

VIEWS ON DEVELOPING GEORGIA'S FIRST COMPREHENSIVE STATEWIDE WATER MANAGEMENT PLAN PANEL DISCUSSION

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TOPIC: THE STATE'S VIEW

Panelist: Mr. Napoleon Caldwell, Senior Planning and Policy Advisor, Environmental Protection Division, Georgia Department of Natural Resources

Abstract. The 2004 Comprehensive Water Management Planning Act charged the Georgia Environmental Protection Division (EPD) with developing a comprehensive statewide water management plan for Georgia under the guidance of an array of principles spelled out in the Act. The Plan is to recommend state level water policies that would guide river basin and aquifer management in accordance with regional and local aspirations not inconsistent with state water management goals. While the guiding principles and a time frame for developing the Plan were well-defined within the Act, it was left to EPD and the Water Council (a body created by the Act) to conceive and execute a stakeholder driven process that would culminate in the first edition of the Plan being presented to the Georgia Legislature for adoption during the 2008 legislative session. The process to be employed by EPD and the Water Council will utilize products previously produced by the 2001 Joint Comprehensive Water Plan Study Committee and others, and will rely upon extensive input from several formally constituted stakeholder bodies and the public at large.

HISTORY AND LEGISLATIVE INTENT

The 2001 Joint Comprehensive Water Plan Study Committee (JWSC) process that led to enactment of legislation requiring development of a comprehensive statewide water plan anticipated the plan would be comprised of two essential components. One component - the policy framework - would describe the array of statutes, rules, and policies needed to direct the programs we develop and implement in the future

if we are to meet Georgia's goals for water management. The second essential component – the sub-state component – would be a series of integrated region-specific management plans that address both off-stream and instream water needs, as well as strategies required to protect Georgia's groundwater and surface water resources. For a number of reasons the first edition of the comprehensive statewide water management plan will be limited to addressing the policy framework; sometimes referred to as the state component.

THE PROCESS

A 3-phase process will be employed to arrive at a final draft of the first edition of the comprehensive state water plan to be submitted to the Water Council by July of 2007. The first phase, which has begun, will identify and describe those major policy issues that it is imperative we address if we are to fill the more significant gaps in our current array of water management statutes, regulations, and policies. Rather than starting anew, we began this phase by embracing the list of 42 issues previously identified by the JWSC; then prioritizing those issues in a manner that captures those most critical for continued building of Georgia's water policy framework. In addition to identifying and describing these key policy issues, their relevance to effective water management will also be detailed. As a prelude to the discussions that will occur in the second phase, we will in this first phase also suggest a range of approaches that might be considered in addressing these water policy issues.

The second phase will be comprised of an extensive series of professionally facilitated meetings with stakeholders to describe the priority policy issues and their relevance to water management in Georgia, and to collect stakeholder input on how these issues might best be addressed in Georgia statutes, regulations,

and/or in the water management policies of state agencies with water resources management responsibilities. This stakeholder input will be sought through meetings with a statewide stakeholder advisory committee, a series of river basin stakeholder advisory committees, as well as meetings with issue-specific technical advisory committees. There will also be extensive use of the Water Council's website for both dissemination of information on the issues, and collection of public input. This stakeholder involvement phase will overlap portions of the first and third phases, and will necessarily be the most time-consuming and complex of the three phases. It is expected that this second phase will include more than 70 professionally facilitated meetings around Georgia.

The third phase of the process will consist of evaluation of stakeholder input and incorporation of that input into development of the water policy recommendations to be included in the first edition of the comprehensive statewide water management plan. In this phase the drafting of the initial version of the plan will occur. It is expected that a series of regional town hall meetings will be held to solicit comments after an early draft of the first edition of the comprehensive statewide water management plan is complete.

References

O.C.G.A. Section 12-5-522, 2004 Comprehensive Statewide Water Management Planning Act

Senate Resolution 142, Final Report of the Joint Comprehensive Water Plan Study Committee, August, 2002

TOPIC: THE COASTAL VIEW

Panelist: Mr. Bob Scanlon, Environmental Affairs Officer City of Savannah

INTRODUCTION

Georgia is blessed with abundant annual rainfall. The lush vegetation of North Georgia's piedmont and mountain area with its temperate climate make the Atlanta Metro area a very attractive place to live. Georgia's unspoiled coastal area is also attractive to many, placing these two areas of the State among the fastest growing areas of the Country. This rapidly expanding population is taxing the State's water resources. The fertile farmlands of Southwest Georgia provide food and fiber for US and international markets;

vital irrigation of these crops further taxes the State's water resources.

The 2004 Comprehensive Water Management Planning Act charged the Environmental Protection Division with the task of developing a management plan or budget for the state's water resources, resources that are excessively taxed in three distinct areas of the State. Would Georgia balance its financial budget as it is proposing to balance its water budget? The state's groundwater aquifers, lakes and reservoirs provide limited opportunity to accrue resources (fund balances) to make up for declining rain (revenue) in periods of drought (recession). The budget must provide for water use (appropriations) and provide adequate stream flow at the state's borders (fund balances), therefore, an accurate inventory of the state's water resources (assets) and projected demand (liabilities) should be included early in the planning (budget) process. While some water policy decisions may not be directly related to the quantity of water available for use, those that will impact availability should be addressed only after an assessment of the state's water assets and liabilities has been completed.

THE ISSUES

Three areas of the state have severe water resource issues:

The Atlanta metropolitan area has more than half of the state's population living on about 9% of the states land area. The area is nearly totally dependent on surface water and there is little natural storage capacity. Six of the state's 14 major river basins have their headwaters in the Atlanta Metro area. Existing state law allows transfer of water between river basins within the MNGWPD (Metropolitan North Georgia Water Planning District), and adjacent counties have an option to join the District as their populations grow. Water demand in the Atlanta Metro area is a driving force in the tri-state water issues involving Georgia, Florida, and Alabama, and strikes fear in the hearts of South Carolians in the Savannah River Basin.

The southwest Georgia agricultural area also has severe water resource concerns. It is estimated that there are between 16,000 and 17,000 agricultural irrigation permits in SW Georgia, the area west of I-75 and south of the fall line. From a water budgeting standpoint, agricultural irrigation presents the worst of situations, demand is highest in drought periods when supply is lowest. This area utilizes both surface and ground water but due to the geology of the region, these two water sources have close hydraulic connectivity. The Floridan aquifer which is the primary drinking water source for most of Coastal Georgia and much of Florida is also the primary

groundwater source along the Flint River Basin. This limestone aquifer is very shallow and very porous in the area of the Flint River. Much of the recharge to the aquifer comes directly from the river. In times of drought, heavy use of irrigation wells in the Flint River Basin is often accompanied by perceptible reductions of stream flow in the river. The Flint and Chattahooche Rivers flow into Lake Seminole and the flows discharge from the lake as the Apalachicola River in Florida. Agricultural water use and Atlanta's use of these two rivers are the main issues involved in the federal litigation between Georgia and Florida which the two states had attempted to address through the ACF (Apalachicola-Chattahoochee-Flint) Compact which was abandoned last year.

Actual agricultural water consumption in Georgia is unknown. Legislation passed in 2003 requires that this usage be measured; however implementation is being phased in and will not be complete until 2009. By its nature, irrigation water demand is heaviest during hot dry periods when supply is lowest. Georgia EPD estimates that statewide agricultural irrigation consumes the equivalent of an annual average 1.6 billion gallons per day, 75% of it in the Flint and Chattahoochee River Basins.

Coastal Georgia's water concerns are unique compared with the other two critical areas of the state. The primary drinking water supply for the coastal region is little impacted by heavy rain or extended periods of drought, and the geographic area impacted by high demand does not correspond to river basins. The primary source of drinking water throughout Coastal Georgia is the Floridan aquifer, the same aquifer system which supplies much of SW Georgia's agricultural irrigation water, but unlike SW Georgia where the aquifer is readily recharged from surface water, along most of the coast the aquifer is deeply buried and overlain by one or more regional aquifers some of which are important sources of local water supply.

The primary issue of concern for coastal groundwater water supply is salt contamination due to reduced water pressure within the aquifer resulting from withdrawals concentrated in small geographical areas. The Floridan aquifer has been supplying drinking water to coastal cities since the early 1880's. Prior to this period springs originating several hundred feet below land surface flowed as artesian springs throughout the coastal area. In the Savannah area artesian flow would have reached 30 feet above sea level while in the Brunswick area it would flow 65 feet above sea level. Today, as a result of concentrated pumping, the potentiometric surface, the level of artesian flow, is 110 feet and 10 feet below sea level at Savannah and Brunswick respectively. Under

predevelopment conditions, fresh water flowed at high pressure from limestone outcroppings in the ocean floor 80 to 100 miles off much of the Georgia Coast, however along the northern coastal area these outcroppings turned inland and crossed the coastline just north of Hilton Head SC, and within the cone of depression which results from concentrated pumping in the Savannah and Hilton Head areas. Instead of fresh water flowing from the aquifer in this area, sea water is flowing in contaminating wells on Hilton Head and more recently under Bluffton SC between Hilton Head and Savannah. In addition under historic conditions, the high water pressure within the aquifer was believed to force fresh water up through the clayey sandy layer that serves as the top of the aquifer. Recent, and as yet unpublished, data developed as part of the Coastal Groundwater Sound Science Initiative indicate that in the area of the cone of depression sea water is flowing down through this upper confining layer and may be only a few years from breaking through potentially leading to salt water contamination of wells east of Savannah and on Tybee Island. This data is alarming and suggests that instead of winding up the Sound Science Initiative studies which are due to be reported at the end of this year; expanded studies may be warranted.

The Brunswick area was the first area in Coastal Georgia to experience salt water contaminating the City's water supply. In that case in the early 1950's the source of the salt water was not ocean water but rather highly saline waters at the bottom of a lower section of the Floridan aquifer which was sucked up through fractures in the bottom of the productive aquifer due to the inverse cone of depression beneath the City's withdrawal area.

Despite recent rain and even flooding in some of the coastal area, building moratoriums are in effect due to a lack of water supply in some areas of Effingham County. Coastal groundwater is a very complex issue. Data developed over the past seven or eight years as part of the Coastal Sound Science Initiative Studies will provide insight into some of the concerns that have been raised, however the relationships and interaction between the various regional ground water aquifers is not understood and making permitting decisions based on incomplete knowledge may well exacerbate the very problems the actions are intended to solve.

POLICY ISSUES

Policy issues can be divided into two broad categories, threshold issues, those that are totally independent of quantity (or scarcity) of the resource, and those that establish policy for management of a finite resource. Just as in financial budgeting, discretionary spending policy isn't established without first projecting revenue and base

line expense, resource management policy should be based best estimates of the supply and demand for the resource.

The two policy discussions which were the focus of heated debate leading to passage of the planning act are illustrative of this point. The issue of ownership and the ability to transfer water withdrawal permit rights is clearly a threshold issue and a complex one at that. Georgia's municipal and industrial water withdrawal permits are issued to the holder of property rights to the land at the point of withdrawal, they specify a term, type and volume of use, they are not transferable, and revert back to the state after a period of nonuse. These permits meet the definition of a regulated riparian management principle. Agricultural irrigation permits are not time bound, once used they are perpetually tied to that land for irrigation purposes. They specify no volume. They can be sold with the land and do not revert back to the state if not utilized. In the Flint River Basin the state assigns a monetary value to the use of these permits. Would it be appropriate to attempt to address both of these types of permits with a single policy?

The issue of interbasin transfers on the other hand is a resource management issue. Some overarching guiding principles are likely appropriate, however each proposed transfer has a unique set of costs and benefits for both the basin of origin and the receiving basin. The cost benefit analysis would likely vary for different segments even within the same two basins. Policy regulating interbasin transfers should be flexible enough to provide for water supply where required while protecting the unique ecological balance of the impacted river basins.

TOPIC: BUSINESS' VIEW

Panelist: Mr. Kevin Green, Vice President, Environmental Affairs, Metro Atlanta Chamber of Commerce

The next two years of work on a state water plan will not solve Georgia's water problems, but it can put the state on a more constructive path.

The last several years have been rather confused in terms of Statewide water policy actions and proposed legislation. Fairly sweeping water management proposals have not been based on any consensus of what is needed to achieve the State's water goals.

There are three key objectives that Georgia should seek to accomplish through this next two years of water planning:

1. Agreement on Goals: What does success look like in managing the State's water - and what we need to do to get there? If we were to do everything right as a State, what would we have achieved?
 - This said, what are the priorities, who needs to do what (state, regional and local levels) and do the tools currently exist that can get us there?
 - What important external factors will affect Georgia's ability to meet its water goals and satisfy demand? (septic, land use, etc.)
2. Educating key groups and our leadership on water issues with facts; the process over these next two-years must educate our leaders and stakeholders on the issues and put the facts on the table.
 - Georgia needs to speak with a more unified voice on water issues, especially given the current litigation posture with Ala. and Fla.
 - Misunderstandings and misinformation and currently undermine these efforts. Clarifying popular water "myths versus facts" based on objective information would go a long way towards cutting through the propaganda and identifying the real issues, priorities and potential solutions.
 - As a credible and unbiased keeper of much of this information, EPD has an important responsibility to educate on the facts.

This work should be an early priority. The citizens of Georgia and their leaders cannot formulate coherent water policy in Georgia without being fully informed of the facts. A problem accurately stated can be a problem half solved.

 - Example: There is a popular view outside of Metro Atlanta that Metro Atlanta is taking an unfair share of water. What is the long-term effect of the Metro N. Ga. Water Planning District's plans on other parts of the State?
 - If Rome currently has 50 times more water per capita water flowing past it than Metro Atlanta, will it have 49 times more water per capita flowing past it than Metro Atlanta in 2030 assuming the District's plans are implemented?
 - If you eliminated every man, woman and child from Metro Atlanta, would it effect flows at the Fla. line by only 3%?
3. Identifying priority areas for near-term action, with a defined strategy for addressing them.
 - What are the issues that need to be addressed to strengthen the ability of Georgia to meet its long-term water demands? The issues that have been

identified by the Water Council appear appropriate, including exploring options for increased water storage.

- What should be our highest priorities more with technical, “sub-state” planning? Are there specific things we need to be doing now?
- We must ensure that we have the information we need before any broad policy action is recommended as part of this phase of the State water plan. This phase is described as the development of a policy framework. Specific water demands and needs are not known. When these and other key facts are unknown but clearly impact a proposed action, we must lay this out and consider whether interim action is really warranted.

Finally, extensive work has been done through the plans developed by the Metro N. Ga Water Planning District for water supply, conservation, wastewater infrastructure and stormwater management. These plans have been approved by the State and we must ensure that they are fully implemented.

Absent a compelling reason, there is also no need to undo, redo or destabilize these plans, and any state water plan should be consistent with the Metro N. Ga. Water Planning District’s plans.

TOPIC: THE PUBLIC INTEREST VIEW

Panelist: Ms. Julie V. Mayfield, Vice President and General Counsel, Georgia Conservancy

INTRODUCTION

The Georgia Water Coalition (“GWC”) welcomes this opportunity to respond to the Environmental Protection Division’s (“EPD”) proposal to develop Georgia’s first comprehensive statewide water management plan. GWC has worked hard on this issue for the last three years, first to convince the legislature to pass a bill calling for the plan’s creation and then to ensure that the process for the plan would result in a good outcome. Although GWC is disappointed that the sub-state component of the planning process will be delayed, we believe the process laid out for developing the policy framework component of the plan is a good one. GWC is particularly pleased that the overarching goals of the plan, as articulated by EPD Director Dr. Carol Couch, are to “meet future water needs while protecting aquifer and instream uses and downstream water users,” and to “meet public health and environmental quality needs.”ⁱ

POLICY ISSUES

Although Mr. Caldwell’s paper does not discuss the specific policy issues the initial plan will address, those issues were presented at a recent meeting of the Water Council. There are, appropriately, issues relating to both water quantity and water quality.

The two overarching water quantity policy issues to be addressed are 1) minimizing water withdrawals by making use of water conservation, water reuse, and other water efficiency measures, and 2) maximizing return of water to the basin of origin through developing policies on inter-basin transfers of water and septic systems. During the discussion of these issues, Dr. Couch added the issue of the need for increased water storage. GWC agrees these are significant issues that should be addressed through this process. Due to the severe environmental impacts of reservoirs, however, GWC believes the construction of reservoirs should be a last resort as a source for water supply.

The three water quality issues to be addressed are 1) meeting assimilative capacity demand, 2) meeting total maximum daily loads (“TMDLs”) through point and non-point source controls, and 3) protecting sensitive systems and resources.ⁱⁱ GWC also agrees that these are some of the most important water quality issues that should be addressed.

GWC is pleased that EPD does not appear to want to reexamine Georgia’s basic legal framework of our water management system – the regulated riparian rights system. This means that, at least for awhile longer, Georgia will not entertain creating a framework that allows water withdrawal permits to be bought and sold. Instead, Georgia will maintain a system that allows landowners the reasonable use of the water that runs by or under their land, but is based on the fundamental tenet that Georgia’s water will remain a public resource managed by the state for the benefit of all Georgians.

There are a few policy issues not clearly on EPD’s list that GWC believes should be a part of this policy framework discussion. The first of these concerns making consistent the framework for issuing water withdrawal permits to different users. Currently, water withdrawal permits for agricultural uses are treated quite differently, and much more preferentially, than other water withdrawal permits. GWC believes the permitting processes and requirements for agricultural and non-agricultural uses should be made consistent before any significant sub-regional planning occurs.

Another issue GWC hopes EPD will address in this first phase of planning is the establishment of a final in-stream flow policy for Georgia. This policy should be in place before any significant decisions are made about either water quantity or water quality issues.

PROCESS

GWC is also pleased at the extensive stakeholder involvement that EPD is planning to utilize in preparation of the initial phase of the plan. GWC has consistently stated that the citizens of Georgia should create this plan, and creating advisory councils and having town hall meetings are strong first steps toward ensuring that happens. GWC has also consistently advocated that statewide planning be done on the basis of river basins, and we are hopeful that the use of basin advisory committees in this first phase means that EPD has also recognized the importance of respecting basin boundaries. The statewide advisory council will help EPD synthesize the different positions that emerge from the different parts of Georgia.

The one aspect of the process about which GWC continues to be concerned is the development of the

sub-state plans that will make up the bulk of the statewide comprehensive water management plan. We understand EPD's intent is only to delay the development of those plans, but without a legislative mandate or deadline to create these plans, GWC is concerned that the resources will not be made available for EPD to undertake this massive and expensive planning effort. While the policy framework is critical to the plan's success, equally critical are the sub-state plans that would govern how water is to be used and managed on a smaller scale, hopefully one based on river basin and aquifer boundaries.

Without the sub-state plans, the comprehensive statewide water management plan will neither be comprehensive nor statewide. It may well address important policy dilemmas and may even provide guidance in several areas to the agency going forward, but it cannot accomplish what Georgia needs: an in-depth discussion that results in a roadmap for how different areas of the state will use and protect their water resources. The creation of these sub-state plans, then, will continue to be a focus for the Georgia Water Coalition's work in the coming years.

ⁱ See Power Point presentation by Dr. Couch, presented at the March 2, 2005 meeting of the Water Council.

ⁱⁱ See id.