

Challenges to Doing Beyond the Norm

From Water Quality to Quantity

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Volusia County Environmental Management Director



- I. History of Water Quality and Quantity Protection in Volusia County
- II. Implementation of State and Federal Regulatory Requirements
- III. Enhanced Local Regulatory Standards



Water quality regulation and protection in Volusia County



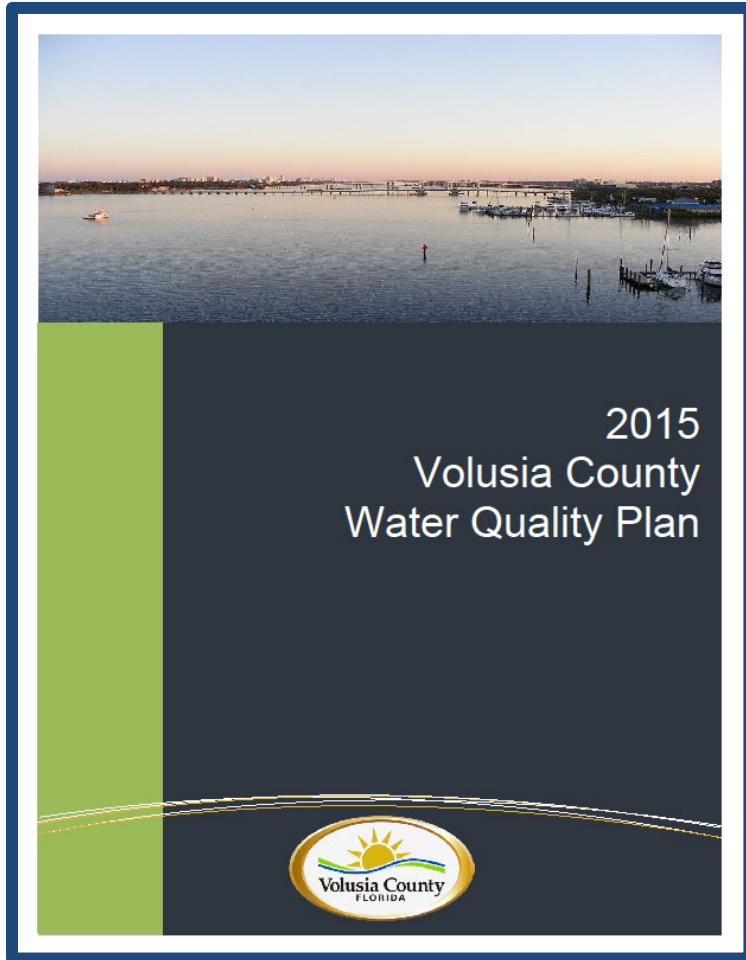
- Volusia County's Home Rule Charter, approved by voters in 1970, established Minimum Standards for Environmental Protection, which paved the way for regulation to protect these natural resources including wetlands and our surface and groundwater.



Minimum Standards

- Wetlands
- Stormwater
- Potable Water Wellfield Protection
- Water Conservation and Water Wise Landscaping
- Fertilizer
- Pollution Control





Adopted in 2015

Goal 1: Improve Stormwater Treatment

Goal 2: Develop a Reasonable Assurance Plan for Mosquito Lagoon

Goal 3: Expand Sanitary Sewer System and reduce Septic Tanks

Goal 4: Reduce Nutrient Concentration in Wastewater Discharge

Goal 5: Provide education and Outreach

Goal 6: Improve/Increase Monitoring and Research



Goal 1: Capital Projects



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- Nutrient separating baffle box installation (Gemini Springs)
- Retention pond construction for nutrient reduction (Rio Way)
- Exfiltration retrofit (N. Peninsula)

Goal 2: Develop a Reasonable Assurance Plan (RAP) for Mosquito Lagoon



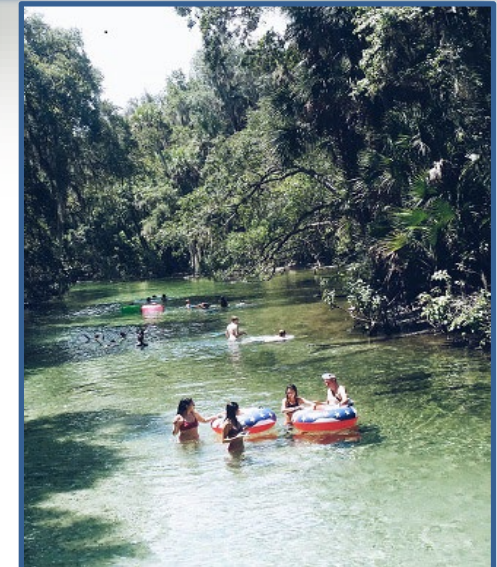
- Adopted by FDEP Secretarial Order on September 17, 2019
- Removed 3 waterbody segments from the Verified List of Impaired Waters and placed them into assessment Category 4B
- Developed local restoration goals and proposed management actions
- Identified projects and reductions of over 31,000 lbs/yr of Total Nitrogen and nearly 2,700 lbs/yr of Total Phosphorus



Goal 3: Expand sanitary sewer system and reduce number of septic systems (continued)

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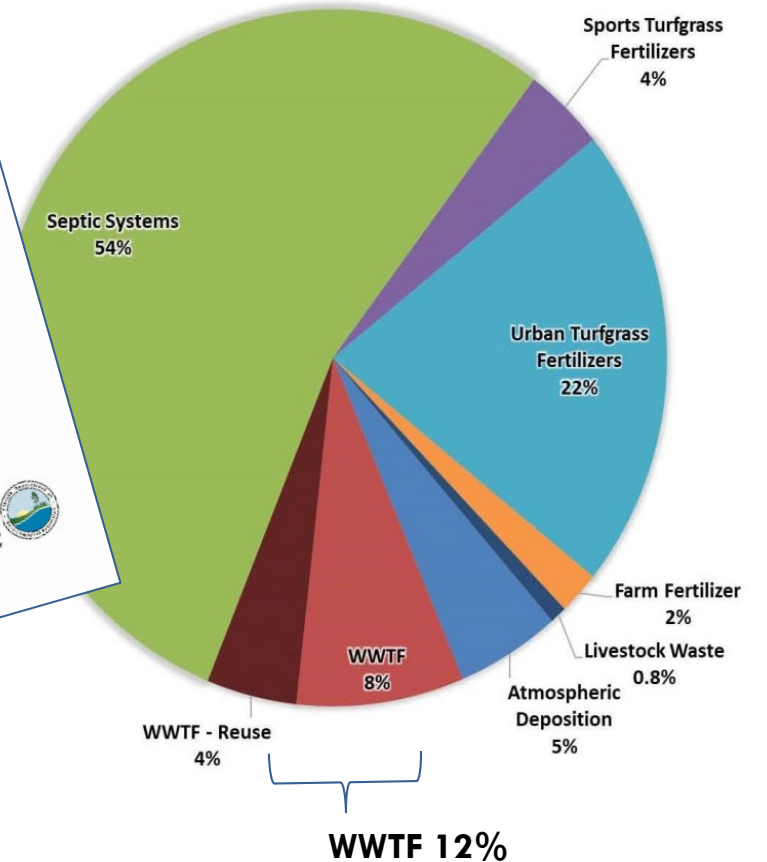
- **Implement OSTDS conversions**
 - ▣ Seek legislative funding for construction of sanitary systems – **on-going, requires dedicated long-term funding commitment at both state and local levels.**
- **Require connections where available – on-going**
- **NEW** Develop and implement OSTDS remediation plans for designated “Outstanding Florida Springs”
 - ▣ Gemini Springs ✓
 - ▣ DeLeon Spring ✓
 - ▣ Volusia Blue Spring – **still to come**



Goal 4: Reduce Nutrient Concentration of Treated Wastewater Discharge



- Upgrade Existing Regional Facilities to Advanced Wastewater Treatment Standards



Goal 5: Fertilizer education campaign



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□ Be Floridian Now Campaign to educate citizens about fertilizer use

- Established in 2015 as a collaboration between many groups along the IRL

• Outreach has included:

- In 2019, the program had an estimated minimum reach of **152,456**;

Outreach map: <https://arcg.is/K5T9C>

- 13 displays at libraries during the fertilizer ban each year except 2020



- 25 stores selling fertilizer displaying BFN fliers
- Presentations and educational booth across Volusia County
- Virtual education through webinars, videos, and quarterly newsletter: <http://eepurl.com/glceJb>



Goal 5: Water Quality Monitoring

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Sampling since 1988

90 locations, quarterly or monthly



Data is shared through state and national database

Implementation of State, Regional, and Federal Standards



Florida Springs and Aquifer Protection Act

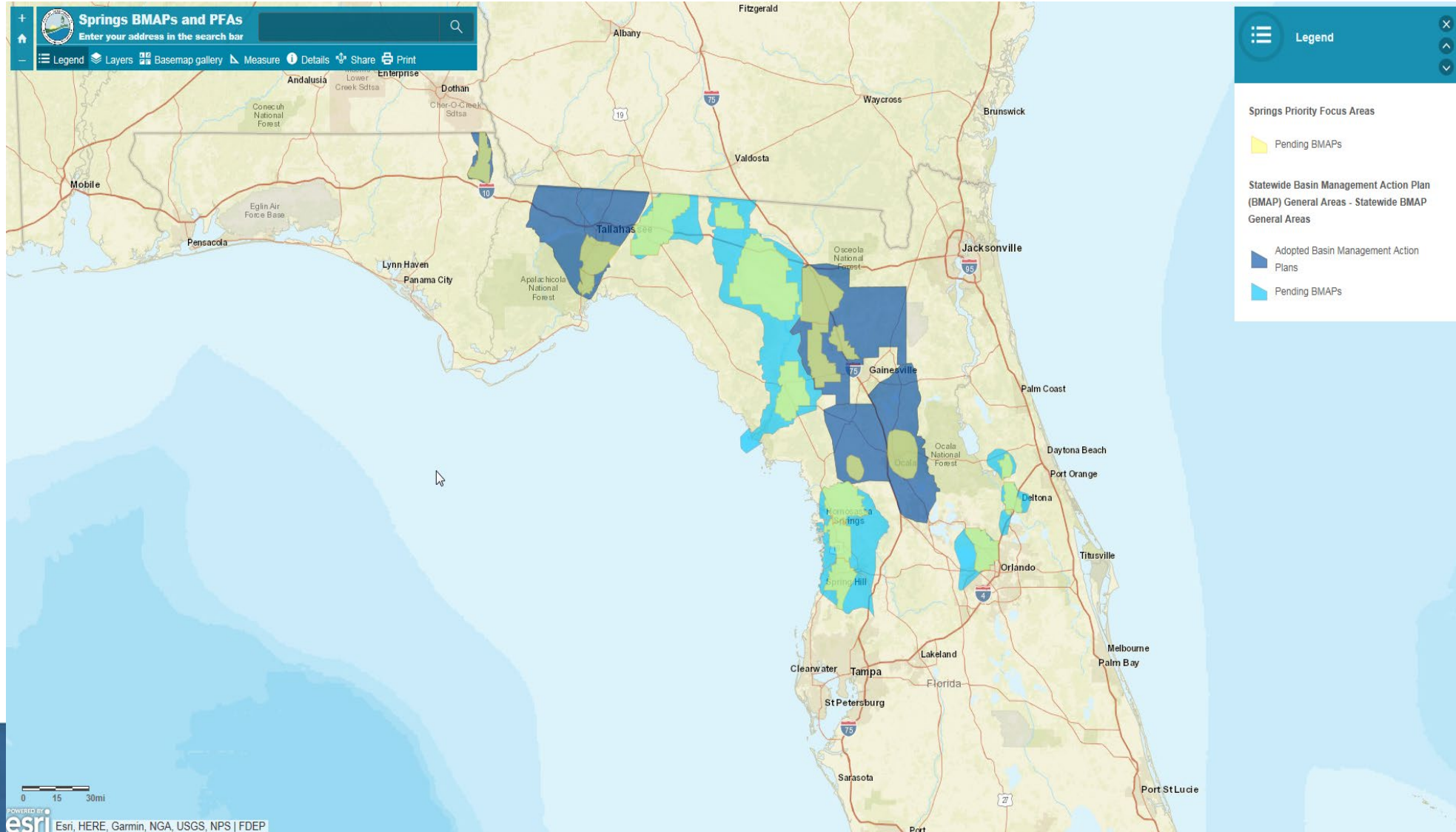
Signed Jan 21, 2016
Section 373.801–813 F.S.

30 Florida Springs

- Volusia Blue Spring
- Gemini Springs
- DeLeon Springs

Elements of Act

- Water quality target must be achieved within 20 years of BMAP adoption
- Delineation of Priority Focus Area (PFA)
- All Local Governments must have fertilizer ordinance
- OSTDS Remediation Plan required



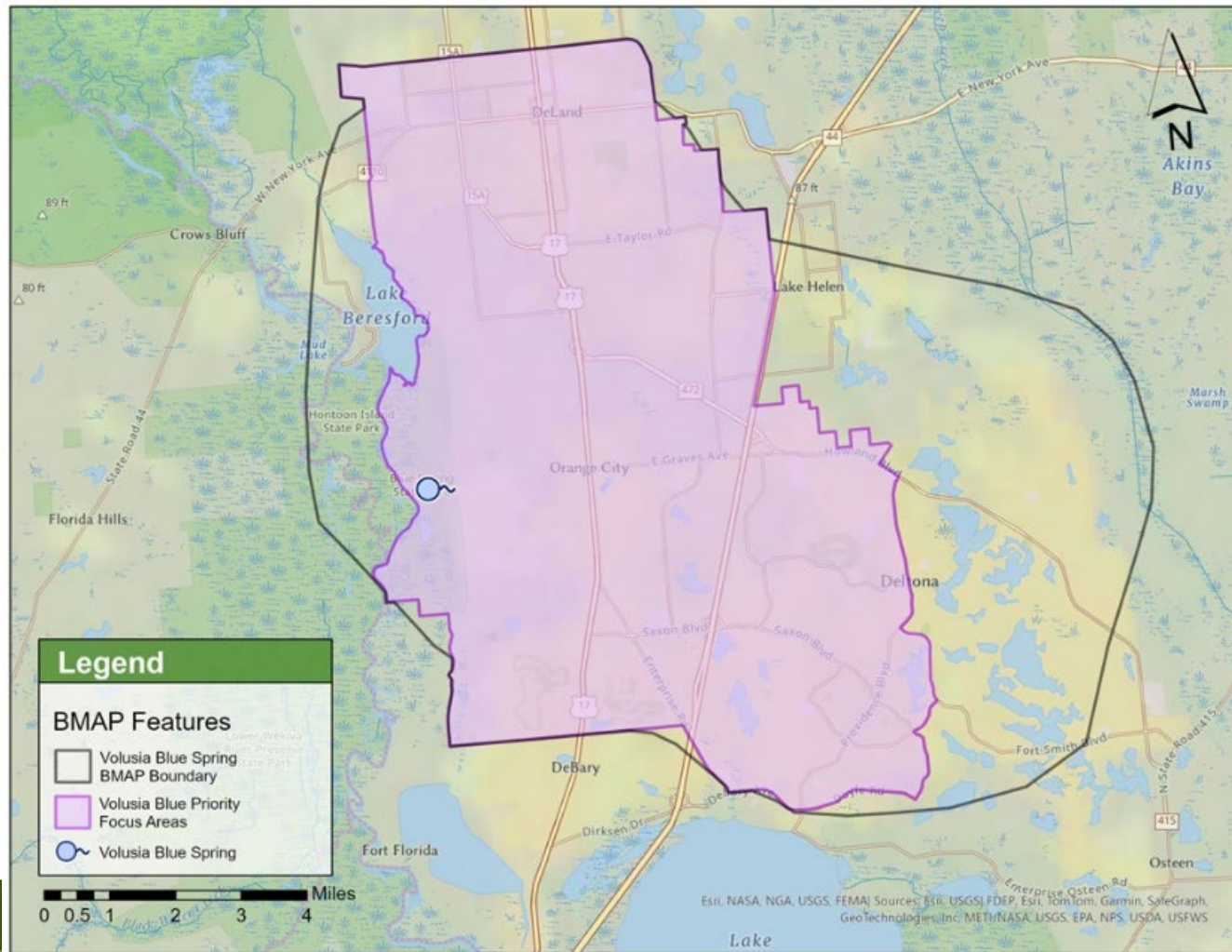
Volusia Blue Spring

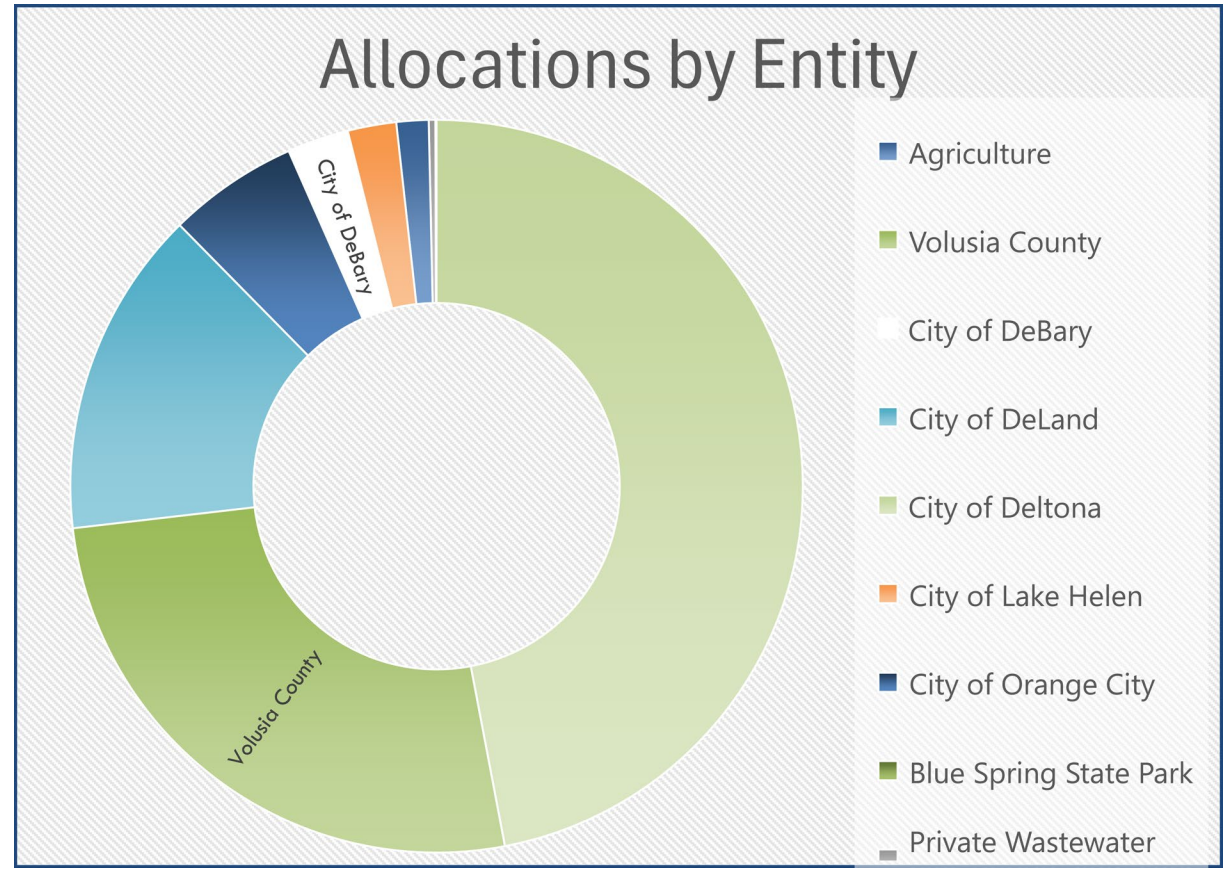
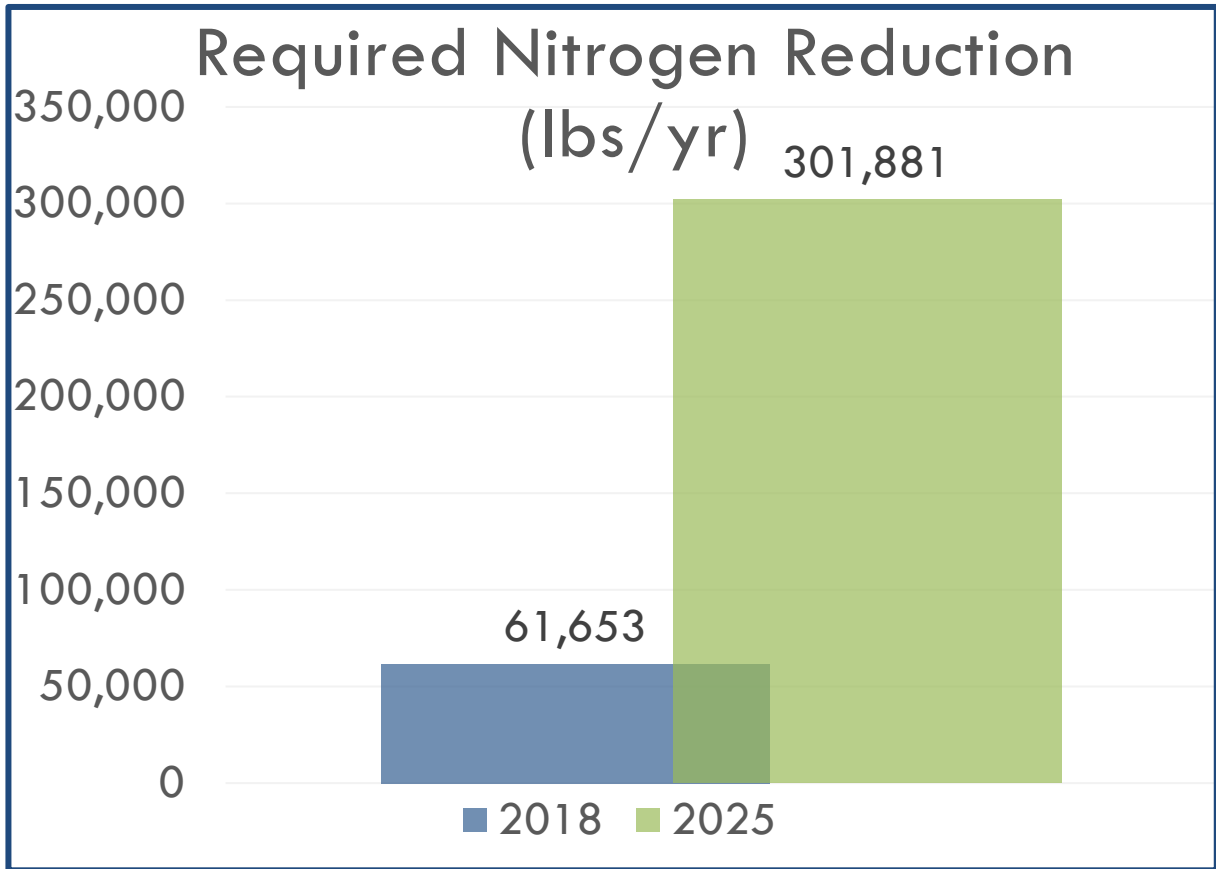
One of 33 1st magnitude springs in Florida

Primary warm water refuge for manatees

100 square mile springshed encompassing 5 cities and the county

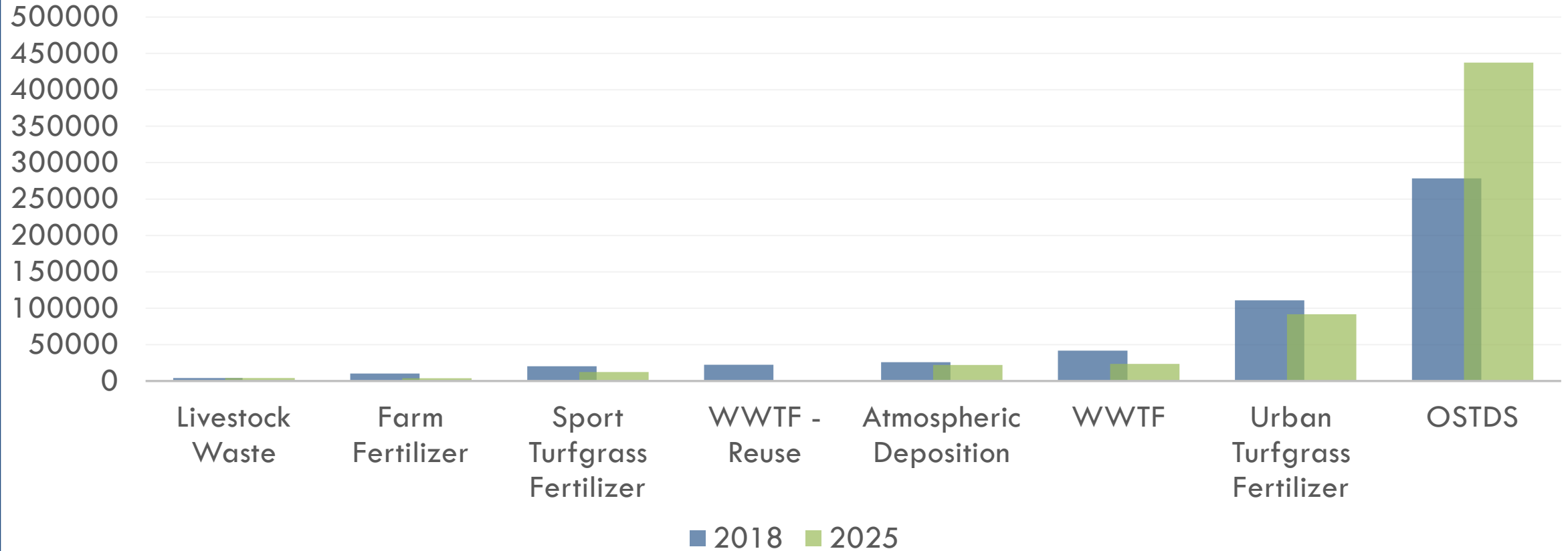
TMDL for nitrates adopted in July 2015, BMAP in 2018, 2025





Volusia Blue Spring

Nitrogen Sources in Blue Spring (lbs/yr)



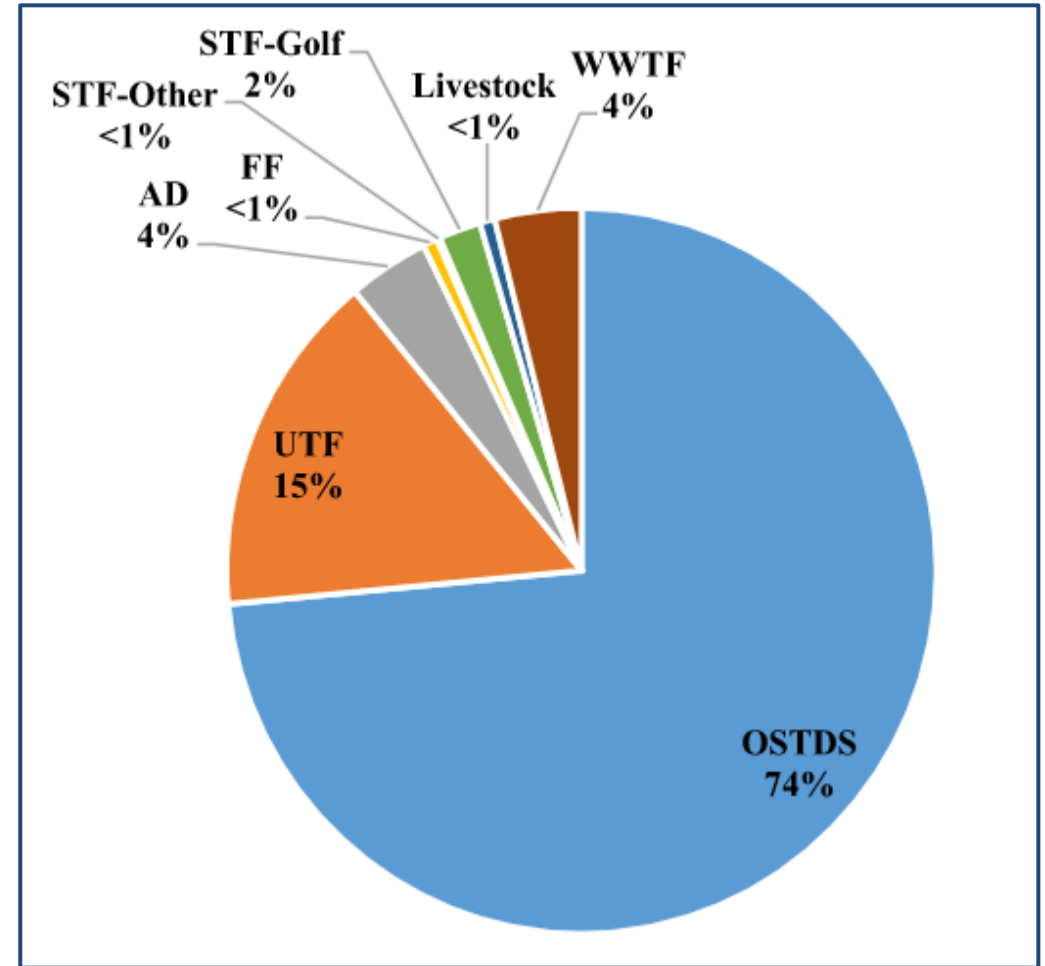
Challenges in Blue Spring

Volusia County has little control over:

- Atmospheric deposition
- Sports grass fertilizer
- Biosolids
- Farm fertilizer
- Livestock waste

Volusia County has some control over:

- Urban Turf Grass (Fertilizer) –Fertilizer ordinance, but pre-empted from regulating the sale
- OSTDS –Regulatory authority for permitting and placement of OSTDS lies with the state



Challenges in Blue Spring



- 43,763 OSTDS in the springshed
- 28,106 OSTDS in the PFA
- 2025 BMAP requires reduction of 301,881 pounds of N per year, an 80% increase since 2018 BMAP
- To get to the required reduction, over 31,500 OSTDS need to be replaced with sewer at a cost of:

\$787.7 million dollars



Challenges in Blue Spring



- St. John's Water Management District approved a minimum flow regime (MFL) in 2006 - "the minimum flow that will protect the use of Blue Spring as a refuge for the West Indian Manatee"
- Phased approach with a level of 157 cfs by March 31, 2024
- **Recovery strategy in adopted in 2013.**



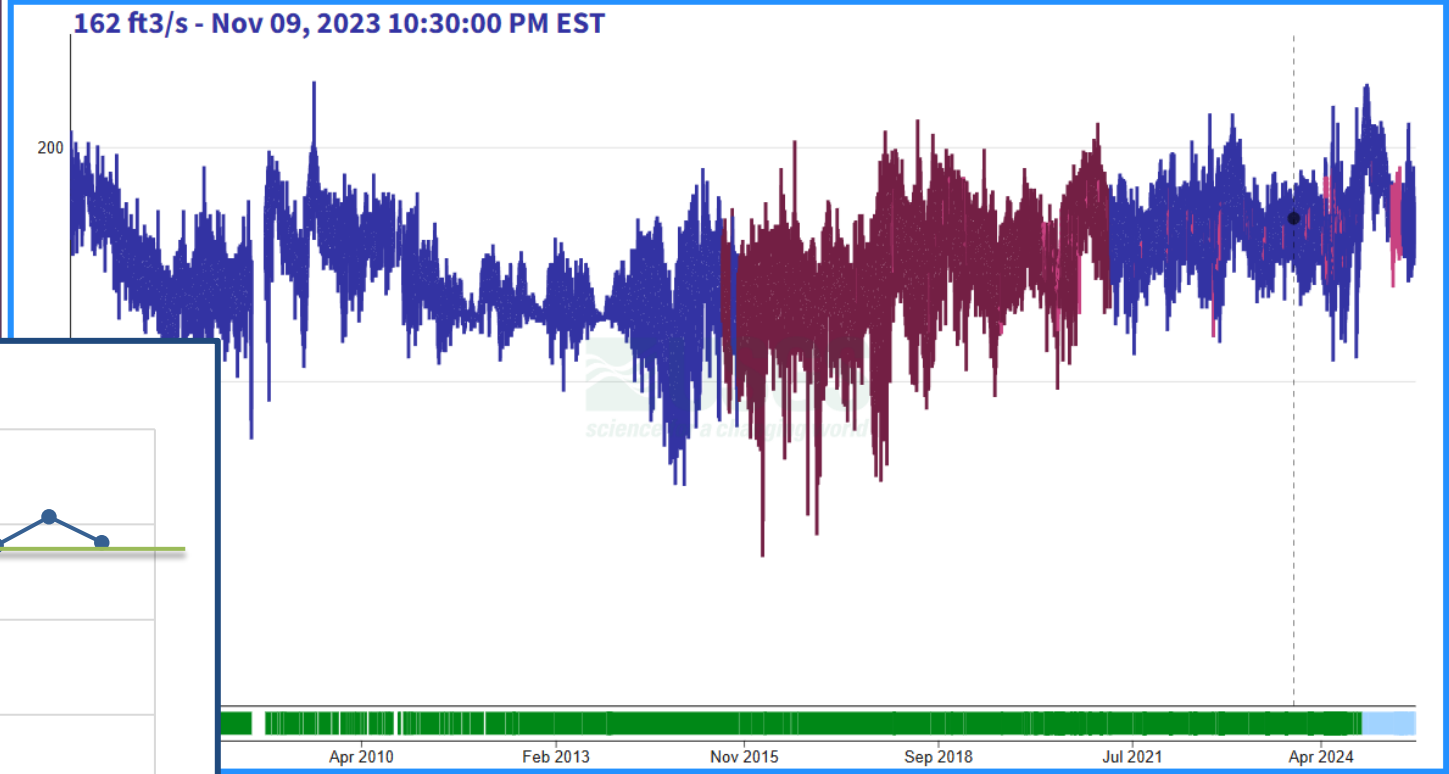
Spring Flow

Continuous data

Blue Springs Near Orange City, FL - USGS-02235500

[Subscribe to WaterAlert](#)

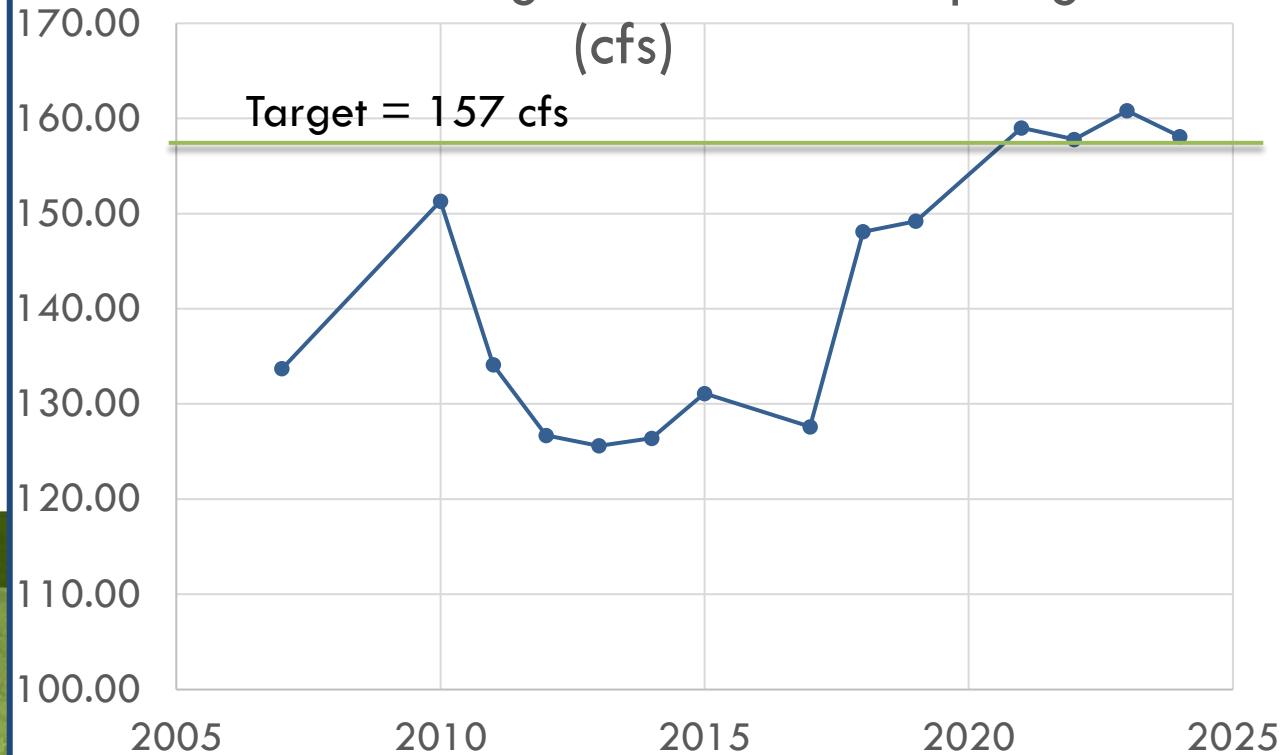
- using custom time span -
January 1, 2006 - August 19, 2025
Discharge, cubic feet per second



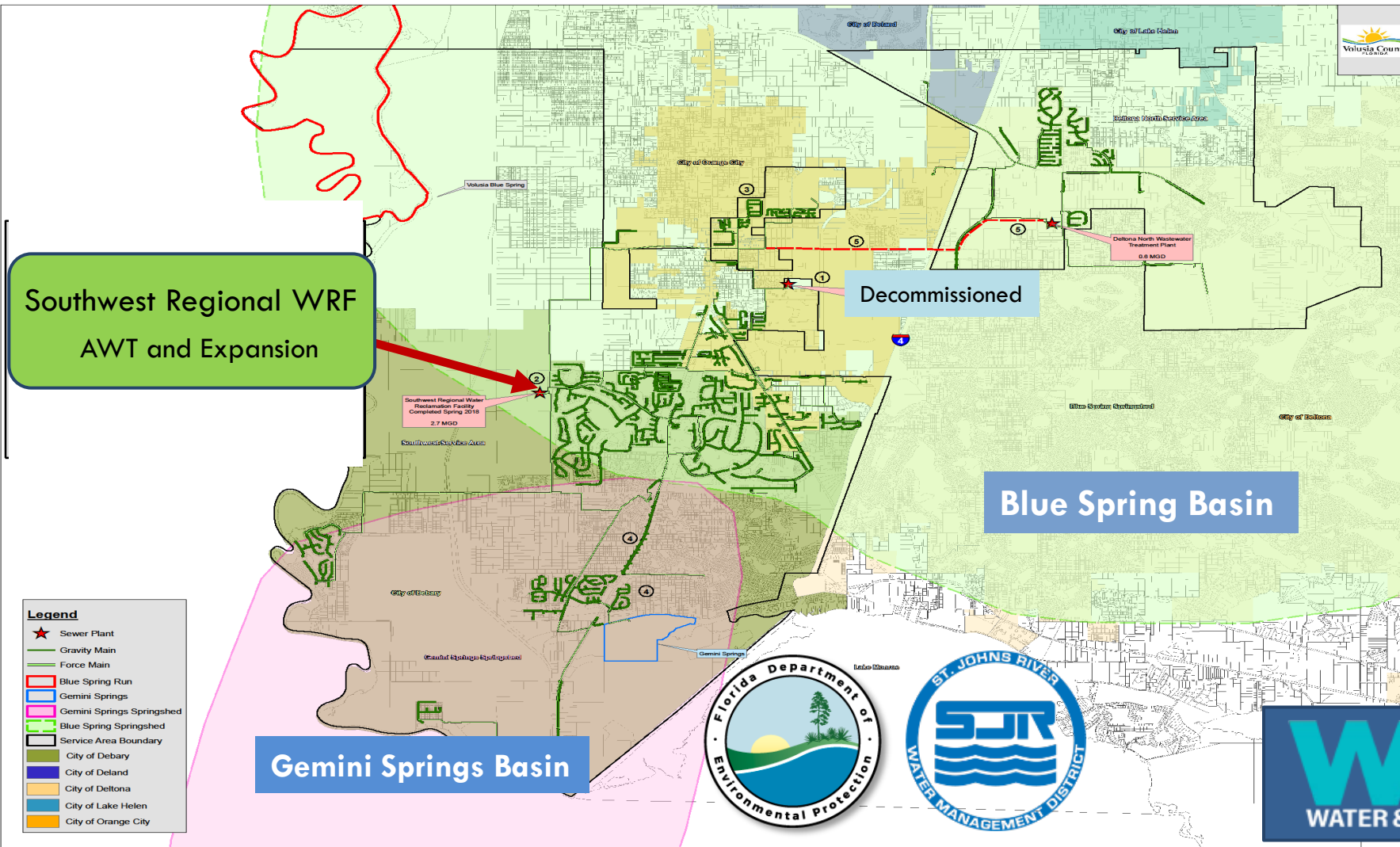
Annual Average Flow at Blue Spring

(cfs)

Target = 157 cfs



Southwest Regional Advanced Treatment & Expansion



Becoming Part of the Solution

- 1. Cultivate Partnerships**
 - DEP (Springs Protection)
 - SJRWMD (Water Supply)
 - DeLand, Deltona, Orange City
- 2. Achieve Multiple Bottom Lines**
 - Operational efficiency
 - Cost effectiveness
 - Water resource stewardship
- 3. Results**
 - Nitrogen reduction: 27,000 lbs.
 - Phosphorus reduction: 14,000 lbs.
 - Added reclaimed: 220,000 gpd



2018 Top Project

Leveraging Grants and Partnerships



Since FY 2013-14

Project Totals: \$ 171.8 million County Share: \$40.3 million

Enhanced Local Standards

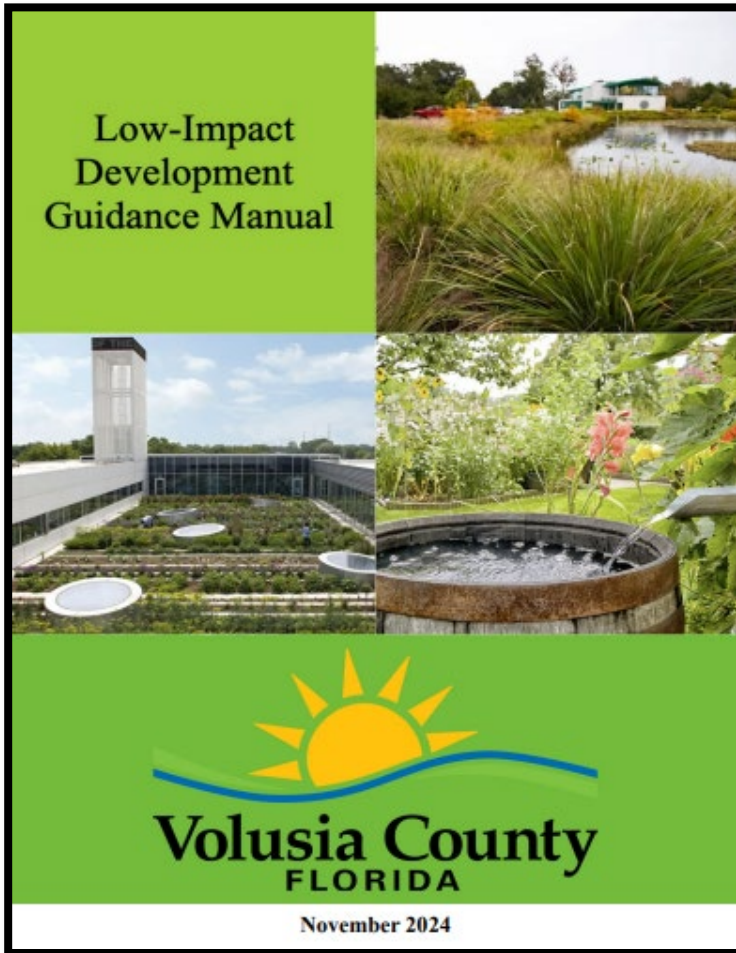


Advisory Committee (ENRAC)

Created in 2022 to “work with the professional staff in recommending minimum standards for the protection of the environment . . . And for making recommendations on the corresponding implementing ordinance.”

- Low Impact Development
- Tree Protection
- Wetland Protection
- Stormwater
- Floodplain





Key Components

- Voluntary framework*
- Flexible design options



*escaped the SB 180 ax!



A Menu of BMPs and incentives

- No waivers, modifications, or variances needed

Minimum Requirements to Gain Incentives:

- Choose minimum 4 Site Design BMPs
- Choose minimum 2 Stormwater Storage, Treatment, and Conveyance BMPs
- Total: 6 BMPs minimum
- Once 6 BMPs are chosen, developer receives ALL applicable incentives



BMP Matrix

	Flexible Lot Sizes	Flexible Building Setbacks	Increased Density	Increased Floor Area Ratio	Increased Maximum Height	BMP Permitted within Landscape Buffers and Building Setbacks	BMP Permitted within Landscape Islands and Row-Ends	BMP Credited as Landscaping	BMP Credited as Common Open Space	Off-Street Parking Flexibility	Increased Lot Coverage	Reduction in Tree Replacement Requirements	Reduced Building Permit Application Fees	Reduced Land Development Application Fees	Variance and/or Waiver not Required
Maintain Natural Topography – Option A	x	x	x	x	x					x	x		x	x	x
Maintain Natural Topography – Option B	x	x			x					x			x	x	x
Preserving Floodplain	x	x	x	x	x						x	x	x	x	x
Retaining Tree Canopy and Native Landscaping												x	x	x	x
Retaining Large Riparian or Vegetated Natural Buffers		x				x		x			x		x	x	x
Cluster Subdivision	x*	x*									x	x	x	x	x
Conservation Subdivision	x*	x*	x*								x*	x	x	x	x
Common Open Space	x	x								x	x		x	x	x
Corridor Protection						x	x		x	x	x		x	x	x

Enhanced Stormwater Rules adopted February 11, 2025

Regulation of **Water Quality (Treatment)** and **Attenuation (Flooding)**.

- Required a minimum of 2 soil borings per acre within a pond
- Required tailwater elevation to be established by a basin study or approved by the county engineer
- Required a safety factor of 6" to the established seasonal high groundwater elevation
- Required use of the highest percolation soil curve number for pre-development condition



Repealed on July 22, 2025 due to SB 180



A Post-SB180 regulatory environment

- ENRAC likely to pause
- Engage with DEP on BMAP requirements
- Continue with capital projects as funding allows





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