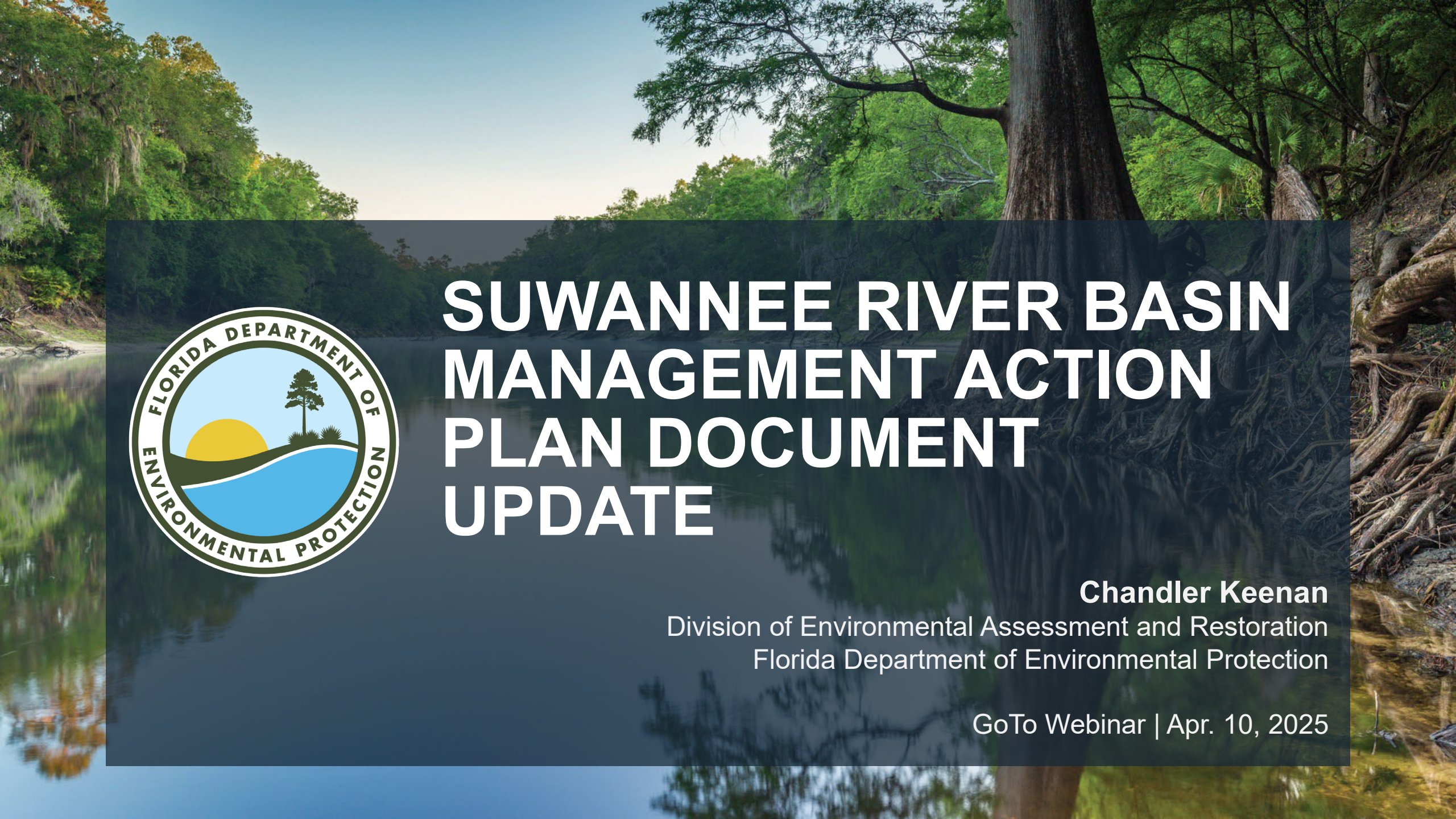
Lower and Middle Suwannee River Basin Management Action Plan (BMAP) Update Meeting

Via Webinar
Webinar Registration Link:
https://register.gotowebinar.com/register/8387583116283965525
April 10, 2025
10:00 AM EDT

Agenda

- Lower and Middle Suwannee River BMAP Background.
- Overview of Draft Lower and Middle Suwannee River BMAP.
- Next Steps.
- Questions/Comments.

Please note the site for documents pertaining to the Lower and Middle Suwannee River Basin BMAP: BMAP Public Meetings | Florida Department of Environmental Protection For more information on the Lower and Middle Suwannee River Basin BMAP, contact: Moira Homann, 850-245-8460, Moira.Homann@FloridaDEP.gov



SUWANNEE RIVER BASIN MANAGEMENT ACTION PLAN DOCUMENT UPDATE

Chandler Keenan
Division of Environmental Assessment and Restoration
Florida Department of Environmental Protection

GoTo Webinar | Apr. 10, 2025

WEBINAR TIPS

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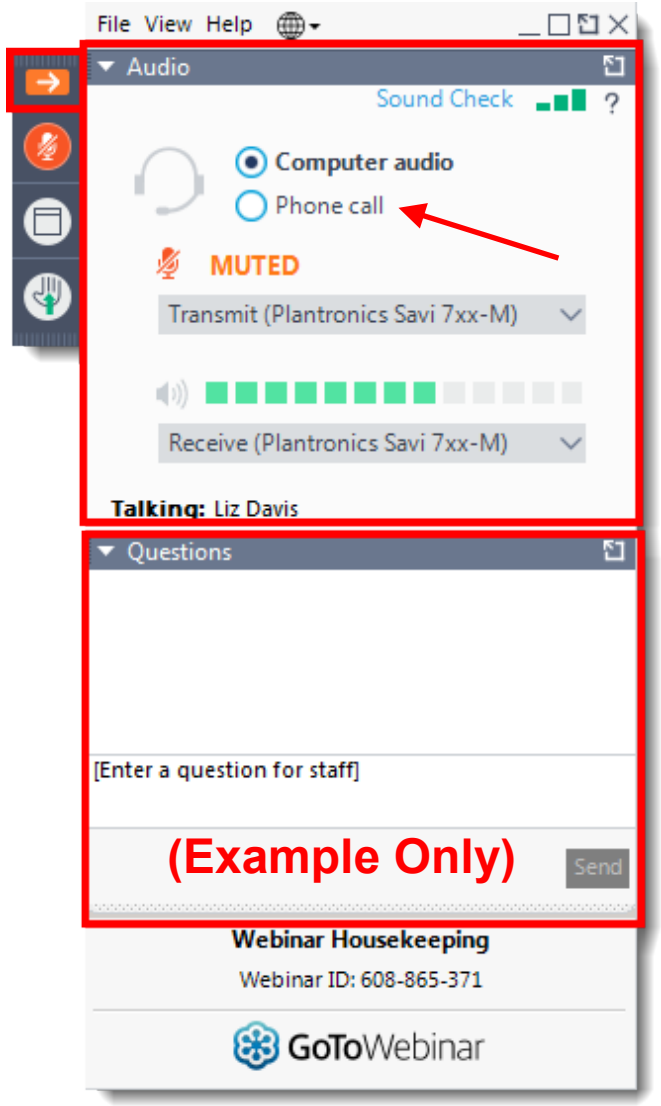
Note: Today's presentation is being recorded and will be provided on the website after the webinar.



AGENDA

- Basin management action plan (BMAP) background.
- Review of previous meetings.
- Document update walk-through.
- Next steps.

KEY BMAP COMPONENTS

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

Projects to meet the TMDL:

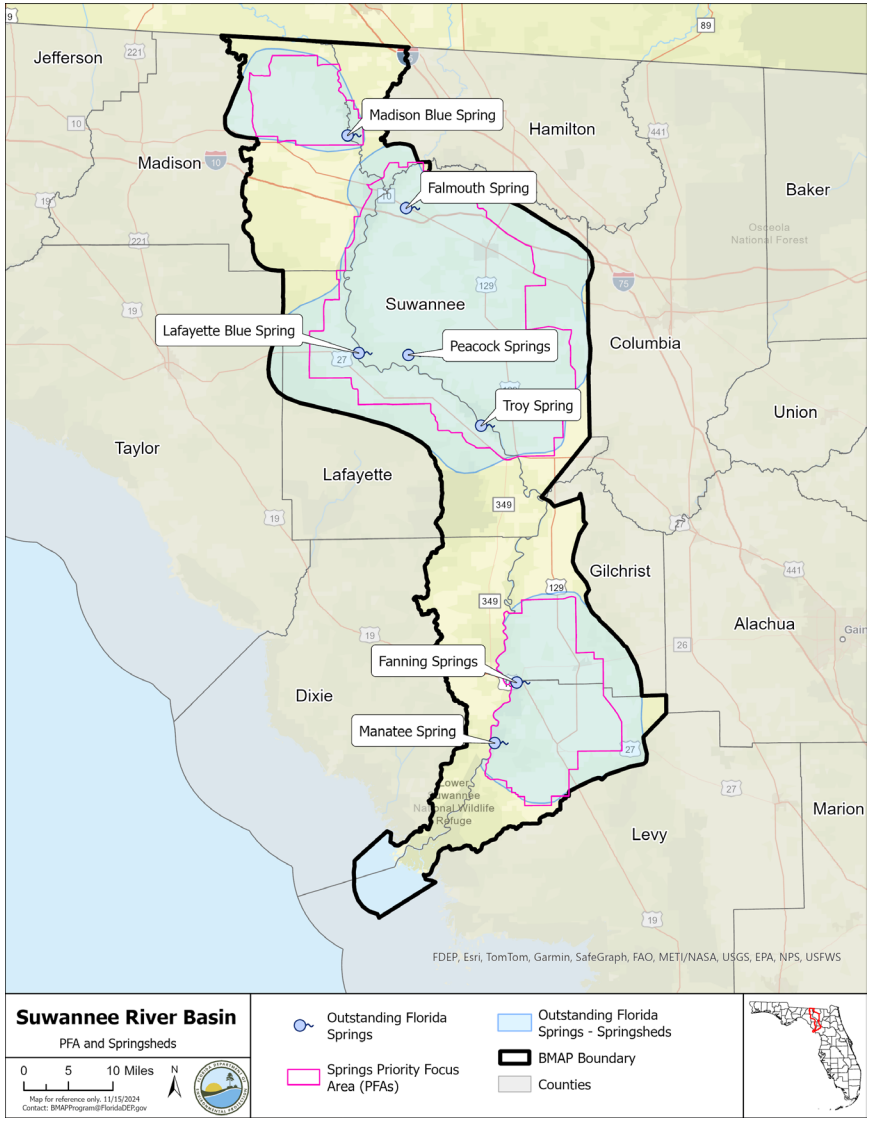
- Implementation timeline.
- Commitment to projects.
- Expected water quality improvement from projects and management strategies.

Process to assess progress toward achieving the TMDL:

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

BACKGROUND

- BMAP area is approximately 1,344,854 acres.
- Impaired for the nitrate form of nitrogen.
- TMDL is a monthly average target of 0.35 mg/L of nitrate.



BACKGROUND
BMAP STAKEHOLDERS

Type of Entity	Name
Responsible Entities	Agriculture Dixie County Gilchrist County Hamilton County Lafayette County Levy County Madison County Suwannee County City of Chiefland City of Fanning Springs City of Live Oak City of Madison City of Trenton Town of Bell Town of Branford Town of Lee Town of Mayo Private Wastewater Treatment Facilities Private Golf Courses
Responsible Agencies	Florida Department of Agriculture and Consumer Services (DACS) Florida Department of Environmental Protection (DEP) Florida Department of Health Florida Department of Transportation (DOT) District 2 Suwannee River Water Management District (SRWMD)
Other Interested Stakeholders	Residents/Homeowners Florida Farm Bureau Florida Onsite Wastewater Association Septic System Contractors

BMAP UPDATE COMPONENTS

ADOPT BY JULY 1, 2025

- Nitrogen Source Inventory Loading Tool (NSILT) updates.
- Spring vent load analyses updates.
- Entity allocation development.
- Establish five-year milestones for project implementation.
- Incorporate the 2020 Clean Waterways Act, 2023 House Bill (HB) 1379 and 2024 HB 1557 requirements.
- Incorporate regional projects.
- Future growth.
- Water quality data evaluation:
  - Evaluation of the monitoring network (spring vent and groundwater).
  - Water quality trend analyses.
- Evaluate further onsite sewage treatment and disposal systems (OSTDS) provisions.
- Evaluate the need for advanced wastewater treatment (AWT) or other more stringent effluent limits for domestic wastewater treatment facilities (WWTF).


Source: DEP


Source: DEP


Source: DEP

PREVIOUS MEETINGS

Summary of BMAP update meetings (held in 2024):

- **January Public Meeting**
  - Virtual
  - Overview of NSILT methodology updates (all springs basins)
- **May Public Meeting**
  - Virtual
  - Legislative requirements and basin specific analyses
- **October/November Public Meeting**
  - In person
  - Basin and entity allocated reductions, poster session
- **Entity Specific Meetings**
  - Throughout summer and fall
  - Seven meetings with responsive stakeholders to discuss reduction allocations and project lists

Source: Crystal River and Kings Bay | WaterMatters.org

DRAFT DOCUMENT

Section 1: Background

Section 2: Implementation

Section 3: Monitoring and Reporting

Section 4: Commitment to Plan Implementation

Section 5: References

Appendices

Legislation

TMDLs

BMAP Requirements

BMAP Areas

Priority Focus Area (PFA)

Other Scientific and Historical Information

Stakeholder Involvement

Best Management Practices (BMPs) Adopted by Rule

DRAFT DOCUMENT

Section 1: Background

Section 2: Implementation

Section 3: Monitoring and Reporting

Section 4: Commitment to Plan Implementation

Section 5: References

Appendices

Pollutant Loads

Load Reduction Strategy

Allocated Reductions

Management Strategies

OSTDS

WWTF

Urban Turfgrass Fertilizer (UTF)

Sports Turfgrass Fertilizer (STF)

Agriculture

Atmospheric Deposition

Future Growth

Funding Opportunities

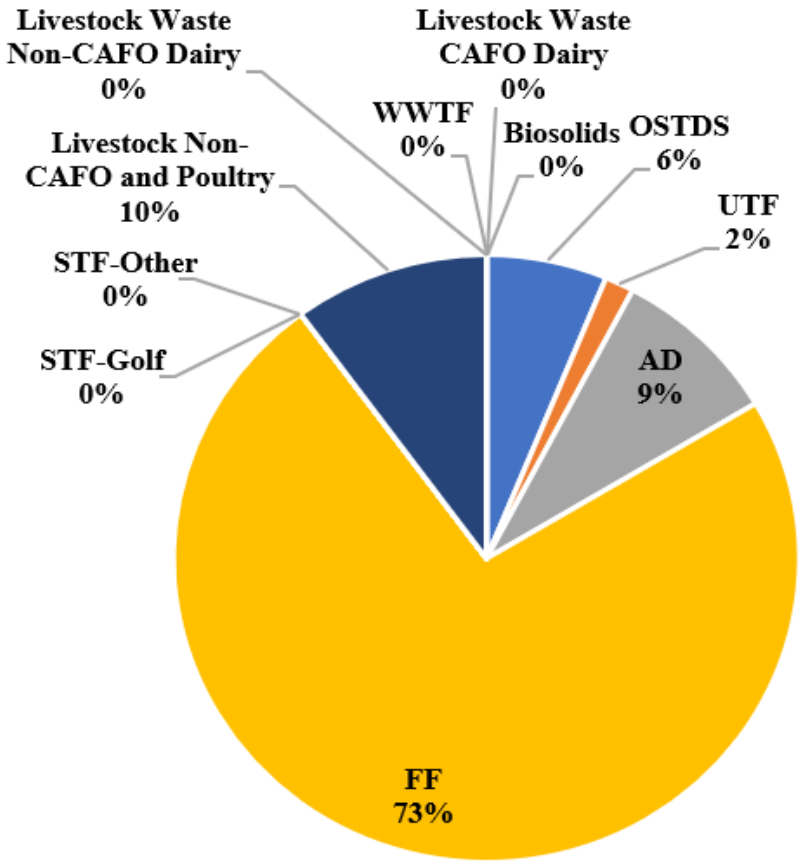
POLLUTANT LOADS

SECTION 2: IMPLEMENTATION TO ACHIEVE TMDL

Loading to groundwater by source in the Madison Blue Springshed

Nitrogen Source	Total Nitrogen (TN) Load to Groundwater (lbs/yr)	% Contribution
OSTDS	26,922	6%
UTF	6,476	2%
Atmospheric Deposition (AD)	37,654	9%
Farm Fertilizer (FF)	316,508	73%
STF	-	-
Livestock Waste (LW)	43,611	10%
Biosolids	-	-
WWTFs	-	-
Total	**431,171**	**100%**

TN = Total Nitrogen
lbs/yr = pounds/year

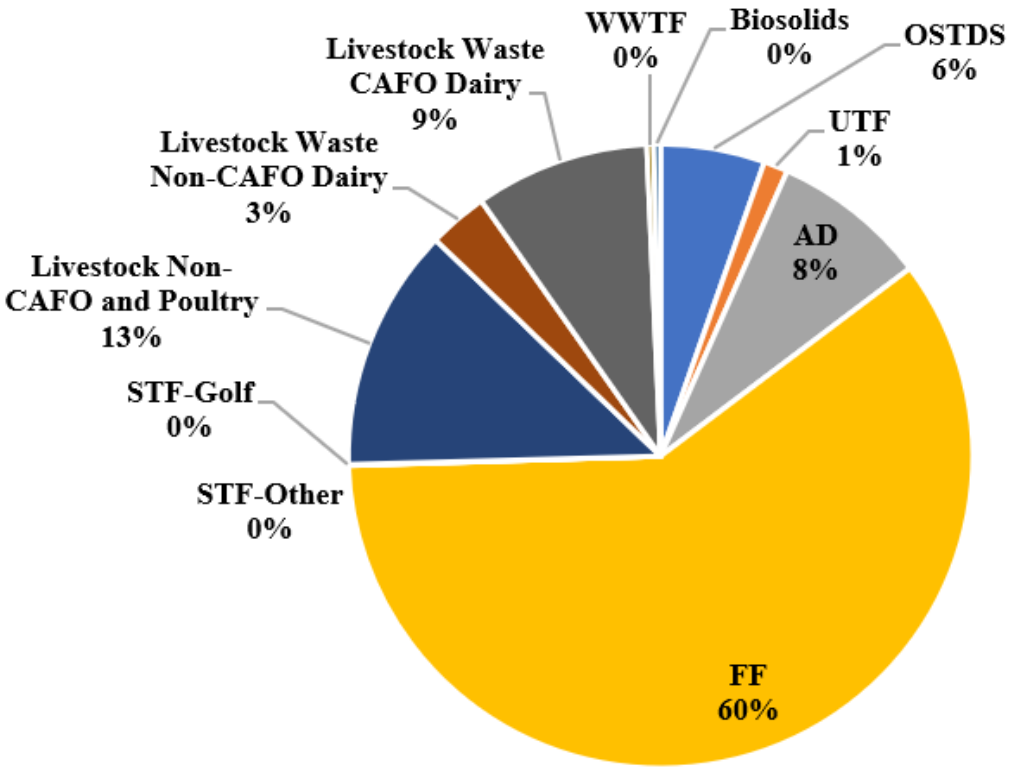


POLLUTANT LOADS

SECTION 2: IMPLEMENTATION TO ACHIEVE TMDL

Loading to groundwater by source in the Middle Suwannee Basin

Nitrogen Source	TN Load to Groundwater (lbs/yr)	% Contribution
OSTDS	199,251	5%
UTF	46,351	1%
AD	297,758	8%
FF	2,207,636	60%
STF	2,096	-
LW – Non-CAFOs	579,153	16%
LW – CAFO Dairies	333,350	9%
Biosolids	13,102	<1%
WWTFs	13,134	<1%
Total	**3,691,832**	**100%**



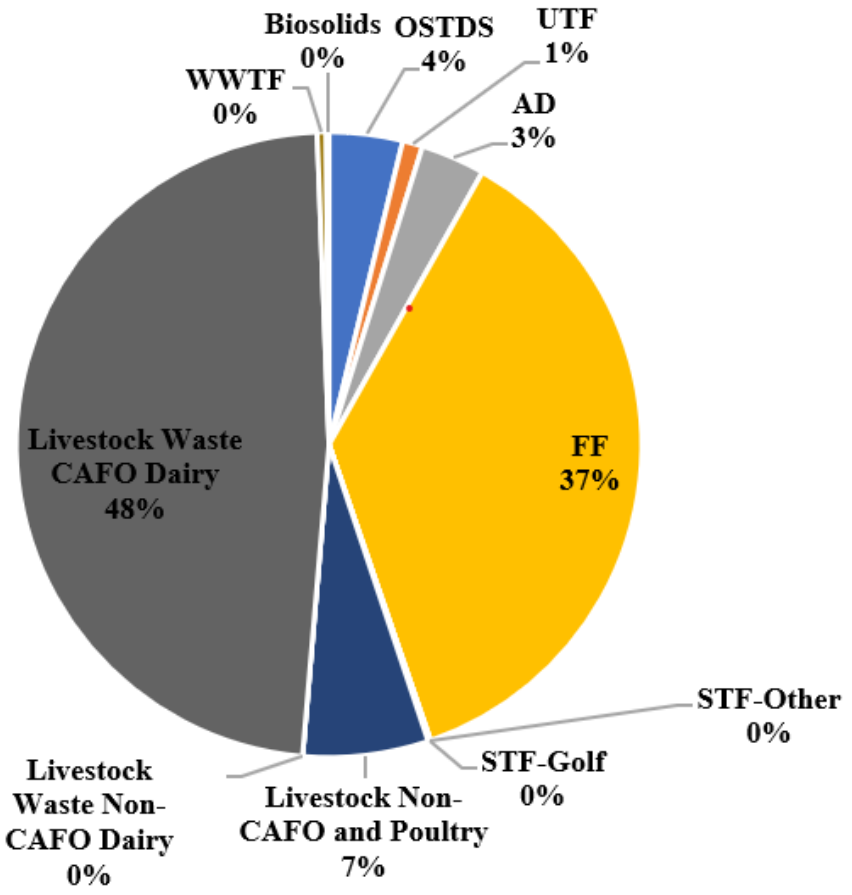
lbs/yr = pounds/year
CAFO = Confined Animal Feeding Operations

POLLUTANT LOADS

SECTION 2: IMPLEMENTATION TO ACHIEVE TMDL

Loading to groundwater by source in the Lower Suwannee Basin

Nitrogen Source	TN Load to Groundwater (lbs/yr)	% Contribution
OSTDS	104,646	4%
UTF	28,617	1%
AD	91,630	3%
FF	1,007,899	37%
STF	3,589	<1%
LW	1,502,653	55%
Biosolids	3,924	<1%
WWTFs	12,739	<1%
Total	**2,510,551**	**100%**



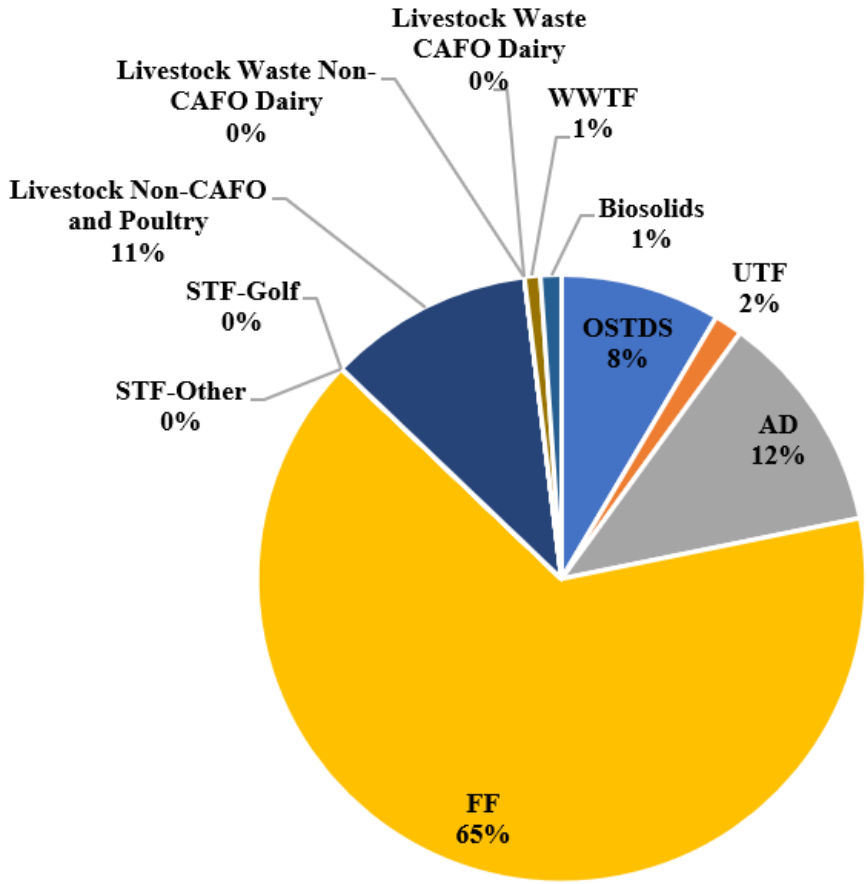
lbs/yr = pounds/year

POLLUTANT LOADS

SECTION 2: IMPLEMENTATION TO ACHIEVE TMDL

Loading to groundwater by source outside the springsheds in the Suwannee River Basin

Nitrogen Source	TN Load to Groundwater (lbs/yr)	% Contribution
OSTDS	143,498	8%
UTF	25,380	2%
AD	199,730	12%
FF	1,104,788	65%
STF		
LW	184,315	11%
Biosolids	18,759	1%
WWTFs	14,227	<1%
Total	**1,690,698**	**100%**



lbs/yr = pounds/year

LOADING ALLOCATION

SECTION 2: IMPLEMENTATION TO ACHIEVE TMDL

Description	Withlacoochee Nitrogen Loads (lbs/yr)	Middle Nitrogen Loads (lbs/yr)	Lower Nitrogen Loads (lbs/yr)	Outside the Springsheds Nitrogen Loads (lbs/yr)	Notes Regarding Data Used
Total Load at Spring Vent	364,088	1,382,888	1,593,042		Upper 95 % confidence interval - nitrate and flow data 2012 to 2022
TMDL Load	73,979	218,665	162,212		TMDL target of 0.35 mg/L and using the spring vent flow data from 2012 to 2022
Percent Reduction	80%	84%	90%	85%*	Calculated reduction needed based on the total load at the spring vent and the TMDL load
NSILT Load	431,171	3,691,832	2,755,697	1,690,698	Total load to groundwater from the updated NSILT
Required Reduction	**343,562**	**3,108,072**	**2,475,098**	**1,429,689**	**Based on NSILT Load and Percent Reduction at Spring Vent**

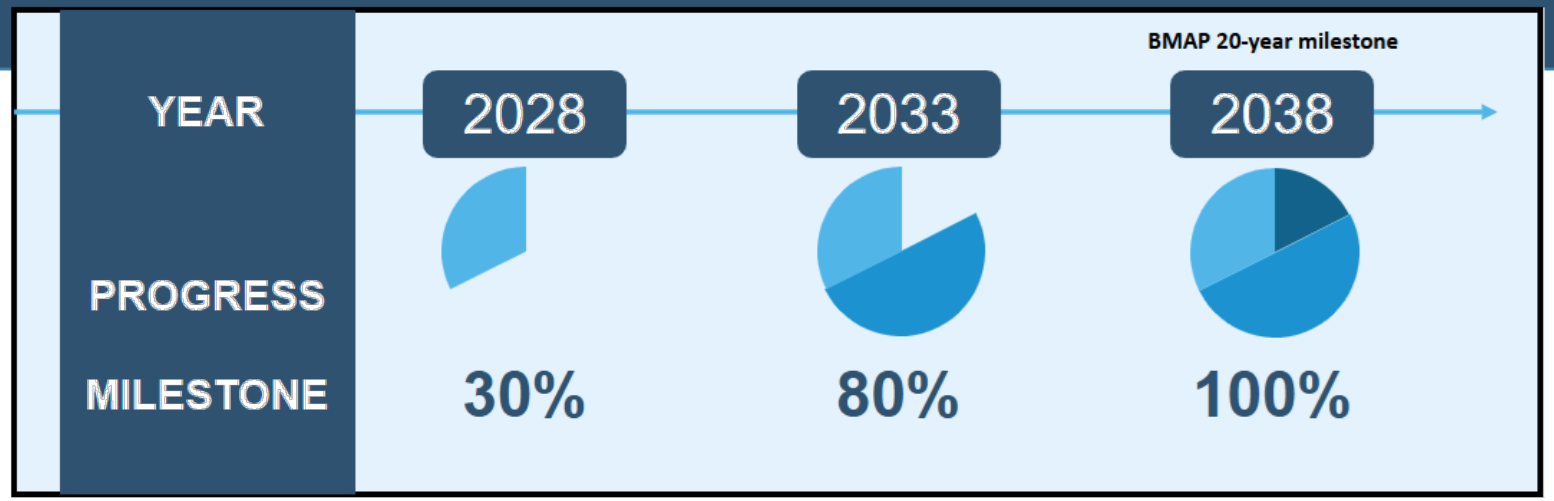
mg/L = milligrams per liter.

*The outside the springsheds percent reduction is an average of the percent reduction in the three springsheds.

MILESTONES/REDUCTION SCHEDULE

SECTION 2: IMPLEMENTATION TO ACHIEVE TMDL

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



MILESTONES/REDUCTION SCHEDULE

SECTION 2: IMPLEMENTATION TO ACHIEVE TMDL

- Responsible entities must submit a **sufficient list** of additional projects and management strategies to DEP by **Jan. 14, 2026**, to be compliant with the upcoming BMAP milestone or be subject to further department enforcement.
- If any lead entity is unable to submit a sufficient project list, then specific project identification efforts must be submitted **by Jan. 14, 2026**:
  - These responsible entities must submit project identification efforts whose purpose and timeline will provide projects to meet the 5-year milestone.
  - These efforts create a compliance schedule that must reflect the urgency of defining, funding and implementing projects to meet the upcoming and future milestones.
  - These planning efforts are ineligible for BMAP credit themselves but are necessary to demonstrate that additional eligible management actions will be forthcoming and BMAP compliance will be achieved.

ENTITY ALLOCATIONS

SECTION 2: IMPLEMENTATION TO ACHIEVE TMDL

Timeline

- 2028: 30%
- 2033: (+50%) 80%
- 2038: (+20%) 100%

2028 5-year milestone required reductions by entity in the Withlacoochee River Basin

Entity	2028 Milestone Assigned Reductions (30%) TN (lbs/yr)	Total Assigned Reductions TN (lbs/yr)
Agriculture	185	286,946
Hamilton County	7,766	615
Madison County	33	25,886
City of Madison	86,084	112
Total, All Reductions	**94,068**	**313,559**

lbs/yr = pounds/year

ENTITY ALLOCATIONS

SECTION 2: IMPLEMENTATION TO ACHIEVE TMDL

Timeline

- 2028: 30%
- 2033; (+50%) 80%
- 2038: (+20%) 100%

2028 5-year milestone required reductions by entity in the Middle Suwannee River Basin

Entity	2028 Milestone Assigned Reductions (30%) TN (lbs/yr)	Total Assigned Reductions TN (lbs/yr)
Agriculture	791,301	2,637,671
Suwannee County	47,954	159,846
Town of Branford	1,323	4,410
City of Live Oak	4,651	15,504
Town of Mayo	349	1,164
Lafayette County	8,077	26,925
Hamilton County	525	1,751
Madison County	429	1,429
Private WWTFs*	1,222	4,072
Private Golf Courses*	400	1,333
Regional Projects	987	3,292
Total, All Reductions	**857,219**	**2,857,396**

lbs/yr = pounds/year

*List of facilities and golf courses is included in the BMAP document.

ENTITY ALLOCATIONS

SECTION 2: IMPLEMENTATION TO ACHIEVE TMDL

Timeline

- 2028: 30%
- 2033: (+50%) 80%
- 2038: (+20%) 100%

2028 5-year milestone required reductions by entity in the Lower Suwannee River Basin

Entity	2028 Milestone Assigned Reductions (30%) TN (lbs/yr)	Total Assigned Reductions TN (lbs/yr)
Agriculture	677,024	2,256,747
Gilchrist County	7,954	26,513
Levy County	18,622	62,075
City of Chiefland	6,239	20,798
City of Fanning Springs	2,656	8,852
City of Trenton	3,115	10,384
Private WWTFs*	950	3,165
Private Golf Courses*	863	2,878
Regional Projects	416	1,386
Total, All Reductions	**717,839**	**2,392,798**

lbs/yr = pounds/year

*List of facilities and golf courses is included in the BMAP document.

ENTITY ALLOCATIONS

SECTION 2: IMPLEMENTATION TO ACHIEVE TMDL

Timeline

- 2028: 30%
- 2033: (+50%) 80%
- 2038: (+20%) 100%

2028 5-year milestone required reductions by entity outside the springsheds

Entity	2028 Milestone Assigned Reductions (30%) TN (lbs/yr)	Total Assigned Reductions TN (lbs/yr)
Agriculture	331,425	1,104,750
Dixie County	19,787	65,958
Gilchrist County	6,468	21,560
Town of Bell	1,132	3,775
Hamilton County	2,026	6,753
Lafayette County	2,707	9,023
Levy County	1,723	5,744
Madison County	5,342	17,807
City of Madison	4,492	14,973
Suwannee County	2,271	7,570
Town of Branford	367	1,223
Private WWTFs*	24	79
Regional Projects	474	1,579
Total, All Reductions	**378,238**	**1,260,793**

lbs/yr = pounds/year

*List of facilities is included in the BMAP document.

ENTITY ALLOCATIONS

SECTION 2: IMPLEMENTATION TO ACHIEVE TMDL

Withlacoochee River Basin Entity	2028 Milestone Assigned Reductions (30%)(lbs/yr)	TN Completed and Ongoing Project Credits (lbs/yr)	TN Reductions from Planned and Underway Projects* (Not Verified) (lbs/yr)	Total Projected** Project TN Reductions by Entity Through 2028 (lbs/yr)
Agriculture	185	81,322	0	81,322
Hamilton County	7,766	0	0	0
Madison County	33	0	0	0
City of Madison	86,084	0	0	0
Total, All Reductions	**94,068**	**81,322**	**0**	**81,322**

* Planned and underway project reduction estimates are not verified by DEP.

** Projected reductions include projects with a project status of completed, ongoing, planned and underway.

ENTITY ALLOCATIONS

SECTION 2: IMPLEMENTATION TO ACHIEVE TMDL

Middle Suwannee River Basin Entity	2028 Milestone Assigned Reductions (30%) (lbs/yr)	TN Completed and Ongoing Project Credits (lbs/yr)	TN Reductions from Planned and Underway Projects* (Not Verified) (lbs/yr)	Total Projected** Project TN Reductions by Entity Through 2028 (lbs/yr)
Agriculture	791,301	613,839	539	614,378
Suwannee County	47,954	0	0	0
Town of Branford	1,323	0	0	0
City of Live Oak	4,651	0	1,609	1,609
Town of Mayo	349	0	710	710
Lafayette County	8,077	32	0	32
Hamilton County	525	0	0	0
Madison County	429	0	0	0
Private WWTFs	1,222	0	0	0
Private Golf Courses	400	0	0	0
Regional Projects	987	0	0	0
Total, All Reductions	**857,219**	**613,871**	**2,858**	**616,729**

* Planned and underway project reduction estimates are not verified by DEP.

** Projected reductions include projects with a project status of completed, ongoing, planned and underway.

ENTITY ALLOCATIONS

SECTION 2: IMPLEMENTATION TO ACHIEVE TMDL

Lower Suwannee River Basin Entity	2028 Milestone Assigned Reductions (30%) (lbs/yr)	TN Completed and Ongoing Project Credits (lbs/yr)	TN Reductions from Planned and Underway Projects* (Not Verified) (lbs/yr)	Total Projected** Project TN Reductions by Entity Through 2028 (lbs/yr)
Agriculture	677,024	356,476	3,122	359,598
Gilchrist County	7,954	0	0	0
Levy County	18,622	0	0	0
City of Chiefland	6,239	0	13,676	13,676
City of Fanning Springs	2,656	0	3,253	3,253
City of Trenton	3,115	0	0	0
Private WWTFs	950	0	0	0
Private Golf Courses	863	0	0	0
Regional Projects	416	0	0	0
Total, All Reductions	**717,839**	**356,476**	**20,051**	**376,527**

* Planned and underway project reduction estimates are not verified by DEP.

** Projected reductions include projects with a project status of completed, ongoing, planned and underway.

ENTITY ALLOCATIONS

SECTION 2: IMPLEMENTATION TO ACHIEVE TMDL

Outside the Springsheds Suwannee River Basin Entity	2028 Milestone Assigned Reductions (30%)(lbs/yr)	TN Completed and Ongoing Project Credits (lbs/yr)	TN Reductions from Planned and Underway Projects* (Not Verified) (lbs/yr)	Total Projected** Project TN Reductions by Entity Through 2028 (lbs/yr)
Agriculture	331,425	184,793	0	184,793
Dixie County	19,787	0	0	0
Gilchrist County	6,468	0	0	0
Town of Bell	1,132	0	0	0
Hamilton County	2,026	0	0	0
Lafayette County	2,707	0	0	0
Levy County	1,723	0	0	0
Madison County	5,342	0	0	0
City of Madison	4,492	0	0	0
Suwannee County	2,271	0	0	0
Town of Branford	367	0	0	0
Private WWTFs	24	0	0	0
Regional Projects	474	0	0	0
Total, All Reductions	**378,238**	**184,793**	**0**	**184,793**

* Planned and underway project reduction estimates are not verified by DEP.

** Projected reductions include projects with a project status of completed, ongoing, planned and underway.

WASTEWATER
SECTION 2: IMPLEMENTATION TO ACHIEVE TMDL

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

Clean Waterways Act (2020)

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

Reclaimed Water Senate Bill (SB) 64 (2021)

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

WASTEWATER
SECTION 2: IMPLEMENTATION TO ACHIEVE TMDL

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

Environmental Protection HB 1379 (2023)

- Requires facilities discharging to a waterbody impaired for nutrients or subject to a BMAP to upgrade to AWT within 10 years.
- Requires applicants for new septic systems serving lots of one acre or less within BMAPs to connect to central sewer if available, or if unavailable, to install an enhanced nutrient-reducing system or other wastewater system that achieves a nitrogen reduction of 65%.

Environmental Protection HB 1557 (2024)

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

WASTEWATER
SECTION 2: IMPLEMENTATION TO ACHIEVE TMDL

The nitrogen effluent limits 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.

Nitrogen effluent limits for wastewater facilities

Facility Capacity (gpd)	Surface Water Discharges (mg/L)	WWTFs Not Listed in Appendix G — Rapid Rate Land Application Effluent Disposal System (mg/L)	WWTFs Not Listed in Appendix G — All Other Disposal Methods, Including Reuse (mg/L)
Greater than 100,000	3	3	3
20,000 to 100,000	3	3	6
Less than 20,000	3	6	6

gpd = gallons per day.
mg/L = milligrams per liter.

EXISTING OSTDS REMEDIATION

SECTION 2: IMPLEMENTATION TO ACHIEVE TMDL

Section 373.807, F.S.

- Requires BMAPs to include an OSTDS remediation plan if OSTDS contribute at least 20% of nonpoint source nitrogen pollution or if DEP determines OSTDS remediation is needed to achieve the TMDL.
- In this BMAP, OSTDS contribute less than 20% of nonpoint source nitrogen pollution to the Outstanding Florida Spring (OFS).
- The remediation plan for this BMAP does not include requirements for the addition of enhanced nitrogen reducing treatment to conventional systems upon the need for modification or repair of existing OSTDS.

Subsection 403.067(7)(a)9., F.S.

- Requires local governments to develop an OSTDS remediation plan 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.
- Loading from OSTDS in this BMAP does not meet the 20% contribution threshold and local governments were not required to submit an OSTDS remediation plan.

WASTEWATER
SECTION 2: IMPLEMENTATION TO ACHIEVE TMDL

Biosolids

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

URBAN TURFGRASS AND STORMWATER
SECTION 2: IMPLEMENTATION TO ACHIEVE TMDL

Fertilizer Ordinance

- Subsection 373.807(2), F.S., requires local governments with jurisdictional boundaries within an OFS to develop, enact and implement a fertilizer ordinance by July 1, 2017.

Stormwater

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

SPORTS TURFGRASS
SECTION 2: IMPLEMENTATION TO ACHIEVE TMDL

Sports Turfgrass and Golf Courses

- Sporting facilities are required to follow the 2025 Sports Turf BMP Manual.
  - DEP and University of Florida/Institute of Food and Agricultural Sciences (UF/IFAS) are collaborating the develop this manual.
- Superintendents of golf courses within the BMAP must obtain a certification for golf course BMPs under section 403.9339, F.S. and all golf courses must implement the BMPs described in the 2021 DEP golf course BMP manual.
- All golf courses located within a BMAP are required to submit a Nutrient Management Plan (NMP).
  - A draft NMP must be submitted to DEP within one year of BMAP adoption and a final document is due two years after adoption.

AGRICULTURE

SECTION 2: IMPLEMENTATION TO ACHIEVE TMDL

Dairy Operations with CAFO Permits, Chapter 62-670, F.A.C.

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

Livestock Operations Without CAFO Permits

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

Aquaculture

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

Silviculture

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

AGRICULTURE

SECTION 2: IMPLEMENTATION TO ACHIEVE TMDL

Agricultural Cooperative Regional Elements (ACE)

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

ATMOSPHERIC DEPOSITION

SECTION 2: IMPLEMENTATION TO ACHIEVE TMDL

- Atmospheric sources of nutrients are local, national and international.
- Recent data indicate that the deposition of nitrogen has been generally decreasing in Florida with an up to 55% decrease in atmospheric deposition by 2028 possibly as result of the following:
  - Power plant fuel source changes.
  - Air treatment upgrades.
  - Increased use of electric vehicles.
  - Decreasing mobile sources.
- No specific nitrogen reductions were assigned to this source category in this BMAP.
- Atmospheric deposition sources and trends will be re-evaluated periodically.

FUTURE GROWTH

SECTION 2: IMPLEMENTATION TO ACHIEVE TMDL

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

- 2040 population “additional people” based on Bureau of Business and Economic Research (BEBR) medium growth projections per county.
- Growth distributed to jurisdictional boundaries based on available land area.
- Determined percentage of population sewered based on Florida Water Management Inventory (FLWMI) parcel to point data.
- Applied per person loading values for portions of future population on centralized sewer or OSTDS.
- Assumed increase in urban turfgrass loading based on percentage of available acres developed using low and high intensity landscaping, using a general percent turf cover and turfgrass species fertilization rates.
- Ran three management scenarios to look at loading by entity, source and overall basin.

FUTURE GROWTH

SECTION 2: IMPLEMENTATION TO ACHIEVE TMDL

Scenario 1

By 2040:

- **90%** or more of **new population** is connected to central sewer.
- All wastewater treating to **3 mg/L.**
- Remainder of new population has **enhanced OSTDS.**
- **2% of available land** developed using **low intensity** landscaping (10% turf cover using centipedegrass).

Scenario 2

By 2040:

- **New population** is connected to central sewer at **same rate as today.**
- All wastewater treating to **3 mg/L.**
- Remainder of new population has **enhanced OSTDS.**
- **10% of available land** developed using **low intensity** landscaping (10% turf cover using centipedegrass).

Scenario 3

By 2040:

- **New population** is connected to central sewer at **same rate as today**.
- All wastewater treating to **6 mg/L.**
- Remainder of new population has **conventional OSTDS.**
- **17% of available land** developed using **high intensity** landscaping (25% turf cover using St. Augustinegrass).

FUTURE GROWTH ANALYSIS

SECTION 2: IMPLEMENTATION TO ACHIEVE TMDL

Entity	2040 People	Scenario 1 TN (lbs/yr)	Scenario 2 TN (lbs/yr)	Scenario 3 TN (lbs/yr)
Columbia County	22	3	20	241
Dixie County	660	123	1,175	17,595
Gilchrist County	1600	226	1,819	22,045
Town of Bell	16	2	19	217
City of Fanning Springs	39	4	38	540
City of Trenton	33	3	26	427
Hamilton County	88	47	541	9,182
Lafayette County	478	133	1,436	24,357

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

FUTURE GROWTH ANALYSIS

SECTION 2: IMPLEMENTATION TO ACHIEVE TMDL

Entity	2040 People	Scenario 1 TN (lbs/yr)	Scenario 2 TN (lbs/yr)	Scenario 3 TN (lbs/yr)
Town of Mayo	2	1	7	114
Levy County	1715	179	1,386	23,531
City of Chiefland	61	6	50	843
Madison County	101	173	2,115	35,951
Town of Lee	1	1	18	308
City of Madison	1	1	13	224
Suwannee County	3778	513	4,570	77,314
Town of Branford	6	1	8	127
City of Live Oak	47	6	58	969

2040 Loading — Basin Totals

Scenario 1 Total	Scenario 2 Total	Scenario 3 Total
1,424	13,298	213,995

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

DRAFT DOCUMENT

Section 1: Background

Section 2: Implementation

Section 3: Monitoring and Reporting

Section 4: Commitment to Plan Implementation

Section 5: References

Appendices

Methods for Evaluating Progress

Adaptive Management

Water Quality and Biological Monitoring

Groundwater Analysis

WATER QUALITY MONITORING
SECTION 3: MONITORING AND REPORTING

Primary objectives:

- Measure the water quality and biological response in the impaired springs and groundwater at the beginning of the BMAP period and during implementation.
- Document nutrient trends in the springshed.

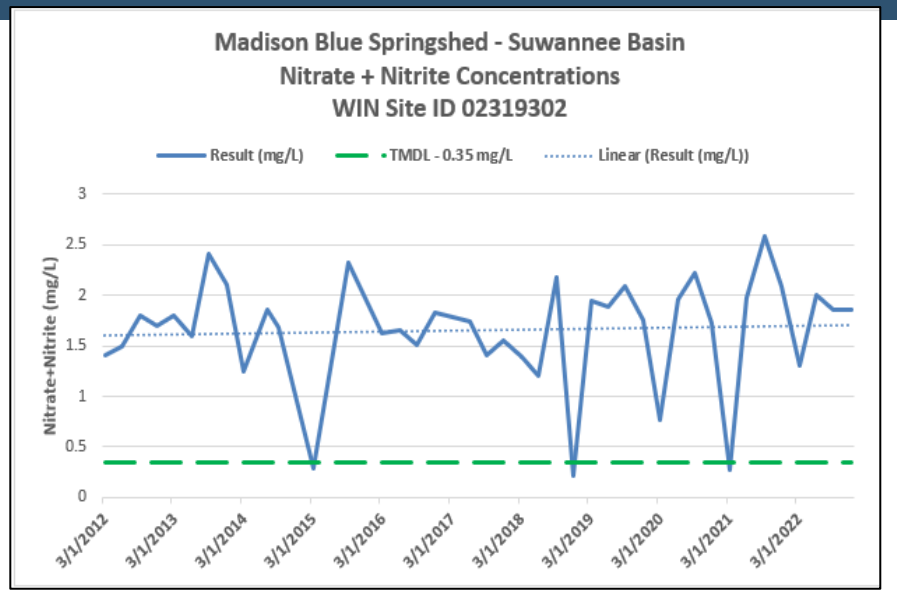
Secondary objectives:

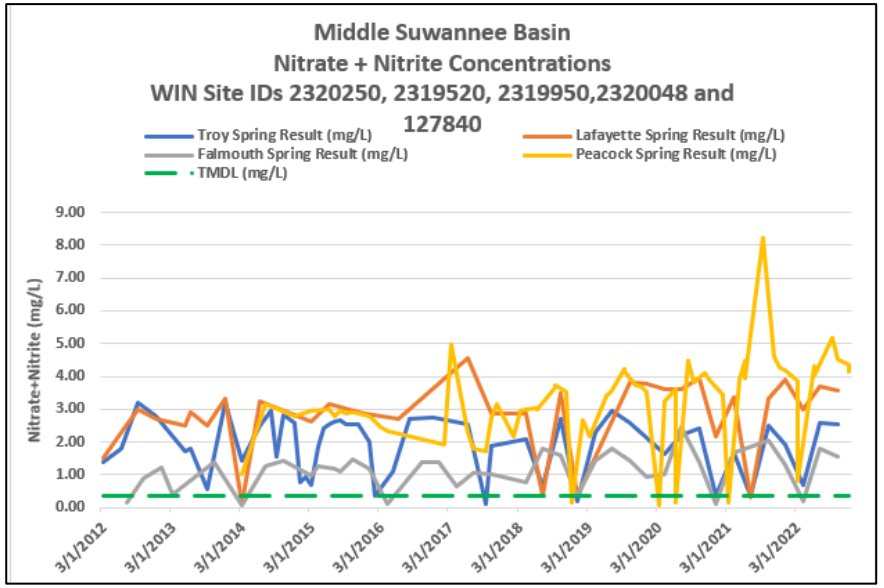
- Identify areas where groundwater data and modeling might help in understanding the hydrodynamics of the system.
- Evaluate groundwater quality trends and nutrient loading to the aquifer across the basin.
- Confirm and refine nutrient removal efficiencies of agricultural and/or urban BMPs, projects and other management efforts

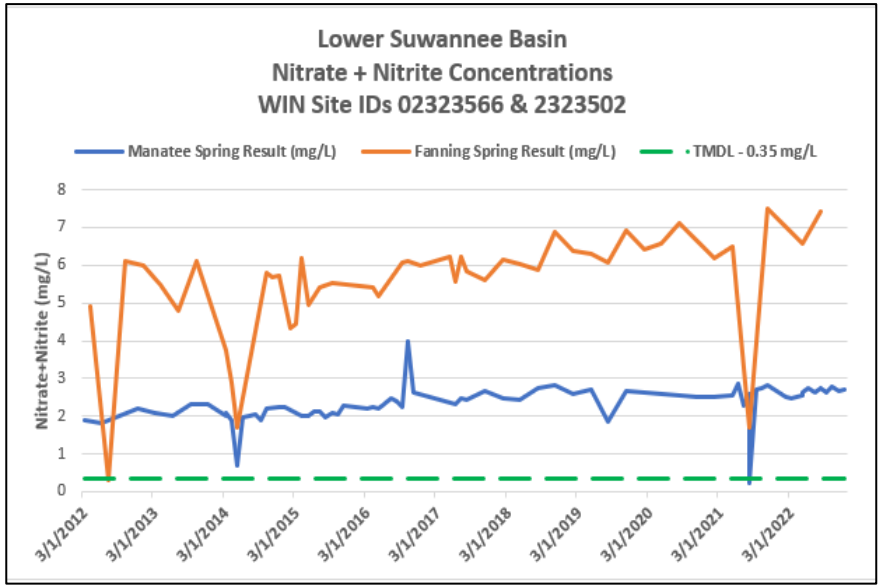
WATER QUALITY MONITORING

SECTION 3: MONITORING AND REPORTING

- Available water quality data will be analyzed during BMAP implementation to determine trends in water quality and the health of the biological community.
- A wide variety of statistical methods are available for the water quality trend analyses.
  - The selection of an appropriate data analysis method will depend on the frequency, spatial distribution and period of record available from existing data. Specific statistical analyses were not identified during BMAP development.







GROUNDWATER MONITORING

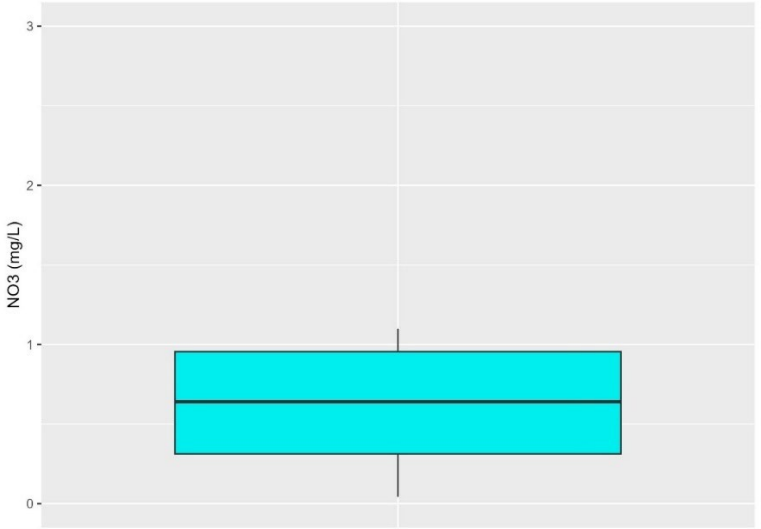
SECTION 3: MONITORING AND REPORTING

Groundwater monitoring gives us a look at the health of the aquifer before water discharges at spring vent.

- Uses measured data (nitrate- total and dissolved) from groundwater monitoring wells from DEP's Water Information Network (WIN) and the WMDs.
- A visual analysis was performed using the annual median as boxplots.
- Wells that were sampled regularly through the period of record were considered “fixed”. Wells with inconsistent sampling (i.e. less than four samples over the period of record) were considered “sporadic”.
- Data from the fixed wells were preferred for analyses because comparisons between time periods represent changes in the same set of wells.
- To create the box plots, the period of record was divided into early (2017-2020) and late (2021-2024) subperiods.
- Future considerations:
  - Stratifying data by land use, distance to spring vent, other factors.
  - Trends analysis for multiple 5-year periods to see changes over time.
  - Well specific trends analysis.

WATER QUALITY MONITORING

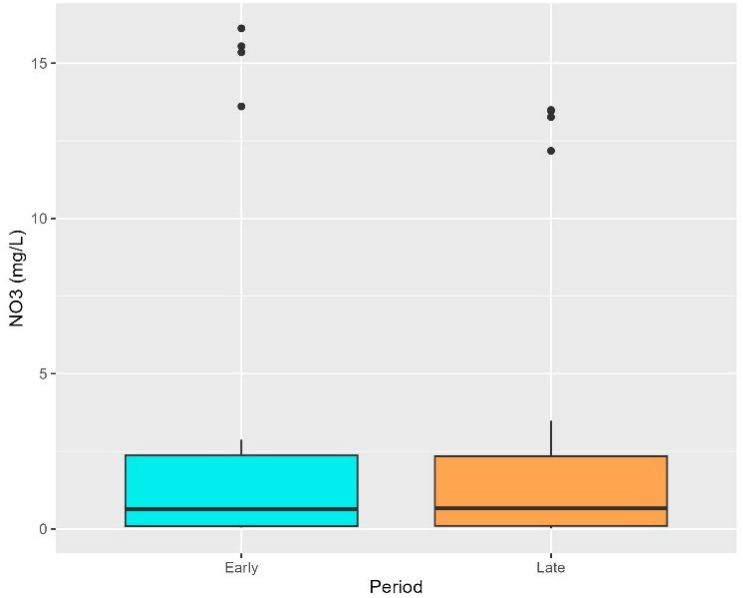
SECTION 3: MONITORING AND REPORTING



Madison Blue Springshed

NO3 concentrations for 2023 and 2024.

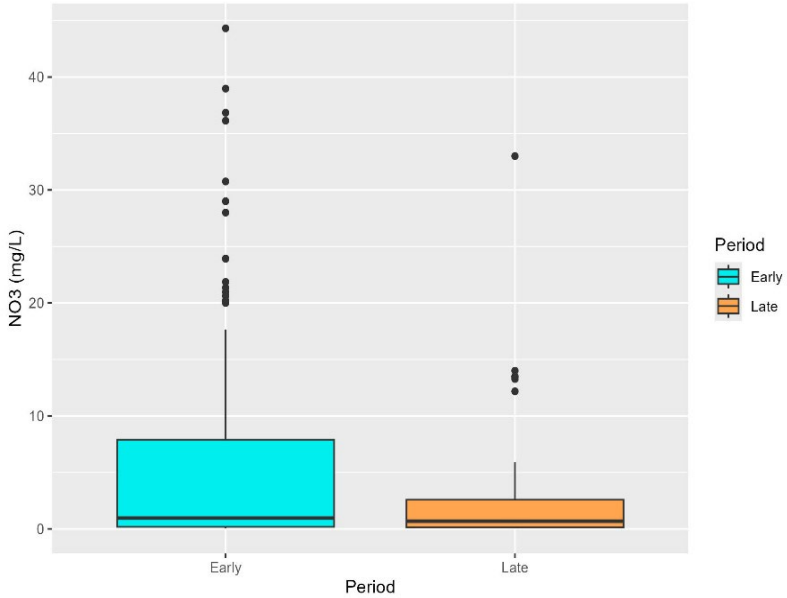
Median = 0.64 mg/L.



Falmouth Springshed

NO3 concentrations of early and late periods, with outliers.

Median Early = 0.64 mg/L.
Median Late = 0.67 mg/L.



Fanning and Manatee Springshed

NO3 concentrations of early and late periods, with outliers.

Median Early = 2.00 mg/L.
Median Late = 2.05 mg/L.

DRAFT DOCUMENT

Section 1: Background

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Section 5: References

Appendices

Adoption Process

Tracking Reductions

Revisions to the BMAP

ADAPTIVE MANAGEMENT
SECTION 4: COMMITMENT TO PLAN IMPLEMENTATION

Tracking Reductions:

- Required loading reductions are expected to be met by 2038.
- Each entity is responsible for implementing management actions to meet their upcoming 5-year milestone.
- The statewide annual report will provide an annual update of progress made in implementing load reductions tracking the implementation status of the management actions listed in the BMAP.

Revisions to the BMAP:

- Section 403.067, F.S., requires that the plan be revised, as appropriate.
  - Assessment of progress toward milestones must be conducted every five years and revisions to the plan must be made as appropriate.
  - BMAPs use an adaptive management approach that allows for incremental load reductions through the implementation of projects and management strategies; however, the restoration target, the TMDL, remains the same.

DRAFT DOCUMENT

Section 1: Background

Section 2: Implementation

Section 3: Monitoring and Reporting

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Section 5: References

Appendices

BMAP UPDATE DOCUMENT

APPENDICES

- **Updated:** Important links.
- **Updated:** Projects to Reduce Nitrogen Sources.
  - Projects submitted by responsible entities through the BMAP portal through October 2024.
  - Includes projects from the 2020 Clean Waterways Act WWTF and OSTDS plans submitted by local governments August 2024.
- **NEW:** Planning for Additional Management Strategies.
  - Examples of project efforts entities can identify to meet their milestone reduction requirements.
- PFA Report.
- **Updated:** OSTDS Remediation Plan.
- **NEW:** Technical Support Information
  - NSILT methodology.
- **NEW**: Wastewater Facilities
  - List of facilities with reclaimed water that are causing or contributing to nutrient impairments.
- **NEW:** Golf Course Nutrient Management Plans.
- **Updated:** Agricultural Enrollment and Reductions (provided by DACS).
- **NEW:** Private Wastewater Treatment Facilities and Private Golf Courses with Reduction Allocations.

NEXT STEPS

BMAP update document draft review:

- Draft document sent out via GovDelivery **April 4, 2025**.
- Stakeholder review comments due **May 2 , 2025**.

Submit comments to:
Moira.Homann@FloridaDEP.gov

UPCOMING SCHEDULE

- Jan. 2024, NSILT methodology public meeting.
- Spring/Fall 2024, Technical BMAP update public meetings.
- Summer/Fall 2024 One-on-one stakeholder meetings.
- April 2025, Draft BMAP update public meetings.
- April/May 2025, Draft BMAP update comment period.
- July 1, 2025, Statutory deadline for updated nutrient BMAPs.

RESOURCES
BMAP WEBSITE AND STORYMAPS

Florida Springs Basin Management Action Plans (BMAPs)

Welcome to the Florida Springs Basin Management Action Plan (BMAP) StoryMap

The springs BMAPs are developed with specific provisions for the protection and restoration of the state's Outstanding Florida Springs. This story map focuses on the springs-related BMAPs; for more details about other BMAPs or more information about the BMAP program in general, visit https://floridadep.gov/bmaps.

* The story map will display differently depending on the screen size and resolution being used. Story map best viewed in Chrome or Firefox.

Overview

The Florida Springs and Aquifer Protection Act (Part VIII of Chapter 373, F.S.) provides for the protection and restoration of the state"s Outstanding Florida Springs (OFS), which comprise 24 first magnitude springs, 6 additional named springs, and their associated spring runs. The act provides specific requirements for OFS BMAPs beyond those


1 Legislative Requirements


2 Crystal River - Kings Bay BMAP StoryMap


3 DeLeon Spring Story Map


4 Gemini Springs Story Map


5 Homosassa and Chassahowitzka Springs...

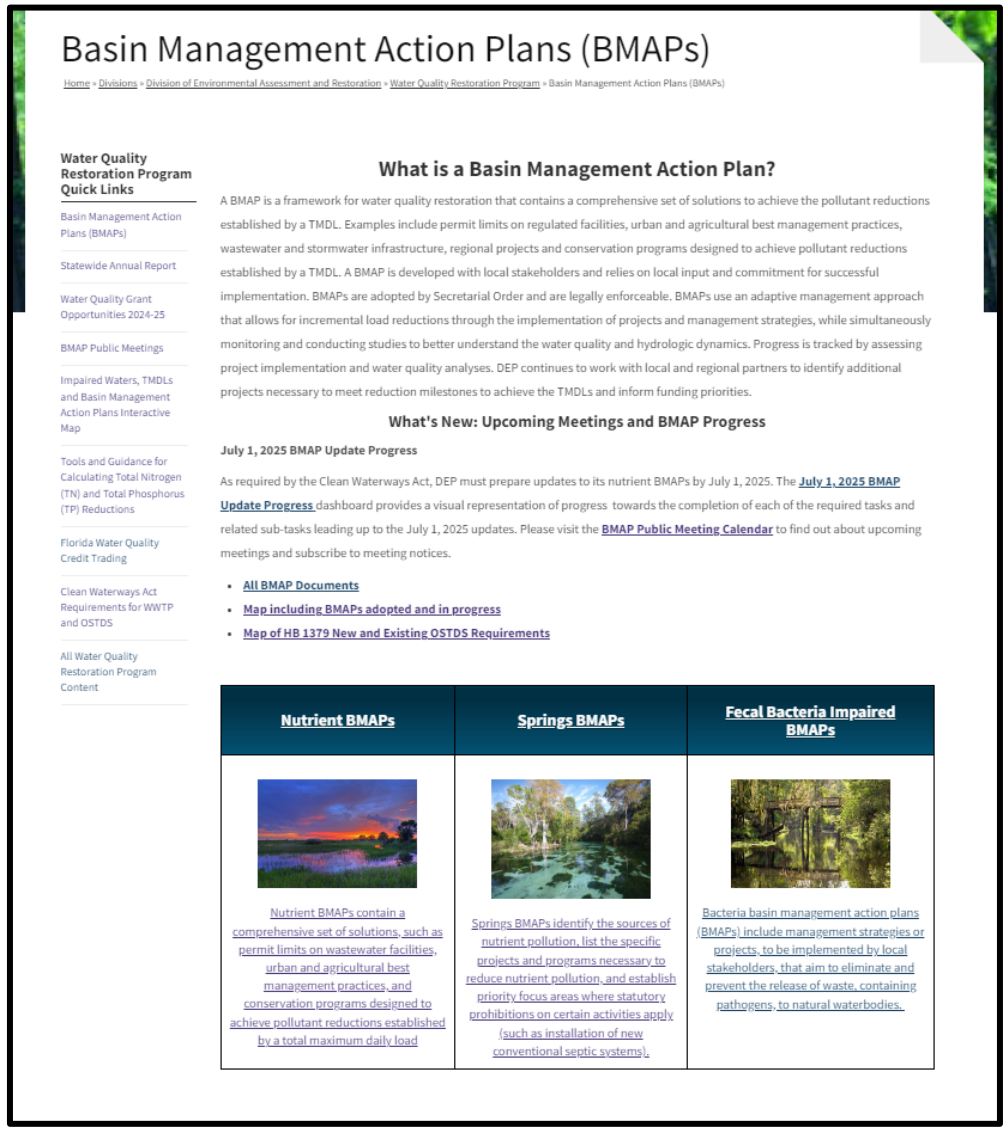

6 Jackson Blue and Merritts Mill Pond BMAP Story Map


7 Rainbow Springs Group and Rainbow Springs Group Run...


8 Santa Fe River BMAP Story Map


9 Silver Springs and Upper Silver River BMAP Story Map

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



Basin Management Action Plans (BMAPs)

Home » Divisions » Division of Environmental Assessment and Restoration » Water Quality Restoration Program » Basin Management Action Plans (BMAPs)

Water Quality Restoration Program Quick Links

- Basin Management Action Plans (BMAPs)
- Statewide Annual Report
- Water Quality Grant Opportunities 2024-25
- BMAP Public Meetings
- Impaired Waters, TMDLs and Basin Management Action Plans Interactive Map
- Tools and Guidance for Calculating Total Nitrogen (TN) and Total Phosphorus (TP) Reductions
- Florida Water Quality Credit Trading
- Clean Waterways Act Requirements for WWTP and OSTDS
- All Water Quality Restoration Program Content

What is a Basin Management Action Plan?

A BMAP is a framework for water quality restoration that contains a comprehensive set of solutions to achieve the pollutant reductions established by a TMDL. Examples include permit limits on regulated facilities, urban and agricultural best management practices, wastewater and stormwater infrastructure, regional projects and conservation programs designed to achieve pollutant reductions established by a TMDL. A BMAP is developed with local stakeholders and relies on local input and commitment for successful implementation. BMAPs are adopted by Secretarial Order and are legally enforceable. BMAPs use an adaptive management approach that allows for incremental load reductions through the implementation of projects and management strategies, while simultaneously monitoring and conducting studies to better understand the water quality and hydrologic dynamics. Progress is tracked by assessing project implementation and water quality analyses. DEP continues to work with local and regional partners to identify additional projects necessary to meet reduction milestones to achieve the TMDLs and inform funding priorities.

What's New: Upcoming Meetings and BMAP Progress

July 1, 2025 BMAP Update Progress

As required by the Clean Waterways Act, DEP must prepare updates to its nutrient BMAPs by July 1, 2025. The **July 1, 2025 BMAP Update Progress** dashboard provides a visual representation of progress towards the completion of each of the required tasks and related sub-tasks leading up to the July 1, 2025 updates. Please visit the **BMAP Public Meeting Calendar** to find out about upcoming meetings and subscribe to meeting notices.

- **All BMAP Documents**
- **Map including BMAPs adopted and in progress**
- **Map of HB 1379 New and Existing OSTDS Requirements**

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

THANK YOU

Chandler Keenan
Environmental Administrator

Contact Information:
850-245-8555
Chandler.B.Keenan@FloridaDEP.gov

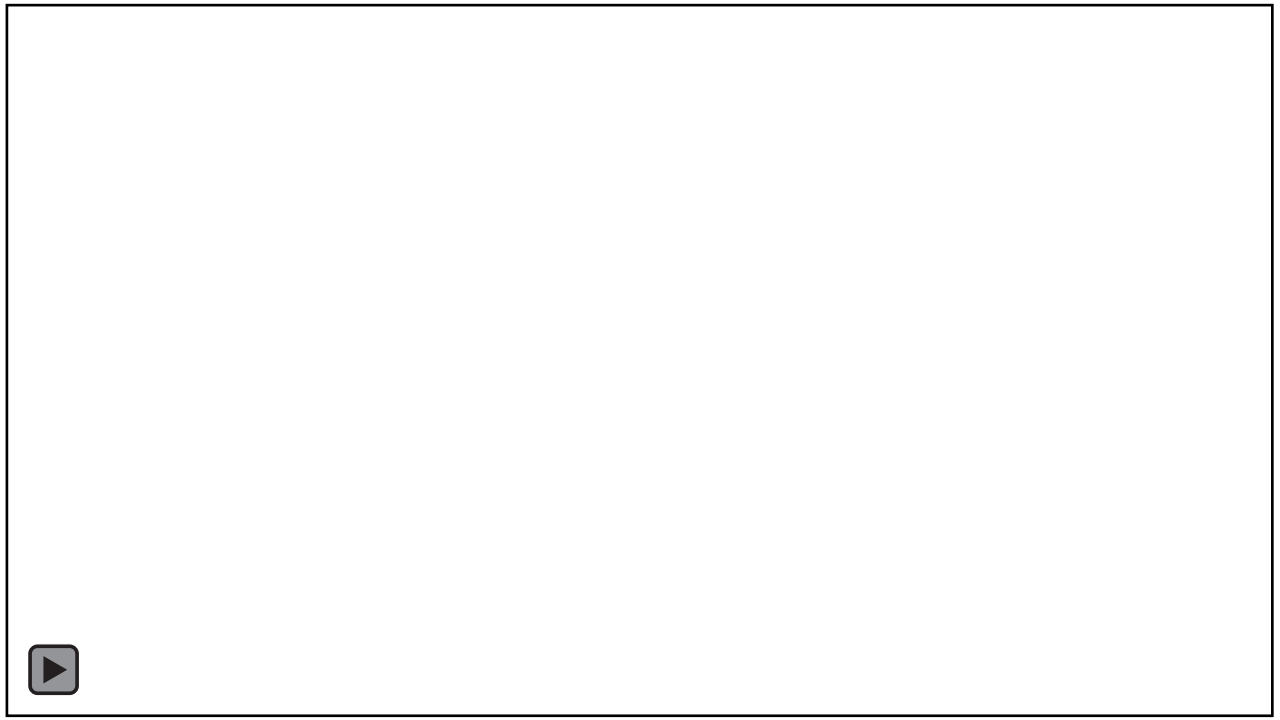
BMAP MEETING
PUBLIC QUESTIONS PERIOD

Verbal Questions

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

Written Comments

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



Florida Department of Environmental Protection (DEP)
Suwannee River Basin Management Action Plan (BMAP)
Virtual Public Meeting via GoToWebinar
April 10, 2025
10:00 am – 11:55 am EDT

Attendees

Kelly Aue, UF/IFAS
Evelyn Becerra, DEP
Amy Brown, SRWMD
Tiffany Busby, Wildwood Consulting
Andrew Carswell, Levy County
Stacy Cecil, SJRWMD
Carolin Ciarlariello, DEP
Caryn Crabb-Nelson, FDACS
Letuzia De Oliveira, FDACS
Mary Diaz, SRWMD
Marsha DeBroske, Citizen
Chloe Dougherty, FSC
Samantha Epstein, SJRWMD
Kristine Eskelin, SRWMD
Jessica Fetgatter, DEP
Corrine Flumerfelt, DEP
Lawrence Glenn, DEP
Roxanne Groover, FOWA
Sam Hankinson, DEP
Madeline Hart, FDACS
Kenny Hayman, DEP
Susie Hetrick, SRWMD
Tammy Hinkle, FDACS
Ray Hodge, United Dairy Farmers
Robin Holland, FDACS
Moira Homann, DEP
Emma Janecek, FDACS
Chandler Keenan, DEP
Chris Keller, Wetland Solutions
Sean King, SRWMD
Carmen Lamothe, Citizen
Sue Lamothe, Citizen
Gregory Lang, Mittauer & Assoc
Celeste Lyon, RES
Wynn McDonald, SRWMD
Sarah Menz, DEP
Haley Moody, Florida Springs Institute
Morgan Morrow, FDACS
Jim Myles, DB Environmental
Brittney O'Neal, FDACS
Kevin ODonnell, DEP
Robert Palmer, Citizen
Lindsey Pavao, Alachua County
Steven Peene, ATM
Philip Penley, Citizen
Tyler Pittman, UF/IFAS
John Quarterman, Suwannee Riverkeeper
Katie Quincey, FDACS
Joanna Reilly-Brown, Putnam Land Conservancy
Beth Robertson, DEP
Tiffany Simpson, DEP
Dale Stone, FDACS
May Thongthum, UF/IFAS
Emanuela Torres-Marquis, Florida Springs Institute
Diana Turner, DEP
Lisa Van Houdt, DEP
Ken Weaver, DEP
Stefani Weeks, Weeks Engineering Services
Brenda Wells, FSC
Barton Wilder, FDACS
Shane Williams, City of Gainesville
Kevin Wright, Oak River Farms

Katrina Yancey, DEP Sarah Younger, Citizen

Overall

The draft BMAP document can be downloaded here: https://floridadep.gov/dear/water-quality-restoration/documents/250410-suwa-draft-document. Comments on the draft BMAP document are due by May 2, 2025. Verbal comments at this meeting were welcome. Written comments submitted at the meeting were invited. Comments after the meeting should be sent to BMAPProgram@FloridaDEP.gov by May 2, 2025.

Questions and Answers

Question (Q): Can you restate the Municipal Separate Storm Sewer System (MS4) permit requirement within 5 years of BMAP adoption?

Answer (A): The National Pollutant Discharge Elimination System (NPDES) Stormwater Program will, within five years of BMAP adoption, evaluate any entity located in the BMAP area that serves a minimum resident population of at least 1,000 individuals that is not currently covered by an MS4 permit and designate eligible entities as regulated MS4s.

Q: You showed that most of the 2028 target of a 30% reduction is already being met by agricultural reductions. Specifically, what are these existing reductions? Are you assuming that they all come from best management practices (BMPs)?

A: All the agricultural load reductions do not come from owner-implemented BMPs. Those owner-implemented reductions are included in the agricultural reductions, but they do not account for all the reductions. There are other cost share or advanced BMPs that are included in the agricultural estimates too. For more information about the BMAP projects, you can review the project lists in Appendix B in the draft BMAP document.

Q: How is the voluntary reporting from agriculture being utilized? It is my understanding that the reports are wildly inaccurate and therefore had not been used in determining the BMAPs. Is this correct?

A: DEP receives updates annually from the Florida Department of Agriculture and Consumer Services (FDACS) about agricultural enrollment as part of the BMAP Statewide Reporting (STAR) process. Additionally, FDACS and the water management districts report annually on the agricultural cost share projects that have nutrient reduction benefits. Section 403.067, Florida Statutes (F.S.), requires FDACS to conduct an Implementation Verification (IV) Program site visit at least every two years to ensure that agricultural landowners and producers are properly implementing the applicable BMPs. DEP uses the information from BMP enrollment to estimate reductions from these efforts. FDACS is looking into refining the

estimates from BMP implementation and that will be worked on cooperatively with other agencies per the statutory requirements.

Q: Is this meeting recorded?
A: Yes, an email will be sent to participants via the GovDelivery system once the materials are posted online. To manage your DEP GovDelivery notifications, please visit https://floridadep.gov/dear/dear/content/subscribe.

Q: What quality measure is made to ensure that the water quality data is accurate?
A: All water quality data is publicly available through WIN and the IWR database. Data providers follow DEP's SOPs for water quality sampling and the results are subject to quality assurance checks before being used for assessment.

Q: Are y'all accepting comments on the Nitrogen Source Inventory Loading Tool (NSILT) technical document?
A: No, DEP is not asking for comments on the NSILT technical document at this time. The NSILT methodology was presented to stakeholders over multiple meetings in January and May 2024, followed by a period for public input. For more information from those meetings, please visit https://floridadep.gov/dear/water-quality-restoration/content/bmap-meeting-information-and-materials

Comments

Comment: The box plot for the Lower Suwannee doesn't seem to match the text median value.

Comment: Please add the Suwannee Riverkeeper to the list of other interested stakeholders.

Comment: Farm fertilizer is not expanded on the pie chart.

Adjournment

The meeting ended at 11:55 pm EDT.