



Indian River and Banana River Lagoon Basin Management Action Plans

PRESENTER Stacy Cecil

Division of Environmental Assessment and Restoration

Water Quality and Restoration Program

Florida Department of Environmental Protection

Up the Creek Farms, Grant-Valkaria, FL | May 10, 2022



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

PRESENTATION AGENDA

- What a Basin Management Action Plan (BMAP) Does.
- BMAP Projects.
- BMAP Progress.
- Statewide Annual Report (STAR).
- BMAP Project Portal.
- Clean Waterways Act.
- Nutrient Loading Model Updates.
- Update to Lagoon Bathymetry.
- BMAP Compliance Assessment.
- BMAP Project Prioritization.





What a BMAP Does

Reduce External Loads.

Remove Internal Loads.

Restore Damage to the System.

Respond and Adapt.





Stakeholder Projects

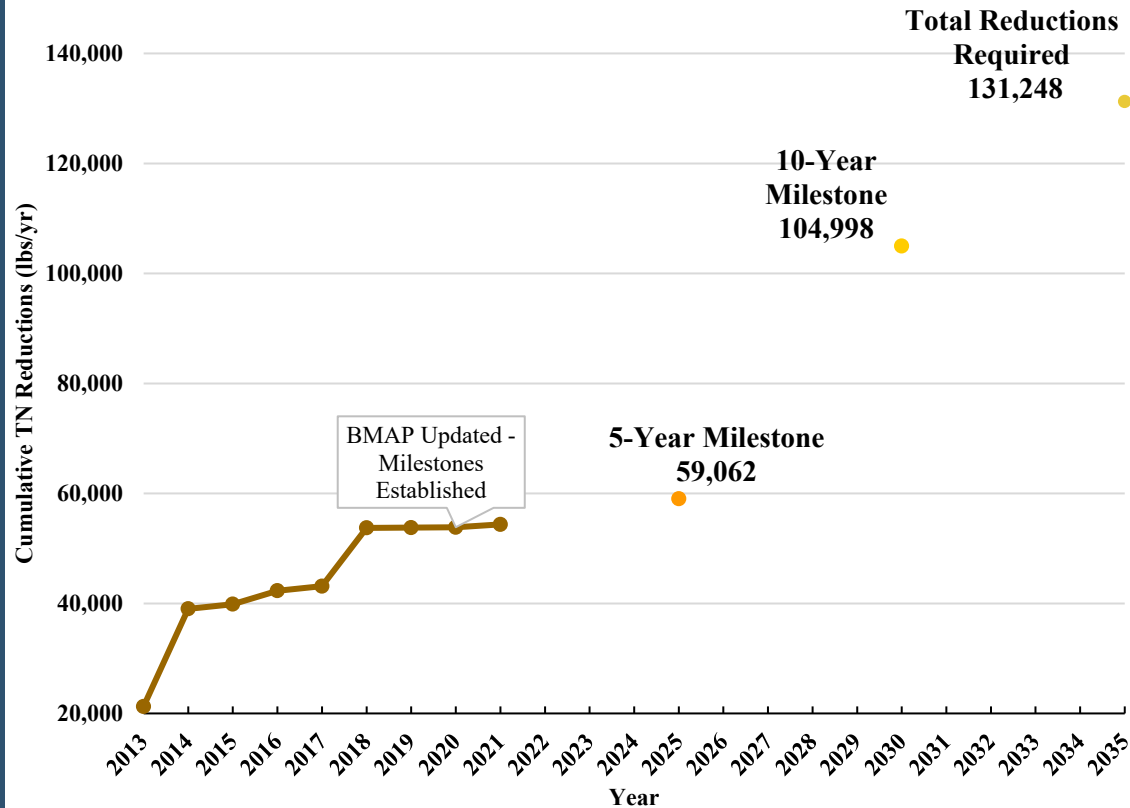
BMAP	Completed	Ongoing	Underway	Planned	Total
Banana River Lagoon	221	31	14	31	297
North Indian River Lagoon	209	40	26	32	307
Central Indian River Lagoon	237	75	42	28	382

Majority of projects submitted to the BMAP aim to reduce nutrient concentrations from point and non-point sources before entering the lagoon → Reduce External Loads.

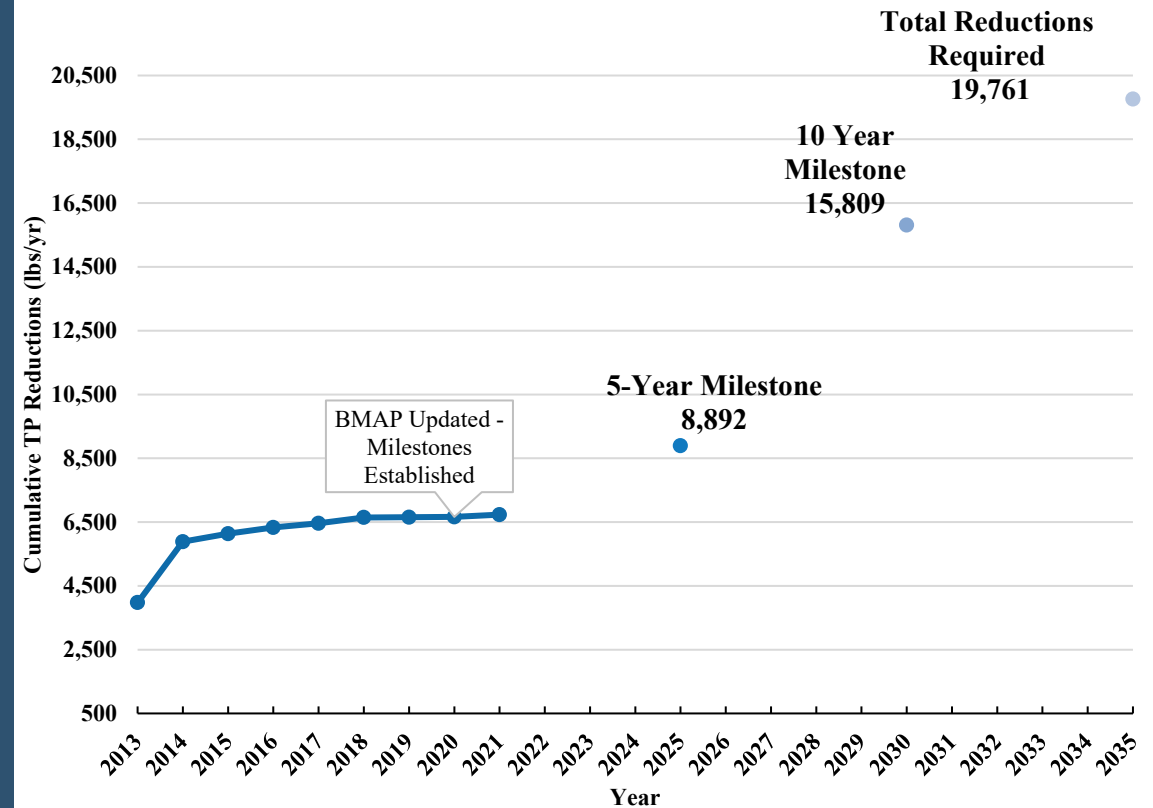


Stakeholder Projects – Banana River Lagoon Project Reductions & Milestones

IRL - Banana River Lagoon TN Project Reductions



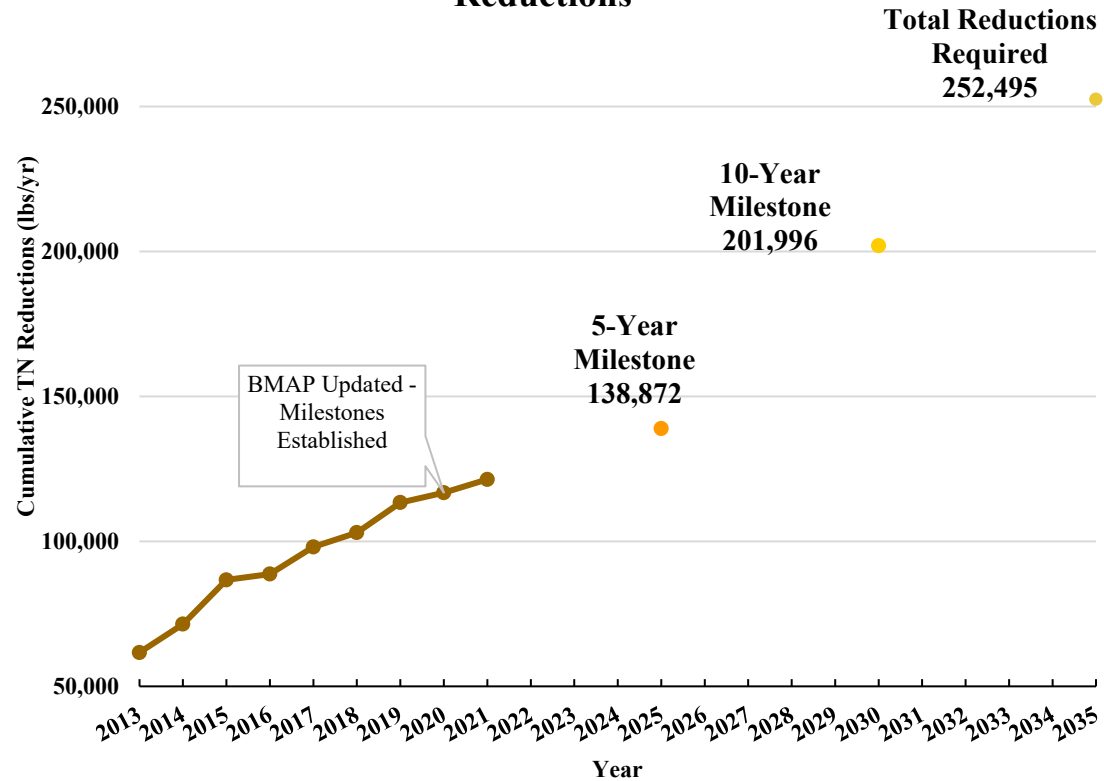
IRL - Banana River Lagoon TP Project Reductions



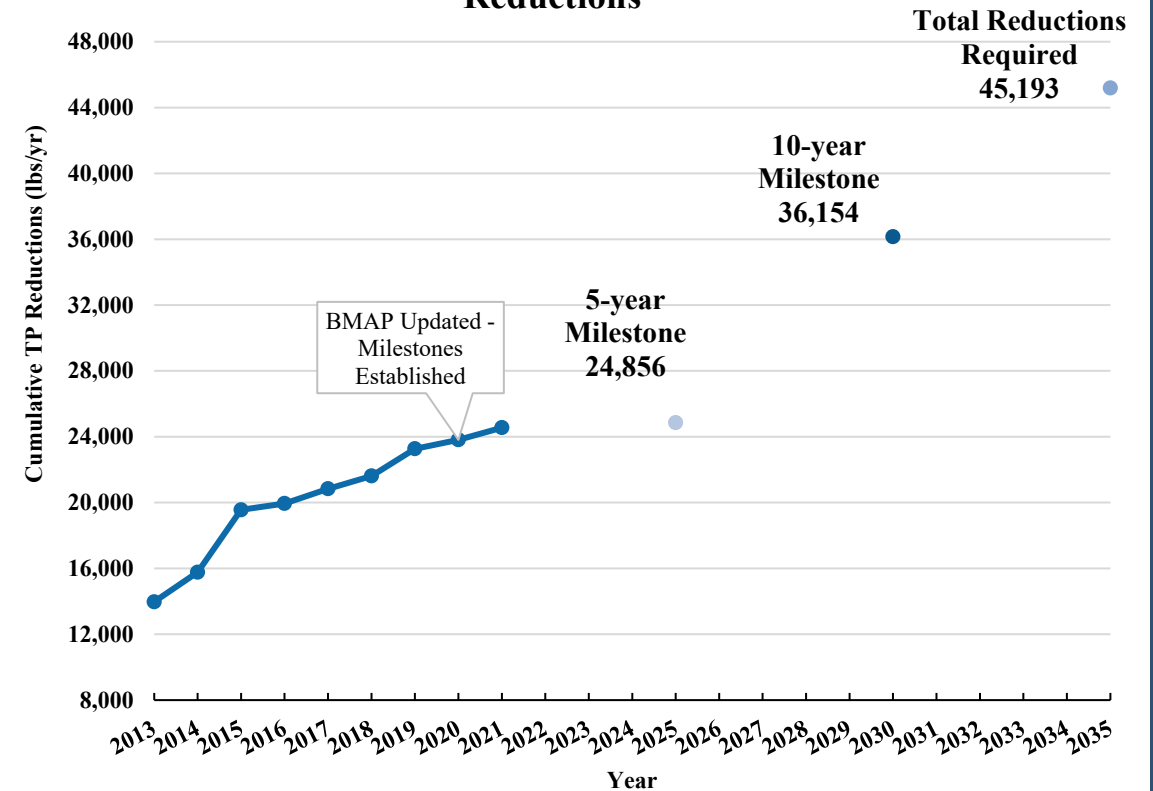


Stakeholder Projects – North IRL Project Reductions & Milestones

IRL - Northern Indian River Lagoon TN Project Reductions



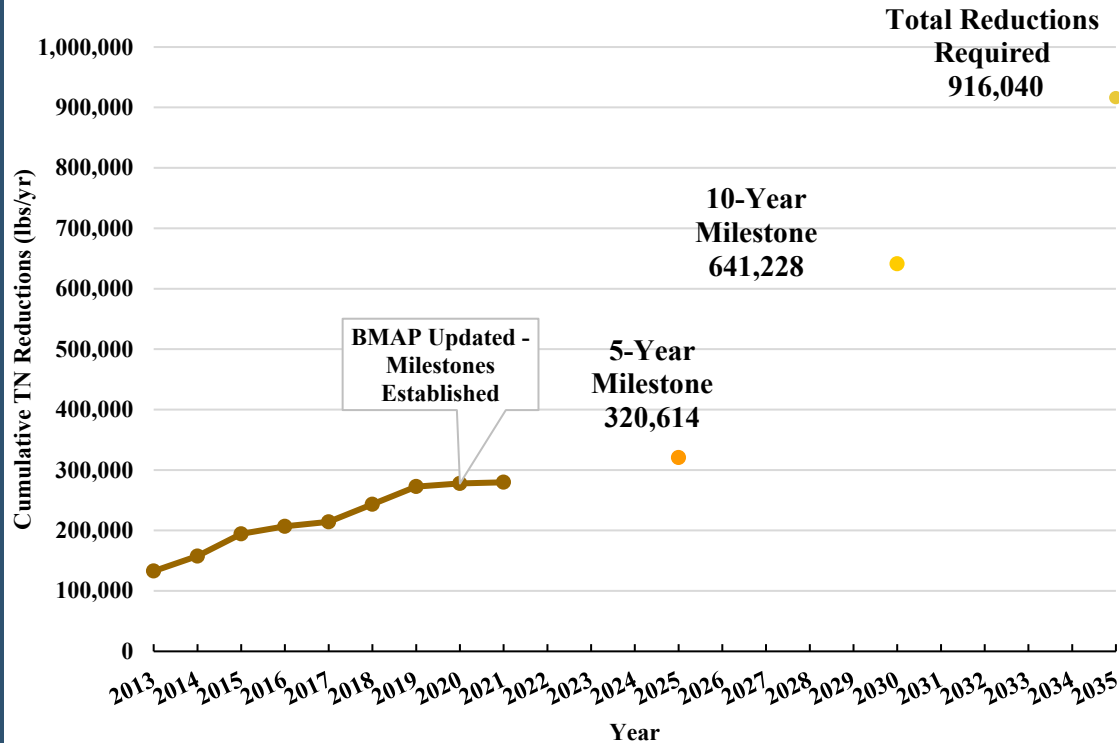
IRL - Northern Indian River Lagoon TP Project Reductions



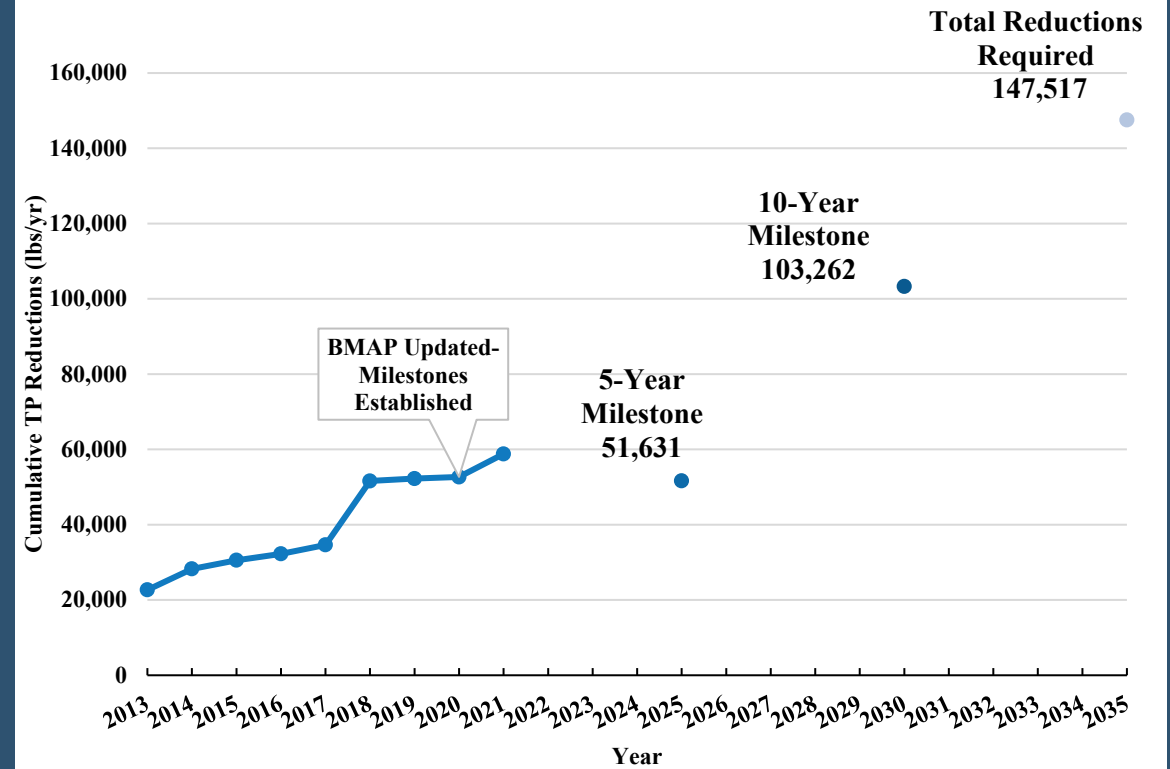


Stakeholder Projects – Central IRL Project Reductions & Milestones

IRL - Central Indian River Lagoon TN Project Reductions



IRL - Central Indian River TP Project Reductions





2021 STAR Coming Soon!

July 1,
2022

Florida Statewide Annual Report

Published June 30, 2021

Introduction Total Maximum Daily Loads Basin Management Action Plans Minimum Flows and Minimum Water Levels Recovery and Prevention Strategies Contacts and Data

Troubleshooting

Basin Management Action Plans

A basin management action plan (BMAP) is a framework for water quality restoration that contains 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 reductions 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 Florida Department of Environmental Protection (FDEP) Secretarial Order and are legally enforceable.

Navigation

Select any of the following sections for additional information about BMAPs. Clicking on the dots in the column to the left of the page links you to these same sections and clicking on the home icon returns you to the top of this page.

- Northern Everglades and Estuaries Protection Program BMAPs.
- Outstanding Florida Springs (OFS) BMAPs.
- Additional Nutrient BMAPs.**
- Focal Indicator Bacteria BMAPs.
- Alternative Restoration Approaches.

How to Use This Report

The management actions listed in the BMAPs comprise local projects proposed and committed to by counties, municipalities, special districts, private industrial facilities, wastewater utilities, commercial agricultural operations, state agencies, and other stakeholders. In 2020, FDEP contacted stakeholders in all BMAP areas to request information on the status of projects through December 31, 2020. The tables



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Indian River Lagoon - Banana River Lagoon BMAP

Background

The Banana River Lagoon BMAP area comprises 97,139 acres of the Indian River Lagoon (IRL) between Merritt Island and the coastal barrier island and extends in a north-south direction from Banana Creek south to the Law Galle Causeway. Sykes Creek and Newfound Harbor are the primary tributaries to the Banana River.

FDEP verified the IRL as impaired because of excessive amounts of TN and TP, as evidenced by a decrease in seagrass distribution and by low DO. In March 2009, DLP adopted nutrient and DO TMDLs for the IRL, with a focus on the water quality conditions necessary for seagrass regrowth at the depth limits where seagrass historically grew in the lagoon, based on a multiyear composite of seagrass coverage.

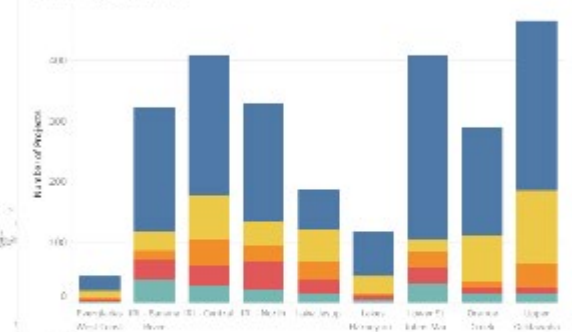
The Banana River Lagoon BMAP is one of three separate BMAPs developed for the IRL, because of the IRL's large size and hydrologic diversity. Updates to all three IRL BMAPs were developed in cooperation with local stakeholders throughout 2020. These comprehensive updates included updated modeling efforts, boundary adjustments, updated allocations and load reductions to the responsible stakeholders, updated management actions to achieve nutrient reductions, and a revised monitoring plan to continue to track trends in water quality. The three updated IRL BMAPs were formally adopted in February 2021.

Status of Projects

Through December 31, 2020, 202 projects were completed and 32 activities are listed as ongoing. An additional 68 projects were identified as underway or planned. The projects completed to date are estimated to achieve total reductions of 54,032 lbs/yr of TN, or 41% of the reductions needed to meet the portion of the TN TMDL allocated to the Banana River Lagoon. Completed projects are estimated to achieve total reductions of 6,647 lbs/yr of TP, or 34% of the reductions needed to meet the portion of the TP TMDL allocated to the Banana River Lagoon.



BMAP Project Status



BMAP Name	County	Project Number	Project Name	Project Type
Everglades West Coast	City of Fort Lauderdale	15-01	Permit for Ordinance	Regulations, Ordinances, and Guide Lines
IRL - Banana River	City of Fort Lauderdale	15-02	Florida Parks and Neighborhood (FNP) Plan	Education Efforts
		15-03	264-A1 Catch Basin Inverts	Catch Basin Inverts/Fish River Cleanout
		15-04	Residential Dry Detention	Dry Detention Pond
		15-05	Victory Avenue Sewer	Greenhouse Algae/Algae/Algae/Algae/Algae
		15-06	Yam Field	Dry Detention Pond
		15-07	Rebo Avenue Stormwater Treatment	Dry Detention Pond
		15-08	Street Sweeping	Street Sweeping
		15-09	Rebo Avenue Bio-Reactor Project	BMP Treatment Train

<https://floridadep.gov/star>



Project Portal 2022 Collection Period

- Online format.
 - Streamline reporting.
 - Increase efficiency.
 - Quality Control.
- Allocated stakeholders sign up through DEP Business Portal by September 1, 2022.



Go to:

<https://www.fldepportal.com/DepPortal/go/home>
or follow the QR Code above to register.

DEP BUSINESS PORTAL

Workflow Data Services Module Administration

Project Workbook

Search Criteria

BMAP ID:

Estimated Start Date:

Lead Entity:

Estimated Completion Date:

Partners:

Crediting Location:

Project ID:

Project Number:

DEP BUSINESS PORTAL

DEAR RESTORATION PROJECT COLLECTION PORTAL

Workflow Data Services Module Administration

Search Results

Columns width can be adjusted with a small dot at the top of each column. If you hover over a column, it is in the table heading, sorting arrows will appear in most columns. If the column width is expanded, click and drag the column heading to rearrange the order of the columns.

Project Workbook ID	Project ID	Project Number	Project Name	Project Description	Project Status	Project Completion Date	Search Results	Project Actions
100	0105	00101	Florida Water Quality Improvement Project	Improvement of water quality in the Florida Water Quality Improvement Project	Completed	2014	Completed with focus on water quality improvement	
101	0105	00102	Florida Water Quality Improvement Project	Improvement of water quality in the Florida Water Quality Improvement Project	Completed	2014	Completed with focus on water quality improvement	
102	0105	00103	Florida Water Quality Improvement Project	Improvement of water quality in the Florida Water Quality Improvement Project	Completed	2014	Completed with focus on water quality improvement	
103	0105	00104	Florida Water Quality Improvement Project	Improvement of water quality in the Florida Water Quality Improvement Project	Completed	2014	Completed with focus on water quality improvement	
104	0105	00105	Florida Water Quality Improvement Project	Improvement of water quality in the Florida Water Quality Improvement Project	Completed	2014	Completed with focus on water quality improvement	
105	0105	00106	Florida Water Quality Improvement Project	Improvement of water quality in the Florida Water Quality Improvement Project	Completed	2014	Completed with focus on water quality improvement	
106	0105	00107	Florida Water Quality Improvement Project	Improvement of water quality in the Florida Water Quality Improvement Project	Completed	2014	Completed with focus on water quality improvement	
107	0105	00108	Florida Water Quality Improvement Project	Improvement of water quality in the Florida Water Quality Improvement Project	Completed	2014	Completed with focus on water quality improvement	
108	0105	00109	Florida Water Quality Improvement Project	Improvement of water quality in the Florida Water Quality Improvement Project	Completed	2014	Completed with focus on water quality improvement	
109	0105	00110	Florida Water Quality Improvement Project	Improvement of water quality in the Florida Water Quality Improvement Project	Completed	2014	Completed with focus on water quality improvement	



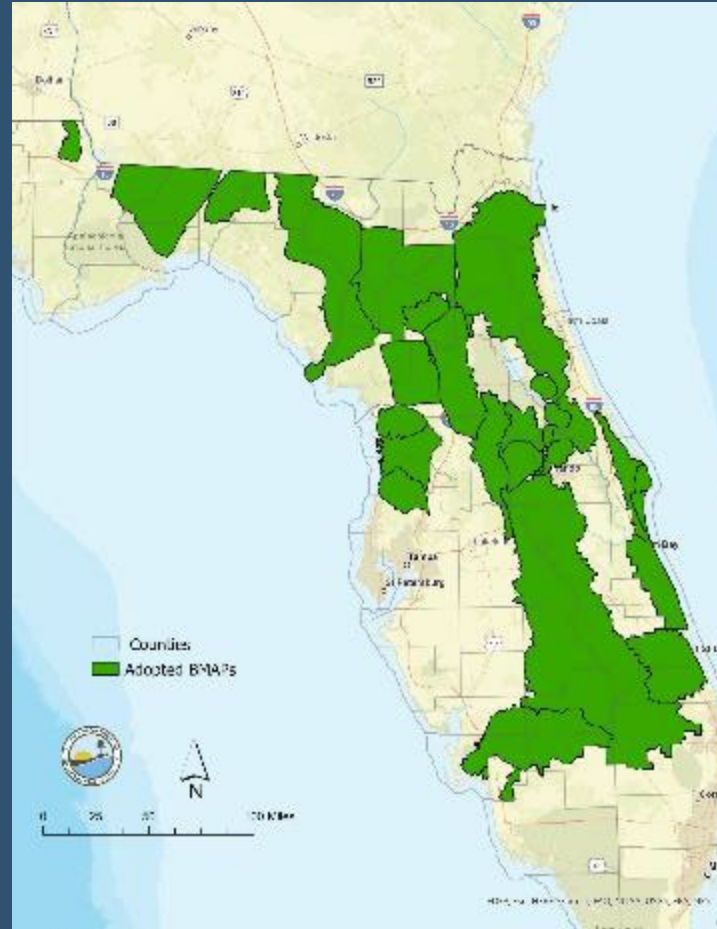
Clean Waterways Act Requirements

Wastewater Treatment Plans

- Inventory of WWTFs within jurisdiction of local governments.
- Summary of each facility's current status, which may include:
 - Permitted capacity.
 - Average discharge.
 - Permitted nutrient limits.
 - Average nutrient concentration.
 - Estimated average nutrient load.
- Summary of capacity analysis for each facility.
 - Including plans for future growth.
- Ranking or list of facility upgrades needed to meet requirements.
- Timelines/milestones for all projects.
- Funding estimates for all projects.

March 2022 Webinar Link

Nutrient BMAPs



Adopted by July 1, 2025

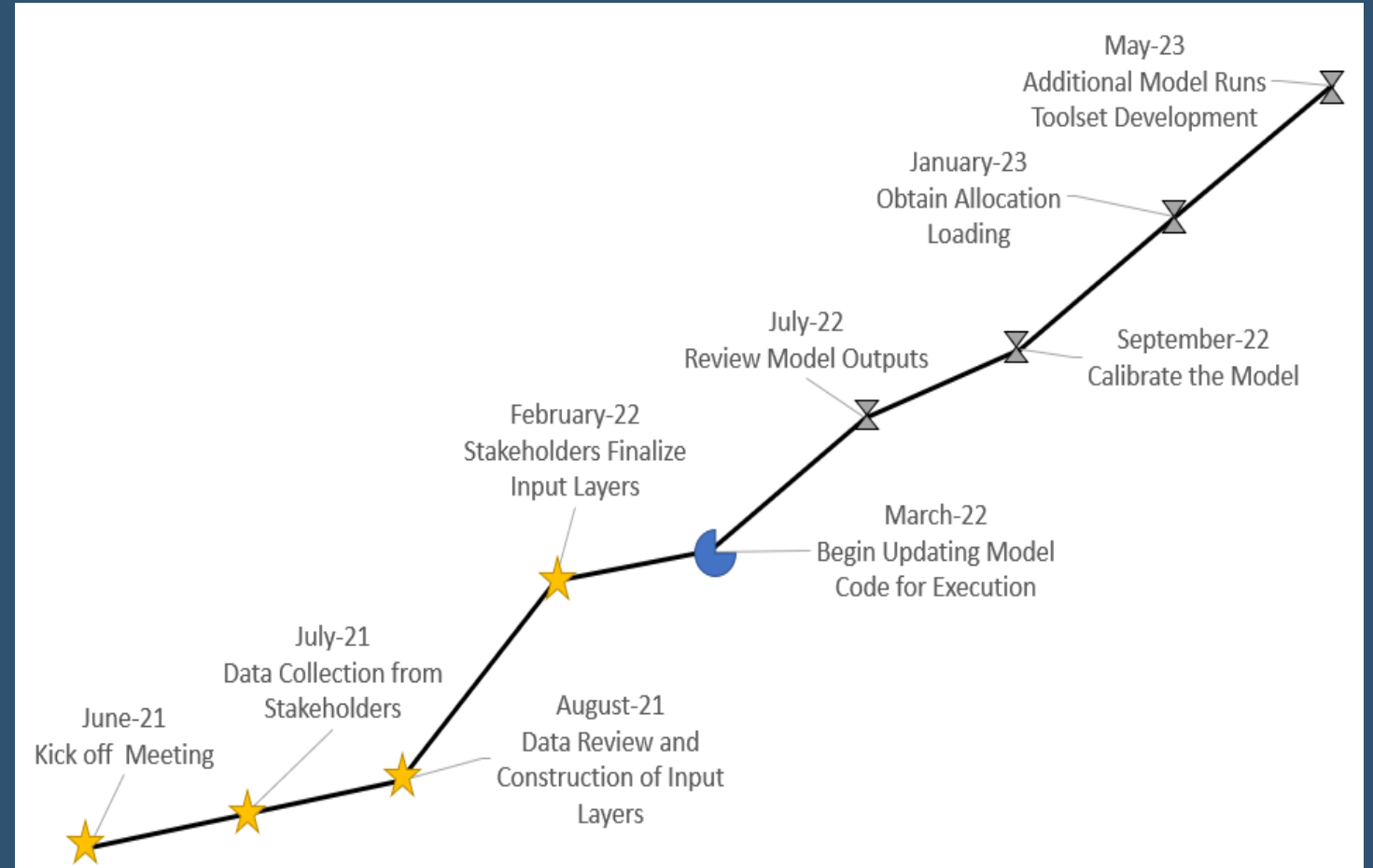
OSTDS Remediation Plans

- Inventory of OSTDS within jurisdiction of local governments.
- Plan to address OSTDS in the future:
 - Areas for sewerage and/or enhancements & prioritization of those areas.
 - Summary of capacity analysis for wastewater facilities that would accept newly sewerage areas.
 - Timelines/milestones for projects.
 - Funding estimates for all projects.
 - Future growth considerations.



Nutrient Loading Model Update

- 2021 BMAP Update adopted the Spatial Watershed Iterative Loading (SWIL) Model for load allocation.
- Request from stakeholders to update Model to more current scenario.
- Model updates should conclude by May 2023.





Update Lagoon Bathymetry



**National Oceanic and
Atmospheric Administration**
U.S. Department of Commerce



St. Johns River
Water Management District



- Updating from 1997.
- Light Detecting and Ranging (LiDAR).
- Flights began March 2022.
- Mosquito Lagoon to Fort Pierce Inlet.



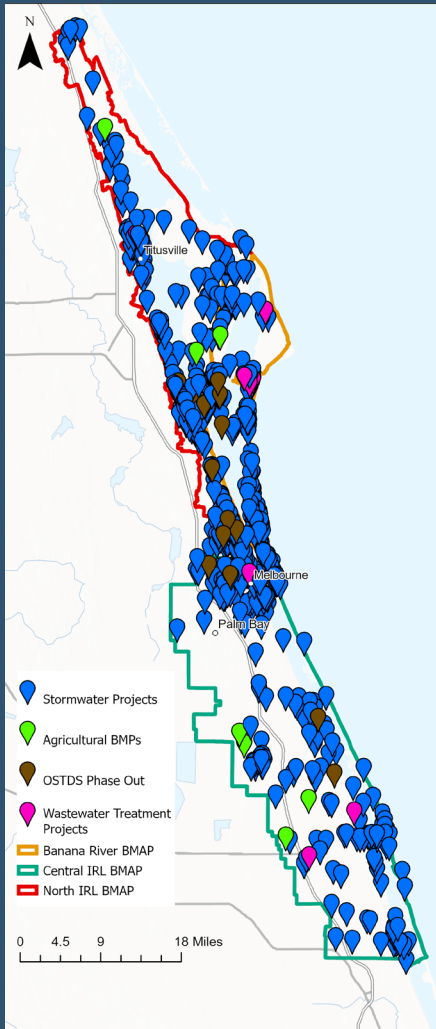
BMAP Compliance Assessment



- Seagrass median deep edge assessment.
- ~Every two-years.
- Processing 2021/2022 with 1997 bathymetry.
- New bathymetry for 2023/2024 assessment.



BMAP Project Prioritization



- A lot of projects exist, but there's a long way to go for water quality improvement.
- Where are projects needed the most?
- Where will funding be best used?
- Focus on water quality.





THANK YOU

Division of Environmental Assessment and
Restoration

Water Quality Restoration Program

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Stacy Cecil, IRL BMAP
Coordinator

Stacy.Cecil@FloridaDEP.gov

850-245-8683

Diana Turner, South Florida
Environmental Administrator

Diana.M.Turner@FloridaDEP.gov

850-245-8825