



South Florida Water Management District

GOVERNING BOARD MONTHLY MEETING AGENDA

June 9, 2022

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: MaryAnn Braun, Senior Attorney
 - June Employee of the Month: Anthony Betts, Lead Scientist
 - May Team of the Month: Site Visit Team
 - June Team of the Month: Blue-Green Algae Monitoring and Response Team
 - 25-Year Service Award: Yvette Hernandez, Science Supervisor - QA
 - 30-Year Service Award: Dale Vestrem, Network Administrator
 - Good Samaritan Award: Moises Hernandez, Fields Ops & Maintenance Supervisor
4. Agenda Revisions
5. Agenda Item Abstentions by Board Members
6. Consider Approval of the Minutes for the May 12th Meeting
7. Executive Director's Report - Drew Bartlett
8. General Public Comment

9. Board Comment
10. Move Consent Agenda Items to Discussion Agenda
11. Public Comment on Consent Agenda Items
12. Board Vote on Consent Agenda

Consent Agenda

13. Land Exchange with the City of Miramar, Broward County (Staff contact, Stephen M. Collins)

Agenda Item Background:

Staff is seeking Governing Board approval to exchange two properties containing approximately 4.75 acres located in the City of Miramar for six acres owned by City of Miramar. The District lands are not located in a project footprint, whereas the properties owned by the City of Miramar are located within the 3A/3B Seepage Management component of the Broward County Water Preserve Area Project. Based on appraisals, the transaction is considered to be an equal exchange. The parcels owned by the District were acquired with DOI funding and the resulting encumbrance placed on the District property will need to be transferred to the six-acre exchange parcel in order to meet the requirements of the Federal Grant Agreement.

Recommended Action:

Resolution No. 2022 - 0601 Approve declaring surplus for exchange and conveyance fee title land interests containing 4.75 acres, more or less, within the City of Miramar, in exchange for the acquisition of fee title land interests containing six acres, more or less, within the District's 3A/3B Seepage Management component of the Broward County Water Preserve Area Project.

[Resolution No. 2022-0601](#)

[Exhibit A](#)

14. Donation and Conveyance of Land in Palm Beach County to Florida Fish and Wildlife Conservation Commission (Staff contact, Stephen M. Collins)

Agenda Item Background:

Staff is seeking Governing Board approval to donate 39.5 acres to Florida Fish and Wildlife Conservation Commission (FWC). In 2014, the District gave approximately 150 acres of the northwest corner of Mecca Farms to FWC as part of an exchange. FWC developed the parcel into an Olympic-quality public shooting range, addressing public recreational needs. The shooting range is also used to expand hunter safety and safe gun handling educational programs. FWC has requested that the District donate an additional 39.5 acres of adjacent land for additional public recreational activities including an archery venue and a RV campsite. The District will reserve a perpetual easement over approximately 22.7 acres of the proposed donation for future construction staging activities needed during construction of the adjacent water feature.

Recommended Action:

Resolution No. 2022 - 0602 Approve declaring surplus fee title land interests containing 39.5 acres, more or less, in Palm Beach County, and approve donation of and conveyance of said property to Florida Fish and Wildlife Conservation Commission, subject to a reserved construction use and access easement containing 22.7 acres, more or less, and without reservation of interests under Section 270.11, Florida Statutes.

[Resolution No. 2022-0602](#)

[Exhibit A](#)

15. Indiantown International, Incorporated, Flash Grazing Cattle Lease, Martin County (Staff contact, Stephen M. Collins)

Agenda Item Background:

The District purchased 71.01 acres in 2010 from Indiantown International, Incorporated. The property is located within the Indian River Lagoon - South Project. Staff is seeking Governing Board approval to enter into a lease with Indiantown International, Incorporated, the only adjacent landowner, to lease the property for flash cattle grazing to help the District's efforts to control overgrown vegetation. As part of this five-year lease the use of fertilizer is prohibited, and supplemental feed will not be permitted. Annual revenue will be based on one Animal Unit per twenty acres (very low density). Due to the fact that Indiantown International Incorporated is the only adjacent landowner, this proposed lease was not competitively bid.

Recommended Action:

Resolution No. 2022 - 0603 Authorize a five-year flash grazing cattle lease to Indiantown International, Incorporated on 71.01 acres, more or less, in Martin County. (Contract No. 4600004595)

[Resolution No. 2022-0603](#)

[Exhibit A](#)

16. Release of Reservations (Staff contact, Stephen M. Collins)

Agenda Item Background:

The District has certain reserved rights to construct canal right of ways and reserved mineral rights. 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 canal reservations. It has been determined there is no present or future District need, and the reservation may be released for payment of a value equal to one percent of the appraised value of the land on the Property Appraiser's website in the County where the property is located. Mineral rights are retained by the District and a non-use commitment is issued. It has been determined that there is no present or future need for the reservations listed below.

For Consideration:

The following is offered for the Governing Board's consideration:

Martin County

Release District canal reservations and issue non-use commitment for Douglas

Gordon Howell, Jr. and Jamie Wynne, Trustees of the William F. Wynne Irrevocable Trust Agreement for the Benefit of Cassidy Anne Wynne, and William F. Wynne Irrevocable Trust Agreement for the Benefit of Kelsey Lee Wynne (File No. 18893) for 200.0 +/- acres; release value payment of \$35,000.00 has not been paid.

Recommended Action:

Resolution No. 2022 - 0604 Release District canal reservations and issue a non-use commitment.

[Maps](#)

[Memo Exhibit A](#)

[Resolution No. 2022-0604](#)

[Resolution Exhibit A](#)

17. Contract for Land Based Seismic Tomography and Regional Characterization of the Floridan Aquifer System for the Lake Okeechobee Water Restoration Project Aquifer Storage and Recovery (ASR) Well Program and Science Plan (Staff contact, Jennifer Reynolds)

Agenda Item Background:

The Aquifer Storage and Recovery (ASR) Science Plan indicates additional research is recommended to determine aquifer suitability for ASR Well Clusters. The National Research Council suggested considering the use of cross-well seismic tomography and regional seismic evaluation to assess the effects of tectonic faults on well location and performance. The ASR Peer Review Panel indicated that there is a significant potential role for applied geophysics regarding aquifer property characterization, and seismic surveys can provide information on storage zone integrity. The District proposes land-based seismic surveys to address these recommendations.

The District has completed seismic surveys or cross-well tomography surveys at the Kissimmee River (C38S) ASR well location and the C43 and C44 ASR well cluster locations and is now recommending conducting science based seismic survey investigations at other ASR well cluster locations. The Collier Geophysics, LLC Statement of Work has been prepared to facilitate subsurface delineation and characterization of the Hawthorn confining unit and FAS to evaluate storage zone integrity and address ASR Well uncertainties. Seismic lines will be shot at the L63N, C59, L63S, C38N, C40 and C41 proposed ASR wellfield locations to a depth of 3,000 feet below land surface into the bolder zone. Upon execution, the seismic survey efforts are estimated to take six to nine months to complete, and the contract will be for one year in Fiscal Year 2022-2023.

Recommended Action:

Resolution No. 2022 - 0605 Authorize entering into a contract with Collier Geophysics, LLC to provide Seismic Reflection Survey Consulting and Professional Services, using the City of Cape Coral, Florida Contract RUT2103MC for one year in the amount of \$545,537.36 for which dedicated funds (State General Revenue) are budgeted. The scope of work includes the services for a land based two-dimensional seismic survey of the Floridan Aquifer System for the Lake Okeechobee Watershed Restoration Project Aquifer Storage and

Recovery Well Program and Science Plan. (Contract No. 4600004609)

[Resolution No. 2022-0605](#)

[Map](#)

Technical Reports

- 18. Water Conditions Report - John P. Mitnik
- 19. Ecological Conditions Report - Lawrence Glenn

Discussion Agenda

- 20. Flood Awareness Month (Staff contact, Carolina Maran and Rich Virgil)

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 Reports

- 21. Monthly Financial Report - Candida Heater
- 22. General Counsel's Report - Julia Lomonico, Interim General Counsel
- 23. General Public Comment
- 24. Board Comment
- 25. Adjourn

Public Comment Policy

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.

Draft presentations for Agenda items, 18, 19, and 20.

Agenda Item Background:

[18_Mitnik_Water_Conditions_Report_Jun_2022_final.pdf](#)

[19_Glenn_EcoCond_Report_June2022_Final.pdf](#)

[20_Maran_Flood_Awareness_Month_2022.pdf](#)

[20_Virgil_Flood_Awareness_Month_June_2022.pdf](#)

MEMORANDUM

TO: Governing Board Members

FROM: Stephen M. Collins, Real Estate & Land Management

DATE: June 9, 2022

SUBJECT: Land Exchange with the City of Miramar, Broward County

Agenda Item Background:

Staff is seeking Governing Board approval to exchange two properties containing approximately 4.75 acres located in the City of Miramar for six acres owned by City of Miramar. The District lands are not located in a project footprint, whereas the properties owned by the City of Miramar are located within the 3A/3B Seepage Management component of the Broward County Water Preserve Area Project. Based on appraisals, the transaction is considered to be an equal exchange. The parcels owned by the District were acquired with DOI funding and the resulting encumbrance placed on the District property will need to be transferred to the six-acre exchange parcel in order to meet the requirements of the Federal Grant Agreement.

Core Mission and Strategic Priorities:

Additional Item Background:

The District owns two properties containing approximately 4.75 acres located in the City of Miramar, Broward County, as shown on the attached Exhibit "A". The District will convey the two properties to the City of Miramar in exchange for the City of Miramar conveying property containing approximately six acres located within the 3A/3B Seepage Management component of the Broward County Water Preserve Area Project, also shown on the attached Exhibit "A". The City of Miramar previously approved the execution of an Interlocal Exchange Agreement on November 15, 2021 to facilitate the transaction. The District properties were initially acquired for use as part of the CERP C-9 Impoundment project using federal grant funding. It was subsequently determined that these sites were no longer needed for the project or for any current or future use. The properties are identified as Tract W9200-003 and Tract W9200-012, containing 3.4 acres and 1.35 acres, respectively ("District Tracts").

Ecological assessments were obtained for the property and did not identify any matters of concern. Appraisals establishing an appraised value of \$150,000 for Tract W9200-003 and \$36,450 for Tract W9200-012 were also obtained. An appraisal of the parcel owned by the City of Miramar was also obtained and determined the value to be \$210,000. After consideration of value estimates attained by the District and those of the City, the transaction is considered to be an equitable exchange of lands.

To facilitate the transaction, the DOI has approved the six-acre property, as shown on Exhibit "A" attached hereto, as suitable replacement property for the federal grant funding encumbrance. Pursuant to the pertinent federal grant agreement, the DOI will execute a Quitclaim Deed to the District to release the federal grant funding encumbrance against the 4.75-acre property in consideration of the District executing and recording the replacement federal grant funding encumbrance on the six-acre property once the City transfers ownership of said property to the District. Staff recommends that Tract W9200-003 and Tract W9200-

012 be declared surplus, without reservation of phosphate, minerals, metals and petroleum under Section 270.11, Florida Statutes, and be exchanged for the property owned by the City of Miramar, totaling six acres, more or less. The City of Miramar will include appropriate grant encumbrance language in the deed of conveyance for the new Tract 12102-054, which combined with the quit claim deed from the DOI, will transfer the federal grant encumbrance to the new site.

Core Mission and Strategic Priorities:

By approving this item, the Governing Board determines that the fee ownership of the Tracts is not required by the District for present or future use, and based on the ecological assessments, are not needed for conservation purposes.

Funding Source:

Ad Valorem funds will be used to pay for the costs of District appraisals and District closing costs. The City of Miramar will pay for their closing costs. Additionally, transferring the federal grant funding encumbrance from the 4.75-acre properties to the six-acre property allows the exchange of land interests hence no funding is required.

Staff Contact and/or Presenter:

Stephen M. Collins, smcollins@sfwmd.gov, 561-682-2959

ATTACHMENTS:

[Resolution No. 2022-0601](#)

[Exhibit A](#)

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Resolution No. 2022 - 06XX

A Resolution of the Governing Board of the South Florida Water Management District approving declaring surplus for exchange and conveyance fee title land interests containing 4.75 acres, more or less, within the City of Miramar, in exchange for the acquisition of fee title land interests containing six acres, more or less, within the District's 3A/3B Seepage Management component of the Broward County Water Preserve Area Project; providing an effective date.

WHEREAS, District staff has analyzed the options for disposal of those certain parcels of land containing 4.75 acres, more or less, located in the Broward County, identified as a portion of Tracts W9200-003 and W9200-012 ("Tracts"), and recommends to the Governing Board that the Tracts be declared surplus; and

WHEREAS, the District desires to enter into an Interlocal Exchange Agreement whereby the District shall convey the Tracts to the City of Miramar in exchange for one property, of equivalent value, owned by the City of Miramar, totaling six acres, more or less, and conditioned upon the closing occurring on or before August 15, 2022; and

WHEREAS, the Governing Board has determined that the fee ownership of the Tracts is not required by the District for present or future use; and

WHEREAS, the Governing Board has determined that it is in the public interest to declare the Tracts surplus without reservation of phosphate, minerals, metals and petroleum under Section 270.11, Florida Statutes; and

WHEREAS, the Governing Board, pursuant to Section 373.056, Florida Statutes, has the authority to convey to any governmental entity, land or rights in land owned by the District not required for its purposes, under terms and conditions determined by the Governing Board; and

WHEREAS, pursuant to Section 373.089(6), Florida Statutes, the Governing Board shall be required to make a determination that the lands are no longer needed for conservation purposes by at least a two-thirds (2/3) majority.

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 (i) determines that fee ownership of those certain parcels of land containing 4.75 acres, more or less, located in Broward County, identified as a portion of Tracts W9200-003 and W9200-012, respectively, depicted in Exhibit "A" attached hereto, are not required by the District for present or future use and (ii) approves declaring surplus for exchange and conveyance to the City of Miramar, without reservation of interests under Section 270.11,

Florida Statutes, the fee title land interests containing 4.75 acres, more or less, in exchange for the acquisition from the City of Miramar of fee title land interests of equivalent value containing six acres, more or less, within the 3A/3B Seepage Management component of the Broward County Water Preserve Area Project as depicted in Exhibit "A", and conditioned upon the closing occurring on or before August 15, 2022. Any disposal shall be subject to funding source requirements and subdivision ordinance requirements.

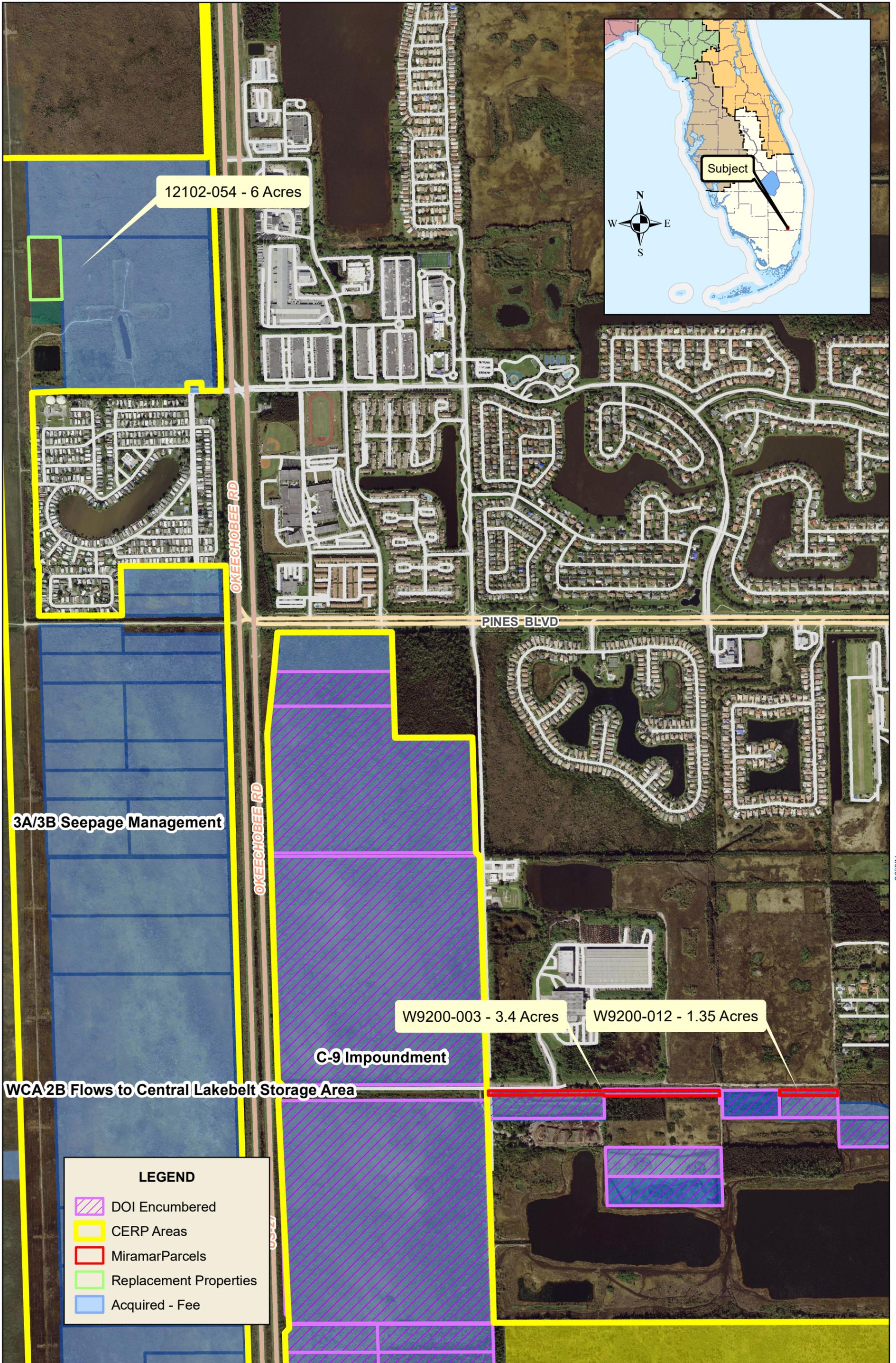
Section 2: Consistent with the requirements of Section 373.089(6), Florida Statutes, the Governing Board hereby determines that the subject lands are no longer needed for conservation purposes, and that this Resolution was approved by the Governing Board by at least a two-thirds (2/3) vote.

Section 3: The Governing Board of the South Florida Water Management District hereby authorizes the Chair or Vice Chair to execute the Interlocal Exchange Agreement instrument and the conveyance document. The Governing Board of the South Florida Water Management District hereby authorizes the Executive Director or the Executive Director's designee to execute all other documents necessary to consummate this transaction.

Section 4: This Resolution shall take effect immediately upon adoption.

PASSED and **ADOPTED** this 9th day of June, 2022.

Exhibit "A"



MEMORANDUM

TO: Governing Board Members

FROM: Stephen M. Collins, Real Estate & Land Management

DATE: June 9, 2022

SUBJECT: Donation and Conveyance of Land in Palm Beach County to Florida Fish and Wildlife Conservation Commission

Agenda Item Background:

Staff is seeking Governing Board approval to donate 39.5 acres to Florida Fish and Wildlife Conservation Commission (FWC). In 2014, the District gave approximately 150 acres of the northwest corner of Mecca Farms to FWC as part of an exchange. FWC developed the parcel into an Olympic-quality public shooting range, addressing public recreational needs. The shooting range is also used to expand hunter safety and safe gun handling educational programs. FWC has requested that the District donate an additional 39.5 acres of adjacent land for additional public recreational activities including an archery venue and a RV campsite. The District will reserve a perpetual easement over approximately 22.7 acres of the proposed donation for future construction staging activities needed during construction of the adjacent water feature.

Core Mission and Strategic Priorities:

Additional Item Background:

In December 2013, the District acquired approximately 1,896.49 acres of lands identified and known as “Mecca Farms”, for the Loxahatchee River Watershed Restoration Project (“Project”) in Palm Beach County. As part of a 2014 exchange transaction with Florida Fish and Wildlife Conservation Commission (“FWC”), the District conveyed FWC an approximately a 150-acre portion in the northwest corner of Mecca Farms (the “FWC Parcel”). FWC has developed the property into an Olympic-quality public shooting range, addressing public recreational needs and providing a venue for sport shooting related events. The shooting range is also used to expand hunter safety and safe gun handling educational programs.

FWC has requested that the District donate an additional 39.5 acres located directly south of the shooting range (the “Additional Parcel”), as depicted in Exhibit “A” attached hereto. The District will reserve a perpetual easement with respect to approximately 22.7 acres for the purpose of construction staging activities that will be conducted during construction of the adjacent water feature. Closing is to occur no later than August 15, 2022.

Core Mission and Strategic Priorities:

As the plans for the Additional Parcel include an archery venue and an RV campsite, the subject donation will provide substantial public recreational benefits.

Funding Source:

As this is a donation, there is no purchase price to fund. Any closing costs associated with the transaction will be paid by FWC. The funds used for the original purchase of Mecca Farms were from Save Our Everglades Trust Fund.

Staff Contact and/or Presenter:

Stephen M. Collins, smcollins@sfwmd.gov, 561-682-2959

ATTACHMENTS:

[Resolution No. 2022-0602](#)

[Exhibit A](#)

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Resolution No. 2022 - 06XX

A Resolution of the Governing Board of the South Florida Water Management District approving declaring surplus fee title land interests containing 39.5 acres, more or less, in Palm Beach County, and approving donation of and conveyance of said property to Florida Fish and Wildlife Conservation Commission, subject to a reserved construction use and access easement containing 22.7 acres, more or less, and without reservation of interests under Section 270.11, Florida Statutes; providing an effective date.

WHEREAS, in December 2013, the District acquired approximately 1,896.49 acres of lands identified and known as “Mecca Farms”, for the Loxahatchee River Watershed Restoration Project in Palm Beach County; and

WHEREAS, as part of a 2014 exchange transaction with Florida Fish and Wildlife Conservation Commission (“FWC”), the District conveyed FWC an approximately 150 acres portion in the northwest corner of Mecca Farms (the “FWC Parcel”); and

WHEREAS, FWC has requested that the District convey to FWC an additional 39.5 acres, more or less, located directly adjacent and south of the FWC Parcel and identified as Tract No. 23116-054 (the “Additional Parcel”); and

WHEREAS, the District, pursuant to Section 373.056(4), Florida Statutes is authorized to convey to any governmental authority, land or rights in land owned by the District not required for its purposes, under terms and conditions determined by the Governing Board; and

WHEREAS, the Governing Board has determined that the fee ownership of the Additional Parcel is not required by the District for present or future use; and

WHEREAS, the Governing Board has determined that FWC’s acquisition of the Additional Parcel will provide substantial public recreational benefits and it is in the public interest to declare the Additional Parcel surplus and to convey the Additional Parcel to FWC; and

WHEREAS, the District shall donate and convey the Additional Parcel to FWC, subject to a reserved construction use and access easement containing 22.7 acres, more or less, without reservation of interests under Section 270.11, Florida Statutes, and conditioned upon the closing occurring on or before August 15, 2022.

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 (i) determines that fee ownership of that certain parcel containing 39.5 acres, more or less, located in Palm Beach County identified as Tract No. 23116-054, depicted in Exhibit "A" attached hereto, is not required by the District for present or future use, and (ii) approves declaring surplus for donation and conveyance to the Florida Fish and Wildlife Conservation Commission, without reservation of interests under Section 270.11, Florida Statutes, the fee title land interests containing 39.5 acres, more or less, subject to a reserved construction use and access easement containing 22.7 acres, more or less, and conditioned upon the closing occurring on or before August 15, 2022. Any surplus will be subject to funding source requirements.

Section 2. Consistent with the requirements of Section 373.086, Florida Statutes, the Governing Board hereby determines that the subject lands are no longer needed for conservation purposes, and this Resolution was approved by the Governing Board by at least a two-thirds (2/3) vote.

Section 3. The Governing Board hereby authorizes the Chairman or Vice Chairman to execute the instrument of conveyance. The Governing Board hereby authorizes the Executive Director or the Executive Director's designee to make any determination in connection with the transaction and execute all other documents necessary to consummate this transaction.

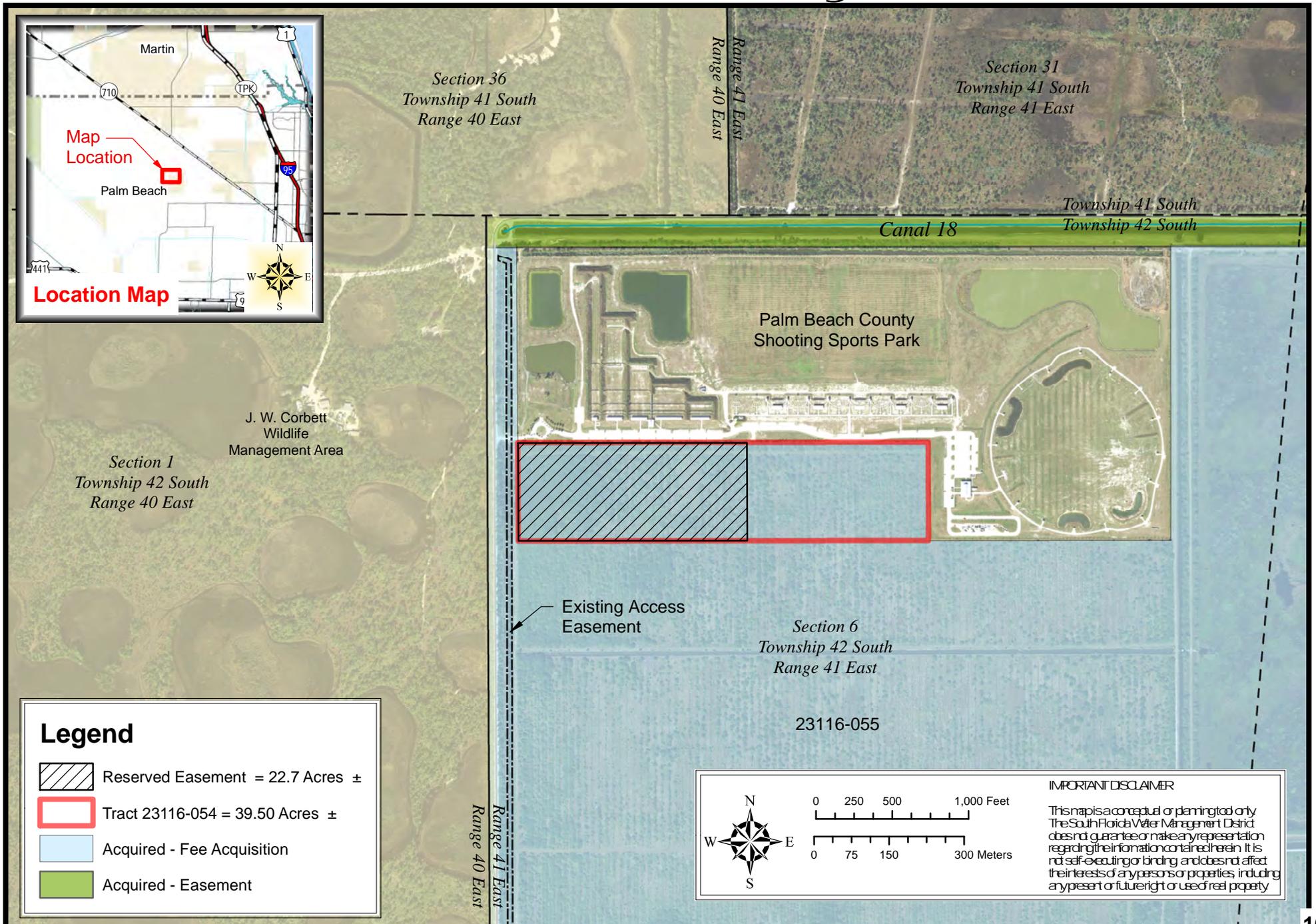
Section 4. This Resolution shall take effect immediately upon adoption.

PASSED and **ADOPTED** this 9th day of June, 2022.

Exhibit "A"

SFWMD- FWC SURPLUS

Palm Beach County



MEMORANDUM

TO: Governing Board Members

FROM: Stephen M. Collins, Real Estate & Land Management

DATE: June 9, 2022

SUBJECT: Indiantown International, Incorporated, Flash Grazing Cattle Lease, Martin County

Agenda Item Background:

The District purchased 71.01 acres in 2010 from Indiantown International, Incorporated. The property is located within the Indian River Lagoon - South Project. Staff is seeking Governing Board approval to enter into a lease with Indiantown International, Incorporated, the only adjacent landowner, to lease the property for flash cattle grazing to help the District's efforts to control overgrown vegetation. As part of this five-year lease the use of fertilizer is prohibited, and supplemental feed will not be permitted. Annual revenue will be based on one Animal Unit per twenty acres (very low density). Due to the fact that Indiantown International Incorporated is the only adjacent landowner, this proposed lease was not competitively bid.

Core Mission and Strategic Priorities:

Additional Item Background:

The District purchased 71.01 acres in Martin County on December 15, 2010 from Indiantown International, Incorporated. The property is located within the Indian River Lagoon – South Project. Indiantown International, Incorporated, also adjacent landowner would like to lease the property for flash cattle grazing to help with the overgrown vegetation. As part of this five-year lease, the Lessee will be required to install a gate to move cattle in and out of the property, the use of fertilizer is prohibited, and supplemental feed is not permitted. The approximate annual revenue, which is based on one Animal Unit per twenty acres (very low density), will be adjusted each year based on the District's Cattle Grazing Formula. The District property does not contain sufficient pasture grass or a water source to support a stand-alone cattle grazing operation. Considering the restrictions mentioned above this five-year lease would not be economically feasible to offer as a request for bid.

Core Mission and Strategic Priorities:

The objective of this Lease is to obtain assistance in the stewardship and maintenance of this land by utilizing beef flash cattle grazing as a tool in the maintenance of native range and provide revenue for the maintenance and management of District lands. The revenues generated from these leases will assist Land Management in managing these and other District-owned lands.

Funding Source:

There are no District costs associated with this item other than the cost of administering the lease. The Lease is estimated to bring in anticipated revenue of approximately \$3,000 over the five-year term.

Staff Contact and/or Presenter:

Stephen M. Collins, smcollins@sfwmd.gov, 561-682-2959

ATTACHMENTS:

[Resolution No. 2022-0603](#)

[Exhibit A](#)

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Resolution No. 2022 - 06XX

A Resolution of the Governing Board of the South Florida Water Management District authorizing a five-year flash grazing cattle lease to Indiantown International, Incorporated on 71.01 acres, more or less, in Martin County, as more particularly described herein; providing an effective date. (Contract No. 4600004595)

WHEREAS, the District's Governing Board, pursuant to Section 373.093, Florida Statutes, may lease lands or interests in land under terms and conditions determined by the Governing Board; and

WHEREAS, the District and the Lessee desire to enter into a Lease Agreement on the premises known as Contract No. 4600004595, Lease Encumbrance ID JE10E-091, for five years; and

WHEREAS, the Lessee's main use of the premises is flash cattle grazing, which will assist in the stewardship of native range; and

WHEREAS, the District's Governing Board deems it appropriate and in the public interest to approve the lease contract above to Indiantown International, Incorporated, for a five-year flash grazing cattle lease on 71.01 acres, more or less, in Martin County, see Exhibit "A", with five-year anticipated revenue in the amount of approximately \$3,000.

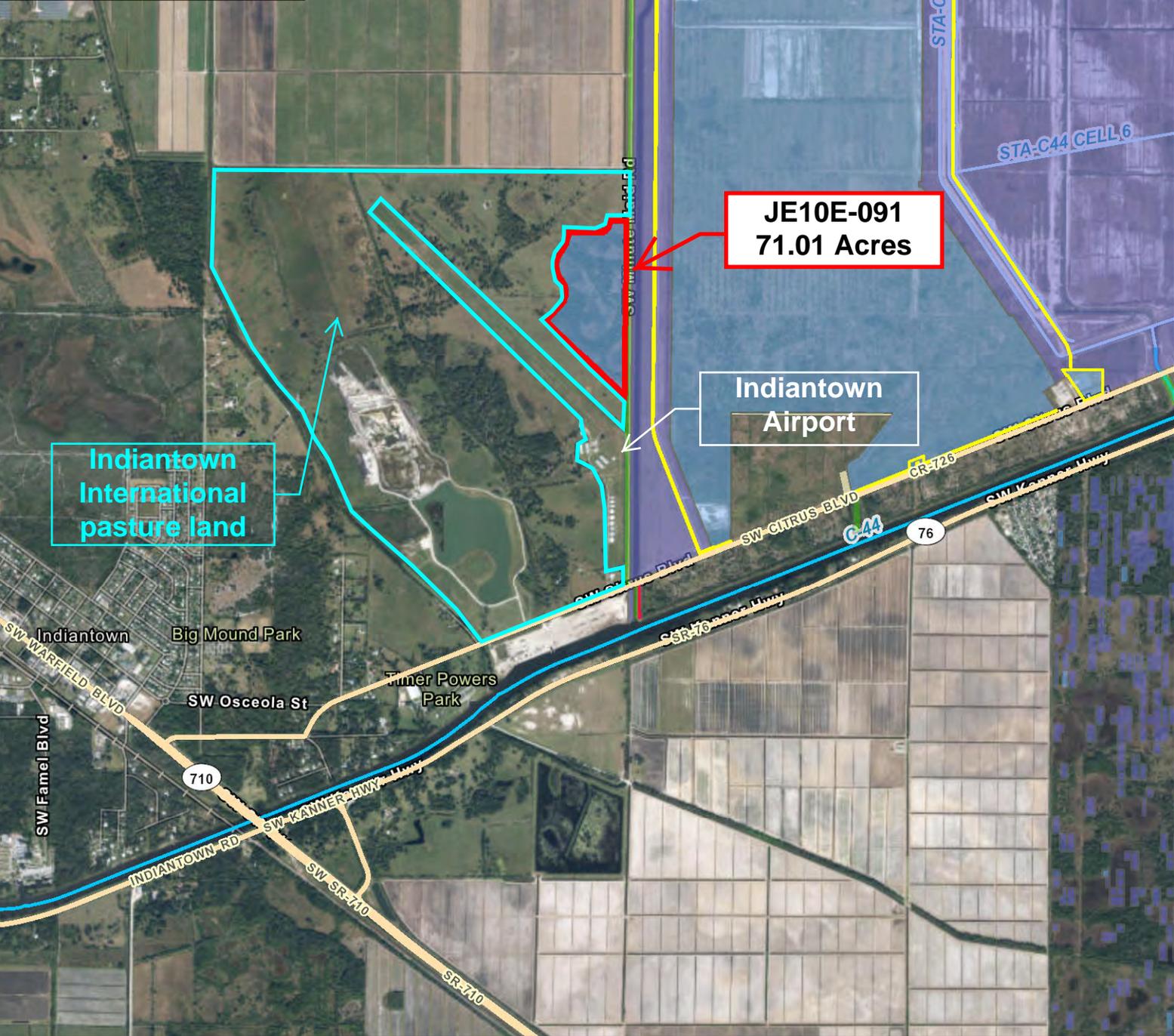
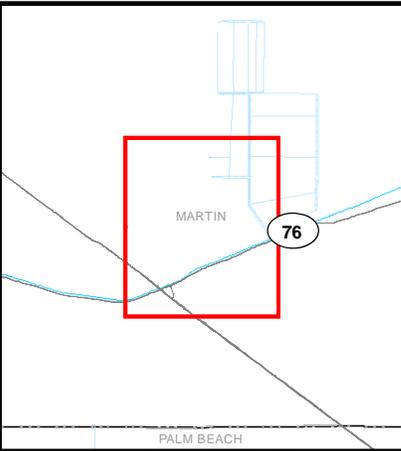
NOW THEREFORE, BE IT RESOLVED BY THE GOVERNING BOARD OF THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT:

Section 1. The Governing Board of the South Florida Water Management District hereby authorizes a five-year lease for Contract No. 4600004595 for a flash grazing cattle lease with Indiantown International, Incorporated on 71.01 acres, more or less, in Martin County. (Contract No. 4600004595)

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

PASSED and ADOPTED this 9th day of June, 2022.

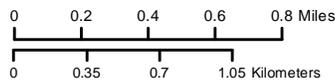
Exhibit "A"



Lease of JE100-095 for Flash Grazing



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



DISCLAIMER:
This map is a conceptual or planning tool only. The South Florida Water Management District does not guarantee or make any representation regarding the information contained herein. It is not self-executing or binding, and does not affect the interests of any persons or properties, including any present or future right or use of real property and is exempt from public records disclosure and confidential under Section 119.071(3)(a)(1), Florida Statute.

MEMORANDUM

TO: Governing Board Members
FROM: Stephen M. Collins, Real Estate & Land Management
DATE: June 9, 2022
SUBJECT: Release of Reservations

Agenda Item Background:

The District has certain reserved rights to construct canal right of ways and reserved mineral rights. 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 canal reservations. It has been determined there is no present or future District need, and the reservation may be released for payment of a value equal to one percent of the appraised value of the land on the Property Appraiser's website in the County where the property is located. Mineral rights are retained by the District and a non-use commitment is issued. It has been determined that there is no present or future need for the reservations listed below.

For Consideration:

The following is offered for the Governing Board's consideration:

Martin County

Release District canal reservations and issue non-use commitment for Douglas Gordon Howell, Jr. and Jamie Wynne, Trustees of the William F. Wynne Irrevocable Trust Agreement for the Benefit of Cassidy Anne Wynne, and William F. Wynne Irrevocable Trust Agreement for the Benefit of Kelsey Lee Wynne (File No. 18893) for 200.0 +/- acres; release value payment of \$35,000.00 has not been paid.

Core Mission and Strategic Priorities:

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

Pursuant to Section 373.096, 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.

Funding Source:

Staff Contact and/or Presenter:

Stephen M. Collins, smcollins@sfwmd.gov, 561-682-2959

ATTACHMENTS:

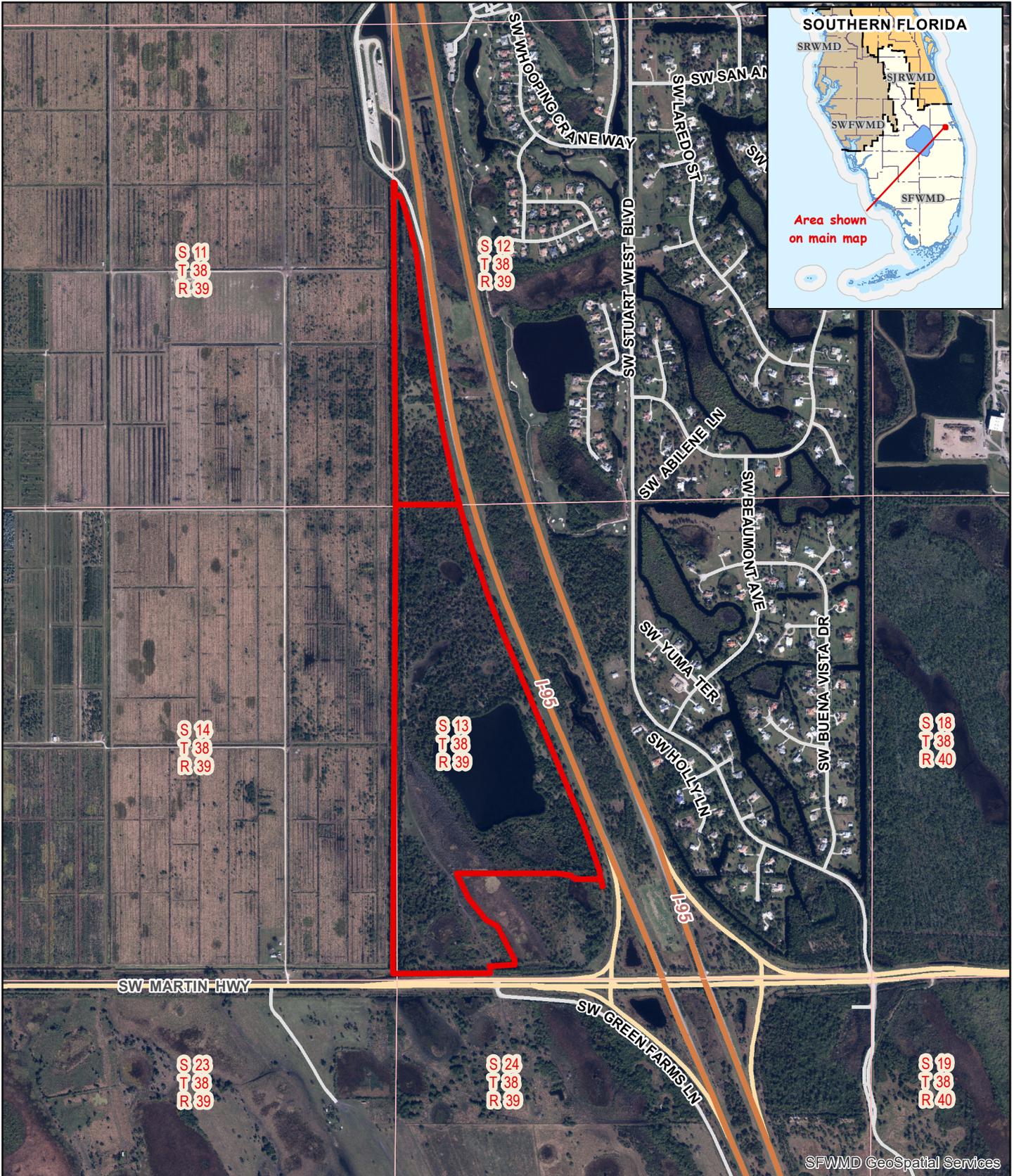
[Maps](#)

Memo Exhibit A

Resolution No. 2022-0604

Resolution Exhibit A

Exhibit "A"



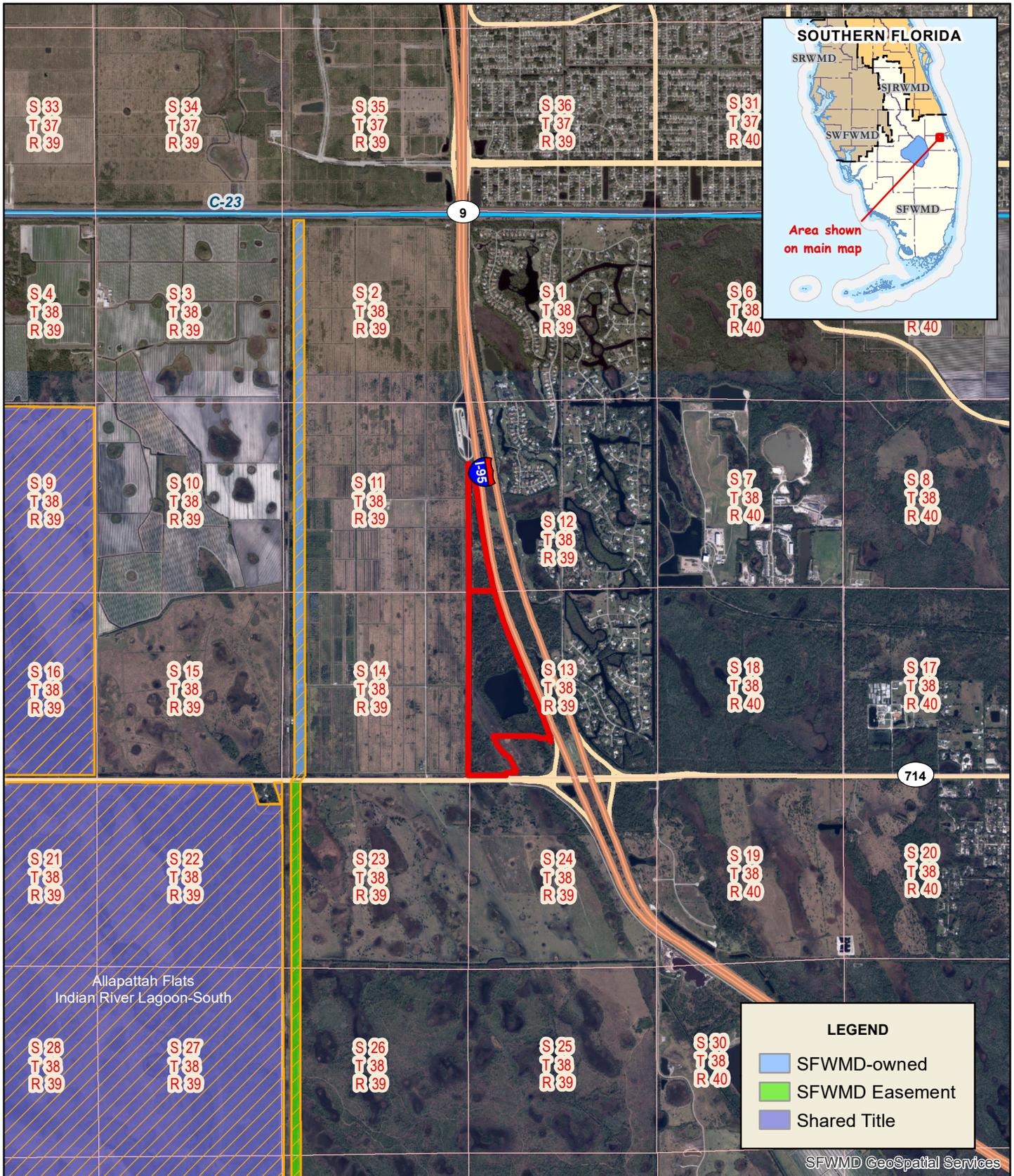
sfwmd.gov

Release No. 18893

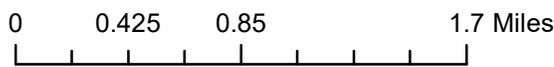
0 0.15 0.3 0.6 Miles

IMPORTANT DISCLAIMER:
 This map is a conceptual or planning tool only. The South Florida Water Management District does not guarantee or make any representation regarding the information contained herein. It is not self-executing or binding, and does not affect the interests of any persons or properties, including any present or future right or use of real property.

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



Release No. 18893



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

MEMORANDUM – EXHIBIT “A”

Martin County

File No: 18893
Applicant: Douglas Gordon Howell, Jr. and Jamie Wynne, Trustees of the William F. Wynne Irrevocable Trust Agreement for the Benefit of Cassidy Anne Wynne, and William F. Wynne Irrevocable Trust Agreement for the Benefit of Kelsey Lee Wynne
Reserving Deed: E-6278 (DB 42-164, 5/7/1947)
Application Fee Paid: \$5,475.00
Release Value: \$35,000.00 (unpaid)
Action: Release District canal reservations and issue non-use commitment; subject to payment of \$35,000.00 for value of release of District real property interests
Acres: 200.0 acres, more or less
Legal Description: A parcel of land lying in Sections 12 and 13, Township 38 South, Range 39 East, lying West of State Road 9 (I-95)
Location: 10755 SW Martin Hwy, Palm City, Martin County
Reviewed By: Water Supply Development Section, Right of Way Section, Environmental Recourse Permitting Bureau, Office of Everglades Policy Coordination, and Martin County

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Resolution No. 2022 - 06XX

A Resolution of the Governing Board of the South Florida Water Management District to release District canal reservations and issue a non-use commitment, providing an effective date.

WHEREAS, the applicant has requested that the South Florida Water Management District release certain District canal reservations and issue a non-use commitment as to District mineral reservations; and

WHEREAS, the District is empowered to grant such a release and non-use commitment 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 approves the release of District canal reservations and issuance of a non-use commitment, 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 9th day of June, 2022.

RESOLUTION - EXHIBIT "A"

Martin County

File No: 18893
Applicant: Douglas Gordon Howell, Jr. and Jamie Wynne, Trustees of the William F. Wynne Irrevocable Trust Agreement for the Benefit of Cassidy Anne Wynne, and William F. Wynne Irrevocable Trust Agreement for the Benefit of Kelsey Lee Wynne
Reserving Deed: E-6278 (DB 42-164, 5/7/1947)
Release Value: \$35,000.00 (unpaid)
Action: Release District canal reservations and issue non-use commitment; subject to payment of \$35,000.00 for value of release of District real property interests
Acres: 200.0 acres, more or less
Legal Description: A parcel of land lying in Sections 12 and 13, Township 38 South, Range 39 East, lying West of State Road 9 (I-95)
Location: 10755 SW Martin Hwy, Palm City, Martin County

MEMORANDUM

TO: Governing Board Members

FROM: Jennifer Reynolds, Ecosystem Restoration & Capital Projects

DATE: June 9, 2022

SUBJECT: Contract for Land Based Seismic Tomography and Regional Characterization of the Floridan Aquifer System for the Lake Okeechobee Water Restoration Project Aquifer Storage and Recovery (ASR) Well Program and Science Plan

Agenda Item Background:

The Aquifer Storage and Recovery (ASR) Science Plan indicates additional research is recommended to determine aquifer suitability for ASR Well Clusters. The National Research Council suggested considering the use of cross-well seismic tomography and regional seismic evaluation to assess the effects of tectonic faults on well location and performance. The ASR Peer Review Panel indicated that there is a significant potential role for applied geophysics regarding aquifer property characterization, and seismic surveys can provide information on storage zone integrity. The District proposes land-based seismic surveys to address these recommendations.

The District has completed seismic surveys or cross-well tomography surveys at the Kissimmee River (C38S) ASR well location and the C43 and C44 ASR well cluster locations and is now recommending conducting science based seismic survey investigations at other ASR well cluster locations. The Collier Geophysics, LLC Statement of Work has been prepared to facilitate subsurface delineation and characterization of the Hawthorn confining unit and FAS to evaluate storage zone integrity and address ASR Well uncertainties. Seismic lines will be shot at the L63N, C59, L63S, C38N, C40 and C41 proposed ASR wellfield locations to a depth of 3,000 feet below land surface into the bolder zone. Upon execution, the seismic survey efforts are estimated to take six to nine months to complete, and the contract will be for one year in Fiscal Year 2022-2023.

Core Mission and Strategic Priorities:

Additional Item Background:

As part of CERP, LOWRP is designed to improve water levels in Lake Okeechobee, increase the spatial extent and functionality of wetlands, and improve water supply for existing legal water users. The project includes construction of up to fifty five (55) ASR wells located in clusters in various locations throughout the Lake Okeechobee watershed. During the previous three Florida State Legislature appropriated \$100 million (\$50 million in FY20 and an additional \$50 million in FY21) to the District for the design, engineering, and construction of the specific project components designed to achieve the greatest reductions in harmful discharges to the Caloosahatchee and St. Lucie Estuaries. The South Florida Water Management District has initiated the ASR Well program for LOWRP and is moving expeditiously.

The project supports the District's core mission of restoring South Florida's water resources and ecosystems while meeting the region's present and future water supply needs.

Funding Source:

Dedicated funds (State General Revenue) are budgeted in Fiscal Year 2021-2022 in the amount of \$545,537.36.

Staff Contact and/or Presenter:

Jennifer Reynolds, jreynolds@sfwmd.gov, 561-682-6672

ATTACHMENTS:

[Resolution No. 2022-0605](#)

[Map](#)

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Resolution No. 2022 - 06XX

A Resolution of the Governing Board of the South Florida Water Management District to authorize entering into a contract with Collier Geophysics, LLC to provide Seismic Reflection Survey Consulting and Professional Services, using the City of Cape Coral, Florida Contract RUT2103MC for one year in the amount of \$545,537.36 for which dedicated funds (State General Revenue) are budgeted. The scope of work includes the services for a land based two-dimensional seismic survey of the Floridan Aquifer System (FAS) for the Lake Okeechobee Watershed Restoration Project (LOWRP) Aquifer Storage and Recovery (ASR) Well Program and Science Plan; providing an effective date. (Contract No. 4600004609)

WHEREAS, the Governing Board of the District deems it necessary, appropriate, and in the public interest to authorize entering into a one-year contract with Collier Geophysics, LLC, using the City of Cape Coral, Florida Contract RUT2103MC in the amount of \$545,537.36, for which dedicated funds (State General Revenue) are budgeted. The objective of the seismic survey is to determine aquifer suitability for ASR Well clusters for LOWRP. The seismic survey includes subsurface delineation and characterization of the Hawthorn confining unit and FAS to evaluate storage zone integrity and address ASR Well uncertainties. Seismic lines will be shot at the L63N, C59, L63S, C38N, C40 and C41 proposed ASR wellfield locations to a depth of 3,000 feet below land surface into the bolder zone.

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 one-year contract with Collier Geophysics, LLC in the amount of \$545,537.36. (Contract Number 4600004609)

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

PASSED and ADOPTED this 9th day of June, 2022.



MEMORANDUM

TO: Governing Board Members

FROM: , Field Operations Division

DATE: June 9, 2022

SUBJECT: Flood Awareness Month (Staff contact, Carolina Maran and Rich Virgil)

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.

Core Mission and Strategic Priorities:

Funding Source:

Staff Contact and/or Presenter:

Carolina Maran, cmaran@sfwmd.gov, 561-682-6868
Rich Virgil, rvirgil@sfwmd.gov, 561-682-6759

ATTACHMENTS:

MEMORANDUM

TO: Governing Board Members

FROM: , Field Operations Division

DATE: June 9, 2022

SUBJECT:

Draft presentations for Agenda items, 18, 19, and 20.

Agenda Item Background:

Core Mission and Strategic Priorities:

Funding Source:

Staff Contact and/or Presenter:

ATTACHMENTS:

[18_Mitnik_Water_Conditions_Report_Jun_2022_final.pdf](#)

[19_Glenn_EcoCond_Report_June2022_Final.pdf](#)

[20_Maran_Flood_Awareness_Month_2022.pdf](#)

[20_Virgil_Flood_Awareness_Month_June_2022.pdf](#)

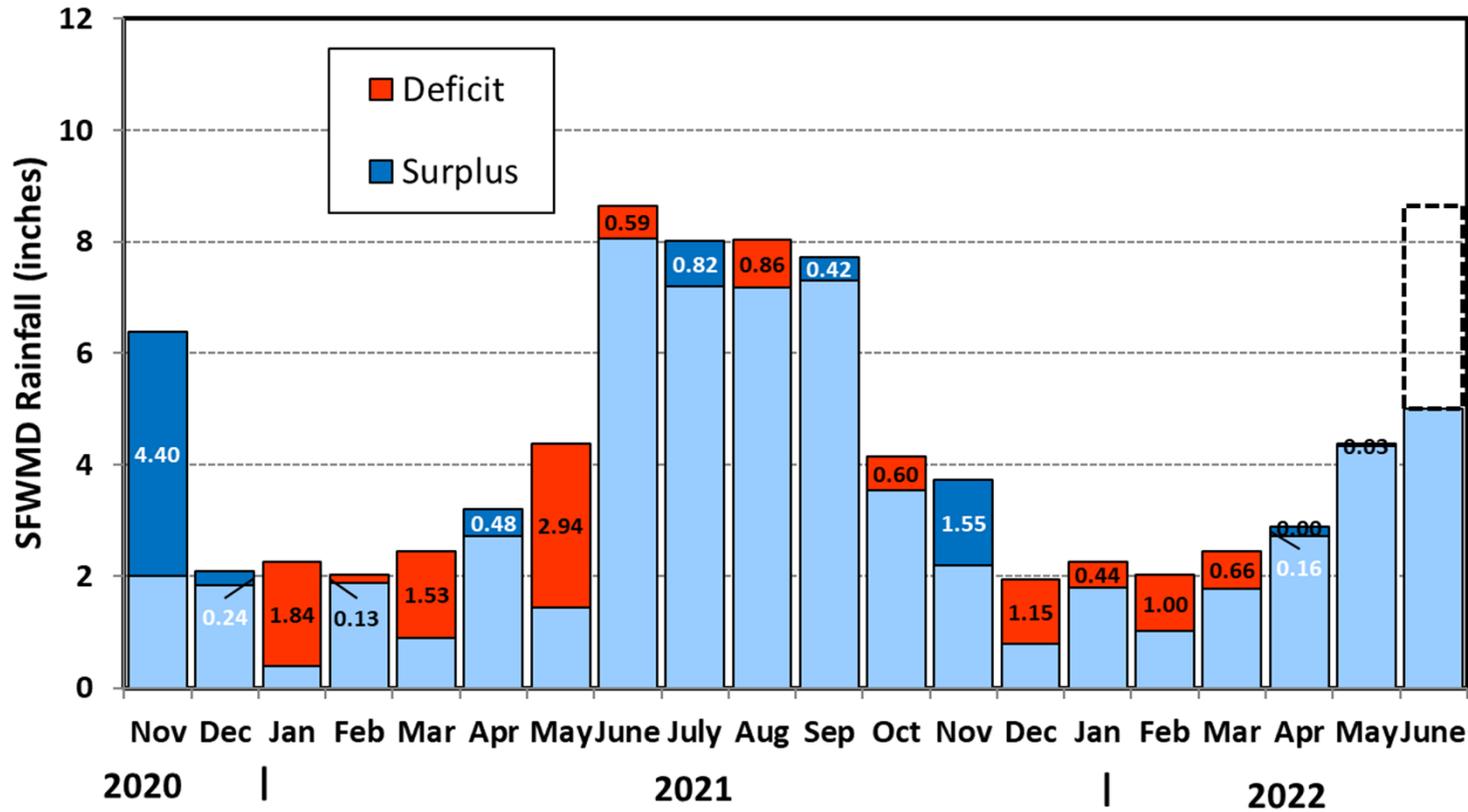
Water Conditions Summary

**South Florida Water Management District
Governing Board Meeting
June 9, 2022**



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

SFWMD Rainfall Distribution Comparison (November 2020 - June 2022)



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

2020-2021 DRY SEASON

- Nov rainfall was in excess of 300% of normal.
- Jan and Mar extremely dry months.
- Dec and Apr slightly above normal.
- May 2021 is the sixth driest May in POR.

2021 WET SEASON

- Late Start 05/28/2021, Ended 10/17/2021.
- Wet season, deficits and surplus balance out.
- Average overall.

2021-2022 DRY SEASON

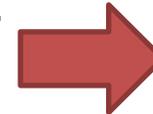
- Started 10/17/2021 and ended 5/12/2022.
- Dec 2021 to Mar 2022 all below average..
- April ended up slightly above average (106%).
- May was about average.



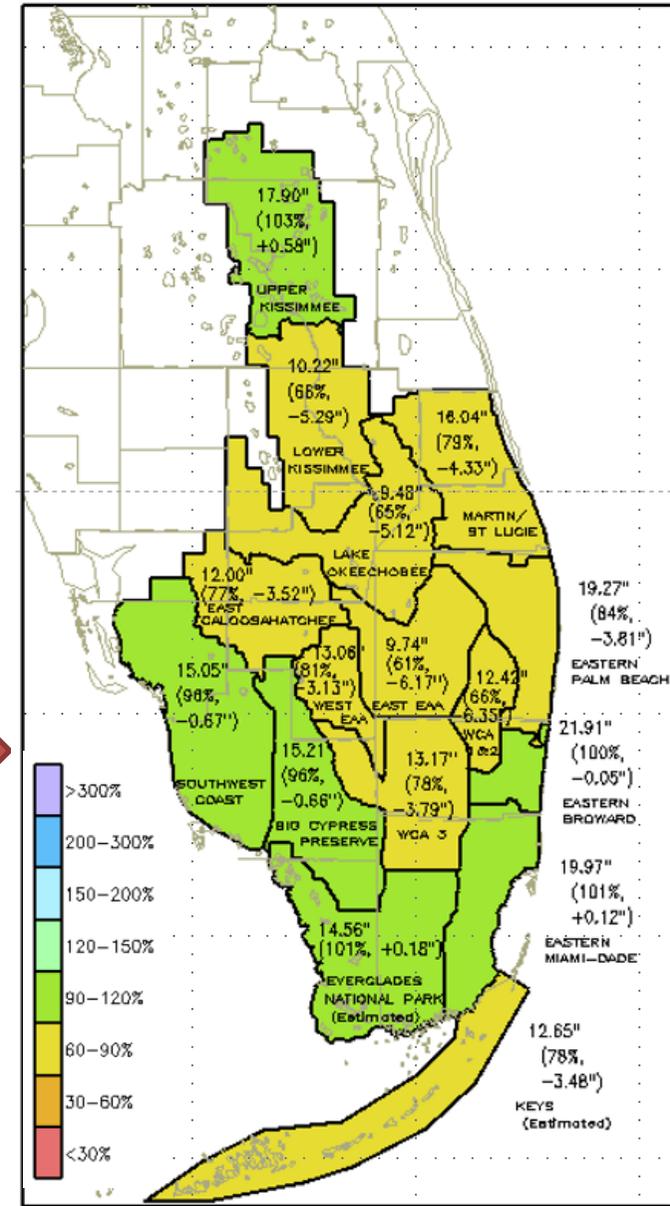
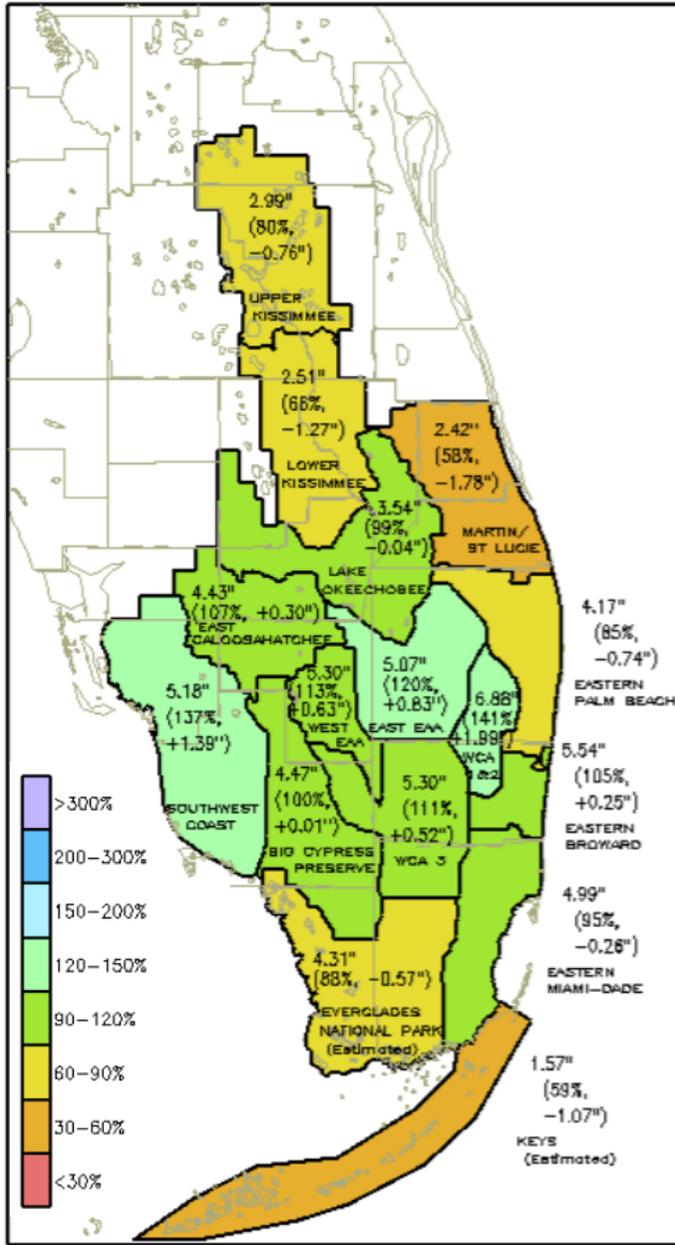
May 2022 Rainfall DISTRICT-WIDE: 4.21"

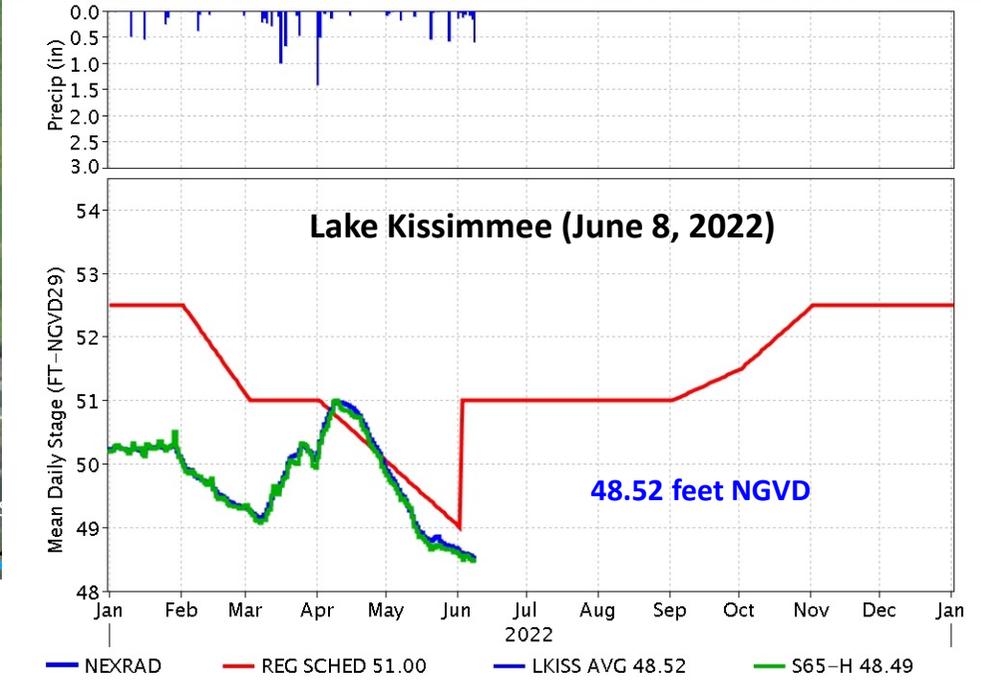
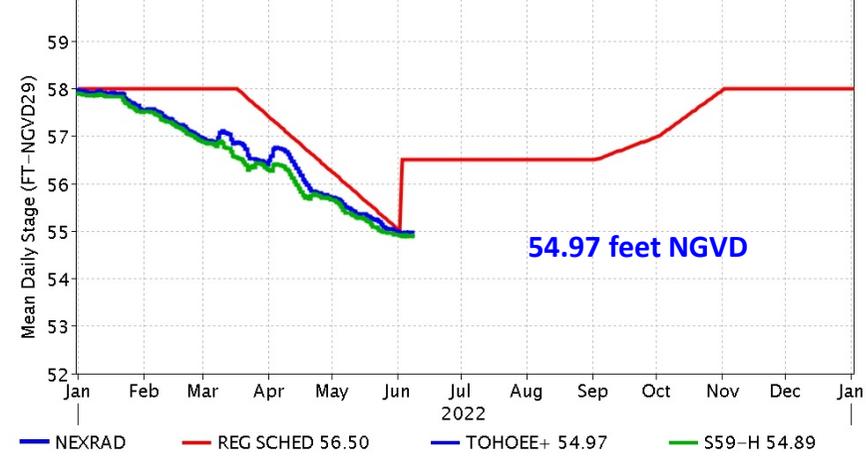
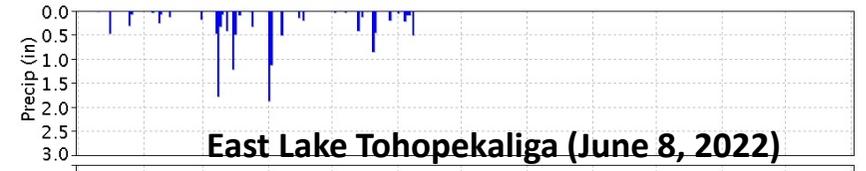
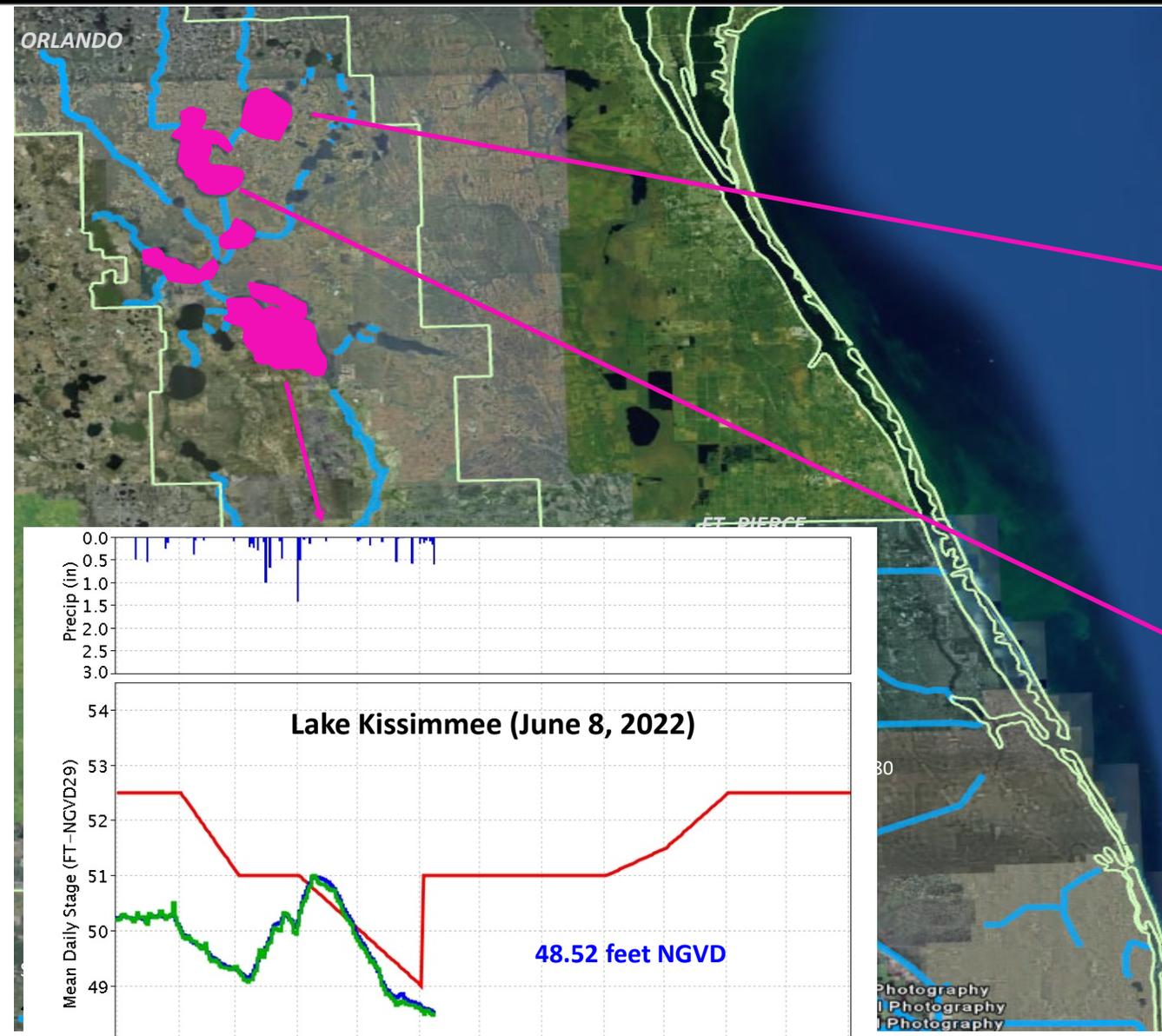
- 100% of average, 0.02" deficit.
- WCA1&2 is at 141% of normal.
- Martin/St. Lucie is the lowest at 58% of normal.
- West and central regions favored with higher rainfall.

Dry Season Rainfall 18 October 2021 – May 11, 2022 DISTRICT-WIDE: 14.17"

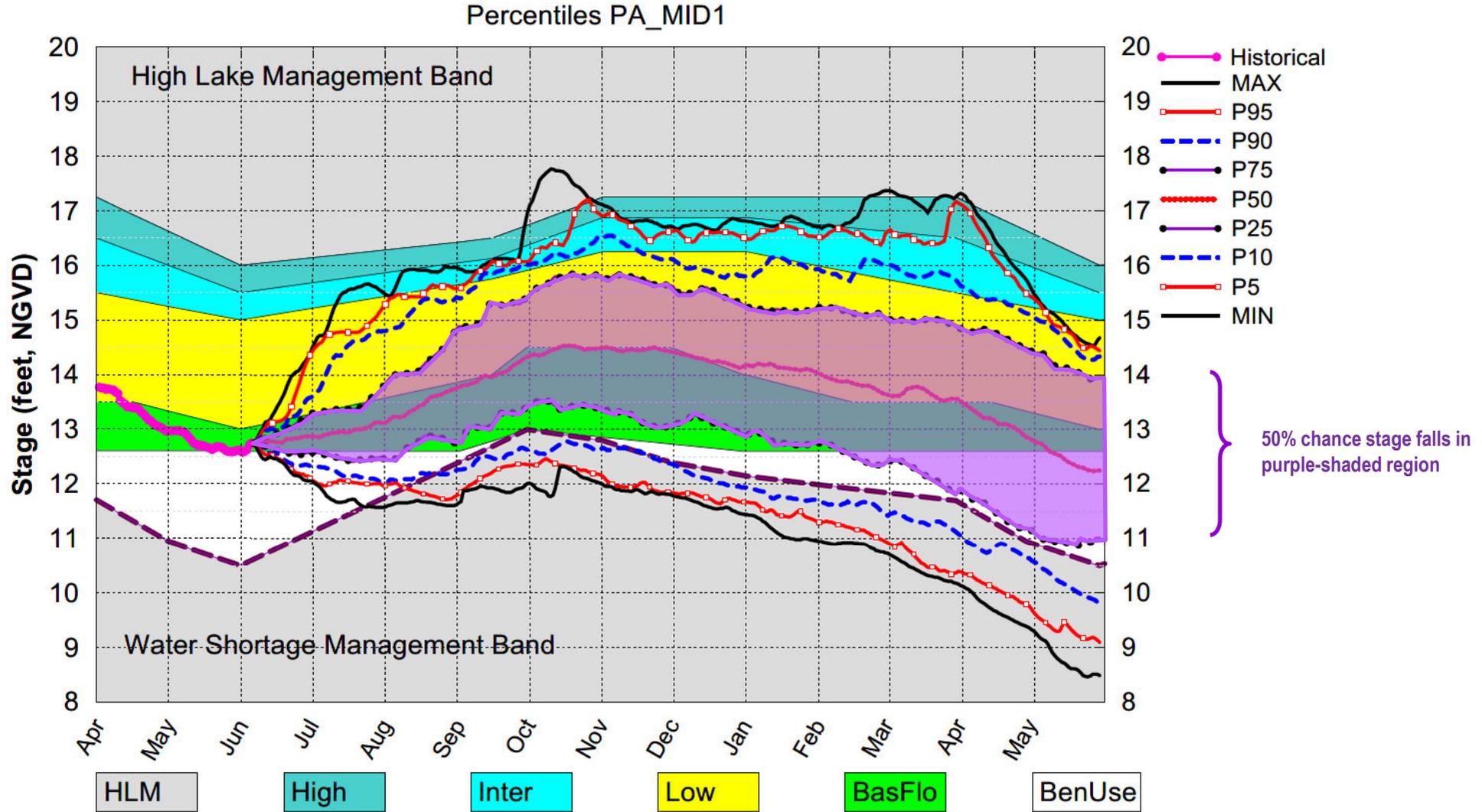


- 83% of average, 2.97" deficit.
- Some variability, 61% to 103% of normal.
- Largest surplus is at Upper Kissimmee, +0.58".
- Basin with largest deficit is WCA1&2, with -6.35".



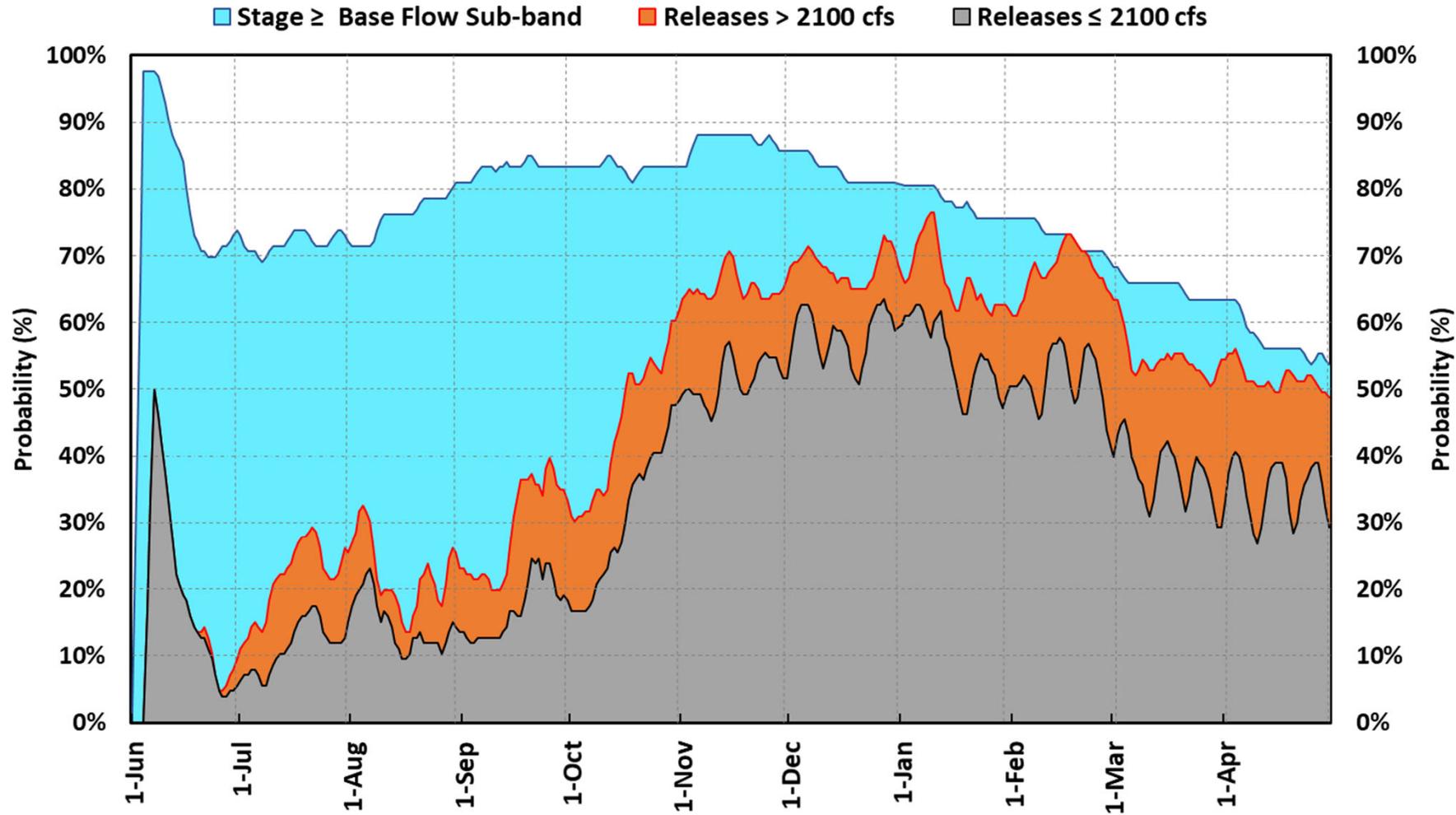


Lake Okeechobee SFWMM June 2022 Position Analysis



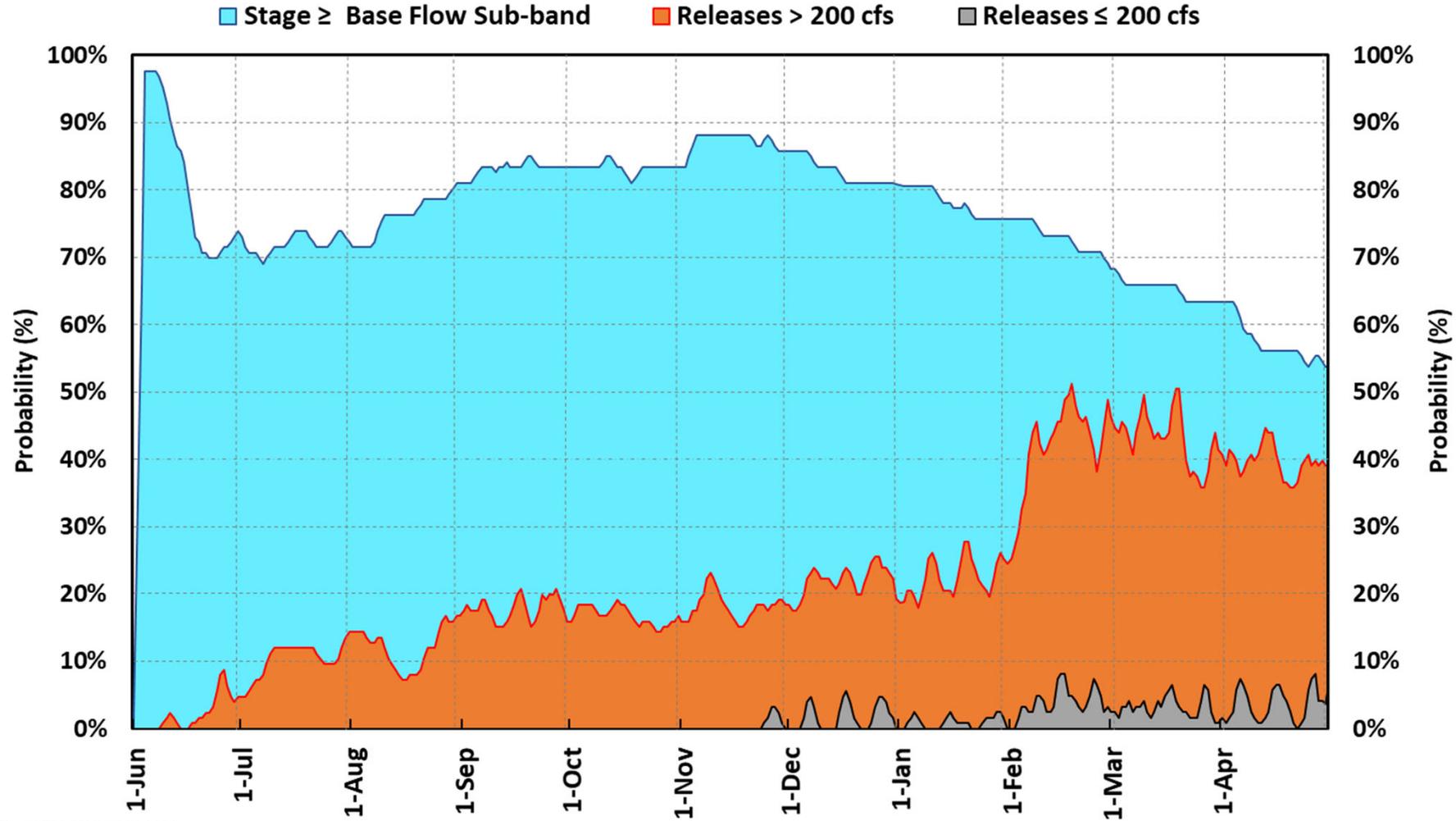
(See assumptions on the Position Analysis Results website)

June 2022 PA - Likelihood of Releases to the Caloosahatchee Estuary



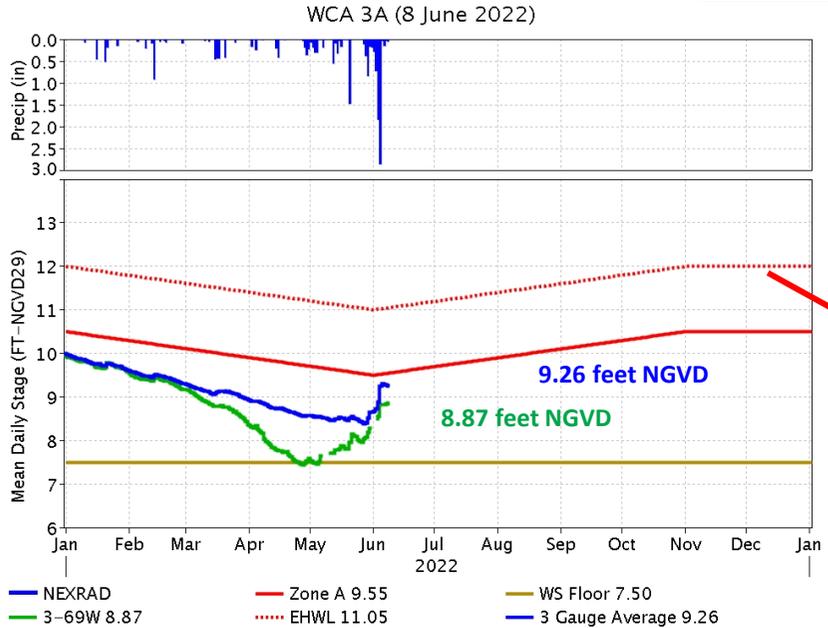
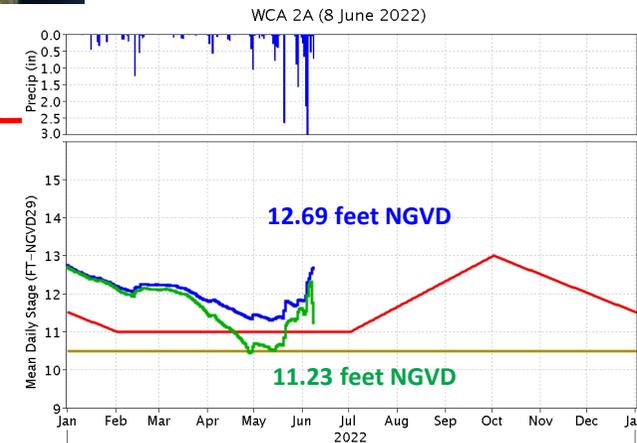
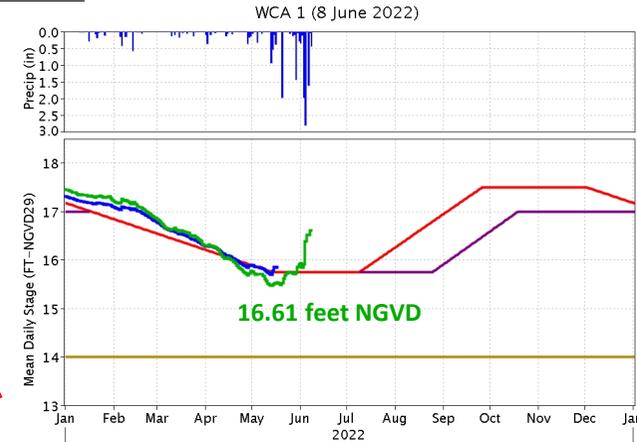
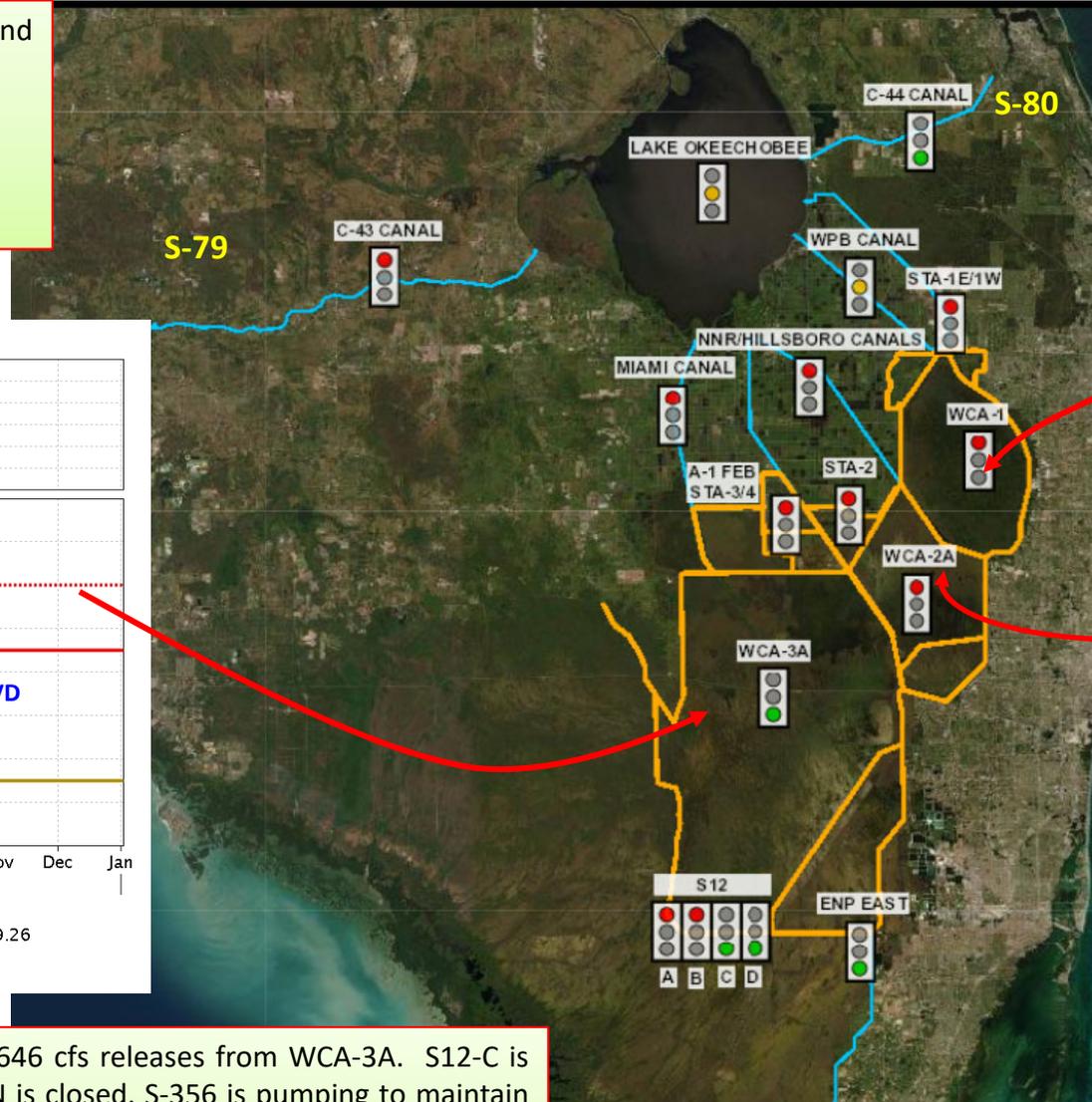
Wed 06/08/2022 14:31

June 2022 PA - Likelihood of Releases to the St. Lucie Estuary



Wed 06/08/2022 14:31

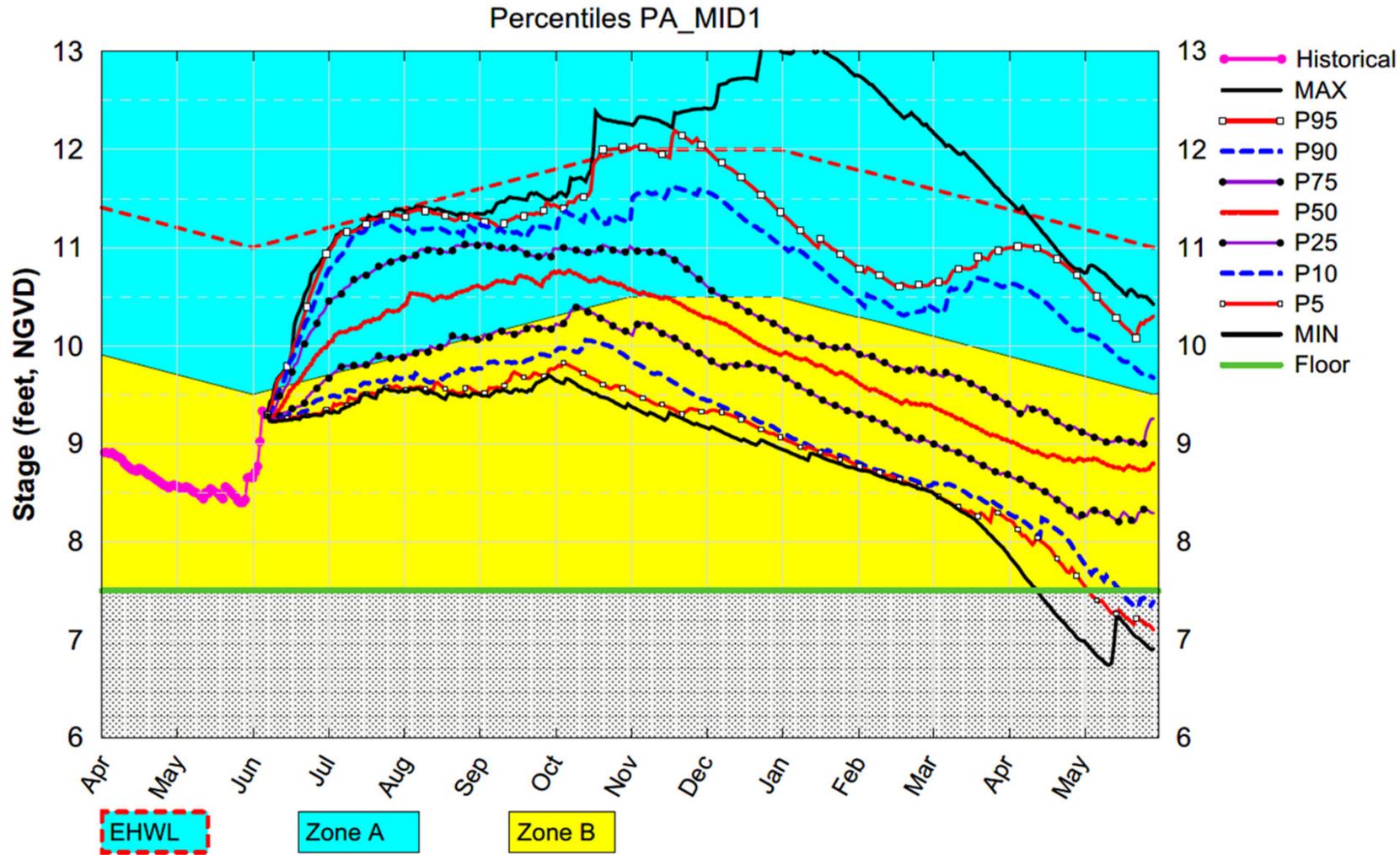
Lake Okeechobee stage has been in the Base Flow Sub-band of the LORS-2008 Regulation schedule most of the time. LORS release guidance suggests Maximum Practicable releases to the WCAs. For Estuaries, up to 450 cfs at S-79 and up to 200 cfs at S-80. There was a short incursion in the Beneficial Use Sub-band.



For this week, the Tamiami Trail Flow Formula calls for 646 cfs releases from WCA-3A. S12-C is closed and S-12D is fully open. S-333 is open and S-333N is closed. S-356 is pumping to maintain canal stages in the L-31N within 5.5-5.8 ft NGVD. S-332B, S-332C and S-332D have been running all units after the June 3-4 storm. S-199 is and S-200 are secured due to CSSS restrictions. S-176 is open, S-18C is open, and S-197 is open. LPG-2 stage at 8.5 SMA went above ground for ~ 1 day. S-331 S-357 have been pumping to maintain stages.

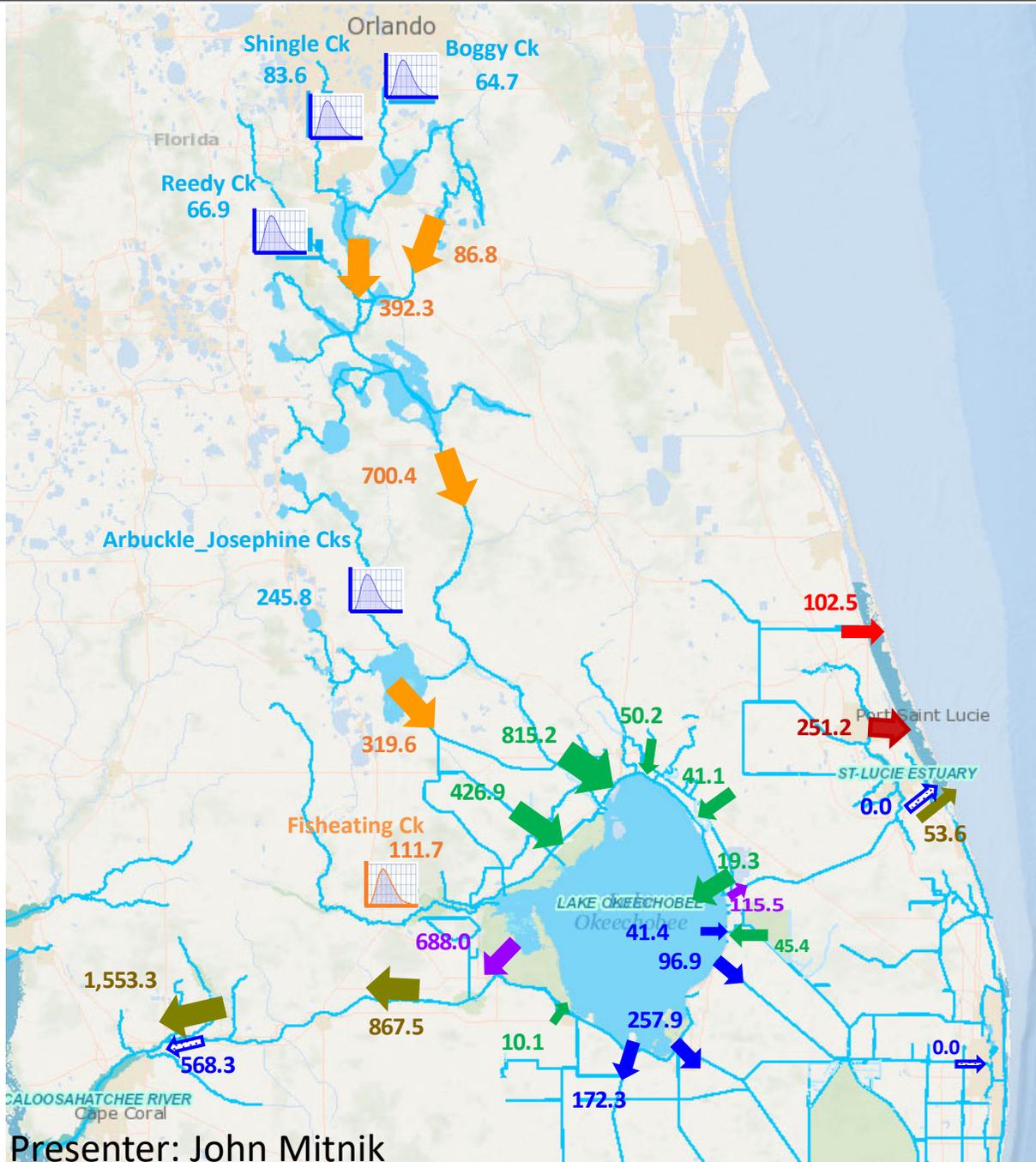
WCA-1 is in Zone A1 of the regulation schedule; WCA-2A is in Zone A of the regulation schedule; WCA-3A stage is in Zone B of its regulation schedule. S-12A, S-12B and S-12C are closed. S-12D is open but passing little flow. Due to recent increase in stages and rainfall S-10s in WCA-1 are open. Similarly, S-11s in WCA-2A are fully opened.

WCA3A SFWMM June 2022 Position Analysis



(See assumptions on the Position Analysis Results website)

Tue Jun 7 19:19:54 2022



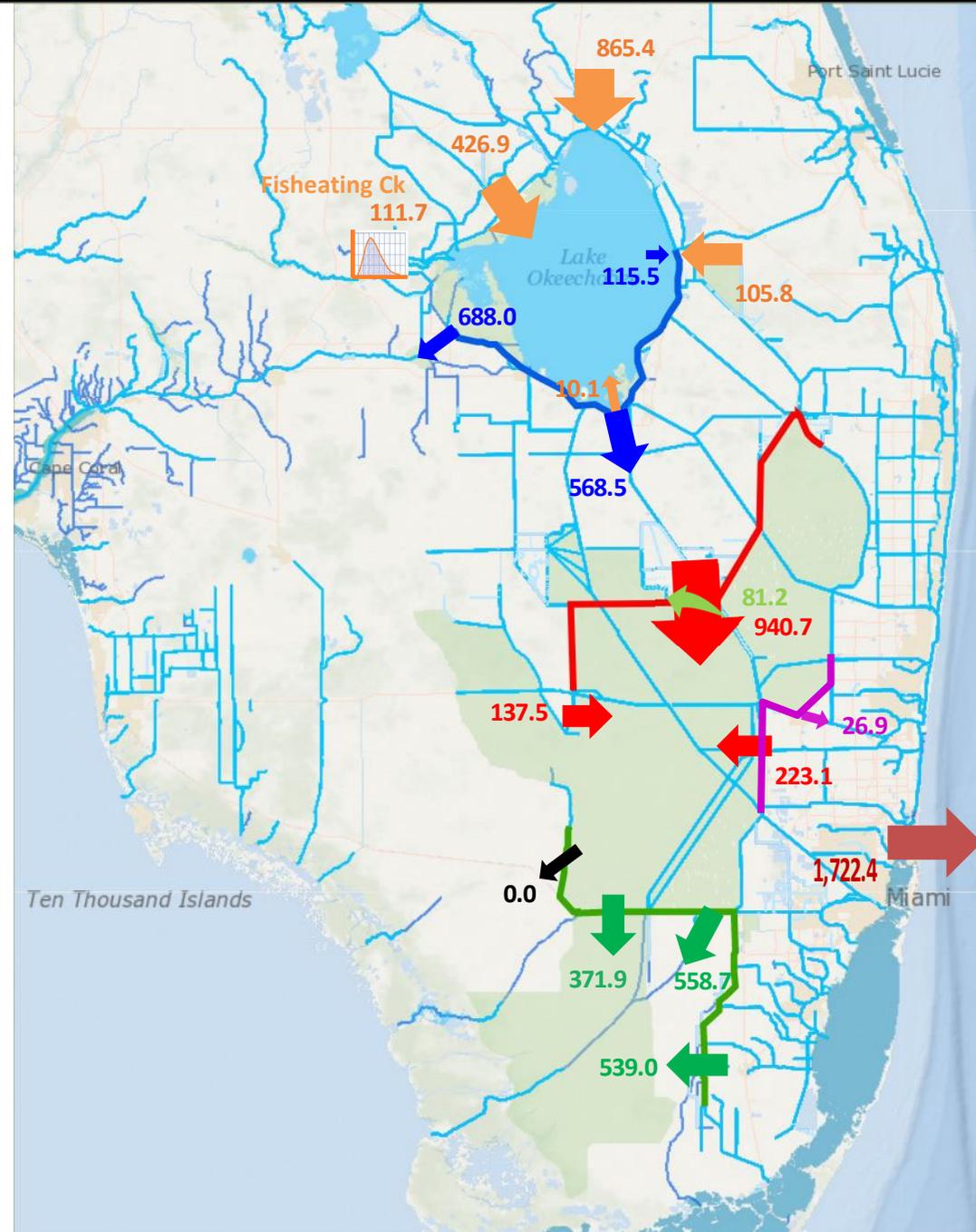
SFWMD – Selected Release Volumes for WYR 2022 and the Period May 8, 2022 to June 8, 2022 (volumes in 1,000 acre-feet)

Symbol	Description	Volume (1,000 acre- feet)	
		WYR 2022	Last Month
	Upper Kissimmee to Lower Kissimmee	700.4	47.3
	Inflows to Lake Okeechobee (including Fisheating Creek)	1,519.9	60.4
	Lake Releases and Basin Runoff	1,606.9	72.1
	Lake Releases East and West	803.5	73.9
	Lake Flood Control to Estuaries	568.3	31.7
	Total Lake Releases South	568.5	43.9
	Releases to Indian River Lagoon	102.5	1.7
	Upper East Coast discharges to St. Lucie Estuary	251.2	7.6
	Uncontrolled flows - Creeks (does not include Fisheating Creek)	460.9	14.7

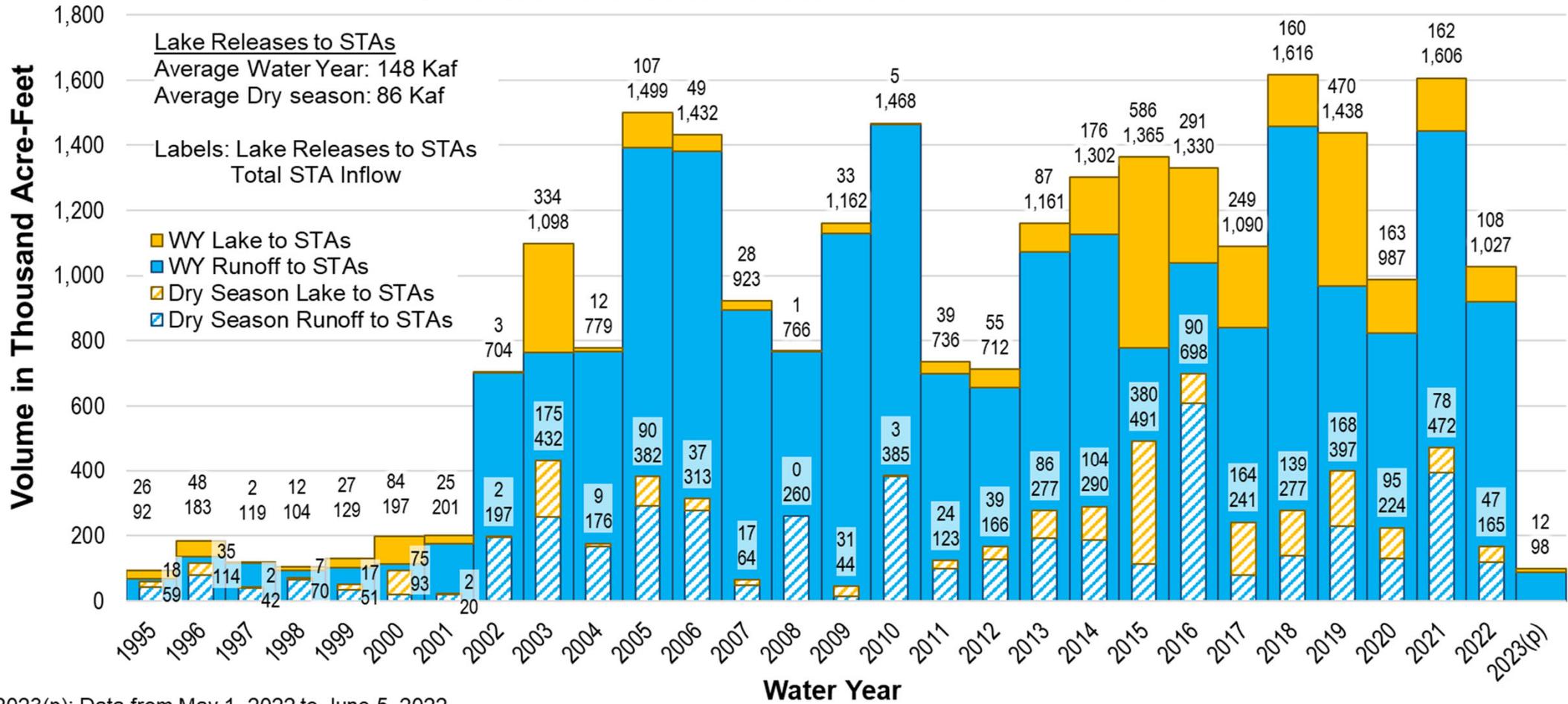
1,000 acre-feet = 325.9 Million Gallons

**SFWMD –Volumes Flowing
Down the System for WYR 2022 and
the Period May 8, 2022 to June 8, 2022**
(volumes in 1,000 acre-feet)

Symbol	Description	Volume (1,000 acre- feet)	
		WYR 2022	Last Month
	Lake Okeechobee Inflows	1519.9	60.4
	Lake Okeechobee Outflows	1372.0	117.8
	WCAs Inflows	1301.3	146.8
	ENP / Detention Cell Inflows	1469.6	57.7
	WCAs to East	26.9	1.2
	Flows to Intracoastal	1722.4	352.3



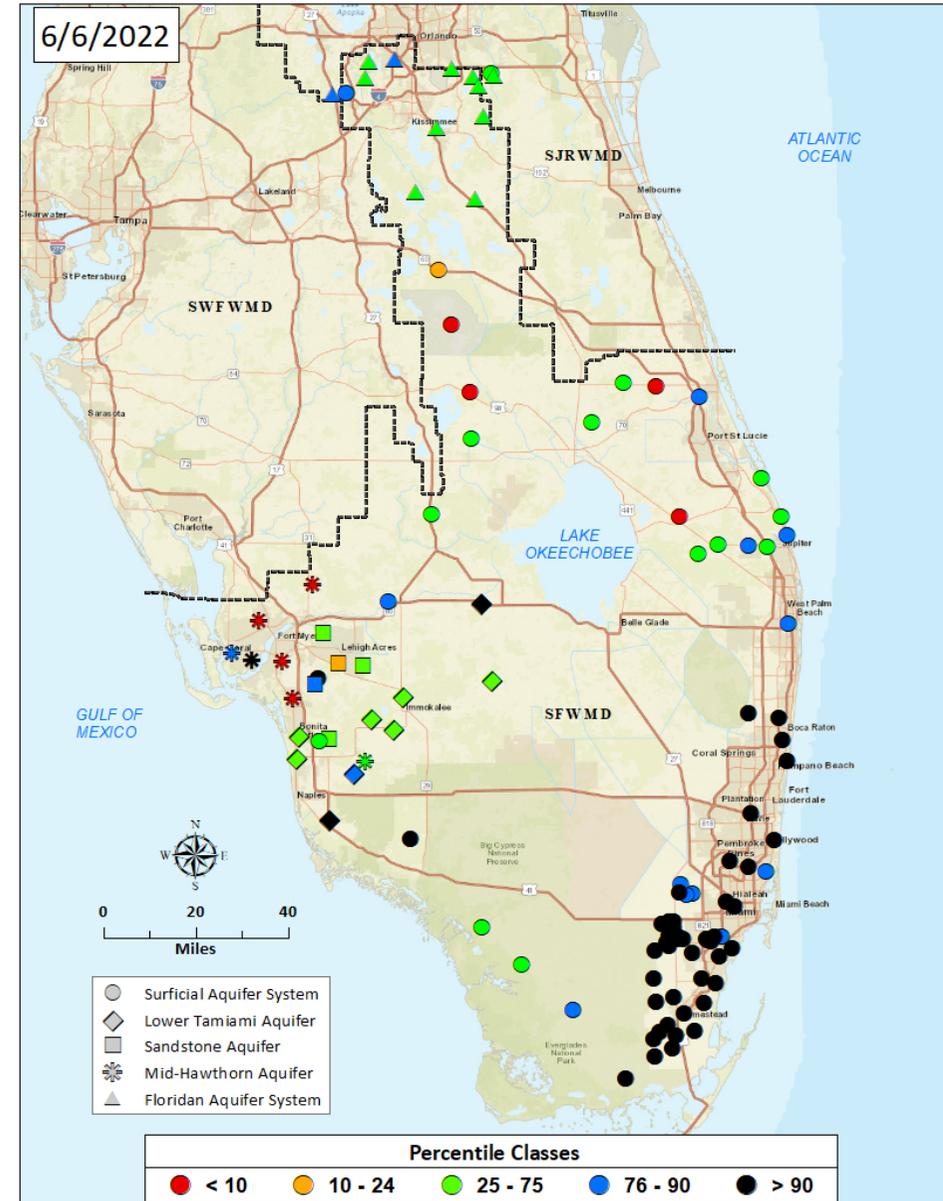
Total STA Inflow and Lake Releases to STAs



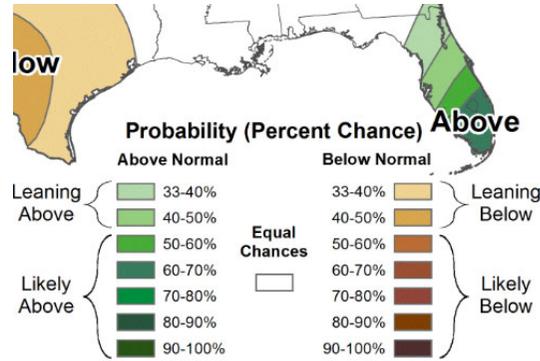
2023(p): Data from May 1, 2022 to June 5, 2022.

Status of Groundwater Conditions

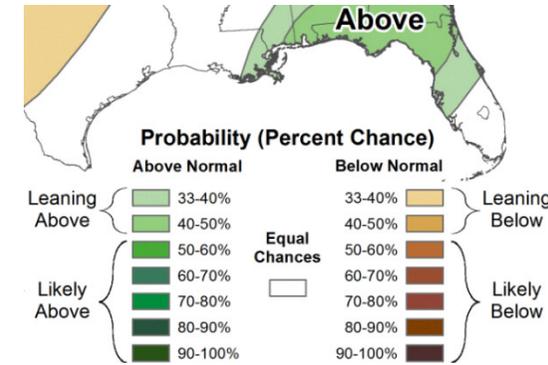
- Surface and groundwater levels showed mixed trends throughout the District over the last week.
- About 85% of the wells in the Kissimmee Basin within the District boundaries are at median levels and higher for this time of year. A few of the surficial aquifer wells are in the lower percentile ranges.
- About 85 percent of the UEC surficial aquifer stations are at median levels and higher for this time of year. Stages in the Upper East Coast canals C-23, C-24, and C-25 are all above the fourteen feet agricultural cut-off.
- About 60 percent of the Lower East Coast (LEC) stations recorded decreasing water levels over the last seven days. All of the LEC stations are in the highest two percentage classes.
- Groundwater levels increased in all of the Lower West Coast stations over the past seven days. All of the Surficial aquifer and Lower Tamiami wells are at median or higher levels, and all but one of the Sandstone aquifer wells are at median or higher levels. About 60 percent of the Mid-Hawthorn aquifer monitor wells are in the lower percentile ranges, with the remainder at median levels and higher.
- Real-time groundwater levels:
 - Each dot represents a monitor well, continuously monitoring water levels.
 - Color coding corresponds to statistical comparison of current water levels compared to historical for this time of year.



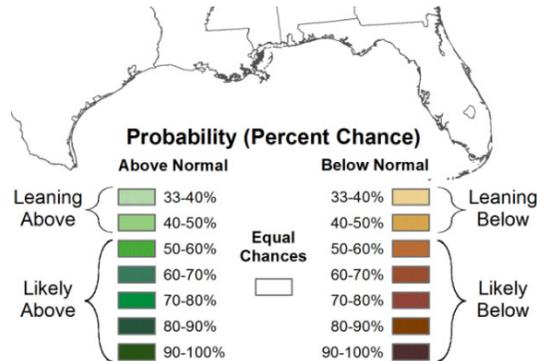
CPC Precipitation Outlook for South Florida



June 2022



Jun 2022 – Aug 2022



Dec 2022 – Feb 2023

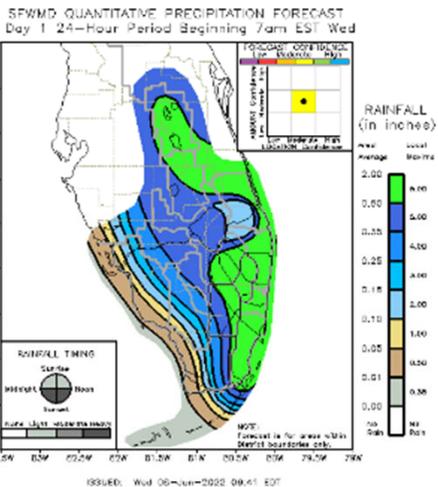
- The most recent CPC precipitation outlook for South Florida for June 2022 is for substantially increased chances (80-90%) of above normal rainfall for most of the District area, and for large chances (70-80%) of above normal for the region north of Lake Okeechobee.
- The outlooks for the 3-month windows from Jun-Aug to the beginning of the 2022-2023 dry season (Dec 2022- Feb 2023) are for equal chances of below, normal and above normal rainfall.

<https://www.cpc.ncep.noaa.gov/products/predictions/30day/>

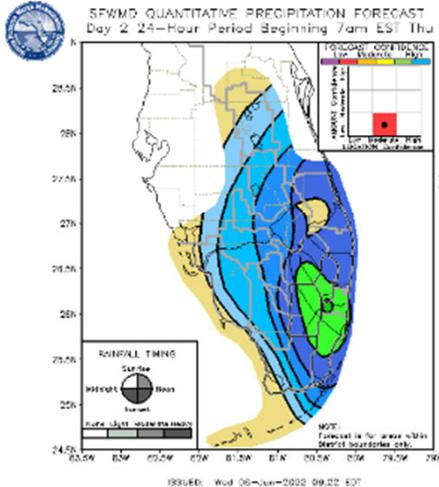
Last update issued: June 1, 2022

Daily Quantitative Precipitation Forecasts (Posted 06/08/2022)

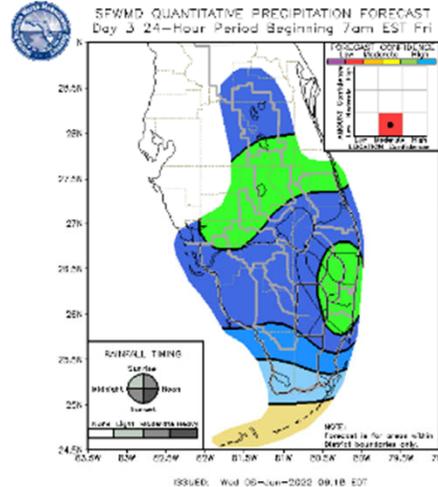
Day 1



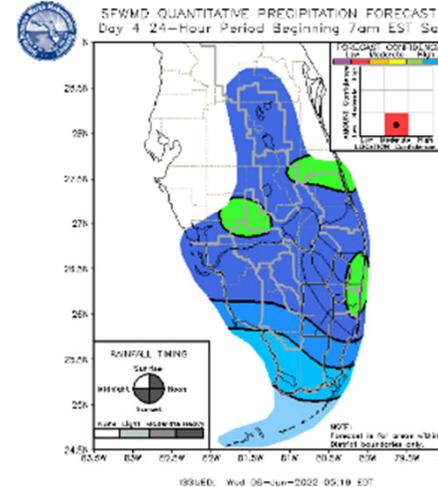
Day 2



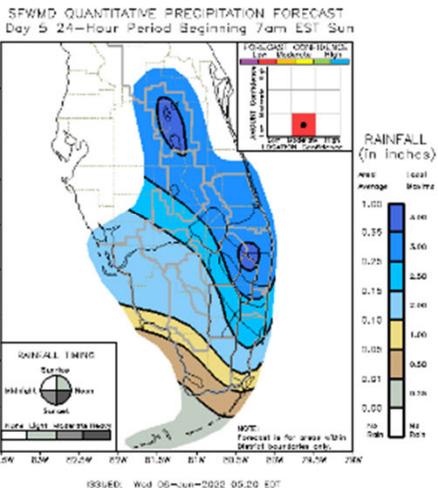
Day 3



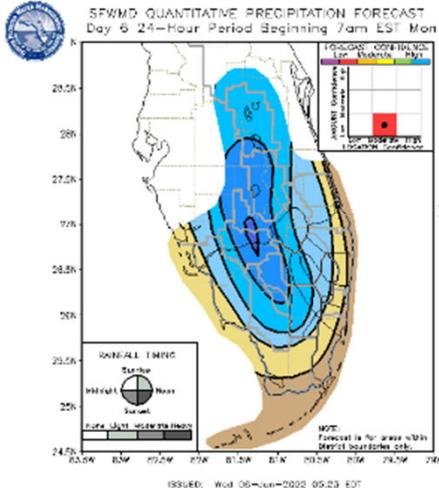
Day 4



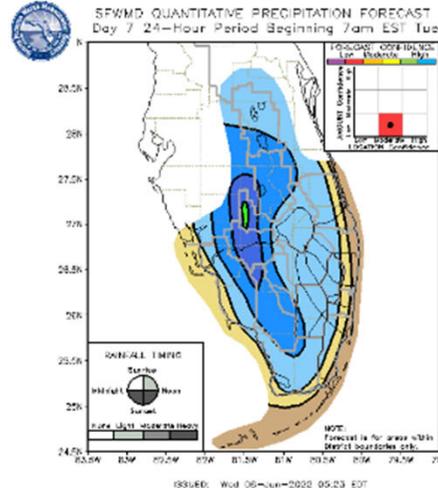
Day 5



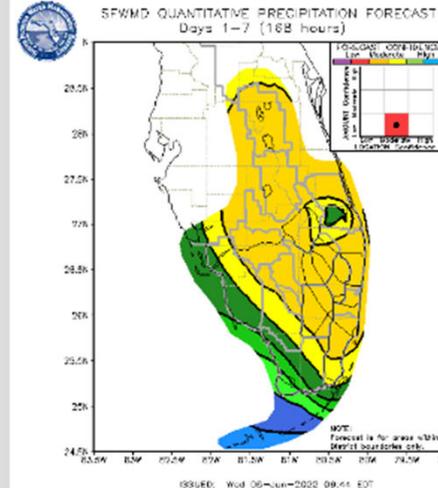
Day 6



Day 7



7-Day Total

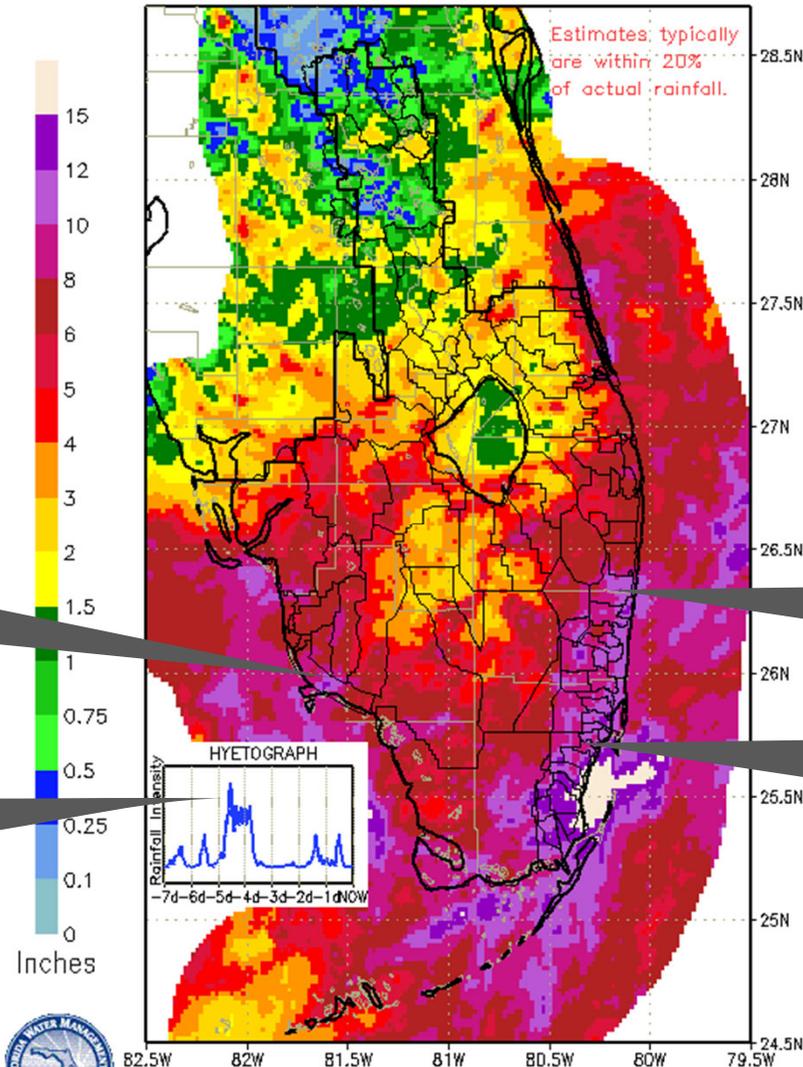


PTC1 Impact on South Florida June 3 and 4, 2022

Past 7-Day Rainfall

SFWMD PROVISIONAL RAINDAR 7-DAY RAINFALL ESTIMATES
FROM: 0400 EST, 06/01/2022 THROUGH: 0400 EST, 06/08/2022

District average = 4.72"
Historical average = 2.01"



Coastal Basins: 12.8"

Hillsboro Canal: 12.1"

PTC 1 (Alex)

Coastal Miami Dade: 22.5"



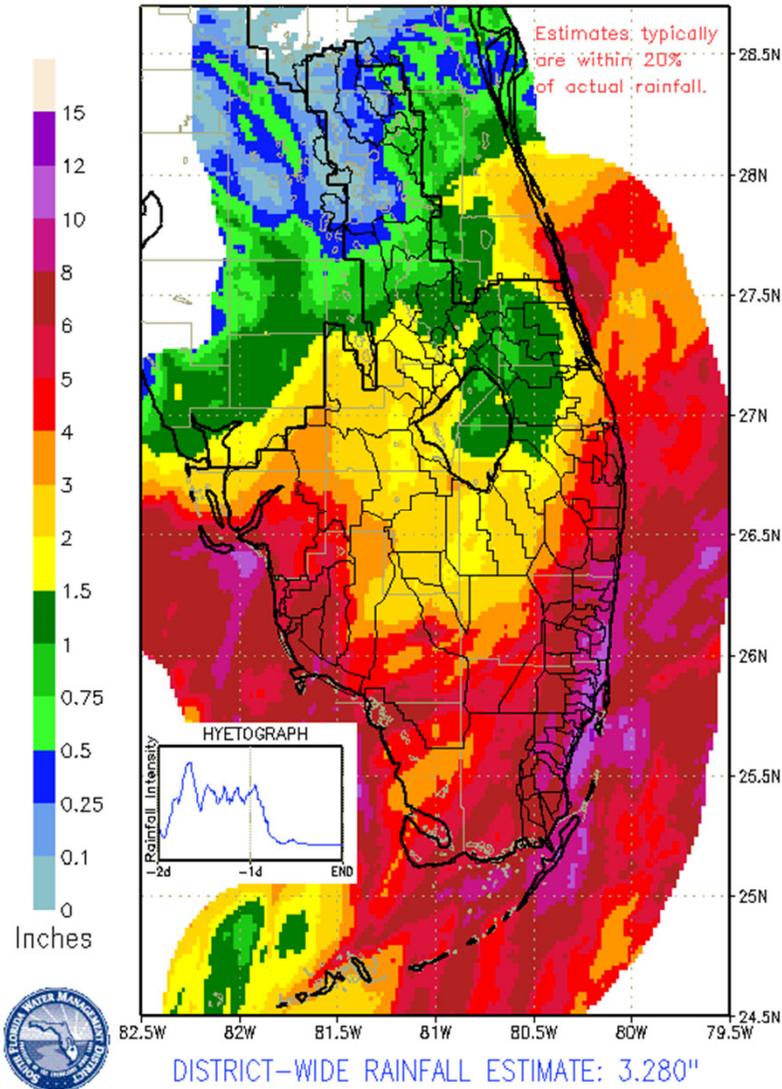
DISTRICT-WIDE RAINFALL ESTIMATE: 4.723"

Courtesy of District Meteorologists

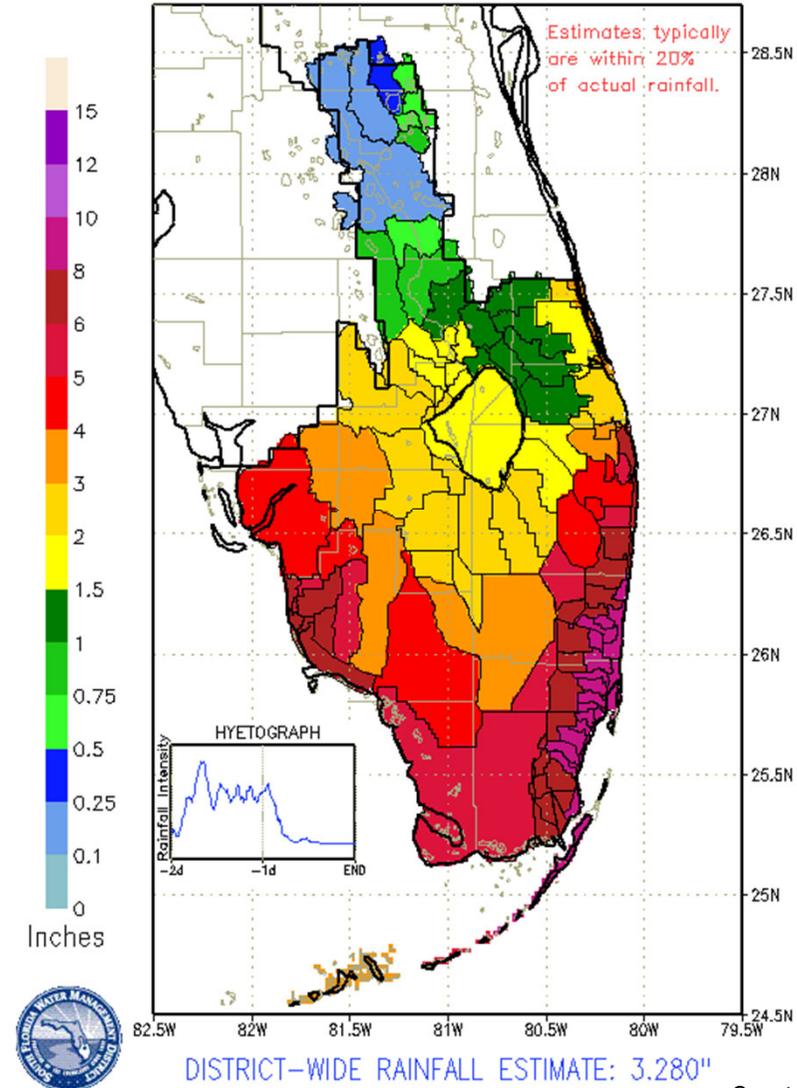


Event Total Rainfall by Pixels and by Basins

SFWMD RAINDAR RAINFALL ESTIMATES
FROM: 0700 EST, 06/03/2022 THROUGH: 0700 EST, 06/05/2022



SFWMD RAINDAR BASIN RAINFALL ESTIMATES
FROM: 0700 EST, 06/03/2022 THROUGH: 0700 EST, 06/05/2022



Courtesy of District Meteorologists

Big Cypress Basin – Potential Tropical Cyclone 1

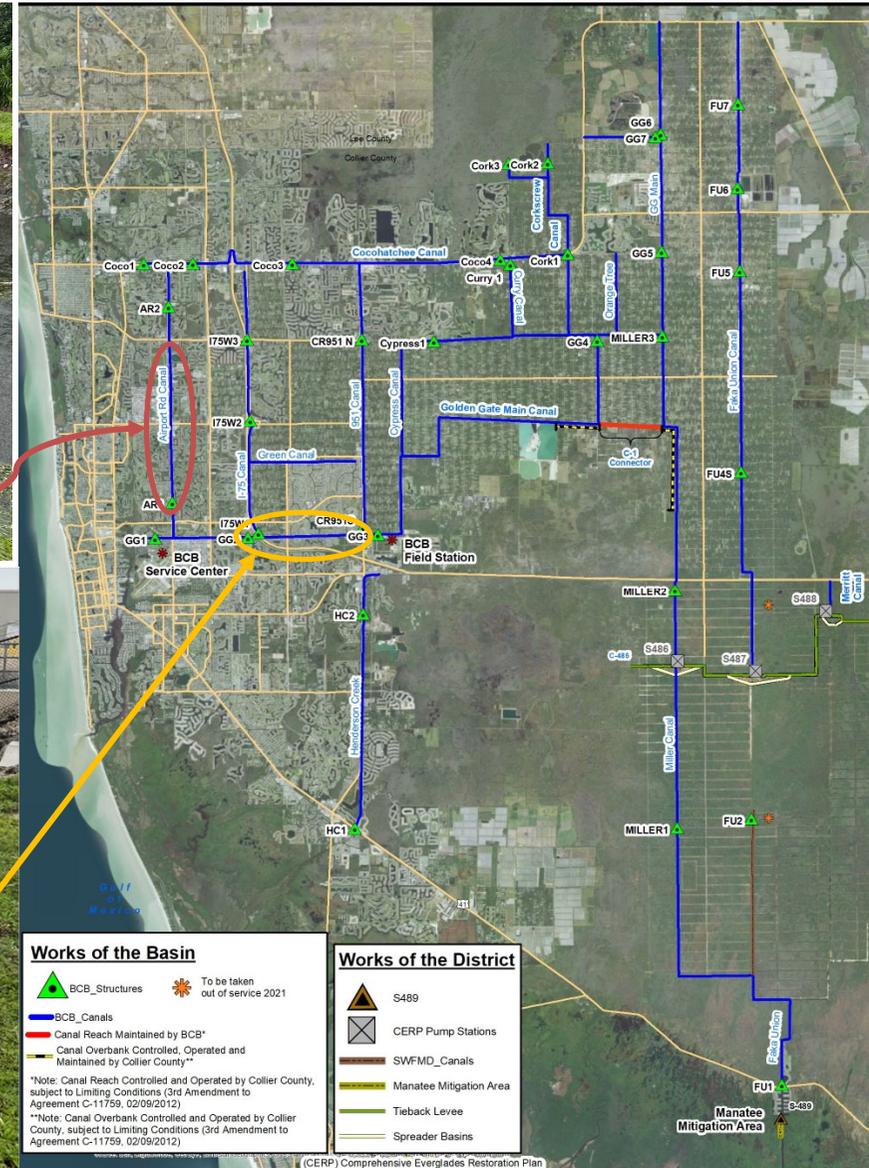
- All primary canal structures strategically lowered pre-storm (Wed-Fri).
- System responded well to storm event with no issues.
- GG2 only structure above normal operational range with structure fully open.
- Water level crested only 6" above normal levels
- ~3 ft lower than HC Irma (2017)
- All structures performed as intended with no operational or communication issues
- Returned to normal operations by end of Monday (6/6/2022)



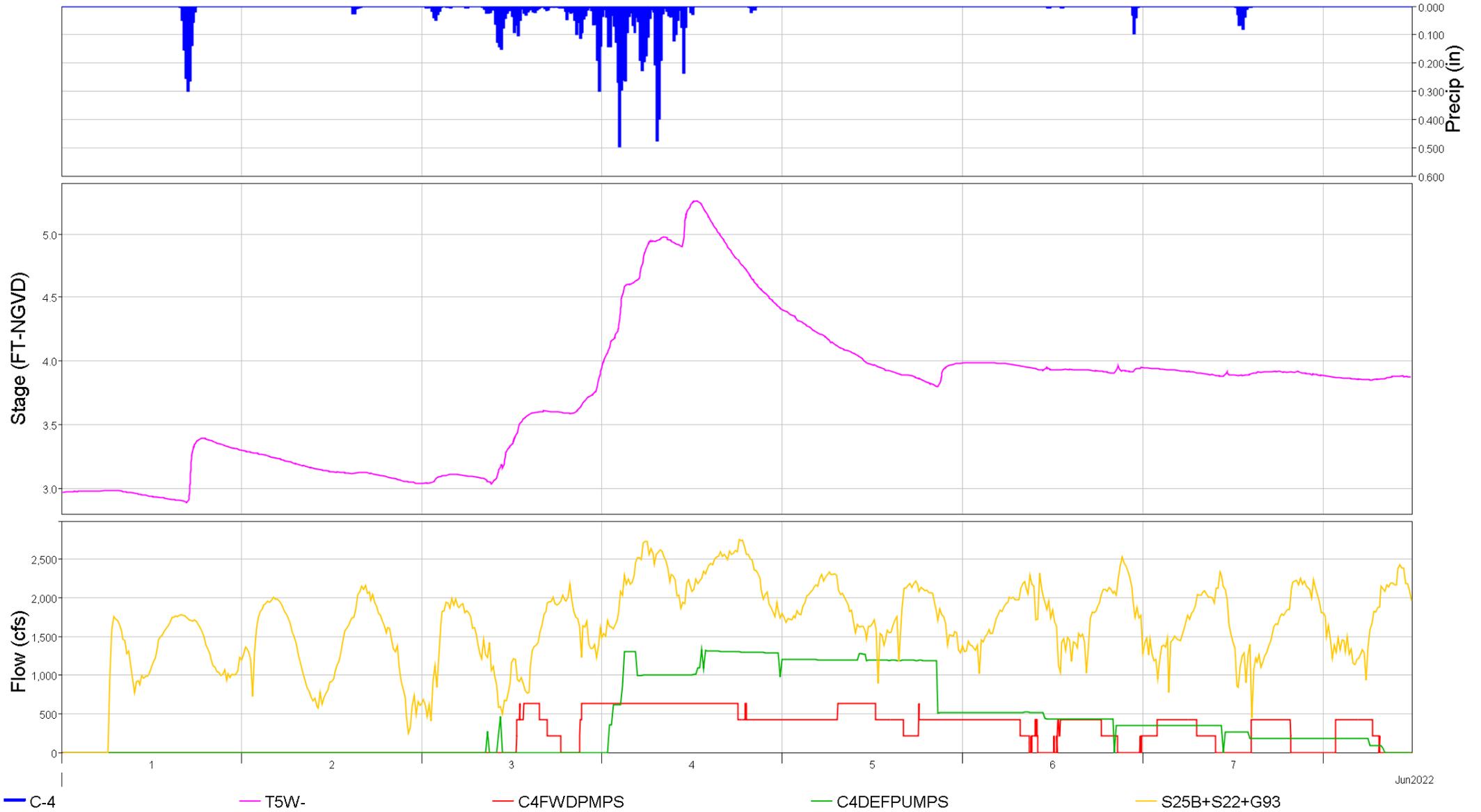
Airport Canal – Pre-Storm Operations



GG2 Peak Water Level – June 4th



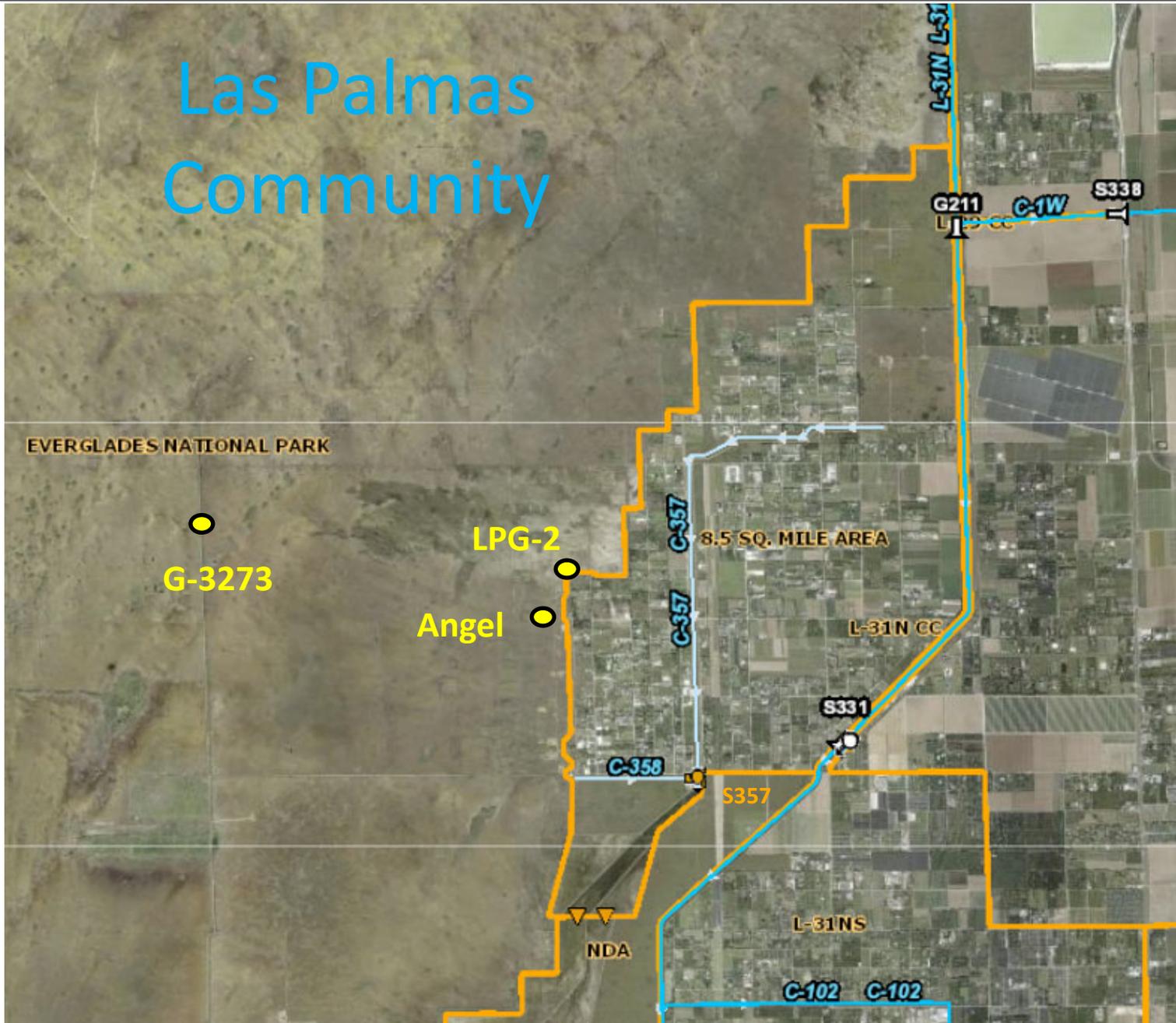
C-4 Canal Hydrographs



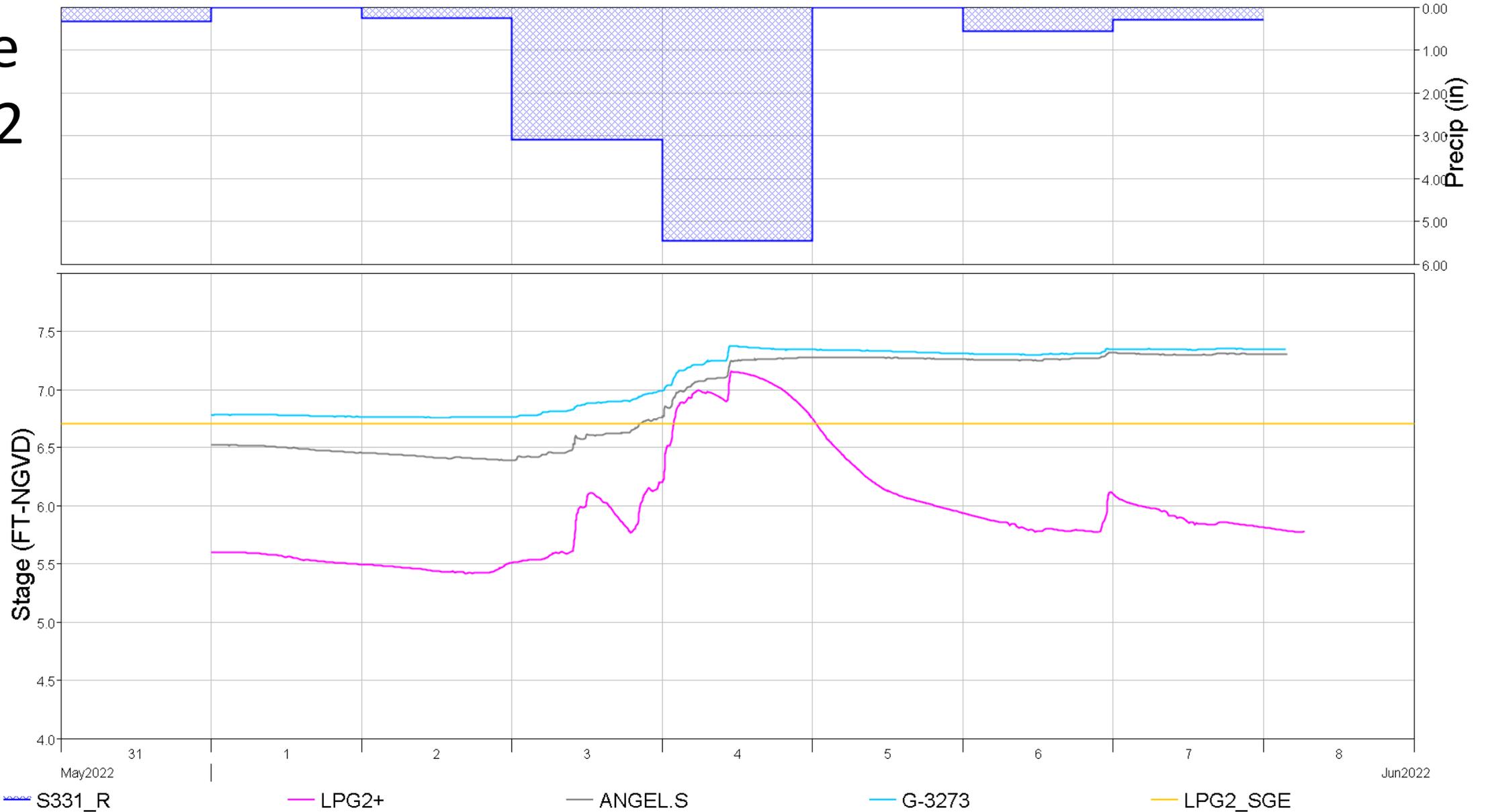
Jun2022

■ C-4
 — T5W-
 — C4FWDPMPs
 — C4DEFPUMPs
 — S25B+S22+G93

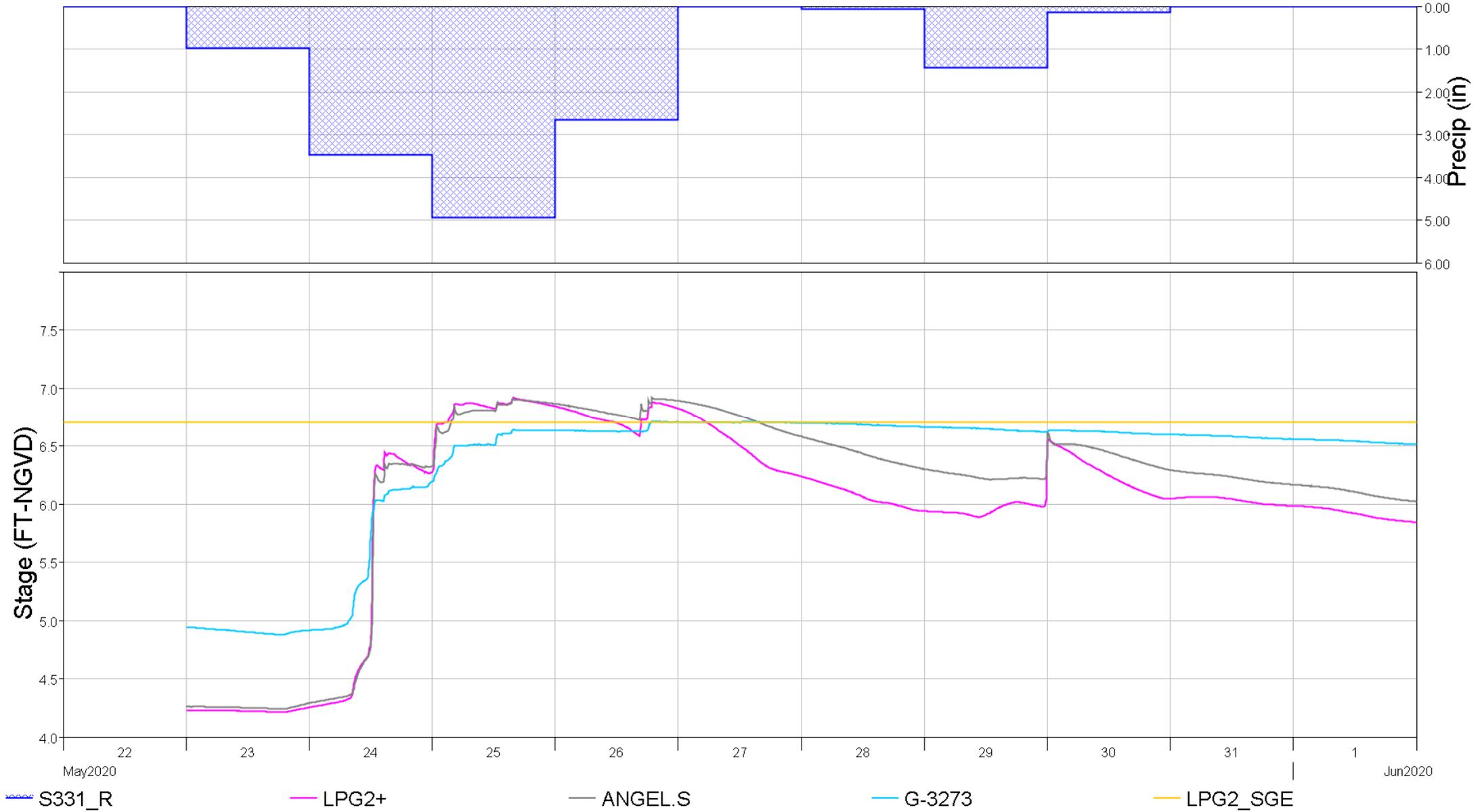
Las Palmas Community



June
2022



May
2020

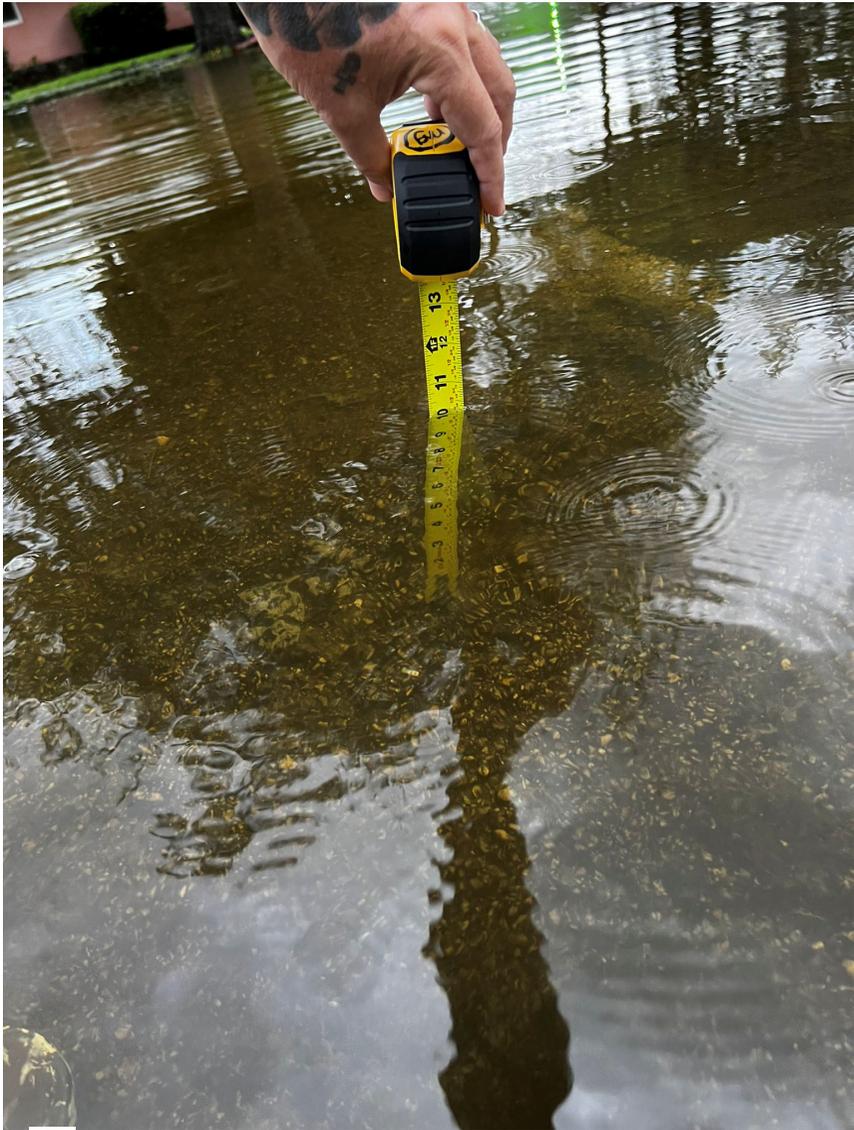




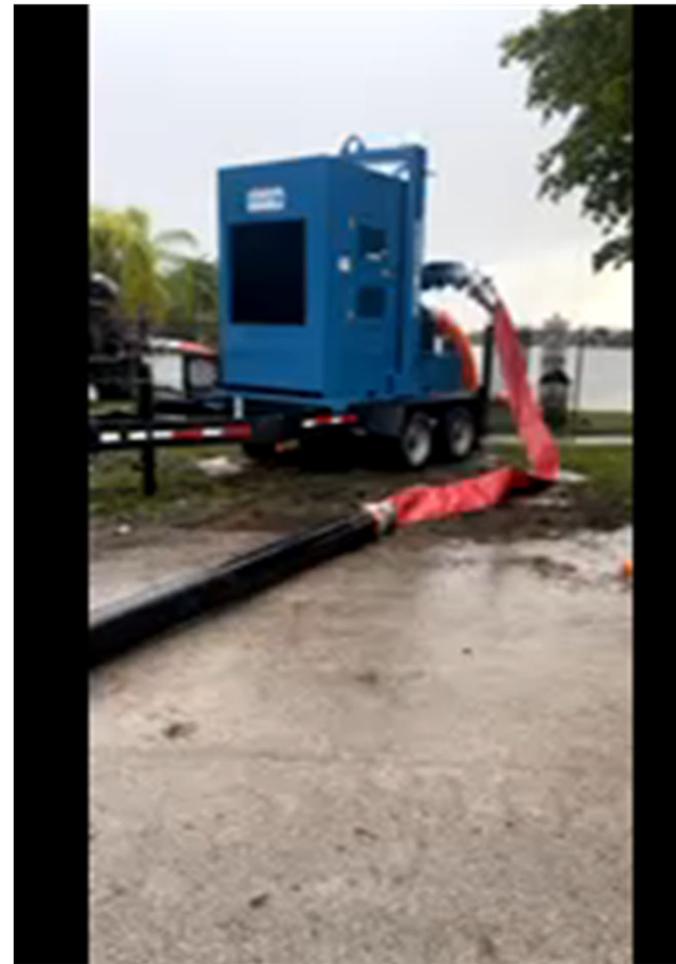




Flooding in Town of Cutler Bay



Efforts to Assist Town of Cutler Bay



Ecological Conditions Update

Governing Board Meeting
June 9, 2022

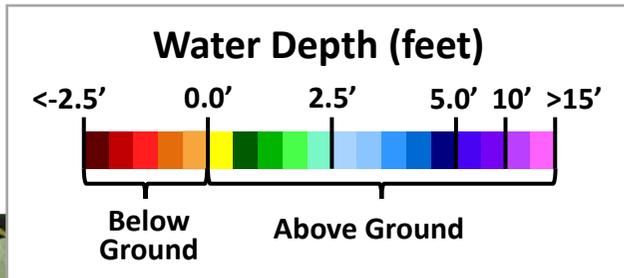
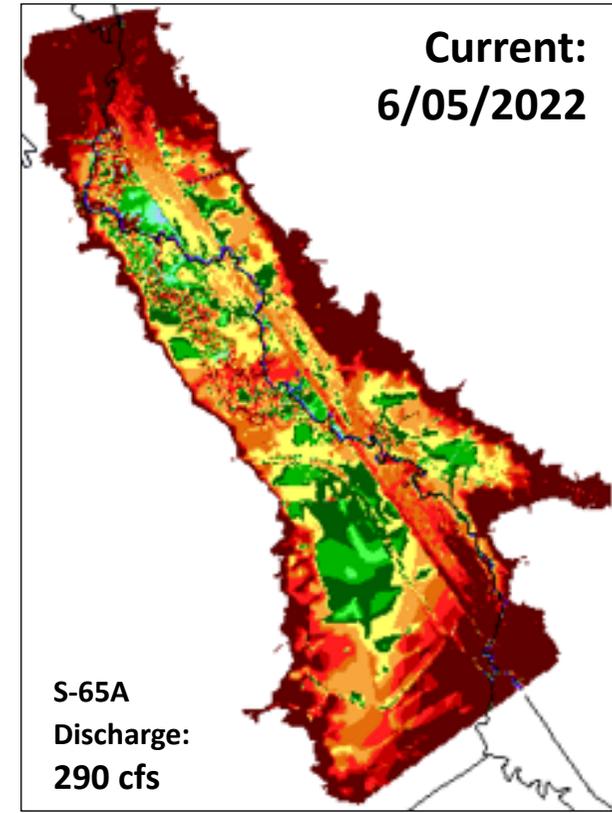
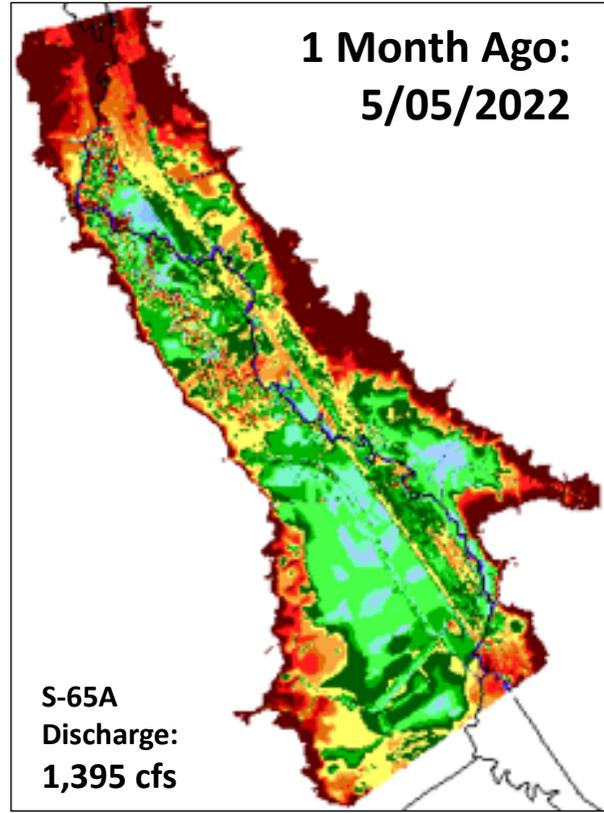
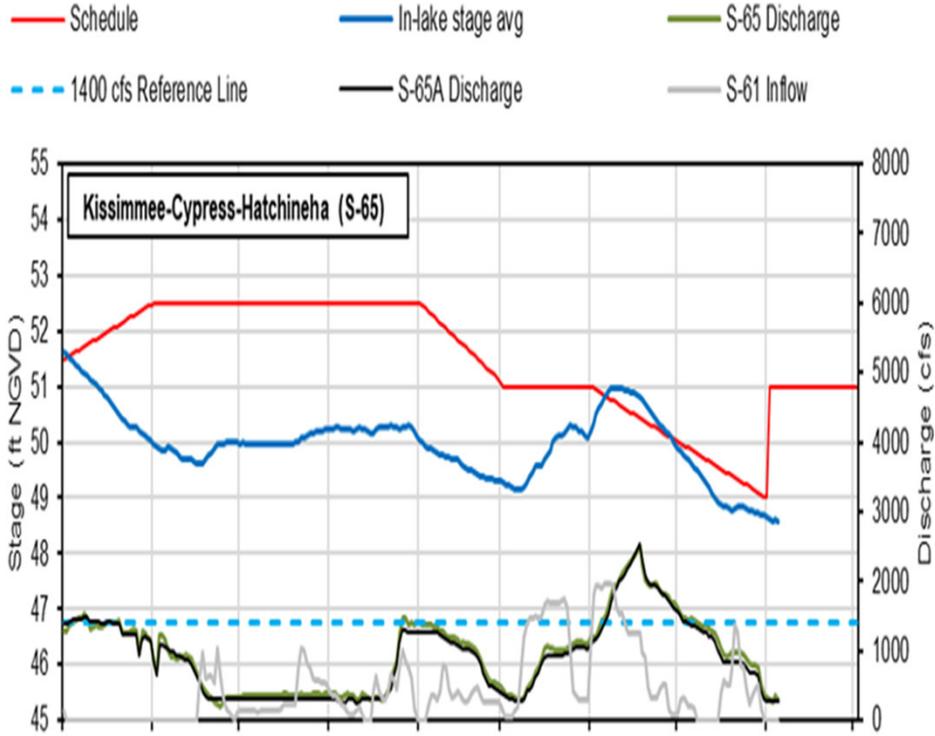


Lawrence Glenn
Division Director
Water Resources

*Aquatic Vegetation in Stormwater Treatment Area 2,
Photograph courtesy of SFWMD staff*

Kissimmee River (Phase I) Floodplain Water Depth Maps

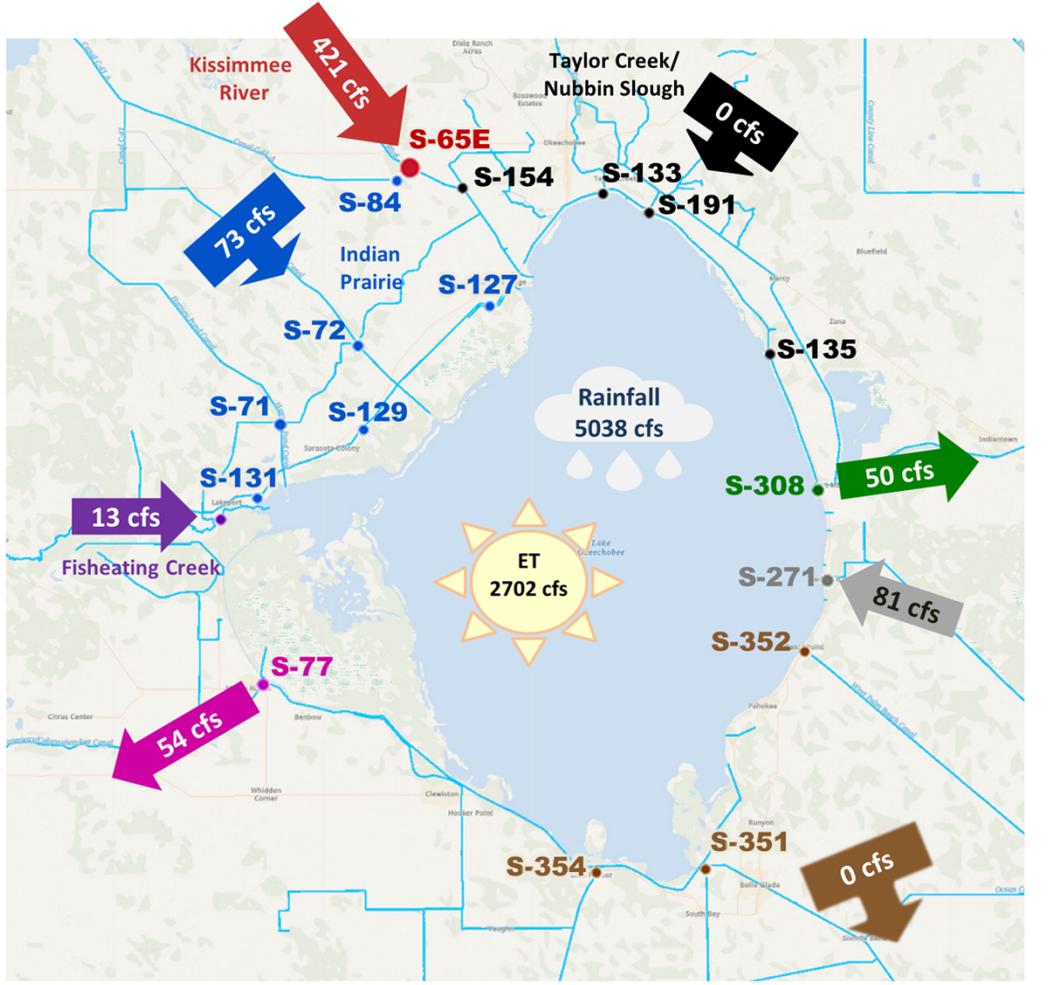
Stage and Discharge Hydrograph (report date: 6/7/2022; data through: 6/5/2022)



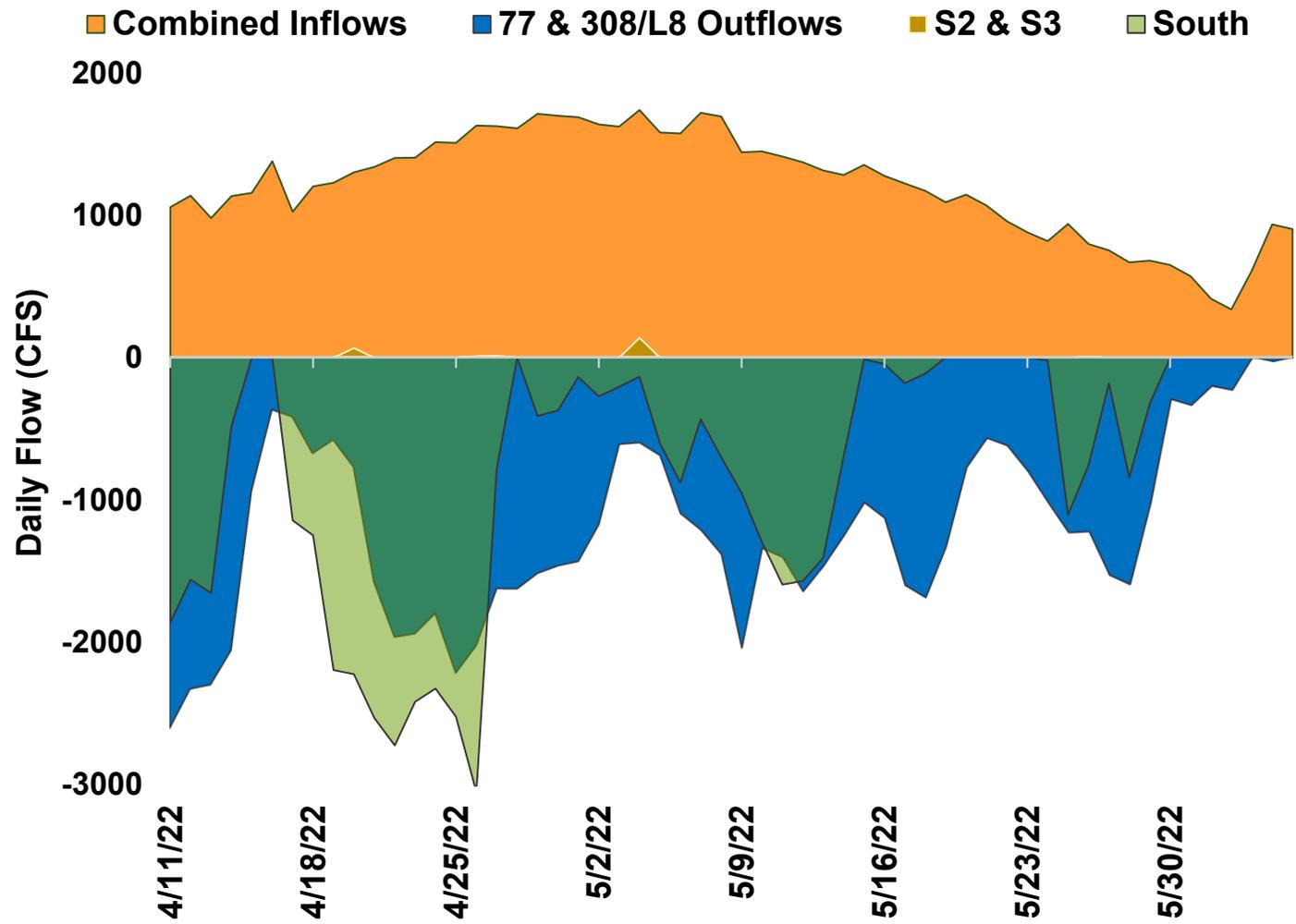
Lake Okeechobee Hydrology

(*Provisional Data)

May 30 – June 5 Inflows and Outflows

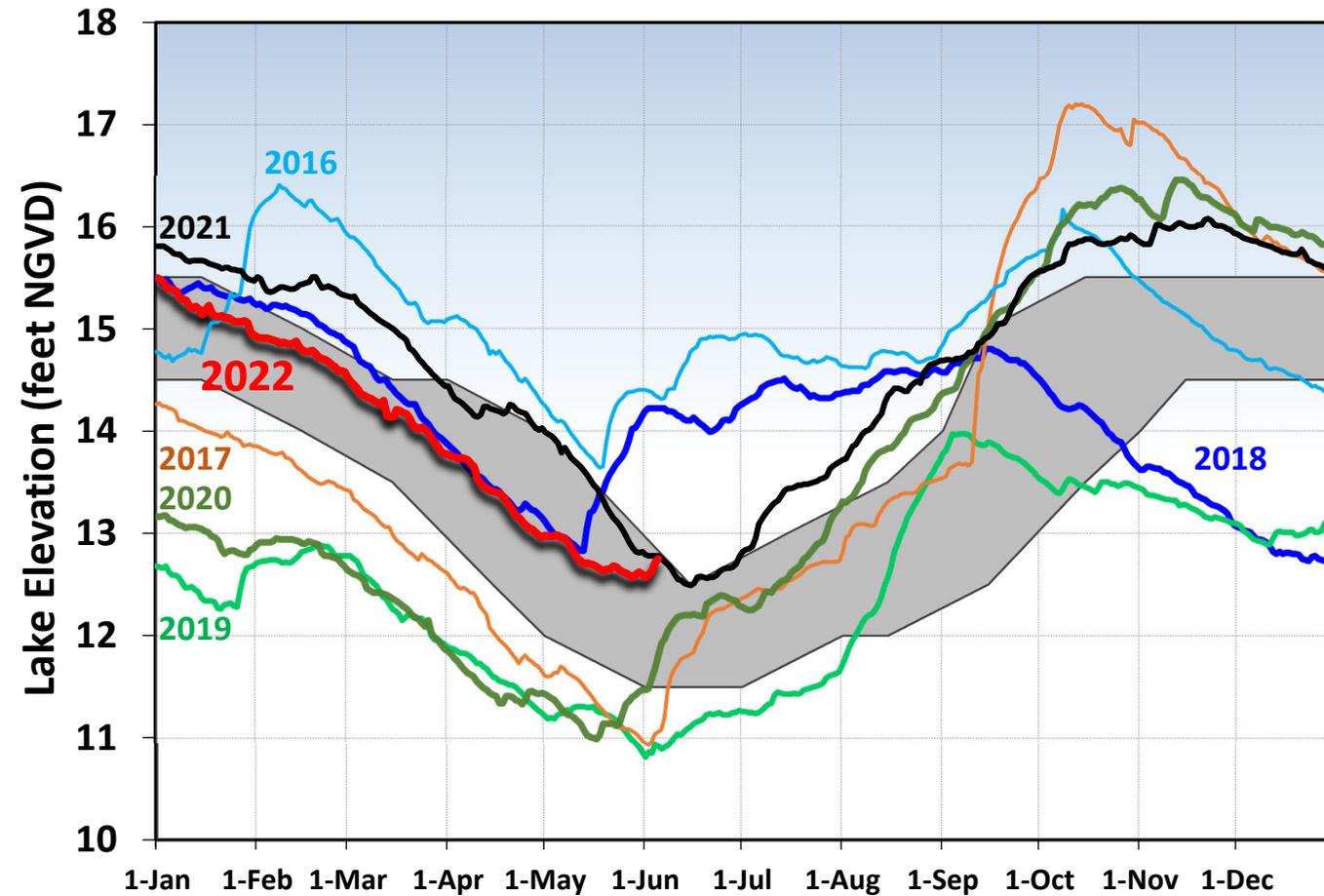


Prior 8 Weeks Inflows and Outflows

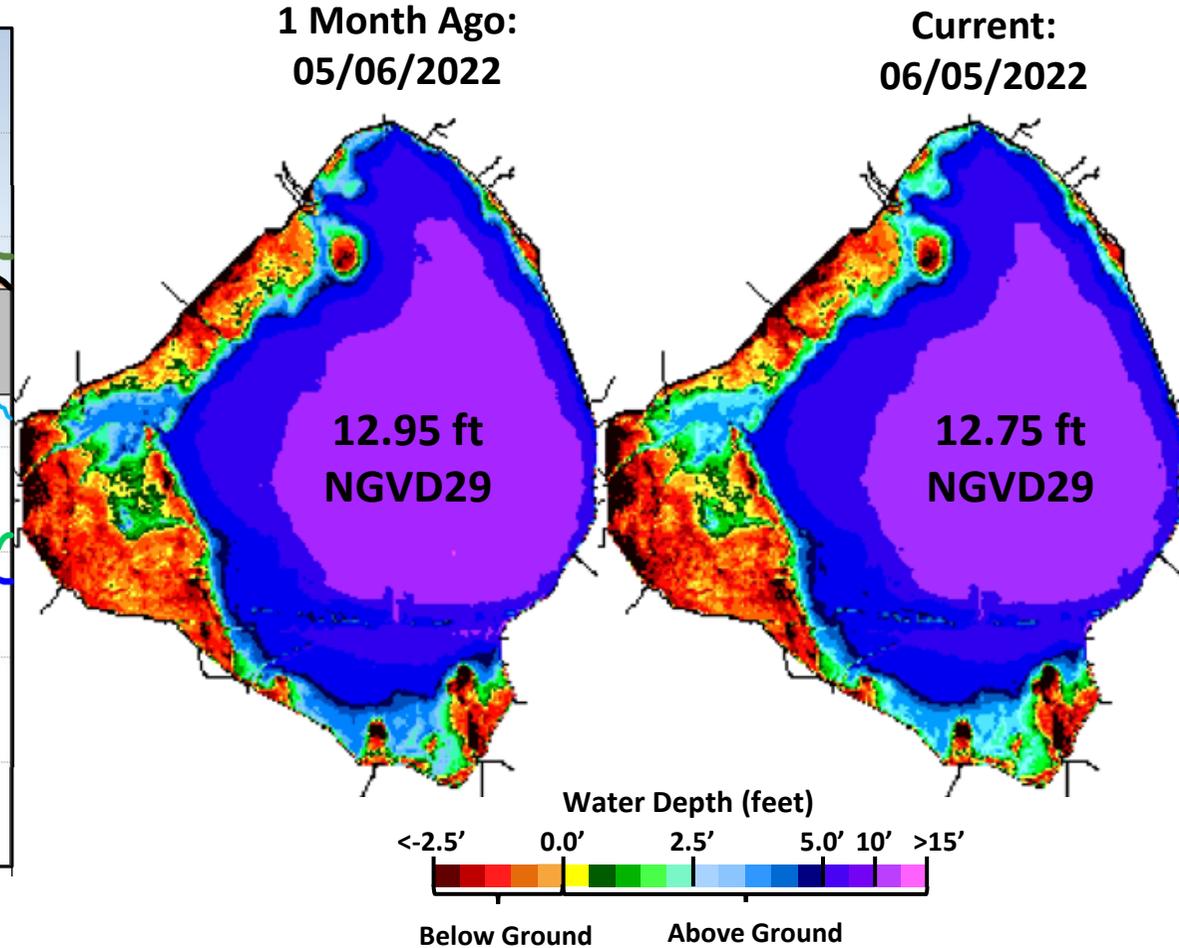


Ecological Envelope and Water Depths

Lake Okeechobee Stage vs Ecological Envelope



Changes in Water Depth

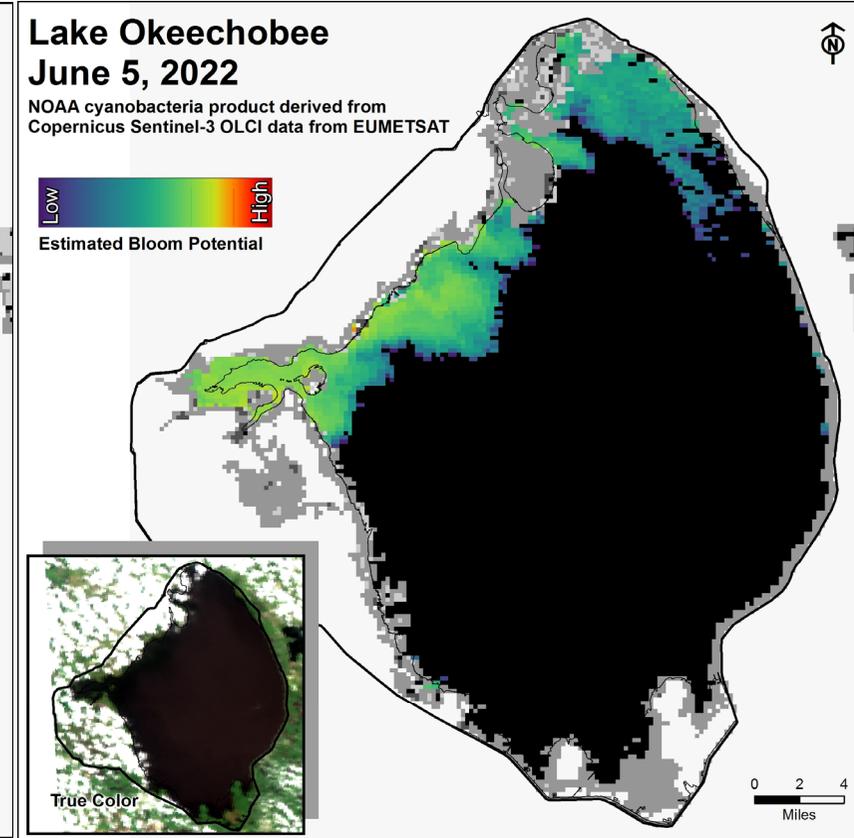
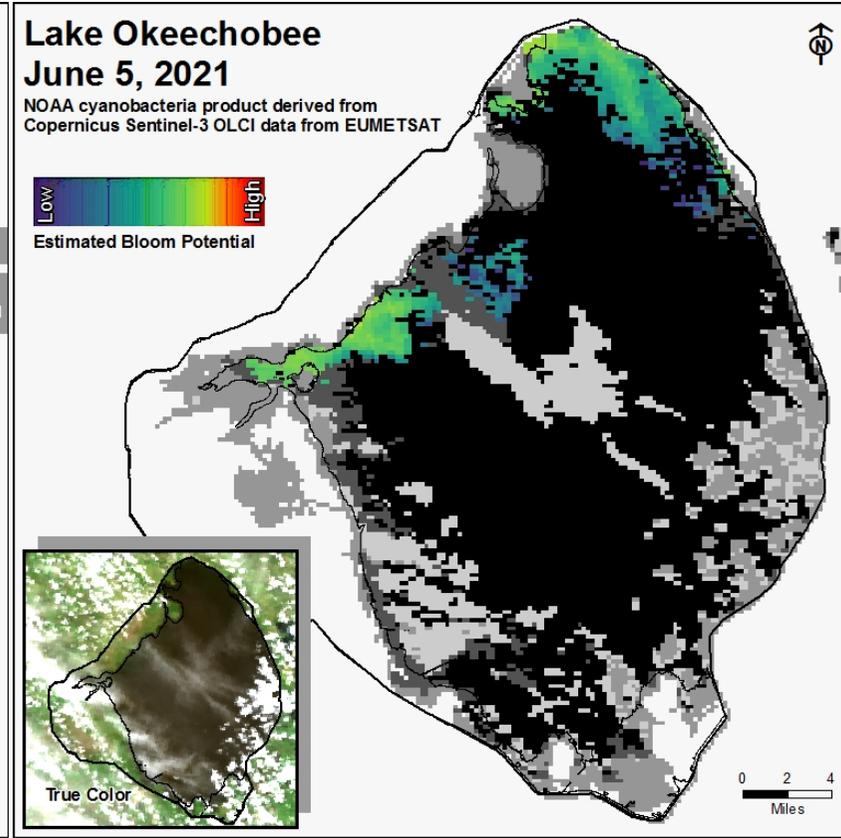
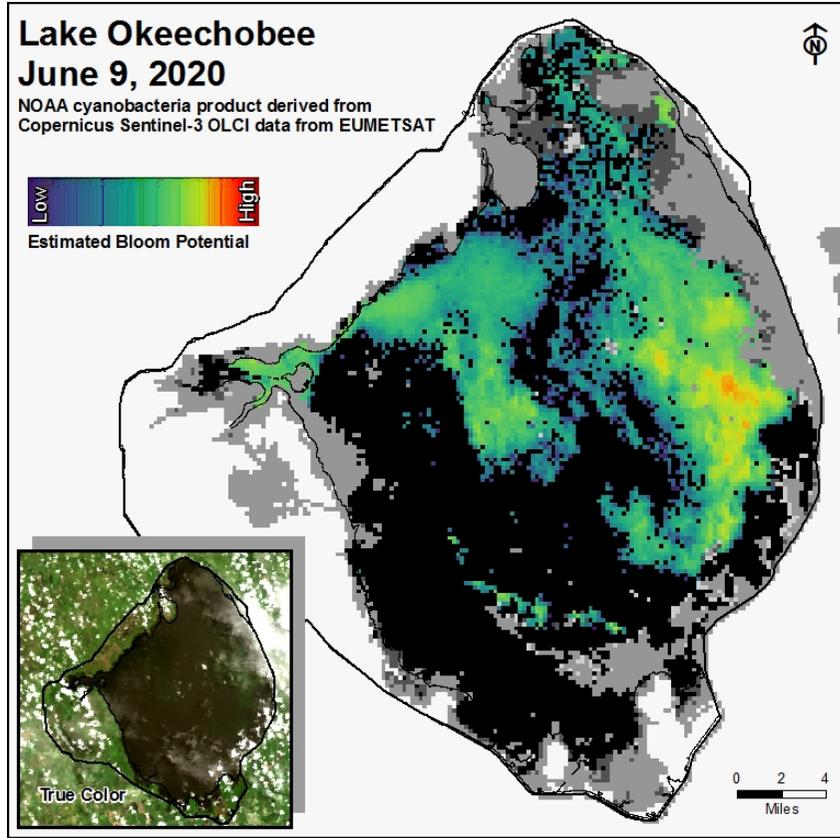


Lake Okeechobee Cyanobacteria Bloom Potential

5353

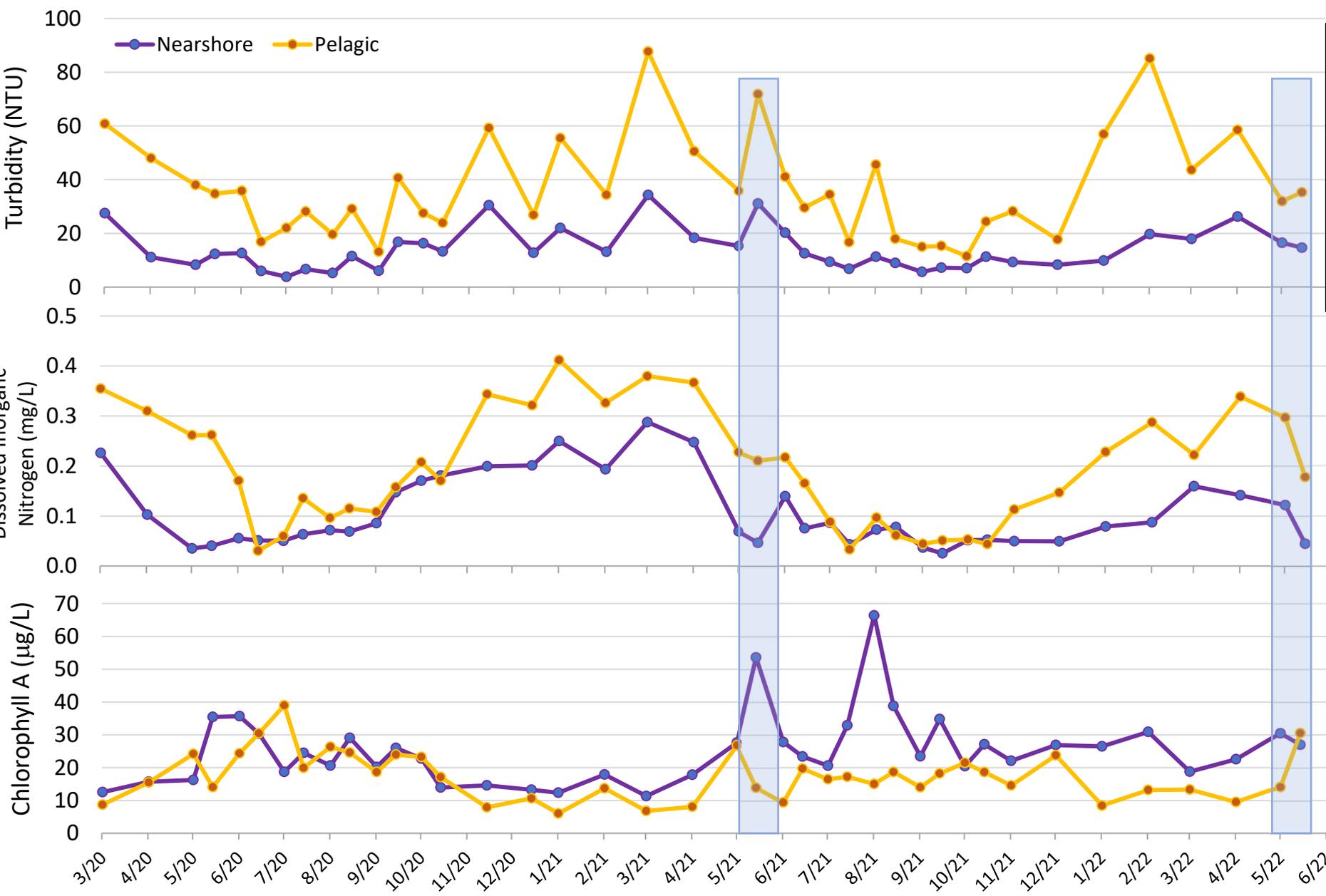
5354

5355



QRDD#E | dqredfwhub#surgxfw#ghulyhg#urp #Frshuqlfxv#Vhqwqho6 #R FOI#gdw#urp #IXP HWVDW

SOUTH FLORIDA WATER MANAGEMENT DISTRICT



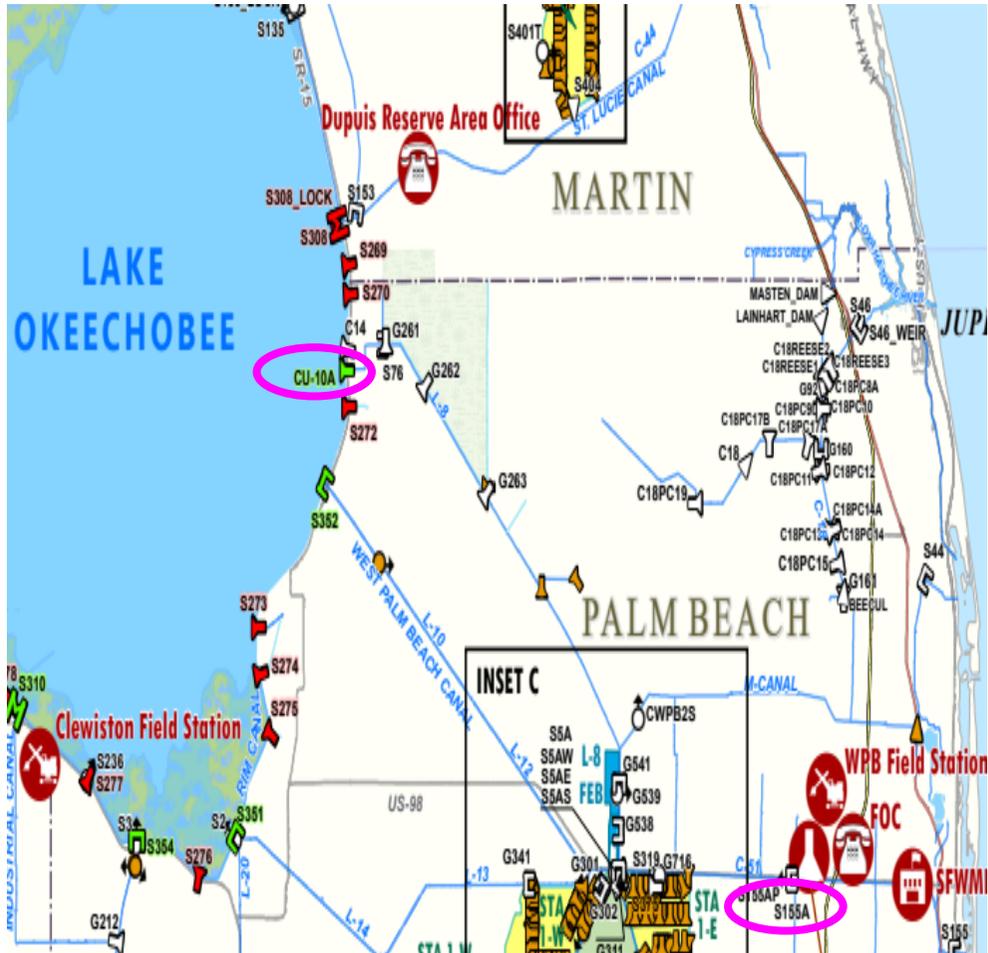
May	Year	Turbidity	DIN	Chl-A
Nearshore	2018	38.3	0.306	18.6
	2019	17.9	0.181	20.2
	2020	10.2	0.038	25.1
	2021	23.2	0.058	40.7
	2022	15.5	0.084	28.9
Pelagic	2018	86.6	0.557	6.8
	2019	43.3	0.328	8.7
	2020	36.4	0.262	19.1
	2021	53.8	0.219	20.4
	2022	33.5	0.238	22.5

**Recent
Water
Quality**
Provisional Data

BGA Response Treatments

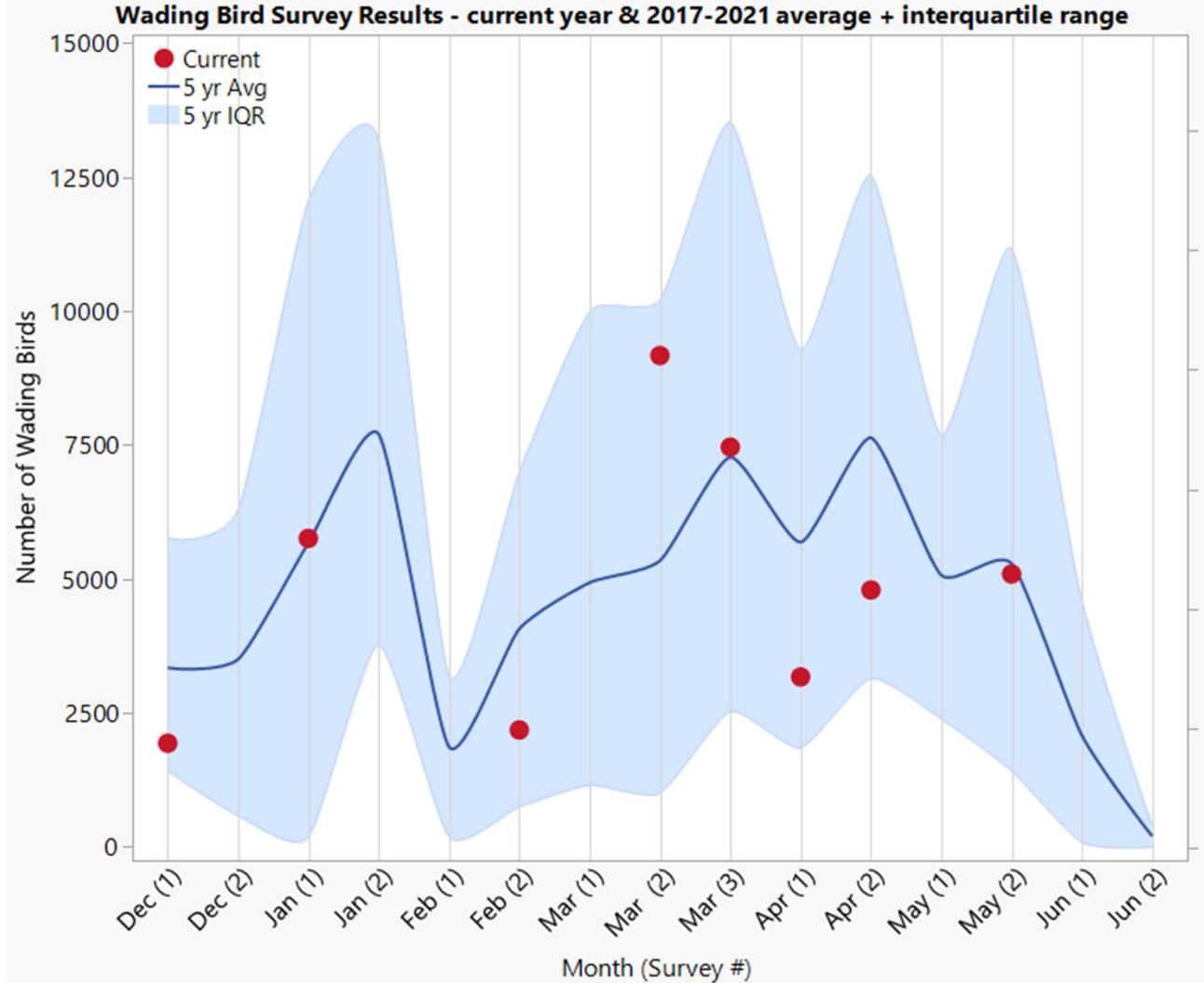
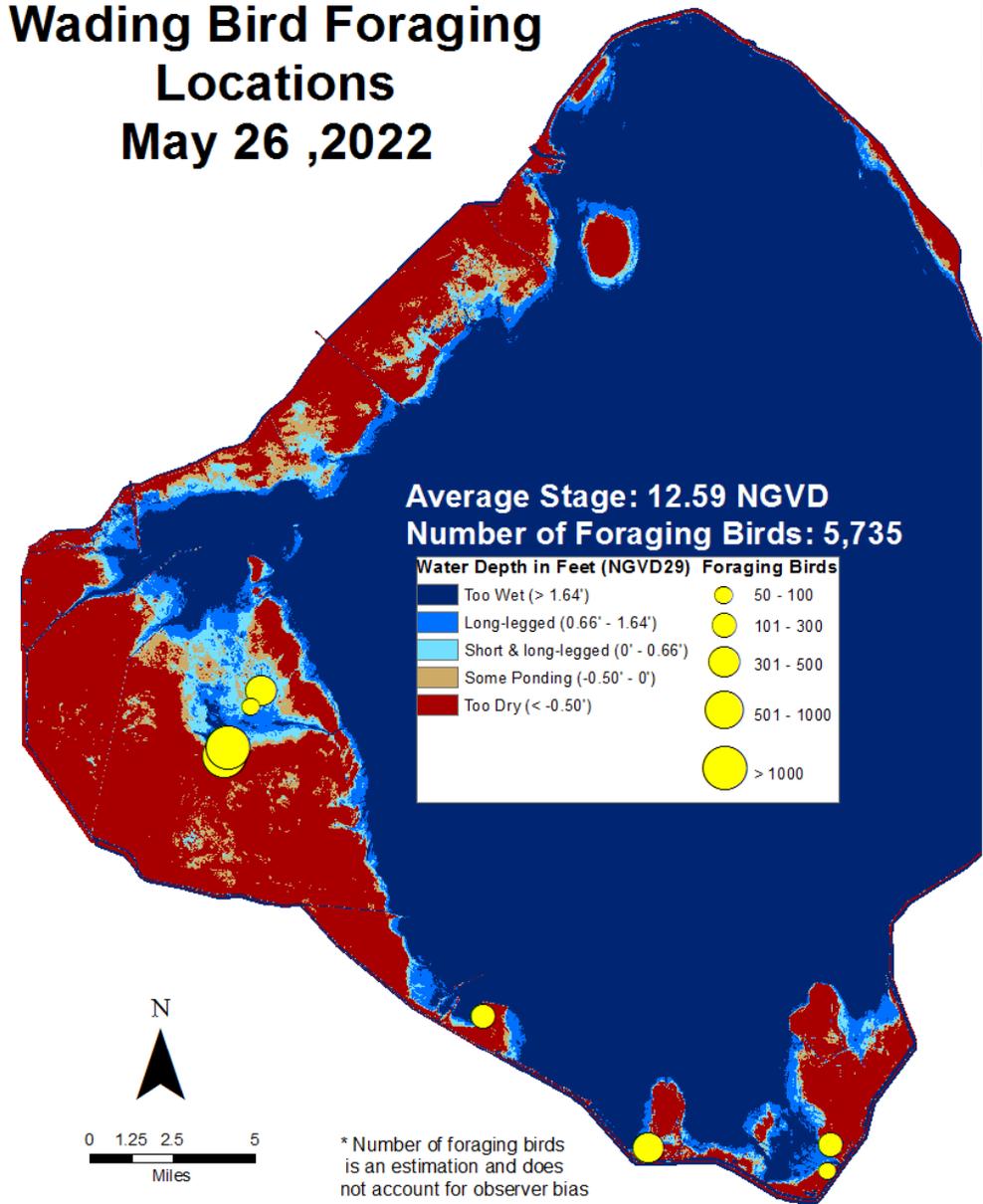
S-271

S-155A

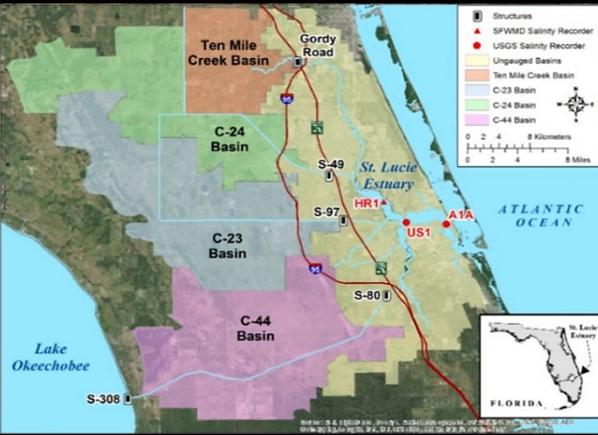


Wading Bird Foraging Locations
May 26, 2022

Lake Okeechobee Wading Bird Foraging



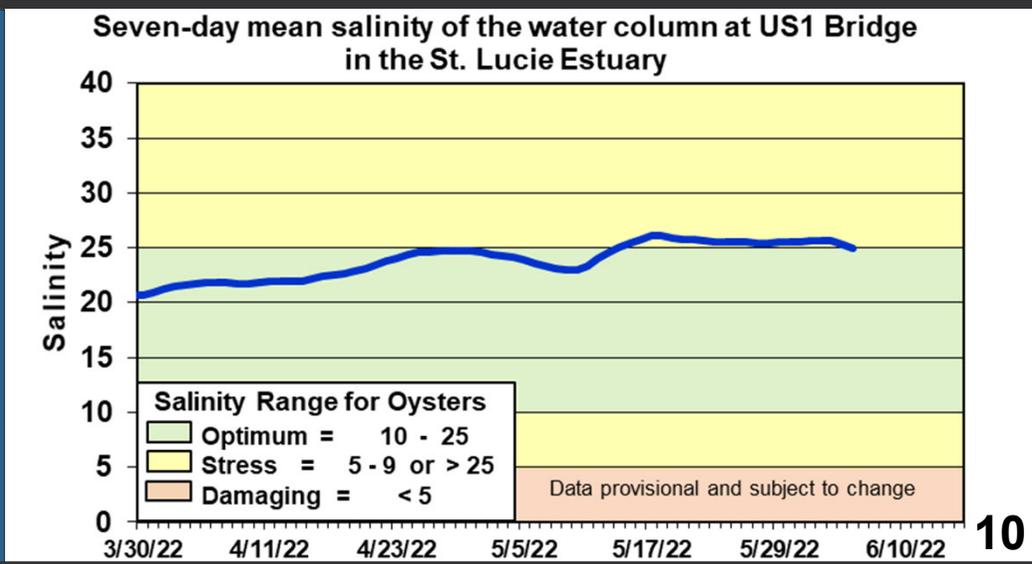
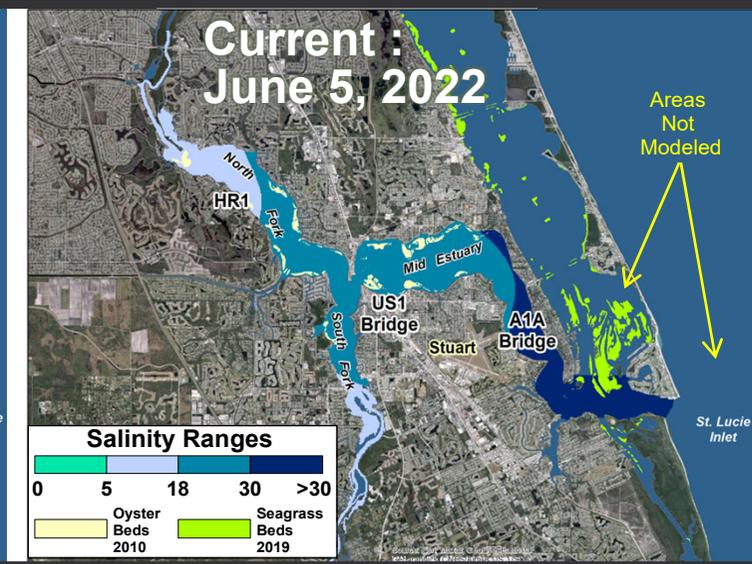
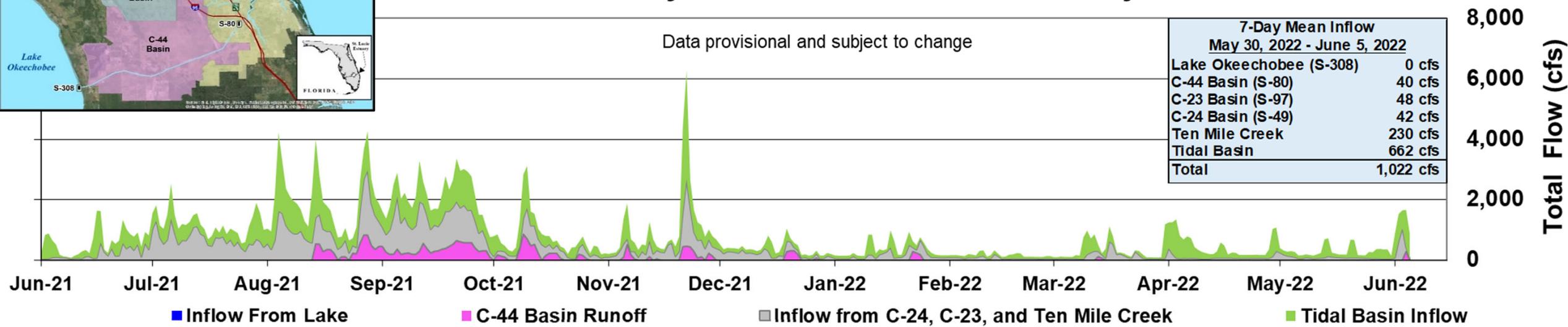
St. Lucie Inflows and Salinity Conditions



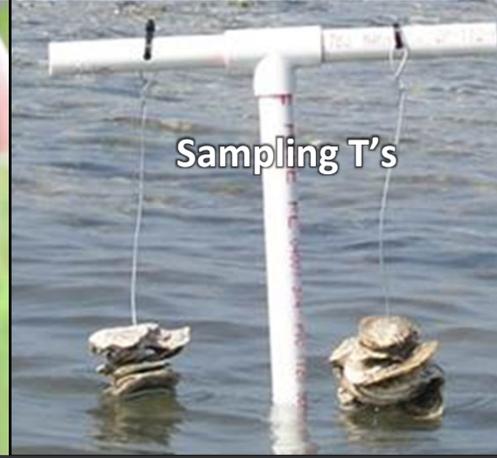
Total Daily Inflow into the St. Lucie Estuary

Data provisional and subject to change

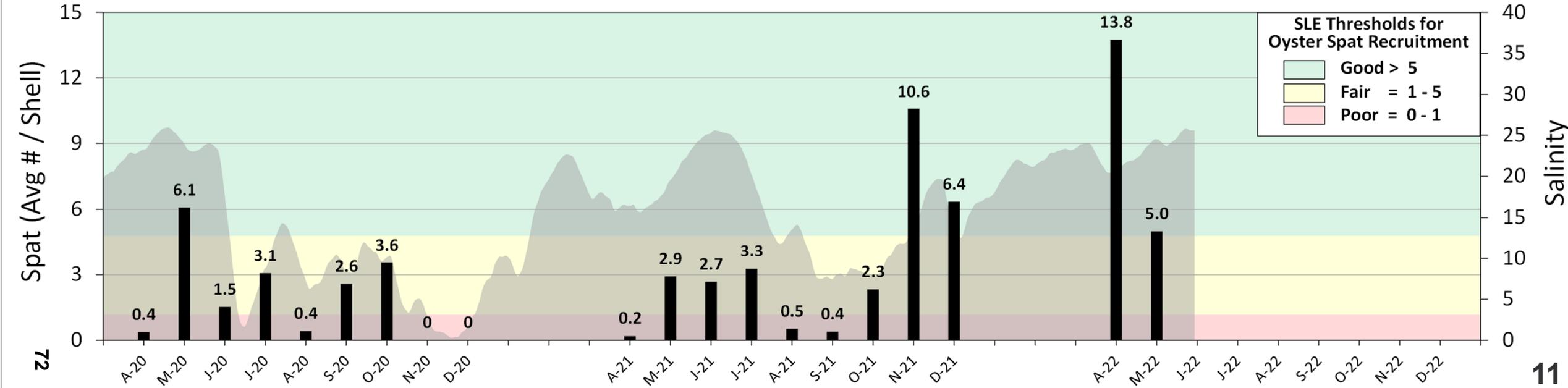
7-Day Mean Inflow May 30, 2022 - June 5, 2022	
Lake Okeechobee (S-308)	0 cfs
C-44 Basin (S-80)	40 cfs
C-23 Basin (S-97)	48 cfs
C-24 Basin (S-49)	42 cfs
Ten Mile Creek	230 cfs
Tidal Basin	662 cfs
Total	1,022 cfs



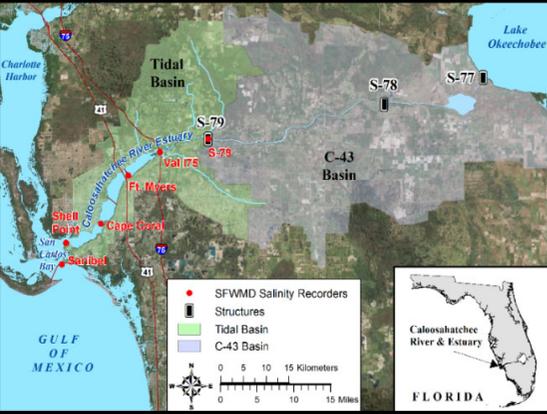
St. Lucie Estuary – Oyster Recruitment



2020 - 2022 Rio Oyster Recruitment and 14-Day Mean Salinity at US1 Bridge



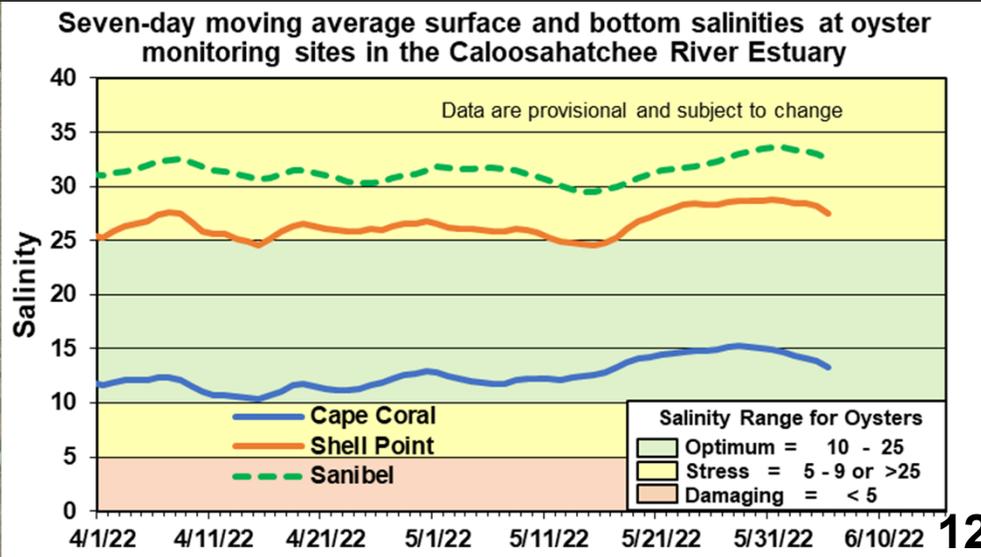
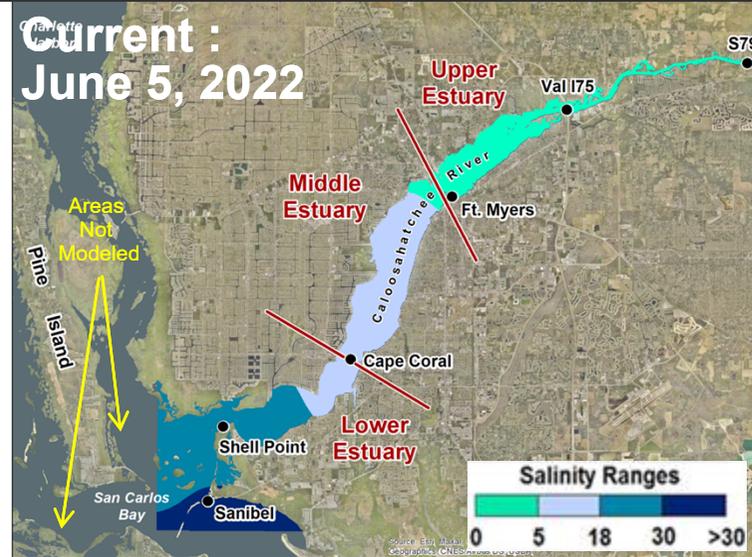
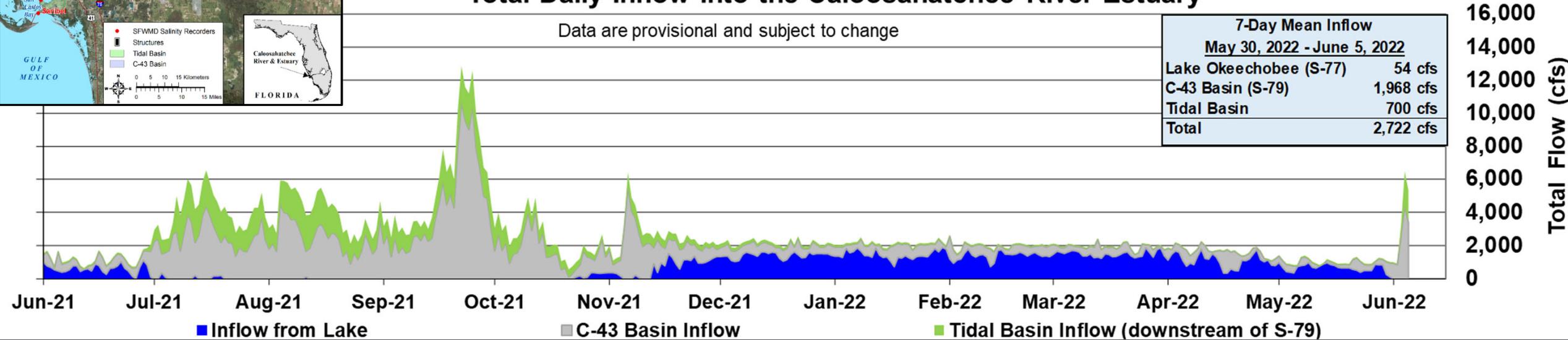
Caloosahatchee Inflows and Salinity Conditions



Total Daily Inflow into the Caloosahatchee River Estuary

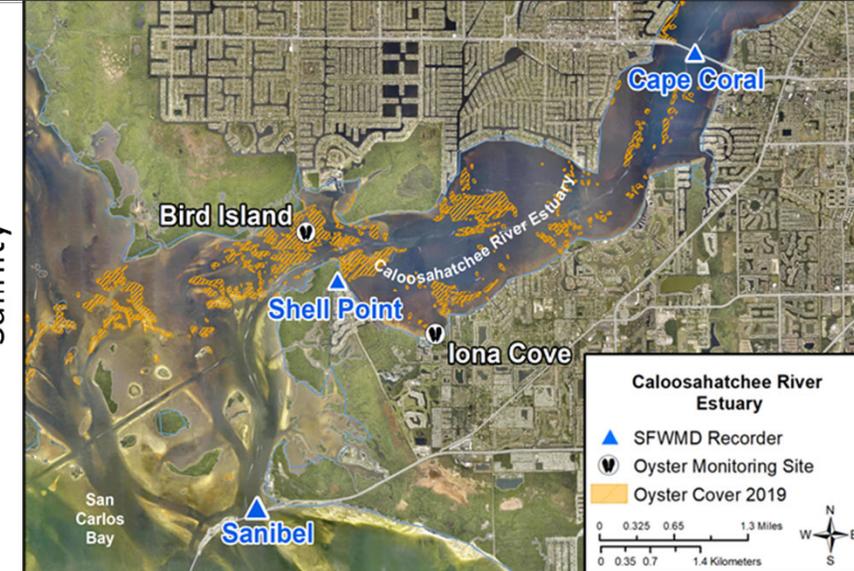
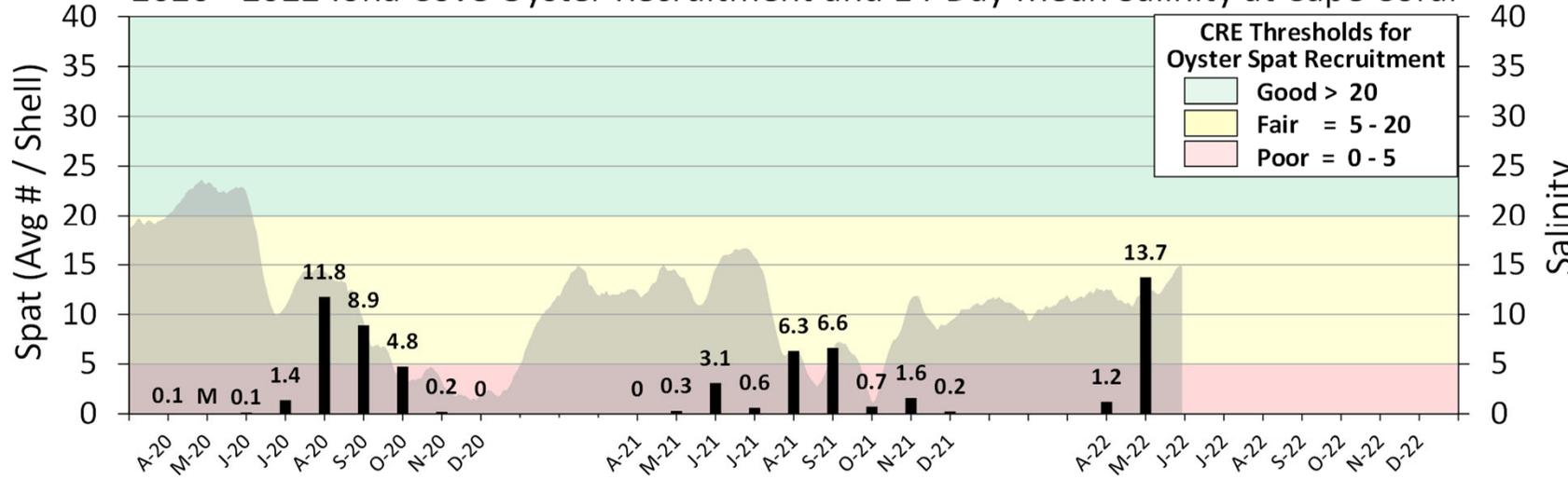
Data are provisional and subject to change

7-Day Mean Inflow May 30, 2022 - June 5, 2022	
Lake Okeechobee (S-77)	54 cfs
C-43 Basin (S-79)	1,968 cfs
Tidal Basin	700 cfs
Total	2,722 cfs

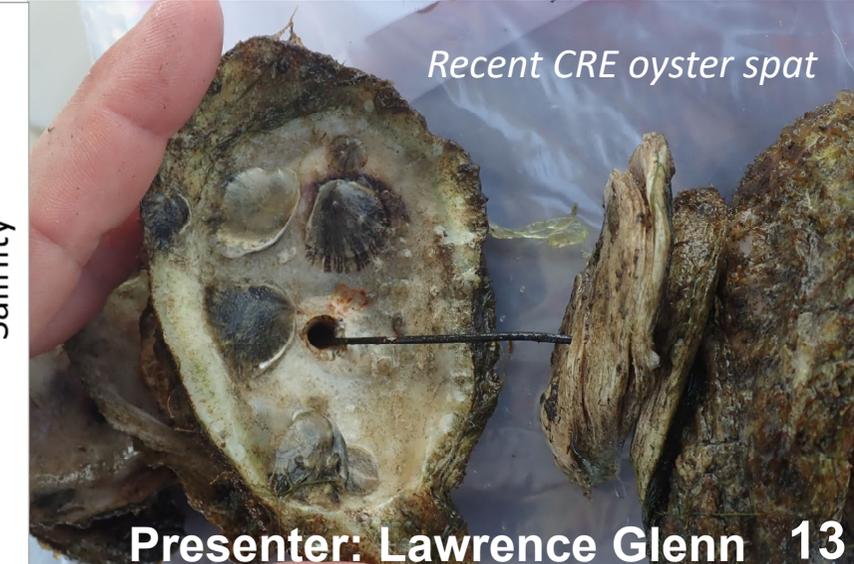
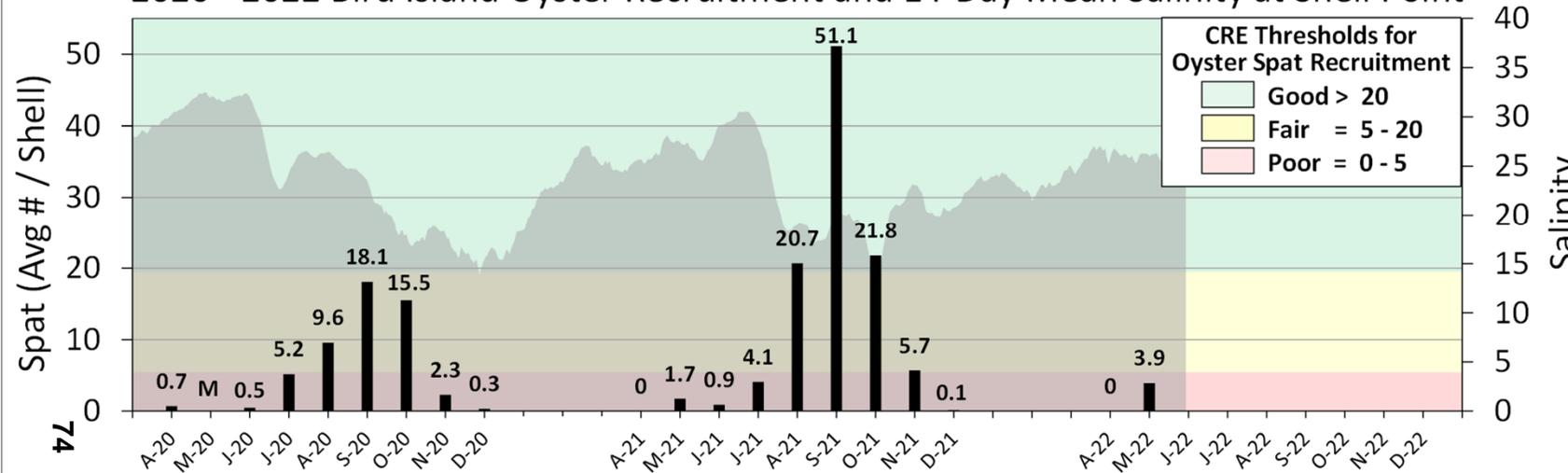


Caloosahatchee Estuary – Oyster Recruitment

2020 - 2022 Iona Cove Oyster Recruitment and 14-Day Mean Salinity at Cape Coral



2020 - 2022 Bird Island Oyster Recruitment and 14-Day Mean Salinity at Shell Point



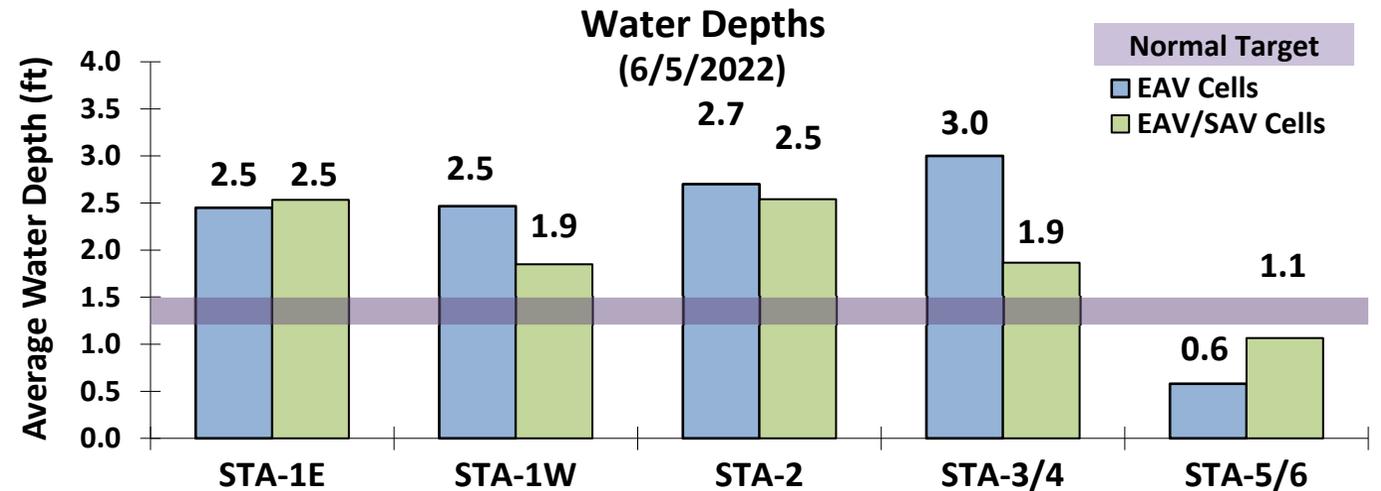
Everglades Stormwater Treatment Areas (STAs)

- STAs treated basin runoff and Lake Okeechobee releases in May
 - Total WY2023 inflows to STAs (5/1/2022 to 6/5/2022): ~98,400 ac-ft
 - Lake Okeechobee releases to FEB/STAs in WY2023: ~12,400 ac-ft
- Extensive vegetation management activities underway to address stressed and highly stressed vegetation especially in EAV cells
- Most treatment cells are above target depth except STA-5/6 cells

Water Year 2023
5/1/2022 to 6/5/2022

	STA-1E	STA-1W	STA-2	STA-3/4	STA-5/6
Inflow TP Concentration (ppb)	83	74	74	55	74
Outflow TP Concentration (ppb)	22	23	18	17	No flow
365-day Phosphorus Loading Rate (g/m ² /yr)	2.4	0.3	0.6	0.9	1.0
Inflow Volume (ac-ft)	21,800	5,700	46,600	23,800	600

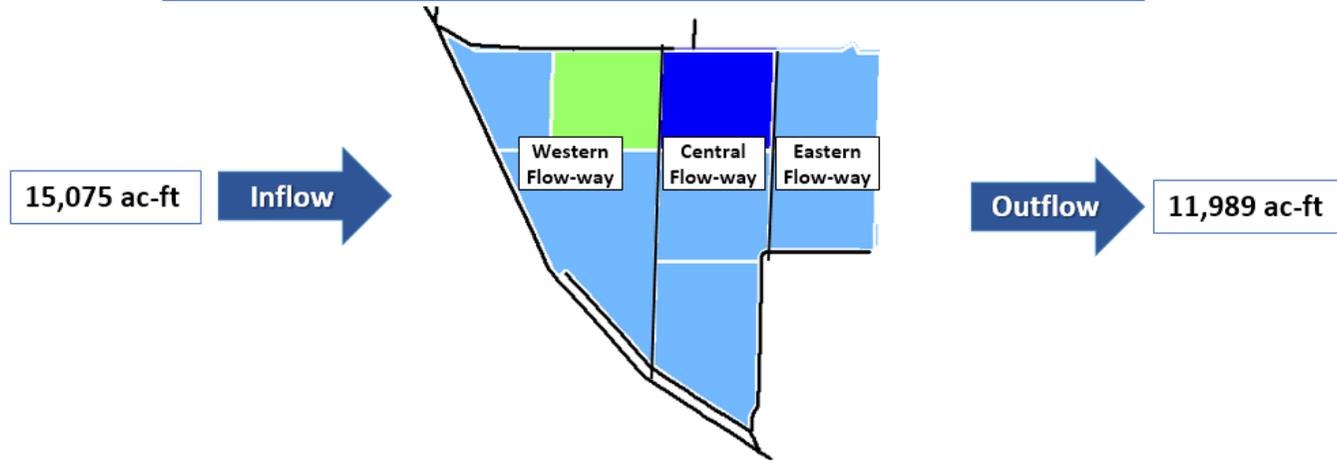
Includes preliminary data; all concentrations are flow-weighted means



Includes preliminary data; Emergent Aquatic Vegetation (EAV); Submerged Aquatic Vegetation (SAV)

STA-1E

STA-1E Weekly Status Report – 5/30/2022 through 6/5/2022



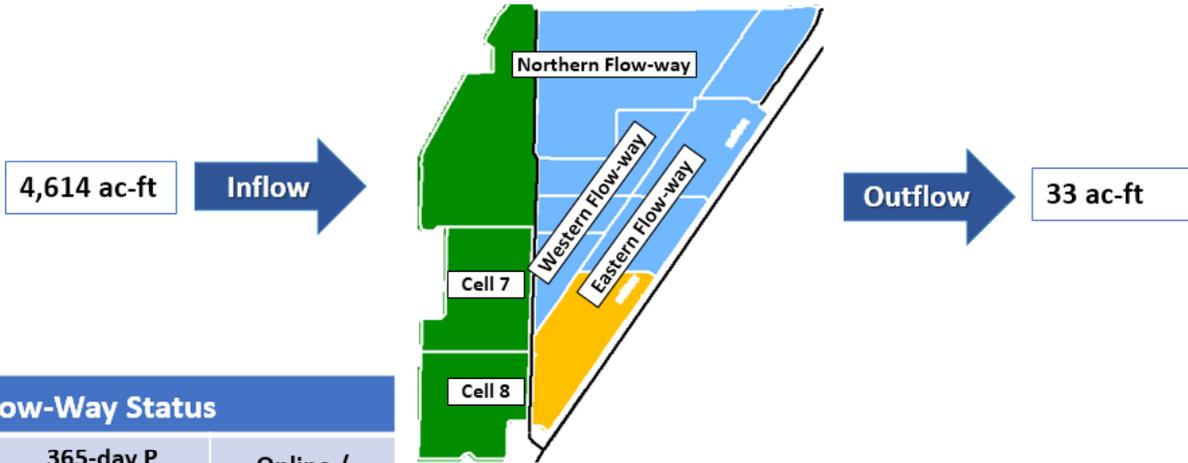
STA-1E Flow-Way Status			
Flow-Way	Vegetation Status Healthy ↔ Stressed	365-day P Loading Rate (below 1.0 g P / m ² /yr is optimal)	Online / Offline / Restrictions
Eastern	↔ 	N/A	Vegetation management
Central	↔ 		Vegetation rehabilitation
Western	Offline, post-construction grow in starting 3/28/2022		

As of 6/5/2022	
Stage Based: Relative to Target Stage (TS)	
	Deep Water Level (> 2.8' above TS)
	High Water Level (1.5' – 2.8' above TS)
	0.2' – 1.5' above TS
	Target Stage (TS +/- 0.2')
	Low Water Level (<0.2' below TS)
Depth / Area Based: Percent of Area Dry	
	0-25% Dry
	25-50% Dry
	50-75% Dry
	75-100% Dry

STA-1E Flow & Phosphorus Concentration			
	7-day	28-day	365-day
Total Inflow, ac-ft	15,075	21,261	188,986
--Lake Inflow, ac-ft	0	N/A	2,900
Total Outflow, ac-ft	11,989	16,017	156,812
Inflow Conc., ppb	63	82	113
Outflow Conc., ppb	21	22	22
Includes Preliminary Data			

STA-1W

STA-1W Weekly Status Report – 5/30/2022 through 6/5/2022



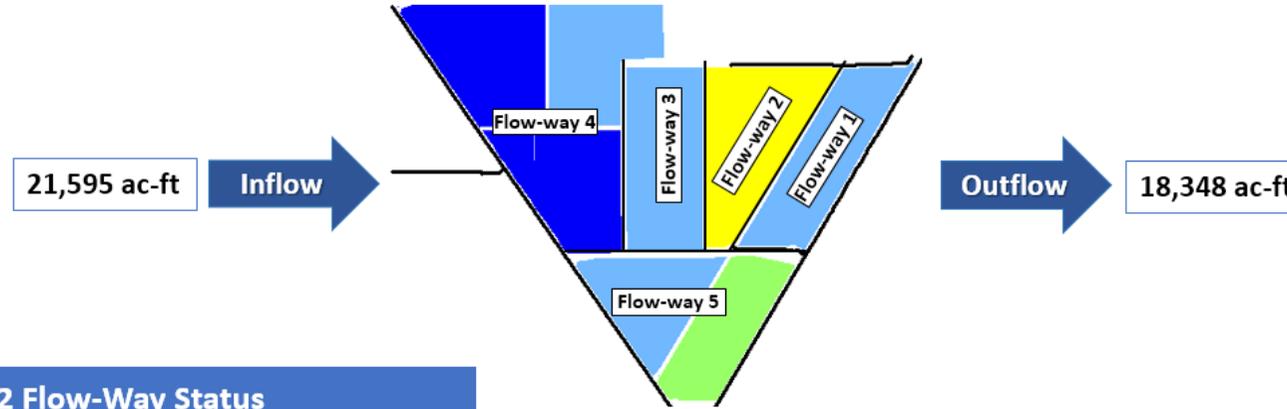
STA-1W Flow-Way Status			
Flow-Way	Vegetation Status Healthy — Stressed	365-day P Loading Rate (below 1.0 g P /m ² /yr is optimal)	Online / Offline / Restrictions
Northern	← →	1.0	Vegetation management
Western	← →	1.0	Vegetation management
Eastern	← →	1.0	Vegetation management
Cell 7	← →	N/A	Online
Cell 8	← →	N/A	Construction

As of 6/5/2022	
Stage Based: Relative to Target Stage (TS)	
	Deep Water Level (> 2.8' above TS)
	High Water Level (1.5' – 2.8' above TS)
	0.2' – 1.5' above TS
	Target Stage (TS +/- 0.2')
	Low Water Level (<0.2' below TS)
Depth / Area Based: Percent of Area Dry	
	0-25% Dry
	25-50% Dry
	50-75% Dry
	75-100% Dry

STA-1W Flow & Phosphorus Concentration			
	7-day	28-day	365-day
Total Inflow, ac-ft	4,614	5,186	61,779
--Lake Inflow, ac-ft	0	N/A	3,100
Total Outflow, ac-ft	33	34	52,808
Inflow Conc., ppb	63	69	151
Outflow Conc., ppb	23	23	24
Includes Preliminary Data			

STA-2

STA-2 Weekly Status Report – 5/30/2022 through 6/5/2022



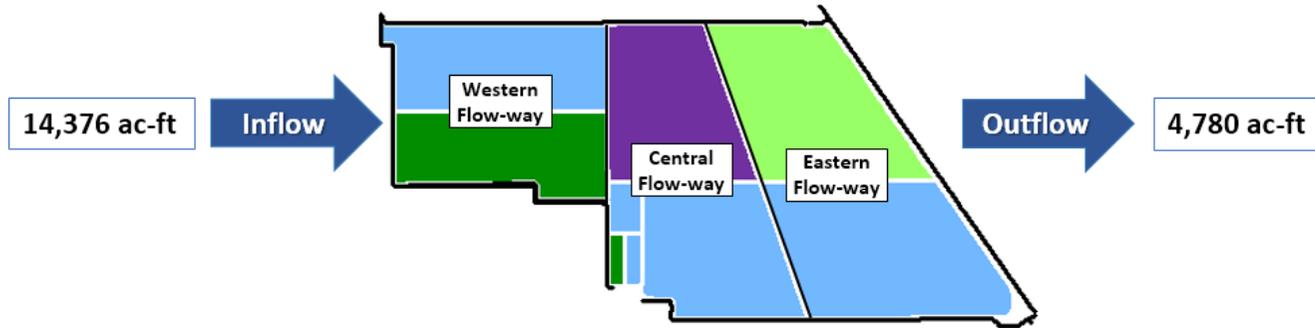
STA-2 Flow-Way Status			
Flow-Way	Vegetation Status Healthy ----- Stressed	365-day P Loading Rate (below 1.0 g P /m ² /yr is optimal)	Online / Offline / Restrictions
1			Post Dryout
2	Offline, construction activities as of 9/7/2021		
3			Vegetation Rehab
4			Vegetation Rehab
5			Online

As of 6/5/2022	
Stage Based: Relative to Target Stage (TS)	
	Deep Water Level (> 2.8' above TS)
	High Water Level (1.5' – 2.8' above TS)
	0.2' – 1.5' above TS
	Target Stage (TS +/- 0.2')
	Low Water Level (<0.2' below TS)
Depth / Area Based: Percent of Area Dry	
	0-25% Dry
	25-50% Dry
	50-75% Dry
	75-100% Dry

STA-2 Flow & Phosphorus Concentration			
	7-day	28-day	365-day
Total Inflow, ac-ft	21,595	42,121	316,175
--Lake Inflow, ac-ft	0	N/A	33,300
Total Outflow, ac-ft	18,348	37,857	326,508
Inflow Conc., ppb	94	76	87
Outflow Conc., ppb	15	18	16
Includes Preliminary Data			

STA-3/4

STA-3/4 Weekly Status Report – 5/30/2022 through 6/5/2022



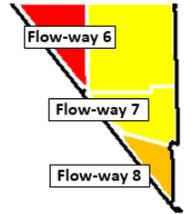
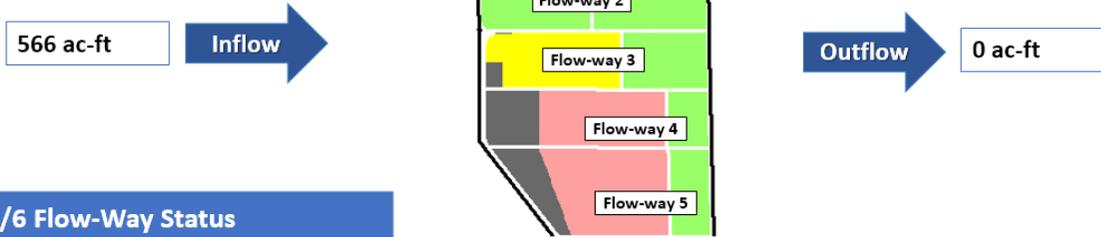
STA-3/4 Flow-Way Status			
Flow-Way	Vegetation Status Healthy ——— Stressed	365-day P Loading Rate (below 1.0 g P /m ² /yr is optimal)	Online / Offline / Restrictions
Eastern	←————→	1.0	Offline, vegetation management drawdown as of 3/1/2021
Central	←————→	1.0	Online
Western	←————→	1.0	Online

As of 6/5/2022	
Stage Based: Relative to Target Stage (TS)	
Deep Water Level (> 2.8' above TS)	50-75% Dry
High Water Level (1.5' – 2.8' above TS)	75-100% Dry
0.2' – 1.5' above TS	25-50% Dry
Target Stage (TS +/- 0.2')	0-25% Dry
Low Water Level (< 0.2' below TS)	
Depth / Area Based: Percent of Area Dry	
0-25% Dry	50-75% Dry
25-50% Dry	75-100% Dry

STA-3/4 Flow & Phosphorus Concentration			
	7-day	28-day	365-day
Total Inflow, ac-ft	14,376	19,975	343,688
--Lake Inflow, ac-ft	0	N/A	15,400
Total Outflow, ac-ft	4,780	10,388	301,667
Inflow Conc., ppb	56	57	87
Outflow Conc., ppb	14	17	15
Includes Preliminary Data			

STA-5/6

STA-5/6 Weekly Status Report – 5/30/2022 through 6/5/2022



STA-5/6 Flow-Way Status

Flow-Way	Vegetation Status Healthy — Stressed	365-day P Loading Rate (below 1.0 g P /m ² /yr is optimal)	Online / Offline / Restrictions
1	← Healthy →	1.0	Online
2	← Healthy →	1.0	Online
3	← Healthy →	1.0	Online
4	Offline, vegetation management starting 01/24/2022		
5	← Healthy →	1.0	Online

As of 6/5/2022	
Stage Based: Relative to Target Stage (TS)	
Deep Water Level (> 2.8' above TS)	
High Water Level (1.5' – 2.8' above TS)	
0.2' – 1.5' above TS	
Target Stage (TS +/- 0.2')	
Low Water Level (<0.2' below TS)	
Depth / Area Based: Percent of Area Dry	
0-25% Dry	50-75% Dry
25-50% Dry	75-100% Dry

STA-5/6 Flow & Phosphorus Concentration

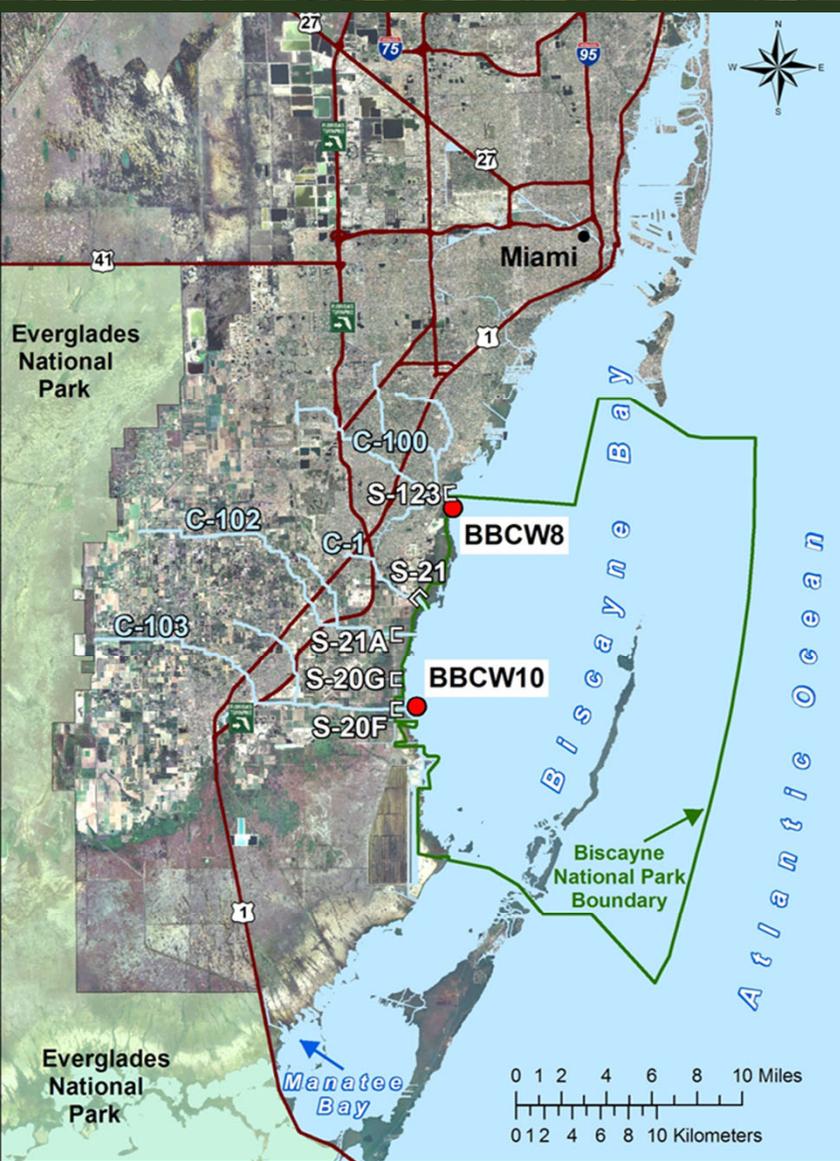
	7-day	28-day	365-day
Total Inflow, ac-ft	566	569	178,353
--Lake Inflow, ac-ft	0	N/A	2,100
Total Outflow, ac-ft	0	0	169,153
Inflow Conc., ppb	74	74	242
Outflow Conc., ppb	N/A	N/A	50
Includes Preliminary Data			

STA-5/6 Flow-Way Status

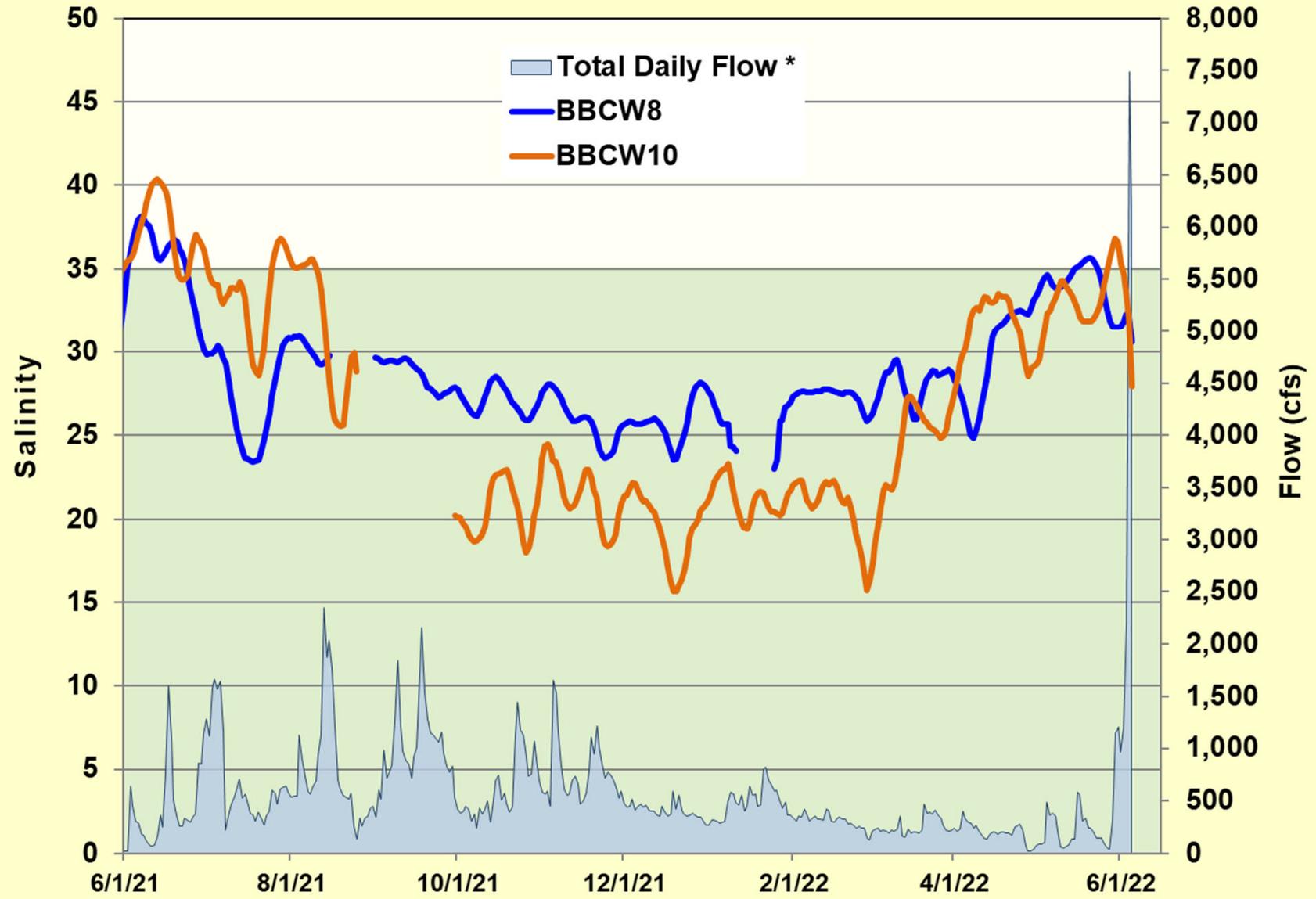
Flow-Way	Vegetation Status Healthy — Stressed	365-day P Loading Rate (below 1.0 g P /m ² /yr is optimal)	Online / Offline / Restrictions
6	← Healthy →	1.0	Online
7	← Healthy →	1.0	Online
8	← Healthy →	1.0	Online

As of 6/5/2022	
Stage Based: Relative to Target Stage (TS)	
Deep Water Level (> 2.8' above TS)	
High Water Level (1.5' – 2.8' above TS)	
0.2' – 1.5' above TS	
Target Stage (TS +/- 0.2')	
Low Water Level (<0.2' below TS)	
Depth / Area Based: Percent of Area Dry	
0-25% Dry	50-75% Dry
25-50% Dry	75-100% Dry

Biscayne Bay

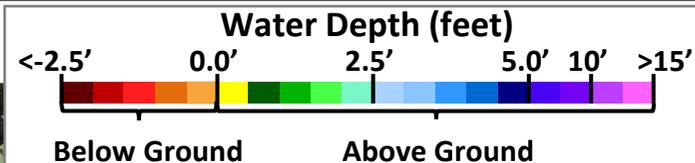
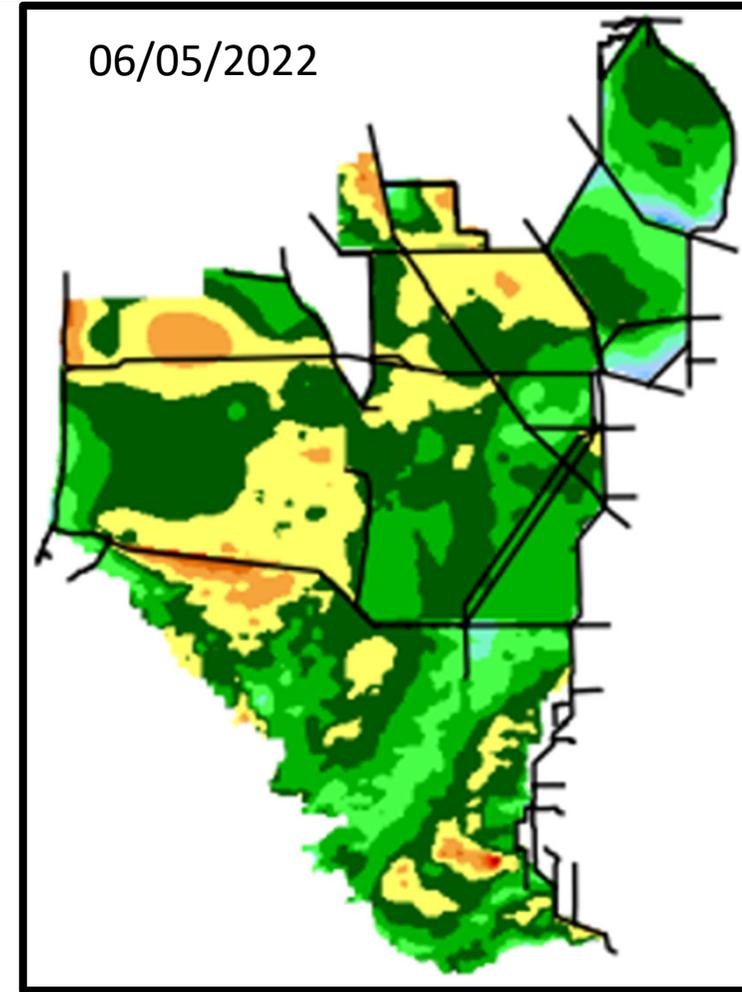
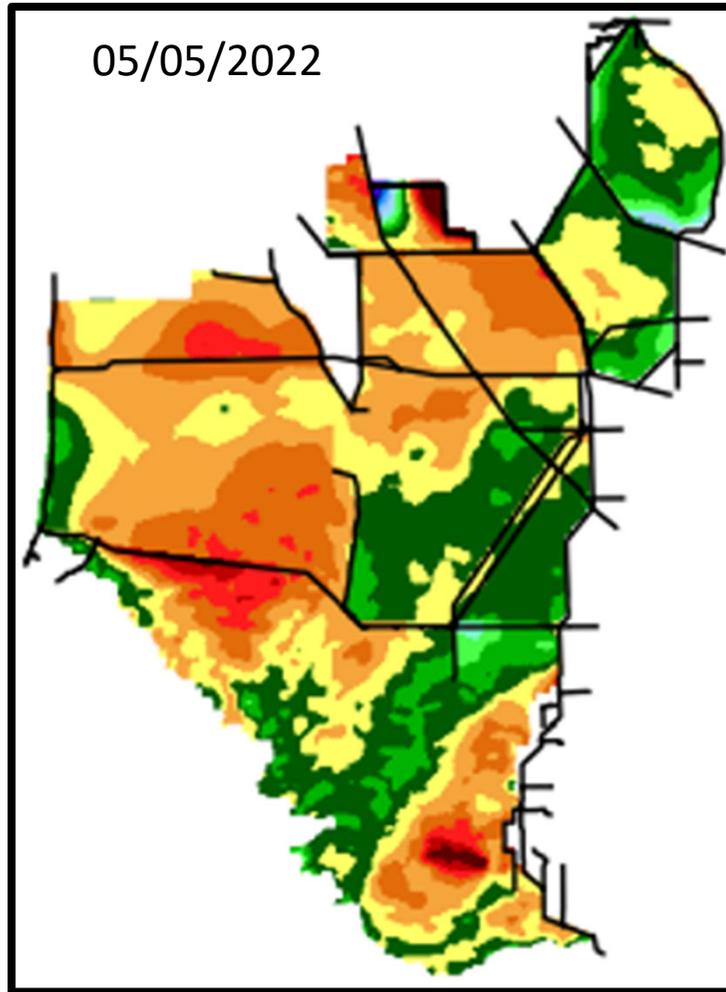
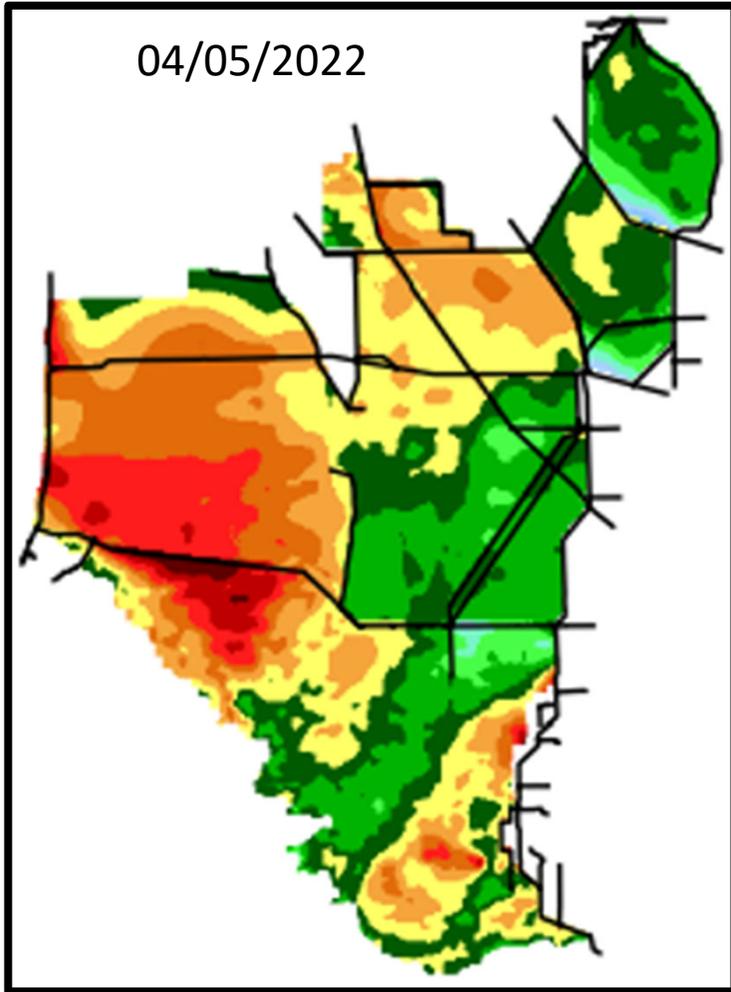


Seven Day Mean Salinity (BBCW8 & BBCW10) & Total Daily Flow

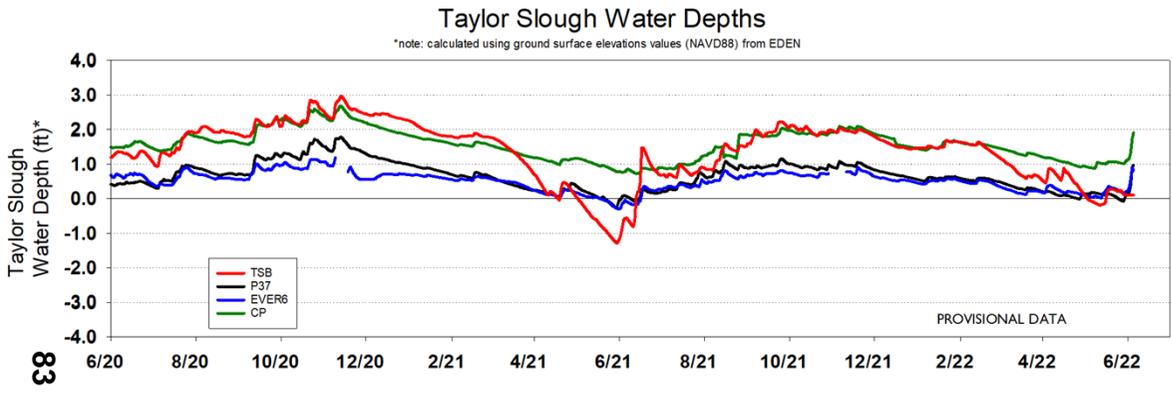
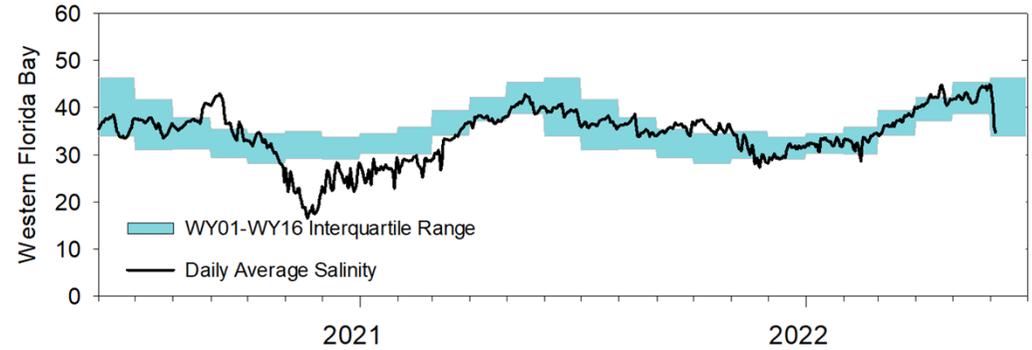
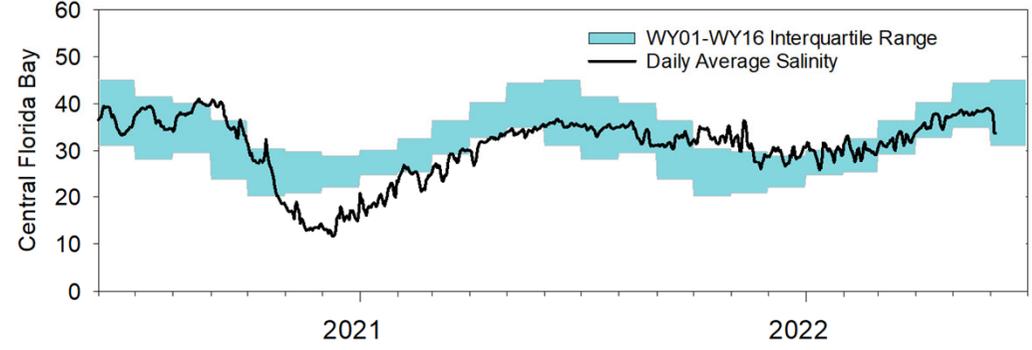
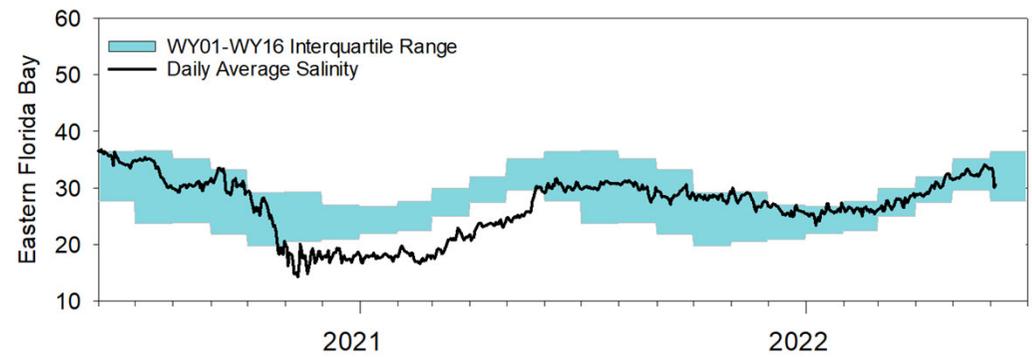
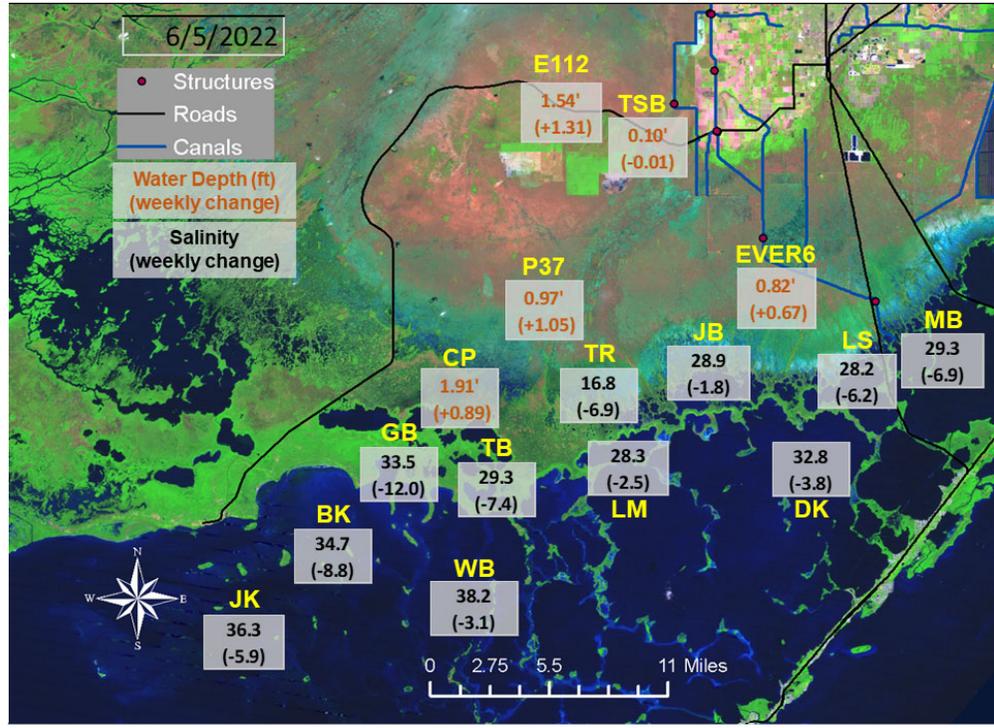


* Total flow from S20G, S20F, S21, S21A, S123, S700P

Everglades Water Depth Maps



Taylor Slough Stages and Florida Bay Salinity



Questions



*Wading birds in the Kissimmee River Phase II Restoration Area
Photograph courtesy of Brent Anderson, SFWMD*



District Flood Resiliency Initiatives

Flood Awareness Month



Carolina Maran, P.E., Ph.D., District Resiliency Officer
June 9, 2022

FLOOD CONTROL: Central & Southern Florida Project



INTERIM REPORT
OF
FLOOD DAMAGE
FLORIDA
EVERGLADES
DRAINAGE
DISTRICT
1942



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

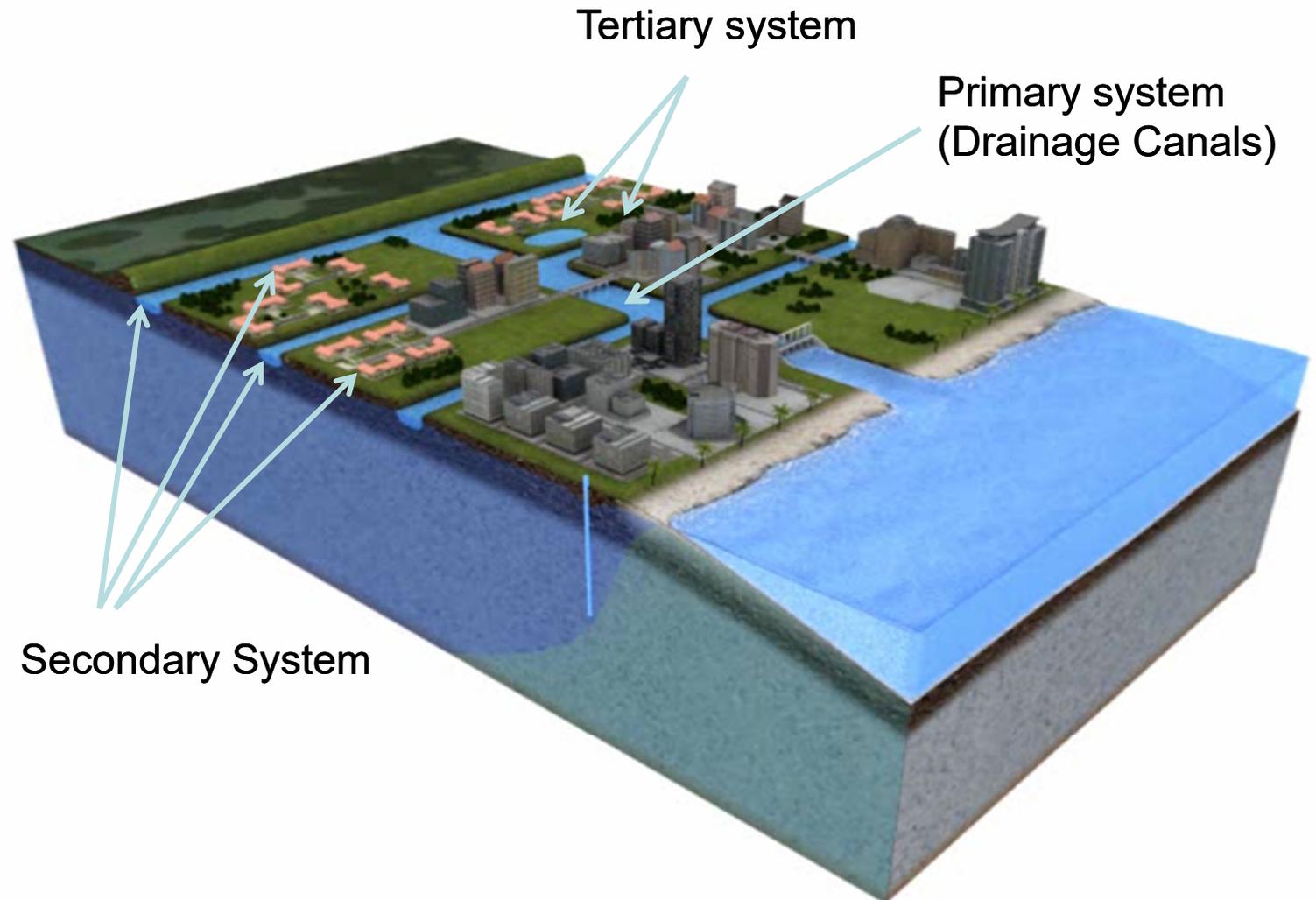
HOOVER DIKE AUTHORIZED 1930

... **COMPLETED 1937**



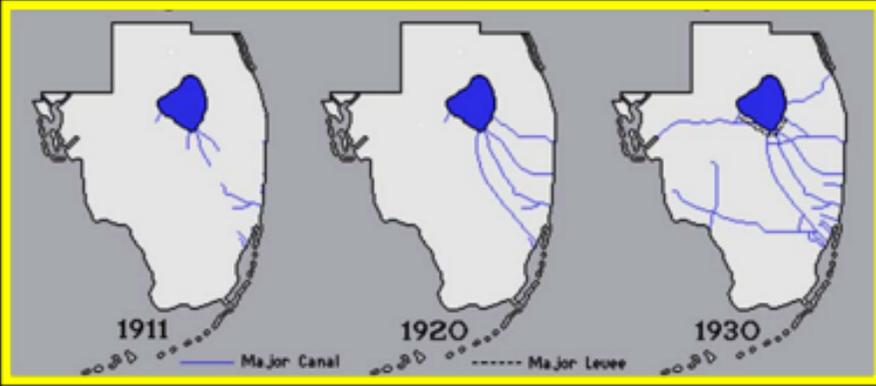
Joint Flood Protection Responsibility

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



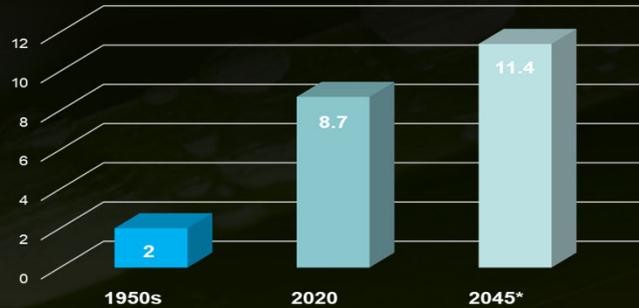
Recognizing Changed Conditions

Pre-1948 Drainage Projects



POPULATION GROWTH

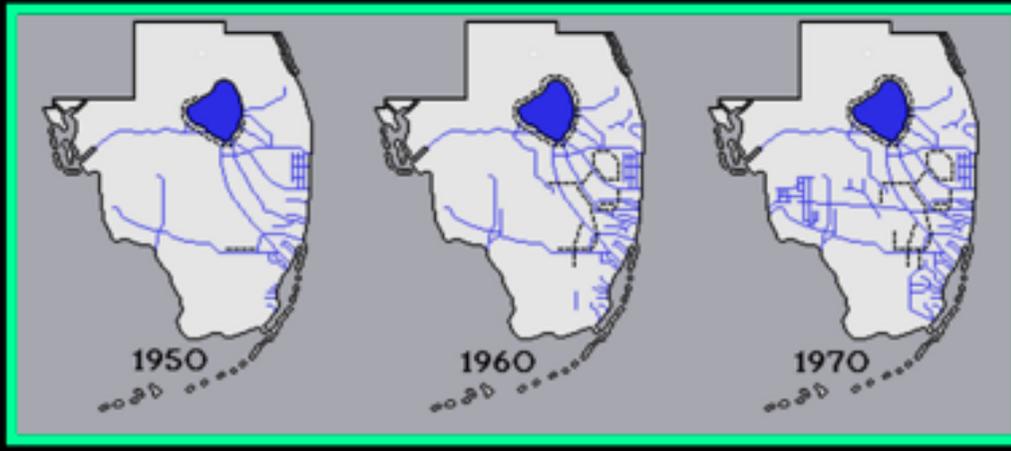
Population (million)



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



Post-1948 C & S Florida Project



Recognizing Changed Conditions: Emerging Trends in Regional Resiliency



Regional Rainfall

Changes in rainfall patterns will impact people and ecosystems by altering the amount of water in our region throughout t...



Elevations at Coastal Structures and Sea Level Rise

Tailwater and headwater elevations at coastal structures represent how sea level rise affects stormwater discharge capacity in South...



Saltwater Intrusion in Coastal Aquifers

The inland migration of saltwater poses a threat to water supply and critical freshwater habitats.



Salinity in the Everglades

The salinization of previously freshwater systems poses threats to several factors.



Estuarine and Mangrove Inland Migration

Trends in Estuarine Inland Migration provide insights to the impacts of sea level rise in coastal areas and the Everglades.



Soil Subsidence in South Florida

Maintaining soil elevations within coastal and intertidal habitats, as sea level changes, is an indicator of long-term stability of coastal.

SFWMD 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](#)

SFWMD 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](#)

SFWMD SFER 2021

[SFWMD 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 Resiliency Dashboard

Broward County continues to build resilience 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](#)

NOAA Global Climate Dashboard

NOAA Climate.gov provides timely and authoritative scientific data and information about climate science, adaptation, and mitigation.

[Details](#) [Explorer](#)

Current Limitations in C&SF Operation

Reduction in Discharge Capacity



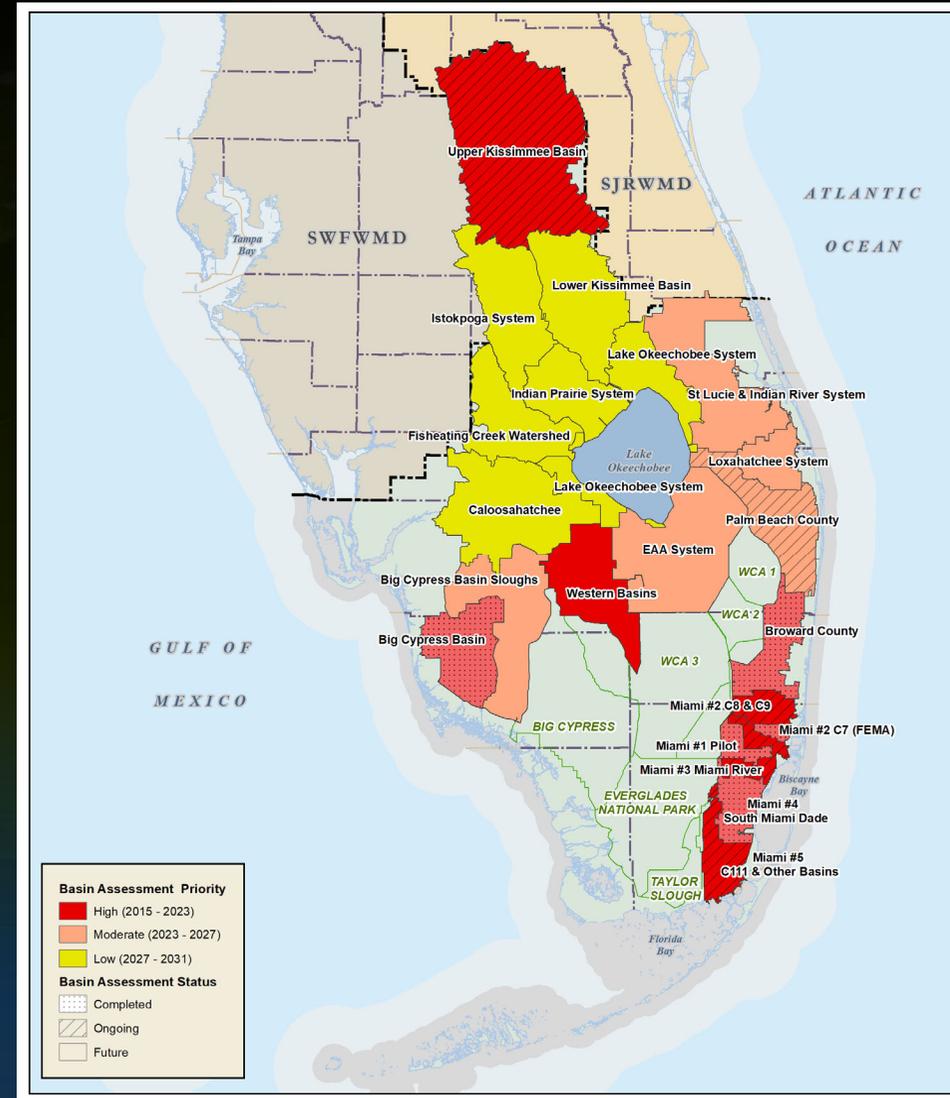
Flood Protection Level of Service Program

District's strategy for assessing and addressing the impacts of urban development and changing climate patterns on flood control

➤ Evaluate current and future flood risks to communities in South Florida

- Based on 6 performance metrics including canal stages, discharge capacity, overland flood inundation and duration
- Considers rainfall, groundwater levels, tides, storm surge and sea level

SFWMD.gov/FPLOS



Basin Assessment Priority	
[Red Box]	High (2015 - 2023)
[Orange Box]	Moderate (2023 - 2027)
[Yellow Box]	Low (2027 - 2031)
Basin Assessment Status	
[Dotted Box]	Completed
[Diagonal Lines Box]	Ongoing
[White Box]	Future

Phase I: Ongoing FPLOS Projects



Completed Assessments

- C4 Basin
- Big Cypress Basin
- C7 Basin
- C8/C9 Basins
- Broward Basins
- C-1, C-100, C102, and C-103 Basins

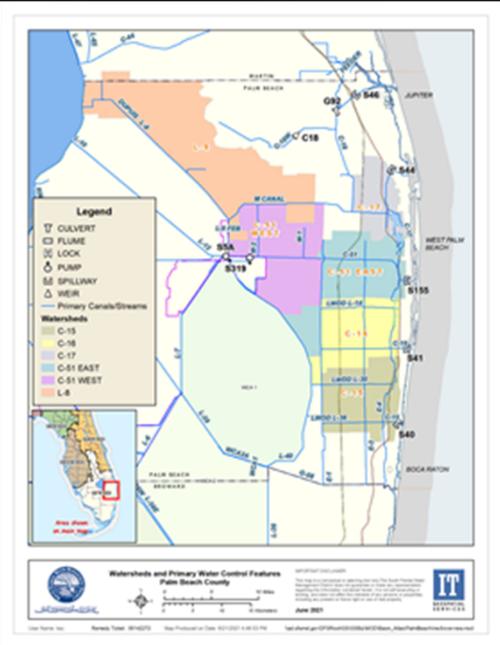
Other Studies:

- Low-Lying Tidal Structure Assessment
- Biscayne Bay Surge Model



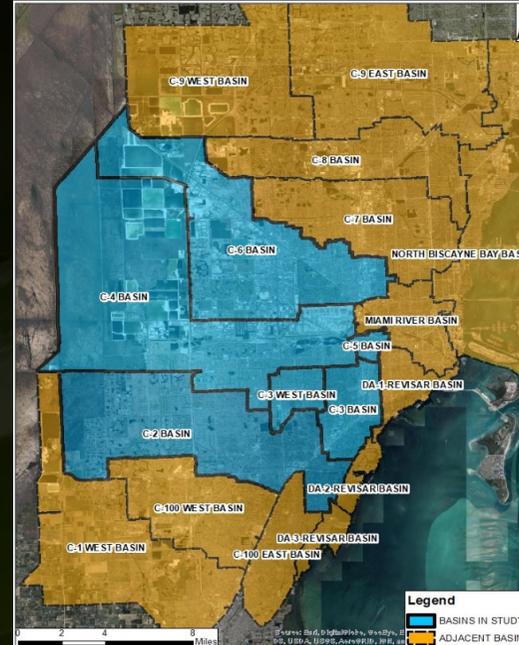
Upper Kissimmee Basin

Completion date:
November 2023



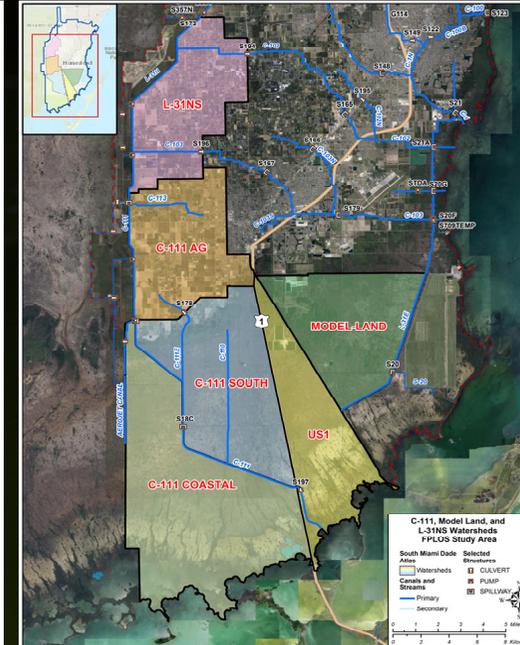
Palm Beach Basins

Completion date:
February 2024



C2, C3W, C5 and C6 Watersheds

Completion date:
December 2022



C-111, Model Land, and L-31NS Watersheds

Completion date:
December 2022

Future basins: South Lee, Western Basins (C-139), St. Lucie & Indian River System

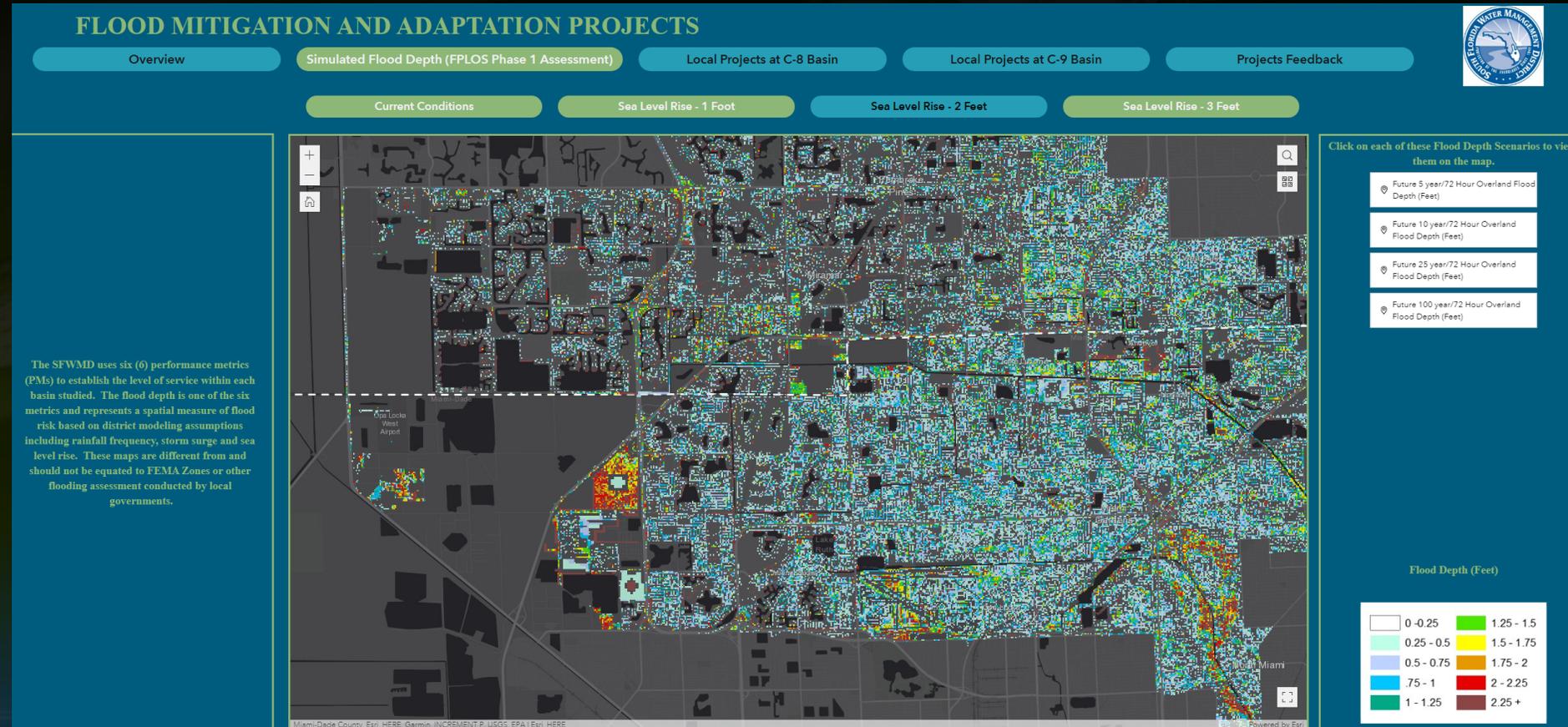
Phase II Flood Adaptation & Mitigation Strategies

Basin-wide Coordinated Approach: understanding local and regional priority needs

Working to identify local and regional solutions, and establish partnerships

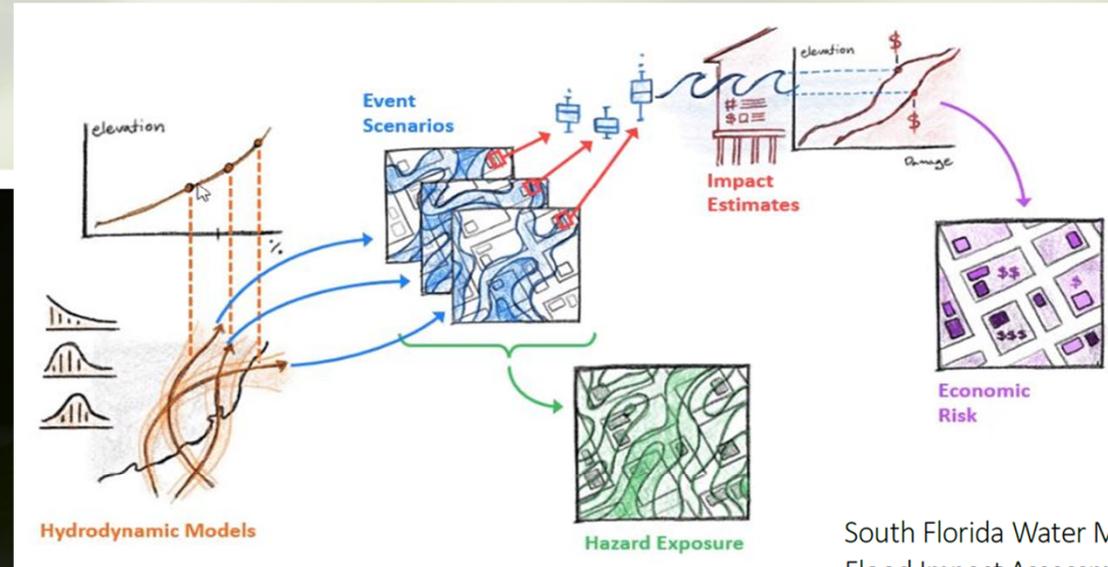
C-8/C-9 Basins:

[C-8 C-9 Basins FPLOS \(buildcommunityresilience.com\)](http://buildcommunityresilience.com)



SFWMD – FIAT Tool

- Combines exposure data and flood maps with damage curves to calculate the flood damages and risk per object
- Developed to run quick, consistent, and well-founded flood damage risk calculations (cost estimates)
- Next steps: incorporating additional environmental and social benefits, as well as cascading impacts



*Translating hydrodynamic model results into economic risk assessments.
Source: Taylor Engineering*

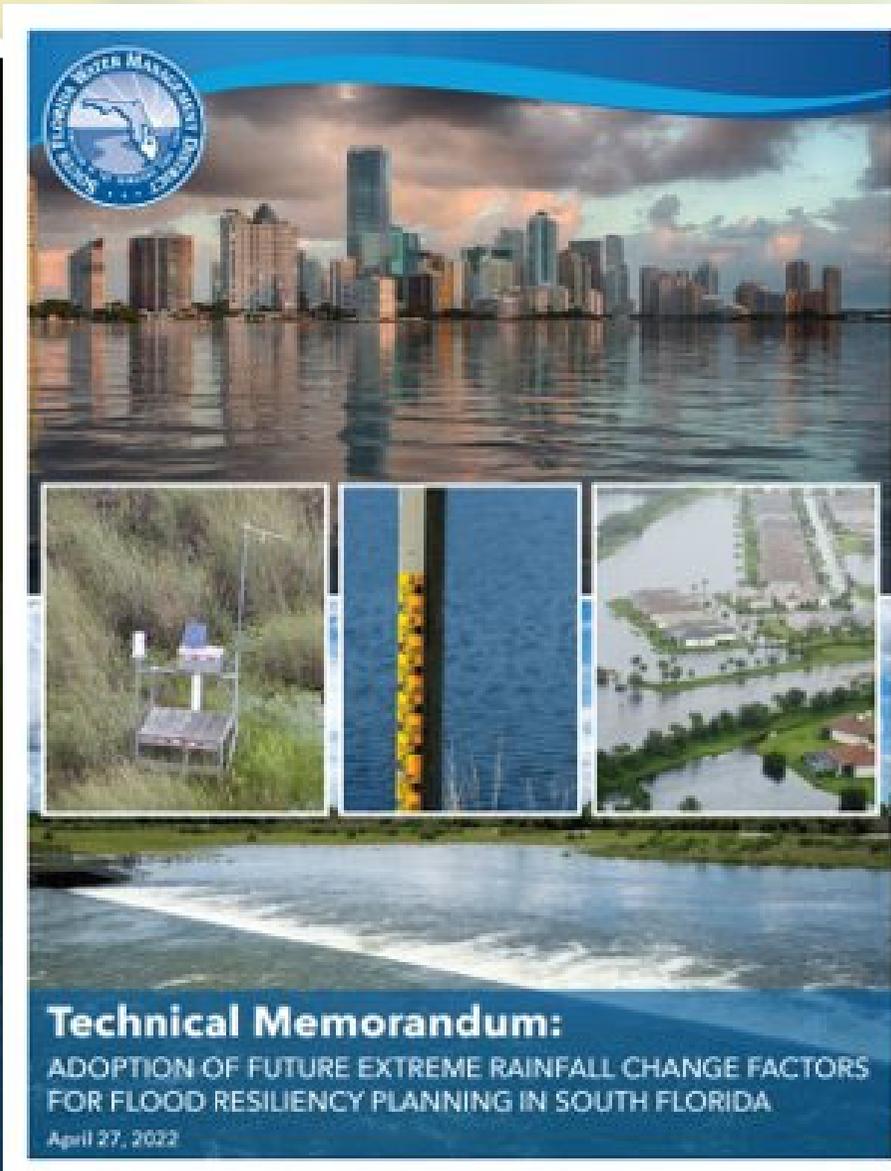
South Florida Water Management District
Flood Impact Assessment Tool
User Manual



Deltares USA

Presenter: Carolina Maran

Future Extreme Rainfall Projections



ACKNOWLEDGMENTS

This technical memorandum was made possible by the guidance, support, and contributions of a dedicated team of individuals at the South Florida Water Management District, United States Geological Survey, and United States Army Corps of Engineers. We would like to especially acknowledge the technical feedback provided by the United States Geological Survey Caribbean–Florida Water Science Center and Florida International University Sea Level Solutions Center, and express our appreciation to the Future Extreme Rainfall Projections Technical Workgroup members who assisted with the preparation of this memorandum as follows:

PROJECT TEAM

South Florida Water Management District

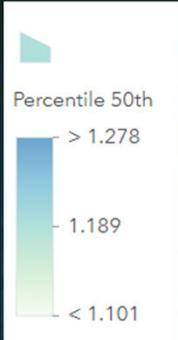
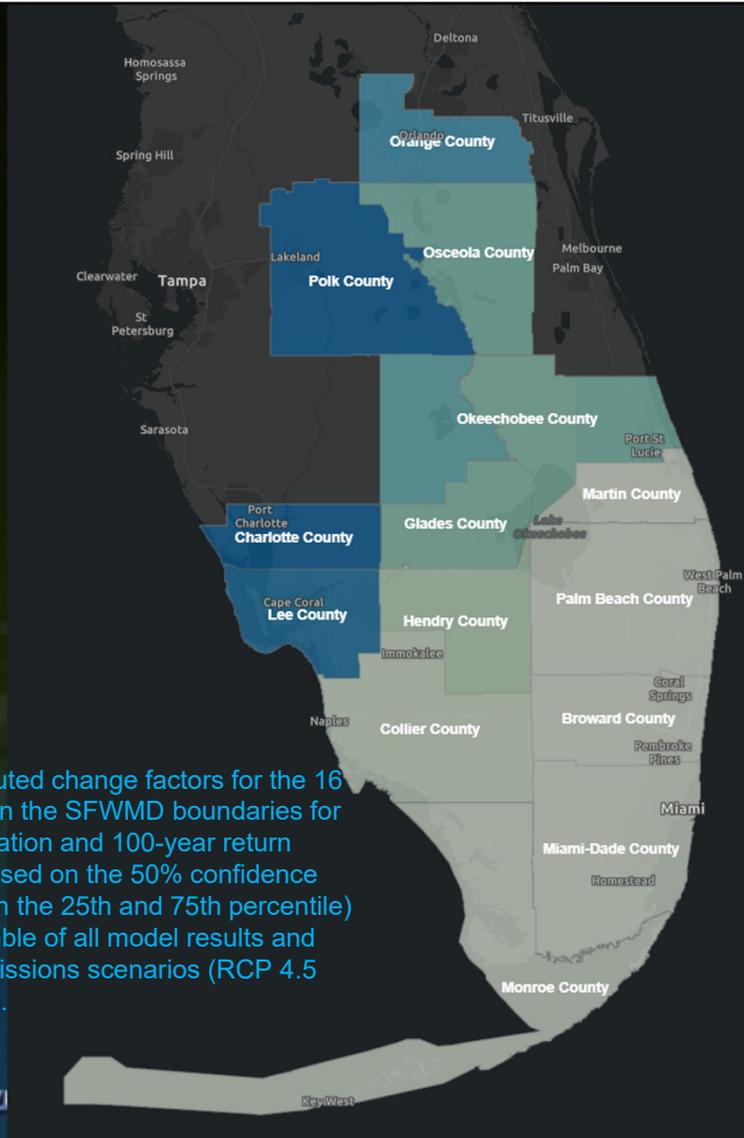
Carolina Maran	District Resiliency
Nicole Cortez	District Resiliency
Francisco Peña	District Resiliency
Walter Wilcox	Hydrology and Hydraulics Modeling
Jenifer Barnes	Hydrology and Hydraulics Modeling
Hongying Zhao	Hydrology and Hydraulics
Akin Owosina	Hydrology and Hydraulics
Karin Smith	Water Supply Planning
Kristopher Esterson	Water Supply Planning
Sean Sculley	Applied Sciences
Brian Turcotte	Applied Sciences
Todd Kimberlain	Meteorological Operations

United States Army Corps of Engineers

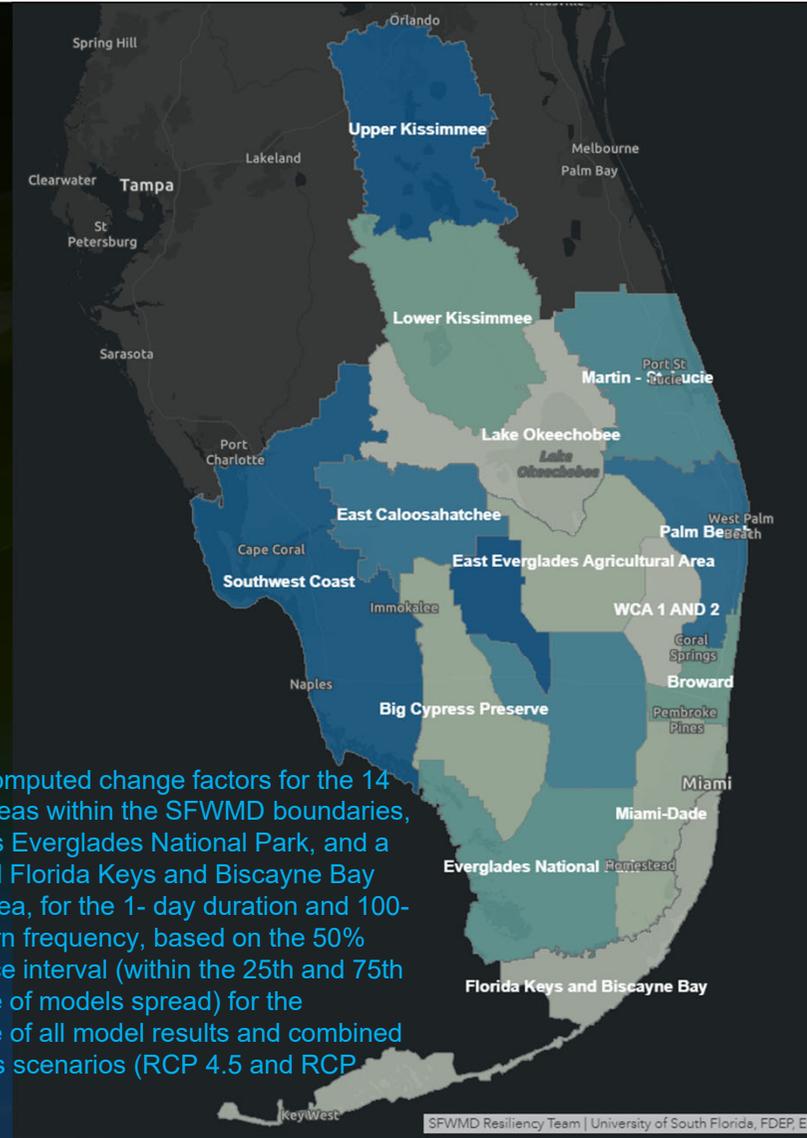
Ceyda Polatel	Jacksonville District
Drew Coman	Jacksonville District
Matt Fischer	Jacksonville District

https://apps.sfwmd.gov/sfwmd/gsdocs/TPubs/2022/SFWMD_TM_Adoption_of_Future_Extreme_Rainfall_Change_Factors_for_Resiliency_Planning_in_South_Florida.pdf

Future Extreme Rainfall Projections



Map of computed change factors for the 16 counties within the SFWMD boundaries for the 3-day duration and 100-year return frequency, based on the 50% confidence interval (within the 25th and 75th percentile) for the ensemble of all model results and combined emissions scenarios (RCP 4.5 and RCP 8.5).



Map of computed change factors for the 14 rainfall areas within the SFWMD boundaries, as well as Everglades National Park, and a combined Florida Keys and Biscayne Bay rainfall area, for the 1-day duration and 100-year return frequency, based on the 50% confidence interval (within the 25th and 75th percentile of models spread) for the ensemble of all model results and combined emissions scenarios (RCP 4.5 and RCP 8.5).

Planning for System Enhancements

Our Resiliency Vision

Risk Reduction / Effectiveness

Implementation Resources

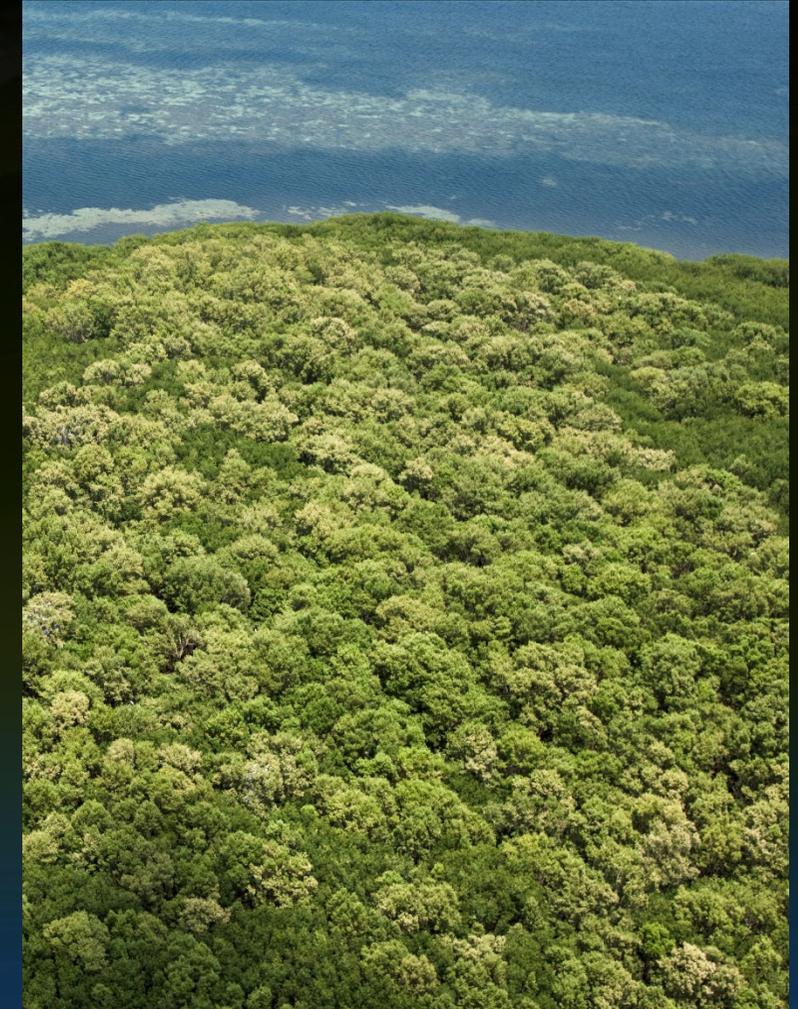
Anticipated Future Conditions

Population and Critical Infrastructure Impacted

Public Engagement and Leveraging Partnerships

Ongoing Ecosystem Restoration Efforts

Innovative Green/Nature-Based Solutions



Coastal Structures Resiliency – Projects Scope

- Non regret strategy: Structure Enhancements (replacement, as needed)
- Flood barriers (tying-in higher land)
- Restoring pump capacity for existing Infrastructure at critical locations
- Increasing operation flexibility in the system during major tropical storm/hurricane events
- Additional backup and redundancy for existing and new infrastructure
- Land and Real Estate needs for enhancements

FY20 SIP S28



Structure Inspection Program

S28
 SPILLWAY
 MIAMI Field Station
 South C&SF
 C-8
 # of Gates: 2
 Lifting/Pumping Mechanism: Cable Drum, Description: Roller




Lead P.E.:
 Jill Skaggs, Lead Inspector
 SFWMD

Adaptation Planning:
 pump capacity can be increased with time, through a phasing approach

Inspection Summary/Issue Identification

FY20 Update to FY15019 – (Updated 1-31-20)

S-20F Major Half-Life Refurbishment		Date: 1-31-2020	
Structure Type: Spillway	Field Station / Contact: Homestead / Sean Smith	Priority Score: 17.02	Priority Level: 2
Inspector Information			
Lead Inspector: Tim Kunard	Inspection Date: 1-6-20	Phone: 581-682-6305	
Previous Inspection Date: 2-12-15		Previous Inspector: Gary Dunmyer	
F/S Superintendent: Sean Smith		F/S Bureau Chief: Jesus Carrasco	
Signature: <i>[Signature]</i>		Signature: <i>[Signature]</i>	
Structure Details			
Description: Spillway	# Gates: 3	# Pumps: 0	# Barrels: 0
		Lifting Mechanism: Hydraulic	

Figure 1 – Aerial image of the S20F Structure site



Additional Resiliency Projects

- Self Preservation Mode at Coastal Structures
- Corbett Levee
- South Dade Curtain Wall
- Everglades Mangrove Migration Assessment
- Water Supply Vulnerability (Planning)
- Statewide Regional Climate Projections (Planning)
- Ongoing FPLOS Assessments (Planning)
- Flooding Events Mapping and Database Tool (Planning)
- Other Data / Monitoring Needs



Project Plan Document & Next Steps

- Continuous formulation process (yearly by Sept 1st)
- Public Workshop on June 14
- Leverage additional funding opportunities
- HB 513 (2022): District to submit consolidated annual report regarding status of C&SF System to EDR, FDEP, Governor, & Legislature

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
SEA LEVEL RISE AND FLOOD RESILIENCY PLAN



Draft
Version 2.2
September 2021

Resilient Florida: Historic and Largest Flood Resiliency Initiative

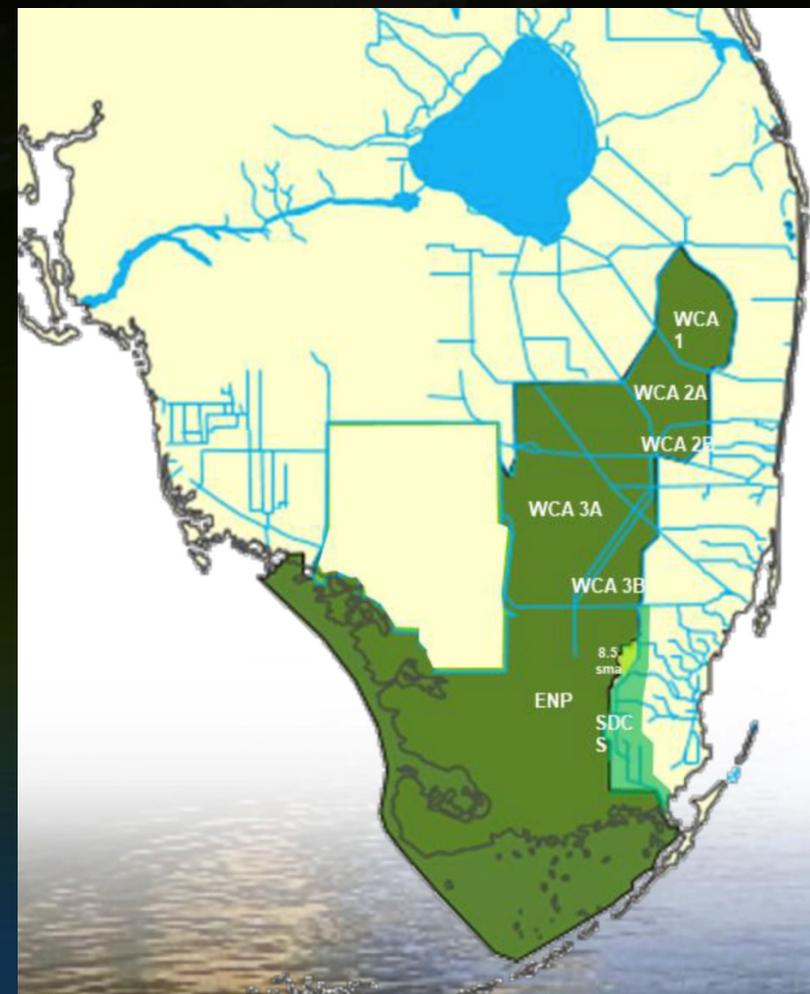


- SB 1954 (2021) / HB 7053 (2022): Resilient Florida Program – Statewide Flooding and Sea Level Rise Resilience
- Over \$697 million allocated in 2021/2022 to support efforts to ensure state and local communities are prepared to deal with the impacts of flooding from sea level rise, extreme rainfall and intensified storms
- \$320M+ new funding available in FY22-23



USACE/SFWMD: C&SF Flood Resiliency Plan

- To be conducted under Section 216 of the Flood Control Act of 1970
- Upcoming study to recommend adaptation strategies to build flood resilience in the communities served by the C&SF system
- Cost Share Agreement between USACE and SFWMD being finalized (3x3x3 Study)
- Study to be initiated later in Fall 2022



Integrating Local, Regional, Natural, Inland Drainage and Coastal Flood Resiliency Strategies

Counties' Projects

Local Municipalities' Projects

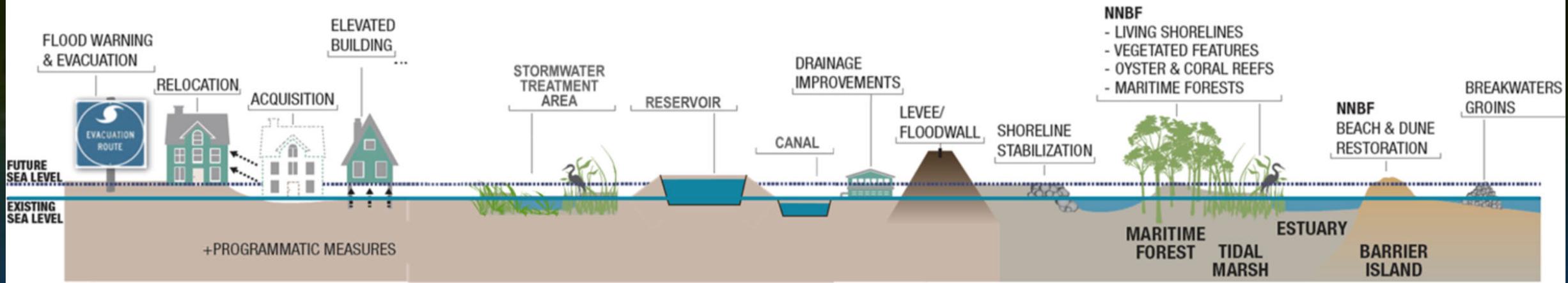
USACE Studies (SACS, C&SF) / Projects

Regional Climate Compacts' Initiatives

Others

POTENTIAL MEASURES TO IMPROVE RESILIENCE AND SUSTAINABILITY

Graphic modified from https://ewn.el.erdc.dren.mil/nnbf/other/5_ERDC-NNBF_Brochure.pdf



Source: USACE

Thanks!

Questions?

Carolina Maran, Ph.D., P.E.,
cmaran@sfwmd.gov
District Resiliency Officer

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

JUNE IS FLOOD AWARENESS MONTH



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

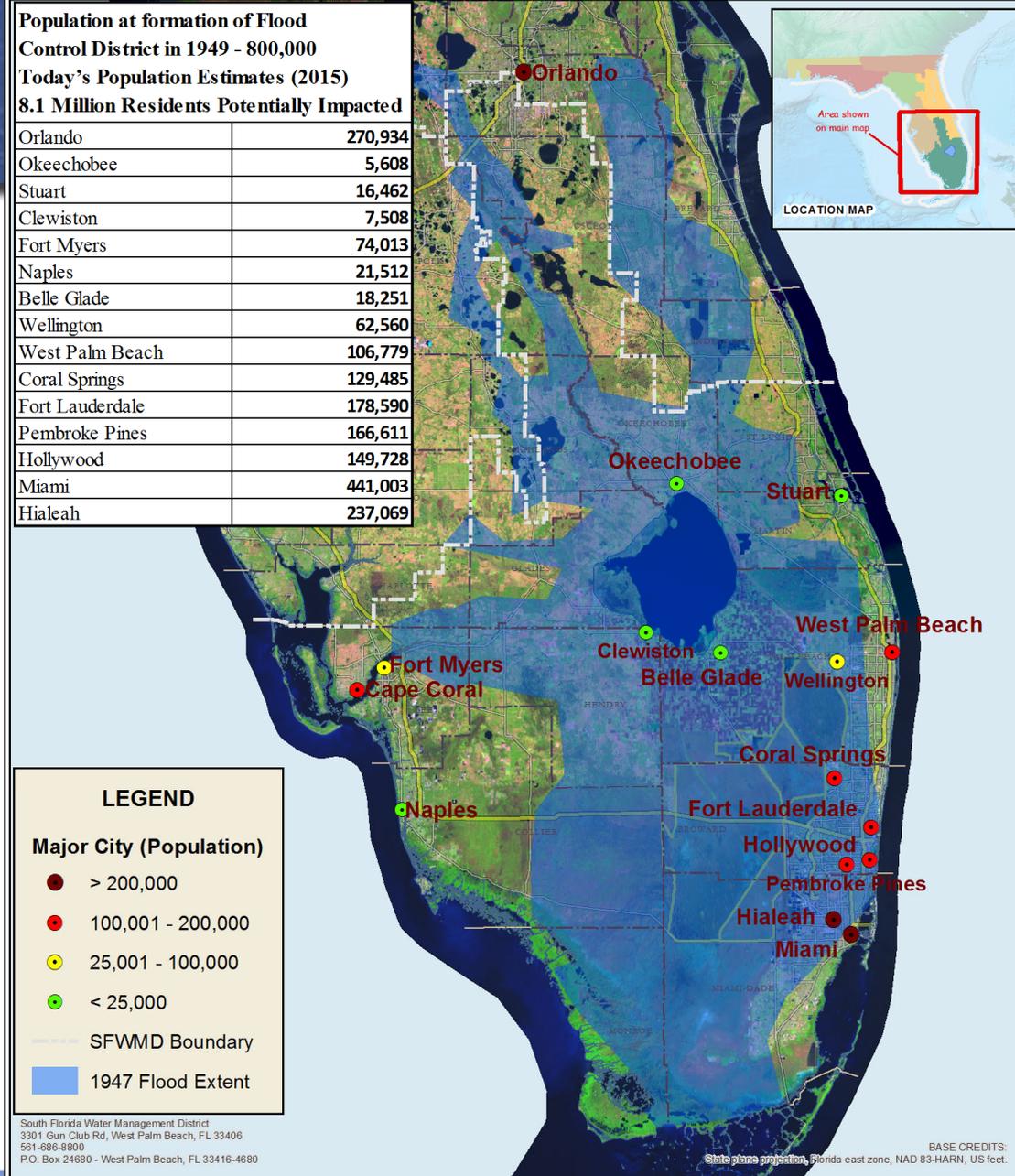
Flood Awareness Month

Rich Virgil, P.E., PMP
Division Director - Field Operations
South Florida Water Management District
Governing Board Meeting
June 9, 2022



Flood Control Still Crucial

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



SFWMD Flood Protection Role: Before and After Storms

- Continuously monitor weather conditions and water levels.
- Open gates as needed to lower water levels in primary canals in anticipation of expected heavy rainfall.
- During and after storms, route excess water through waterways to storage or discharge points.



STA 1 West Pump Station G-250

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

Juan Bethencourt
Bureau Chief

Field Operations – Region 2

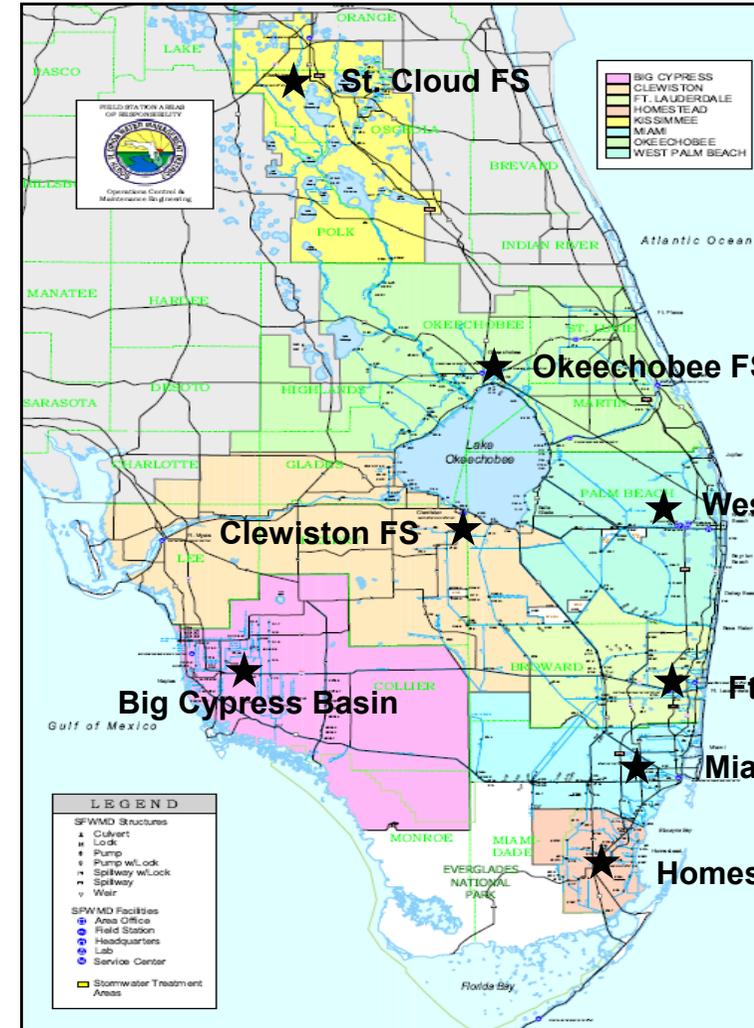
- Ft. Lauderdale Field Station
- Big Cypress Basin Field Station
- Miami Field Station
- Homestead Field Station

Jesus Carrasco
Bureau Chief

Field Operations – Region 3

- West Palm Beach Field Station
- Clewiston Field Station
- Fleet & Flight Operations

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
 - 89 Pump Stations
- Flood Control Scope:
 - Regional network moves more than 20-million-acre feet during an average year.



Gate Maintenance Being Performed on S-65E, largest flood control structure in the District has a design discharge rate at 24,000 cfs

Flood Protection: Our People Make the Difference



Jose Diaz - Lead Operator conducting an engine overhaul at Pump Station G-310

Flood Protection: Our People Make the Difference



St. Cloud Field Station Crew loading dewatering beams as part of the major gate overhaul at Structure S-61

Flood Protection: Our People Make the Difference



Richard Delgado, and Robert Murawski placing the flowable fill around the S-361 discharge culverts

Flood Protection: Our People Make the Difference



The WPB Field Station Staff traveled to Pentair Pump Facility in Kansas City to witness testing of the newly refurbished 800 cfs pump at Pump Station S-5A

Flood Protection: Our People Make the Difference



Matt Wilson from St. Cloud Field Station removing sediment downstream of the G-103 weir

Flood Protection: Year-Round Maintenance



Okeechobee Construction Team installing a culvert at Allapattah Ranch

Kent Farmer from the Okeechobee FS removing debris at Structure S-49

Flood Protection: Right of Way Inspections



Kurt Birchenough - ROW Technician 3 at the Miami Field Station, inspects a gravity wall installed by FDOT in the C-4 Canal right of way

Flood Protection: Vegetation & Debris Removal



Miami Field Station staff remove debris from C-6 Canal upstream of the S-26 Structure



Debris removal from the C-7 Canal upstream of the S-27 Structure in Miami-Dade County

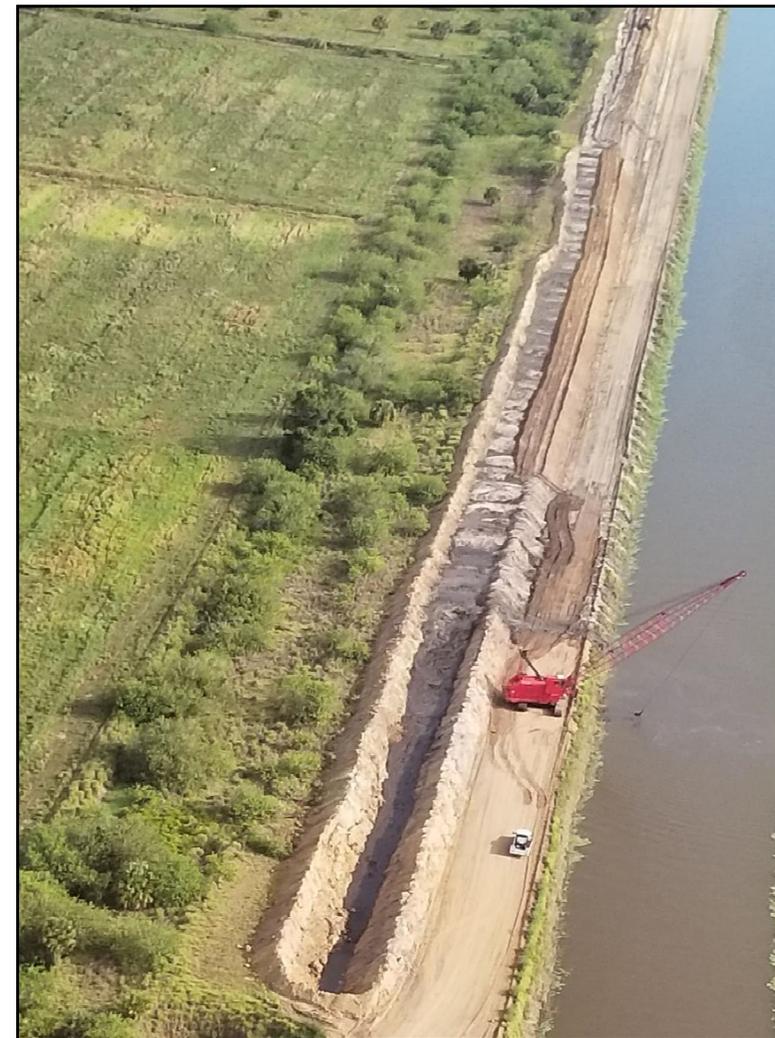
Flood Protection: Vegetation & Debris Removal

- In an ongoing effort to reduce debris in the Miami Little River C-7 Canal the District has installed a second tuff boom at NW 27th Avenue.
- The S-27 Structure and NW 27th Avenue booms are cleaned twice a week.



Flood Protection: Shoal Removal

- 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.



Field Station Staff Keep Flood Protection System Flowing



Okeechobee FS Canal/Levee Team replacing project culvert 07 on the C-25 Canal

Flood Protection System Improvements



S-154 Cofferd Dam Construction



S-154 Shoal Removal

Flood Protection System Improvements



C-44 Reservoir Embankment Mowing



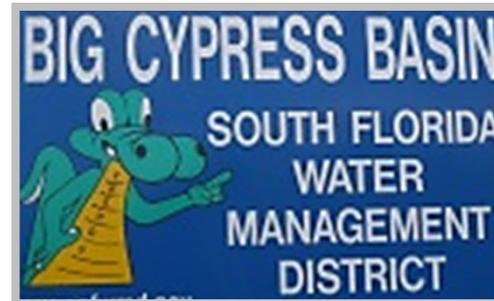
C-44 Reservoir Pump Station S-401

Flood Protection: Big Cypress Basin

- Big Cypress Basin in Collier County maintains 166 miles of canals
- Staff maintains 46 structures for flood protection
- 825,000-acre feet of stormwater moved through BCB structures annually.



Merritt Pump Station S-488



Gold Gate Structure No. 2



Flood Protection: Big Cypress Basin



Vegetation removal in Henderson Creek with Truxor

Our People Make the Difference



**Carlos Quijano - Lead Structure Technician
S-28 Gate Overhaul
Miami Field Station**



**Elne Victor - Heavy Equipment Operator
C-8 Tree Trimming Project
Miami Field Station**

Our People Make the Difference



**Ariel Alvarez - Industrial Electrician
S-28 Gate Overhaul
Miami Field Station**



**Carlos Quijano - Lead Structure Technician
Alex Lemus - Lead Structure Technician
S-28 Gate Overhaul - Miami Field Station**

Our People Make the Difference

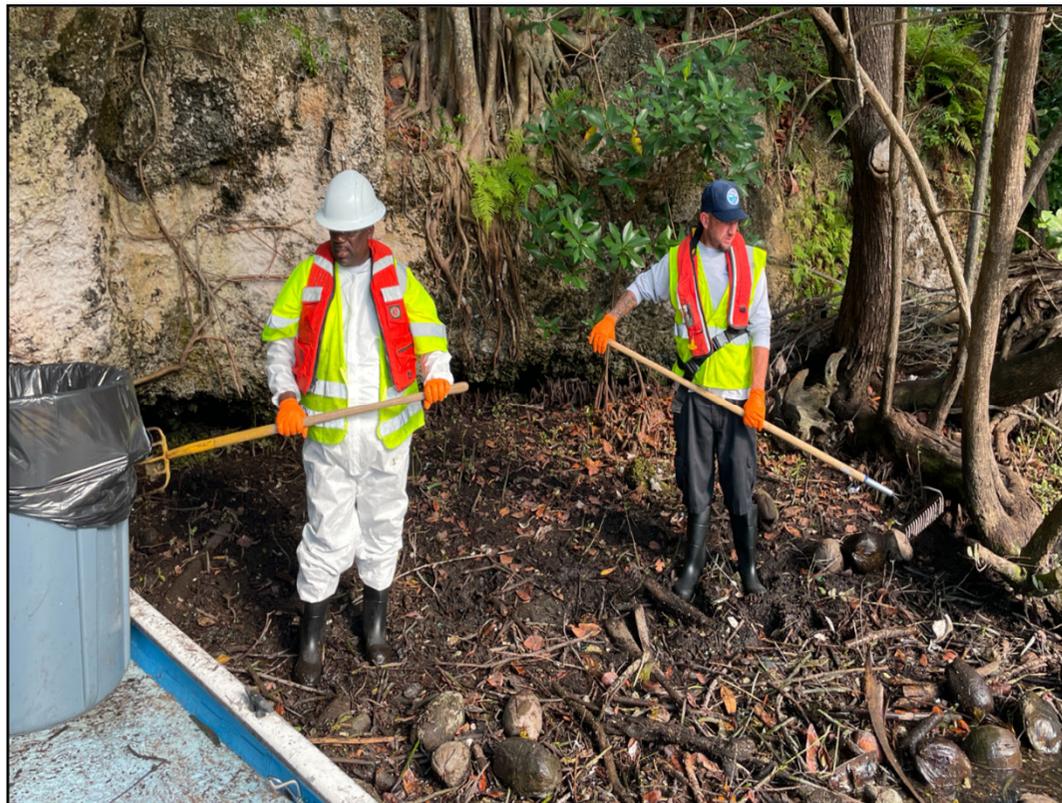


**Doug Petrozelli - Structure Technician
S-28 Gate Overhaul
Miami Field Station**



**Carlos Quijano - Lead Structure Technician
Doug Petrozelli - Structure Technician
S-28 Gate Overhaul - Miami Field Station**

Our People Make the Difference

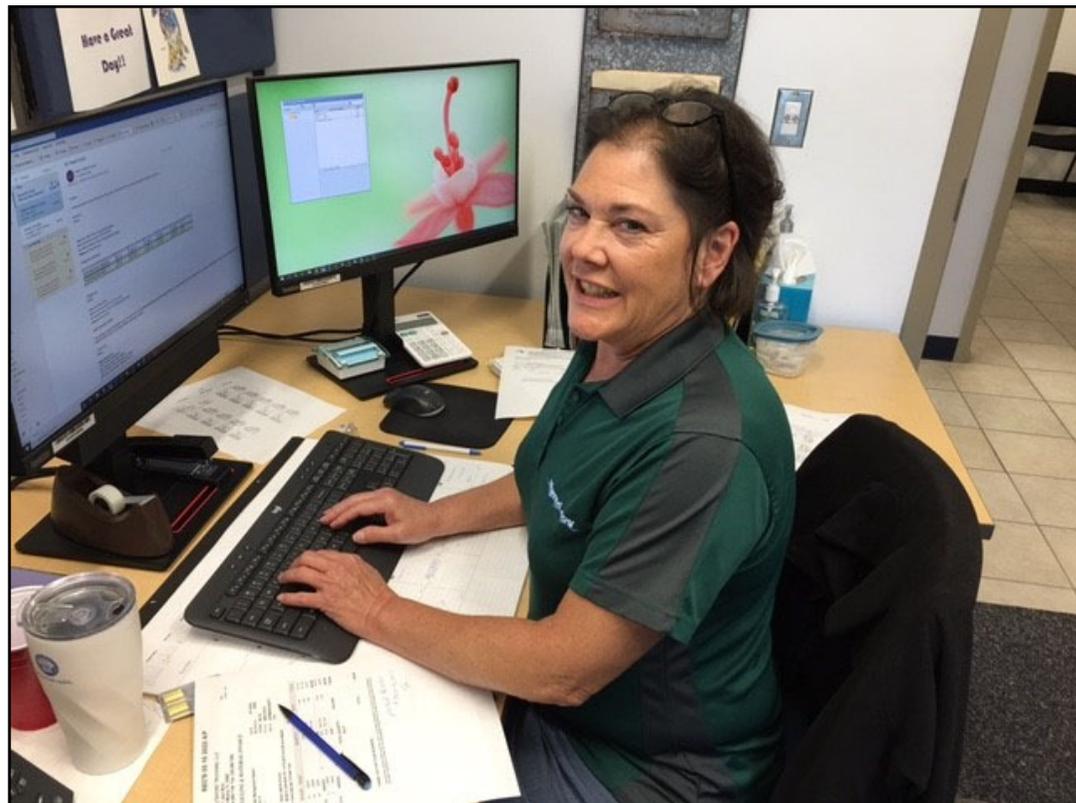


**Elne Victor - Heavy Equipment Operator
Carl Dean - Heavy Equipment Operator
Arch Creek Debris Removal - Miami FS**



**Lenora Cilli - Administrative Assistant
Miami Field Station**

Our People Make the Difference



**Paula Rizzardini – Administrative Assistant 3
BCB Field Station**



**Hal Lusk - Senior Fleet Tech
Repairing CONVER boat
BCB Field Station**

Our People Make the Difference



Steven Doepping - Diesel Engine Operator
Michael Perry - Diesel Engine Operator Lead
Cleaning Engine Parts - BCB Field Station



Maikel Cueto - Instrument Control Tech 1
Maco Touchet - Heavy Equipment Operator Lead
Installing Conduit - BCB Field Station

Our People Make the Difference



**Jean Pierre - Junior Hydraulic Mechanic
S-154 Gate Overhaul
Okeechobee Field Station**



**Charlie Smyth - Industrial Electrician
Replacing Motor at S-65E Spillway
Okeechobee Field Station**

Our People Make the Difference



**Rocky Wise - Structure Maintenance Tech Lead
S-154 Major Gate Overhaul
Okeechobee Field Station**



**Shannon Sniff - Administrative Assistant
Okeechobee Field Station**

Our People Make the Difference



Terry Seabolt - Sr. Planner
Doing what he does best-SAP
Okeechobee Field Station



Thomas Scott - Fleet Technician
Fixing Vehicle A/C
Okeechobee Field Station

Our People Make the Difference



**Robbie Rimes - Structure Maintenance Tech
S-154 Major Gate Overhaul
Okeechobee Field Station**



**Toni Turbeville - Business Management Analysis
Okeechobee Field Station**

Our People Make the Difference



**Luis Deleon - Maintenance Supervisor
L-359 Measuring Side Slope
Homestead Field Station**



**Brian Ferland - Heavy Equipment Operator Lead
Culvert Installation
Homestead Field Station**

Our People Make the Difference



**Jim Sneckenberg - Crew Chief
L-359 Measuring Side Slope
Homestead Field Station**



**Nicholas Lager - Millwright
Engine Overhaul G-372
Clewiston Field Station**

Our People Make the Difference



Thomas Guerry - Structure Maintenance Tech/PSA
Painting Pump Station
Clewiston Field Station



Jose Perez Structure - Maintenance Tech/PSA
Painting Pump Station
Clewiston Field Station

Our People Make the Difference

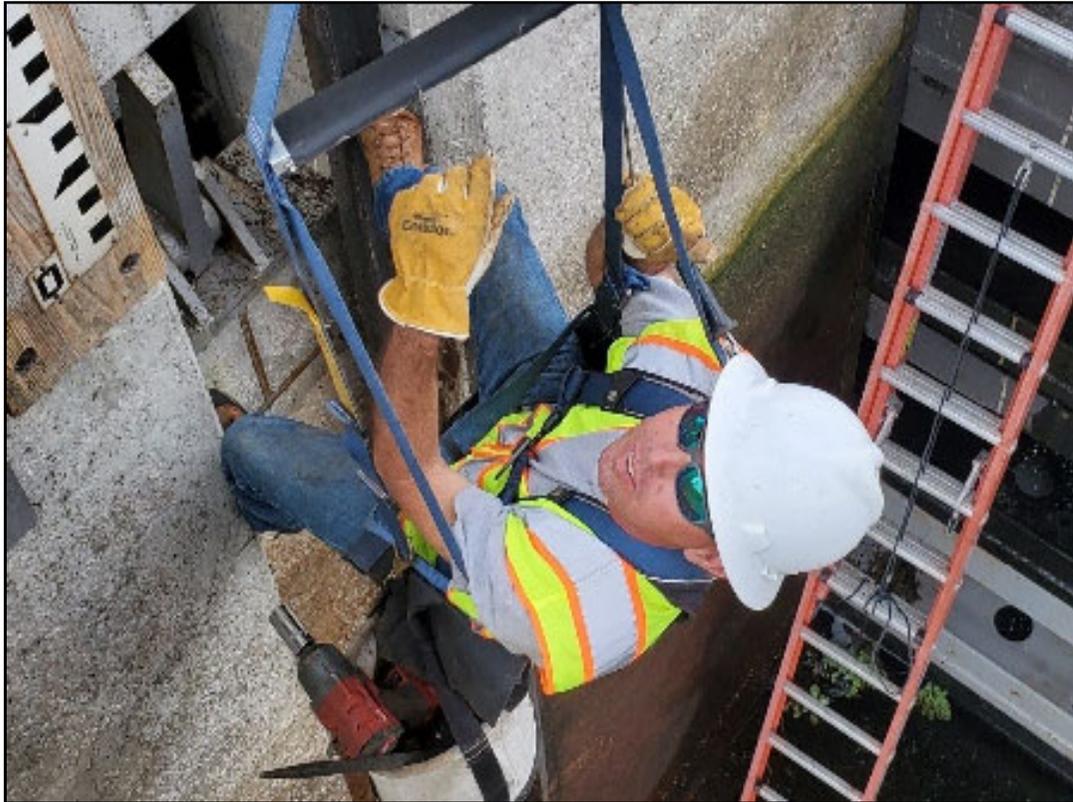


**Ronald Gosa - Structure Maintenance Tech/PSA
Preventative Maintenance Structure Gear Box
Clewiston Field Station**



**Robert VanValkenburg - Instrumentation Control Tech 2
Robert Camuto - Industrial Electrician
Preventative Maintenance - Clewiston Field Station**

Our People Make the Difference



**Michael Ream - Structure Maintenance Tech Lead
S-65 Boat Lock, Re-Welding Traffic Light Bracket
St. Cloud Field Station**



**Edwin Rentas - Heavy Equipment Operator
Dupuis, Chainsaw Training
St. Cloud Field Station**

Our People Make the Difference



**Troy Floyd - Structure Maintenance Tech
Christopher Graham - Crew Chief
William Hamant - Storekeeper**

S-63A Cable Replacement - St. Cloud Field Station



**Kim LaMirande - Right of Way Tech 2
Reviewing Permit Drawings
St. Cloud Field Station**

Our People Make the Difference



**Derek Brinkerhoff - Crane Operator
S-361 Culvert Project
WPB Field Station**



**Steve Meszaro - Lead Operator
Engine Overhaul G-310 Pump Station
WPB Field Station**

Our People Make the Difference



**My Dang - Operator
Engine Overhaul G-310 Pump Station
WPB Field Station**



**Joe Clements - Operator
Engine Overhaul G-310 Pump Station
WPB Field Station**

Our People Make the Difference



**Pat Morgan – Pump Station Supervisor
WPB Field Station**



**Shane LaCroix – Chief Operator
WPB Field Station**

Our People Make the Difference



**Eliu Cueto - ROW Information Specialist
B1 Headquarters WPB**



**Steven Diaz - Right of Way Technician,
Performs an Inspection along L-31E Levee
Homestead 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



Jerray Banks-Lee - Heavy Equipment Operator
Emmanuel Walters - Structure Maintenance Tech.
Tech Ft. Lauderdale Field Station



Tonya Binion - Business Management Analysis
Ft. Lauderdale Field Station

JUNE IS FLOOD AWARENESS MONTH

STA 3/4 Inflow Pump
Station G-372



Questions