



SUWANNEE RIVER BASIN MANAGEMENT ACTION PLAN (BMAP)

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

Live Oak, FL | Oct. 30, 2024



AGENDA

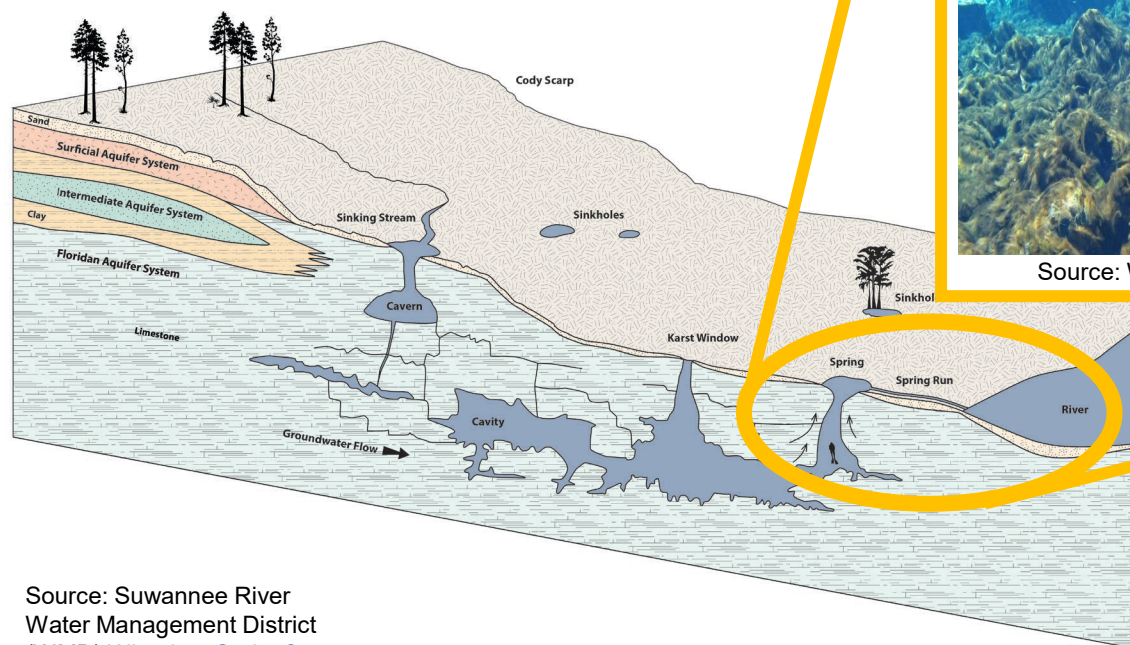
- Background.
- Analysis results summary.
- Basin required reductions.
- Entity required reductions.
- Poster session.





BACKGROUND

SPRINGS RESTORATION



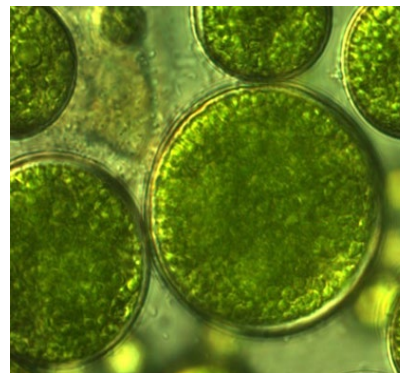
Source: Suwannee River
Water Management District
(WMD) [What is a Spring?](#)

Impairment: Not meeting water quality standards.



Source: Weeki Wachee TMDL

Algae growth can be caused by **excess nutrients**.



Source: Shutterstock

Total maximum daily load (TMDL): The maximum amount of a pollutant that a waterbody can receive and still maintain its designated uses. **This represents the target for restoration.**

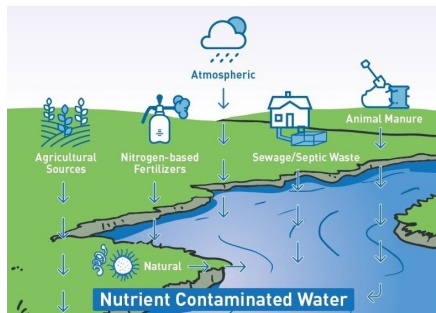


Source: Florida Geological Survey
- Rainbow Spring #4



BACKGROUND SPRINGS RESTORATION

Excess nutrients come from **sources on the landscape.**



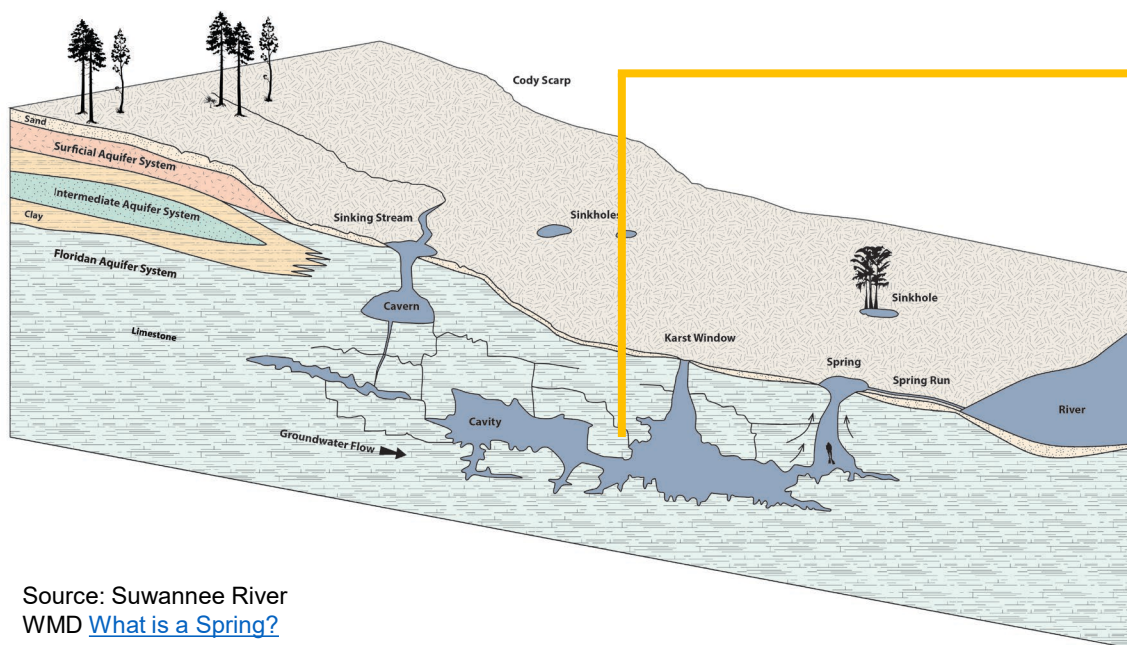
Source: Beta Analytics

BMAP Projects: Efforts that result in the reduction or prevention of nutrients to the waterbodies addressed by the BMAP.

BMAP: An adaptive framework for water quality restoration that contains a comprehensive set of solutions developed to achieve the pollutant reductions established by TMDL.

Complex groundwater dynamics lead to variable travel times to the spring vent.

Water quality monitoring is performed through a network of surface water, spring vent and groundwater stations to assess waterbodies and measure progress towards restoration targets.



Source: Suwannee River
WMD [What is a Spring?](#)

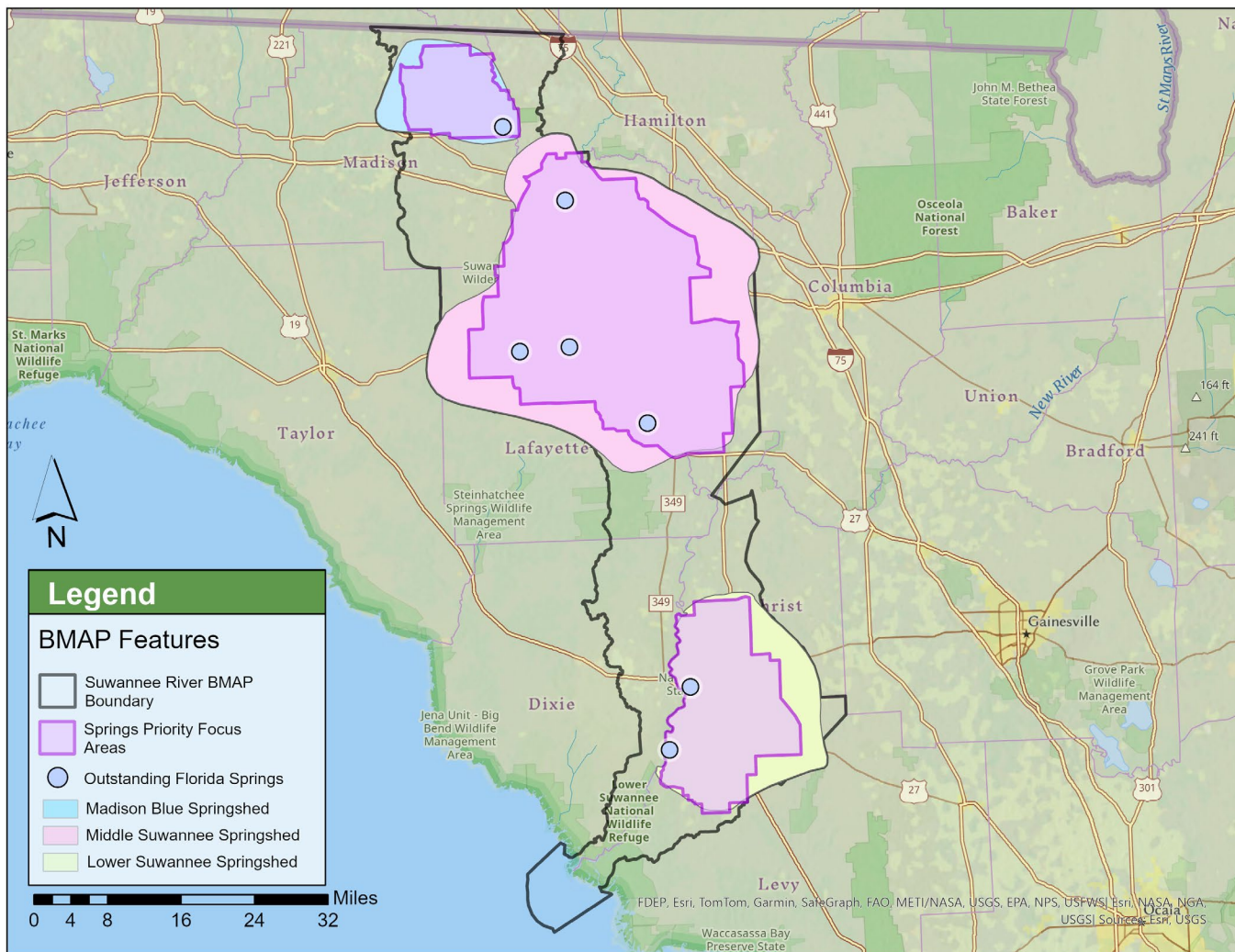
BMAP: Basin Management Action Plan



Source: Florida Geological Survey
- Rainbow Spring #4



BMAP BACKGROUND



Waterbody or Spring Name	Basin	Waterbody Identification (WBID) Number	Parameter	TMDL (mg/L)
Fanning Springs	Lower Suwannee	3422S	Nitrate, monthly average	0.35
Manatee Spring	Lower Suwannee	3422R	Nitrate, monthly average	0.35
Falmouth Spring	Middle Suwannee	3422Z	Nitrate, monthly average	0.35
Lafayette Blue Spring	Middle Suwannee	3528Z	Nitrate, monthly average	0.35
Peacock Springs	Middle Suwannee	3483	Nitrate, monthly average	0.35
Troy Spring	Middle Suwannee	3422T	Nitrate, monthly average	0.35
Madison Blue Spring	Withlacoochee River	3315Z	Nitrate, monthly average	0.35
Middle Suwannee River	Middle Suwannee	3422J,3422L,3422T,3422U,3422Z	Nitrate, monthly average	0.35
Lower Suwannee River	Lower Suwannee	3422,3422R,3422S	Nitrate, monthly average	0.35



STAKEHOLDERS

Responsible Stakeholders:

- City of Chiefland.
- City of Fanning Springs.
- City of Live Oak.
- City of Madison.
- City of Trenton.
- Dixie County.
- Gilchrist County.
- Hamilton County.
- Lafayette County.
- Levy County.
- Madison County.
- Suwannee County.
- Town of Bell.
- Town of Branford.
- Town of Lee.
- Town of Mayo.
- Florida Department of Transportation.
- Agriculture landowners.
- Private WWTFs.
- Private Golf Courses.

Responsible Agencies:

- Florida Department of Agriculture and Consumer Services (DACCS).
- Florida Department of Environmental Protection (DEP).
- Florida Department of Health.
- Florida Fish and Wildlife Conservation Commission.
- Suwannee River Water Management District (SRWMD).



BMAP BACKGROUND

BILLS AND LEGISLATION SUMMARY

- Florida Watershed Protection Act, section 403.067, Florida Statutes (F.S.).
- Florida Springs and Aquifer Protection Act, Part VIII of Chapter 373, F.S.
- 2020 Senate Bill (SB) 712, Clean Waterways Act.
- 2023 House Bill (HB) 1379.
- 2024 HB 1557.

Summary of latest updates:

- No new conventional onsite sewage treatment and disposal systems (OSTDS) on lots one acre or less.
- Wastewater treatment plans and OSTDS remediation plans from local governments.
- List of identified projects to meet five-year milestones.
- Agricultural Cooperative Regional Elements (ACE).
- For the spring BMAPs, prohibitions expanded from priority focus area (PFA) to the entire BMAP.
- Advanced waste treatment (AWT) required for more types of effluent, including certain reclaimed water.



ACE

- Cooperative Agricultural Regional Water Quality Improvement elements include a collaborative framework for identifying, prioritizing and implementing regional projects that address nutrient loading from agricultural operations in Florida's waterways.
- Continuous efforts among key stakeholders, including:
 - DEP.
 - DACS.
 - Water management districts.
 - Agricultural producers.
 - Local communities.



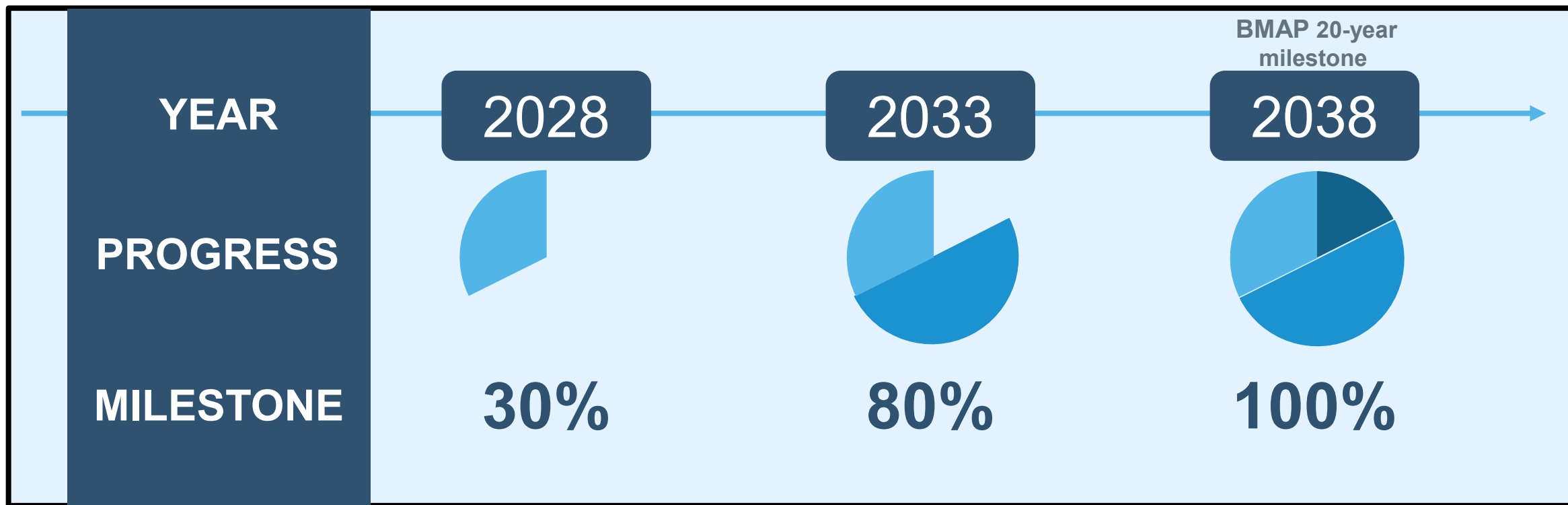
ACE

- Engaging producers in the decision-making process is key to this element and ensures that projects are practical, feasible and tailored to the needs and realities of agricultural operations.
- Partner agencies work in annual cycles to provide technical support, regulatory guidance and funding opportunities to enhance the implementation and success of regional water quality improvement initiatives.



BMAP MILESTONES

FIVE-, 10- AND 15-YEAR MILESTONES/REDUCTION SCHEDULE



Assessment of progress toward these 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.



BASIN ANALYSES

DRAFT LOADING SUMMARY

	Madison Blue Nitrogen Loads (lbs-TN/yr)	Middle Suwannee Nitrogen Loads (lbs-TN/yr)	Lower Suwannee Nitrogen Loads (lbs-TN/yr)	Source
Total Load at Spring Vents (October 2023)	364,088	1,382,888	1,593,042	Upper 95% confidence interval - nitrate and flow data from 2012 to 2022.
TMDL Load	73,979	218,665	162,212	TMDL target is 0.35 mg/L and using the same flow data from 2012-2021.
Percent Required Reductions	80%	84%	90%	
Total NSILT Load (October 2023)	431,171	3,691,832	2,755,697	2023 NSILT.
Required Reductions	343,562	3,108,072	2,475,098	Proportional decrease in NSILT load.

cfs: Cubic feet per second
mg/L: milligram per liter



REDUCTIONS

DRAFT SPRINGSHED REQUIRED REDUCTIONS

Nitrogen Source	Madison Blue		Middle Suwannee		Lower Suwannee	
	Allocations by Source (lb-N/yr)	Percent of Total Reduction	Allocations by Source (lb-N/yr)	Percent of Total Reduction	Allocations by Source (lb-N/yr)	Percent of Total Reduction
Atmospheric Deposition*	30,003	8.73%	250,676	8.07%	82,300	3.33%
Onsite Sewage Treatment and Disposal System	21,452	6.24%	167,487	5.39%	93,993	3.80%
Wastewater Treatment Facility	0	0.00%	8,245	0.27%	11,744	0.47%
Farm Fertilizer (BMP Enrollment)	47,476	13.82%	331,145	10.65%	151,185	6.11%
Livestock Waste-NonCAFO (BMP Enrollment)	4,361	1.27%	57,915	1.86%	17,870	0.72%
Livestock Waste-CAFO (BMP Enrollment)	0	0.00%	33,335	1.07%	132,396	5.35%
Other Agriculture	235,109	68.43%	2,215,275	71.27%	1,955,297	79.00%
Urban Turfgrass Fertilizer	5,160	1.50%	38,937	1.25%	25,703	1.04%
Sports Turf-Golf	0	0.00%	1,333	0.04%	2,878	0.12%
Sports Turf-Other	0	0.00%	431	0.01%	346	0.01%
Regional Projects*	0	0.00%	3,292	0.11%	1,386	0.06%
Total	343,562	100.00%	3,108,072	100.00%	2,475,098	100.00%

- The spring vent percentage was used to determine the required reduction for most categories.
- For wastewater treatment facilities, reductions were determined based on the BMAP effluent standards.
- For agricultural sources, an estimated reduction of 15% will be achieved when crop producers enroll in the FDACS Best Management Practice (BMP) program and implement BMPs, and an estimated load reduction of 10% when all livestock producers enroll in the FDACS BMP program and implement BMPs. The remaining allocated reduction to agricultural will be addressed through a combination of regional projects, ACE, innovative technologies and cost-share projects.



BASIN ANALYSES

SURFACE WATER LOADING ESTIMATES

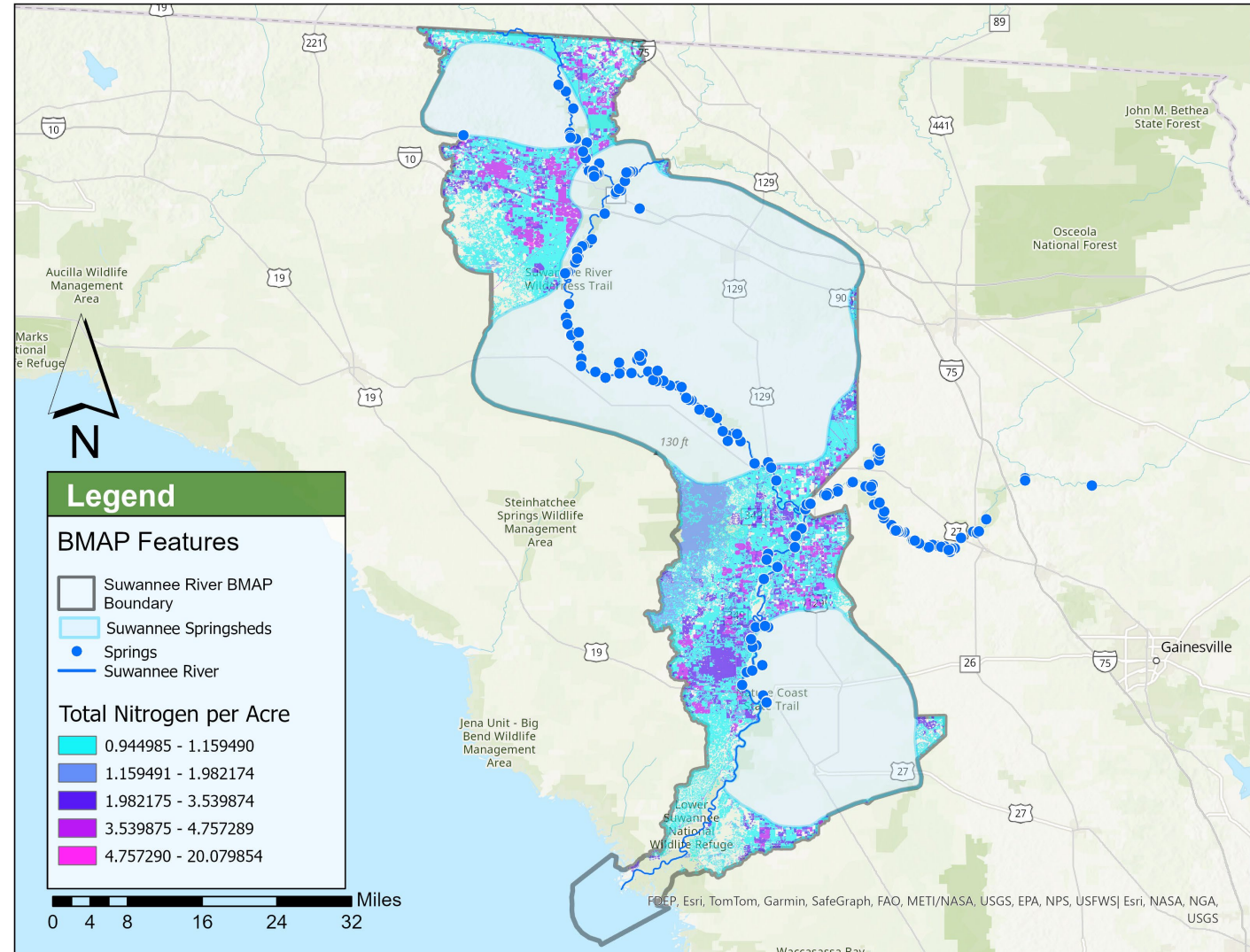
Areas outside the springshed were treated as surface waters. Loading was calculated using a similar approach to the Pollutant Load Screening Model (PLSM).

- Statewide Land Use Cover Data- Level 2 Codes.
- Event Mean Concentrations (EMCs).
- Runoff Coefficients (ROCs).

Land use data was clipped to each jurisdictional boundary and total loading for all relevant land uses were summed.

- Loading from natural lands are not allocated.
- Loading from agriculture, dairies or golf courses allocated to the industry.
- State roads and right-of-ways allocated to Department of Transportation (DOT).

The reductions needed for the surface water are 85%.





REDUCTIONS

DRAFT ENTITY REQUIRED REDUCTIONS

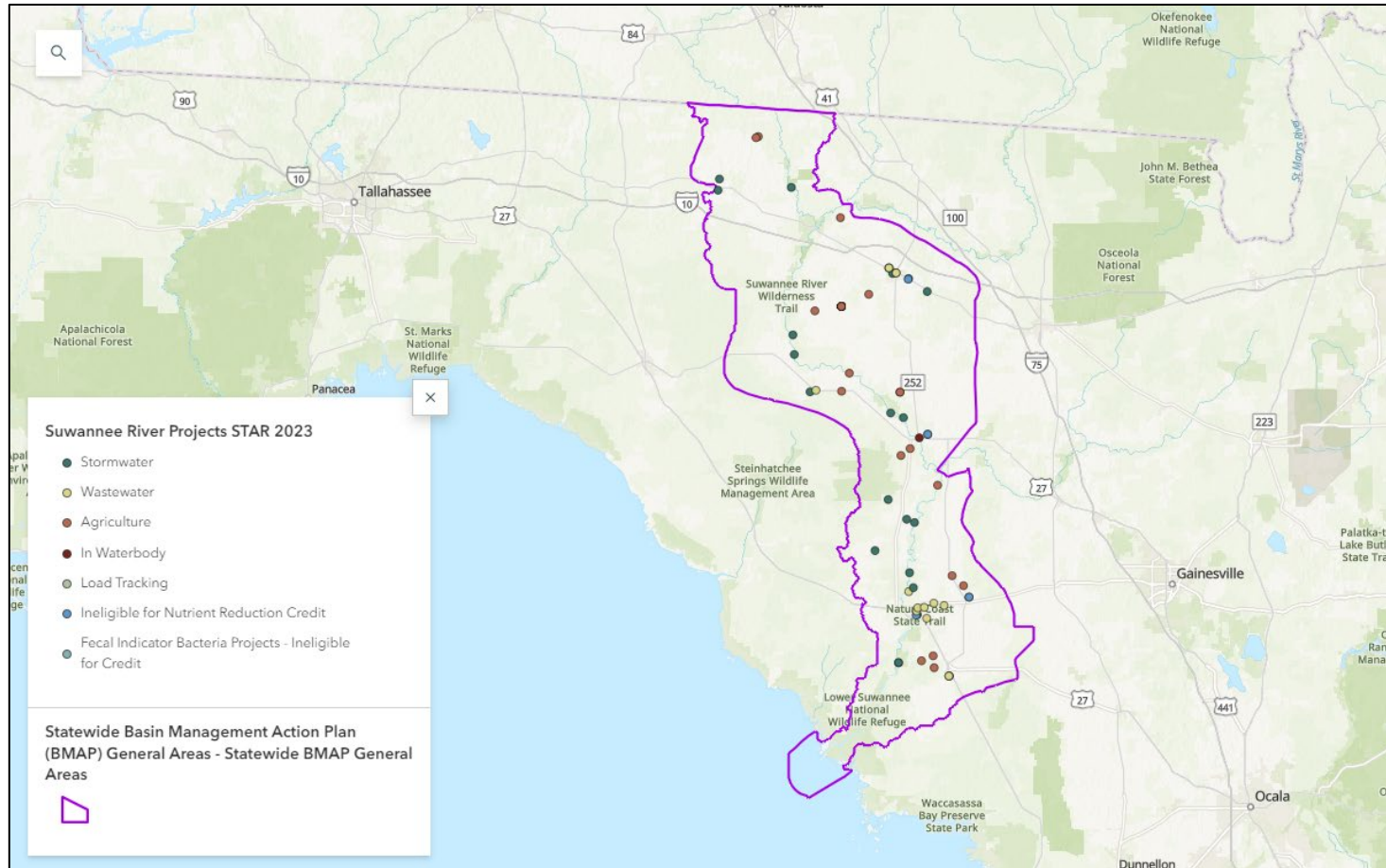
- All local municipalities will be allocated reductions based on the loading estimated to occur under their jurisdiction from wastewater, OSTDS and urban fertilizer.
- Reductions in this table reflect overall allocated reductions across subbasins. Many entities will have responsibilities in multiple springsheds or in the springs and surface water portions of the basin.

Entity	2028 Milestone (30%)	2033 Milestone (80%)	2038 Milestone (100%)
City of Chiefland	5,863	15,635	19,544
City of Fanning Springs	2,656	7,082	8,852
City of Live Oak	4,651	12,403	15,504
City of Madison	617	1,644	2,055
City of Trenton	3,491	9,310	11,638
Dixie County	9,502	25,339	31,674
Gilchrist County	10,328	27,541	34,426
Hamilton County	1,939	5,170	6,462
Lafayette County	8,958	23,887	29,859
Levy County	18,930	50,481	63,101
Madison County	12,154	32,411	40,514
Suwannee County	50,222	133,926	167,408
Town of Bell	409	1,090	1,362
Town of Branford	1,448	3,862	4,828
Town of Lee	231	615	769
Town of Mayo	349	931	1,164
FDOT	2,004	5,345	6,681
Agriculture	1,622,226	4,325,935	5,407,419
Private WWTFs*	2,171	5,790	7,238
Private Golf Courses*	1,263	3,369	4,211

*Reductions for these entities will largely be tracked through permits and compliance actions.



PROJECTS



HB 1379 (2023) requires responsible entities to report on projects that demonstrate how they intend to meet their five-year milestones.

- Entities are required to plan and report projects to the state through the portal for the Statewide Annual Report (STAR). All projects needed to fulfill milestones should be added, even if a funding source has not been identified.
- Reporting projects in the STAR allows the state to evaluate funding needs and prioritize projects to promote maximum environmental benefit.



UPCOMING SCHEDULE

May-
Aug. 2024

Individual meetings
on allocations and
milestones with
BMAP stakeholders.

Aug. 1,
2024

Final wastewater
and OSTDS
plans due from
stakeholders.

Aug. -
Nov. 2024

BMAP Portal
opened early for
project collection.
Public meetings on
allocations.

Technical
analyses,
project
identification
and BMAP
document
drafting.

June -
Dec. 2024

Final draft BMAP
document and
public meetings.

Dec.
2024-
Jan.
2025

Statutory deadline to update
nutrient BMAPs.

July 1,
2025



RESOURCES

BMAP WEBSITE AND STORY MAPS

Florida Springs Basin Management Action Plans (BMAPs)

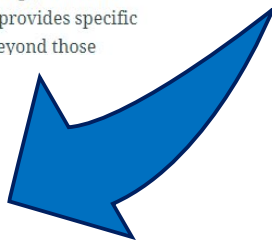
Welcome to the Florida Springs Basin Management Action Plan (BMAP) StoryMap

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)

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[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.



SUBSCRIBER PAGE

HOW TO CONTACT US



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THANK YOU

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