# GEORGIA'S ALLOCATION PROPOSAL: THE MOTIVATION FOR ADOPTING THE INEVITABLE DROUGHT IDEOLOGY

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*REFERENCE: Proceedings of the 1999 Georgia Water Resources Conference*, held March 30-31, 1999, at the University of Georgia. Kathryn J. Hatcher, editor, Institute of Ecology, The University of Georgia, Athens, Georgia.

**Abstract.** The Apalachicola-Chattahoochee-Flint (ACF) river basin is a complex natural water system which simultaneously supports many different purposes. These purposes have overlapped in recent years to contribute to an interstate conflict between the states of Georgia, the upstream party, and the states of Florida and Alabama, the downstream parties. This paper seeks to inform the reader on the issue of water allocation in the stated basin. Upon updating the reader of the issue, the paper shall address several issues which combine to display Georgia's motivation for adopting the ideology of preparation for an inevitable drought.

While reporting on the research, the author makes no attempt to personally represent any organization, group, or other entity that the author is affiliated with, including any organization which may be explicitly or implicitly referred to in the text.

## DEFINITIONS and TERMS

*Appropriations:* Provided by the Appropriations Doctrine. Priority by chronology dictates rights to the water as long as beneficial use is maintained. Primarily used in the western United States (Smith, 1996).

*Dams:* Mechanisms to impound water. Primary purposes of dams are to: 1) dampen effects of droughts and floods, both hydraulic extremes and 2) to use energy in flowing water and in elevation differences of that water to generate electricity. Secondary purposes include: 1) recreation and 2) navigation.

*Pollution*: Presence of materials in water which interferes with a beneficial use of that water (Smith, 1996).

*Riparian Rights:* Comes from the Riparian Doctrine of common law. Provides that any owner of land adjacent to a body of water, has a right to reasonable use of that water. Predominantly used in the eastern United States. Under Riparian rights, one does not lose the right to the water through disuse (ibid).

## INTRODUCTION

The rivers involved in the Apalachicola-Chattahoochee-Flint (ACF) river basin at one point were natural running streams of water. A money market analogy could be argued here to note the unpredictable nature of both the river flow due to the weather and the market due to investors. As the fluctuations continued, people sought ways to predict the extent of the fluctuations. History, in both cases, is the answer offered to anyone attempting to predict short-term volatility and to predict long-term results. With the invention of mutual funds, short-term volatility was dampened for a more consistent rate-of-return from the market. The invention of the dam parallels the mutual fund, for even with heavy precipitation or drought, hydraulic extremes, a more consistent flow should be the result.

Investors continually note the two extremes of the Bull and the Bear markets. Those wise investors take a Biblical approach to economics; that is they prepare for famine during times of feasting. Georgia too seeks to prepare for "famine" when an abundance of water is to be found. Georgia, in its proposals for water allocation in the ACF river basin, has taken a stance with continued concerns of drought. With drought as its primary concern, Georgia has charged ahead with three proposals before the original deadline of 31 December, 1998. But, Georgia is placing itself in the position to come out on top on other issues including recreation, power production, industrial and municipal needs, the environment, and agriculture.

## THE SETTING: A RECENT HISTORY

For the purposes of this presentation, three dams shall be noted as of major concern:

1. Buford Dam below Lake Lanier located just north of Atlanta, Ga.
2. West Point Dam below West Point Lake located just north of Columbus, Ga.
3. Jim Woodruff Dam (and Lock) below Lake Seminole located just inside Florida near the southwestern corner of Georgia.

The Army Corps of Engineers (here on out referred to as the Corps) own and operate all three of these dams. All three reservoirs collectively drain 6,850 mi^2 of the total 19,800 mi^2 in the entire basin (Corps 1998, p 4-48 - 4-49). The additional 13 reservoirs (except W.F. George Dam and reservoir) obviously do not hold near the stature of these three dams. Of these three dams, Buford and West Point have flood control responsibilities (Alabama 1998, 14) and each of the three dams generate electricity (Corps 1998, 4-47).

History has provided a wide flow regime, limited only by which course nature decides to take. Drought, a hydraulic extreme in nature, strains the water resources available for consumption, thereby creating scarcity. When reviewing flow regimes, the droughts of 1981, 1986, and 1988 aid as focusing points when reviewing graphs and charts. These shortages are selected due to West Point Dam's completion in 1975 just prior to these drought years. These droughts combined with unchecked growth in Atlanta's bedroom communities during the last 20 years have increased Atlanta's awareness of water supply limitations. The limitations imposed on Georgians during the noted droughts acted as a wake up call to the problems of water supply.

In 1990, to relieve the problem of limited water supply, several cities in Georgia, including Atlanta, got permission from the Corps to withdraw additional water from the waters in the ACF and Alabama-Coosa-Tallapoosa (ACT) basins to meet requirement needs (Seabrook 1998c). Alabama, as a downstream stakeholder, then sued the Corps marking the beginning of the water war. Florida, another downstream state, subsequently joined Alabama to protect its own rights against the upstream state of Georgia. A truce was called in 1992 when the states along with the Corps decided to conduct a comprehensive study of the ACF basin.

The 1992 decision to conduct a full comprehensive study of the ACF and ACT basins stabilized the situation until the study's completion by the Corps could present realistic numbers on possibilities of allocation formulas. This $20 million ongoing study took roughly four years to complete most of the goals it set out to accomplish (Seabrook 1998a). The study discussed categories to address when assessing demand needs including: recreation, power production, industrial and municipal needs, navigation, the environment (and more specifically the estuary of the Apalachicola Bay), and agriculture (Corps 1998, ES-2 - ES-3). The study promoted unity between all sides as it was compiled with the help of everyone involved. Through this team effort, the numbers for each side remain consistent concerning the current conditions of the basin.

Following the study, the states met and wrote legislation titled the ACF River Basin Compact. In this compact, the states established the ACF Basin Commission to decide on the formula for allocating the waters of the ACF basin. The Commission, made up of all three state governors and a presidential appointee (a non-voting member with veto power), must have a unanimous vote on a proposal for that proposal to become law. The presidential appointee is Lindsay Thomas, a former US Representative (D-Ga.) and current president of the Georgia Chamber of Commerce (Quinn 1998). Mr. Thomas has an alternate federal commissioner in Thomas Jensen, an attorney with the Atlanta-based Troutman Sanders (ibid). The Governors were until recently Zell Miller of Georgia, Fob James of Alabama, and Lawton Chiles of Florida. Each Governor appointed alternate commissioners with more experience in water related areas. These alternate commissioners are Robert Kerr of the Georgia Department of Natural Resources (DNR) along with Harold Reheis of the Georgia Environmental Protection Division (EPD) for Georgia, Richard Laird, Walter Stevenson, Donald Hines, and Edwin Gardner for Alabama, and Virginia Wetherell and Douglass Barr for Florida (Alabama 1998, 41). The original deadline to resolve the issue was 31 December, 1998, but that deadline has since been extended.

Should the ACF River Basin Compact be dissolved, the issue will go before the Supreme Court. In that case, going before the Supreme Court could have the states faceing an additional estimated ten years in court before reaching a resolution (Alcorn 1997) with such a case costing Georgia an estimated additional $150 million in legal fees and expenses (Tanner 1998). Joe Tanner predicts the issue to go before the courts because each side has, as of 13 October, 1998, submitted a proposal formula for allocation. Tanner noted that by each side submitting a proposal, the conference was immediately polarized on the issues (ibid).

## THE SEPARATE PROPOSALS

This section in conjunction with the Flow Chart contrasts each state's proposals near the three major dam locations discussed. Use of the three drought years mentioned aided the author in recognizing the problem of the allocation process in its attempts to minimize negative effects imposed by future droughts. A fundamental difference in Georgia's proposal and in Alabama's and Florida's proposals is the attention given to drought (please note that Florida adopted Alabama's proposal after making only minimal changes). Georgia's proposal attempts to prepare for drought based on historic numbers and addresses the possibility of a worse than ever drought occurring. Alabama and Florida, in their proposals, have made no current attempts to address drought issues except to note the need to develop a drought plan over the two years subsequent to implementation of an allocation formula. Neither downstream state addresses the interim period prior to developing a drought plan as though a drought could not occur during that period of time (Alabama, 1998 & Florida 1998).

Flow gauges used to test the flow and to define the historic flow regimes are not located conveniently by each of the previously mentioned three dams, thus the locations referred to here will be downstream from the dams to correctly emphasize that control over the amount of water that enters a reservoir is unpredictable, but that the amount of water that leaves a reservoir can then be regulated . The locations of concern are at Peachtree Creek (in Atlanta), at Columbus, and at Blountstown, FL.

## INTERPRETING THE RESULTS

In the 19 October ACF Commission meeting, Reheis noted the need to compare "apples to apples" when Georgia was reviewing the technical issues of Florida's proposal proposed on that day. His desire to compare similiar flow regimes is not possible with the current submitted proposals due to the differing ideologies.

The difference in ideology only reflects the downstream versus upstream sides taken in the dispute. As the upstream state, it is important for Georgia to stress the original primary purposes of the dams as that of guarding against hydraulic extremes, or more particularly drought. The ideology of Florida and Alabama, the downstream states, in their first proposals, attempts to resolve all issues on a day-to-day level with seasonal changes. Florida and Alabama failed to address the drought case scenario.

**Recreation**

The billion dollar recreational industry (along with high real estate values for riparians) developed as a result of Lake Lanier, has Georgia's negotiating team stressing the need for consistent lake levels of operation by arguing the need to maintain drought levels in case of a hard dry season. Georgia in its negotiations hope to win approvals of historic lake levels by regulating minimum flows and then handling any issues of micromanagement to meet the minimum flows.

**Power Production**

Georgia, with the second primary purpose of the dams built for power production, has vastly developed the Chattahoochee to meet production needs. Since unchecked population growth in north Georgia, and with the coming of the deregulation of the power industry, Georgia has a valuable resource in its hydroelectric dams. Georgia Power owns eight of the remaining undiscussed thirteen dams and therefore acts as the largest private company stakeholder in the basin. Together, all 16 dams have a capacity to produce 654.9 megawatts (MW) (Corps 1998, 4-227). To achieve this result the dams need high water levels in the reservoirs for maximum output. This observation suggest why Georgia puts "peak hydroelectric power generation" just after the billion dollar recreation industry when Georgia outlined priorities in its original proposal (Georgia 1998a, 3).

**Industrial Needs**

An underlined issue in the struggle for water allocation concerns the thermal pollution introduced into the rivers by industry. Thermal pollution affects the dissolved oxygen (DO) in the water which is needed to sustain life. Fish and other organisms need this DO to breath. Minimum flows must be met at certain points like Peachtree Creek to incorporate the warm discharge into the river to avoid depleting the river of DO and effectively suffocating the aquatic life.

**Municipal Needs**

Minimum flows must also be met to retain stream quality when dealing with municipal effluents. The needs of municipal governments in providing drinking water are relatively easily met with supplemental water tanks used during prime hours and the refilling of those tanks during down-time. This scheduling is combined with the view that municipal consumers have only fractional consumption of the water when effluents are subtracted from withdrawals.

The need for minimal flows arises with the

Biochemical Oxygen Demand (BOD) of the effluent. At high levels, BOD will also deprive fish and other aquatic life of the DO needed for the organisms to survive. Minimal flow requirements are once again intended to curve any removal of DO by the effluent with high BOD and thereby maintaining stream quality. Further downstream, after dilution, high BOD effluents do not pose a threat to the environment, allowing for historic flows to be acceptable when working with environmental needs.

**Navigation and the Apalachicola Bay**

According to Florida, the historic flow minimums as outlined by Georgia concerning the Apalachicola River are unacceptable based on navigational needs. The industry of navigation currently seems to be getting more attention than the environment on Florida's list of priorities even though Florida designated 60% of the 210 mi^2 of the Apalachicola Bay as the Apalachicola Aquatic Preserve (Corps 1998, 4-141). Florida, in their proposal, outlined a flow regime focused on a low pulse threshold of 11,400 cfs (see chart) which directly caters to the minimum flows outlined by the Corps in their draft Environmental Impact Statement (EIS)on the ACF River Basin. The EIS notes values "of 11,000 cfs to 13,000 cfs after dredging is completed" needed "to provide the 9-foot-deep navigation channel" (Corps 1998, 4-44).

The fact that Florida is catering to the values proposed after dredging occurs should alarm environmentalists. Dredging of the river bottom contributes to the loss of natural habitats key to the preservation of seven species of freshwater mussels (Seabrook 1995). The irony of the situation lies with environmentalists and fiscal conservatives agreeing on a stance against navigation. The continued dredging and maintenance on the channel cost taxpayers an estimated $3.5 million a year, which in a break down into cost per mile, has the upkeep as some of the most expensive pork barrel around (Seabrook 1998a). If the trucking and railway companies get involved in order to take the shipping business which would still need to be accomplished, then the issue of navigation could die a quick death. Georgia has notably already put navigation on the bottom of its list of priorities (Georgia 1998a, 4).

**Agriculture**

For agriculture, drought paints a picture of catastrophe when no water is available. But, during recent times, southwest Georgia has been getting the water needed for irrigation from groundwater. The source for groundwater in the region is the Floridan aquifer (Corps 1998, 4-17). Over time, the probability that the region will develop sink holes is high due to the absence of water normally providing stability within the ground (note that water is an incompressible fluid). Georgia, in the ACF Strawman, proposed caps on withdrawals from the Floridan aquifer (Georgia 1998b, 44). Should sinkholes begin to occur, the region will most likely begin to explore other alternatives including attempts to withdrawal additional water from the Flint River and specifically from Lake Seminole. Georgia's desire to argue successfully the need for high water levels to remain in the reservoir stems from the possibility that south Georgia may be able to successfully circumnavigate short droughts with only minimal damage if high water levels are allocated.

The region just referred to, the majority of the Flint River Basin, has remained conspicuously absent from the paper. The absence stems from the fact that both the Georgia and Alabama proposals are almost identical at the Bainbridge reference location ( ACF Commission: Reheis 1998). Both proposals assume controls will be in place over agricultural use of water during times of drought (ibid).

## PREPARING FOR THE FUTURE

Questions over where to find the water needed for sustaining this population and for future growth have arisen on many parts of the map. Wayne Hill, Chairman of Gwinnett County's Board of Commissioners, expressed the growing problems arising due to the lack of water resources in a 7 October, 1998 meeting. Gwinnett county's solution appears to be to clean the would-be discharged effluent until it meets grey-water standards. The grey-water would then be pumped north to be reincorporated with the streams at a point previous to the intake point. The concept of recycling appears to be a relatively new in the world of municipalities because Hill boasted that the new, state-of-the-art facility will be only the fourth one like it in the U.S. (Hill 1998). Other possibilities for Gwinnett to obtain additional water include buying it from neighboring Jackson County. Jackson County in conjunction with Clarke, Oconee, and Jackson Counties, formed the Upper Oconee Basin Water Authority (Armentrout 1998). The Authority is currently building a large reservoir to meet its own growth needs. Who gets this water may become a question which eventually leads to an intrastate water war.

**Table 1. Flow Chart: The Breakdown of the Proposals**

| Gauge Location | Peachtree Creek (Near Atlanta) | Columbus | Blountstown |
|---|---|---|---|
| Below (Reservoir) | Lake Lanier | West Point Lake | Lake Seminole |
| Dam Forming Reservoir | Buford | West Point | Woodruff |
| Year Dam Completed | 1957 | 1975 | 1954 |
| Georgia (mins) | 750 cfs daily ave. (does not fall below 700) | 1150 cfs | 4500 cfs (a true minimum guarantee) |
| Alabama (Flow targets) | 950 cfs (not met at all times) | 2600 cfs (not met at drought times) | <2800 cfs (with a flow target of 13000 during drier months and 16000 during wetter months) |
| Florida | to be developed to protect the desired flow regime | to be developed accordingly | low pulse threshold of 11400 cfs |
| Historic (mins) | 200 cfs | 1177 cfs | 3900 cfs |

This information was compiled by careful study of multiple sources, which are:
1-3) Each state's proposal
4) Georgia EPD 1998
5) Georgia 1998b
6) Corps 1998, 4-48 - 4-49

## CONCLUSION

Georgia's ideology depicts the biblical approach of save during feast to guard against famine. But the ideology displayed here by Georgia may not have a basis in law on the east coast due to the presence of the Riparian Doctrine of common law which expresses that anyone owning property adjacent to the water has a right to that water source; a right not given up (in this case by Alabama) through disuse. However, this form of law would seemingly not entitle the riparian to more water than historic flows show (note Florida's proposal as making claims of more than historic flows) and during times of drought, a uniform scaling-back of water use by all riparians is the common law interpretation (Smith 1996) which is not consistent with Alabama's desire for guaranteed flows.

Georgia, with 89% of the 1995 estimated population of 4,082,000 in the ACF Basin, acts as the primary user of the waters at stake (Corps 1998, ES-15). As the primary user, Georgia has historically made the bulk of the decisions concerning the basin with the Corps' permits primarily as a formality. These actions show Georgia's view on the allocation of waters as paralleling the Appropriations Doctrine which expresses the rights to water on a first-come, first-serve basis, using a series of permits valid through continual use. These permits, during times of drought, leave the most recent user as high and dry. The validity of Georgia's approach stems from the Corps's (and thus the federal government's) ownership and responsibilities concerning the noted dams. The federal government does after all have the Supremacy Clause of The Constitution backing it.

## ACKNOWLEDGMENTS

The author would like to thank several people who aided in the organization, research, and interpretation of the data. In no way does this mean that any of this paper represents any of the following people or organizations. A warm thank you is extended to: Dr. Matt Smith, Charles Armentrout, Dr. Sid Thompson, Joe Tanner, Wayne Hill, Harriet Walker, and the Alabama Dept. of Economic and Community Affairs (ADECA).

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