



Countywide Septic Tank Ordinance Options

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Background

- Many water bodies in Alachua County are impaired due to excessive nutrients (nitrogen and phosphorus)
 - Newnans, Orange, Lochloosa, and Bivens Arm lakes, Alachua Sink, and the Santa Fe River
 - Goal is to reduce nutrient pollution from various sources:
 - Fertilizers (from agriculture and urban landscapes)
 - Stormwater
 - Wastewater (from domestic and agricultural operations)
 - Septic systems
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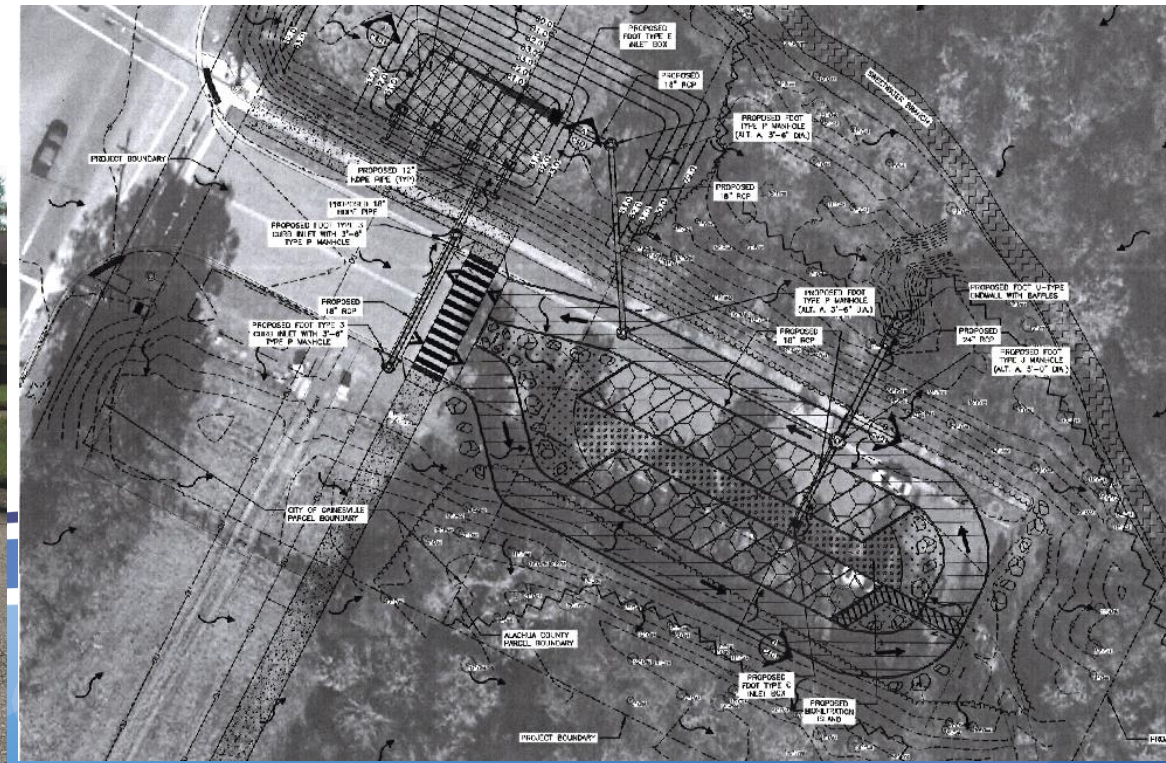
Alachua County Efforts to Reduce Nutrient Pollution

- Urban Fertilizer
 - most protective fertilizer ordinance in the State of Florida (8 month black out period)
 - Educational campaign



Alachua County Efforts to Reduce Nutrient Pollution

- Stormwater
 - Water quality design requirements for new sites adopted in 2018.
 - Water quality improvement projects through the stormwater assessment.
 - Educational outreach.



Alachua County Efforts to Reduce Nutrient Pollution

- Septic Systems
 - Currently upgrading and monitoring two septic systems at Poe Springs to nutrient reducing systems through a Suwannee River Water Management District grant
 - The BoCC asked staff to prepare a Countywide Septic Tank Ordinance to address pollution from Septic Systems



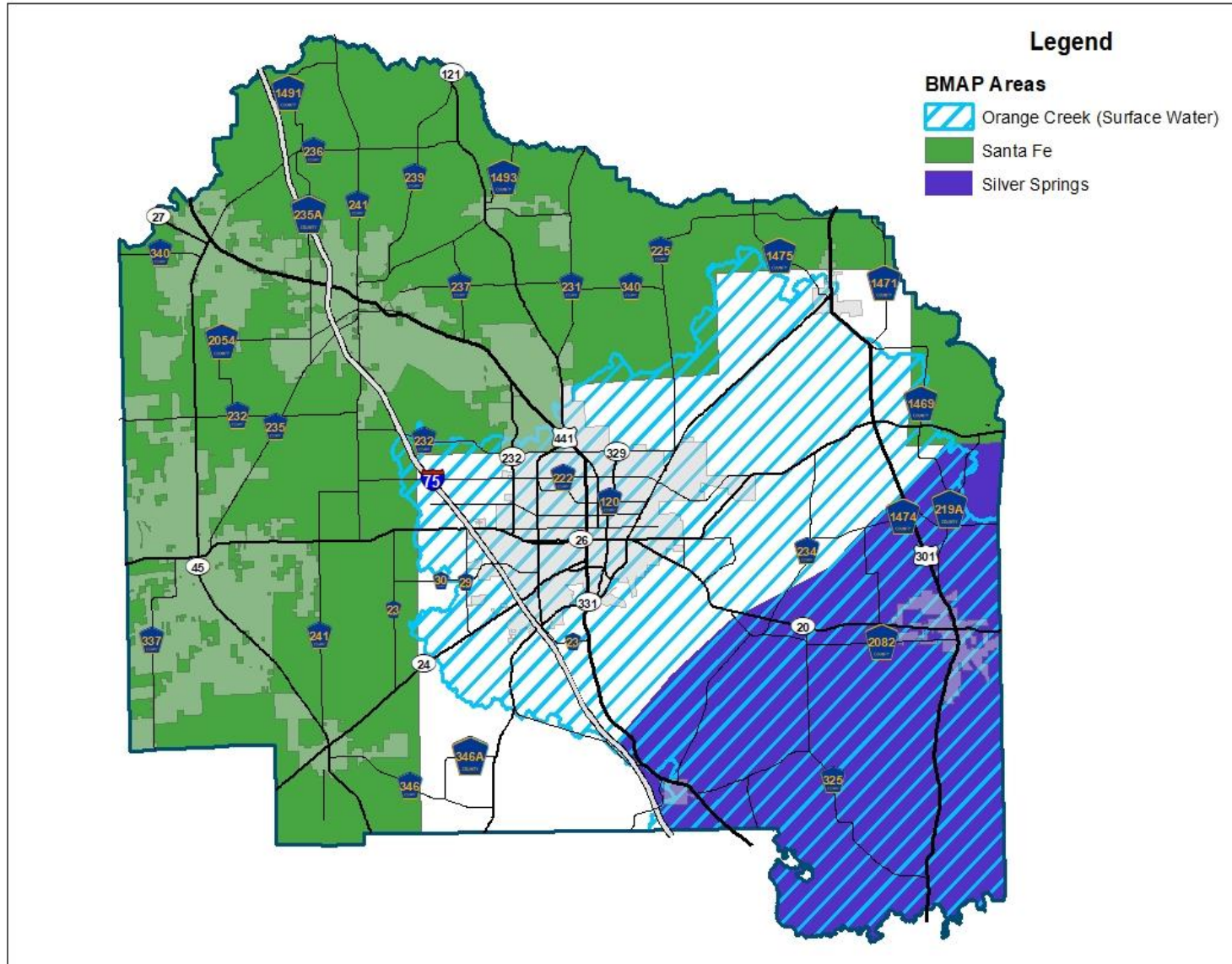
Stakeholder Engagement

- A letter was sent from the County Manager to City Managers in 2018 offering staff meetings and presentations
 - Staff met with responding cities (Alachua, Archer, Lacrosse, and Newberry)
 - Staff briefed Rural Concerns and Environmental Protection Advisory Committees and has mentioned at Springs Protection Forums
 - Builders Association Meetings
 - A presentation on potential options was provided at the 8/26/19 Joint Water policy Committee Meeting, Rural Concerns Advisory Committee on 10/15/19, and EPAC on 11/5/19.
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Legislative Background

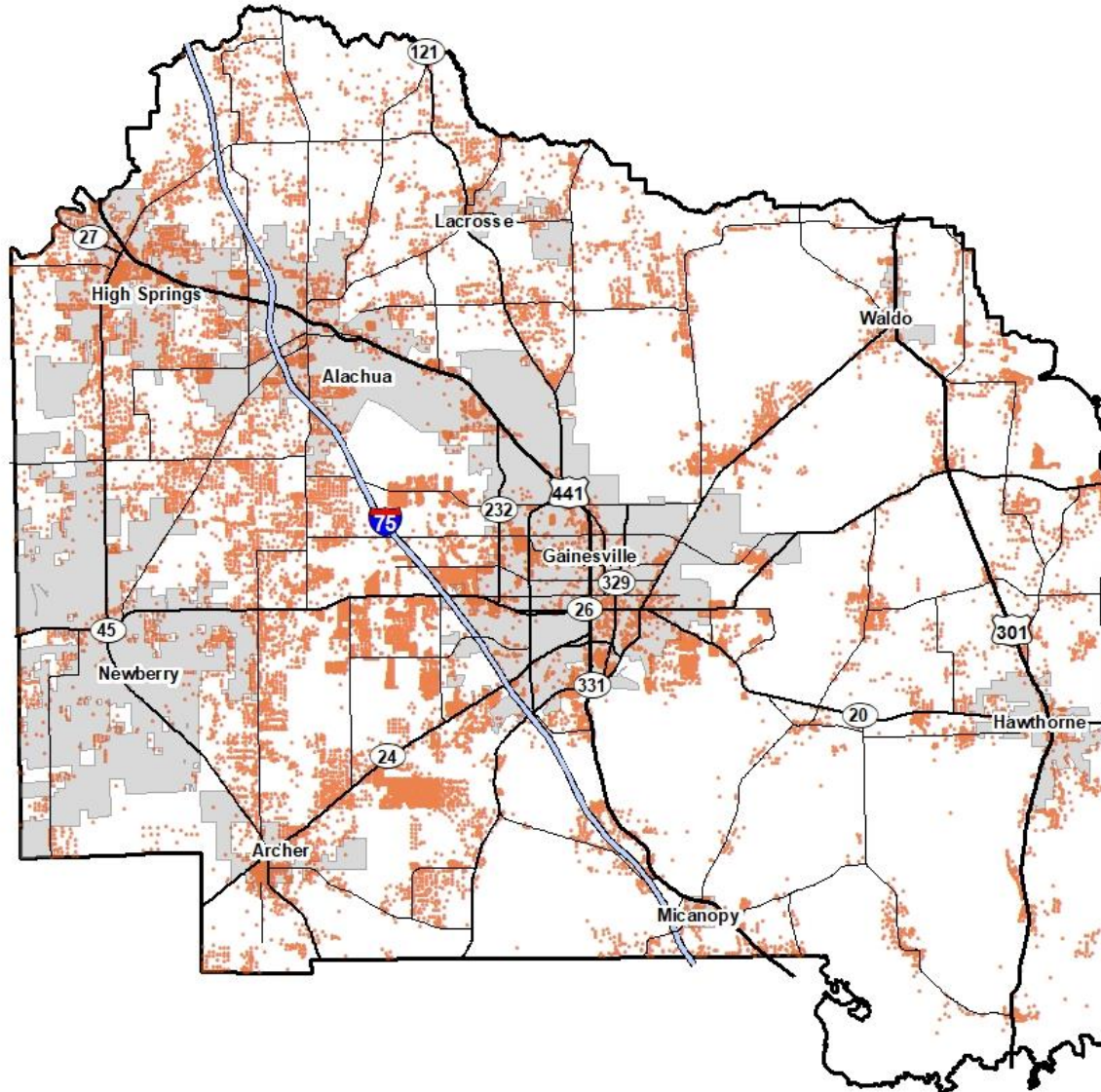
- The 2016 Springs and Aquifer Protection Act required septic tank remediation plans in most Basin Management Action Plans (BMAPs) for impaired springs.
 - Affects lots less than 1 acre in Santa Fe Priority Focus Area (PFA) and potentially BMAP area.
 - The Santa Fe River and Springs BMAP was legally challenged and these restrictions are not yet in effect.

Basin Management Action Plans in Alachua County



- Load reduction allocations assigned to Alachua County:
 - Newnans Lake: 1,448 lbs TN and 198 lbs TP
 - Orange Lake: 60 lbs of TP
- In springs BMAPs allocation is a general percent reduction in septic load not allocated to specific local governments.

Distribution of Septic Tanks in Alachua County



- 26,179 septic tanks countywide.
- Total TN pollution estimated at 246,968 pounds of Nitrogen/year

Options to Reduce Nitrogen from Septic Systems:

- In new construction:
 - Require nitrogen reducing septic systems.
 - Require central sewer.
- For remediation of existing loads:
 - Upgrade to nitrogen reducing septic systems
 - Septic to sewer conversion projects.

The remainder of this presentation focuses on nitrogen reducing septic systems.

Potential Ordinance Scenarios

- **When** would septic systems be required to meet new nitrogen reducing performance standards?
 - New systems: New Construction or Expansion of existing system
 - Existing systems: Major repairs
 - Existing systems: Point of sale
 - **Where** would new nitrogen reducing performance standards apply?
 - Countywide
 - Springs Basin Management Action Plan (BMAP) Area
 - Springs Priority Focus Area (PFA) and near waterbodies
 - Near waterbodies
 - Near urban creeks
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2018 Septic Tank Permit and Sales Activity

Location	New Systems: Construction Permits & Expansions	Existing Systems: Repair Permits	Existing Systems: Sales (< 20 acres)
Countywide	290	336	964
In Springs BMAP Area	242	173	543
In Priority Focus Area or Adjacent to Waterbodies	153	95	388
Adjacent to Waterbodies	16	15	55
Adjacent to Urban Creeks	2	3	4

Possible Pre-Emption to Point of Sale Scenario

- HB 1263 (2012) prohibits requiring inspection or evaluation of a septic system at the time of sale.
 - Upgrade at the point of repair is not pre-empted but has not yet been attempted in Florida.
 - Point of sale scenario was not analyzed further due to possible pre-emption and lack of permitting requirement.
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Environmental Impact of Conventional Systems

- Florida Department of Environmental Protection (FDEP): 22.53 lbs/yr of nitrogen per tank.
- FDEP assumes some of this nitrogen is attenuated.

Annual Nitrogen Load lbs/yr – Conventional Septic Systems

Location	New Systems: 2018 Construction Permits & Modifications	Existing Systems: 2018 Repair Permits
Countywide	2,791	3,321
In Springs BMAP Area	2,359	1,718
In Priority Focus Area or Adjacent to Waterbodies	1,475	927
Adjacent to Waterbodies	126	139
Adjacent to Urban Creeks	11	30

Types of Nitrogen Reducing Systems

- There are three types of nitrogen reducing septic systems.
- **Type 1- In-ground Nitrogen Reducing Biofilter (INRB)** – Passive system with media layers under drain field.
 - Assumed 65% TN removal efficiency.



Types of Nitrogen Reducing Systems

- **Type 2- NSF-245 certified Systems/Aerobic Treatment Unit (ATU)**
 - Pumps recirculate effluent for increased efficiency.
 - National certification based on field testing- these systems have a minimum of 50% TN removal
- **Type 3- Performance Based Treatment System (PBTS)** – Specially designed system in order to achieve a goal such as smaller drain field.
- These require a septic system maintenance contract and the Performance Based system requires monitoring



Potential Benefits of Nitrogen Reducing Septic Systems

- Assumes 65% more nitrogen reduction compared to conventional system.
- New Systems = prevents new nitrogen loading
- Existing Systems = remediation of existing nitrogen load

Annual Nitrogen Load Reduction lbs/yr		
Location	New Systems: 2018 Construction Permits & Modifications	Existing Systems: 2018 Repair Permits
Countywide	1,814	2,159
In Springs BMAP Area	1,533	1,117
In Priority Focus Area or Adjacent to Waterbodies	958	603
Adjacent to Waterbodies	82	90
Adjacent to Urban Creeks	7	20

Cost Considerations

- How much more do nitrogen reducing systems cost homeowner?
- Currently Alachua County isn't eligible for State's Voluntary Septic Upgrade Incentive Program for existing systems
 - \$10,000 per system in Citrus, Hernando, Leon, Marion, Orange, Pasco, Seminole, Volusia, and Wakulla

Potential Financing Options

- State Funding
 - Septic Tank Assessment
 - Portion of a Sales Tax
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Advanced Systems Installed through July 2019 (reported by FDEP)

County	Aerobic Unit	Performance Based	In ground N reducing biofilter
Citrus	7		5
Hernando	1		1
Jackson	1		
Leon	4	1	1
Marion	1		
Pasco			2
Wakulla		11	1
TOTAL	14	12	10

Potential Ordinance Implementation

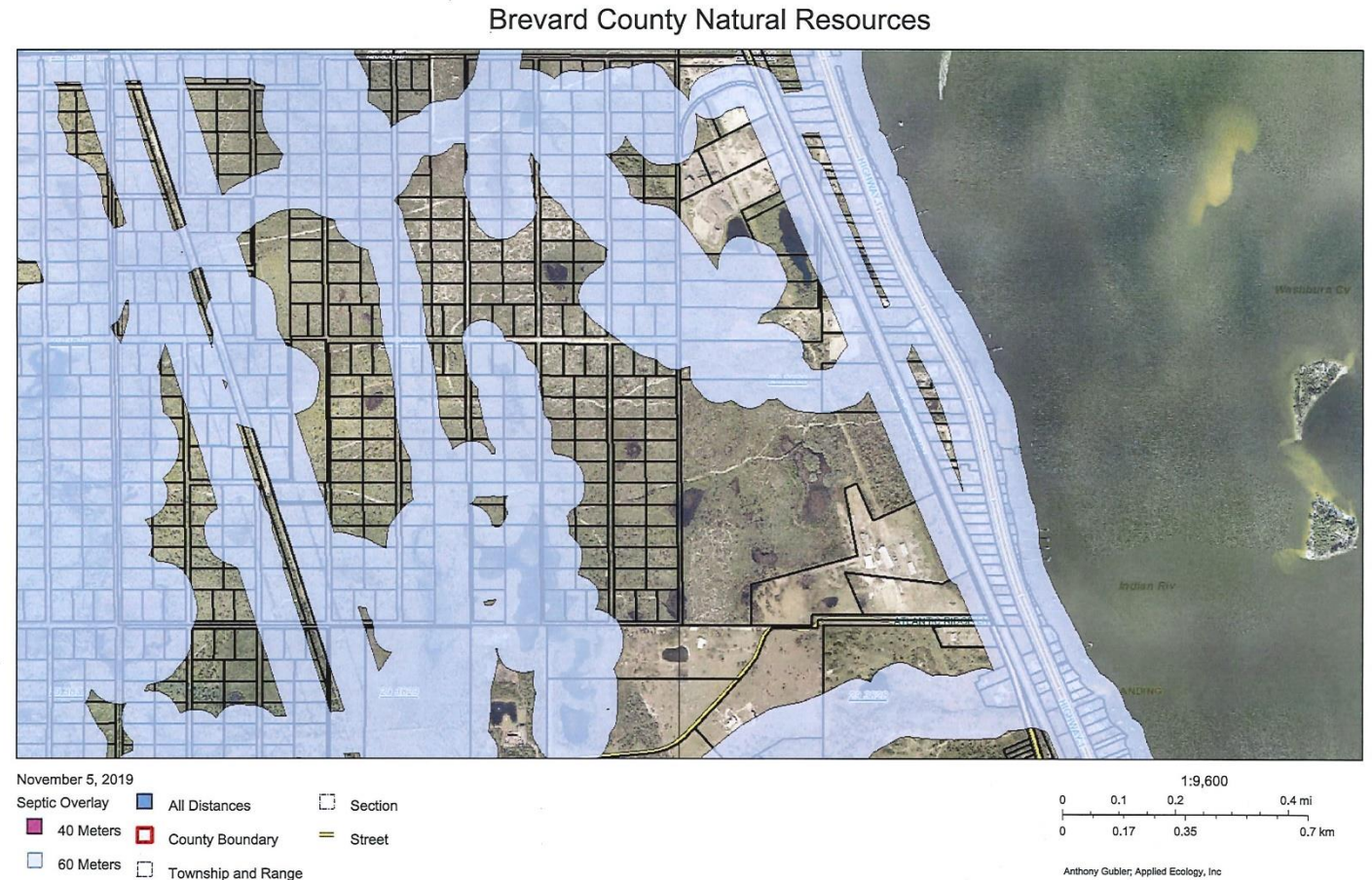
- Alachua County adopts an ordinance.
 - FDOH permits systems through their existing permitting process.
 - An additional inspection and fee is required
 - An operating permit is required for an Aerobic Treatment Unit
 - Violations of the ordinance would be enforced by EPD through citations, Code Enforcement Board, or Special Magistrate.
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Policy Considerations

- Regulatory verses voluntary approach?
 - Countywide verses unincorporated implementation?
 - Limit applicability to new systems or include existing system retrofits?
 - Financial assistance for hardship cases?
 - Pursue expansion of state retrofit funding to include Alachua County
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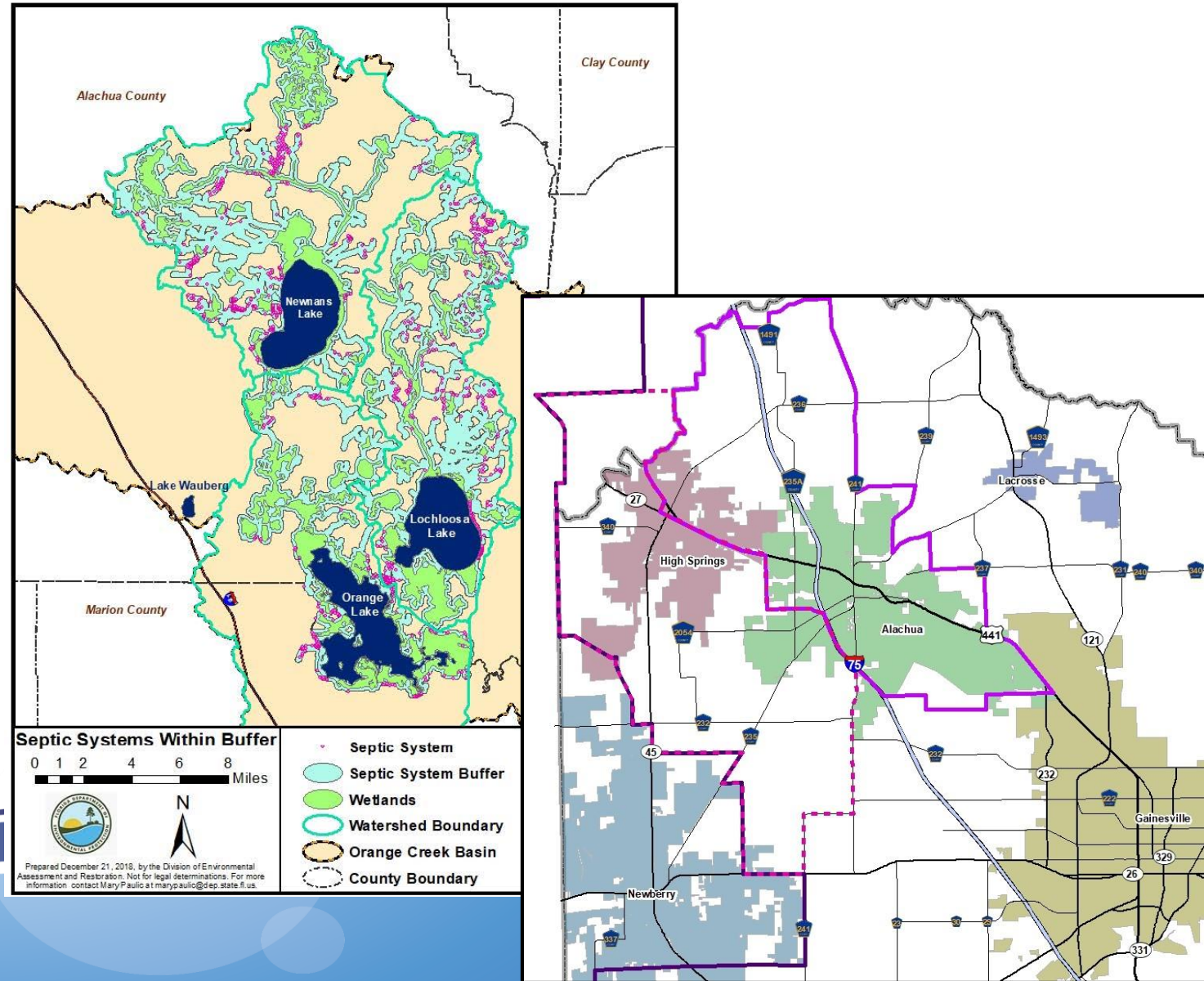
Brevard County Septic Ordinance

- Adopted in 2018. (Chapter 46, Article 2, Division 4)
- Requires nitrogen reducing septic systems in new construction:
 - All barrier Islands and,
 - The mainland within 200 feet of the Indian River Lagoon or a surface water draining to the Lagoon.
 - 150 feet in the Melbourne-Tillman Water Control District.
- The ordinance does not require existing tanks to upgrade.



Orange Creek Watershed and Priority Springs

- Newnans, Orange and Lochloosa Lakes:
 - There are load reduction allocations for septic systems within 650 feet of Lakes and tributaries draining to the lakes.
- In springs Priority Focus Areas:
 - Florida Statute requires nitrogen reducing septic systems on new construction on lots less than one acre.



Impaired Watersheds and Priority Springs

- Require nitrogen reducing septic systems on new construction within a certain distance to waterbodies and their tributaries.
 - Require nitrogen reducing septic systems on all new construction in priority focus areas.
 - Pursue State funding for a locally run reimbursement program similar to the existing State program or encourage expansion of State program.
 - If successful, require nitrogen reducing septic systems at the point major repair or within 20 years from adoption whichever comes first.
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Staff Recommendation

- Authorize Staff to draft ordinance requiring nitrogen reducing septic systems for new construction in priority areas.

