

NEGOTIATING WATER ALLOCATIONS USING A COMPREHENSIVE STUDY FORMAT: THE “TRI-STATE WATER WARS”

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Although more common in the Western United States, inter- and intra-state water conflicts have reached the more humid eastern part of the country. One such current conflict involves the states of Georgia, Florida, and Alabama in the so-called “Tri-State Water Wars.”

The “water wars” relate to issues in two river basins: the Alabama-Coosa-Tallapoosa (ACT) in the states of Alabama and Georgia, and the Apalachicola-Chattahoochee-Flint (ACF) in Alabama, Georgia, and Florida. These basins both originate in north Georgia and have a common boundary of approximately 233 miles. Both basins have experienced extensive water resource development in the form of multiple purpose reservoirs by the U.S. Army Corps of Engineers (Corps) and non-Federal interests. There are ten Corps operated reservoirs and 21 privately owned reservoirs in the two basins.

The water conflict in the southern United States began due in large measure to the growth and needs of the Atlanta metro area. The rapid pace of population growth during the 1980s and into the 1990s, along with a series of droughts, created a demand on the water resources of the two basins. The issues involved are diverse and complex, involving both surface and ground water, as well as water quality, economic development issues, and the interbasin transfer of water.

This paper will provide a brief background to the dispute and a description of the methods used to negotiate two interstate compacts between the three states. The paper will also note the current status of the negotiations and the outlook for success. Although the three states did sign interstate compacts in 1997, they left open the primary issue under dispute: an allocation formula for water use. In December 1998 a one year extension to the negotiations was agreed to by the states, setting a December 31, 1999 deadline.

THE ACF-ACT RIVER BASINS

The ACF river basin stretches over 385 miles from northeast Georgia to the Apalachicola Bay at the Gulf of

Mexico in northwest Florida. Its drainage area covers 19,800 square miles and is situated in three physiographic regions of the Appalachian Highlands, the Piedmont Plateau, and the Coastal Plain. Approximately three-quarters of the basin is located in Georgia and extends over 62 of its counties. The main rivers are the Chattahoochee and Flint, which combine to form the Apalachicola River after their confluence at Lake Seminole.

The population within the ACF is almost 2.7 million, 90 percent of which is located in Georgia’s portion of the basin. The southern and extreme northern parts of the basin are rural and predominately comprised of farmland, forest, and wetlands. Georgia accounts for 82 percent of the water withdrawals in the system. The basin has experienced extensive water resource development by the U.S. Army Corps of Engineers, as well as non-federal interests, primarily on the Chattahoochee River in the form of multiple purpose reservoirs. Although there are five Corps reservoirs and nine non-federal reservoirs on the Flint River, there exists little storage capacity on the river. The ACF river system is used to supply water to municipalities and industries, for hydroelectric and thermoelectric power generation, for navigation, for aquatic habitat, and for a variety of lake and river recreation activities. The Buford reservoir at Lake Lanier has the bulk of the storage capacity and is closest to the headwaters of the Chattahoochee. This reservoir must be operated conservatively, because its inflow to storage ratio is the lowest in the system, and recovery after drawdowns is lengthy. With the West Point, W. F. George, and G. W. Andrews reservoirs downstream from Lake Lanier, 80 percent of the management capacity is concentrated in the northern part of the basin.

The ACT begins with two rivers: the Coosa and Tallapoosa. Both of these rivers begin in northwest Georgia and extend into Alabama, combining to form the Alabama River, which flows into Mobile Bay. Navigation and hydropower are important water users in the ACT.

THE TRI-STATE WATER WAR

Over the last 30 years, a number of water resources studies have been conducted by Federal and state agencies in both the ACT and ACF river basins. Over time, the issues considered in these studies became more controversial such that in June 1983 the Governors of Alabama, Florida, and Georgia, together with the Corps signed a Memorandum of Agreement (MOA) to develop a water management system for the ACF basin. Also, during the early 1980s (which included several drought periods), the Corps received requests from several north-Georgia communities requesting reallocation of reservoir storage to satisfy increasing water supply needs. After 16 years of study, the Corps prepared draft reports in 1989 proposing reallocation of storage in three reservoirs (Lake Lanier, Lake Allatoona, and Carters Lake). The reports suggested changing a portion of the water storage in Lake Lanier from hydropower to water supply use. A reallocation was also proposed for Lake Allatoona and the Walter George Regional Reservoir.

On June 28, 1990, the State of Alabama, concerned about the downstream and cumulative impacts of proposed and potential future water resource actions, filed litigation in the United States District Court for the Northern District of Alabama (later joined by Florida), challenging the adequacy of the Corp's environmental impact documentation addressing the proposed reallocations and the procedures that the Corps had followed in operating Federal reservoirs.

Shortly after the litigation was filed by Alabama, representatives of Alabama, Georgia, Florida, and the Corps began discussions seeking to resolve the conflicts. There was general agreement among the parties that litigation was the least desirable option for resolving the water resource conflicts. The State of Alabama requested that the Court stay the litigation while negotiations were pursued; the Court granted this request. A significant breakthrough occurred when the three states agreed to play a greater role as full partners with the Corps in a comprehensive study process. The states, as evidence to their commitment to the process, agreed to voluntarily contribute funds to the study to supplement Federal funding.

As a result of the dialogue among the parties, a Letter of Agreement (LOA) was signed by the Governors of the States of Alabama and Georgia and the Assistant Secretary of the Army for Civil Works on April 29, 1991. The LOA addressed certain short-term issues within the ACT river basin, including a proposed regional west Georgia reservoir.

The U.S. Congress, aware of this regional disharmony, provided funding in 1990 for the Corps to initiate a comprehensive water resources study. This study addressed the availability of water and anticipated long-term water needs, as well as the potential ramifications of various water management options on multiple interests in the two basins.

On January 3, 1992, after 18 months of dialogues and negotiations, the Governors and the Corps signed an MOA committing them to work together as equal partners through the Comprehensive Study process to seek resolution of water resource issues. The provisions of the MOA were:

1. The parties committed to a process for cooperative management and development of regional water resources.
2. The parties agreed to participate in the comprehensive study as equal partners.
3. The States committed to contribute direct and indirect monetary resources to the study process.
4. The parties agreed to exert their best efforts to complete the comprehensive study, or a substantial part thereof, within three years.
5. The study report was to include:
 - a. A conceptual plan for water resource management of all water resources including management of Federal and non-Federal impoundments in both basins.
 - b. An assessment of the existing and future water resource needs, including needs of human, economic, natural, and other systems.
 - c. An assessment of the extent of water resources available within each basin to service such needs.
 - d. An appropriate mechanism or mechanisms to implement the findings or recommendations of the comprehensive study.
6. A "live and let live" concept for water utilization while the study is underway, including a notification procedure for proposed new or increased withdrawals. The Corps agreed to operate the Federal reservoirs in the two basins to maximize the water resource benefits of the basins as a whole.

7. The parties committed to establish a system for facilitating the resolution of any future disputes regarding the comprehensive study. The system shall include non-binding mediation for issues which cannot be resolved through negotiations.
8. The Court would be petitioned to place the litigation initiated by the State of Alabama against the Corps to an inactive docket pending completion of the comprehensive study (the Court granted this request).

The three states and the Corps were equal partners in the conduct of the study and were responsible for all technical aspects and the overall management of the study process. Although the study agreement was to expire on September 30, 1996, the states agreed to extend the deadline so that all of the research could be completed and compacts adopted by the parties. The new agreement allowed for completion by December 31, 1997.

A major outcome of the Comprehensive Study was the development of two interstate compacts, one for each river basin. The compacts were adopted in identical form by the Georgia, Florida, and Alabama legislatures in 1997 and ratified by the U.S. Congress.

The compacts established a formal and legal framework for addressing water allocation issues, basin wide management and dispute resolution. The compacts established commissions comprised of the governors of the states and a federal representative appointed by the President. The commissions are to have broad powers to plan, coordinate and monitor waters; to conduct studies; to cooperate in the development of water resource facilities; and most importantly, to establish and modify an allocation formula for apportioning the water of the basins among the states. Although the framework for deciding on a water allocation is in place, all the issues creating the conflict still exist.

These compacts required determining equitable water allocations for the two systems by December 31, 1998. Basin Commissions would be responsible for the development of allocation formulas “for equitably apportioning the surface waters of the . . . Basin among the states while protecting the water quality, ecology, and biodiversity of the river systems” (House Joint Resolution 91, article VII, paragraph (a)). However, when the December 31, 1998 deadline arrived, an agreement had not yet been reached. The states agreed to an extension of the negotiations that expired on December 31, 1999. Had the states not agreed to another extension, the

compacts would have been dissolved and the case reinstated in Federal Court.

COMPREHENSIVE STUDY AS A NEGOTIATION TOOL

When the dispute over the ACT/ACF began, it was clear that there was little agreement regarding the uses of water in the three states. There was also a wide disparity between the states in their knowledge of water demands. Consequently, it was difficult for the states to agree on any baseline data for negotiations. The states agreed to use a “Comprehensive Study” framework to both provide the necessary baseline information needed for negotiations, and to provide negotiators a way to resolve conflicts as they occur.

The negotiations began with a five-day skill building and decisionmaking workshop in September 1992. The workshop included training to enhance participants’ abilities to approach negotiations from the standpoint of being partners and joint problem solvers. This training included:

- Principles of teamwork, including building trust, defining the team on an inclusive basis, the consequence of negative or adversarial actions, and steps for engaging others in cooperative rather than competitive relationships;
- Attitudes, procedures, and principles of negotiation on the basis of understanding all parties’ interests and problem solving to meet those interests;
- Analysis of each state’s and the Corps’ interests regarding water resources management and allocations;
- Communication skills, including listening for understanding, reframing toxic or positional statements into statements of interests, framing of “I messages,” and framing of issues or joint problems to be jointly solved.

The subsequent comprehensive study had four main objectives:

- Process Support Element;
- Water Demand;
- Water Resource Availability; and
- Comprehensive Management Strategy.

The water demand objective was to assess future demands to the year 2050 including both in-stream and out-of-stream demands. Also to be included was environmental quality and special needs such as fresh water demands in the Apalachicola Bay. The availability of water resources included the influence of drought and floods, and other climatic factors. Finally, both a comprehensive management strategy and a coordination mechanism was to be established. Fifteen study elements, ranging from agricultural demands to navigation, were also part of the study.

A major element in the efforts to resolve the conflict has been the use of "Shared Vision Models." Shared vision models are computer simulation models of water systems that are built, reviewed, and tested collaboratively with stakeholders through a shared vision process. The shared vision process included both decisionmakers and key stakeholders in the development of the models to more accurately reflect the operational aspects of the system, as well as to increase the probability of model acceptance. The models were designed to represent not only the water system infrastructure and operation, but also the interrelationships between various water demands. Shared vision models take advantage of new, user-friendly, graphical simulation software to bridge the gap between specialized water models and the decisionmaking processes.

The models were used to estimate the impacts to stakeholders of changing basin management rules to favor each of the major uses over all other demands. The models helped each group understand how the water system responds to these changes and to help formulate alternatives. From over 50 suggestions made by participants, each study partner defined a model output that reflected their ideal situation. Among the alternatives examined were changes in the physical structure of storage, delivery, return, or routing systems. Also evaluated were the effects of new reservoirs, training dikes, navigation projects, changes in reservoir operation rules, ground water pumping rules, and navigation dredging programs. Finally, demand modifications were examined such as the effect of municipal and industrial, agricultural, and energy conservation efforts.

The core of the shared vision modeling approach as applied in the ACT-ACF study was to develop simulation models of the two basins that could serve many purposes including: 1) a repository for important data (hydrologic information, demand data, supply data, etc.); 2) characterization of the physical features of the basin; 3) consistent statement of system operating policies; 4) tool

for evaluating alternatives; 5) vehicle for resolving conflicts; and 6) framework for expanding the number of people who understand system operation. It was believed that time spent in the shared vision model development process would facilitate acceptance of model results, as technical issues had to be resolved prior to their incorporation into the model. This allowed the study partners to focus on understanding the results of the models rather than debating the model's assumptions when results were produced.

A main purpose of using a comprehensive study approach to water conflict resolution was to "turn on the lights" of information for all parties concerned. The major questions to be answered were: 1) what can the resources of the two water basins provide, and 2) what management options can best utilize, optimize, and protect those resources? Only when all parties have equal information and believe in the accuracy of that information, can an equitable resolution to a water conflict occur.

The negotiations were conducted in two parallel but distinct processes. One process was the negotiation of a water allocation formula by the states. The other is an Environmental Impact Statement on the anticipated impacts of any allocation results. The states (with the aid of a representative of the Federal agencies involved) were charged with developing the allocation formula and the Federal agencies were given the evaluation task.

As part of the process, there has been no effort to evaluate the effectiveness of the shared vision modeling efforts or its utility. However, model results have been used by all participants to compare scenarios and examine various reservoir operating procedures for the systems. Neither has there been any effort to evaluate quantitative payoffs for alternative allocation patterns to see if compensation might be possible. First, the compacts passed in 1997 prohibit monetary compensation if an agreed upon allocation formula's requirements are not met. Any such monetary awards would have to be addressed in court. Second, from the beginning of the process, both Alabama and Florida were reluctant to include economic issues in the process. They have been concerned that if economic issues are brought to the table, the interests of Georgia and particularly the economic interests of Atlanta, would far outweigh any economic impacts in Alabama and Florida. Given that traditional benefit cost analysis is usually heavily weighted to development projects and often under-values environmental impacts, this position is understandable.

GROWTH, STATE SOVEREIGNTY AND CURRENT NEGOTIATIONS

When the Tri-State negotiations began, officials, businesses, and farmers in Alabama were concerned with the economic development effects of less water being available in the two river basins of the ACT. While current flows from Georgia to Alabama in the ACT basin meet demands, the people of Alabama view the water as a necessary resource for future growth in areas that have experienced slow growth in recent years. From their point of view, the water is theirs; it just happens to flow through Georgia first. It is difficult for Alabama to demonstrate a potential economic loss from the reallocation of water requested by Atlanta. Yet, they are concerned about the effect of water reallocation on their future economic development. The Alabama media was especially critical of Georgia's increasing demands for water with what was perceived as little concern for downstream interest.

The Florida part of this conflict is substantially different and presents a more complex problem. Florida officials, businesses, and fishing interests are concerned about the environmental impact that the reallocation of water may have on oyster and other fisheries in the Apalachicola basin in Florida. The State of Florida became increasingly concerned with potential impacts to the Apalachicola River and Bay, a National Estuarine Reserve and valuable seafood producer. Here, issues affected by the Coastal Zone Management Act are producing complex environmental concerns. Water in the Flint and Chattahoochee rivers flows into Lake Seminole and is released into the Apalachicola Bay. A reduction in this flow could increase salinity in the oyster beds in the Bay, as well as reduce the nutrients in fishing areas.

As the December 31, 1999, deadline approached, it was clear that no agreements were going to be reached in time to fulfill the 60-day public comment requirement of the compacts. The question in December 1999 was whether to extend the deadline again to keep negotiations alive or to let the dispute return to the jurisdiction of the Federal courts and eventually to the U.S. Supreme Court.

Although still far apart in their positions, the three states agreed to an extension to May 1, 2000. Alabama negotiators are seeking assurances that the amount of water Georgia would be required to send to Alabama would be the minimum and not the norm. One solution on the table is the construction of more reservoirs in Georgia.

During normal rainfall years, there is enough water in the river basins to meet all demands through the year 2050.

It is during drought periods that the water demands exceed the water supplies. Particularly, the issue rests on flow conditions in the Flint River during droughts. The Flint River basin is home to the major agricultural production area in Georgia. During droughts, agricultural irrigation, upstream urban uses and flows to Florida produce conflicting demands.

Florida is seeking from Georgia a specific agreement on flows in the Flint River. The Flint joins the Chattahoochee at the Florida line in southwest Georgia to form the Apalachicola which flows across the Florida Panhandle into the Apalachicola Bay.

Florida has demanded a set of 48 minimum monthly average flows delivered to the Apalachicola Bay. These include a set of yearly minimum monthly average flows, a five-year average monthly minimum flow, and sets of ten and 25 year minimum flows. During the December 1999 negotiation periods, Florida and Georgia came close to not extending the negotiations to May 1 on a misunderstanding of this issue. Florida's proposals for the five, ten, and 25-year minimum monthly flows were for a moving average, which was not clear to the Georgia negotiators. Once clarified, the two states are close to agreement on the multiyear averages. Another miscommunication also threatened the negotiations. Georgia had agreed to operate Lake Lanier at an elevation of 1,055 feet, but Florida thought the proposal was for 1,067 feet. When the two states reran water models they agreed on the 1,055 foot level.

Regarding the yearly minimum average flow, Georgia has notified Florida that they cannot meet the minimum flows demanded. Florida has asked for a guaranteed delivery of water in the Flint River at Bainbridge, Georgia, of 1300 cubic feet per second. Basically, the states disagree on what is happening on the Flint River. The states have differing visions of how current agricultural irrigation from aquifers affect surface water flows in dry years. The issue has developed into one of state sovereignty. The State of Georgia's position is that the Flint River is solely a Georgia river and Florida should not tell Georgia how to manage water within its boundaries. As stated by Georgia's chief negotiator, ". . . Georgia will not allow its economic growth to be compromised by unsubstantiated demands from Florida." There are also differences in the two states' concepts of reservoir operations and in the interim drought management plans.

FAILURE OF NEGOTIATIONS?

After nearly ten years of discussion and seven years of study and information sharing as noted above, the Tri-State Water Wars may still be headed to Federal Court. When the three states agreed to the Comprehensive Study

format for resolving the conflict, none of them anticipated a multimillion dollar ten-year adventure. Water resource development in all three states has been slowed (and in some cases halted) during this process. None of the states expected the negotiation process to last longer and be more expensive than going to court in the early 1990s. Had Georgia officials foreseen this process, the original law suit very possibly would have been preserved.

If negotiations fail and the compacts are dissolved, what's next? It appears that the State of Georgia will formally withdraw the original reallocation request to the Corps, making the law suit in northern Alabama moot. Georgia can then file a new request and bring suit themselves in a Georgia Federal Court. In any case, the prospect of a lengthy and costly legal battle still faces the states. What they feared ten years ago may yet happen.

The major obstacle to successful negotiations is not necessarily how much water was to be allocated across the three states, but how the allocation during drought periods was to occur. While Alabama and Georgia may still settle their dispute, Florida and Georgia may be locked in a dispute that has to do more with state powers than water allocation.

On December 14, 1999, in an effort to save the negotiations, Georgia altered its proposal to try and keep Florida at the table. Georgia had proposed a guaranteed minimum flow to Florida during droughts for a 50 year period. Georgia suggested a modification that would allow negotiated changes in the flow regime after only ten years. Georgia also called for further studies of minimum flow levels along the Flint and Chattahoochee Rivers. At the same time, Georgia asked for limits on oyster and other fish catches taken from the Apalachicola Bay. Georgia negotiators felt that during the interim period,

Florida should not increase their fish harvests, which could produce a higher demand for water. At a meeting on December 29, 1999, an agreement on the May 1, 2000 extension was reached. As the May 1 deadline approached, another extension to August 1 was necessary. As part of the most recent extension, the states agreed to consider the use of a mediator to assist future negotiations. While this was a relatively minor point at the time, the use of a mediator has now become a point of contention. There have been no public meetings or negotiations on water issues since the extension. The time since May 1 has been spent trying to decide the role and powers of a mediator, how one is to be selected, and who might act in such a role. It appears no negotiations on substantive issues has taken place. Consequently, if the mediator question is resolved, a new deadline beyond August 1 will be required. In a recent article in a Montgomery, Alabama newspaper, the Alabama negotiator noted they are tired of waiting and may go back to court. The Alabama governor's office later backed off that statement.

In essence, even with a multiyear comprehensive study of the water demands in the two basins, the negotiators arrived at the same position they began – all are seeking the most water possible, and all are avoiding real compromise. With water use tied up in issues of economic growth, all sides to the negotiation have found reaching a solution difficult.

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