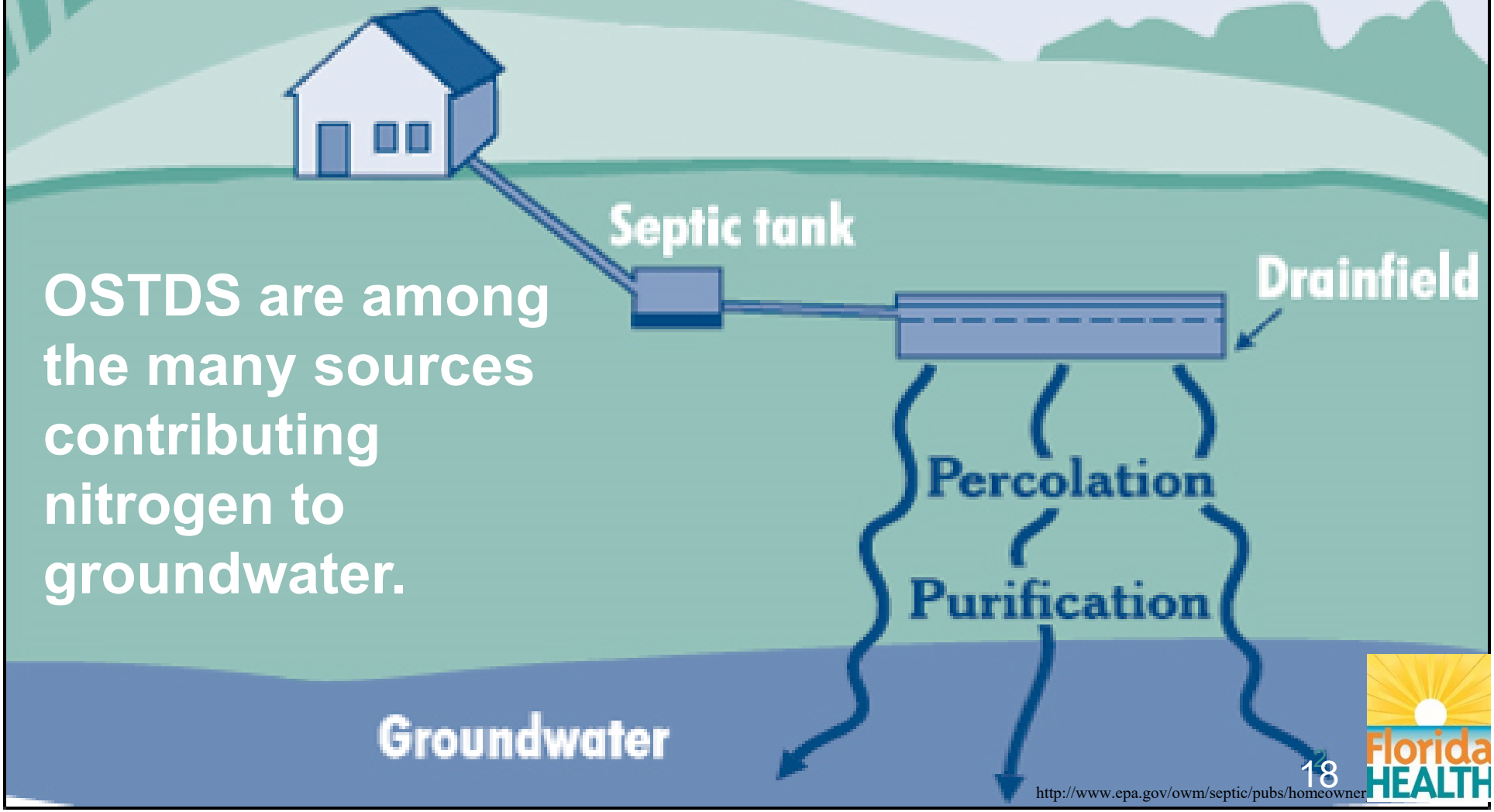
Spring Protection and Onsite Sewage Treatment and Disposal System (OSTDS) Remediation Plans

Bureau of Environmental Health
Division of Disease Control and Health Protection
Florida Department of Health

January 29, 2019

Septic Tank and Drainfield
(A Conventional OSTDS)



OSTDS are among the many sources contributing nitrogen to groundwater.

http://www.epa.gov/owm/septic/pubs/homeowner

Florida HEALTH

Statutory Mandate

Florida Statute (FS), Section 381.006, mandates the Florida Department of Health (DOH) to conduct an Onsite Sewage Treatment and Disposal Systems (OSTDS) function

Section 381.0065-0067, FS, provides legislative intent and requirements for the proper management of the OSTDS function

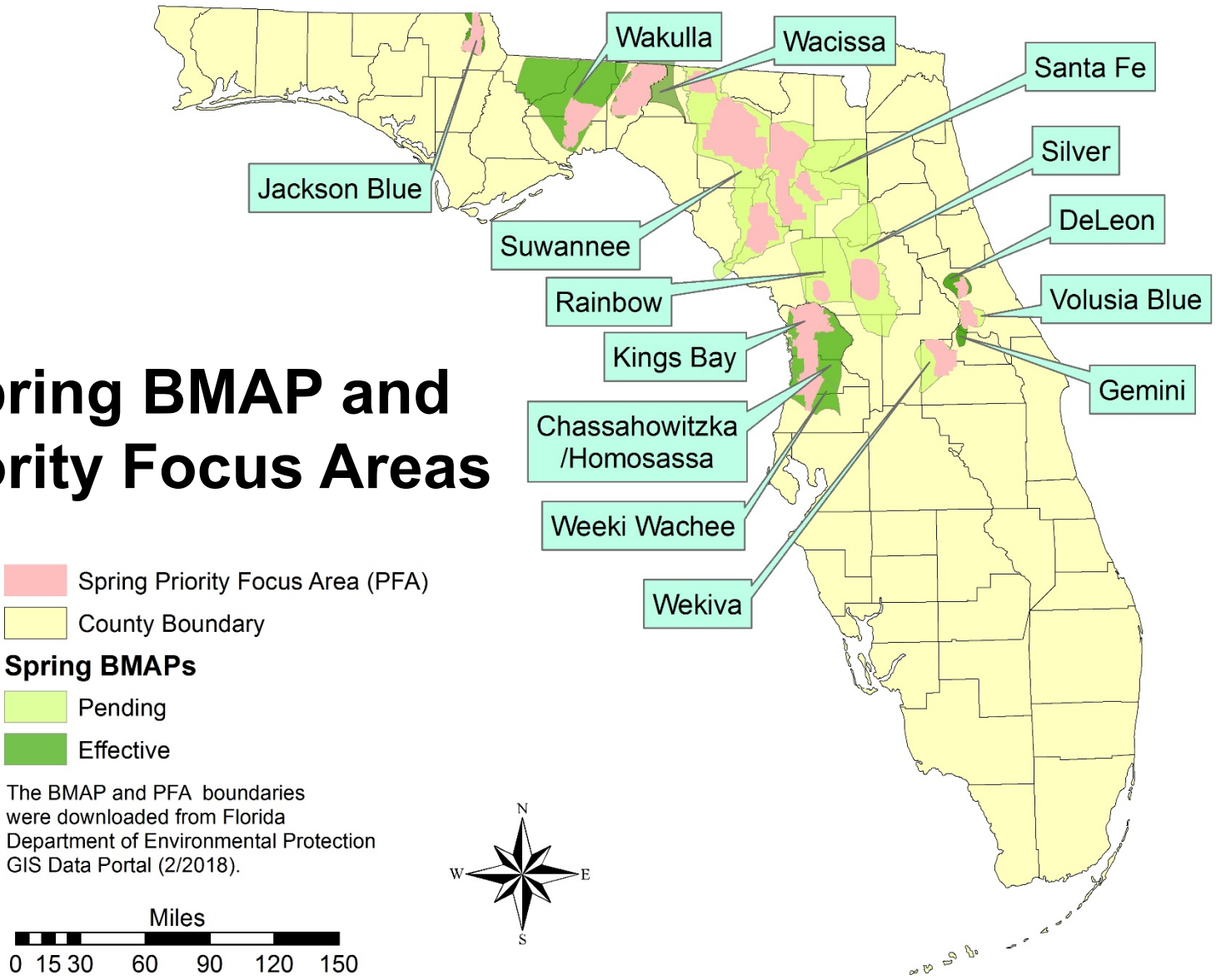
2016 Florida Springs and Aquifer Protection Act

(Florida Statute Sections 373.801 – 373.813)

Directs the Department of Environmental Protection to:

- Identify Outstanding Florida Springs impaired for nutrients
- Delineate priority focus areas (**PFAs**)
- Adopt basin management action plan (**BMAP**)
  (by July 1, 2018)
- Develop **OSTDS remediation plans** for basins where OSTDSs Florida Department of Environmental Protection considers a remediation plan is needed

Spring BMAP and Priority Focus Areas



BMAP Requirements (once effective)

Area residents applying for **new** construction permits **in Priority Focus Areas (PFAs) on lots less than one acre** have the following options:

- Connect to available sewer or,
- Install a non-nitrogen-reducing OSTDS if the applicant demonstrates that sewer connection will be available within 5 years or,
- Install a nitrogen-reducing OSTDS using various options identified by the Department.

Existing Systems
DEP Septic Upgrade Incentive Program

- Effective September 17, 2018, DEP implemented an existing system upgrade incentive program.
- The incentives are available to offset homeowner costs to upgrade existing systems to nitrogen reducing systems.
- Payment will be made directly to registered septic tank contractors and state-licensed plumbers who register with DEP for the incentive program.
- The incentive program is available for existing systems in PFA of non-agricultural BMAPs (Citrus, Hernando, Leon, Marion, Orange, Pasco, Seminole, Volusia, Wakulla counties) only, including pending BMAPs.

Nitrogen-Reducing Treatment System Options

Overall Goal of Nitrogen Removal: ≥65%

Nitrogen-reducing Aerobic Treatment Units

- Certified to meet National Sanitation Foundation (NSF) Standards 40 and 245
- Require operating permit (OP), maintenance entity (ME) and maintenance contract agreement (MCA)

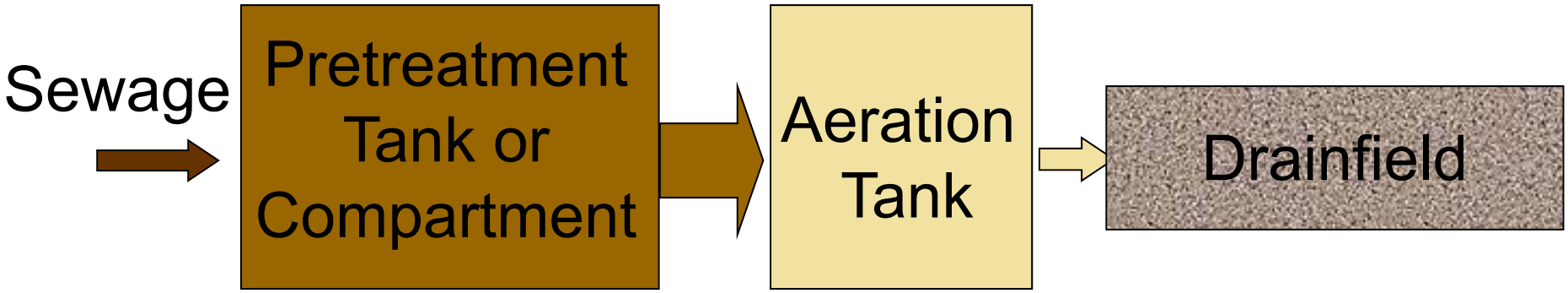
Performance-based Treatment Systems

- Must be designed by Florida Professional Engineer
- Require OP, ME and MCA

In-ground Nitrogen-Reducing Biofilter (INRB) stacked under a conventional drainfield

- No engineer design should be needed unless lot conditions require
- No OP, ME or MCA needed

Aerobic Treatment Unit (ATU)



About 8,000 NSF 40 units installed in Florida

Approximately 600 of these are nitrogen-reducing ATUs certified to meet NSF 245 Standard

(Partial) List of NSF245-certified ATUs

Manufacturer	Equipment Series	NSF Tested Model	Florida Approved NSF – 245 Certified Models	Average Total Nitrogen Removal Efficiency (%)
Aquaklear, Inc.	AquaKlear	AK6S245	AK6s245C, AK10S245C	50.8%
Bio-Microbics, Inc.	BioBarrier	MBR 0.5	MBR 0.5-N; MBR 1.0-N; MBR 1.5-N	79%
Bio-Microbics, Inc.	MicroFAST	0.5	MicroFast 0.5, 0.625, 0.75, 0.9, 1.5	55%
Fuji Clean USA	CEN	5	CEN 5, 7, 10	74%

More NSF -245 certified ATUs can be found at:
http://www.floridahealth.gov/environmental-health/onsite-sewage/products/_documents/245cert-atu-18.pdf

Performance-based Treatment System (PBTS)

Specialized onsite sewage treatment and disposal system

In many cases, includes an ATU

Designed to achieve specific and measurable established *performance standards* for:

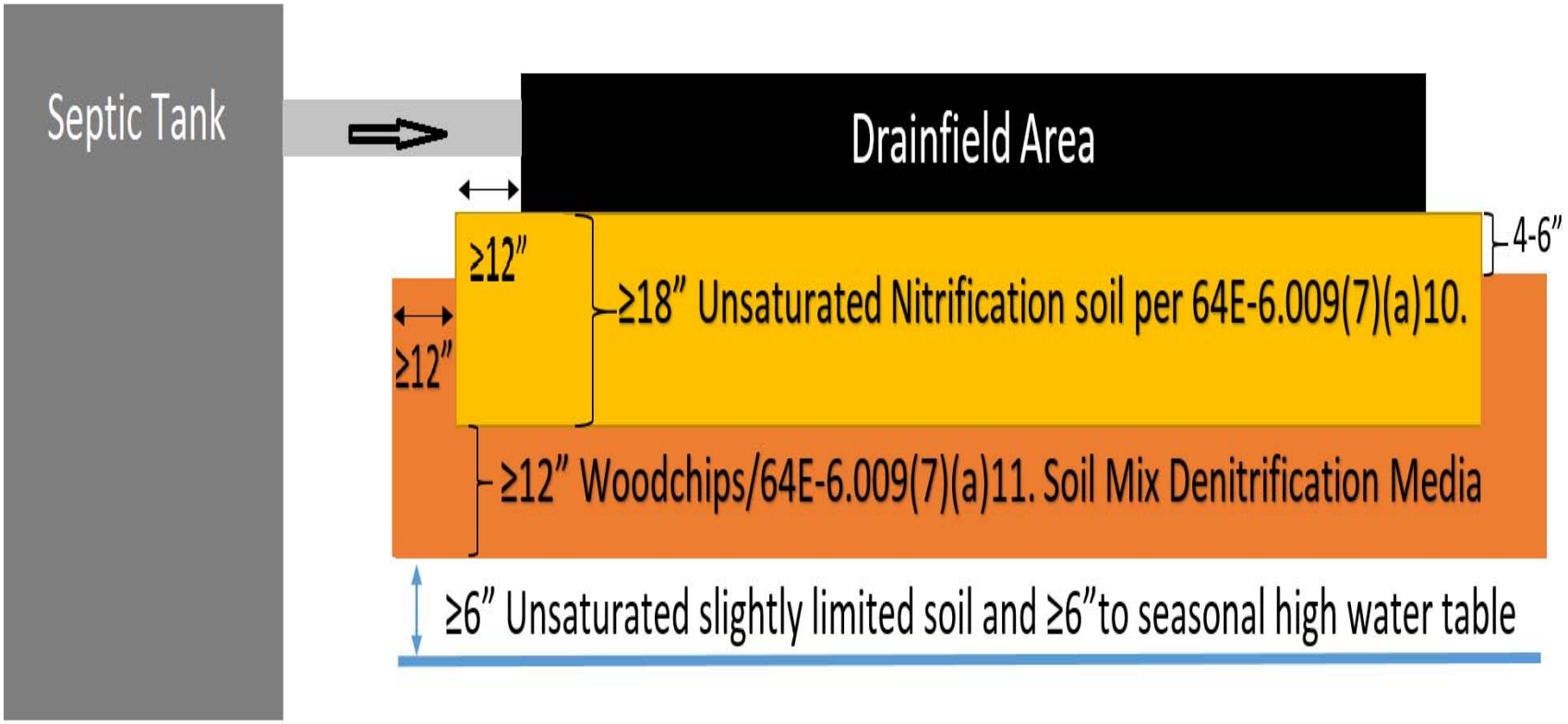
- Carbonaceous biochemical oxygen demand ($CBOD_5$), total suspended solids,
- TN (total nitrogen), TP (total phosphorus), and
- Fecal coliforms

(Partial) Data for Components of PBTS

Equipment Series	Equipment	TN Removal (%)	Vendor	Innovative Status
Advantex	Advantex Mode 1	64%	Orenco	Yes
Aerocell	Aerocell ATS SCAT-8-AC-C500	77%	Quanics	Yes
Aqua Safe	Aqua Safe 500	52%	Ecological Tanks Inc.	Yes
CE	Fuji Clean CE 5	67%	Fuji Clean USA, LLC	Yes

- At least 50% nitrogen-reduction before drainfield
- Some of these are permitted for innovative system testing.
- More nitrogen-reducing PBTS components can be found at http://www.floridahealth.gov/environmental-health/onsite-sewage/products/_documents/npbts-components.pdf

In-ground Nitrogen-Reducing Biofilter (INRB)



A nitrate-reducing layer below drainfield; material reacts with nitrate

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