

Basin Study Update

Board of County Commissioners (BCC) Meeting

January 27, 2026

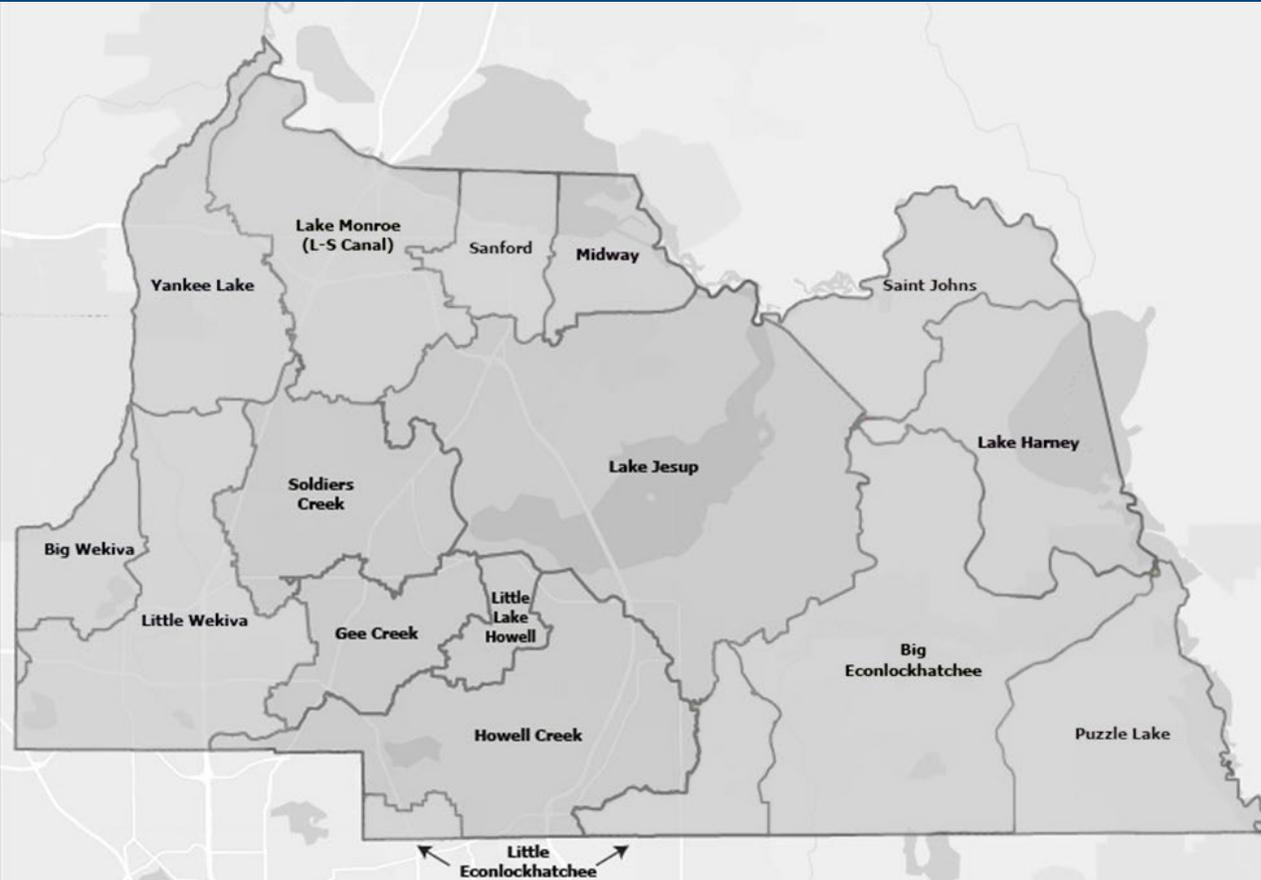
Purpose of Presentation

To present an update of the Wekiva Watershed Management plan

Agenda

- Basin Studies Overview
- Basin Studies Timeline
- Wekiva Watershed Management Plan update
- Next Steps
- Requested Action

Basin Studies Overview



- 16 Drainage Basins in Seminole County
- What is a Drainage Basin?
 - A drainage basin (also called a watershed) is an area of land where all the streams and rainfall drain into the same common body of water — such as a river, lake, or ocean.
 - It consists of surface water, lakes, streams, reservoirs, wetlands, and all underlying groundwater.

Basin Studies Overview

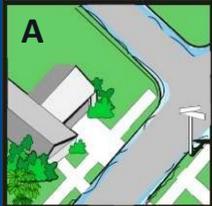
- Why are Basins Studied?
 - Studying a drainage basin provides essential insights for managing water resources. It helps assess flood risks, develop effective flood control measures, and maintain water quality at safe and sustainable levels.
- How are Basins Studies Used?



Basin Studies Overview

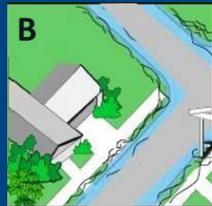
Key Terms

Level of Service (LOS)



“In the Gutter”

A – Flow contained within the storm drain systems or below edge of pavement (EOP)



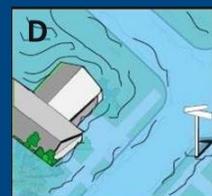
“In the Street”

B – Flow above road EOP and within right of way



“In Your Yard”

C – Flood above road EOP and/or outside of right of way



“In Your House”

D – Building structures flooding

Design Storm Events:

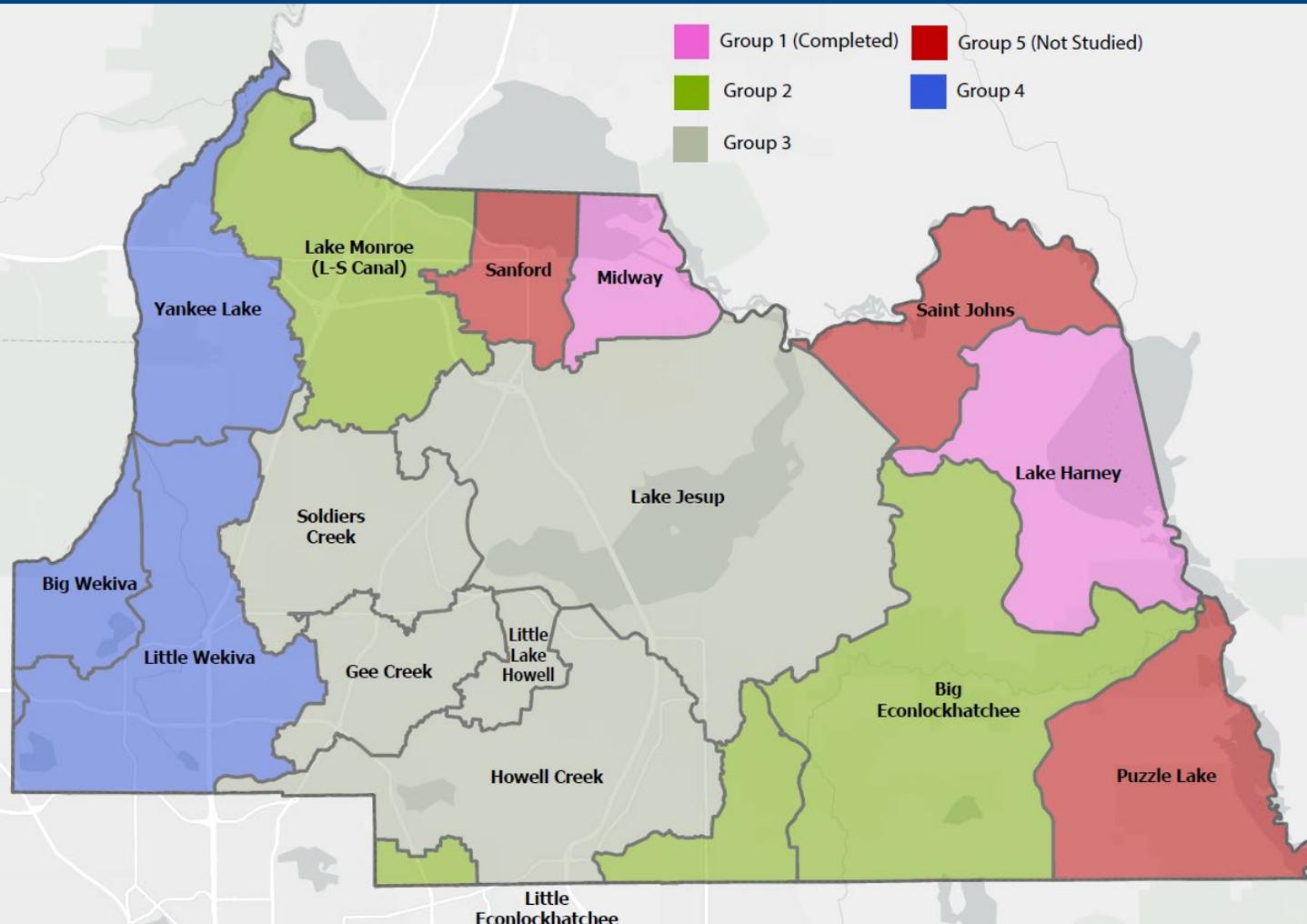
- 100-Year Storm: 1% chance of occurring in any given year
- 50-Year Storm: 2% chance of occurring in any given year
- 25-Year Storm: 4% chance of occurring in any given year
- 10-Year Storm: 10% chance of occurring in any given year

Basin Studies Overview

- **Project Ranking**
 - Projects ranked using County Stormwater Master Plan (SWMP) Evaluation criteria and scoring methodology

Seminole County SWMP Scoring Category	Weight Factor
(1) Flooding Protection	35%
(2) Water Quality	25%
(3) Operation and Maintenance (O&M)	5%
(4) Ease of Implementation	15%
(5) Alternative Funding Opportunity	10%
(6) Potential Benefits from Water Augmentation*	5%
(7) Community Enhancement	5%
Total Score	100%

Basin Studies Overview



Approach

- 13 out of 16 basins are being studied
- Divided into five groups in a “Big Bang Approach” to update basin studies
- Began updating studies in 2019

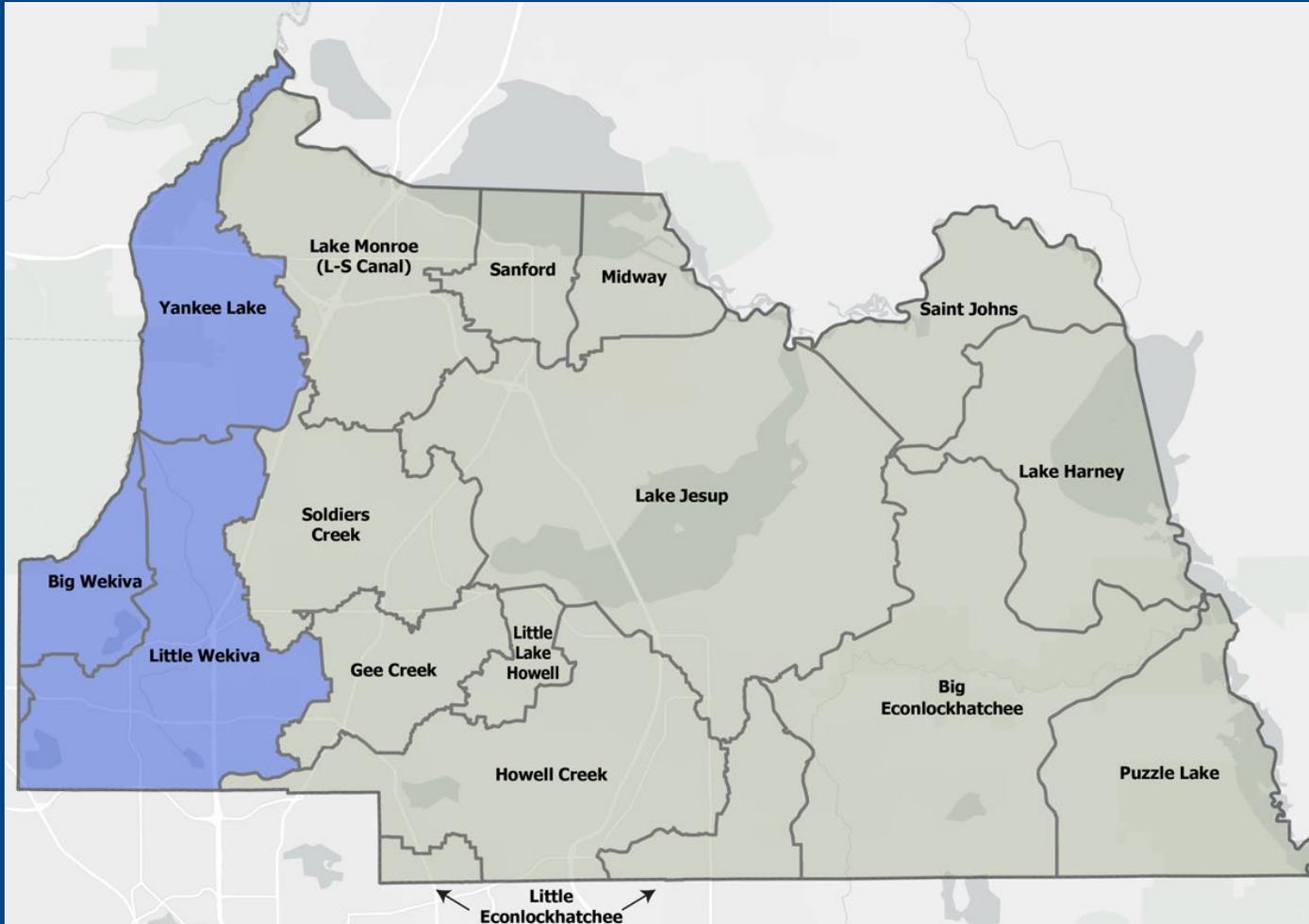
Basin Studies Timeline

Dates	Activities
2019-2025	<ul style="list-style-type: none"> • Update Basin Studies
2019-2025	<ul style="list-style-type: none"> • Held Public Meetings • Incorporated Public Comments
2025-2026 Board Authorization	<ul style="list-style-type: none"> • BCC Meeting – Dec. 9, 2025 (East County Basin Studies) • BCC Meeting – Jan. 13, 2026 (Lake Monroe / Big and Little Econlockhatchee) • BCC Meeting – Jan. 27, 2026 (Wekiva Watershed)

Wekiva Watershed Management Plan Update

January 27, 2026

Wekiva Watershed Management Plan



Wekiva Watershed:

- 56.2 square miles
- Cities of Lake Mary, Longwood, Altamonte Springs, Casselberry
- Basin Study 100% Complete
 - Updated in 2024/2025 with new data
- Total of 13 Project Concepts
 - Additional 8 Water Quality BMP area recommendations
 - Additional 4 priority pollutant load area recommendations
- Total 2,089 Sub-Basins (440 closed sub-basins)



Wekiva Watershed Management Plan Project Recommendations

Board of County Commissioners Meeting
January 27, 2026

Wekiva Watershed Project Overview

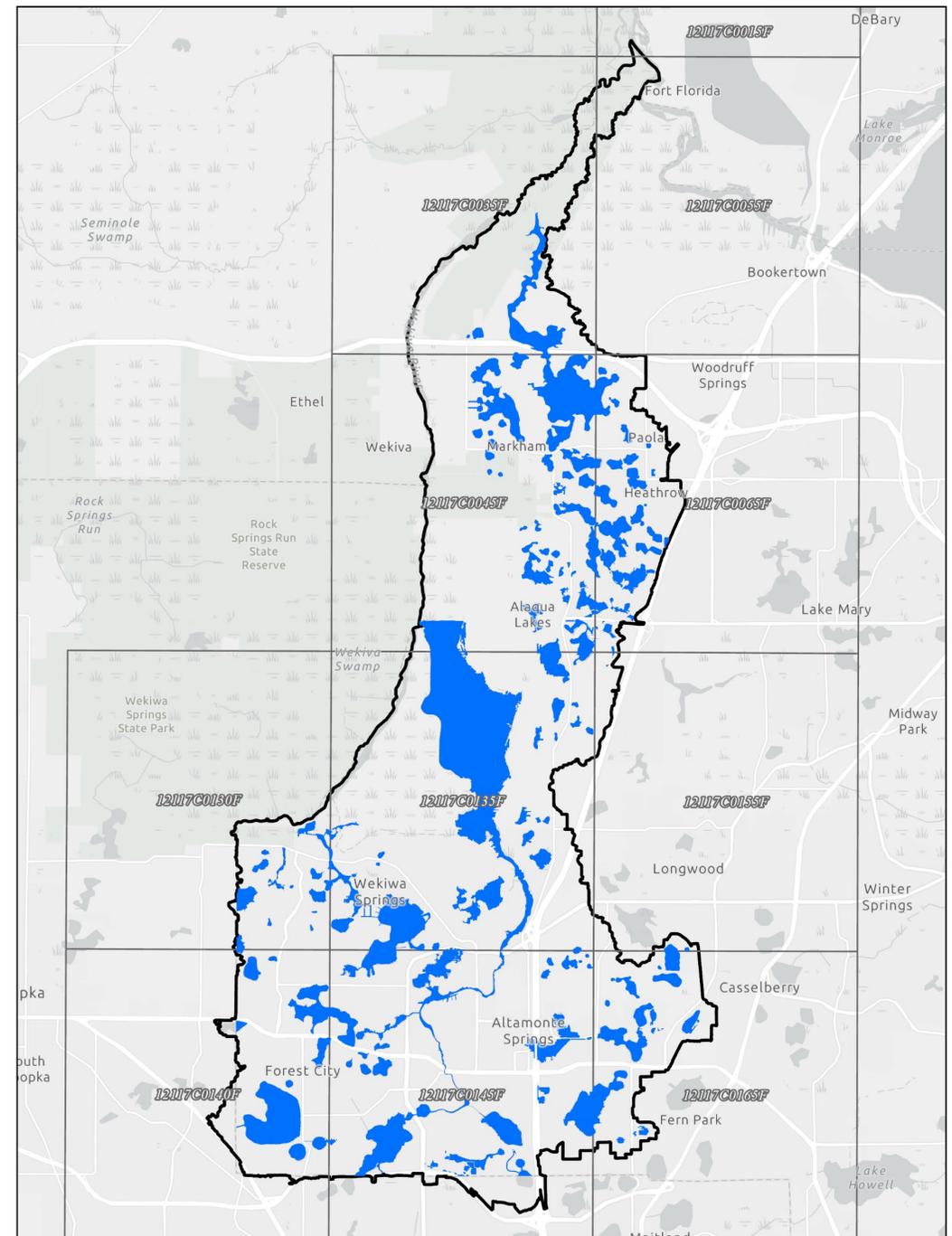
Scope of Work

- Complete Watershed Management Plan for Wekiva Watershed
 - Develop a Hydrologic & Hydraulic model
 - Flood Inundation Mapping
 - Flooding Assessment
 - Water Quality Assessment
 - Deficiency Identification
 - Project Scoring and Recommendations
 - Improvement Project Prioritization
 - Evaluate Conceptual Capital Improvement Projects that will Serve to Alleviate Flooding and Improve Water Quality

Wekiva Watershed Results

FEMA Effective 100-Year Flood Map

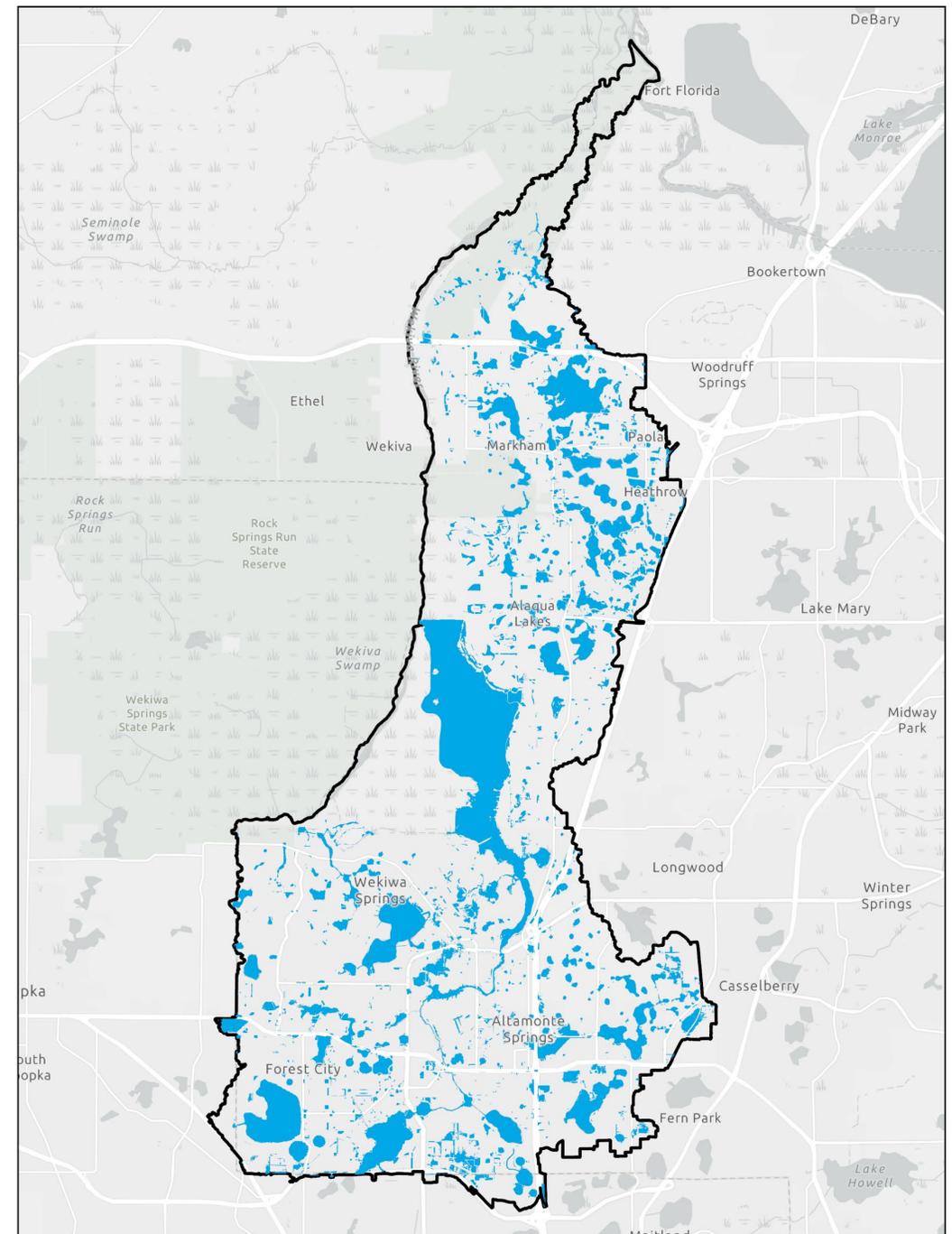
- ❑ 10.3 square-miles of floodplain
- ❑ Used for Flood Insurance
- ❑ Maps are dated 2007
- ❑ Based on 1990's models
- ❑ Many flood prone areas are not mapped



Project Delineated 100-Year Flood Inundation Map

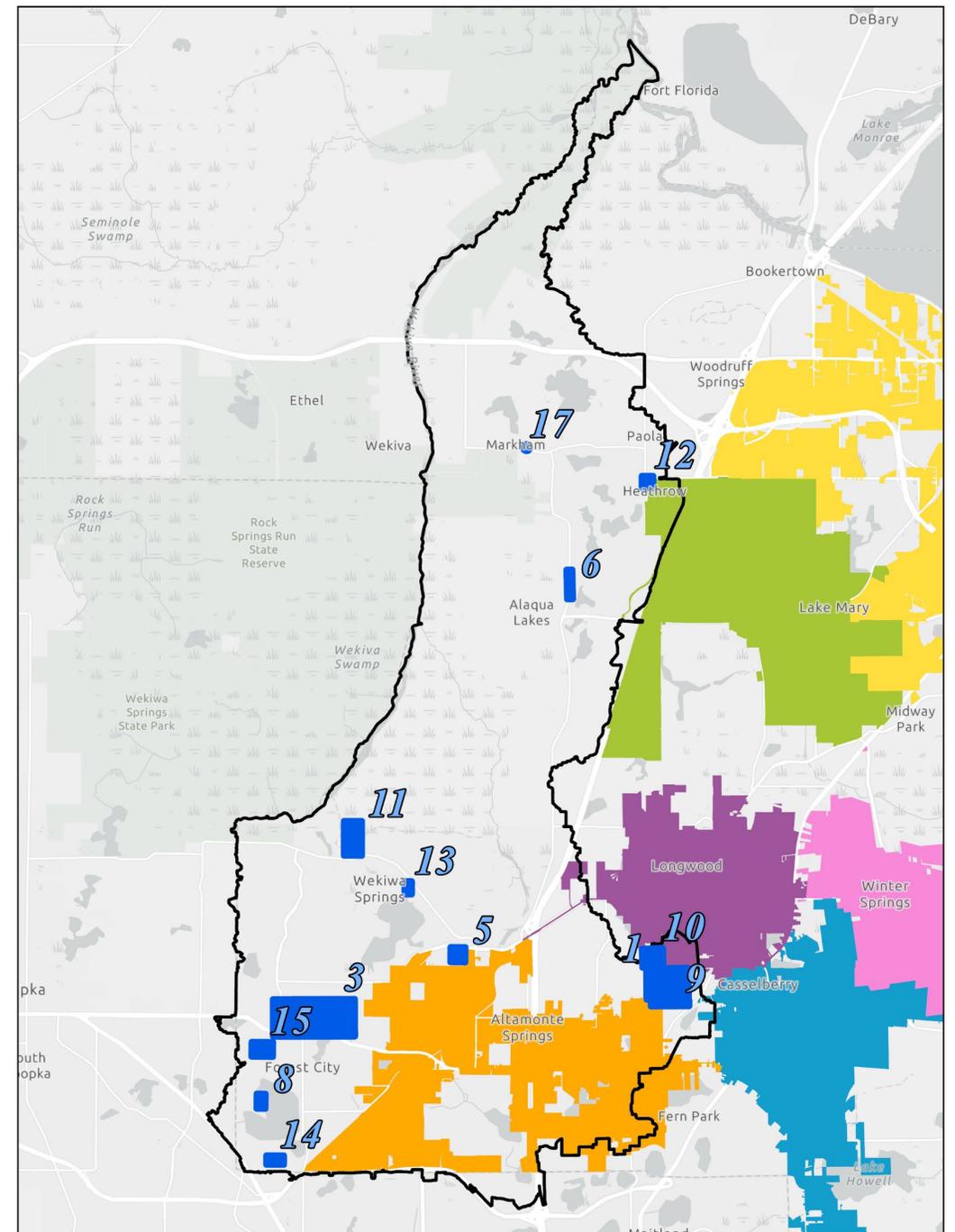
- ❑ 11.2 square-miles of floodplain
- ❑ Mapped using new model that included changes in the basin from 1990s to 2019
- ❑ Mapped flood area increased by 8.7%

	Total Parcels	Total Buildings	Total Area (sq-mi)
Effective FEMA Flood Map	5,002	3,495	10.3
Project Delineated Flood Map	6,902	2,076	11.2
% Change	+38.0%	-68.3%	+8.7%



Proposed Flood Improvement Projects

Project Name	Final Project Priority
TOP PRIORITY FLOOD PROJECTS	
SANLANDO SPRINGS - NORTH STREET TO LAKE FLORIDA *	1
HILLVIEW DRIVE (in progress)	2
TRIBUTARY C - HUNT CLUB TO LAKE BRANTLEY	3
TRIBUTARY C - LAKE HARRIET ESTATES (in progress)	4
MOBILE MANOR *	5
MARKHAM WOODS RD NEAR TIMBERBROOK & BRIDGEWATER	6
OLIVER AVE, BAKER ST, ARTHUR ST - SANLANDO SPRINGS (in progress)	7
CECELIA DRIVE AT BEAR LAKE *	8
MAGNOLIA STREET 427 TO LAKE FLORIDA	9
ROLLING HILLS	10
RIVERBEND BOULEVARD AND SWEETWATER BOULEVARD AREA	11
BANANA LAKE ROAD	12
CUTLER ROAD	13
BEAR LAKE WOODS *	14
BELL AIRE ESTATES	15
ADDITIONAL PRIORITY FLOOD PROJECT	
MARKHAM RD AT LAKE MARKHAM RD (in progress)	17



Proposed Water Quality Improvement Projects

WATER QUALITY IMPROVEMENT PROJECTS

SABAL POINT SUBDIVISION BMP

MOBILE MANOR BMP

NORTHWESTERN BMP 1

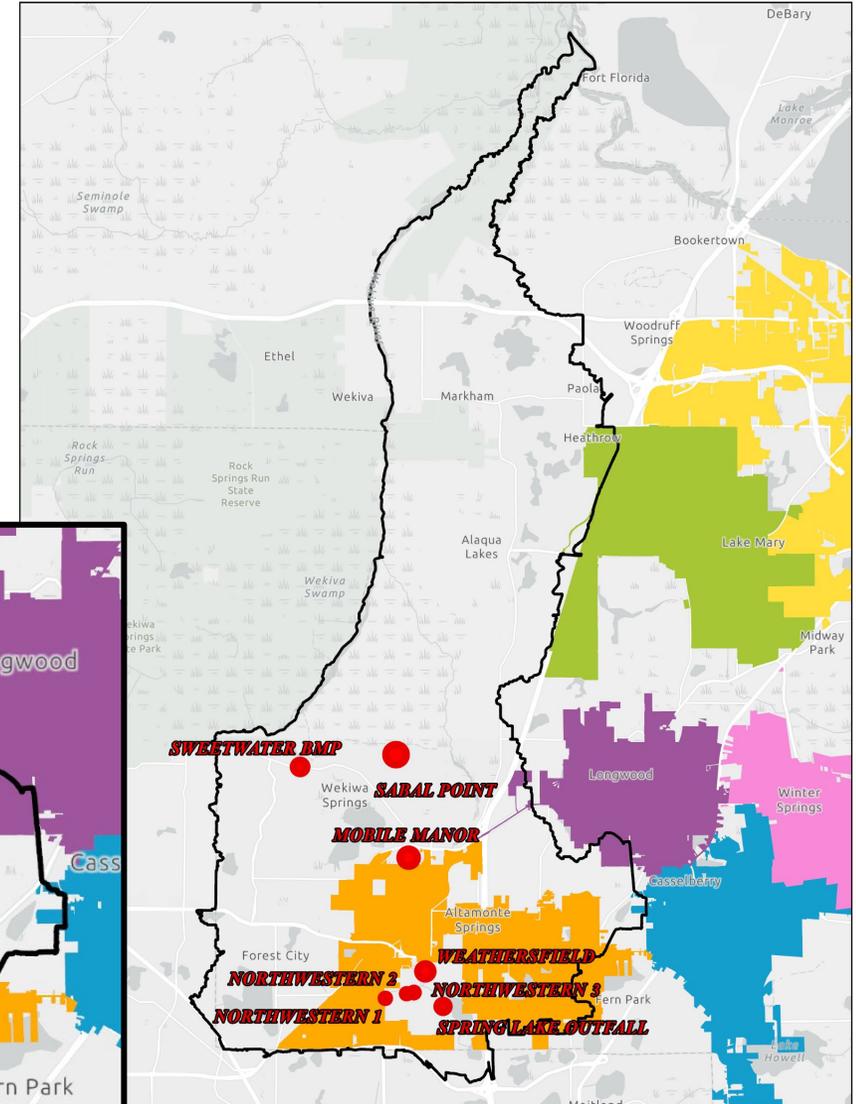
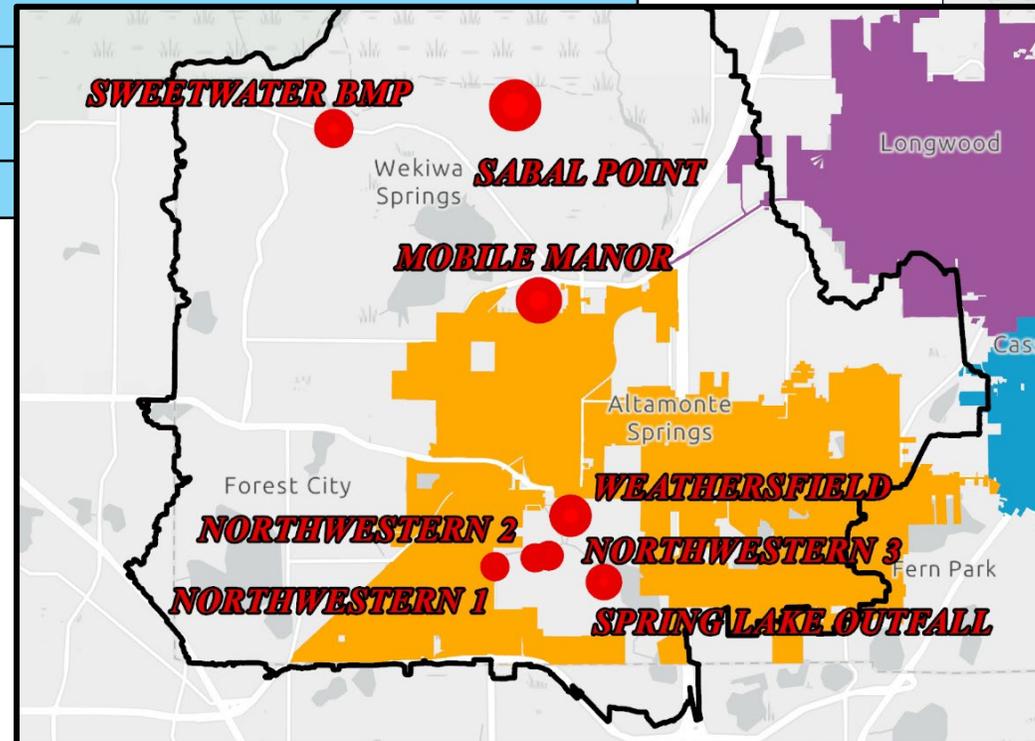
NORTHWESTERN BMP 2

NORTHWESTERN BMP 3

WEATHERSFIELD BMP

SPRING LAKE OUTFALL #12 BMP

SWEETWATER BMP



Next Steps

Wekiva Watershed Management Plan:

- Provide models to Development Review for use as best available information
- Submit final approved studies for FEMA review

Next Steps

Overall Studies:

- **East County Basins -**
BCC Meeting December 9, 2025
- **Lake Monroe / Big and Little Econlockhatchee –**
BCC Meeting January 13, 2025
- **Big and Little Wekiva, Yankee Lake Basins –**
BCC Meeting January 27, 2026
- **Finalize County's Stormwater Masterplan in 2026**

Requested Action

Board approval for acceptance into service of the Wekiva Watershed Management Plan (2025 update) as recommended by staff.