



# WEKIWA SPRING AND ROCK SPRINGS BASIN MANAGEMENT ACTION PLAN UPDATES

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Florida Department of Environmental Protection

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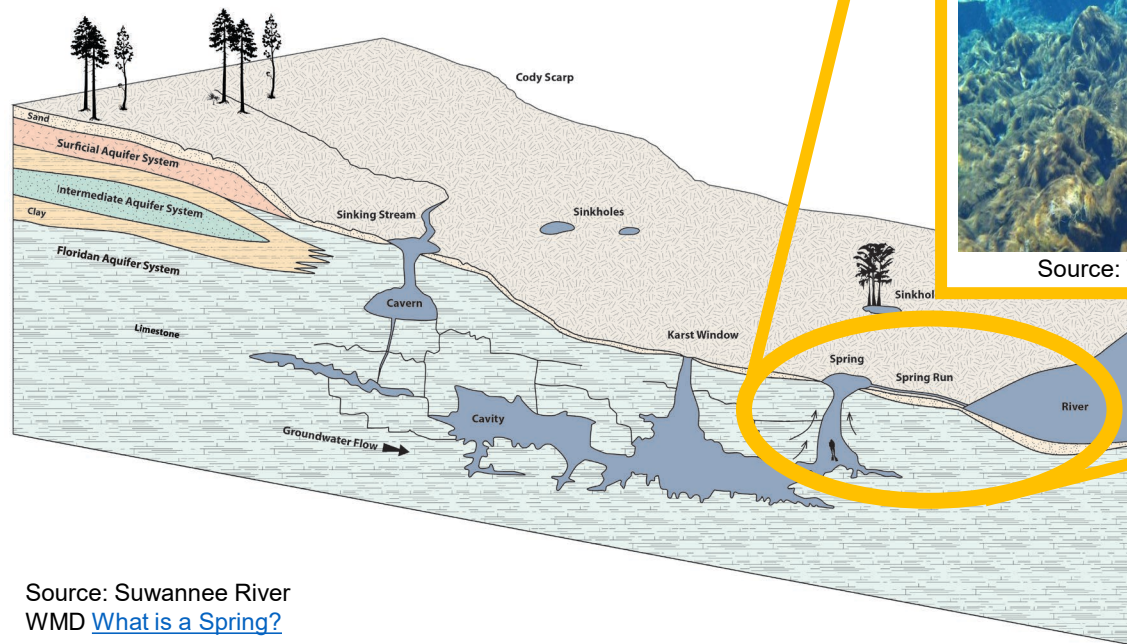
# AGENDA

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





# BACKGROUND SPRINGS RESTORATION



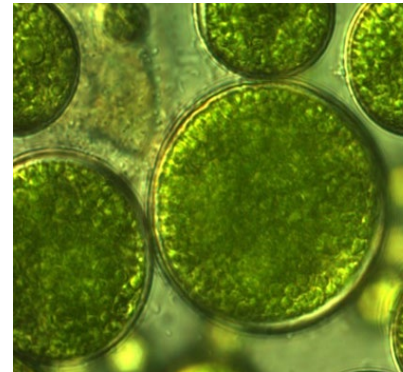
Source: Suwannee River  
WMD [What is a Spring?](#)

**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 restoration target.

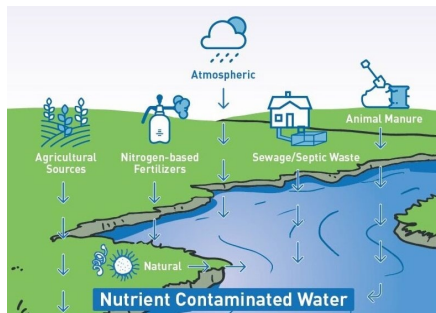


Source: Florida Geological Survey  
- Rainbow Spring #4



# BACKGROUND SPRINGS RESTORATION

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



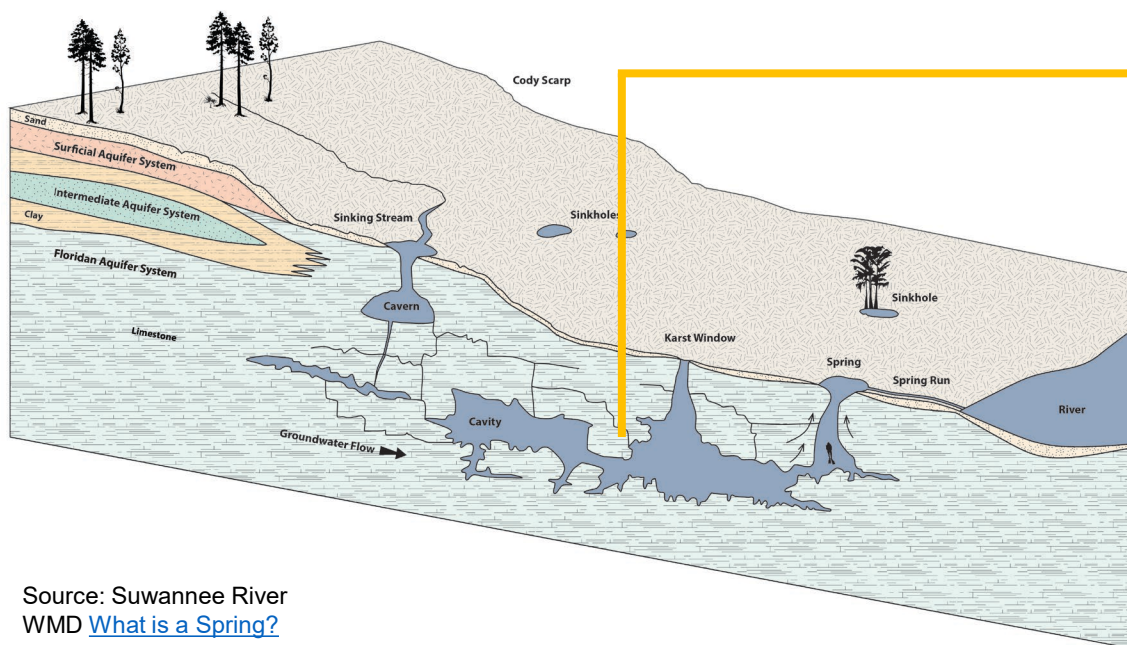
Source: Beta Analytics

**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

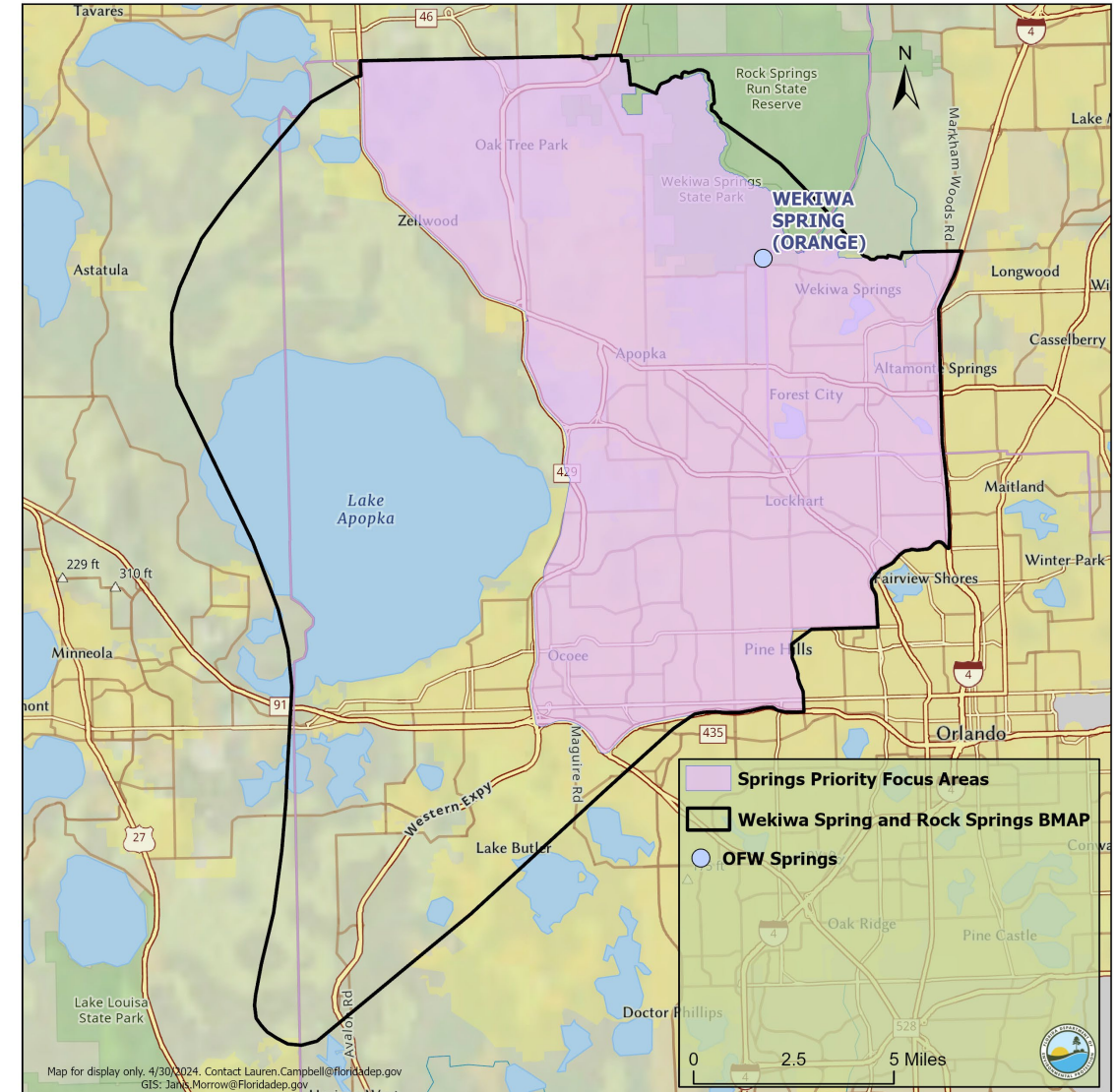


Source: Florida Geological Survey  
- Rainbow Spring #4



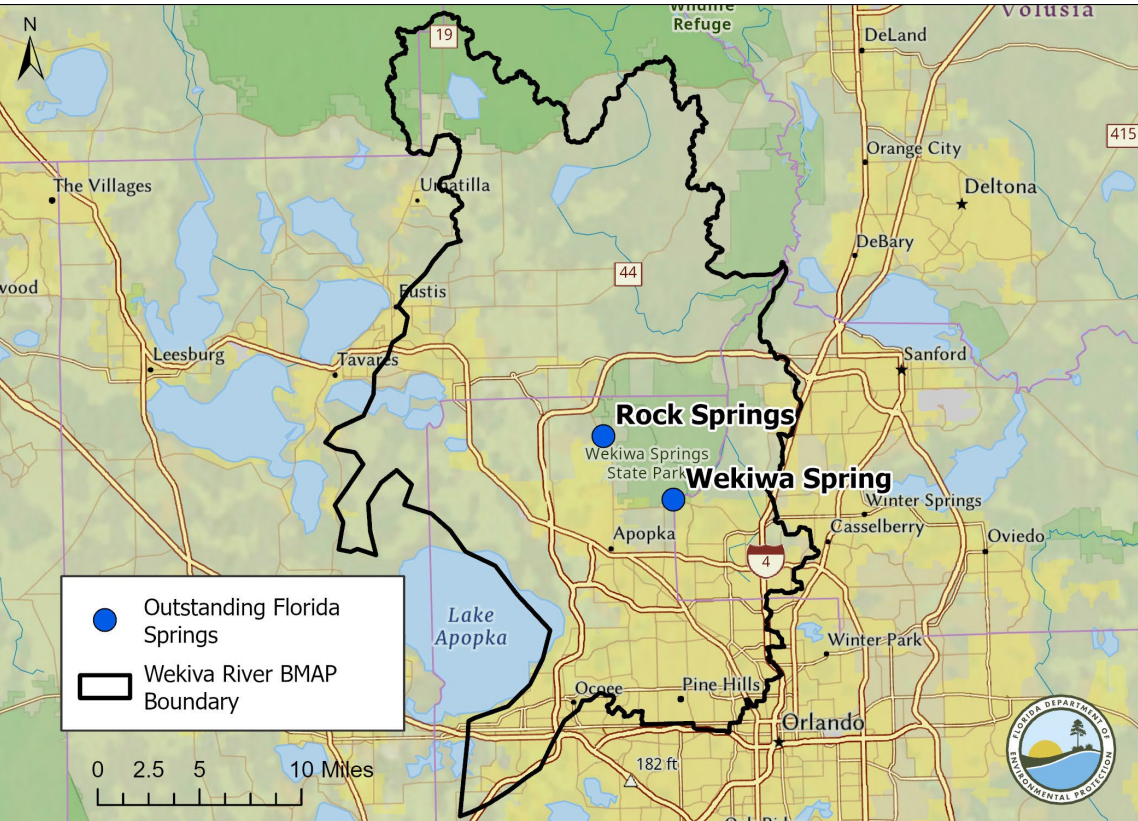
# WEKIWA SPRING AND ROCK SPRINGS BMAP

- BMAP area is approximately 183,165 acres or 286 square miles in Orange, Lake and Seminole counties.
- Wekiwa Spring forms the headwater of the Wekiva River, a tributary to the St. Johns River. Rock Springs discharges into Rock Springs Run, which then joins the Wekiva River.
- TMDLs - monthly average nitrate target of 0.286 milligrams per liter (mg/L) of nitrate and 0.065 mg/L of total phosphorus (TP).





# WEKIVA RIVER BMAP



- BMAP area is approximately 328,612 acres or 513 square miles in Orange, Lake and Seminole counties.
- TMDL - monthly average nitrate target of 0.286 milligrams per liter (mg/L) and 0.065 mg/L of total phosphorus (TP).
- This surface water BMAP will be included in the St. Johns River Basin Model update.



# STAKEHOLDERS

## WEKIWA AND ROCK SPRINGS AND WEKIVA RIVER

### Responsible stakeholders:

- City of Altamonte Springs.
- City of Apopka.
- City of Eustis.
- City of Maitland.
- City of Mount Dora.
- City of Ocoee.
- City of Orlando.
- City of Tavares.
- City of Winter Garden.
- Lake County.
- Orange County and Orange County Utilities.
- Sunshine Water Services.
- Seminole County.
- Town of Astatula.
- Town of Eatonville.
- Town of Oakland.
- Town of Windermere.
- Turnpike Enterprises.

### Responsible agencies:

- Florida Department of Agriculture and Consumer Services (DACS).
- Florida Department of Environmental Protection (DEP).
- Florida Department of Health.
- Florida Department of Transportation.
- Florida Department of Health in Lake County.
- Florida Department of Health in Orange County.
- Florida Department of Health in Seminole County.
- St. Johns River Water Management District.

### Other interested stakeholders:

- Environmental Interests.
- Florida Fish and Wildlife Conservation Commission.
- Friends of Wekiva River.
- Wekiva River Aquatic Preserve.
- Wekiwa Springs State Park.



# 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.

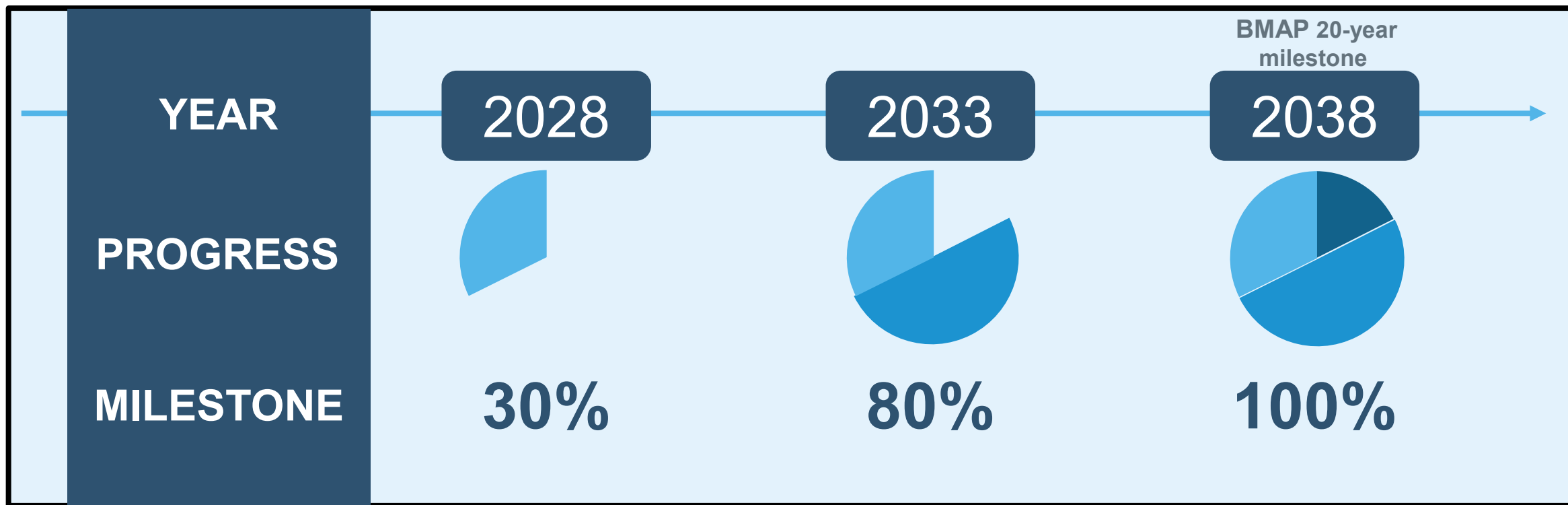
### **Summary of latest updates:**

- Wastewater facility plans and onsite sewage treatment and disposal system (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.



# 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.



# WEKIWA AND ROCK SPRINGS BMAP UPDATES

## DRAFT LOADING SUMMARY

| Wekiwa Rock Springs- Total Reduction Needed to Meet the TMDL |                           |                                                                        |
|--------------------------------------------------------------|---------------------------|------------------------------------------------------------------------|
|                                                              | Nitrogen Loads (lbs-N/yr) | Information                                                            |
| Total Load at Spring Vents (October 2023)                    | 286,567                   | Upper 95% confidence interval – nitrate and flow data 2012-2022        |
| TMDL Load                                                    | 67,705                    | TMDL target is 0.286 mg/L and using the same flow data and proportions |
| Percent Required Reductions                                  | 76%                       | Based on Spring Vent Load and TMDL Load                                |
| Total NSILT Load (October 2023)                              | 1,213,232                 | 2023 NSILT                                                             |
| Required Reductions                                          | 926,589                   | Based on NSILT Load and Percent Reduction at Spring Vent               |

cfs: Cubic feet per second

mg/L: milligram per liter



# REDUCTIONS

## DRAFT SPRINGSHED REDUCTIONS

| Nitrogen Source                                     | Allocations by Source (lbs-N/yr) | Percent of Total Reduction |
|-----------------------------------------------------|----------------------------------|----------------------------|
| Atmospheric Deposition (AD)                         | 42,032                           | 4.54%                      |
| Onsite Sewage Treatment and Disposal System (OSTDS) | 479,681                          | 51.77%                     |
| Wastewater Treatment Facility (WWTF)                | 68,792                           | 7.42%                      |
| Farm Fertilizer (BMP Enrollment)                    | 7,236                            | 0.78%                      |
| Livestock Waste-NonCAFO (BMP Enrollment)            | 948                              | 0.10%                      |
| Other Agriculture                                   | 35,896                           | 3.87%                      |
| Urban Turf Fertilizer (UTF)                         | 227,154                          | 24.52%                     |
| Sports Turf Fertilizer (STF) -Golf                  | 20,031                           | 2.16%                      |
| Sports Turf Fertilizer (STF) -Other                 | 5,201                            | 0.56%                      |
| Regional Projects                                   | 39,618                           | 4.28%                      |
| <b>Total</b>                                        | <b>926,589</b>                   | <b>100.00%</b>             |

- The spring vent percentage of 76% was used to determine the required reduction for most categories of sources.
- For wastewater treatment facilities, reductions were determined based on the BMAP effluent standards or recent legislative changes.
- For agricultural sources, an estimated reduction of 15% will be achieved when crop producers enroll 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

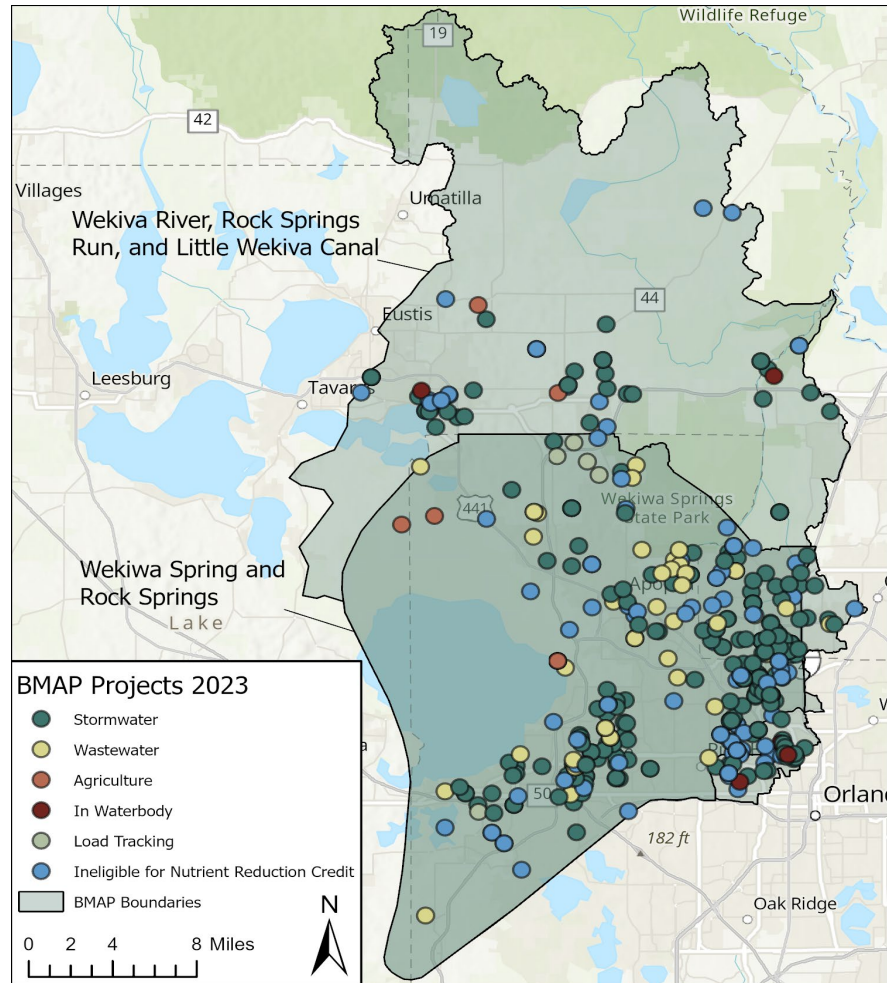
- All local municipalities will be allocated reduction targets based on the estimated loading within their jurisdiction from wastewater, OSTDS and urban fertilizers.
- Agriculture will be allocated based on reduction targets.
- Private wastewater treatment facilities will be required to meet BMAP wastewater standards or advanced waste treatment standards as determined by DEP and implemented through permits.
- New management strategies will provide assurance golf courses are using fertilizers appropriately.

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

| Entity                                             | Milestone 2028<br>Assigned<br>Reductions<br>lbs-N/yr (30%) | Milestone 2033<br>Assigned<br>Reductions<br>lbs-N/yr<br>(+50%=80%) | Milestone 2038<br>Assigned<br>Reductions<br>lbs-N/yr<br>(+20%=100%) |
|----------------------------------------------------|------------------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------------------------|
| City of Altamonte Springs                          | 4,641                                                      | 12,376                                                             | 15,470                                                              |
| City of Apopka                                     | 16,842                                                     | 44,913                                                             | 56,141                                                              |
| City of Maitland                                   | 669                                                        | 1,783                                                              | 2,229                                                               |
| City of Montverde                                  | 1                                                          | 3                                                                  | 4                                                                   |
| City of Ocoee                                      | 22,240                                                     | 59,308                                                             | 74,135                                                              |
| City of Orlando                                    | 1,737                                                      | 4,632                                                              | 5,790                                                               |
| City of Winter Garden                              | 4,412                                                      | 11,766                                                             | 14,708                                                              |
| Lake County                                        | 671                                                        | 1,789                                                              | 2,236                                                               |
| Orange County                                      | 155,672                                                    | 415,126                                                            | 518,907                                                             |
| Seminole County                                    | 21,998                                                     | 58,662                                                             | 73,327                                                              |
| Town of Eatonville                                 | 254                                                        | 678                                                                | 848                                                                 |
| Town of Oakland                                    | 2,447                                                      | 6,526                                                              | 8,158                                                               |
| Town of Windermere                                 | 1,091                                                      | 2,909                                                              | 3,636                                                               |
| Mt. Dora WWTF                                      | 7                                                          | 17                                                                 | 22                                                                  |
| Private WWTF*                                      | 1,565                                                      | 4,175                                                              | 5,218                                                               |
| Private Golf Courses*                              | 6,009                                                      | 16,025                                                             | 20,031                                                              |
| Agriculture (BMPs)                                 | 2,455                                                      | 6,547                                                              | 8,184                                                               |
| Ag-Cooperative Regional<br>Elements and Cost Share | 10,769                                                     | 28,717                                                             | 35,896                                                              |
| Regional Projects                                  | 11,885                                                     | 31,695                                                             | 39,618                                                              |



# PROJECTS



**HB 1379 requires responsible entities to report on projects that meet the required five-year milestones.**

- It is critical to the BMAP program that entities plan for and report projects and project updates to the state through the Statewide Annual Report (STAR) process.
- All projects needed to fulfill milestones should be included in the STAR report, 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 and to meet milestones.
- Entity allocations and milestones will be added to the **Wekiva River BMAP** in another BMAP update after completion of the St. Johns River model. Interim management strategies will be included in this BMAP update.



# 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  
documents 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

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