

# COASTAL GEORGIA REGION

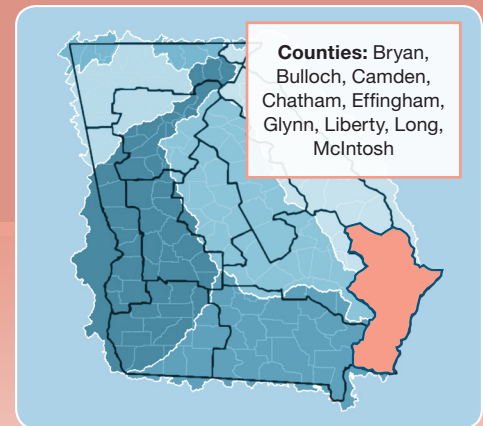
## BACKGROUND

The Coastal Georgia 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. The Coastal Region covers the lower portion of five major river basins, including Savannah, Ogeechee, Altamaha, Satilla, and St. Marys Rivers. The Coastal Region encompasses several major population centers, including Brunswick, Hinesville–Fort Stewart, and Savannah.

## OVERVIEW OF COASTAL GEORGIA REGION

The Coastal Georgia Region includes nine counties in southeast Georgia. Over the next 35 years, the population of the region is projected to increase from approximately 680,000 to 1,000,000 residents. Key economic drivers in the region include port, industry, business, tourism, trade, government facilities, and transportation, especially associated with the Brunswick and Savannah Harbors and Interstate 95. Energy production, manufacturing and silviculture are also significant to the region.

Groundwater, mainly from the Floridan aquifer, is needed to meet about 62% of the municipal, industrial, and agricultural needs, with the municipal and industrial uses being the dominant demand sectors. Surface water is needed to meet about 38% of these needs, with industry as the dominant demand sector. Thermoelectric energy is a major user of surface water, but most of the water withdrawn is returned to the surface water source.



## KEY WATER RESOURCE ISSUES ADDRESSED BY THE COUNCIL

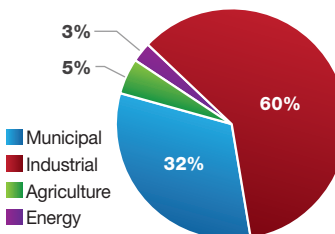
1. Long-term sustainable water supplies for municipal and industrial growth in the region while protecting the unique coastal environment
2. Current and potential future groundwater withdrawals in and around Effingham, Chatham, Bryan and Liberty counties for future water supply
3. Integration with ongoing efforts including salt water intrusion, Savannah River 5R Process, demands for water upstream of the region, and interstate activities with South Carolina and Florida
4. Low dissolved oxygen in Savannah and Brunswick Harbors and other water quality issues



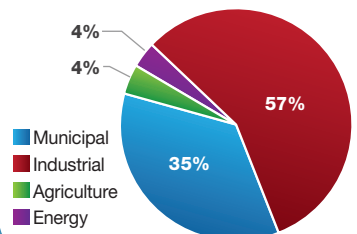
## COASTAL GEORGIA WATER PLANNING REGION

## FORECASTED REGIONAL WATER DEMANDS

### 2015 WATER DEMAND TOTAL = 275 MGD



### 2050 WATER DEMAND TOTAL = 346 MGD



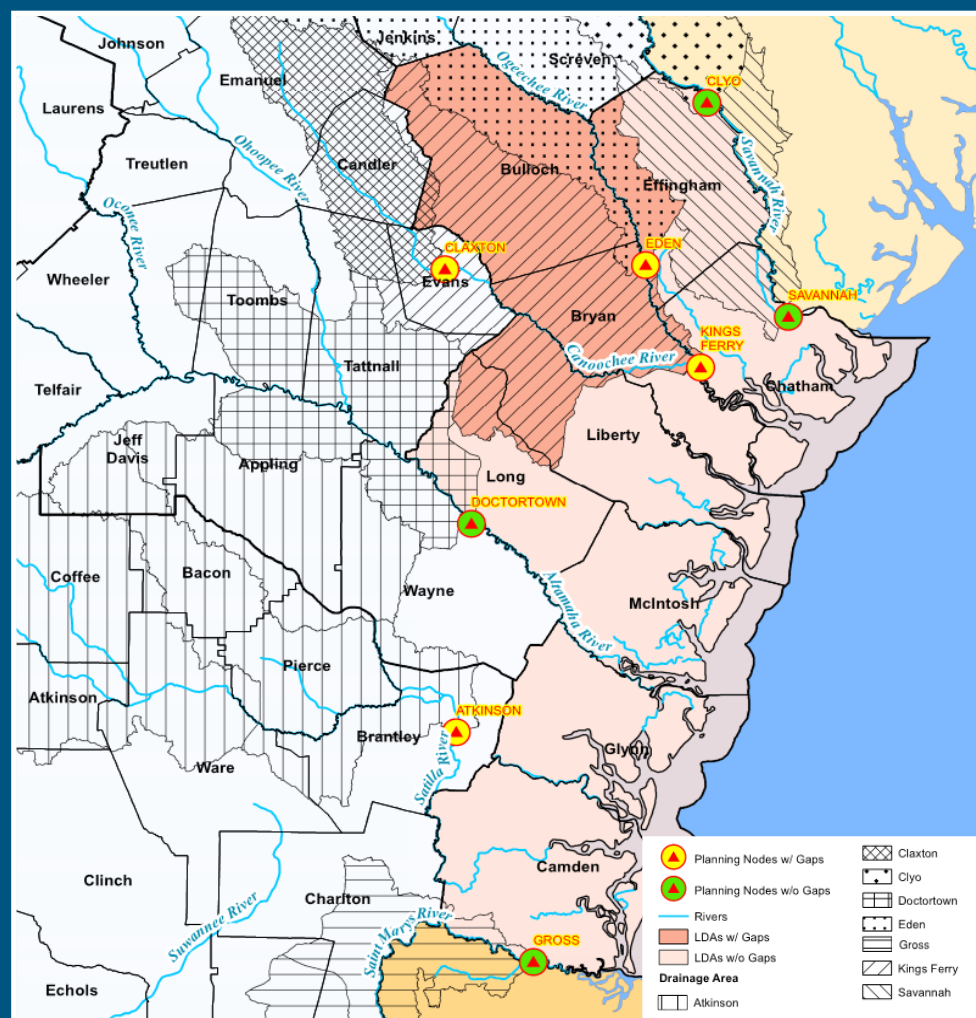
## SUMMARY OF 2017 RESOURCE ASSESSMENT RESULTS

**GROUNDWATER:** At the regional level, for modeled aquifers, there is sufficient groundwater to meet forecasted needs over the planning horizon; however, meeting the increase in demands in areas where groundwater supplies may be limited due to salt water intrusion is a significant challenge. The outcomes from the Bi-state Stakeholder process regarding salt water intrusion will need to be considered in determining groundwater use in some portions of the region.

**SURFACE WATER QUALITY:** Assimilative capacity assessments indicate the potential need for improved wastewater treatment within the Ogeechee, Altamaha, and St. Marys river basins. 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 forecasted surface water demand within the Coastal Georgia Region is projected to cause stream flows in the Canoochee River (at the Claxton planning node) and Ogeechee River (at the Eden and Kings Ferry planning nodes) to fall below targets for support of instream uses (resulting in "potential gaps"). 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 COASTAL REGION



## SUMMARY OF MODELED 2050 PROJECTED SURFACE WATER GAPS

Node	Duration of Gap (% of total days*)	Avg. Flow Deficit (MGD)	Long-term Avg. Flow (MGD)
Claxton	15	3	292
Eden	3.3	16	1,430
Kings Ferry	3	24	2,364

\*Model simulation period is 1939 - 2013

## COASTAL GEORGIA MANAGEMENT PRACTICES

The Coastal Georgia Plan describes over 80 management practices targeted toward current and future needs. Actions for surface and groundwater are grouped and listed by the water use sectors that will implement them. The Plan also includes practices for resources shared with other regions. Representative practices are summarized here.

**WATER CONSERVATION:** The Coastal Council supports the 25 water conservation goals contained in the 2010 Water Conservation Implementation Plan (WCIP), including adherence to Tier 1/Tier 2 measures. Other recommendations include use of reclaimed water, water audits, irrigation metering, and water loss control.

**WATER SUPPLY:** Multi-jurisdictional groundwater development outside red/yellow zones, surface water storage, use of additional regional and local aquifers and other additional/alternate sources.

**WASTEWATER & WATER QUALITY:** Increase permitted wastewater capacity; data collection on loadings; and construct new or expanded and/or replace/ upgrade existing treatment facilities.

**INFORMATION NEEDS:** Acquire additional data/information on agricultural consumptive use to confirm or refine if it is less than 100% consumptive; Refine surface water agricultural forecasts & Resource Assessments to improve data on source of supply and timing/operation of farm ponds. Research to determine the feasibility and potential benefits and limitations of aquifer storage and recovery.

## RECOMMENDATIONS TO STATE:

Focus on education, incentives, collaboration, cooperation, and enabling and supporting plan implementers; institutionalize and fund water planning; focus funding and assistance on areas with shortfalls.