Indian River Lagoon Basin Management Action Plan (BMAP) Annual Meeting

Via Webinar
April 25, 2024
1:00 PM

Webinar Registration Link:
https://attendee.gotowebinar.com/register/3405312194019743575

Agenda

- Background
- St. Johns River Water Management District (SFWMD) Updates
- Statewide Annual Report (STAR)
- Progress
- Upcoming BMAP Update
- Florida Department of Agriculture and Consumer Services (FDACS) Updates

Please note the FTP site for documents pertaining to the various BMAPs:
http://publicfiles.dep.state.fl.us/DEAR/BMAP/
For more information, contact: Diana Turner, 850-245-8825, Diana.M.Turner@FloridaDEP.gov

WEBINAR HOUSEKEEPING

Attendee Participation

Open your control panel.

Join audio:

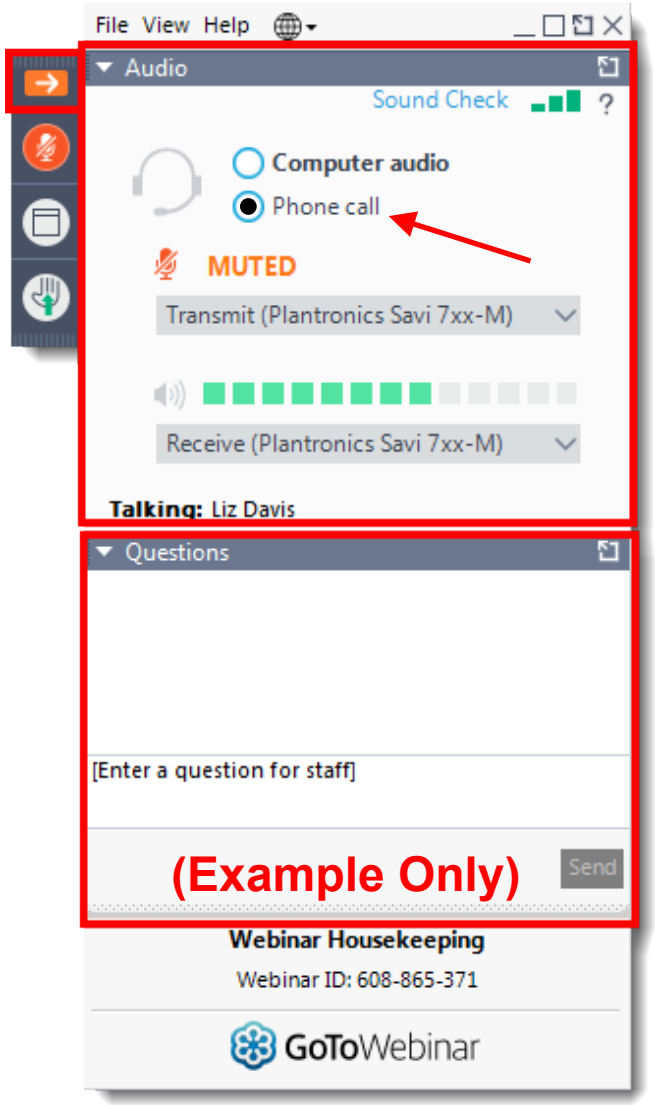
- Choose Computer Audio **or**
- Choose Phone Call and dial using the information provided with your registration

Attendee audio will automatically be muted.

Submit questions and comments via the ***Questions*** panel.

If viewing this webinar as a group, please provide a list of attendees via the ***Questions*** panel.

Note: Today's presentation is being recorded and will be provided on the file transfer protocol (FTP) site after the webinar.



INDIAN RIVER LAGOON (IRL) BASIN MANAGEMENT ACTION PLANS (BMAPS) ANNUAL MEETING

Diana Turner
Division of Environmental Assessment and Restoration
Florida Department of Environmental Protection

GoToWebinar | April 25th, 2024

Photo Credit: SJRWMD

INDIAN RIVER LAGOON BMAPS ANNUAL MEETING


Source: SJRWMD

Agenda

- Background.
- St. Johns River Water Management District (SJRWMD) Updates.
- Statewide Annual Report (STAR).
- Annual Progress.
- Upcoming BMAP Update.
- Florida Department of Agriculture and Consumer Services (DACS) Updates.

INDIAN RIVER LAGOON BMAPS
BACKGROUND

2007 Impaired Waters Listing → **2009** Total Maximum Daily Load (TMDL) Adopted → **2013** BMAPs Adopted → **2021** BMAPs Updated

- 2021 IRL BMAPs Updates:
  - Wastewater limits implemented.
  - Allocations developed for all three BMAPs.
  - Milestones established.
  - Monitoring network solidified.

INDIAN RIVER LAGOON BMAPS
BACKGROUND

Seagrass Deep Edge Assessment Data Collection – Aerial Surveys

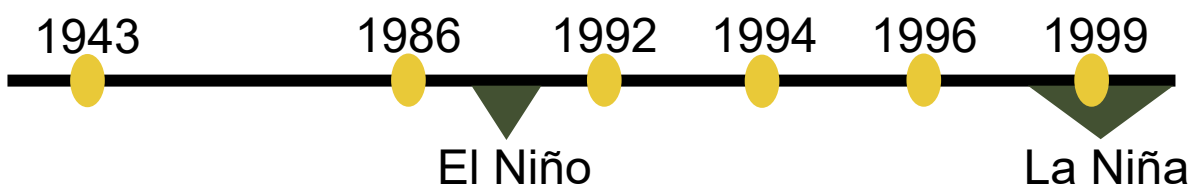
- Conducted in seasonal window:
  - Spring – early summer.
  - About every two years.
- Aerial imagery is used to create a complete map of seagrass in the lagoon.
- Ground truthing of photographs.
  - Field Sampling Transects:
    - During aerial surveys.
    - Additional independent collection in season and off season.

INDIAN RIVER LAGOON BMAPS
BACKGROUND

Seagrass Deep Edge Assessment Total Maximum Daily Load (TMDL) Targets


Source: SJRWMD

- Depth targets based on coverage from:



- Focus on 90% of the seagrass recovery estimate
- 2-step evaluation process
  - If the project zone is compliant with both steps, the project zone is achieving the TMDL depth target

Climate Data:
https://origin.cpc.ncep.noaa.gov/products/analysis_monitoring/ensostuff/ONI_v5.php

STORYMAP
INDIAN RIVER LAGOON BMAPS

Introduction

Welcome to the Central Indian River Lagoon Basin Management Action Plan (BMAP) Story Map

A Basin Management Action Plan (BMAP) is a framework for water quality restoration, containing local and state commitments to reduce pollutant loading through current and future projects and strategies. BMAPs contain a comprehensive set of solutions, such as permit limits on wastewater facilities, urban and agricultural best management practices, and conservation programs designed to achieve pollutant reduction established by a Total Maximum Daily Load (TMDL).

These broad-based plans are developed with local stakeholders and rely on local input and commitment for development and successful implementation. BMAPs are adopted by DEP Secretarial Order and are legally enforceable.

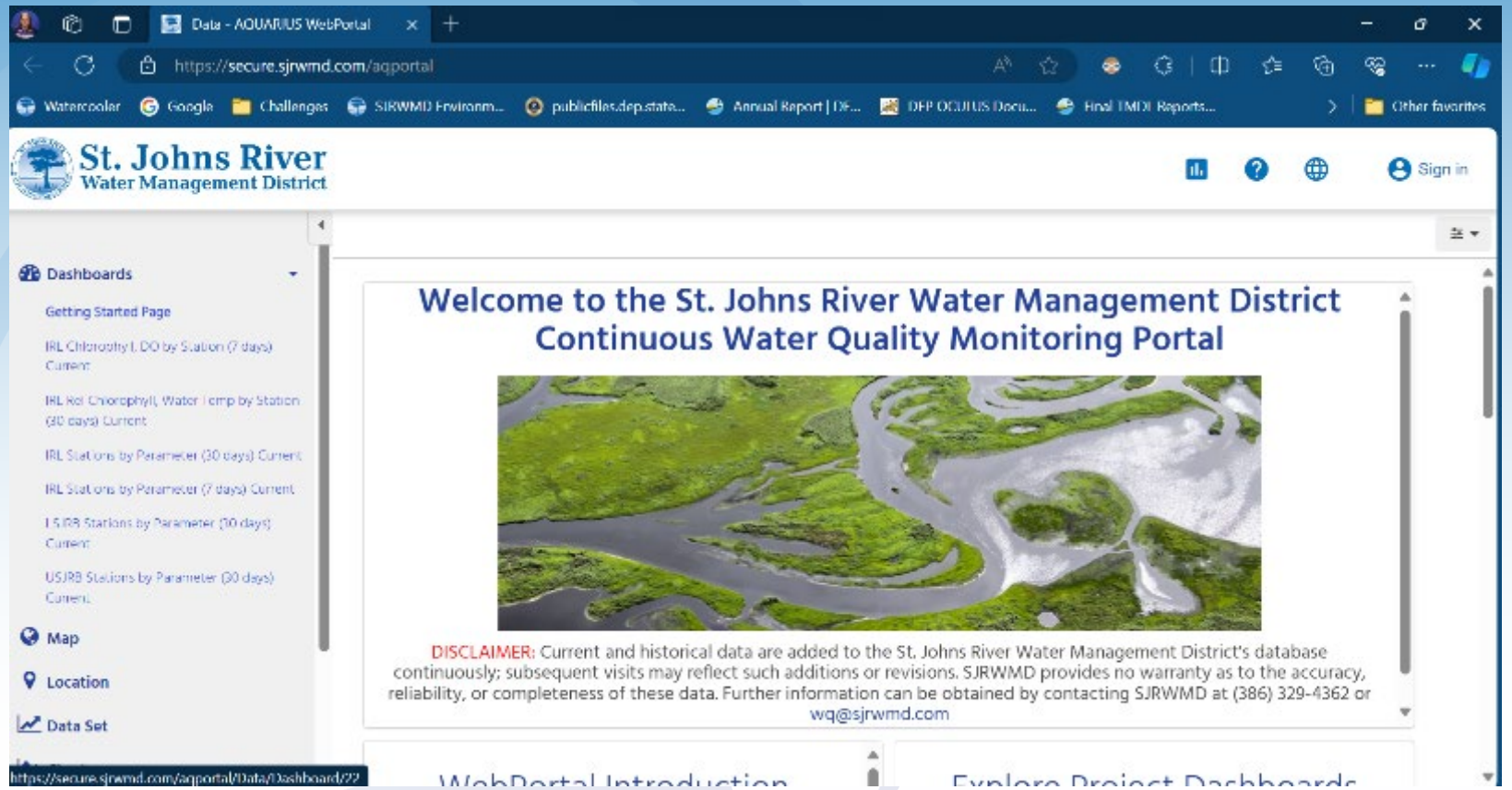
This Story Map reflects the status of BMAP projects most recently published in the Statewide Annual Report (**STAR**). Please use the tabs above to navigate through this Story Map and learn more about the Central Indian River Lagoon BMAP.

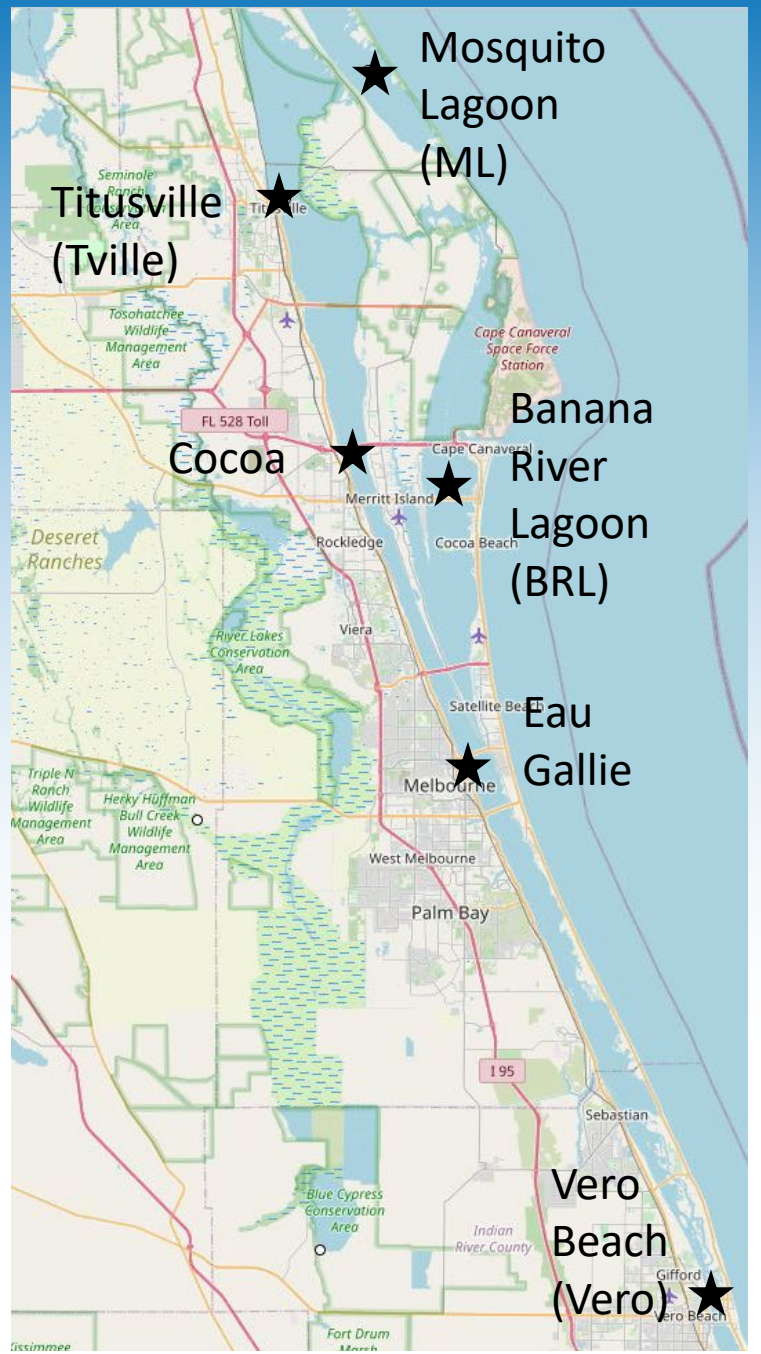
Indian River Lagoon Water Quality Resources

Stacy Cecil and Lauren Hall
Bureau of Environmental Sciences

St. Johns River
Water Management District

Continuous Monitoring





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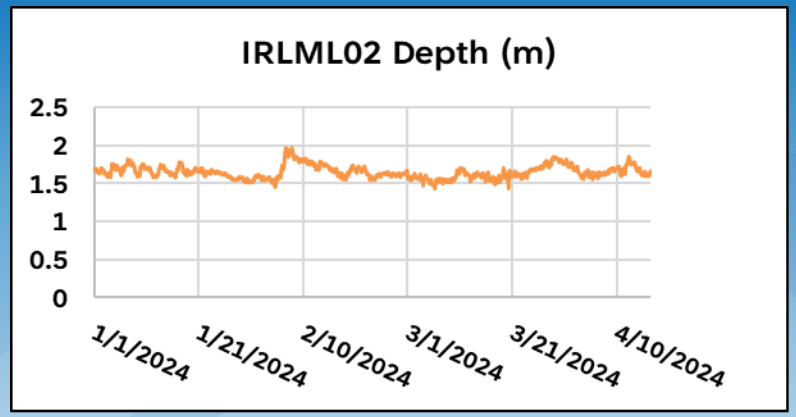
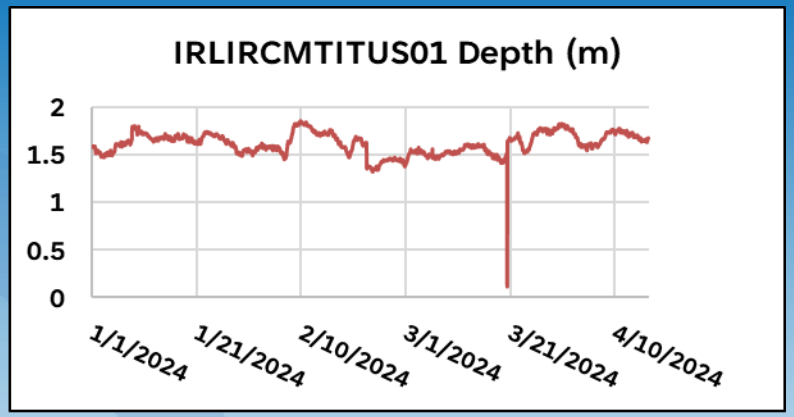
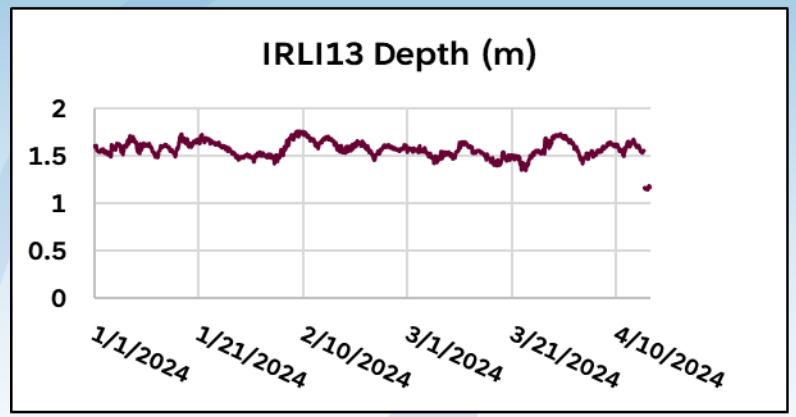
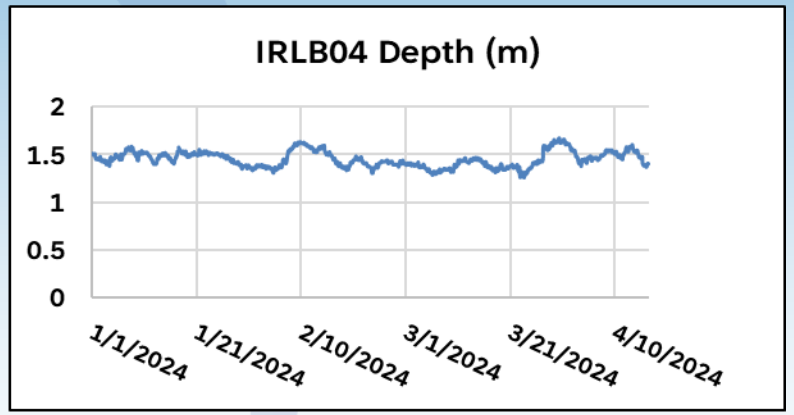
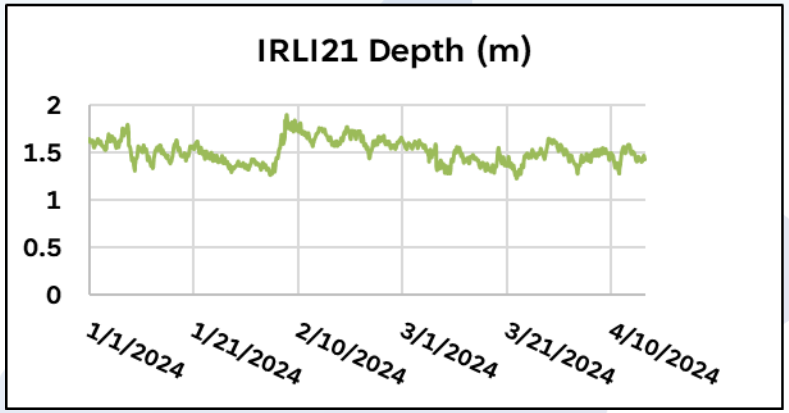
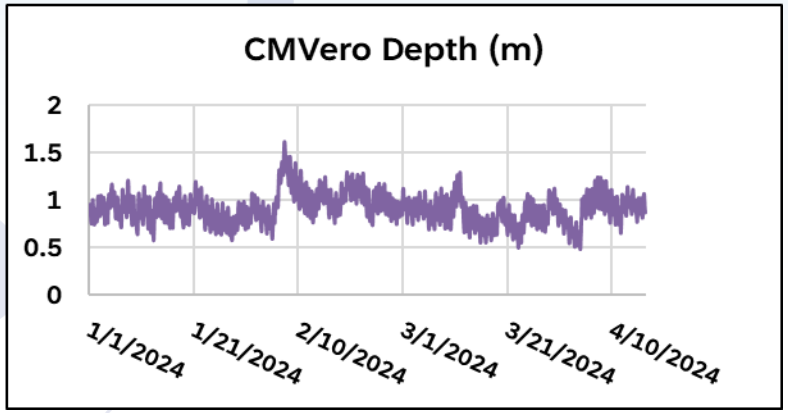




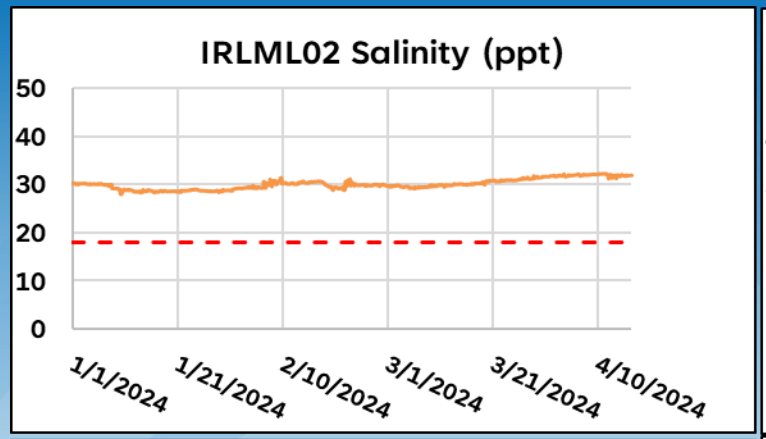


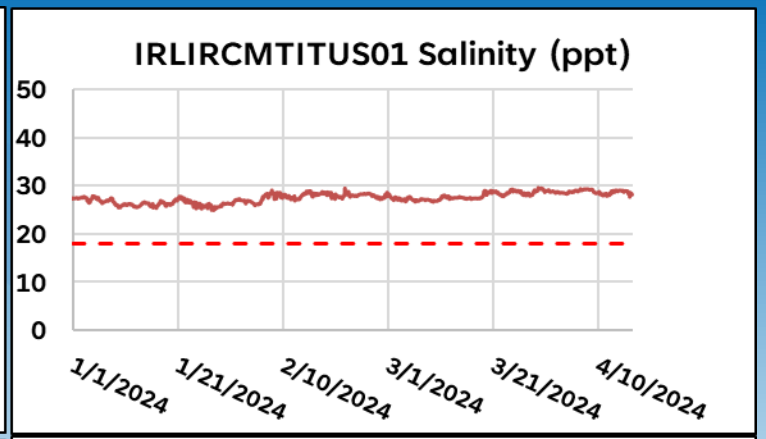


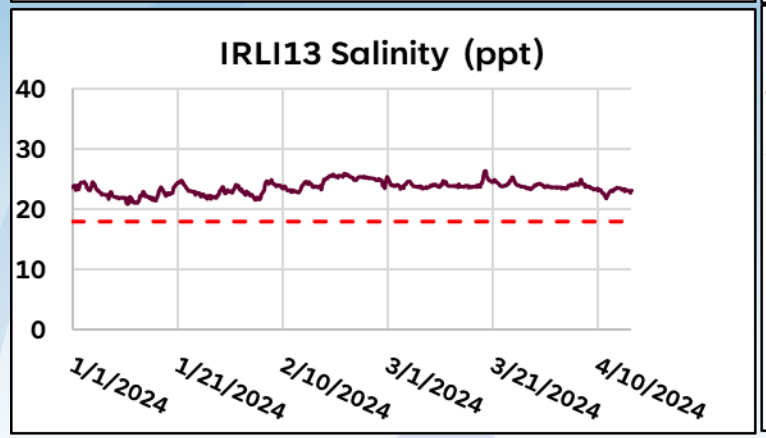


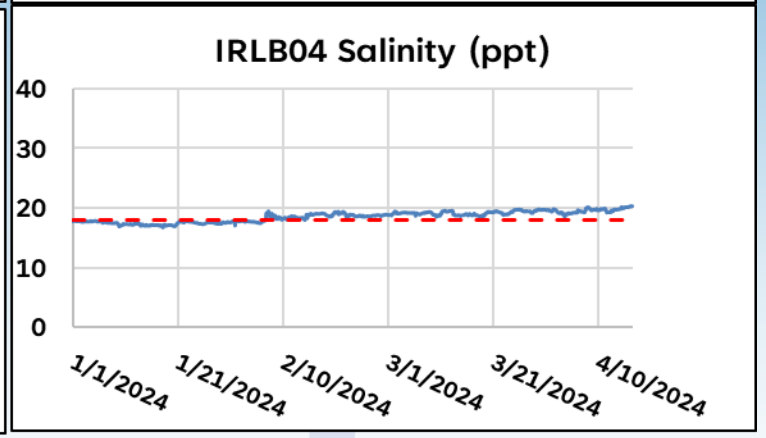


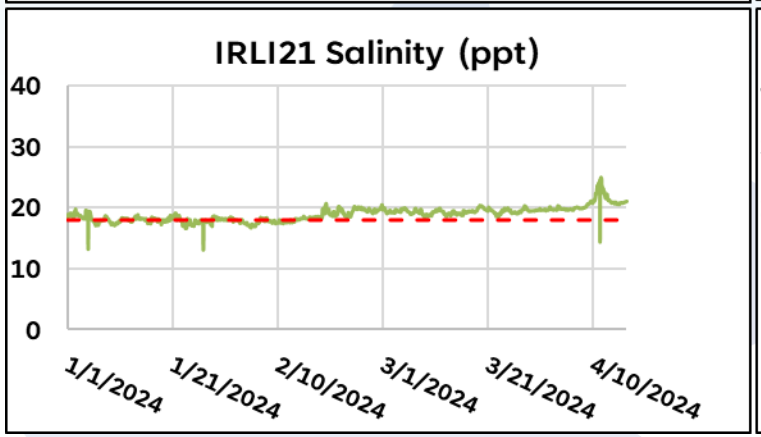
St. Johns River
Water Management District

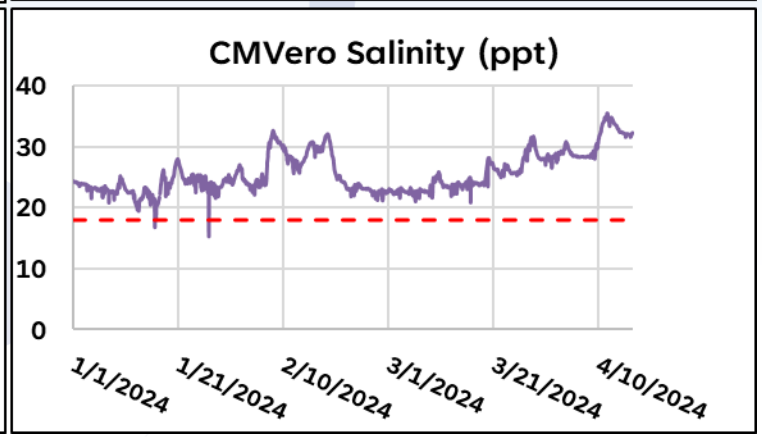








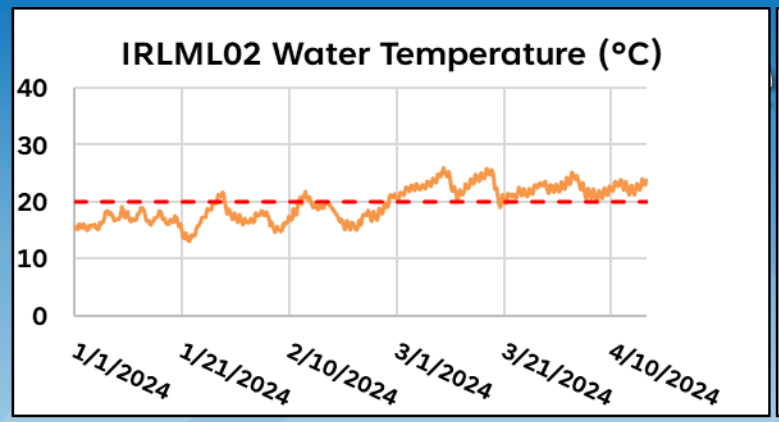


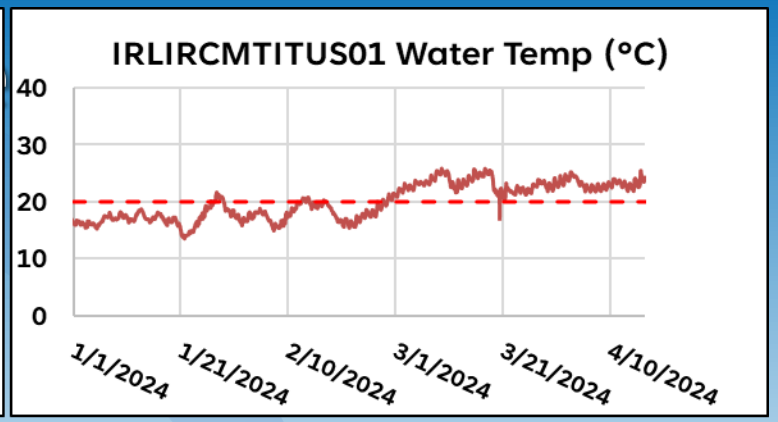


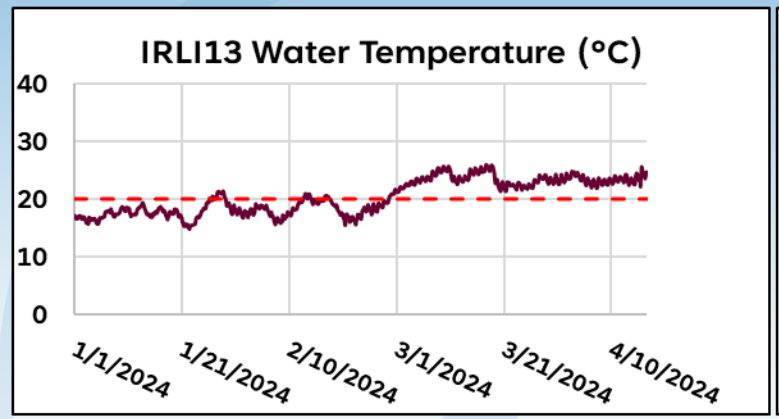
Ocean
>35 ppt

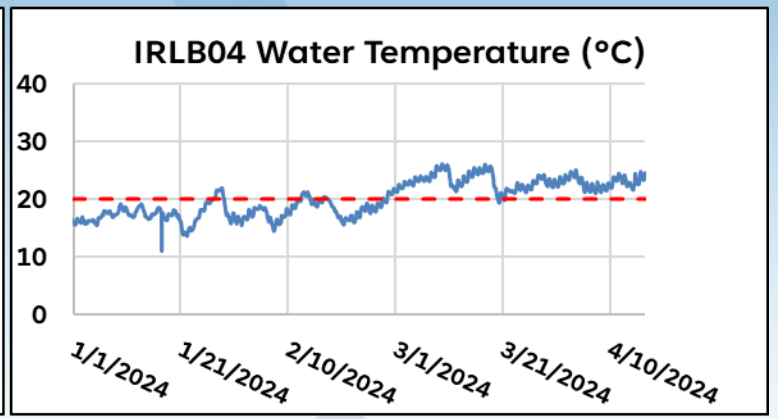
Halodule wrightii seagrass stress
< 18

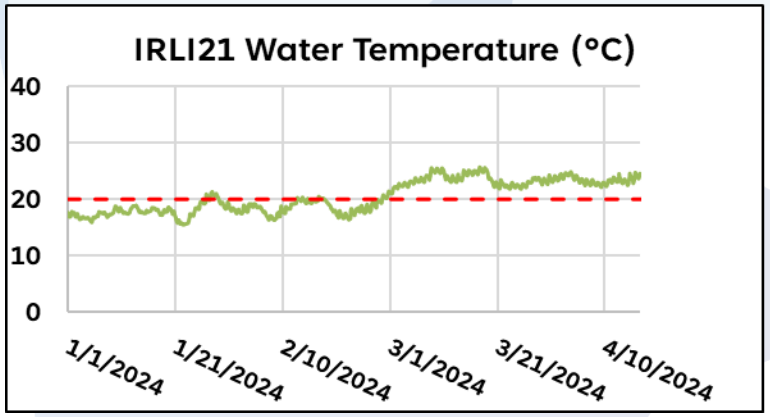
St. Johns River
Water Management District

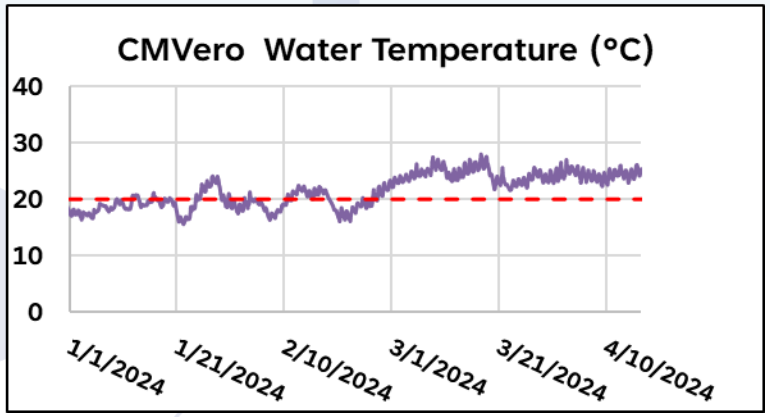






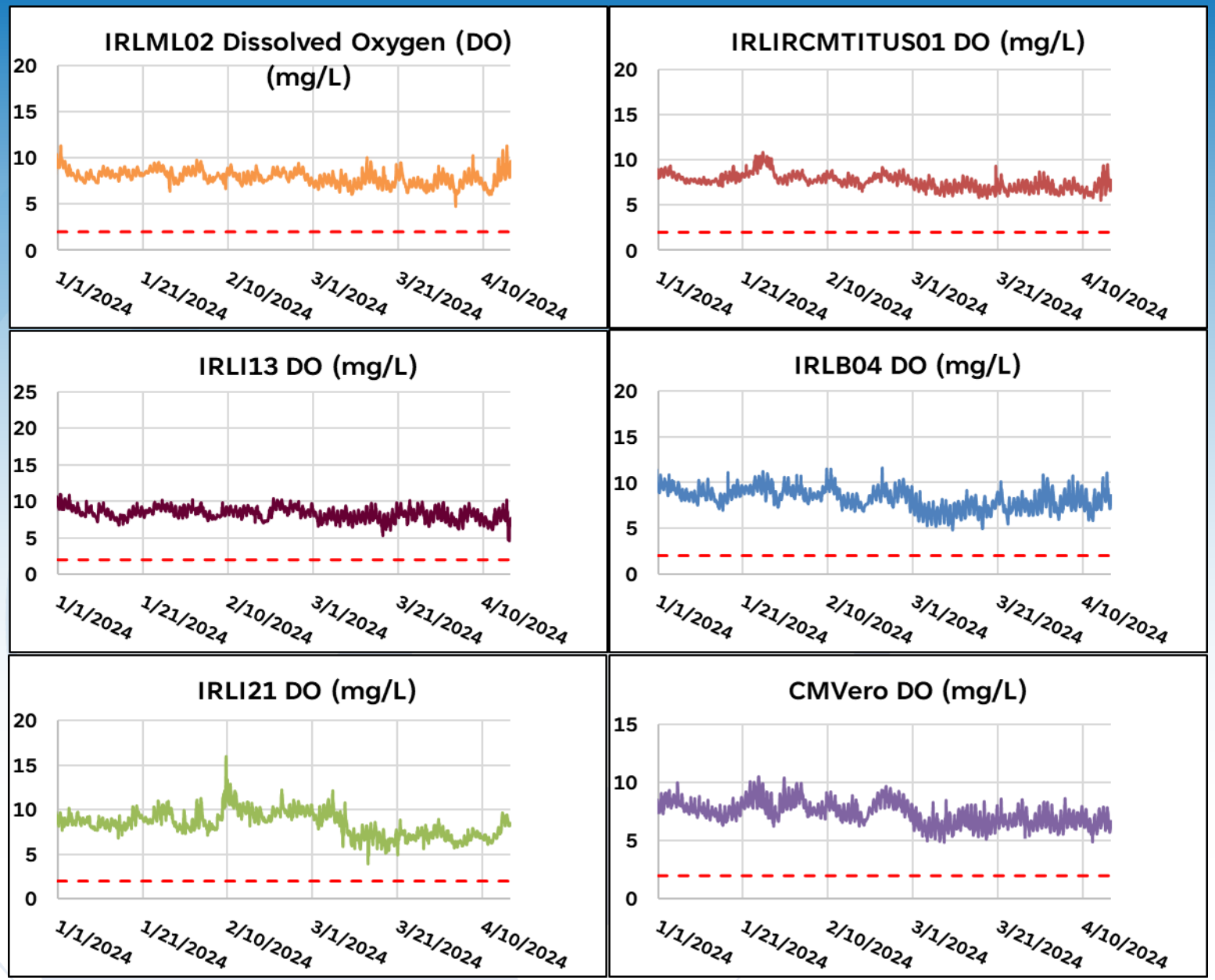






Halodule wrightii seagrass stress < 20°C

St. Johns River Water Management District



Hypoxia stress < 2 mg/L

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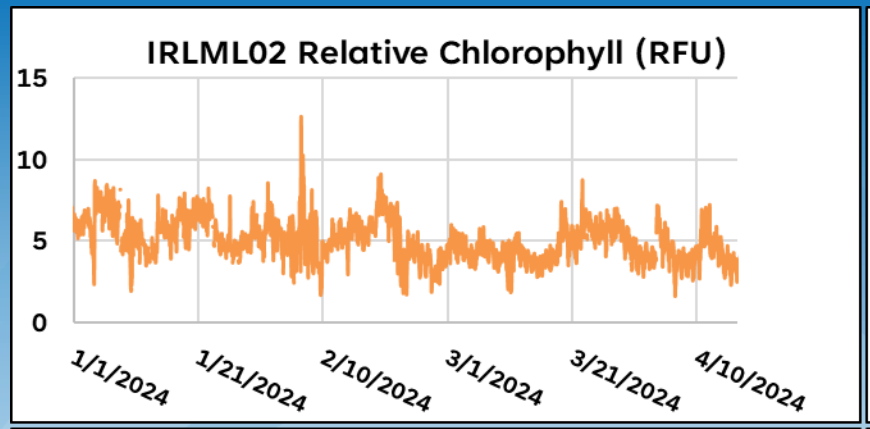

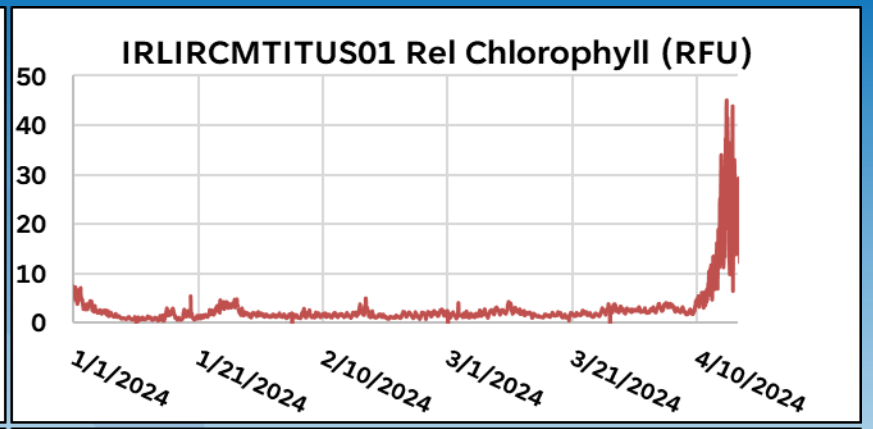

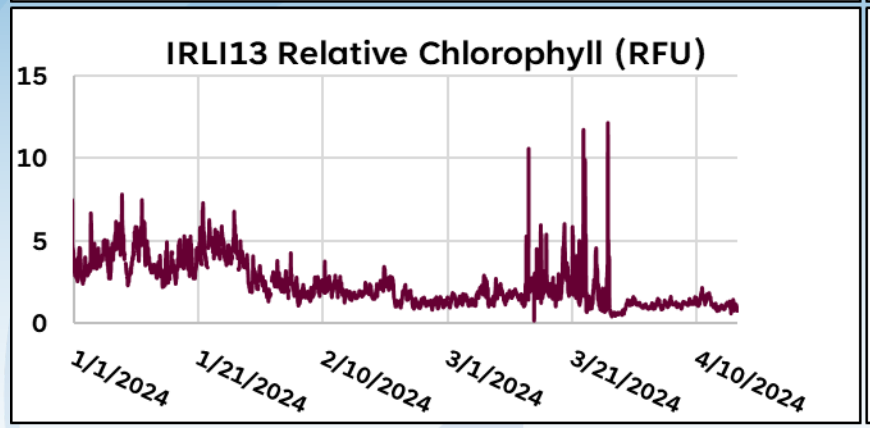

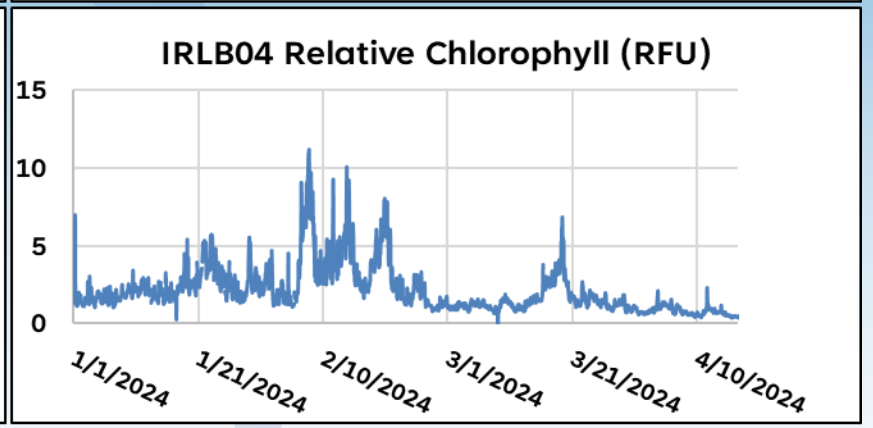

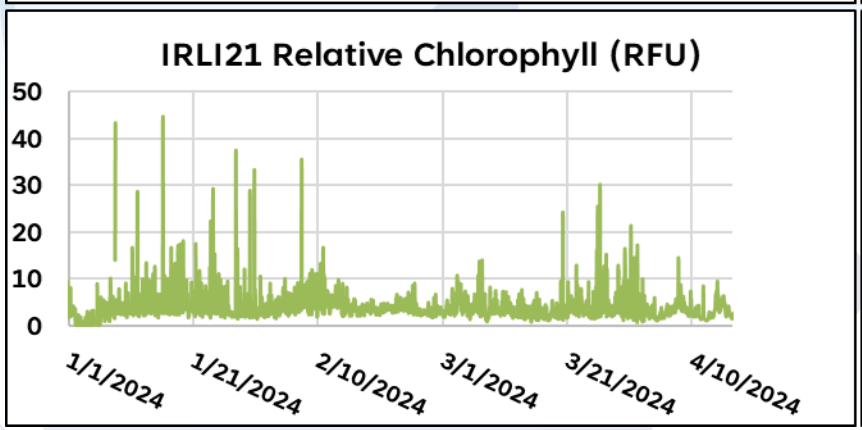

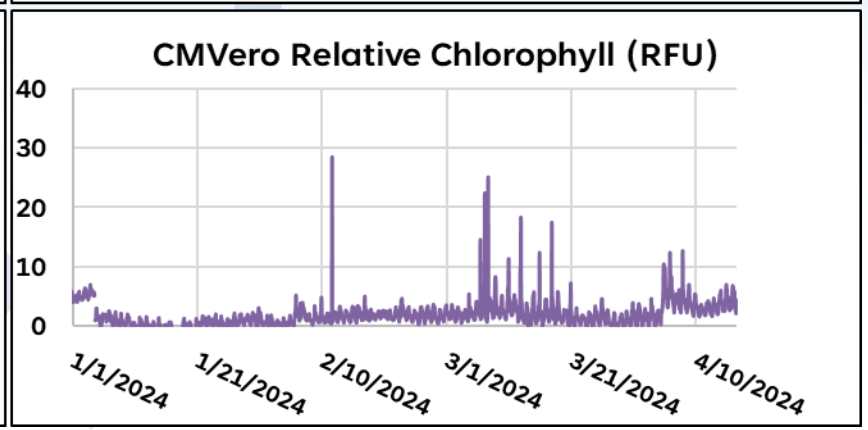

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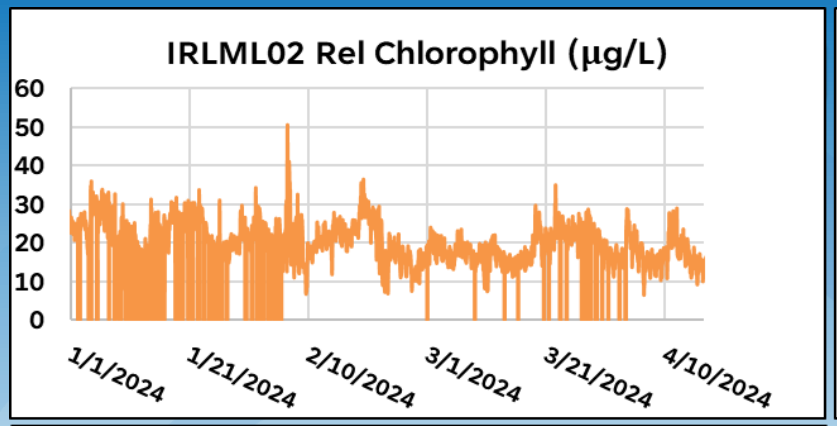
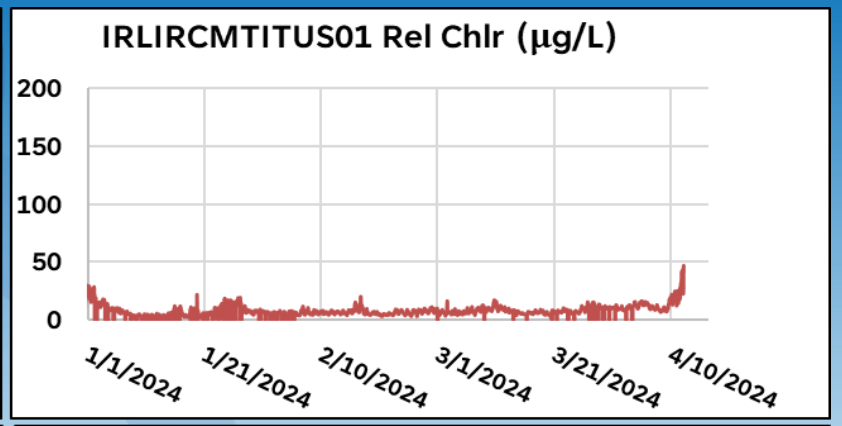
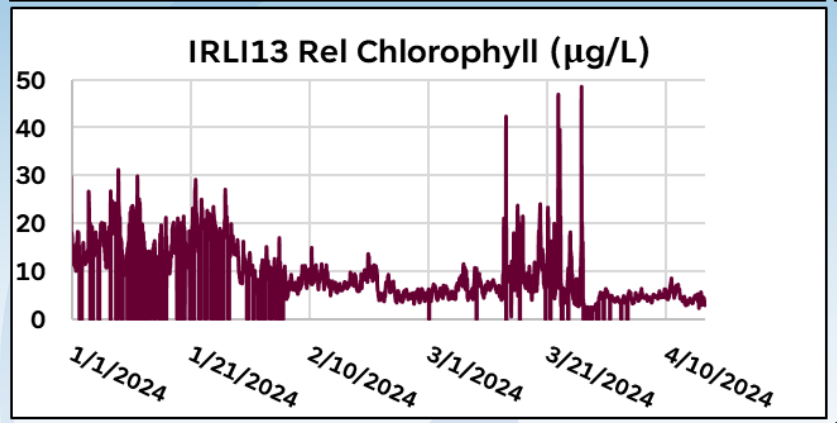
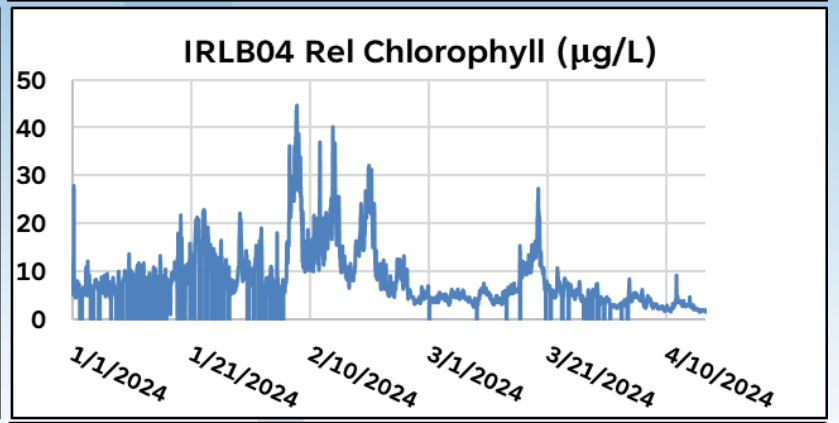
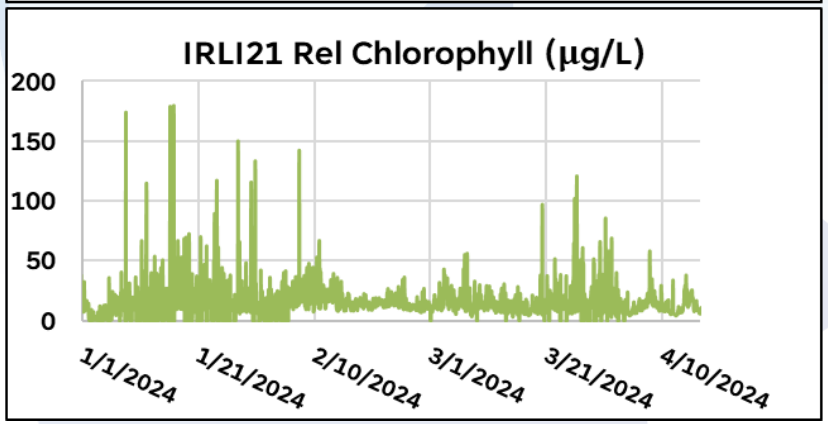
Water Management District

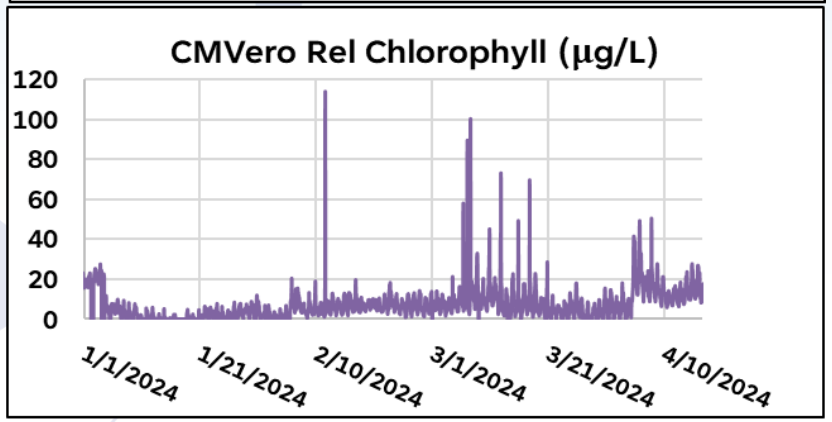


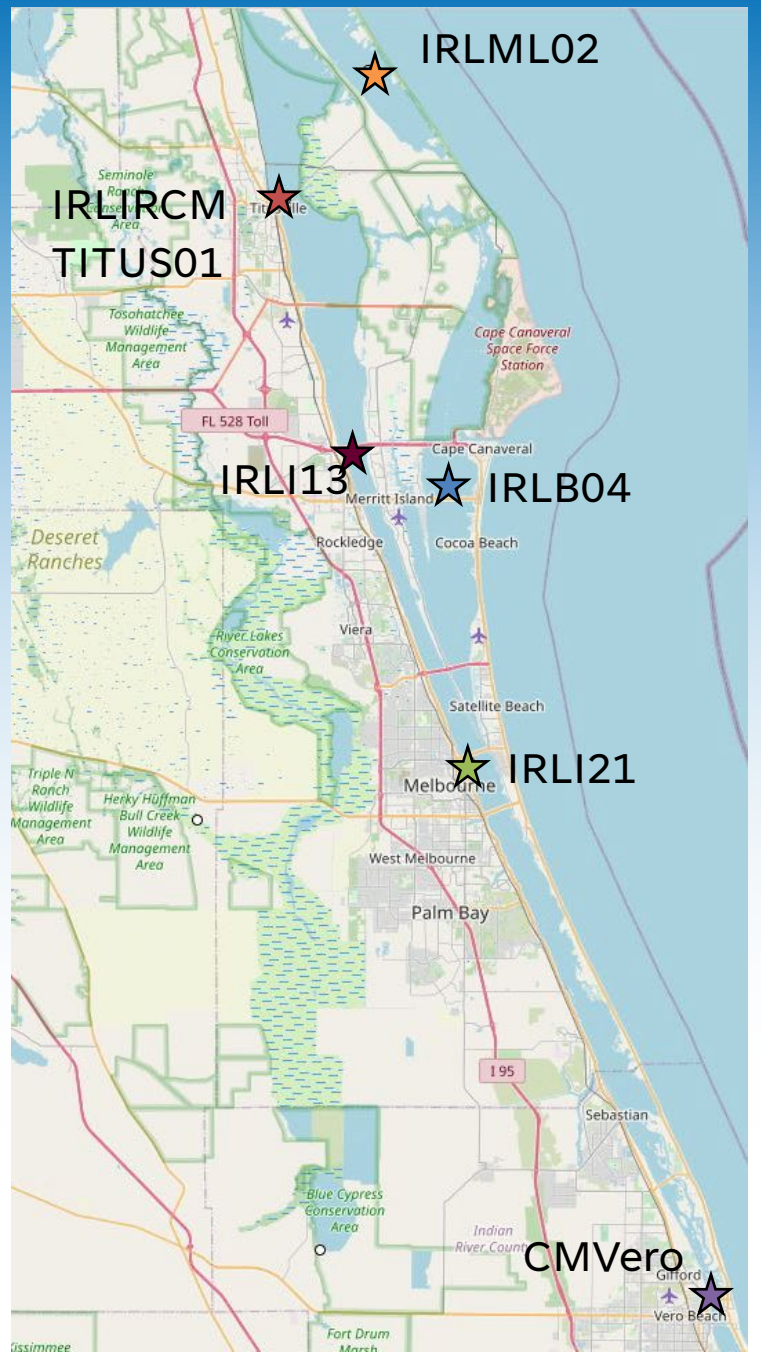




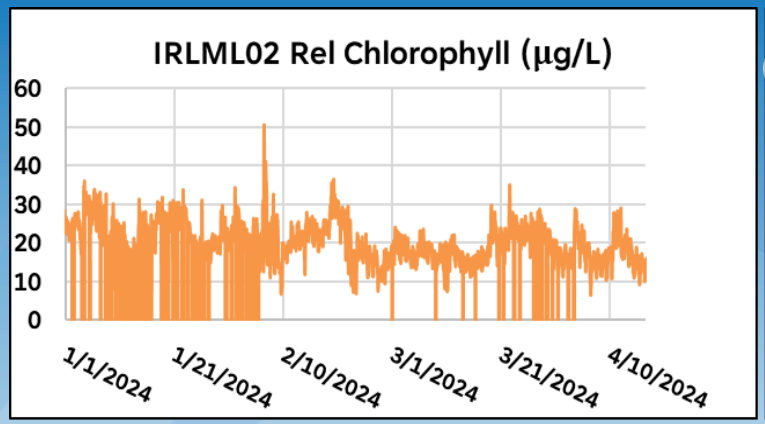


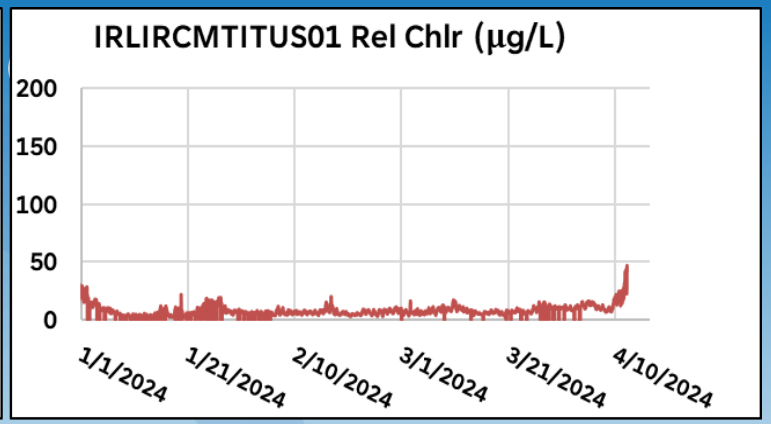


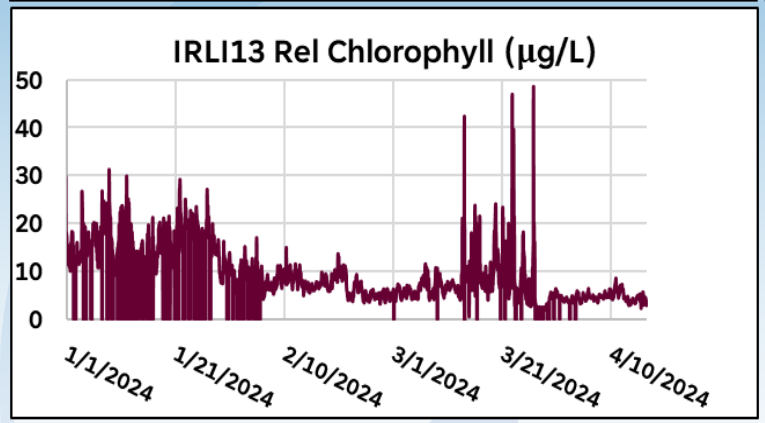


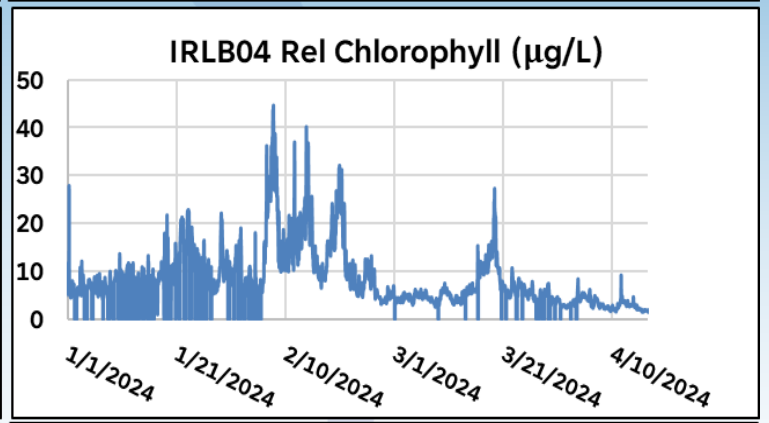


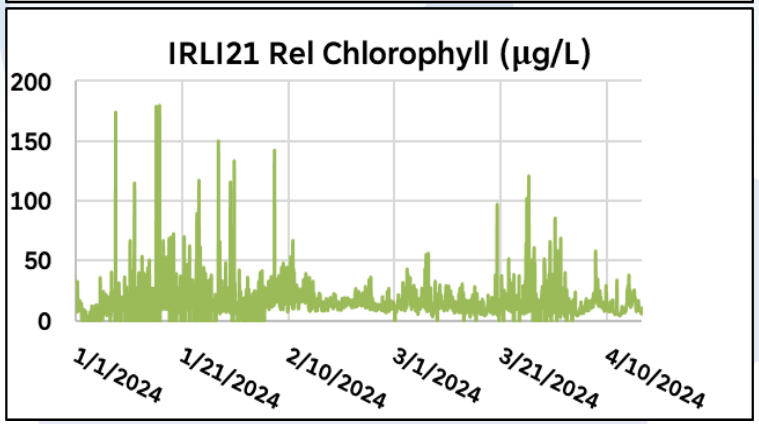
St. Johns River
Water Management District

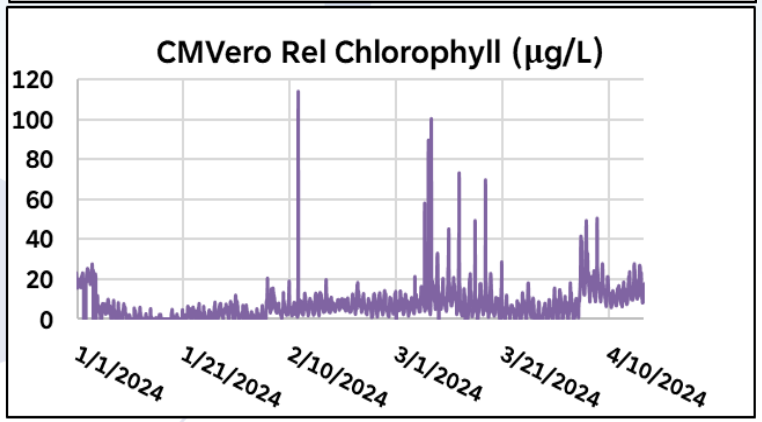


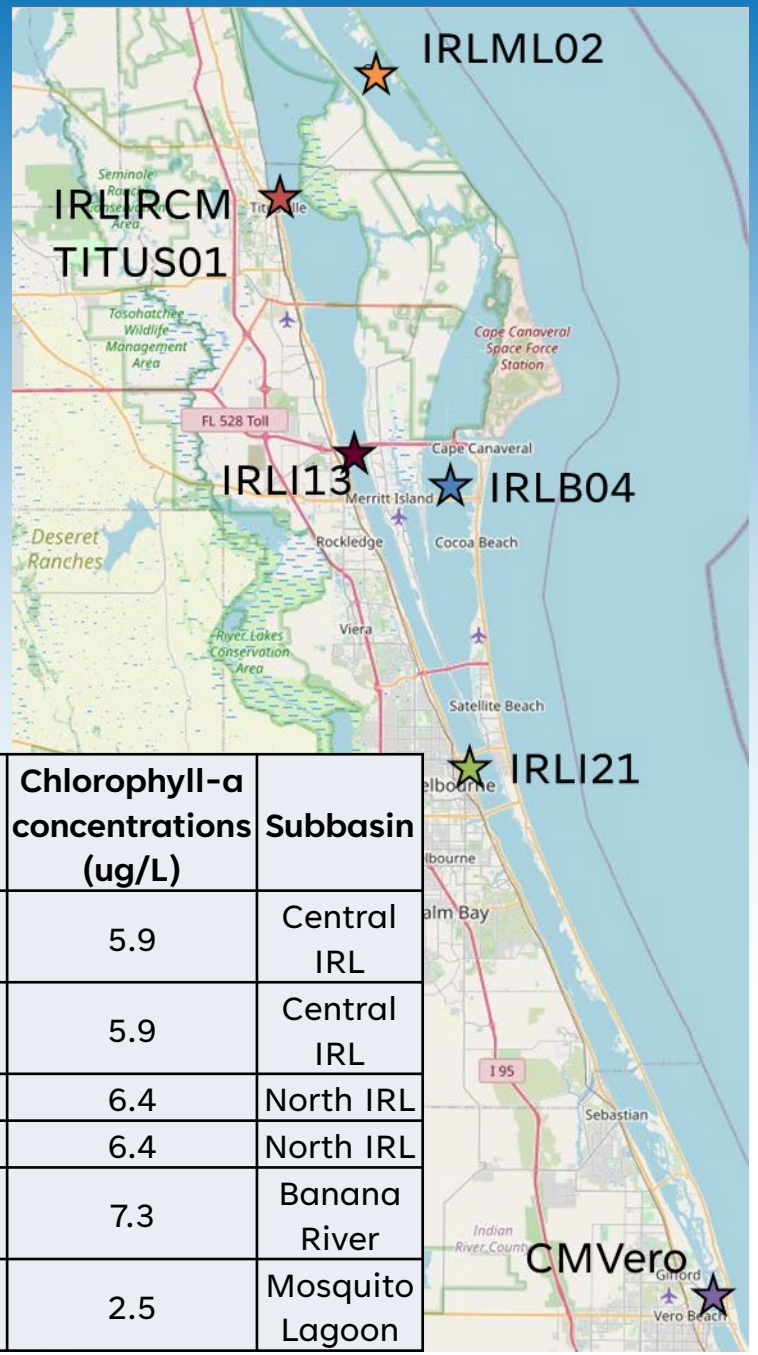






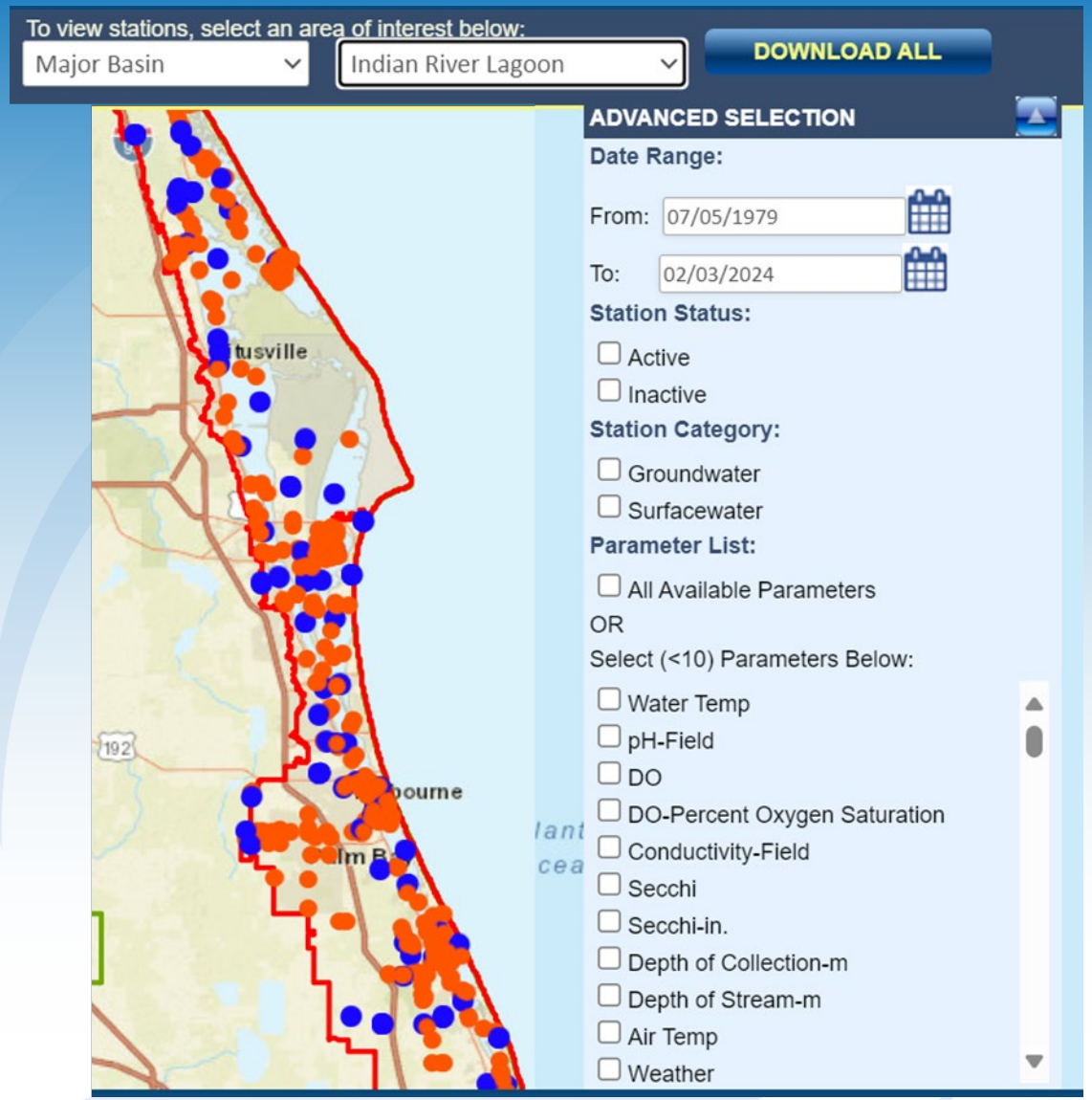






Station	Chlorophyll-a concentrations (ug/L)	Subbasin
Vero	5.9	Central IRL
Melbourne	5.9	Central IRL
Cocoa	6.4	North IRL
Titusville	6.4	North IRL
Banana	7.3	Banana River
Mosquito (South)	2.5	Mosquito Lagoon

St. Johns River
Water Management District

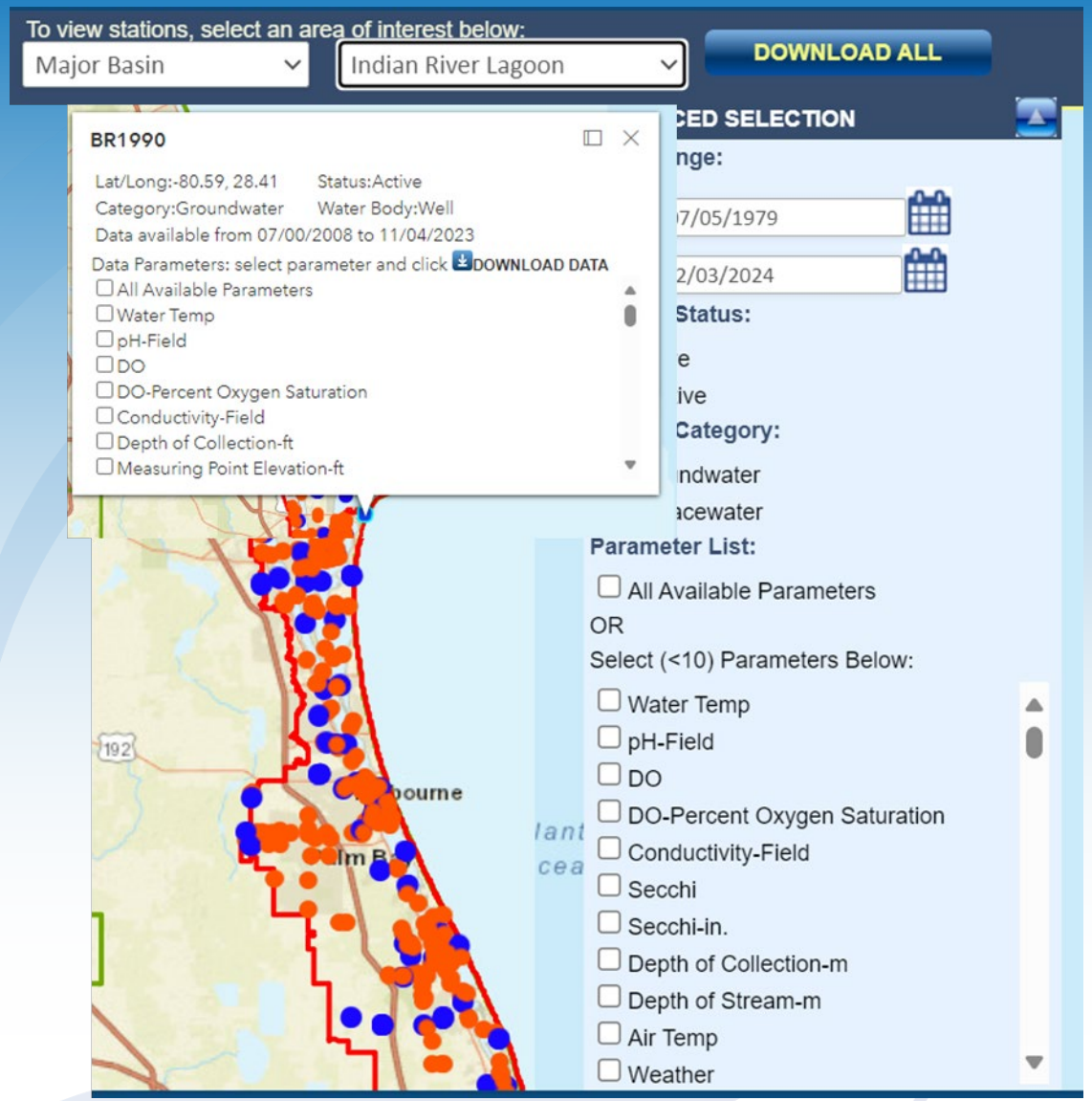


Where are the other water quality data?

- Dataset from ~1980
- Special projects
- Ambient monitoring
- Many, many parameters
- Also submitted to the Florida Department of Environmental Protection and the US Geological Survey

http://webapub.sjrwmd.com/agws10/edqt/

St. Johns River
Water Management District



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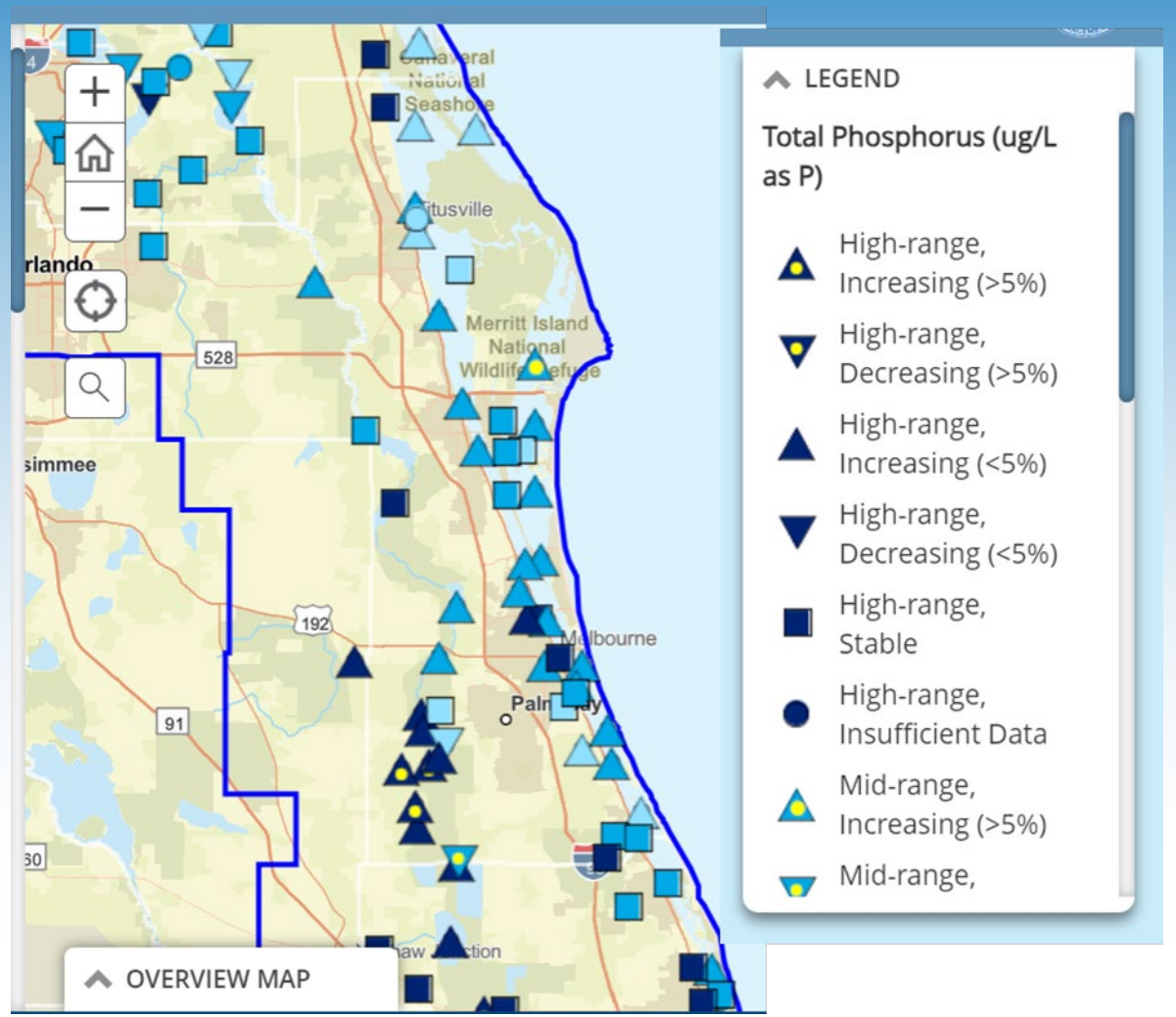
St. Johns River
Water Management District

Status and Trends Report

- General snapshot of water quality via interactive map application
- Trend based on 15 years of data
  - Non-parametric Mann-Kendall
    - Trend strength
- Status based on 5 years of data
  - Median of annual median values
- Looks at 14 parameters from nutrients to water temperature



https://floridaswater.maps.arcgis.com/apps/MapSeries/index.html?appid=b6fa8a5115bc4c0f871e1a43cc331f97

St. Johns River Water Management District

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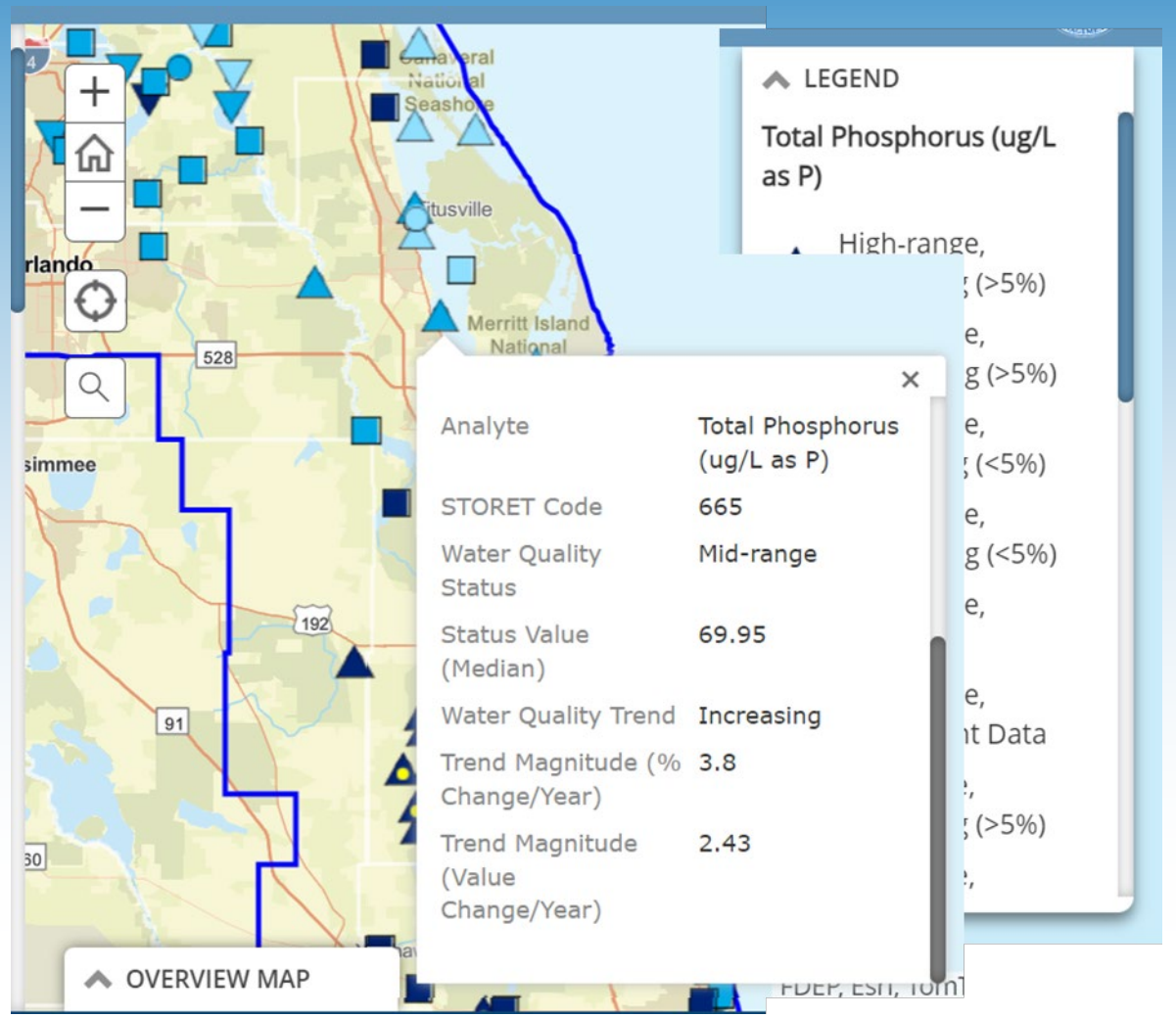
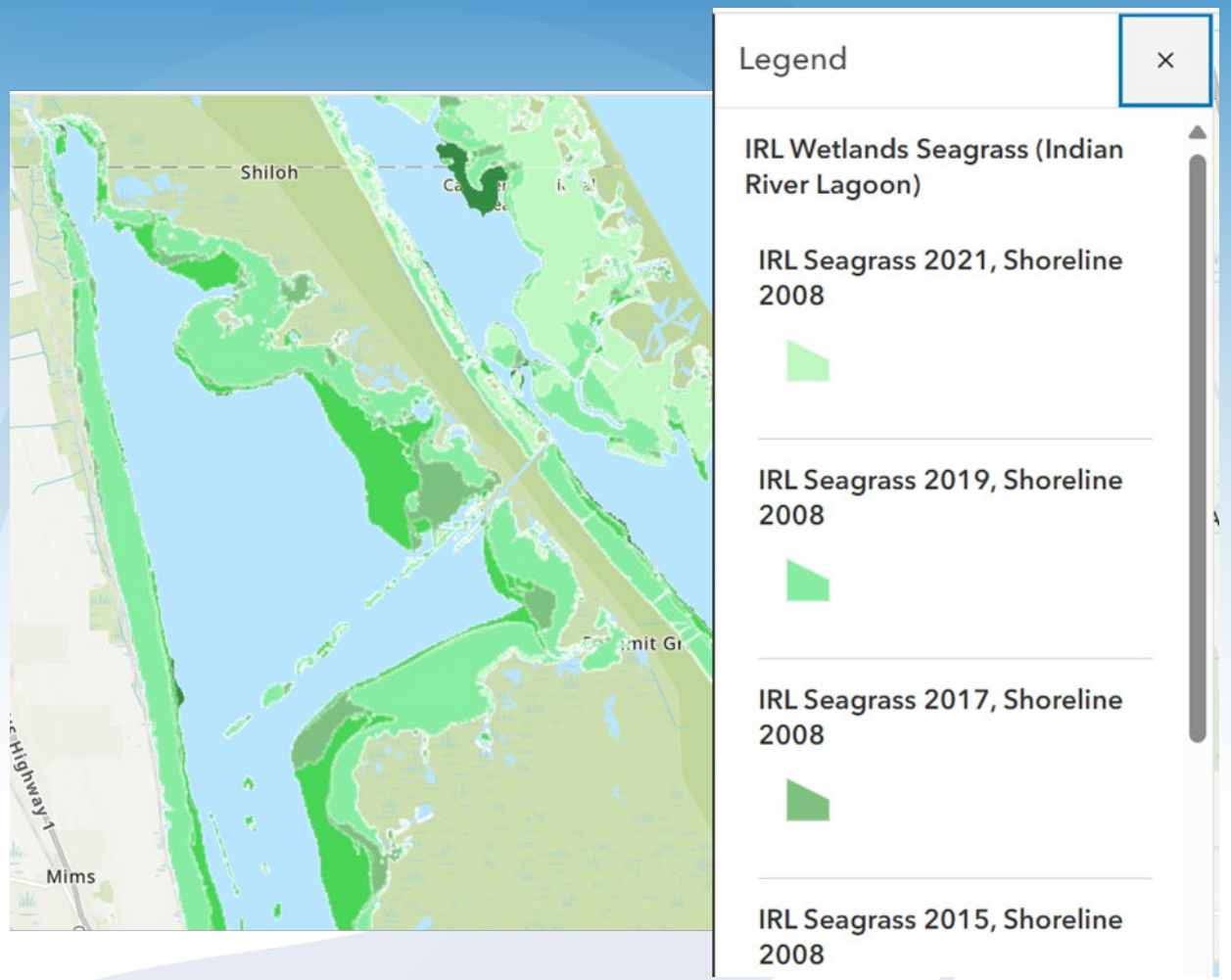


https://floridaswater.maps.arcgis.com/apps/MapSeries/index.html?appid=b6fa8a5115bc4c0f871e1a43cc331f97

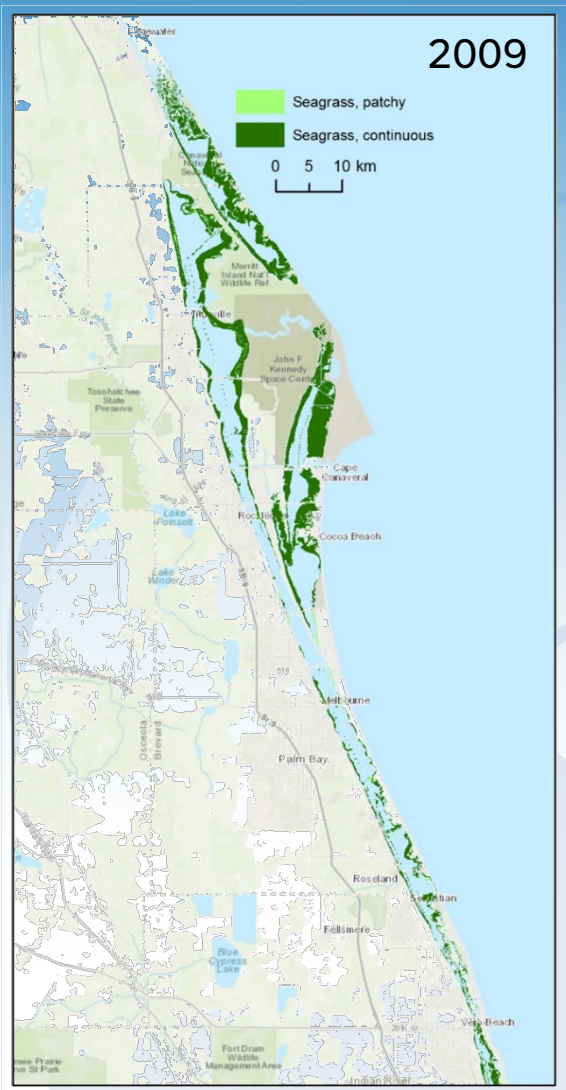
St. Johns River Water Management District

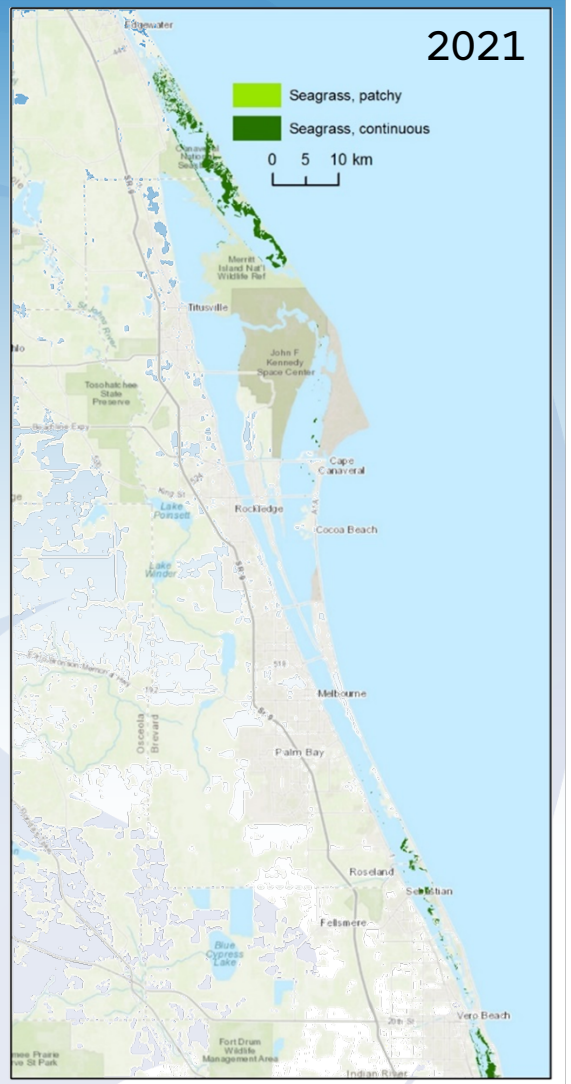
Seagrass Data

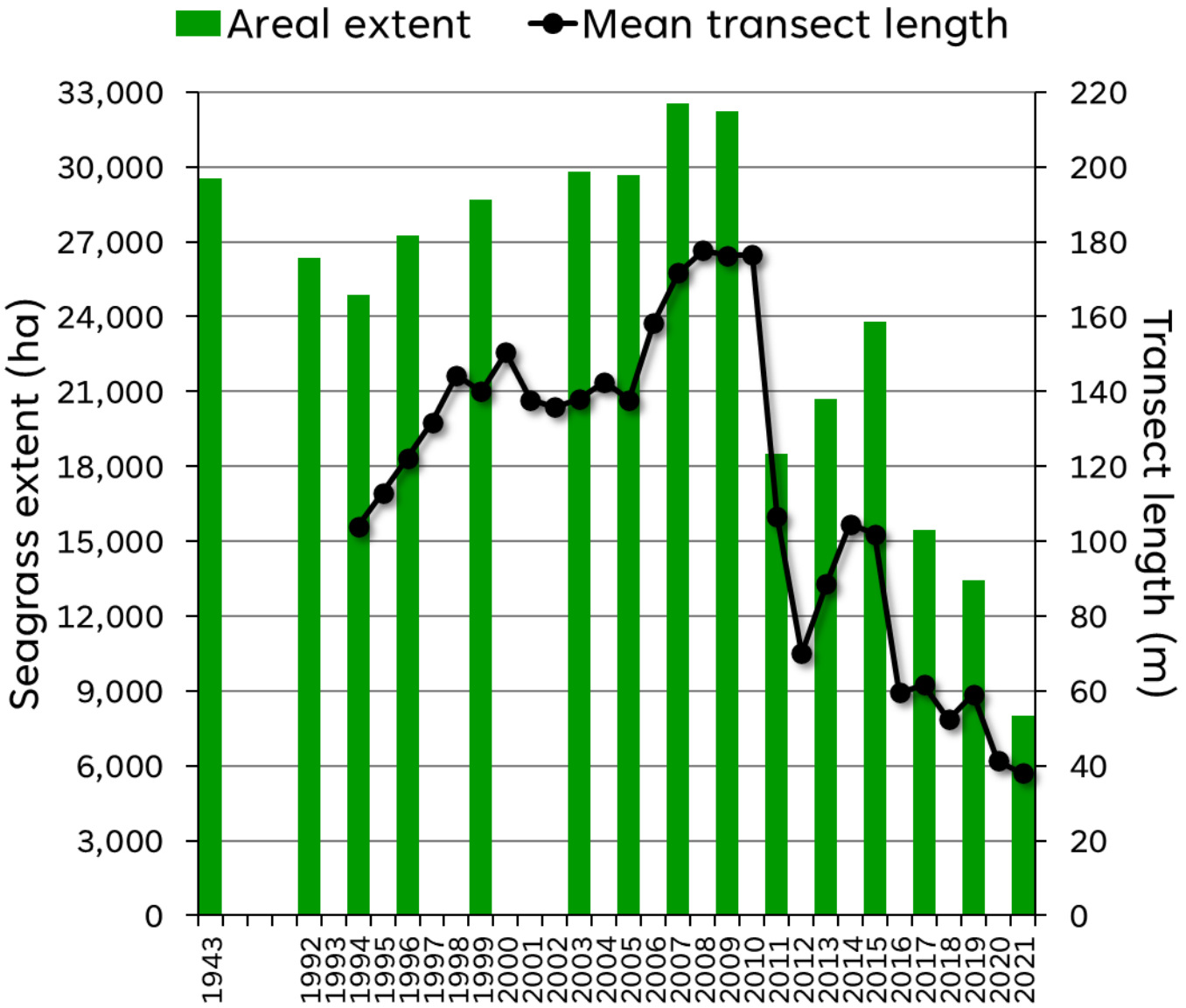


- 1943 and 1986–2021
  - 2023 is in prep
  - IRL Wetlands Seagrass (Indian River Lagoon) | St. Johns River Water Management District (SJRWMD) Geospatial Open Data (arcgis.com)
- Many other GIS layers
  - St. Johns River Water Management District (SJRWMD) Geospatial Open Data (arcgis.com)

Seagrass Extent

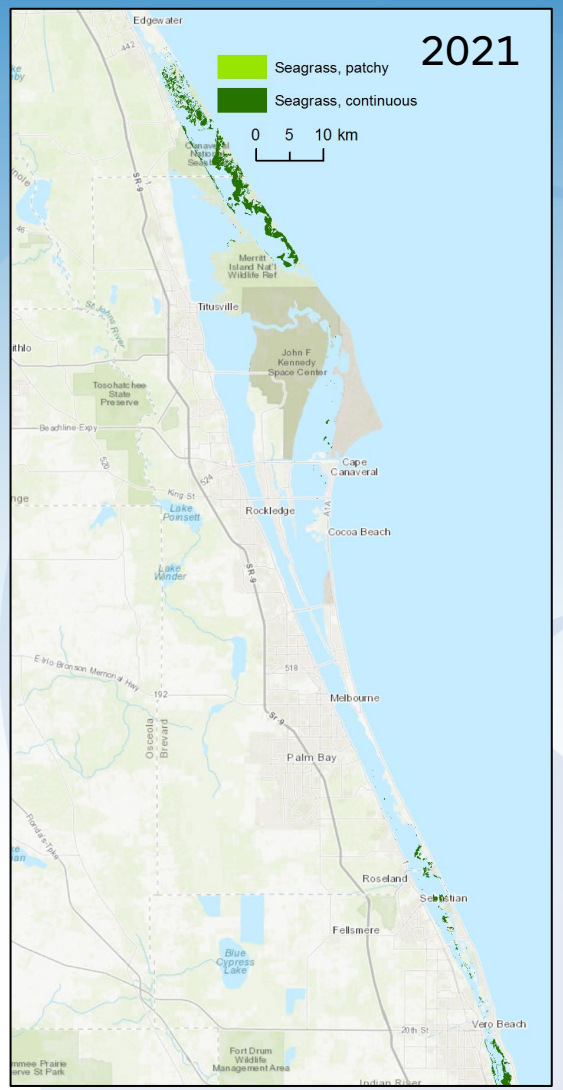


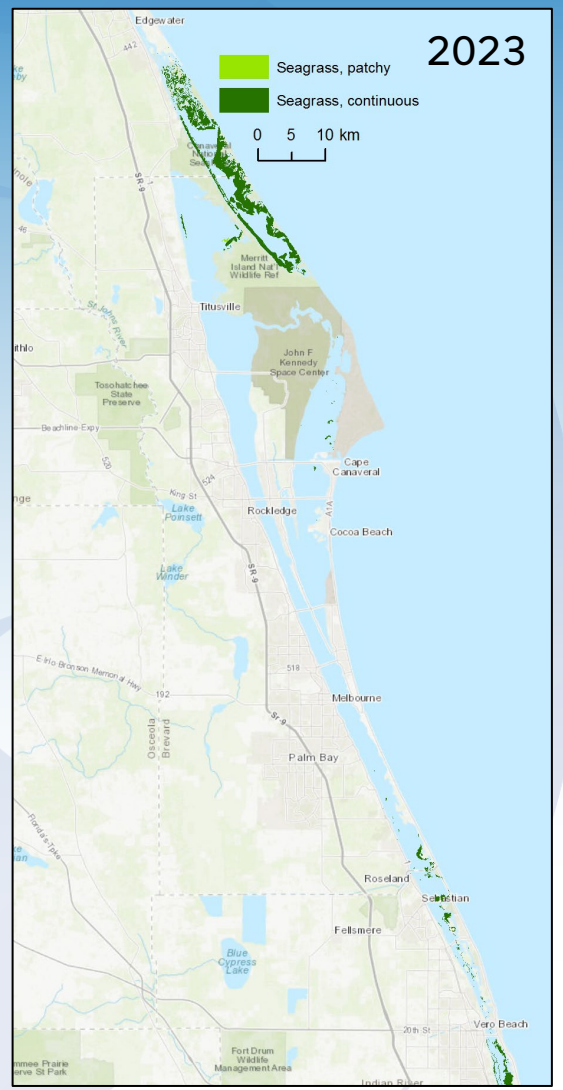


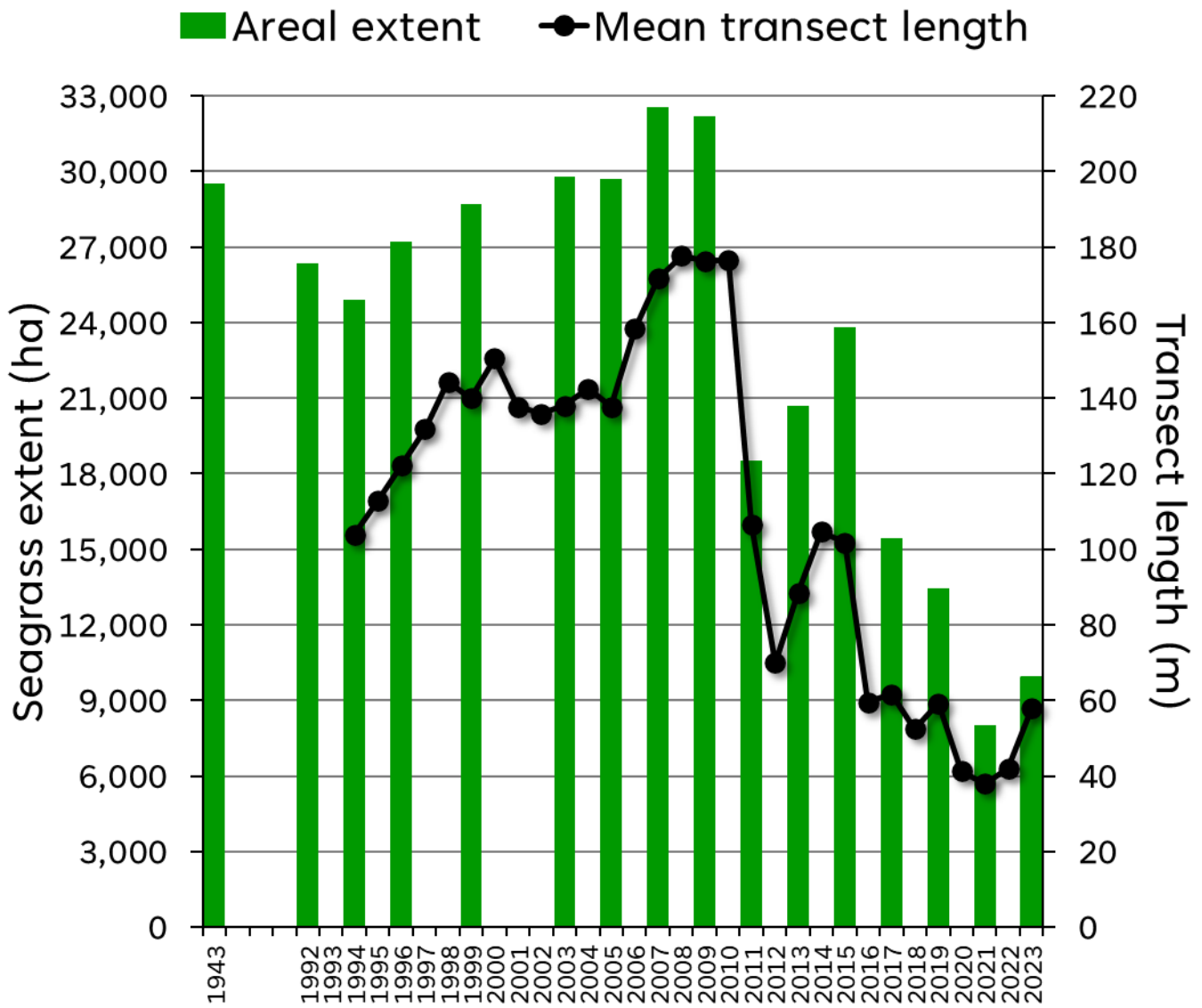


St. Johns River
Water Management District

Seagrass Extent

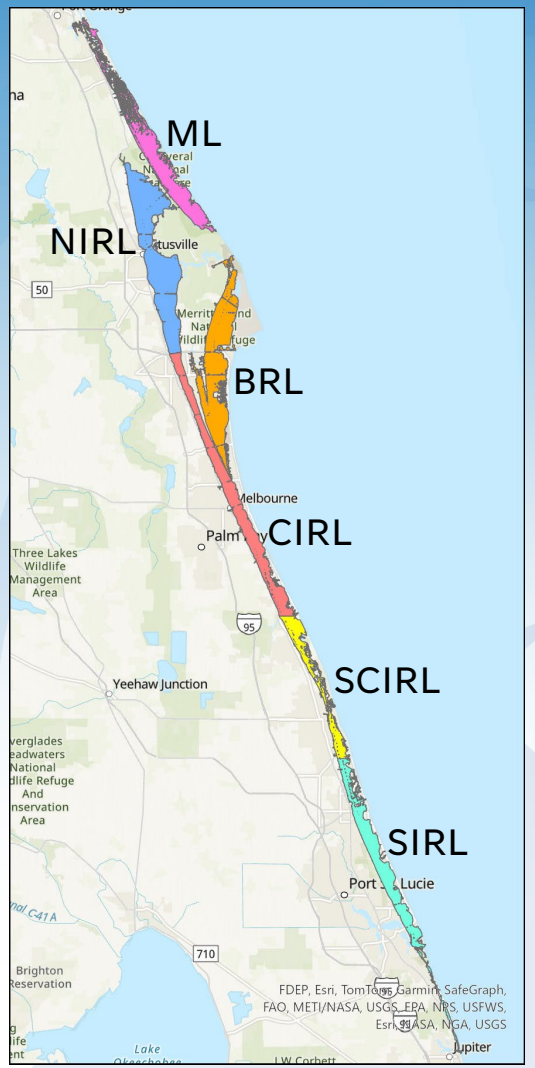


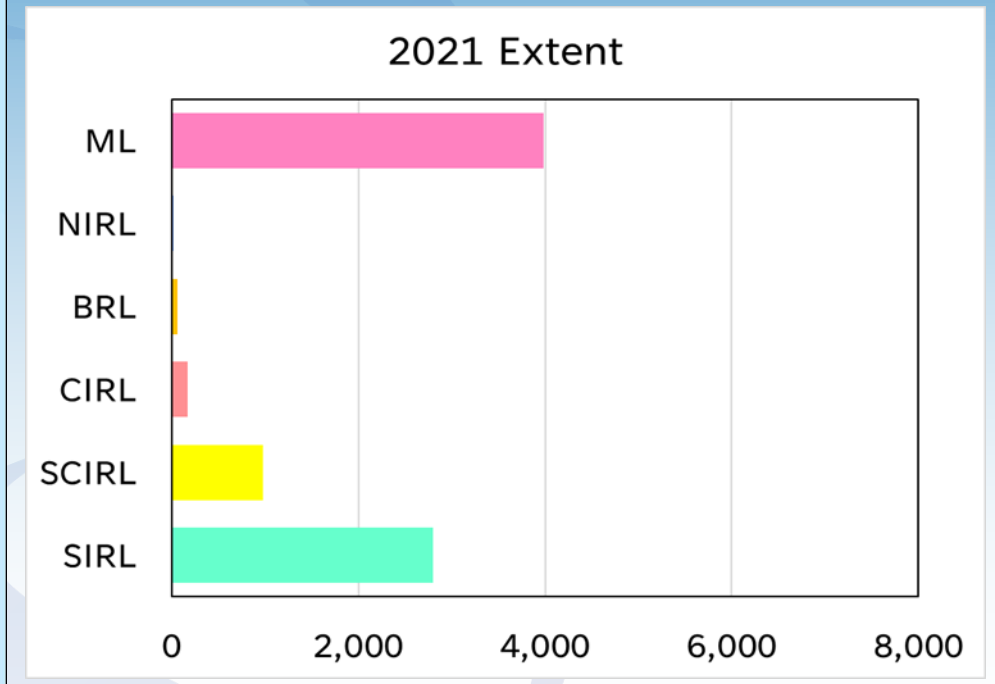


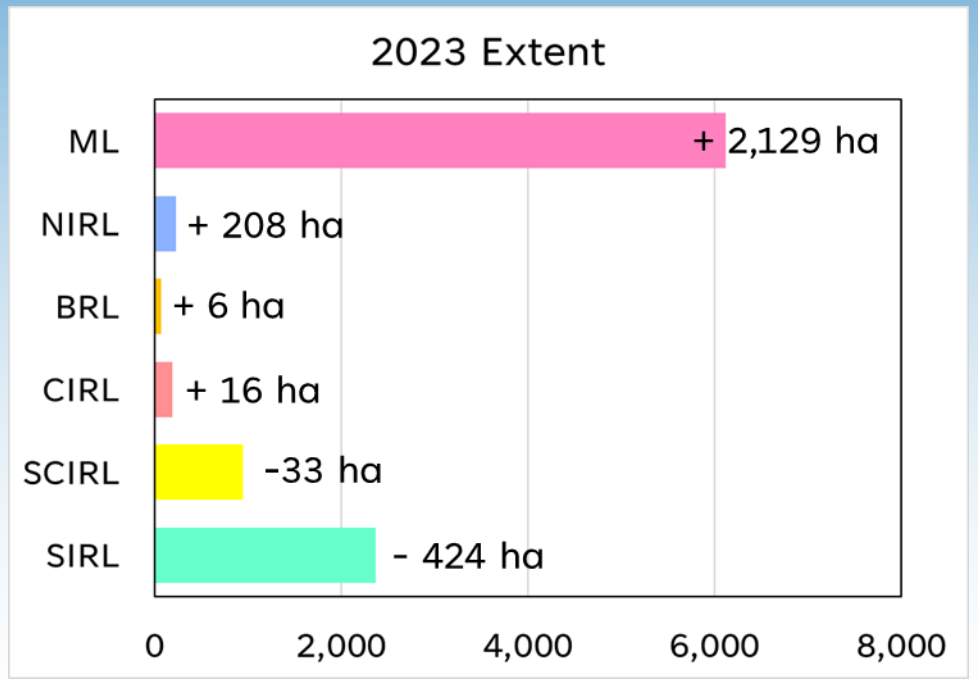


St. Johns River
Water Management District

Seagrass Extent by Sublagoon

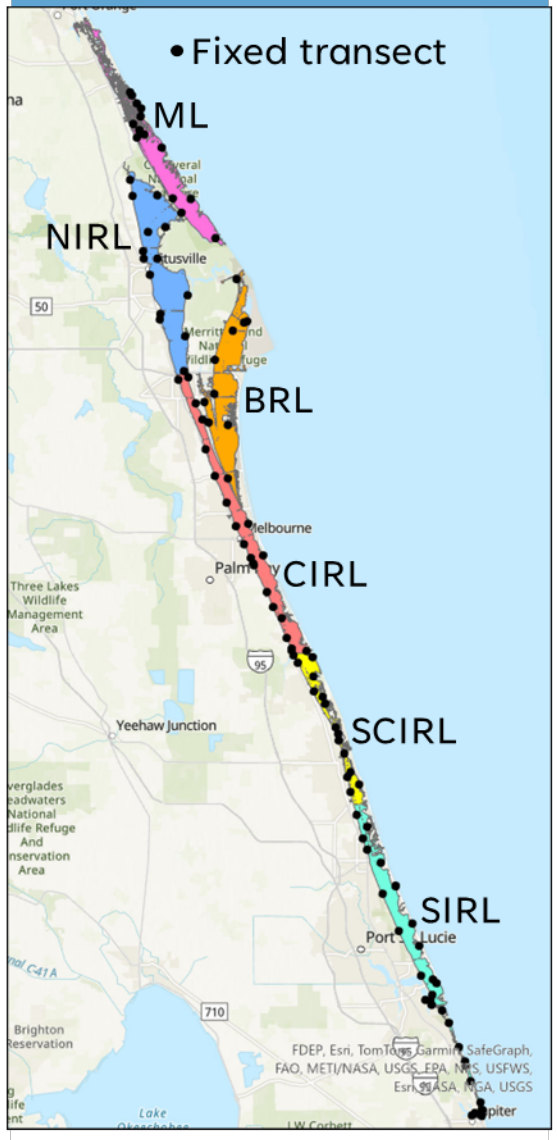






St. Johns River
Water Management District

Mean Seagrass Cover by Sublagoon



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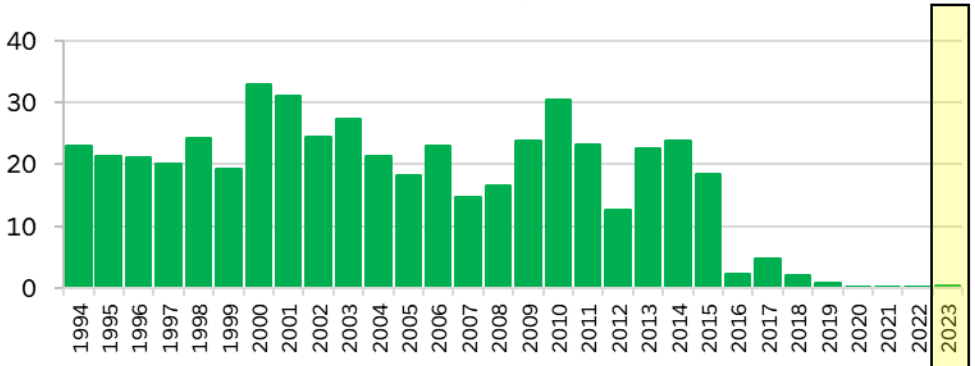
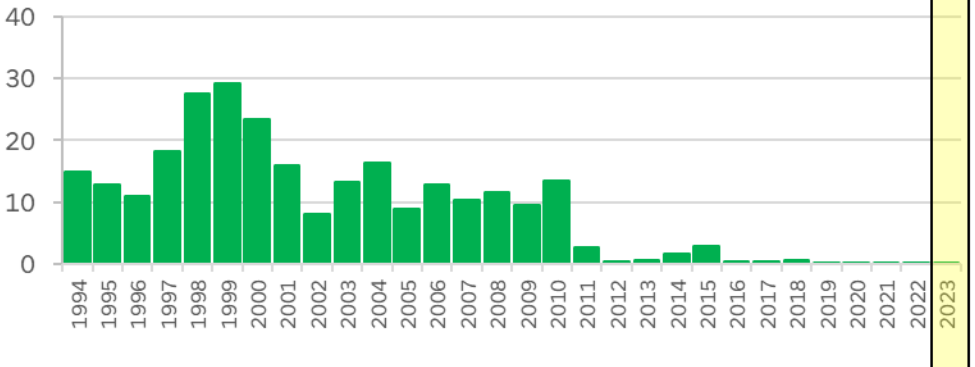
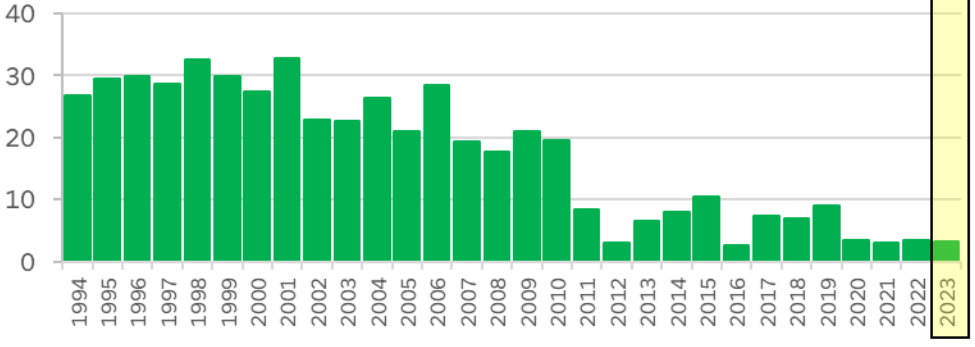


CIRL



SCIRL



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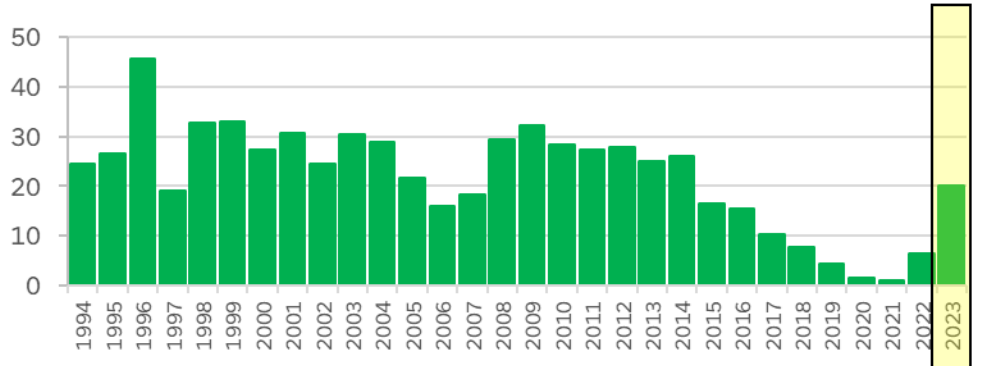
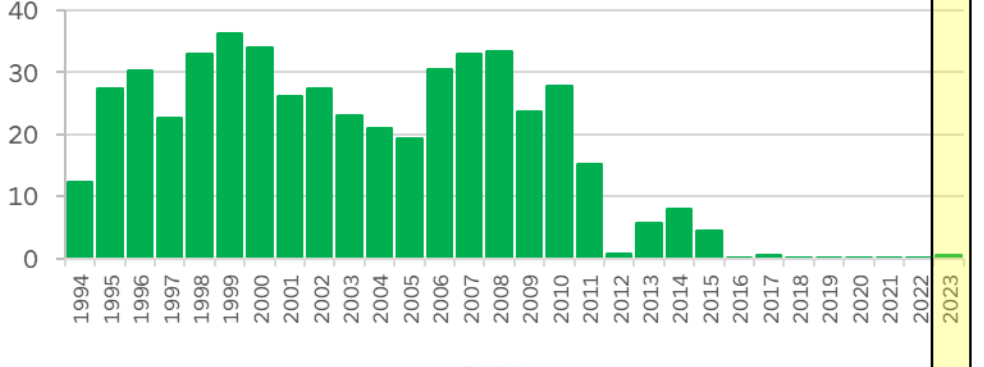
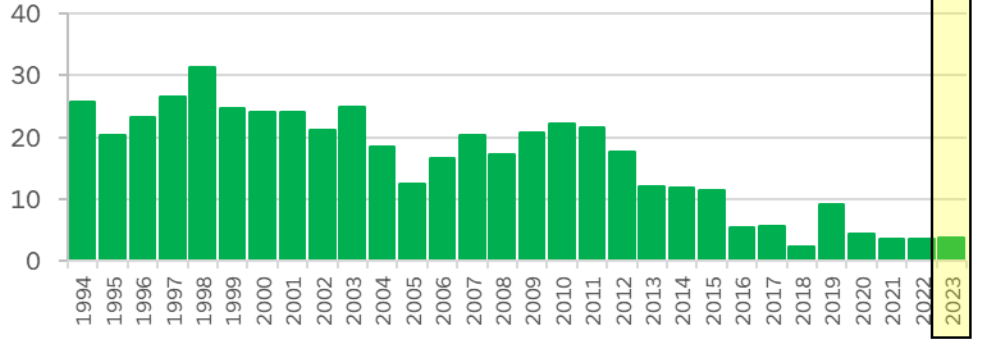


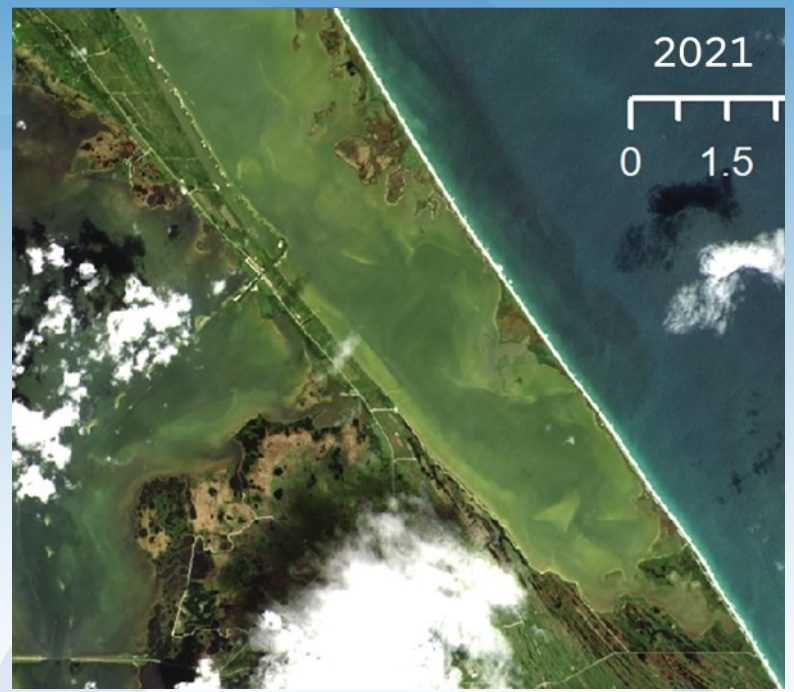
BRL



SIRL

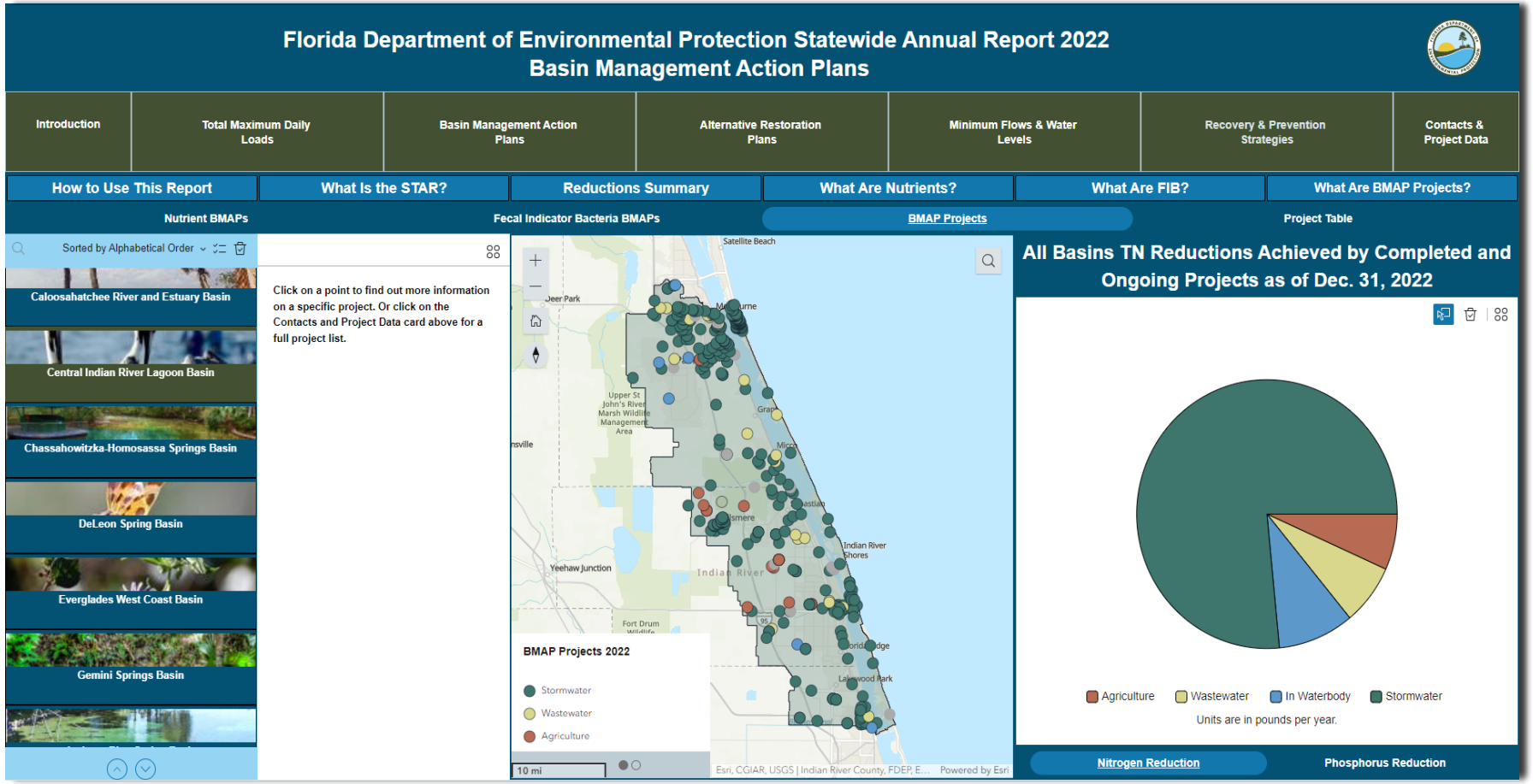


Questions?



St. Johns River
Water Management District

STAR
STATEWIDE ANNUAL REPORT

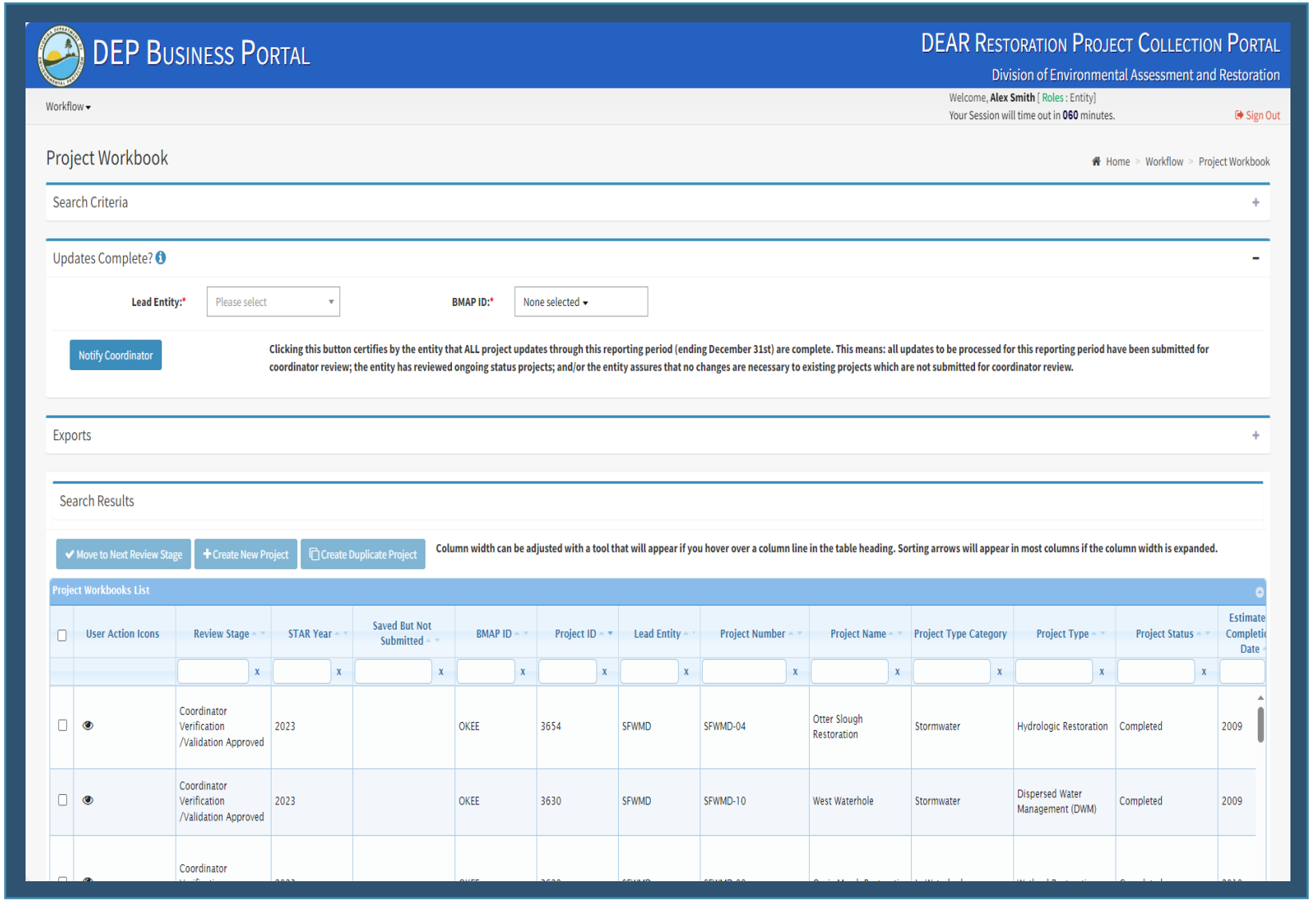


- Report will be published by July 1, 2024, with reporting through Dec. 31, 2023.
- Summarizes accomplishments in the BMAPs statewide.
- Reports on restoration projects and management strategies.
- Data download available.

https://floridadep.gov/STAR

STAR
BMAP PORTAL FOR PROJECT COLLECTION

- Be sure to let your BMAP coordinator know if changes in access to your projects in the portal are needed.



STAR

*PRELIMINARY 2023 STATUS OF PROJECTS

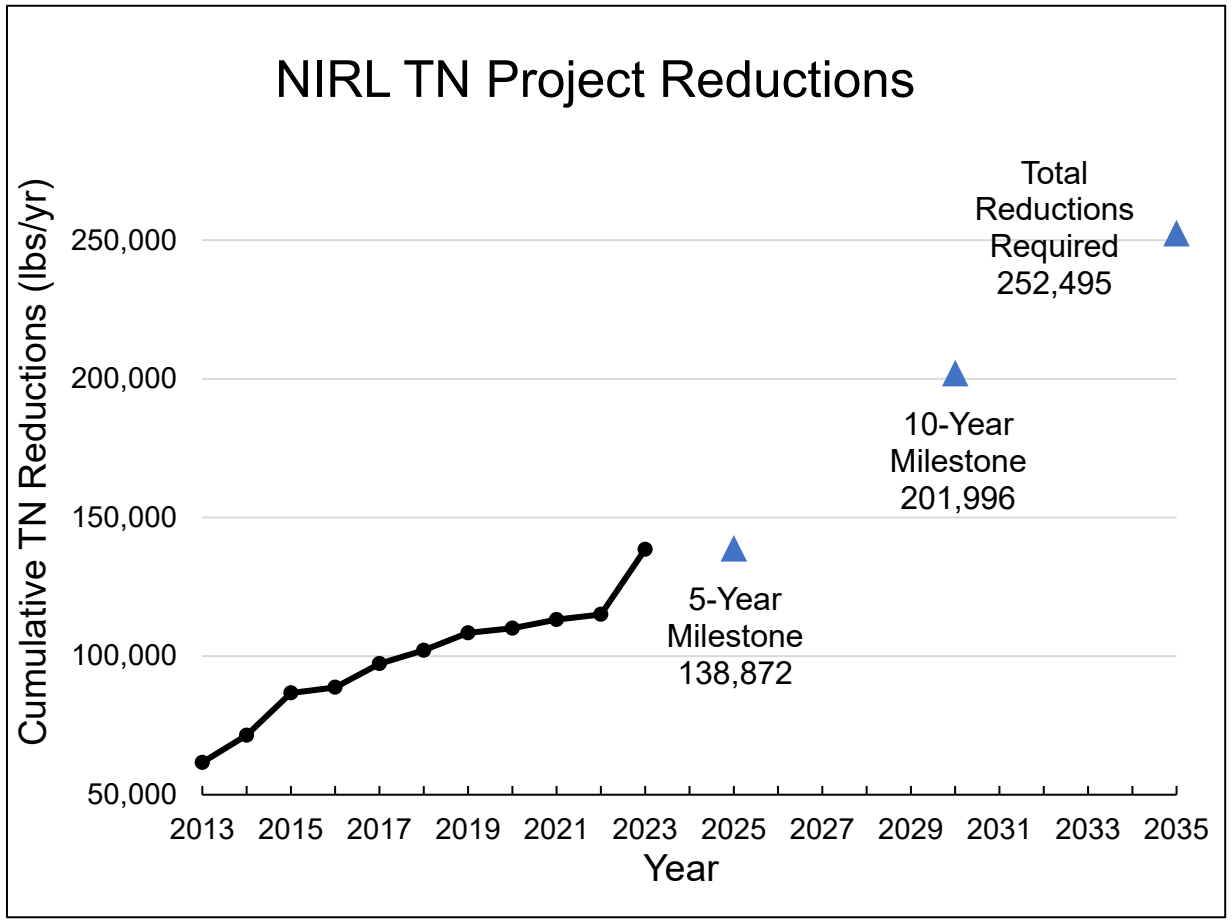
North IRL (NIRL)

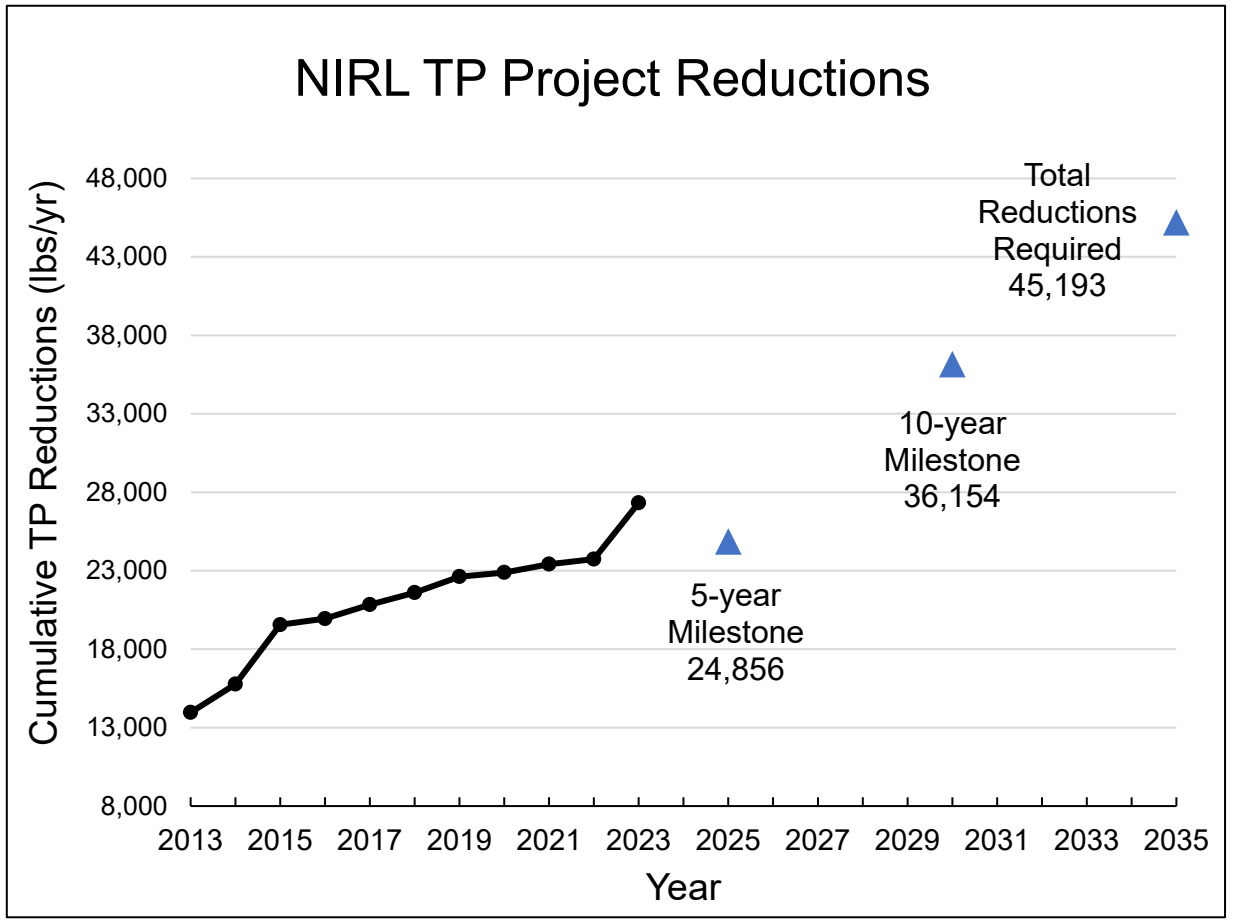
Lead Entity	Completed	Ongoing	Planned	Underway	Total
Brevard County	99	14	18	2	133
City of Cocoa	21	3	1	3	28
City of Edgewater	0	1	0	0	1
City of Melbourne	23	2	4	8	37
City of Rockledge	32	2	4	2	40
City of Titusville	31	4	7	3	45
FDACS	0	4	0	0	4
FDOT District 5	20	4	0	2	26
Kennedy Space Center	18	0	0	2	20
SJRWMD	1	0	0	0	1
Town of Indialantic	4	1	0	0	5
Town of Palm Shores	1	1	0	0	2
Volusia County	0	4	1	2	7
Total	**250**	**40**	**35**	**24**	**349**

STAR

*PRELIMINARY 2023 STATUS OF PROJECTS

North IRL (NIRL)





STAR

*PRELIMINARY 2023 STATUS OF PROJECTS

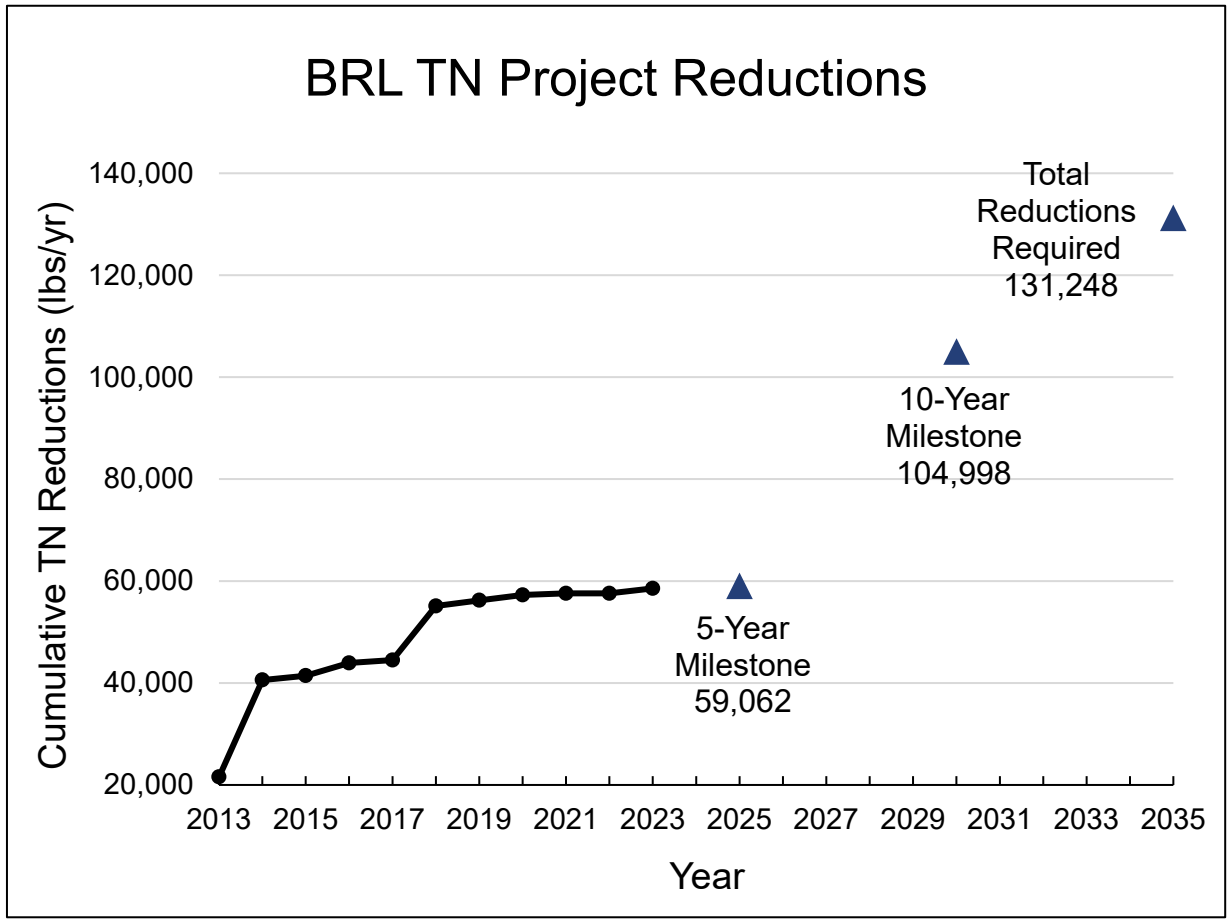
Banana River (BRL)

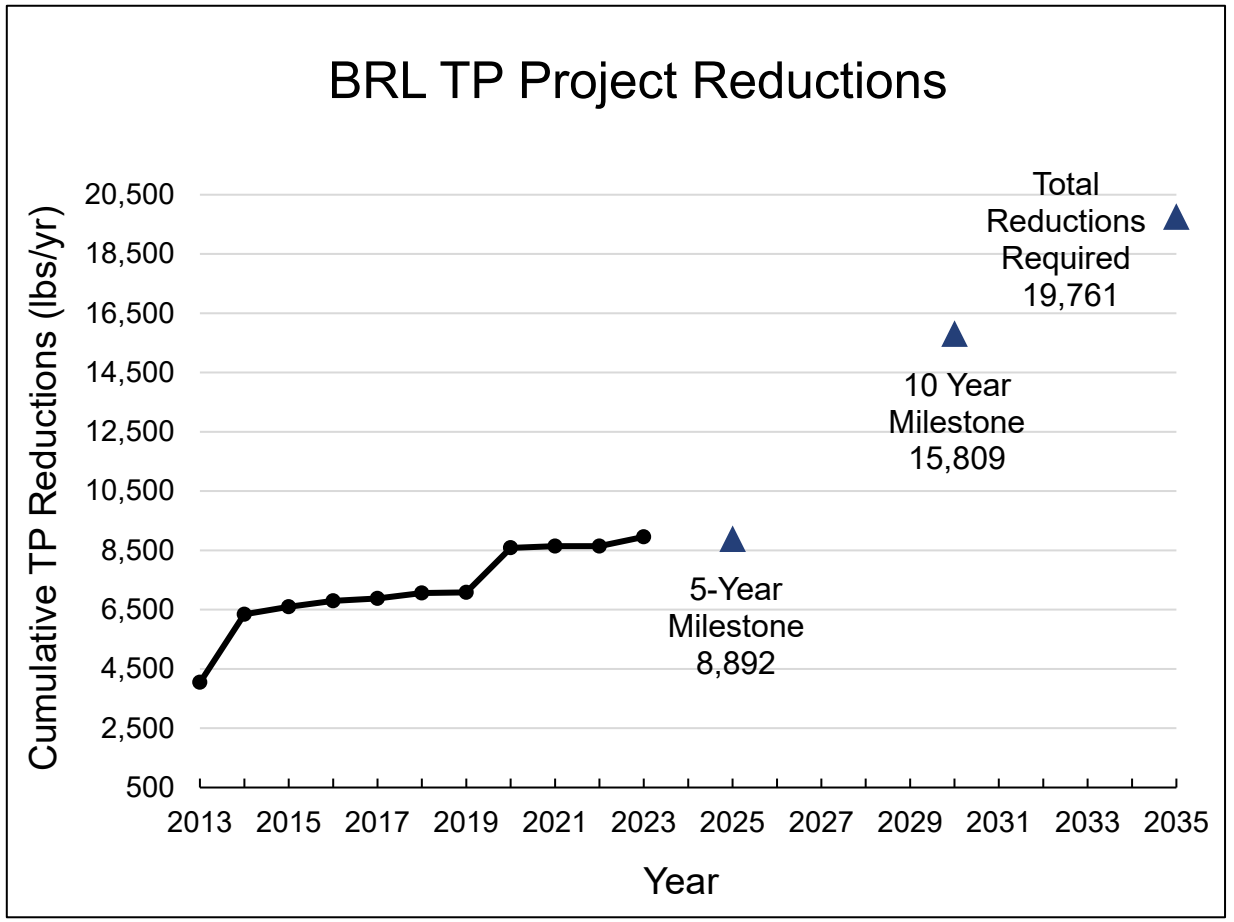
Lead Entity	Completed	Ongoing	Planned	Underway	Total
Brevard County	44	9	11	2	66
Cape Canaveral Space Force Station	9	2	0	2	13
City of Cape Canaveral	29	4	4	1	38
City of Cocoa Beach	35	3	3	1	42
City of Indian Harbour Beach	19	3	5	5	32
City of Satellite Beach	45	2	11	2	60
FDACS	2	2	0	0	4
FDOT District 5	5	4	0	0	9
Kennedy Space Center	27	0	0	2	29
Patrick Space Force Base	18	3	1	4	26
Total	**233**	**32**	**35**	**19**	**319**

STAR

*PRELIMINARY 2023 STATUS OF PROJECTS

Banana River (BRL)





STAR

*PRELIMINARY 2023 STATUS OF PROJECTS

Central IRL (CIRL)

Lead Entity	Completed	Ongoing	Planned	Underway	Total
Brevard County	31	6	1	5	43
City of Fellsmere	8	1	8	2	19
City of Fort Pierce	0	2	0	0	2
City of Melbourne	5	2	3	6	16
City of Palm Bay	32	3	4	1	40
City of Sebastian	15	2	0	0	17
City of Vero Beach	17	3	1	3	24
City of West Melbourne	24	2	0	3	29
FDACS	4	4	0	0	8
FDOT District 4	38	6	0	0	44
FDOT District 5	11	3	0	0	14
Fellsmere WCD	5	4	1	1	11
Fort Pierce Farms WCD	2	4	0	2	8
Indian River County	14	5	6	7	32
Indian River Farms WCD	1	4	0	0	5

STAR

*PRELIMINARY 2023 STATUS OF PROJECTS

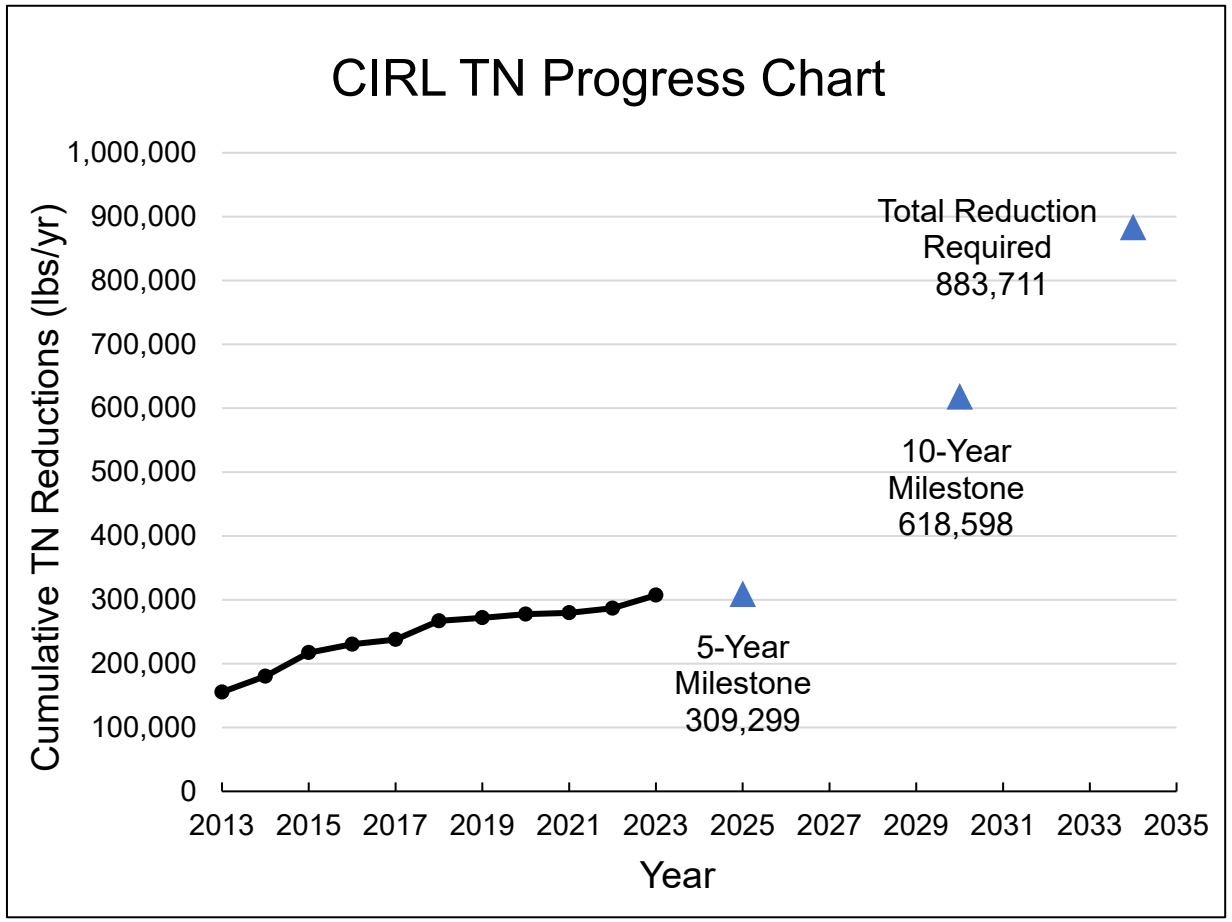
Central IRL (CIRL)

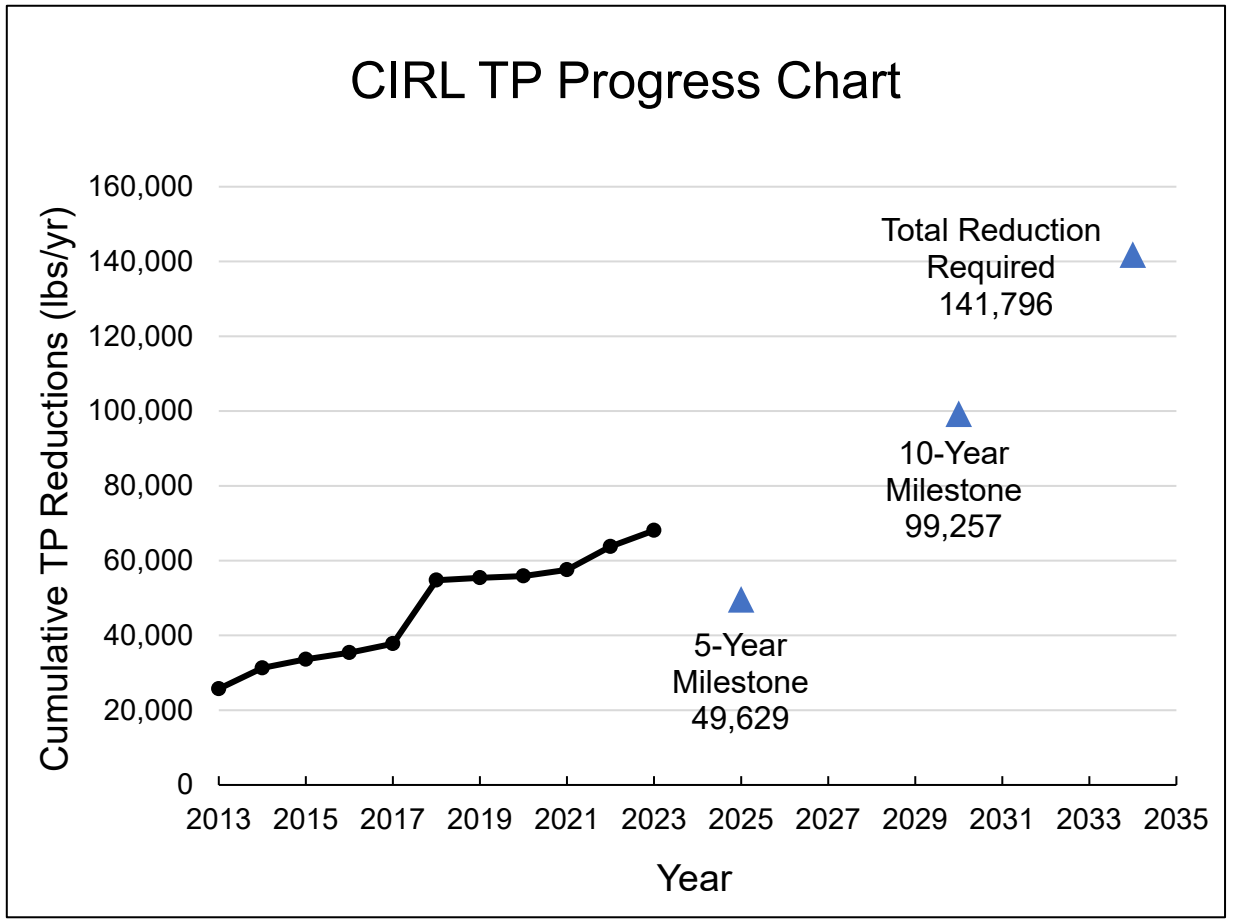
Melbourne Tillman WCD	17	3	0	1	21
North St. Lucie River WCD	2	3	0	2	7
Sebastian River Improvement District	0	4	3	1	8
SJRWMD	8	0	3	2	13
St. Lucie County	7	2	2	3	14
St. Lucie Village	1	1	1	0	3
Town of Indialantic	1	3	1	1	6
Town of Indian River Shores	2	3	0	0	5
Town of Malabar	2	2	0	1	5
Town of Melbourne Beach	52	0	1	2	55
Town of Melbourne Village	3	1	0	0	4
Town of Orchid	0	1	0	0	1
Turnpike Enterprise	0	2	0	0	2
Vero Lakes WCD	0	3	0	1	4
Town of Grant-Valkaria	2	0	0	0	2
Total	**304**	**79**	**35**	**44**	**462**

STAR

*PRELIMINARY 2023 STATUS OF PROJECTS

Central IRL (CIRL)



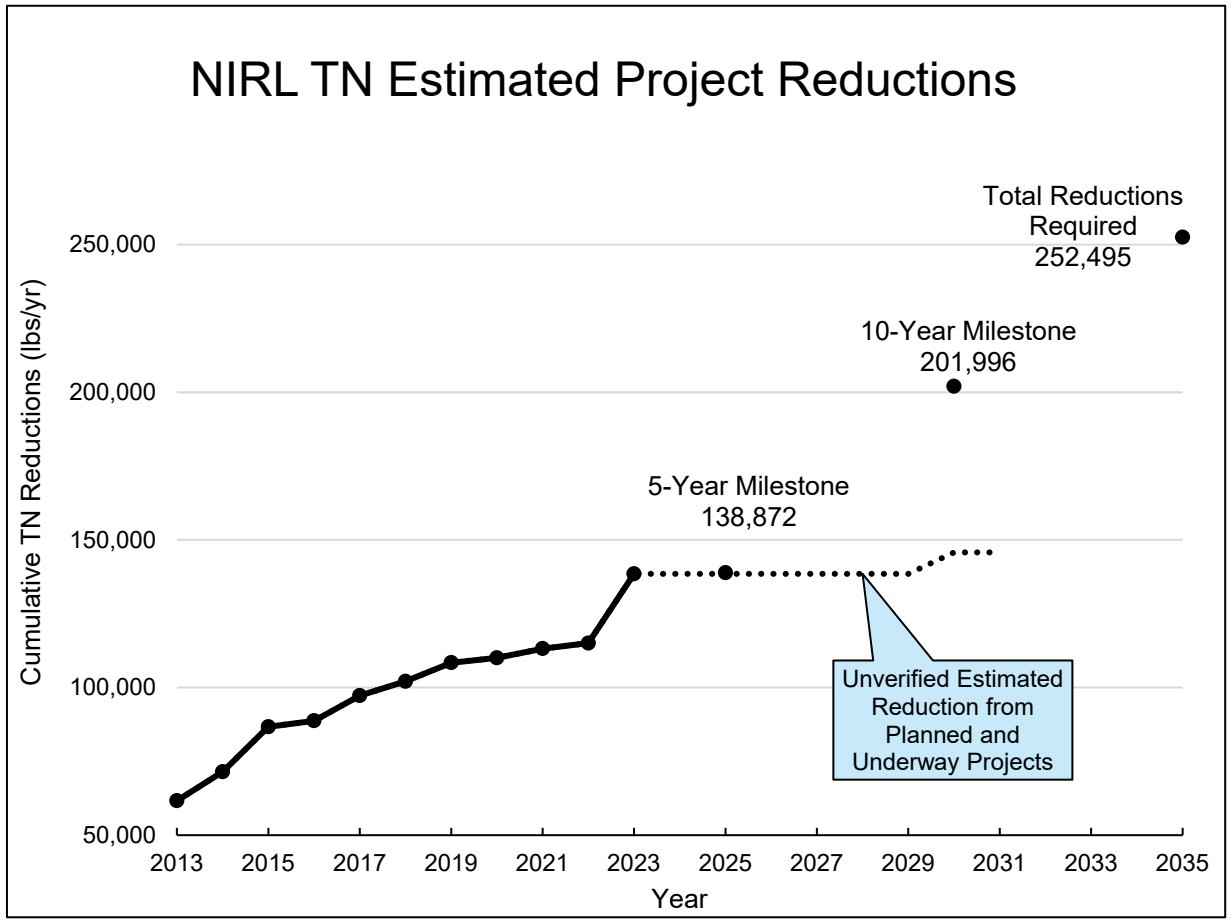


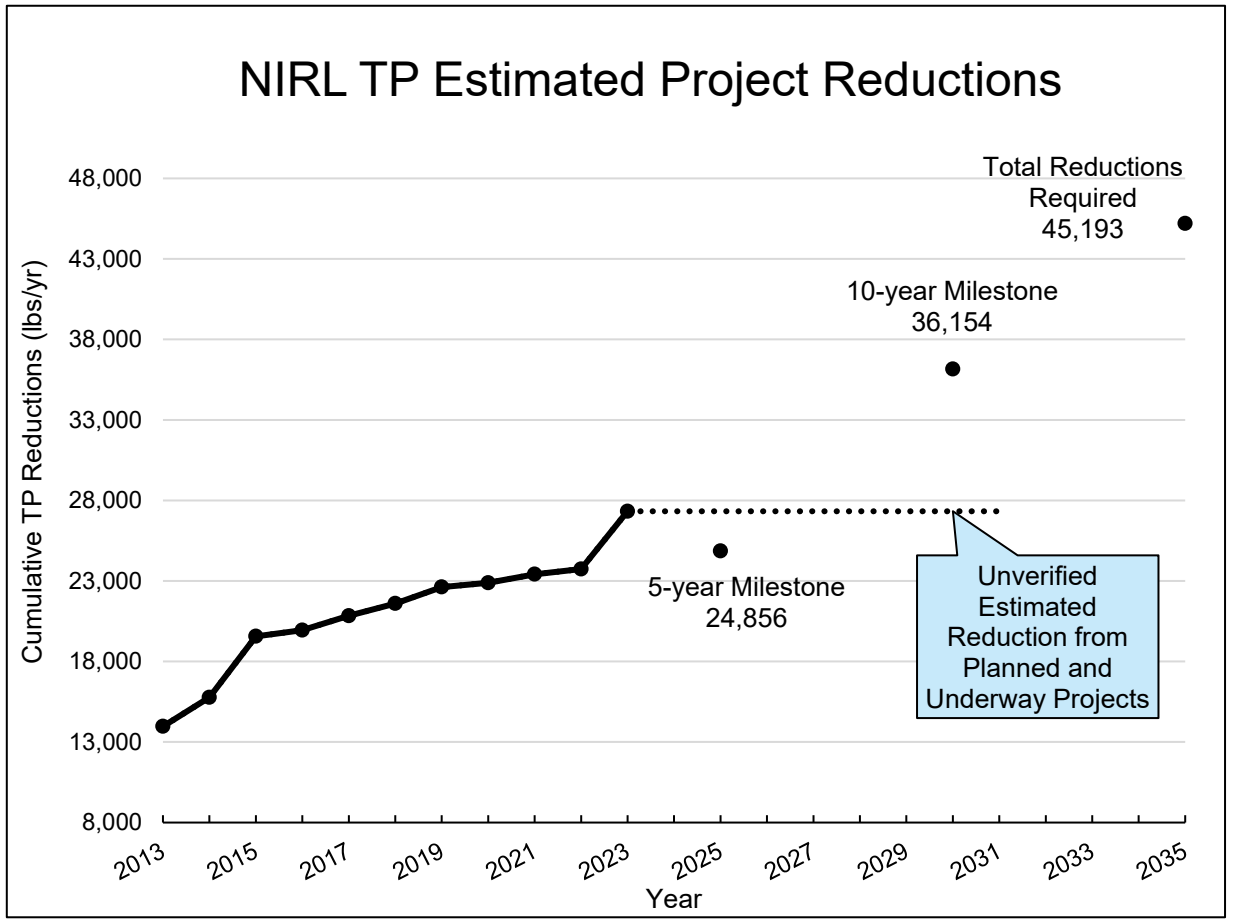
UPCOMING BMAP UPDATE
COMPONENTS

- Spatial Watershed Iterative Loading (SWIL) model update.
- Entity allocation updates.
- Establish entity milestones.
- Incorporate additional projects.
- Incorporate Clean Waterways Act Requirements
- Incorporate HB 1379 requirements.
- Develop a hot spot analysis.
- Seagrass evaluation.
- Additional water quality analyses.
- Evaluate any needed updates to the monitoring network.
- Evaluate wastewater effluent limits.

UPCOMING BMAP UPDATE
ENTITY MILESTONES

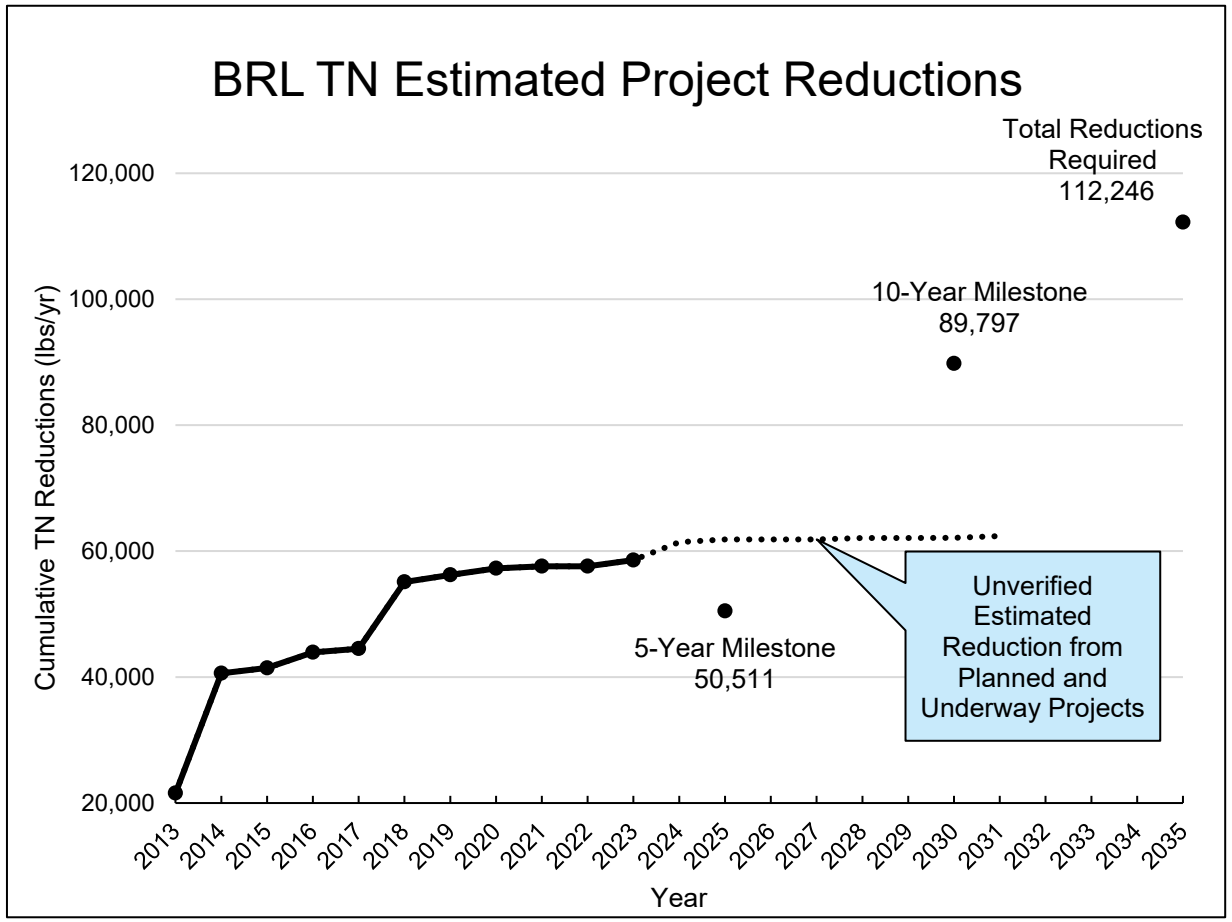
North IRL (NIRL)

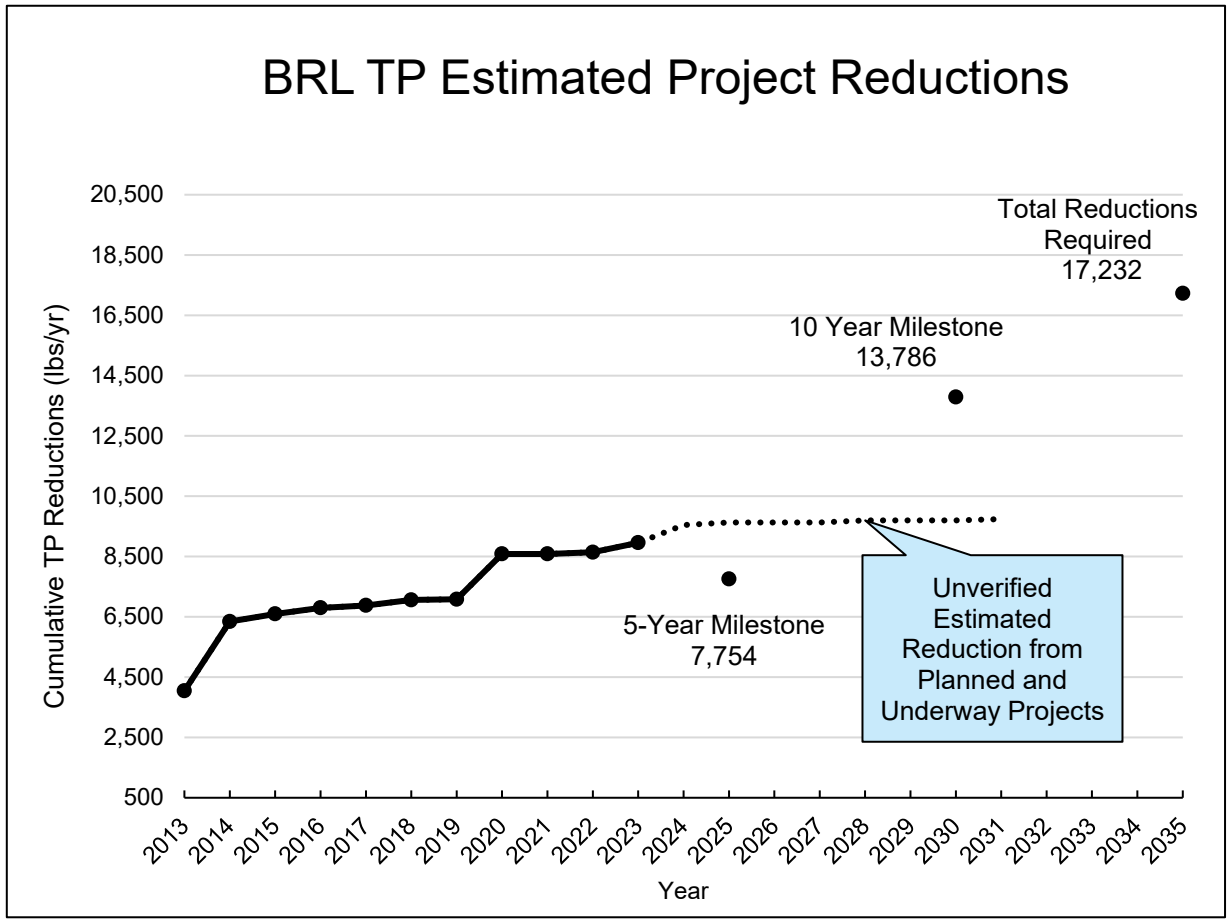




UPCOMING BMAP UPDATE
ENTITY MILESTONES

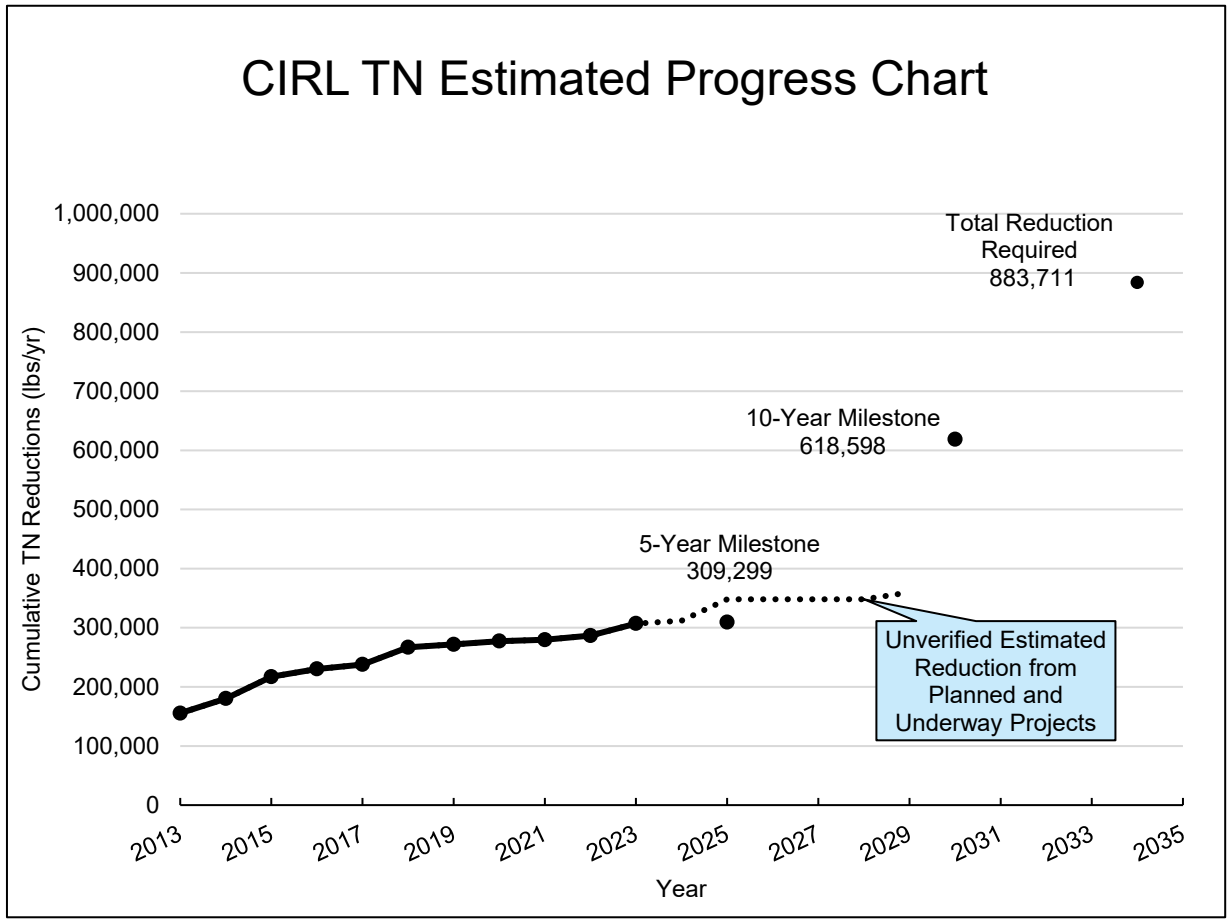
Banana River (BRL)

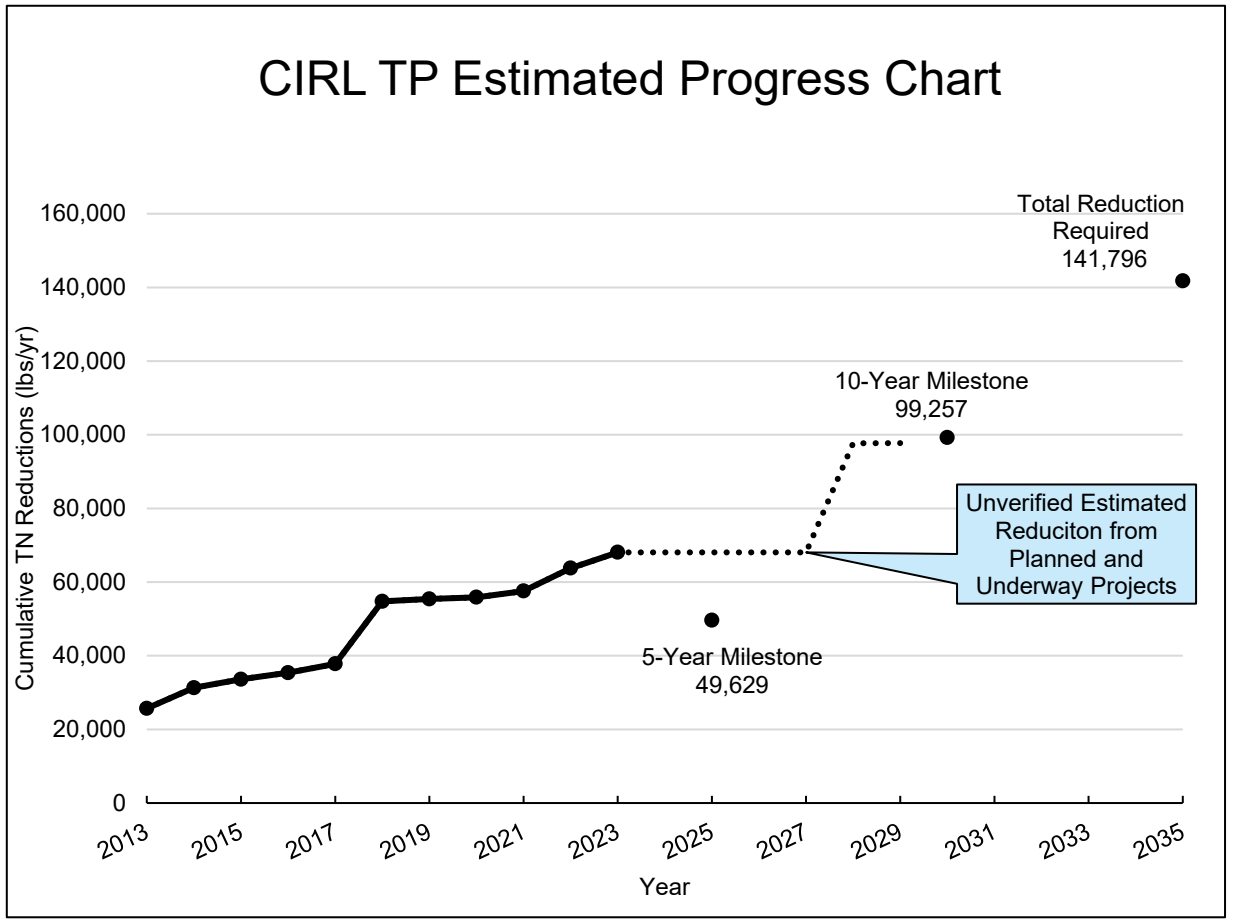




UPCOMING BMAP UPDATE
ENTITY MILESTONES

Central IRL (CIRL)





HOTSPOT ANALYSIS DEVLOPMENT

OVERVIEW

Purpose:

- To highlight areas where more investigation is needed.
- To find more specific areas to focus restoration activities.
- To highlight areas where projects might have stronger results.

Analysis is NOT to determine BMAP or TMDL compliance.

Analysis:

- Analysis uses stations with two to five years of data.
- Analysis uses four statistical components to determine an overall index ranking.
- Analysis does not itself identify sources, rather identifies areas that warrant additional investigation.

HOTSPOT ANALYSIS DEVLOPMENT
COMPONENTS OF THE HOTSPOT INDEX

These four statistics calculated for the BMAP overall and used to compare against each station average:

- TN or TP concentration average.
- TN or TP 90th percentile.
- TN or TP Standard Deviation (SD).
- TN or TP Percent Frequency of Samples over BMAP Threshold.

BMAP Threshold:

- Numeric Nutrient Criteria for Southern IRL area
  - TN – 0.72 mg/L.
  - TP – 0.07 mg/L.

HOTSPOT ANALYSIS DEVLOPMENT

INDEX RANKING APPROACH

Station Concentration Average Rank

Compare to BMAP Threshold and overall BMAP average.

Rank 0: Station average below BMAP threshold.

Rank 1: Station average above threshold but below BMAP average.

Rank 2: Station average 2x above BMAP average.

Percentiles Rank

Compare to BMAP Threshold and 90th percentile for the whole BMAP.

Rank 0: Station average below BMAP threshold.

Rank 1: Station average above threshold but below 90th percentile.

Rank 2: Station average above 90th percentile.

Standard Deviation (SD) Rank

Compare to overall BMAP SD.

Rank 0: Station average below BMAP average + 0.5 SD.

Rank 1: Station average at or above average + 0.5 SD but less than BMAP average + 1 SD.

Rank 2: Station average at or above BMAP average + 1 SD.

Frequency Rank

Compare to BMAP Threshold.

Rank 0: Station percent exceedance below 5% of samples.

Rank 1: Station exceedances between 5% and 49% of samples.

Rank 2: Station exceedances over 50% of samples.

HOTSPOT ANALYSIS DEVLOPMENT

FINAL OVERALL RANK

Average Rank
+
Percentile Rank
+
SD Rank
+
Frequency Rank

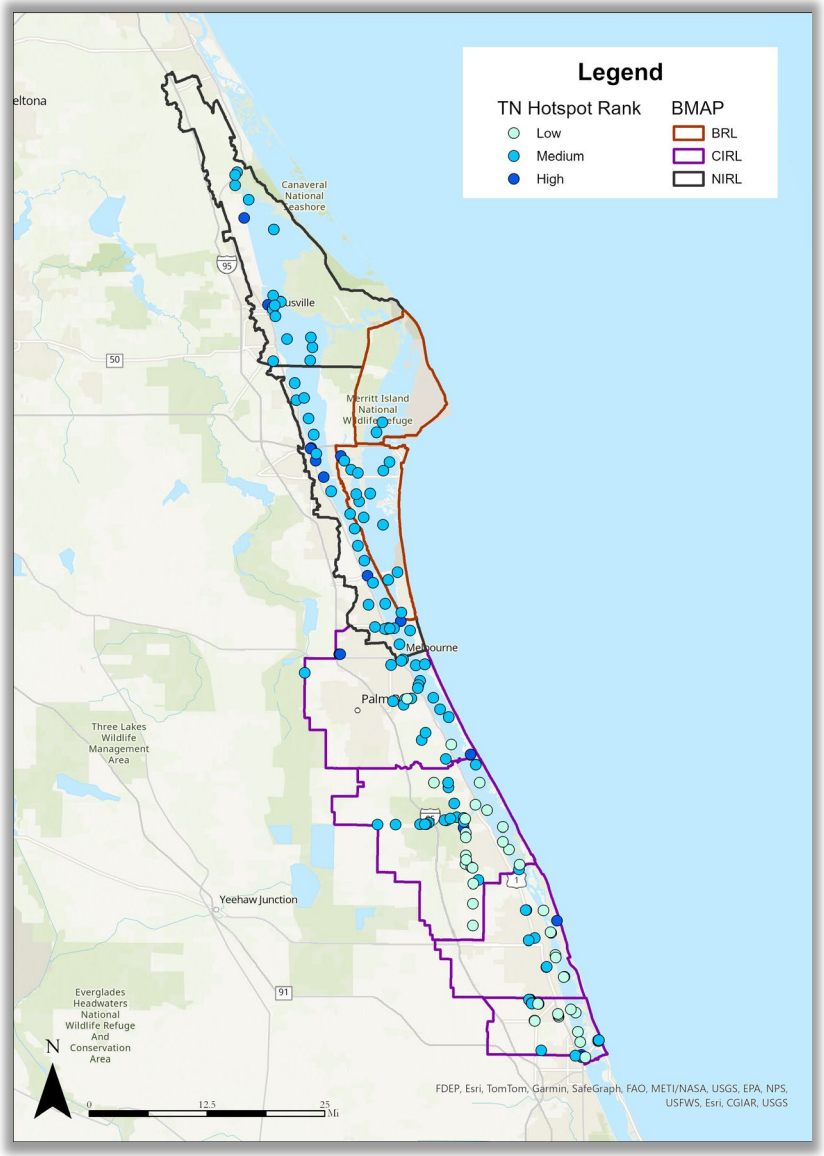
=

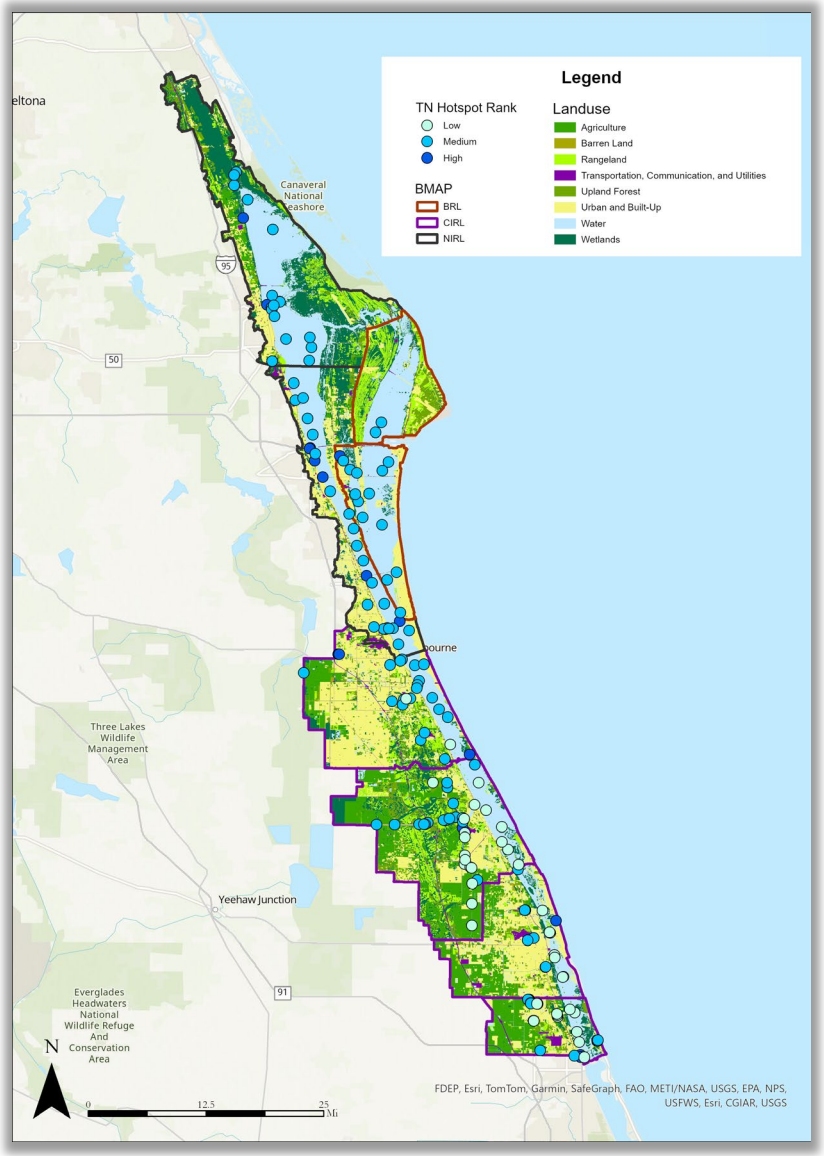
Total Index Rank

Rank 0 = Least Concern
Rank 8 = High Concern

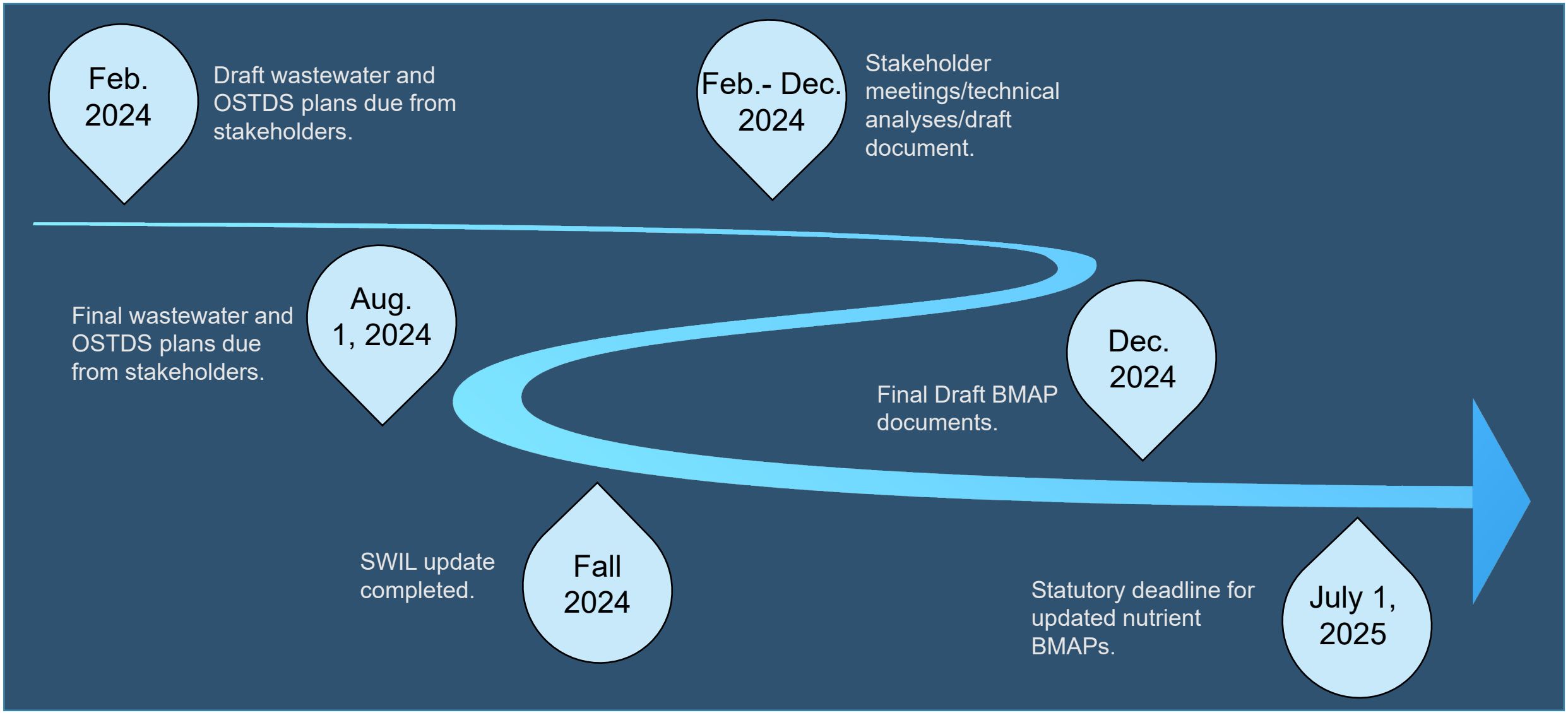
HOTSPOT ANALYSIS RESULTS EXAMPLE

RESULTS





UPCOMING SCHEDULE



Indian River Lagoon BMAP Annual Meeting

April 25, 2024

Yesenia Escribano

Florida Department of Agriculture and Consumer Services

Office of Agricultural Water Policy

Overview

- Office of Agricultural Water Policy (OAWP) Staff and Responsibilities
- Agricultural Best Management Practices (BMP)
- BMP Manual Update
- Enrollments within the Indian River Lagoon Basin
  - Unenrolled Agricultural Lands Classification
- Mail Out Efforts
- BMP Implementation Verification (IVs)
- BMP Enrollment Viewer Web App

Legislative Report

Office of Agricultural Water Policy (OAWP)

- **West Gregory;** Director West.Gregory@FDACS.gov
- **J.P. Fraites;** Asst. Director John.Fraites@FDACS.gov
- **Bret Prater;** Asst. Director Bret.Prater@FDACS.gov
- **Angela Chelette;** Chief of Policy Planning and Coordination Angela.Chelette@FDACS.gov
- **Steve Smith;** Chief of Field Services Steve.Smith@FDACS.gov

OAWP Staff

- **Yesenia Escribano;** Environmental Administrator - BMAPs
  Yesenia.Escribano@fdacs.gov

- **Raulie Raulerson;** Environmental Administrator - Field Services
  Raulie.Raulerson@fdacs.gov

- **Stacey Simmons;** Environmental Manager - Field Services
  Stacey.Simmons@fdacs.gov

OAWP Responsibilities

- **Section 403.067, F.S.**
  - Outlines coordination with FDACS on the development of TMDLs and BMAPs
  - Provides for development and adoption of Best Management Practices (BMPs) by FDACS as a tool to meet agricultural pollutant load allocations in BMAPs
- **Section 373.469, F.S.**
  - Requires coordination with FDACS to identify and prioritize strategies to achieve water quality standards in the IRL watershed

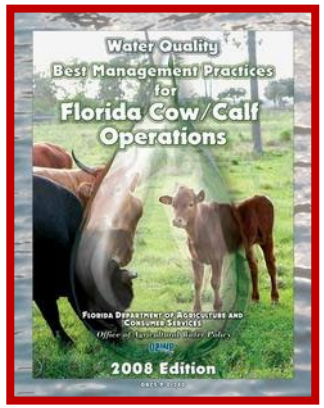
OAWP Responsibilities

- Development and implementation of agricultural best management practices (BMPs)
- Implementation of cost share programs
- Water supply and water quality planning and coordination
- Scientific and technical research
- Other policy development and statutory responsibilities
- Binding determinations

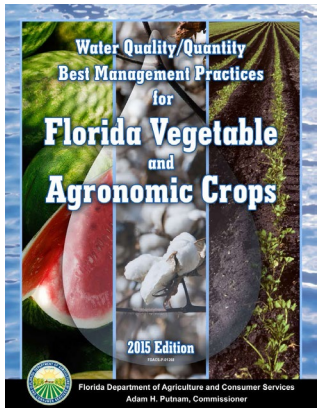
Benefits of Agricultural Best Management Practices

- Management strategies, tools and practices that improve water quality, conserve water, and protect water resources (Efficiency)
- Best available science and technology
- Technical and economic feasibility (Manual)
- Balance productivity with water quality improvement
- Proper implementation confirmed through implementation verification (IV) site visits

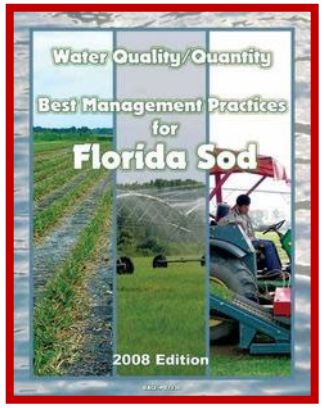
BMP Manuals

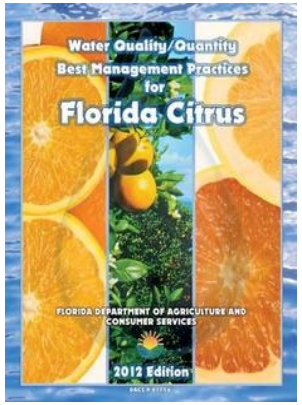

Water Quality
Best Management Practices
for
Florida Cow/Calf Operations
2008 Edition

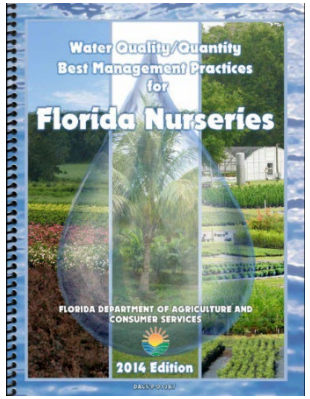

Water Quality/Quantity
Best Management Practices
for
Florida Specialty Fruit and Nut Crops
2011 Edition

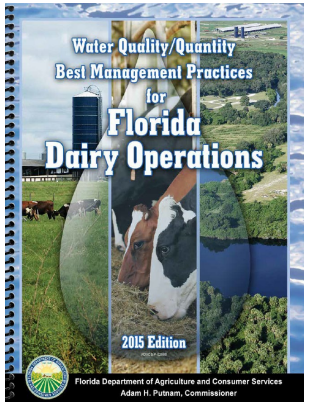

Water Quality/Quantity
Best Management Practices
for
Florida Vegetable
and
Agronomic Crops
2015 Edition
Florida Department of Agriculture and Consumer Services
Adam H. Putnam, Commissioner

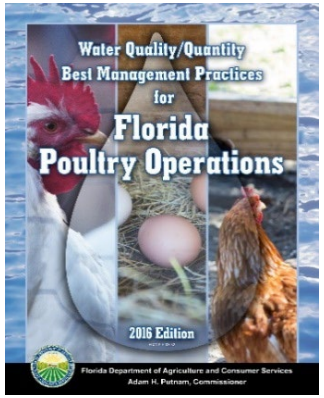

Water Quality/Quantity
Best Management Practices
for
Florida Equine Operations
2011 Edition

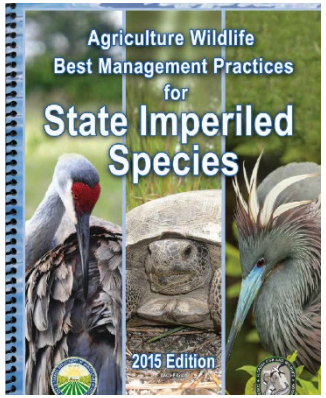

Water Quality/Quantity
Best Management Practices
for
Florida Sod
2008 Edition


Water Quality/Quantity
Best Management Practices
for
Florida Citrus
2012 Edition


Water Quality/Quantity
Best Management Practices
for
Florida Nurseries
2014 Edition


Water Quality/Quantity
Best Management Practices
for
Florida Dairy Operations
2015 Edition
Florida Department of Agriculture and Consumer Services
Adam H. Putnam, Commissioner


Water Quality/Quantity
Best Management Practices
for
Florida Poultry Operations
2016 Edition
Florida Department of Agriculture and Consumer Services
Adam H. Putnam, Commissioner

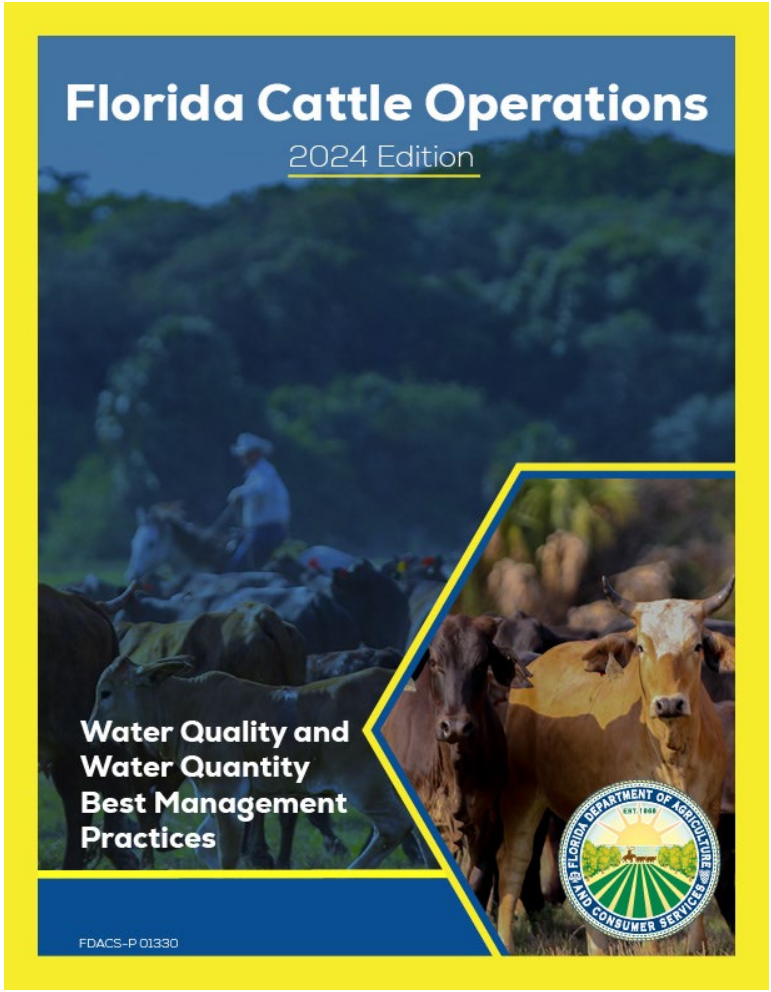

Agriculture Wildlife
Best Management Practices
for
State Imperiled Species
2015 Edition

Update BMP Manuals: Status

Best Management Practices (BMPs)

The producer agrees to perform the following items either checked as "In Use" or "Planned:

Nutrient Management					
Do you apply nutrients or plan to apply nutrients in any form on the operation associated with this NOI?			**Yes**	**No**	**-**
			In Use	**Planned**	**N/A**
1.1	**Right Source**				
	1	If using commercial fertilizer (including Class AA biosolids), identify and document the nitrogen (N), phosphorus (P), and potassium (K) concentrations using the guaranteed analysis or product label information prior to application.			
	2	If using manures, poultry litter, compost, or other sources, determine and document the N, P, and K concentrations of those materials prior to application. Acceptable alternatives to laboratory analysis include supplier analysis, NRCS guidelines or values established in scientific literature.			
	3	If using Class A or Class B biosolids, account for the nutrient concentrations and follow the requirements of the FDEP permit.			
1.2	**Right Rate**				



Producer Options in BMAP Areas

1. Sign a Notice of Intent (NOI) and properly implement applicable BMPs for presumption of compliance, OR

2. Follow an FDEP or WMD-prescribed water quality monitoring plan at a producer's expense

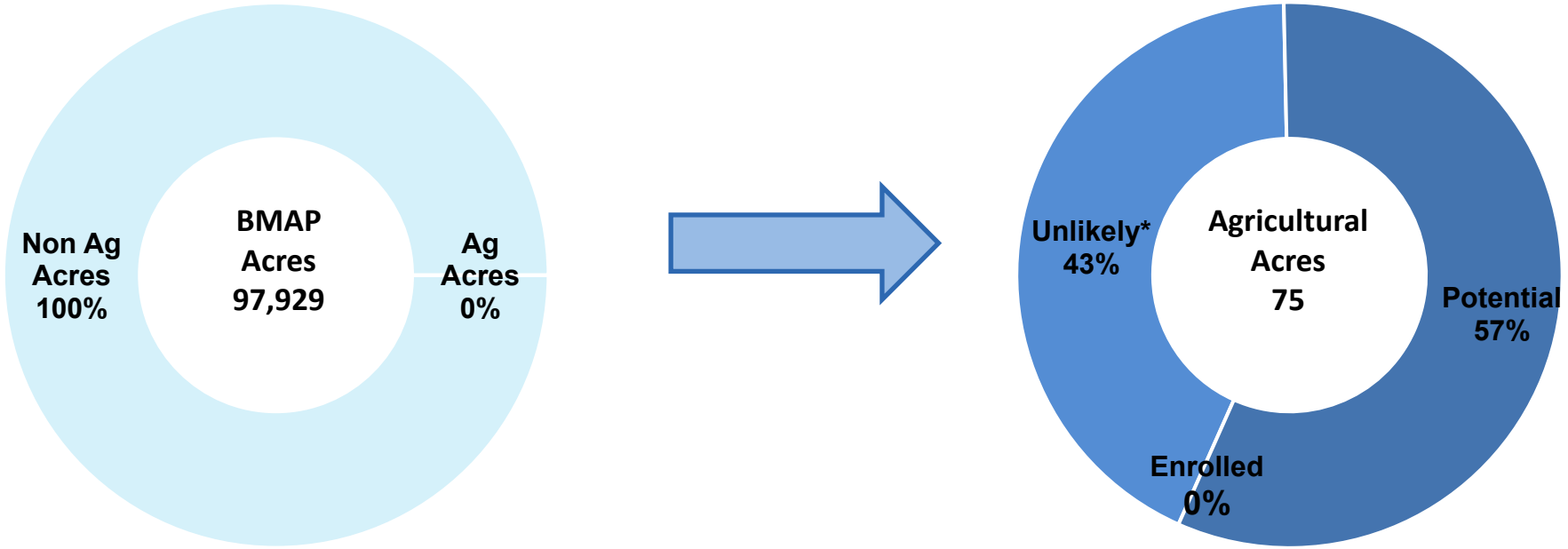
Enrollments within the Indian River Lagoon BMAP

BMAP	Project Zone	Total Ag Acres	Enrolled Ag Acres	% Enrolled	Irrigated Acres	Enrolled Irrigated Acres	% Enrolled Irrigated
Banana	-	75	0.05	0%	0.05	0.05	100%
Central	A	9,898	382	4%	181	33	18%
Central	B	16,138	1,778	11%	1,667	454	27%
Central	SEB	33,464	10,277	31%	5,274	3,274	62%
Central	SIRL	12,664	2,650	21%	2,512	1,503	60%
North	A	5,383	385	7%	265	112	42%
North	B	1,412	228	16%	91	15	16%

BMP enrollment as of Dec 31, 2023, and the 10th Florida Statewide Agricultural Irrigation Demand (FSAID) Geodatabase

Agricultural Lands within Banana BMAP

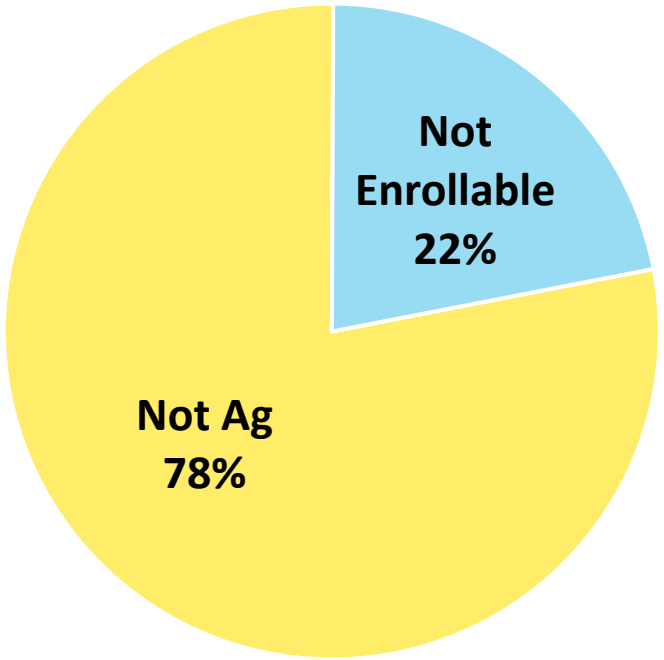
BMAP Non-Agricultural Acres	BMAP Agricultural Acres	Enrolled Agricultural Acres	Unenrolled - Unlikely Enrollable Acres *	Unenrolled - Potentially Enrollable Acres
97,854	75	0	32	43



*This value includes acreages within state-owned properties and/or surface water project areas

Unenrolled - Unlikely Enrollable Acres within Banana BMAP

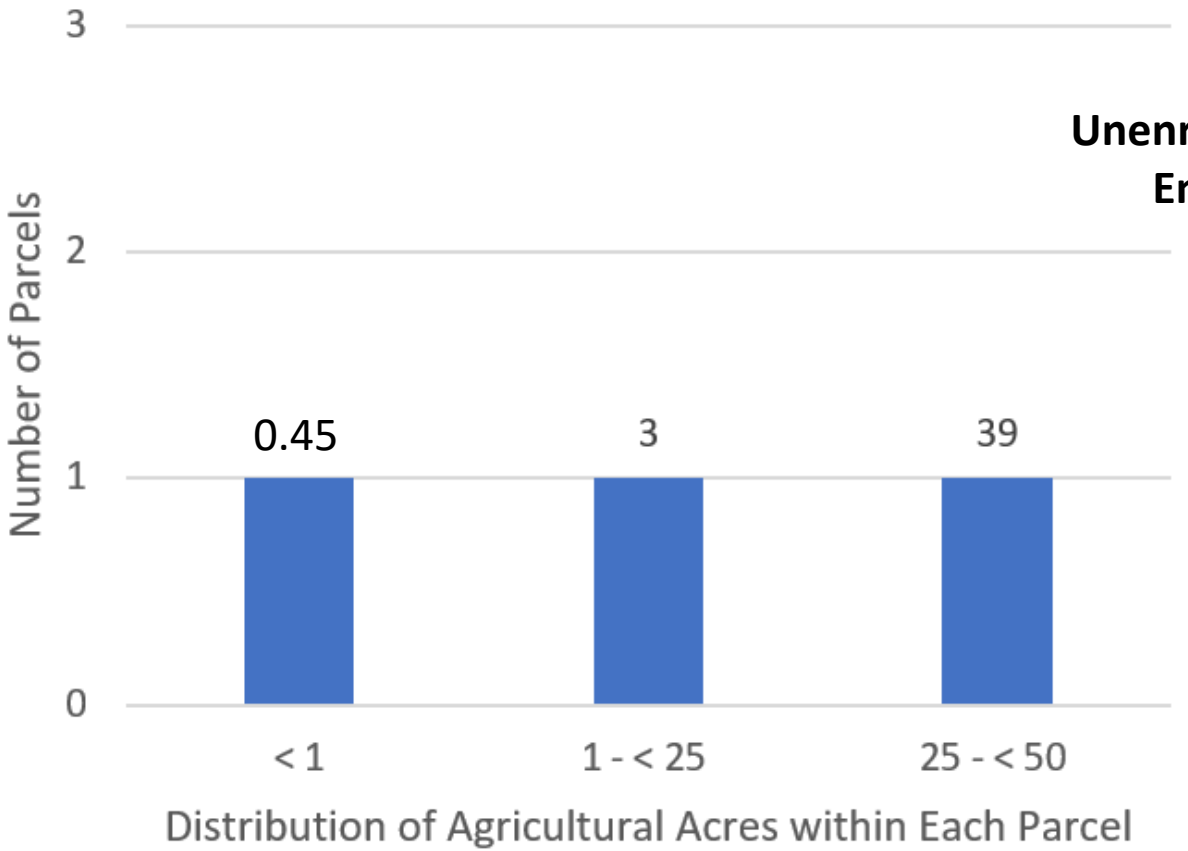
Category	Acres
State Lands, Surface Water Projects	0
Timberland and Aquaculture**	0
Not Agriculture [e.g., DOR Use Code 70-99 (industrial or institutional use, acreage not zoned agricultural)]	25
Not Enrollable [e.g., missing parcel information, no overlap, conflicting parcel info, slivers]	7



Unenrolled - Unlikely Enrollable Acres = 32

** *May be eligible to be enrolled under the FDACS Florida Forest Service's Silviculture BMP Manual or the FDACS Division of Aquaculture's Aquaculture BMP manual.*

Potentially Enrollable Parcels & Agricultural Acres within Banana IRL BMAP



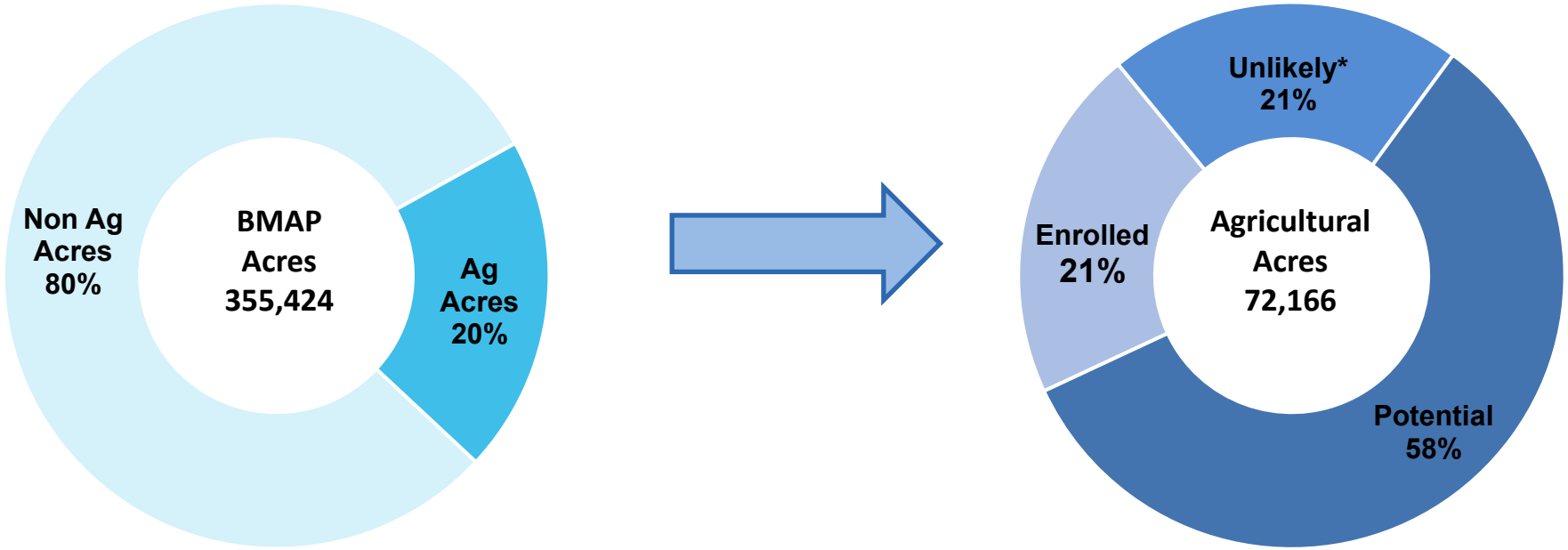
Unenrolled - Potentially Enrollable Acres = 43 (42.57)

Agricultural Acres Enrolled within Central IRL BMAP

BMP Manual	Acres
Citrus	2,620
Cow/Calf	10,305
Dairy	0
Equine	21
Fruit & Nut	0
LOPP	0
Multiple Commodities	1,211
Nursery	153
Poultry	0
Row/Field Crop	777
Sod	0
Wildlife	0
Total	**15,087**

Agricultural Lands within Central IRL BMAP

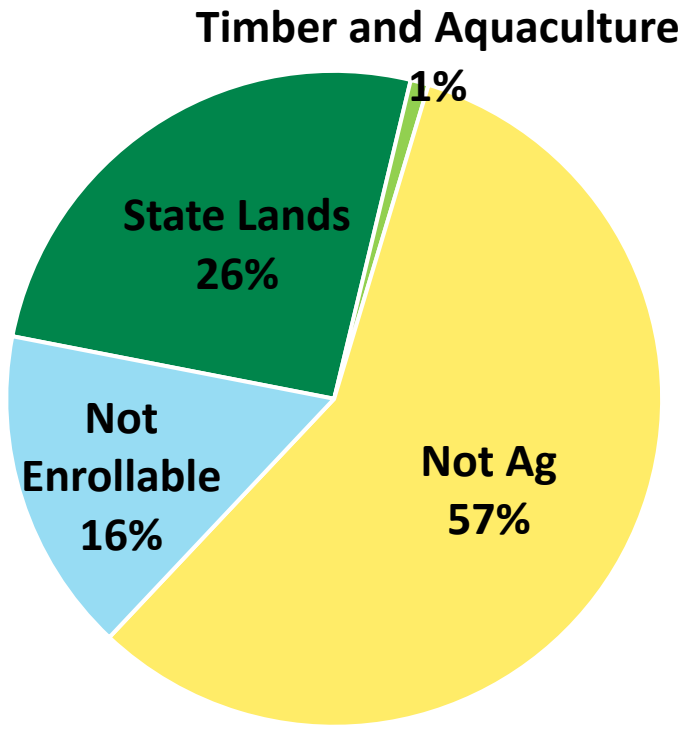
BMAP Non-Agricultural Acres	BMAP Agricultural Acres	Enrolled Agricultural Acres	Unenrolled - Unlikely Enrollable Acres *	Unenrolled - Potentially Enrollable Acres
283,258	72,166	15,087	15,403	41,677



*This value includes acreages within state-owned properties and/or surface water project areas

Unenrolled - Unlikely Enrollable Acres within Central IRL BMAP

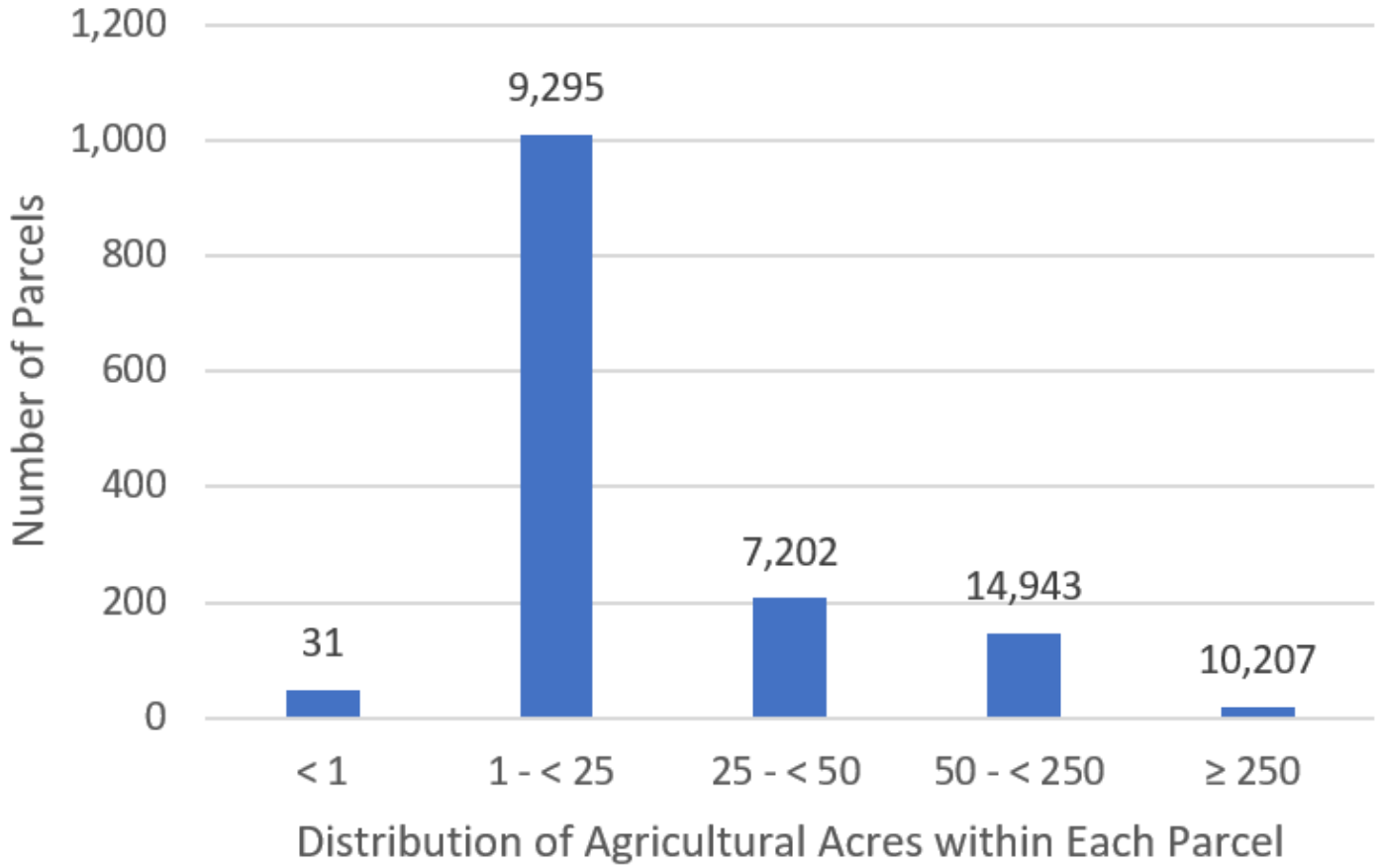
Category	Acres
State Lands, Surface Water Projects	3,956
Timberland and Aquaculture**	138
Not Agriculture [e.g., DOR Use Code 70-99 (industrial or institutional use, acreage not zoned agricultural)]	8,840
Not Enrollable [e.g., missing parcel information, no overlap, conflicting parcel info, slivers]	2,469



Unenrolled - Unlikely Enrollable Acres = 15,403

** *May be eligible to be enrolled under the FDACS Florida Forest Service's Silviculture BMP Manual or the FDACS Division of Aquaculture's Aquaculture BMP manual.*

Potentially Enrollable Parcels & Agricultural Acres within Central IRL BMAP



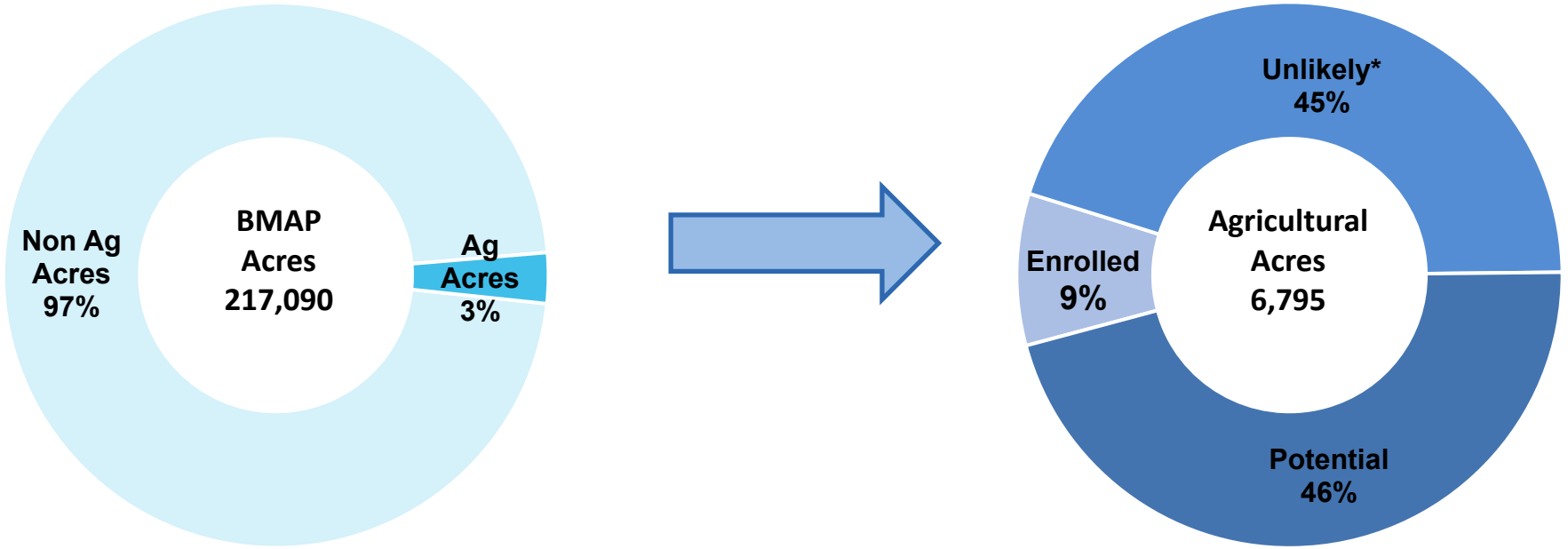
Unenrolled - Potentially Enrollable Acres = 41,677

Agricultural Acres Enrolled within North IRL BMAP

BMP Manual	Acres
Citrus	246
Cow/Calf	189
Dairy	0
Equine	0
Fruit & Nut	34
LOPP	0
Multiple Commodities	143
Nursery	1
Poultry	0
Row/Field Crop	0
Sod	0
Wildlife	0
Total	**613**

Agricultural Lands within North IRL BMAP

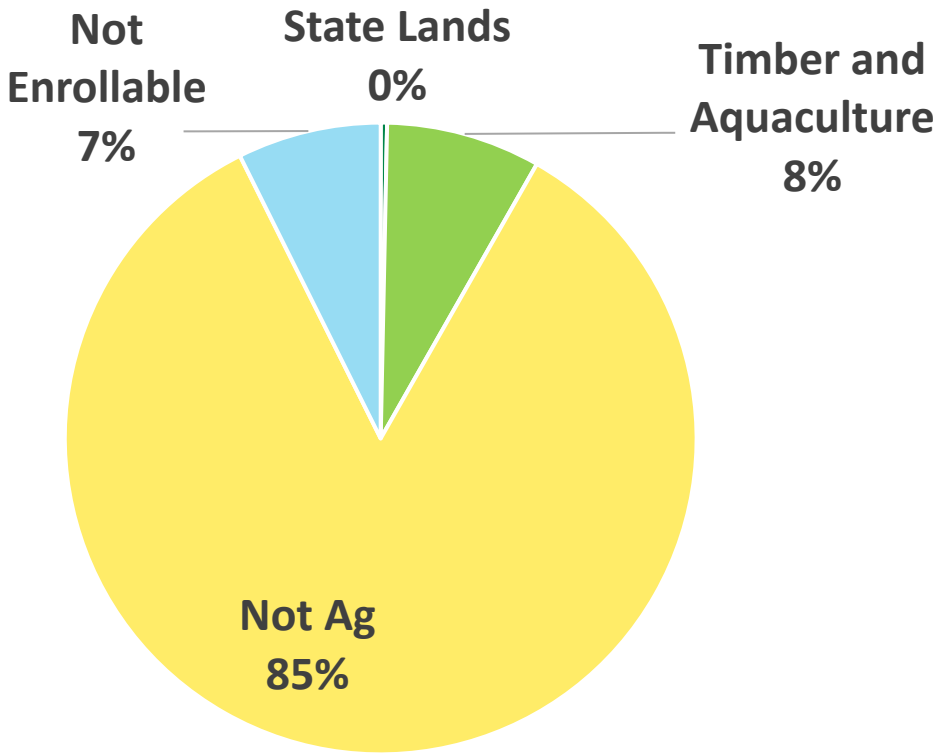
BMAP Non-Agricultural Acres	BMAP Agricultural Acres	Enrolled Agricultural Acres	Unenrolled - Unlikely Enrollable Acres *	Unenrolled - Potentially Enrollable Acres
210,295	6,795	613	3,065	3,117



*This value includes acreages within state-owned properties and/or surface water project areas

Unenrolled - Unlikely Enrollable Acres within North IRL BMAP

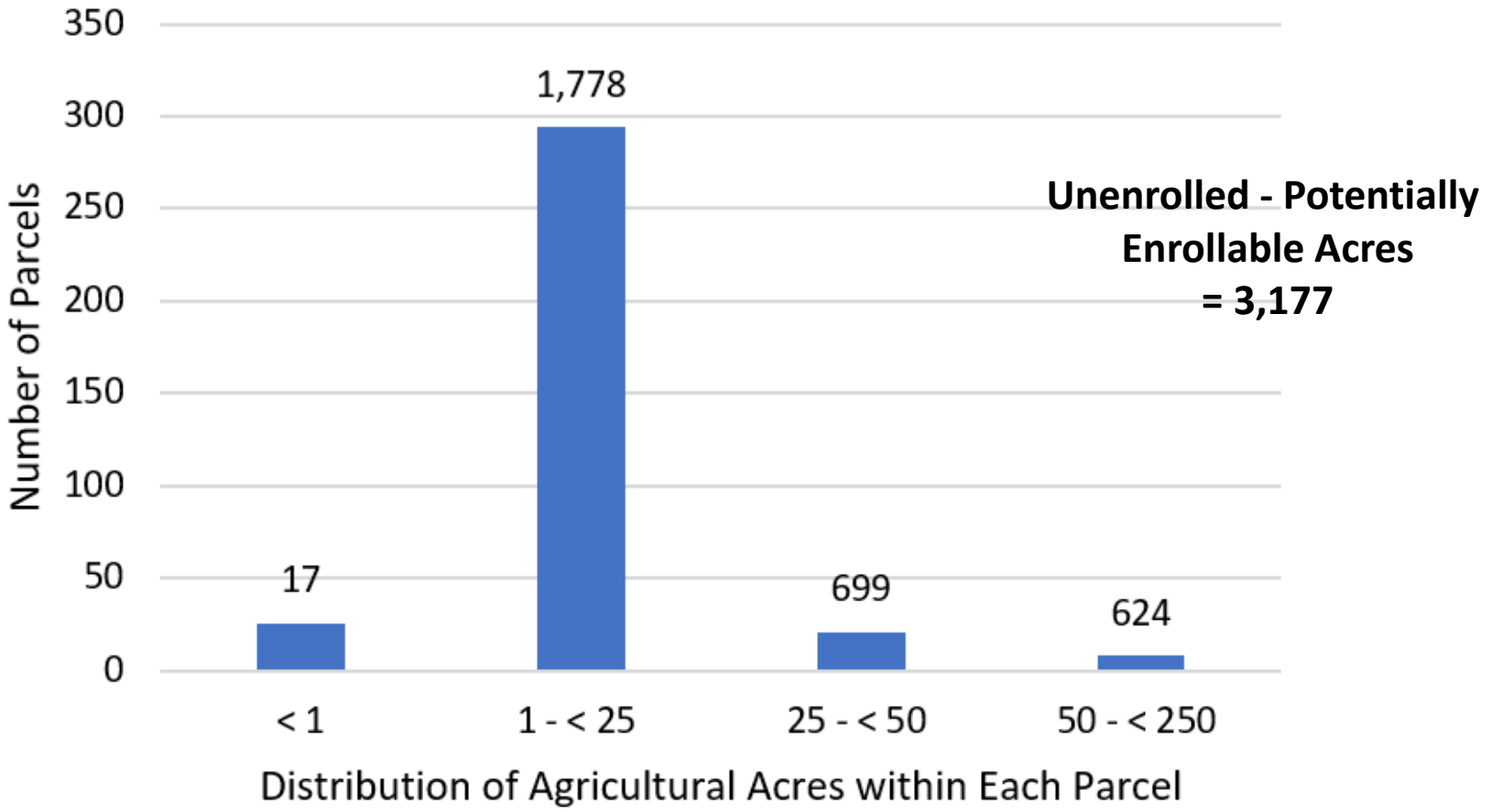
Category	Acres
State Lands, Surface Water Projects	4
Timberland and Aquaculture**	243
Not Agriculture [e.g., DOR Use Code 70-99 (industrial or institutional use, acreage not zoned agricultural)]	2,593
Not Enrollable [e.g., missing parcel information, no overlap, conflicting parcel info, slivers]	226



Unenrolled - Unlikely Enrollable Acres = 3,066 (3,065)

** *May be eligible to be enrolled under the FDACS Florida Forest Service's Silviculture BMP Manual or the FDACS Division of Aquaculture's Aquaculture BMP manual.*

Potentially Enrollable Parcels & Agricultural Acres within North IRL BMAP



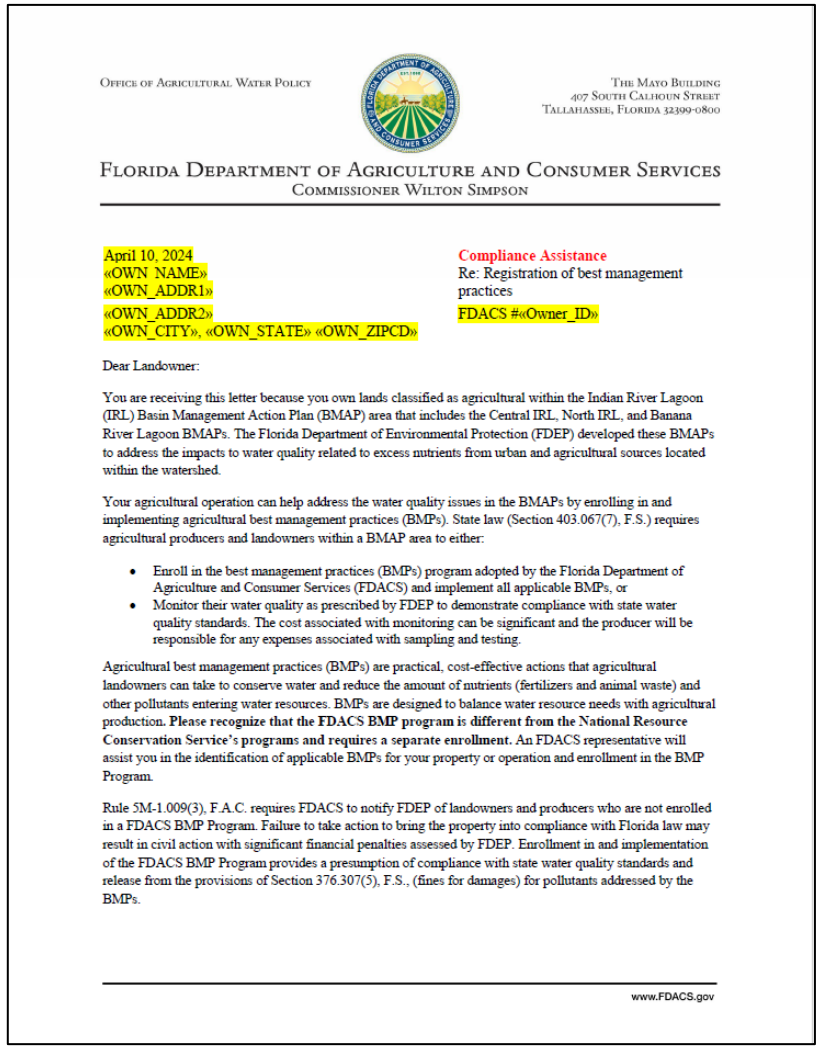
Mail Out Efforts

February 29th: 990 letters

April 1st : 114 responses

April 25th : 90 landowners in queue for enrollment

June 12th : non responders will be sent to DEP



Office of Agricultural Water Policy

The Mayo Building
407 South Calhoun Street
Tallahassee, Florida 32399-0800

Florida Department of Agriculture and Consumer Services
Commissioner Wilton Simpson

April 10, 2024
«OWN_NAME»
«OWN_ADDR1»
«OWN_ADDR2»
«OWN_CITY», «OWN_STATE» «OWN_ZIPCD»

Compliance Assistance
Re: Registration of best management practices
FDACS #«Owner_ID»

Dear Landowner:

You are receiving this letter because you own lands classified as agricultural within the Indian River Lagoon (IRL) Basin Management Action Plan (BMAP) area that includes the Central IRL, North IRL, and Banana River Lagoon BMAPs. The Florida Department of Environmental Protection (FDEP) developed these BMAPs to address the impacts to water quality related to excess nutrients from urban and agricultural sources located within the watershed.

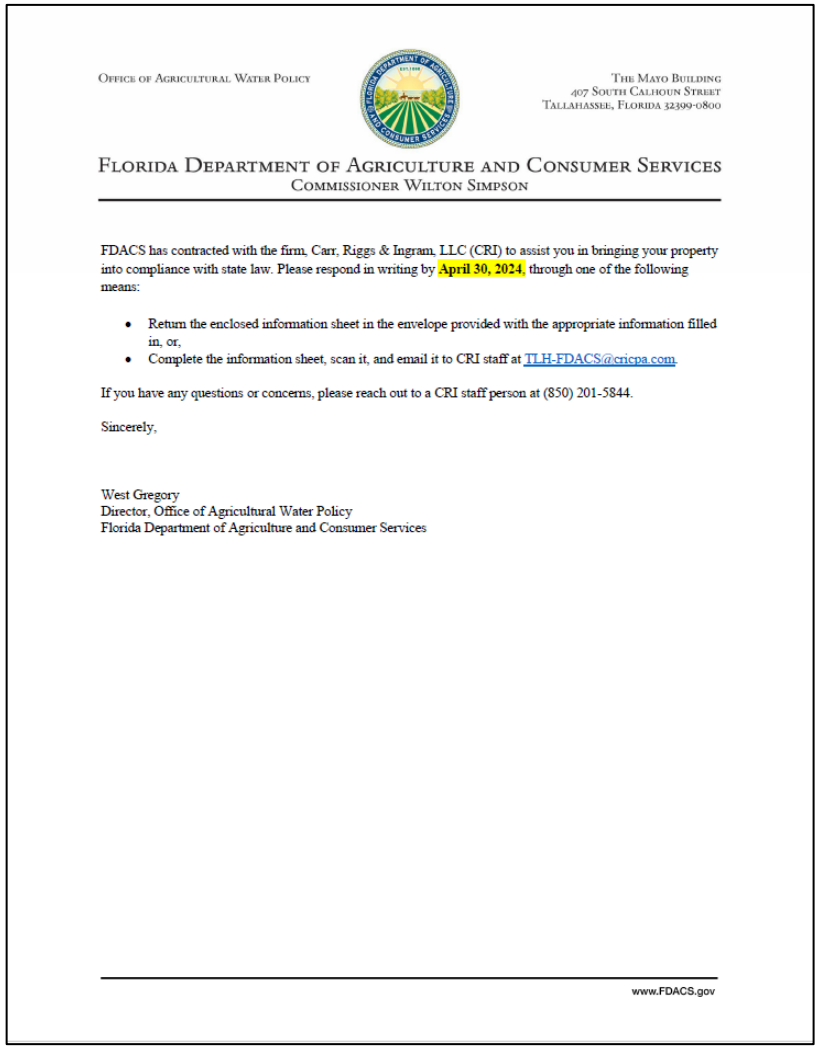
Your agricultural operation can help address the water quality issues in the BMAPs by enrolling in and implementing agricultural best management practices (BMPs). State law (Section 403.067(7), F.S.) requires agricultural producers and landowners within a BMAP area to either:

- Enroll in the best management practices (BMPs) program adopted by the Florida Department of Agriculture and Consumer Services (FDACS) and implement all applicable BMPs, or
- Monitor their water quality as prescribed by FDEP to demonstrate compliance with state water quality standards. The cost associated with monitoring can be significant and the producer will be responsible for any expenses associated with sampling and testing.

Agricultural best management practices (BMPs) are practical, cost-effective actions that agricultural landowners can take to conserve water and reduce the amount of nutrients (fertilizers and animal waste) and other pollutants entering water resources. BMPs are designed to balance water resource needs with agricultural production. **Please recognize that the FDACS BMP program is different from the National Resource Conservation Service's programs and requires a separate enrollment.** An FDACS representative will assist you in the identification of applicable BMPs for your property or operation and enrollment in the BMP Program.

Rule 5M-1.009(3), F.A.C. requires FDACS to notify FDEP of landowners and producers who are not enrolled in a FDACS BMP Program. Failure to take action to bring the property into compliance with Florida law may result in civil action with significant financial penalties assessed by FDEP. Enrollment in and implementation of the FDACS BMP Program provides a presumption of compliance with state water quality standards and release from the provisions of Section 376.307(5), F.S., (fines for damages) for pollutants addressed by the BMPs.

www.FDACS.gov



Office of Agricultural Water Policy

The Mayo Building
407 South Calhoun Street
Tallahassee, Florida 32399-0800

Florida Department of Agriculture and Consumer Services
Commissioner Wilton Simpson

FDACS has contracted with the firm, Carr, Riggs & Ingram, LLC (CRI) to assist you in bringing your property into compliance with state law. Please respond in writing by **April 30, 2024**, through one of the following means:

- Return the enclosed information sheet in the envelope provided with the appropriate information filled in, or,
- Complete the information sheet, scan it, and email it to CRI staff at TLH-FDACS@cricpa.com.

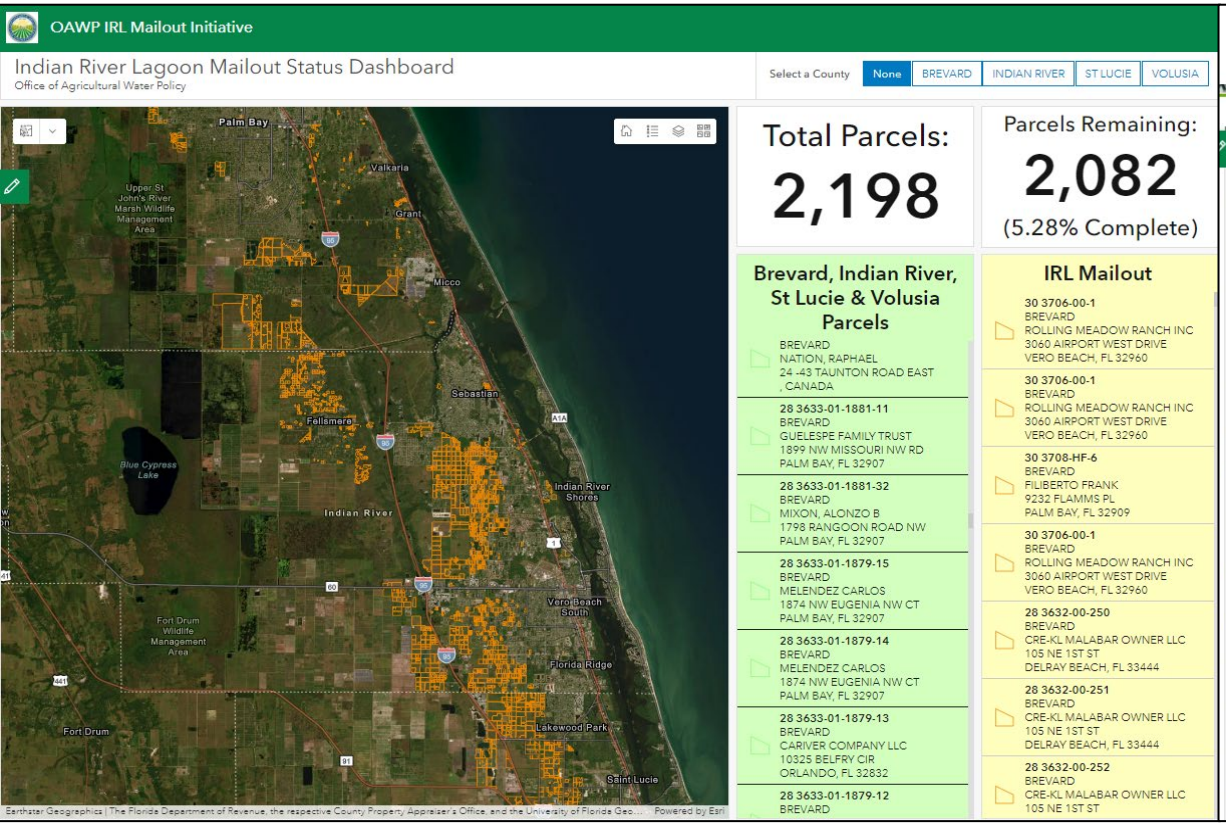
If you have any questions or concerns, please reach out to a CRI staff person at (850) 201-5844.

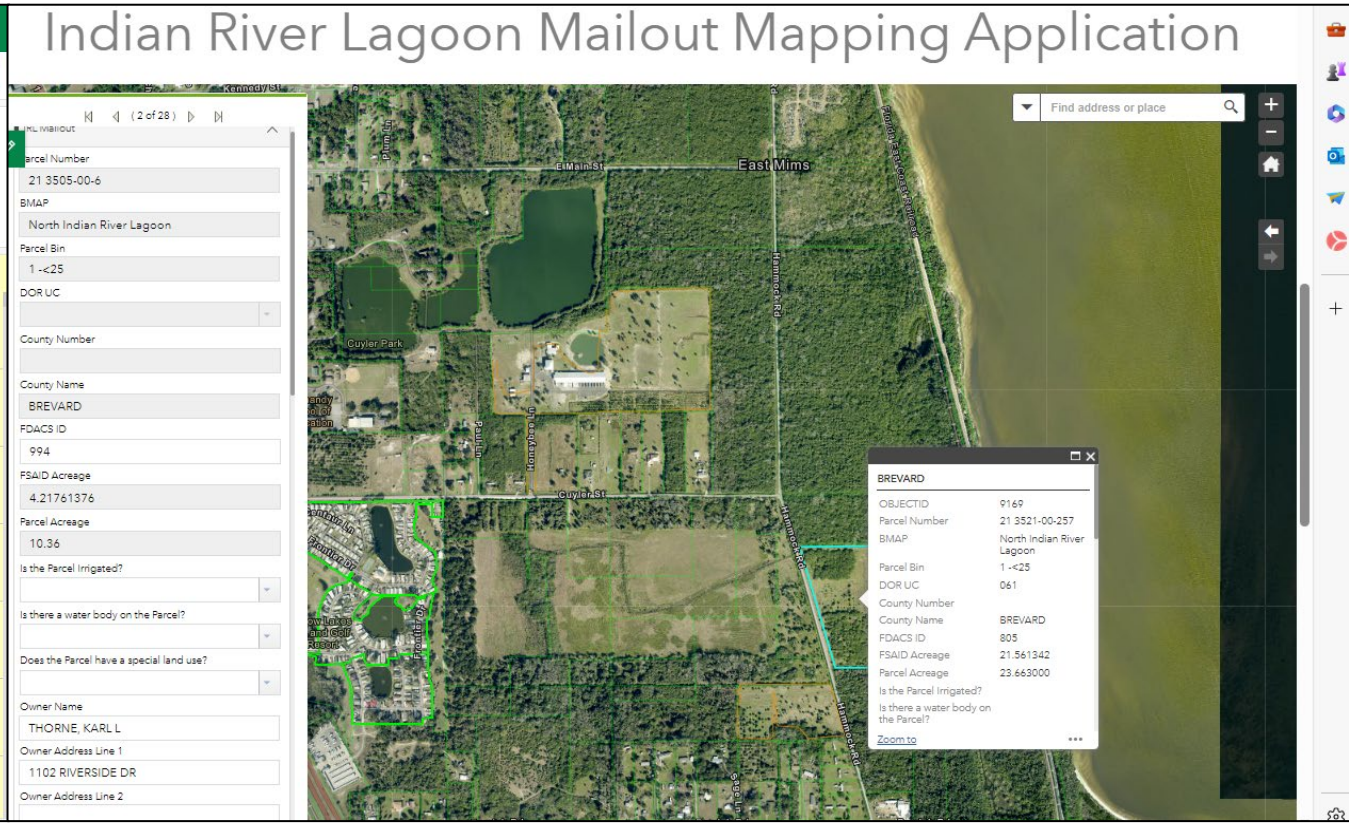
Sincerely,

West Gregory
Director, Office of Agricultural Water Policy
Florida Department of Agriculture and Consumer Services

www.FDACS.gov

Mail Out Efforts

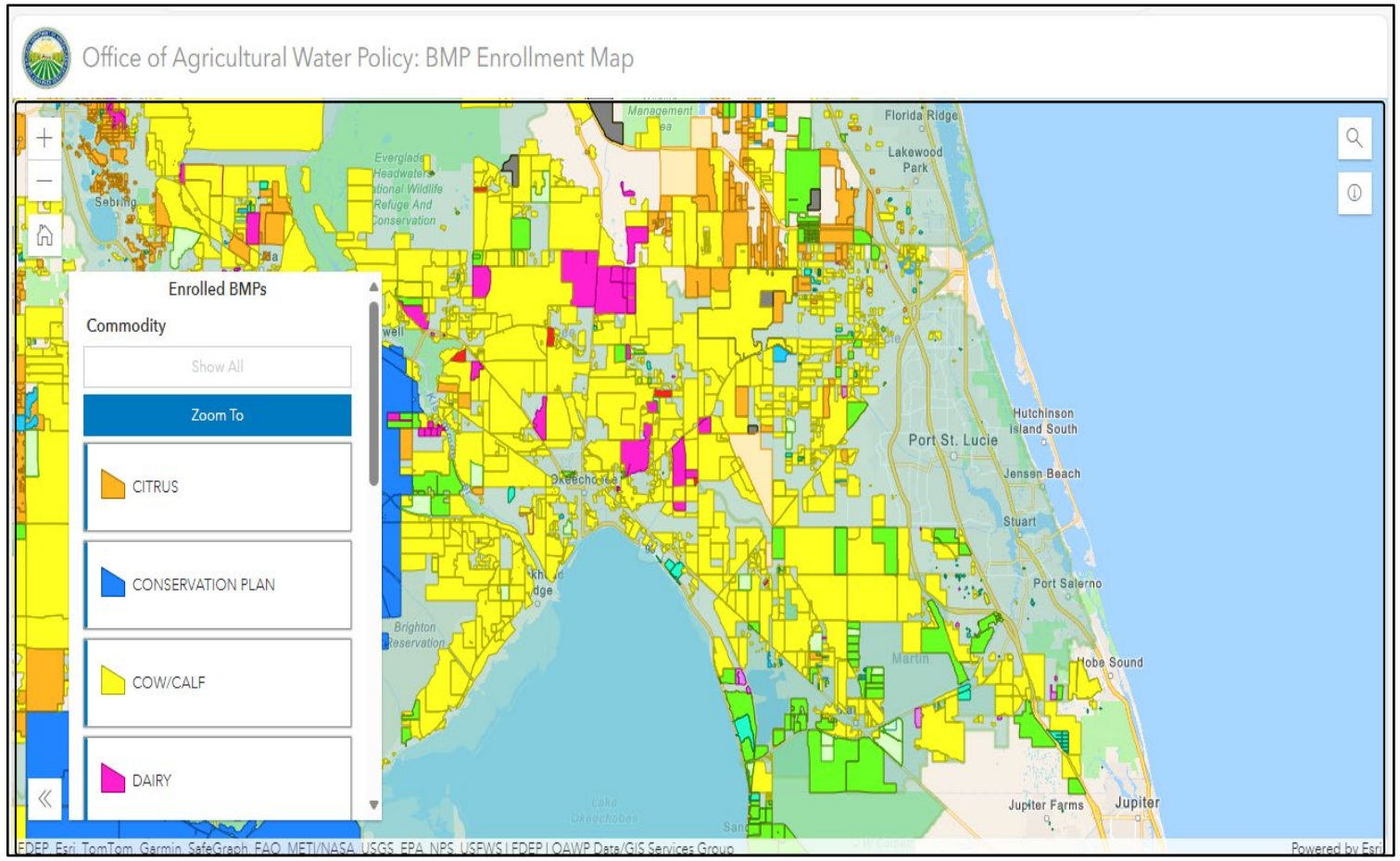




BMP Implementation Verification (IV)

- Process to verify the status of implementation of BMPs
- **Clean Waterways Act - SB 712 (July 2020)**
  - Requires IV site visits every 2 years (Jan 2022 – Dec 2023)
    - Central IRL 93%
    - North IRL 94%
  - Requires collection, review, and retention of N and P fertilizer records
    - Nutrient Application Record Form (NARF)
  - FDACS reports total N and P applications to FDEP for utilization in BMAP assessments

BMP Enrollment Viewer Web App



[Office of Agricultural Water Policy: BMP Enrollment Map (fdacs.gov)]

2024 FDACS Legislative Report

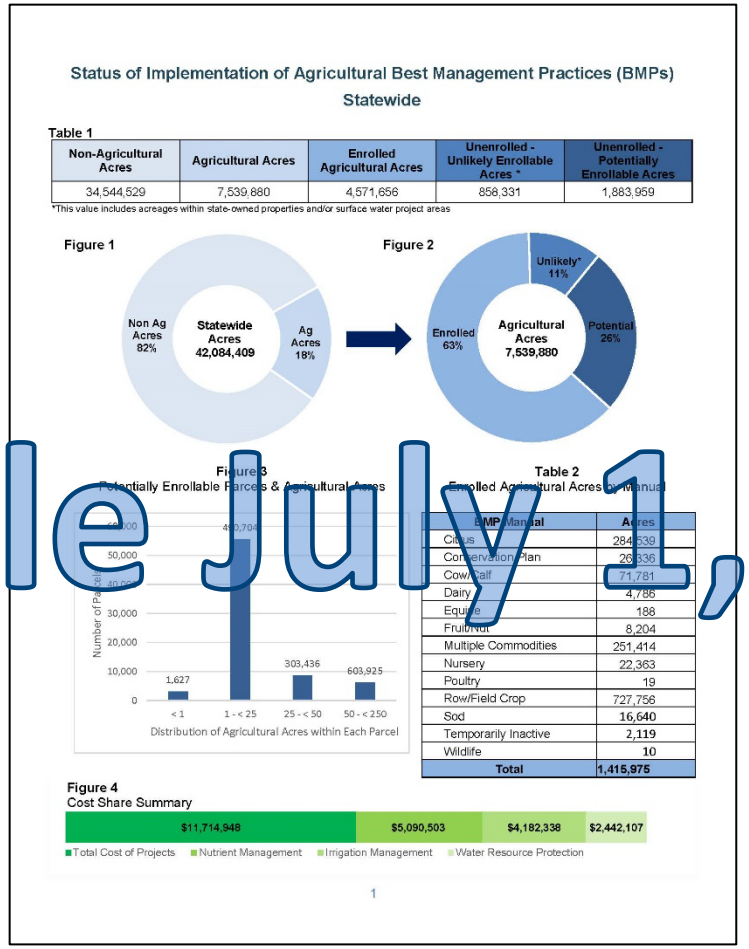
Florida Department of Agriculture and Consumer Services

Office of Agricultural Water Policy

Status of Implementation of Agricultural Nonpoint Source Best Management Practices

Report to the Governor, the President of the Senate, and the Speaker of the House
Pursuant to Section 403.0675(2), F.S.

Publication No: FDACS-P-01924 Rev. 07/22



Status of Implementation of Agricultural Best Management Practices (BMPs)
Statewide

Table 1

Non-Agricultural Acres	Agricultural Acres	Enrolled Agricultural Acres	Unenrolled - Unlikely Enrollable Acres *	Unenrolled - Potentially Enrollable Acres
34,544,529	7,539,880	4,571,656	858,331	1,883,959

*This value includes acreages within state-owned properties and/or surface water project areas

Figure 1

Figure 2

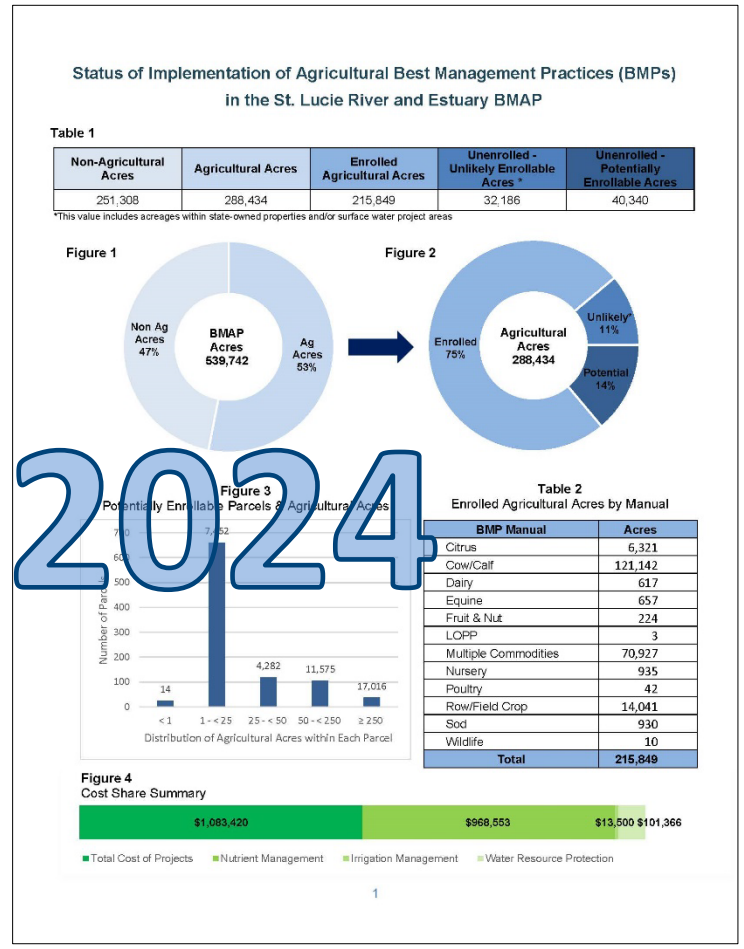
Figure 3
Potentially Enrollable Parcels & Agricultural Acres

Table 2
Enrolled Agricultural Acres by Manual

BMP Manual	Acres
Citrus	284,539
Conservation Plan	26,336
Cow/Calf	71,781
Dairy	4,786
Equine	188
Fruit/Nut	8,204
Multiple Commodities	251,414
Nursery	22,363
Poultry	19
Row/Field Crop	727,756
Sod	16,640
Temporarily Inactive	2,119
Wildlife	10
Total	1,415,975

Figure 4
Cost Share Summary

1



Status of Implementation of Agricultural Best Management Practices (BMPs)
in the St. Lucie River and Estuary BMAP

Table 1

Non-Agricultural Acres	Agricultural Acres	Enrolled Agricultural Acres	Unenrolled - Unlikely Enrollable Acres *	Unenrolled - Potentially Enrollable Acres
251,308	288,434	215,849	32,186	40,340

*This value includes acreages within state-owned properties and/or surface water project areas

Figure 1

Figure 2

Figure 3
Potentially Enrollable Parcels & Agricultural Acres

Table 2
Enrolled Agricultural Acres by Manual

BMP Manual	Acres
Citrus	6,321
Cow/Calf	121,142
Dairy	617
Equine	657
Fruit & Nut	224
LOPP	3
Multiple Commodities	70,927
Nursery	935
Poultry	42
Row/Field Crop	14,041
Sod	930
Wildlife	10
Total	215,849

Figure 4
Cost Share Summary

1

Available July 1, 2024

https://www.fdacs.gov/Divisions-Offices/Agricultural-Water-Policy

Thank You!

http://www.fdacs.gov/Divisions-Offices/Agricultural-Water-Policy

Yesenia Escribano, Environmental Administrator
Yesenia.Escribano@FDACS.gov – (850) 617-1732

THANK YOU

Diana Turner
Division of Environmental Assessment and Restoration
Florida Department of Environmental Protection

Contact Information:
Phone: (850) 245-8825
Email: Diana.M.Turner@FloridaDEP.gov

Source: SJRWMD

Florida Department of Environmental Protection (DEP)
Indian River Lagoon (IRL) Basin Management Action Plan (BMAP)
Annual Meeting Summary
April 25, 2024, via GoTo Webinar
1:00 pm – 2:34 pm

Attendees

Melissa Adams, SJRWMD
Carolina Alvarez, Brevard County
Suzanne Archer, SJRWMD
Irene Arpayoglou, DEP
Jana Ash, RES
Aleah Ataman, Brevard County
Christian Avila, SFWMD
Steven Baker, U.S. Space Force
Peter Barile, Citizen
Virginia Barker, Brevard County
Melanie Barna, Citizen
Venetia Barnes, Fort Pierce
Mike Barnett, GHD
Matthew Bearden, DEP
Evelyn Becerra, DEP
JP Bell, Florida Realtors
Eric Blount, Palm Bay
Carly Bolo, Kimley Horn
David Botto, Citizen
Beth Brady, Save the Manatee Club
Terri Breeden, Brevard County
Stacy Burke, Volusia County
Tiffany Busby, Wildwood Consulting
Thomas Calhoun, Seminole County
Lauren Campbell, DEP
Daniel Cardona, Palm Bay
Stacy Cecil, SJRWMD
Eric Charest, Indian River County
Nancy Church, Volusia County
Kelli Cosentino, Responsible Development
Ralph Crawford, Citizen
Jeanne Curtin, Florida House of Representatives
Natalie Dahl, Intertek
Deinna Dalton, DEP
Sara Davis, DEP
Melisa Diolosa, SJRWMD
Nikki Dix, DEP
Dean Dobberfuhl, SJRWMD
Kayleigh Douglass, Applied Ecology
Doug Durham, NASA
Christine Eastwick, U.S. Fish & Wildlife Service
James Einloth, Citizen
Yesenia Escribaon, FDACS
Jason Evert, JMT
Amanda Exposito-Ferree, Atkins Realis
Natalie Fausel, Anfield Consulting
Jessica Fetgatter, DEP
Randy Fink, SJRWMD
Jake Fojtik, Florida Farm Bureau
David Frady, DEP
Marcy Frick, Tetra Tech
Terry Gibson, Deploy US
Felicia Gordian, Sebastian
Tina Gordon, Wildwood Consulting
Raichel Gulde, RES
Lauren Hall, SJRWMD
Samuel Hankinson, DEP
Richard Hans, Governmental Management Services
Kenny Hayman, DEP
Kate Helms, Satellite Beach
Charlie Hoey, SJRWMD
Moira Homann, DEP
Laila Hudda, Citizen
Dana Hutchinson, Citizen

Robert Irving, Florida Fish & Wildlife Conservation Commission
Grace Johns, Hazen and Sawyer
Daryll Joyner, Citizen
VJ Karycki, Rockledge
Chris Keller, Wetland Solutions
Brooks Kimmel, Vaya Space
Lewis Kontnik, Citizen
Tricia Kyzar, University of Florida
James Lappert, St. Lucie County
Julianne LaRock, SFWMD
Charles Legros, DEP
Ivette Leiva, FDOT
Susan Little, Citizen
Lora Losi, Citizen
Andrew Luering, DEP
Mariah Mack, The Nature Conservancy
Jason Mahaney, Grant Valkaria
Sarah Malone, Applied Ecology
Erich Marzolf, SJRWMD
Michael Mccabe, Melbourne Tillman WCD
Mike McMunigal, SJRWMD
Melissa Meisenburg, Indian River County
Donovan Morrell, Upham Inc.
Lori Morris, SJRWMD
Jessica Mostyn, DEP
Michael Myjak, Citizen
Elizabeth Nackman, SJRWMD
Kevin O'Donnell, DEP
Stacey Ollis, SFWMD
Judy Orcutt, Citizen
Sara Ouly, SFWMD
Melanie Parker, SFWMD
Ximena Pernett, RES
Jon Perry, ESA
Kimberly Peyton, Rockledge
Libby Pigman, SFWMD
Nicolas Pisarello, ATM
Robert Potts, ATM
Erin Preston, SJRWMD
Allyson Reinert, DEP
Sandra Reller, Titusville
Tim Roberts, Palm Bay
Frank Rohrer, Citizen
Heather Rountree, SJRWMD
Elianni Ruiz de la Cruz, Higgins Engineering
Maureen Rupe, Citizen
Samantha Russo, SJRWMD
Zack Sampson, Tampa Bay Times
Victoria Schwartz, DEP
Jimmy Sellers, Ecological Associates
Tiffany Simpson, DEP
Lorae Simpson, SJRWMD
Gil Smart, Friends of the Everglades
Katherine Snyder, U.S. EPA
Leesa Souto, Applied Ecology
Jennifer Spain, Volusia County
Heather Stapleton, IRL NEP
Tammy Steen, WR Environmental
Dani Straub, Melbourne
Cole Stubbe, Brevard County
Kaitlyn Sutton, DEP
Danielle Taylor, SFWMD
Jennifer Thera, FDACS
Diana Turner, DEP
Jonathan Turner, FDOT
Unknown, The Florida Channel
Unknown, Food Policy Council
Lisa Van Houdt, DEP
Rachel Vitek, RES
Shreya Vuttaluru, Tampa Bay Times
Nia Wellendorf, DEP
Kaylene Wheeler, Dewberry
Joseph Whyte, RES
Curt Williams, Florida Farm Bureau
Laura Yonkers, Indian River County
Kelly Young, Volusia County

Questions and Answers (Q&A)

St. Johns River Water Management District (SJRWMD) Updates

Q: Lewis asked if the records of salinity go back 10 years to look at freshwater additions to the lagoon. He also asked what we see in the salinity.
A: Yes. This was addressed in the presentation.

Q: Leesa Souto asked if the statistical test used for the trend analysis was the Seasonal Mann Kendall or regular Mann Kendall.
A: It was a regular Mann Kendall test, not the Seasonal Mann Kendall test.

Q: Jon Perry asked what the units on the seagrass bar charts are.
A: The mean seagrass cover charts had a Y-axis in units of percent cover. The seagrass extent charts had a Y-axis in units of hectares.

Q: Lewis Kontnik asked if he could have copies of the seagrass graphs.
A: DEP suggested requesting the seagrass charts from Stacy Cecil (slcecil@sjrwmd.com) or Lauren Hall (lhall@sjrwmd.com).

Q: Lewis Kontnik asked if there are any ideas for the reasons for the increases and the declines in seagrass. We are doing a lot in the North IRL to reduce nutrients, what is going on in the south?
A: It may not be a loss of seagrass, but there may be a loss of canopy species that the maps can see very well rather than an overall loss.

Q: Donovan Morrell asked what a potential reason for the sudden decline is.
A: Tiffany Busby provided a link to a paper that describes the recent changes in seagrass extent, written by experts from SJRWMD and other IRL scientists: https://www.frontiersin.org/articles/10.3389/fmars.2021.789818/full.

Statewide Annual Report (STAR)

Q: Michael Myjak asked if the slides will be made available after the presentation.
A: The slides from today will be posted online. In about a week to 10 days, a GovDelivery notice will be sent with the link to the location where the slides and meeting summary are posted.

Q: Lewis Kontnik asked why the STAR portal is closed now.
A: The STAR portal closes annually to allow DEP to finalize numbers prior to publication of the STAR report. Entities can still view their projects but cannot make updates during that time.

Progress

Q: Lewis Kontnik asked what the basis of the projected reductions are and how do we understand what will happen in the future.
A: If the projected line is flat, we just do not have enough estimated reductions from the planned and underway projects. As we work toward the BMAP update, we'll be working to gather further projects from stakeholders.

Q: Maureen Rupe asked are nitrogen and phosphorus project measurements actual or assumed based on what those completed projects should have removed.
A: There is a mix of project calculation approaches. Some project types require actual monitoring data and some use literature values. When DEP shows the reductions, those are only completed projects with reductions that are verified by DEP.

Q: Jon Perry asked if arithmetic or geometric means were used for hotspot analysis.
A: For the average rank, DEP used the arithmetic mean, but also looked closely at the data, including outliers. They also look at several components for the rank including standard deviation, frequency, and percentile.

Q: Nikki Dix asked what the "BMAP overall average" means.
A: The BMAP overall average is the concentration overall for the whole BMAP.

Q: Lewis Kontnik asked what percentage of actual measured values are used for project reductions and how many project reductions are calculated based on literature.
A: The method for project reduction estimates varies. Wastewater projects are based on measured data. For urban stormwater projects and agricultural BMPs, those reductions are more likely to be based on literature values but are sometimes measured. Some efforts like street sweeping are based on the measured materials collected, but the nutrient content is based on studies. DEP efficiencies tend to be conservative so that we are not overestimating the benefits of projects.

Q: Nikki Dix asked are the hotspots by BMAP or region.
A: The examples shown are the BMAP area for each of the three BMAPs. We have also started looking at hotspots based on the project zone.

Q: Robert Potts asked if the seagrass depth target is met, do entities still have to meet the milestone targets for the BMAP. He also asked if the information on two-step compliance for each BMAP for sea grass depth targets would be made available.
A: Diana Turner stated she believes entities would still have to meet the milestone targets based on the language in recent statutes.

Q: Kate Helms asked what happens if an entity does not meet its allocation even if the overall goals are met.
A: Entities are responsible for achieving their required reductions and should plan and implement projects to meet their assignments and milestones regardless of whether the overall goals are met. It is important to understand that the overall goals will only be considered to be met if the IRL meets its goals consistently in a variety of conditions, and not based on a year or two of meeting the target. IRL restoration must be a long term effort and demonstrate a long term recovery to be considered a success.

Q: Daryll Joyner asked if participants should be all the questions that the organizers are relaying or only the ones that staff reply to.
A: Only staff can see all of the questions in the GoTo Webinar format. Questions that are not to clarify content specifically covered during the presentation are not being addressed today and will be included in the meeting summary.

Q: Virgina Barker asked, for hot spots, does DEP think that the same numeric nutrient criterion (NNC) is representative of healthy conditions throughout the lagoon and if historic data to support that assumption is available.
A: The hot spot analysis was used as a screening method to identify areas for further investigation or project prioritization. To simplify the analysis, a single nutrient concentration was used across the IRL, but it is very likely that some areas are more sensitive to high nutrient concentrations than others. As such, the hot spot analysis is not designed to be definitive on whether areas are too high (or acceptable) in average concentrations but as a tool to look further into areas that appear to have higher concentrations.

Comment: Carolina Alvarez suggested that the hot spot ranking be added to the legend.

Upcoming BMAP Update

No questions were asked during this section.

Florida Department of Agriculture and Consumer Services (FDACS) Updates

Q: Daryll Joyner asked what the precent reduction in nutrient loading DEP assigns to implementation of the various agricultural best management practices (BMPs).
A: There are many efficiencies associated with various agricultural BMPs. There are owner-implemented BMPs and a lot of cost-share BMPs that have a variety of efficiency rates.

Q: Virgina Barker asked if FDACS is concerned about Class AA biosolids being applied but not reported.
A: Class AA biosolids are marketed to the public, labeled with a guaranteed analysis, and not tracked as biosolids. FDACS is tracking the application of Class AA biosolids (which are considered to be commercial fertilizer) through the nutrient application record form (NARF).

The current adopted BMAPs require that if a producer is using composted manure or biosolids, they must determine the nutrient concentrations before using them, and adjust fertilization rates accordingly. Producers report this in the NARF as pounds over acres applied.

During implementation verification site visits during which NARF information is collected, OAWP field staff review fertilizer application records and the fertilizer guaranteed analysis to determine proper application.

Q: Virgina Barker noted Class A and B are reported, but AA is not tracked as biosolids. Does FDACS require reporting of its nutrient content?
A: If a producer is applying Class A or B biosolids, they must follow the requirements of the FDEP permit and their site-specific nutrient management plan which requires the consideration of all plant-available N and P on site. Either Class A or Class B pathogen requirements and site restrictions must be met before biosolids may be land applied. FDACS does not track the application of Class A and B biosolids as producers are expected to follow their permit requirements within the area covered by the permit.

If there are areas in the operation on which the producer is applying any N, P, or Class AA fertilizer not covered by the permit, then OAWP field staff review fertilizer application records and the fertilizer guaranteed analysis to determine proper application. Producers report this in the NARF as pounds over acres applied.