Banana River Lagoon Basin Management Action Plan (BMAP) Update Meeting

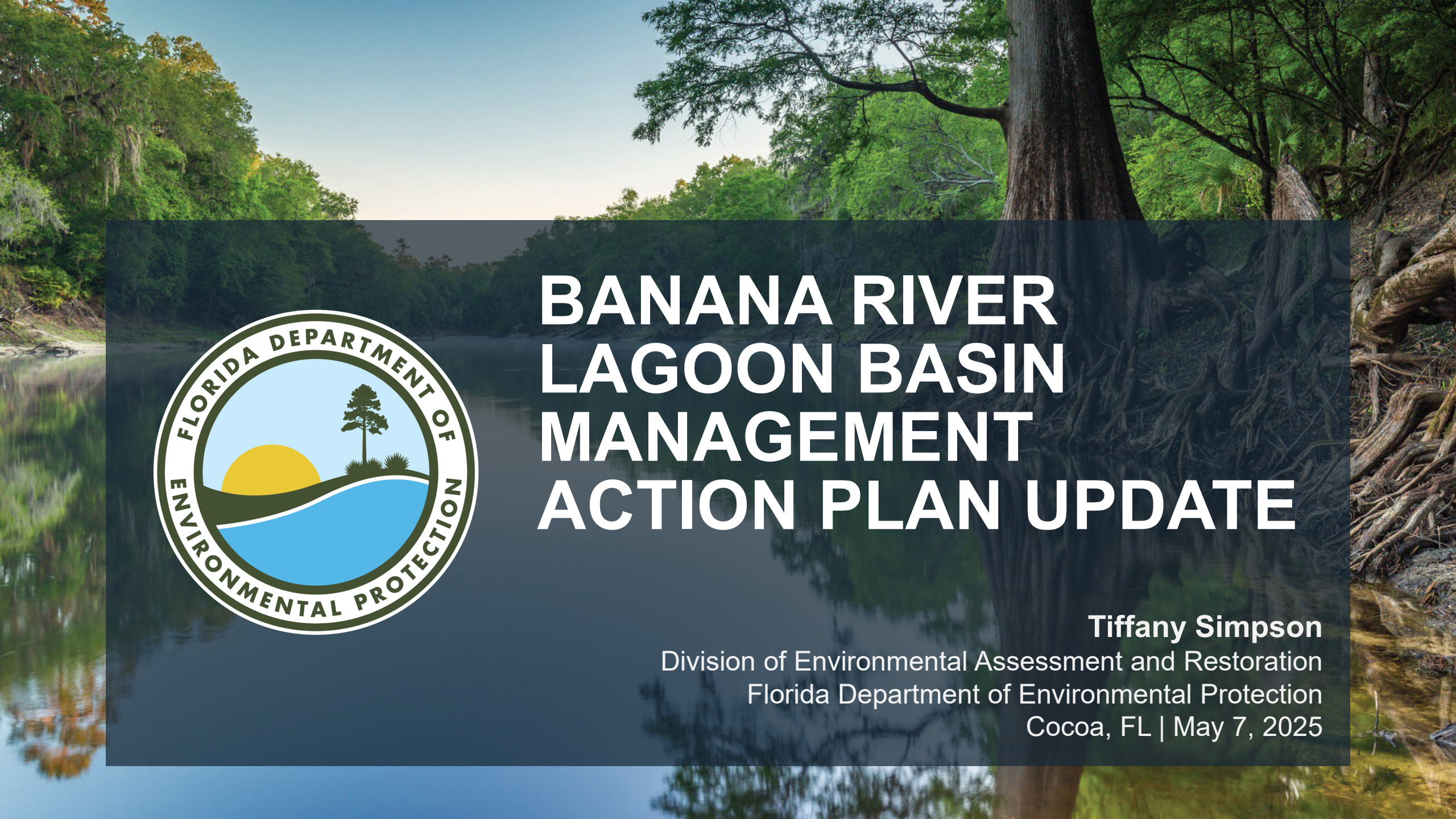
University of Florida/Institute of Food and Agricultural Sciences (UF/IFAS)
Extension Office of Brevard County
3695 Lake Drive
Cocoa, FL 32926

May 7, 2025
9 AM EDT

Agenda

- Banana River Lagoon Basin Management Action Plan (BMAP) Background.
- Overview of Draft Banana River Lagoon Basin Management Action Plan (BMAP).
- Questions/Comments.

Please note the site for documents pertaining to the Banana River Lagoon BMAP: BMAP Public Meetings | Florida Department of Environmental Protection
For more information on the Banana River Lagoon BMAP, contact:
Tiffany Simpson, 850-245-8560.
Tiffany.Simpson@FloridaDEP.gov

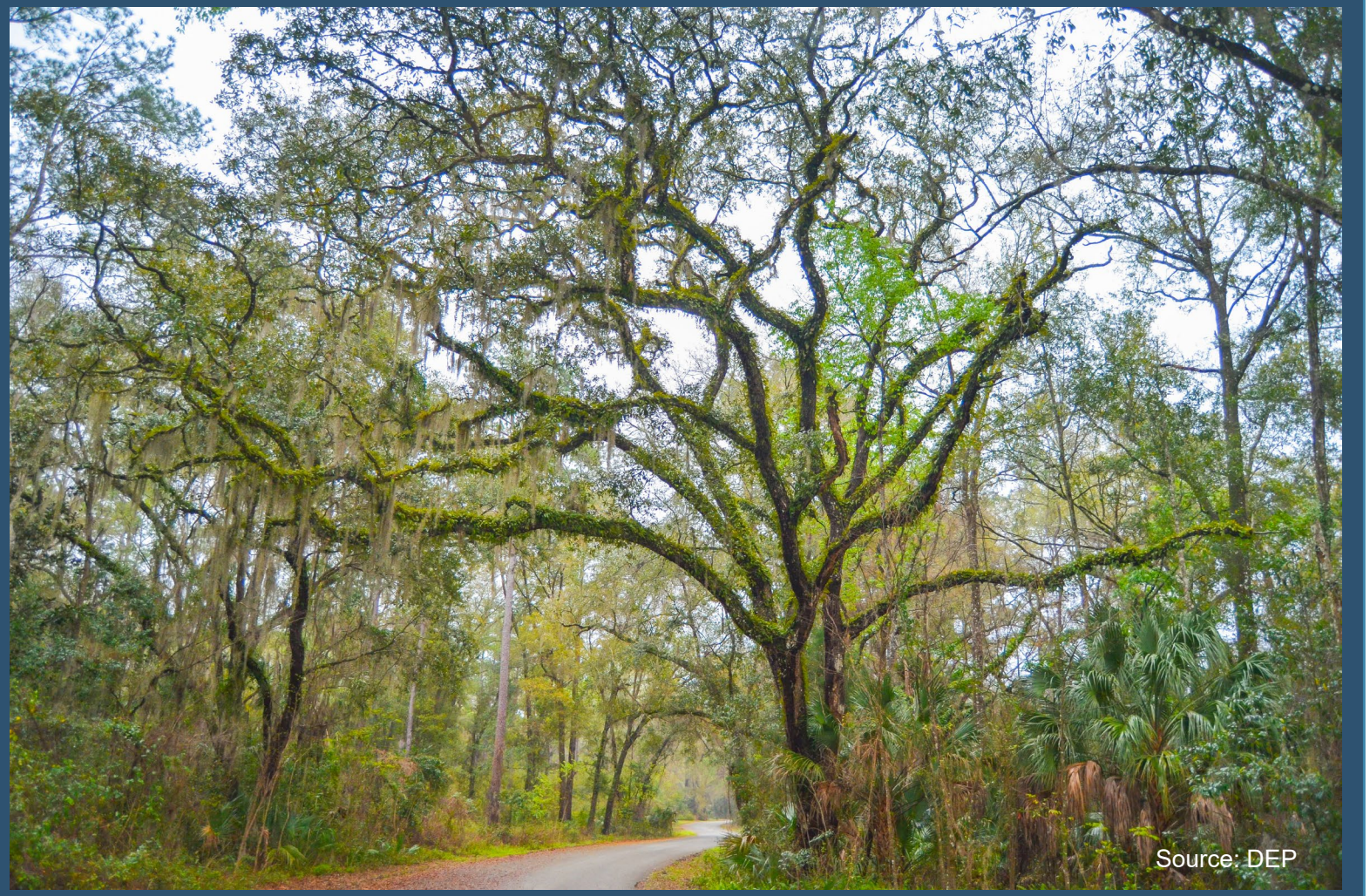


BANANA RIVER LAGOON BASIN MANAGEMENT ACTION PLAN UPDATE

Tiffany Simpson
Division of Environmental Assessment and Restoration
Florida Department of Environmental Protection
Cocoa, FL | May 7, 2025

AGENDA

- Basin Management Action Plan (BMAP) background.
- 2025 BMAP update draft document walk-through.
- Next steps.



KEY BMAP COMPONENTS

- Total maximum daily loads (TMDLs) being addressed.
- Area addressed by the restoration plan.
- Identify sources.
- Phased implementation approach.
- Milestones.
- Projects and management strategies.
- Future growth impacts.

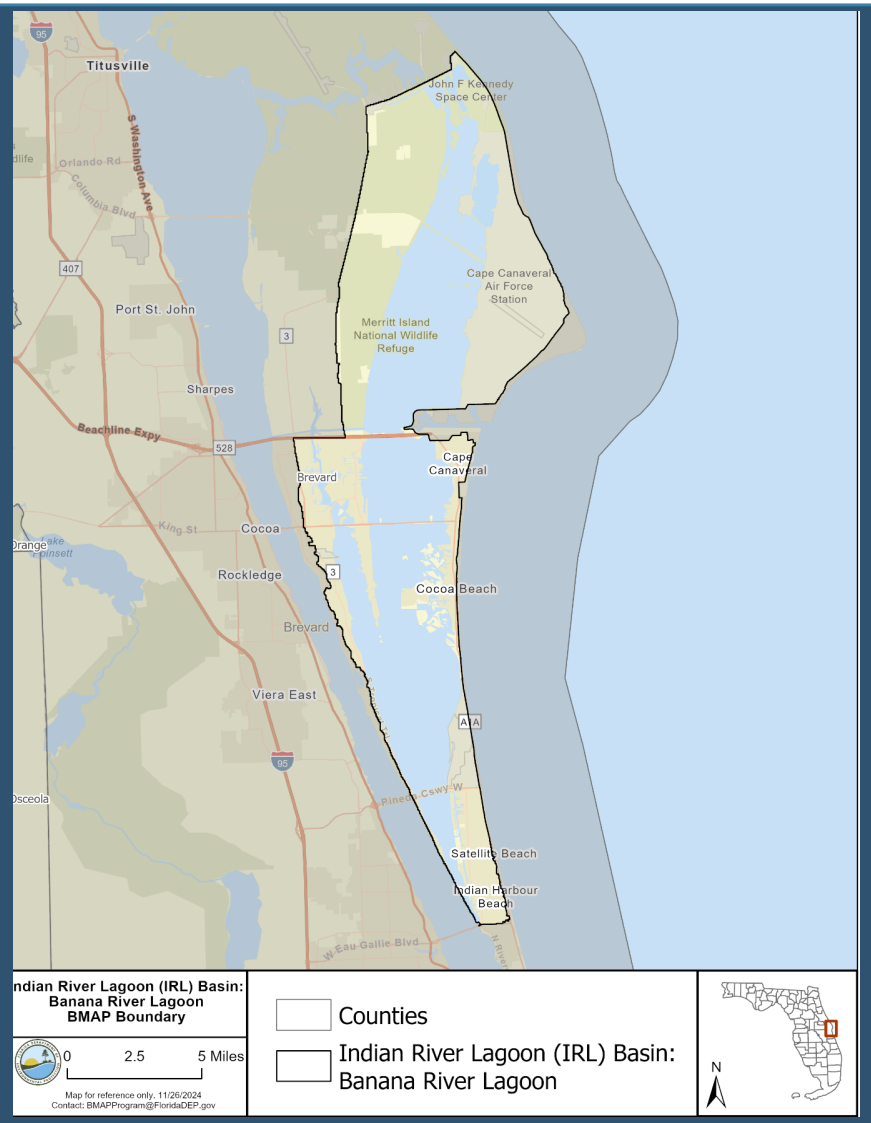
Projects to meet the TMDL:

- Implementation timeline.
- Commitment to projects.
- Expected water quality improvement from projects and management strategies.

Process to assess progress toward achieving the TMDL:

- Monitoring plan.
- Project reporting.
- Periodic follow-up meetings.
- Water quality analyses.

BACKGROUND
BANANA RIVER LAGOON BMAP



Banana River Lagoon (BRL) TMDL:

- Adopted 2009 and 2013 (tributaries) for total phosphorus (TP) and total nitrogen (TN).

BRL BMAP:

- Adopted 2013 to implement the Banana River Lagoon TMDLs.

BMAP Update:

- Adopted 2021.
- Provides information on changes since the 2013 BMAP was adopted.

- Total required reductions:
  - 112,539 lbs/yr TN.
  - 17,273 lbs/yr TP.

lbs/yr = pounds/year

BACKGROUND
BANANA RIVER LAGOON BMAP STAKEHOLDERS

Type of Organization/Entity	Name
Responsible Entities	Agriculture Brevard County City of Cape Canaveral City of Cocoa Beach City of Indian Harbour Beach City of Satellite Beach
Responsible Agencies	County Health Departments Florida Department of Agriculture and Consumer Services (DACS) Florida Department of Environmental Protection (DEP) Florida Department of Transportation (DOT) District 5 Indian River Lagoon Estuary Program Kennedy Space Center Port Canaveral St. Johns River Water Management District U.S. Space Force

BMAP UPDATE COMPONENTS

ADOPT BY JULY 1, 2025

- Management strategies.
- Future growth update.
- Report update on seagrass compliance.
- Incorporate the 2020 Clean Waterways Act, 2023 House Bill (HB) 1379 and 2024 HB 1557 requirements.
- Incorporate regional projects.
- Water quality data evaluation:
  - Evaluation of the monitoring networks.
  - Hotspot Analysis.
- Evaluate further onsite sewage treatment and disposal systems (OSTDS) provisions.
- Evaluate the need for advanced wastewater treatment (AWT) or other more stringent effluent limits for domestic wastewater treatment facilities (WWTF).

DRAFT DOCUMENT

Section 1: Background Information.

Section 2: Seagrass and Water Quality Monitoring Plan.

Section 3: Modeling, Load Estimates and Restoration Approach.

Section 4: Compliance and Adaptive Management.

Section 5: References.

Appendices.

BMAP UPDATE DOCUMENT

Section 1: Context, Purpose and Scope of the Plan

- Review of the TMDLs, BMAP process and stakeholder involvement.
- Pollutant sources.
- Indian River Lagoon Protection Program.

Section 2: Seagrass and Water Quality Monitoring Plan.

- Water quality monitoring parameters, frequency and network.
- Hot spot analysis.
- Water quality trends.

BMAP UPDATE DOCUMENT

Section 3: Modeling, Load Estimates and Restoration Approach.

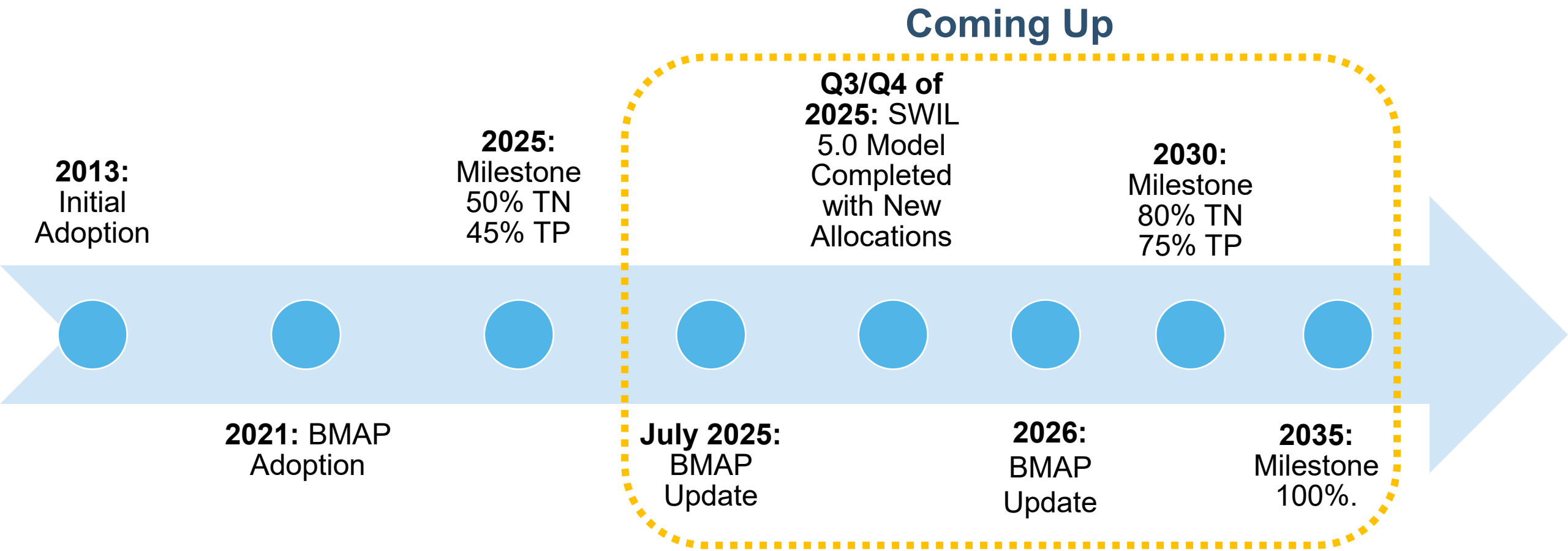
- Review of the 2013 BMAP and 2021 BMAP.
- Modeling from previous adopted documents will remain the same.
- Loading estimates and allocations of load reduction to the responsible stakeholders detailed in the 2021 BMAP will remain in effect with removal of low-priority status.
- Bills and legislation updates.
- Management actions by source.

Section 4: Compliance and Adaptive Management.

- Review of the TMDLs, BMAP process and stakeholder involvement.
- TMDL and BMAP compliance.
- Future growth management strategies.

BMAP TIMELINE AND MILESTONES

SECTION 1: BACKGROUND INFORMATION



IRL PROTECTION PROGRAM

SECTION 1: BACKGROUND INFORMATION

Indian River Lagoon Protection Program (IRLPP) was established in Section 373.469, Florida Statutes (F.S.) for the BRL, Central Indian River Lagoon (CIRL) and North Indian River Lagoon (NIRL) and includes:

- BMAP evaluations and updates every five years to evaluate whether reasonable progress in pollutant load reductions are being made towards implementation of milestones.

- Requirement for DEP to coordinate with partners to identify, prioritize and incorporate BMAP/Reasonable Assurance Plan (RAP) strategies to meet the TMDL within the IRL watershed.

IRL PROTECTION PROGRAM
SECTION 1: BACKGROUND INFORMATION

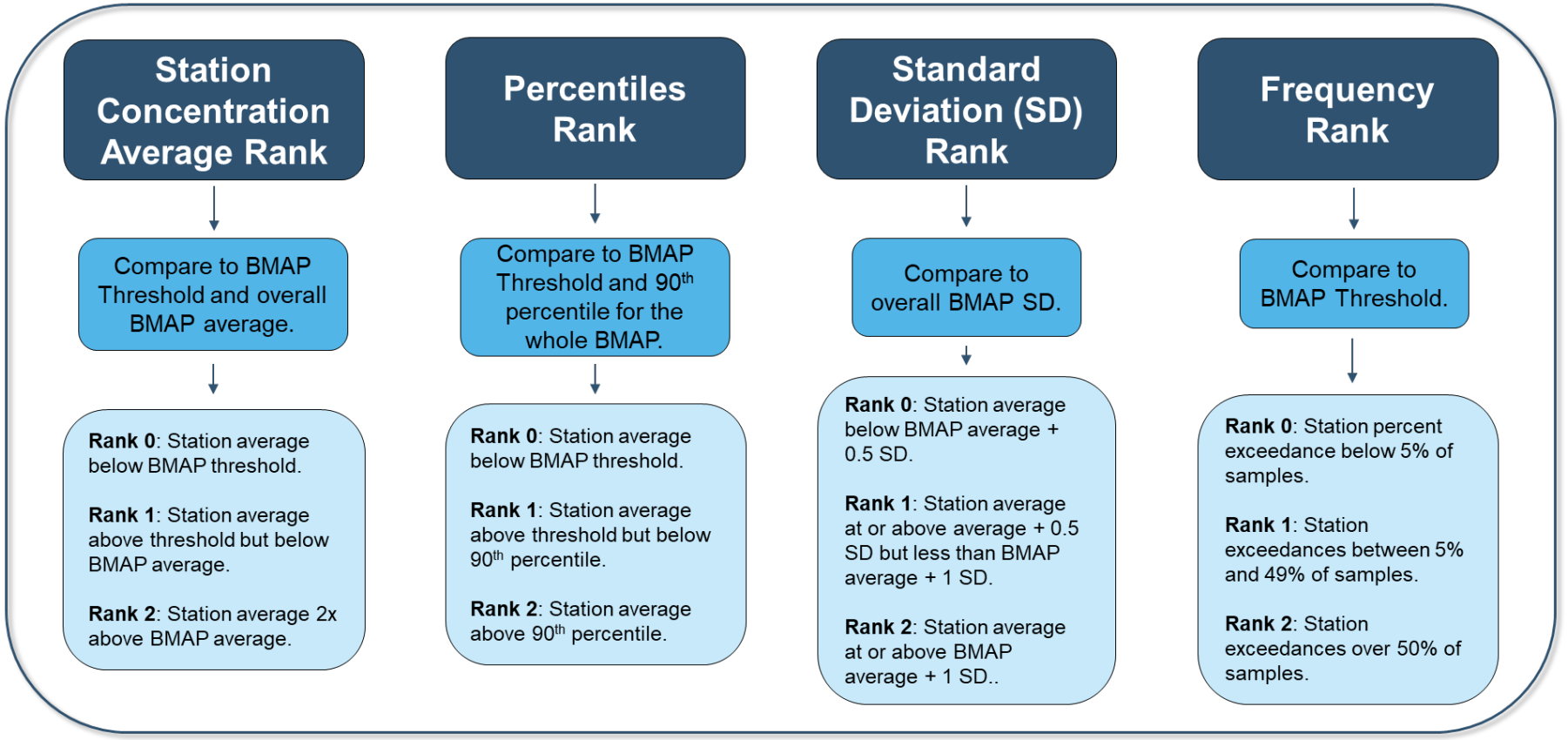
- Requires DEP to work with partners to establish and implement a comprehensive water quality monitoring network throughout the IRL and fund research to identify sources and prioritize projects for water quality and seagrass restoration.

- Beginning on Jan. 1, 2024, prohibits new conventional OSTDS where sewer is available. Where sewer is not available, enhanced-nutrient reducing systems are required.

- All existing (residential and commercial) conventional OSTDS must be connected to sewer or upgraded to enhanced nutrient-reducing OSTDS by July 1, 2030.

HOT SPOT ANALYSIS
SECTION 2: SEAGRASS AND WATER QUALITY MONITORING PLAN

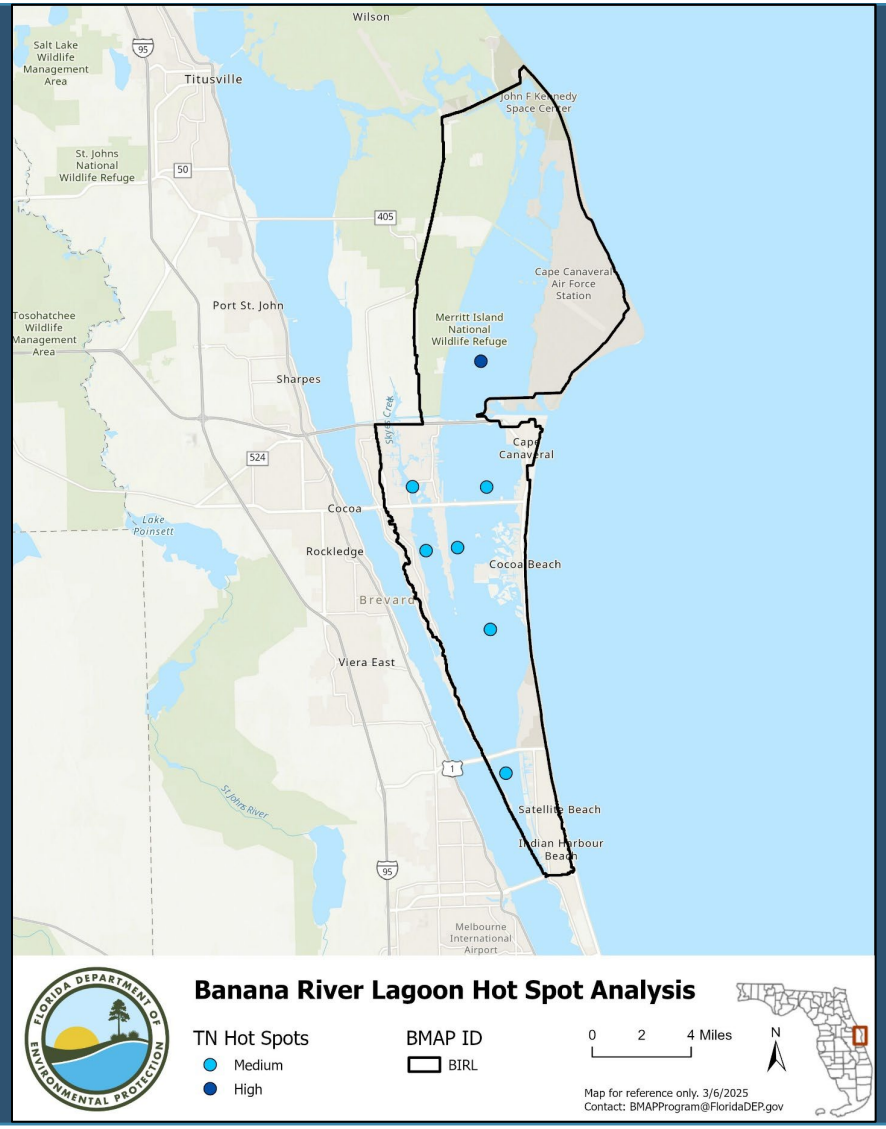
- Uses measured data collected throughout the watershed to evaluate TN and TP concentrations at monitoring stations.
- This process is not intended to be a management strategy under Chapter 403.067, F.S.
- The benchmarks are not intended to measure progress towards restoration; they will only be used to prioritize resources.



HOT SPOT ANALYSIS

SECTION 2: SEAGRASS AND WATER QUALITY MONITORING PLAN

TN:



TP:

WATER QUALITY TRENDS

SECTION 2: SEAGRASS AND WATER QUALITY MONITORING PLAN

Please note:

- Station status and trends assessments are conducted by St. Johns River Water Management District (SJRWMD) annually.
- Low, medium and high ranges are relative to each other, not the TMDL and do not necessarily indicate poor water quality.
- Methodology for this assessment is in the appendix.

Subbasin	Project Zone	Station	Total Nitrogen (ug/L as N)	Total Phosphorus (ug/L as P)
BRL	BIRL-A	IRLB02	High-range, Increasing (<5%)	Mid-range, Increasing (>5%)
BRL	BIRL-B	IRLB04	High-range, Stable	Mid-range, Increasing (<5%)
BRL	BIRL-B	IRLB05	High-range, Stable	Low-range, Stable
BRL	BIRL-B	IRLB06	High-range, Stable	Mid-range, Increasing (<5%)

ug/L = micrograms per liter
N= Nitrogen
P= Phosphorus

WATER QUALITY TRENDS

SECTION 2: SEAGRASS AND WATER QUALITY MONITORING PLAN

Please note:

- Station status and trends assessments are conducted by SJRWMD annually.
- Low, medium and high ranges are relative to each other, not the TMDL and do not necessarily indicate poor water quality.
- Methodology for this assessment is in the appendix.

Subbasin	Project Zone	Station	Total Nitrogen (ug/L as N)	Total Phosphorus (ug/L as P)
BRL	BIRL-B	IRLB09	Mid-range, Stable	Mid-range, Increasing (<5%)
BRL	BIRL-B	IRLNFH01S	High-range, Stable	Mid-range, Stable
BRL	BIRL-B	IRLSCPW	High-range, Stable	Mid-range, Stable

MILESTONES

SECTION 3: MODELING, LOAD ESTIMATES AND RESTORATION APPROACH

- Consistent with statutes, entities must provide a list of projects and strategies to DEP that show how entities will meet their required reductions to achieve the next upcoming BMAP milestone, even if the identified project or strategy will not be completed by the milestone.
- All projects needed to achieve milestone targets should be included in the Statewide Annual Report (STAR), even if a funding mechanism is not currently identified, as this information gives the state an understanding of the support is necessary to achieve BMAP goals and assists with the prioritization of projects.
- It is critical for each BMAP that entities plan for and report projects and project updates to the state through the STAR process.

MILESTONES

SECTION 3: MODELING, LOAD ESTIMATES AND RESTORATION APPROACH

- Responsible entities must submit a **sufficient list** of additional projects and management strategies to DEP by **Jan. 14, 2026**, to be compliant with the upcoming BMAP milestone or be subject to further department enforcement.
- If any lead entity is unable to submit a sufficient project list, then specific project identification efforts must be submitted **by Jan. 14, 2026**:
  - These responsible entities must submit project identification efforts whose purpose and timeline will provide projects to meet the five-year milestone.
  - These efforts create a compliance schedule that must reflect the urgency of defining, funding and implementing projects to meet the upcoming and future milestones.
  - These planning efforts are ineligible for BMAP credit themselves but are necessary to demonstrate that additional eligible management actions will be forthcoming and BMAP compliance will be achieved.

SPATIAL WATERSHED ITERATIVE LOADING (SWIL) 5.0 MODELING

SECTION 3: MODELING, LOAD ESTIMATES AND RESTORATION APPROACH

Modeling Updates Underway.

- Entire NIRL, CIRL and BRL BMAP areas.
- SWIL 5.0 more closely matches United States Geological Survey (USGS) measured data in comparison to SWIL 4.0.
- Updated land use, water quality data and rainfall with more recent information.
- We are still undergoing review of the load estimation tool (LET) and will have updated allocations coming soon.

BMAP UPDATE DOCUMENT

SECTION 3: MODELING, LOAD ESTIMATES AND RESTORATION APPROACH

Review of entity allocations calculated in the 2021 BMAP.

Five Year Milestones

- Requirement under section 403.067, F.S. (amended in 2023 HB 1379).

Source: SJRWMD

PROJECT PROGRESS

SECTION 3: MODELING, LOAD ESTIMATES AND RESTORATION APPROACH

Total required reductions and the estimated reductions achieved for completed and ongoing projects

Entity	TN Full Required Reduction (lbs/yr)	TN Project Reduction Achieved (lbs/yr)*	% of TN Reduction Achieved	TP Full Required Reduction (lbs/yr)	TP Project Reduction Achieved (lbs/yr)*	% of TP Reduction Achieved
Brevard County	40,367	7,538	18.7%	6,337	1,546	24.4%
Cape Canaveral	6,262	4,038	64.5%	1,051	686	65.3%
Cocoa Beach	11,528	4,712	40.9%	1,851	2,416	130.5%
Indian Harbour Beach	7,650	2,048	26.8%	1,241	516	41.6%
Satellite Beach	10,238	2,514	24.6%	1,600	635	39.7%

lbs/yr = pounds/year
* Completed and ongoing projects

PROJECT PROGRESS

SECTION 3: MODELING, LOAD ESTIMATES AND RESTORATION APPROACH

Total required reductions and the estimated reductions achieved for completed and ongoing projects

Entity	TN Full Required Reduction (lbs/yr)	TN Project Reduction Achieved* (lbs/yr)	% of TN Reduction Achieved	TP Full Required Reduction (lbs/yr)	TP Project Reduction Achieved* (lbs/yr)	% of TP Reduction Achieved
Agriculture	2,901	0	0.0%	384	0	0.0%
DOT District 5	3,035	2,192	72.2%	445	302	67.9%
Kennedy Space Center	8,023	19,628	244.7%	1,112	2,173	195.5%
Port Canaveral	292	0	0.0%	40	0	0.0%
U.S. Space Force	22,243	18,195	81.8%	3,213	935	29.1%
Totals	**112,539**	**60,865**	**54.1%**	**17,273**	**9,209**	**53.3%**

lbs/yr = pounds/year
* Completed and ongoing projects

MILESTONES

SECTION 3: MODELING, LOAD ESTIMATES AND RESTORATION APPROACH

Entity	2030 80% Milestone Remaining Reductions for TN (lbs/yr)	2030 75% Milestone Remaining Reductions for TP (lbs/yr)	2035 100% Milestone Remaining Reductions for TN (lbs/yr)	2035 100% Milestone Remaining Reductions for TP (lbs/yr)
Brevard County	24,755	3,207	32,829	4,791
Cape Canaveral	972	102	2,224	365
Cocoa Beach	4,510	0	6,816	0
Indian Harbour Beach	4,072	415	5,602	725
Satellite Beach	5,677	565	7,724	965
Agriculture	2,321	288	2,901	384

lbs/yr = pounds/year

MILESTONES

SECTION 3: MODELING, LOAD ESTIMATES AND RESTORATION APPROACH

Entity	2030 80% Milestone Remaining Reductions for TN (lbs/yr)	2030 75% Milestone Remaining Reductions for TP (lbs/yr)	2035 100% Milestone Remaining Reductions for TN (lbs/yr)	2035 100% Milestone Remaining Reductions for TP (lbs/yr)
DOT District 5	236	32	843	143
Kennedy Space Center	0	0	0	0
Port Canaveral	234	30	292	40
U.S. Space Force	0	1,475	4,048	2,278
Totals	**42,777**	**6,113**	**63,279**	**9,690**

lbs/yr = pounds/year

BASINWIDE SOURCES APPROACH

SECTION 3: MODELING, LOAD ESTIMATES AND RESTORATION APPROACH

- Bills and legislation updates.
  - 2020 Clean Waterways Act, 2021 Senate Bill (SB) 64,
  - 2023 HB 1379 and 2024 HB 1557.
- Management actions by source.
  - Agriculture (Best Management Practices [BMPs] and agricultural cooperative regional elements).
  - Stormwater.
  - Sports turfgrass.
  - Wastewater — OSTDS, WWTFs and biosolids.

BILLS AND LEGISLATION UPDATES

SECTION 3: MODELING, LOAD ESTIMATES AND RESTORATION APPROACH

Recent legislative updates have expanded the requirements for addressing wastewater sources within BMAPs.

Clean Waterways Act SB 712 (2020)

- Requires local governments within a nutrient BMAP to develop wastewater treatment plans and/or OSTDS remediation plans to be incorporated into BMAP updates.

Reclaimed Water SB 64 (2021)

- Subsection 403.064(16), F.S., requires domestic wastewater utilities that dispose of effluent, reclaimed water or reuse water by surface water discharge to submit for DEP review and approval, a plan for eliminating non-beneficial surface water discharge by Jan. 1, 2032.
  - A utility must fully implement the approved plan by Jan. 1, 2032.
- If a plan was not timely submitted or approved by DEP, the utility's domestic WWTFs may not dispose of effluent, reclaimed water or reuse water by surface water discharge after Jan. 1, 2028.

BILLS AND LEGISLATION UPDATES

SECTION 3: MODELING, LOAD ESTIMATES AND RESTORATION APPROACH

Recent legislative updates have expanded the requirements for addressing wastewater sources within BMAPs.

Environmental Protection HB 1379 (2023)

- Requires facilities discharging to a waterbody impaired for nutrients or subject to a BMAP to upgrade to AWT within 10 years.
- Established the IRLPP.
  - Beginning on Jan. 1, 2024, unless previously permitted, prohibits new septic systems within the IRL BMAPs where connection to central sewer is available. If unavailable, requires applicants to install an enhanced nutrient-reducing system or other wastewater system that achieves a nitrogen reduction of 65%
  - All existing conventional OSTDS must be remediated by July 1, 2030.

Environmental Protection HB 1557 (2024)

- Requires advanced treatment of reclaimed water within BMAPs (403.086, F.S.).
- DEP has determined that the use of reclaimed water is causing or contributing to the nutrient impairments being addressed in this BMAP area.
- The facilities listed in the BMAP appendix — have 10 years from BMAP adoption to meet the applicable AWT standards.

AGRICULTURE

SECTION 3: MODELING, LOAD ESTIMATES AND RESTORATION APPROACH

Dairy Operations with Concentrated Animal Feeding Operations (CAFO) Permits, Chapter 62-670 Florida Administrative Code (F.A.C.)

- Waste storage ponds must be lined and demonstrate no leaking.
- Sampling for TN and TP or land-applied effluent/wastewater must be included in the monitoring plan.

Livestock Operations Without CAFO Permits

- Section 403.067, F.S., requires livestock operations not large enough to require a NPDES CAFO permit to enroll in and implement the applicable DACS BMP Program **OR;**
- Conduct a monitoring program approved by DEP or the applicable water management district.

Aquaculture

- Chapter 597, F.S., required DACS to create a program that requires those who sell aquatic species to annually acquire an Aquaculture Certificate of Registration and implement Chapter 5L-3, F.A.C. Aquaculture BMPs. Permit holders must be certified every year.

Silviculture

- The Florida Forest Service implements Chapter 5I-6, F.A.C. and requires both private and public forest landowners across the state to comply with BMPs and the rule.

AGRICULTURE

SECTION 3: MODELING, LOAD ESTIMATES AND RESTORATION APPROACH

Agricultural Cooperative Regional Elements (ACE)

- Section 403.067, F.S., requires DACS, DEP and agricultural producers to work together to establish an ACE.
- DACS is responsible for providing DEP a list of projects which, in combination with BMPs, state-sponsored regional projects and other management strategies will achieve the needed pollutant load reductions established for agricultural nonpoint sources.
- DACS is assigned the lead role on project solicitation, development, selection and implementation. However, they will work closely with all the key stakeholders, including DEP as a partner agency, to define and identify regional projects that will be included in the BMAP.
- DACS and DEP will work together to track progress on agricultural water quality projects under the ACE framework through the development of performance metrics and evaluation of water quality monitoring data in the basin.
- DACS will report on projects annually through the DEP STAR process and during BMAP update and/or development.
- Projects and other management strategies implemented through the ACE will be evaluated cooperatively by partner agencies using the predetermined performance metrics.

STORMWATER AND SPORTING FACILITIES

SECTION 3: MODELING, LOAD ESTIMATES AND RESTORATION APPROACH

Stormwater

- The National Pollutant Discharge Elimination System (NPDES) Stormwater Program will, within five years of BMAP adoption, evaluate any entity located in the BMAP area that serves a minimum resident population of at least 1,000 individuals that is not currently covered by an MS4 permit and designate eligible entities as regulated MS4s, in accordance with Chapter 62-624, F.A.C.
- Chapter 62-330, F.A.C. (2024)
  - Updated Florida's stormwater rule for design criteria and to strengthen the operation and maintenance requirements.
    - Applicants must demonstrate a level of treatment sufficient to accomplish the greater of the following nutrient load reduction criteria through calculations or modeling that the future stormwater management systems would provide additional treatment to meet new Environmental Resource Permits stormwater treatment performance standards of 80% reduction for TP and 55% reduction for TN, or post-development condition average annual loading of nutrients does not exceed the predevelopment condition nutrient loading, along with additional requirements that would apply where a project discharges to Outstanding Florida Waters or impaired waters.

STORMWATER AND SPORTING FACILITIES

SECTION 3: MODELING, LOAD ESTIMATES AND RESTORATION APPROACH

Sports Turfgrass and Golf Courses

- Sporting facilities are required to follow the 2025 Sports Turf BMP Manual.
- Superintendents of all publicly owned golf courses within the BMAP must obtain a certification for golf course BMPs under section 403.9339, F.S. and all golf courses must implement the BMPs described in the 2021 DEP golf course BMP manual.
- All golf courses located within a BMAP are required to submit a Nutrient Management Plan (NMP).

WASTEWATER

SECTION 3: MODELING, LOAD ESTIMATES AND RESTORATION APPROACH

The nitrogen and phosphorus effluent limits will be applied as an annual average, taken at the end of pipe before any land disposal (or other authorized compliance point), to all new and existing WWTFs with a DEP-permitted discharge or disposal area within this BMAP.

Nitrogen effluent limits for wastewater facilities

Facility Capacity (mgd)	Surface Water Discharges (mg/L)	WWTFs Listed in Appendix (mg/L)	WWTFs Not Listed in Appendix — Rapid Rate Land Application Effluent Disposal System (mg/L)	WWTFs Not Listed in Appendix — All Other Disposal Methods, Including Reuse (mg/L)
≥ 0.5	3	3	3	10
< 0.5, ≥ 0.01	3	3	6	10
< 0.01	3	NA	10	10

Phosphorus effluent limits for wastewater facilities

Facility Capacity (mgd)	Surface Water Discharges (mg/L)	WWTFs Listed in Appendix (mg/L)	WWTFs Not Listed in Appendix — Rapid Rate Land Application Effluent Disposal System (mg/L)	WWTFs Not Listed in Appendix — All Other Disposal Methods, Including Reuse (mg/L)
≥ 0.5	1	1	1	6
< 0.5, ≥ 0.01	1	1	3	6
< 0.01	1	NA	6	6

mgd = million gallons per day. mg/L = milligrams per liter.
NA = Not applicable.

WASTEWATER

SECTION 3: MODELING, LOAD ESTIMATES AND RESTORATION APPROACH

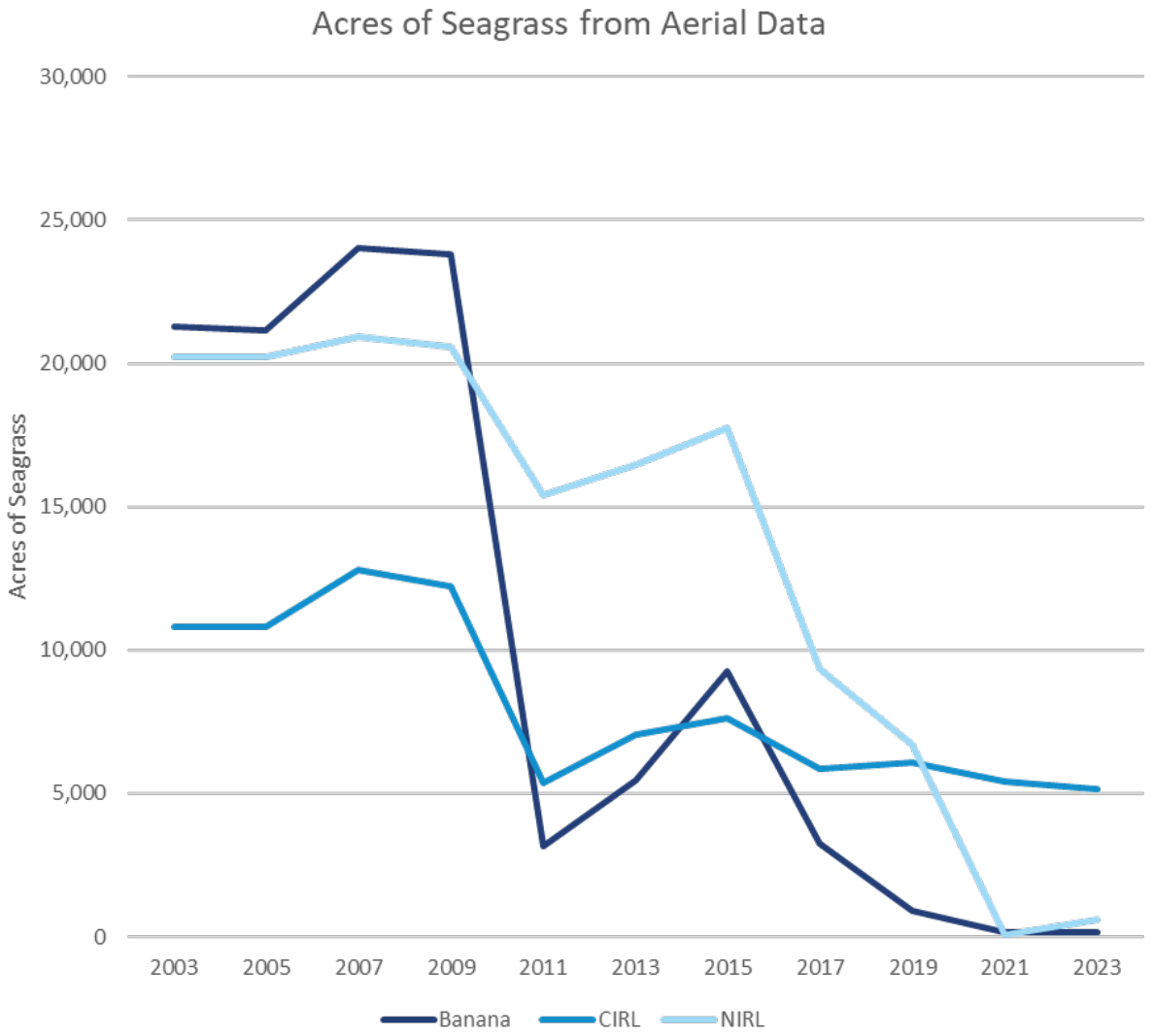
Biosolids

- To provide assurance that nitrogen losses to surface water and groundwater are minimized from the permitted application of biosolids and septage in the BMAP, requirements in accordance with Chapter 62-640, F.A.C., apply to newly-permitted application sites and existing application sites upon permit renewal.

SEAGRASS COMPLIANCE

SECTION 4: COMPLIANCE AND ADAPTIVE MANAGEMENT

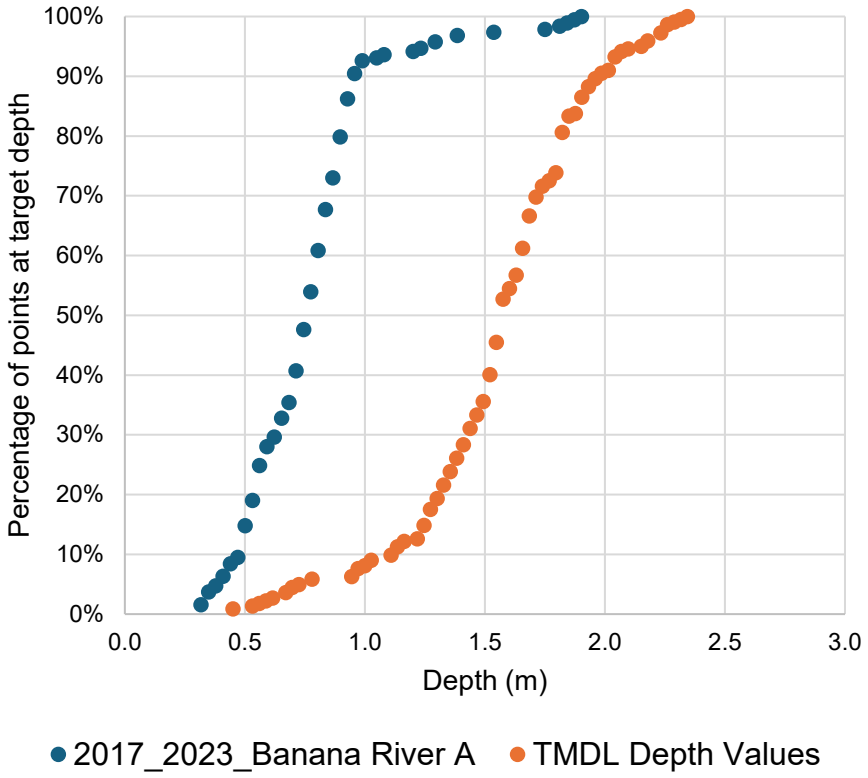
2-step compliance metrics evaluate depth of seagrasses. Overall seagrass coverage has been decreasing.

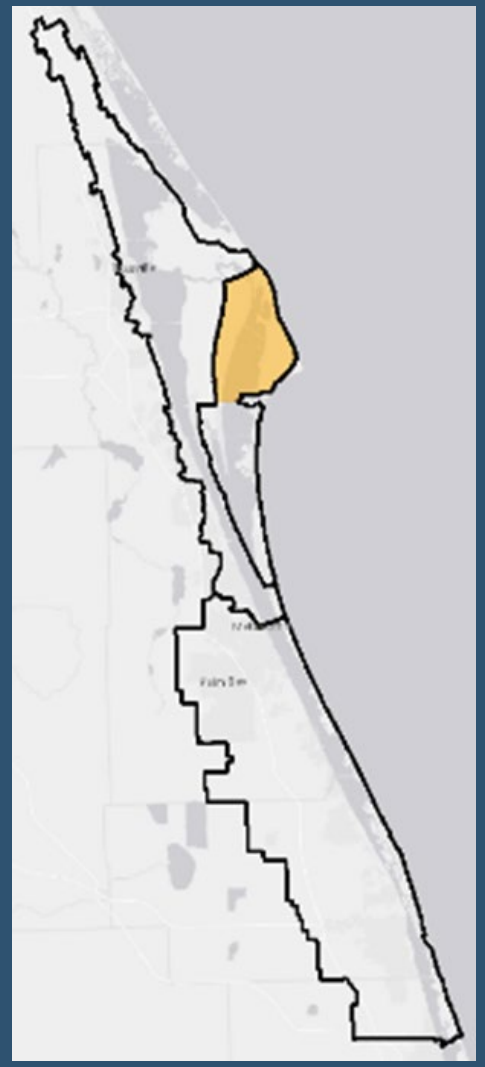


SEAGRASS COMPLIANCE

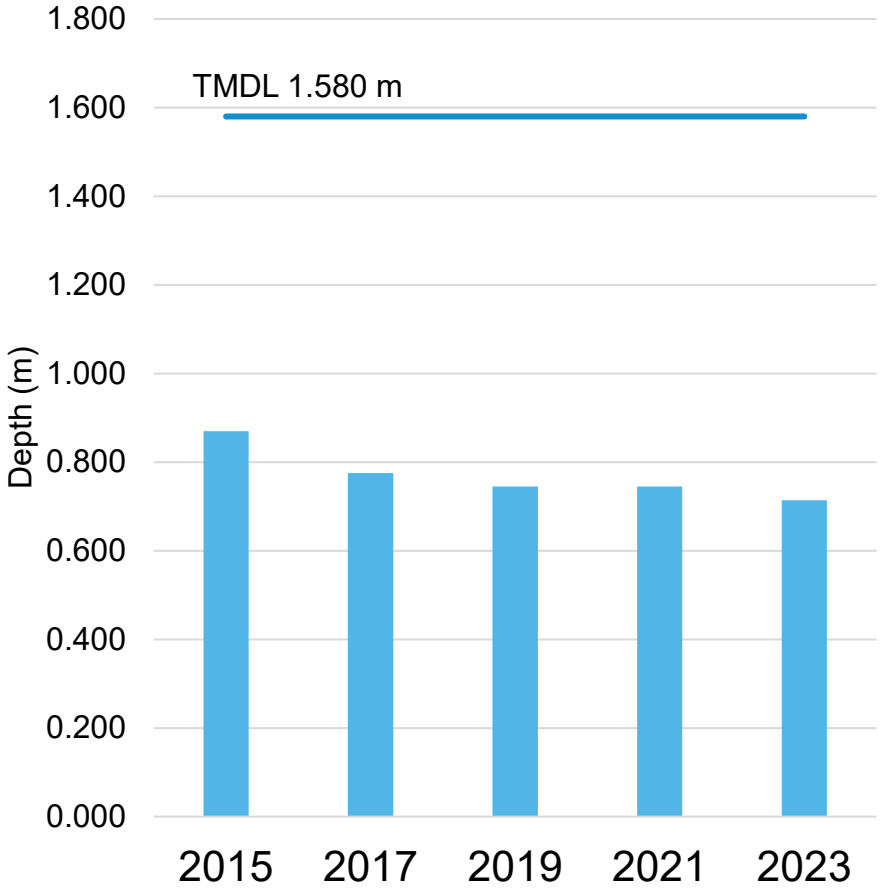
SECTION 4: COMPLIANCE AND ADAPTIVE MANAGEMENT

Banana A - Step 1
2017 – 2023 Cumulative Distribution of Deep Edge Points





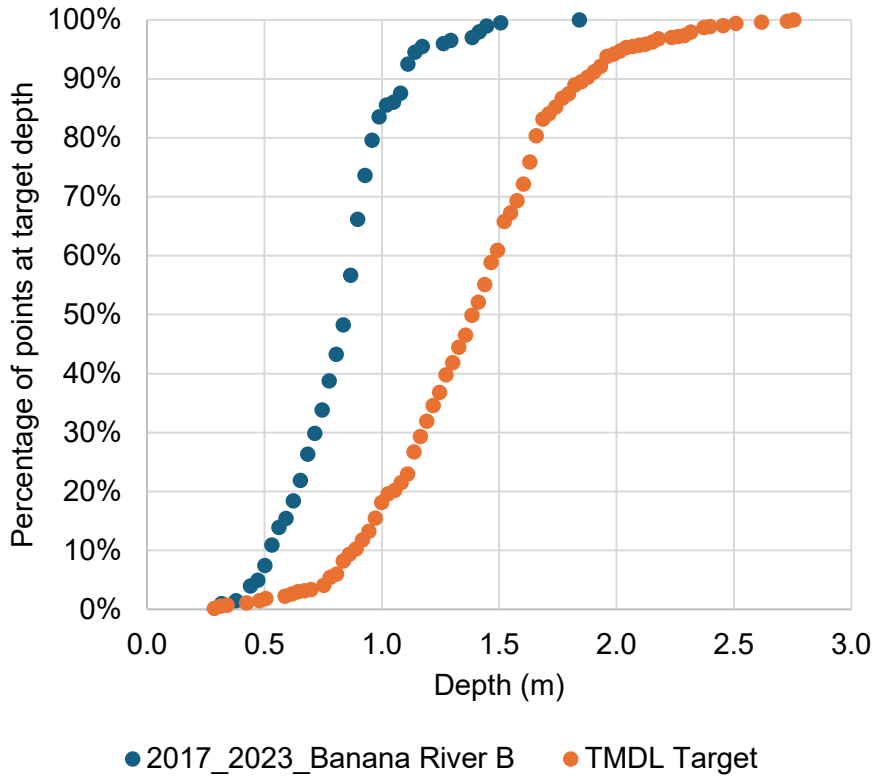
Banana A - Step 2
2017 - 2023 Median Deep Edge

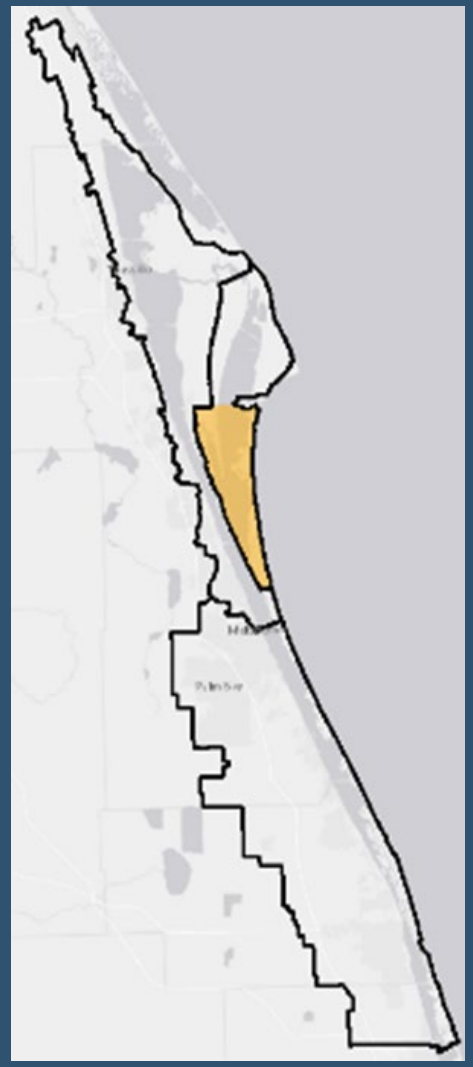


SEAGRASS COMPLIANCE

SECTION 4: COMPLIANCE AND ADAPTIVE MANAGEMENT

Banana B - Step 1
2017 – 2023 Cumulative Distribution of Deep Edge Points





Banana B - Step 2
2017 - 2023 Median Deep Edge

FUTURE GROWTH

SECTION 4: COMPLIANCE AND ADAPTIVE MANAGEMENT

Assessed additional loading to the basin by 2040 under different growth management scenarios.

- 2040 population “additional people” based on Bureau of Business and Economic Research medium growth projections per county.
- Growth distributed to jurisdictional boundaries based on available land area.
- Determined percentage of population sewered based on Florida Water Management Inventory parcel to point data.
- Applied per person loading values for portions of future population on centralized sewer or OSTDS.
- Assumed increase in urban stormwater loading based on percentage of undeveloped acres converted to low density residential land use, using statewide event mean concentrations and runoff coefficients.
- Ran three management scenarios to look at loading by entity, source and overall basin.

FUTURE GROWTH

SECTION 4: COMPLIANCE AND ADAPTIVE MANAGEMENT

Scenario 1

By 2040:

- **90%** or more of **new population** is connected to central sewer.
- All wastewater treating to **3 mg/L TN** and **1 mg/L TP.**
- Remainder of new population has **enhanced OSTDS.**
- **2% of undeveloped land** converted to low density development.

Scenario 2

By 2040:

- **New population** is connected to central sewer at **same rate as today.**
- All wastewater treating to **3 mg/L TN** and **1 mg/L TP.**
- Remainder of new population has **enhanced OSTDS.**
- **10% of undeveloped land** converted to low density development.

Scenario 3

By 2040:

- **New population** is connected to central sewer at **same rate as today**.
- All wastewater treating to **6 mg/L TN** and **3 mg/L TP.**
- Remainder of new population has **conventional OSTDS.**
- **17% of undeveloped land** converted to low density development.

FUTURE GROWTH

SECTION 4: COMPLIANCE AND ADAPTIVE MANAGEMENT

Entity	2040 People	Scenario 1 TN (lbs/yr)	Scenario 2 TN (lbs/yr)	Scenario 3 TN (lbs/yr)
Brevard County	4,390	2,477	3,073	6,126
Cape Canaveral	347	196	243	484
Cocoa Beach	500	282	669	1,335
Indian Harbour Beach	408	230	286	569
Satellite Beach	543	306	348	694

2040 Loading — Basin Totals

Scenario 1 Total	Scenario 2 Total	Scenario 3 Total
3,491	**4,619**	**9,208**

In every scenario, additional loading is expected in the basin by 2040 due to increasing populations. However, entities should proactively be working to both remediate existing loading AND plan to mitigate loading from future growth.

BMAP UPDATE DOCUMENT

APPENDICES

- **Important links.**
- **Allocation calculations.**
- **Updated project tables.**
  - Projects submitted by responsible entities through the BMAP portal through October 2024.
  - Includes projects from the 2020 Clean Waterways Act WWTF and OSTDS plans submitted by local governments August 2024.
- **Seagrass analysis methods.**
- **Updated agricultural enrollment and reductions (provided by DACS).**
- **Plan for additional management strategies.**
- **Nutrient management plan requirements.**
- **New wastewater facilities.**
  - List of facilities with reclaimed water that are causing or contributing to nutrient impairments.
- **Water Control Districts (WCDs) and other special districts.**
- **Methods for SJRWMD status and trends assessment.**

UPCOMING SCHEDULE

- April 2024, Technical BMAP update public meeting.
- April 2025, Draft BMAP document available for review.
- May 2025, Draft BMAP update public meeting.
- May 2025, Draft BMAP update comment period.
- July 1, 2025, Statutory deadline for updated nutrient BMAPs.

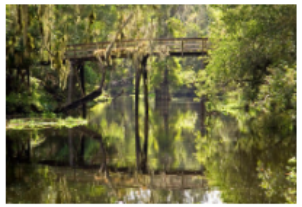
NEXT STEPS

BMAP update document draft review:

- Draft document sent out via GovDelivery **April 30, 2025**.
- Stakeholder review comments due **May 23, 2025**.

Submit comments to:
Tiffany.Simpson@FloridaDEP.gov

RESOURCES
BMAP WEBSITE AND STORYMAPS

Nutrient BMAPs	Springs BMAPs	Fecal Bacteria Impaired BMAPs
		
Nutrient 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 reductions established by a total maximum daily load	Springs BMAPs identify the sources of nutrient pollution, list the specific projects and programs necessary to reduce nutrient pollution, and establish priority focus areas where statutory prohibitions on certain activities apply (such as installation of new conventional septic systems).	Bacteria basin management action plans (BMAPs) include management strategies or projects, to be implemented by local stakeholders, that aim to eliminate and prevent the release of waste, containing pathogens, to natural waterbodies.

Basin Management Action Plans (BMAPs) | Florida Department of Environmental Protection

BMAP Public Meetings | Florida Department of Environmental Protection

BMAP MEETING
PUBLIC COMMENT PERIOD

Verbal Comments

- We ask that comments be limited to **two minutes** so that we may hear from everyone.

Written Comments

- Submit written comments concerning today's meeting to: BMAPProgram@FloridaDEP.gov.

THANK YOU

Tiffany Simpson
Banana River Lagoon BMAP Coordinator

Contact Information:
850-245-8560
Tiffany.Simpson@FloridaDEP.gov

Florida Department of Environmental Protection (DEP)
Banana River Lagoon Basin Management Action Plan (BMAP)
Public Meeting
UF-IFAS, 3695 Lake Drive, Cocoa, FL
May 7, 2025
9:00 am – 10:23 am EDT

Attendees

Steven Baker, US Space Force SLD 45
Lisa Bally, Geosyntec
Dr. Peter Barile, MRC for City of Melbourne
Terri Breeden, Brevard County - SOIRL
Tiffany Busby, Wildwood Consulting
Caitlyn Butler, SJRWMD
Stacy Cecil, SJRWMD
John W. Coffey, City of Indian Harbour Beach
Katie Craver, DEP
Walker Dawson, Applied Ecology
Melisa Diolosa, SJRWMD
Dean Dobberfuhl, SJRWMD
Sara Driggers, Wildwood Consulting
Doug Durham, NASA
James Ennis, City of Melbourne
Chris Fagerstrom, Mead and Hunt
Anthony Gubler, Brevard County
Roxanne Groover, FOWA
Kate Helms, City of Satellite Beach
Moira Homann, DEP
Brad Kalsow, City of Cocoa Beach
Carley Kastronek, City of Satellite Beach
Chandler Keenan, DEP
Art Lorenz, USAF
Celeste Lyon, RES
Bach McClure, Brevard County NRM
Mike McMunigal, SJRWMD
James B. Moir, Indian Riverkeeper
Mark T. Dixon, USAF
Raulie Raulerson, Florida Farm Bureau
Joyce Rebar, FDOT District 5
Lucas Siegfried, Brevard County
Lorae Simpson, SJRWMD
Tiffany Simpson, DEP
Gail Stewart-Iles, Citizen
Anita Stine, DEP
Dani Straub, City of Melbourne
Jennifer Thera, FDACS
Diana Turner, DEP
Ken Weaver, DEP
Terry Williamson, Brevard County NRM
Morgan Zuhlke, City of Cocoa Beach

Overall

The draft BMAP document can be downloaded here: https://floridadep.gov/dear/water-quality-restoration/content/bmap-public-meetings. Comments on the draft BMAP document are due by May 23, 2025. Verbal comments at this meeting were welcome. Written comments submitted at the meeting were invited. Comments after the meeting should be sent to BMAPProgram@FloridaDEP.gov by May 23, 2025.

Questions and Answers

Question (Q): Will the current projects be recalculated using the Spatial Watershed Iterative Loading (SWIL) Model 5.0? Will completed projects switch to the SWIL Model 5.0?
Answer (A): Yes, the project credits that are based on watershed loads to a best management practice (BMP) will need to be recalculated with the SWIL Model 5.0.

Q: For the model updates, was atmospheric deposition adjusted to reflect the land use changes?
A: The watershed loading estimates include atmospheric deposition. The best available data were used to estimate watershed loads, including atmospheric deposition.

Q: What was the bill requiring onsite sewage treatment and disposal systems (OSTDS) enhancements or connection to sewer?
A: The specific bill that added these OSTDS requirements was 2023 House Bill 1379.

Q: How do we find out the current progress on upgrades to existing septic systems? Is DEP asking the communities that are impacted to be prepared to do their part? How do we find out the local plan for meeting the requirements?
A: The DEP BMAP Program has been working with the DEP Onsite Wastewater Program on implementing meeting the new legislative requirements for permitting septic systems. Part of the legislative changes include moving the state's septic system regulatory program from the Florida Department of Health (FDOH) to DEP. The transfer process of this regulatory program is currently underway.

Q: How do we receive assistance with grants for the OSTDS enhancements? When an OSTDS repair permit is issued, are the new OSTDS enhancement requirements applied to the repair permits like they are in springs BMAP areas?
A: The existing OSTDS regulatory requirements language in the springs BMAPs is slightly different than the draft language in the Banana River Lagoon BMAPs. However, DEP can consider adding more specific language about requirements for existing OSTDS into the BMAP to clarify the expectations for enhancing OSTDS when a repair or modification permit is requested for an existing system.

Q: How do we address a new residential construction project that will receive sewer service in the near future, but that service will not be available for several years--if the sewer extension project is not yet finished but has been funded? Can the enhanced OSTDS requirement be waived and traditional systems be installed so the homes can be occupied and later connected to sewer, so as not to delay occupancy for an extended period? Can we also prevent inadvertently providing avenues for residents or developers to install enhanced OSTDS for the purpose of avoiding a requirement to connect to sewer?

A: DEP staff noted these questions and will consider clarification to the OSTDS language about consideration of the future availability of sewer service.

Q: Are there any incentives being considered for septic-to-sewer conversion projects?
A: DEP has a grant portal where local government and utility stakeholders are encouraged to apply for state funding for projects that benefit BMAP implementation and water quality. However, DEP grants may not include full project funding, so local governments and homeowners should be prepared to carry some or all of the financial cost of sewering or enhancement of OSTDS.

Q: What is the deadline for wastewater treatment facilities (WWTFs) to upgrade to advanced wastewater treatment?
A: The DEP district offices, who issue permits in the DEP WWTF regulatory program, will work with permit holders on the upgrade schedules.

Q: Are the WWTF deadlines applicable to package plants and are they required to upgrade as well?
A: Yes, the BMAP requirements apply to all domestic WWTFs, including package plants. However, the upgrade requirements are dependent on the size of the facility, based on the flow capacity. Additionally, specific domestic WWTFs that distribute reclaimed water have specific, advanced treatment requirements. These facilities are listed in the BMAP appendices.

Q: What guarantee is there that I don't have to convert to sewer if I enhance my OSTDS?
A: DEP will consider adding language in the BMAP for clarification on how soon the connection to sewer is required for new nutrient-enhanced OSTDS.

Q: Are BMAP plan submissions required every year?
A: Yes, responsible entities are required to provide annual updates on their BMAP-related activities.

Q: For those that have enhanced their septic systems to enhanced treatment systems, are they required to connect to sewer?
A: Florida Statutes require connection to sewer service, when available, within one year of the notification of availability. Also, some entities have adopted local ordinances with specific requirements which may be more stringent than the state statutes. DEP will consider the comments made about considering how recently an OSTDS was enhanced and the possibility of extending the deadline for connection; however, the statutes do not waive the sewer connection requirement for enhanced systems. The extension to the time before connection is required would have the potential to undermine the finances of the local utility who has invested in providing the sewer infrastructure and is depending on adding those customers.

Q: How will the WWTFs be able to account for all the new population growth?

A: The 2020 Clean Waterways Act required local governments in BMAP areas to evaluate their infrastructure, plans, and financial needs for the next 20 years in a WWTF remediation plan and an OSTDS remediation plan, when applicable. The publicly owned WWTFs were required to submit to DEP the final version of their remediation plans, respectively, by August 1, 2024. In the 2024 legislative session, the Florida Legislature required private WWTFs to submit WWTF remediation plans as well.

Q: FDOH does not have electronic records for all the older conventional OSTDS systems and where they are located. How are the missing systems accounted?

A: DEP uses the Florida Water Management Inventory to estimate where OSTDS are installed; this inventory is based, in part, on data provided by local utilities. Since they are newer, the enhanced systems are tracked electronically by FDOH, so it should be less challenging in the future to know what properties are enhanced or have sewer service.

Q: The BMAP updates do not seem to capture all the water quality improvement needs. How is this issue being addressed?

A: BMAPs are iterative and model-based estimates, which means that all complexities are not accounted for and the landscape changes over time. The BMAP process is set up to be iterative because watershed efforts should reflect both new loads, changes in the ecological system, and the projects that have been built to improve water quality. The adaptive management process ensures that we can incorporate new information, with the state statutes now requiring BMAP updates every five years. It was noted that the total maximum daily loads (TMDLs) and seagrass targets remain unchanged, but the loading estimates are periodically updated to reflect changes in population, development, emissions, and agricultural practices.

Q: Could we create a Nutrient Management Consortium like the one in Tampa Bay to which organizations like federal agencies could contribute funding and would allow us to focus on the biggest projects needed—and that may be too costly for a single organization to fund?

A: The Tampa Bay Consortium is managed through the Tampa Bay Estuary Program, so it might be possible for the Indian River Lagon Estuary Program to create a similar forum. However, a consortium is not required by the BMAP process. Some responsible entities have created partnerships and credit sharing agreements to implement larger BMAP-related projects, which can also be an option to meet reduction requirements.

Comments

Verbal Comment: The three charts that show the future growth scenarios indicate that the BMAP targets for this area are unlikely to be met within five years. Given these projections, it may be worth reassessing the goals to ensure they align with realistic outcomes. The lagoon is facing significant challenges, and reevaluating the methodology could help improve the chances of success.

No written comments were submitted during the meeting.

Adjournment

The meeting ended at 10:23 am EDT.