

“After the Flush” Homeowner Septic System Education Program

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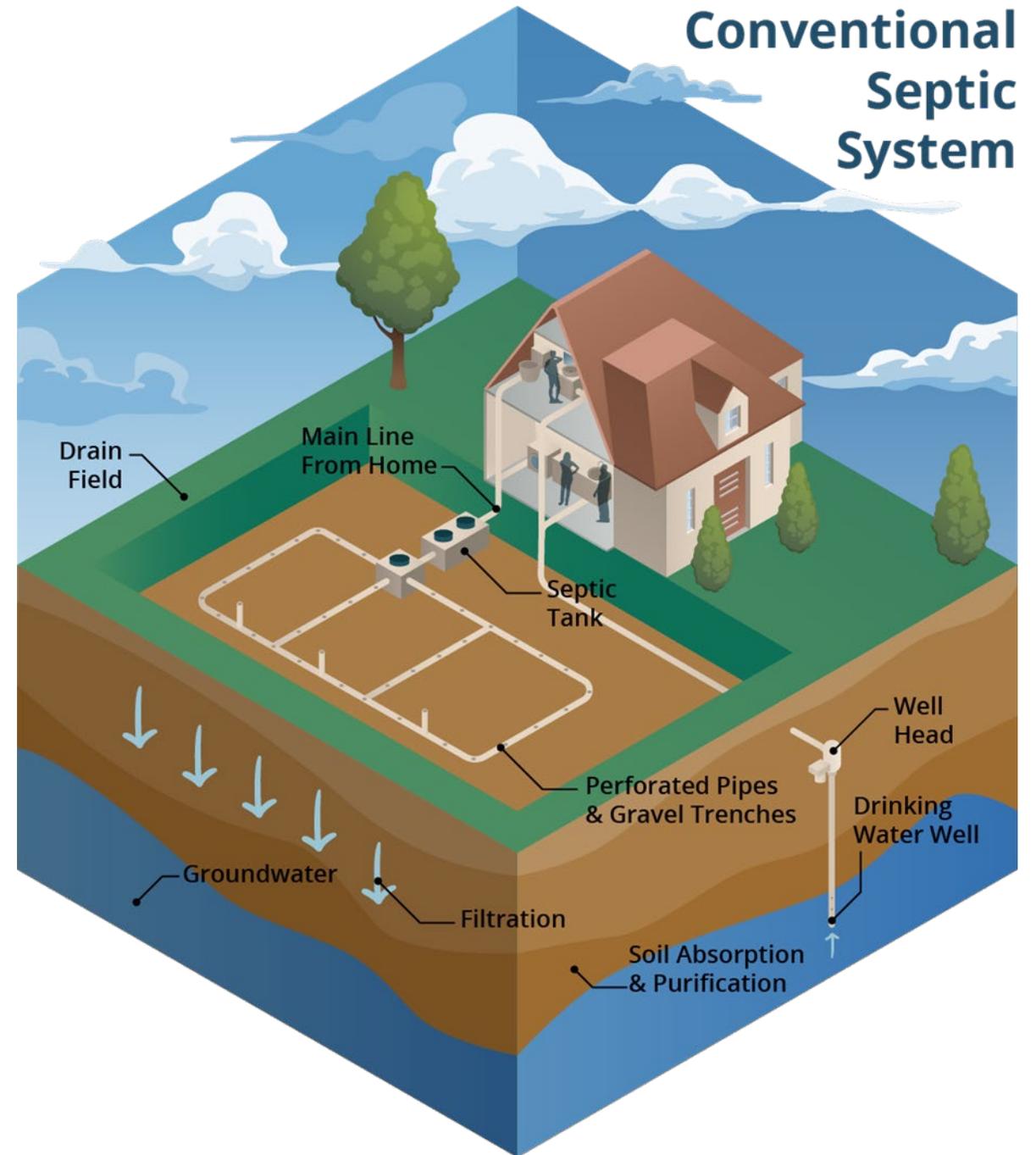
Why is there a need for a Septic System Education Program through Extension?

Prevalence in Florida

Source of nitrate to groundwater

2016 Florida Water Bill

New regulations regarding onsite wastewater treatment systems (OSTDS)

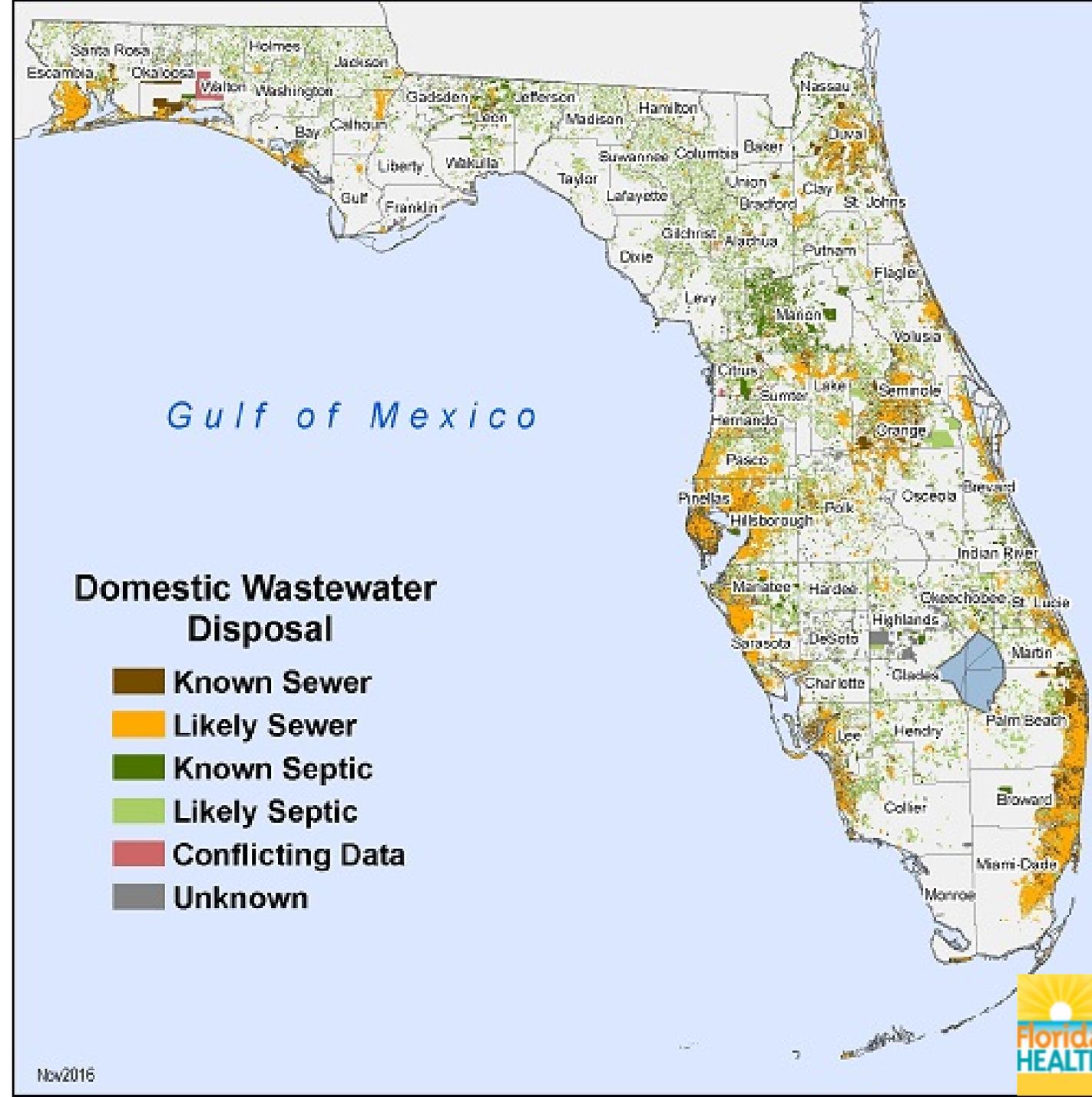


How prevalent are OSTDS in Florida?

2.6 million systems in the state

Over 30% of the population relies on an OSTDS for wastewater removal

DOH estimates that OSTDS discharge more than 400 million gallons of treated wastewater per day



How much nitrogen flows out of a septic tank per day?

11.2 g N/person/day (4.08 kg/yr)

sewage



7.8 g
N/person/day
(2.8 kg/yr)

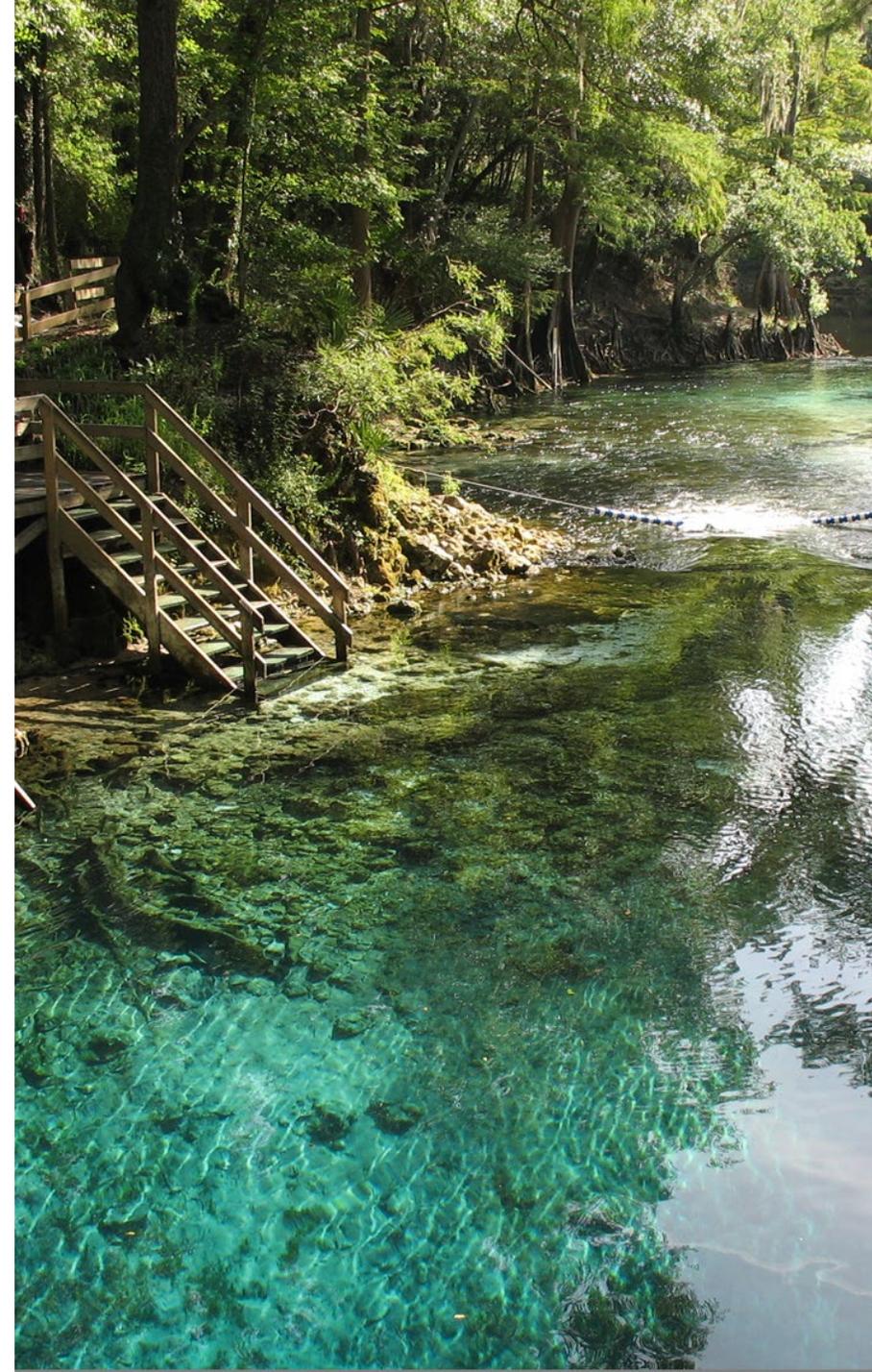
The conventional septic system
only removes about **30%** of N input

2016 Florida Water Bill created the Florida Springs and Aquifer Protection Act

Creates a new category of protected waters in the state...

Outstanding Florida Springs

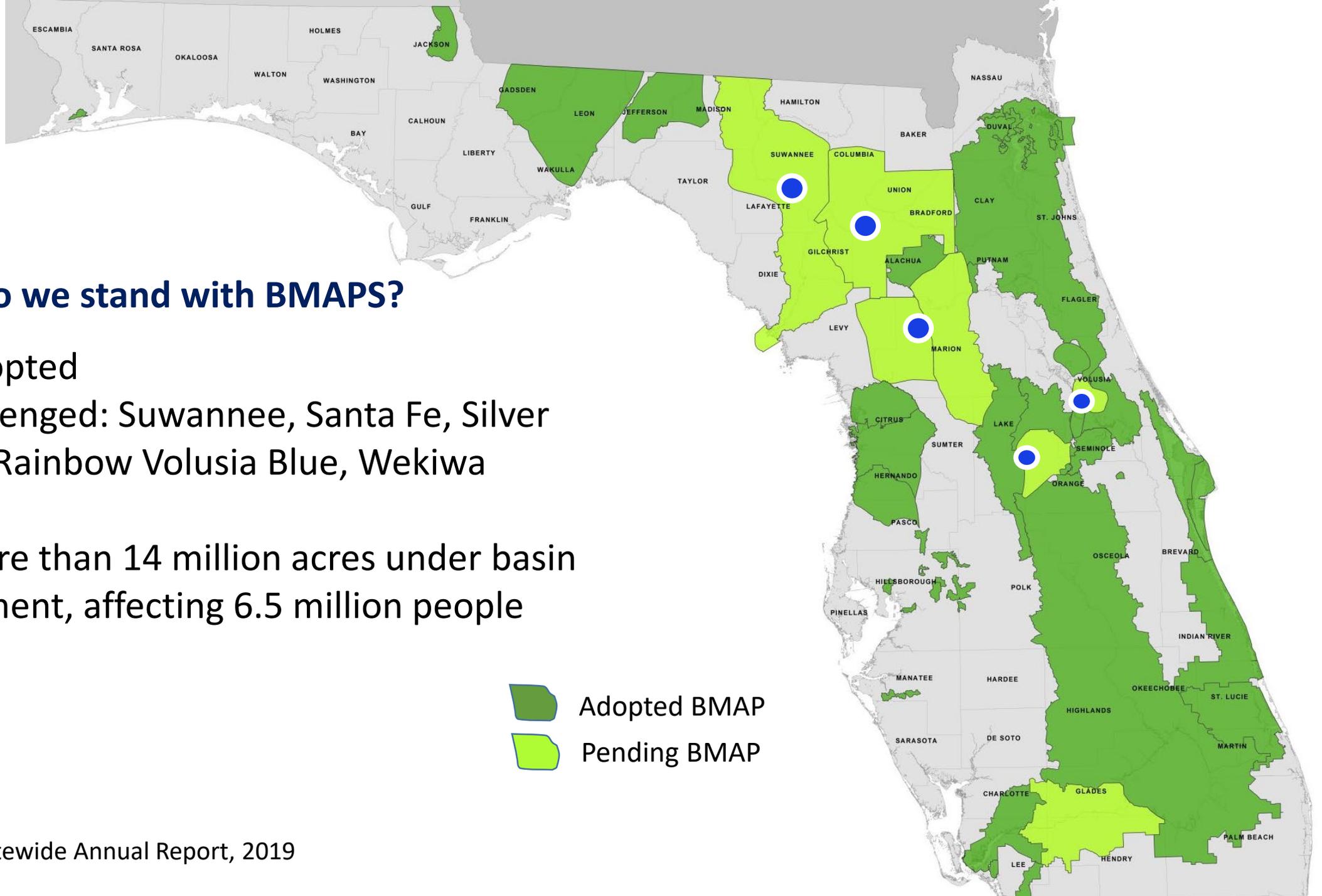
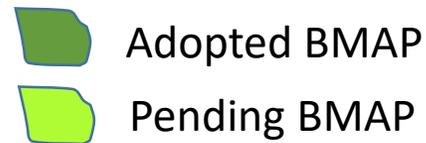
- Historic First Magnitude Springs (30)
 - Flow ≥ 100 cubic ft./second, which is about 64 million gallons/day
- 24 out of 30 Outstanding Florida Springs have been identified as **N-impaired**
- TMDLs set and Basin Management Action Plans (BMAPS) developed

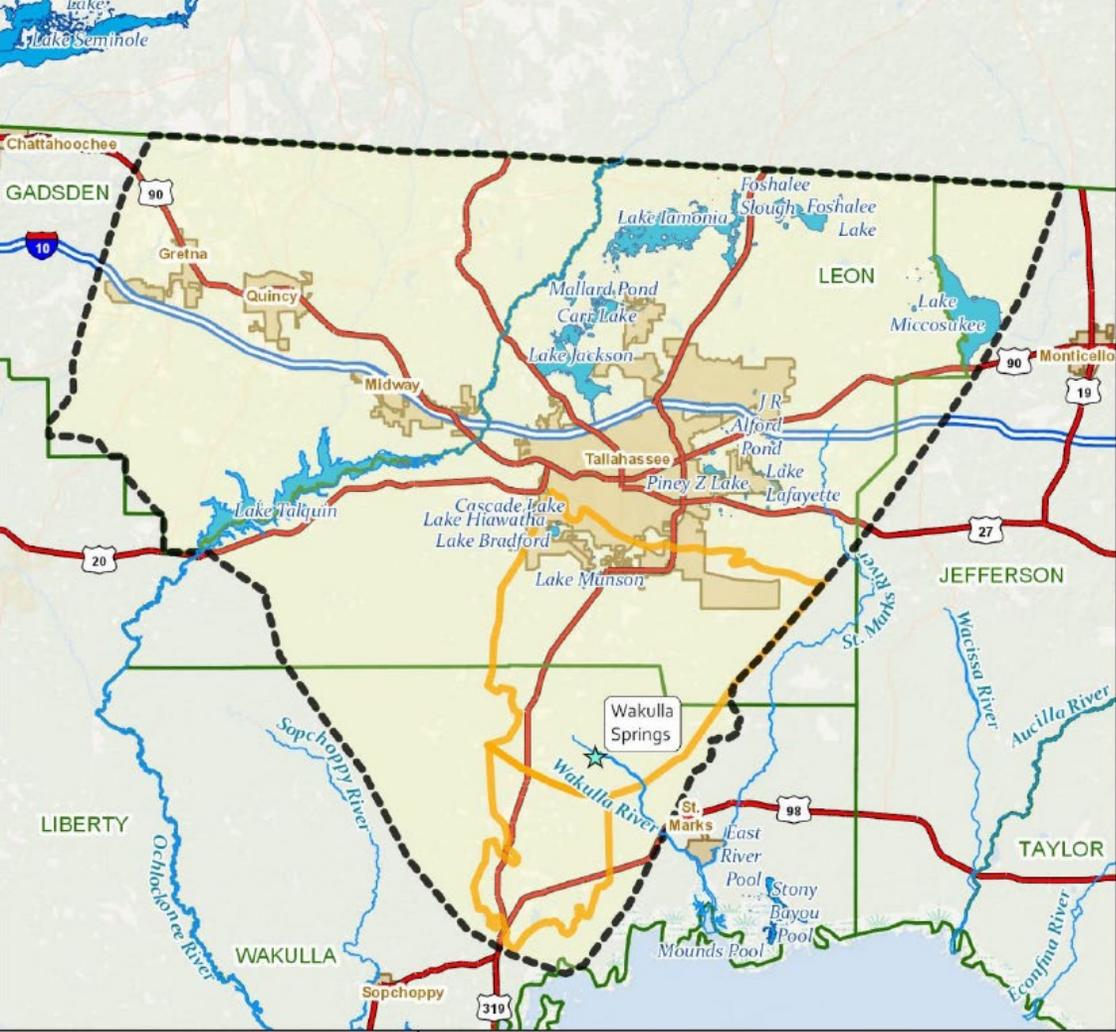


Where do we stand with BMAPS?

- 26 adopted
- 5 challenged: Suwannee, Santa Fe, Silver River/Rainbow Volusia Blue, Wekiwa

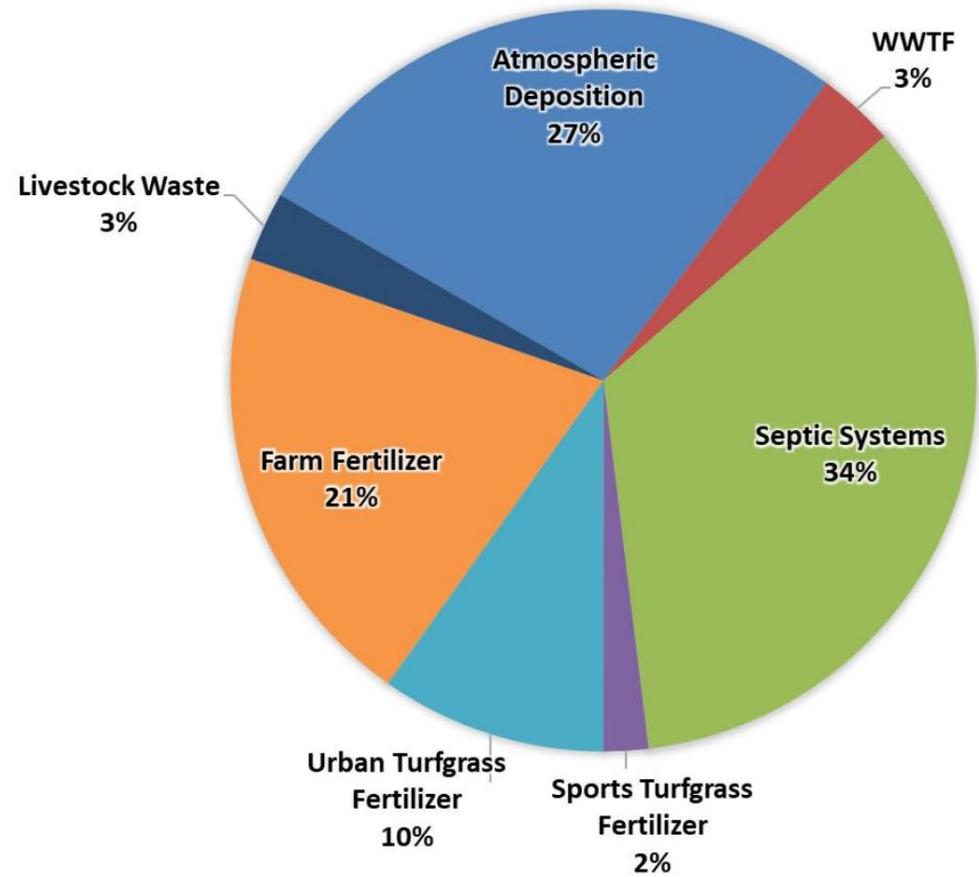
Place more than 14 million acres under basin management, affecting 6.5 million people





Wakulla Springs BMAP

PFA = Priority Focus Area



If septic systems contribute 20% or more of N to BMAP, then a septic system remediation plan must be put into place

Septic System Remediation Plans

If sewer is already available to lots in the Priority Focus Area new or repair permits will not be issued. Connection to sewer service is required when such service is available

On lots of less than one acre in the PFA...

- Installation of new systems have to include enhanced nitrogen treatment
- For existing systems, if replacing, repairing, or modifying the system, it has to include enhanced N treatment



“After the Flush” Homeowner Septic System Education Program

Increase knowledge about:

- OSTDS Function, Maintenance, Advanced N-reducing Treatment Options, Regulations, Permitting
- Available cost-share programs

Provide Extension Agents with educational program materials



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SEPTIC SYSTEMS

How Does a Conventional Septic System Work?

The diagram illustrates a cross-section of a septic tank. On the left, a pipe labeled "Sewage Enters From House" leads into the tank. On the right, a pipe labeled "Treated Wastewater Goes To Drainfield" exits. The tank is divided into three horizontal layers: a top layer of "Scum" (light green), a middle layer of "Wastewater" (blue), and a bottom layer of "Sludge" (dark blue). Labels include "Inspection Pipe" on both sides, "Cap" and "Manhole Cover" on the ground level, and "Ground Level" at the top. A vertical double-headed arrow on the right indicates the "Depth Of Sludge Varies With Use".

About 30% of Floridians (7 million people) rely on septic systems to treat and dispose of their household wastewater. This includes all water from bathrooms, kitchen sinks and clothes and dish washers. In these homes, anything that goes down the drain flows into the septic tank.

A conventional septic system is the most common type of onsite sewage treatment and disposal system (OSTDS), which treat wastewater on a residential property, rather than send waste off-site to a wastewater treatment plant. A septic system is made up of a septic tank, which is a watertight container buried in the ground and a drainfield or leach field.

Wastewater leaves the home through pipes and flows into the septic tank, where it separates into 3 layers:

1. Heavier solids settle to the bottom and form a **sludge** layer. Bacteria work on breaking down solids.
2. Lighter substances, like oil, fat, grease and hair float up and form a **scum** layer.
3. This leaves liquid wastewater in the middle, which is called **effluent**.

The effluent flows out of the tank through an outlet pipe into the drainfield. A filter in the outlet pipe prevents most solids from flowing out of the tank and into the drainfield.

The drainfield is typically made up of a distribution box (to ensure the effluent is distributed evenly) and a series of trenches or a single bed with perforated PVC pipes, which are capped on the ends. These pipes are perforated so that the wastewater effluent can seep into the surrounding soil along the length of the pipes.

Most of the wastewater treatment takes place in the drainfield soil, where contaminants such as pathogens and some

Program Needs Assessment

Of 87 respondents:

- 55 agents (34%) were interested in having factsheets, infographics and online information to share with clients.
- 26 agents (16%) were interested in hosting or co-teaching homeowner workshops and demonstrations on septic systems and how to properly maintain them.
- 34 agents (21%) were interested in teaching residents about connections between septic systems and water quality impacts

“After the Flush” Homeowner Septic System Education Program

Extension Agent Resources

PPT Presentations with notes
Evaluation tool
Septic system models

EDIS Publications: OSTDS

Overview
Nitrogen
Phosphorus
Bacteria and Protozoa
Viruses
Trace Organic Chemicals

Fact sheets

How do septic systems function?
Maintenance
What to do if flooding occurs?
Landscaping on the drainfield

Videos

How do septic systems work?
Environmental impact of systems
English and Spanish

Website

Hosts material and provides links to additional resources

An underwater photograph showing a rocky seabed with patches of green seagrass. The water is clear and blue, with sunlight filtering through from above, creating a dappled light effect on the rocks and plants.

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