



Outstanding Florida Springs Basin Management Action Plans (BMAPs) Annual Meeting

**Division of Environmental Assessment and Restoration
Florida Department of Environmental Protection (DEP)**

July 14, 2021



Agenda

- **Welcome / Introductions**
- **Funding Updates**
- **Updates / Next Steps**
- **Onsite Sewage Program Updates**
- **Senate Bill 712 / Clean Waterways Act Updates**
- **DEP Updates**





Funding Updates



Statewide Annual Report (STAR) 2020 is Live!

<https://floridadep.gov/star>

Florida Statewide Annual Report

Published June 30, 2021

[Introduction](#) [Total Maximum Daily Loads](#) [Basin Management Action Plans](#) [Minimum Flows and Minimum Water Levels](#) [Recovery and Prevention Strategies](#) [Contacts and Data](#)

Troubleshooting

Basin Management Action Plans

A basin management action plan (BMAP) is a framework for water quality restoration that contains local and state commitments to reduce pollutant loading through current and future projects and strategies. 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 (TMDL). These broad-based plans are developed with local stakeholders and rely on local input and commitment for development and successful implementation. BMAPs are adopted by Florida Department of Environmental Protection (DEP) Secretarial Order and are legally enforceable.

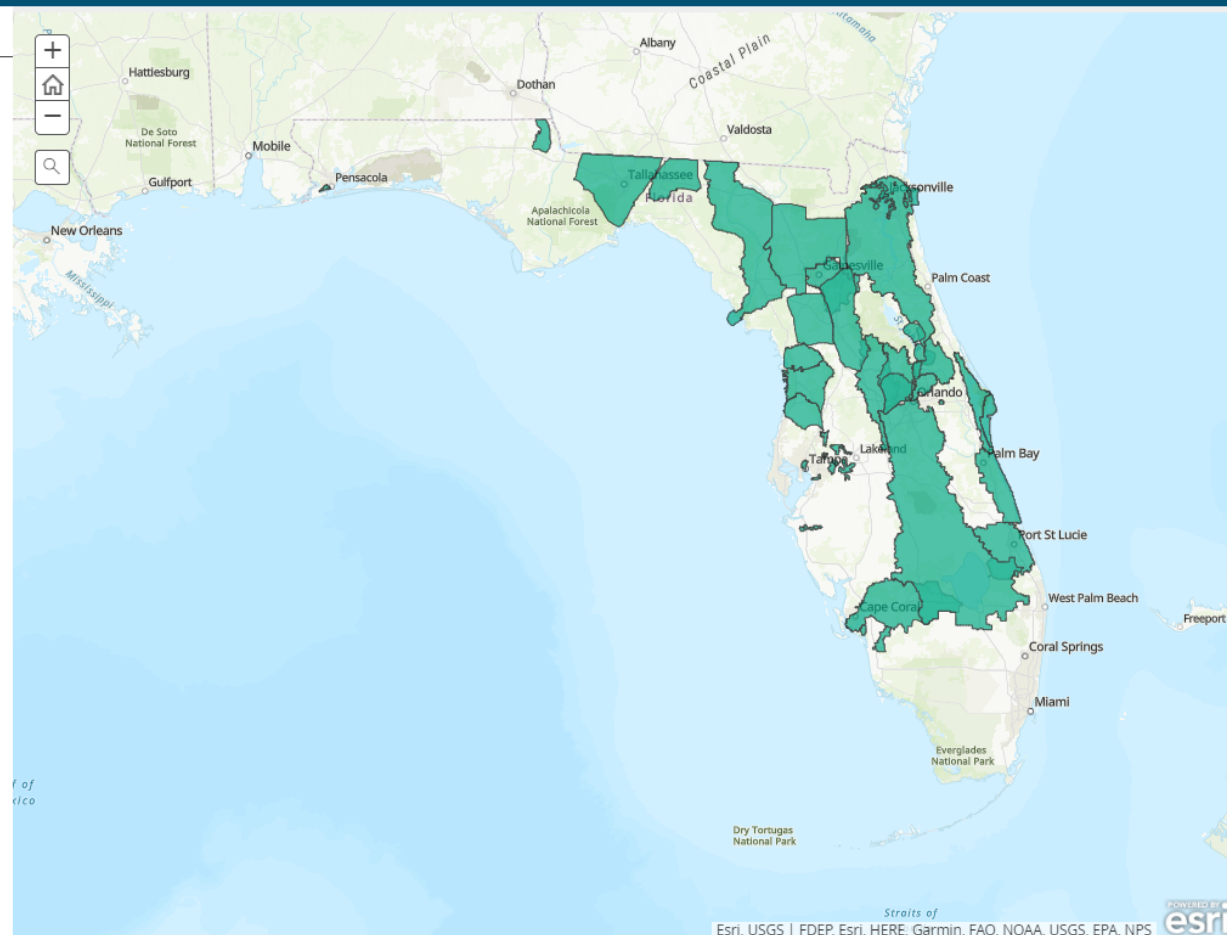
Navigation

Select any of the following sections for additional information about BMAPs. Clicking on the dots in the column to the left of the page links you to these same sections and clicking on the home icon returns you to the top of this page.

- [Northern Everglades and Estuaries Protection Program BMAPs.](#)
- [Outstanding Florida Springs \(OFS\) BMAPs.](#)
- [Additional Nutrient BMAPs.](#)
- [Fecal Indicator Bacteria BMAPs.](#)
- [Alternative Restoration Approaches.](#)

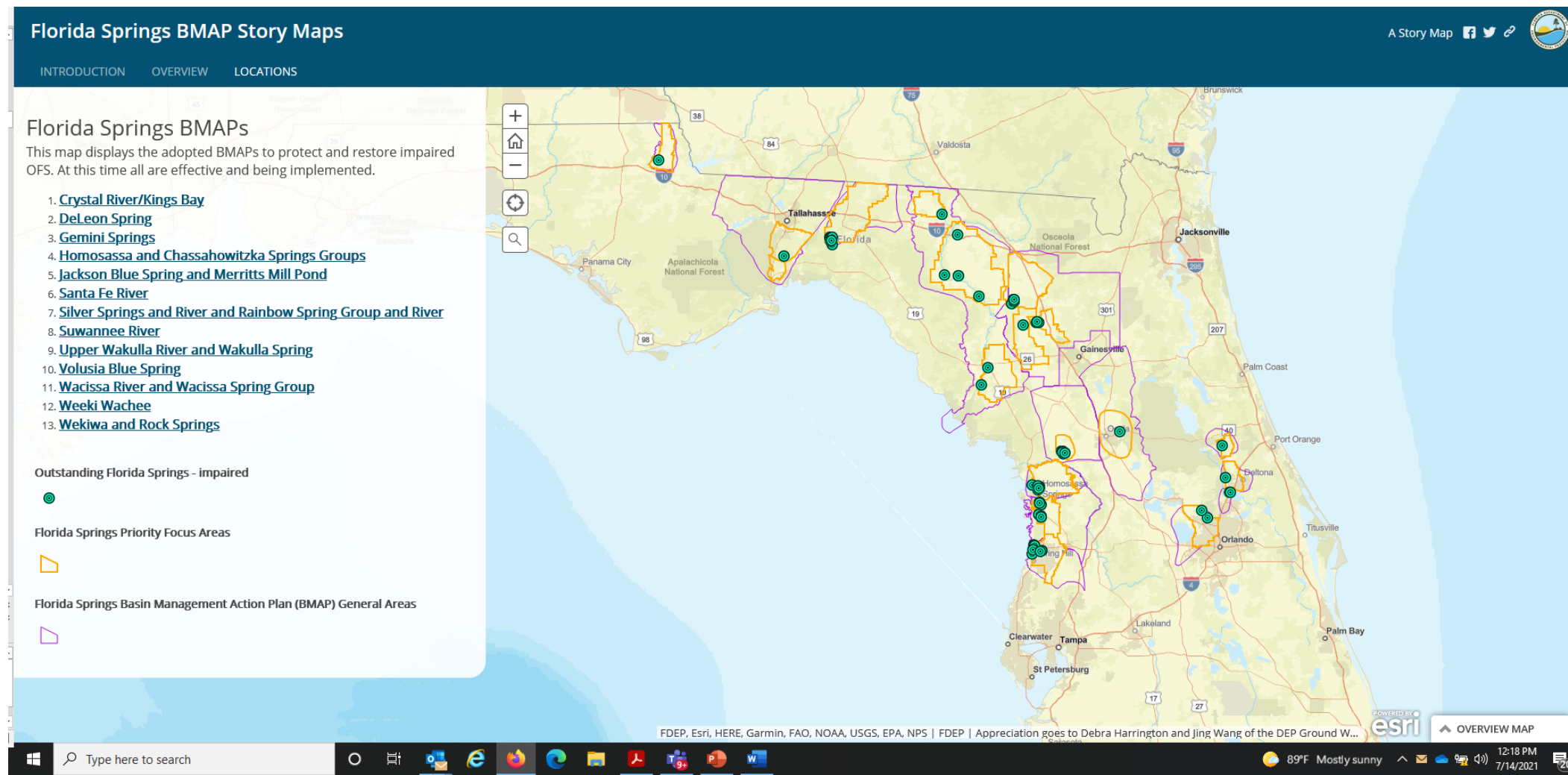
How to Use This Report

The management actions listed in the BMAPs comprise local projects proposed and committed to by counties, municipalities, special districts, private industrial facilities, wastewater utilities, commercial agricultural operations, state agencies, and other stakeholders. In 2020, DEP contacted stakeholders in all BMAP areas to request information on the status of projects through December 31, 2020. The tables throughout this report contain updates on existing projects, as well as information about new or planned projects, provided by the responsible entities. In some cases,





Springs BMAP Story Maps





Spring BMAPs

Coordinator Contacts

Moira Homann

850-245-8460

Moira.Homann@FloridaDEP.gov

Mary Paulic

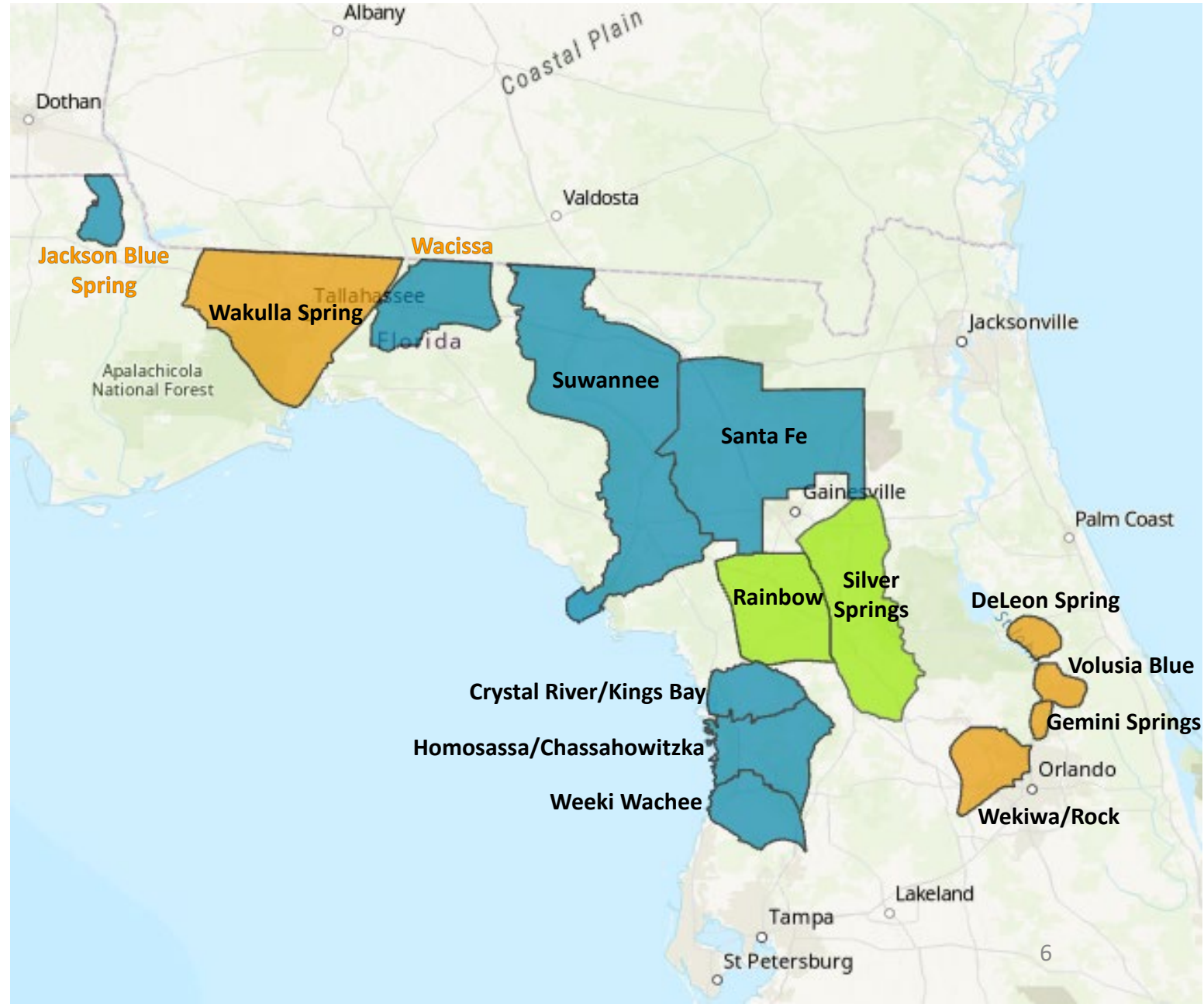
850-245-8560

Mary.Paulic@FloridaDEP.gov

Lauren Campbell

850-245-8083

Lauren.Campbell@FloridaDEP.gov





Florida Requirements

403.067(7), Florida Statutes (F.S.) Sub-Sections 373.801-373.813, F.S.

- **Florida Watershed Restoration Act (1999)**
 - Updated in 2005, 2016, and 2020
- **Florida Springs and Aquifer Protection Act (2016)**
 - **Outstanding Florida Springs Part VIII of Chapter 373, F.S.**
 - Designates 30 Outstanding Florida Springs (OFS)
 - Requires DEP to assess and implement restoration plans (BMAPs) for OFS that have water quality impairments



Senate Bill 712

- **Implementing the Clean Waterways Act**
 - **Wastewater Project Report: Published July 1, 2021**
 - **Monitoring Gap Report: Published July 1, 2021**



BMAP Status

Updates

- **Secretary issued a Final Order for the five challenged BMAPs in May 2021:**
 - **Santa Fe River**
 - **Suwannee River**
 - **Silver and Rainbow Springs**
 - **Volusia Blue Spring**
 - **Wekiwa and Rock Springs**
- **All springs BMAPs are effective and being implemented**
- **Petitioners have filed a Notice of Appeal**



BMAP Status

Next Steps

- **Milestone Review**
 - **Load re-evaluation**
 - **Examining source contributions to groundwater**
 - **Methodology updates**
 - **Re-evaluate wastewater contribution**
- **Re-Adopting BMAPs**



Feasibility Analyses

Status

County	Status	Tentative Completion Date
Leon	Underway	June 2022
Wakulla	Underway	December 2021
Citrus	Underway	January 2022
Hernando	Completed	
Pasco	Completed	
Marion	Underway	December 2021
Volusia	Underway (partially completed)	
Seminole	Underway (partially completed)	
Orange	Underway	June 2022



Onsite Sewage and Disposal System (OSTDS) Remediation Plan- Appendix D

OSTDS Policies

Spring BMAP Name	Policy for existing OSTDS*			Policy for installation of new OSTDS
	Priority Focus Areas (PFAs)		Entire BMAP	Inside PFA on lots less than 1 acre OSTDS are prohibited unless the permit applicant can demonstrate;  Sewer connection within 5 years <u>or</u>  Use of an enhanced treatment of nitrogen
	On lots less than 1 acre	On lots of all sizes		
Crystal River/Kings Bay		✓		✓
DeLeon Spring	✓			✓
Gemini Spring	✓			✓
Homosassa and Chassahowitzka Springs		✓		✓
Jackson Blue Spring and Merritts Mill Pond #				✓
Santa Fe River #				✓
Silver/Rainbow			✓	✓
Suwannee River #				✓
Wakulla River and Spring		✓		✓
Volusia Blue Spring	✓			✓
Wacissa River and Spring Group #				✓
Weeki Wachee		✓		✓
Wekiwa Spring and Rock Springs	✓			✓

* OSTDS remediation policy becomes effective upon completion of the feasibility analyses, FDOH rulemaking, and funding program assistance for homeowners is established, but no later than five years after BMAP adoption.

At this time, this remediation plan does not require the addition of nitrogen reducing enhancements upon modification or repair of existing OSTDS.



Onsite Sewage Program Updates



Contacts

Where to find information

Debby Tipton

850-245-8629

debby.tipton@floridadep.gov

Dr. Xueqing Gao

850-245-8391

xueqing.gao@floridadep.gov

Dr. Eb Roeder

850-245-8402

eb.roeder@floridadep.gov



Monitoring Reports

Current Monitoring

1. Surface water sampling at or near spring vents
2. Groundwater sampling at wells
3. Biological monitoring at certain springs

Each spring BMAP has “**key additional recommendations**” tailored to that unique system

- These monitoring goals will be put in place as additional resources become available



Monitoring Reports

Recommendations to fill in data gaps

- At least 15 groundwater wells should be sampled quarterly in each BMAP or priority focus area (PFA)
- Core and supplemental parameters should be collected at all surface water stations
- Isotope sampling should be collected every two years
- Biological monitoring should be expanded to evaluate ecological improvements over time as policies and stakeholder projects are successfully implemented

Analyte	Type of Parameter for surface water	
	Core	Supplemental
Chloride	X	
Sulfate	X	
Potassium	X	
Ammonia as N (NH ₄)	X	
Nitrate/Nitrite as N	X	
Total Kjeldahl Nitrogen (TKN)	X	
Dissolved Oxygen (DO)		X
Specific Conductance		X
pH		X
Temperature		X
Total Suspended Solids (TSS)		X
Nitrate and Oxygen Isotopes		16 X



Monitoring Reports

Filling in data gaps

- **Additional continuous monitors have recently been added to:**
 - Silver Springs
 - Volusia Blue
 - Wacissa
 - Wekiwa and Rock Springs
- **DEP has a new contract in place to drill 20 groundwater wells (GW) to expand monitoring networks and fill data gaps in the Suwannee Basin**
 - This GW network expansion will capture different land uses and recharge areas to identify nutrient impacts from various sources
 - This contract could be used for similar efforts in other basins



Springs Bioassessment

- **Three cornerstones of springs monitoring: surface water/spring monitoring, groundwater, and biology**
- **Biological monitoring is currently less standardized than other types of monitoring - some springs have regular biological data collection others do not, or the data collected differs between springs**
 - **Examples are Wakulla Springs, Silver Springs, and Rainbow Springs**
 - **DEP collects rapid periphyton surveys along with linear vegetation surveys and macroinvertebrate data collection**
 - **Water management districts are performing vegetation surveys along transects**



Springs Bioassessment (cont.)

- **What type of assessment should we be using for all springs?**
 - **Consistent and repeatable testing resulting in recommendations for tools and sampling protocols**
 - **Identify and track biological response of spring systems to determine if strategies for reducing nitrate concentrations are effective at restoring biology**
 - **Compare different sampling approaches**
 - **Collaborating with water management districts to define a pilot study**



DEP Updates

- **Green Stormwater Infrastructure (GSI) and Sensitive Groundwater Areas**
- **Springs Education Outreach**
- **Portal for Project Collection**



Green Stormwater Infrastructure (GSI) and Sensitive Groundwater Areas

- **Working with University of Florida's Program for Resource Efficient Communities within the Institute of Food and Agricultural Science**
- **Part of a larger contract scope for green stormwater infrastructure education and website development**
- **This is a guidance document and not a rule**
- **However, staff involved with revision of the stormwater rule have participated in workshops**



GSI and Sensitive Groundwater Areas (cont.)

Purpose and Goals

- **Provide guidance on the use of green stormwater infrastructure in sensitive groundwater areas**
- **Provide examples and details of green stormwater infrastructure**
- **What are sensitive groundwater areas?**
 - **Not just traditionally what has been defined as “karst”**
 - **Receiving water is an aquifer, can be Floridan aquifer or surficial aquifer**
 - **Sandier soils, faster infiltration of water, less traditional treatment by soil**
 - **Subsurface flow can discharge to surface waters**



GSI and Sensitive Groundwater Areas (cont.)

Process and Focus Groups

- **Initial workshop held in November 2019**
- **Held 4 focus groups from May 10-14, 2021**
 - **5 to 7 participants per group**
 - **Representing private sector engineers and consultants, local government staff, DEP and water management district staff, and non-governmental organizations**
- **Summary workshop held May 24, 2021, with all participants**
- **Planning follow-up interviews with individual participants**



GSI and Sensitive Groundwater Areas (cont.)

Process and Focus Groups (cont.)

- **Using a draft table of contents, requested feedback on:**
 - **What is the appropriate geographic scope of manual?**
 - **What audience to target?**
 - **What content should be emphasized and in what format?**
 - **How would the manual be used?**
 - **What does it still need to be the most effective?**



GSI and Sensitive Groundwater Areas (cont.)

Lessons Learned

- **Define what is a groundwater sensitive area**
- **Do not limit to only defined karst areas**
 - Better to identify areas that are more or less vulnerable, statewide
- **Site conditions are important**
 - Subsurface conditions driving factor
- **Multiple audiences would benefit from manual**
 - Decision makers, planners, engineers, maintenance staff, but need different levels of detail



GSI and Sensitive Groundwater Areas (cont.)

Lessons Learned (continued)

- **Electronic format of document or living document in a segmented format**
- **Keep it simple**
 - For suggested practices, overly complex design meets resistance
 - Need input from building industry
- **Highlight economic benefits**
 - Need more case studies
- **Maintenance, maintenance, maintenance**



GSI and Sensitive Groundwater Areas (cont.)

What's Next?

- **Plan is to have draft document late August/early September**
- **Final document end of 2021**
- **“Document” will reside on a website; sections directed to different audiences**
- **Training in green stormwater infrastructure in sensitive groundwater areas is planned as part of larger GSI training project**
- **Other elements of GSI training project include photo library of examples of GSI in Florida, GSI website, and pilot GSI projects that include monitoring of performance**



Springs Education Outreach

- **Initiated in late 2018 as an informal springs education discussion group in response to adoption of springs BMAPs and availability of funding for outreach**
- **Participants include DEP, water management districts, local governments, University of Florida – Institute of Food and Agricultural Sciences (UF-IFAS), and private practitioners of social marketing**
- **Goal is to share outreach activities related to springs. Multiple topics such as fertilizer use, OSTDS, and more recently responsible recreation:**
 - **Focus of the group is on the “how to” engage the public on spring protection**
 - **Presentations available on the FTP site**



The Portal is Coming!

BMAP Project Collection Portal



- Since 2015, the BMAP Program has been working to streamline and make the reporting of BMAP projects **more efficient** for the Statewide Annual Report (STAR)
- Why an online project collection portal? Need to replace the current back/forth updating of Excel workbooks (DEP currently sends over 400 individual spreadsheets annually)
- Online format to enter or update project information
- Ability to submit supporting information for verification of credits
- Ability to track who made changes to existing dataset and when
- Built in prompts, messages, and quality controls to assist users with data entry
- Training webinars will be offered prior to roll out
- We (DEP) will be reaching out to some reporting entities to assist in the user testing phase, later this summer/early fall

Thank you!



Kevin Coyne

850-245-8555

Kevin.Coyne@FloridaDEP.gov

Mary Paulic

850-245-8560

Mary.Paulic@FloridaDEP.gov

Moira Homann

850-245-8460

Moira.Homann@FloridaDEP.gov

Lauren Campbell

850-245-8083

Lauren.Campbell@FloridaDEP.gov