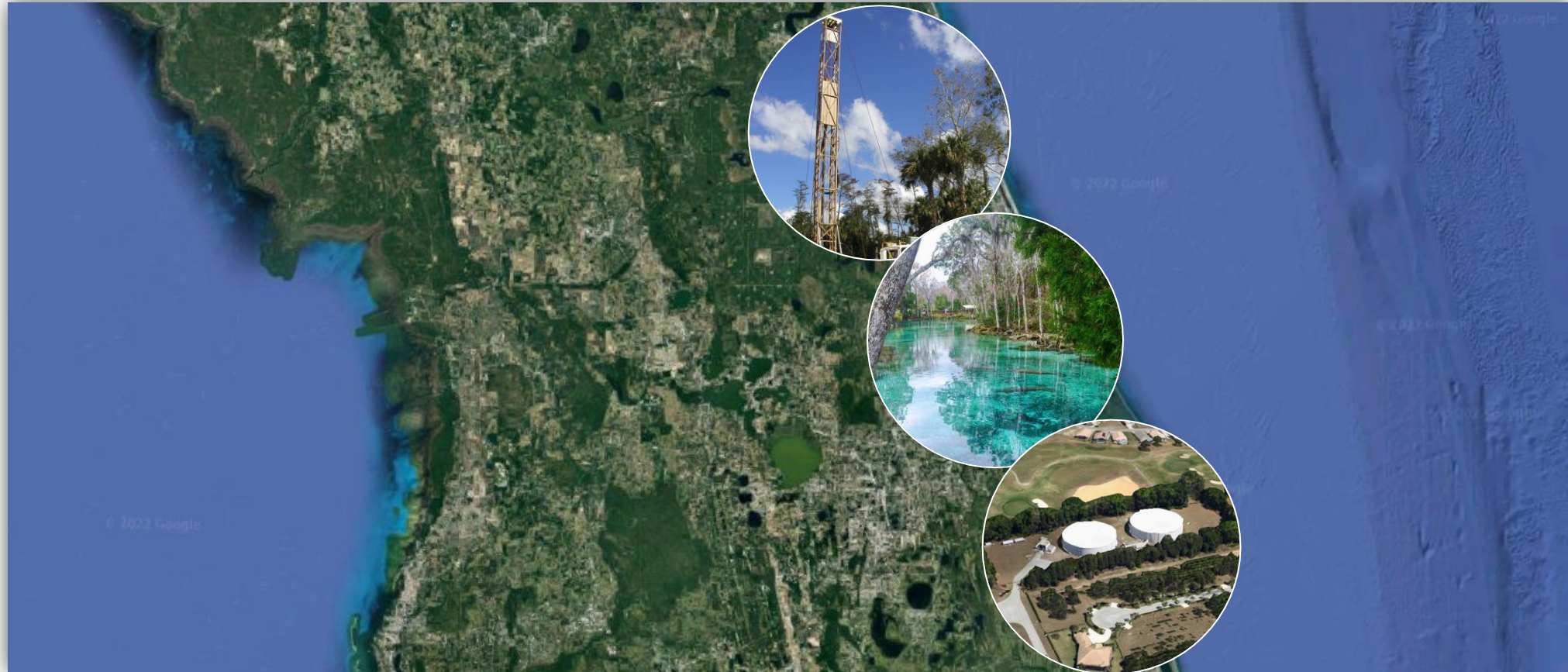




**WITHLACOOCHEE**  
**REGIONAL**  
**WATER**  
**SUPPLY**  
**AUTHORITY**

## 2024 Regional Water Supply Plan Update WRWSA Alternative Water Supply Options

September 17, 2025

# Project Goals and Objectives

- Goal
  - Assist public utilities by identifying regional water supply opportunities across four counties
- Objectives
  - Quantify public water supply demand
  - Assess water conservation and reuse potential
  - Identify water resource availability to meet demand
  - Evaluate economic constraints
- Plan cooperatively funded by SWFWMD
  - In support of 2025 RWSP for Northern Region



# Key Project Tasks

## Population and Demand Projections

- Update water demand projections through 2045

## Water Conservation and Reuse Evaluation

- Estimate conservation potential, reclaimed availability, potential offsets

## Source Water Assessments

- Evaluate and identify water resources availability to meet demand

## Water Supply and Treatment Options

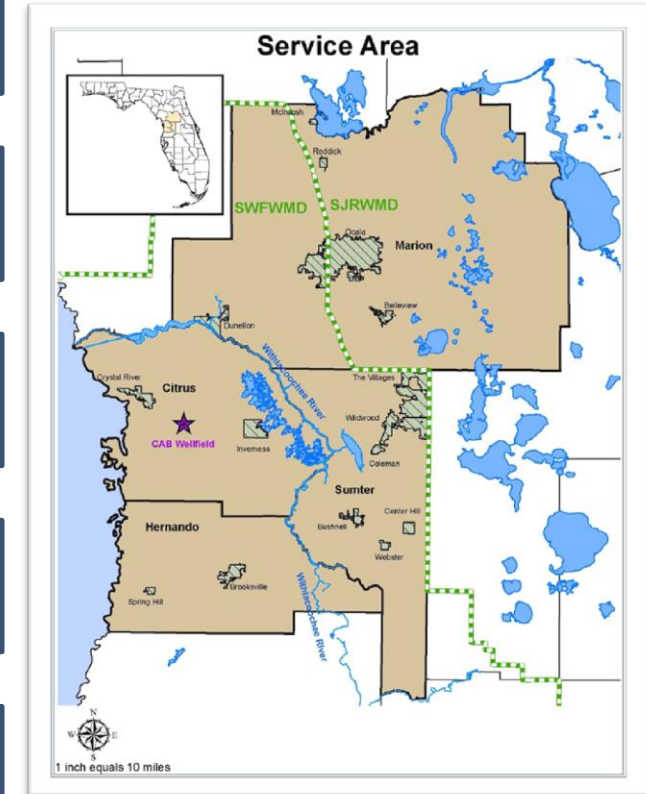
- Identify traditional/alternative supply availability and project options

## Organization, Funding, & Governance Recommendations

- Recommend Regional Governance Framework for WRWSA

## Regional Water Supply Plan

- Provides description of technical analyses and recommendations.



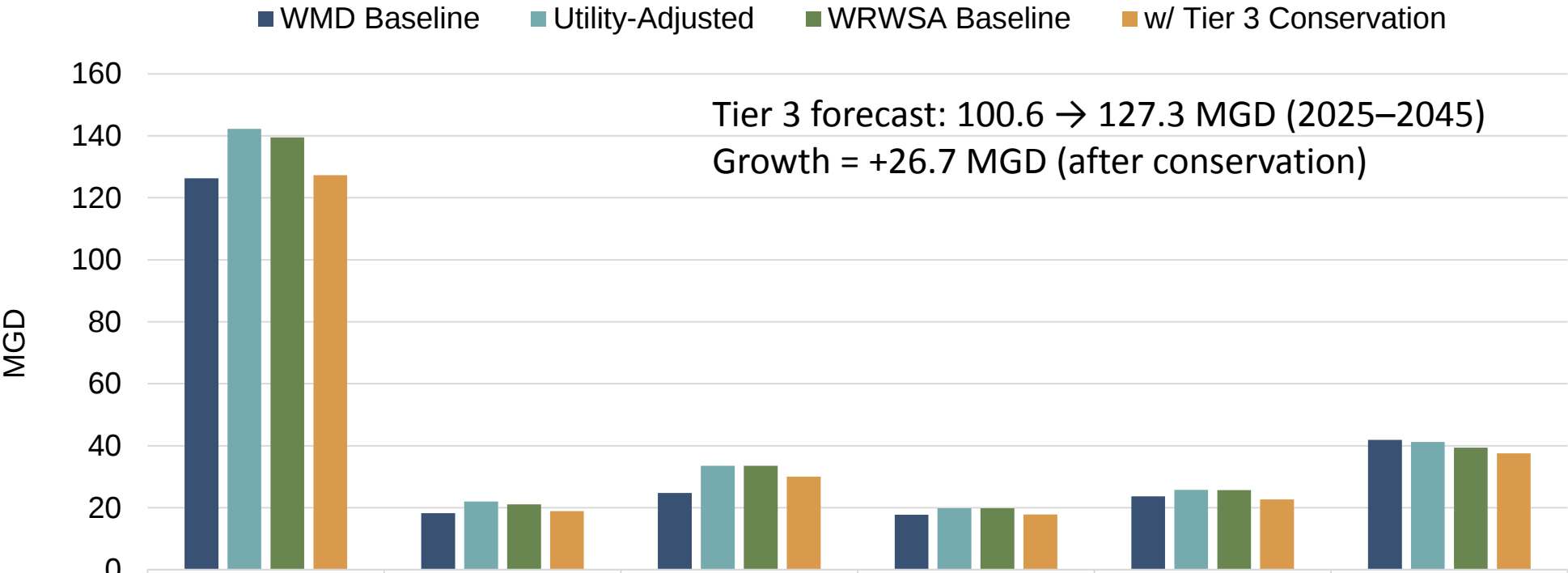
# Supply Analysis

# Projected Water Demand Scenarios by County (2045)

Constant per capita use assumed in base utility projections

Reclaimed water use adjustments reflect anticipated changes in allocated flows

Utility survey responses support future reclaimed water use estimates



|                        | WRWSA | Citrus | Hernando | Marion (SWFWMD) | Marion (SJRWMD) | Sumter |
|------------------------|-------|--------|----------|-----------------|-----------------|--------|
| WMD Baseline           | 126.3 | 18.2   | 24.8     | 17.8            | 23.7            | 41.9   |
| Utility-Adjusted       | 142.3 | 22.0   | 33.5     | 19.8            | 25.7            | 41.2   |
| WRWSA Baseline         | 139.5 | 21.1   | 33.5     | 19.9            | 25.7            | 39.4   |
| w/ Tier 3 Conservation | 127.3 | 18.9   | 30.0     | 17.8            | 22.7            | 37.5   |

# Supply Projects Matched to Utility Need

| Supply Alternative | ID | Project                                          | Candidate Utilities w/Future Need            | Estimated Need without Conservation (MGD) | Estimated Need w/T3 Conservation (MGD) |
|--------------------|----|--------------------------------------------------|----------------------------------------------|-------------------------------------------|----------------------------------------|
| Surface Water      | 1A | Withlacoochee River – North Sumter               | Wildwood, Bushnell, Hernando, Citrus         | 10                                        | 5                                      |
| Surface Water      | 1B | Withlacoochee River – Holder                     | Inverness, Belleview                         | 1                                         | negligible                             |
| Surface Water      | 1C | Lake Rousseau                                    | Citrus County, Dunnellon                     | 5                                         | 2                                      |
| Groundwater        | 2A | Lower Floridan Wellfield – West Marion (With NF) | Citrus County, Dunnellon                     | 3–5                                       | 1.5                                    |
| Groundwater        | 2B | Lower Floridan Wellfield – East Marion (No NF)   | Belleview, East Marion, Marion Co. Utilities | 1–2                                       | 0.5                                    |
| Groundwater        | 3A | ASR (Withlacoochee)                              | Hernando, Citrus                             | 2–5                                       | 5                                      |
| Groundwater        | 4A | Coastal Aquifer Recharge Pilot (Citrus/Hernando) | Hernando, Citrus                             | 5–10                                      | 5                                      |

# Supply Project Costs

| Project ID | Project Alternative                               | Volume (MGD) | Total Cost    | Annual O&M Cost |
|------------|---------------------------------------------------|--------------|---------------|-----------------|
| 1A         | Withlacoochee River – North Sumter                | 10           | \$520,214,657 | \$ 3,786,556    |
| 1B         | Withlacoochee River – Holder                      | 10           | \$566,623,800 | \$ 3,786,556    |
| 1C         | Lake Rousseau – Option 1                          | 10           | \$464,942,637 | \$ 3,468,166    |
| 1C         | Lake Rousseau – Option 2                          | 10           | \$491,576,834 | \$ 3,468,166    |
| 2B         | Lower Floridan Wellfield – East Marion (No NF)    | 5            | \$127,026,336 | \$ 825,591      |
| 3A         | ASR (Withlacoochee)                               | 5            | \$143,179,652 | \$ 322,667      |
| 4A         | Coastal Aquifer Recharge Pilot (Citrus/Hernando)  | 5            | \$242,412,151 | \$ 3,723,722    |
| 5A         | Desalination – Brackish (Western Citrus/Hernando) | 10           | \$547,590,154 | \$16,355,969    |
| 5B         | Desalination – Ocean Outfall                      | 10           | \$547,590,154 | \$16,355,969    |

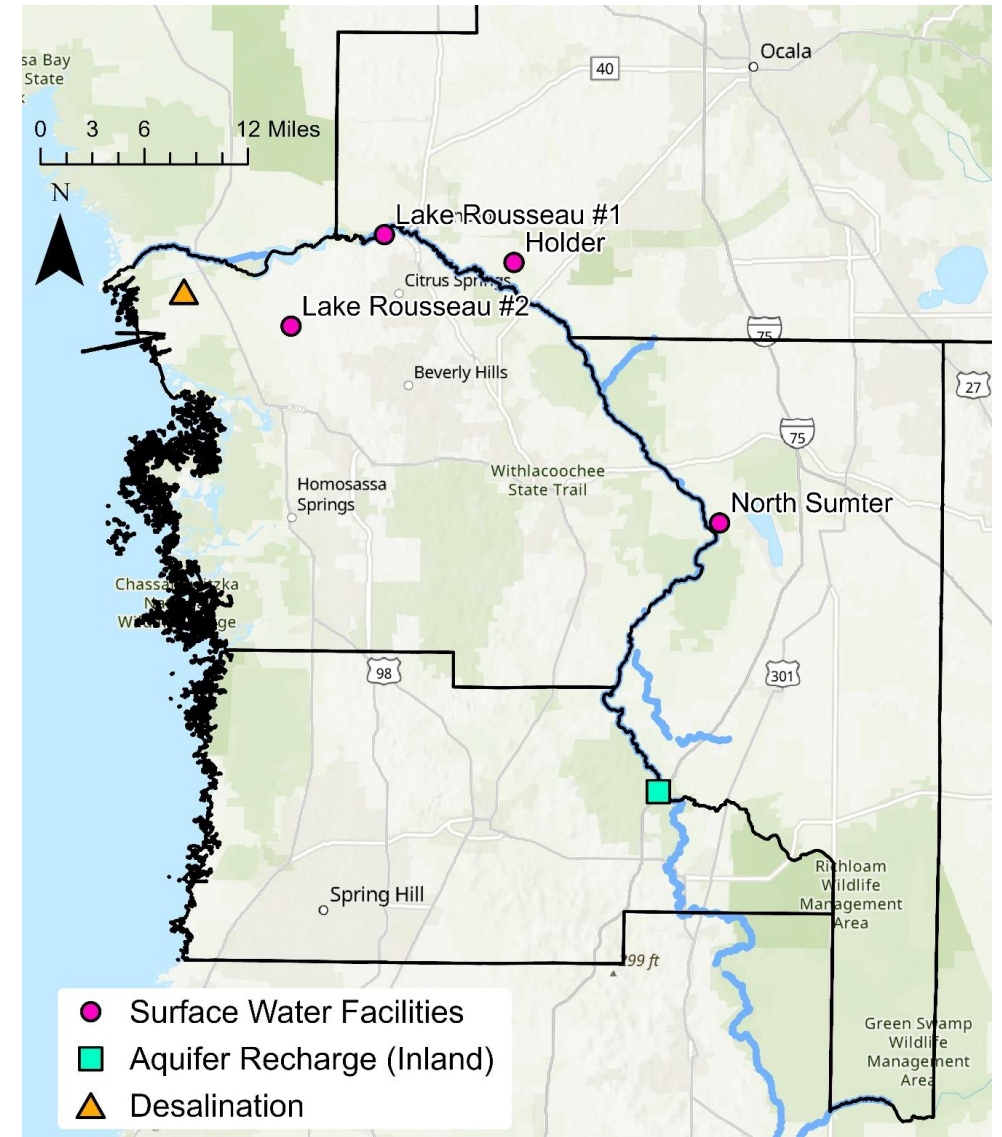
# Regional Surface Water Supply Opportunities

## Key Considerations:

- Provides regional capacity and drought resilience
- Rousseau supports Citrus and Dunnellon
- Holder offers the largest capacity but is farthest from demand centers
- North Sumter offers large-scale capacity with potential interconnections

## Challenges/Further Investigation:

- Must comply with Minimum Flows and Levels (MFLs) and protect downstream flows
- High capital investment and advanced treatment requirements
- Seasonal variability in flow and supply reliability
- Permitting and environmental review challenges



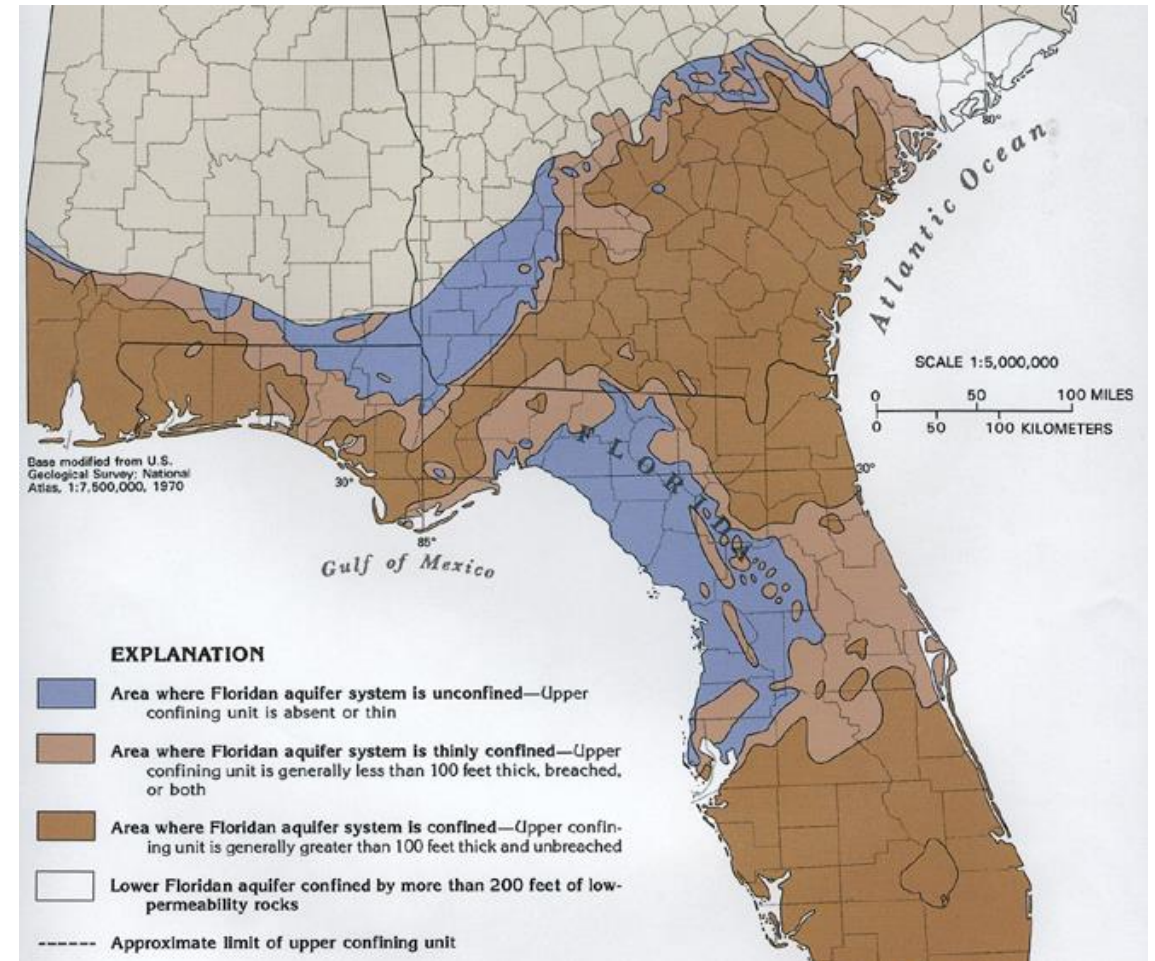
# Regional Groundwater Supply Opportunities (LFA Wellfield Options)

## Key Considerations:

- Use Lower Floridan to reduce demand on Upper Floridan
- Nanofiltration may be required (e.g. Ocala / Wildwood)
- Distribution potential via interconnects
- Protects springs (e.g., Silver Springs, Lake Weir, Gum Springs)
- Adds supply diversity

## Challenges/Further Investigation:

- Hydrogeologic modeling required to confirm confinement
  - Target areas with strong confining layers
- Potential UFA–LFA leakage risks must be addressed
- Tradeoffs of NF vs. non-NF need feasibility analysis
- Well siting, land acquisition, and permitting required



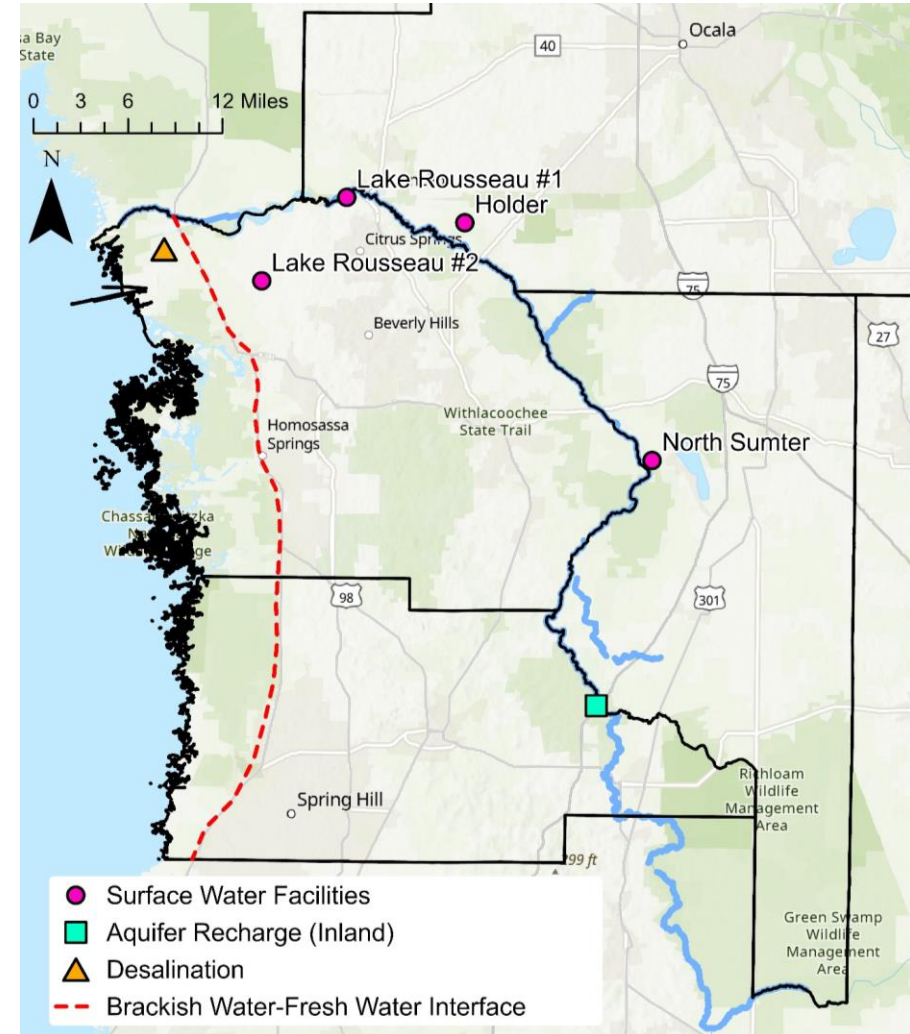
# Regional Groundwater Recharge Opportunities (ASR / Aquifer Recharge)

## Key Considerations:

- Potential opportunity to convert discharge into beneficial recharge
- Coastal recharge combats saltwater intrusion
- Inland recharge supports springs and MFL compliance

## Challenges/Further Investigation:

- District recharge crediting uncertain
- Requires monitoring wells and accounting framework
- Pilot projects needed to demonstrate aquifer benefit
- Hydrogeologic suitability must be confirmed



# Reclaimed Water Optimization

## Key Considerations:

- Cost-effective new supply source
- Offsets deficits before major projects
- Supports both recharge and irrigation reuse
- Interconnects could balance supply regionally

## Challenges/Further Investigation:

- Requires infrastructure upgrades and pipelines
- Regulatory approvals for indirect potable reuse
- Coordination across multiple utilities required

| Source   | 2045 Unallocated Flow (MGD)    | Opportunity                                          |
|----------|--------------------------------|------------------------------------------------------|
| Hernando | 3.58                           | Large discharges suitable for recharge or reuse      |
| Citrus   | 1.71                           | Surplus flows can offset deficits with interconnects |
| Marion   | 1.57 (SWFWMD)<br>4.63 (SJRWMD) | Inland reclaimed flows support recharge and reuse    |
| Sumter   | 2.20                           | Future potential for further interconnections        |

# Near-Term / Mid-Term / Long-Term Options

- Phased Implementation Approach
  - Pilot projects first to test feasibility (e.g., recharge pilot in Hernando)
  - Scale up successful pilots into regional projects
  - Expand interconnects gradually to build resilience
  - Stage high-cost options (e.g., desalination) for long-term needs

| Timeframe                  | Projects                                                      |
|----------------------------|---------------------------------------------------------------|
| Near-Term<br>(2025–2035)   | LFA Feasibility Study<br>Recharge Feasibility Study           |
| Mid-Term<br>(2035–2045)    | North Sumter or Holder<br>Recharge expansion<br>LFA expansion |
| Long-Term<br>(Beyond 2045) | Desalination<br>Major surface water expansion                 |

## Next Steps

- Finalize review of cost estimates for alternative projects
- Final recommendations and draft report (late-September)

# Questions & Discussion

We welcome your input on next steps and opportunities.