TAPPING THE TENNESSEE RIVER AT GEORGIA'S NORTHWEST CORNER: A SOLUTION TO NORTH GEORGIA'S WATER SUPPLY CRISIS

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REFERENCE: *Proceedings of the 2011 Georgia Water Resources Conference*, held April 11–13, 2011, at the University of Georgia.

Abstract. Metro Atlanta and North Georgia are facing a water supply crisis. Metro Atlanta and the counties comprising the Metropolitan North Georgia Water Planning District (MNGWPD) are facing a water supply crisis. MNGWPD predicts that it will run short of available water supplies within the next decade or two.[1] In addition, the Northwest Georgia Regional Water Resources Partnership, which includes the area between metro Atlanta and Chattanooga, predicts that its own water demand will double by 2030 and may exceed supplies by 2017.[2]

Further complicating the North Georgia water supply, is the ongoing tri-state litigation over allocation of Lake Lanier between Alabama, Florida and Georgia, which has spanned two decades at this point. The litigation has worn on because the parties have not been able to come to an agreement, and the parties cannot agree because the issue is a zero sum game as framed. The Tennessee River has the potential to change this aspect of the litigation by discharging the return flows of an IBT from the Tennessee River into the Apalachicola/Chattahoochee/Flint (ACF) and Alabama/Coosa/Tallapoosa (ACT) river basins. These significant return flows would augment the two basins and could finally provide the opportunity for a satisfactory outcome for all parties involved. (further discussion below).

TVA recognizes that the Tennessee River is the only feasible source for North Georgia's future water needs, and that large inter-basin transfers would have virtually no effect on TVA's reservoir levels. The Tennessee Valley Authority (TVA) recognizes that the Tennessee River is the *only* nearby fresh water source large enough to supply North Georgia's future needs. Water demand for the Atlanta metropolitan area will continue to grow, and while in-state water resources may be sufficient for another 20 years, the Tennessee River is the nearest body of water with enough volume to meet a major portion of Atlanta's future water demand.

TVA's 2004 Reservoir Operations Study found that additional interbasin transfers (IBTs) from the Tennessee River of over 1 billion gal/day (BGD) would have almost no effect on its reservoir levels.[3] These include 264 million gal/day (MGD) to metro Atlanta and North Georgia (the net additional deficits in the Chattahoochee and Coosa basins in 2030), 180 MGD to Birmingham AL, 17 MGD to northeast Mississippi, and an increase of 600 MGD for the Tennessee-Tombigbee Waterway, the difference between its actual present 200 MGD flow and its design amount of 800 MGD. As TVA concluded: "This sensitivity analysis shows that IBTs are not likely to substantially affect future reservoir elevations, either under the Base Case or under the most conservative assumptions for the policy alternatives under most hydrologic conditions.[4]" Even during unusually dry conditions, the TVA analysis concluded that IBTs would only cause "some tributary reservoir elevations to fall an additional 0.0 to 0.5 foot for 1 to 2 months during summer."[5]

TVA's conclusion that the Tennessee River can handle significant additional diversions, in comparison to Georgia's needs, should not be surprising, as the average flow of the Tennessee River at Nickajack is about 24 BGD, or *15 times* the average flow of the Chattahoochee River at Buford Dam, *5 times* that of the Coosa River at Rome, and *4 times* that of the Savannah River at Augusta.

The State of Tennessee has attempted to prevent Georgia from obtaining water from the Tennessee River. A decade ago, the Atlanta Regional Commission (ARC) realized that the solution to metro Atlanta's water shortage was an IBT from the Tennessee River. But when ARC approached Chattanooga's water supplier about purchasing water from Chickamauga Reservoir, the State of Tennessee responded by unanimously passing its Interbasin Water Transfer Act of 2000 (IBWTA), for the admitted purpose of blocking any such water transfers to Georgia. As stated by

the Chairman of the Political Science Department at the University of Tennessee, who helped draft that Act:

> Three circumstances kept legislators' attention focused on water supply issues: media coverage of the tri-state water wars, the potential for Atlanta buying Tennessee River water, and the region's recent drought.[6]

IBTs are a well-established water management tool, and it is no coincidence that six of the seven US metro areas larger than Atlanta (New York, Chicago, Los Angeles, Houston, Dallas, and Miami) rely heavily on them. With a population of over 5 million, metro Atlanta is one of the fastest growing urban areas in the country, but the Chattahoochee is the smallest river to be the primary water source for a major city. From the standpoint of historic national water policy, an IBT to metro Atlanta from the Tennessee River would be no less appropriate than the ones supporting those other major urban areas.

Tennessee's sudden concern over IBTs is hypocritical, as the largest IBT from the Tennessee River, the Tennessee-Tombigbee Waterway, was championed in the 1980s by Senate Majority Leader Howard Baker of Tennessee largely to help Tennessee exporters.[7]

Tennessee's belief that it can restrict IBTs from the Tennessee River to Georgia, is based on two premises: that courts will not apportion water from a river to a state that is not riparian to it, and that Georgia is not riparian to the Tennessee River.

Although the headwaters of several Tennessee tributaries rise in Georgia, Georgia isn't a riparian to the Tennessee River. Courts are unlikely to apportion water to a state that isn't a riparian.[8]

As shown below, however, Tennessee's assumption, that it has a right to restrict Georgia's access to the Tennessee River, disregards important historical and geographical facts about Georgia's northwest corner.

Georgia's true northern border is still the 35th parallel, which is in the center of the Tennessee River at Nickajack. Georgia Code Section 50-2-3 provides that Georgia's true northern border is still the 35th parallel of north latitude: "The boundary between Georgia and North Carolina and Georgia and Tennessee shall be the line described as the thirty-fifth parallel of north latitude, from the point of its intersection by the River Chattooga, west to the place called Nickajack."

In 1818, Georgia and Tennessee commissioned a joint survey of their border, whose mission was simply to find the 35th parallel and mark it on the ground. Due to poor equipment and outdated astronomical charts, the survey party mistakenly placed the line a mile south of its actual location at Nickajack. Tennessee subsequently claimed this faulty survey line to be the border, but Georgia has never officially accepted it, and instead has repeatedly tried to get Tennessee to correct the mistake. Jack Hood, who was Legal Aide and Chief Research Assistant for the Georgia-Tennessee Boundary Line Commission under Governor Jimmy Carter in 1971, summarized this history as follows:

"In 1776, North Carolina adopted a constitution in which her … boundary line was described as following the "thirty-fifth degree north latitude …" In 1789 North Carolina ceded its western lands to the United States…and in 1796, Tennessee was admitted to statehood, encompassing "…the whole of the territory ceded to the United States by … North Carolina…"; hence, Tennessee officially received all the lands west of North Carolina that were above the thirty-fifth parallel…In 1817, the Georgia General Assembly called for commissioners from Georgia and Tennessee to meet and survey the boundary. In 1818, Tennessee responded, and by executive correspondence, the thirty-fifth parallel was agreed upon as the intended boundary. Due to poor instruments, the survey was run south of the thirty-fifth parallel. The Tennessee legislature officially ratified the survey as the true boundary line; Georgia received the map and the survey notes, and paid the surveyors, but Georgia never officially accepted or proclaimed the inaccurate survey as the true boundary line. In 1826, James Camack, while surveying the Alabama Line, noted the discrepancy that exists between the true thirty-fifth parallel and the survey of the Georgia-Tennessee boundary commissioners, for whom Camack had been mathematician…

In 1887, Georgia passed an act calling for commissioners to meet and establish the Tennessee line. In 1889, the Tennessee legislature enacted legislation expressing "…grave doubts as to the location of the State line between Georgia and Tennessee on that part of the line between Dade County, Georgia, and Marion and Hamilton Counties, Tennessee, creating trouble and inconvenience between the two States…" The act called for commissioners to meet to survey, establish, and proclaim the " true line between the disputed points."

In the 1890s… 1905… 1915… and 1922… [further efforts were made].

In 1941, the Georgia General Assembly reopened the dispute of the entire Tennessee line by creating a boundary line committee; however, little was accomplished and Tennessee took no action. In 1947, Georgia passed acts: (1) authorizing a committee to look into the matter, and (2) authorizing the Attorney General of Georgia to bring suit in the Supreme Court if the committee could not resolve the dispute. In response, the Tennessee Governor met with the Georgia committee, but nothing final was resolved. Between 1948 and 1971 several Governors of Georgia contemplated authorizing the Attorney General to bring suit, but none did. In 1971, the Georgia General Assembly enacted a joint resolution calling for the Governor of Georgia to communicate with the Governors of Tennessee … for the purpose of resolving the boundary disputes …[and] creation of the Georgia-Tennessee Joint Boundary Line Commission."[9]

Mr. Hood, who is now with the U.S. Attorney's Office in Birmingham, has verbally reported that this Commission did meet with Tennessee legislators in Nashville but that nothing was resolved, and that in his view the state line remains in dispute.

In 1981 the Federal Energy Regulatory Commission (FERC) confirmed a 1974 agreement between the Georgia and Tennessee Public Service Commissions that, for purposes of the Natural Gas Act, Georgia would have sole jurisdiction over Atlanta Gas Light Company's supply of gas to a customer in the disputed strip between the marked border and the 35th parallel, without prejudice to the reserved issue of the border's location for other purposes. *In Re Atlanta Gas Light Company*, Docket No. CP71-221, 15 FERC P 61240. That agreement had been suggested by the U.S. Court of Appeals for the D.C. Circuit, in a unanimous opinion that stated in part:

"In 1818, two mathematicians, James Camack and James S. Gaines, were commissioned by Georgia and Tennessee to survey the 35th parallel north latitude in order to fix the boundary between the two states. Had they done their job well this case would not be before us. Due, however, to poor instruments, the Camack-Gaines line ended up roughly one mile south of the 35th parallel. While Georgia did not ratify the survey, Tennessee did. To this day, the Georgia Code defines the boundary between Georgia and Tennessee as the 35th parallel, while the Tennessee Code insists that the boundary is 35th parallel as found by Camack and Gaines, that is, the line one mile south of the parallel. The result is a strip of land which has been claimed by both states for 156 years. Citizens in the area live with numerous anomalies—real estate taxes may be paid to both states, people may go to school in one state while paying taxes in another, and so on."[10]

From this historical record, it is clear that Georgia has repeatedly protested the erroneous survey line as the state boundary. Hence it would be extremely difficult for Tennessee to prove Georgia's acquiescence as to the disputed strip. This conclusion is further supported by *New Jersey v. Delaware*, 291 U.S. 361 (1934), in which Justice Cardozo wrote for the Court:

"The truth indeed is that almost from the beginning of statehood Delaware and New Jersey have been engaged in a dispute as to the boundary between them. There is no room in such circumstances for the application of the principle that long acquiescence may establish a boundary otherwise uncertain…. Acquiescence is not compatible with a century of conflict."

With particular respect to the portion of the disputed strip at Georgia's northwest corner, where the intake site would be located, there is another factor in Georgia's favor. Since 1967, all of the land between the marked border and the 35th parallel at this location has been owned and occupied by the federal government, as part of TVA's Nickajack Reservoir and marginal strip. In *New*

Jersey v. New York, 523 U.S. 767 (1998), which involved Ellis Island in New York Harbor, Chief Justice Rehnquist held that the federal government's occupation of the disputed area had effectively tolled any state prescription claims, and, therefore, New York could not prove prescription of New Jersey's sovereign rights. The same principal should be applied here. Where the land has been federalized, the state of Tennessee could not be exercising control, destroying its prescription claim.

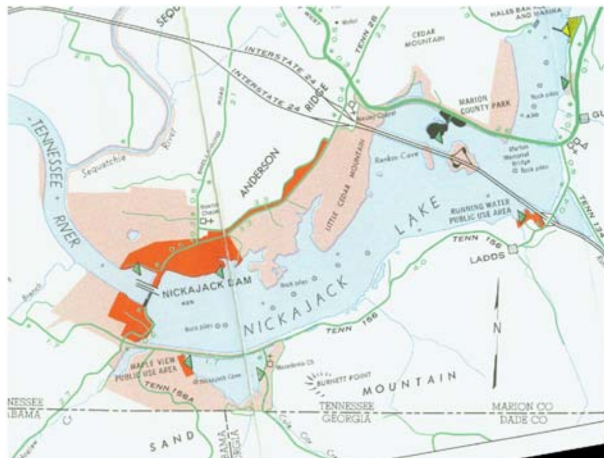

Figure 1. The shaded areas surrounding the river indicate TVA land. Note that the northwest corner of the currently marked state line of Georgia abuts TVA land.

The decision in *Georgia v. South Carolina*, 497 U.S. 376 (1990) is distinguishable from the situation at Nickajack. There, a divided Court held (over dissents in part from five different Justices), that new islands emerging in the Savannah River did not change the previous mutually accepted boundary line. This was reinforced by a finding of acquiescence and prescription before 1955 against Georgia, who was held not to have sufficiently protested South Carolina's assertion of sovereignty and control over those islands to that point. Georgia's own claim of prescription following a 1955 federal condemnation of the islands as dredge spoil areas for the Corps of Engineers, was held not to be sufficiently proved. Thus each state was arguing prescription or the lack thereof in different timeframes, and the Court acknowledged merit on both sides.

There is yet another basis for denying Tennessee's claim to the disputed strip. Article IV, Section 3 of the U.S. Constitution states in part: Section 3. New states may be admitted by the Congress into this union; but no new states shall be formed or erected within the jurisdiction of any other state; nor any state be formed by the junction of two or more states, or parts of states, without the consent of the legislatures of the states concerned as well as of the Congress.

Georgia was admitted to the Union in 1788, with its northern boundary fixed as the 35th parallel. Tennessee was created by an Act of Congress in 1796, which specified the 35th parallel as its southern boundary. To move this established border merely by an erroneous survey that Georgia never ratified, would be to form part of Tennessee out of part of what was previously recognized as Georgia, without the consent of both state legislatures as well as Congress as required by the Constitutional provision. Compare the decision in *Virginia v. Tennessee*, 148 U.S. 503 (1893), where both the state legislatures expressly, and Congress impliedly, did consent to a mistaken border survey as the true border for all purposes. That is not the situation here.

Nor has Tennessee established prescription to Georgia's sovereign riparian rights in the Tennessee River. One basic principle of the Eastern water system of riparian rights is that such rights accrue automatically to adjacent landowners regardless of whether they are actually exercised, and are not lost by mere nonuse. This is a key difference between Eastern water law and the Western doctrine of prior appropriation, under which water rights depend not on location but on who was the first to use the water and whether that use has been continuous. So while prior appropriation rights are lost by nonuse, riparian rights are not. With respect to a state's attempt to establish prescription of another state's sovereign riparian rights, Chief Justice Rehnquist wrote for a 7-2 Supreme Court in *Virginia v. Maryland*, 540 U.S. 56 (2003), that because Virginia had indeed protested Maryland's assertion of sovereign authority over the Potomac River, Maryland failed to carry its burden of proving acquiescence and prescription of Virginia's riparian rights. With regard to the Tennessee River at Nickajack, Tennessee had no state requirement for withdrawal permits prior to its IBWTA of 2000, and Georgia had no need to seek a direct withdrawal from the river before that time, since utilities in the Chattanooga area were willing to supply the limited amounts of water requested

by Georgia utilities just across the state line. In addition, since the TVA Act of 1933, the entire Tennessee River has essentially been federalized under the control of TVA. There is no basis under these facts for Tennessee to prove prescription of Georgia's riparian rights at Nickajack.

Hence, Tennessee's position that Georgia is not riparian to the Tennessee River, is based on *Tennessee's own previous refusals to correct an obvious surveying error.* Tennessee's refusal to correct the surveying error at Nickajack is in contrast to its own successful demand that Mississippi correct a similar error, which it did in the Mississippi Constitution of 1890. There, the original surveyor, General James Winchester, had marked the 35th parallel four miles too far north, along what is now Winchester Avenue. A former Tennessee Supreme Court justice has noted Tennessee's success in the "match of wits" over boundaries with its neighbors.[11]

As a federal entity, TVA is bound by the federal government's agreement that Georgia's original riparian status would be reserved at Nickajack. The TVA Act of 1933 provides for the unified development and regulation of the Tennessee River system for the benefit of the entire region as well as the national interest. *As a federal entity, TVA is bound by the federal government's promise*, in the 1802 Cession Agreement, that Georgia's original riparian access to the Tennessee River would be reserved at Nickajack. If necessary, TVA must use its own federal water rights in the Tennessee River to satisfy this promise, pursuant to the federal reserved water rights doctrine developed by the US Supreme Court to satisfy other federal promises such as reservations of land for Indian tribes or national parks.[12]

The TVA Act, Cession Agreement, and federal reserved water rights doctrine, are all federal law. For the purposes of deciding an interstate water dispute, federal law should preempt any inconsistent state law, such as Tennessee's statute declaring the erroneous survey line as the true border, or Tennessee's IBWTA. As the Supreme Court reconfirmed in *Virginia v. Maryland*, 540 U.S. 56 (2003), where a river forms the border between two states, it is governed by federal common law and neither state can impose its own inconsistent state law regulations on the other one.

This federal law theory provides a way for a Georgia water project to access Nickajack Reservoir across TVA's marginal strip, without requiring permission from Tennessee or requiring the State of Georgia itself to go to the US Supreme Court to correct the disputed border for all purposes.

In addition, TVA's service area includes part of Georgia. TVA not only sold $228 million of power in north Georgia last year, but also owns and operates hydroelectric facilities on three Georgia rivers that flow north into the Tennessee River. These are Blue Ridge Dam on the Toccoa River and Nottely Dam on the Nottely River, both located within Georgia, plus Chatuge Dam on the Hiwassee River just after it flows from Georgia into North Carolina. Approximately 7% of the flow of the Tennessee River, or 1.6 BGD, comes from Georgia.[13] This is an additional reason why TVA should support supplying Tennessee River water back into Georgia from Nickajack Reservoir.[14]

Accessing the Tennessee River Solves the Tri-State Dispute. The TVA's 2004 EIS report stated that IBTs totaling 1 BGD could be withdrawn from the Tennessee River without substantially impacting the downstream reservoir levels.[15] The non-consumptive portion of a withdrawal by North Georgia from the Tennessee would flow as an IBT into the ACF and ACT river basins. If a 500 MGD withdrawal is assumed, that would mean approximately 350 MGD would flow downstream, augmenting the Coosa and Chattahoochee Rivers. The Coosa IBT would benefit Montgomery and Mobile and facilitate an indirect IBT to Birmingham from the Tennessee River, while the IBT to the Chattahoochee would help to offset the upstream withdrawals from Lanier, and augment the ACF going into Florida. This level of augmentation would significantly weaken some of the arguments that have been used by Alabama and Florida, namely, that flow volumes at the state line are insufficient to support local endangered species, as it would more than offset the 96 MGD withdrawn from Lake Allatoona and 214 MGD withdrawn from Lake Lanier for North Georgia's drinking water purposes.[16] Thus, the Tennessee River solution increases water supply to support the continued economic growth of North Georgia while satisfying the water needs Alabama and Florida claim to

require, without jeopardizing the water supply of South Georgia communities, and with no harmful effects downstream on the Tennessee River.

Where things stand. In 2008, the Georgia General Assembly passed another joint resolution, Senate Resolution 822, which was signed by former Governor Purdue. The resolution called for Governor Purdue to negotiate with the Tennessee Governor over the boundary and access to the Tennessee River. It also authorized the Georgia Attorney General to file suit against the state of Tennessee in the U.S. Supreme Court if resolution to the matter could not be attained through negotiation. The negotiations between the governors have taken place, however, nothing has been resolved as a result of the negotiations. With respect to the tri-state litigation, the 11th Circuit U.S. Court of Appeals heard oral argument from the parties on March 9, 2011. Its opinion will have a significant effect on the future of north Georgia's water supply. For the immediate future, Georgia desperately needs the 11th Circuit to overturn the 2009 U.S. District Court decision,[17] and for sustained growth into the future, Georgia's water resources should include a withdrawal from the Tennessee River.

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[1] www.northgeorgiawater.org

[2] NWGRWRP, *Public Water and Wastewater Demand with Projections to the year 2050*, June 2005

[3] TVA Interbasin Transfers Sensitivity Analysis, Reservoir Operations Study, *available at* http://www.tva.gov/environment/reports/ros_eis/appendix_d9.pdf

[4] www.tva.gov/environment/reports/ros_eis/appendix_d9.pdf

[5] *Id.* at D9-3.

[6] D. Feldman, Treading Political Water, Forum for Applied Research and Public Policy, Spring 2001, pp. 78-81. http://forum.ra.utk.edu/Archives/Spring2001/feldman.pdf

[7] http://query.nytimes.com/gst/fullpage.html?res=9D02E7DB1239F93AA35753C1A967948260

[8] David Feldman and Julia Elmendorf, Final Report: Water Supply Challenges Facing Tennessee, University of Tennessee, June 2000, at xii. http://eerc.ra.utk.edu/divisions/wrrc/water_supply/Report.PDF

[9] Jack Brian Hood, Georgia's Northern Boundary, *Georgia State Bar Journal*, November 1971, pp. 197-203 (not online).

[10] *Atlanta Gas Light Co. v. Federal Power Commission et al*, 495 F. 2d 1070 (1974).

[11] Samuel Cole Williams, *Beginnings of West Tennessee, In the Land of the Chickasaws, 1541-1841*, Watauga Press, 1930, Chapter XIV. Quoted in "North and South Boundaries of Tennessee," www.tngenweb.org/tnland/walker.htm

[12] www.blm.gov/nstc/WaterLaws/fedreservedwater.html.

[13] According to U.S. Geological Survey, in the Upper Tennessee River basin (headwaters down to Chickamauga Dam at Chattanooga), Georgia has 1280 square miles out of 21,390 total square miles, or 6%. The mean annual average discharge from Chickamauga Dam is 35,900 cfs or 23.2 BGD. Georgia's 6% of that is 1.4 BGD. *See* http://tn.water.usgs.gov/lten/u_basin.html; http://tn.water.usgs.gov/lten/basin_description.html. If we are considering a withdrawal from Nickajack, then Georgia's percentage and the total MGD are slightly higher. The total drainage area of the lower Tennessee River basin is 19,500 square miles, of which 1% or about 200 square miles are in Georgia. The total drainage area for Nickajack Reservoir is 21,900 square miles, or 510 square miles more than for Chickamauga Dam. *See* http://www.outdoorchattanooga.com/237.htm. Since Georgia has about 200 out of the that additional 510 square miles, GA contributes about 40% of the additional inflow into Nickajack Reservoir compared to Chickamauga. Since Nickajack drains about 2% more area that Chickamauga, its discharge should be about 2% more, or about 23.6 BGD, and 40% of that increase is from GA based on the above calculation. Adding Georgia's 6% of the flow leaving Chickamauga, to Georgia's 40% of the 2% additional flow into Nickajack, we get nearly 7% for Georigia's contribution to the total flow at Nickajack. 7% of 23.6 BGD would be approximately 1.6 BGD.

[14] See www.tva.gov/abouttva/pdf/georgia.pdf.

[15] TVA Interbasin Transfers Sensitivity Analysis, Reservoir Operations Study, *available at* http://www.tva.gov/environment/reports/ros_eis/appendix_d9.pdf

[16] See http://www.northgeorgiawater.com/files/Sec2_ExistingFacilities_WSWC_May2009.pdf. Current treated

return flows from these withdrawals would further reduce the augmentation levels needed.

[17] In 2009, U.S. District Court Judge Paul Magnuson ruled that Georgia was not authorized to draw water from Lake Lanier for municipal purposes and imposed a deadline of July 2012 to reach a water sharing agreement with Alabama and Florida.