



Wastewater Treatment Facility Feasibility Analysis



WRIGHT-PIERCE 
Engineering a Better Environment

CITRUS COUNTY'S NATURAL RESOURCES

- Home to Homosassa, Chassahowitzka, and Crystal River/Kings Bay springs group
- Nearly 100 springs in total
- Fed from Upper Floridan aquifer groundwater – our drinking water source
- Tourism since early 1800s, drawing 500,000 people/year to Citrus County
- In 2019, tourism brought \$270 million in revenue
- 43% of visitors came for "manatee watching"

1947

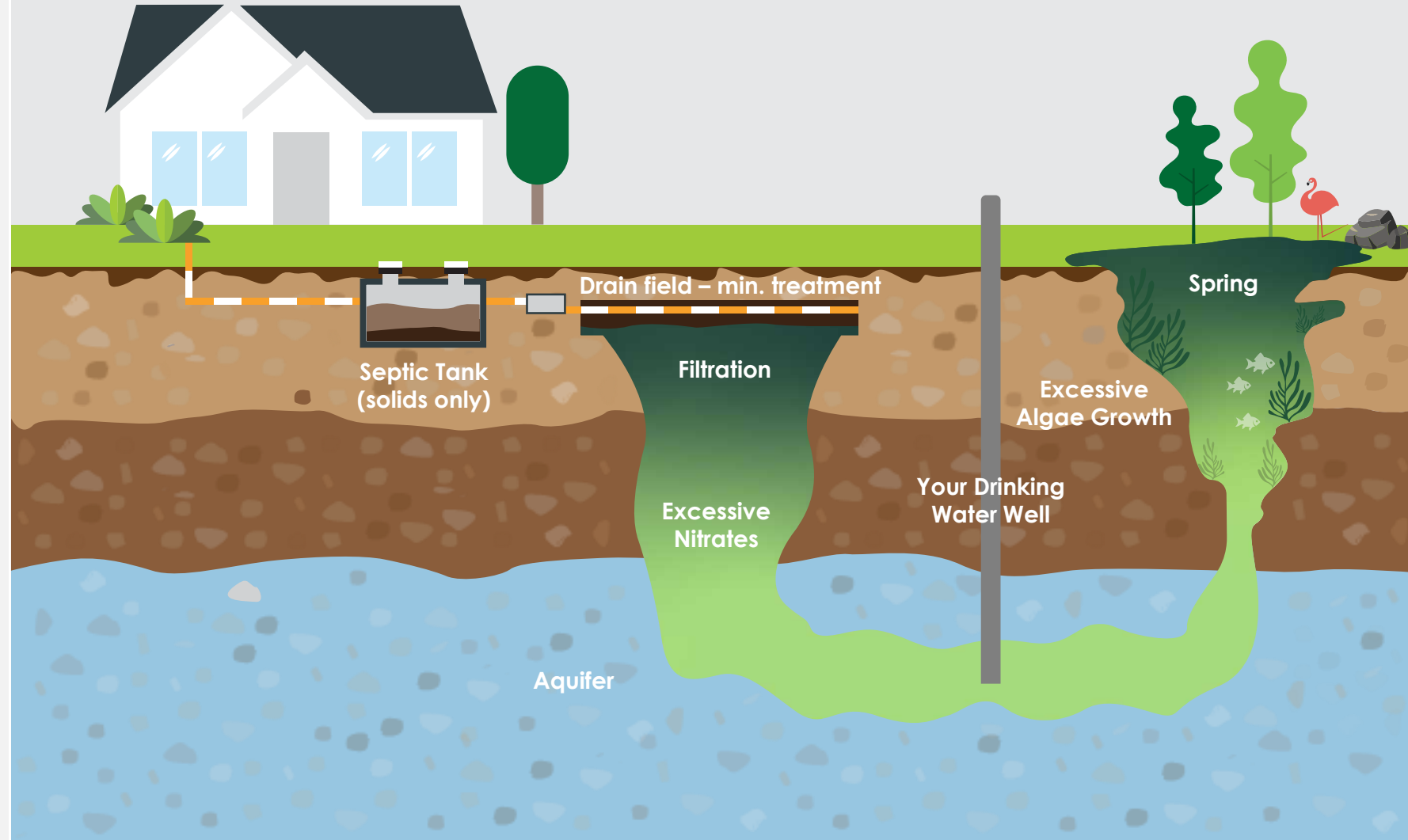


Homosassa Springs

SEPTIC SYSTEMS & THE ENVIRONMENT

- Approximately 41,000 septic systems currently installed
- Traditional septic system consists of septic tank and drain field
 - Proper installation above water table
 - Regular maintenance
 - Little wastewater treatment (N)
- Advanced septic systems include enhancements in tank/drain field
 - Proper installation
 - Regular maintenance
 - Includes mechanical parts
 - Higher level of treatment (N)

How Septic Systems Impact Springs



FDEP INITIATIVES

What is a TMDL (Total Maximum Daily Load)?

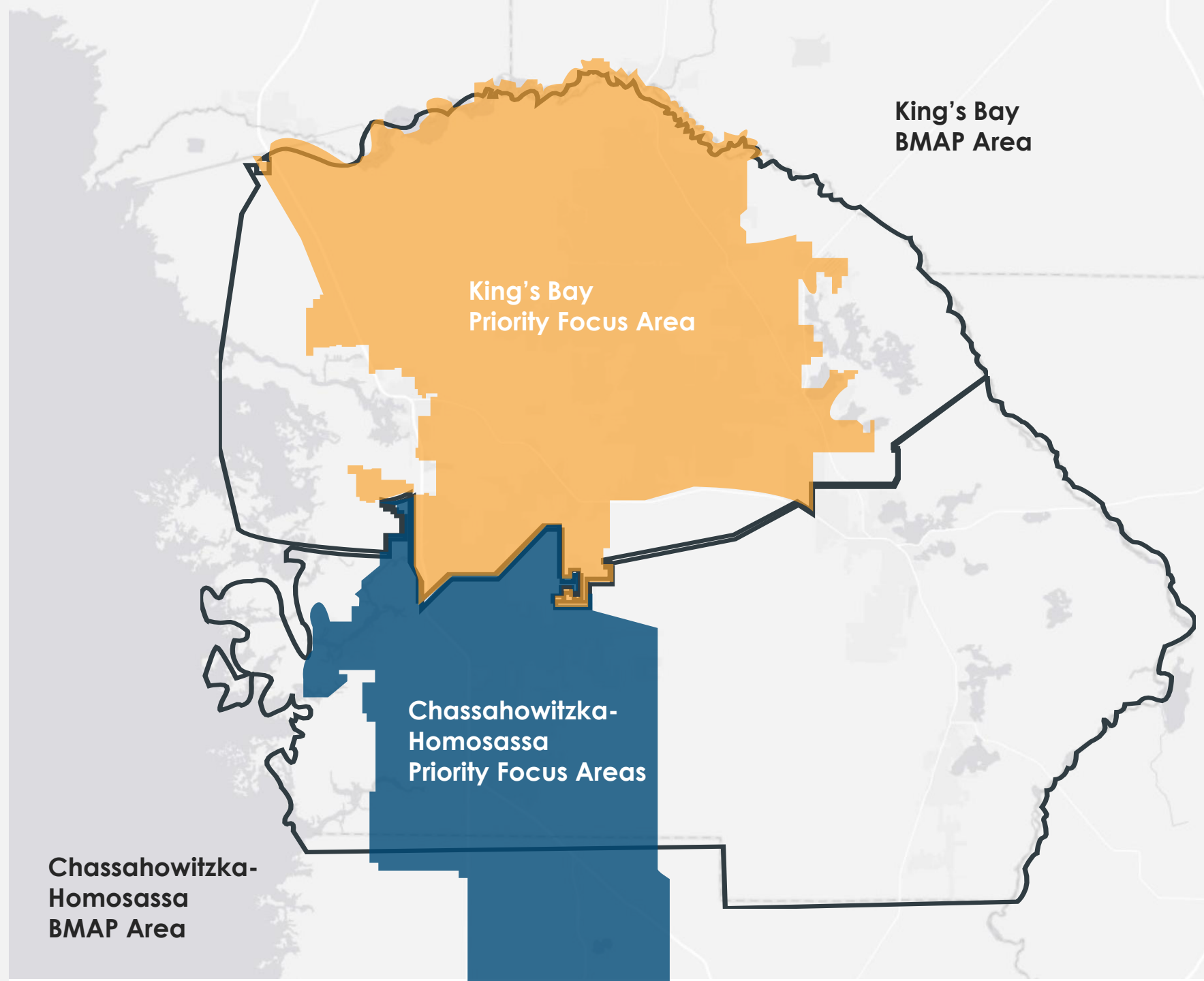
- Maximum amount of a pollutant allowed to enter a water body
- 0.23 mg/l for Nitrate

What is a BMAP (Basin Management Action Plan)?

- Plans developed to reduce pollutants in water bodies in order to meet the TMDL

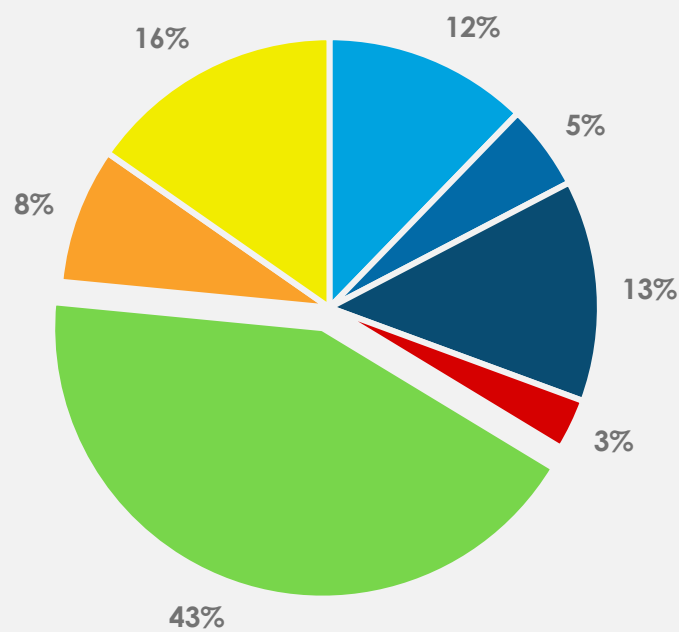
What is a PFA (Priority Focus Area)?

- Most critical area within the BMAP
- Projects within this area can receive funding from the FDEP and SWFWMD

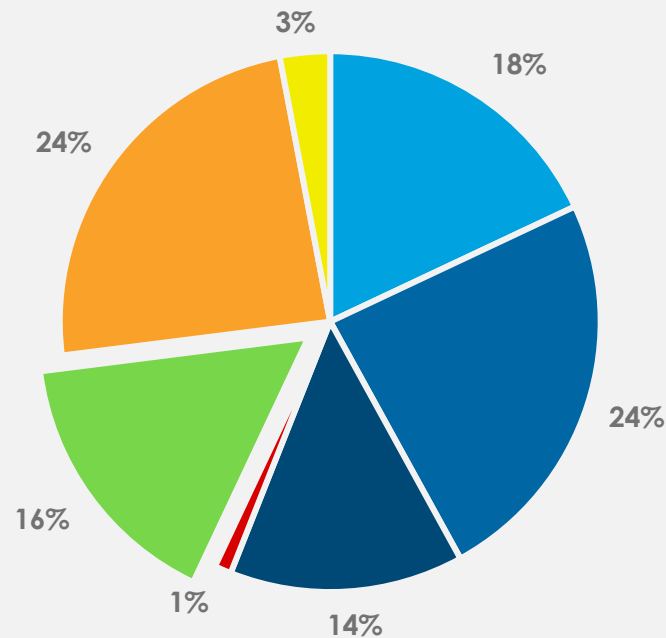


NITROGEN SOURCES

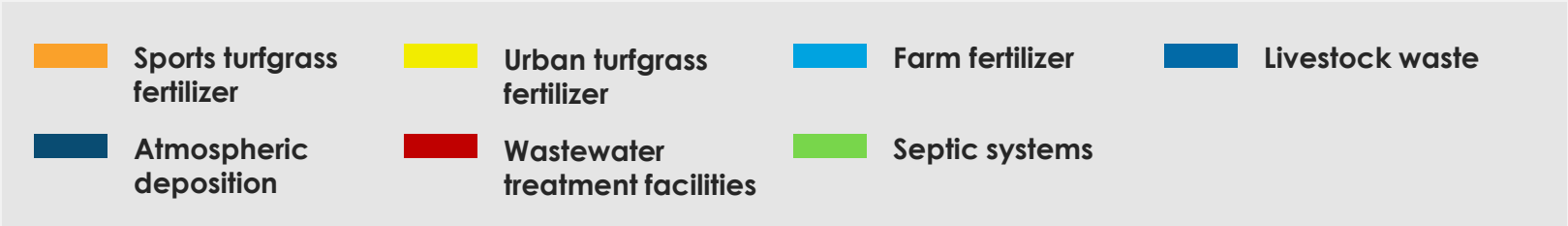
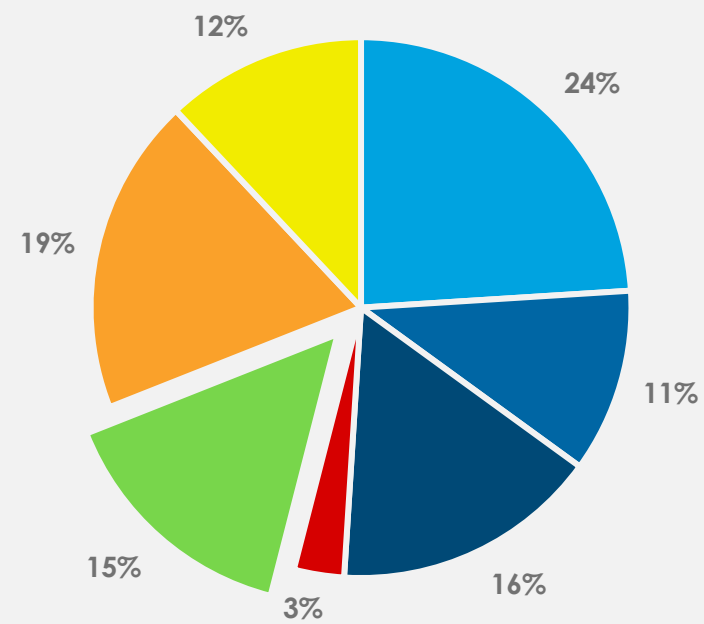
Kings Bay



Homosassa



Chassahowitzka



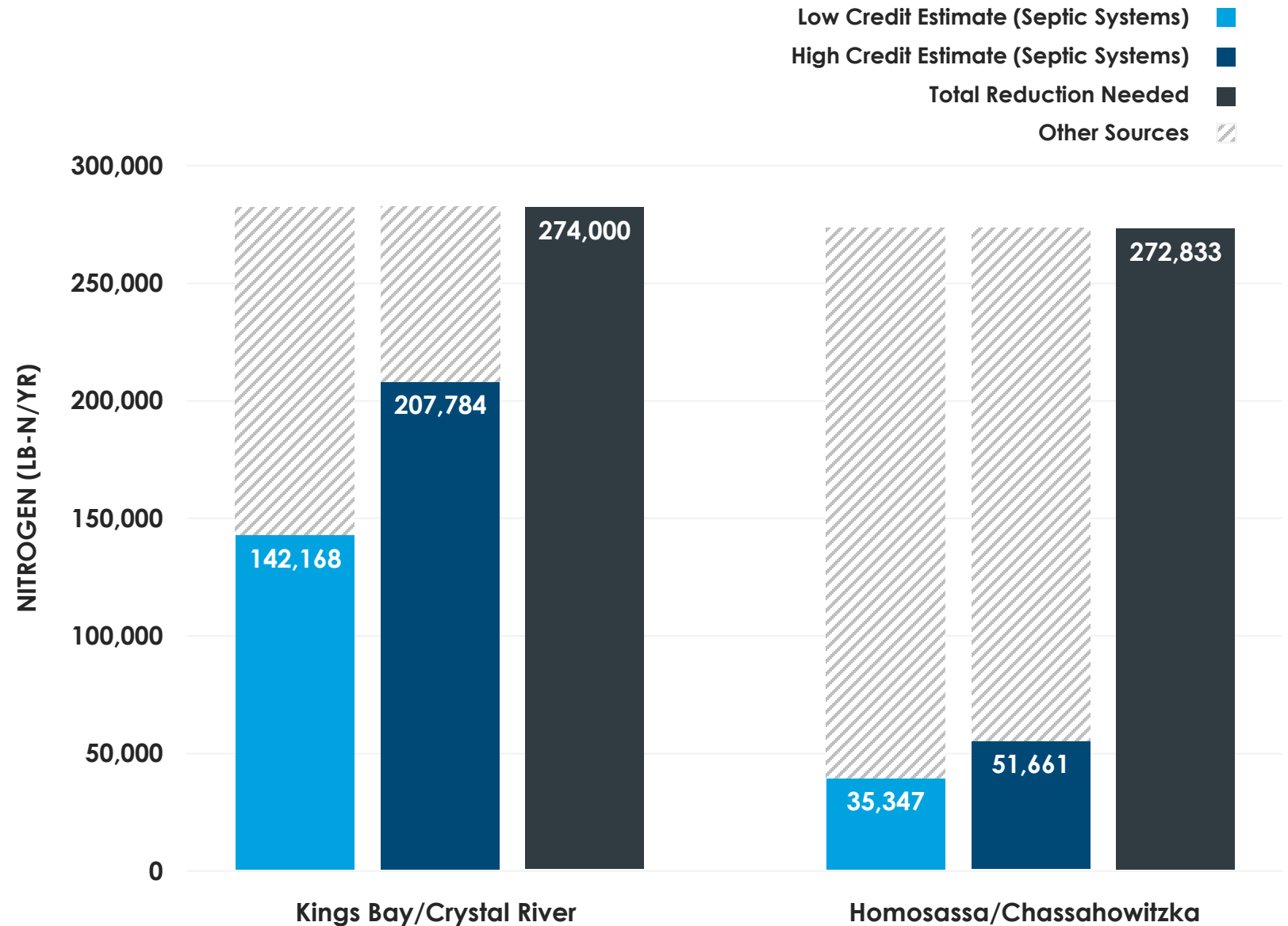
BMAP GOAL & REQUIREMENTS

Goal

- Develop a cost-effective plan to reduce the nitrogen load affecting our springs.

Requirements

- In BMAP areas
 - Limit nitrogen in wastewater treatment facility effluent
- In Priority Focus Areas
 - Limit new septic systems
 - Address existing septic systems
- Adopted June 2018
- Effective January 2019



Credits are generated for reducing pollutants in water bodies.

FDEP WASTEWATER TREATMENT FEASIBILITY ANALYSIS

Study funded by FDEP for 9
counties with Class I Outstanding
Florida Springs (OFS)



PROJECT AREAS

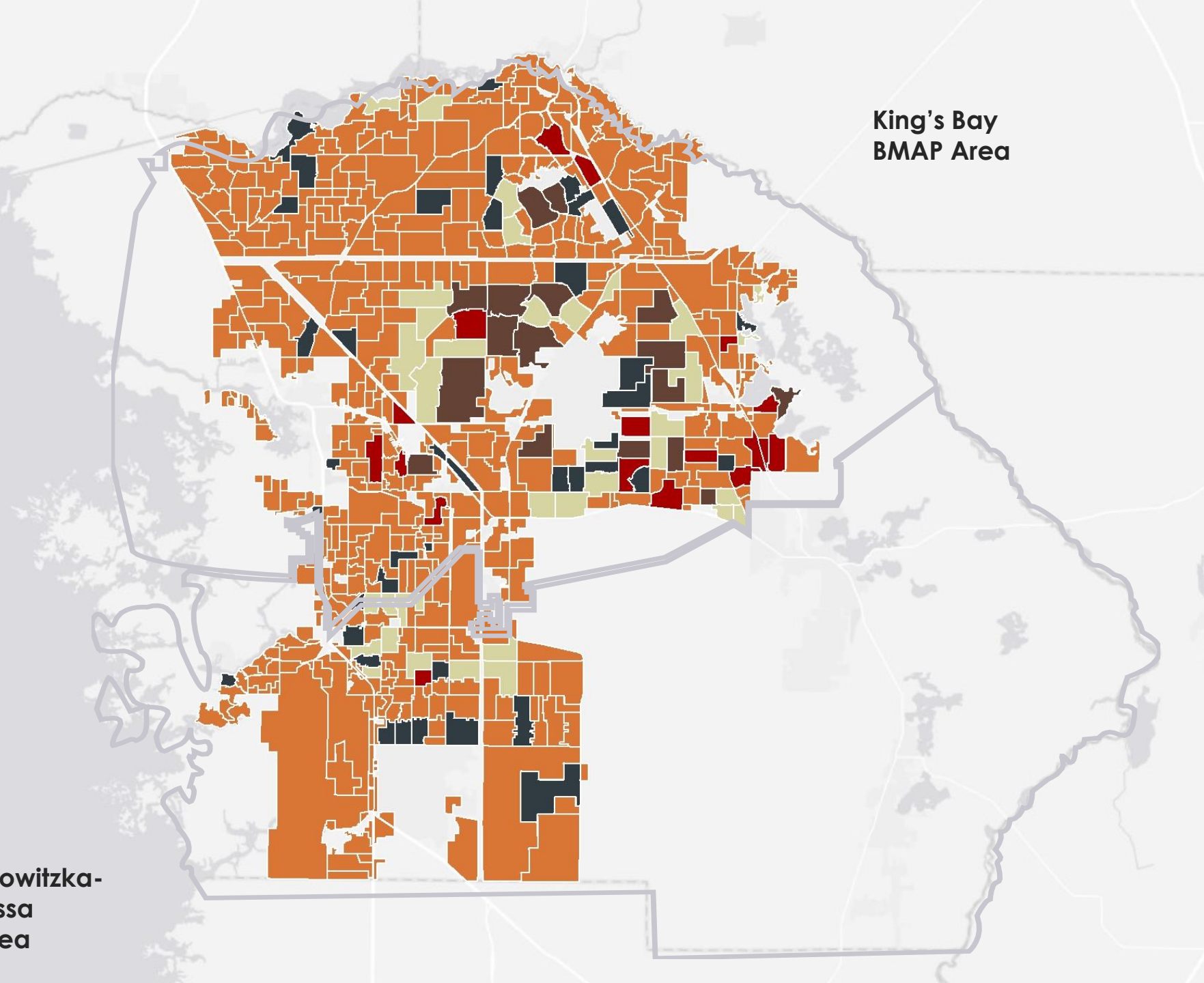
Environmental scoring criteria used to develop project areas

- Within the PFAs
- Nitrogen load per acre
- Average age of septic system
- Scored from least (1) to most (5) critical

1	(488)
2	(40)
3	(35)
4	(18)
5	(17)

Chassahowitzka-Homosassa
BMAP Area

King's Bay
BMAP Area

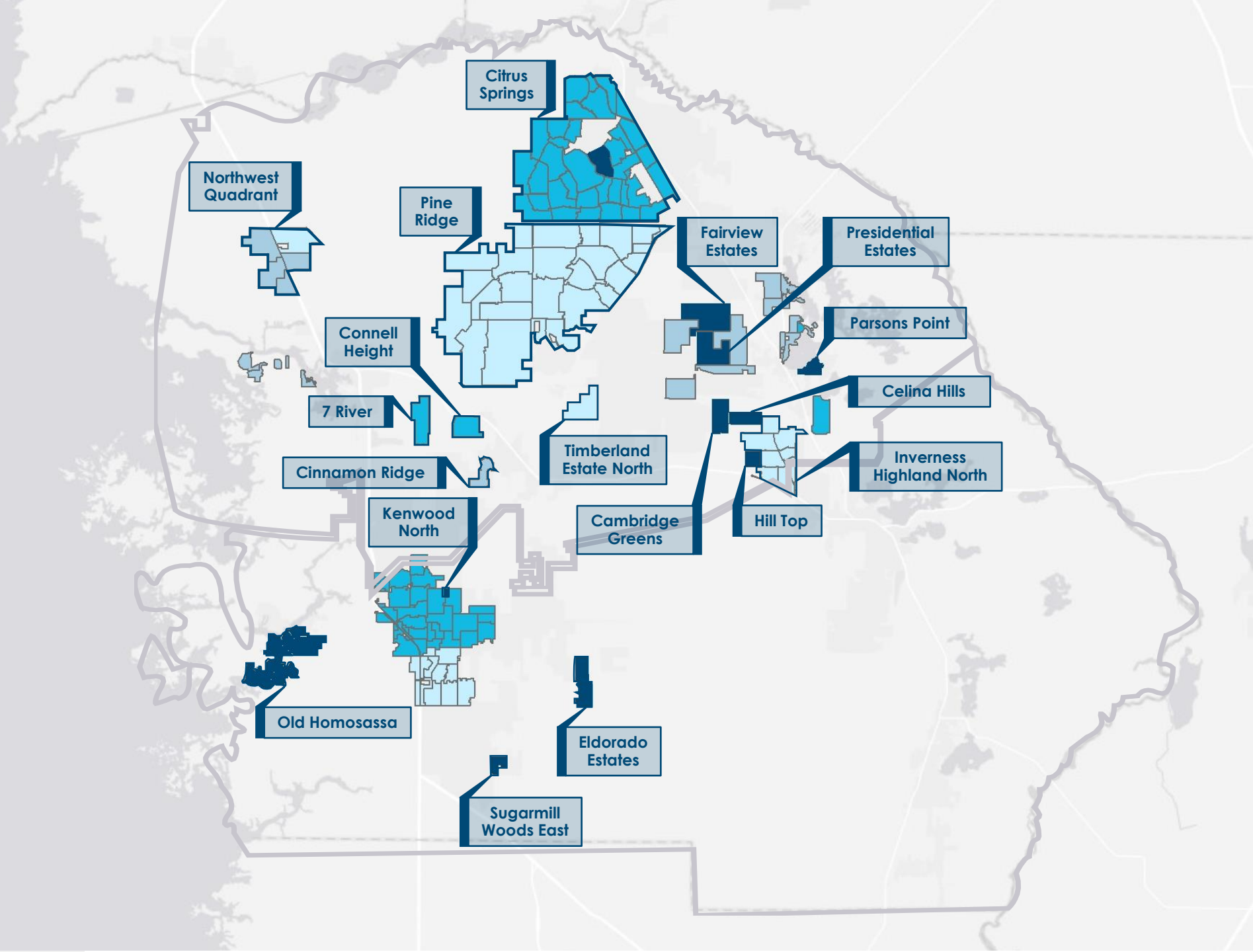


PROJECT PHASING

Project phasing based on environmental score and availability of existing infrastructure

- Scored from most (1) to least (4) immediate

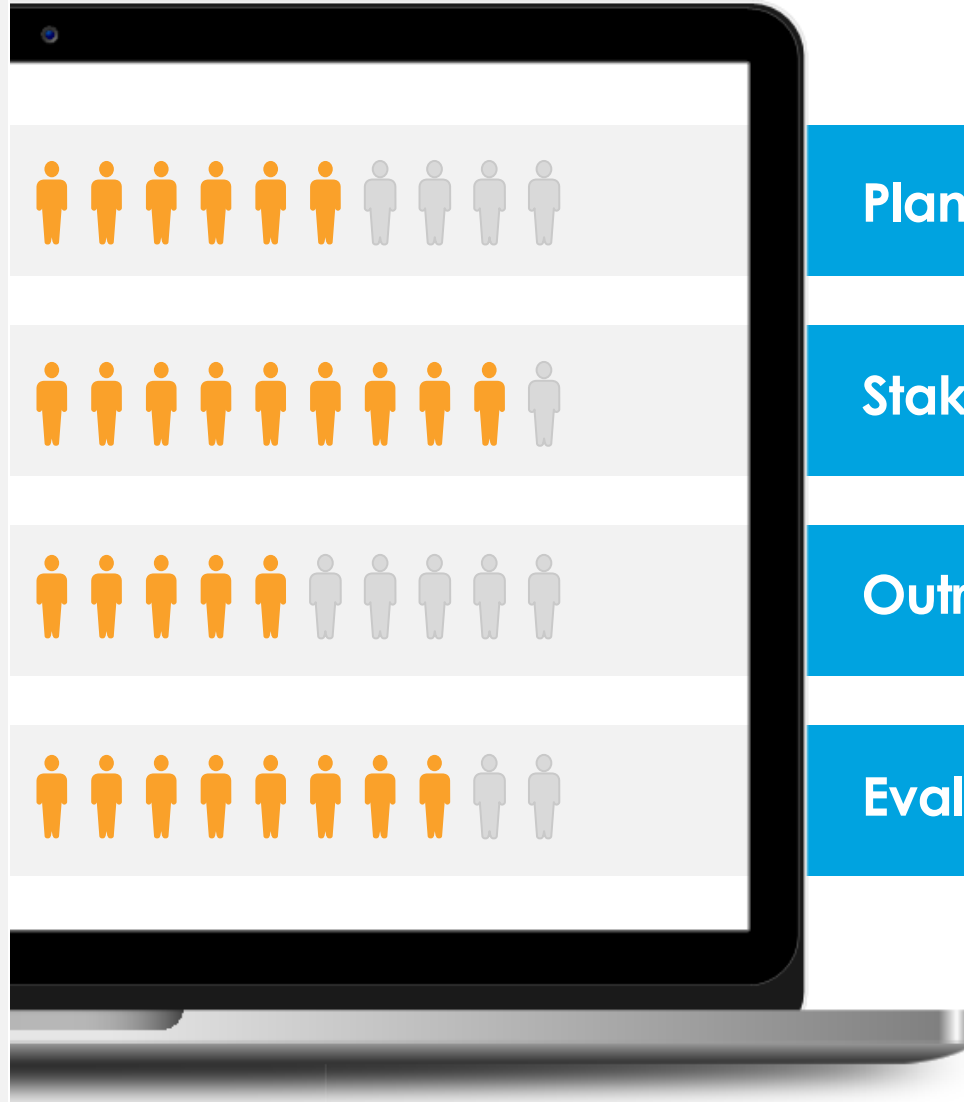
1	(19)
2	(71)
3	(23)
4	(47)



PUBLIC INVOLVEMENT PROCESS

Stakeholders

- Citrus County
- FDEP
- Southwest Florida Water Management District
- Florida Fish & Wildlife Commission
- Save Crystal River
- Homosassa River Alliance
- Florida Springs Institute
- Crystal River State Park
- Crabbers, Fisherman, Fishing Guides/Charters



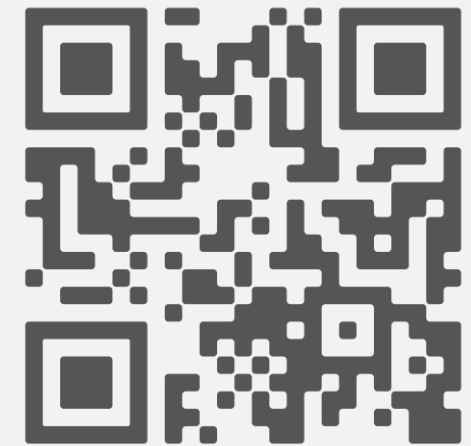
Plan Development

Stakeholder Identification

Outreach Strategies

Evaluation & Analysis

QUESTIONS?



<http://citruscountywastewatertfa.com/>