

# SAVANNAH-UPPER OGEECHEE REGION

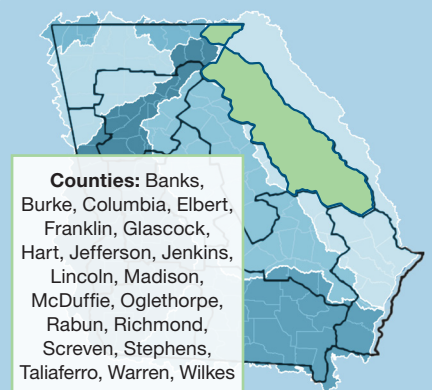
## BACKGROUND

The Savannah-Upper Ogeechee Regional Water Plan was initially completed in 2011 and subsequently updated in 2017. The plan outlines near-term and long-term strategies to meet water needs through 2050. Major water resources include portions of the Savannah, Ogeechee, Oconee and Tennessee River basins.

## OVERVIEW OF SAVANNAH-UPPER OGEECHEE REGION

The Savannah-Upper Ogeechee Region encompasses 20 counties in the northeast portion of Georgia. Over the next 35 years, the population of the region is projected to increase from approximately 629,700 to 784,000 residents. While much of the region's water comes from surface water and regulated reservoirs, portions of the region rely significantly on groundwater aquifers.

In 2015, the Savannah-Upper Ogeechee Region withdrew approximately 316 million gallons per day (MGD) for water supply, with approximately 67 percent drawn from surface water. The region returned approximately 178 MGD of wastewater in 2015, with 52 percent from industrial and 48 percent from municipal sources.



## KEY WATER RESOURCE ISSUES ADDRESSED BY THE COUNCIL

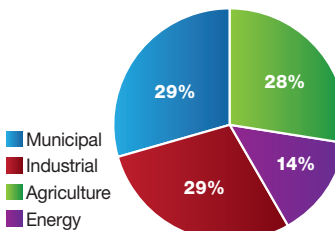
1. Low dissolved oxygen levels and other water quality concerns in the Savannah River and Harbor and the sharing of substantial load reductions between Georgia and South Carolina dischargers
2. Coordination with South Carolina on shared water resources in the Savannah Basin
3. Potential gaps in surface water availability in the Ogeechee Basin
4. Concerns about interbasin transfers of water out of the Savannah Basin
5. Long-term operating procedures at the USACE reservoirs and the use of adaptive management to maintain conservation pools at the highest possible levels
6. More efficient use of water in the region

## SAVANNAH-UPPER OGEECHEE WATER PLANNING REGION

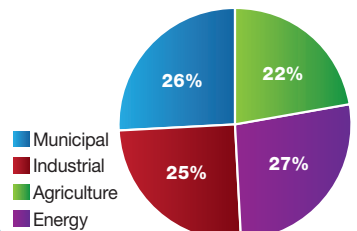


## FORECASTED REGIONAL WATER DEMANDS

### 2015 WATER DEMAND TOTAL = 316 MGD



### 2050 WATER DEMAND TOTAL = 425 MGD



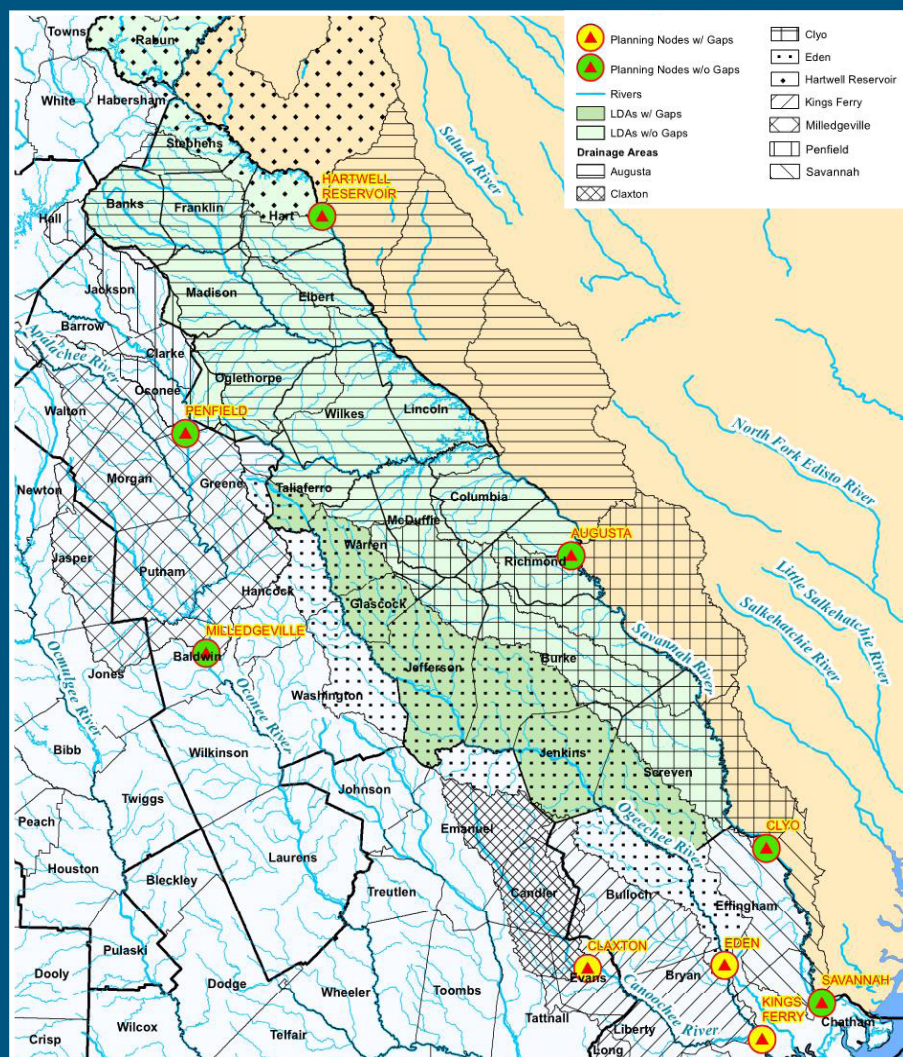
## SUMMARY OF 2017 RESOURCE ASSESSMENT RESULTS

**GROUNDWATER:** At the regional level, there will be adequate supplies to meet the region's future groundwater supply needs over the planning horizon.

**SURFACE WATER QUALITY:** Assimilative capacity assessments predicted that some stream segments, including the Savannah Harbor, will have limited capacity to accept future wastewater discharges. Addressing non-point sources of pollution and existing water quality impairments will be a part of addressing the region's future needs.

**SURFACE WATER AVAILABILITY:** Over the next 35 years, the modeling analysis indicates that the water supply needs in the Savannah River Basin can be met, assuming the USACE continues to operate its reservoirs using the current operation protocol; however, peak season agricultural irrigation may result in potential gaps in the Ogeechee Basin (at the Eden planning node). A map of the node locations, their drainage areas, and a summary of the potential gaps are provided below.

### POTENTIAL 2050 SURFACE WATER GAPS IN THE SAVANNAH-UPPER OGEECHEE REGION



### SUMMARY OF MODELED 2050 POTENTIAL SURFACE WATER GAPS

| Node | Duration of Gap<br>(% of total days*) | Avg. Flow Deficit<br>(MGD) | Long-term Avg. Flow<br>(MGD) |
|------|---------------------------------------|----------------------------|------------------------------|
| Eden | 3                                     | 16                         | 1,430                        |

\*Model simulation period is 1939 - 2013

## SAVANNAH-UPPER OGEECHEE MANAGEMENT PRACTICES

To help address the region's water resources issues and comply with the Georgia Water Stewardship Act (SB 370) and EPD's rules for drought management and water supply efficiency, the Savannah-Upper Ogeechee Plan recommends close to 30 priority water management practices. Representative practices are summarized here.

**WATER CONSERVATION:** To prevent potential gaps in meeting instream flow needs, the Savannah-Upper Ogeechee Plan calls for more aggressive water conservation practices and development of drought management practices for the agricultural users/permittees in the Upper Ogeechee River Basin. The plan also recommends instream flow studies and additional streamflow monitoring in the Ogeechee River Basin.

### WASTEWATER & WATER QUALITY:

Priority practices include development of local water and wastewater plans to identify local infrastructure needs and address watershed-related issues. The Council further supports State implementation of the 5R plan for NPDES permitting to restore water quality in the Savannah River Basin and Harbor.

**RECOMMENDATIONS TO STATE:** The plan recommends that EPD continue to update and refine its water resources database and use this data in subsequent updates to the resource assessments. This information will help guide more localized planning and decision making, as well as strengthen the appropriate and scientifically sound application of management practices.

**INTERSTATE WATER PLANNING:** The ongoing discussion between the states of Georgia and South Carolina is a defining issue of the Savannah River Basin. Future updates of the USACE Comprehensive Study are recommended to emphasize the need for maintaining maximum storage in the reservoirs when possible, in light of the economic benefits the lakes bring to the region. The Comprehensive Study is a cost share with Georgia EPD, SCDHEC and The Nature Conservancy. With respect to water sharing, the Council has incorporated a preliminary assessment of South Carolina's projected water use into its planning efforts.