WAKULLA SPRING AND UPPER WAKULLA RIVER BASIN MANAGEMENT ACTION PLAN (BMAP)

Sam Hankinson, P.G. II
Division of Environmental Assessment and Restoration
Water Quality Restoration Program
Florida Department of Environmental Protection

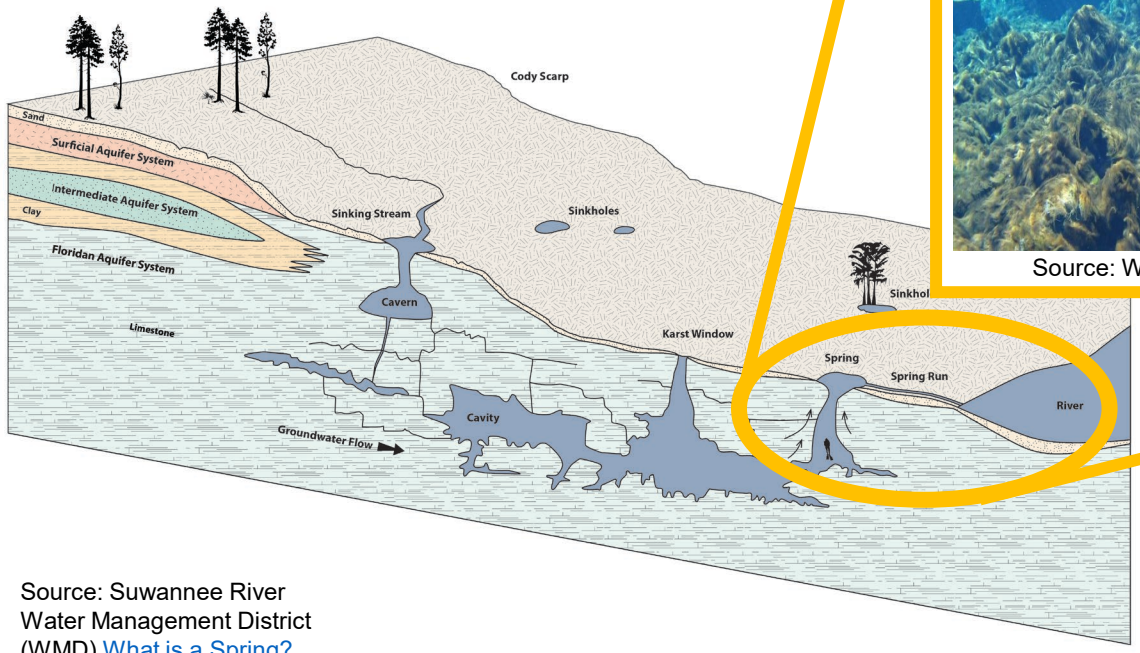
DEP Carr Building | Sept. 23, 2024

Source: SFWMD

AGENDA

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

BACKGROUND
SPRINGS RESTORATION

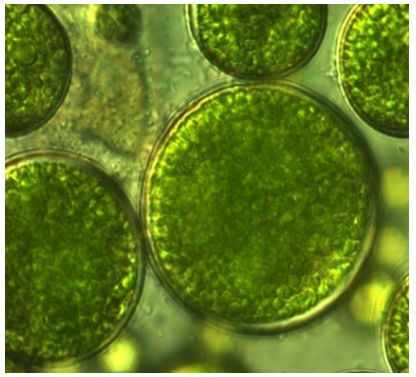


Source: Suwannee River Water Management District (WMD) What is a Spring?

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.**

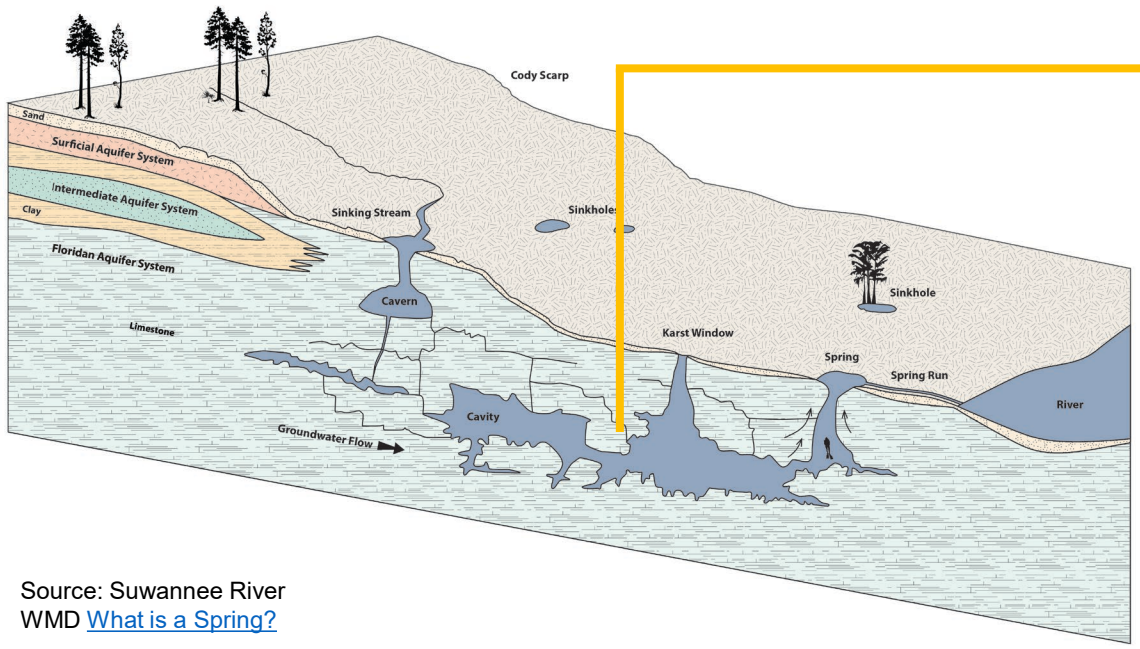
Source: Florida Geological Survey - Rainbow Spring #4

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.



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

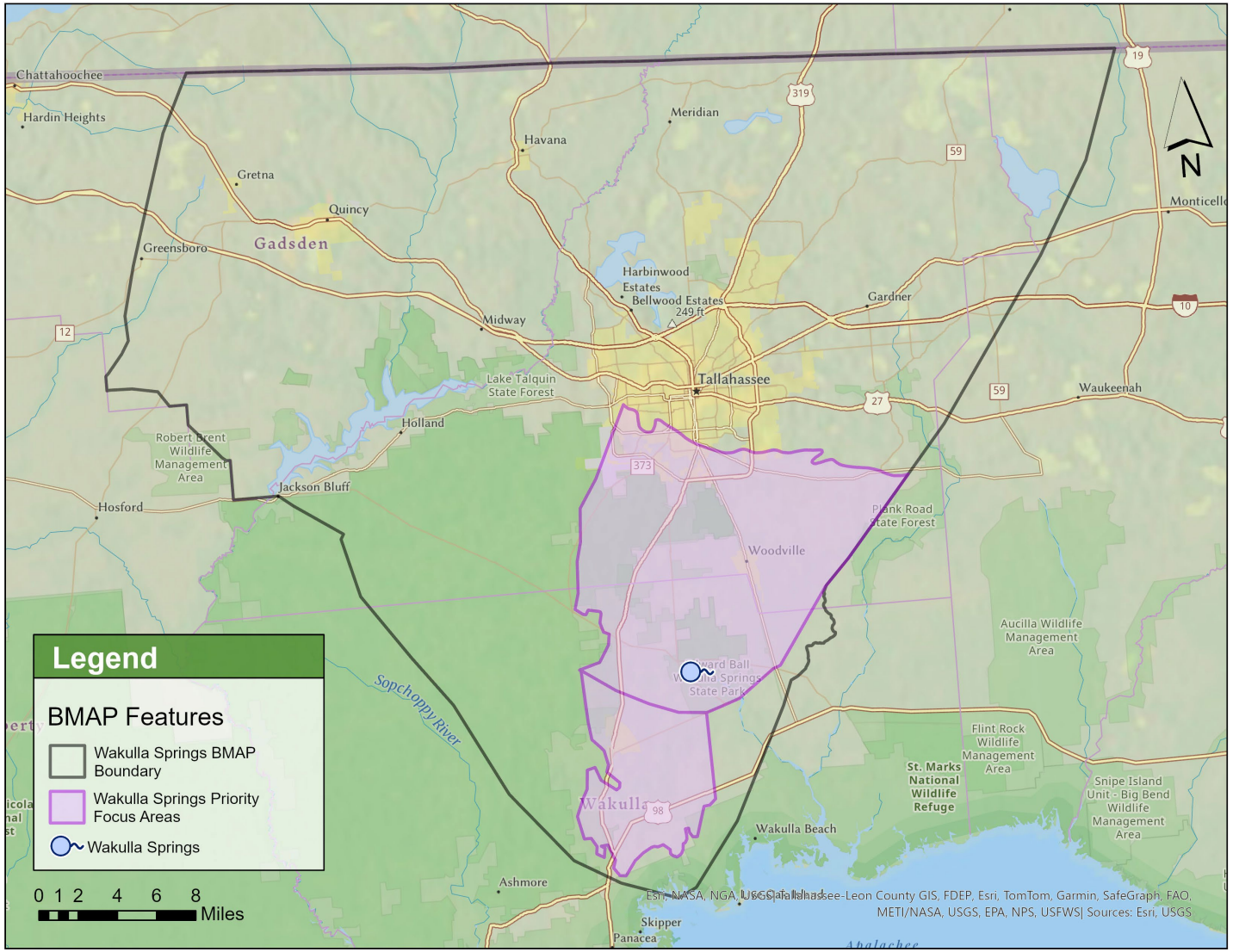
Complex groundwater dynamics lead to variable travel times to the spring vent.

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

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


Source: Florida Geological Survey - Rainbow Spring #4

BMAP BACKGROUND



- Approximately 848,445 acres (1,325 square miles) in Leon, Gadsden, Jefferson and Wakulla counties.
- Two Priority Focus Areas (PFAs).

Waterbody	Waterbody Identification (WBID)	Parameter	TMDL (mg/L)
Upper Wakulla River	1006	Nitrate, monthly average	0.35

mg/L: milligrams per liter.

STAKEHOLDERS

Responsible Stakeholders:

- Agricultural Producers.
- Leon County.
- Wakulla County.
- Gadsden County.
- Jefferson County.
- City of Tallahassee.
- City of Gretna.
- City of Midway.
- City of Quincy.
- Town of Havana.
- Town of Greensboro.
- Private Golf Courses.
- Private Wastewater Treatment Facilities.

Responsible Agencies:

- Florida Department of Environmental Protection (DEP), including Wakulla Springs State Park.
- Florida Department of Agriculture and Consumer Services (DACS).
- Florida Department of Health.
- Florida Department of Transportation - District 3.
- Northwest Florida Water Management District.
- Federal Correctional Institution-Tallahassee.
- Florida Agricultural and Mechanical University.
- Florida State University.
- Tallahassee State College.
- Talquin Electric Cooperative.
- Leon County Health Department.
- Wakulla County Health Department.

BILLS AND LEGISLATION
SUMMARY

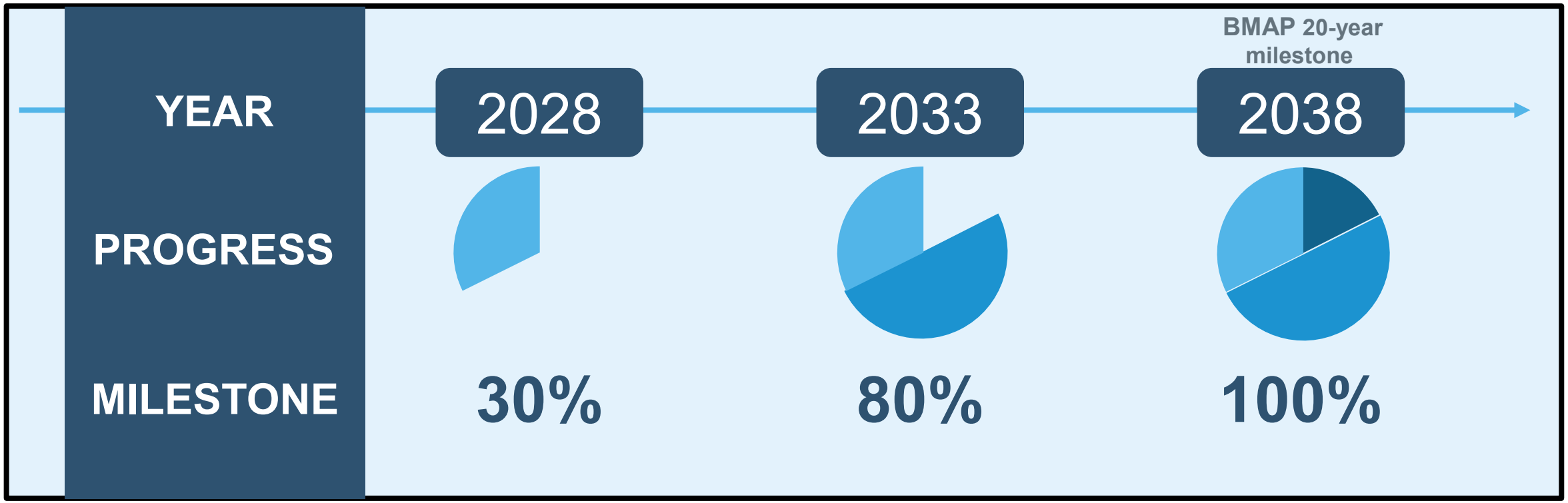
- Florida Watershed Restoration Act (section 403.067, Florida Statutes (F.S.)).
- Florida Springs and Aquifer Protection Act (Part VIII of Chapter 373, F.S.)
- 2020 Senate Bill (SB) 712 - Clean Waterways Act.
- 2023 House Bill (HB) 1379.
- 2024 HB 1557.

Summary of latest updates:

- Prohibition on new conventional onsite sewage treatment and disposal system (OSTDS) where sewer is available on lots one acre or less.
- Wastewater treatment plans and OSTDS remediation plans.
- List of projects to meet five-year milestones.
- Agricultural Cooperative Regional Elements.
- For spring BMAPs, prohibitions expanded from PFA to the entire BMAP.
- Advanced waste treatment (AWT) required for more types of effluent, including reclaimed water.

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.

BMAP UPDATES
DRAFT LOADING SUMMARY

	Nitrogen Loads (lbs-N/yr)	Source
Total Load at Spring Vents (August 2023)	627,101	Upper 95% confidence interval - nitrate data and flow data from years 2013 to 2022 (0.41 mg/L and 784.42 cfs)
TMDL Load	539,806	TMDL target is 0.35 mg/L and using the same flow data from years 2013 to 2022 (784.42 cfs)
Percent Required Reduction	14%	
Total NSILT Load (October 2023)	945,688	2023 NSILT
Required Reduction	131,643	Proportional decrease in NSILT load

cfs: Cubic feet per second.

REDUCTIONS

DRAFT SPRINGSHED REDUCTIONS

Nitrogen Source	Allocations by Source (lb-N/yr)	Reduction Determination	Percent of Total Reduction
Atmospheric Deposition	32,296	Spring Vent Percentage	24.11%
Septic Systems	57,522	Spring Vent Percentage on All Lots	42.94%
Wastewater Treatment Facilities	4,862	BMAP Effluent Requirements (All)	3.63%
Farm Fertilizer (BMP)	20,536	15% reduction	15.33%
Livestock Waste (BMP)	2,872	10% reduction	2.14%
Urban Turfgrass Fertilization	12,285	Spring Vent Percentage	9.17%
Sports Turf - Golf Courses	3,272	Spring Vent Percentage	2.44%
Sports Turf - Other	316	Spring Vent Percentage	0.24%
Total	133,963		100.00%

- The spring vent percentage of 14% was used to determine the required reduction for most categories.
- For wastewater treatment facilities (WWTFs), estimated reduction was determined based on the BMAP effluent standards.
- For agricultural sources, an estimated reduction of 15% will be achieved when all crop producers are enrolled in the DACS Best Management Practice (BMP) program and implement BMPs, and a reduction of 10% will be achieved when all livestock producers enroll in the DACS BMP program and implement BMPs.

REDUCTIONS

DRAFT ENTITY REQUIRED REDUCTIONS

All local municipalities will be allocated reductions based on the loading estimated to occur under their jurisdiction from central wastewater systems, septic systems and urban fertilizers.

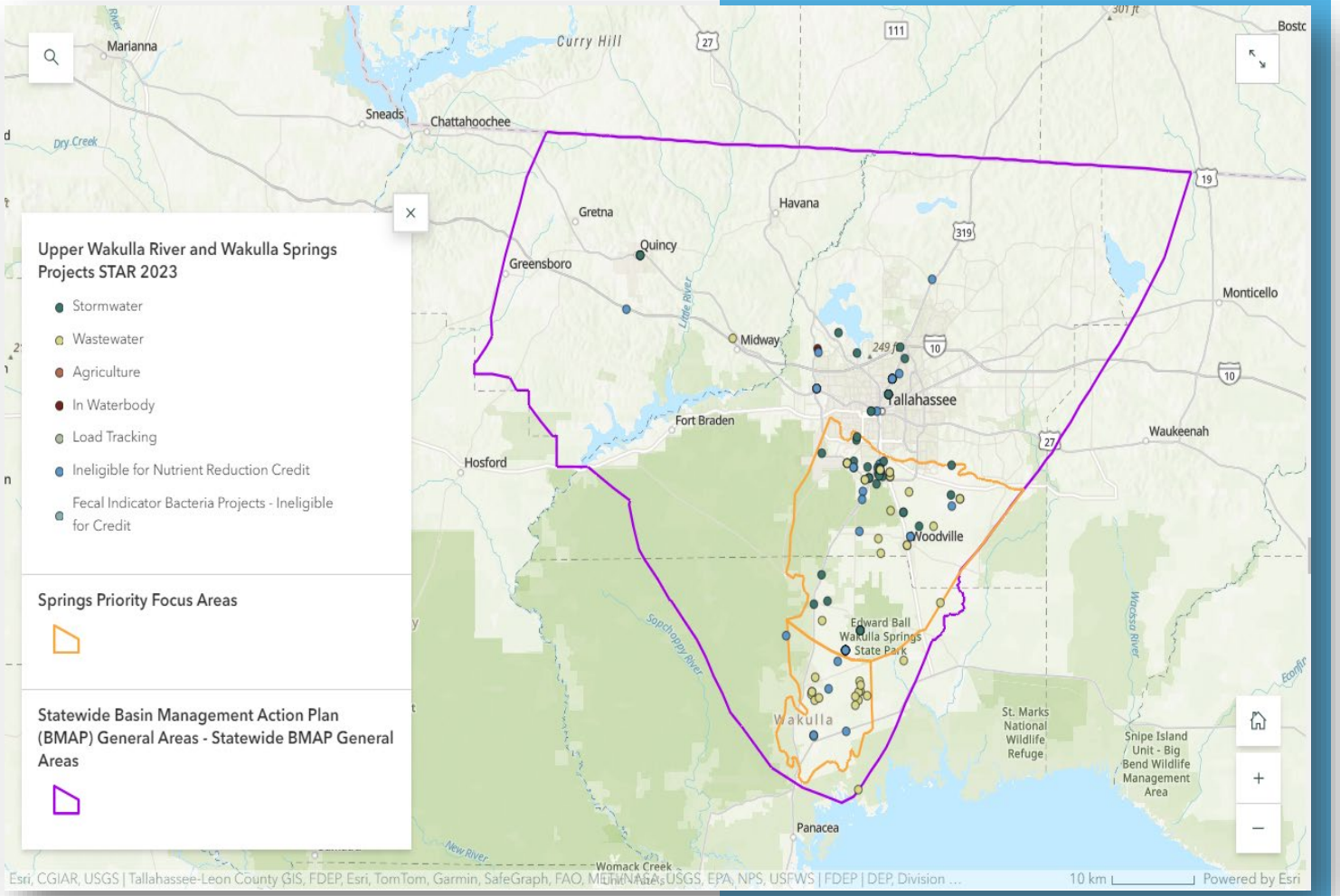
Entity	2028 Milestone Required Reductions lbs-N/yr (30%)	2033 Milestone Required Reductions lbs-N/yr (80%)	2038 Milestone Required Reductions lbs-N/yr (100%)
Gadsden County	690	1,841	2,301
Town of Greensboro	17	46	57
City of Gretna	21	55	68
Town of Havana	36	96	120
City of Midway	158	422	527
City of Quincy	96	257	321
Jefferson County	52	139	174
Leon County	11,795	31,453	39,317
City of Tallahassee	1,983	5,287	6,609
Wakulla County	6,272	16,726	20,907
Talquin Electric Cooperative Multiple WWTFs*	1,112	2,965	3,706
Private WWTFs*	303	809	1,011
Private Golf Courses*	942	2,512	3,140
Agriculture	7,022	18,727	23,408

*Reductions for these entities will 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 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.

June - Dec. 2024

Technical analyses and BMAP document drafting.

Dec. 2024

Final draft BMAP documents and public meetings.

July 1, 2025

Statutory deadline for updated nutrient BMAPs.

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

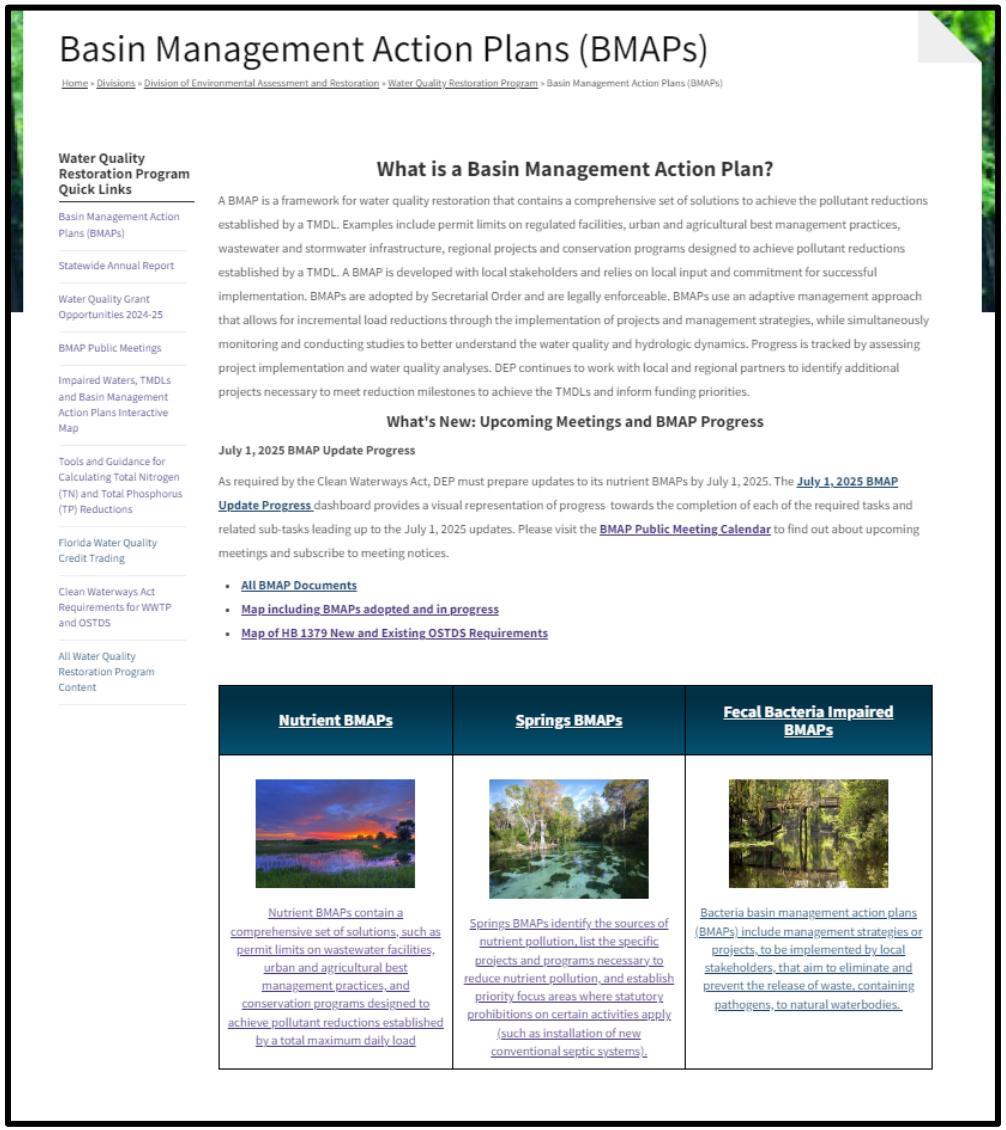

5 Homosassa and Chassahowitzka Springs...


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



SUBSCRIBER PAGE

HOW TO CONTACT US

BMAPProgram@FloridaDEP.gov

THANK YOU

Samuel Hankinson, P.G. II
Division of Environmental Assessment and Restoration
Water Quality Restoration Program

Contact Information:
850-245-8086
Samuel.Hankinson@FloridaDEP.gov


FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION