



# WACISSA RIVER AND WACISSA SPRING GROUP 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

Monticello, FL | Oct. 7, 2024



# AGENDA

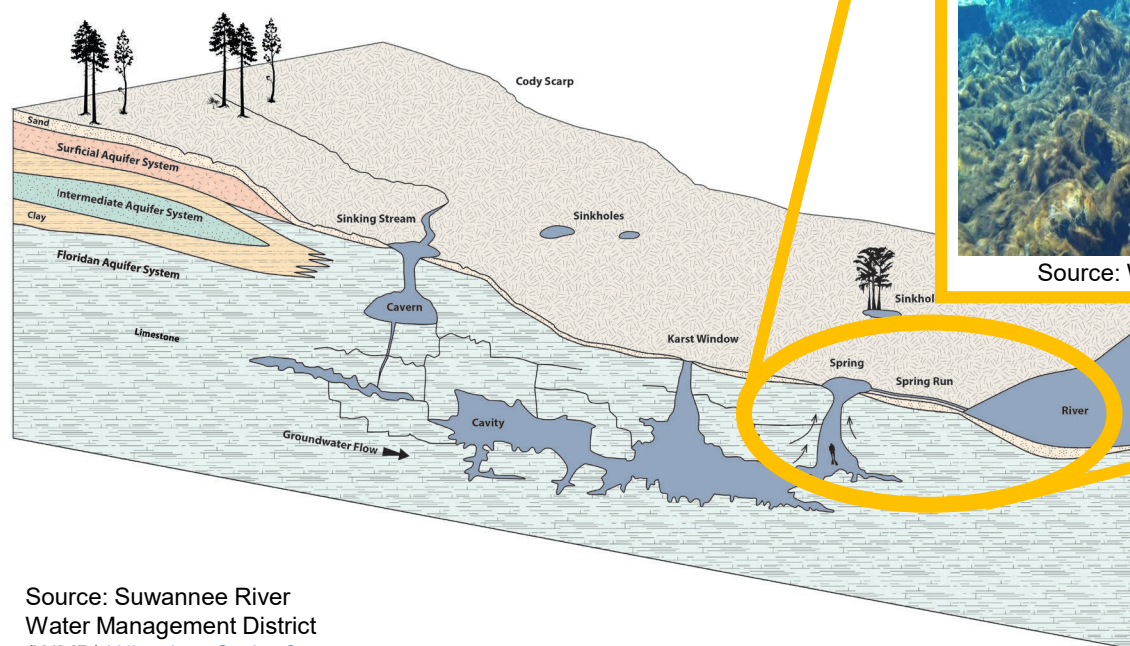
- Background.
- Analysis results summary.
- Basin required reductions.
- Entity required reductions.
- Poster session.





# BACKGROUND

## SPRINGS RESTORATION



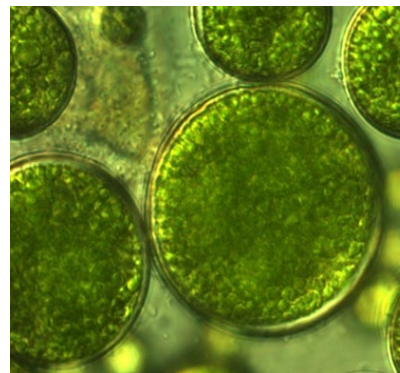
Source: Suwannee River  
Water Management District  
(WMD) [What is a Spring?](#)

**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.**

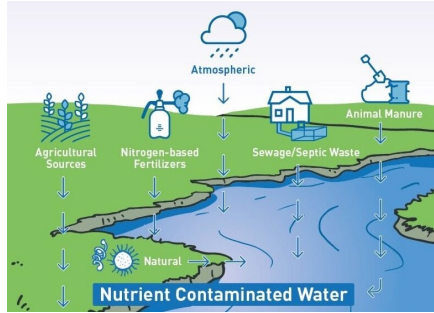


Source: Florida Geological Survey  
- Rainbow Spring #4



# BACKGROUND SPRINGS RESTORATION

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



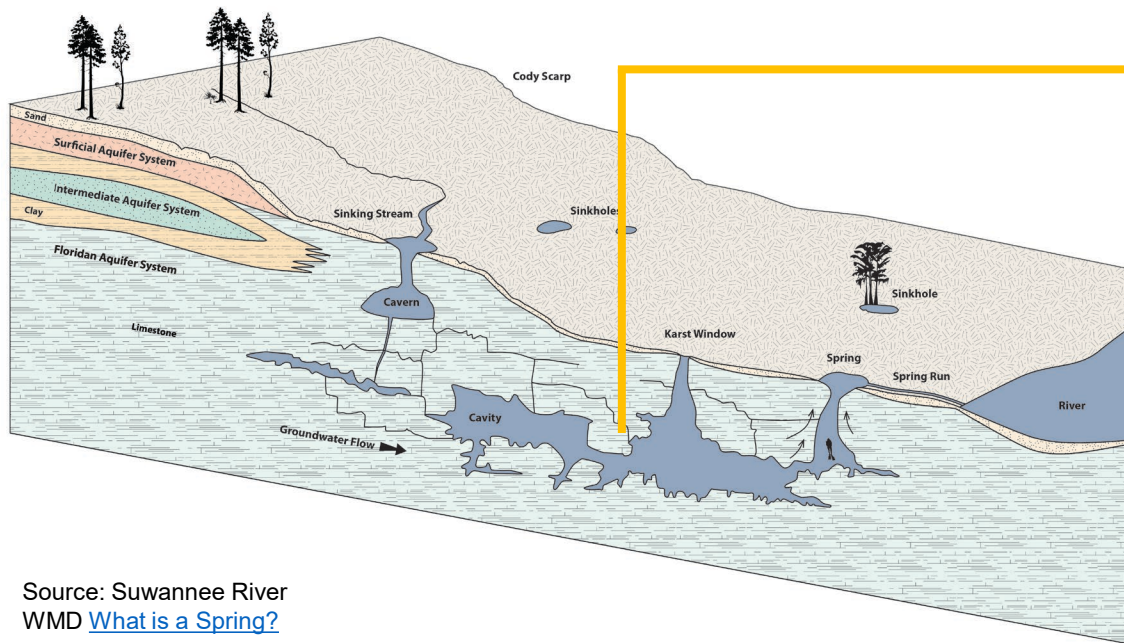
Source: Beta Analytics

**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 goals.



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

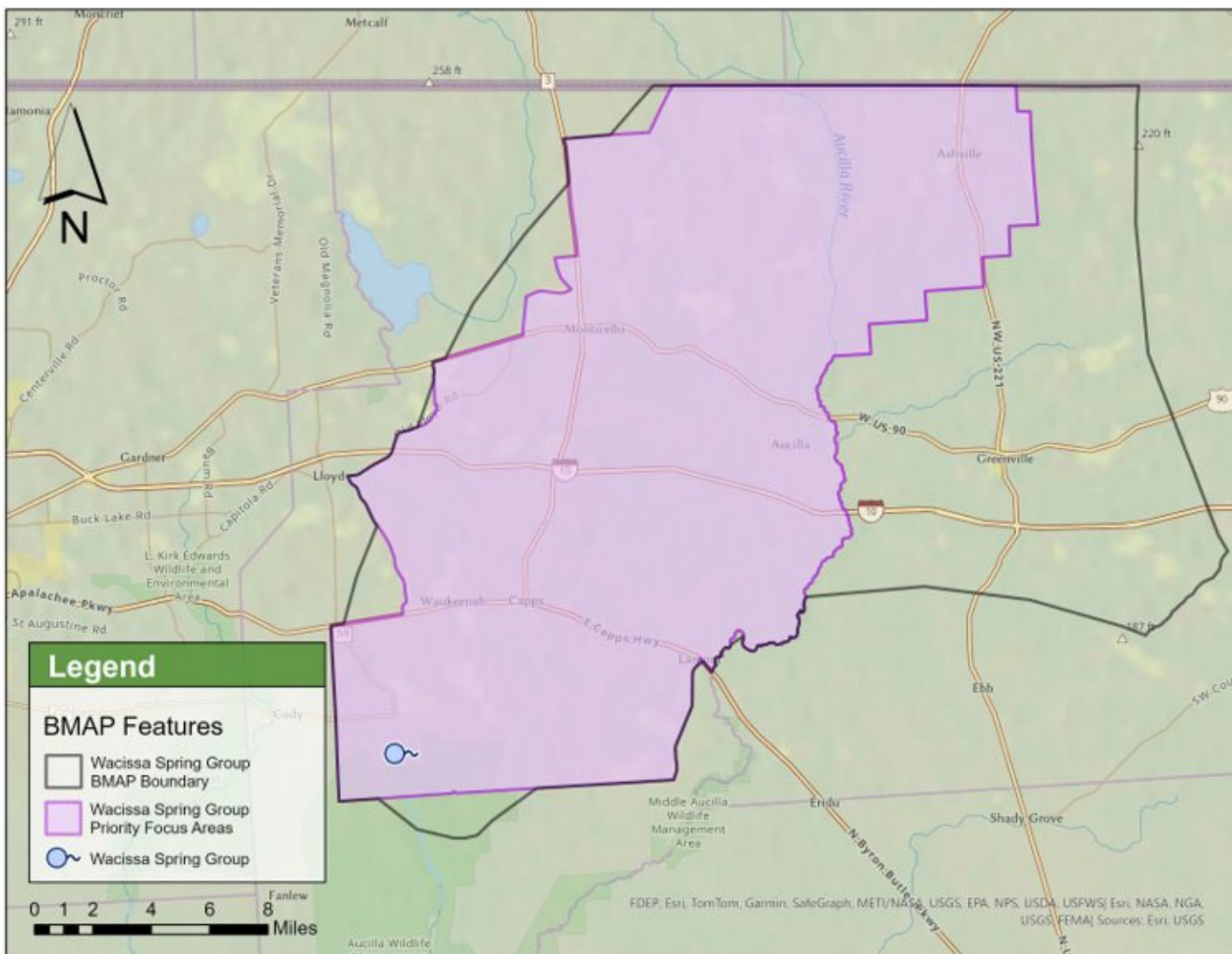
BMAP: Basin Management Action Plan



Source: Florida Geological Survey  
- Rainbow Spring #4



# BMAP BACKGROUND



- Approximately 327,585 acres/512 square miles in Jefferson and Madison counties.

| Waterbody or Spring Name | Waterbody Identification (WBID) Number | Parameter                | TMDL (mg/L) |
|--------------------------|----------------------------------------|--------------------------|-------------|
| Wacissa River            | 3424                                   | Nitrate, monthly average | 0.20        |
| Wacissa Spring Group     | 3424Z                                  | Nitrate, monthly average | 0.24        |

mg/L: Milligrams per liter.



# STAKEHOLDERS

## Responsible Stakeholders:

- Agricultural Producers.
- Madison County.
- Jefferson County.
- City of Monticello.
- Town of Greenville.
- Private Golf Courses.
- Jefferson Correctional Institution Wastewater Treatment Facility.
- DOT Rest Area, I-10 and Aucilla River Wastewater Treatment Facility.

## Responsible Agencies:

- Florida Department of Environmental Protection (DEP).
- Florida Department of Agriculture and Consumer Services (DACS).
- Florida Department of Health.
- Florida Department of Transportation (DOT).
- Northwest Florida Water Management District.
- Suwannee River Water Management District.



# 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 1 acre or less.
- Wastewater treatment plans and OSTDS remediation plans from local governments.
- List of identified project 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.



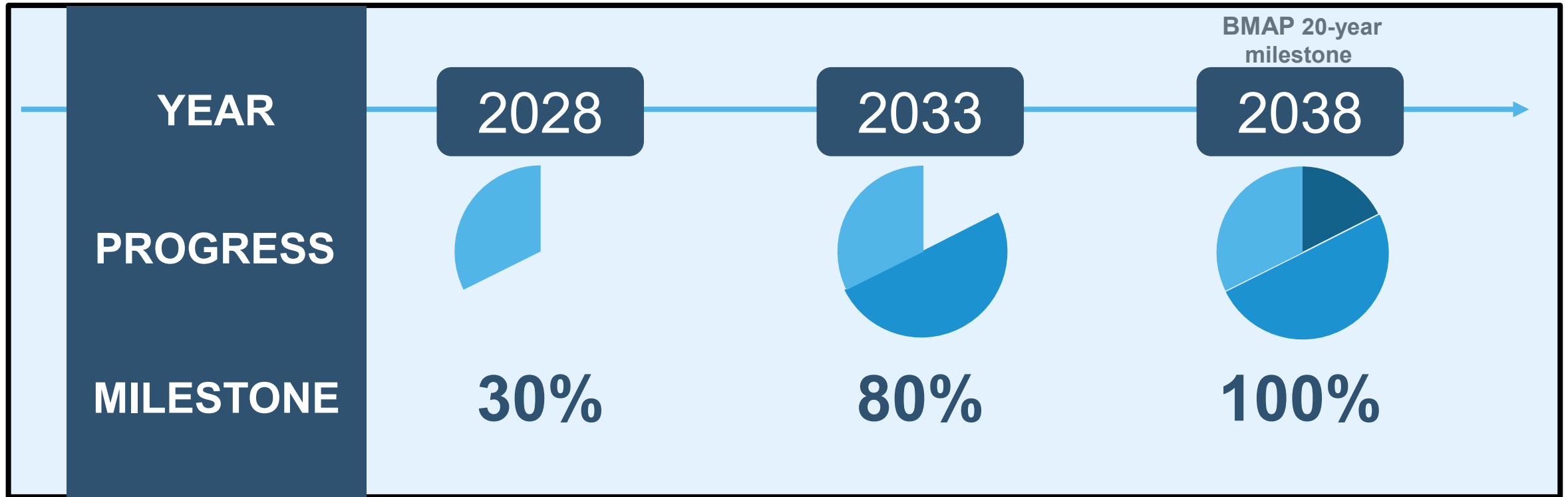
# ACE

- 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, enhancing 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.



# BMAP UPDATES

## DRAFT LOADING SUMMARY

|                                                | Nitrogen Loads (lb-N/yr) | Source                                                                             |
|------------------------------------------------|--------------------------|------------------------------------------------------------------------------------|
| Total Load at Spring Vents<br>(September 2023) | 184,802                  | Upper 95% confidence interval - nitrate data and flow data from years 2013 to 2022 |
| TMDL Load                                      | 108,541                  | TMDL target is 0.24 mg/L and using the same flow data from years 2013 to 2022      |
| Percent Required Reduction                     | 41%                      |                                                                                    |
| Total NSILT Load                               | 550,679                  | 2023 NSILT                                                                         |
| Required Reduction                             | 227,245                  | Proportional decrease in TMDL load                                                 |

cfs: cubic feet per second



# REDUCTIONS

## DRAFT SPRINGSHED REQUIRED REDUCTIONS

| Nitrogen Source                      | Allocations by Source (lb-N/yr) | Description                                                                       | Percent of Total Reduction |
|--------------------------------------|---------------------------------|-----------------------------------------------------------------------------------|----------------------------|
| Atmospheric Deposition               | 43,443                          | Spring Vent Percentage                                                            | 18.88%                     |
| OSTDS                                | 14,803                          | Spring Vent Percentage on All Lots                                                | 6.43%                      |
| Wastewater Treatment Facilities      | 5,567                           | BMAP Effluent Requirements (All)                                                  | 2.42%                      |
| Farm Fertilizer (BMP)                | 40,508                          | 15% reduction                                                                     | 17.60%                     |
| Livestock Waste (BMP)                | 10,296                          | 10% reduction                                                                     | 4.47%                      |
| Livestock Waste - CAFO Dairy         | 2,586                           | 10% reduction                                                                     | 1.12%                      |
| Other Agriculture                    | 111,213                         | Assign additional reductions to meet spring vent percentage reduction of ag loads | 48.33%                     |
| Urban Turfgrass Fertilizers          | 1,510                           | Spring Vent Percentage                                                            | 0.66%                      |
| Sports Turfgrass Fertilizers - Golf  | 147                             | Spring Vent Percentage                                                            | 0.06%                      |
| Sports Turfgrass Fertilizers - Other | 46                              | Spring Vent Percentage                                                            | 0.02%                      |
| <b>Total</b>                         | <b>230,120</b>                  |                                                                                   | <b>100.00%</b>             |

- The spring vent percentage of 41% was used to determine the required reduction for most categories.
- For WWTFs, reduction was determined based on the BMAP effluent standards.
- For agricultural sources, an estimated reduction of 15% will be achieved when crop producers are enrolled in the DACS Best Management Practice (BMP) program and implement BMPs, and a reduction of 10% is estimated when all livestock producers enroll in the DACS BMP program and implement BMPs. The remaining allocated reduction to agricultural sources will be addressed through a combination of regional projects, ACE, innovative technologies and cost-share projects.



# REDUCTIONS

## DRAFT ENTITY REQUIRED REDUCTIONS

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

| Entity                                     | Milestone 2028<br>Required Reductions<br>lbs-N/yr (30%) | Milestone 2033<br>Required Reductions<br>lbs-N/yr (80%) | Milestone 2038<br>Required Reductions<br>lbs-N/yr (100%) |
|--------------------------------------------|---------------------------------------------------------|---------------------------------------------------------|----------------------------------------------------------|
| Jefferson County                           | 3,291                                                   | 8,776                                                   | 10,970                                                   |
| Madison County                             | 872                                                     | 2,324                                                   | 2,905                                                    |
| City of Monticello                         | 151                                                     | 404                                                     | 505                                                      |
| Town of Greenville                         | 2,041                                                   | 5,442                                                   | 6,802                                                    |
| Jefferson Correctional Institution WWTF *  | 195                                                     | 521                                                     | 652                                                      |
| DOT Rest Area, I-10 & Aucilla River WWTF * | 28                                                      | 74                                                      | 92                                                       |
| Agriculture                                | 49,381                                                  | 131,683                                                 | 164,604                                                  |
| Private Golf Courses*                      | 44                                                      | 118                                                     | 147                                                      |

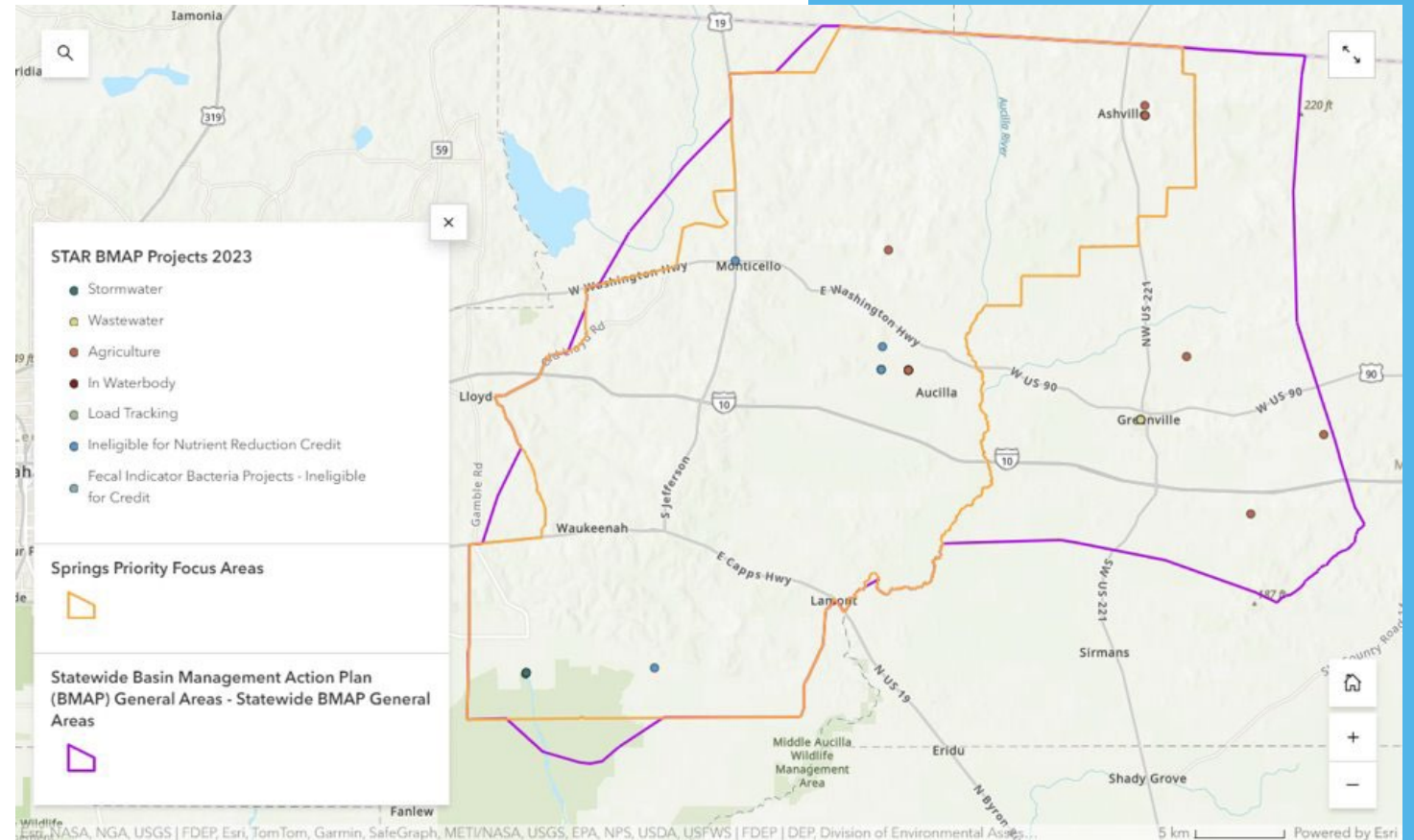
\*Reductions for these entities will be tracked through permits and compliance actions.



# PROJECTS

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

- Entities are required to plan and report projects to the state through the Statewide Annual Report (STAR) process. All projects needed to fulfill milestones should be added, even if a funding source has not been identified.
- Reporting projects in this process allows the state to evaluate funding needs and to assist in prioritizing 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

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)

[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                                                                                                                                                                                                                                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>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</p> |  <p>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).</p> |  <p>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.</p> |



# SUBSCRIBER PAGE

## HOW TO CONTACT US



[BMAPProgram@FloridaDEP.gov](mailto: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](mailto:Samuel.Hankinson@FloridaDEP.gov)

