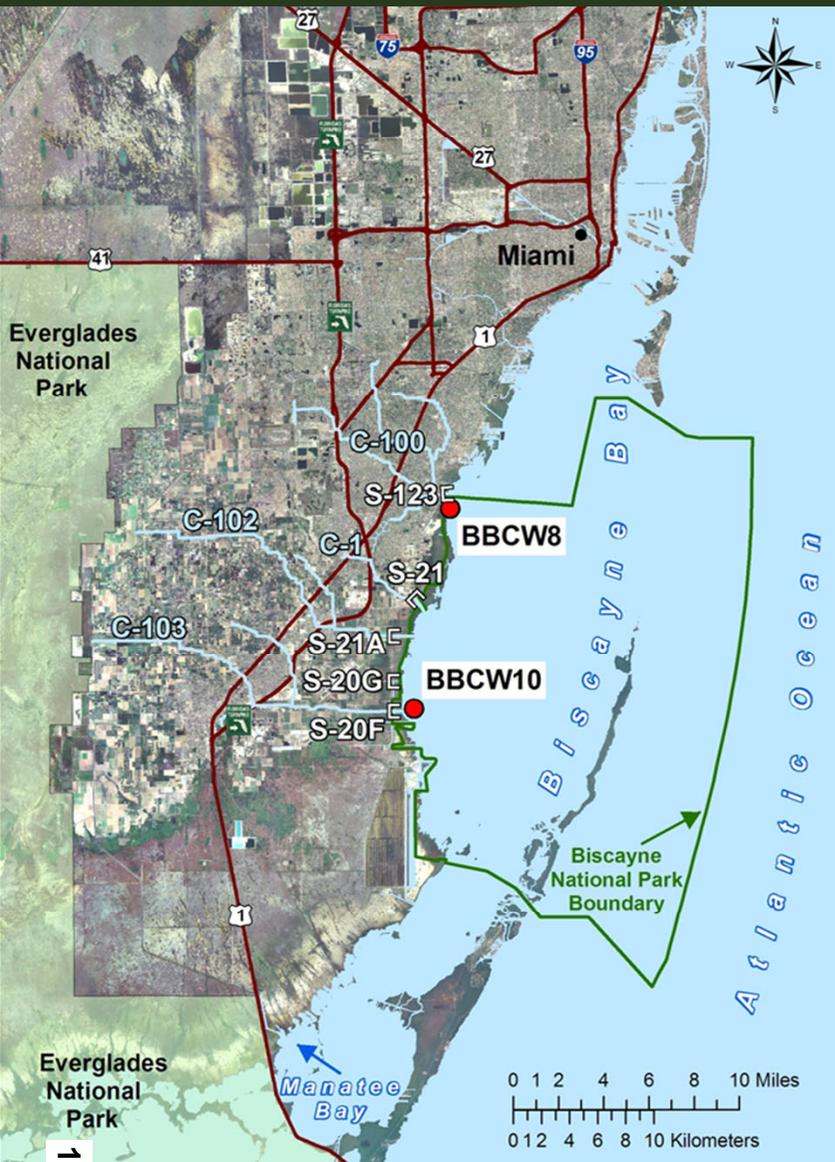
Flow Way	Restrictions
1	On-line
2	On-line
3	On-line
4	On-line
5	On-line
6	On-line
7	On-line
8	On-line



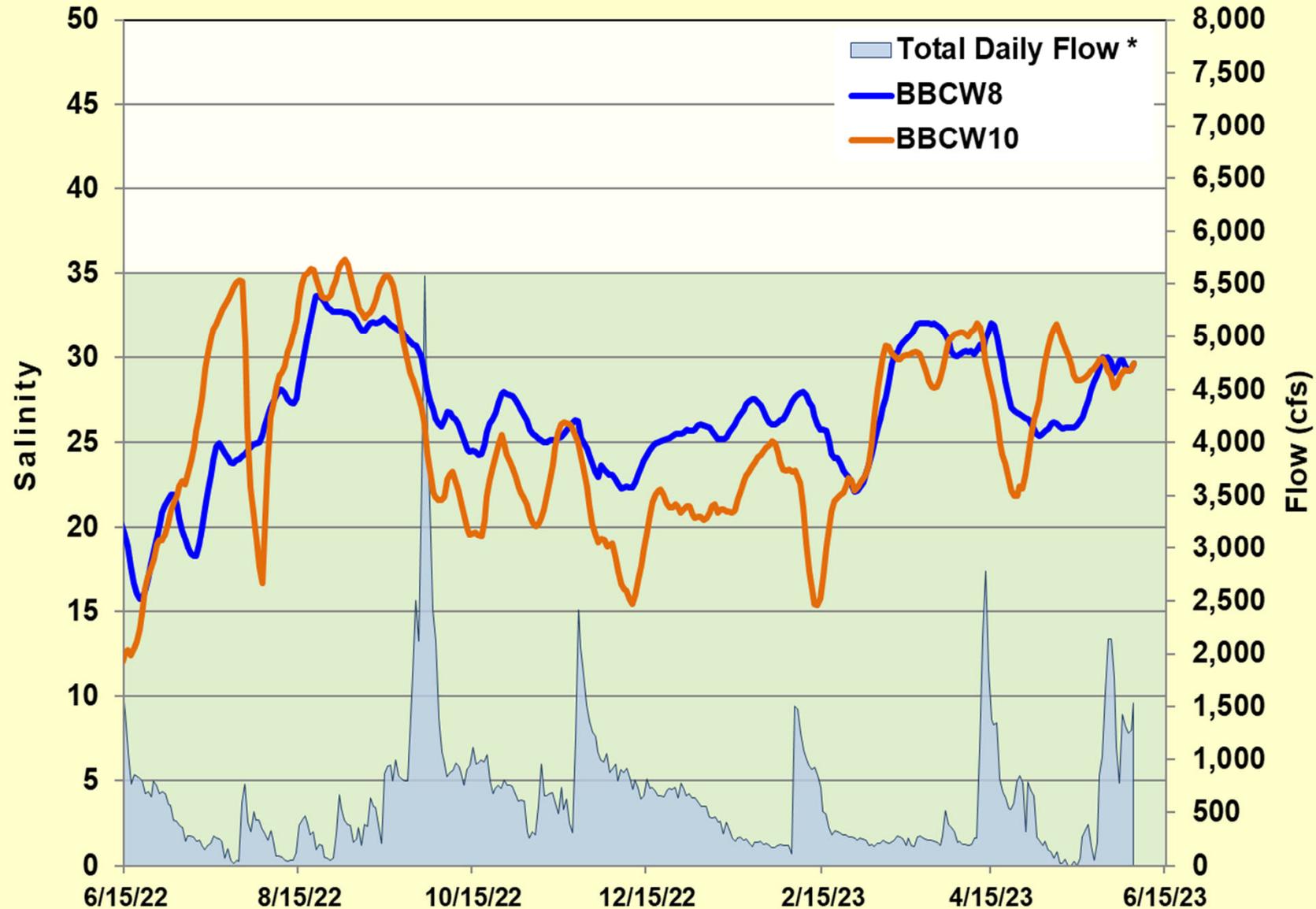
Flow Way	Restrictions	Back on-line
Western	Off-line; vegetation rehabilitation	August
Central	On-line	
Eastern	On-line	

STA-3/4

Biscayne Bay

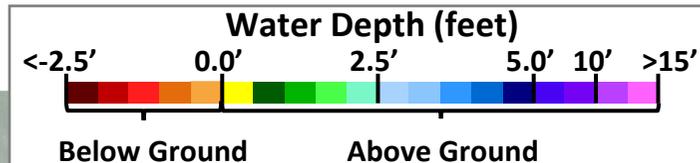
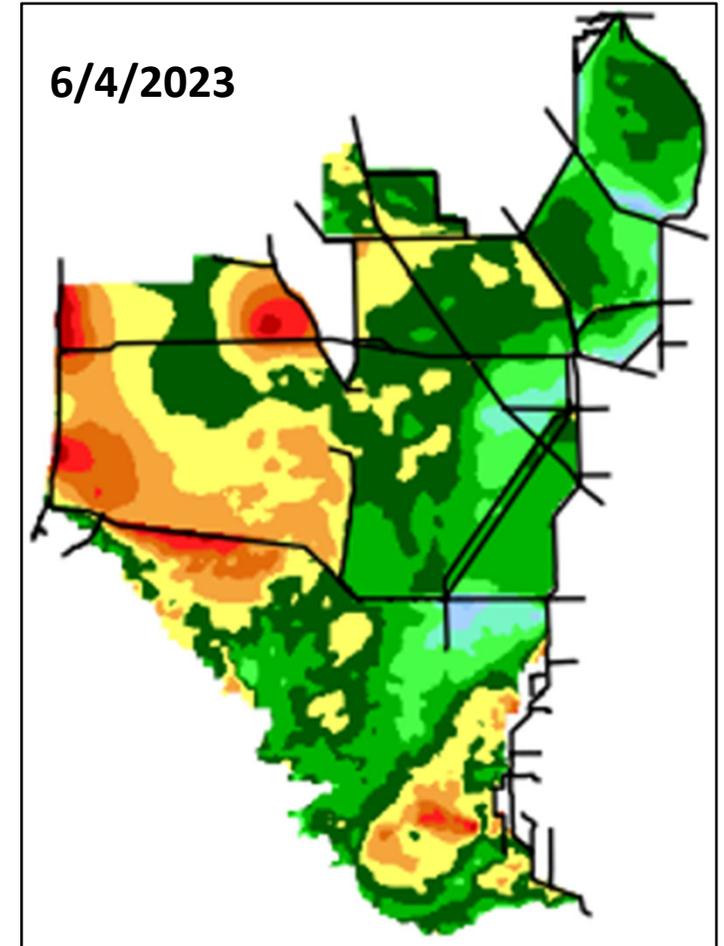
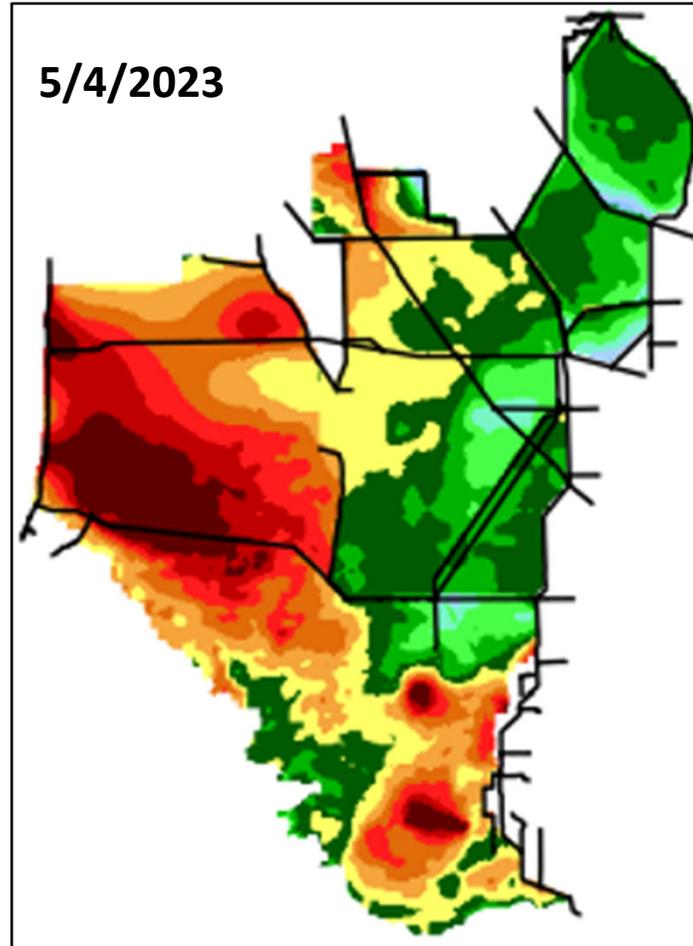
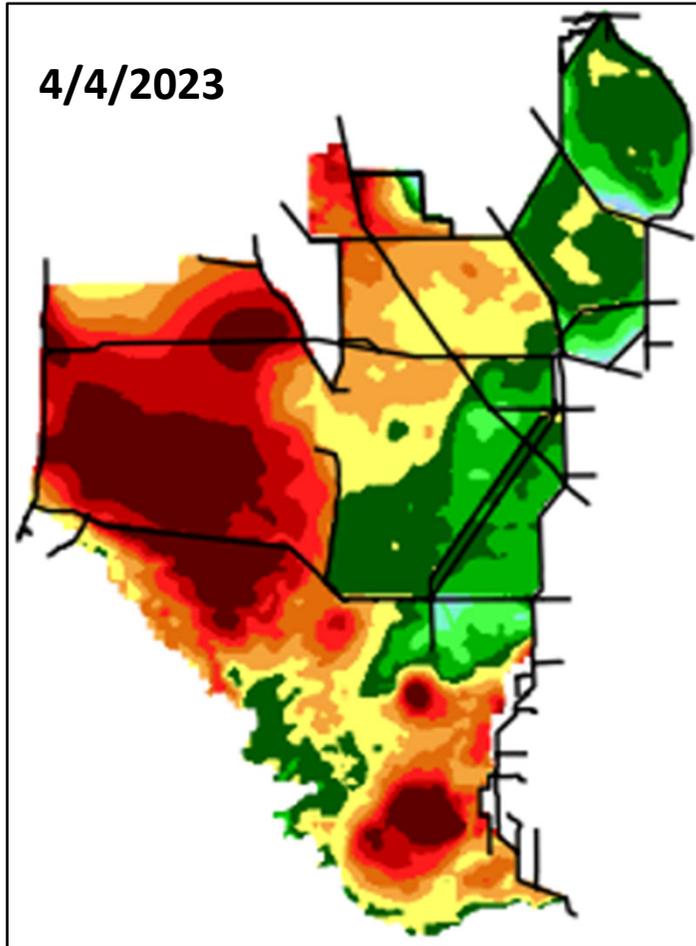


Seven-Day Mean Salinity (BBCW8 & BBCW10) & Total Daily Flow

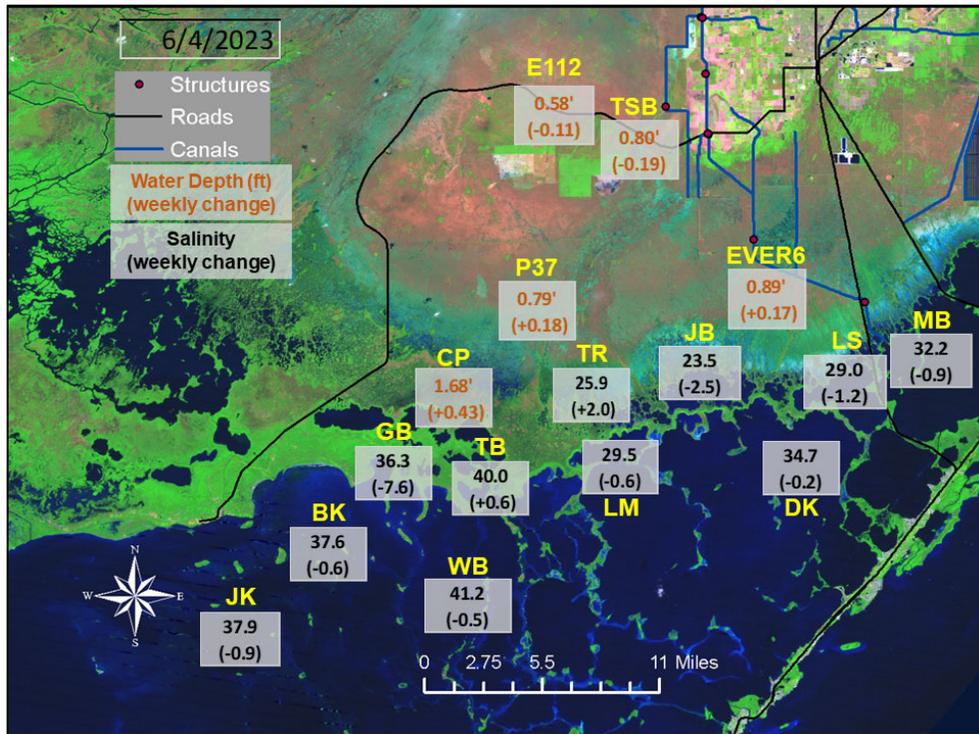


* Total flow from S20G, S20F, S21, S21A, S123, S700P

Everglades Water Depths

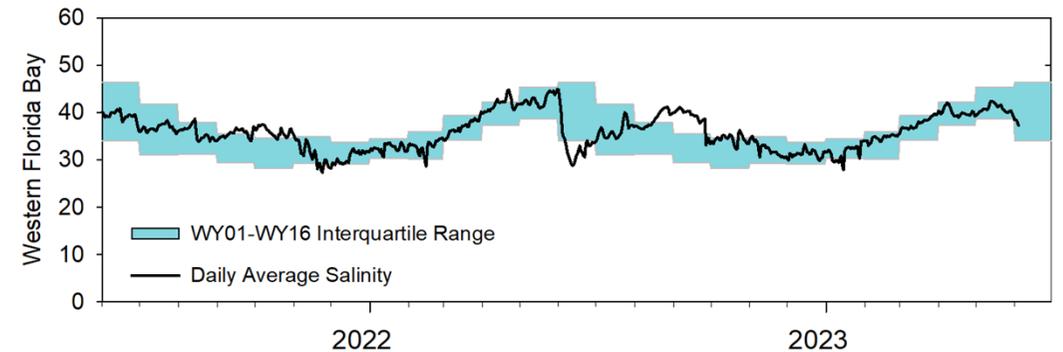
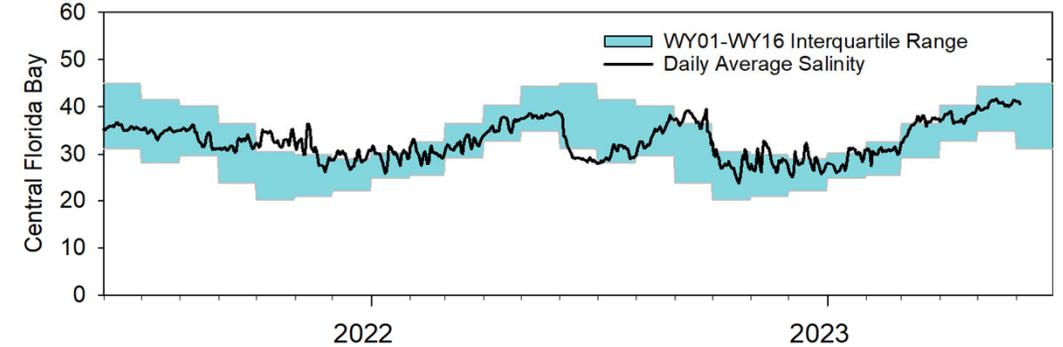
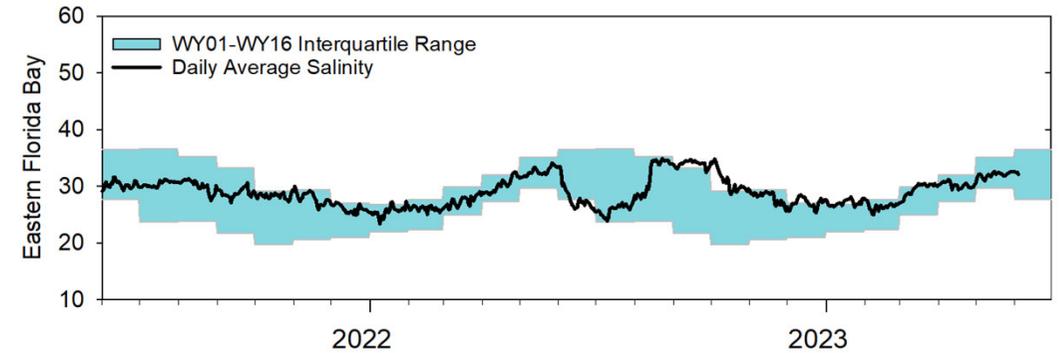
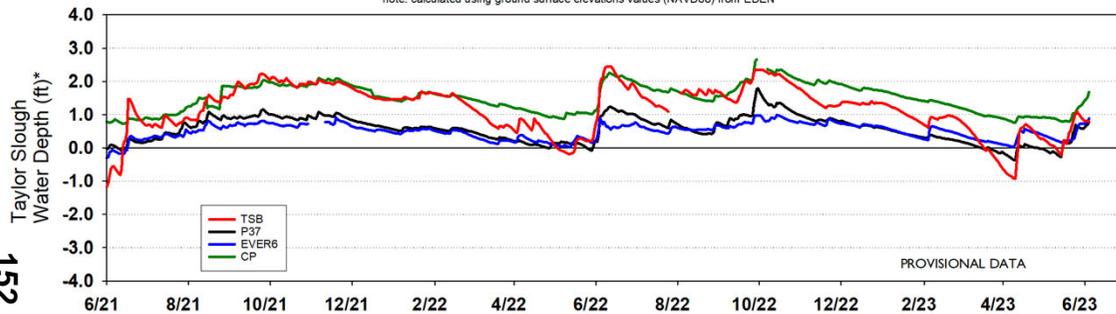


Taylor Slough Stages and Florida Bay Salinity

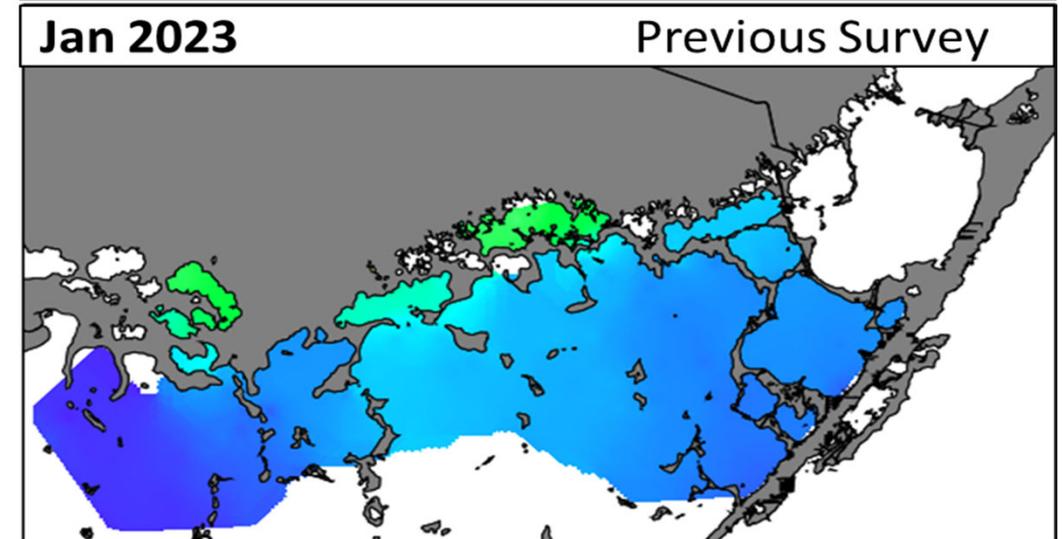
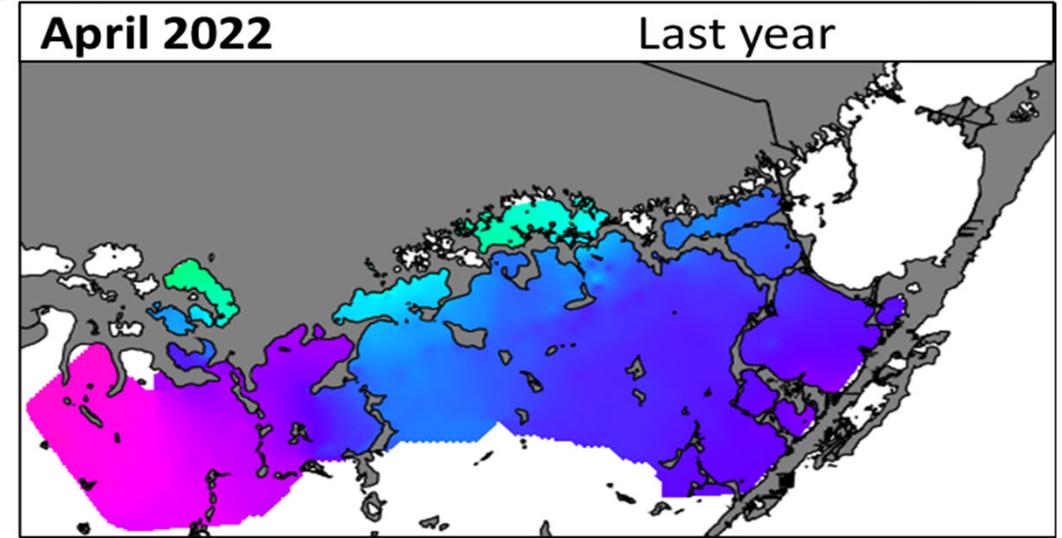
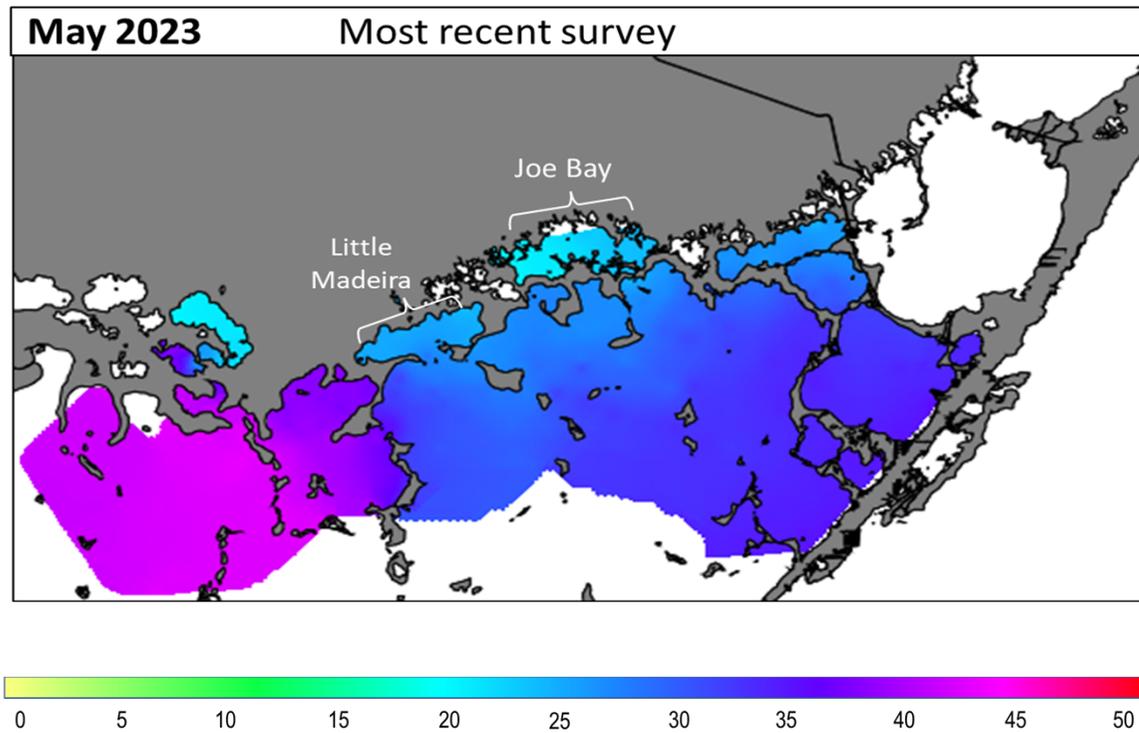


Taylor Slough Water Depths

*note: calculated using ground surface elevations values (NAVD88) from EDEN



Mapping Florida Bay Salinity Conditions



Questions



Lined seahorse (Hippocampus erectus) within a patch of green feather algae (Caulerpa sertularioides) Indian River Lagoon near Jensen Beach, May 24, 2023. Photograph courtesy of SFWMD Staff