

Georgia's State Water Plan

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The Georgia Comprehensive State-wide Water Management Plan (State Water Plan), which was adopted by the General Assembly in 2008, represents a time of significant innovation in the way that Georgia manages its water resources. This innovation is being driven by three factors: 1) population and economic growth create increasing and potentially competing demands for the state's water resources; 2) regional differences in water resources and the way they are used; and 3) growing evidence of stress on the state's water resources.

Driver #1: Population and Economic Growth

Population and economic growth are driving the innovation in how Georgia manages its water resources. The state's population doubled in the past 25 years and, concurrently, Georgia saw considerable economic growth. Some forecasts indicate that the population will double again in the next 25 years. Growth in the population and in the economy lead to increases in the demand for water supply and wastewater treatment. They also lead to an increase in activities on the land surface, which generate pollution that must be assimilated by the state's water resources.

Many of the demands on the state's water resources are increasing and some are potentially or actually competing. Water is pulled out of streams or aquifers and put to productive use for human society. Water is also used instream to dilute wastewater, provide recreation, and support fish and wildlife populations. Water in aquifers helps protect the quality of groundwater and helps maintain baseflow of streams and rivers. The water that remains in streams or groundwater sources also supports the long-term capacity of the state's water resources to meet future demands.

Driver #2: Regional Differences

Significant regional differences in water resources and how those resources are used also contribute to the innovation in Georgia's water management. As demands increase, the State must invest in a better understanding of the total demand on river basins as well as the connections and concerns that exist upstream and downstream (including those that cross state lines).

To illustrate the significant regional differences in water resources, compare the southern and northern parts of Georgia. Twenty to twenty-five percent of the state's population lives in the southern part of the state (2000). The economy in south Georgia is heavily reliant on agriculture and increasingly reliant on irrigated agriculture. South Georgia has large surface water bodies and very significant groundwater resources. In contrast, 75% of the state's population lives in the northern part of the state. The economy in north Georgia is reliant on professional and business services, government, educational and health services, leisure and hospitality services and manufacturing (2004). North Georgia has relatively small surface water sources and limited groundwater resources.

Driver #3: Stress on Water Resources

Increasing evidence of unsustainable use of some water resources is the final driver of the innovation in how Georgia manages its water resources. This unsustainable use is most clearly demonstrated in the southwest corner of the state and along Georgia's coast. There is evidence that, in some watersheds in southwest Georgia's lower Flint River Basin, agricultural pumping is decreasing stream baseflow (i.e., the flow in a stream or river under dry conditions) enough to affect endangered species. As a result, irrigation pumping has been restricted in some sub-watersheds in that part of the state. Along the coast, there is evidence that groundwater pumping has induced saltwater infiltration into the Upper Floridan aquifer. To limit additional chloride transfer into this highly valuable groundwater source, use of the Upper Floridan aquifer has been restricted in the Savannah-Hilton Head area and in the Brunswick area.

There is also evidence of diminished water quality in Georgia. There are portions of the state where the Environmental Protection Division can no longer permit additional direct wastewater discharges because of impaired water quality in the surface water bodies in those areas. This has direct economic consequences for the communities that live in those watersheds. To resolve water quality concerns, cumulative impacts from wastewater discharges and nonpoint source pollution from stormwater must also be addressed.

Development of the State Water Plan

The 2004 Comprehensive Statewide Water Management Planning Act authorized the development of the State Water Plan. The Environmental Protection Division was charged with developing a draft of the plan, with oversight by the Water Council. Created by the Act, the Water Council is a coordinating committee composed of the heads of eight state agencies with water related responsibilities, four legislators and two citizen members.

Between January 2006 and July 2007, EPD utilized an intensive public involvement process to develop the draft plan. As required by the Act, the draft plan was submitted to the Water Council by July 1, 2008. Drawing on additional public review and comment, the Water Council revised the plan and submitted it to the Georgia General Assembly in January 2008. By the end of February, the plan had been adopted by the General Assembly and signed by the Governor.

Provisions of the State Water Plan

The 2004 Act requires that water withdrawal permits and state loans for infrastructure projects be consistent with the State Water Plan. Through the following policy statement, the Act provides a measurement by which to assess the State Water Plan's effectiveness: "Georgia manages water resources in a sustainable manner to support the state's economy, to protect public health and natural systems, and to enhance the quality of life for all citizens." This policy guidance clearly expresses the goal for water management in Georgia: to develop a system that will meet all competing demands going forward.

The State Water Plan has three major components designed to address the goal for water management in Georgia: 1) Resource Assessments and Forecasting of Needs; 2) Tool Box of Water Management Practices; and, 3) Framework for Regional Water Planning.

Resource Assessments and Forecasting

As demands increase, better information on the uses that the state's water resources can support, and the demands that are going to be placed on those water resources, will be critical. To address this need, the State Water Plan makes provisions to conduct resource assessments and generate long-range forecasts.

The resource assessments focus on water quantity and water quality. The water quantity resource assessment will look at the amount of water that is available to take out and not return to a particular resource, while still supporting the ability of downstream users to benefit from that water resource. It is an assessment of the ability of surface water bodies and groundwater bodies to provide use for people in a particular area while still supporting other uses downstream or from that same aquifer. The water quality resource assessment will look from a watershed perspective at wastewater treatment levels that are required to protect water quality.

In addition, for the first time, statewide and regional population and economic forecasts will be translated in a consistent manner into water and wastewater demand forecasts over a 50-year planning horizon.

Toolbox of Water Management Practices

The State Water Plan explicitly recognizes that regional variation means that different sets of water management practices are going to be better suited to different parts of the state. The "toolbox" of water management practices includes demand management practices; water return practices such as onsite sewage management (septic systems) and centralized wastewater treatment; and water supply management practices such as surface water storage, inter- and intrabasin transfers, and aquifer storage and recovery. Water quality management practices, including stormwater and nonpoint source pollution management, are also part of the toolbox.

Water conservation is highlighted as a priority practice for use across the state by all water use sectors. See the Water Conservation Implementation section below.

Framework for Regional Water Planning

The State Water Plan provides a framework for regional water planning, starting with the following policy statement: *The characteristics of water resources and water users vary significantly in differing regions across Georgia. Protecting the ability of the state's water resources to meet needs for water supply and assimilation of wastewater will require regional, resource-based plans that identify the management practices appropriate to the resources and users in each region.*

Through regional water planning, water management practices will be selected, specified and laid out for implementation.

Ten regional water planning councils will be formed to prepare recommended Water Development and Conservation Plans (WDCPs). Each council will consist of twenty-five members that are representative of the water users and the water related interests in each region. Nominations of potential Council members have been received and appointments will subsequently be made by the Governor, Lieutenant Governor and Speaker of the House.

Water Development and Conservation Plans will characterize the water needs for each region as those needs relate to the needs of adjacent regions and the preferred water management practices to use in each region to close any “gaps” between water capacities and water needs. The councils will use the resource assessments and forecasts to develop the recommended WDCPs.

Recommended plans will be submitted to the Environmental Protection Division for review, revision if needed, and ultimately, adoption by the EPD Director. Under the 2004 Act, water withdrawal permits and state loans for infrastructure projects must be consistent with the regional plans.

Metropolitan North Georgia Water Planning District

The eleventh regional water planning district, the Metropolitan North Georgia Water Planning District (the District), has a different genesis. It was created by state law in 2001 and has existing plans in place. Under the law that authorizes the District, its plans must undergo a periodic process of review and revision. During a revision process, the District will use the regional water planning guidance, resource assessments and forecasts to develop a Water Development and Conservation Plan as defined by the State Water Plan.

Water Conservation Implementation Plan

The State Water Plan highlights water conservation as a priority and calls for the development of a Water Conservation Implementation Plan (WCIP). Sector specific work groups, including one for business and industry, are developing the WCIP.

The WCIP is a non-regulatory document designed to accomplish six purposes: 1) to inform regional water planning efforts; 2) to outline sector-specific water conservation goals and benchmarks related to: reductions in water waste, water loss and water use; monitoring and measuring water use; and educational efforts; 3) to provide guidelines on water conservation practices or tools; 4) to identify resources, technical and financial, to help achieve goals or implement practices; 5) to provide guidance on flexibility in implementation and reporting requirements for large and small water users and 6) to recommend implementation actions to help achieve goals.

A draft WCIP is currently in development. The draft will be revised following public review and comment and completion of the WCIP is expected early in 2009.

2008 to 2011 and Beyond

The groundwork for the resource assessments and the forecasts of water and wastewater needs is currently being laid, and the guidance for regional planning being developed. Preparation of the WDCPs is expected to begin in earnest in January 2009, following appointment of the regional Water Planning Councils. It is expected that the first set of Water Development and Conservation Plans will be adopted no later than June 30, 2011.

The 2004 Act calls for review of the State Water Plan every three years to determine whether revisions are necessary. After the Environmental Protection Division adopts the first set of Water Development and Conservation Plans, those plans will also be reviewed and revised on a three to five year cycle.

Conclusion

There are four fundamental differences between the way Georgia manages its water resources today and how it will manage them. In the future.

- 1) water management challenges will be more difficult due to increasing and competing demands. This will require more sophisticated management and a need to look at the use of multiple sources, not just the cleanest, easiest or cheapest.
- 2) there will be an increase in foresight and an increased investment in information regarding resource capacity and water demands.
- 3) there will be a greater recognition of water sources as shared resources: upstream, downstream, across state lines, and within and between regions. This will also require more sophisticated management, instead of a simple first-come, first-served practice.
- 4) there will be an increased involvement of water users in regional planning for different regional futures.

For more information on the State Water Plan visit www.georgiawaterplanning.org.