

Draft

*St. Lucie River and Estuary
Basin Management Action Plan*

**Division of Environmental Assessment and Restoration
Water Quality Restoration Program
Florida Department of Environmental Protection**

with participation from the
St. Lucie River and Estuary Stakeholders

April 2025

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Acknowledgments

This 2025 *St. Lucie River and Estuary Basin Management Action Plan* was prepared as part of a statewide watershed management approach to restore and protect Florida's water quality. It was prepared by the Florida Department of Environmental Protection with participation from the St. Lucie River and Estuary stakeholders identified below.

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Responsible Agencies	County Health Departments Florida Department of Agriculture and Consumer Services Florida Department of Environmental Protection Florida Department of Transportation District 4 Florida Department of Transportation District 1 Florida Turnpike Enterprise South Florida Water Management District

See **Appendix A** for links to resources referenced in this document. For additional information, contact:

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List of Acronyms and Abbreviations

ac-ft	Acre-Feet
ac-ft/yr	Acre-Feet per Year
ACE	Agricultural Cooperative Regional Water Quality Elements
ALG	Agricultural Lands
AWT	Advanced Waste Treatment
BMAP	Basin Management Action Plan
BMP	Best Management Practice
CAFO	Concentrated Animal Feeding Operations
CDD	Community Development District
CDS	Continuous Deflection Separation
CERP	Comprehensive Everglades Restoration Plan
CR	County Road
DEP	Florida Department of Environmental Protection
DO	Dissolved Oxygen
DWM	Dispersed Water Management
F.A.C.	Florida Administrative Code
FDACS	Florida Department of Agriculture and Consumer Services
FDOT	Florida Department of Transportation
FFS	Florida Forest Service
F.S.	Florida Statutes
FSAID	Florida Statewide Agricultural Irrigation Demand (geodatabase)
FWM	Flow Weighted Mean Concentration
FYN	Florida Yards and Neighborhoods
HSPF	Hydrological Simulation Program – FORTRAN (model)
HWTT	Hybrid Wetland Treatment Technology
IRL-S	Indian River Lagoon South
IV	Implementation Verification
lbs	Pounds
lbs/ac	Pounds Per Acre
lbs/yr	Pounds Per Year
L.O.F.	Laws of Florida
mgd	Million Gallons Per Day
mg/L	Milligrams Per Liter
MS4	Municipal Separate Storm Sewer System
NA	Not Applicable
NMP	Nutrient Management Plan
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NSLRWCD	North St. Lucie River Water Control District
OAWP	Office of Agricultural Water Policy
OSTDS	Onsite Sewage Treatment and Disposal System

PSA	Public Service Announcement
PUD	Planned Unit Development
RAP	Reasonable Assurance Plan
SFWMD	South Florida Water Management District
SLWSD	St. Lucie West Services District
SR	State Road
STA	Stormwater Treatment Area
SWMP	Stormwater Master Plan
TBD	To Be Determined
TMDL	Total Maximum Daily Load
TN	Total Nitrogen
TP	Total Phosphorus
TRA	Targeted Restoration Area
UAL	Unit Area Load
UF-IFAS	University of Florida Institute of Food and Agricultural Sciences
WaSh	Watershed Water Quality Simulation (Model)
WBID	Waterbody Identification (number)
WCD	Water Control District
WCS	Water Control Structure
WMD	Water Management District
WWTF	Wastewater Treatment Facility
WY	Water Year

Executive Summary

Background

The St. Lucie River and Estuary Watershed is located in southeast Florida in Martin, St. Lucie, and Okeechobee counties. It consists of 11 basins (see **Figure ES-1**). The St. Lucie Estuary is a major tributary to the Southern Indian River Lagoon, and this watershed is an economically important area.

The St. Lucie River and Estuary and its associated watershed have been subjected to hydrologic, land use, and other anthropogenic modifications over the past century that have degraded its water quality. To help address the nutrient impairment, the Florida Department of Environmental Protection (DEP) adopted total maximum daily loads (TMDLs) for total nitrogen (TN) and total phosphorus (TP) to the estuary. This BMAP represents the joint efforts of multiple stakeholders to identify where nutrients, both nitrogen and phosphorus, can be reduced through regulatory and non-regulatory programs, incentive-based programs, and implementation of projects that will ultimately achieve and maintain the TN and TP TMDLs in the estuary.

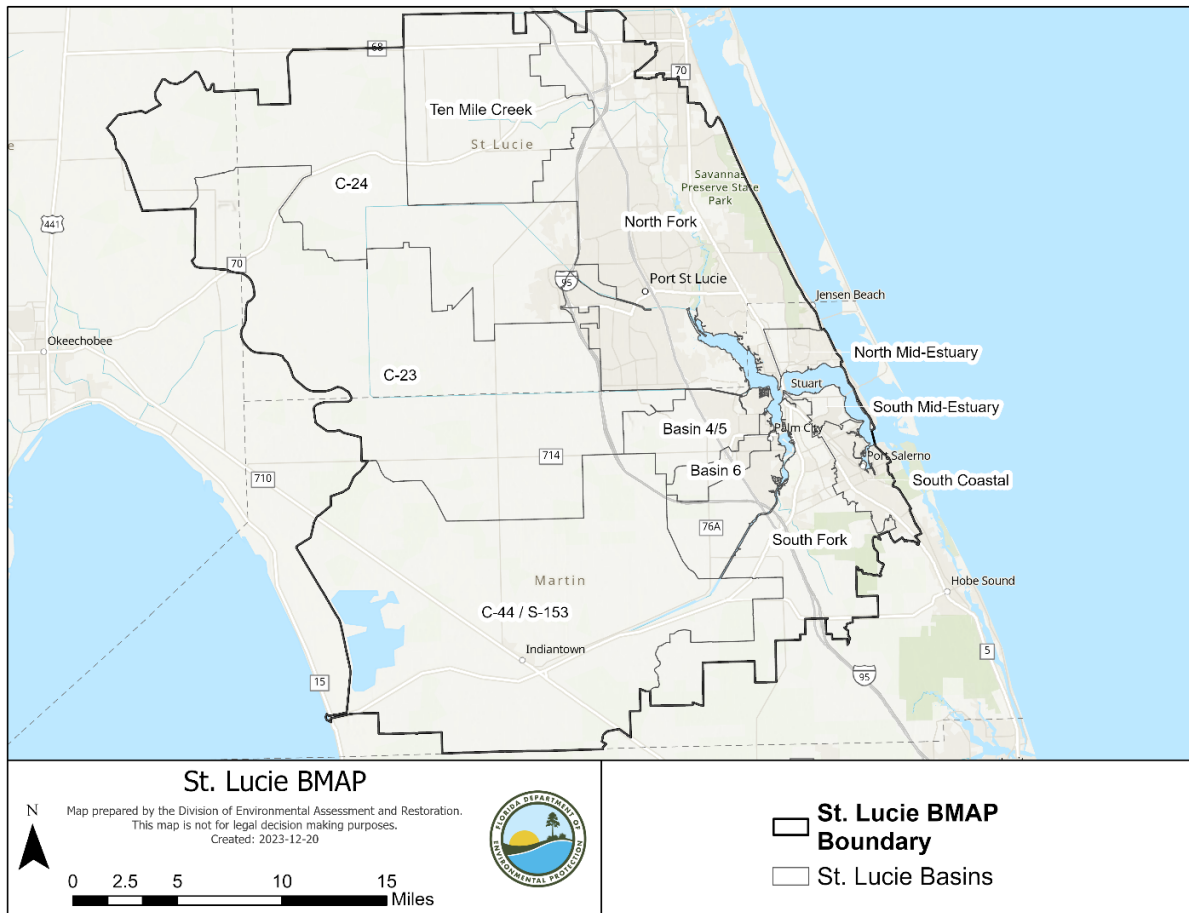


Figure ES-1. St. Lucie River and Estuary BMAP area and basins

TMDLs

TMDLs are water quality targets designed to address verified impairments for specific pollutants, such as TN and TP. DEP identified the St. Lucie River and Estuary as impaired by nutrients (chlorophyll *a*) in 2004. In March 2009, DEP adopted TMDLs for TN and TP as targets for the restoration of the river and estuary. The TMDL proposed target concentrations in the St. Lucie Estuary of 0.72 milligrams per liter (mg/L) for TN and 0.081 mg/L for TP. The attainment of the TMDL will be calculated using a 5-year rolling average of TN and TP concentration data from the Roosevelt Bridge (SE 03) compliance point.

St. Lucie River and Estuary BMAP

DEP first adopted the St. Lucie River and Estuary BMAP in June 2013 to implement the TN and TP TMDLs in the St. Lucie River and Estuary watershed. BMAPs are designed to be implemented in a phased approach, and, at the end of each five-year phase, a review is completed and submitted to the Legislature and Governor. The first Five-Year Review was completed in June 2018, and the BMAP was subsequently updated in 2020 following Executive Order 19-12 (Item C). The 2020 BMAP update included updates to the modeling, updated allocations of load reductions to the responsible stakeholders, management actions to achieve nutrient reductions, and a revised monitoring plan to continue to track trends in water quality. In June 2023, DEP and the local stakeholders completed the second 5-Year Review to evaluate implementation at the end of the first phase and make recommendations for future phases of the BMAP. The information gathered as part of the 5-Year Review was used to develop this updated BMAP for the St. Lucie River and Estuary.

This 2025 BMAP provides information on changes since the 2020 BMAP was adopted, including updated allocations of load reductions to the responsible stakeholders, specific 5-year milestones assigned to the responsible stakeholders, and updated management actions to achieve nutrient reductions. This update sets a goal for achieving load reductions no later than 2028, which is 15 years after the initial BMAP adoption and the original timeline from the 2013 BMAP. The 5-Year Review recommended adjusting the milestone to 20 years. However, the original 15-year timeline was kept for this BMAP update as DEP is working on a new Hydrological Simulation Program – FORTRAN (HSPF) watershed model to include more recent land use and water quality data. The new model will be used in a future update, where entity allocations and milestones will be re-evaluated.

Summary of Load Reductions

DEP asked the stakeholders to provide information on management actions, including projects, programs, and activities, that would reduce nutrient loads from the St. Lucie River and Estuary.

Management actions were required by the original BMAP to address nutrient loads to the estuary and had to meet several criteria to be considered eligible for credit.

Through November 15, 2024, 283 projects were considered completed or ongoing, and an additional 67 projects were underway or planned. Based on the load estimation shapefile developed from the Watershed Water Quality Simulation (WaSh) model, the completed activities in the watershed are estimated to achieve total reductions of 814,556 pounds per year (lbs/yr) of TN, which is 65% of the reductions needed to meet the TN TMDL. The activities completed to date are estimated to achieve total reductions of 176,192 lbs/yr of TP, which is 43% of the reductions needed to meet the TP TMDL. **Figure ES-2** shows progress towards the TN TMDL load reductions, and **Figure ES-3** shows progress towards the TP TMDL load reductions. These figures show reductions from projects reported through November 15, 2024. This date was chosen to allow adequate time to review project documentation and calculate reductions based on accepted methodologies and best management practice (BMP) efficiencies. Updated project information will be provided each year in the Statewide Annual Report and at an annual meeting.

To achieve the TMDL in 15 years, stakeholders must identify and submit additional local projects and the Coordinating Agencies (DEP, Florida Department of Agriculture and Consumer Services [FDACS], and South Florida Water Management District [SFWMD]) must identify additional regional projects as well as determine the significant funding that will be necessary. Enhancements to programs addressing basinwide sources will also be required. In addition, the legacy phosphorus contribution in the watershed must be addressed through further studies and projects targeted at this source. Once this additional information is provided, the Coordinating Agencies will address these constraints.

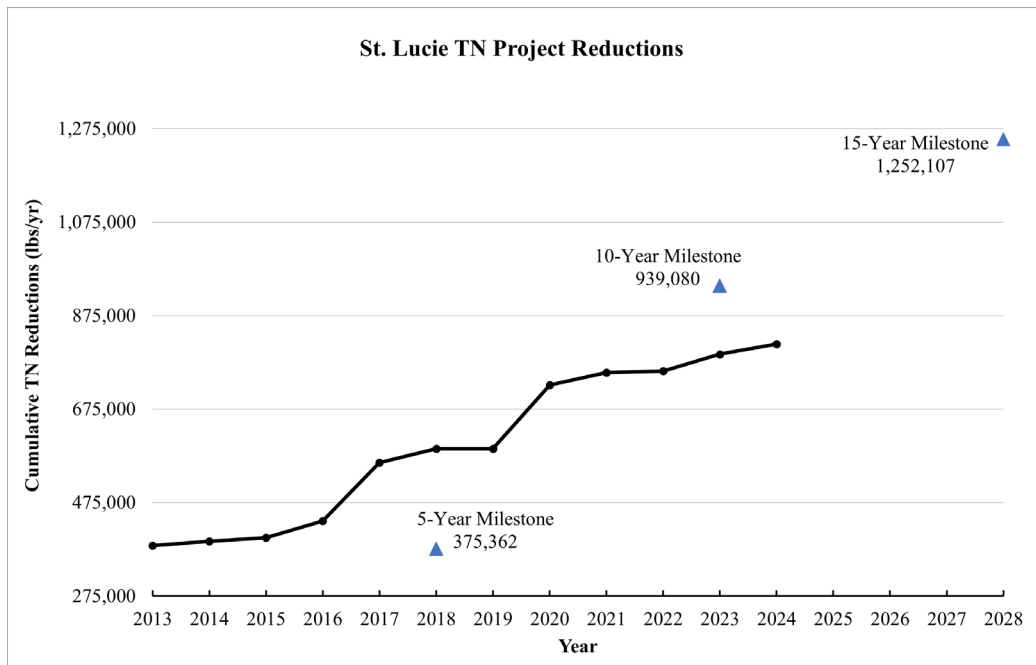


Figure ES-2. Estimated progress towards meeting the TN TMDL allocated to the St. Lucie River and Estuary Watershed with projects completed through November 15, 2024

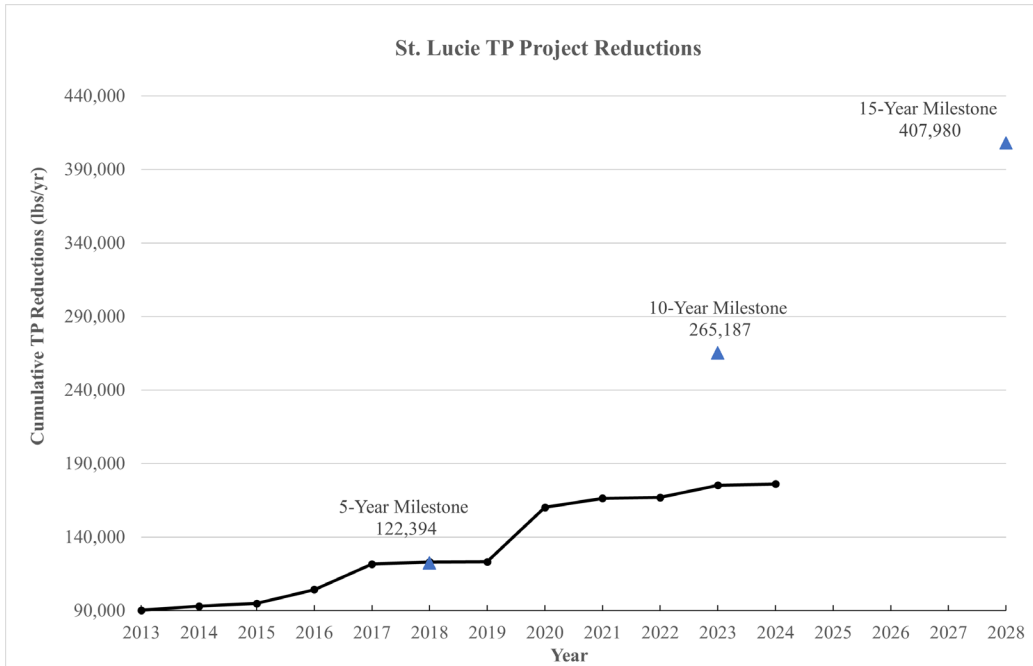


Figure ES-3. Estimated progress towards meeting the TP TMDL allocated to the St. Lucie River and Estuary Watershed with projects completed through November 15, 2024

Source Requirements

Subparagraph 403.067(7)(a)9., Florida Statutes (F.S.), specifies that local governments (county governments and municipalities) within a BMAP must develop a wastewater treatment plan and/or an onsite sewage treatment and disposal system (OSTDS) remediation plan containing information if DEP “identifies domestic wastewater treatment facilities or onsite sewage treatment and disposal systems as contributors of at least 20% of point source or nonpoint source nutrient pollution or if the Department determines remediation is necessary to achieve the [TMDL].”

DEP determined that the domestic wastewater treatment facilities and/or OSTDS sources within the St. Lucie River and Estuary BMAP met the 20% contribution and/or remediation of these sources is necessary to achieve the TMDL. A final order (23-0124) was issued to prescribe timelines for local governments to submit these plans on June 12, 2023. Draft wastewater treatment and OSTDS remediation plans were submitted by February 1, 2024, and final plans were submitted by August 1, 2024. Projects outlined in the plans addressing domestic wastewater sources are incorporated into this BMAP update.

Additionally, DEP has determined facilities that land apply reclaimed water identified in **Appendix E** are subject to the nitrogen and phosphorus limits set forth in section 403.086, F.S.

The facilities listed in **Appendix E** have 10 years from BMAP adoption to meet the applicable advanced waste treatment (AWT) standards. More information can be found in **Section 2.4.3**.

Agricultural nonpoint sources are the predominant contributor of TN and TP loading to the St. Lucie River and Estuary. Attainment of the TMDLs is largely contingent upon addressing the agricultural loading to the river and estuary. The St. Lucie River and Estuary BMAP was originally adopted in June 2013, and many agricultural producers have been enrolled and are implementing BMPs. FDACS has focused efforts to improve enrollment efforts, resulting in 87% of the agricultural lands in the BMAP being enrolled in the BMP program as of April 30, 2024. FDACS will continue to carry out its statutory authority and fulfill its statutory obligations by actively engaging agricultural nonpoint sources to enroll in BMPs and by adequately verifying BMP implementation.

FDACS is responsible for verifying that all eligible agricultural producers are enrolled in appropriate BMP programs. FDACS will perform onsite inspections of all agricultural operations enrolled in BMPs to ensure that these practices are being properly implemented every two years. FDACS will continue to collect nitrogen and phosphorus fertilization records during implementation verification visits from each agricultural producer enrolled in BMPs and is required to provide DEP the nutrient application records in accordance with subsection 403.067(7)(c)5., F.S.

Further reductions beyond the implementation of required agricultural owner-implemented BMPs will be necessary to achieve the TMDL. As such, pursuant to subsection 373.4595(3), F.S., where water quality problems are demonstrated, despite the appropriate implementation of adopted BMPs, a reevaluation of the BMPs shall be conducted pursuant to subsection 403.067(7), F.S. If a reevaluation of the BMPs is needed, FDACS will also include DEP, the appropriate WMD, and other partners in the reevaluation and BMP update processes.

Further reductions can also be achieved through the implementation of additional agricultural projects or activities. The Coordinating Agencies (DEP, FDACS, and SFWMD) will work together to identify cost-share practices and other projects that can be undertaken to achieve these nutrient reductions and identify and implement additional projects and activities in priority targeted restoration areas (TRAs). These additional projects and activities are to be implemented in conjunction with the BMP Program, which needs to achieve full enrollment with verification to ensure that the BMAP goals are achieved.

Chapter 2023-169, Laws of Florida (L.O.F.), (403.067, F.S.) requires that BMAPs include milestones for implementation of TMDLs. Any responsible entity within the BMAP that has an assigned pollutant load reduction requirement must identify projects or strategies that such entity will undertake to meet their upcoming 5-year milestone. Each project must include a planning-level cost estimate and an estimated date of completion in the Statewide Annual Report.

Within five years of the adoption of this BMAP, DEP will evaluate any entity located in the BMAP area that serves a minimum resident population of at least 1,000 individuals who are not

currently covered by a municipal separate storm sewer system (MS4) permit and designate eligible entities as regulated MS4s, in accordance with Chapter 62-624, Florida Administrative Code (F.A.C.).

Water Quality Monitoring

The updated St. Lucie River and Estuary BMAP monitoring network consists of 72 stations sampled by the City of Port St. Lucie and SFWMD.

The monitoring network is organized into tiers as follows: (1) Tier 1 stations are the primary/priority stations used in periodic water quality analysis to track BMAP progress and water quality trends over the long-term. If at any point it is necessary to reduce efforts in the basin, these stations should be the last stations impacted. (2) Tier 2 stations provide secondary information that can be used to help focus and adaptively manage implementation efforts. The monitoring stations are not specifically BMAP stations—i.e., they are designed for other purposes—but some of the data collected at these sites are used to monitor the effectiveness of BMAP implementation.

BMAP Cost

The project costs provided for the BMAP may include capital costs as well as those associated with construction and routine operations and maintenance and monitoring. Many BMAP projects were built to achieve multiple objectives and not just nutrient reductions. Funds for some projects have already been spent, others have been obligated to ongoing projects, and the remainder are yet to be appropriated.

The funding sources for the projects range from local public and private contributions to state and federal legislative appropriations. DEP will continue to work with stakeholders to explore new opportunities for funding assistance to ensure that the activities listed in this BMAP can be maintained at the necessary level of effort and that additional projects can be constructed.

Chapter 2023-169, L.O.F., expanded grant opportunities for local governments and eligible entities working to address a TMDL. Previously, grant funding was available for specific project types, including septic-to-sewer, AWT expansion or upgrades, and OSTDS upgrades. Now, through the Water Quality Improvement Grant program, eligible entities can also apply for grant funding for stormwater, regional agricultural projects, and a broader suite of wastewater projects including collection systems and domestic wastewater reuse. Projects are prioritized that have the maximum nutrient load per project, demonstrate project readiness, are cost-effective, have a cost-share by the applicant (except for Rural Areas of Opportunity), have previous state commitment and are in areas where reductions are most needed.

Chapter 2024-180, L.O.F., created a program to expeditiously review new and innovative enhanced nutrient-reducing OSTDS to reduce the nutrients entering Florida's waterways.

Chapter 1. Context, Purpose, and Scope of the Plan

1.1. Water Quality Standards and Total Maximum Daily Loads (TMDLs)

Florida's water quality standards are designed to ensure that surface waters fully support their designated uses, such as drinking water, aquatic life, recreation, and agriculture. Currently, most surface waters in Florida, including those in the St. Lucie River and Estuary, are categorized as Class III waters, meaning they must be suitable for recreation and must support fish consumption and the propagation and maintenance of a healthy, well-balanced population of fish and wildlife.

Table 1 lists all designated use classifications for Florida surface waters.

Table 1. Designated use attainment categories for Florida surface waters

¹ Class I and II waters additionally include all Class III uses.

Classification	Description
Class I ¹	Potable water supplies
Class II ¹	Shellfish propagation or harvesting
Class III	Fish consumption; recreation, propagation and maintenance of a healthy, well-balanced population of fish and wildlife
Class III-Limited	Fish consumption, recreation or limited recreation, and/or propagation and maintenance of a limited population of fish and wildlife
Class IV	Agricultural water supplies
Class V	Navigation, utility, and industrial use (<i>no current Class V designations</i>)

Section 303(d) of the federal Clean Water Act requires that every two years each state must identify its "impaired" waters, including estuaries, lakes, rivers, and streams, that do not meet their designated uses. Florida Department of Environmental Protection (DEP) staff in the Division of Environmental Assessment and Restoration are responsible for assessing Florida's waters for inclusion on the Verified List of Impaired Waters (when a causative pollutant for the impairment has been identified) and Study List (when a causative pollutant for the impairment has not been identified and additional study is needed). These lists are then provided to the U.S. Environmental Protection Agency as an annual update to the state 303(d) list. In 2004, DEP identified the St. Lucie River and Estuary as impaired for dissolved oxygen (DO) and nutrients.

1.1.1 St. Lucie River and Estuary TMDLs

A TMDL is the maximum amount of a specific pollutant that a waterbody can assimilate while maintaining its designated uses. The St. Lucie River and Estuary nutrient TMDL was adopted in 2009 for total nitrogen (TN) and total phosphorus (TP), which are linked to high chlorophyll- α concentrations in portions of the St. Lucie River and Estuary. The TMDLs include the segments with waterbody identification (WBID) numbers 3193 (St. Lucie Estuary), 3194 (North Fork St. Lucie River), 3194B (North Fork St. Lucie Estuary), 3197 (C-24 Canal), 3200 (C-23 Canal), 3210 (South Fork St. Lucie Estuary), 3210A (South Fork St. Lucie River), 3211 (Bessey Creek), and 3218 (C-44 Canal). The TMDLs were used as the basis for the BMAP targets and allocation calculations. The attainment of the TMDL will be calculated using a five-year rolling average

(the latest five water years [WYs]) of TN and TP concentration data from the Roosevelt Bridge (SE 03) compliance point. Information about TMDL compliance can be found in **Section 4.3** of this document.

1.2. St. Lucie River and Estuary BMAP

DEP implements TMDLs through permits and BMAPs; the latter contain strategies to reduce and prevent pollutant discharges through various cost-effective means. During the watershed restoration process, DEP and the interested stakeholders jointly develop BMAPs or other implementation approaches. Stakeholder involvement is critical to the success of the watershed restoration program and varies with each phase of implementation to achieve different purposes. The BMAP development process is structured to achieve cooperation and consensus among a broad range of interested parties, including the South Florida Water Management District (SFWMD), Florida Department of Agriculture and Consumer Services (FDACS), and stakeholders representing other agencies, governments, and interested parties.

In the context of the BMAP, there are different organizations named in the plan.

- Responsible entities are those organizations who are assigned load reductions and must comply with the BMAP provisions; these organizations are sometimes referred to as “Lead Entities.”
- Responsible agencies may be accountable for reducing loads from their own activities or have an important public sector role in BMAP implementation such as regulatory oversight, monitoring, research, or other related duties.
- Interested stakeholders are those organizations that have engaged with BMAP development and implementation with the intention to influence the implementation process and outcomes.
- Stakeholders is a more general term often used in the BMAP context to include all three of the previously mentioned organizations—responsible entities, responsible agencies, and interested stakeholders.

The Florida Watershed Restoration Act, Subparagraph 403.067(7)(a)1., Florida Statutes (F.S.) establishes an adaptive management process for BMAPs that continues until the TMDLs are achieved and maintained. This approach allows for incrementally reducing loadings through the implementation of projects and programs, while simultaneously monitoring and conducting studies to better understand water quality dynamics (sources and response variables) in each impaired waterbody. The original St. Lucie River and Estuary BMAP was adopted in June 2013, and the first 5-Year Update was completed in June 2018. (Section 373.4595, F.S., calls for a review of the BMAP to be completed and submitted to the Legislature and Governor every 5 years).

In January 2019, Executive Order 19-12 (Item C) included a requirement to update and secure all restoration plans, within one year, for waterbodies impacting south Florida communities, including the St. Lucie River and Estuary BMAP. The BMAP was subsequently updated in January 2020, and the second 5-Year Review was completed in June 2023.

The Clean Waterways Act passed in 2020 required local governments to develop and submit wastewater and onsite sewage treatment and disposal system (OSTDS) (also known as septic system) remediation plans to be incorporated into the BMAPs by July 1, 2025. This document serves as the update to the 2020 BMAP based on recommendations from the second 5-Year Review published in June 2023 and to incorporate the Clean Waterways Act requirements. **Figure 1** shows the St. Lucie River and Estuary BMAP area and **Figure 2** shows the basins within the watershed.

Figure 3 and **Figure 4** shows the estimated progress toward meeting the St. Lucie River and Estuary TN and TP TMDLs as of November 15, 2024. This date was chosen to allow adequate time to review project documentation and calculate reductions based on accepted methodologies and BMP efficiencies. Updated project information will be provided each year in the Statewide Annual Report and at an annual meeting.

Subsection 373.4595(4)(d), F.S., requires DEP to set an implementation schedule for achieving the BMAP load reductions. To meet this requirement, DEP establishes a set of 5-year milestones by which a certain percentage of the load reductions must be met. Additionally, Section 403.067, F.S., requires any responsible entity within the BMAP that has an assigned pollutant load reduction requirement to identify projects or strategies to meet the upcoming 5-year milestone, even if the identified project or strategy will not be completed by the milestone. Stakeholders need to provide DEP with reasonable assurance that they have enough project credits to achieve their full required reductions within the period established by the BMAP. This BMAP update establishes a set of entity-specific milestones for the watershed based on the previously adopted milestones, with a goal of achieving the full load reductions in 2028, which is 15 years after the initial BMAP adoption. See **Section 2.3.3** for details on the established milestones by entity.

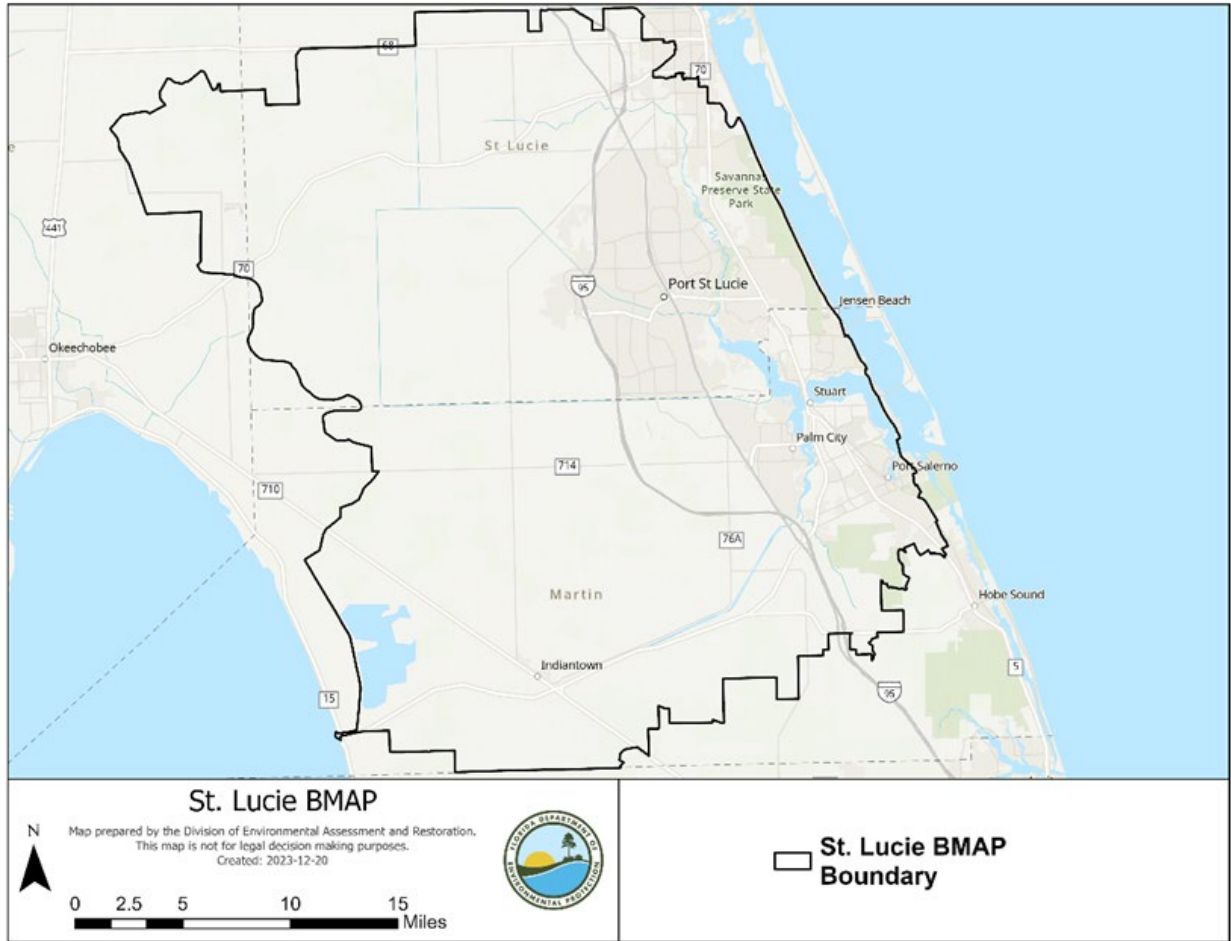


Figure 1. St. Lucie River and Estuary BMAP area

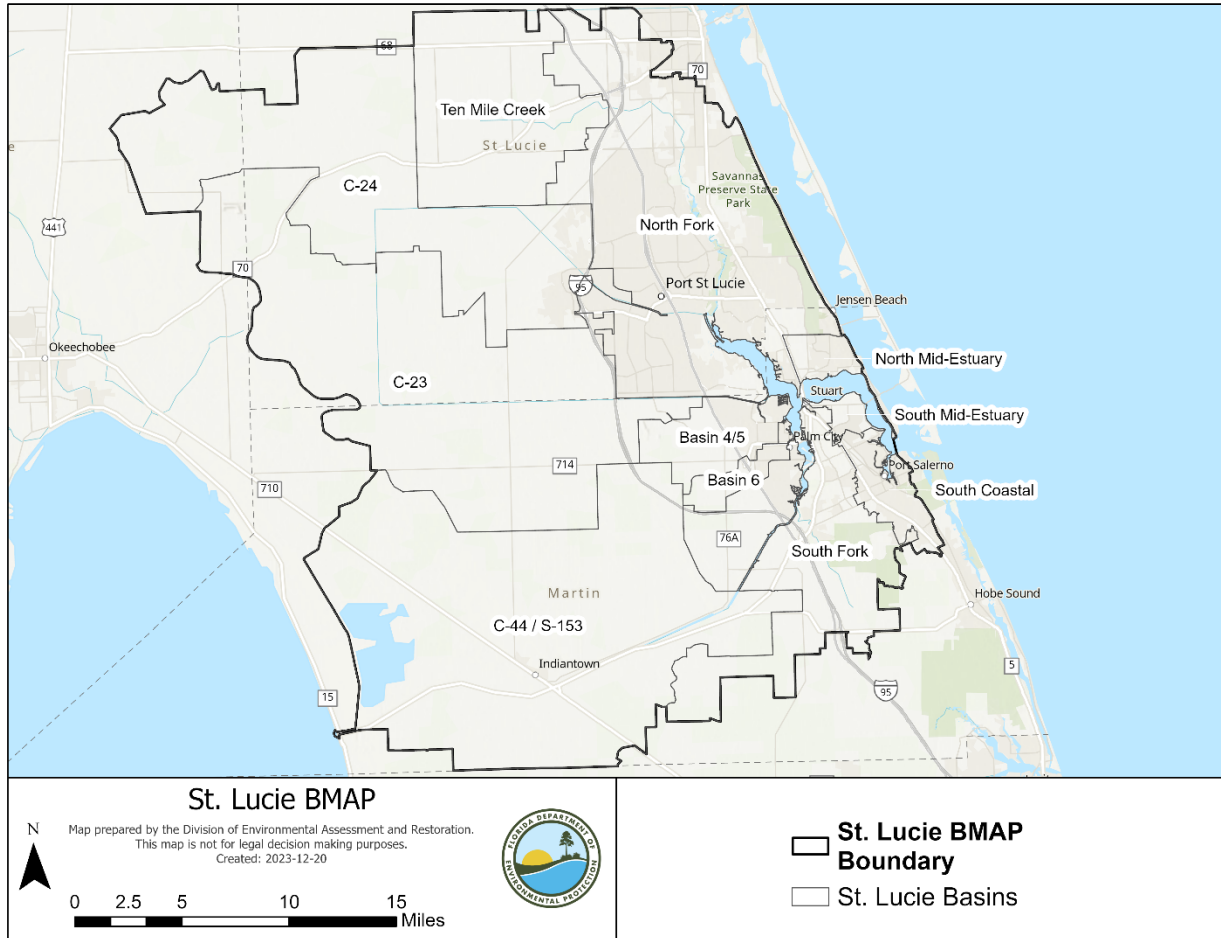


Figure 2. BMAP area basin boundaries

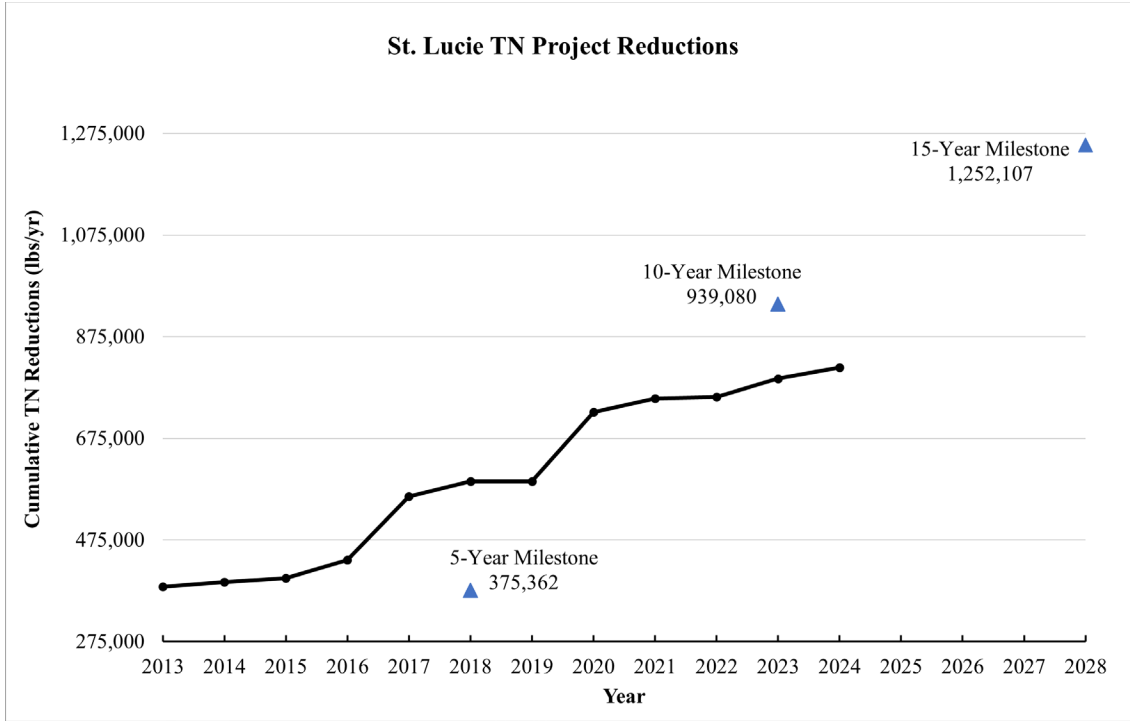


Figure 3. Estimated progress towards meeting the TN TMDL allocated to the St. Lucie River and Estuary Watershed with projects completed through November 15, 2024

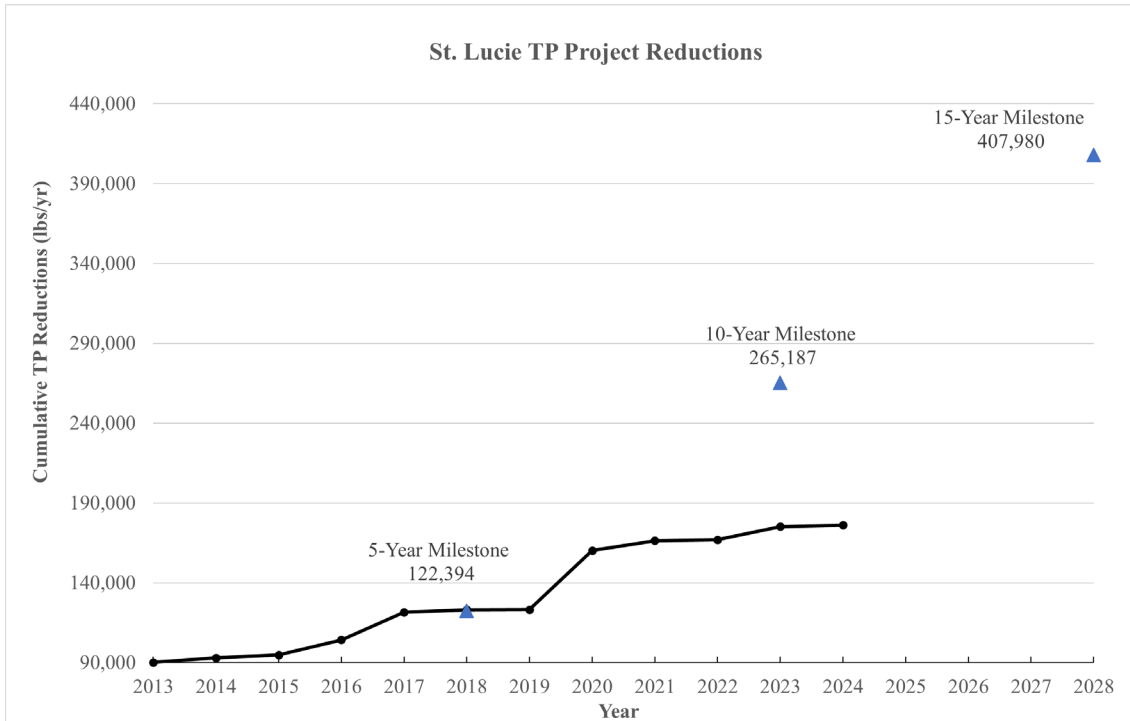


Figure 4. Estimated progress towards meeting the TP TMDL allocated to the St. Lucie River and Estuary Watershed with projects completed through November 15, 2024

1.2.1 Five-Year Review

The second 5-Year Review, completed in June 2023, provided recommendations for improving the health of the St. Lucie River and Estuary, and these recommendations are included throughout this 2025 BMAP. The 5-Year Review also included a water quality trend analysis to track trends in TN and TP concentrations in the St. Lucie River and Estuary and its basins. The results of this trend analysis are used in the targeted restoration area (TRA) approach described in **Section 2.5**.

The 5-Year Review discussed the land use changes that have occurred since the Water Quality Simulation (WaSh) model was last revised and recommended that the new land use changes be incorporated. DEP is working on building a new Hydrological Simulation Program – FORTTRAN (HSPF) watershed model to include more recent land use and water quality data. The new model will be used in a future update, where entity allocations will be re-evaluated.

1.2.2 Pollutant Sources

There are various sources of pollution in the St. Lucie River and Estuary Watershed. Nonpoint (i.e., diffuse) sources in the watershed contribute the majority of the TN and TP loads to the St. Lucie River and Estuary Watershed and include urban and agricultural stormwater runoff. Lake Okeechobee loading is being addressed through the Lake Okeechobee BMAP. Several reports, such as SFWMD’s South Florida Environmental Report and periodic St. Lucie River Watershed Protection Plan updates, document more detailed information regarding TN and TP inputs from the St. Lucie River and Estuary Watershed.

Table 2 summarizes the percent contribution of TN and TP loads to the St. Lucie River and Estuary from each land use category in each basin, as determined by the 2012 land use coverage from the WaSh model and load estimation shapefile discussed in **Section 2.1**. The subsections below discuss the sources included in this BMAP in more detail.

Table 2. Summary of TN and TP loads by WaSh land use category by basin

Basin	Land Use Category	TN Load (% Basin Total)	TP Load (% Basin Total)
Basin 4/5	Urban	62	60
Basin 4/5	Agriculture	19	23
Basin 4/5	Natural	19	17
Basin 6	Urban	73	72
Basin 6	Agriculture	12	14
Basin 6	Natural	15	14
C-23	Urban	5	4
C-23	Agriculture	79	80
C-23	Natural	16	16
C-24	Urban	11	9
C-24	Agriculture	75	78
C-24	Natural	14	13
C-44/S-153	Urban	6	5
C-44/S-153	Agriculture	74	75

Basin	Land Use Category	TN Load (% Basin Total)	TP Load (% Basin Total)
C-44/S-153	Natural	21	20
North Fork	Urban	75	75
North Fork	Agriculture	6	7
North Fork	Natural	19	18
North Mid-Estuary	Urban	82	81
North Mid-Estuary	Agriculture	0	0
North Mid-Estuary	Natural	18	19
South Coastal	Urban	87	87
South Coastal	Agriculture	0	0
South Coastal	Natural	13	13
South Mid-Estuary	Urban	92	93
South Mid-Estuary	Agriculture	0	0
South Mid-Estuary	Natural	8	7
South Fork	Urban	35	32
South Fork	Agriculture	38	44
South Fork	Natural	26	24
Ten Mile Creek	Urban	16	15
Ten Mile Creek	Agriculture	76	78
Ten Mile Creek	Natural	8	7

1.2.1.1 Agricultural Nonpoint Sources

For this 2025 BMAP update, FDACS used the parcel-level polygon agricultural lands (ALG) data that are part of the Florida Statewide Agricultural Irrigation Demand (FSAID) geodatabase to estimate agricultural acreages statewide. FSAID was not used in the HSPF model to estimate agricultural acreages and associated nutrient loads. The percentage of agricultural land use within the St. Lucie River and Estuary BMAP was then determined by comparing the FSAID 11 ALG and total acreage of the BMAP boundary. The total agricultural land in the BMAP is 248,958 acres. To estimate the agricultural acres enrolled in the best management practice (BMP) program, FDACS Office of Agricultural Water Policy (OAWP) overlaid the FSAID ALG and BMP enrollment data to calculate the acres of agricultural land in an enrolled parcel. **Table 3** summarizes agricultural lands within the St. Lucie River and Estuary BMAP based on the FSAID 11 and the results of the FDACS unenrolled agricultural lands characterization.

FDACS will seek the further enrollment of producers in the BMAP area. As of April 30, 2024, there are 216,896 agricultural acres enrolled in the BMP program. **Table 4** summarizes the acres enrolled in the BMP Program by commodity. Currently, no producers are conducting water quality monitoring in lieu of implementing BMPs.

Appendix B provides more information on agricultural activities in the St. Lucie River and Estuary Watershed.

Table 3. Summary of agricultural land use acreage enrolled in the BMP Program in the St. Lucie River and Estuary BMAP area through April 30, 2024

Crediting Location	Agricultural Acres	Unenrolled - Unlikely Enrollable Acres	Agricultural Acres - Adjusted	Agricultural Acres Enrolled
Basin 4/5	2,875	138	2,737	1,569
Basin 6	308	103	205	150
C-23	85,745	9,486	76,260	71,097
C-24	61,137	5,637	55,500	48,018
C-44/S-153	74,207	6,520	67,686	60,322
North Fork	5,977	2,564	3,413	1,897
North Mid-Estuary	2	0	2	0
South Coastal	28	28	0	0
South Fork	17,969	2,360	15,609	13,451
Ten Mile Creek	33,233	5,686	27,547	20,392
Total	281,481	32,522	248,959	216,896

Table 4. Agricultural land use acreage enrolled in the BMP Program in the St. Lucie River and Estuary BMAP by commodity

Commodity	Agricultural Acres Enrolled
Citrus	5,963
Cow/Calf	120,544
Dairy	616
Equine	706
Fruit/Nut	221
Lake Okeechobee Protection Plan	3
Multiple Commodities	73,160
Nursery	967
Poultry	42
Row/Field Crop	13,756
Sod	909
Wildlife	10
Total	216,897
Percentage of Agricultural Lands Enrolled in BMPs	87%

1.2.1.2 Municipal Separate Storm Sewer Systems (MS4s)

Many of the municipalities in the watershed are regulated by the Florida National Pollutant Discharge Elimination System (NPDES) Stormwater Program. An MS4 is a conveyance or system of conveyances, such as roads with stormwater systems, municipal streets, catch basins, curbs, gutters, ditches, constructed channels, or storm drains. If an MS4 permittee is identified as

a contributor in the BMAP, the permitted MS4 must undertake projects specified in the BMAP. The BMAP projects required to be undertaken by MS4s are detailed for each basin in **Chapter 3**.

Regulated MS4s are required to implement stormwater management programs (SWMP) to reduce pollutants to the maximum extent practicable and address applicable TMDL allocations. Both Phase I and Phase II MS4 permits include provisions for the modification of SWMP activities. Phase I medium and large MS4s are regulated under an individual permit, with multiple permittees having coverage under the same permit as “co-permittees.” Phase II small MS4s are regulated under a generic permit. Under the “NPDES Two-Step Generic Permit for Discharge of Stormwater from Phase II MS4s” (Paragraph 62-621.300(7)(a), Florida Administrative Code [F.A.C.]), regulated Phase II MS4s must develop a SWMP that includes BMPs with measurable goals and a schedule for implementation to meet six minimum control measures.

Additionally, in accordance with Section 403.067, F.S., if an MS4 permittee is identified in an area with an adopted BMAP, the permittee must comply with the adopted provisions of the BMAP that specify activities to be undertaken by the permittee. If the permittee discharges stormwater to a waterbody with an adopted TMDL pursuant to Chapter 62-304, F.A.C., then the permittee must revise its SWMP to address the assigned wasteload in the TMDL.

DEP can designate an entity as a regulated MS4 if its discharges meet the requirements of the rule and are determined to be a significant contributor of pollutants to surface waters of the state in accordance with Rule 62-624.800, F.A.C. A Phase II MS4 can be designated for regulation when a TMDL has been adopted for a waterbody or segment into which the MS4 discharges the pollutant(s) of concern.

There are no Phase I MS4s in the St. Lucie River and Estuary Watershed. **Table 5** Phase II lists the MS4s.

Table 5. Entities in the St. Lucie River and Estuary Watershed designated as Phase II MS4s

Permittee	Permit Number
Martin County	FLR04E013
Okeechobee County	FLR04E140
St. Lucie County	FLR04E029
City of Fort Pierce	FLR04E065
City of Stuart	FLR04E031
City of Port St. Lucie	FLR04E001
Florida Department of Transportation (FDOT) District 4	FLR04E083
Florida Turnpike	FLR04E049
Town of Sewall's Point	FLR04E044

1.2.1.3 Urban Nonpoint Sources

Subsubparagraph 403.067(7)(b)2.f., F.S., prescribes the pollutant reduction actions required for nonagricultural pollutant sources that are not subject to NPDES permitting. "Non-MS4 sources" must also implement the pollutant reduction requirements detailed in a BMAP and are subject to enforcement action by DEP or a water management district (WMD) if they fail to implement their responsibilities under the BMAP. **Table 6** lists the nonpoint sources in the St. Lucie River and Estuary Watershed.

Table 6. Urban nonpoint sources in the St. Lucie River and Estuary watershed

Type of Entity	Participant
<p>Government Entities and Special Districts</p>	<p>Copper Creek Community Development District (CDD) Hobe St. Lucie Conservancy District North St. Lucie River Water Control District (NSLRWCD) Pal Mar Water Control District (WCD) Pal Mar WCD Tradition CDD Troup-Indiantown WCD Verano CDD</p>

1.2.1.4 Wastewater Treatment Facilities (WWTFs)

The TMDL identified 15 permitted NPDES WWTFs in the St. Lucie River and Estuary Watershed. All these facilities were only permitted to discharge during a 25-year, 72-hour storm event resulting in minimal and highly irregular impacts on nutrient discharges in the St. Lucie River and Estuary Watershed. Facilities with permitted discharges above this level are for cooling or dewatering, which effectively discharge ambient water. As of January 2025, there were 46 individually permitted industrial and domestic WWTFs in the St. Lucie River and Estuary Watershed. Of these, 16 (2 domestic and 14 industrial) hold NPDES permits and therefore are authorized, within the limitations of their permits, to discharge directly to surface waters. The remaining 30 do not have authorization to discharge directly to surface waters.

1.2.1.5 OSTDS

Based on the latest data from the Florida Department of Health, there are 43,497 known or likely OSTDS located throughout the St. Lucie River and Estuary Watershed (**Figure 5**). **Table 7** summarizes the number of OSTDS by basin.

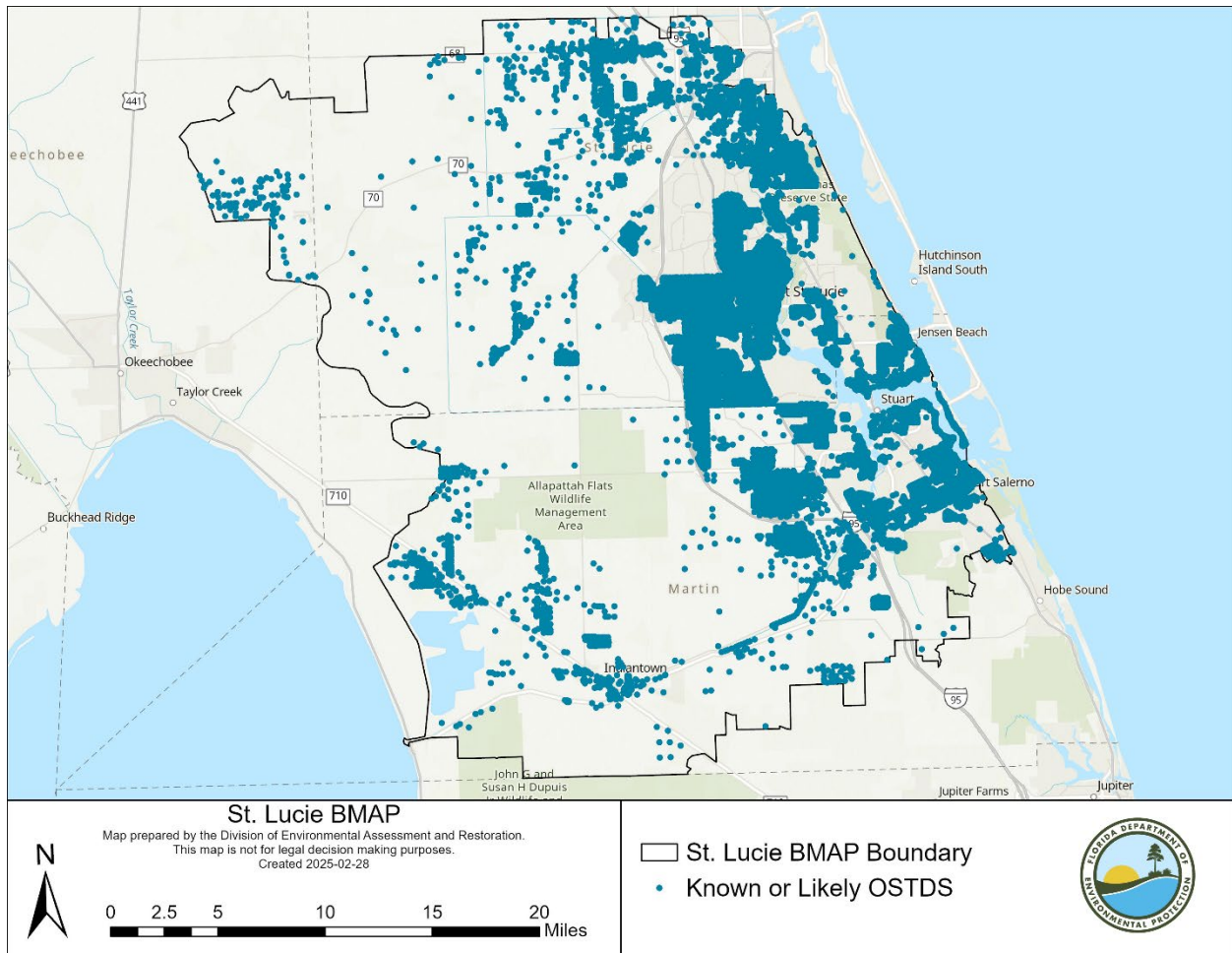


Figure 5. Location of OSTDS in the St. Lucie River and Estuary Watershed

Table 7. OSTDS counts by basin

Basin	Number of OSTDS
North Fork	26,121
Ten Mile Creek	908
C-24	1,341
C-23	653
C-44/S-153	743
Basin 4/5	1,699
Basin 6	600
South Fork	4,211
South Coastal	4,131
South Mid-Estuary	744
North Mid-Estuary	2,346
Total	43,457

1.2.1.6 Biosolids

Section 373.4595(4)(c)6, F.S. prohibits the land application of biosolids in the St. Lucie River and Estuary Watershed unless the applicant for a site permit affirmatively demonstrates that the nitrogen and phosphorus in the biosolids will not add to nitrogen and phosphorus loadings in the watershed. This demonstration must be included in the site nutrient management plan. This prohibition does not apply to Class AA biosolids that are marketed and distributed as fertilizer products in accordance with Rule 62-640.850, F.A.C.

Subparagraph 373.4595(4)(b)2., F.S. requires all entities disposing of septage within the St. Lucie River Watershed to develop and submit to an agricultural use plan that limits applications based on nutrient loading consistent with the St. Lucie River and Estuary BMAP.

1.3. Assumptions

The water quality impacts of BMAP implementation are based on several fundamental assumptions about the pollutants targeted by the TMDLs, modeling approaches, waterbody response, and natural processes. The following assumptions were used during the BMAP process:

- Certain BMPs were assigned provisional nutrient reduction benefits for load reductions in this BMAP iteration while additional monitoring and research are conducted to quantify their effectiveness. These estimated reductions may change in future BMAP iterations as additional information becomes available.
- Nutrient reduction benefits of the stakeholders' projects were calculated using the best available methodologies. Project-specific monitoring, where available, will be used to verify calculations, and reduction benefits may be adjusted as necessary.
- Reductions in TN and TP loading to the St. Lucie River and Estuary will increase DO concentrations and reduce chlorophyll- α concentrations to improve the water quality conditions in these waterbodies.
- The allocations do not include required load reductions from areas identified as natural land use areas in the 2012 SFWMD land use coverage. These loads are considered uncontrollable, background sources, and the stakeholders are not required to make reductions on natural lands. The focus of the BMAP allocations is on urban and agricultural stormwater sources and OSTDS, and wastewater sources in the watershed.
- Achieving the St. Lucie River and Estuary TMDLs is contingent on reductions from the Lake Okeechobee Watershed, and in the St. Lucie River and Estuary

allocations it was assumed that the Lake Okeechobee TMDL had been met. A separate BMAP is adopted for the Lake Okeechobee Watershed.

1.4. Considerations

This BMAP requires stakeholders to implement their projects to achieve reductions within the specified 5-year milestone period. However, the full implementation of this BMAP will be a long-term, adaptively managed process. While some of the BMAP projects and activities were recently completed or are currently ongoing, several projects require more time to design, secure funding, and construct. Regular follow-up and continued coordination and communication by the stakeholders will be essential to ensure the implementation of management strategies and assessment of incremental effects. Additionally, land use, water quality or project data in this document may not match information published by partner agencies, as each agency reports on different metrics and schedules, and data is evaluated for separate purposes.

During the BMAP process, a number of items were identified that should be addressed in future watershed management cycles to ensure that future BMAPs use the most accurate information:

- **Land Uses** – The loading estimates in the BMAP are based on land uses at a point in time, allowing the model to be validated and calibrated. The loading estimates for this BMAP iteration were based on 2012 land use data. Agricultural land use data are updated annually in the FSAID. The land use data used for modeling loads in this BMAP may not match information published by FDACS.
- **Basin Boundaries** - The BMAP area is based on the WaSh model boundary. Basin boundaries are being updated as part of the current HSPF model revision, and those revised basins will be reflected in the next BMAP update. Basin boundaries for this iteration of the BMAP may not match information published by the SFWMD in the latest South Florida Environmental Report.
- **Jurisdictional Boundaries** – Entities may experience shifts in their jurisdictional boundaries over time that require allocation adjustments. Changes to the boundaries and/or allocations for these stakeholders may be made as necessary and reflected in future BMAP iterations. Basin boundaries for this iteration of the BMAP may not match information published by the SFWMD in the latest South Florida Environmental Report.
- **CDD Responsibilities** – CDDs were assigned allocations only if three criteria were met: (1) there is development—i.e., roads and infrastructure—in the CDD area; (2) the CDD discharges to an MS4; and (3) the CDD pays a stormwater fee and receives a refund of this fee. As further details are provided (e.g., discharge locations from these CDDs), revisions to the MS4 holder’s allocations and boundaries will be made in future BMAP iterations.

Furthermore, some of the CDDs that did not receive an allocation in this BMAP iteration may receive allocations in future BMAP iterations.

- **WCDs** – The BMAP only assigns the canals and rights-of-way to the special districts, as the districts have control over these portions of their jurisdictions. The districts are required to implement specific canal and right-of-way BMPs to be compliant with the BMAP.
- **Complexity of Problem** – DEP acknowledges the complexity of the dynamics that affect the water quality of the St. Lucie River and Estuary Watershed; therefore, this BMAP is designed to encompass a wide variety of projects that will cumulatively act to significantly reduce nutrient loads.
- **Legacy Phosphorus** – DEP recognizes that legacy phosphorus may be present in the St. Lucie River and Estuary and in the watershed as a result of past anthropogenic activities, and this watershed load has the potential to be transported to the St. Lucie River and Estuary. The Coordinating Agencies (DEP, FDACS, and SFWMD) and stakeholders will continue to identify projects and management strategies that will address the legacy load.
- **Previous Restoration Efforts** – DEP recognizes that stakeholders throughout the watershed have implemented stormwater management projects prior to the implementation of the TMDLs and that these efforts have benefited water quality. Projects completed in 2000 or later are considered for credits and inclusion in the BMAP.
- **Lake Okeechobee BMAP Overlap** – Portions of the Lake Okeechobee Watershed overlap with the St. Lucie River and Estuary Watershed. The projects in these overlap areas are included in both this BMAP and the Lake Okeechobee BMAP. The benefits of these projects will vary by BMAP as the reductions are calculated for the waterbody that is the focus of the BMAP.

Chapter 2. Modeling, Load Estimates, and Restoration Approach

2.1. Watershed Model

The St. Lucie Estuary WaSh model was updated and revised as part of the 2020 BMAP update. DEP coordinated with SFWMD to revise, enhance, and update the model, first by simulating the baseline scenario. The baseline scenario period of record is 1994 to 2016, and the model uses 2004, 2008, and 2012 land use data. The model was calibrated using available SFWMD data from 2001 to 2006 and verified with available SFWMD data from 1995 to 2000. More detailed information about the setup, data, and assumptions used as well as the results of the revisions and scenarios are summarized in the modeling report (SFWMD et al. 2018).

Since the revisions to the WaSh model were completed, DEP has begun an effort to establish a new HSPF model with more current land uses and data to reflect more recent watershed conditions. Future BMAP updates will use this revised model information.

2.2. Allocations and Project Estimates

The WaSh model produces polygon outputs with loading data included. Through a series of processing steps, polygons were generated for each stakeholder to determine a starting load. The polygon output feature of the updated WaSh model could also be used to obtain load per acre values for each land use type on a basin basis. This information was linked with the 2012 land use shapefile to create a load estimation shapefile that could be manipulated to calculate updated baseloads from all existing project treatment areas in the BMAP.

2.3. Calculation of Starting Loads and Allocations

The allocation approach and assigned required reductions remained largely the same as the 2020 BMAP. For this 2025 BMAP update, there are two new CDDs, Southern Grove and Veranda (additional area), that were added and the loads were removed from the City of Port St. Lucie. In addition, the Village of Indiantown was separated from Martin County in the allocations. The updated starting loads in pounds per year (lbs/yr) of TN and TP by entity are listed in **Table 8**.

Table 8. Starting loads by entity (lbs/year)

Entity	TN Starting Loads by Entity (lbs/yr)	TP Starting Loads by Entity (lbs/yr)
Agriculture	2,128,687	472,423
City of Fort Pierce	48,617	8,071
City of Port St. Lucie	397,343	67,422
City of Stuart	36,893	6,142
Copper Creek CDD	2,591	431
Creekside CDD	1,695	293
FDOT District 4	44,404	8,047
FDOT District 1	1,013	283

Entity	TN Starting Loads by Entity (lbs/yr)	TP Starting Loads by Entity (lbs/yr)
Martin County	388,638	66,501
Okeechobee County	13,635	2,629
Portofino Isles CDD	2,186	371
River Place CDD	1,166	195
Southern Grove CDD	2,107	424
St. Lucie County	180,521	32,612
St. Lucie West Service District	40,406	6,967
Tesoro CDD	7,756	1,271
Town of Sewall's Point	1,919	319
Tradition CDD	14,621	2,562
Turnpike	13,839	2,281
Veranda CDD	3,037	407
Verano CDD	1,778	366
Villa Vizcaya CDD	357	60
Village of Indiantown	16,560	2,780
Total	3,349,769	682,857

2.3.2 Allocation of Load Reductions

The allocation boundary for each entity is divided into each basin where the entity is located, so that starting loads for each entity by basin can be calculated. The required load reduction needed to meet the TMDLs was calculated by multiplying the TN and TP starting loads for each entity in each basin by the percent required reduction for TN and TP by basin. If a stakeholder is located in more than one basin, the required load reductions by basin were summed to determine one total load reduction for TN and TP.

2.3.3 Milestones

Section 403.067, F.S., requires that BMAPs include 5-year milestones for the implementation of TMDLs. Any responsible entity within the BMAP that has an assigned pollutant load reduction requirement must identify projects or strategies to meet their upcoming 5-year milestone, even if the identified project or strategy will not be completed by the milestone. Each project must include a planning-level cost estimate and an estimated date of completion that is included in the BMAP and statewide annual reporting process.

Table 9 summarizes the TN and TP required reduction milestones for the 15-year milestone of 100% reductions by 2028. The 5-Year Review recommended adjusting the milestone to 20 years. However, the original 15-year timeline was kept for this BMAP update as DEP is working on a new HSPF watershed model that will be used in a future update, where entity allocations and milestones will be re-evaluated. DEP providing revised starting loads and allocations is an expected part of the iterative BMAP process where loading estimates are reassessed as land uses

and other loading sources change over time as. Responsible entities and agencies should expect periodic adjustments to the basin reduction assignments during the BMAP process.

Table 9. Entity-specific TN and TP reduction milestones

Entity	15-year (2028) TN Reduction Milestone (lbs/yr)	15-year (2028) TP Reduction Milestone (lbs/yr)
Agriculture	884,700	284,285
City of Fort Pierce	16,205	5,266
City of Port St. Lucie	138,187	44,277
City of Stuart	6,003	2,700
Copper Creek	1,500	306
Creekside CDD	475	175
FDOT District 1	594	218
FDOT District 4	15,907	4,801
FDOT Turnpike	4,163	1,402
Martin County	75,231	31,786
Okeechobee County	7,950	1,966
Portofino Isles CDD	1,271	285
River Place CDD	389	127
Southern Grove CDD	1,226	310
St. Lucie County	67,679	21,398
St. Lucie West Services District	13,469	4,545
Tesoro CDD	2,585	829
Town of Sewall's Point	417	174
Tradition CDD	8,396	1,815
Veranda CDD	1,012	266
Verano CDD	1,030	260
Village of Indiantown	3,600	751
Villa Vizcaya CDD	119	39
Total	1,252,108	407,981

Responsible entities must submit a sufficient list of additional projects and management strategies to DEP no later than January 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 list of eligible management strategies to meet their next 5-year milestone reductions, specific project identification efforts are required to be submitted by January 14, 2026. Any such project identification efforts must define the purpose of and a timeline to identify sufficient projects to meet the upcoming milestone. The project description and estimated completion date for any such project identification effort must be provided and reflect the urgency of defining, funding, and implementing projects to meet the upcoming and future BMAP 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. Examples of project identification efforts

are included in **Appendix C**. Only those entities that provide sufficient project identification efforts will be deemed as possessing a defined compliance schedule. Those entities without an adequate project list nor a defined compliance schedule to meet their upcoming 5-year milestone may be subject to enforcement actions. After the St. Lucie River and Estuary model update is complete, DEP will reevaluate and, if necessary, adopt another iteration of the BMAP, most likely before 2030. The next iteration may include updated required reductions, timelines, and 5-year milestones.

2.3.4 Project Progress

Figure 6 and **Figure 7** summarize the progress towards the TN and TP milestones, respectively, for each entity. Total project reductions for each entity were compared to their respective 2028 milestones and are displayed as percentages in the bar graphs. Agricultural reductions include reductions from projects completed by the coordinating agencies. **Chapter 3** includes the project details. As part of the annual reporting process, stakeholders will be required to provide a detailed and quantified description of their ordinance enforcement and environmental education activities to receive credits for these activities. Based on progress towards meeting the TMDL and water quality monitoring results, reductions from ordinances and education efforts may be reevaluated in future BMAP updates, particularly with respect to enforcement of ordinances.

DEP continues to work with the appropriate agencies and other stakeholders to identify and prioritize needed projects and management strategies required to meet the reduction milestones.

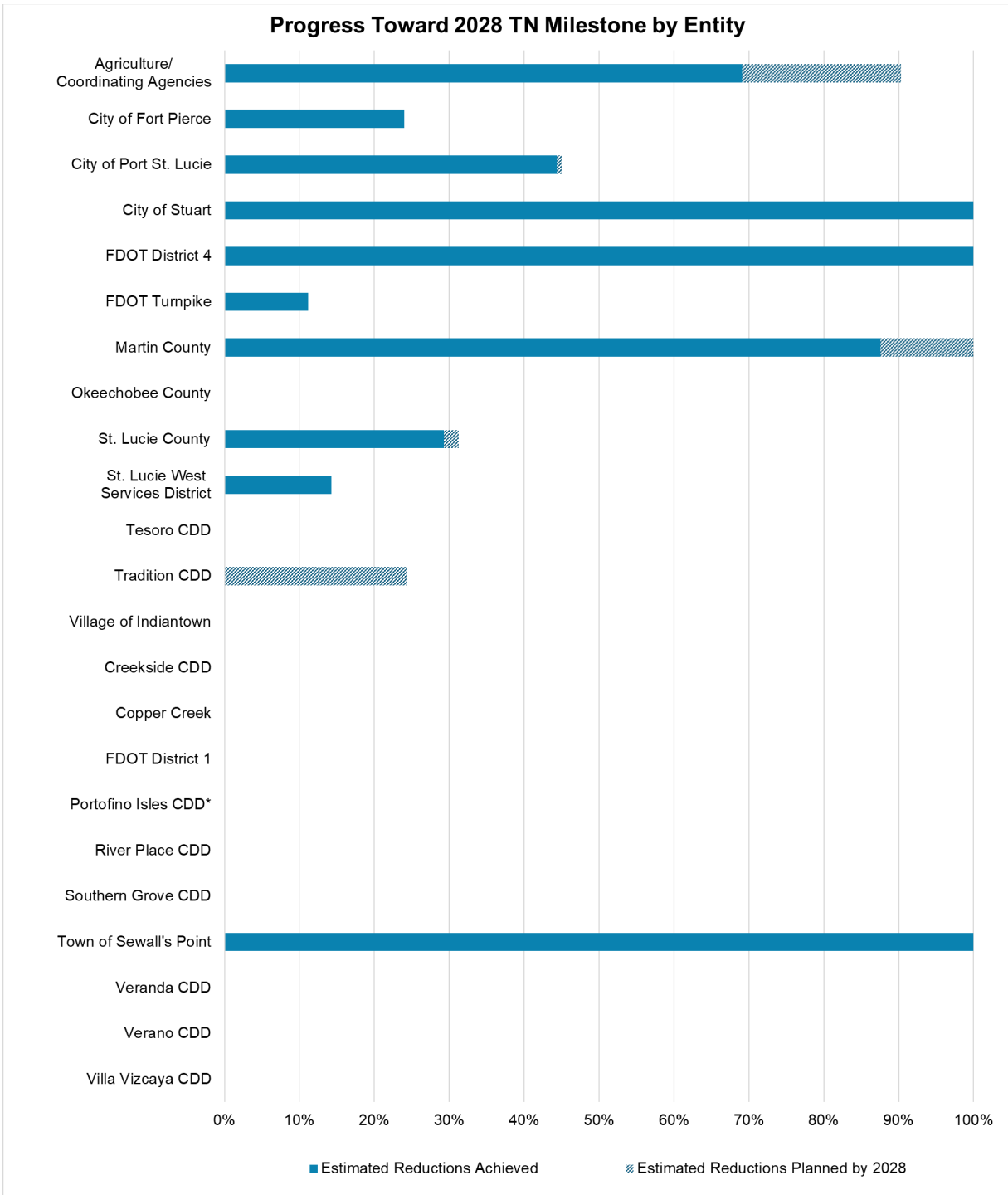


Figure 6. TN milestone progress by entity in the St. Lucie River and Estuary

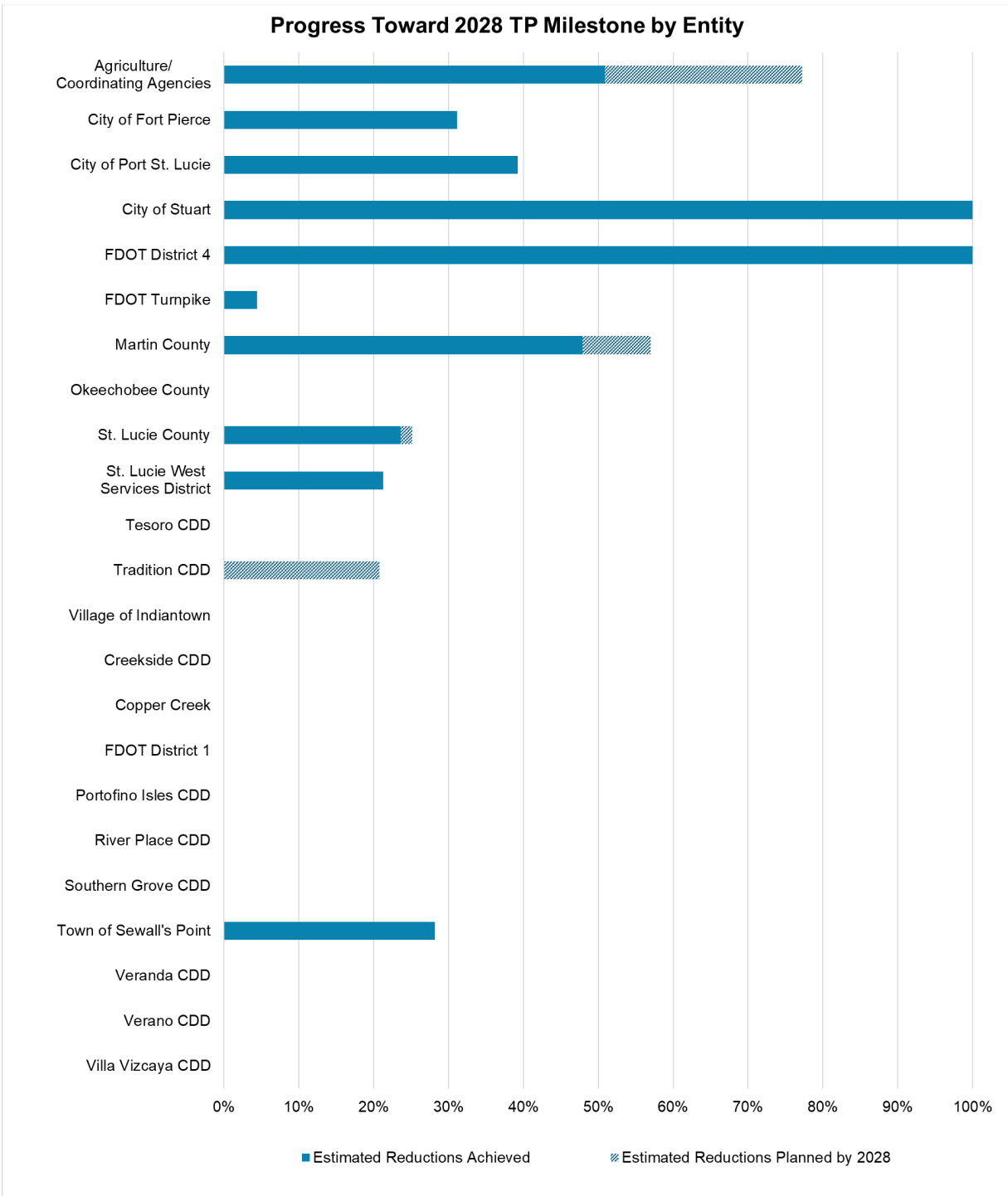


Figure 7. TP milestone progress by entity in the St. Lucie River and Estuary

2.4. Basinwide Sources Approach

2.4.1 Agriculture

2.4.1.1 Agricultural BMPs

To address nutrient loading from agricultural operations effectively, a balanced approach is necessary—one that supports agricultural productivity while safeguarding water resources. This entails promoting farming practices that optimize nutrient and water use efficiency, minimize runoff, and enhance soil health. Section 403.067, F.S., requires agricultural producers in adopted BMAPs to either enroll and properly implement the applicable FDACS BMPs for their operation or to conduct water quality monitoring activities as required by Chapter 62-307, F.A.C.

Agricultural BMPs include practices such as nutrient management, irrigation management and water resource protection, and can mitigate nutrient loading while promoting environmental stewardship among Florida’s agricultural producers. In many BMAPs, however, the implementation of BMPs alone will not be sufficient to meet water quality restoration goals. BMP manuals adopted by FDACS are available at <https://www.fdacs.gov/Agriculture-Industry/Water/Agricultural-Best-Management-Practices>. Agricultural landowners that do not enroll in BMPs are referred to DEP for water quality monitoring or enforcement under sections 403.121, 403.141 and 403.161, F.S.

Every two years FDACS is required to perform onsite inspections of each agricultural producer that enrolls in BMPs to ensure that the practices are being properly implemented. The verification includes: review and collection of nutrient application records that producers must maintain to demonstrate compliance with the BMP Program; verification that all other applicable BMPs are being properly implemented; verification that any cost shared practices are being properly implemented; and identification of potential cost share practices, projects or other applicable BMPs not identified during enrollment. Rule 5M-1.008, F.A.C., outlines the procedures used to verify the implementation of agricultural BMPs. Producers not implementing BMPs according to the process outlined in Chapter 5M-1, F.A.C., are referred to DEP for enforcement action after attempts at remedial action by FDACS are exhausted. Failure to implement BMPs or conduct water quality monitoring that demonstrates compliance with pollutant reductions may result in enforcement action by DEP (paragraph 403.067(7)(b), F.S.).

Pursuant to paragraph 403.067(7)(c), F.S., where water quality problems are demonstrated despite the appropriate implementation, operation and maintenance of adopted BMPs, DEP, a WMD or FDACS, in consultation with DEP, must conduct a reevaluation of the BMPs. If a reevaluation of the BMPs is needed, FDACS will also include DEP, the appropriate WMD, and other partners in the reevaluation and BMP update processes.

Although it is anticipated that additional enrollment in agricultural BMPs will increase nutrient reductions from agricultural nonpoint sources, it is also recognized that further reductions, beyond the implementation of required owner-implemented BMPs, will be necessary to achieve the TMDLs. In 2024 FDACS updated its existing BMP manuals to incorporate updated BMPs based on the latest scientific and technical research.

Further nutrient reductions can be achieved through implementation of additional agricultural projects or activities. The Coordinating Agencies will continue to collaborate to identify cost-share practices and other projects that can be undertaken to achieve these nutrient reductions and identify and implement additional projects and activities in priority TRAs. Chapter 2023-169, Laws of Florida amended 403.067, F.S., to include regional water quality improvement projects that will be developed by DEP and FDACS, in cooperation with agricultural landowners, where these projects are necessary to achieve TMDLs.

SFWMD is implementing projects that encourage low-input agriculture and water quality improvement technologies. FDACS also provides funding to some agricultural operations to add other practices beyond owner-implemented BMPs. Examples include drainage improvements, fencing, water control structures, precision agriculture technology, and fertigation. The Coordinating Agencies will also investigate the possibility of implementing other incentive-based programs—such as providing incentives for producers to transition to less intensive crops, changing land use to fallow or native landscape, or changing the type of cropping system—that would reduce nutrient loading in the BMAP area.

Other reductions associated with the implementation and modification of BMPs may be realized through ongoing studies, data collection, and WMD initiatives. These additional projects and activities are to be implemented in conjunction with the BMP Program, which needs to achieve full enrollment with verification to ensure that the BMAP goals are achieved.

2.4.1.2 Dairies and Other Concentrated Animal Feeding Operations (CAFOs)

CAFO dairies permitted under Chapter 62-670, F.A.C., located within a BMAP, may not cause or contribute to a violation of water quality standards and must implement nutrient management practices identified in the permits. To minimize infiltration of liquid manure, waste storage ponds must be lined using a concrete or geosynthetic liner. If a clay liner exists, then the dairy will need to upgrade to a concrete or geosynthetic liner when funding is available, or it must demonstrate that the liner does not allow leaching that results in water quality exceedances.

Additionally, sampling for TN and TP of land applied effluent/wastewater must be included in the DEP-approved nutrient monitoring plan in the permit and implemented in accordance with the monitoring plan.

2.4.1.3 Livestock Operations Without CAFO Permits

Livestock operations may not cause or contribute to a violation of water quality standards. Not all livestock operations are large enough to require an NPDES CAFO permit under Chapter 62-670, F.A.C. For these operations, section 403.067, F.S., requires the operation to enroll in the FDACS BMP Program and implement applicable BMPs or to conduct a monitoring program according to Chapter 62-307, F.A.C., that is approved by DEP or the WMD.

2.4.1.4 Aquaculture

Under the federal Clean Water Act, aquaculture activities are defined as a point source. In 1999, the Florida Legislature amended Chapter 597, F.S., Florida Aquaculture Policy Act, to create a program within FDACS 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.

2.4.1.5 Silviculture

The Florida Forest Service (FFS) within FDACS is the lead agency responsible for assisting landowners, loggers and forestry professionals with silviculture BMP implementation as well as conducting statewide silviculture BMP training and compliance monitoring. FFS implements Chapter 5I-6, F.A.C., and encourages both private and public forest landowners across the state to comply with BMPs and the rule. Compliance with the rule involves submitting a Notice of Intent to Implement BMPs (NOI) to FFS and thereby committing to follow BMPs during all current and future forestry operations.

2.4.1.6 Agricultural Cooperative Regional Elements

Section 403.067, F.S., requires FDACS, DEP and agricultural producers to work together to establish Agricultural Cooperative Regional Water Quality Elements (ACE) in BMAPs where agricultural nonpoint sources contribute at least 20% of nonpoint source nutrient discharges to impaired waterbodies, or where DEP determines this element is necessary to achieve the TMDLs. FDACS 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. The list of projects included in the ACE must include a planning-level cost estimate of each project along with the estimated amount of nutrient reduction that such project will achieve.

Addressing nutrient loading from agricultural sources in Florida's waterways requires collective action and partnership among key stakeholders, and in consultation with the WMDs. By fostering cooperation and engagement, the ACE framework facilitates the exchange of knowledge, resources and expertise, leading to innovative solutions and effective strategies for tackling water quality challenges. Engaging producers in the decision-making process ensures that projects are practical, feasible, and tailored to the needs and realities of agricultural operations. Partner agencies provide technical support, regulatory guidance, and funding opportunities that will enhance the implementation and success of regional water quality improvement initiatives. This cooperative effort is essential for implementing targeted actions that balance the economic and social benefits of agriculture with the obligation to address agricultural nonpoint source loading beyond statutorily required BMP implementation and cost share.

The ACE framework leverages resources and technical expertise to efficiently identify regional projects and other strategies tailored to the diverse agriculture production methods, landscapes,

and watersheds that will need to be implemented to achieve the TMDLs. Regional project types will vary among the different BMAPs, and can include, but are not limited to, a combination of traditional projects that focus on water treatment, land acquisition in fee or conservation easements on the lands of willing sellers, site-specific water quality improvement projects, dispersed water management projects, innovative technologies, and regional projects funded through existing or enhanced cost share programs administered by FDACS or the WMDs.

While FDACS is assigned the lead role on project solicitation, development, selection and implementation, FDACS 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 and to leverage existing programs and resources. FDACS will lead engagement with producers and industry groups through annual workshops to identify potential regional projects. Identified regional projects will be implemented through various mechanisms, such as existing agency cost share or grant programs or through a legislative budget request and eventual appropriation. Upon identification of a project, FDACS will update DEP on project development and implementation, including the funding strategy.

FDACS and DEP will work together to track progress on agricultural water quality projects under the ACE framework through the development of performance metrics and collection of water quality monitoring data in the basin or, if necessary, at the project level. The default performance measures will be the expected range of pollutant removal efficiencies associated with a project or strategy. Tools may be needed to determine the effectiveness of projects, such as modeling and, where feasible, onsite water quality monitoring.

FDACS will report on projects annually through DEP’s Statewide Annual Report 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. The ACE process provides for adaptive management, allowing flexibility to adapt and improve based on regional project or management strategy results.

Agricultural nonpoint sources contribute 64% of the TN and 69% of the TP nutrient sources in the St. Lucie River and Estuary BMAP. Pursuant to subparagraph 403.067(7)(e)1., F.S., an ACE is required in this BMAP.

Most agricultural lands are engaged row crop production. **Table 10** shows the three dominant crop types within the St. Lucie River and Estuary BMAP.

Table 10. Three dominant crop types within the St. Lucie River and Estuary BMAP

Crop Type	Acres
Row Crops	110,453
Grazing Land	87,426
Vegetables	9,735

Targeting future funding toward precision agriculture, manure management, innovative technologies or soil health practices, including combining practices where applicable, to address nutrient impacts from row crop production on a regional scale could provide additional reductions.

In the St. Lucie River and Estuary BMAP, further progress is being achieved through regional water treatment projects funded by FDACS or in partnership with the Coordinating Agencies (section 373.4595, F.S.) and landowners. The project tables in **Chapter 3** provide additional details regarding these regional projects, including the resulting TN and TP reductions.

FDACS will continue to work with key stakeholders in the St. Lucie River and Estuary BMAP to identify additional options for addressing agricultural nonpoint source nutrient loading. For more information on the FDACS Regional Projects Program, please see the links in **Appendix B**.

FDACS will continue to work with key stakeholders in the St. Lucie River and Estuary BMAP to identify additional options for addressing agricultural nonpoint source nutrient loading. For more information on the FDACS Regional Projects Program, please see the links in **Appendix B**.

2.4.1.7 Description of BMPs Adopted by Rule

Appendix B provides detailed information on BMPs and agricultural practices in the BMAP area. **Table 11** identifies the adopted BMPs and BMP manuals relevant to this BMAP.

Table 11. BMPs and BMP manuals adopted by rule as of July 2025

Agency	F.A.C. Chapter	Chapter Title
FDACS OAWP	5M-1	Office of Agricultural Water Policy
FDACS OAWP	5M-06	Florida Nursery Operations, 2024 Edition: Water Quality and Water Quantity Best Management Practices
FDACS OAWP	5M-08	Florida Vegetable and Agronomic Crop Operations, 2024 Edition: Water Quality and Water Quantity Best Management Practices
FDACS OAWP	5M-09	Florida Sod Operations, 2024 Edition: Water Quality and Water Quantity Best Management Practices
FDACS OAWP	5M-11	Florida Cattle Operations, 2024 Edition: Water Quality and Water Quantity Best Management Practices
FDACS OAWP	5M-12	Conservation Plans for Specified Agricultural Operations
FDACS OAWP	5M-13	Florida Specialty Fruit and Nut Crop Operations, 2024 Edition: Water Quality and Water Quantity Best Management Practices
FDACS OAWP	5M-14	Florida Equine Operations, 2024 Edition: Water Quality and Water Quantity Best Management Practices
FDACS OAWP	5M-16	Florida Citrus Operations, 2024 Edition: Water Quality and Water Quantity Best Management Practices
FDACS OAWP	5M-17	Florida Dairy Operations, 2024 Edition: Water Quality and Water Quantity Best Management Practices
FDACS OAWP	5M-18	Florida Agriculture Wildlife Best Management Practices
FDACS OAWP	5M-19	Florida Poultry Operations, 2024 Edition: Water Quality and Water Quantity Best Management Practices

Agency	F.A.C. Chapter	Chapter Title
FDACS OAWP	5M-21	Florida Small Farms and Specialty Livestock Operations, 2024 Edition: Water Quality and Water Quantity Best Management Practices
FDACS Division of Agriculture Environmental Services	5E-1	Fertilizer
FDACS Division of Aquaculture	5L-3	Aquaculture Best Management Practices
FFS	5I-6	Best Management Practices for Silviculture
DEP	62-330	Environmental Resource Permitting

2.4.2 Stormwater

Urban stormwater is a considerable source of nutrient loading to the St. Lucie River and Estuary, and many urban areas are already regulated under the MS4 NPDES Stormwater Program. An MS4 is a conveyance or system of conveyances, such as roads with stormwater systems, municipal streets, catch basins, curbs, gutters, ditches, constructed channels, or storm drains. If an MS4 permittee is identified as a contributor in the BMAP, the permitted MS4 must undertake projects specified in the BMAP.

Regulated MS4s are required to implement SWMP to reduce pollutants to the maximum extent practicable and address applicable TMDL allocations. Both Phase I and Phase II MS4 permits include provisions for the modification of SWMP activities. Phase I medium and large MS4s are regulated under an individual permit, with multiple permittees having coverage under the same permit as “co-permittees.” Phase II small MS4s are regulated under a generic permit. Under the “NPDES Two-Step Generic Permit for Discharge of Stormwater from Phase II MS4s” (paragraph 62-621.300(7)(a), F.A.C.), regulated Phase II MS4s must develop a SWMP that includes BMPs with measurable goals and a schedule for implementation to meet six minimum control measures.

DEP can designate an entity as a regulated MS4 if its discharges meet the requirements of the rule and are determined to be a significant contributor of pollutants to surface waters of the state in accordance with Rule 62-624.800, F.A.C. A Phase II MS4 can be designated for regulation when a TMDL has been adopted for a waterbody or segment into which the MS4 discharges the pollutant(s) of concern. Because urban areas located in the BMAP that are not currently covered by an MS4 permit also significantly contribute to nutrient loading, individually or in aggregate, the 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.

On June 28, 2024, Governor Ron DeSantis signed Senate Bill 7040 into law, which updates Florida's stormwater rules and design criteria, including Chapter 62-330, F.A.C., to protect the state's waterways. The new regulations aim to manage runoff from developments, ensuring that future stormwater systems are better maintained. Operation and maintenance entities will be required to have estimates for the expected routine maintenance costs and to certify that they have the financial capability to maintain the stormwater system over time. The rule will also

provide for more consistent oversight through a required periodic inspection routine and reporting on the inspection results to the permitting agency.

Additionally, under Chapter 62-330, F.A.C., the new rule establishes requirements for applicants to demonstrate, through calculations or modeling, that the future stormwater management systems would provide additional treatment to meet new Environmental Resource Permits stormwater treatment performance standards for an 80% reduction for TP and 55% reduction TN, along with additional requirements that would apply where a project discharges to Outstanding Florida Waters or impaired waters. Additional permitting requirements to protect ground water can be found within the Applicant Handbook Volume I, Section 8.5.2.

2.4.2.1 Urban BMPs and Eligibility

Management actions must reduce TN and/or TP loads and meet certain criteria to be considered eligible for credit in the BMAP. Urban structural projects completed since January 1, 2000, and planned in the future were eligible for BMAP credit. Urban structural projects only received credit for the portion of the load reduction that was over and above any permit requirements. This criterion was needed because permit conditions are established to prevent impacts from the new development and do not contribute to water quality improvement.

Public education and outreach efforts and nonstructural projects were eligible for BMAP credit regardless of when they were implemented because these efforts were excluded in the St. Lucie River and Estuary model. Estimates of TN and TP reductions from street sweeping and BMP clean out were made using a tool developed by the Florida Stormwater Association in 2012, based on data collected by Sansalone et al. (2011) that uses the volume or weight of material removed to estimate the pounds of TN and TP removed.

2.4.2.2 Sports Turfgrass and Golf Courses

Sports turfgrass sources include golf courses and other sporting facilities. Sporting facilities are required to follow the 2025 Sports Turf BMP Manual to protect water resources.

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 DEP's golf course BMP manual, *Best Management Practices for the Enhancement of Environmental Quality on Florida Golf Courses* (DEP, 2021). All publicly owned golf courses located within a BMAP are required to submit a nutrient management plan (NMP) to DEP that is designed to sustain even plant growth while minimizing excessive growth and nutrient losses. Required information for the NMP is available in **Appendix D**. A draft NMP must be submitted to DEP within one year of BMAP adoption and a final document is due two years after adoption. All soil, water, and tissue sampling must include appropriate nitrogen and phosphorous analyses.

If a facility (either golf course or other sporting facility) uses fertilizer rates greater than those in the BMP manuals, the facility is required to conduct water quality monitoring prescribed by DEP or a WMD that demonstrates compliance with water quality standards.

2.4.3 WWTFs

2.4.3.1 Facility Improvements and Effluent Limits

DEP issues permits for facilities and activities to discharge wastewater to surface waters and groundwaters of the state. DEP is authorized by the U.S. Environmental Protection Agency to issue permits for discharges to surface waters under the NPDES Program. Permits for discharges to groundwaters are issued by DEP based on Florida law and rules. Wastewater discharge permits establish specific limitations and requirements based on the location and type of facility or activity releasing industrial or domestic wastewater from a point source. In areas with an adopted, nutrient-related BMAP prior to July 1, 2023, section 403.086, F.S., requires any facility discharging to a waterbody to upgrade to advanced waste treatment (AWT) by January 1, 2033. Further, waterbodies determined not to be attaining nutrient or nutrient-related standards after July 1, 2023, or subject to a BMAP or reasonable assurance plan (RAP) after July 1, 2023, have 10 years to provide AWT after such determination or adoption.

The nitrogen and phosphorus effluent limits set forth in **Table 12** and **Table 13** will be applied as an annual average, taken at 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. DEP will evaluate the need for more stringent nutrient effluent limits as appropriate.

Short-term or intermittent discharges are not significant sources of TN or TP in the St. Lucie River and Estuary watershed, and are not subject to the limits in **Table 12** and **Table 13**. Intermittent, rainfall-driven, diffuse overflow releases of wastewater from ponds or basins designed to *hold precipitation* from a 25-year, 24-hour rainfall event or less frequent rainfall event and that infrequently reaches surface waters are considered insignificant sources of TN and TP. The owners or operators of cooling pond reservoirs must operate each spillway gate either during regular operation or on a test basis to protect the structural integrity of the reservoir. Because of the short duration and low volume of wastewater released during spillway gate testing, releases either on an annual or semi-annual basis are considered insignificant sources of TN and TP.

Table 12. Nitrogen effluent limits for WWTFs

mgd = Million gallons per day
mg/L = milligrams per liter

Facility Capacity (mgd)	Surface Water Discharges (mg/L)	WWTFs Listed in Appendix E (mg/L)	WWTFs Not Listed in Appendix E – Rapid Rate Land Application Effluent Disposal System (mg/L)	WWTFs Not Listed in Appendix E – All Other Disposal Methods, Including Reuse (mg/L)
Greater than or equal to 0.5	3	3	3	10
Less than 0.5 and greater than 0.1	3	3	6	10
Less than or equal to 0.1	3	Not applicable (NA)	10	10

Table 13. Phosphorus effluent limits for WWTFs

mgd = Million gallons per day
 mg/L = milligrams per liter

Facility Capacity (mgd)	Surface Water Discharges (mg/L)	WWTFs Listed in Appendix E (mg/L)	WWTFs Not Listed in Appendix E – Rapid Rate Land Application Effluent Disposal System (mg/L)	WWTFs Not Listed in Appendix E – All Other Disposal Methods, Including Reuse (mg/L)
Greater than or equal to 0.5	1	1	1	6
Less than 0.5 and greater than 0.1	1	1	3	6
Less than or equal to 0.1	1	NA	6	6

Where the law does not provide for a compliance timeframe, new effluent standards will take effect at the time of permit renewal or no later than five years after BMAP adoption, whichever is sooner.

Additionally, new and existing wastewater permits in the BMAP area must require at least quarterly sampling of the effluent discharge for TN and TP and report these sampling results in the discharge monitoring reports submitted to DEP.

In 2021, subsection 403.064(16), F.S., was amended where domestic wastewater utilities that dispose of effluent, reclaimed water, or reuse water by surface water discharge were required to submit for DEP review and approval, a plan for eliminating non-beneficial surface water discharge by January 1, 2032. A utility must fully implement the approved plan by January 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 January 1, 2028. Violations are subject to administrative and civil penalties pursuant to sections 403.121, 403.131 and 403.141, F.S.

2.4.3.2 Reclaimed Water Effluent Limits

In accordance with section 403.086, F.S., by July 1, 2034, any WWTF providing reclaimed water that will be used for commercial or residential irrigation or be otherwise land applied within a nutrient BMAP or RAP area is required to meet AWT standards for TN and TP such that the reclaimed water product contains not more, on a permitted annual average basis, of 3 mg/L of TN and 1 mg/L of TP. DEP has determined that the use of reclaimed water is causing or contributing to the nutrient impairments being addressed in this BMAP area. These requirements do not apply to reclaimed water that is land applied as part of a water quality restoration project or water resource development project approved by DEP to meet a TMDL or minimum flow or level and where the TN and TP will be at or below AWT standards prior to entering groundwater or surface water.

DEP has determined that certain WWTFs providing reclaimed water for the purpose of commercial or residential irrigation or that is otherwise being land applied within this BMAP area are causing or contributing to the nutrient impairments being addressed in this BMAP.

Based on DEP's determination, these facilities are identified in **Appendix E** are subject to the nitrogen and phosphorus limits set forth in section 403.086, F.S. The facilities listed in **Appendix E** have 10 years from BMAP adoption to meet the applicable AWT standards. This requirement does not prevent the department from requiring an alternative treatment standard, if the department determines the alternative standard is necessary to achieve the TMDL(s) or applicable water quality criteria. For facilities that did not have adequate information to complete an evaluation or where a change occurs to the facility's application of reclaimed water after the initial evaluation (e.g. increase in facility capacity or change in location of reclaimed water application), the department will evaluate the land application of reclaimed water as more information becomes available pursuant to section 403.086, F.S.

All new permitted facilities providing reclaimed water that will be used for commercial or residential irrigation or be otherwise land applied in the BMAP, are required to meet AWT standards for TN and TP in accordance with section 403.086, F.S.

2.4.3.3 WWTF Plans

Subparagraph 403.067(7)(a)9., F.S., requires local governments within a BMAP to develop WWTF plans to be adopted as part of nutrient BMAPs no later than July 1, 2025, if DEP identifies domestic wastewater as contributors of at least 20% of point source or nonpoint source nutrient pollution or if DEP determines remediation is necessary to achieve the TMDL. The WWTF plans must be developed by each local government in cooperation with DEP, WMDs, and public and private domestic WWTFs within the jurisdiction of the local government. Each local government's wastewater treatment plan for this BMAP must contain the information outlined in Final Order 23-0124 for each existing or proposed domestic wastewater facility in the local government's jurisdiction.

Subparagraph 403.067(7)(a)9., F.S., was amended in 2024 to clarify that private domestic wastewater facilities must provide this information to local governments effective July 1, 2024. Information related to private facilities will need to be included in future local government WWTF plans if not captured in the initial plans.

2.4.3.4 Connection to Sewer

The installation of new OSTDS within a BMAP area is prohibited where connection to sewer lines is available. For existing OSTDS, the owner must connect to sewer within 365 days of written notification by the utility that connection to its sewer line is available. A utility is statutorily required (section 381.00655, F.S.) to provide written notice to existing OSTDS owners regarding the availability of sewer lines for connection. Additionally, existing OSTDS needing repair or modification must connect to available sewer lines within 90 days of notification by DEP.

To facilitate an inventory of noncompliant properties, by February 2, 2026, and every two years thereafter, each utility with sewer lines in the BMAP shall provide DEP a list of properties with existing OSTDS where sewer is available but has not connected. For each identified property,

include the date(s) which the utility provided written notice to the owners of the availability of sewer.

2.4.4 OSTDS

Beginning July 1, 2023, section 403.067, F.S., prohibits any new conventional OSTDS serving a lot of one acre or less where central sewer is available. Within all BMAP areas, if central sewer is unavailable, then the owner must install a DEP-approved enhanced nutrient-reducing OSTDS that achieves 65% nitrogen reduction, or other wastewater system that achieves 65% reduction.

2.4.4.1 BMAP OSTDS Remediation Plan

This BMAP contains a remediation plan for OSTDS consisting of management actions, including those described in **Chapter 3** and updated annually through the statewide reporting process, that reduce loads from existing OSTDS through either sewer connection, adding enhancement nitrogen treatment to OSTDS, or installing another type of wastewater system on the property, as applicable.

Subparagraph 403.067(7)(a)9.b., F.S., also requires local governments within a BMAP to develop an OSTDS remediation plan to be adopted as part of the BMAP no later than July 1, 2025, if DEP identifies OSTDS as contributors of at least 20% of point source or nonpoint source nutrient pollution or if DEP determines remediation is necessary to achieve the TMDL. When applicable, the OSTDS remediation plans must be developed by each local government in cooperation with DEP, WMDs, and public and private domestic wastewater facilities. Each OSTDS remediation plan for this BMAP must contain the information outlined in DEP Final Order 23-0124. Stakeholders submit projects describing how OSTDS loads are addressed as part of BMAP reporting and estimate the load reductions associated with each project. The estimated reductions to the basin from addressing these OSTDS will be based on several factors, including location, how they are addressed, and the amount of attenuation that occurs.

2.4.4.2 Local Government Ordinances

Local governments may have existing ordinances or could adopt new ordinances that add additional requirements for enhancement of OSTDS. To expedite remediation of wastewater sources and to facilitate achievement of assigned milestones in this BMAP, DEP encourages local governments to adopt such ordinances.

2.5. TRA Approach

To better prioritize and focus resources to most efficiently achieve restoration in the St. Lucie River and Estuary Watershed, DEP developed the TRA approach. This approach uses measured data collected throughout the watershed to evaluate TN and TP concentrations in each of the St. Lucie River and Estuary Watershed basins. Flow data exist at the four structure stations; however, the TRA approach does not currently include an assessment of water quantity since a flow evaluation has not yet been completed. Once a complete flow evaluation is available, it will be reviewed for inclusion in future BMAP annual updates. The measured nutrient concentrations

were compared with selected benchmarks to identify those basins that should be the highest priority for restoration. This advisory 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 were only used to prioritize resources.

Chapter 3 summarizes the results of the TRA evaluation process for the basins in the St. Lucie River and Estuary Watershed. For each basin, a priority was assigned based on the TN concentration, TP concentration, and flows (where available). These priorities were set to help focus resources and projects in the basins most in need of improvement. Stations were selected for each basin that best represent the nutrient concentration from that basin. Each representative station must have at least one data point from each of the five years used in the TRA assessment to be considered sufficient for use. Basins were assessed and prioritized as follows (**Figure 8**):

- 1. Assess the five-year average concentration at representative stations and compare with the TMDL benchmark:**
 - a. Priority 1: Concentration is two times greater than the TMDL benchmark.
 - b. Priority 2: Concentration is greater than the TMDL benchmark but less than two times the TMDL benchmark.
 - c. Priority 3: Concentration is less than or equal to the TMDL benchmark.
- 2. Assess the five-year average flow weighted mean (FWM) concentration and compare with the TMDL benchmark. This step is weighted above Step 1; therefore, the results for the FWM concentrations would supersede the priorities from Step 1.**
 - a. Priority 1: FWM concentration is greater than twice TMDL benchmark.
 - b. Priority 2: FWM concentration is greater than TMDL benchmark, but less than twice TMDL benchmark.
 - c. Priority 3: FWM concentration is equal to or less than TMDL benchmark.
- 3. Assess the unit area load (UAL), which is the average load per acre in each basin from the WaSh model. Compare with the basin UAL target calculated with loading data from the SFWMD 2025 *South Florida Environmental Report*. This step is weighted above Step 2 where data are available; therefore, results would increase or decrease the priority accordingly:**
 - a. Priority increases: UAL is greater than 50% above the basin target UAL.
 - b. Priority decreases: UAL is less than the basin target UAL.
 - c. Priority remains unchanged: UAL is above the basin target UAL, but less than 50%.

4. Assess the water quality trends from the St. Lucie River Watershed Protection Plan for statistical significance (as described in the 5-Year Review). This step is weighted above Step 3 where data are available; therefore, results would increase or decrease the priority accordingly:

- a. Priority increases: Trend is significantly increasing.
- b. Priority decreases: Trend is significantly decreasing.
- c. Priority remains unchanged: No significant trend detected.

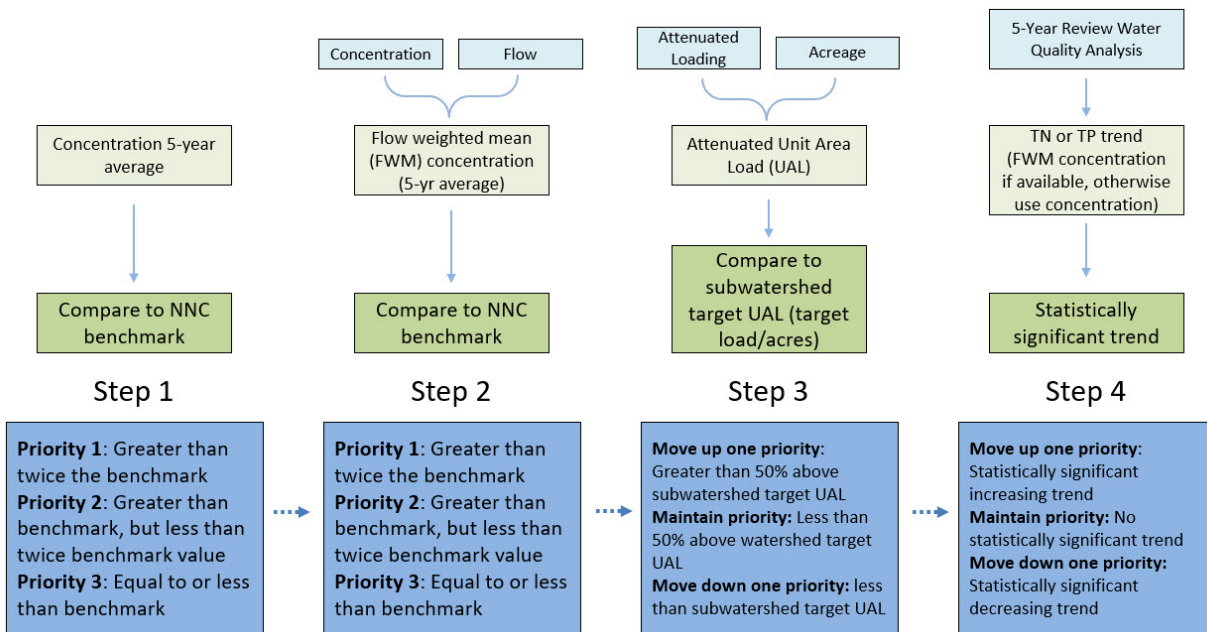


Figure 8. Summary of the TRA prioritization process

2.6. Hotspot Analysis

To better prioritize and focus resources to most efficiently achieve restoration in the St. Lucie River and Estuary BMAP, DEP developed the hot spot analysis approach. This approach uses measured data collected throughout the watershed to evaluate TN and TP concentrations. 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 or compliance; they will only be used to prioritize resources.

The measured nutrient concentrations were compared with selected benchmarks to identify areas that should be the highest priority for restoration. Four statistics are calculated for the whole BMAP and are used to compare against each station average: TN or TP concentration average, TN or TP 90th percentile, TN or TP standard deviation, and TN or TP percent frequency of samples over the BMAP threshold. Stations are assigned a rank of 0, 1, or 2 for each category, as shown in **Figure 9**. The scores for each category are summed by station to determine an overall

rank. **Chapter 3** summarizes the results of the hot spot analysis for the basins in each St. Lucie River and Estuary basin.

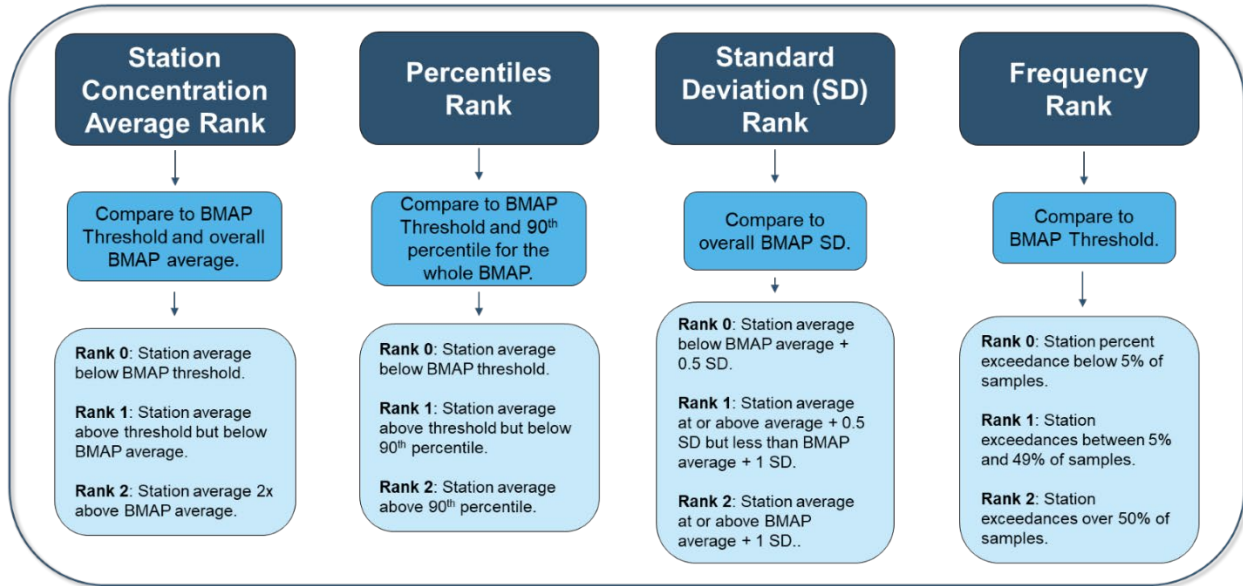


Figure 9. Summary of hot spot analysis approach

2.7. Water Quality Monitoring Plan

The BMAP monitoring network provides information to help prioritize monitoring and track BMAP progress, and better focus management efforts.

2.7.1 Objectives and Parameters

The St. Lucie River and Estuary BMAP monitoring plan was designed to enhance the understanding of basin loads, identify areas with high nutrient concentrations, and track water quality trends. The information gathered through the monitoring plan measures progress toward achieving the TMDLs and provides a better understanding of watershed loading. The BMAP monitoring plan consists of ambient water quality sampling, sampling at discharge structures, and flow monitoring. In addition, information on water quality throughout the watershed and within the estuary can be found in the latest South Florida Environmental Report, published annually by SFWMD.

Focused objectives are critical for a monitoring strategy to provide the information needed to evaluate implementation success. The primary objective of the monitoring strategy for the St. Lucie River and Estuary Watershed, described below, is to evaluate the success of the BMAP, help interpret the data collected, and provide information for potential future refinements of the BMAP.

Primary Objective

- To track trends in TN and TP loads in the major canals and tributaries, as well as the St. Lucie River and Estuary.

To achieve this objective, the monitoring strategy focuses on the following parameters:

- Alkalinity.
- Ammonia (N).
- Biochemical Oxygen Demand.
- Carbon – Organic.
- Carbon – Total.
- Chlorophyll *a*.
- Color.
- DO.
- DO Saturation.
- Flow.
- Nitrate/Nitrite (N).
- Nitrogen – Total Kjeldahl.
- Nitrogen – Total.
- Orthophosphate (P)
- pH.
- Phosphorus – Total.
- Specific Conductance/Salinity.
- Temperature, Water.
- Total Suspended Solids.
- Turbidity.

2.7.2 Monitoring Network

The monitoring network comprises a tiered system for the sampling stations, as follows:

- **Tier 1** stations are the primary/priority stations used in periodic water quality analyses to track BMAP progress and water quality trends over the long term in the basin. Tier 1 stations include both estuary and structure ambient monitoring stations. Several of these stations have autosamplers with more frequent data collection. Structure stations also have flow data, while the estuary stations do not collect flow data. If at any point it is necessary to reduce efforts in the basin, these stations should be the last stations impacted.
- **Tier 2** stations provide secondary information that can be used to help focus and adaptively manage implementation efforts.

Figure 10 shows the stations included in each of these tiers. In addition to SFWMD and U.S. Geological Survey monitoring stations, various agencies also sample stations in the St. Lucie River and Estuary Watershed. **Chapter 3** includes additional information about the BMAP monitoring network and stations used in the TRA process.

2.7.3 Data Management and Quality Assurance/Quality Control

BMAP data providers have agreed to upload ambient water quality data at least once every six months on the completion of the appropriate quality assurance and quality control checks. Data must be collected following DEP standard operating procedures, and the results must be analyzed by a National Environmental Laboratory Accreditation Program–certified laboratory.

In addition to ambient water quality data, flow data are used to track loading trends for the BMAP. Data collected by the U.S. Geological Survey are available through its website, and some flow data are also available through the SFWMD corporate environmental database, DBHYDRO.

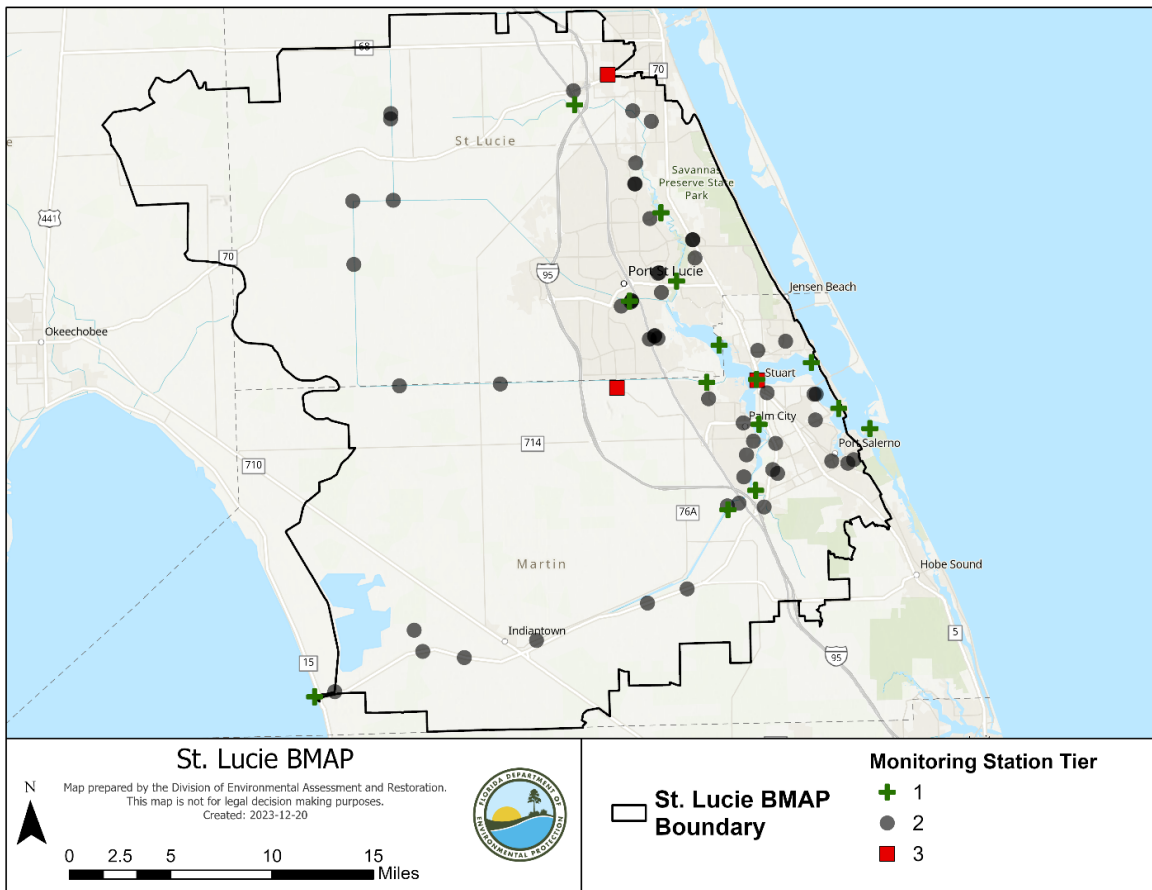


Figure 10. St. Lucie River and Estuary BMAP monitoring stations

Chapter 3. Basins

Section 3.1 through **Section 3.11** provide specific information on the 11 basins in the St. Lucie River and Estuary Watershed. The land use summaries are based on the 2012 land use in WaSh, and **Appendix B** provides additional details on agricultural land uses. Monitoring network stations in the basin are provided, along with designations for the basin where the station is located, monitoring entity, BMAP monitoring network tier, and whether the station is a representative site for the TRA approach discussed in **Section 2.5**. The TN and TP priority results of the TRA evaluation are provided for each basin.

Finally, all projects identified as part of this BMAP are listed by basin. For projects that treat lands in multiple basins (indicated in the "Basin" column), the nutrient reductions provided in the table are the total estimated for the project and not applicable to a specific basin. The table of existing and planned projects lists those projects submitted by stakeholders to help meet their obligations under the BMAP. Stakeholders have identified future projects to help achieve the remaining reductions needed; however, many of these projects are conceptual or in early design stages, or have not been fully funded. Information in the tables was provided by the lead entity and is subject to change as the project develops and more information becomes available.

3.1. North Fork Basin

The North Fork Basin covers 89,902 acres of the St. Lucie River and Estuary Watershed. As shown in **Table 14**, the most common land uses in this basin are urban and built-up as well as upland forests. Stakeholders in the basin include FDOT, City of Fort Pierce, Martin County, North St. Lucie River WCD, City of Stuart, and St. Lucie County.

Table 14. Summary of land uses in the North Fork Basin

Level 1 Land Use Code	Land Use Description	Acres	% Total
1000	Urban and Built-Up	52,893	58.8
2000	Agriculture	6,502	7.2
3000	Upland Nonforested	3,485	3.9
4000	Upland Forests	10,743	11.9
5000	Water	4,164	4.6
6000	Wetlands	7,921	8.8
7000	Barren Land	257	0.3
8000	Transportation, Communication, and Utilities	3,937	4.4
	Total	89,902	100

3.1.1 Water Quality Monitoring

Table 15 summarizes the water quality monitoring stations in the North Fork Basin, and **Figure 11** shows the station locations.

Table 15. Water quality monitoring stations in the North Fork Basin

* Stations denoted by an asterisk are proposed/new stations.

Basin	Representative Site?	Entity	Station ID	Tier
North Fork	Yes	SFWMD	SLT-10A	2
North Fork	Yes	SFWMD	SLT-10B	2
North Fork	Yes	SFWMD	SLT-11	2
North Fork	Yes	SFWMD	SLT-17	2
North Fork	Yes	SFWMD	SLT-19	2
North Fork	Yes	SFWMD	SLT-21	2
North Fork	Yes	SFWMD	SLT-22A	2
North Fork	Yes	SFWMD	SLT-26	2
North Fork	Yes	SFWMD	SLT-39	2
North Fork	Yes	SFWMD	SLT-42B	2
North Fork	NA	SFWMD	SLT-41*	2
North Fork	No	SFWMD	SE-06	1
North Fork	No	SFWMD	SE-12	1
North Fork	No	SFWMD	HR1	1
North Fork	No	Port St. Lucie	C-107	2
North Fork	No	Port St. Lucie	Elcam Spillway	2
North Fork	No	Port St. Lucie	Kingsway WW	2
North Fork	No	Port St. Lucie	E8	2
North Fork	No	Port St. Lucie	Monterey WW	2
North Fork	No	Port St. Lucie	U16-D016	2
North Fork	No	Port St. Lucie	H-16	2
North Fork	No	Port St. Lucie	A18	2
North Fork	No	Port St. Lucie	A-22	2

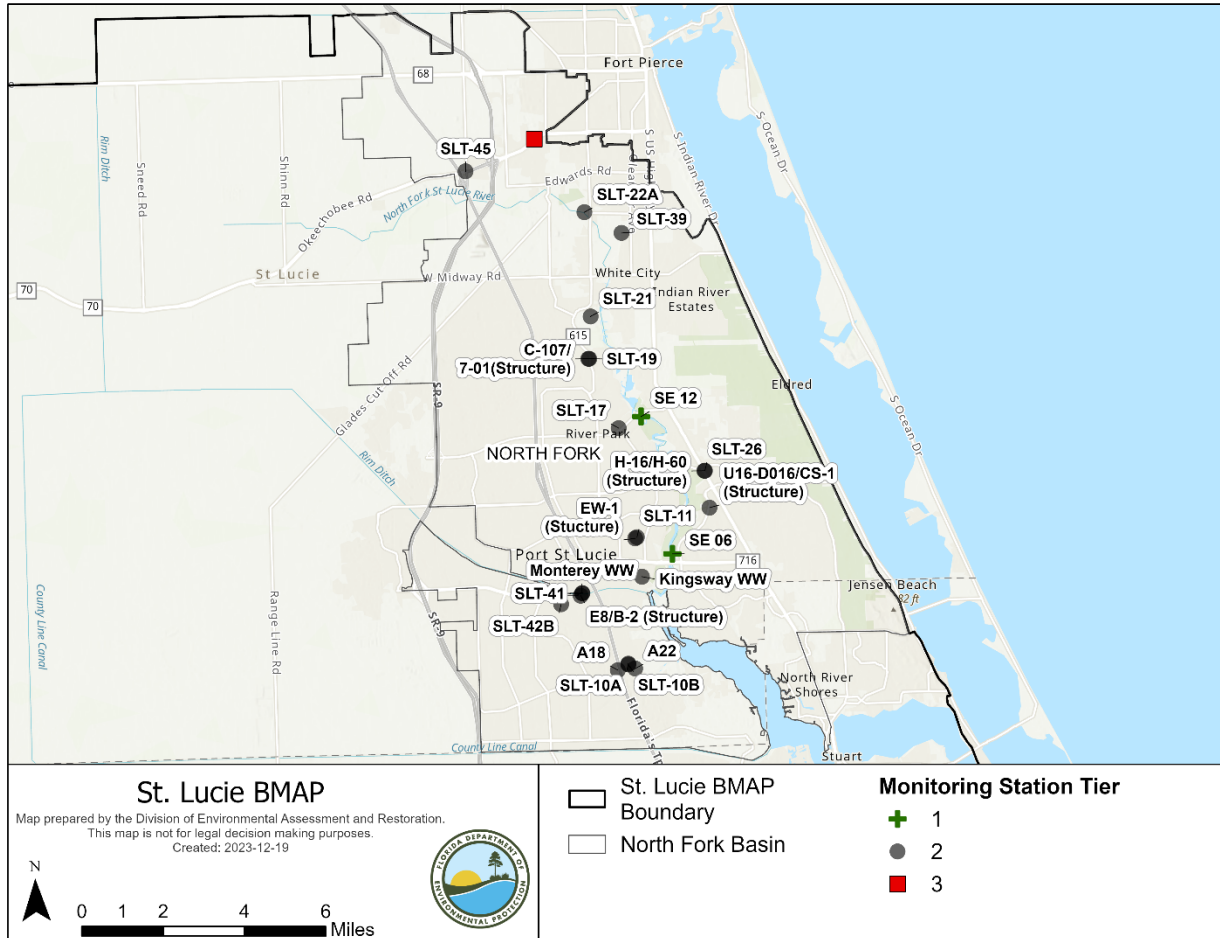


Figure 11. North Fork Basin monitoring stations

3.1.2 Basin Evaluation Results

3.1.2.1 Targeted Restoration Area

Table 16 summarizes the basin evaluation results based on data from WY2020–WY2024 for the North Fork Basin. The current TN concentration is 0.85 mg/L, which is above the benchmark of 0.72 mg/L required to meet the TMDL. The current TP concentration is 0.098 mg/L, which is above the benchmark of 0.081 mg/L required to meet the TMDL. No significant trend was observed for TN, and a significant decreasing trend was observed TP.

The TRA prioritization results for the North Fork Basin are shown in Table 17, with 1 the highest priority, 2 the next highest priority, and 3 a priority as resources allow.

3.1.2.2 Hot Spot Analysis

Table 18 summarizes the hot spot analysis results using WY2019 – WY2023 data. To be included in the analysis, each station must have at least four samples per year and at least two years of data. This analysis will be as needed, and the results will be shared at annual meetings.

Table 16. Basin evaluation results for the North Fork Basin

TRA ID	Basin Name	TN (mg/L) (Benchmark – 0.72)	TN -5-year Average FWM Concentration (mg/L)	TN UAL, pounds per acre (lbs/ac)	TN Trend Analysis	TP (mg/L) (Benchmark – 0.081)	TP 5-year Average FWM Concentration (mg/L)	TP UAL (lbs/ac)	TP Trend Analysis
1	North Fork	0.85	NA	NA	No significant trend	0.098	NA	NA	Significant increasing trend

Table 17. TRA evaluation results for the North Fork Basin

Basin	Stations	TN Priority	TP Priority
North Fork	SLT-10A, SLT-10B, SLT-11, SLT-17, SLT-19, SLT-21, SLT-22A, SLT-26, SLT-39, SLT-42B	2	3

Table 18. Hot spot analysis results for the North Fork Basin

Monitoring Location	TN Average Concentration Rank	TN Percentile Rank	TN Standard Deviation Rank	TN Frequency Rank	TN Total Rank	TP Average Concentration Rank	TP Percentile Rank	TP Standard Deviation Rank	TP Frequency Rank	TP Total Rank
18447	1	1	0	2	4	1	1	0	2	4
18454	1	1	0	2	4	1	1	0	2	4
18455	1	1	0	2	4	1	1	0	2	4
18927	1	1	0	2	4	0	0	0	1	1
18928	1	1	0	2	4	0	0	0	1	1
18929	1	1	0	2	4	0	0	0	1	1
18935	1	1	0	2	4	1	1	0	2	4
18937	1	1	0	2	4	0	0	0	1	1
18940	1	1	0	2	4	0	0	0	0	0
18945	1	1	0	2	4	0	0	0	1	1
18960	1	1	0	2	4	1	1	0	2	4
18963	1	1	0	2	4	1	1	0	2	4
35317	1	1	0	2	4	1	1	0	2	4
36691	0	0	0	1	1	1	1	0	2	4

Monitoring Location	TN Average Concentration Rank	TN Percentile Rank	TN Standard Deviation Rank	TN Frequency Rank	TN Total Rank	TP Average Concentration Rank	TP Percentile Rank	TP Standard Deviation Rank	TP Frequency Rank	TP Total Rank
C-107 WW	1	1	0	1	3	0	0	0	1	1
E-8 WW	0	0	0	1	1	0	0	0	1	1
ELKCAM WW	1	1	0	1	3	0	0	0	1	1
HOGPEN SLOUGH	1	1	0	2	4	0	0	0	0	0
HORSESHOE CANAL	1	1	0	2	4	0	0	0	1	1
KINGSWAY WW	1	1	0	2	4	1	1	0	2	4
MONTERREY WW	1	1	0	2	4	1	1	0	2	4
SAGAMORE WW	1	1	0	2	4	0	0	0	1	1
SOUTHBEND HORSESHOE	1	1	0	2	4	0	0	0	1	1
VETERANS MEMORIAL	1	1	0	2	4	0	0	0	0	0

3.1.3 Projects

Table 19 summarizes the existing and planned for the North Fork Basin that were provided for the BMAP update. The existing and planned projects are a BMAP requirement.

Table 19. Existing and planned projects in the North Fork Basin

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
3297	City of Fort Pierce	FP-03	Street Sweeping	City removes cubic yards of debris by street sweeping activities. Removed 4,135 cubic yards of debris.	Street Sweeping	Ongoing	NA	2,020	1,295	To be determined (TBD)
3296	City of Fort Pierce	FP-04	Inlet Cleaning	City cleans storm inlets citywide and disposes of waste.	Catch Basin Inserts/Inlet Filter Cleanout	Ongoing	NA	65	40	TBD
3295	City of Fort Pierce	FP-05	Education Program	City delivers educational programs to public through trade associations, homeowners' associations, or other means. Educates on hazards associated with illicit discharge, fertilizer use, the importance of water quality, and stormwater pollution protection.	Education Efforts	Ongoing	NA	1,804	304	TBD
3325	City of Fort Pierce	FP-11	Indian Hills Recreation Area (Phase II) Stormwater Improvements	Reestablishment of wetlands and pervious paver parking areas.	Wetland Restoration	Completed	2016	TBD	TBD	\$2,337,485.00
3393	City of Port St. Lucie	PSL-01	Woodstork Trail Design Districts 7, 8, and 9	4.6 acres of new filter marsh and 7.21 acres of new uplands.	BMP Treatment Train	Completed	2007	12	10	\$1,626,929.00
3407	City of Port St. Lucie	PSL-02	Wood Stork Trail Design District 6	7.74-acre wet detention area and .62-acre stormwater treatment area (STA).	BMP Treatment Train	Completed	2008	4	3	\$1,110,000.00
3406	City of Port St. Lucie	PSL-03	Eastern Watershed Improvement Project - Howard Creek, Cane Slough 1, Cane Slough 2 STAs	Construction of weir, 45-acre STA, littoral shelves, and new plantings.	BMP Treatment Train	Completed	2010	1,266	439	\$6,889,079.00

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
3405	City of Port St. Lucie	PSL-04	Eastern Watershed Improvement Project - Loutus, Patio, Mary, Leithgow and Bur Ponds	Flood control, water quality, environmental restoration project consisting of 27 acres of wet detention ponds, littoral shelves, and created wetlands.	BMP Treatment Train	Completed	2011	1,378	795	\$4,977,736.00
3404	City of Port St. Lucie	PSL-05	B-1 and B-2 WCS	WCS B-1 and B-2 protected North Fork of St. Lucie River (NFSLR) from receiving uncontrolled E-8 Canal discharges. System will stage appropriate discharge levels based on volume, retaining maximum flows.	Control Structure	Completed	2007	6,737	2,088	\$1,046,045.00
3403	City of Port St. Lucie	PSL-06	B-3 Water Control Structure (WCS)	B-3 protected North Fork St. Lucie River from receiving uncontrolled E-8 Canal discharges. System will stage appropriate discharge levels based on volume, retaining maximum flows.	Control Structure	Completed	2007	7,027	2,177	\$257,235.00
3402	City of Port St. Lucie	PSL-07	E-8 Waterway Phase 1 Water Quality Retrofit	Control structure improvements, weirs, sediment removal, and construction of 2 STAs totaling 24.36 acres. Improvements will enhance stormwater drainage and flood protection capacity, improve water quality and restore native vegetation and habitat.	BMP Treatment Train	Completed	2010	1,532	1,513	\$1,522,000.00
3356	City of Port St. Lucie	PSL-08	E-17 Canal WCS	New WCS added to retain maximum flows in emergencies only.	Control Structure	Completed	2008	NA	NA	\$437,000.00
3357	City of Port St. Lucie	PSL-09	Water and Wastewater Expansion	Multiple phase-outs of septic tanks from 2013 to 2019.	OSTDS Phase Out	Underway	2056	TBD	NA	\$91,075,666.00
3358	City of Port St. Lucie	PSL-10	Street Sweeping	Remove debris from streets with a street sweeper prior to it entering the St Lucie River.	Street Sweeping	Ongoing	NA	2,358	1,283	NA
3359	City of Port St. Lucie	PSL-11	Swale Maintenance	Remove debris from swale liner prior to it entering the St Lucie River.	BMP Cleanout	Ongoing	NA	8,992	2,798	NA
3360	City of Port St. Lucie	PSL-12	Catch Basin Cleaning	Remove debris from catch basins prior to it entering the St Lucie River.	Catch Basin Inserts/Inlet Filter Cleanout	Ongoing	NA	299	144	NA

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
3361	City of Port St. Lucie	PSL-13	Education Program	Florida Yards and Neighborhoods (FYN) Program; fertilizer, landscape, irrigation, and pet waste ordinances; public service announcements (PSAs); stormwater educational shows; website; outreach programs; Stencil Program; and stormwater pollution hotline.	Education Efforts	Ongoing	NA	21,978	3,722	NA
3362	City of Port St. Lucie	PSL-14	Tiffany Channel	Landscape irrigation is drawn from stormwater in channel/pond/STA.	Stormwater Reuse	Completed	Prior to 2013	56	10	NA
3363	City of Port St. Lucie	PSL-15	Patio STA	Landscape irrigation is drawn from stormwater in channel/pond/STA.	Stormwater Reuse	Completed	Prior to 2013	19	3	NA
3364	City of Port St. Lucie	PSL-16	Mary STA	Landscape irrigation is drawn from stormwater in channel/pond/STA.	Stormwater Reuse	Completed	Prior to 2013	13	2	NA
3273	City of Port St. Lucie	PSL-17	Leithgow STA	Landscape irrigation is drawn from stormwater in channel/pond/STA.	Stormwater Reuse	Completed	Prior to 2013	13	2	NA
3274	City of Port St. Lucie	PSL-18	Cane Slough 1/ Elks STA	Landscape irrigation is drawn from stormwater in channel/pond/STA.	Stormwater Reuse	Completed	Prior to 2013	61	10	NA
3282	City of Port St. Lucie	PSL-19	Cane Slough 2/ Azzi STA	Landscape irrigation is drawn from stormwater in channel/pond/STA.	Stormwater Reuse	Completed	Prior to 2013	44	8	NA
3256	City of Port St. Lucie	PSL-20	Loutus STA	Landscape irrigation is drawn from stormwater in channel/pond/STA.	Stormwater Reuse	Completed	Prior to 2013	41	7	NA
3257	City of Port St. Lucie	PSL-21	Howard Creek STA	Landscape irrigation is drawn from stormwater in channel/pond/STA.	Stormwater Reuse	Completed	Prior to 2013	65	11	NA
3270	City of Port St. Lucie	PSL-22	Bur St. STA	Landscape irrigation is drawn from stormwater in channel/pond/STA.	Stormwater Reuse	Completed	Prior to 2013	NA	NA	NA
3262	City of Port St. Lucie	PSL-25	Atlantis Basin (D-13)	Installation of 2nd-generation baffle box.	Baffle Boxes-Second Generation	Completed	2015	259	36	\$137,755.00
3251	City of Port St. Lucie	PSL-26	Evergreen Basin (D-11)	Installation of 2nd-generation baffle box.	Baffle Boxes-Second Generation	Completed	2015	539	74	\$108,942.00
3269	City of Port St. Lucie	PSL-27	Lansdown Basin (D-14)	Installation of 2nd-generation baffle box.	Baffle Boxes-Second Generation	Completed	2015	254	35	\$134,155.00
3268	City of Port St. Lucie	PSL-28	Streamlet/Manth Basin (D-21)	Installation of 2nd-generation baffle box.	Baffle Boxes-Second Generation	Completed	2015	94	13	\$108,302.00

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
3267	City of Port St. Lucie	PSL-29	Walters Basin (D-12)	Installation of 2nd-generation baffle box.	Baffle Boxes-Second Generation	Completed	2015	404	56	\$138,934.00
3264	City of Port St. Lucie	PSL-32	Veterans Memorial Water Quality Retrofit, Project 1 and 2	Installing control structures, digging ponds, and increasing storage.	BMP Treatment Train	Completed	2018	5,087	1,556	\$3,834,193.00
5693	City of Port St. Lucie	PSL-34	Sagamore STAs East and West	Construction of two STAs (3.82 and 4.76 acres) in a treatment train. Including control structures and a diversion sheet piled weir with concrete cap and associated piping, landscaping and aquatic planting.	STAs	Completed	2022	1,108	353	\$2,149,088.00
5694	City of Port St. Lucie	PSL-35	Kingsway Waterway 2nd Generation Baffle Box	Installation of 2nd-generation baffle box.	Baffle Boxes-Second Generation	Completed	2022	1,696	232	\$672,472.00
6702	City of Port St. Lucie	PSL-36	Floresta Ph III Baffle Boxes	Port St. Lucie will install nutrient-separating baffle boxes in two locations along SE Floresta Drive within the D-8 Canal and the D-10 Canal.	Baffle Boxes-Second Generation	Underway	2024	956	133	\$1,680,000.00
6700	City of Port St. Lucie	PSL-37	SWW-1 Rehabilitation	Port St. Lucie will rehabilitate the existing manually-operated SWW-1 structure and update its operation to include remote telemetry controls, to allow the transfer of stormwater between two basins which are currently served by separate pump stations.	Control Structure	Underway	2024	18	4	\$750,000.00
7227	City of Port St. Lucie	PSL-39	SE Whitmore Drive Baffle Box	The City will install a nutrient separating baffle box at the D-19 canal crossing with SE Whitmore Drive.	Baffle Boxes-Second Generation	Underway	2025	307	41	\$315,453.00
7386	City of Port St. Lucie	PSL-40	A-14 Drainage Control Structure Replacement	Replacement of the A-14 Drainage Control Structure with modifications to provide the ability to store additional runoff.	Control Structure	Underway	2025	7,033	3,408	\$795,000.00

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
7492	City of Port St. Lucie	PSL-42	Septic To Sewer Conversion	The project provides incentive to residents to convert from septic to sewer in order to provide reduction of pollutants being released into the ground water and surface water. The reported number of OSTDS phased out is from beginning of BMAP 2013.	OSTDS Phase Out	Underway	2050	47,402	NA	NA
3258	City of Stuart	S-05	Street Sweeping	Pavement cleaning by sweeping, vacuum, or washing.	Street Sweeping	Ongoing	NA	275	176	\$33,000.00
3221	City of Stuart	S-06	Sediment Removal from Storm Systems	Removal and proper disposal of sediment captured by catch basin inserts.	Catch Basin Inserts/Inlet Filter Cleanout	Ongoing	NA	54	33	NA
3228	City of Stuart	S-07	Education Program	FYN Program. City ordinances for landscaping, irrigation, fertilizer, and pet waste management. City stormwater website. Stormwater calendars. Pollution prevention information posted on electronic billboards 365 days/year from 12 PM to 1 PM.	Education Efforts	Ongoing	NA	2,202	370	\$30,150.00
3231	City of Stuart	S-08	North Point CRA Drainage Basin	There is 1 existing 1st-generation baffle box and street sweeping in basin, existing FDOT swale along basin's east boundary, and 2 FDOT retention/detention ponds near the Roosevelt Bridge.	Baffle Boxes- First Generation	Completed	2002	4	3	\$1,339,000.00
3220	City of Stuart	S-19	Baffle Boxes (22) Throughout City	Concrete structures containing a series of sediment settling chambers separated by baffles. Boxes are vacuum cleaned base on sediment depth inspection by city stormwater staff.	Baffle Boxes- First Generation	Completed	2014	27	21	NA
7530	City of Stuart	S-26	NW North River Drive Drainage Improvements	Drainage improvements NW North River Drive and NW Stuart Avenue. Existing 1st Generation Baffle Box at discharge on NW Fern Street to be replaced with 2nd Generation Baffle Box. Exfiltration added for water quality.	Baffle Boxes- Second Generation	Planned	2029	TBD	TBD	TBD

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
7535	City of Stuart	S-27	NW Wright Boulevard Drainage and Water Quality Improvements	Drainage improvements to alleviate flooding on NW Wright Boulevard. Extension of NW Dixie Highway drainage system to route drainage to Haney Creek. Construct new STA / berm on north side of NW Wright Avenue in the Haney Creek Watershed Preservation Area.	STAs	Planned	2029	TBD	TBD	TBD
7540	City of Stuart	S-28	NW Dixie Highway Ditch Restoration	Drainage improvements to restore ditch flow line to outfall, to alleviate upstream flooding.	Control Structure	Completed	2024	NA	NA	NA
7542	City of Stuart	S-30	NW Fork Road Drainage Improvements	Drainage improvements on NW Fork Road. Route to Harbor Chase / FDOT Pond.	Exfiltration Trench	Planned	2029	NA	NA	NA
6145	FDACS	FDACS-09	Cost-Share BMP Projects	TBD.	Agricultural BMPs	Completed	2020	0	0	NA
6151	FDACS	FDACS-15	Credit for Changes in Land Use	TBD.	Land Use Change	Completed	2020	5,383	2,162	NA
6891	FDACS	FDACS-21	BMP Implementation and Verification	Enrollment and verification of BMPs by agricultural producers. Reductions based on FDACS OAWP December 2022 Enrollment and WaSh model. Acres treated based on FDACS OAWP December 2023 Enrollment and FSAID X.	Agricultural BMPs	Ongoing	NA	1,474	229	NA
TBD	FDACS	FDACS-22	Cost-Share BMP Projects	Cost-share projects paid for by FDACS. Project treatment areas and reductions based on FDACS April 2024 Enrollment and WaSh model.	Agricultural BMPs	Completed	2020	169	167	TBD
3410	FDOT District 4	FDOT-01	FM# 230108-1 (Pond 3)	Widening and new late construction on State Road (SR) 68 from SR 9 to east of County Road (CR)-607A (40% credit, remaining 60% to Central Indian River Lagoon.	Wet Detention Pond	Completed	2013	0	0	TBD
3414	FDOT District 4	FDOT-02	FM# 230108-1 (Pond 4)	Combined with FDOT-01.	Wet Detention Pond	Completed	2013	1	0	TBD

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
3352	FDOT District 4	FDOT-07	FM# 230295-1	Road widening of SR 716 from Westmore-land Bridge to SR 5.	Dry Detention Pond	Completed	2003	17	3	TBD
3365	FDOT District 4	FDOT-08	SPN 99004-1585	Road widening of SR 5 from Jensen Beach Blvd to Port St. Lucie Blvd.	Dry Detention Pond	Completed	2003	30	5	TBD
3350	FDOT District 4	FDOT-09	SPN 99004-1585 (Lake 3)	Road widening of SR A1A from Sewalls Point Rd. to west of MacArthur Blvd.	Wet Detention Pond	Completed	2003	34	10	TBD
3343	FDOT District 4	FDOT-16	FM# 230288-2	Road widening of SR 5 from Rio Mar Dr. to Midway Rd.	Wet Detention Pond	Completed	2009	123	38	TBD
3342	FDOT District 4	FDOT-17	FM# 419890-1	Construction of interchange at SR 9 and Becker Rd.	BMP Treatment Train	Completed	2010	3	2	TBD
3377	FDOT District 4	FDOT-18	Street Sweeping	Not provided.	Street Sweeping	Ongoing	NA	1,419	910	TBD
3351	FDOT District 4	FDOT-19	Public Education	Pamphlets.	Education Efforts	Ongoing	NA	109	20	TBD
3389	FDOT District 4	FDOT-22	State Road 615 Midway Rd. to Edwards Rd. (Basin B-1)	Not provided.	Wet Detention Pond	Completed	2009	15	4	TBD
3388	FDOT District 4	FDOT-23	State Road 615 Midway Rd. to Edwards Rd. (Basin E)	Not provided.	Wet Detention Pond	Completed	2009	20	6	TBD
3387	FDOT District 4	FDOT-24	FM# 410717-1 SR 70 Widening Kings Highway (Hwy.) to Jenkins Rd. (West Basin)	Road widening on SR 70 from Kings Hwy. to Jenkins Rd.	Dry Detention Pond	Completed	2012	6	1	TBD
3386	FDOT District 4	FDOT-25	SR 713 (King's Hwy.) Turn Lanes	Not provided.	Grass swales without swale blocks or raised culverts	Completed	2013	0	0	TBD
3368	FDOT District 4	FDOT-43	FM# 413046-1 SR 9 Widening	Road widening on SR 9 from Okeechobee Rd. to south of Indrio Rd.	On-line Retention BMPs	Completed	2015	145	24	TBD
3338	FDOT District 4	FDOT-44	FM# 423022-1 CR 68 Orange Ave.	County to provide geographic information system (GIS) data for county road; proposed split of 25% to FDOT and 75% to St. Lucie County.	Dry Detention Pond	Completed	2015	TBD	TBD	TBD

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
3379	FDOT District 4	FDOT-45	FM# 230108-1 SR 68 Orange Ave. (40% credit)	Combined with FDOT-1.	Wet Detention Pond	Completed	2005	NA	NA	TBD
3341	FDOT District 4	FDOT-46	231440-2 Midway Rd. Widening, 25th St. to US 1 (Pond 1 and 2)	Road widening on Midway Rd. from SR 68 to SR 5.	Wet Detention Pond	Completed	2021	1	1	NA
3312	FDOT District 4	FDOT-47	231440-2 Midway Rd. Widening, 25th St. to US 1 (Pond 3 and 4)	Road widening on Midway Rd. from SR 68 to SR 5.	Wet Detention Pond	Completed	2021	1	5	NA
3311	FDOT District 4	FDOT-48	231440-2 Midway Rd. Widening, 25th St. to US 1 (Pond 5)	Road widening on Midway Rd. from SR 68 to SR 5.	Wet Detention Pond	Completed	2021	1	2	NA
3289	FDOT District 4	FDOT-57	Fertilizer Application Cessation	No longer applying routine fertilizer.	Fertilizer Cessation	Completed	2016	23,881	5,970	TBD
4859	FDOT District 4	FDOT-61	FM# 230256-6	SR 713/Kings Highway roadway widening for a project known as Kings Highway Widening Phase I South.	Wet Detention Pond	Completed	2023	0	0	NA
4860	FDOT District 4	FDOT-62	FM# 230256-7	SR 713/Kings Highway roadway widening for a project known as Kings Highway Widening Phase 2.	Wet Detention Pond	Completed	2023	0	0	NA
5687	Fort Pierce Utilities Authority	FPUA-01	Fleetwood Acres Low Income Sewer Conversion	Sewer conversion for 50 low-income single-family units in low-lying neighborhood.	OSTDS Phase Out	Underway	2024	1,217	NA	\$1,010,000.00
5688	Fort Pierce Utilities Authority	FPUA-02	LMI Sewer Infrastructure Reconstruction Downtown Ft Pierce	Line 22 miles of cracked sewer pipes in Service Area 1 serving 8,500 residents.	Sanitary Sewer and WWTF Maintenance	Underway	2024	NA	NA	\$4,000,000.00
6462	Fort Pierce Utilities Authority	FPUA-04	Sewer Pipe Reconstruction Number Streets Downtown	Line 20 miles of cracked sewer pipes in Service Area 3 serving 3,500 residents.	Sanitary Sewer and WWTF Maintenance	Underway	2024	NA	NA	\$3,500,000.00
6463	Fort Pierce Utilities Authority	FPUA-05	Expansion of Sewer Pipe Lining to Eliminate Sewage Leakage to Groundwater in Service Area Gaps	Complete outstanding lining for the 220 miles of cracked sewer pipes in Areas 1, 2, and 3 for 600 residents.	Sanitary Sewer and WWTF Maintenance	Planned	2025	NA	NA	\$3,000,000.00

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
6464	Fort Pierce Utilities Authority	FPUA-06	Phases 1-3 WWTF Design, Sewer Infrastructure, and Construction	Purchase property, construct deep injection wells, complete design, WWTF and sewer infrastructure construction, and remove existing WWTF. Project will allow remaining properties in county and Fort Pierce to convert from septic to sewer.	WWTF Nutrient Reduction	Underway	2025	TBD	TBD	\$32,900,000.00
3322	Martin County	MC-13	North River Shores Baffle Boxes	Installation of +20 Baffle Boxes.	Baffle Boxes- First Generation	Completed	2002	11	9	\$1,310,000.00
3321	Martin County	MC-14	Palm Lake Park Water Quality Retrofit	7.7 acre-ft of water quality treatment (1.16 inches).	BMP Treatment Train	Completed	2003	387	117	\$1,741,098.00
3319	Martin County	MC-16	Septic to Central Sewer Conversions	872 single-family and multifamily residential and commercial units in five neighborhoods.	OSTDS Phase Out	Completed	2008	11,650	427	\$9,500,000.00
3317	Martin County	MC-18	Street Sweeping	Not provided.	Street Sweeping	Ongoing	NA	108	69	TBD
3400	Martin County	MC-20	Education Program	FYN; landscaping, irrigation, fertilizer, and pet waste ordinances; PSAs, pamphlets, website, illicit discharge program.	Education Efforts	Ongoing	NA	16,644	2,831	TBD
3436	Martin County	MC-33	Hoke Library Rain Garden	Not provided.	Low Impact Development - Rain Gardens	Completed	2015	TBD	TBD	\$4,372.00
3427	Martin County	MC-42	South Savannas Weir	Water control weir structure at Jensen Beach Blvd and Warner Creek to provide habitat restoration within Savannas Preserve State Park to reduce flooding downstream. This project impacts water quality through reduction of water flow.	Control Structure	Completed	2022	376	37	\$623,717.00
5690	Martin County	MC-46	Septic to Central Sewer Conversions	1,819 single-family, multi-family residential, and commercial units.	OSTDS Phase Out	Completed	2018	24,302	NA	\$24,556,500.00
6466	Martin County	MC-47	Septic to Central Sewer Conversions	1,630 septic conversions in multiple areas as described in the OSTD plan converted between 2019-2024	OSTDS Phase Out	Completed	2024	21,777	799	\$55,981,565.00

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
7420	Martin County	MC-48	Septic to Sewer Conversions	Approximately 2044 to be converted per OSTDS plan. Estimating 272 per year for next 8 years. This project will be updated next year for the actual conversions and a new underway project will have the remaining until complete.	OSTDS Phase Out	Underway	2032	TBD	NA	NA
7421	Martin County	MC-49	Septic to Sewer Conversion	4436 Septic Conversions planned per OSTDS plan (Port Salerno Peninsula, Beau Rivage, Port Salerno/New Monrovia, Coral Gardens, Old Palm City, Rocky Point, Windstone/Evergreen, Strafford Downs, Woodside).	OSTDS Enhancement	Planned	2048	TBD	TBD	\$76,630,800.00
3435	North St. Lucie River WCD	NSLRWCD-01	SLRIT Grant 2000-2001: Vegetation Control & Bank Restoration	Installation of C-25 diversion structure which regulates flow from the North St. Lucie River Water Control District (NSLRWCD) C-44/ North Emergency Relief Canal to SFWMD C-25. In addition, installation of 3 risers with adjustable gates.	Control Structure	Completed	2003	1,548	0	\$929,000.00
3449	NSLRWCD	NSLRWCD-03	Canals 23 and 28 Retrofit for Stormwater Treatment and Attenuation	Construction of ponds and installation of WCS for area retrofit. Inclusion of WMD canals into pond footprints.	Control Structure	Completed	2009	22	0	TBD
5504	SFWMD - Coordinating Agency	CA-01	Ten Mile Creek Water Preserve Area	Control the quantity and timing of water delivery to the North Fork of the St. Lucie River by capturing and storing stormwater flows that originated in the Ten Mile Creek Basin.	Hydrologic Restoration	Completed	2009	TBD	8,789	\$33,206,138.00
3214	St. Lucie County	SLC-001a	Platt's Creek Stormwater Treatment Facility	Wet detention with alum injection.	Wet Detention Pond	Completed	2008	1,655	537	\$3,539,475.00
3418	St. Lucie County	SLC-001b	Platt's Creek Stormwater Treatment Facility	Wet detention with alum injection.	Wet Detention Pond	Completed	2016	2,808	875	NA

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
3392	St. Lucie County	SLC-002	Indian River Estates Stormwater Improvements (Phases I and II)	Wet detention with alum injection.	Wet Detention Pond	Completed	2009	100	14	\$4,471,114.00
3439	St. Lucie County	SLC-003	Prima Vista	Installation of baffle boxes for sediment and debris removal.	Baffle Boxes-Second Generation	Completed	2006	218	30	\$323,483.00
3408	St. Lucie County	SLC-004	Bay Street	Installation of baffle boxes for sediment and debris removal.	Baffle Boxes-Second Generation	Completed	2006	100	14	NA
3398	St. Lucie County	SLC-005	Education Program	FYN; pet waste, landscape, irrigation, and fertilizer ordinances; PSAs; website; Illicit Discharge Program, Eco-Center, Clean Stormwater-Clean River Program. St. Lucie Water Champions.	Education Efforts	Ongoing	NA	2,597	454	TBD
3397	St. Lucie County	SLC-006	Street Sweeping	Materials are collected from road ways and the gutters using a street sweeper truck.	Street Sweeping	Ongoing	NA	211	135	\$280,000.00
3396	St. Lucie County	SLC-007	Catch Basin Cleanout	Catch basins are cleaned out on a rotational basis using a vactruck.	Catch Basin Inserts/Inlet Filter Cleanout	Ongoing	NA	170	105	TBD
3395	St. Lucie County	SLC-008	Platt's Creek Sump Cleanout	Annually drain the Platt's Pump station sump and vac out excess sediments.	BMP Cleanout	Ongoing	NA	1182	512	TBD
3394	St. Lucie County	SLC-009	White City - Citrus/Seager Stormwater Improvement	Wet detention with polyacrylamide logs.	Wet Detention Pond	Completed	2016	180	56	\$1,862,859.00
3416	St. Lucie County	SLC-010	Education Program	FYN; pet waste, landscape, irrigation, and fertilizer ordinances; PSAs; website; Illicit Discharge Program, Eco-Center, Clean Stormwater-Clean River Program, St. Lucie Water Champions.	Education Efforts	Ongoing	NA	8,821	1,594	TBD
3399	St. Lucie County	SLC-011	Street Sweeping	Materials are collected from road ways and the gutters using a street sweeper truck.	Street Sweeping	Ongoing	NA	113	73	TBD
3401	St. Lucie County	SLC-012	Catch Basin Cleanout	Catch basins are cleaned out on a rotational basis using a vactruck.	BMP Cleanout	Ongoing	NA	92	56	TBD

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
3424	St. Lucie County	SLC-013	Platt's Creek Sump Cleanout	Annually drain the Platt's Pump station sump and vac out excess sediments.	BMP Cleanout	Ongoing	NA	1,566	600	TBD
3423	St. Lucie County	SLC-014	Platt's Creek Compensatory Mitigation Project	Conversion of citrus to hydric hammock.	Hydrologic Restoration	Completed	2015	TBD	TBD	\$2,600,000.00
3422	St. Lucie County	SLC-015	Indian River Lagoon IRL South (IRL-S) C23/C24 Comprehensive Everglades Restoration Plan (CERP) Buffer - Teague Preserve Re-watering Project	A 300-acre natural storage/ freshwater marsh restoration project. Project is adjacent to the future CERP C-23/C-24 IRL-S Southern Reservoir.	Hydrologic Restoration	Completed	2022	TBD	TBD	\$400,000.00
3421	St. Lucie County	SLC-016	Melville Rd. Master Drainage Plan	Treatment train with wet and dry detention components.	BMP Treatment Train	Underway	2024	787	145	\$5,000,000.00
4594	St. Lucie County	SLC-017	Swales Material Collection	Road side swale cleanout and retrofitting in MS4 area and non-MS4 area.	BMP Cleanout	Ongoing	NA	TBD	TBD	TBD
4863	St. Lucie County	SLC-019	Becker Preserve Ten-Mile Creek Oxbow Reconnection	Oxbow reconnection with muck dredging.	Hydrologic Restoration	Completed	2020	TBD	TBD	\$700,000.00
5516	St. Lucie County	SLC-020	St. Lucie County Stormwater Needs Assessment Study	Report that will provide information on identified project opportunities to reduce nutrients, estimated benefits, and costs.	Study	Underway	TBD	NA	NA	\$142,380.00
6227	St. Lucie County	SLC-021	Melville Phase II	This is for stormwater management facility site to provide water treatment and abatement for approximately 133 acres of residential/residential-agriculture community.	Wet Detention Pond	Planned	2025	565	174	\$1,500,000.00
6230	St. Lucie County	SLC-022	River Park West Baffle Boxes	River Park is an existing subdivision on aging septic systems. Installation of baffle boxes with nutrient removal Bold & Gold filtration media. With media this project has some TN and TP nutrient removal.	Baffle Boxes-Second Generation with Media	Planned	2025	TBD	TBD	TBD

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
6975	St. Lucie County	SLC-023	Water Quality Improvement Project in the Petravice Preserve and White City Neighborhood	Design of a pond in the Petravice Preserve. Evaluate, and utilize two county owned parcels for bioswales and drainage improvements within the Palmetto Avenue right of way.	Hydrologic Restoration	Underway	2025	TBD	TBD	\$199,935.00
6970	St. Lucie County	SLC-024	Walton Road Culvert Linings	Line the two sets of culverts with 48" reinforced concrete pipe and 72" reinforced concrete pipe. Located on Walton Road between SE Green River Parkway and S Indian River Drive.	Hydrologic Restoration	Underway	2024	NA	TBD	\$542,028.00
6232	St. Lucie County	SLC-025	10 Mile Creek Cleanout/Oxbow Restoration	Ten Mile Creek needs maintenance to allow for conveyance. Project includes dredge and removal of muck, spoil, and vegetation, restoring 2,000 linear feet. An historic oxbow will be restored, allowing for greater conveyance and water quality improvements.	Muck Removal/Restoration Dredging	Planned	2026	TBD	TBD	\$1,400,000.00
6233	St. Lucie County	SLC-026	Ancient Oaks Preserve	The County owns a parcel on Oleander Avenue in Ancient Oak Preserve/Weldon B. Lewis Park. The southwest corner is reserved for stormwater treatment for the ditches prior to entering the North Fork. A retention pond has been identified for treatment.	Retention/Detention BMP with Nutrient Reducing Media	Planned	2024	TBD	TBD	\$870,000.00
4864	St. Lucie West Services District	SLWSD-01	St. Lucie West Services District (SLWSD) Aquatic Harvesting	Mechanical removal of aquatic vegetation without the use of a herbicide. Removal of algae and invasive aquatic vegetation that may be oxygen depleting if treated chemically through the decomposition process. To date: 14,957 cubic yards removed.	Aquatic Vegetation Harvesting	Ongoing	NA	TBD	TBD	NA
4865	St. Lucie West Services District	SLWSD-02	SLWSD Catch Basin Cleaning	Removal of pollutants/debris from catch basins prior to reaching waterways.	Catch Basin Inserts/Inlet Filter Cleanout	Ongoing	NA	3	2	\$185,600.00

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
4866	St. Lucie West Services District	SLWSD-03	SLWSD Water Management Improvement Project	Increase storage of existing wetland.	Wet Detention Pond	Completed	2016	1,196	695	\$360,704.00
4867	St. Lucie West Services District	SLWSD-04	Lake Harvey	Construction of 4.41-acre wetland area and 2.25-acre flow-way to enhance water quality, storage, and hydraulic connectivity in SLWSD Basin 4E.	Hydrologic Restoration	Completed	2017	726	269	\$534,000.00
6467	St. Lucie West Services District	SLWSD-05	Street Sweeping	SLWSD contracts street sweeping personnel. Consists of sweeping 7 square miles quarterly to remove pollutants/sediments from street prior to reaching waterways.	Street Sweeping	Ongoing	NA	0	0	\$9,433.00
3278	Turnpike Enterprise	T-01	Project 420735-1 Port St. Lucie Interchange Pond A	Port St. Lucie Interchange ramp improvements, dry detention pond.	Dry Detention Pond	Completed	2013	4	1	\$1,534,048.00
3279	Turnpike Enterprise	T-02	Project 420735-1 Port St. Lucie Interchange Pond B	Port St. Lucie Interchange ramp improvements, wet detention pond.	Wet Detention Pond	Completed	2013	33	4	\$1,534,048.00
3281	Turnpike Enterprise	T-04	Education Program	No fertilizer on rights-of-way, educational signage, illicit discharge training.	Education Efforts	Ongoing	NA	277	46	NA
3283	Turnpike Enterprise	T-05	Street Sweeping	Street Sweeping and Litter Control along SR 91 between MP 125.5 and 158 both NB/SB including ramps.	Street Sweeping	Ongoing	NA	144	10	NA

3.2. Ten Mile Creek Basin

The Ten Mile Creek Basin covers 41,736 acres of the St. Lucie River and Estuary Watershed. As shown in **Table 20**, the predominant land use in this basin is agriculture, which accounts for 79% of land use. Stakeholders in the basin include FDOT, NSLRWCD, and St. Lucie County.

Table 20. Summary of land uses in the Ten Mile Creek Basin

Level 1 Land Use Code	Land Use Description	Acres	% Total
1000	Urban and Built-Up	4,736	11.3
2000	Agriculture	32,966	79.0
3000	Upland Nonforested	1,533	3.7
4000	Upland Forests	528	1.3
5000	Water	525	1.3
6000	Wetlands	710	1.7
7000	Barren Land	210	0.5
8000	Transportation, Communication, and Utilities	528	1.3
Total		41,736	100

3.2.1 Water Quality Monitoring

Table 21 summarizes the water quality monitoring stations in the Ten Mile Creek Basin, and **Figure 12** shows the station locations.

Table 21. Water quality monitoring stations in the Ten Mile Creek Basin

Basin	Representative Site?	Entity	Station ID	Tier
Ten Mile Creek	Yes	SFWMD	Gordy	1

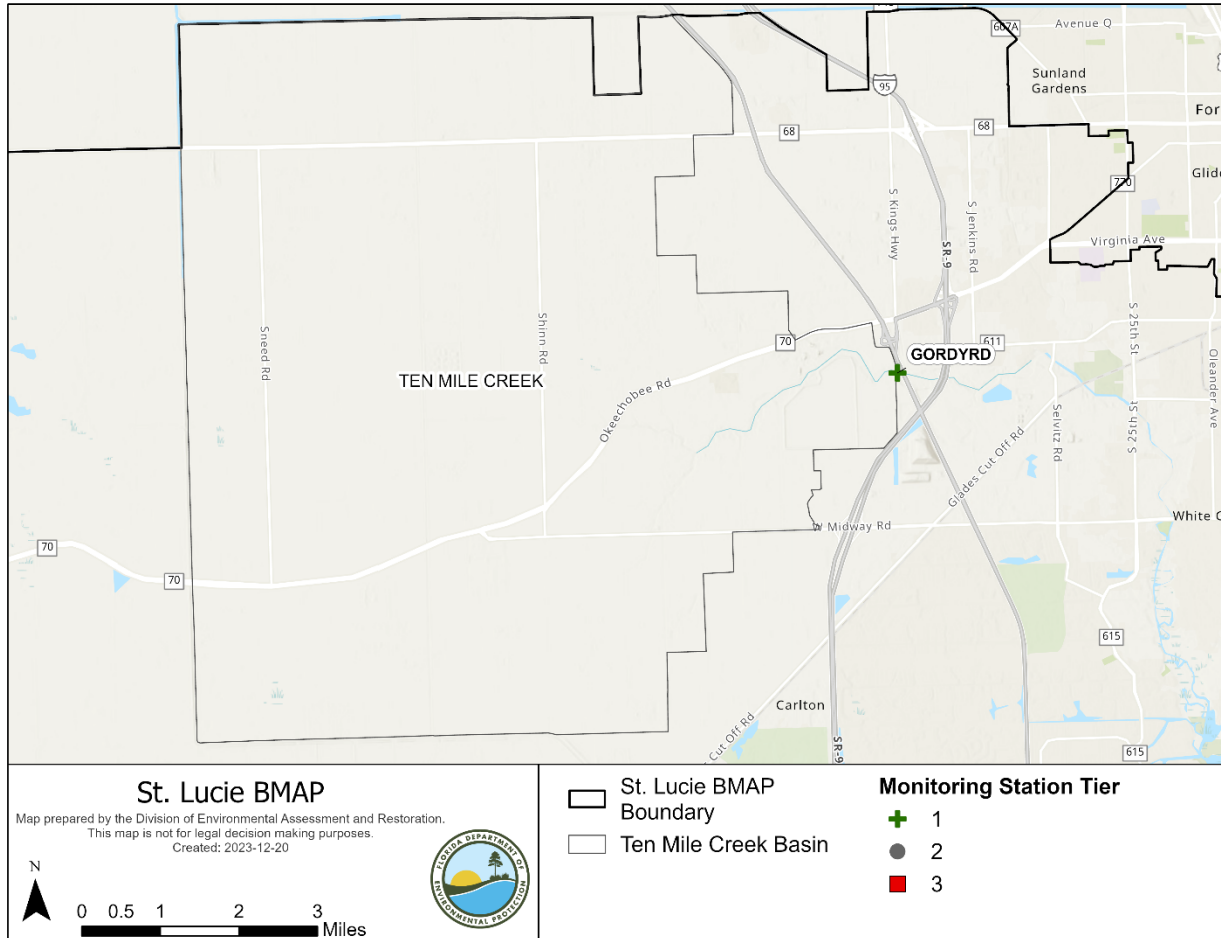


Figure 12. Ten Mile Creek Basin monitoring stations

3.2.2 Basin Evaluation Results

3.2.2.1 Targeted Restoration Area

Table 22 summarizes the basin evaluation results based on data from WY2020–WY2024 for the Ten Mile Creek Basin. The current TN concentration is 0.99 mg/L, which is above the benchmark of 0.72 mg/L required to meet the TMDL. The current TP concentration is 0.251 mg/L, which is above the benchmark of 0.081 mg/L required to meet the TMDL.

For these assessments, FWM concentrations were used because flow data were available at the Gordy structure. The FWM concentrations are 0.99 mg/L and 0.25 mg/L for TN and TP, respectively. The TN UAL is 5.12 lbs/ac, which is 3% below the target UAL of 5.28 lbs/ac, and the TP UAL is 1.29 lbs/ac, which is 89% above the target UAL of 0.68 lbs/ac. Significant decreasing trends were observed for TN and TP.

The TRA prioritization results for the Ten Mile Creek Basin are shown in **Table 23**, with 1 the highest priority, 2 the next highest priority, and 3 a priority as resources allow.

3.2.2.2 Hot Spot Analysis

Table 24 summarizes the hot spot analysis results using WY2019 – WY2023 data. To be included in the analysis, each station must have at least four samples per year and at least two years of data. This analysis will be run as needed, and the results will be shared at annual meetings.

Table 22. Basin evaluation results for the Ten Mile Creek Basin

TRA ID	Basin Name	TN (mg/L) (Benchmark – 0.72)	TN 5-year Average FWM Concentration (mg/L)	TN UAL (lbs/ac)	TN Trend Analysis	TP (mg/L) (Benchmark – 0.081)	TP 5-year Average FWM Concentration (mg/L)	TP UAL (lbs/ac)	TP Trend Analysis
2	Ten Mile Creek	0.99	0.99	5.12	Significant decreasing trend	0.251	0.25	1.29	Significant decreasing trend

Table 23. TRA evaluation results for the Ten Mile Creek Basin

Basin	Station	TN Priority	TP Priority
Ten Mile Creek	Gordy	3	2

Table 24. Hot spot analysis results for the Ten Mile Creek Basin

Monitoring Location	TN Average Concentration Rank	TN Percentile Rank	TN Standard Deviation Rank	TN Frequency Rank	TN Total Rank	TP Average Concentration Rank	TP Percentile Rank	TP Standard Deviation Rank	TP Frequency Rank	TP Total Rank
8879	1	1	0	2	4	1	1	0	2	4

3.2.3 Projects

Table 25 summarizes the existing and planned for the Ten Mile Creek Basin that were provided for the BMAP update. The existing and planned projects are a BMAP requirement.

Table 25. Existing and planned projects in the Ten Mile Creek Basin

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
3411	FDACS	FDACS-02	BMP Implementation and Verification	Enrollment and verification of BMPs by agricultural producers. Reductions based on FDACS OAWP December 2022 Enrollment and WaSh model. Acres treated based on FDACS OAWP December 2023 Enrollment and FSAID X.	Agricultural BMPs	Ongoing	NA	14,180	2,610	NA
6146	FDACS	FDACS-10	Cost-Share BMP Projects	TBD.	Agricultural BMPs	Completed	2020	3,415	717	NA
6152	FDACS	FDACS-16	Credit for Changes in Land Use	TBD.	Land Use Change	Completed	2020	TBD	TBD	NA
3355	FDOT District 4	FDOT-03	FM# 230262-4	Road widening of SR 70 from west of Rim Ditch Canal to west of Header Canal.	Dry Detention Pond	Completed	2008	77	15	TBD
3212	FDOT District 4	FDOT-04	FM# 230262-5	Road widening of SR 70 from Turnpike to Berman Rd.	Dry Detention Pond	Completed	2010	92	18	TBD
3377	FDOT District 4	FDOT-18	Street Sweeping	Not provided.	Street Sweeping	Ongoing	NA	1,419	910	TBD
3351	FDOT District 4	FDOT-19	Public Education	Pamphlets.	Education Efforts	Ongoing	NA	109	20	TBD
3289	FDOT District 4	FDOT-57	Fertilizer Application Cessation	No longer applying routine fertilizer.	Fertilizer Cessation	Completed	2016	23,881	5,970	TBD

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
3435	North St. Lucie River WCD	NSLRWCD-01	SLRIT Grant 2000-2001: Vegetation Control & Bank Restoration	Installation of C-25 diversion structure which regulates flow from the North St. Lucie River Water Control District (NSLRWCD) C-44/ North Emergency Relief Canal to SFWMD C-25. In addition, installation of 3 risers with adjustable gates.	Control Structure	Completed	2003	1,548	0	\$929,000.00
3458	North St. Lucie River WCD	NSLRWCD-02	SLRIT Grant 2007-2008: WCS Retrofits	Installation of adjustable gates on WCS to improve efficiency of water levels and better manage sediment transport downstream.	Control Structure	Completed	2010	1,558	0	\$77,000.00
3453	North St. Lucie River WCD	NSLRWCD-08	Ideal Grove Hybrid Wetland Treatment Technology (HWTT)	Not provided.	HWTT	Completed	2013	433	132	\$217,929.00
3454	NSLRWCD	NSLRWCD-09	Structure 81-1-2	Installation of new control structure as part of Okeechobee Rd. improvements project.	Control Structure	Completed	2010	124	124	TBD
3455	NSLRWCD	NSLRWCD-10	Structure 82-2-2	Installation of new control structure as part of Okeechobee Rd. improvements project.	Control Structure	Completed	2010	23	23	TBD
3456	NSLRWCD	NSLRWCD-11	Structure 83-2-2	Installation of new control structure as part of Okeechobee Rd. improvements project.	Control Structure	Completed	2010	27	27	TBD
3459	NSLRWCD	NSLRWCD-12	Structure 85-1-2	Installation of new control structure as part of Okeechobee Rd. improvements project.	Control Structure	Completed	2010	64	64	TBD
5515	NSLRWCD	NSLRWCD-13	Structure 29-2	Replacement of control structure in Canal 29 damaged in 2017.	Control Structure	Completed	2019	NA	NA	\$359,680.20
5691	North St. Lucie River WCD	NSLRWCD-14	Ten Mile Creek Restoration	Removal of 1,400 cubic yards of spoil material downstream of Gordy Structure.	Muck Removal/Restoration Dredging	Completed	2022	TBD	TBD	\$278,400.00
5692	NSLRWCD	NSLRWCD-15	Gordy Structure Retrofit project.	Split Gates 2 & 3 into clamshell gates to reduce sediment releases.	Control Structure	Completed	2023	NA	NA	\$580,000.00

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
5504	SFWMD - Coordinating Agency	CA-01	Ten Mile Creek Water Preserve Area	Control the quantity and timing of water delivery to the North Fork of the St. Lucie River by capturing and storing stormwater flows that originated in the Ten Mile Creek Basin.	Hydrologic Restoration	Completed	2009	TBD	8,789	\$33,206,138.00
5505	SFWMD - Coordinating Agency	CA-02	Indian River Lagoon-South - Phase 1 & 2	Phase 1- C-44 Reservoir and STA, C-23 Estuary Discharge Diversion, C-23/24 N. and S. Reservoirs and STA, C-25 Reservoir and STA; Phase 2- 3 Natural Storage and Water Treatment Areas, North Fork Floodplain Restoration, Muck Remediation/Artificial Habitat.	Regional Stormwater Treatment	Underway	2030	187,393	74,957	\$3,032,889,000.00
3397	St. Lucie County	SLC-006	Street Sweeping	Materials are collected from road ways and the gutters using a street sweeper truck.	Street Sweeping	Ongoing	NA	211	135	\$280,000.00
3396	St. Lucie County	SLC-007	Catch Basin Cleanout	Catch basins are cleaned out on a rotational basis using a vactruck.	Catch Basin Inserts/Inlet Filter Cleanout	Ongoing	NA	170	105	TBD
3416	St. Lucie County	SLC-010	Education Program	FYN; pet waste, landscape, irrigation, and fertilizer ordinances; PSAs; website; Illicit Discharge Program, Eco-Center, Clean Stormwater-Clean River Program, St. Lucie Water Champions.	Education Efforts	Ongoing	NA	8,821	1,594	TBD
3399	St. Lucie County	SLC-011	Street Sweeping	Materials are collected from road ways and the gutters using a street sweeper truck.	Street Sweeping	Ongoing	NA	113	73	TBD
3401	St. Lucie County	SLC-012	Catch Basin Cleanout	Catch basins are cleaned out on a rotational basis using a vactruck.	BMP Cleanout	Ongoing	NA	92	56	TBD
4594	St. Lucie County	SLC-017	Swales Material Collection	Road side swale cleanout and retrofitting in MS4 area and non-MS4 area.	BMP Cleanout	Ongoing	NA	TBD	TBD	TBD

3.3. C-24 Basin

The C-24 Basin covers 83,300 acres of the St. Lucie River and Estuary Watershed. As shown in **Table 26**, agriculture is the primary land use, comprising 73.6% of the basin. Stakeholders in the basin include FDOT, NSLRWCD, Port St. Lucie, and St. Lucie County.

Table 26. Summary of land uses in the C-24 Basin

Level 1 Land Use Code	Land Use Description	Acres	% Total
1000	Urban and Built-Up	6,253	7.5
2000	Agriculture and 3300 (Rangeland)	61,352	73.6
3000	Upland Nonforested	1,252	1.5
4000	Upland Forests	936	1.1
5000	Water	1,339	1.6
6000	Wetlands	11,062	13.3
7000	Barren Land	363	0.4
8000	Transportation, Communication, and Utilities	821	1.0
Total		83,378	100

3.3.1 Water Quality Monitoring

Table 27 summarizes the water quality monitoring stations in the C-24 Basin, and **Figure 13** shows the station locations.

Table 27. Water quality monitoring stations in the C-24 Basin

*Stations denoted by an asterisk are proposed/new stations.

Basin	Representative Site?	Entity	Station ID	Tier
C-24	Yes	SFWMD	S-49	1
C-24	NA	SFWMD	G79*	2
C-24	NA	SFWMD	PC38C24*	2
C-24	NA	SFWMD	PC39C24*	2
C-24	NA	SFWMD	PC54C23*	2

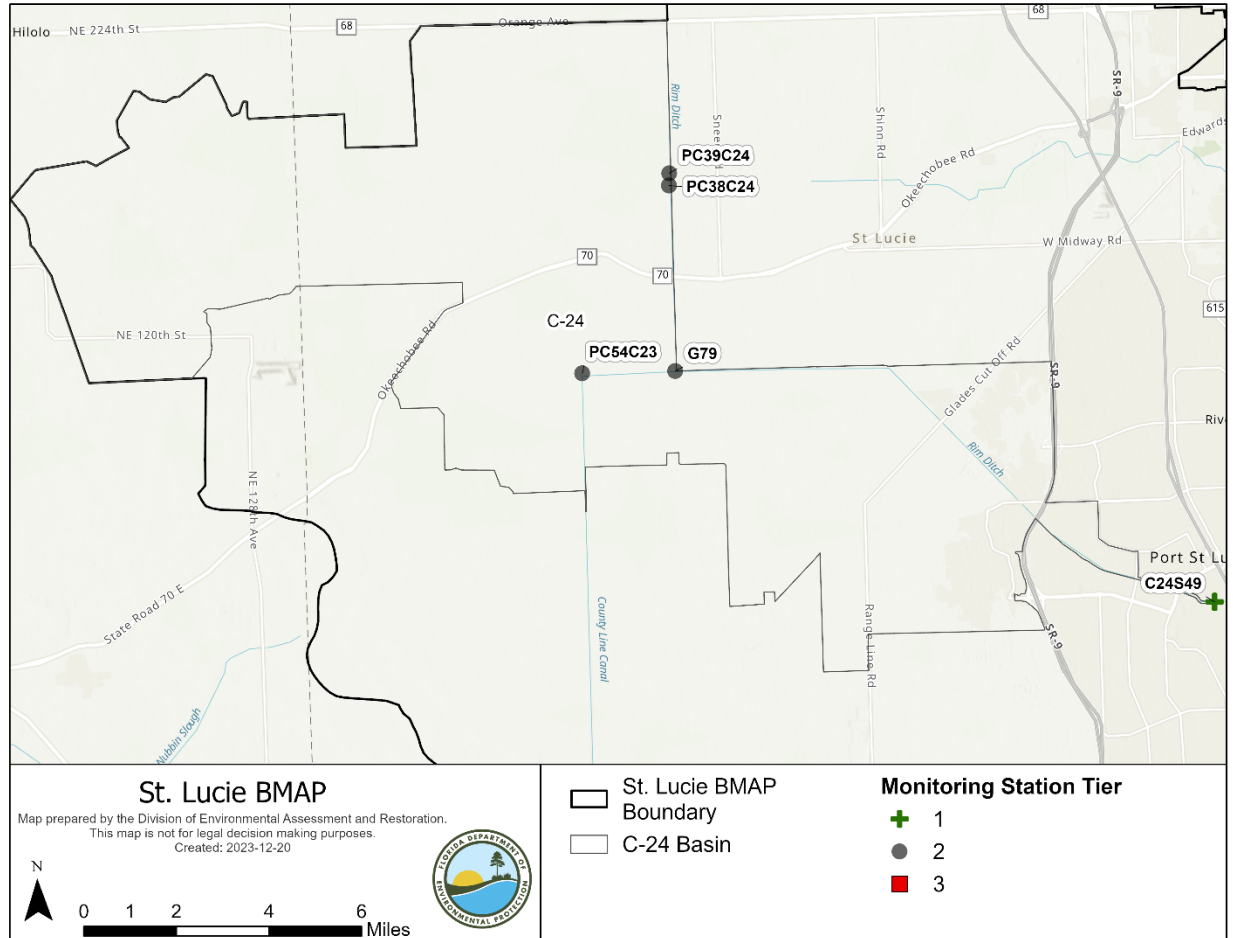


Figure 13. C-24 Basin monitoring stations

3.3.2 Basin Evaluation Results

3.3.2.1 Targeted Restoration Area

Table 28 summarizes the basin evaluation results based on data from WY2020–WY2024 for the C-24 Basin. The current TN concentration is 1.47 mg/L, which is above the benchmark of 0.72 mg/L required to meet the TMDL. The current TP concentration is 0.265 mg/L, which is above the benchmark of 0.081 mg/L required to meet the TMDL. The FWM concentrations are 1.47 and 0.27 mg/L for TN and TP, respectively. For these assessments, FWM concentrations were used because flow data were available at the S-49 structure. The TN UAL is 5.35 lbs/ac, which is 28% above the target UAL of 4.19 lbs/ac, and the TP UAL is 1.00 lbs/ac, which is 45% above the target UAL of 0.69 lbs/ac. No significant trends was observed for TN, and a significant decreasing trend was observed for TP.

The TRA prioritization results for the C-24 Basin are shown in **Table 29**, with 1 as the highest priority, 2 as the next highest priority, and 3 a priority as resources allow.

3.3.2.2 Hot Spot Analysis

Table 30 summarizes the hot spot analysis results using WY2019 – WY2023 data. To be included in the analysis, each station must have at least four samples per year and at least two years of data. This analysis will be run as needed, and the results will be shared at annual meetings.

Table 28. Basin evaluation results for the C-24 Basin

TRA ID	Basin Name	TN (mg/L) (Benchmark – 0.72)	TN 5-year Average FWM Concentration (mg/L)	TN UAL (lbs/ac)	TN Trend Analysis	TP (mg/L) (Benchmark – 0.081)	TP 5-year Average FWM Concentration (mg/L)	TP UAL (lbs/ac)	TP Trend Analysis
3	C-24	1.47	1.47	5.35	No significant trend	0.265	0.27	1.00	Significant decreasing trend

Table 29. TRA evaluation results for the C-24 Basin

Basin	Station	TN Priority	TP Priority
C-24	S-49	1	2

Table 30. Hot spot analysis results for the C-24 Basin

Monitoring Location	TN Average Concentration Rank	TN Percentile Rank	TN Standard Deviation Rank	TN Frequency Rank	TN Total Rank	TP Average Concentration Rank	TP Percentile Rank	TP Standard Deviation Rank	TP Frequency Rank	TP Total Rank
4203	1	1	1	2	5	1	1	0	2	4
35881	1	2	2	2	7	2	2	2	2	8
39860	1	1	1	2	5	1	1	1	2	5
39865	1	2	2	2	7	1	1	0	2	4
41460	1	2	2	2	7	2	2	2	2	8

3.3.3 Projects

Table 31 summarizes the existing and planned projects for the C-24 Basin that were provided for the BMAP update. The existing and planned projects are a BMAP requirement.

Table 31. Existing and planned projects in the C-24 Basin

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
5686	FDACS	FDACS-03	BMP Implementation and Verification	Enrollment and verification of BMPs by agricultural producers. Reductions based on FDACS OAWP December 2022 Enrollment and WaSh model. Acres treated based on FDACS OAWP December 2023 Enrollment and FSAID X.	Agricultural BMPs	Ongoing	NA	48,258	7,620	NA
6147	FDACS	FDACS-11	Cost-Share BMP Projects	TBD.	Agricultural BMPs	Completed	2020	20,226	4,908	NA
6153	FDACS	FDACS-17	Credit for Changes in Land Use	TBD.	Land Use Change	Completed	2020	TBD	TBD	NA
TBD	FDACS	FDACS-23	Ideal Grove HWTT	Combination of wetland and chemical treatment technologies designed mainly to remove phosphorus at the subbasin and parcel scales.	HWTT	Completed	2024	1,740	369	TBD
3355	FDOT District 4	FDOT-03	FM# 230262-4	Road widening of SR 70 from west of Rim Ditch Canal to west of Header Canal.	Dry Detention Pond	Completed	2008	77	15	TBD
3354	FDOT District 4	FDOT-05	FM# 230262-3	Road widening of SR 70 from Okeechobee County line, east 10.2 miles.	Dry Detention Pond	Completed	2012	160	36	TBD
3340	FDOT District 4	FDOT-06	FM# 230262-2	Road widening of SR 70 from Okeechobee County line, east 10.2 miles.	Dry Detention Pond	Completed	2015	317	91	TBD
3377	FDOT District 4	FDOT-18	Street Sweeping	Not provided.	Street Sweeping	Ongoing	NA	1,419	910	TBD
3351	FDOT District 4	FDOT-19	Public Education	Pamphlets.	Education Efforts	Ongoing	NA	109	20	TBD

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
3289	FDOT District 4	FDOT-57	Fertilizer Application Cessation	No longer applying routine fertilizer.	Fertilizer Cessation	Completed	2016	23,881	5,970	TBD
5505	SFWMD - Coordinating Agency	CA-02	Indian River Lagoon-South - Phase 1 & 2	Phase 1- C-44 Reservoir and STA, C-23 Estuary Discharge Diversion, C-23/24 N. and S. Reservoirs and STA, C-25 Reservoir and STA; Phase 2- 3 Natural Storage and Water Treatment Areas, North Fork Floodplain Restoration, Muck Remediation/Artificial Habitat.	Regional Stormwater Treatment	Underway	2030	187,393	74,957	\$3,032,889,000.00
5506	SFWMD - Coordinating Agency	CA-03	Adams-Russakis Ranch Water Management Area	1,000-acre project area, which has an estimated water storage benefit of 508 acre-feet/year (ac-ft/yr).	Dispersed Water Management (DWM)	Completed	2020	NA	NA	\$625,500.00
5507	SFWMD - Coordinating Agency	CA-04	C-23/24 Interim Storage Section C Water Farm	297-acre project area, which has an estimated water storage benefit of 2,950 ac-ft/yr.	(DWM)	Completed	2017	NA	NA	\$3,055,367.95
5513	SFWMD - Coordinating Agency	CA-10	C-23/C-24 District Lands Hydrological Enhancements	This project will enhance water retention features, complete earthwork (e.g., plugging ditches), and construct new structures that will improve rainfall retention on C-23/C-24 District lands.	Hydrologic Restoration	Planned	2026	NA	NA	\$2,040,816.00
3404	City of Port St. Lucie	PSL-05	B-1 and B-2 WCS	WCS B-1 and B-2 protected North Fork of St. Lucie River (NFSLR) from receiving uncontrolled E-8 Canal discharges. System will stage appropriate discharge levels based on volume, retaining maximum flows.	Control Structure	Completed	2007	6,737	2,088	\$1,046,045.00
3357	City of Port St. Lucie	PSL-09	Water and Wastewater Expansion	Multiple phase-outs of septic tanks from 2013 to 2019.	OSTDS Phase Out	Underway	2056	TBD	NA	\$91,075,666.00
3361	City of Port St. Lucie	PSL-13	Education Program	Florida Yards and Neighborhoods (FYN) Program; fertilizer, landscape, irrigation, and pet waste ordinances; PSAs; stormwater educational shows; website; outreach programs; Stencil Program; and stormwater pollution hotline.	Education Efforts	Ongoing	NA	21,978	3,722	NA

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
3458	North St. Lucie River WCD	NSLRWCD-02	SLRIT Grant 2007-2008: WCS Retrofits	Installation of adjustable gates on WCS to improve efficiency of water levels and better manage sediment transport downstream.	Control Structure	Completed	2010	1,558	0	\$77,000.00
3453	North St. Lucie River WCD	NSLRWCD-08	Ideal Grove HWTT	Not provided.	HWTT	Completed	2013	433	132	\$217,929.00
3398	St. Lucie County	SLC-005	Education Program	FYN; pet waste, landscape, irrigation, and fertilizer ordinances; PSAs; website; Illicit Discharge Program, Eco-Center, Clean Stormwater-Clean River Program. St. Lucie Water Champions.	Education Efforts	Ongoing	NA	2,597	454	TBD
3397	St. Lucie County	SLC-006	Street Sweeping	Materials are collected from road ways and the gutters using a street sweeper truck.	Street Sweeping	Ongoing	NA	211	135	\$280,000.00
3416	St. Lucie County	SLC-010	Education Program	FYN; pet waste, landscape, irrigation, and fertilizer ordinances; PSAs; website; Illicit Discharge Program, Eco-Center, Clean Stormwater-Clean River Program, St. Lucie Water Champions.	Education Efforts	Ongoing	NA	8,821	1,594	TBD
3399	St. Lucie County	SLC-011	Street Sweeping	Materials are collected from road ways and the gutters using a street sweeper truck.	Street Sweeping	Ongoing	NA	113	73	TBD
3401	St. Lucie County	SLC-012	Catch Basin Cleanout	Catch basins are cleaned out on a rotational basis using a vactruck.	BMP Cleanout	Ongoing	NA	92	56	TBD
3422	St. Lucie County	SLC-015	IRL-S C23/C24 CERP Buffer - Teague Preserve Re-watering Project	A 300-acre natural storage/ freshwater marsh restoration project. Project is adjacent to the future CERP C-23/C-24 IRL-S Southern Reservoir.	Hydrologic Restoration	Completed	2022	TBD	TBD	\$400,000.00
7161	Tradition CDD	TRA-02	Lake Tradition Living Shoreline	Living shoreline along west bank to complement existing planted shoreline along east and south banks.	Shoreline Stabilization	Planned	2025	TBD	TBD	TBD
7162	Tradition CDD	TRA-03	Tradition Stormwater Reuse	Utilize stormwater as supplemental source for irrigation supply.	Stormwater Reuse	Underway	2030	2,043	377	TBD
7163	Tradition CDD	TRA-04	Southern Grove Stormwater Reuse	Utilize stormwater as supplemental source for irrigation supply.	Stormwater Reuse	Underway	2030	TBD	TBD	TBD

3.4. C-23 Basin

The C-23 Basin covers 110,883 acres of the St. Lucie River and Estuary Watershed. As shown in **Table 32**, the most common land use is agriculture, which comprises 74.2% of the basin. Stakeholders in the basin include FDOT, Martin County, Port St. Lucie, and St. Lucie County.

Table 32. Summary of land uses in the C-23 Basin

Level 1 Land Use Code	Land Use Description	Acres	% Total
1000	Urban and Built-Up	3,237	2.9
2000	Agriculture	82,273	74.2
3000	Upland Nonforested	2,157	1.9
4000	Upland Forests	2,710	2.4
5000	Water	1,554	1.4
6000	Wetlands	15,967	14.4
7000	Barren Land	1,201	1.1
8000	Transportation, Communication, and Utilities	1,784	1.6
Total		110,883	100

3.4.1 Water Quality Monitoring

Table 33 summarizes the water quality monitoring stations in the C-23 Basin, and **Figure 14** shows the station locations.

Table 33. Water quality monitoring stations in the C-23 Basin

* Stations denoted by an asterisk are proposed/new stations.

Basin	Representative Site?	Entity	Station ID	Tier
C-23	Yes	SFWMD	S-48	1
C-23	Yes	SFWMD	ACRA1*	2
C-23	Yes	SFWMD	PC32C23*	2
C-23	Yes	SFWMD	PC49C23*	2

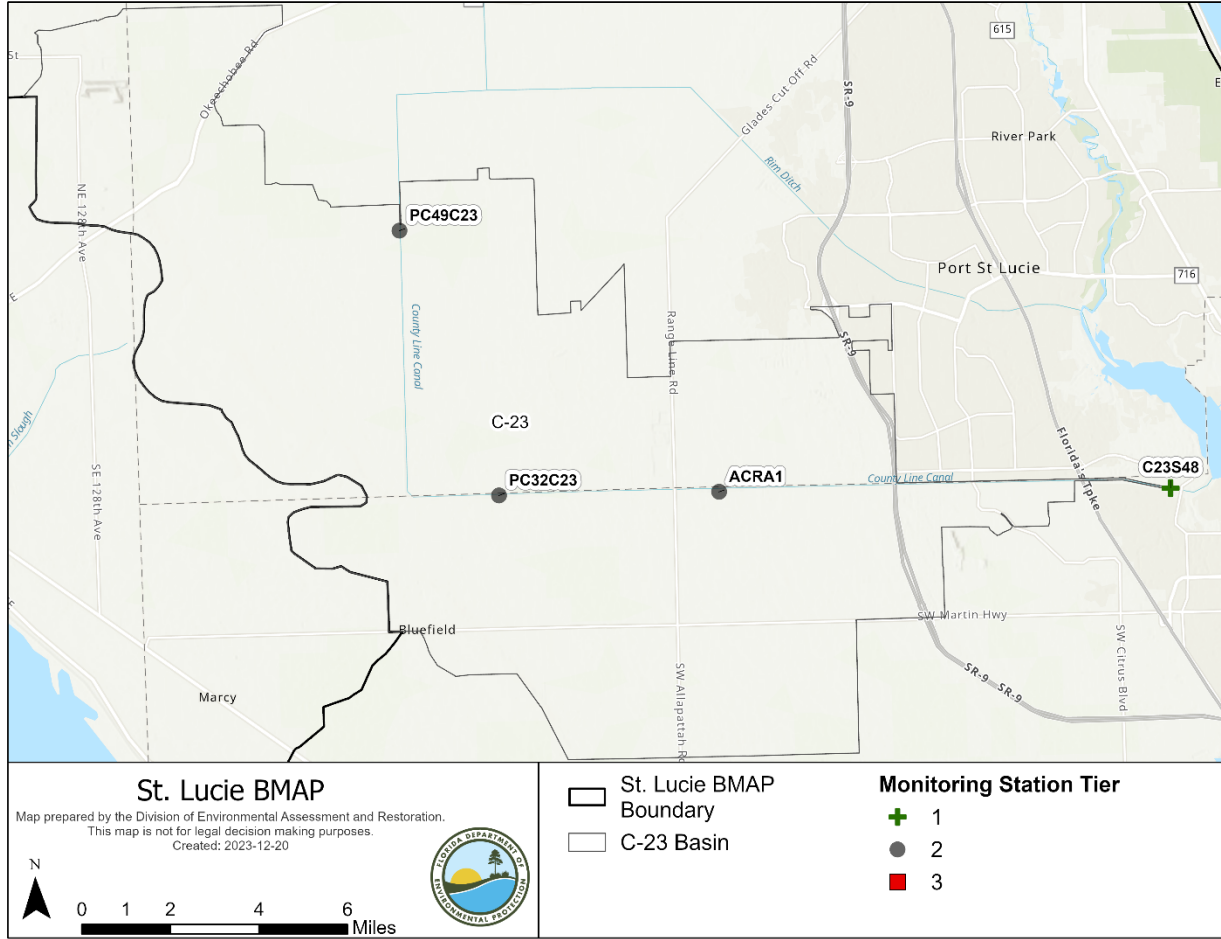


Figure 14. C-23 Basin monitoring stations

3.4.2 Basin Evaluation Results

3.4.2.1 Targeted Restoration Area

Table 34 summarizes the basin evaluation results based on data from WY2020–WY2024 for the C-23 Basin. The current TN concentration is 1.40 mg/L, which is above the benchmark of 0.72 mg/L required to meet the TMDL. The current TP concentration is 0.272 mg/L, which is above the benchmark of 0.081 mg/L required to meet the TMDL. The FWM concentrations are 1.40 mg/L and 0.27 mg/L for TN and TP, respectively. For these assessments, FWM concentrations were used because flow data were available at the S-48 structure. The TN UAL is 3.47 lbs/ac, which is 12% below the target UAL of 3.96 lbs/ac, and the TP UAL is 0.71 lbs/ac, which is 9% below the target UAL of 0.79 lbs/ac. No significant trend was observed for TN, and a significant decreasing trend was observed for TP.

Table 35 lists the TRA prioritization results for the C-23 Basin, with 1 the highest priority, 2 the next highest priority, and 3 a priority as resources allow.

3.4.2.2 Hot Spot Analysis

Table 36 summarizes the hot spot analysis results using WY2019 – WY2023 data. To be included in the analysis, each station must have at least four samples per year and at least two years of data. This analysis will be run as needed, and the results will be shared at annual meetings.

Table 34. Basin evaluation results for the C-23 Basin

TRA ID	Basin Name	TN (mg/L) (Benchmark – 0.72)	TN 5-year Average FWM Concentration (mg/L)	TN UAL (lbs/ac)	TN Trend Analysis	TP (mg/L) (Benchmark – 0.081)	TP 5-year Average FWM Concentration (mg/L)	TP UAL (lbs/ac)	TP Trend Analysis
4	C-23	1.40	1.40	3.47	No significant trend	0.272	0.27	0.71	Significant decreasing trend

Table 35. TRA evaluation results for the C-23 Basin

Basin	Station	TN Priority	TP Priority
C-23	S-48	3	3

Table 36. Hot spot analysis results for the C-23 Basin

Monitoring Location	TN Average Concentration Rank	TN Percentile Rank	TN Standard Deviation Rank	TN Frequency Rank	TN Total Rank	TP Average Concentration Rank	TP Percentile Rank	TP Standard Deviation Rank	TP Frequency Rank	TP Total Rank
4199	1	1	0	2	4	1	1	0	2	4
39861	2	2	2	2	8	2	2	2	2	8
39863	2	2	2	2	8	2	2	2	2	8

3.4.3 Projects

Table 37 summarizes the existing and planned projects for the C-23 Basin that were provided for the BMAP update. The existing and planned projects are a BMAP requirement.

Table 37. Existing and planned projects in the C-23 Basin

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
7106	City of Port St. Lucie	PSL-38	McCarty Ranch Extension Water Quality Restoration Project - Areas 1,2,3 & 4	The project is a water quality restoration project that includes four above ground impoundment cells that retain excess water from the SFWMD C-23 canal that is taken in via pumps.	Regional Stormwater Treatment	Completed	2023	TBD	TBD	\$10,199,226.00
7457	City of Port St. Lucie	PSL-41	McCarty Ranch Extension Water Quality Restoration Project - Area 5	This is a water quality restoration project that includes one above ground impoundment cell that retains excess water from the SFWMD C-23 canal that is taken in via pumps.	Regional Stormwater Treatment	Completed	2024	TBD	TBD	\$3,600,000.00
6148	FDACS	FDACS-12	Cost-Share BMP Projects	TBD.	Agricultural BMPs	Completed	2020	65,713	22,890	NA
6154	FDACS	FDACS-18	Credit for Changes in Land Use	TBD.	Land Use Change	Completed	2020	TBD	TBD	NA
6140	FDACS	FDACS-04	BMP Implementation and Verification	Enrollment and verification of BMPs by agricultural producers. Reductions based on FDACS OAWP December 2022 Enrollment and WaSh model. Acres treated based on FDACS OAWP December 2023 Enrollment and FSAID X.	Agricultural BMPs	Ongoing	NA	66,018	13,114	NA
3342	FDOT District 4	FDOT-17	FM# 419890-1	Construction of interchange at SR 9 and Becker Rd.	BMP Treatment Train	Completed	2010	3	2	TBD
3377	FDOT District 4	FDOT-18	Street Sweeping	Not provided.	Street Sweeping	Ongoing	NA	1,419	910	TBD
3351	FDOT District 4	FDOT-19	Public Education	Pamphlets.	Education Efforts	Ongoing	NA	109	20	TBD
3289	FDOT District 4	FDOT-57	Fertilizer Application Cessation	No longer applying routine fertilizer.	Fertilizer Cessation	Completed	2016	23,881	5,970	TBD
6240	FDOT District 4	FDOT-63	Gatlin Boulevard Park and Ride Lot (Pond 1 and 2)	Park and Ride lot designed to accommodate internal circulation and boarding of regional buses. System consists of two interconnected dry detention basins.	Dry Detention Pond	Completed	2021	4	1	NA

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
5508	SFWMD - Coordinating Agency	CA-05	Bluefield Grove Water Farm	A public-private partnership project actively stores local stormwater runoff on 6,100 acres in the C-23 watershed in St. Lucie County. The project is estimated to provide a net annual average water storage benefit of 28,360 ac-ft/yr.	DWM	Completed	2021	26,896	6,173	\$47,606,673.00
5509	SFWMD - Coordinating Agency	CA-06	Bull Hammock Ranch WMA	608-acre project area, which has an estimated water storage benefit of 228 ac-ft/yr.	DWM	Completed	2015	NA	NA	\$285,000.00
5510	SFWMD - Coordinating Agency	CA-07	Spur Land and Cattle	210-acre project area, which has an estimated water storage benefit of 1,500 ac-ft/yr.	DWM	Completed	2014	NA	NA	\$2,444,880.00
6278	SFWMD - Coordinating Agency	CA-11	Allapattah Flats Parcels A and B	Restoration of approximately 6,621 acres of wetlands to provide habitat for threatened and endangered species and other wildlife, as well as offer water quantity and quality benefits (13,312 ac-ft/yr).	Wetland Restoration	Completed	2022	NA	NA	\$4,580,828.00
3404	City of Port St. Lucie	PSL-05	B-1 and B-2 WCS	WCS B-1 and B-2 protected North Fork of St. Lucie River (NFSLR) from receiving uncontrolled E-8 Canal discharges. System will stage appropriate discharge levels based on volume, retaining maximum flows.	Control Structure	Completed	2007	6,737	2,088	\$1,046,045.00
3357	City of Port St. Lucie	PSL-09	Water and Wastewater Expansion	Multiple phase-outs of septic tanks from 2013 to 2019.	OSTDS Phase Out	Underway	2056	TBD	NA	\$91,075,666.00
3361	City of Port St. Lucie	PSL-13	Education Program	Florida Yards and Neighborhoods (FYN) Program; fertilizer, landscape, irrigation, and pet waste ordinances; PSAs; stormwater educational shows; website; outreach programs; Stencil Program; and stormwater pollution hotline.	Education Efforts	Ongoing	NA	21,978	3,722	NA
3265	City of Port St. Lucie	PSL-31	St. Lucie River/C-23 Water Quality Project Phases I - VI	Water Farming Project - Pumps water from SFWMD C-23 Canal onto property for storage and retains rainfall on multiple phases of project.	DWM	Completed	2023	36,011	8,207	\$16,608,025.00
3317	Martin County	MC-18	Street Sweeping	Not provided.	Street Sweeping	Ongoing	NA	108	69	TBD
3400	Martin County	MC-20	Education Program	FYN; landscaping, irrigation, fertilizer, and pet waste ordinances; PSAs, pamphlets, website, illicit discharge program.	Education Efforts	Ongoing	NA	16,644	2,831	TBD
3438	Martin County	MC-31	Bessey Creek HWTT	46-acre HWTT serving 2,675 acres within the Bessey Creek watershed.	HWTT	Completed	2015	6,081	1,473	\$3,000,000.00

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
5505	SFWMD - Coordinating Agency	CA-02	Indian River Lagoon-South - Phase 1 & 2	Phase 1- C-44 Reservoir and STA, C-23 Estuary Discharge Diversion, C-23/24 N. and S. Reservoirs and STA, C-25 Reservoir and STA; Phase 2- 3 Natural Storage and Water Treatment Areas, North Fork Floodplain Restoration, Muck Remediation/Artificial Habitat.	Regional Stormwater Treatment	Underway	2030	187,393	74,957	\$3,032,889,000.00
3398	St. Lucie County	SLC-005	Education Program	FYN; pet waste, landscape, irrigation, and fertilizer ordinances; PSAs; website; Illicit Discharge Program, Eco-Center, Clean Stormwater-Clean River Program. St. Lucie Water Champions.	Education Efforts	Ongoing	NA	2,597	454	TBD
3397	St. Lucie County	SLC-006	Street Sweeping	Materials are collected from road ways and the gutters using a street sweeper truck.	Street Sweeping	Ongoing	NA	211	135	\$280,000.00
3396	St. Lucie County	SLC-007	Catch Basin Cleanout	Catch basins are cleaned out on a rotational basis using a vactruck.	Catch Basin Inserts/Inlet Filter Cleanout	Ongoing	NA	170	105	TBD
3416	St. Lucie County	SLC-010	Education Program	FYN; pet waste, landscape, irrigation, and fertilizer ordinances; PSAs; website; Illicit Discharge Program, Eco-Center, Clean Stormwater-Clean River Program, St. Lucie Water Champions.	Education Efforts	Ongoing	NA	8,821	1,594	TBD
3399	St. Lucie County	SLC-011	Street Sweeping	Materials are collected from road ways and the gutters using a street sweeper truck.	Street Sweeping	Ongoing	NA	113	73	TBD
3401	St. Lucie County	SLC-012	Catch Basin Cleanout	Catch basins are cleaned out on a rotational basis using a vactruck.	BMP Cleanout	Ongoing	NA	92	56	TBD
3422	St. Lucie County	SLC-015	IRL-S C23/C24 CERP Buffer - Teague Preserve Re-watering Project	A 300-acre natural storage/ freshwater marsh restoration project. Project is adjacent to the future CERP C-23/C-24 IRL-S Southern Reservoir.	Hydrologic Restoration	Completed	2022	TBD	TBD	\$400,000.00
4594	St. Lucie County	SLC-017	Swales Material Collection	Road side swale cleanout and retrofitting in MS4 area and non-MS4 area.	BMP Cleanout	Ongoing	NA	TBD	TBD	TBD

3.5. C-44/S-153 Basin

The C-44/S-153 Basin covers 129,301 acres of the St. Lucie River and Estuary Watershed. As shown in **Table 38**, agriculture is the primary land use, comprising 63.5% of the basin followed by wetlands (10.5%). Stakeholders in the basin include FDOT, Hobe St. Lucie Conservancy District, Martin County, Pal Mar WCD, and Troup-Indiantown WCD.

Table 38. Summary of land uses in the C-44/S-153 Basin

Level 1 Land Use Code	Land Use Description	Acres	% Total
1000	Urban and Built-Up	4,001	3.1
2000	Agriculture	82,059	63.5
3000	Upland Nonforested	6,958	5.4
4000	Upland Forests	11,301	8.7
5000	Water	8,077	6.2
6000	Wetlands	13,538	10.5
7000	Barren Land	1,036	0.8
8000	Transportation, Communication, and Utilities	2,331	1.8
Total		129,301	100

3.5.1 Water Quality Monitoring

Table 39 summarizes the water quality monitoring stations in the C-44/S-153 Basin, and **Figure 15** shows the station locations.

Table 39. Water quality monitoring stations in the C-44/S-153 Basin

* Stations denoted by an asterisk are proposed/new stations.

Basin	Representative Site?	Entity	Station ID	Tier
C-44/S-153	Yes	SFWMD	S-80	1
C-44/S-153	NA	SFWMD	C44SC2*	2
C-44/S-153	NA	SFWMD	C44SC5*	2
C-44/S-153	NA	SFWMD	C44SC14*	2
C-44/S-153	NA	SFWMD	S-308C	1
C-44/S-153	NA	SFWMD	S-153*	2
C-44/S-153	NA	SFWMD	C44SC19*	2
C-44/S-153	NA	SFWMD	C44SC23*	2
C-44/S-153	NA	SFWMD	C44SC24*	2

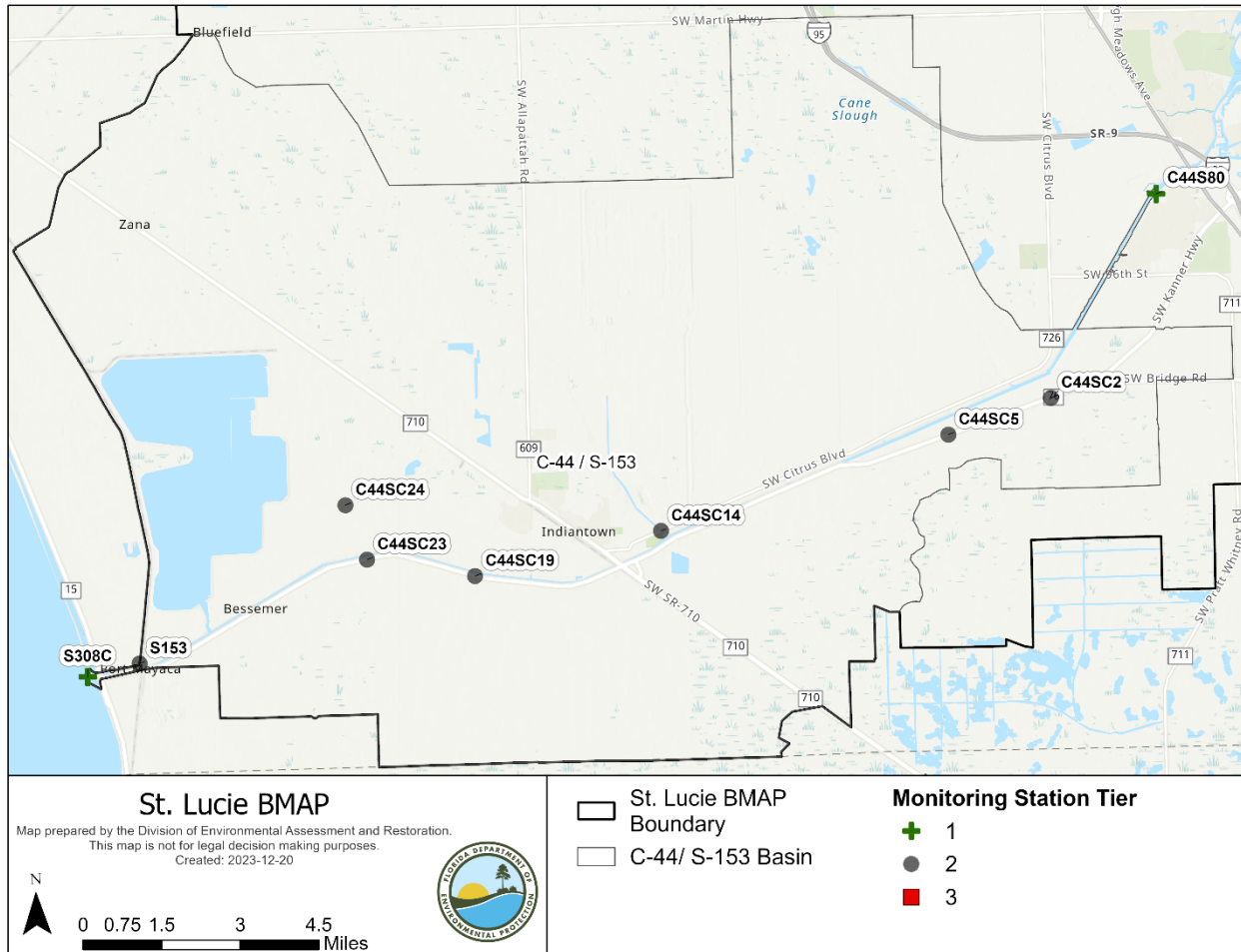


Figure 15. C-44/S-153 Basin monitoring stations

3.5.2 Basin Evaluation Results

3.5.2.1 Targeted Restoration Area

Table 40 summarizes the basin evaluation results based on data from WY2020–WY2024 for the C-44/S-153 Basin. The current TN concentration is 1.15 mg/L, which is above the benchmark of 0.72 mg/L required to meet the TMDL. The current TP concentration is 0.175 mg/L, which is above the benchmark of 0.081 mg/L required to meet the TMDL. For these assessments, FWM concentrations were used because flow data were available at the S-80 structure. The FWM concentrations are 1.15 mg/L and 0.18 mg/L for TN and TP, respectively. The TN UAL is 1.32 lbs/ac, which is 79% below the target UAL of 6.14 lbs/ac, and the TP UAL is 0.24 lbs/ac, which is 78% below the target UAL of 1.07 lbs/ac. A significant decreasing trend was observed for TN, and no significant trend was observed for TP.

Table 41 lists the TRA prioritization results for the C-44/S-153 Basin, with 1 the highest priority, 2 the next highest priority, and 3 a priority as resources allow.

3.5.2.2 Hot Spot Analysis

Table 42 summarizes the hot spot analysis results using WY2019 – WY2023 data. To be included in the analysis, each station must have at least four samples per year and at least two years of data. This analysis will be run as needed, and the results will be shared at annual meetings.

Table 40. Basin evaluation results for the C-44/S-153 Basin

Note: TN and TP loads from Lake Okeechobee are included as part of the evaluation for the C-44/S-153 basin.

TRA ID	Basin Name	TN (mg/L) (Benchmark – 0.72)	TN -year Average FWM Concentration (mg/L)	TN UAL (lbs/ac)	TN Trend Analysis	TP (mg/L) (Benchmark – 0.081)	TP -year Average FWM Concentration (mg/L)	TP UAL (lbs/ac)	TP Trend Analysis
5	C-44/S-153	1.15	1.15	1.32	Significant decreasing trend	0.175	0.18	0.24	No significant trend

Table 41. TRA evaluation results for the C-44/S-153 Basin

Basin	Station	TN Priority	TP Priority
C-44/S-153	S-80	3	2

Table 42. Hot spot analysis results for the C-44/S-153 Basin

Monitoring Location	TN Average Concentration Rank	TN Percentile Rank	TN Standard Deviation Rank	TN Frequency Rank	TN Total Rank	TP Average Concentration Rank	TP Percentile Rank	TP Standard Deviation Rank	TP Frequency Rank	TP Total Rank
3500	1	1	0	2	4	1	1	0	2	4
4329	1	1	0	2	4	1	1	0	2	4
17331	1	2	2	2	7	2	2	2	2	8
17625	1	2	2	2	7	1	1	1	2	5
39857	1	1	1	2	5	1	1	0	2	4
49020	1	1	1	2	5	1	1	0	2	4
49021	1	2	2	2	7	1	1	0	2	4
49022	1	1	1	2	5	2	2	2	2	8
49023	1	1	1	2	5	1	1	1	2	5
49024	1	1	1	2	5	1	1	1	2	5
G1SE0050	1	1	1	2	5	1	1	0	2	4
S1	1	1	1	2	5	2	2	2	2	8

3.5.3 Projects

Table 43 summarizes the existing and planned projects for the C-44/S-153 Basin that were provided for the BMAP update. The existing and planned projects are a BMAP requirement.

Table 43. Existing and planned projects in the C-44/S-153 Basin

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
6141	FDACS	FDACS-05	BMP Implementation and Verification	Enrollment and verification of BMPs by agricultural producers. Reductions based on FDACS OAWP December 2022 Enrollment and WaSh model. Acres treated based on FDACS OAWP December 2023 Enrollment and FSAID X.	Agricultural BMPs	Ongoing	NA	71,776	11,615	NA
6149	FDACS	FDACS-13	Cost-Share BMP Projects	TBD.	Agricultural BMPs	Completed	2020	33,115	4,902	NA
6155	FDACS	FDACS-19	Credit for Changes in Land Use	TBD.	Land Use Change	Completed	2020	TBD	TBD	NA
3377	FDOT District 4	FDOT-18	Street Sweeping	Not provided.	Street Sweeping	Ongoing	NA	1,419	910	TBD
3351	FDOT District 4	FDOT-19	Public Education	Pamphlets.	Education Efforts	Ongoing	NA	109	20	TBD
3370	FDOT District 4	FDOT-41	FM# 419250-2 SR 710 Bridge Replacement - 100A, 100B, and 200	Big John Monahan Bridge replacement on SR 710 from SW Trail Dr. to east of SR 76 connector ramps.	Dry Detention Pond	Completed	2015	8	1	TBD
3369	FDOT District 4	FDOT-42	FM# 419250-2 SR 710 Bridge Replacement - 300 and 500	Big John Monahan Bridge replacement on SR 710 from SW Trail Dr. to east of SR 76 connector ramps.	Dry Detention Pond	Completed	2015	16	3	TBD
3289	FDOT District 4	FDOT-57	Fertilizer Application Cessation	No longer applying routine fertilizer.	Fertilizer Cessation	Completed	2016	23,881	5,970	TBD

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
3301	FDOT District 4	FDOT-58	FM# 432705-1 (System 2)	Road widening of SR 710 from north of Indiantown Rd to just south of bridge over C-44 Canal.	Dry Detention Pond	Completed	2019	8	0	NA
3313	FDOT District 4	FDOT-59	FM# 432705-1 (System 3)	Road widening of SR 710 from north of Indiantown Rd to just south C-44 Canal bridge.	Dry Detention Pond	Completed	2019	1	0	NA
3318	Martin County	MC-17	Danforth Creek - Phase 1	8.1 acre wet detention pond with littoral plantings and control structure.	Regional Stormwater Treatment	Completed	2014	6,132	2,266	\$1,869,255.00
3317	Martin County	MC-18	Street Sweeping	Not provided.	Street Sweeping	Ongoing	NA	108	69	TBD
3400	Martin County	MC-20	Education Program	FYN; landscaping, irrigation, fertilizer, and pet waste ordinances; PSAs, pamphlets, website, illicit discharge program.	Education Efforts	Ongoing	NA	16,644	2,831	TBD
3437	Martin County	MC-32	Danforth Creek HWTT	HWTT serving 2,522 upstream acres in the Danforth Creek watershed.	HWTT	Completed	2016	5,312	1,287	\$3,000,000.00
5514	Martin County	MC-45	C44 Reservoir	16.2% stake in nutrient reductions from the C44 Reservoir.	BMP Treatment Train	Underway	2024	TBD	TBD	\$800,000,000.00
5505	SFWMD - Coordinating Agency	CA-02	Indian River Lagoon-South - Phase 1 & 2	Phase 1- C-44 Reservoir and STA, C-23 Estuary Discharge Diversion, C-23/24 N. and S. Reservoirs and STA, C-25 Reservoir and STA; Phase 2- 3 Natural Storage and Water Treatment Areas, North Fork Floodplain Restoration, Muck Remediation/Artificial Habitat.	Regional Stormwater Treatment	Underway	2030	187,393	74,957	\$3,032,889,000.00
5511	SFWMD - Coordinating Agency	CA-08	Caulkins Water Farm	This project actively stores local stormwater runoff and water from Lake Okeechobee regulatory releases on 3,275 acres of private land along the C-44 Canal. Project is estimated to provide a net annual average water storage benefit of 27,490 ac-ft/yr.	DWM	Completed	2017	123,238	16,755	\$62,446,180.00

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
3284	Troup-Indiantown WCD	TI-01	C-44 Conservation Area	Not provided.	STAs	Completed	2013	23,199	7,497	NA
3261	Troup-Indiantown WCD	TI-03	Removal of Drainage Areas	Minute Maid Rd. drainage improvements.	100% On-Site Retention	Completed	2021	TBD	TBD	\$124,000.00
3259	Troup-Indiantown WCD	TI-04	C-44 Reservoir Area	Converting from conservation area to reservoir.	Land Use Change	Completed	2024	NA	NA	NA
3276	Troup-Indiantown WCD	TI-05	C-44 STA Area	Converting from conservation area to STA.	Land Use Change	Completed	2024	NA	NA	NA
3281	Turnpike Enterprise	T-04	Education Program	No fertilizer on rights-of-way, educational signage, illicit discharge training.	Education Efforts	Ongoing	NA	277	46	NA
3283	Turnpike Enterprise	T-05	Street Sweeping	Street Sweeping and Litter Control along SR 91 between MP 125.5 and 158 both NB/SB including ramps.	Street Sweeping	Ongoing	NA	144	10	NA

3.6. Basin 4/5

Basin 4/5 covers 12,009 acres of the St. Lucie River and Estuary Watershed. As shown in **Table 44**, urban and built up land uses are the primary land use in the basin, comprising 48.6% of the land, followed by agriculture, which represents 18.2% of the basin. Stakeholders in the basin include FDOT, Martin County, and Florida Turnpike Authority.

Table 44. Summary of land uses in Basin 4/5

Level 1 Land Use Code	Land Use Description	Acres	% Total
1000	Urban and Built-Up	5,834	48.6
2000	Agriculture	2,190	18.2
3000	Upland Nonforested	239	2.0
4000	Upland Forests	1,794	14.9
5000	Water	394	3.3
6000	Wetlands	1,066	8.9
7000	Barren Land	47	0.4%
8000	Transportation, Communication, and Utilities	445	3.7
Total		12,009	100

3.6.1 Water Quality Monitoring

Table 45 summarizes the water quality monitoring stations in Basin 4/5, and **Figure 16** shows the station locations.

Table 45. Water quality monitoring stations in Basin 4/5

Basin	Representative Site?	Entity	Station ID	Tier
Basin 4/5	Yes	SFWMD	SLT-9	2

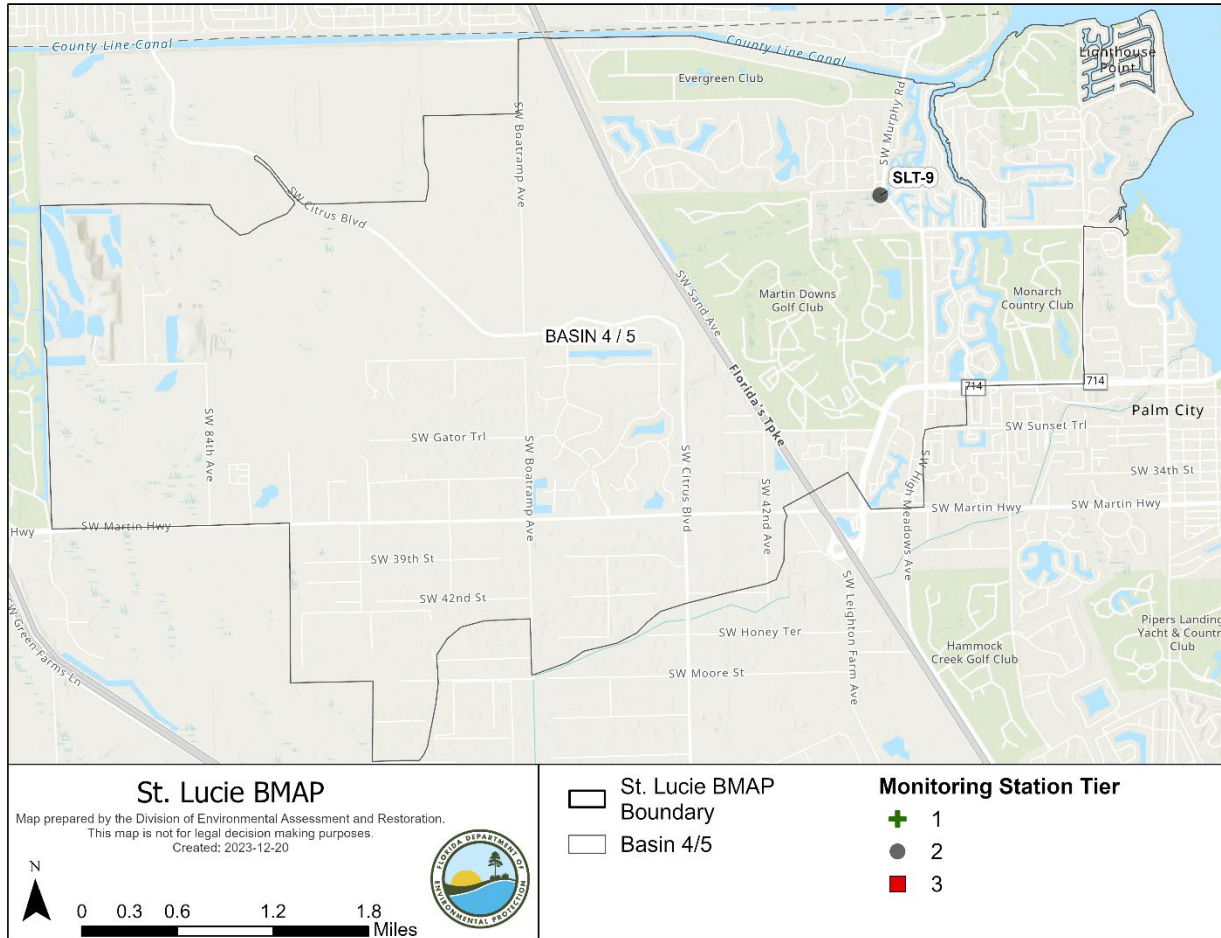


Figure 16. Basin 4/5 monitoring stations

3.6.2 Basin Evaluation Results

3.6.2.1 Targeted Restoration Area

Table 46 summarizes the basin evaluation results based on data from WY2020–WY2024 for Basin 4/5. The current TN concentration is 0.94 mg/L, which is above the benchmark of 0.72 mg/L required to meet the TMDL. The current TP concentration is 0.149 mg/L, which is above the benchmark of 0.081 mg/L required to meet the TMDL. No FWM concentrations were calculated for this basin. No significant trend was detected for TN, and a significant decreasing trend was observed for TP. **Table 47** lists the TRA prioritization results for Basin 4/5, with 1 the highest priority, 2 the next highest priority, and 3 a priority as resources allow.

3.6.2.2 Hot Spot Analysis

Table 48 summarizes the hot spot analysis results using WY2019 – WY2023 data. To be included in the analysis, each station must have at least four samples per year and at least two years of data. This analysis will be run as needed, and the results will be shared at annual meetings.

Table 46. Basin evaluation results for Basin 4/5

TRA ID	Basin Name	TN (mg/L) (Benchmark – 0.72)	TN -year Average FWM Concentration (mg/L)	TN UAL (lbs/ac)	TN Trend Analysis	TP (mg/L) (Benchmark – 0.081)	TP -year Average FWM Concentration (mg/L)	TP UAL (lbs/ac)	TP Trend Analysis
6	Basin 4/5	0.94	NA	NA	No significant trend	0.149	NA	NA	Significant decreasing trend

Table 47. TRA evaluation results for Basin 4/5

Basin	Station	TN Priority	TP Priority
Basin 4/5	SLT-9	2	3

Table 48. Hot spot analysis results for Basin 4/5

Monitoring Location	TN Average Concentration Rank	TN Percentile Rank	TN Standard Deviation Rank	TN Frequency Rank	TN Total Rank	TP Average Concentration Rank	TP Percentile Rank	TP Standard Deviation Rank	TP Frequency Rank	TP Total Rank
18971	1	1	0	2	4	1	1	0	2	4

3.6.3 Projects

Table 49 summarizes the existing and planned for Basin 4/5 that were provided for the BMAP update. The existing and planned projects are a BMAP requirement.

Table 49. Existing and planned projects in Basin 4/5

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
6142	FDACS	FDACS-06	BMP Implementation and Verification	Enrollment and verification of BMPs by agricultural producers. Reductions based on FDACS OAWP December 2022 Enrollment and WaSh model. Acres treated based on FDACS OAWP December 2023 Enrollment and FSAID X.	Agricultural BMPs	Ongoing	NA	1,854	333	NA
3346	FDOT District 4	FDOT-13	FM# 228831-1	Bridge replacement at SR 714 crossing over Florida's Turnpike.	Dry Detention Pond	Completed	2000	7	1	TBD
3377	FDOT District 4	FDOT-18	Street Sweeping	Not provided.	Street Sweeping	Ongoing	NA	1,419	910	TBD
3351	FDOT District 4	FDOT-19	Public Education	Pamphlets.	Education Efforts	Ongoing	NA	109	20	TBD
3310	FDOT District 4	FDOT-49	230978-2 CR 714 Martin Highway Widening - Danforth Basin	Road widening on CR 714 (Martin Hwy.) from east of Turnpike to just west of Mapp Rd.	Wet Detention Pond	Completed	2016	15	5	TBD
3289	FDOT District 4	FDOT-57	Fertilizer Application Cessation	No longer applying routine fertilizer.	Fertilizer Cessation	Completed	2016	23,881	5,970	TBD
3319	Martin County	MC-16	Septic to Central Sewer Conversions	872 single-family and multifamily residential and commercial units in five neighborhoods.	OSTDS Phase Out	Completed	2008	11,650	427	\$9,500,000.00
3318	Martin County	MC-17	Danforth Creek - Phase 1	8.1 acre wet detention pond with littoral plantings and control structure.	Regional Stormwater Treatment	Completed	2014	6,132	2,266	\$1,869,255.00
3317	Martin County	MC-18	Street Sweeping	Not provided.	Street Sweeping	Ongoing	NA	108	69	TBD
3316	Martin County	MC-19	Baffle Box and Structure Cleanout	Not provided.	Catch Basin Inserts/Inlet Filter Cleanout	Ongoing	NA	397	161	TBD

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
3400	Martin County	MC-20	Education Program	FYN; landscaping, irrigation, fertilizer, and pet waste ordinances; PSAs, pamphlets, website, illicit discharge program.	Education Efforts	Ongoing	NA	16,644	2,831	TBD
3438	Martin County	MC-31	Bessey Creek HWTT	46-acre HWTT serving 2,675 acres within the Bessey Creek watershed.	HWTT	Completed	2015	6,081	1,473	\$3,000,000.00
3437	Martin County	MC-32	Danforth Creek HWTT	HWTT serving 2,522 upstream acres in the Danforth Creek watershed.	HWTT	Completed	2016	5,312	1,287	\$3,000,000.00
5690	Martin County	MC-46	Septic to Central Sewer Conversions	1,819 single-family, multi-family residential, and commercial units.	OSTDS Phase Out	Completed	2018	24,302	NA	\$24,556,500.00
6466	Martin County	MC-47	Septic to Central Sewer Conversions	1,630 septic conversions in multiple areas as described in the OSTD plan converted between 2019-2024	OSTDS Phase Out	Completed	2024	21,777	799	\$55,981,565.00
7420	Martin County	MC-48	Septic to Sewer Conversions	Approximately 2044 to be converted per OSTDS plan. Estimating 272 per year for next 8 years. This project will be updated next year for the actual conversions and a new underway project will have the remaining until complete.	OSTDS Phase Out	Underway	2032	TBD	NA	NA
7421	Martin County	MC-49	Septic to Sewer Conversion	4436 Septic Conversions planned per OSTDS plan (Port Salerno Peninsula, Beau Rivage, Port Salerno/New Monrovia, Coral Gardens, Old Palm City, Rocky Point, Windstone/Evergreen, Strafford Downs, Woodside).	OSTDS Enhancement	Planned	2048	TBD	TBD	\$76,630,800.00
3259	Troup-Indiantown WCD	TI-04	C-44 Reservoir Area	Converting from conservation area to reservoir.	Land Use Change	Completed	2024	NA	NA	NA
3276	Troup-Indiantown WCD	TI-05	C-44 STA Area	Converting from conservation area to STA.	Land Use Change	Completed	2024	NA	NA	NA
3281	Turnpike Enterprise	T-04	Education Program	No fertilizer on rights-of-way, educational signage, illicit discharge training.	Education Efforts	Ongoing	NA	277	46	NA
3283	Turnpike Enterprise	T-05	Street Sweeping	Street Sweeping and Litter Control along SR 91 between MP 125.5 and 158 both NB/SB including ramps.	Street Sweeping	Ongoing	NA	144	10	NA

3.7. Basin 6

Basin 6 covers 3,927 acres of the St. Lucie River and Estuary Watershed. Most of the basin is urban and built-up land, followed by urban forest and agriculture. As shown in **Table 50**, urban and built-up land uses make up much of the acreage in the basin. Stakeholders in the basin include FDOT, Martin County, and Florida Turnpike Authority.

Table 50. Summary of land uses in Basin 6

Level 1 Land Use Code	Land Use Description	Acres	% Total
1000	Urban and Built-Up	2,540	64.7
2000	Agriculture	456	11.6
3000	Upland Nonforested	47	1.2
4000	Upland Forests	512	13.0
5000	Water	34	0.9
6000	Wetlands	184	4.7
7000	Barren Land	12	0.3
8000	Transportation, Communication, and Utilities	142	3.6
Total		3,927	100

3.7.1 Water Quality Monitoring

Table 51 summarizes the water quality monitoring stations in Basin 6, and **Figure 17** shows the station locations.

Table 51. Water quality monitoring stations in Basin 6

Basin	Representative Site?	Entity	Station ID	Tier
Basin 6	Yes	SFWMD	SLT-7	2

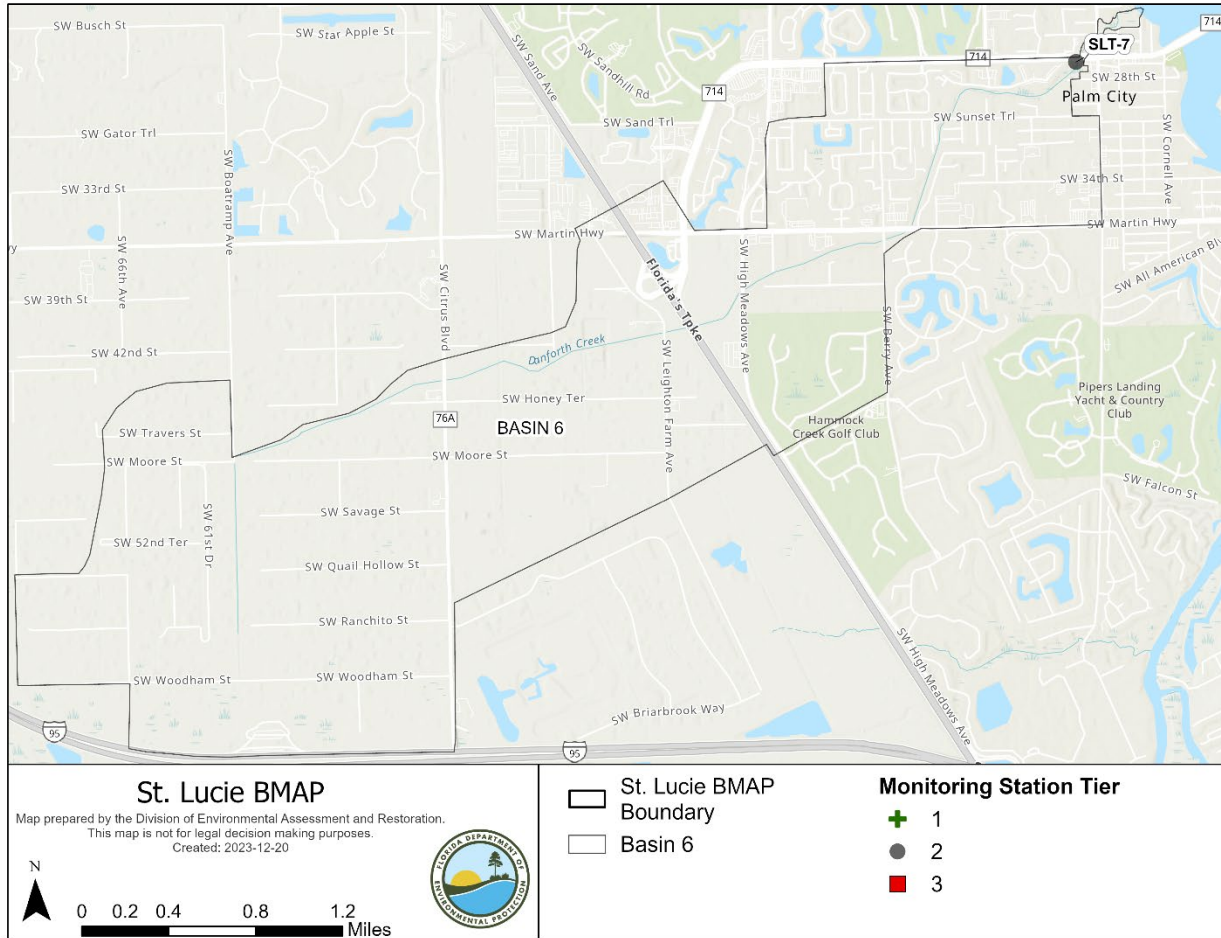


Figure 17. Basin 6 monitoring stations

3.7.2 Basin Evaluation Results

3.7.2.1 Targeted Restoration Area

Table 52 summarizes the basin evaluation results based on data from WY2020–WY2024 for Basin 6. The current TN concentration is 0.87 mg/L, which is above the benchmark of 0.72 mg/L required to meet the TMDL. The current TP concentration is 0.095 mg/L, which is above the benchmark of 0.081 mg/L required to meet the TMDL. No FWM concentrations were calculated for this basin. Significant decreasing trends were detected for TN and TP. Table 53 lists the TRA prioritization results for Basin 6, with 1 the highest priority, 2 the next highest priority, and 3 a priority as resources allow.

3.7.2.2 Hot Spot Analysis

Table 54 summarizes the hot spot analysis results using WY2019 – WY2023 data. To be included in the analysis, each station must have at least four samples per year and at least two years of data. This analysis will be run as needed, and the results will be shared at annual meetings.

Table 52. Basin evaluation results for Basin 6

TRA ID	Basin Name	TN (mg/L) (Benchmark – 0.72)	TN -year Average FWM Concentration (mg/L)	TN UAL (lbs/ac)	TN Trend Analysis	TP (mg/L) (Benchmark – 0.081)	TP -year Average FWM Concentration (mg/L)	TP UAL (lbs/ac)	TP Trend Analysis
7	Basin 6	0.87	NA	NA	Significant decreasing trend	0.095	NA	NA	Significant decreasing trend

Table 53. TRA evaluation results for Basin 6

Basin	Station	TN Priority	TP Priority
Basin 6	SLT-7	3	3

Table 54. Hot spot analysis results for Basin 6

Monitoring Location	TN Average Concentration Rank	TN Percentile Rank	TN Standard Deviation Rank	TN Frequency Rank	TN Total Rank	TP Average Concentration Rank	TP Percentile Rank	TP Standard Deviation Rank	TP Frequency Rank	TP Total Rank
18969	1	1	0	2	4	1	1	0	1	3

3.7.3 Projects

Table 55 summarizes the existing and planned projects for Basin 6 that were provided for the BMAP update. The existing and planned projects are a BMAP requirement.

Table 55. Existing and planned projects in Basin 6

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
6143	FDACS	FDACS-06	BMP Implementation and Verification	Enrollment and verification of BMPs by agricultural producers. Reductions based on FDACS OAWP December 2022 Enrollment and WaSh model. Acres treated based on FDACS OAWP December 2023 Enrollment and FSAID X.	Agricultural BMPs	Ongoing	NA	316	68	NA
3346	FDOT District 4	FDOT-13	FM# 228831-1	Bridge replacement at SR 714 crossing over Florida's Turnpike.	Dry Detention Pond	Completed	2000	7	1	TBD
3344	FDOT District 4	FDOT-15	FM# 405504-1	SR 9 rest area improvements.	Dry Detention Pond	Completed	2005	40	6	TBD
3377	FDOT District 4	FDOT-18	Street Sweeping	Not provided.	Street Sweeping	Ongoing	NA	1,419	910	TBD
3351	FDOT District 4	FDOT-19	Public Education	Pamphlets.	Education Efforts	Ongoing	NA	109	20	TBD
3390	FDOT District 4	FDOT-21	FM# 230978-1 Indian St. Bridge (Pond West)	New bridge crossing on CR 714 from west of Mapp Rd. to east of SR 76 on Indian St.	Wet Detention Pond	Completed	2014	0	0	TBD
3310	FDOT District 4	FDOT-49	230978-2 CR 714 Martin Highway Widening - Danforth Basin	Road widening on CR 714 (Martin Hwy.) from east of Turnpike to just west of Mapp Rd.	Wet Detention Pond	Completed	2016	15	5	TBD
3309	FDOT District 4	FDOT-50	230978-2 CR 714 Martin Hwy. Widening - Wetlands Basin	Road widening on CR 714 (Martin Hwy.) from east of Turnpike to just west of Mapp Rd.	Wet Detention Pond	Completed	2016	9	3	TBD
3289	FDOT District 4	FDOT-57	Fertilizer Application Cessation	No longer applying routine fertilizer.	Fertilizer Cessation	Completed	2016	23,881	5,970	TBD
3323	Martin County	MC-12	Old Palm City Water Quality Retrofit Phases I, II, and III	8.1 ac-ft of water quality treatment (0.51 inches).	BMP Treatment Train	Completed	2004	597	177	\$4,576,473.00

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
3318	Martin County	MC-17	Danforth Creek - Phase 1	8.1 acre wet detention pond with littoral plantings and control structure.	Regional Stormwater Treatment	Completed	2014	6,132	2,266	\$1,869,255.00
3317	Martin County	MC-18	Street Sweeping	Not provided.	Street Sweeping	Ongoing	NA	108	69	TBD
3316	Martin County	MC-19	Baffle Box and Structure Cleanout	Not provided.	Catch Basin Inserts/Inlet Filter Cleanout	Ongoing	NA	397	161	TBD
3400	Martin County	MC-20	Education Program	FYN; landscaping, irrigation, fertilizer, and pet waste ordinances; PSAs, pamphlets, website, illicit discharge program.	Education Efforts	Ongoing	NA	16,644	2,831	TBD
3367	Martin County	MC-22	FM# 230978-1 Indian St. Bridge (Pond West)	A surface water management system serving 62.06 acres of roadway development.	Wet Detention Pond	Completed	2014	108	33	TBD
3432	Martin County	MC-37	All American Ditch	Treatment train system with 15 ac-ft of water quality treatment over the 70 acre basin.	Regional Stormwater Treatment	Completed	2017	980	298	\$5,165,376.00
3437	Martin County	MC-32	Danforth Creek HWTT	HWTT serving 2,522 upstream acres in the Danforth Creek watershed.	HWTT	Completed	2016	5,312	1,287	\$3,000,000.00
3259	Troup-Indiantown WCD	TI-04	C-44 Reservoir Area	Converting from conservation area to reservoir.	Land Use Change	Completed	2024	NA	NA	NA
3276	Troup-Indiantown WCD	TI-05	C-44 STA Area	Converting from conservation area to STA.	Land Use Change	Completed	2024	NA	NA	NA
3281	Turnpike Enterprise	T-04	Education Program	No fertilizer on rights-of-way, educational signage, illicit discharge training.	Education Efforts	Ongoing	NA	277	46	NA
3283	Turnpike Enterprise	T-05	Street Sweeping	Street Sweeping and Litter Control along SR 91 between MP 125.5 and 158 both NB/SB including ramps.	Street Sweeping	Ongoing	NA	144	10	NA

3.8. South Fork Basin

The South Fork Basin covers 48,155 acres of the St. Lucie River and Estuary Watershed. As shown in **Table 56**, most of the land use comprises urban and built-up as well as agriculture. Stakeholders in the basin include FDOT, Hobe St. Lucie Conservancy District, Martin County, City of Stuart, and Florida Turnpike Authority.

Table 56. Summary of land uses in the South Fork Basin

Level 1 Land Use Code	Land Use Description	Acres	% Total
1000	Urban and Built-Up	12,857	26.7
2000	Agriculture	16,826	34.9
3000	Upland Nonforested	2,003	4.2
4000	Upland Forests	7,550	15.7
5000	Water	1,333	2.8
6000	Wetlands	6,360	13.2
7000	Barren Land	153	0.3
8000	Transportation, Communication, and Utilities	1,073	2.2
Total		48,155	100

3.8.1 Water Quality Monitoring

Table 57 summarizes the water quality monitoring stations in the South Fork Basin, and **Figure 18** shows the station locations.

Table 57. Water quality monitoring stations in the South Fork Basin

Basin	Representative Site?	Entity	Station ID	Tier
South Fork	Yes	SFWMD	SLT-31	2
South Fork	Yes	SFWMD	SLT-34A	2
South Fork	Yes	SFWMD	SLT-6	2
South Fork	Yes	SFWMD	SLT-5	2
South Fork	Yes	SFWMD	SLT-4	2
South Fork	Yes	SFWMD	SLT-3	2
South Fork	Yes	SFWMD	SLT-40, 40A	2
South Fork	Yes	SFWMD	SLT-2A	2
South Fork	Yes	SFWMD	SLT-1	2
South Fork	No	SFWMD	SE-08B	1
South Fork	No	SFWMD	SE-09	1

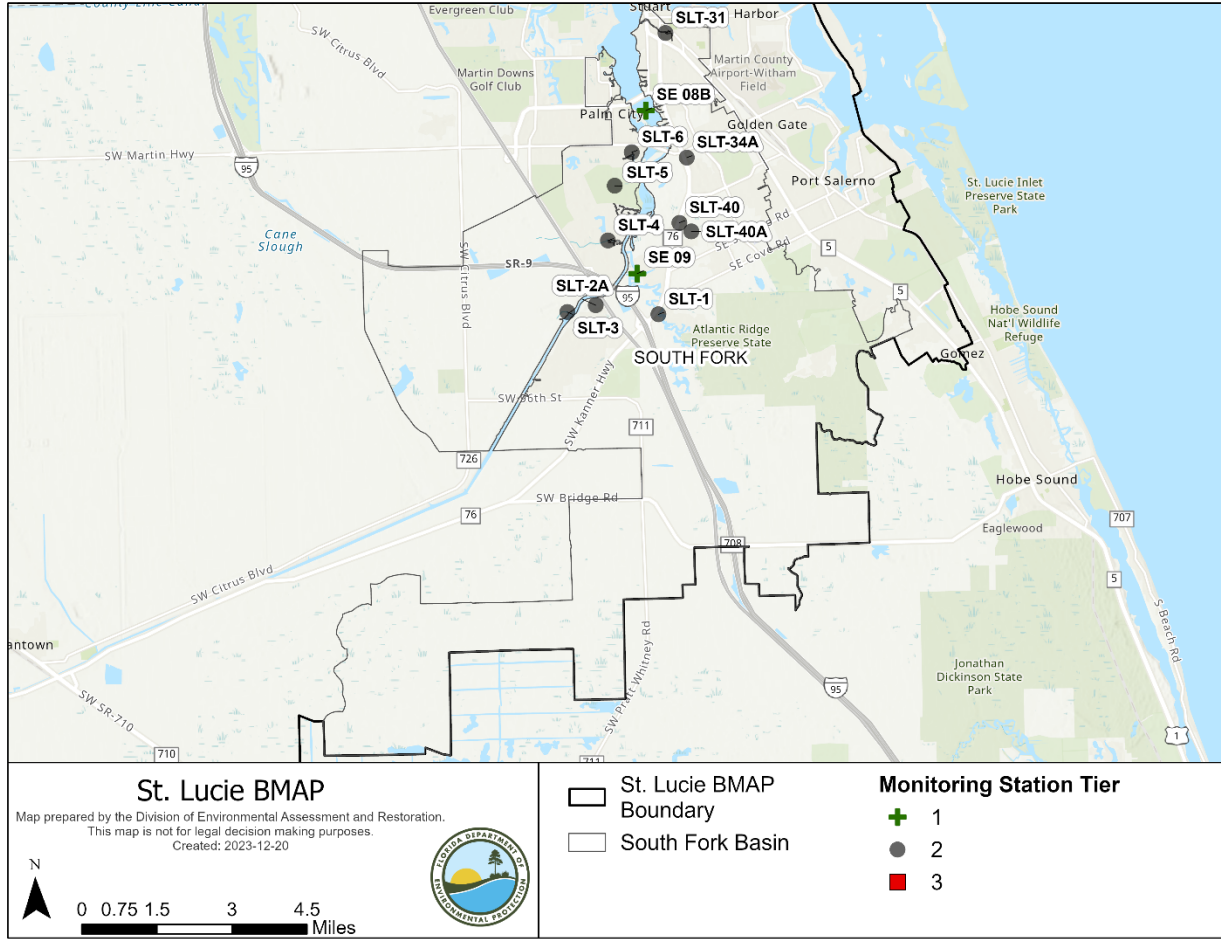


Figure 18. South Fork Basin monitoring stations

3.8.2 Basin Evaluation Results

3.8.2.1 Targeted Restoration Area

Table 58 summarizes the basin evaluation results based on data from WY2020–WY2024 for the South Fork Basin. The current TN concentration is 1.03 mg/L, which is above the benchmark of 0.72 mg/L required to meet the TMDL. The current TP concentration is 0.137 mg/L, which is above the benchmark of 0.081 mg/L required to meet the TMDL. No FWM concentrations were calculated for this basin. No significant trends were detected for TN or TP concentration. Table 59 lists the TRA prioritization results for the South Fork Basin, with 1 the highest priority, 2 the next highest priority, and 3 a priority as resources allow.

3.8.2.2 Hot Spot Analysis

Table 60 summarizes the hot spot analysis results using WY2019 – WY2023 data. To be included in the analysis, each station must have at least four samples per year and at least two years of data. This analysis will be run as needed, and the results will be shared at annual meetings.

Table 58. Basin evaluation results for the South Fork Basin

TRA ID	Basin Name	TN (mg/L) (Benchmark – 0.72)	TN -year Average FWM Concentration (mg/L)	TN UAL (lbs/ac)	TN Trend Analysis	TP (mg/L) (Benchmark – 0.081)	TP -year Average FWM Concentration (mg/L)	TP UAL (lbs/ac)	TP Trend Analysis
8	South Fork	1.03	NA	NA	No significant trend	0.137	NA	NA	No significant trend

Table 59. TRA evaluation results for the South Fork Basin

Basin	Stations	TN Priority	TP Priority
South Fork	SLT-1, SLT-2A, SLT-3, SLT-4, SLT-5, SLT-6, SLT-31, SLT-34A, SLT-40, SLT-40A	2	2

Table 60. Hot spot analysis results for the South Fork Basin

Monitoring Location	TN Average Concentration Rank	TN Percentile Rank	TN Standard Deviation Rank	TN Frequency Rank	TN Total Rank	TP Average Concentration Rank	TP Percentile Rank	TP Standard Deviation Rank	TP Frequency Rank	TP Total Rank
18451	1	1	0	2	4	1	1	0	2	4
18926	1	1	0	2	4	1	1	0	2	4
18949	1	1	0	2	4	2	2	2	2	8
18951	1	1	0	2	4	1	1	0	2	4
18961	1	1	0	2	4	1	1	0	2	4
18967	1	1	1	2	5	1	1	0	2	4
18968	1	1	2	2	6	2	2	2	2	8
28220	1	1	0	2	4	1	1	0	2	4
35326	1	1	0	2	4	0	0	0	0	0
36689	1	1	0	2	4	0	0	0	1	1
HOGG CREEK SAMPLE 1	1	1	0	2	4	2	2	2	2	8
MAPP CREEK OUTFALL	1	1	0	2	4	1	1	0	2	4
S2 CANAL POINT	1	1	0	2	4	1	1	0	2	4
S3 CANAL POINT	1	1	0	2	4	1	1	0	2	4

3.8.3 Projects

Table 61 summarizes the existing and planned projects for the South Fork Basin that were provided for the BMAP update. The existing and planned projects are a BMAP requirement.

Table 61. Existing and planned projects in the South Fork Basin

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
3255	City of Stuart	S-01	Poppleton Creek - Phase II and III	Muck sediment removal, creation of 6.5-acre retention pond, and 160-foot weir. Habitat reconstruction; passive recreational improvements. 4 continuous deflective separation (CDS) baffle box units and street sweeping in basin.	BMP Treatment Train	Completed	2008	2,184	748	\$4,371,250.00
3254	City of Stuart	S-02	Airport Ditch Project	Conversion of 2 uncontrolled drainage ditches to tide into retention/detention facilities controlled by "v" notch weirs.	On-line Retention BMPs	Completed	2003	815	421	\$766,756.00
3253	City of Stuart	S-03	Crescent Basin Project	Stormwater retention through three first generation baffle boxes.	On-line Retention BMPs	Completed	2003	502	83	\$180,000.00
3252	City of Stuart	S-04	Krueger Creek Project	Removal of "ooze" sediments and installation of 4 baffle boxes plus 2 CDS units in 2010.	Baffle Boxes- First Generation	Completed	2001	18	14	\$33,000.00
3258	City of Stuart	S-05	Street Sweeping	Pavement cleaning by sweeping, vacuum, or washing.	Street Sweeping	Ongoing	NA	275	176	\$33,000.00
3221	City of Stuart	S-06	Sediment Removal from Storm Systems	Removal and proper disposal of sediment captured by catch basin inserts.	Catch Basin Inserts/Inlet Filter Cleanout	Ongoing	NA	54	33	NA
3228	City of Stuart	S-07	Education Program	FYN Program. City ordinances for landscaping, irrigation, fertilizer, and pet waste management. City stormwater website. Stormwater calendars. Pollution prevention information posted on electronic billboards 365 days/year from 12 PM to 1 PM.	Education Efforts	Ongoing	NA	2,202	370	\$30,150.00

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
3232	City of Stuart	S-09	Anchorage Drainage Basin	There is 1 existing 1st-generation baffle box and 3 FDOT dry detention ponds in basin. Ponds receive runoff from roadways and portion of Roosevelt Bridge. Street swept in basin.	Baffle Boxes- First Generation	Completed	2002	0	1	\$766,500.00
3233	City of Stuart	S-10	Downtown Drainage Basin	Drainage basin contains 4 1st-generation baffle boxes and 4 CDS units installed between 2000 and 2012; 3 catch basin filter baskets installed in 2010-11. Streets swept 12 times per month.	Baffle Boxes- First Generation	Completed	2012	7	5	\$275,000.00
3248	City of Stuart	S-12	Landfill Basin	Landfill closed; ongoing groundwater monitoring, zero discharge. Closed basin with no outfall.	100% On-site Retention	Completed	2013	539	95	\$29,144.00
3227	City of Stuart	S-13	South Fork Drainage Basin	There are 2 1st-generation baffle boxes in northwest portion of basin and 1 unimproved ditch along south side of SE Ruhnkee St. that flows to wooded area on west side of basin boundary within city jurisdiction.	Baffle Boxes- First Generation	Completed	2002	15	12	TBD
3226	City of Stuart	S-14	Neighborhood Initiated Sewer Expansion Program	Sewer expansion program to phase out septic tanks by expanding sewer service into areas of city using low pressure sewer system piping along road rights-of-way and individual residential grinder pump station at each home.	OSTDS Phase Out	Underway	TBD	1,341	NA	\$3,200,000.00
3225	City of Stuart	S-15	Eldorado Heights	Area of land within the south-central area of Stuart city limits that does not discharge to surface waterbody or adjacent basin.	Non-contributing Basin	Completed	2012	342	58	\$779,000.00

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
3229	City of Stuart	S-18	Nondischarge Areas	Area within eastern city limits with no stormwater infrastructure and no outfalls discharging to adjacent basin.	Non-contributing Basin	Completed	2014	2,386	412	NA
3220	City of Stuart	S-19	Baffle Boxes (22) Throughout City	Concrete structures containing a series of sediment settling chambers separated by baffles. Boxes are vacuum cleaned base on sediment depth inspection by city stormwater staff.	Baffle Boxes- First Generation	Completed	2014	27	21	NA
3219	City of Stuart	S-20	CDS Units Throughout City	Hydrodynamic separators that capture, sediment, trap debris, and separate floating oils from runoff. CDS units are vacuum cleaned based on sediment depth inspections by city stormwater staff.	Hydrodynamic Separators	Completed	2014	0	13	NA
3218	City of Stuart	S-21	SW South Carolina Dr. Drainage Project	Installation of a stormwater conveyance system and 1st-generation baffle box in a residential area to eliminate unrestricted sheet flow to St. Lucie River.	Baffle Boxes- First Generation	Completed	2016	0	0	\$100,936.00
3217	City of Stuart	S-22	Poppleton Creek Tidal Wetlands Creation and Restoration	Construct tidal red mangrove wetlands on 4.3 acres of city-owned property south of and adjacent to Poppleton Creek east of Palm City Rd. Project will clear exotic vegetation and create tidal wetlands.	Wetland Restoration	Completed	2018	152	0	\$270,200.00
3215	City of Stuart	S-24	Frazier Creek Pond	Construction of wet detention pond to eliminate unrestricted flow from ditch to tide.	Wet Detention Pond	Completed	2002	898	377	\$1,702,000.00

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
6905	City of Stuart	S-25	Tressler Drive Baffle Box Project	Provide stormwater retention and treatment by installing 2nd generation baffle box for a 13.7 acre residential area along Tressler Drive.	Baffle Boxes-Second Generation	Completed	2023	31	4	\$297,000.00
7546	City of Stuart	S-32	SW Dyer Drive Drainage Improvements	Street and yard flooding. Route drainage to existing drainage system on SW Old Palm City Road.	Stormwater System Upgrade	Underway	2024	NA	NA	\$225,000.00
7547	City of Stuart	S-33	SW Riverview Avenue Drainage and Water Quality Improvements	Install positive outfall at west end of SW Riverview Avenue. Install 2nd Generation Baffle Box for sediment removal and exfiltration for water quality treatment.	Baffle Boxes-Second Generation	Planned	2030	TBD	TBD	\$389,000.00
7551	City of Stuart	S-37	SW Indian Grove Drive Drainage and Water Quality Improvements	Drainage improvements to alleviate road flooding and provide water quality treatment. Install inlets and route drainage to a new 2nd Generation Baffle Box and Bioswale before discharge to Poppleton Creek.	Bioswales	Planned	2027	TBD	TBD	\$550,000.00
7552	City of Stuart	S-38	SE Central Parkway Drainage Improvements	Street flooding east of Solaris Healthcare due to high receiving ditch elevations. Improvements to regrade ditch to provide positive discharge to outfall.	Stormwater System Upgrade	Planned	2025	NA	NA	\$89,000.00
7554	City of Stuart	S-40	SW 3rd Street Drainage Improvements	Low area at 518 SW 3rd Street floods during rainfall events at high tide. French drains are installed but have no discharge. Improvements include installing pervious pavement to alleviate flooding.	Pervious Pavement Systems	Planned	2028	TBD	TBD	\$303,000.00
7555	City of Stuart	S-41	SW Anchorage Way Baffle Box	Baffle box not accessible for maintenance. Replace 1st Generation Baffle Box with 2nd Generation Baffle Box and relocate for accessibility.	Baffle Boxes-Second Generation	Planned	2028	TBD	TBD	\$185,000.00

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
7556	City of Stuart	S-42	SE Georgia Avenue and SE Stypmann Blvd at Sailfish Park Drainage Improvements	Parking lot and street flooding. Improvements include installing new inlets and connecting to the existing drainage system.	Stormwater System Upgrade	Planned	2030	NA	NA	\$85,000.00
7558	City of Stuart	S-44	Frazier Creek Tributary Ditch Drainage Improvements	Ditch not maintained and capacity reduced by development. Proposed improvements to include piping ditch.	Stormwater System Upgrade	Planned	2025	TBD	TBD	\$465,000.00
7559	City of Stuart	S-45	SE Lincoln Avenue Drainage Improvements	Add inlets to capture ponding on SE Lincoln Avenue. Replace 1st Generation Baffle Boxes with 2nd Generation Baffle Boxes. Relocate inaccessible baffle box.	Baffle Boxes-Second Generation	Planned	2026	TBD	TBD	\$365,000.00
7560	City of Stuart	S-46	SE Decker Avenue Drainage Improvements	Flooding east side of SE Decker Avenue. Provide outfall for SE Decker Avenue to connect to the US1 drainage system.	Exfiltration Trench	Planned	2030	TBD	TBD	\$649,000.00
7562	City of Stuart	S-48	Poppleton Creek Water Quality Improvements	Create STA to treat US1 and SE Decker Avenue drainage before discharge to Poppleton Creek.	STAs	Planned	2030	TBD	TBD	\$1,056,000.00
7564	City of Stuart	S-50	SW South Carolina Drive Drainage Improvements	River backing up into street during high tides. Install tidal check valve to prevent backflow. Install drainage pipe with exfiltration for treatment.	Exfiltration Trench	Planned	2028	TBD	TBD	\$63,000.00
7565	City of Stuart	S-51	SE Ruhnke Street / SE Aster Lane Drainage Improvements	Street flooding. Install inlets and connect to existing drainage system on SE Ruhnke Street. Install exfiltration for water quality treatment.	Exfiltration Trench	Planned	2030	TBD	TBD	\$520,000.00

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
6144	FDACS	FDACS-08	BMP Implementation and Verification	Enrollment and verification of BMPs by agricultural producers. Reductions based on FDACS OAWP December 2022 Enrollment and WaSh model. Acres treated based on FDACS OAWP December 2023 Enrollment and FSAID X.	Agricultural BMPs	Ongoing	NA	20,633	3,400	NA
6150	FDACS	FDACS-14	Cost-Share BMP Projects	TBD.	Agricultural BMPs	Completed	2020	2,784	669	NA
6156	FDACS	FDACS-20	Credit for Changes in Land Use	TBD.	Land Use Change	Completed	2020	TBD	TBD	NA
3344	FDOT District 4	FDOT-15	FM# 405504-1	SR 9 rest area improvements.	Dry Detention Pond	Completed	2005	40	6	TBD
3377	FDOT District 4	FDOT-18	Street Sweeping	Not provided.	Street Sweeping	Ongoing	NA	1,419	910	TBD
3351	FDOT District 4	FDOT-19	Public Education	Pamphlets.	Education Efforts	Ongoing	NA	109	20	TBD
3353	FDOT District 4	FDOT-20	FM# 230978-1 Indian St. Bridge (Pond East)	New bridge crossing on CR 714 from west of Mapp Rd. to east of SR 76 on Indian St.	Dry Detention Pond	Completed	2014	4	1	TBD
3390	FDOT District 4	FDOT-21	FM# 230978-1 Indian St. Bridge (Pond West)	New bridge crossing on CR 714 from west of Mapp Rd. to east of SR 76 on Indian St.	Wet Detention Pond	Completed	2014	0	0	TBD
3385	FDOT District 4	FDOT-26	Johnson Honda of Stuart Turn Lane (Basin A and B)	Not provided.	Exfiltration Trench	Completed	2010	0	0	TBD
3384	FDOT District 4	FDOT-27	FM# 228852-1 SR 76 Drainage Improvements at Cabana Point (Pond 9A)	SR 76 drainage improvements at Cabana Point.	Wet Detention Pond	Completed	2006	14	4	TBD

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
3383	FDOT District 4	FDOT-28	FM# 228852-1 Osprey Ridge Planned Unit Development (PUD) - SR 76 Improvements	SR 76 Osprey Ridge PUD drainage improvements.	Exfiltration Trench	Completed	2007	0	0	TBD
3382	FDOT District 4	FDOT-29	FM# 228852-1 SR 76 Improvements - Kanner Professional Center.	SR 76 improvements - Kanner Professional Center.	Exfiltration Trench	Completed	2009	0	0	TBD
3309	FDOT District 4	FDOT-50	230978-2 CR 714 Martin Hwy. Widening - Wetlands Basin	Road widening on CR 714 (Martin Hwy.) from east of Turnpike to just west of Mapp Rd.	Wet Detention Pond	Completed	2016	9	3	TBD
3308	FDOT District 4	FDOT-51	422641-3 SR 76 Widening from I-95 to Monterey Rd. Pond 1	Road widening on SR 76 from I-95 to Monterey Rd.	Dry Detention Pond	Completed	2019	4	1	TBD
3307	FDOT District 4	FDOT-52	422641-3 SR 76 Widening from I-95 to Monterey Rd. Pond 2A	Road widening on SR 76 from I-95 to Monterey Rd.	Wet Detention Pond	Completed	2019	4	1	TBD
3306	FDOT District 4	FDOT-53	422641-3 SR 76 Widening from I-95 to Monterey Rd. Pond 2B	Road widening on SR 76 from I-95 to Monterey Rd.	Wet Detention Pond	Completed	2019	9	2	TBD
3305	FDOT District 4	FDOT-54	422641-3 SR 76 Widening from I-95 to Monterey Rd. Pond 3	Road widening on SR 76 from I-95 to Monterey Rd.	Wet Detention Pond	Completed	2019	16	4	TBD
3304	FDOT District 4	FDOT-55	422641-3 SR 76 Widening from I-95 to Monterey Rd. Pond 4	Road widening on SR 76 from I-95 to Monterey Rd.	Wet Detention Pond	Completed	2019	8	2	TBD
3303	FDOT District 4	FDOT-56	422641-3 SR 76 Widening from I-95 to Monterey Rd. Pond 8	Road widening on SR 76 from I-95 to Monterey Rd.	Wet Detention Pond	Completed	2019	8	2	TBD
3289	FDOT District 4	FDOT-57	Fertilizer Application Cessation	No longer applying routine fertilizer.	Fertilizer Cessation	Completed	2016	23,881	5,970	TBD
4858	FDOT District 4	FDOT-60	FM# 422641-2	Road widening of SR 76 from west of CR 711 to west of SW Locks Road.	Dry Detention Pond	Completed	2021	1	0	NA
3337	Hobe St. Lucie Conservancy District	HSL-01	Hobe Sound Polo Club	Not provided.	BMP Treatment Train	Completed	2013	2,915	718	TBD

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
6948	Hobe St. Lucie Conservancy District	HSL-05	Discovery PUD/Atlantic Ridge	Consist of a maximum of 317 residential units. The residential lots will be surrounded by lakes, an 18-hole Golf Course, and more than 144 acres of native wetland and upland habitat that will be restored adjacent to the Atlantic Ridge Preserve State Park.	Wet Detention Pond	Underway	2028	TBD	TBD	NA
3329	Martin County	MC-06	Manatee Creek Water Quality Retrofit Phases I, II, and III	30.4 ac-ft of water quality treatment (0.44 inches).	BMP Treatment Train	Completed	2012	54	21	\$7,026,439.00
3326	Martin County	MC-09	Salerno Creek Water Quality Retrofit	54.5 ac-ft of water quality treatment (1.03 inches).	BMP Treatment Train	Completed	2003	1,110	338	\$4,715,074.00
3339	Martin County	MC-10	Coral Gardens Water Quality Retrofit	8.5 ac-ft of water quality treatment (0.05 inches).	BMP Treatment Train	Completed	2005	2,512	1,725	\$2,321,860.00
3324	Martin County	MC-11	Fern Creek Water Quality Retrofit	29.8 ac-ft of water quality treatment (0.81 inches).	BMP Treatment Train	Completed	2005	1,828	590	\$2,660,200.00
3323	Martin County	MC-12	Old Palm City Water Quality Retrofit Phases I, II, and III	8.1 ac-ft of water quality treatment (0.51 inches).	BMP Treatment Train	Completed	2004	597	177	\$4,576,473.00
3320	Martin County	MC-15	Tropical Farms Water Quality Retrofit	43.2 ac-ft of water quality treatment (1.11 inches).	BMP Treatment Train	Completed	2010	2,845	826	\$4,047,219.00
3318	Martin County	MC-17	Danforth Creek - Phase 1	8.1 acre wet detention pond with littoral plantings and control structure.	Regional Stormwater Treatment	Completed	2014	6,132	2,266	\$1,869,255.00
3317	Martin County	MC-18	Street Sweeping	Not provided.	Street Sweeping	Ongoing	NA	108	69	TBD
3316	Martin County	MC-19	Baffle Box and Structure Cleanout	Not provided.	Catch Basin Inserts/Inlet Filter Cleanout	Ongoing	NA	397	161	TBD
3400	Martin County	MC-20	Education Program	FYN; landscaping, irrigation, fertilizer, and pet waste ordinances; PSAs, pamphlets, website, illicit discharge program.	Education Efforts	Ongoing	NA	16,644	2,831	TBD

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
3300	Martin County	MC-21	FM# 230978-1 Indian St. Bridge (Pond East)	A surface water management system serving 62.06 acres of roadway development.	Dry Detention Pond	Completed	2014	12	2	TBD
3367	Martin County	MC-22	FM# 230978-1 Indian St. Bridge (Pond West)	A surface water management system serving 62.06 acres of roadway development.	Wet Detention Pond	Completed	2014	108	33	TBD
3443	Martin County	MC-26	Poinciana Gardens Water Quality Retrofit Phases I and II	Treatment Train system, 87.36 ac-ft of wet detention and baffle box.	BMP Treatment Train	Completed	2003	984	284	\$2,960,547.00
3448	Martin County	MC-30	Old Palm City Beemats	Floating wetlands that provide nutrient removal.	Floating Islands/ Managed Aquatic Plant Systems	Completed	2013	282	24	\$21,996.00
3437	Martin County	MC-32	Danforth Creek HWTT	HWTT serving 2,522 upstream acres in the Danforth Creek watershed.	HWTT	Completed	2016	5,312	1,287	\$3,000,000.00
3447	Martin County	MC-34	Halpatiokee Park Rain Garden	Not provided.	Low Impact Development - Rain Gardens	Completed	2015	TBD0	TBD	\$1,500.00
3432	Martin County	MC-37	All American Ditch	Treatment train system with 15 ac-ft of water quality treatment over the 70 acre basin.	Regional Stormwater Treatment	Completed	2017	980	298	\$5,165,376.00
3428	Martin County	MC-41	Old Palm City Phase IV (Ripple)	Treatment train system with 1.69 ac-ft water quality treatment over the 20.26 ac basin.	BMP Treatment Train	Completed	2022	TBD0	14	\$1,470,593.00
7436	Martin County	MC-50	Advanced Wastewater Treatment Pilot	Study of advanced wastewater treatment.	Sanitary Sewer and WWTF Maintenance	Planned	2027	NA	NA	\$850,000.00
7437	Martin County	MC-51	Tropical Farms Wastewater Treatment Plant Improvements	Improvements to add a third clarifier, eliminate the sludge wet well, and add third waste activated sludge and return activated sludge.	Sanitary Sewer and WWTF Maintenance	Planned	2025	NA	NA	\$6,529,000.00
3280	Turnpike Enterprise	T-03	Project 404135-2 Thomas B. Manuel Bridge North Pond	Thomas B. Manuel Bridge replacement design build, dry detention pond.	Dry Detention Pond	Completed	2005	8	1	\$0.00

3.9. South Coastal Basin

The South Coastal Basin covers 7,992 acres of the St. Lucie River and Estuary Watershed. As shown in **Table 62**, the primary land use is urban and built-up. Stakeholders in the basin include FDOT, Martin County, and the City of Stuart.

Table 62. Summary of land uses in the South Coastal Basin

Level 1 Land Use Code	Land Use Description	Acres	% Total
1000	Urban and Built-Up	6,053	75.7
2000	Agriculture	29	0.4
3000	Upland Nonforested	142	1.8
4000	Upland Forests	804	10.1
5000	Water	229	2.9
6000	Wetlands	273	3.4
7000	Barren Land	9	0.1
8000	Transportation, Communication, and Utilities	453	5.7
Total		7,992	100

3.9.1 Water Quality Monitoring

Table 63 summarizes the water quality monitoring stations in the South Coastal Basin, and **Figure 19** shows the station locations.

Table 63. Water quality monitoring stations in the South Coastal Basin

Basin	Representative Site?	Entity	Station ID	Tier
South Coastal	Yes	SFWMD	SLT-37A	2
South Coastal	Yes	SFWMD	SLT-44	2
South Coastal	Yes	SFWMD	SLT-36	2
South Coastal	Yes	SFWMD	SLT-35	2
South Coastal	No	SFWMD	SLE-11	1

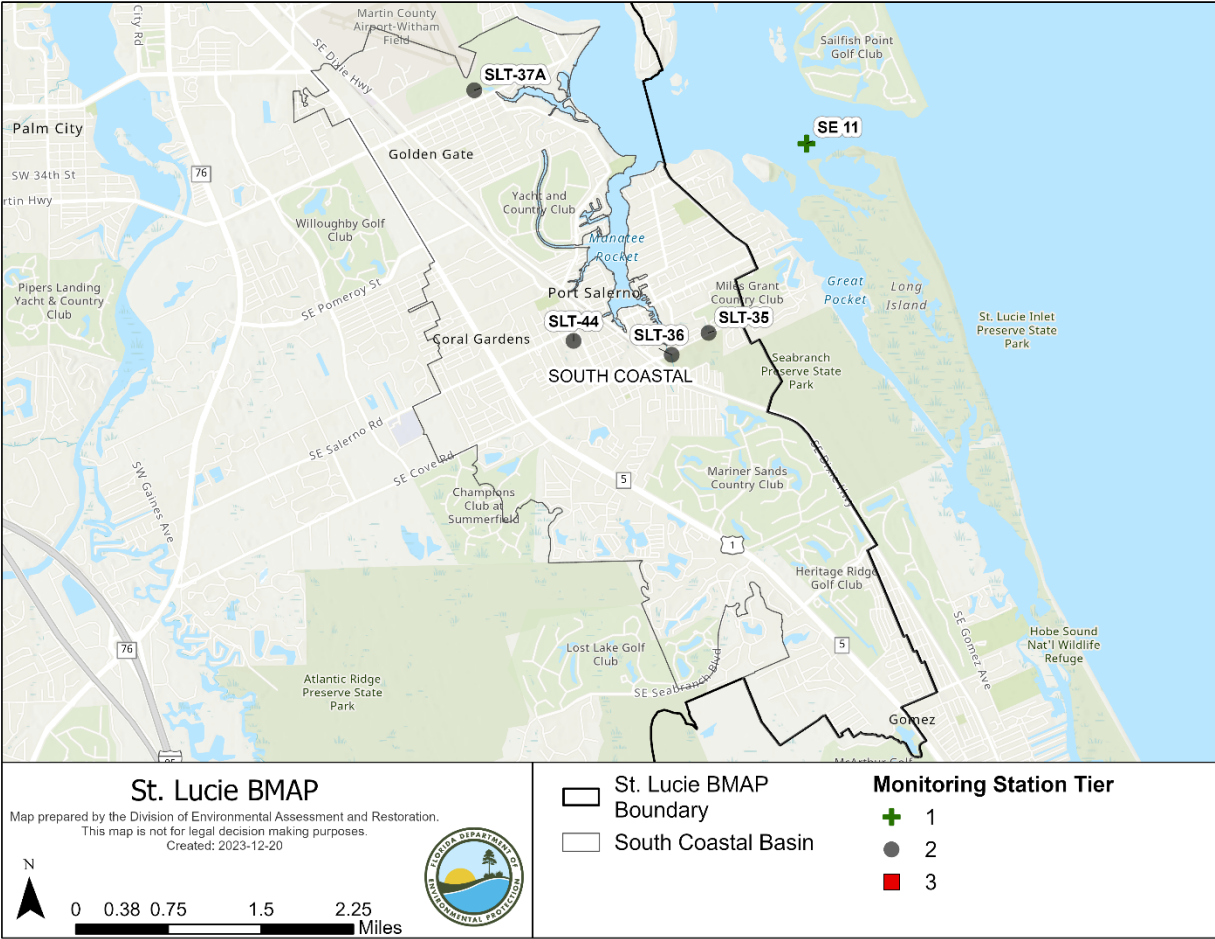


Figure 19. South Coastal Basin monitoring stations

3.9.2 Basin Evaluation Results

3.9.2.1 Targeted Restoration Area

Table 64 summarizes the basin evaluation results based on data from WY2020–WY2024 for the South Coastal Basin. The current TN concentration is 1.07 mg/L, which is above the benchmark of 0.72 mg/L required to meet the TMDL. The current TP concentration is 0.100 mg/L, which is above the benchmark of 0.081 mg/L required to meet the TMDL. No FWM concentrations were calculated for this basin. A significant decreasing trend was detected for TN, and no significant trend was detected for TP. Table 65 lists the TRA prioritization results for the South Coastal Basin, with 1 the highest priority, 2 the next highest priority, and 3 a priority as resources allow.

3.9.2.2 Hot Spot Analysis

Table 66 summarizes the hot spot analysis results using WY2019 – WY2023 data. To be included in the analysis, each station must have at least four samples per year and at least two years of data. This analysis will be run as needed, and the results will be shared at annual meetings.

Table 64. Basin evaluation results for the South Coastal Basin

TRA ID	Basin Name	TN (mg/L) (Benchmark – 0.72)	TN -year Average FWM Concentration (mg/L)	TN UAL (lbs/ac)	TN Trend Analysis	TP (mg/L) (Benchmark – 0.081)	TP -year Average FWM Concentration (mg/L)	TP UAL (lbs/ac)	TP Trend Analysis
9	South Coastal	1.07	NA	NA	Significant decreasing trend	0.100	NA	NA	No significant trend

Table 65. TRA evaluation results for the South Coastal Basin

Basin	Stations	TN Priority	TP Priority
South Coastal	SLT-37A, SLT-35, SLT-36, SLT-44	3	2

Table 66. Hot spot analysis results for the South Coastal Basin

Monitoring Location	TN Average Concentration Rank	TN Percentile Rank	TN Standard Deviation Rank	TN Frequency Rank	TN Total Rank	TP Average Concentration Rank	TP Percentile Rank	TP Standard Deviation Rank	TP Frequency Rank	TP Total Rank
18453	0	0	0	1	1	0	0	0	1	1
18955	1	1	0	2	4	1	1	0	2	4
18958	0	0	0	1	1	0	0	0	0	0
18966	1	1	0	2	4	0	0	0	1	1

3.9.3 Projects

Table 67 summarizes the existing and planned projects for the South Coastal Basin that were provided for the BMAP update. The existing and planned projects are a BMAP requirement.

Table 67. Existing and planned projects in the South Coastal Basin

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
3255	City of Stuart	S-01	Poppleton Creek - Phase II and III	Muck sediment removal, creation of 6.5-acre retention pond, and 160-foot weir. Habitat reconstruction; passive recreational improvements. 4 CDS baffle box units and street sweeping in basin.	BMP Treatment Train	Completed	2008	2,184	748	\$4,371,250.00
3258	City of Stuart	S-05	Street Sweeping	Pavement cleaning by sweeping, vacuum, or washing.	Street Sweeping	Ongoing	NA	275	176	\$33,000.00
3221	City of Stuart	S-06	Sediment Removal from Storm Systems	Removal and proper disposal of sediment captured by catch basin inserts.	Catch Basin Inserts/Inlet Filter Cleanout	Ongoing	NA	54	33	NA
3228	City of Stuart	S-07	Education Program	FYN Program. City ordinances for landscaping, irrigation, fertilizer, and pet waste management. City stormwater website. Stormwater calendars. Pollution prevention information posted on electronic billboards 365 days/year from 12 PM to 1 PM.	Education Efforts	Ongoing	NA	2,202	370	\$30,150.00
7553	City of Stuart	S-39	Stuart Business Park Drainage and Water Quality Improvements	Stuart Business Park experiences street and property flooding. Privately owned system with the exception of some publicly owned roads. Construct STA for treatment and storage prior to discharge. Joint Martin County / POA / City of Stuart Project.	Regional Stormwater Treatment	Planned	2030	TBD	TBD	\$624,000.00
3345	FDOT District 4	FDOT-14	FM# 228801-1	Road widening of SR 5 from Seabranch Blvd to north of Salerno Rd.	Dry Detention Pond	Completed	2003	2	0	TBD
3377	FDOT District 4	FDOT-18	Street Sweeping	Not provided.	Street Sweeping	Ongoing	NA	1,419	910	TBD

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
3351	FDOT District 4	FDOT-19	Public Education	Pamphlets.	Education Efforts	Ongoing	NA	109	20	TBD
3289	FDOT District 4	FDOT-57	Fertilizer Application Cessation	No longer applying routine fertilizer.	Fertilizer Cessation	Completed	2016	23,881	5,970	TBD
3329	Martin County	MC-06	Manatee Creek Water Quality Retrofit Phases I, II, and III	30.4 ac-ft of water quality treatment (0.44 inches).	BMP Treatment Train	Completed	2012	54	21	\$7,026,439.00
3326	Martin County	MC-09	Salerno Creek Water Quality Retrofit	54.5 ac-ft of water quality treatment (1.03 inches).	BMP Treatment Train	Completed	2003	1,110	338	\$4,715,074.00
3339	Martin County	MC-10	Coral Gardens Water Quality Retrofit	8.5 ac-ft of water quality treatment (0.05 inches).	BMP Treatment Train	Completed	2005	2,512	1,725	\$2,321,860.00
3317	Martin County	MC-18	Street Sweeping	Not provided.	Street Sweeping	Ongoing	NA	108	69	TBD
3316	Martin County	MC-19	Baffle Box and Structure Cleanout	Not provided.	Catch Basin Inserts/Inlet Filter Cleanout	Ongoing	NA	397	161	TBD
3400	Martin County	MC-20	Education Program	FYN; landscaping, irrigation, fertilizer, and pet waste ordinances; PSAs, pamphlets, website, illicit discharge program.	Education Efforts	Ongoing	NA	16,644	2,831	TBD
3446	Martin County	MC-23	Golden Gate Water Quality Retrofit Phases I, II	Treatment train system, baffle boxes, dry detention & 5.61 ac-ft of wet detention.	BMP Treatment Train	Completed	2003	1,150	280	\$2,046,145.00
3445	Martin County	MC-24	Golden Gate Water Quality Retrofit Phase III	Treatment train system, baffle boxes, & 2.26 ac-ft of wet detention.	BMP Treatment Train	Completed	2004	123	37	\$584,371.00
3444	Martin County	MC-25	Hibiscus Park Water Quality Retrofit Phases I and II	1.24 ac-ft of Wet Detention volume.	Wet Detention Pond	Completed	2007	24	7	\$1,390,574.00
3443	Martin County	MC-26	Poinciana Gardens Water Quality Retrofit Phases I and II	Treatment Train system, 87.36 ac-ft of wet detention and baffle box.	BMP Treatment Train	Completed	2003	984	284	\$2,960,547.00

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
3442	Martin County	MC-27	Willoughby Creek Muck Dredging	Not provided. Deemed "not applicable" in 2019.	Muck Removal/ Restoration Dredging	Completed	2012	TBD	TBD	\$13,200,000.00
3441	Martin County	MC-28	Manatee Pocket Dredging	Not provided.	Muck Removal/ Restoration Dredging	Completed	2012	TBD	TBD	\$1,000,000.00
3434	Martin County	MC-35	Manatee Pocket SW Prong Baffle Box	Nutrient-separating baffle box serving 90 acres within the Manatee Creek watershed.	Baffle Boxes-Second Generation	Completed	2016	477	68	\$232,505.00
3433	Martin County	MC-36	Martin County Golf Course Water Quality	Not provided.	Wet Detention Pond	Completed	2016	873	253	\$156,255.00
3430	Martin County	MC-39	Willoughby Creek STA	Treatment train system with 19.13 acre-feet of water quality treatment.	BMP Treatment Train	Completed	2020	1,554	411	\$3,300,000.00
4861	Martin County	MC-43	East Fork Creek STA	700-foot long STA and a 1500-foot long lake within an unopened right-of-way and FDOT Lateral Ditch to provide stormwater treatment.	Regional Stormwater Treatment	Underway	2024	10,003	2,726	\$4,000,000.00
4682	Martin County	MC-44	Manatee Pocket SW Prong Retrofit	5.5-acre lake and emergent marsh STA on 8-acres directly upstream of the Manatee Pocket; restoration and enhancement of existing tidal marsh.	Regional Stormwater Treatment	Underway	2024	111	178	\$2,000,000.00

3.10. South Mid-Estuary

The South Mid-Estuary Basin covers 2,080 acres of the St. Lucie River and Estuary Watershed. As shown in **Table 68**, urban and built-up is the largest land use category in the basin. Stakeholders in the basin include FDOT, Martin County, and the City of Stuart.

Table 68. Summary of land uses in the South Mid-Estuary Basin

Level 1 Land Use Code	Land Use Description	Acres	% Total
1000	Urban and Built-Up	1,417	68.1
2000	Agriculture	-	-
3000	Upland Nonforested	7	0.3
4000	Upland Forests	212	10.2
5000	Water	33	1.6
6000	Wetlands	-	-
7000	Barren Land	-	-
8000	Transportation, Communication, and Utilities	411	19.8
	Total	2,080	100

3.10.1 Water Quality Monitoring

Table 69 summarizes the water quality monitoring stations in the South Mid-Estuary Basin, and **Figure 20** shows the station locations.

Table 69. Water quality monitoring stations in the South Mid-Estuary Basin

Basin	Representative Site?	Entity	Station ID	Tier
South Mid-Estuary	Yes	SFWMD	SLT-38, 38A	2
South Mid-Estuary	No	SFWMD	SE-01	1

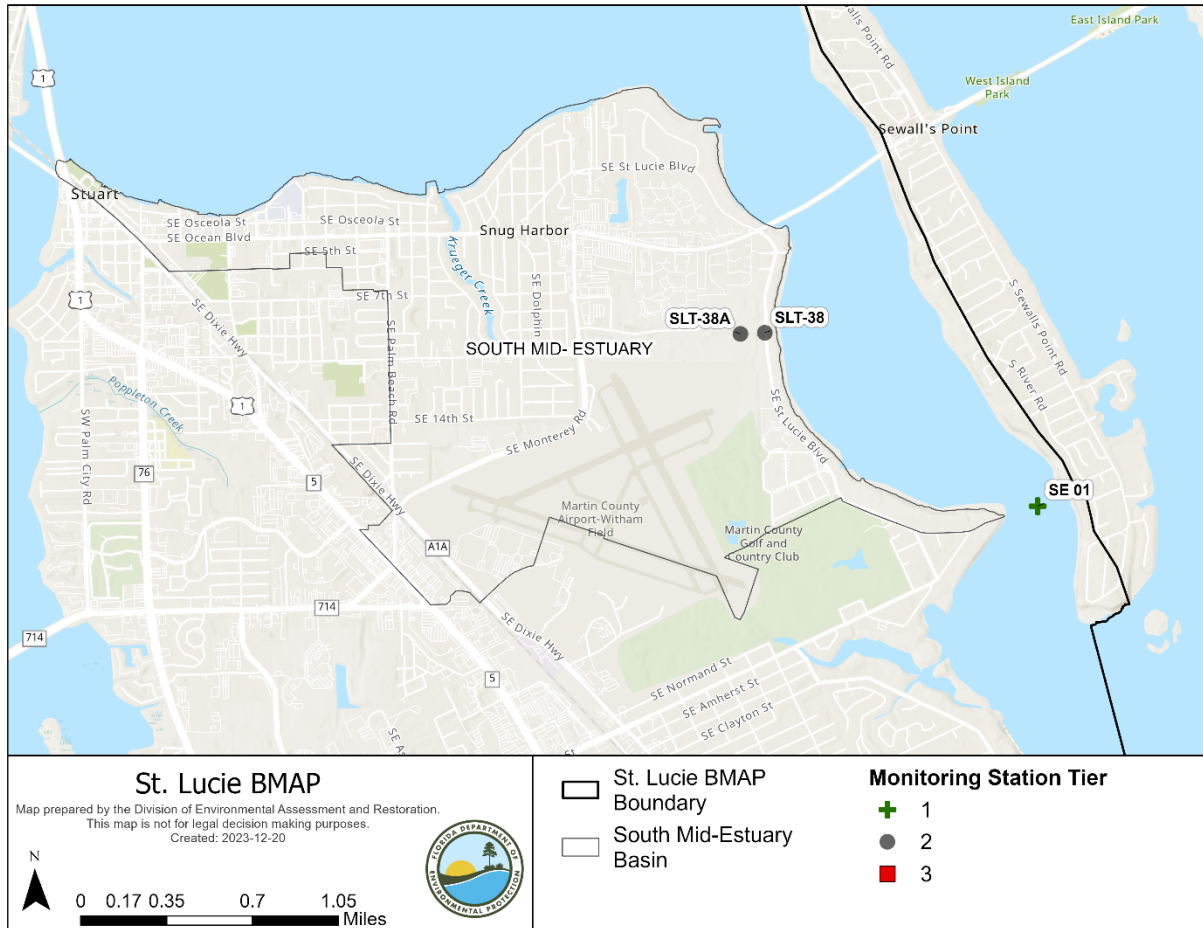


Figure 20. South Mid-Estuary Basin monitoring stations

3.10.2 Basin Evaluation Results

3.10.2.1 Targeted Restoration Area

Table 70 summarizes the basin evaluation results based on data from WY2014–WY2018 for the South Mid-Estuary Basin. The current TN concentration is 0.65 mg/L, which is below the benchmark of 0.72 mg/L required to meet the TMDL. The current TP concentration is 0.037 mg/L, which is below the benchmark of 0.081 mg/L required to meet the TMDL. No FWM concentrations were calculated for this basin. Significant decreasing trends were detected for TN and TP concentration. **Table 71** lists the TRA prioritization results for the South Mid-Estuary Basin, with 1 the highest priority, 2 the next highest priority, and 3 a priority as resources allow.

3.10.2.2 Hot Spot Analysis

Table 72 summarizes the hot spot analysis results using WY2019 – WY2023 data. To be included in the analysis, each station must have at least four samples per year and at least two years of data. This analysis will be run as needed, and the results will be shared at annual meetings.

Table 70. Basin evaluation results for the South Mid-Estuary Basin

TRA ID	Basin Name	TN (mg/L) (Benchmark – 0.72)	TN -year Average FWM Concentration (mg/L)	TN UAL (lbs/ac)	TN Trend Analysis	TP (mg/L) (Benchmark – 0.081)	TP -year Average FWM Concentration (mg/L)	TP UAL (lbs/ac)	TP Trend Analysis
10	South Mid-Estuary	0.65	NA	NA	Significant decreasing trend	0.037	NA	NA	Significant decreasing trend

Table 71. TRA evaluation results for the South Mid-Estuary Basin

Basin	Station	TN Priority	TP Priority
South Mid-Estuary	SLT-38, SLT-38A	3	3

Table 72. Hot spot analysis results for the South Mid-Estuary Basin

Monitoring Location	TN Average Concentration Rank	TN Percentile Rank	TN Standard Deviation Rank	TN Frequency Rank	TN Total Rank	TP Average Concentration Rank	TP Percentile Rank	TP Standard Deviation Rank	TP Frequency Rank	TP Total Rank
35318	0	0	0	1	1	0	0	0	0	0

3.10.3 Projects

Table 73 summarizes the existing and planned projects for the South Mid-Estuary Basin that were provided for the BMAP update. The existing and planned projects are a BMAP requirement.

Table 73. Existing and planned projects in the South Mid-Estuary Basin

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
3255	City of Stuart	S-01	Poppleton Creek - Phase II and III	Muck sediment removal, creation of 6.5-acre retention pond, and 160-foot weir. Habitat reconstruction; passive recreational improvements. 4 CDS baffle box units and street sweeping in basin.	BMP Treatment Train	Completed	2008	2,184	748	\$4,371,250.00
3254	City of Stuart	S-02	Airport Ditch Project	Conversion of 2 uncontrolled drainage ditches to tide into retention/detention facilities controlled by "v" notch weirs.	On-line Retention BMPs	Completed	2003	815	421	\$766,756.00
3252	City of Stuart	S-04	Krueger Creek Project	Removal of "ooze" sediments and installation of 4 baffle boxes plus 2 CDS units in 2010.	Baffle Boxes- First Generation	Completed	2001	18	14	\$432,000.00
3258	City of Stuart	S-05	Street Sweeping	Pavement cleaning by sweeping, vacuum, or washing.	Street Sweeping	Ongoing	NA	275	176	\$33,000.00
3221	City of Stuart	S-06	Sediment Removal from Storm Systems	Removal and proper disposal of sediment captured by catch basin inserts.	Catch Basin Inserts/Inlet Filter Cleanout	Ongoing	NA	54	33	NA
3228	City of Stuart	S-07	Education Program	FYN Program. City ordinances for landscaping, irrigation, fertilizer, and pet waste management. City stormwater website. Stormwater calendars. Pollution prevention information posted on electronic billboards 365 days/year from 12 PM to 1 PM.	Education Efforts	Ongoing	NA	2,202	370	\$30,150.00
3232	City of Stuart	S-09	Anchorage Drainage Basin	There is 1 existing 1st-generation baffle box and 3 FDOT dry detention ponds in basin. Ponds receive runoff from roadways and portion of Roosevelt Bridge. Street swept in basin.	Baffle Boxes- First Generation	Completed	2002	0	1	\$766,500.00

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
3233	City of Stuart	S-10	Downtown Drainage Basin	Drainage basin contains 4 1st-generation baffle boxes and 4 CDS units installed between 2000 and 2012; 3 catch basin filter baskets installed in 2010-11. Streets swept 12 times per month.	Baffle Boxes- First Generation	Completed	2012	7	5	\$275,000.00
3234	City of Stuart	S-11	Hildebrad Basin	1 Continuous deflection separation unit and 7 catch basin filter baskets installed in 2010-11; includes street sweeping in basin.	Hydrodynamic Separators	Completed	2011	0	13	\$388,480.00
3226	City of Stuart	S-14	Neighborhood Initiated Sewer Expansion Program	Sewer expansion program to phase out septic tanks by expanding sewer service into areas of city using low pressure sewer system piping along road rights-of-way and individual residential grinder pump station at each home.	OSTDS Phase Out	Underway	TBD	1,341	NA	\$3,200,000.00
3224	City of Stuart	S-16	Amerigo Avenue Drainage Improvements	Construction of dry retention areas to eliminate street flooding, provide water quality treatment, and TMDL reductions.	Dry Detention Pond	Completed	2014	70	11	\$679,557.00
3229	City of Stuart	S-18	Nondischarge Areas	Area within eastern city limits with no stormwater infrastructure and no outfalls discharging to adjacent basin.	Non-contributing Basin	Completed	2014	2,386	412	NA
3220	City of Stuart	S-19	Baffle Boxes (22) Throughout City	Concrete structures containing a series of sediment settling chambers separated by baffles. Boxes are vacuum cleaned base on sediment depth inspection by city stormwater staff.	Baffle Boxes- First Generation	Completed	2014	27	21	NA
3219	City of Stuart	S-20	CDS Units Throughout City	Hydrodynamic separators that capture, sediment, trap debris, and separate floating oils from runoff. CDS units are vacuum cleaned based on sediment depth inspections by city stormwater staff.	Hydrodynamic Separators	Completed	2014	0	13	NA
3215	City of Stuart	S-24	Frazier Creek Pond	Construction of wet detention pond to eliminate unrestricted flow from ditch to tide.	Wet Detention Pond	Completed	2002	898	377	\$1,702,000.00
7545	City of Stuart	S-31	SE Mango Place / SE Riverside Drive Drainage and Water Quality	House and street flooding. Route drainage to new Bioswale and 2nd Generation Baffle Box prior to discharge to the St. Lucie River.	Baffle Boxes- Second Generation	Completed	2024	4	1	\$372,623.72

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
7548	City of Stuart	S-34	SE Detroit Avenue and SE Florida Avenue Baffle Boxes	Upgrade existing 1st Generation Baffle Box to 2nd Generation Baffle Box, and relocate south for accessibility. Route East Ocean Drainage around existing building, and increase pipe sizes to Florida Street outfall for improved conveyance.	Baffle Boxes-Second Generation	Planned	2030	TBD	TBD	\$567,000.00
7549	City of Stuart	S-35	Lake Charlotte Drainage Improvements	Drainage improvements to resolve structure, yard and street flooding. Proposed permanent pump with outfall north to existing inlet.	Stormwater System Upgrade	Planned	2028	NA	NA	\$154,000.00
7550	City of Stuart	S-36	SE Flamingo Avenue at Flamingo Pond and SE Pelican Drive Drainage Improvements	Resolve street flooding on SE Flamingo Avenue and SE Pelican Drive. Install inlets and connect to existing drainage system on SE Ocean Boulevard.	Exfiltration Trench	Planned	2028	TBD	TBD	\$281,000.00
7557	City of Stuart	S-43	St. Lucie Estates Drainage Improvements	SE Madison Avenue sidewalk flooding and intersection flooding at SE Flamingo Avenue/SE 8th Street, SE Dolphin Drive / SE 6th Street, and SE Dolphin Drive / SE 7th Street. Improvements include installation of inlets and connection to the existing drainage.	Exfiltration Trench	Planned	2029	TBD	TBD	\$862,000.00
7561	City of Stuart	S-47	SE Ocean Avenue Drainage Improvements	SE Ocean Avenue flooding and adjacent property flooding. Improvements include new dry retention pond to treat runoff before discharge to the existing SE Monterey Road drainage system. Drainage easement needed.	Bioswales	Planned	2030	TBD	TBD	\$190,000.00
7563	City of Stuart	S-49	SE Lonita Street / SE Villas Street Drainage Improvements	Flooding at SE Lonita Street / SE Casa Avenue intersection. Install inlets and connect to existing drainage system.	Stormwater System Upgrade	Underway	2025	NA	NA	\$385,000.00
7566	City of Stuart	S-52	SE Illinois Avenue Living Shoreline	A living shoreline was installed to protect against erosion and to provide habitat for marine species and wading birds. A buffered shoreline was installed upland of the living shoreline.	Creating/Enhancing Living Shoreline	Completed	2023	19	3	\$207,472.22

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
3348	FDOT District 4	FDOT-11	FM# 228821-1 (West 1 A)	SR A1A Evans Crary Senior Bridge replacement.	Exfiltration Trench	Completed	2001	11	2	TBD
3377	FDOT District 4	FDOT-18	Street Sweeping	Not provided.	Street Sweeping	Ongoing	NA	1,419	910	TBD
3351	FDOT District 4	FDOT-19	Public Education	Pamphlets.	Education Efforts	Ongoing	NA	109	20	TBD
3289	FDOT District 4	FDOT-57	Fertilizer Application Cessation	No longer applying routine fertilizer.	Fertilizer Cessation	Completed	2016	23,881	5,970	TBD
3334	Martin County	MC-01	Cedar Point Water Quality Retrofit	1.7 ac-ft of water quality treatment (0.36 inches).	BMP Treatment Train	Completed	2004	106	39	\$398,027.00
3317	Martin County	MC-18	Street Sweeping	Not provided.	Street Sweeping	Ongoing	NA	108	69	TBD
3316	Martin County	MC-19	Baffle Box and Structure Cleanout	Not provided.	Catch Basin Inserts/Inlet Filter Cleanout	Ongoing	NA	397	161	TBD
3400	Martin County	MC-20	Education Program	FYN; landscaping, irrigation, fertilizer, and pet waste ordinances; PSAs, pamphlets, website, illicit discharge program.	Education Efforts	Ongoing	NA	16,644	2,831	TBD
3433	Martin County	MC-36	Martin County Golf Course Water Quality	Not provided.	Wet Detention Pond	Completed	2016	873	253	\$156,255.00

3.11. North Mid-Estuary Basin

The North Mid-Estuary Basin covers 3,957 acres of the St. Lucie River and Estuary Watershed. As shown in **Table 74**, the major land use is urban and built-up. Stakeholders in the basin include FDOT, Martin County, City of Stuart, and Town of Sewall's Point.

Table 74. Summary of land uses in the North Mid-Estuary Basin

Level 1 Land Use Code	Land Use Description	Acres	% Total
1000	Urban and Built-Up	2,861	72.3
2000	Agriculture	-	-
3000	Upland Nonforested	193	4.9
4000	Upland Forests	473	12.0
5000	Water	111	2.8
6000	Wetlands	249	6.3
7000	Barren Land	-	-
8000	Transportation, Communication, and Utilities	70	1.8
Total		3,957	100

3.11.1 Water Quality Monitoring

Table 75 summarizes the water quality monitoring stations in the North Mid-Estuary Basin, and **Figure 21** shows the station locations.

Table 75. Water quality monitoring stations in the North Mid-Estuary Basin

Basin	Representative Site?	Entity	Station ID	Tier
North Mid-Estuary	Yes	SFWMD	SLT-30A	2
North Mid-Estuary	Yes	SFWMD	SLT-29	2
North Mid-Estuary	No	SFWMD	SE-02	1

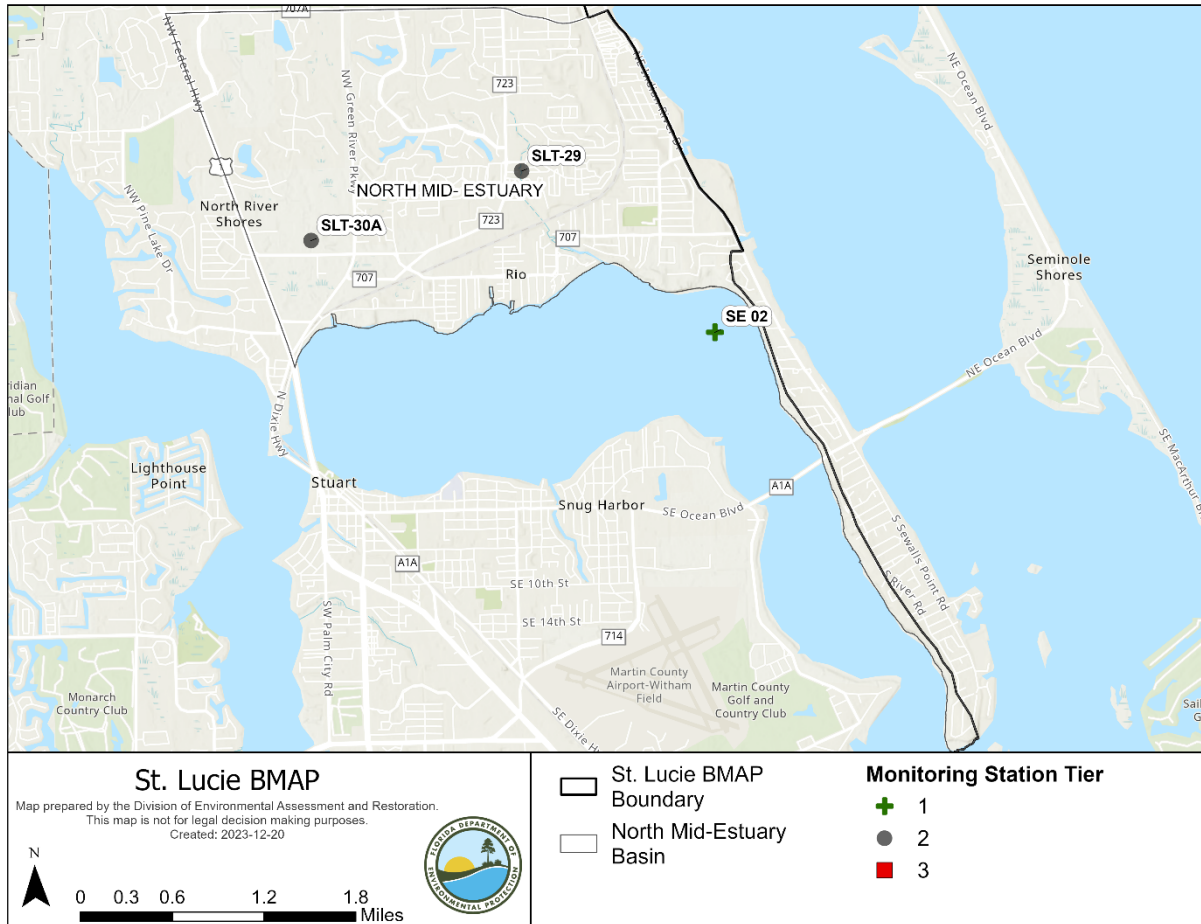


Figure 21. North Mid-Estuary Basin monitoring stations

3.11.2 Basin Evaluation Results

3.11.2.1 Targeted Restoration Area

Table 76 summarizes the basin evaluation results based on data from WY2020–WY2024 for the North Mid-Estuary Basin. The current TN concentration is 0.91 mg/L, which is above the benchmark of 0.72 mg/L required to meet the TMDL. The current TP concentration is 0.023 mg/L, which is below the benchmark of 0.081 mg/L required to meet the TMDL. No FWM concentrations were calculated for this basin. No significant trends were detected for TN or TP. **Table 77** lists the TRA prioritization results for the North Mid-Estuary Basin, with 1 the highest priority, 2 the next highest priority, and 3 a priority as resources allow.

3.11.2.2 Hot Spot Analysis

Table 78 summarizes the hot spot analysis results using WY2019 – WY2023 data. To be included in the analysis, each station must have at least four samples per year and at least two years of data. This analysis will be run as needed, and the results will be shared at annual meetings.

Table 76. Basin evaluation results for the North Mid-Estuary Basin

TRA ID	Basin Name	TN (mg/L) (Benchmark – 0.72)	TN -year Average FWM Concentration (mg/L)	TN UAL (lbs/ac)	TN Trend Analysis	TP (mg/L) (Benchmark – 0.081)	TP -year Average FWM Concentration (mg/L)	TP UAL (lbs/ac)	Trend Analysis
11	North Mid-Estuary	0.91	NA	NA	No significant trend	0.023	NA	NA	No significant trend

Table 77. TRA evaluation results for the North Mid-Estuary Basin

Basin	Stations	TN Priority	TP Priority
North Mid-Estuary	SLT-29, SLT-30A	2	3

Table 78. Hot spot analysis results for the South Coastal Basin

Monitoring Location	TN Average Concentration Rank	TN Percentile Rank	TN Standard Deviation Rank	TN Frequency Rank	TN Total Rank	TP Average Concentration Rank	TP Percentile Rank	TP Standard Deviation Rank	TP Frequency Rank	TP Total Rank
18948	1	1	0	2	4	0	0	0	0	0
36690	1	1	0	2	4	0	0	0	0	0

3.11.3 Projects

Table 79 summarizes the existing and planned projects for the North Mid-Estuary Basin that were provided for the BMAP update. The existing and planned projects are a BMAP requirement.

Table 79. Existing and planned projects in the North Mid-Estuary Basin

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
3258	City of Stuart	S-05	Street Sweeping	Pavement cleaning by sweeping, vacuum, or washing.	Street Sweeping	Ongoing	NA	275	176	\$33,000.00
3221	City of Stuart	S-06	Sediment Removal from Storm Systems	Removal and proper disposal of sediment captured by catch basin inserts.	Catch Basin Inserts/Inlet Filter Cleanout	Ongoing	NA	54	33	NA
3228	City of Stuart	S-07	Education Program	FYN Program. City ordinances for landscaping, irrigation, fertilizer, and pet waste management. City stormwater website. Stormwater calendars. Pollution prevention information posted on electronic billboards 365 days/year from 12 PM to 1 PM.	Education Efforts	Ongoing	NA	2,202	370	\$30,150.00
3231	City of Stuart	S-08	North Point CRA Drainage Basin	There is 1 existing 1st-generation baffle box and street sweeping in basin, existing FDOT swale along basin's east boundary, and 2 FDOT retention/detention ponds near the Roosevelt Bridge.	Baffle Boxes-First Generation	Completed	2002	4	3	\$1,339,000.00
3222	City of Stuart	S-17	Haney Creek Project - Phase I - IV	Creation of flow-through marsh and multiple wetlands and control structures to address stormwater quality, environmental restoration and preservation, greenways, passive recreation, and environmental education.	Constructed Wetland Treatment	Completed	2016	737	224	\$4,831,411.00

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
3220	City of Stuart	S-19	Baffle Boxes (22) Throughout City	Concrete structures containing a series of sediment settling chambers separated by baffles. Boxes are vacuum cleaned base on sediment depth inspection by city stormwater staff.	Baffle Boxes- First Generation	Completed	2014	27	21	NA
3216	City of Stuart	S-23	East Heart of Haney Creek Wetlands Restoration	Restore eastern third of Heart of Haney Creek to wetlands by creating system of berms and weirs within 6 acres of exotic cleared area.	Wetland Restoration	Completed	2019	202	10	\$220,000.00
7541	City of Stuart	S-29	NW Dixie Highway Roadway Modification	Raise elevation of low section of road, currently experiencing groundwater up-flow through pavement.	Exfiltration Trench	Planned	2031	NA	NA	TBD
3347	FDOT District 4	FDOT-12	FM# 228821-1 (East)	SR A1A Evans Crary Senior Bridge replacement.	Exfiltration Trench	Completed	2001	5	1	TBD
3377	FDOT District 4	FDOT-18	Street Sweeping	Not provided.	Street Sweeping	Ongoing	NA	1,419	910	TBD
3351	FDOT District 4	FDOT-19	Public Education	Pamphlets.	Education Efforts	Ongoing	NA	109	20	TBD
3289	FDOT District 4	FDOT-57	Fertilizer Application Cessation	No longer applying routine fertilizer.	Fertilizer Cessation	Completed	2016	23,881	5,970	TBD
3333	Martin County	MC-02	Indian River Drive Baffle Boxes	Six second generation baffle boxes.	Baffle Boxes- Second Generation	Completed	2010	77	11	\$741,827.00
3332	Martin County	MC-03	Warner Creek/Leilani Heights Water Quality Retrofit Phase I	8.0 ac-ft of water quality treatment (0.14 inches).	BMP Treatment Train	Completed	2011	539	90	\$541,854.00
3331	Martin County	MC-04	Warner Creek Phase II	0.36 acre dry detention area with control structure.	Dry Detention Pond	Completed	2012	16	3	\$1,750,338.00
3330	Martin County	MC-05	Warner Creek Phase III -Beacon 21	2.96 acre wet detention area with control structure weir.	Wet Detention Pond	Completed	2012	3,103	1,218	\$2,122,935.00
3328	Martin County	MC-07	Rio/St. Lucie- Water Quality Retrofit - Phase 1	3.0 ac-ft of water quality treatment (0.35 inches).	BMP Treatment Train	Completed	2006	71	12	\$354,161.00

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
3314	Martin County	MC-08	Rio/St. Lucie- Water Quality Retrofit - Phase 2	5.1 ac-ft of additional water quality treatment and control structures on existing lakes (0.7 inches).	Wet Detention Pond	Completed	2008	428	124	\$998,170.00
3319	Martin County	MC-16	Septic to Central Sewer Conversions	872 single-family and multifamily residential and commercial units in five neighborhoods.	OSTDS Phase Out	Completed	2008	11,650	427	\$9,500,000.00
3317	Martin County	MC-18	Street Sweeping	Not provided.	Street Sweeping	Ongoing	NA	108	69	TBD
3316	Martin County	MC-19	Baffle Box and Structure Cleanout	Not provided.	Catch Basin Inserts/Inlet Filter Cleanout	Ongoing	NA	397	161	TBD
3400	Martin County	MC-20	Education Program	FYN; landscaping, irrigation, fertilizer, and pet waste ordinances; PSAs, pamphlets, website, illicit discharge program.	Education Efforts	Ongoing	NA	16,644	2,831	TBD
3440	Martin County	MC-29	Rio Water Quality Retrofit	Exfiltration Trenches & Baffle Boxes.	BMP Treatment Train	Completed	2014	420	69	\$696,800.00
3431	Martin County	MC-38	Hilltop Street Exfiltration Trench	610 linear feet of exfiltration trenches along NE Hilltop Street in Jensen Beach.	Exfiltration Trench	Completed	2018	123	20	\$264,774.00
3429	Martin County	MC-40	Savannah Road Exfiltration Trench	NA.	BMP Treatment Train	Planned	TBD	NA	NA	NA
5690	Martin County	MC-46	Septic to Central Sewer Conversions	1,819 single-family, multi-family residential, and commercial units.	OSTDS Phase Out	Completed	2018	24,302	NA	\$24,556,500.00
6466	Martin County	MC-47	Septic to Central Sewer Conversions	1,630 septic conversions in multiple areas as described in the OSTD plan converted between 2019-2024	OSTDS Phase Out	Completed	2024	21,777	799	\$55,981,565.00
7420	Martin County	MC-48	Septic to Sewer Conversions	Approximately 2044 to be converted per OSTDS plan. Estimating 272 per year for next 8 years. This project will be updated next year for the actual conversions and a new underway project will have the remaining until complete.	OSTDS Phase Out	Underway	2032	TBD	NA	NA

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
7421	Martin County	MC-49	Septic to Sewer Conversion	4436 Septic Conversions planned per OSTDS plan (Port Salerno Peninsula, Beau Rivage, Port Salerno/New Monrovia, Coral Gardens, Old Palm City, Rocky Point, Windstone/Evergreen, Strafford Downs, Woodside).	OSTDS Enhancement	Planned	2048	TBD	TBD	\$76,630,800.00
3420	Town of Sewall's Point	SP-01	Ridgeland Court Retrofit	Installation of exfiltration/baffle box.	Baffle Boxes-First Generation	Completed	2002	0	0	TBD
3419	Town of Sewall's Point	SP-02	Palm Court/Knowles	Installation of baffle box.	Baffle Boxes-First Generation	Completed	2000	0	0	TBD
3425	Town of Sewall's Point	SP-05	Heritage Park	Installation of stormwater retrofit area in developed subdivision.	Off-line Retention BMPs	Completed	2000	0	0	TBD
3415	Town of Sewall's Point	SP-07	Rio Vista Park	Installation of baffle boxes/ erosion control for outfall to Indian River.	Baffle Boxes-First Generation	Completed	2002	0	0	TBD
3315	Town of Sewall's Point	SP-08	India Lucie	Installation of retrofit of weir/ retention area with 2 baffle boxes in old subdivision without retention to directly discharge to Indian River.	Wet Detention Pond	Completed	2003	4	2	TBD
3413	Town of Sewall's Point	SP-09	India Lucie	Installation of retrofit of weir/ retention area with 2 baffle boxes in old subdivision without retention to directly discharge to Indian River.	Baffle Boxes-First Generation	Completed	2006	0	0	TBD
3412	Town of Sewall's Point	SP-10	Periwinkle	Installation of baffle box.	Baffle Boxes-First Generation	Completed	2000	0	0	TBD
3238	Town of Sewall's Point	SP-12	Riverview	Installation of baffle box.	Baffle Boxes-First Generation	Completed	2002	0	0	TBD
3240	Town of Sewall's Point	SP-13	Pineapple Lane	Installation of outfall exfiltration.	Exfiltration Trench	Completed	2002	0	0	TBD

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
3245	Town of Sewall's Point	SP-17	State Road A1A	Installation of outfall exfiltration.	Exfiltration Trench	Completed	2012	102	15	TBD
3244	Town of Sewall's Point	SP-18	Education Program	Fertilizer ordinance.	Education Efforts	Ongoing	NA	24	4	NA
3243	Town of Sewall's Point	SP-19	Street Sweeping	19 cubic yards of debris collected through street sweeping.	Street Sweeping	Ongoing	NA	25	16	TBD
3239	Town of Sewall's Point	SP-23	Highpoint West	Installation of baffle box.	Baffle Boxes-First Generation	Completed	2000	0	0	TBD
3236	Town of Sewall's Point	SP-26	High Point Exfiltration	Installation of exfiltration/swales.	BMP Treatment Train	Completed	2014	59	10	TBD
3286	Town of Sewall's Point	SP-30	Indialucie	Installation of exfiltration system in wet retention area.	Exfiltration Trench	Completed	2014	11	2	TBD
3271	Town of Sewall's Point	SP-32	North Septic Tank Elimination - Phase I	Conversion of 224 existing septic tanks to sanitary sewer.	OSTDS Phase Out	Completed	2020	2,087	NA	\$500,000.00
4596	Town of Sewall's Point	SP-33	North and South Outfall Control Structures (15 Outfalls)	Add control structures.	Control Structure	Underway	TBD	TBD	TBD	\$1,125,000.00
4597	Town of Sewall's Point	SP-34	South Sewall's Point Road - Phase 2	Installation of exfiltration system/baffle boxes and STA.	BMP Treatment Train	Planned	2026	388	56	TBD
4598	Town of Sewall's Point	SP-35	South Sewall's Point Road - Phase 3	Installation of exfiltration system/baffle boxes and STA.	BMP Treatment Train	Planned	2025	234	47	NA
4599	Town of Sewall's Point	SP-36	South Sewall's Point Road - Phase 4	Installation of exfiltration system/baffle boxes and STA.	BMP Treatment Train	Planned	TBD	TBD	TBD	TBD
5517	Town of Sewall's Point	SP-37	South Septic Tank Elimination - Phase 2	Conversion of 706 existing septic tanks to sanitary sewer.	OSTDS Phase Out	Underway	2026	6,075	NA	\$25,000,000.00
7455	Town of Sewall's Point	SP-38	North Sewall's Point Road	Installation of exfiltration system/baffle boxes and STAs.	BMP Treatment Train	Planned	TBD	TBD	TBD	\$4,000,000.00

Project ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost Estimate
5518	Town of Sewall's Point	SP-38	South Sewall's Point Road - Phase 1, Part 4 (River Road)	BMP treatment train to adjust the slopes on the roadway, construct exfiltration storage/treatment pipe inlets and direct flows into an existing STA/detention pond, exfiltration system, baffle boxes, littoral shelves and a weir at the outfall.	BMP Treatment Train	Planned	2026	TBD	TBD	TBD
6468	Town of Sewall's Point	SP-39	Sewall's Point Commercial Area Septic Tank Elimination	Conversion of existing septic tanks to sanitary sewer.	OSTDS Phase Out	Completed	2023	NA	NA	TBD

Chapter 4. Summary

4.1 Basin Evaluation Results

4.1.1 TRA

Table 80 summarizes the results of the TRA evaluation process presented by basin in **Chapter 3** for the basins in the St. Lucie River and Estuary Watershed. For each basin, a priority was assigned based on the TN and TP concentrations. The TRA evaluation does not currently include an assessment of water quantity since a flow evaluation has not yet been completed. Once a complete flow evaluation is available, it will be reviewed for inclusion in future BMAP reporting.

These priorities were set to help focus resources and projects in the basins that are in most need of improvement. Priorities were set, with 1 the highest priority, 2 the next highest priority, and 3 a priority as resources allow.

Table 80. Summary of the TRA evaluation results

*Used FWM concentration from the 2025 South Florida Environmental Report (Table 8-C-2, 5-Year Average)

Basin	TN Priority	TP Priority
North Fork	2	3
Ten Mile Creek*	3	2
C-24*	1	2
C-23*	3	3
C-44/S-153*	3	2
Basin 4/5	2	3
Basin 6	3	3
South Fork	2	2
South Coastal	3	2
South Mid-Estuary	3	3
North Mid-Estuary	2	3

4.1.2 Trend Analysis

Table 81 summarizes the trend analysis results by basin. The trend analysis from the second 5-Year Review was updated to add data through WY2024. The latest analysis uses data from five water years before BMAP adoption and 12 years after adoption for a period of record extending from May 1, 2008 through April 30, 2024. The results of the trend analysis are used in the TRA evaluation presented in **Chapter 3**.

Table 81. Trend analysis results by basin

Basin Name	TN Trend Analysis	TP Trend Analysis
Basin 4/5	No Significant Trend	Significant Decreasing Trend
Basin 6	Significant Decreasing Trend	Significant Decreasing Trend
C-23	No Significant Trend	Significant Decreasing Trend

Basin Name	TN Trend Analysis	TP Trend Analysis
C-24	No Significant Trend	Significant Decreasing Trend
C-44	Significant Decreasing Trend	No Significant Trend
Compliance Station	No Significant Trend	No Significant Trend
North Fork	No Significant Trend	Significant Increasing Trend
North Mid-Estuary	No Significant Trend	No Significant Trend
South Coastal	Significant Decreasing Trend	No Significant Trend
South Fork	No Significant Trend	No Significant Trend
South Mid-Estuary	Significant Decreasing Trend	Significant Decreasing Trend
Ten Mile Creek	Significant Decreasing Trend	Significant Decreasing Trend

4.1.3 Hotspot Analysis

Figure 22 and **Figure 23** summarize the TN and TP hot spot analysis results, respectively, that were presented by subwatershed in **Chapter 3** for the subwatersheds in the St. Lucie River and Estuary Watershed. For each basin, a rank was assigned to help focus resources and projects in the basins that are in most need of improvement. Ranks were set for high, medium, and low resource needs.

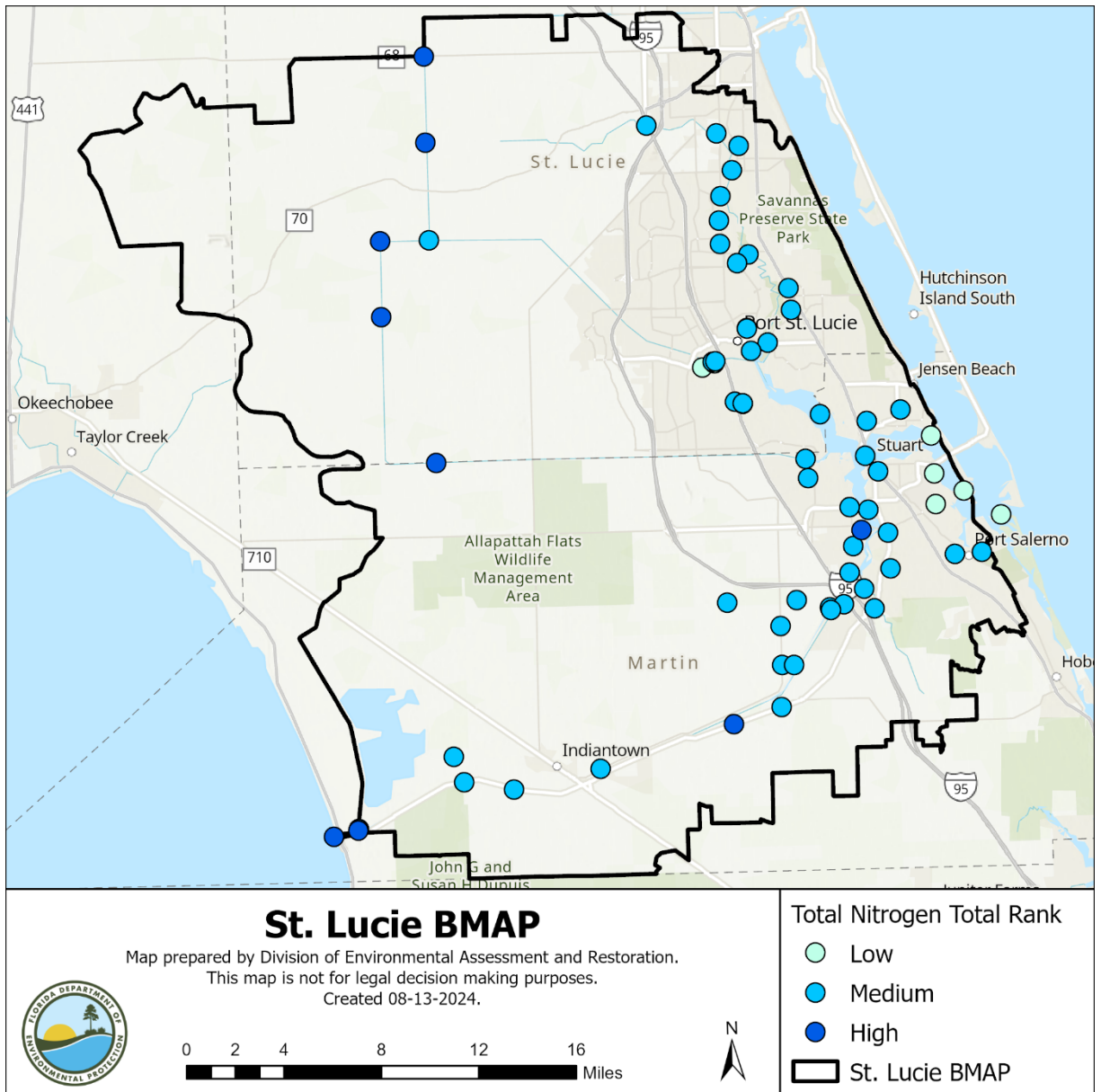


Figure 22. TN hot spot analysis results

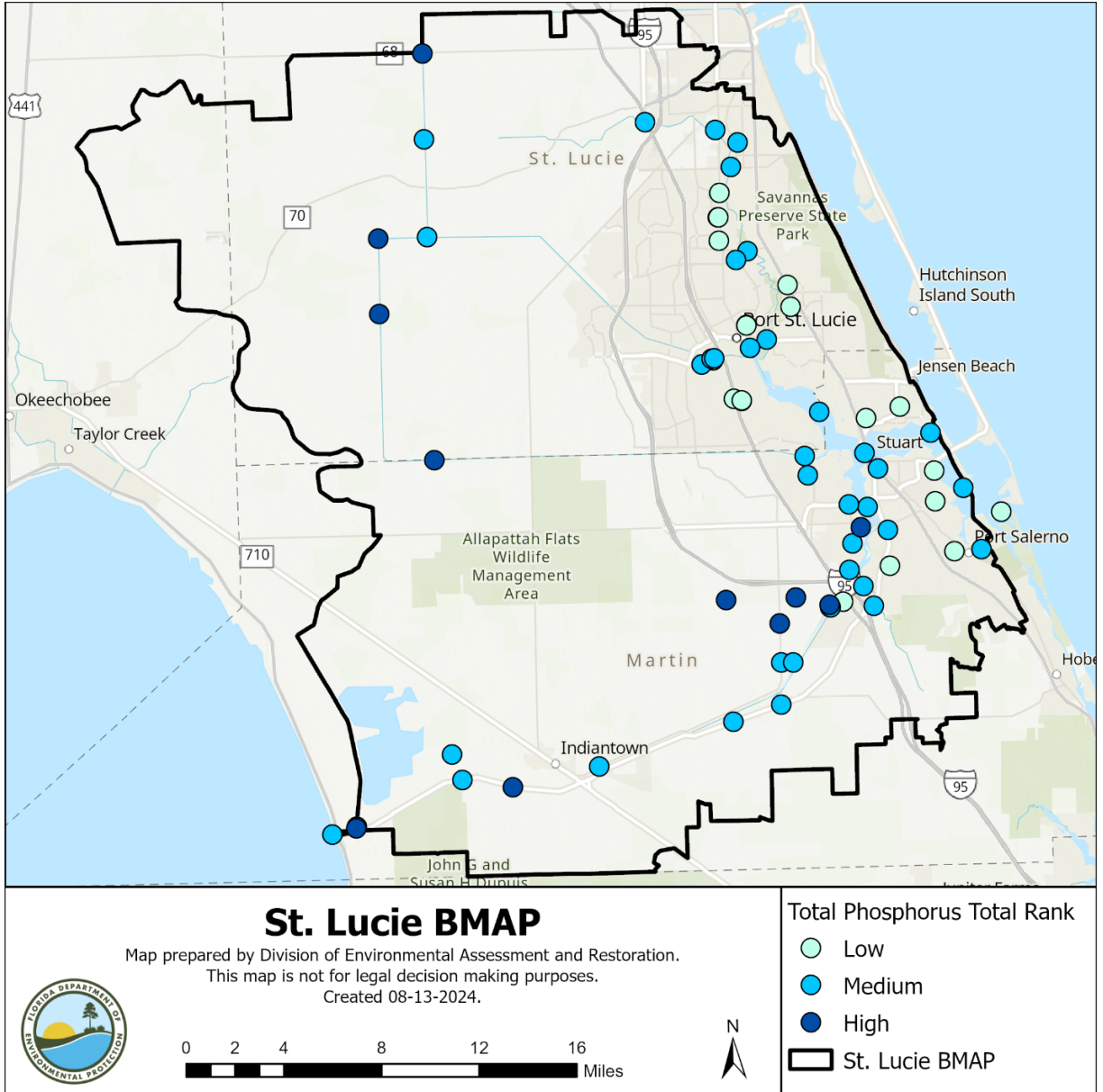


Figure 23. TP hot spot analysis results

4.2. Future Growth

Nutrient impacts from new development are addressed through a variety of mechanisms outlined in this BMAP, as well as provisions of Florida law. While most of the restoration projects and management strategies listed in this BMAP address current nutrient loading, there is a need to plan and implement sound management strategies to address loading associated with population growth. DEP has included in this BMAP specific elements to address current and future WWTF effluent, OSTDS and stormwater sources. Broader requirements—such as local land development regulations, comprehensive plans, ordinances, incentives, environmental resource permit requirements, and consumptive use permit requirements—all provide additional

mechanisms and avenues to protect water resources and reduce the impact of new development and other land use changes as they occur.

Further strengthening of comprehensive plans is required under section 163.3177 F.S., which required local governments to amend their comprehensive plans with the following considerations:

- Identify and prioritize projects to meet the TMDLs.
- Update the wastewater section to include plans for treatment updates, not just capacity, and AWT must be prioritized.
- In developments with more than 50 lots with more than one OSTDS per acre, the plan must consider the feasibility of providing sanitary sewer within a 10-year planning horizon and identify the facility that could receive the flows. The plan must review the capacity of the facility and any associated transmission facilities; projected wastewater flow at that facility for the next 20 years, including expected future new construction and connections of OSTDS to sanitary sewer; and timeline for the construction of the sanitary sewer system. The plan was required to be updated by July 1, 2024.
- Comprehensive plans must contain capital improvements element to consider the need for and the location of public facilities.
 - Construction, extension, or increase in capacity of public facilities as well as principals for correcting existing public facility deficiencies. Components must cover at least a 5-year period.
 - Costs, timeline, general location and projected revenue sources to fund the facilities.
 - Standards to meet acceptable level of service.
 - Schedule of capital improvements, which may include privately funded projects.
 - Must include a list of projects necessary to achieve the pollutant load reductions attributable to the local government, as established in a BMAP.
 - The plan must include a general sanitary sewer, solid waste, drainage, potable water, and natural groundwater aquifer recharge element correlated to principals and guidelines for future land use.
 - The element must address coordinating the extension of, increase in the capacity of, or upgrade in treatment of facilities to meet future needs; prioritizing AWT while maximizing the use of existing facilities and discouraging urban sprawl; conserving potable water resources; and protecting the functions of natural groundwater recharge areas and natural drainage features.

Through this array of laws and the requirements in this BMAP, new development must undertake nutrient-reduction measures before the development is complete. DEP recommends that all local governments revise their planning and land use ordinance(s) to adequately address future growth and the associated environmental impact. Maintaining land at lower intensity uses through land purchases or easements for conservation and recreational use is one strategy that can help reduce water quality impacts in the basin. Any additional nutrient loading from land use intensification will be evaluated during future BMAP review efforts. If an increase in loading

occurs an entity may receive additional reduction requirements that will require additional restoration actions by the responsible entity to remediate impact.

4.2.1 Future Growth Analysis

An analysis was done to consider the impacts of future land use changes on nutrient loading in the basin. First, a spatial analysis determined the proportion of developable land area attributed to each entity within the county. Areas where there are permanent waterbodies or which have been set aside for conservation are unlikely to see future development or increased population so the National Hydrography Database for lake and ponds and the Florida Natural Areas Inventory conservation lands were used to remove lands from the analysis. The remaining land (“developable land”) attributed to each entity was used as a starting point for per acre loading calculations, which were used to estimate future loads from increased stormwater runoff as a result of development under different planning scenarios, described below. Loading projections were based on DEP’s statewide event mean concentrations and runoff coefficients for low density residential, with a generalized rainfall for Central Florida from Harper 2007. Finally, a generalized attenuation rate of 70% for urban runoff was applied to loading calculations to derive the estimated future load to the basin.

Scenario 1 represents a conservative growth future where 2% of developable land is converted from natural or undeveloped land uses to low density residential.

Scenario 2 represents a moderate growth future where 10% of developable land is converted to low density residential.

Scenario 3 represents an extreme growth future where 17% of developable land is converted to low density residential.

Based on the methodology above, using nitrogen loads as an example, **Table 82** shows the estimated future nutrient loads from stormwater runoff that may be assigned to local governments if growth continues as projected under the three planning scenarios. DEP encourages local governments to consider these additional nutrient loads when authorizing new development or changes in land uses, and when developing local plans for wastewater infrastructure expansion and maintenance, to ensure that the TMDL target is achieved and maintained.

Table 82. Estimated nitrogen load from development in the BMAP area.

Entity	Developable Land (acres)	2040 Additional TN Loading Under Scenario 1 (2%) (lbs/yr)	2040 Additional TN Loading Under Scenario 2 (10%) (lbs/yr)	2040 Additional TN Loading Under Scenario 3 (17%) (lbs/yr)
Martin County	168,968	178	890	1,512
Indiantown	8,825	9	46	79
Sewall's Point	788	1	4	7
Stuart	4,232	4	22	38
Okeechobee County	14,165	15	75	127
St. Lucie County	133,916	141	705	1,199

Entity	Developable Land (acres)	2040 Additional TN Loading Under Scenario 1 (2%) (lbs/yr)	2040 Additional TN Loading Under Scenario 2 (10%) (lbs/yr)	2040 Additional TN Loading Under Scenario 3 (17%) (lbs/yr)
Fort Pierce	8,368	9	44	75
Port St. Lucie	71,931	76	379	644
Basin Totals	411,192	433	2,165	3,680

This broad analysis is not being used to determine allocated reductions for responsible entities, but does help shed light on how loading in the basin might change in the coming decades without comprehensive local and regional planning. Future development will likely result in an increase in loading from stormwater and wastewater sources. These changes are difficult to model because much of it is dependent on the type and location of development, enforcement of local ordinances, future home values, and future social attitudes towards lawn maintenance and waste management. There are also complex dynamics associated with new urban development in which loading from human activities is compounded by potential removal or conversion of forest lands or green spaces, which had previously provided natural remediation of atmospheric and soil nutrients. This analysis did not capture all local considerations or complexities of mixed land use.

While it is unlikely that additional nutrient loading from future populations can be entirely avoided, the results of this analysis provide local governments information on how they can mitigate future nutrient loading by pursuing planning scenarios which prioritize preserving low intensity land uses. In addition to stormwater BMPs, strengthening and enforcing fertilizer ordinances, working with homeowners' associations or neighborhood groups to reduce fertilizer use on community landscaping, or incentivizing Florida Friendly development practices could reduce the overall impact of additional nutrients associated with urban stormwater runoff.

Other mechanisms discussed above in **Section 4.2** are available to local governments to further mitigate future nutrient loading from waste sources. For example, the expansion of centralized sewer services that meet or exceed AWT standards for wastewater effluent, the use of enhanced nutrient-reducing OSTDS certified with higher nitrogen treatment efficiencies, or other wastewater treatment systems with higher treatment levels.

DEP encourages local governments to incorporate water quality considerations when developing and implementing local ordinances, comprehensive plans, stormwater planning, and septic incentive programs in areas of urban expansion.

4.3. Compliance

The TMDL sets a TN concentration target of 0.72 mg/L and a TP concentration target of 0.081 mg/L, as measured at the Roosevelt Bridge (SE 03) compliance point. The TMDL also includes a biochemical oxygen demand target of 2.0 mg/L. The TMDL does not address a compliance calculation; however, for the purposes of this BMAP, compliance with the TMDL will be assessed by a 5-year rolling average of concentration values measured on a monthly basis at the

SE 03 monitoring station. The 5-year rolling average will use data from the latest five WYs. The TMDL is attained when the 5-year rolling average concentration at the SE 03 monitoring station is less than the TMDL target concentration. DEP providing revised starting loads and allocations is an expected part of the iterative BMAP process where loading estimates are reassessed as land uses and other loading sources change over time as. Responsible entities and agencies should expect periodic adjustments to the basin reduction assignments during the BMAP process.

Chapter 5. References

- Florida Department of Environmental Protection. 2008. TMDL report. *Nutrient and dissolved oxygen TMDL for the St. Lucie Basin*. Tallahassee, FL: Division of Water Resource Management, Bureau of Watershed Management.
- Florida Department of Environmental Protection. 2021. Best Management Practices for the Enhancement of Environmental Quality on Florida Golf Courses. Florida Golf Course Superintendents Association.
- Harper, H. and Baker, D.M. 2007. Evaluation of Current Stormwater Design Criteria within the State of Florida Final Report. Prepared for the Florida Department of Environmental Protection. Contract No. SO108.
- Sansalone John J., Berretta, Christian, and Raje, Saurabh. 2011. Quantifying Nutrient Loads Associated with Urban Particulate Matter (PM), and Biogenic/Litter Recovery through Current MS4 Source Control And Maintenance Practices (Maintenance Matters !) Final Report to Florida Stormwater Association Educational Foundation (FSAEF). University of Florida (UF) College of Engineering, Engineering School of Sustainable Infrastructure and Environment (ESSIE), Gainesville, Florida.
- Parker, M., S. Webb, D. Taylor, and S. Ouly. 2025. Chapter 8C: St. Lucie River Watershed Protection Plan 2025 Update. In: 2025 South Florida Environmental Report – Volume I, South Florida Water Management District, West Palm Beach, FL.

Appendices

Appendix A. Important Links

The links below were correct at the time of document preparation. Over time, the locations may change and the links may no longer be accurate. None of these linked materials are adopted into this BMAP.

- DEP Website: <http://www.floridadep.gov>
- DEP Map Direct Webpage: <https://ca.dep.state.fl.us/mapdirect/>
- Florida Statutes: <http://www.leg.state.fl.us/statutes/>
 - a. Florida Watershed Restoration Act (Section 403.067, F.S.)
- DEP Model Ordinances: http://fyn.ifas.ufl.edu/fert_ordinances.html
- DEP Standard Operating Procedures for Water Quality Samples: <https://floridadep.gov/dear/quality-assurance/content/dep-sops>
- FDACS BMPs: <https://www.freshfromflorida.com/Business-Services/Best-Management-Practices-BMPs/Agricultural-Best-Management-Practices>
- FDACS BMP and Field Staff Contacts: <http://www.freshfromflorida.com/Divisions-Offices/Agricultural-Water-Policy>
- Florida Administrative Code (Florida Rules): <https://www.flrules.org/>
- Florida Stormwater Rule: <https://floridadep.gov/water/engineering-hydrology-geology/content/erp-stormwater-resource-center>
- National Laboratory Environmental Accreditation Conference National Environmental Laboratory Accreditation Program: <https://fldeploc.dep.state.fl.us/aams/index.asp>
- South Florida Environmental Report: <https://www.sfwmd.gov/science-data/scientific-publications-sfer>
- University of Florida Institute of Food and Agricultural Sciences Research (UF-IFAS): <http://research.ifas.ufl.edu/>

Appendix B. Agricultural Enrollment and Reductions

FDACS provides the information for this appendix for each BMAP. The information in this appendix does not represent DEP's position.

Agricultural Landowner Requirements

Section 403.067, F.S., requires agricultural producers and landowners located within BMAP areas to either enroll in the FDACS BMP Program and properly implement BMPs applicable to their property and operation or to conduct water quality monitoring activities as required by Rule Chapter 62-307, F.A.C. Producers or agricultural landowners who are enrolled in the FDACS BMP Program and are properly implementing the applicable BMPs identified on the BMP Checklist, or who are in compliance with the Equivalent Program requirements of Rule Chapter 5M-1, F.A.C., are entitled to a presumption of compliance with state water quality standards per section 403.067(7)(c)3., F.S.

OAWP BMP Program

BMPs Definition

For the purposes of the OAWP BMP Program, the term “best management practice” means a practice or combination of practices determined based on research, field-testing, and expert review, to be the most effective and practicable on-location means, including economic and technological considerations, for improving water quality in agricultural discharges. Section 403.067, F.S., requires that BMPs reflect a balance between water quality improvements and agricultural productivity. FDACS works closely with the DEP, WMDs, industry experts, and academic institutions to understand the environmental and agronomic effects addressed by BMPs.

Section 403.067, F.S., authorizes and directs FDACS to develop and adopt by rule BMPs that will help Florida's agricultural industry achieve the pollution reductions allocated in BMAPs. To date, FDACS OAWP has adopted 11 commodity specific BMP manuals by rule, covering cattle, citrus, equine, dairy, nurseries, poultry, sod, small farms and specialty livestock, specialty fruit and nut, vegetable and agronomic crops, and wildlife operations. All OAWP BMP manuals are periodically revised, updated, and subsequently reviewed and preliminarily verified by DEP before re-adoption. BMPs serve as part of a multidisciplinary approach to water resource restoration and protection that includes public/private partnerships, landowner agreements and regional treatment technologies, which together form the comprehensive strategy needed to meet the goals established in BMAPs.

Enrolling in an FDACS BMP Program

To initially enroll in the FDACS BMP Program, agricultural landowners and producers must meet with an FDACS representative on site to determine the appropriate practices that are applicable to their operation(s) and to document the BMPs on the NOI and BMP Checklist. FDACS representatives consider site-specific factors when determining the applicability of BMPs including commodity type, topography, geology, location of production, soil type, field

size, and type and sensitivity of the ecological resources in the surrounding areas. Producers collaborate with the FDACS representative to complete an NOI to implement the BMPs and the BMP Checklist from the applicable BMP manual.

Once the NOI and Checklist are completed, signed, and submitted to OAWP, the producer is formally enrolled in the BMP Program. Because many agricultural operations are diverse and are engaged in the production of multiple commodities, a landowner may sign multiple NOIs for a single parcel. Producers must properly implement all applicable BMPs as soon as practicable, but no later than 18 months after completion and execution of the NOI and associated BMP Checklist.

Enrollment Prioritization

To address the greatest resource concerns, OAWP utilizes a phased approach based on commodity type, irrigation, and agricultural acreages, while ensuring that all entities identified as agriculture will be notified. Enrollment efforts have previously focused on enrolling parcels that are most impactful to water quality including parcels containing many agricultural acres, irrigated acres, or more intense agricultural land uses.

Implementation Verification

Section 403.067, F.S., requires FDACS to conduct an Implementation Verification (IV) site visit at least every two years to ensure that agricultural landowners and producers are properly implementing the applicable BMPs identified in the BMP Checklist. An IV site visit includes: review and collection of nutrient application records that producers must maintain to demonstrate compliance with the BMP Program; verification that all other applicable BMPs are being properly implemented; verification that any cost shared practices are being properly implemented; and identification of potential cost share practices, projects or other applicable BMPs not identified during enrollment. During the IV site visit, FDACS representatives also identify opportunities for achieving greater nutrient, irrigation, or water resource management efficiencies, including opportunities for water conservation. Procedures used to verify the implementation of agricultural BMPs are outlined in Rule 5M-1.008, F.A.C.

Nutrient Application Records

Enrolled landowners and producers are required to keep records on the total pounds of nitrogen and phosphorus fertilizer from all sources that are applied to their operations to comply with BMP program requirements, including AA biosolids. Nutrient records from Class A or B biosolids applied in accordance with Chapter 62-640, F.A.C. are collected through the DEP permitting process as described in 5M-1.008(5). FDACS will collect information pertaining to these records for a two-year period identified when an IV site visit is scheduled. OAWP adopted a Nutrient Application Record Form (FDACS-04005, rev. 06/24, incorporated in 5M-1.008(4), F.A.C.), to help simplify the record keeping requirement. The form is available under Program Resources at <https://www.fdacs.gov/Agriculture-Industry/Water/Agricultural-Best-Management-Practices>. As these records relate to processes or methods of production, costs of production, profits, other financial information, fertilizer application information collected during an IV site

visit is considered confidential and may be exempt from public records under Chapters 812 and 815, F.S., and section 403.067, F.S. In accordance with subsection 403.067(7)(c)5., F.S., FDACS is required to provide DEP the nutrient application records.

Compliance Enforcement

If multiple efforts to contact agricultural landowners and producers within BMAPs about enrollment in the BMP Program are unsuccessful or if the landowner or producer chooses not to enroll in the BMP Program FDACS refers them to DEP for enforcement action per Section 403.067(7)(b), F.S.

If a producer is enrolled in the DACS BMP program and the producer chooses not to properly implement the applicable BMPs, FDACS representatives provide the landowner or producer with a list of corrective measures and the timeframes within which they must be implemented. If a landowner or producer does not cooperate with FDACS to identify or implement corrective or remedial measures, or refuses an IV site visit, FDACS refers them to DEP for enforcement action after attempts at corrective and remedial action are exhausted. Chapter 5M-1, F.A.C. outlines the process to ensure compliance with the BMP Program requirements.

Equivalent Programs

Enrollees operating under one of the Equivalent Programs listed in Rule 5M-1.001(7), F.A.C., are required to complete an NOI and meet the other requirements for Equivalent Programs specified in Rule Chapter 5M-1, F.A.C. Compliance with BMPs on the area(s) of the NOI property subject to the Equivalent Program instrument is demonstrated by fulfilling the requirements of Rule 5M-1.008(8), F.A.C. An Enrollee under an Equivalent Program listed in Rule 5M-1.001(7)(a)-(b), F.A.C., that is not required to complete a BMP Checklist is not subject to IV site visits. For Enrollees under an Equivalent Program listed in Rule 5M-1.001(7)(a)-(b), F.A.C., implementation verification shall be undertaken by the agency that issued the permit pursuant to its statutory and/or rule authority.

Other FDACS BMP Programs

FDACS implements other regulatory programs that help minimize nonpoint source pollution from agricultural activities.

Aquaculture

The FDACS Division of Aquaculture develops and enforces regulations governing the commercial aquaculture industry in Florida. Chapter 597, F.S., Florida Aquaculture Policy Act, requires Floridians who engage in commercial aquaculture to annually acquire an Aquaculture Certificate of Registration and implement all applicable Aquaculture Best Management Practices listed in Rule Chapter 5L-3.004, F.A.C. Facilities with certain production and discharge rates also require an NPDES permit from DEP. The Aquaculture BMPs were last updated by rule in November 2023.

FDACS Division of Aquaculture conducts annual site visits at certified facilities to confirm compliance with BMPs. These include management practices in areas of construction,

containment, shrimp culture, sturgeon culture, shellfish culture, live rock culture, aquatic plants, including fertilizer application, and health management. For more information about FDACS Division of Aquaculture and Aquaculture BMPs go to <https://www.fdacs.gov/Divisions-Offices/Aquaculture>.

Within the St. Lucie River and Estuary BMAP, there are 11 aquaculture facilities under certification with the FDACS Division of Aquaculture as of November 2024. As with agricultural land use in Florida, aquaculture facilities are frequently in and out of production. The facilities being provided may no longer be in operation and/or there may be new companies in different parts of the basin by the next BMAP iteration.

Forestry

The FDACS FFS develops, implements (through education and training), and monitors Silviculture BMPs in Florida. Silviculture BMPs are applicable to *bona-fide* ongoing silviculture operations and are not intended for use during tree removal or land clearing operations that are associated with a land-use change to a non-forestry objective. The FFS Silviculture BMP Manual is adopted under Chapter 5I-6.002 F.A.C. and was last updated in 2008. FFS is currently in the process of updating the manual with guidance from the FDACS Silviculture BMP Technical Advisory Council. The current manual is composed of fourteen BMP categories covering many aspects of silviculture operations including timber harvesting, site preparation, forest roads, stream and wetland crossings, and forest fertilization. The primary objectives of Silviculture BMPs are to minimize the risks to Florida's water resources from silviculture-related sources of nonpoint source pollution and maintain overall ecosystem integrity. Section 403.067, F.S., provides silviculture practitioners implementing Silviculture BMPs a presumption of compliance with state water quality standards for the pollutants addressed by the BMPs.

The FFS Silviculture BMP implementation monitoring program was initiated in 1981 and follows the criteria which have been established for state forest agencies in the southeastern United States by the Southern Group of State Foresters. Monitoring surveys are conducted biennially on a random sample of recently conducted silviculture operations throughout Florida with the goal of determining the level of implementation and compliance with Silviculture BMPs. For the period of record (1981 to 2023), Florida's statewide Silviculture BMP compliance rates range from 84% (1985) to 99.7% (2019) and have shown an overall average compliance rate above 98% since 2005. For more information about Silviculture BMPs and to download a copy of the latest FFS Silviculture BMP Implementation Survey Report go to <https://www.fdacs.gov/bmps>.

Agricultural Land Use

Agricultural Land Use in BMAPs

Land use data are helpful as a starting point for estimating agricultural acreage, determining agricultural nonpoint source loads, and developing strategies to reduce those loads in a BMAP area, but there are inherent limitations in the available data. Agriculture acreages fluctuate when volatile economic markets for certain agricultural commodities provide incentive for crops to

change at a fast pace, properties are sold, leases are terminated, production areas decrease, or production ceases, among other reasons. Florida's recent population growth has also resulted in accelerated land use changes statewide, some of which include transitioning agricultural or fallow agricultural lands to developed land uses. The dynamic nature of Florida's agricultural industry creates challenges with comparing agricultural acres from year to year.

When developing a BMAP, agricultural nonpoint source loading is estimated using a broad methodology based on statewide land use data. Oftentimes, this results in properties being designated as agricultural nonpoint pollution sources and creates an obligation for these properties to enroll in the FDACS BMP Program when they may be better addressed under other programs more applicable to the practices occurring on those properties. Examples of these properties include: rural residential/homesteads, ranchettes, or single-family homes with accessory structures for livestock or groves that serve the needs of those living on the property. Continued identification of these properties as agricultural nonpoint sources limits the ability to reliably direct programmatic resources to meet water quality restoration goals.

FDACS uses the parcel-level polygon ALG data that are part of the FSAID Geodatabase to estimate agricultural acreages statewide. FSAID provides acreages and specific types of irrigated and non-irrigated agricultural lands statewide. FSAID is updated annually based on WMD land use data, county property appraiser data, OAWP BMP enrollment data, U.S. Department of Agriculture data for agriculture, such as the Cropland Data Layer and Census of Agriculture, FDACS Division of Plant Industry citrus data, as well as field verification performed by the U.S. Geological Survey, WMDs, and OAWP. As the FSAID is detailed and updated on an annual basis, it provides a reliable characterization of agricultural land uses that accounts for the fast-growing population and resultant land use changes taking place statewide. The FSAID also provides FDACS a clearer picture of agriculture's impact on the landscape and consistent method to better track, direct, and assess BMP implementation, cost share projects, and regional projects.

Figure B-1 shows the acres of agricultural land use within the St. Lucie River and Estuary BMAP, determined by comparing the FSAID 11 ALG and total acreage of the BMAP boundary. Understanding what proportion of a BMAP is comprised of agriculture provides insight as to the potential contribution of agricultural nonpoint sources.

Category	Acres
BMAP acres	539,742
Agricultural acres	248,958

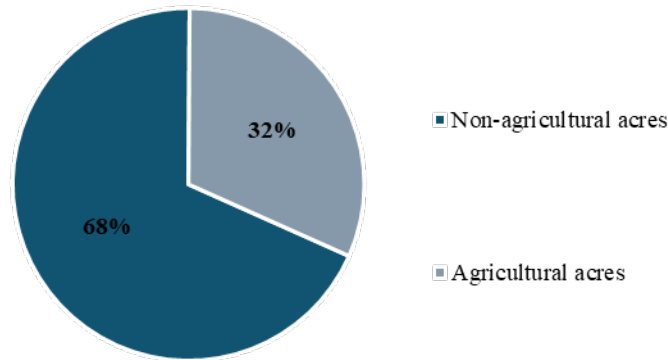


Figure B-1. Acres in St. Lucie River and Estuary BMAP

FDACS BMP Program Metrics

Enrollment Delineation and BMAP Metrics

BMP enrollments are delineated in GIS using county property appraiser parcels. In terms of NOIs, enrolled acreage fluctuates when parcels are sold, when leases end or change hands, or when production areas downsize or production ceases, among other reasons. Nonproduction areas such as forest, roads, urban structures, and water features are often included within the parcel boundaries. Conversely, agricultural lands in the FSAID ALG only include areas identified as agriculture. To estimate the agricultural acres enrolled in the BMP program, OAWP overlays the FSAID ALG and BMP enrollment data within GIS to calculate the acres of agricultural land in an enrolled parcel.

Summary Tables

As of April 30, 2024, 87% of the agricultural acres in the St. Lucie River and Estuary BMAP area are enrolled in FDACS BMP program. **Table B-1** shows the acreages enrolled in the BMP Program by commodity. It is important to note that producers often undertake the production of multiple commodities on their operations, resulting in the requirement to implement the applicable BMPs from more than one BMP manual. When this occurs, the acres enrolled under more than one BMP manual are classified as “multiple commodity” and not included in the individual commodity totals to prevent duplication.

Table B-1. Agricultural lands enrolled in the St. Lucie River and Estuary BMAP by BMP Program Commodity

Commodity	Agricultural Acres Enrolled
Citrus	5,963
Cow/Calf	120,544

Commodity	Agricultural Acres Enrolled
Dairy	616
Equine	706
Fruit/Nut	221
Lake Okeechobee Protection Plan	3
Multiple Commodities	73,160
Nursery	967
Poultry	42
Row/Field Crop	13,756
Sod	909
Wildlife	10
Total	216,897
Percent of Agricultural Lands Enrolled in BMPs	87%

Table B-2. Agricultural acres enrolled by commodity and crediting location

Commodity	Basin 4/5	Basin 6	C-23	C-24	C-44/S-153	North Fork	South Fork	Ten Mile Creek
Citrus	0	0	6	3,053	237	0	0	2,666
Cow/Calf	980	87	49,844	23,153	23,503	1,724	10,728	10,526
Dairy	0	0	616	0	0	0	0	0
Equine	6	3	14	6	394	5	268	11
Fruit/Nut	5	0	0	21	140	0	0	56
Lake Okeechobee Protection Plan	0	0	3	0	0	0	0	0
Multiple Commodities	506	0	17,800	21,662	26,687	75	410	6,021
Nursery	68	60	139	0	115	93	110	380
Poultry	0	0	0	42	0	0	0	0
Row/Field Crop	5	0	2,347	72	8,665	0	1,935	733
Sod	0	0	328	0	581	0	0	0
Wildlife	0	0	0	10	0	0	0	0
Total	1,569	150	71,097	48,018	60,322	1,897	13,451	20,392
Percent of Agricultural Lands Enrolled in BMPs	57%	73%	93%	87%	89%	56%	86%	74%

Enrollment Map

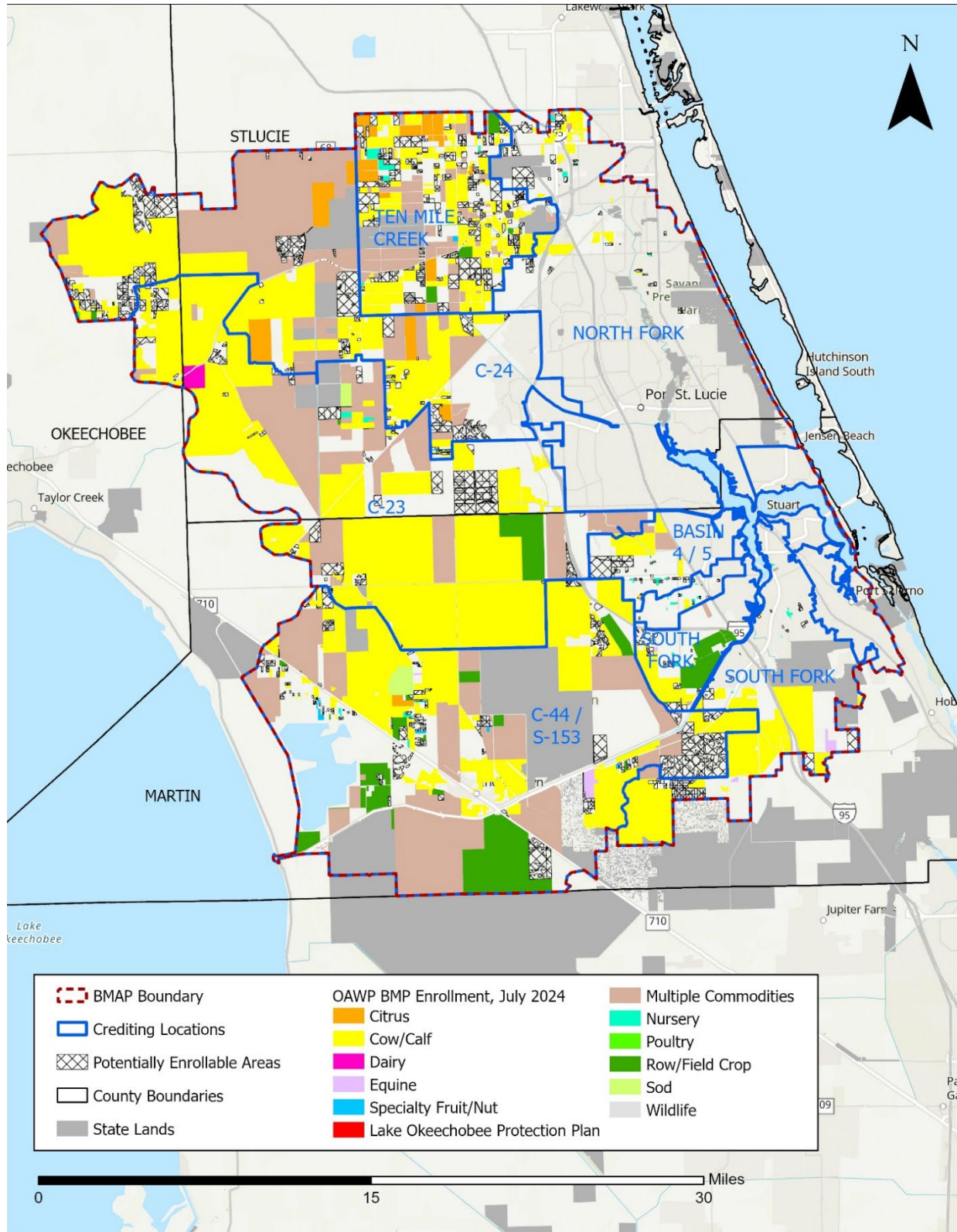


Figure B-2. Agricultural BMP enrollment in the St. Lucie River and Estuary BMAP

Unenrolled Agricultural Lands

Oftentimes, there are lands initially identified as agriculture which, upon closer evaluation, raise questions as to whether there is agricultural activity and whether it is enrollable within the purview of OAWP. FDACS characterizes lands classified as agriculture in the FSAID ALG, but not currently enrolled in the FDACS BMP Program using property appraiser data such as parcel owner information, agricultural tax valuation for exemption purposes, other parcel land use details to determine whether the remaining lands are potentially enrollable. More information about the “Unenrolled agricultural lands” characterization analyses is available in FDACS Annual Status of Implementation of BMPs Report.

The assessment of unenrolled agricultural lands at a more granular scale provides an indication of which areas are more likely (or unlikely) to have enrollable agricultural activities occurring on them. It also provides an estimate of the number of parcels and the associated agricultural acres deemed to be enrollable. The number of parcels is a useful proxy for the level of resource dedication needed to enroll the associated agricultural acres and where best to focus finite resources and staffing needs. It is often the case that much of the potentially enrollable acreage is encompassed within many smaller parcels which may require additional resources to enroll and require further evaluation, such as those that have agricultural activity intended solely for personal use ancillary to a residence, those that do not have an agricultural land use per the property appraiser, as well as parcels where there is no current activity to enroll.

Table B-3 shows the breakdown of agricultural lands within the St. Lucie River and Estuary BMAP by crediting location based on the FSAID 11 and the results of the FDACS unenrolled agricultural lands characterization.

Table B-3. Agricultural Lands in St. Lucie River and Estuary BMAP by Crediting Location

Crediting Location	Agricultural Acres	Unenrolled - Unlikely Enrollable Acres	Agricultural Acres - Adjusted	Agricultural Acres Enrolled*
Basin 4 / 5	2,875	138	2,737	1,569
Basin 6	308	103	205	150
C-23	85,745	9,486	76,260	71,097
C-24	61,137	5,637	55,500	48,018
C-44 / S-153	74,207	6,520	67,686	60,322
North Fork	5,977	2,564	3,413	1,897
North Mid-Estuary	2	0	2	0
South Coastal	28	28	0	0
South Fork	17,969	2,360	15,609	13,451
Ten Mile Creek	33,233	5,686	27,547	20,392

* Enrollment information current as of April 30, 2024

Potentially Enrollable Lands

There are 32,116 acres of potentially enrollable lands within the St. Lucie River and Estuary BMAP based on the assessment of unenrolled agricultural lands performed by FDACS. **Table B-**

4 shows the potentially enrollable acreages by crop type. **Figure B-3** shows the count of potentially enrollable parcels based on size classifications used by FDACS.

Table B-4. Potentially Enrollable Acres by Crop Type

Crop Type	Acres
Citrus	140
Crops	1,267
Fallow	11,032
Fruit (Non-citrus)	10
Grazing Land	16,719
Hay	1,499
Livestock	473
Nursery	479
Open Lands	94
Sod	397
Total	32,110

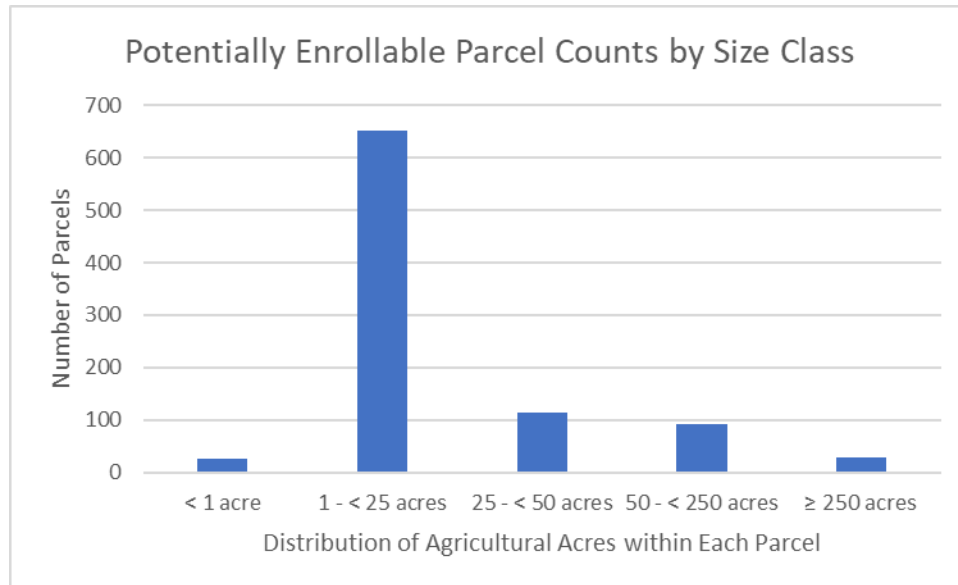


Figure B-3. Count of potentially enrollable parcels by size class

FDACS Cost Share

Enrollment in and proper implementation of BMPs makes a producer eligible for cost share for certain BMPs, other practices, and projects. The availability of cost share funds depends on annual appropriations by the Florida Legislature, and therefore, the amount available can vary each year. Cost share applications may be submitted once a producer has enrolled in the BMP Program and has been assigned an NOI number. Cost share practices are categorized as nutrient management, irrigation management, or water resource protection. BMPs, other practices, and projects eligible for cost share funding may include precision agriculture technologies, variable rate irrigation methods, water control structures, and tailwater recovery systems. OAWP seeks to leverage its cost share funding with other cost share programs offered by FDACS and other state

and federal agencies. The United States Department of Agriculture Natural Resources Conservation Service offers funding through its Environmental Quality Incentives Program, and certain WMDs have agricultural cost share programs. Applicants are encouraged to use OAWP cost share in conjunction with other available conservation programs although funding cannot be duplicative.

Table B-5 identifies the number of agricultural technologies that received cost-share assistance in the St. Lucie River and Estuary BMAP area and the associated nutrient reductions¹. The nutrient reductions were used to develop a methodology to estimate nutrient reductions for NOIs that have received cost-share funding. The NOI boundary, based on property appraiser parcel data, was considered the area treated by the cost-shared agricultural technology or project. For parcels with more than one cost-share project, OAWP identified the order of treatment to determine the reductions for the multiple projects based on each cost-shared agricultural technology. Estimated nutrient reductions from FDACS cost share are shown in **Table B-6**.

Table B-5. Cost Share Project Counts and Estimated Nutrient Reduction Efficiencies

Project Type	Total Reductions (TN)	Total Reductions (TP)	Project Count
Fence	10%	10%	18
Irrigation improvements, automation	20%	20%	22
Weather station (if weather station is included in parcel with Irrigation improvements it will not be counted)	20%	5%	8
Chemigation/fertigation	20%	20%	3
Precision ag technology	30%	10%	5
Drainage improvements, mole drain, ditch cleaning	10%	15%	9
Well, pipeline, trough, pond, heavy use protection	50%	50%	36
Retention, detention, tailwater recovery, berms (Cow/Calf)	25%	18%	9
Retention, detention, tailwater recovery, berms (Vegetable and Agronomic Crops, Citrus)	64%	70%	1
Culvert (if culvert is included in parcel with structures for water control it will not be counted as a separate project)	17%	29%	0
Structure for Water Control	17%	29%	42
Composting and/or Storage Project	---	---	0
Crop Implements	---	---	4
Dairy Work	50%	50%	0
Engineering, surveying, planning, modeling	---	---	11

Table B-6. Estimated Nutrient Reductions from FDACS Cost Share

Crediting Location	Total Reductions (TN)	Total Reductions (TP)
C-23	65,713	22,890
C-24	20,226	4,908

¹ Soil and Water Engineering Technology, Inc. (2016). Estimation of Total Phosphorous & Nitrogen Loads Reductions. Soil and Water Engineering Technology, Inc.

Crediting Location	Total Reductions (TN)	Total Reductions (TP)
C-44 / S-153	33,115	4,902
North Fork	1,740	1,740
South Fork	2,784	2,784
Ten Mile Creek	3,415	717
Total	126,992	37,940

Regional Projects

FDACS works cooperatively with stakeholders to reduce nutrient loading from agricultural lands in the St. Lucie River and Estuary BMAP through the operation of 1 regional water treatment projects. Regional projects may include HWTT, floating aquatic vegetation treatment, and DWM projects. **Table B-7** lists the project name, technology type, and reductions achieved by the regional projects within the St. Lucie River and Estuary BMAP.

Table B-7. Average Reductions Achieved by Regional Projects

Project Name	Project Type	Crediting Location	Total Reductions (TN)	Total Reductions (TP)
Ideal Grove HWTT	HWTT	C-24	220	220

Future Efforts

Outreach

To address resource concerns, FDACS continues enhancing coordination with producers, agencies, and stakeholders to increase enrollment in the BMP program. OAWP is sending correspondence to agricultural landowners within BMAPs that are not currently enrolled in the BMP program to increase enrollment rates and verify land uses where additional focus may be required to achieve resource protection. This effort is utilizing a phased approach and targeting priority land uses, and then evaluating the amount of agricultural acreage for the remaining unenrolled lands, while ensuring that all entities identified as agriculture will be notified. Additionally, OAWP continues to coordinate with industry groups and outreach partners to educate and inform agricultural producers about the BMP program.

Legacy Loads

Legacy loading can present an additional challenge to measuring progress in many areas of Florida with adopted BMAPs. Based on research, initial verification by DEP, and long-term trends in water quality in the BMAP area, it is expected that current efforts, such as BMP implementation, will continue to provide improvements in overall water quality despite the impacts from legacy loads.

While the implementation of BMPs will improve the water quality in the basin, it is not reasonable to assume that BMP implementation alone can overcome the issues of legacy loads, conversion to more urban environments, and the effects of intense weather events. BMP implementation is one of several complex and integrated components in managing the water resources of a watershed.

Collaboration between DEP, FDACS, WMDs, and other state agencies, as well as local governments, federal partners, and agricultural producers, is critical in identifying projects and programs, as well as locating funding opportunities to achieve allocations provided for under this BMAP. To improve water quality while retaining the benefits that agricultural production provides to local communities, wildlife enhancement, and the preservation of natural areas requires a commitment from all stakeholders to implementing protective measures in a way that maintains the viability of agricultural operations.

Appendix C. Planning for Additional Management Strategies

Responsible entities must submit a sufficient list of additional projects and management strategies to DEP no later than January 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 list of eligible management strategies to meet their next 5-year milestone reductions, specific project identification efforts are required to be submitted by January 14, 2026. Any such project identification efforts must define the purpose of and a timeline to identify sufficient projects to meet the upcoming milestone. The project description and estimated completion date for any such project identification effort must be provided and reflect the urgency of defining, funding, and implementing projects to meet the upcoming and future BMAP 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. Only those entities that provide sufficient project identification efforts will be deemed as possessing a defined compliance schedule. Those entities without an adequate project list nor a defined compliance schedule to meet their upcoming 5-year milestone may be subject to enforcement actions. Examples of project identification efforts include the following:

- Planning and identifying water quality projects and related costs and schedules in specific plans:
 - Feasibility studies (e.g., stormwater feasibility studies or wastewater feasibility studies).
 - Flood mitigation plans with nutrient management components.
 - Basinwide water quality management plans.
 - Nutrient management plans.
- Applying for external project funding.
- Developing interagency/interdepartmental agreements or memorandum of understanding for collaboration on nutrient reduction projects that cross jurisdictional or administrative boundaries.
- Updating future growth considerations in local comprehensive plans, land development reviews, and audits of relevant codes and ordinances.
- Updating existing remediation plans.
- Monitoring water quality in support of project planning and implementation.
- Researching innovative technologies.

Appendix D. Golf Course NMPs

The fertilizers used to maintain golf courses can be significant sources of nutrients in certain watersheds that are impaired for nitrogen and/or phosphorous. To achieve the TMDL targets, all nutrient sources need to reduce their nutrient loading. Similar to other sources, golf courses are required to implement management strategies to mitigate their nutrient loading and be in compliance with the BMAP. Florida BMAPs are adopted by Secretarial Order and therefore legally enforceable by DEP. Requirements for golf courses located in BMAPs are below.

1. Golf Course BMP Certification, Implementation, and Reporting.

- a. In areas with an adopted BMAP, all golf courses must implement the BMPs described in DEP's golf course BMP manual, *Best Management Practices for the Enhancement of Environmental Quality on Florida Golf Courses* (DEP, 2021).
- b. At minimum, the superintendent for each publicly owned golf course must obtain and maintain certification through the UF-IFAS Florida Golf Courses Best Management Practices Program. It is highly recommended that course managers and landscape maintenance staff also participate in the certification program to ensure proper BMP implementation and understanding of nutrient-related water quality issues and the role of golf courses in water quality restoration and protection. By no later than January 14, 2026, the golf course superintendents must confirm to DEP whether they have completed the certification. Certification must be completed by December 31, 2026. This certification must be renewed every four years.
- c. Beginning in 2026 a nutrient application record (fertilizer, reuse, etc.) must be submitted each year during the BMAP statewide annual reporting process.
- d. Fertilizer rates should be no greater than the UF-IFAS recommendations to help prevent leaching. This includes nutrients from reuse or any other source applied. If a facility uses fertilizer rates greater than those in the BMP manual they are required to conduct water quality monitoring prescribed by DEP or WMD that demonstrates compliance with water quality standards (**Table D-1**).
- e. Example golf course BMPs applicable to protecting water quality are listed below.
 - Use slow release fertilizer to prevent volatilization.
 - Use of lined media in stormwater features.
 - Use of denitrification walls.
 - Use of rain gardens.
 - Use of tree boxes.
 - Use of bioswales.

Table D-1. Nutrient ranges for warm season turfgrass species

Note: For more information refer to the *Best Management Practices for the Enhancement of Environmental Quality on Florida Golf Courses* (DEP, 2021).

Nutrient	Bermudagrass (%)	St. Augustinegrass (%)	Seashore Paspalum (%)	Centipedegrass (%)	Zoysia (%)
Nitrogen	1.95-4.63	1.53-2.41	2.80-3.50	1.5-2.9	2.04-2.36
Phosphorus	0.15-0.43	0.30-0.55	0.30-60	0.18-0.26	0.19-0.22
Potassium	0.43-1.28	1.1-2.25	2.00-4.00	1.12-2.50	1.05-1.27
Calcium	0.15-0.63	0.24-0.54	0.25-1.50	0.50-1.15	0.44-0.56
Magnesium	0.04-0.10	0.20-0.46	0.25-0.60	0.12-0.21	0.13-0.15
Sulfur	0.07-0.02	0.15-0.48	0.20-0.60	0.20-0.38	0.32-0.37
Sodium	0.05-0.17	0.00-0.17	-	-	-

2. All golf courses located within a BMAP are required to submit a NMP that is designed to, while maintaining even plant growth, prevent nutrient losses to the Floridan aquifer and surrounding surface waters. A draft NMP must be submitted to DEP within one year of BMAP adoption and a final document is due two years after adoption. The NMP must include the following:

a. *A brief description of the goals of the NMP.*

(This should be a paragraph that describes the goals of your NMP. Talk about how you are managing for high quality turf and water quality. Remember your goal is to protect water quality while maintaining the golf course in premium condition.)

b. *Identification of areas where nutrient applications will be made including greens, tees, fairways and roughs.*

(Discuss the areas of the course where you plan to use fertilizer, and why. Also discuss the areas that do not need or get any fertilizer applications. Include a GIS shapefile identifying all of these areas. Complete the table(s) detailing your nutrient application practices.)

Turf Details

Turf Type	Turf Species	Acreage
Tees		
Greens		
Fairways		
Roughs		
Total		

Fertilizer Application

Month	Turf Type	TN Application Rate (lbs/acre)	TP Application Rate (lbs/acre)	Number of Applications	Total TN Applied (lbs/acre)	Total TP Applied (lbs/acre)
January	Tees					
	Greens					
	Fairway					

Month	Turf Type	TN Application Rate (lbs/acre)	TP Application Rate (lbs/acre)	Number of Applications	Total TN Applied (lbs/acre)	Total TP Applied (lbs/acre)
	Roughs					
February	Tees					
	Greens					
	Fairway					
	Roughs					
March	Tees					
	Greens					
	Fairway					
	Roughs					
April	Tees					
	Greens					
	Fairway					
	Roughs					
May	Tees					
	Greens					
	Fairway					
	Roughs					
June	Tees					
	Greens					
	Fairway					
	Roughs					
July	Tees					
	Greens					
	Fairway					
	Roughs					
August	Tees					
	Greens					
	Fairway					
	Roughs					
September	Tees					
	Greens					
	Fairway					
	Roughs					
October	Tees					
	Greens					
	Fairway					
	Roughs					
November	Tees					
	Greens					
	Fairway					
	Roughs					
December	Tees					
	Greens					
	Fairway					
	Roughs					
Total						

Amount of Reuse/Effluent Applied*

Month	Quantity (gallons)	Monthly Average TN (mg/L)	Monthly Average TP (mg/L)	Quantity of TN Applied (lbs)	Running Total of TN Applied (lbs/acre)	Quantity of TP Applied (lbs)	Running Total of TP Applied (lbs/acre)
January							
February							
March							
April							
May							
June							
July							
August							
September							
October							
November							
December							
Total							

*If applicable.

Are any other sources of nutrients (i.e. manure, etc.) applied to the grounds? If so, please detail in a table similar to the reuse and fertilizer tables.

- c. ***Soil sampling methods and results for each area receiving fertilizer applications. Areas receiving fertilizer applications shall be sampled once every three years. Soil samples shall be collected and analyzed according to UF-IFAS/DEP recommendations or standard industry practice. Soil samples shall be analyzed, at minimum, for:***

1. Nitrogen.
2. Phosphorus.

(Describe existing soil sampling here. Describe what your planned soil sampling schedule looks like. Have you been soil testing for years already? If you are just getting started with soil testing the course, you can discuss that. What parts of the course are priority? If soil samples from areas of similar soil, fertilizer use and management are combined, then describe that process and justify why you feel they are similar enough to combine into a “representative” sample. Keep all soil test results (or copies of them) in this file as part of your nutrient management plan. Please do not send them in to DEP individually. If you have been soil testing for years, remember to add copies of all those past results to your NMP file.)

- d. ***Water quality sampling methods and results. Water quality sampling and analysis should be conducted in accordance with DEP’s Standard Operating Procedures. Water quality samples shall be analyzed, at minimum, for:***

1. Nitrogen.
2. Phosphorus.

(If applicable, Describe existing water quality sampling here. Describe what your planned water quality sampling schedule looks like. Have you been sampling for years already? If you are just getting started with soil testing the course, you can discuss that. What parts of the course are priority? Keep all water quality test results (or copies of them) in this file as part of your nutrient management plan. Please do not send them in to DEP individually. If you have been testing for years, remember to add copies of all those past results to your NMP file.)

- e. ***Tissue sampling methods and results. Tissue samples shall be collected and analyzed according to UF-IFAS/DEP recommendations or standard industry practice.***
(Describe existing tissue sampling plan here. Keep all test results (or copies of them) in this file as part of your nutrient management plan. Please do not send them in to DEP individually. If you have been testing for years, remember to add copies of all those past results to your NMP file.)
- f. ***Soil, tissue and water quality sample results shall be maintained for a minimum of 5 years. Please provide records.***
- g. ***When developing new (or expanding) golf courses, pre and post monitoring should be implemented in accordance with UF-IFAS/DEP recommendations.***

Appendix E. Wastewater Treatment Facilities

DEP has determined that certain WWTFs providing reclaimed water for the purpose of commercial or residential irrigation or that is otherwise being land applied within this BMAP area are causing or contributing to the nutrient impairments being addressed in this BMAP. Based on DEP’s determination, the facilities listed below are subject to the nitrogen and phosphorus limits set forth in section 403.086, F.S. These facilities have 10 years from BMAP adoption to meet the applicable AWT standards. This requirement does not prevent the department from requiring an alternative treatment standard, if the department determines the alternative standard is necessary to achieve the TMDL(s) or applicable water quality criteria.

For facilities that did not have adequate information to complete an evaluation or where a change occurs to the facility’s application of reclaimed water after the initial evaluation (e.g., an increase in facility capacity or change in location of reclaimed water application), the department will evaluate the land application of reclaimed water as more information becomes available pursuant to section 403.086, F.S.

Table E-1. Wastewater facilities subject to the nitrogen and phosphorus limits set forth in section 403.086, F.S.

Facility Name	Permit Number
FL0043214	Martin County Utilities Tropical Farms Water Treatment Plan and WWTF
FLA139653	Port St Lucie Utility Westport WWTF
FLA041459	City of Stuart WWTF
FLA326321	Port St Lucie Utilities - Glades WWTF
FLA043192	Martin County Utilities North WWTF
FLA029939	Indiantown Company WWTF
FLA013993	St Lucie West Services District
FLA013881	Martin Correctional Institute
FLA013958	Savanna Club WWTF