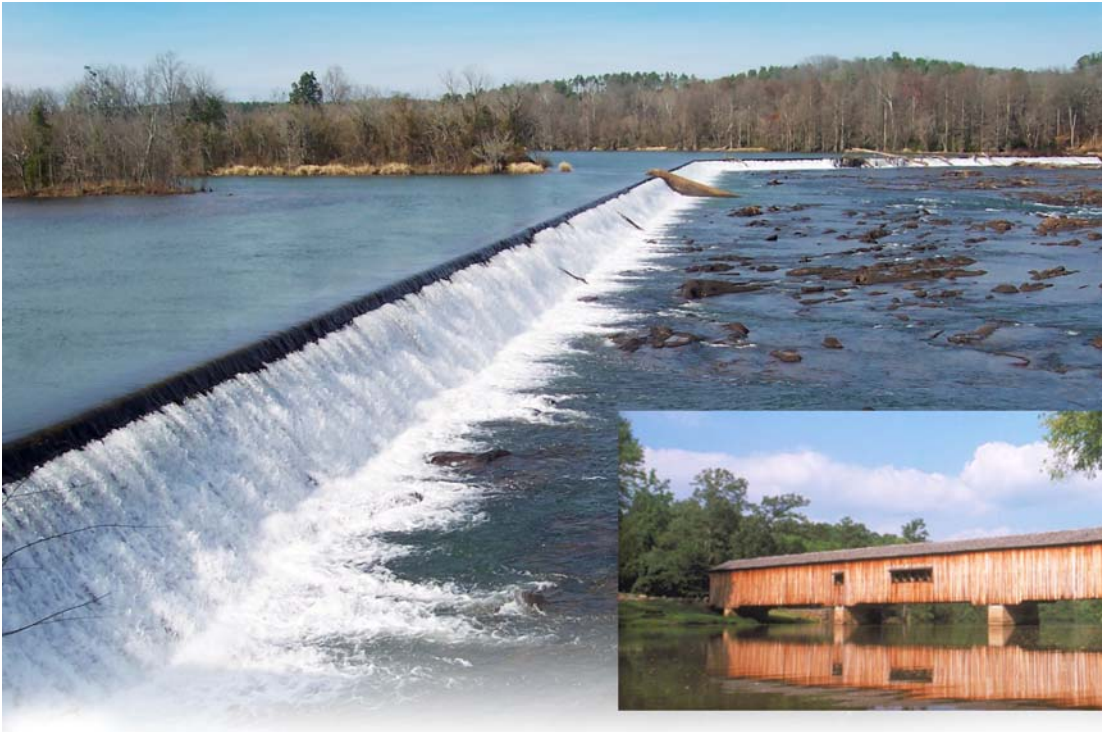


EXECUTIVE SUMMARY



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The Savannah-Upper Ogeechee Water Planning Region is one of ten such regions established by the Georgia General Assembly in 2008 as part of the State-wide Comprehensive Water Management Plan. The region's Water Planning Council (Council) consists of 28 volunteer members who began working on the Regional Water Plan in March 2009. This Regional Water Plan describes water resources conditions, projects future demands, identifies resource management issues, and recommends appropriate water management practices to be employed in the region through 2050.

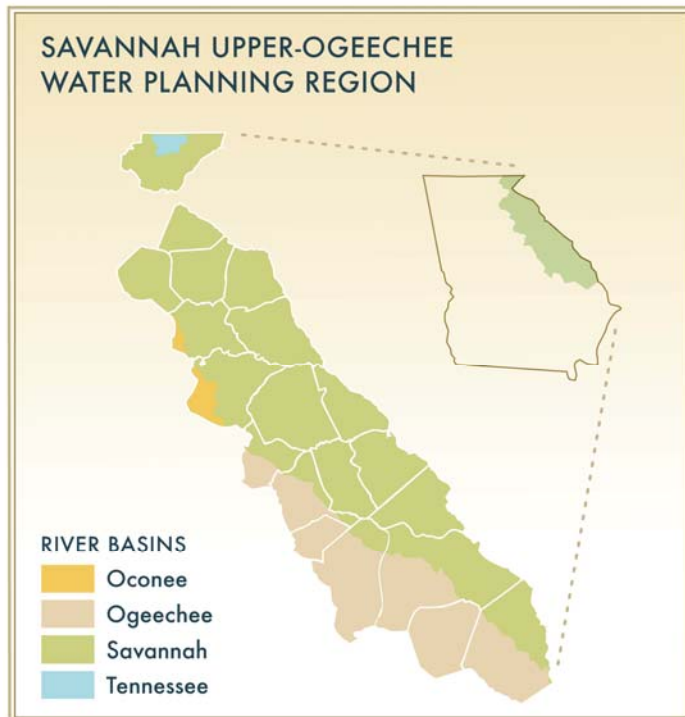
Primary responsibility for implementing the Regional Water Plan will be at the local level. Other state and regional agencies will also have implementation roles. The Regional Water Plan includes the benchmarks selected to measure the plan's progress and identifies entities responsible for monitoring those milestones. Continued funding at both state and local levels is crucial to successful implementation.





Regional Overview

The Savannah-Upper Ogeechee Region includes 20 counties and 67 incorporated municipalities, with a current population of about 607,000 (2009 estimates). Approximately half of the region is covered by forest; only 7 percent of the region's land area is considered urban. The Savannah River Basin includes three major lakes owned and operated by the U. S. Army of Corps of Engineers (USACE): Lake Hartwell, Lake Richard B. Russell, and Lake Thurmond. In addition to water supply, power generation, flood prevention, and drought management, the streams and lakes in the region support significant recreational uses and important biological resources.



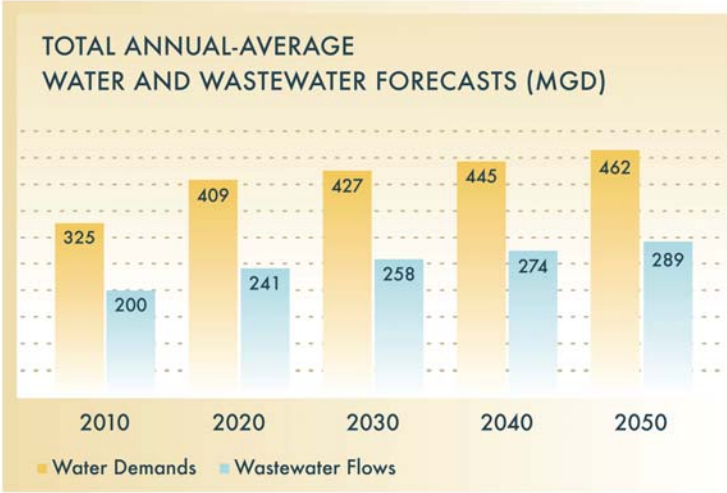
The region covers portions of the Savannah, Ogeechee, Oconee and Tennessee river basins and includes various groundwater aquifer systems, particularly the Crystalline Rock aquifer, the Cretaceous aquifer and the Upper Floridan aquifer systems. While much of the region's water comes from surface water and regulated reservoirs, portions of the region rely significantly on groundwater aquifers. In 2010, the Savannah-Upper Ogeechee Region withdrew over 325 million gallons per day (MGD) for water supply, with approximately 75 percent drawn from surface water. The region generated nearly 200 MGD of wastewater in 2010, with 85 percent treated and returned to streams and 15 percent handled by on-site septic systems. Currently, over 80 percent of the streams have adequate capacity to assimilate pollutants.

Demand Forecasts and Water Resources Issues

With the region's population projected to grow to 985,000 in 2050, the annual average water demand is projected to increase 42 percent (462 MGD in 2050). The region's wastewater generation will increase 44 percent (289 MGD in 2050) on an annual average daily basis. The Georgia Environmental Protection Division (EPD) conducted three Resource Assessments to predict resource conditions based on these projections.



The Surface Water Availability Resource Assessment (2010) 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 instream flow shortages in the Ogeechee Basin. The stream flow may fall below the instream flow target during summer low flow periods after meeting upstream irrigation needs.



The Groundwater Resource Assessment (2010) indicates that there will be adequate supplies to meet the region's future groundwater supply needs through 2050. The estimated sustainable yields from the Cretaceous and Upper Floridan aquifers are significantly higher than the estimated demands from all planning regions relying on these aquifers.

EPD's Water Quality Resource Assessments (2010) predicted that some stream segments, including the Savannah Harbor, will have limited capacity to accept future wastewater discharges. Upgrade of existing wastewater treatment facilities or advanced treatment in new facilities will likely be required to improve the dissolved oxygen levels in the streams. Dischargers along the Savannah River in both South Carolina and Georgia are currently developing a Total Maximum Daily Load (TMDL) management plan to improve dissolved oxygen levels in the Savannah Harbor. Many of the region's stakeholders are actively participating in this effort.



The Regional Water Plan's analysis shows that the rapidly-growing counties (especially Richmond and Columbia counties) will need additional water and wastewater infrastructure to meet growing demands in the next 40 years.



Recommended Management Practices

To help address the region's water resources issues and comply with the Georgia Water Stewardship Act (SB 370), the Council recommends 16 priority water management practices. These priority practices include water conservation measures to further manage and reduce municipal, industrial, energy and agricultural demands in the entire region and monitoring of agricultural water use in the Upper Ogeechee River Basin. The Council suggests short-term and long-term actions for the recommended priority management practices.

To prevent potential shortages in meeting instream flow needs, the Council 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 Council also recommends instream flow studies (to determine what minimum flow level is appropriate for protecting aquatic life) and additional streamflow monitoring in the Ogeechee River Basin (to confirm the frequency and magnitude of predicted instream flow shortages). Also, the Council's priority practices include development of local water and wastewater plans to identify local infrastructure needs and watershed-related issues, and to develop applicable TMDL implementation plans. For example, the Savannah Harbor Dissolved Oxygen TMDL implementation process and management plan is proceeding with active input from several council members.

The Council also recommends 14 additional management practices to be considered by local governments and other responsible entities based on specific needs to be included in detailed local planning studies. These management practices promote proactive infrastructure planning and resource management that, if implemented, will prevent or minimize local water resource shortages.

Interstate Water Planning

The ongoing discussion between the states of Georgia and South Carolina is a defining issue of the Savannah River Basin. The topics under discussion and their successful resolution not only are critical to the appropriate use and protection of the Savannah River, but also will serve to inform future iterations of the Regional Water Plan. Discussion topics between the two states include (1) the appropriate distribution of biological oxygen demand loads associated with the recent Savannah Harbor Dissolved





Oxygen TMDL; (2) the saltwater intrusion issue on Hilton Head Island; (3) the continuation of the USACE Savannah River Basin Comprehensive Study (a cost-shared plan with the states); and (4) the planning necessary to ensure responsible and appropriate sharing of interstate water resources.

The Council has recommended that the update of the USACE Comprehensive Study emphasize the need for maintaining maximum storage in the reservoirs when possible, in light of the economic benefits the lakes bring to the region. With respect to water sharing, the Council has incorporated a preliminary assessment of South Carolina's projected water use into its planning efforts. The Council recognizes that this is a first step in mutual water planning that will become more robust as the interstate water planning process continues.

Conclusion

The Savannah-Upper Ogeechee Water Planning Council recognizes that the region's water resources are vitally important to the ecology of Georgia, the health and vitality of Georgia's citizens, and the state's economic well being. The Council has worked diligently on the critical resource issues associated with the Savannah-Upper Ogeechee Planning Region and has developed a set of management practices and benchmarks to help ensure appropriate water use from now until 2050.



The Council 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.

The Council looks forward to future regional planning that will incorporate results from the ongoing studies detailed in this Regional Water Plan. It is critical that local water planning continue in this region so that future iterations of this plan adequately incorporate the outcomes of any additional environmental discussions and studies.

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