

2017 AP Environmental Science summer work

Happy soon to be summer! Below is an outline of the summer work for the class. I will be checking this email periodically throughout the summer. Additionally, if any of you are in student organizations that you need volunteer hours, we are looking for people that want to help improve the Big Trees Nature Area behind the school.

Read the following books:

1. [A Fierce Green Fire](#) by Marybeth Lorbiecki
2. [A Walk in the Woods](#) by Bill Bryson

Watch [Frontline, Poisoned Waters](#) and answer the attached questions.

Watch these videos: [Video #1](#), [Video #2](#), and [Video #3](#)

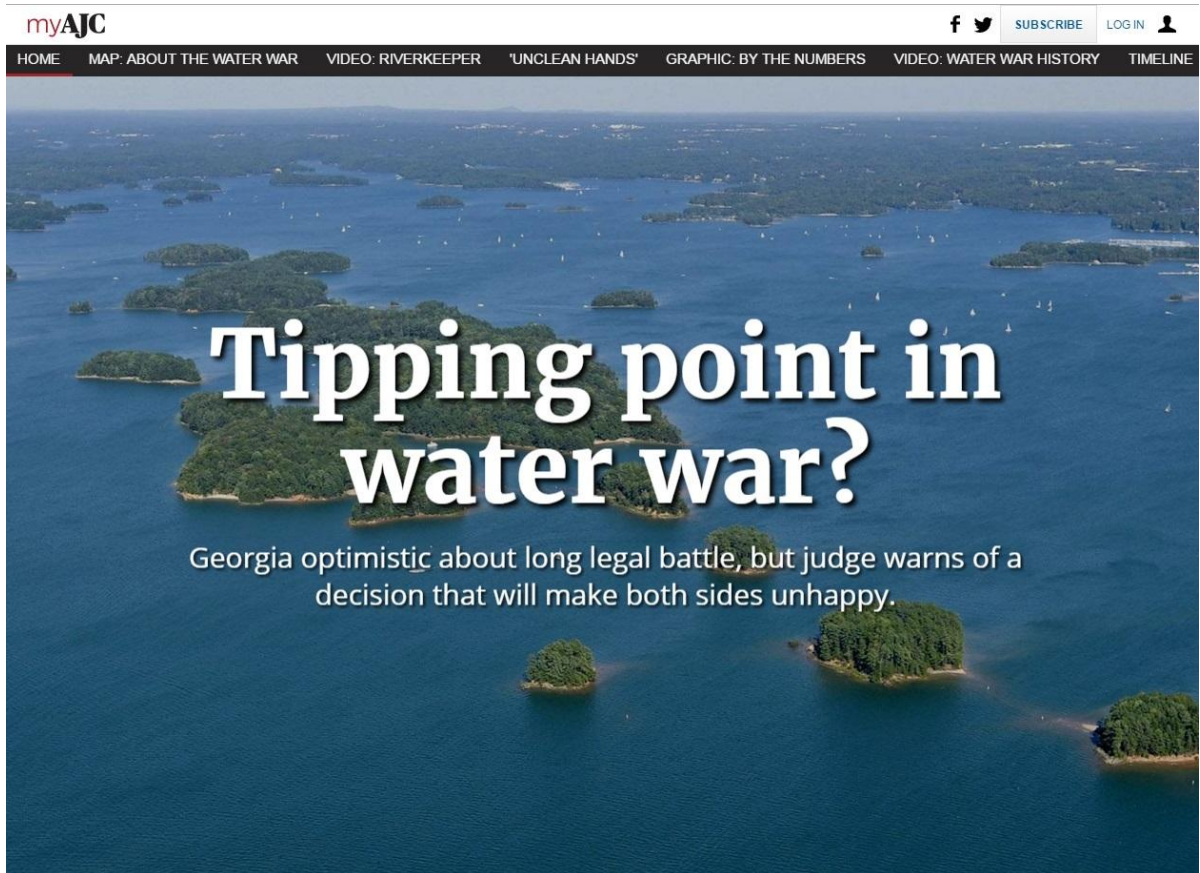
Read the attached article about the Tri State Water Wars and answer the questions.

Please let me know if you have any questions.
Mr. Hill

Frontline: Poisoned Waters

1. How many bushels of oysters a year did the fisherman use to catch in the Chesapeake Bay? How many do they catch now?
2. What is the main culprit blamed on the decrease of fish and crabs?
3. Which river once caught on fire with 8 story flames?
4. The dead zone in the gulf of Mexico is routinely the size of which state?
5. Which President helped create the EPA?
6. What are three major things Bill Ruckleshaus did to make sure the EPA was not a fad?
7. What is BNR as it relates to sewage treatment?
8. What is the problem with the chicken farms?
9. What is the EPA standard for colonies of *e. coli* in “clean” water? What was the *e. coli* count at the Lessig farm?
10. What happened to the price of chicken as a result of all of the vertical integration?
11. What percentage of the EPA monitored pollution now comes from agricultural industries?
12. What are ways that pollution can get into the water from non point pollution?
13. What are endocrine disruptors? What do they cause in small mouth bass?
14. What are some problems the EPA will have trying to regulate the endocrine disruptors?
15. What is the problem with the way we treat sewage in relation to the endocrine disruptors?
16. Why are scientists studying the Orca’s in Puget Sound?
17. How long ago were PCB’s banned? Why do they keep showing up in whale blubber?
18. Which Salmon have the highest concentrations of PCB’s?
19. What are legacy pollutants?
20. What major corporation is believed to be one of the major sources of PCB’s?
21. What is subsistence fishing? Why are they worried about it on the Duwamish River?
22. Why were the people in South Park suddenly alarmed in 2004?
23. What was sprayed onto the dirt streets to keep the dust down in South Park by the Malarkey Asphalt plant?
24. Why do oil spills galvanize people?

25. How much oil is carried into Puget Sound by rainfall runoff?
26. What is an impervious surface? Why are they a concern for scientists?
27. Why are property owners mad about the 65% rule?
28. Why are the rural landowners resentful of the urban majority?
29. What is the critical area ordinance?
30. What are some concerns of rural residents, who are outnumbered 5 to 1 by urban residents?
31. How many people live in the Chesapeake area watershed?
32. What mistakes did Tyson's Corner make in being developed?
33. What infrastructure is needed for development?
34. How do developers make money from buying farm land?
35. Why can Tyson's Corner not grow anymore as currently designed?
36. What percent of Americans live on or near waterways?
37. What steps is Loudoun County taking to get people to save Chesapeake Bay?
38. Why is land use an important political front?
39. What are the keys in smart growth?
40. What are the signs of problems?



By: **Dan Chapman**

The Atlanta Journal-Constitution

It was one year ago this month that the U.S. Supreme Court appointed Ralph Lancaster as the so-called special master to resolve 25 years of water war between Georgia and Florida. Since then, dozens of attorneys have pored over millions of pages of documents in search of the critical piece of evidence to sway Lancaster. They've toiled largely in secret at the direction of the special master, who seemingly prizes secrecy above all. But an analysis by The Atlanta Journal-Constitution of the burgeoning case file, as well as on- and off-the-record interviews with sources familiar with the lawsuit, appears to give the upper hand to Georgia. Nobody, though, takes anything for granted. Lancaster warns that his decision will leave neither side totally satisfied and urges Georgia and Florida to seek a settlement. Georgia recently requested a mediator to bring Gov. Nathan Deal and his Florida counterpart to the negotiating table. Not surprisingly, Lancaster — who issued an order preventing the media from viewing documents that could shed light on any settlement between the states — declined to comment, as did every Georgia and Florida legal, political and government official directly involved in the water wars negotiations that could prove critical to metro Atlanta's future. But an examination of subpoenas issued and experts deposed provides insight into what exactly Georgia and Florida are trying to prove. Georgia's lawyers, for example, have requested hydrologic flow levels of the

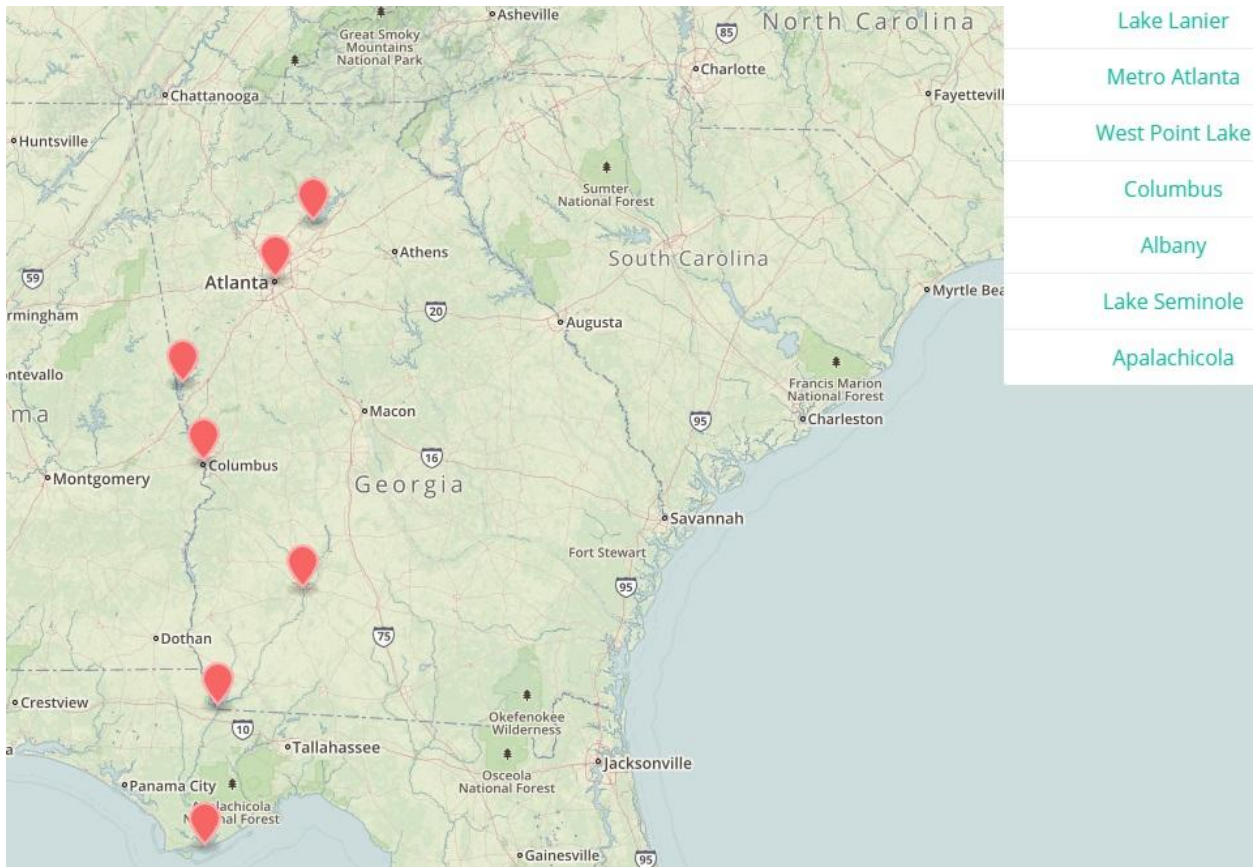
Apalachicola River dating to 1975 in hopes of showing Florida’s poor stewardship of the river. Florida, meanwhile, seeks the number of well permits issued to southwest Georgia farmers to prove lax regulation by Georgia.

Georgia officials are cautiously optimistic that Florida faces a tough task convincing Lancaster that Georgia is to blame for the Sunshine State’s water woes. Even if proved, Florida must then persuade Lancaster to give it more water without causing undue harm to Georgia — another tall order. The optimism is most pronounced in metro Atlanta. Florida, for the first time, has set its sights on the Flint River in southwest Georgia. If Lancaster rules against Georgia, then the Flint — not the Chattahoochee River, which provides Atlanta with most of its water — might be targeted. Georgia, therefore, holds a few bargaining chips in settlement talks with Florida, as well as Alabama. The governor could offer to limit withdrawals and water permits from the Flint. Or he could cancel a reservoir planned for the metro Atlanta region.

Water warriors south of the state border don’t speak as rosily about Georgia’s chances. The environmental and economic damage along the Apalachicola River and same-name bay are clearly perpetrated by a water-hogging Georgia, they say.

But it is the special master, barring a settlement, who will decide, along with the Supreme Court, metro Atlanta’s future. “When this matter is concluded — and I hope I live long enough to see it happen — one and probably both of the parties will be unhappy with the court’s order,”

Lancaster, 85, intoned during a February call with attorneys. “Both states will have spent millions and perhaps even billions of dollars to obtain a result which neither one wants.”



Lake Lanier- A 59-square mile reservoir that was formed when the Buford Dam was built in the 1950s. The lake and Chattahoochee River that flows below the dam supply the water for metro Atlanta.

Atlanta- Florida wants the region to draw water from the Chattahoochee and Lake Lanier at 1992 levels when the population was roughly half the size of today. Business and political leaders say that would stanch economic growth and lead to Atlanta's decline.

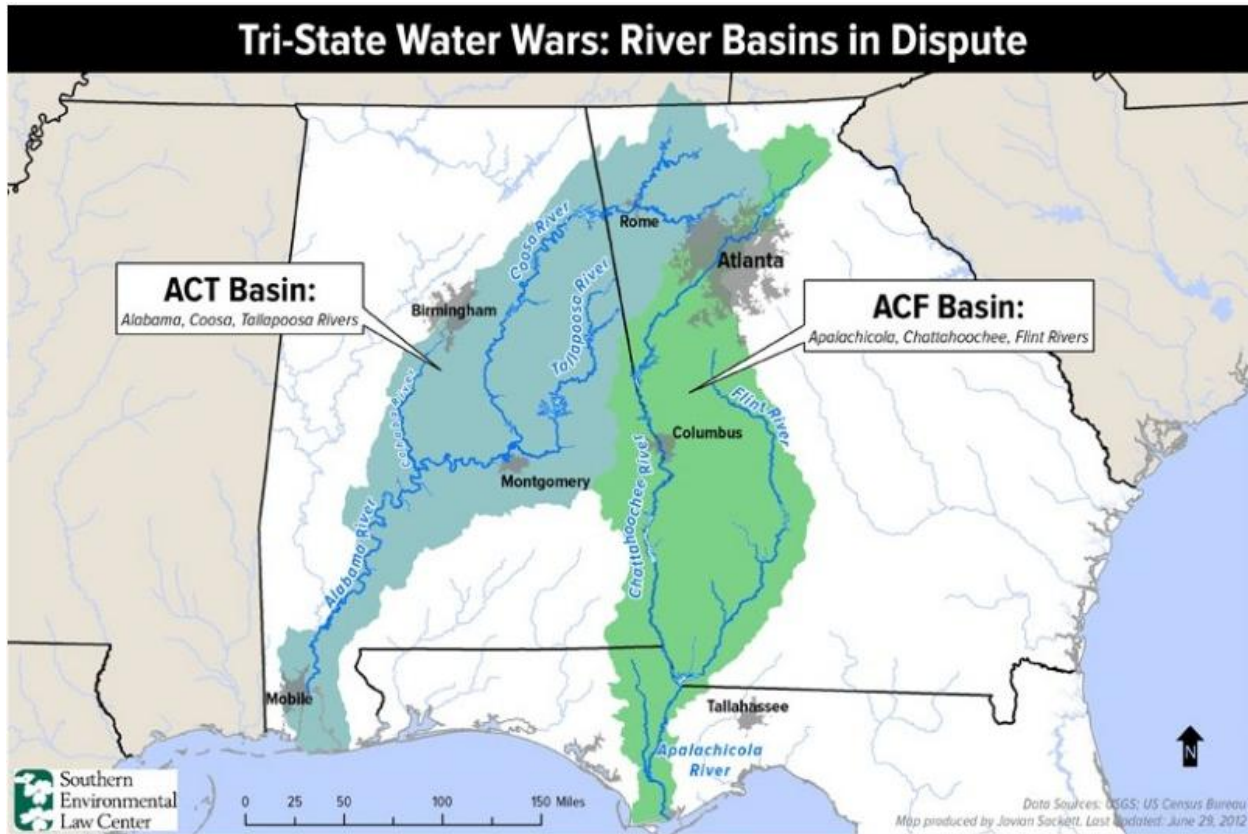
West Point- Fishing and boating are big business on the lake and other man-made reservoirs along the Chattahoochee. A private "stakeholders" group recommends raising water levels and storing more water at West Point and Lake Lanier.

Columbus- Downstream communities in Georgia oftentimes share Florida's concerns that metro Atlanta hogs the Chattahoochee to the detriment of everybody else. The Army Corps of Engineers used to dredge the river from Apalachicola to Columbus to allow barges and pleasure craft to access the Gulf of Mexico.

Albany- The Flint River flows through Albany and the heart of Georgia's cotton, peanut and corn belt. The river, and the subterranean network of aquifers and streams, irrigates the \$2 billion a year industry.

Lake Seminole- The Flint and the Chattahoochee meet here at the border before flowing into Florida and forming the Apalachicola River. All of the corps mandates – flood control, power generation, recreation, navigation – converge at the reservoir and the Jim Woodruff Lock and Dam.

Apalachicola- A magical blend of fresh water (the river) and salt water (the Gulf of Mexico) sustain the region's famed, yet endangered, oyster industry. Many an Atlantan visits the hard-working coastal community and surrounding beaches.



Latest round began in 2013

Georgia is spending \$20 million on lawyers to fight the never-ending water wars with Florida — on top of \$20 million previously spent the past 25 years. Seventy attorneys are being paid to prove Georgia’s prudent stewardship of the Chattahoochee and Flint rivers and Florida’s abuse of the Apalachicola River and bay. They pore over 4 million documents and 660,000 emails provided by Florida.

The Sunshine State, for its part, has received 2.1 million pages and 2.3 terabytes of data from Georgia. It seeks information from 35 Georgia counties, 28 water districts, numerous universities and nonprofits. All that to prove who gets how much of the Chattahoochee, Flint or, once they join at the Florida border, the Apalachicola River. Paper mills and Coca-Cola bottlers. Kayakers and golfers. Cities and counties. Endangered mollusks and sturgeon. Oystermen and farmers want their share. Power plant and utility operators do, too.

Florida started the latest legal merry-go-round with its 2013 lawsuit claiming “serious harm because of Georgia’s increasing storage and consumption from both the Chattahoochee and Flint River Basins.” The special master must “equitably apportion” the rivers to ensure a steady Apalachicola flow. Georgia, before, was sitting pretty thanks to the Supreme Court’s refusal to hear an appeal arguing that Lake Lanier was never intended as water supply for metro Atlanta.

The high court’s acceptance of Florida’s latest lawsuit shocked Georgia. Using the Endangered Species Act, Florida argues that oysters, specifically the damage done to the bivalve mollusk industry due to a lack of fresh water from up north, are the main victims of Georgia’s insatiable thirst for water, particularly during the 2011-2012 drought.

Healthy oysters need a mix of fresh and salt water to thrive. The drought, combined with water hoarding by Georgia, caused the lowest Apalachicola River flows in 90 years, the lawsuit says, and the oyster industry to “collapse.” “We’re still struggling. We haven’t recovered yet,” said Shannon Hartsfield, 46, an oysterman who runs the Franklin County Seafood Workers Association in Apalachicola. “When I was a young man in my 20s, we used to catch 70, 80 bags a day. And we had 300, 400 oystermen. Now we’re allowed four bags per person per day, and there’s only about 70 oystermen.”

Florida wants metro Atlanta to withdraw water from Lake Lanier and the Chattahoochee at 1992 levels, about 275 million gallons a day. The region today uses about 375 million gallons daily. Yet the population has nearly doubled since 1992. Florida also targets southwest Georgia and the cotton and peanut farmers who tap the Flint and underground aquifers. Agriculture, not metro Atlanta, uses most of the water between North Georgia and Florida. "Farmers are in the bull's-eye," said Laura Hartt, the water policy director for the Chattahoochee Riverkeeper. "But Governor Deal has made very clear that we are one state. As go the farmers, so goes metro Atlanta. And vice versa."

'The doctrine of unclean hands'

Hartt, like other Georgia water experts, says Florida nonetheless faces an uphill battle. "Florida's got their work cut out for them in terms of proving things," she said. "And Georgia feels they have a pretty strong case." Florida, first off, has to prove Georgia's consumption and storage of water (in reservoirs) harms the oysters, mollusks, sturgeon and way of life along the Apalachicola River and bay. "Florida has to show 'real and substantial injury or harm' — that's the catchphrase," said George Sherk, a water management expert and former Georgia State University professor. "There's a very high burden of proof." Florida then has to show that more water from Georgia — equitably apportioned between the states — will remedy the environmental and economic problems. Georgia points the finger squarely back at Florida for the oysters' ills. "Florida's claims are barred by the doctrine of unclean hands," reads the state's January response to the lawsuit.

Five years ago, after the Deepwater Horizon spill off Louisiana led to the closure of the oyster beds from Texas to Florida, fishermen in droves descended on the bay. Oyster boats doubled with fishermen grabbing every mollusk they could find, including ones smaller than the legal 3-inch size, which depleted future stocks. In June 2010, for the first time ever, Florida expanded the time oystermen could fish the bay from five to seven days a week. It also opened up winter harvesting areas. Florida's wildlife commission reported that "the overall condition of many reefs has declined substantially over the past two years as a result of ... concentrated and intensive harvesting by the majority of the fishing fleet and the excessive harvesting of sub-legal oysters." The University of Florida added that "insufficient fishery management enforcement" was also to blame. Georgia, in fact, has also tried to shift the legal burden onto the federal government, by arguing that the Army Corps of Engineers can readily guarantee a minimum flow of water over the dam to satisfy Florida. Sherk and other legal experts say neither the courts nor a special master can usurp federal laws passed by Congress. "The master does not have the discretion to make recommendations or issue decrees inconsistent with federal law," he said. "The Federal Power Act, for example, deals with dams on the river. The Endangered Species Act protects habitats. The Clean Water Act protects the water. You have a whole suite of federal statutes that affect water issues in the river basin." Georgia, Atlanta in particular, cringes at the prospect of a mandated cap on future water use. Development, they fear, would dry up. Robert Abrams, a professor at Florida A&M University who has taught water law for 40 years, says limiting Georgia's water use may not be such a bad deal. "You'd try to meet a cap with as much conservation as you can," he said. "And a cap is better than a (minimum flow) option because in a water-short year you can still consume the same amount. Florida would really be taking all the risk." Both states will have spent millions and perhaps even billions of dollars to obtain a result which neither one wants.

- **Ralph Lancaster**, special master of water war case

By the Numbers: Georgia-Florida lawsuit

\$20 million What Georgia expects to spend on this round of the water wars.

70 The number of attorneys on retainer by Georgia.

4 million Pages of documents produced by Georgia agencies, universities and non-profits requested by Florida.

660,000 Emails given to Georgia by Florida

45 People deposed by both Georgia and Florida

‘You will not get everything you want’

Abrams, like others, credits metro Atlanta for reducing its consumption of water the past decade. The local water district estimates that the region will use 25 percent less water by 2050 than was estimated in 2009. A significant drop-off in population projections for the 15-county region helps. So does the retirement of water-hogging coal-fired power plants. But metro Atlanta is also credited with the widespread replacement of inefficient toilets, improved detection and repair of leaks, and tiered pricing that charges higher rates for heavy users. “We’re being a lot more careful on how we use the water, we’ve got a better record of conservation and the rain, after all, falls on Georgia,” said Brad Currey, a board member for the Metropolitan North Georgia Water Planning District. “So it’s difficult for Florida to prove they are being severely damaged due to what’s going on up here.” Florida might have a better conservation case in southwest Georgia. Despite the 2012 moratorium, an additional 250 well permits have been issued to farmers to tap aquifers below the Floridan Aquifer, the main source of groundwater for South Georgia and northwest Florida. And 40,000 more acres are being irrigated. Georgia has “significantly over permitted the river basin,” a nonprofit water research group reported this year.

“Adding the Flint to the lawsuit makes Florida’s case a little more plausible because following low-value irrigated agriculture is much less expensive than (curtailing) Atlanta’s water use,” Abrams said. “If you’re the Georgia Legislature and the choice is turning off the water for all the voters in Atlanta or a couple of counties in South Georgia, what are you going to do?” Georgia, though, hopes that additional water capacity — new reservoirs around metro Atlanta, untapped aquifers in southwest Georgia, more conservation — will convince the special master of the state’s water supply seriousness. They could also be used as bargaining chips in any deal between the two governors. Deal, for example, could forgo building a new reservoir to show that Georgia is not hogging the Chattahoochee. The typically taciturn Lancaster offered up a tantalizing clue as to his legal leanings in a teleconference call last March. He told the attorneys to give their respective governors copies of *Kansas v. Nebraska*. It would provide “a good roadshow for them to understand,” Lancaster said.

Kansas v. Nebraska, on the surface, looks awfully similar to *Florida v. Georgia*: a long-running intrastate battle over a low-flow river; lawsuits and temporary resolutions; claims of water hoarding and resource mismanagement; millions spent on lawyers; and a special master and Supreme Court that ultimately resolved the matter. Last February the high court ruled that both states had legitimate claims to the Republican River and set forth a settlement that completely satisfied nobody. “The big thing that jumps out at me is that neither Nebraska nor Kansas got 100 percent of what they wanted,” said Sherk, who now teaches water management at the University of Saskatchewan. “On one level, that’s what Lancaster is saying to the governors of Georgia and Florida. You will not get everything you want here.”

Timeline: The Water war



1956

The Army Corps of Engineers completes construction of the earthen Buford Dam, impounding the Chattahoochee River to form the 58,000-acre Lake Lanier. One of the corps' main functions is to operate three hydroelectric turbines that supply power to the region. The cities of Buford, Cumming and Gainesville, as well as Forsyth and Gwinnett counties, draw water out of the lake. Cobb, DeKalb and Fulton counties get water from pumping stations on the Chattahoochee after the water passes through the dam's turbines.

1959

The corps releases a set of operating guidelines for Buford Dam, detailing how Lake Lanier's water will be used.

1960

The corps allows the metro area to increase its water withdrawals from the Chattahoochee River because the intakes did not affect the dam's hydroelectric operations.



1973

The U.S. Senate directs the corps to develop a plan to address the long-term water needs of the Atlanta area.

1975

The corps determines that it could supply an average of 250 million gallons of water per day to metro Atlantans without it affecting hydropower generation.

1981

The corps completes its water resources plan, recommending construction of a new dam 6.3 miles below Buford Dam that would store water for use as water supply. Congress authorizes the dam five years later but does not finance it. The corps determines that it would be less costly to tap Lake Lanier.

1986

The corps determines that it could supply an average of 327 million gallons of water per day to metro Atlantans without it affecting hydropower generation.

1989

The corps releases a proposal for a new operating manual for Buford Dam that calls for significantly increasing the amount of water that could be used to meet the area's needs.

1990

The corps scuttles its plan to make more water available as water supply after Alabama files the first of four lawsuits challenging metro Atlanta's withdrawals from Lake Lanier.

1997

Georgia, Alabama and Florida agree to form a commission to figure out an allocation formula. The pact includes a "live and let live" provision that allows the corps to honor existing water supply contracts and permits water systems to increase their withdrawals to satisfy "reasonable" increases in demand. The agreement dissolves in 2003 when the commission cannot agree on a formula.

2000

Georgia asks for increased withdrawals to meet Atlanta's needs through 2030. The request is denied.



2007

Drought hits the Southeast.

2009

A federal judge signs an order that would severely restrict Atlanta's water withdrawals unless Alabama, Florida and Georgia strike a water-sharing deal. U.S. District Judge Paul Magnuson said that Lake Lanier was not intended as a water supply for metro Atlanta. The intended purposes were hydropower, navigation and flood control, he said. Magnuson gave the states three years to work out an agreement before the order would take effect, limiting metro Atlanta to withdraw water at the same levels as it did in the mid-1970s.

JUNE 28, 2011

An appeals court overrules Magnuson's decision, saying supplying metro Atlanta water was an intended use for the lake.

SEPTEMBER 16, 2011

The 11th U.S. Circuit Court of Appeals rejects a request from Alabama and Florida to reconsider the decision.

JUNE 25, 2012

The U.S. Supreme Court secures metro Atlanta's claim to water from Lake Lanier when the court turns down appeals from Alabama and Florida.

OCTOBER 1, 2013

Florida asks the U.S. Supreme Court to order Georgia to let more Chattahoochee River water flow into the Panhandle to keep the state's oyster industry afloat. The suit asks that metro Atlanta's withdrawals from Lake Lanier and the Chattahoochee River be held to the same levels as 1992, when the region drew about 275 million gallons a day to serve 3 million. The level in 2013, following a 55 percent increase in the region's population since 1992 to 5.4 million, was about 360 million gallons a day.

NOVEMBER 3, 2014

The U.S. Supreme Court agrees to hear a Florida lawsuit that seeks to cap Georgia's withdrawals from the Chattahoochee River.

APRIL 15, 2015

Ralph Lancaster, the attorney the Supreme Court appointed as special master to oversee the case, issues an order that prevents the public from accessing records involving ongoing settlement negotiations between the two states.

JUNE 9, 2015

Gov. Nathan Deal travels to Florida to discuss the water dispute with Florida Gov. Rick Scott. He held a similar meeting with Alabama Gov. Robert Bentley earlier in the year.

JUNE 19, 2015

Lancaster rejects Georgia's argument that the federal government should also be a party in the Florida case. It was a maneuver Georgia hoped would result in the case's dismissal. Lancaster also kept Alabama out of the case.

AUGUST 26, 2015

The Georgia Department of Natural Resources board votes to allow the flow of Chattahoochee River water below 750 cubic feet per second at times. DNR officials say the rule change would have little impact on the river's health. Also, the Metropolitan North Georgia Water Planning District estimates that metro Atlanta will use 25 percent less water by 2050 than was estimated as recently as 2009. The agency credits a slew of conservation measures for the reduction. A slowdown in population growth will also help Atlanta save water.

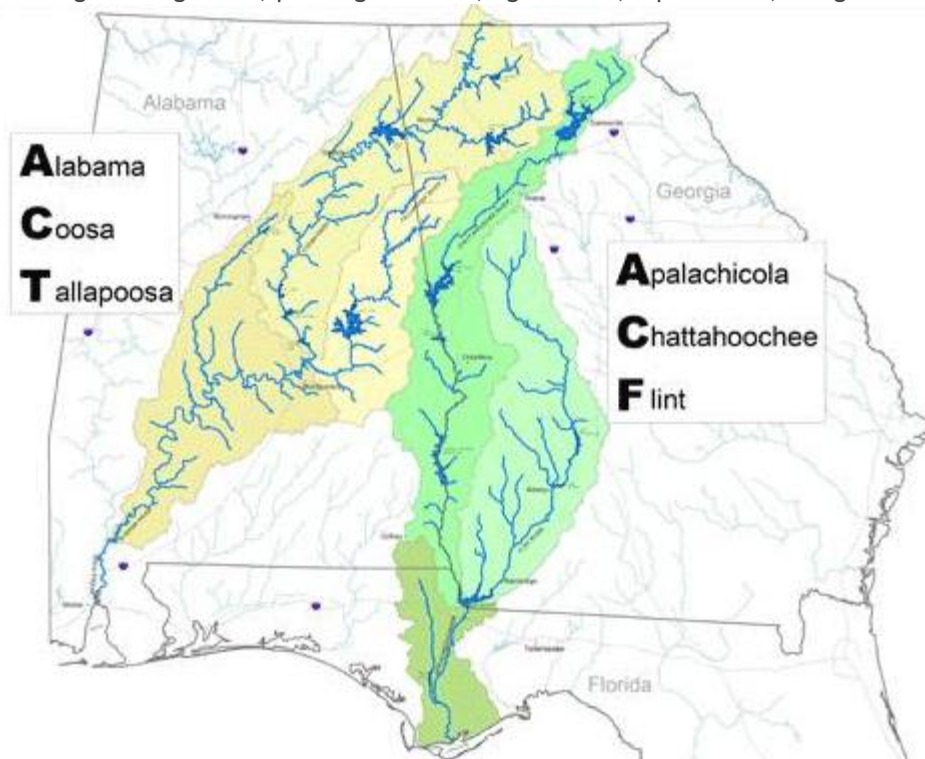
SEPTEMBER 2015

The Army Corps of Engineers updates its water-sharing plan for the Chattahoochee River for the first time since 1989. The plan, which requires final approval, would allow Georgia by 2040 to tap nearly 600 million gallons each day from the Chattahoochee River and Lake Lanier.

<http://atlantaregional.com/environment/tri-state-water-wars/background>

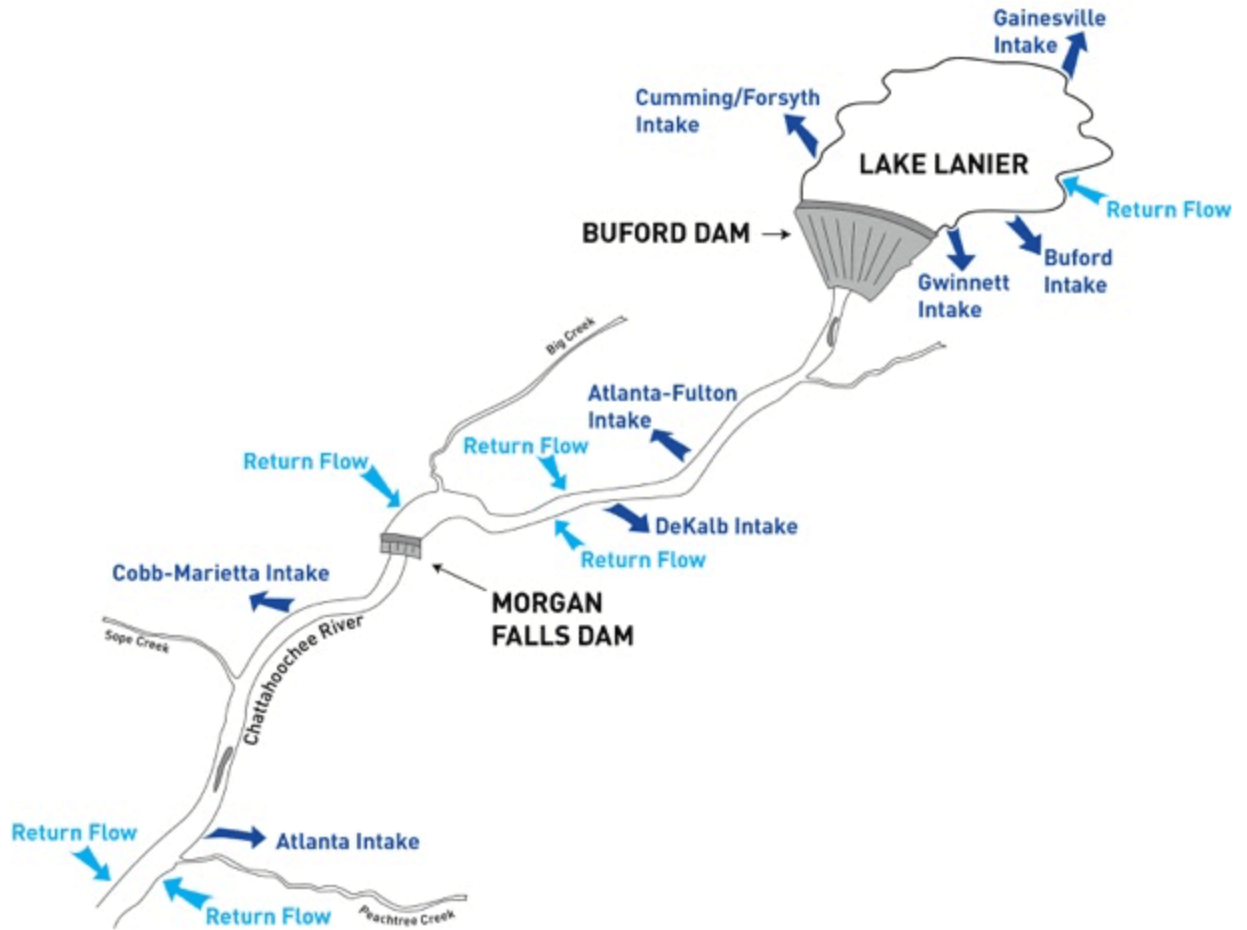
Tri-State Water Wars: 25 Years of Litigation between Alabama, Florida and Georgia

Communities in metro Atlanta lie at the headwaters of two river basins that are shared by Georgia, Florida, and Alabama—the Apalachicola-Chattahoochee-Flint (ACF) River Basin and the Alabama-Coosa-Tallapoosa (ACT) River Basin. These river systems are used to meet multiple needs throughout the three states, including drinking water, power generation, agriculture, aquaculture, navigation and recreation.

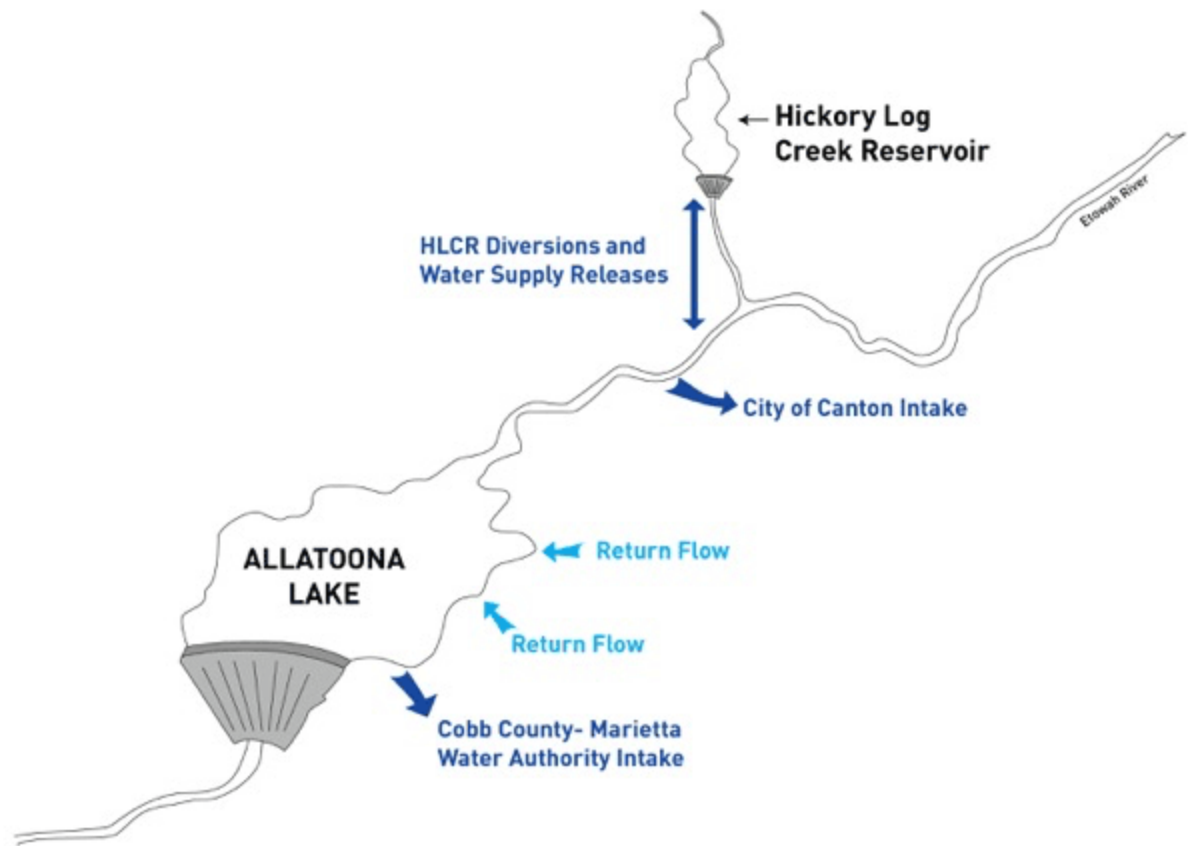


Because of the granite geology underlying metro Atlanta, groundwater resources in the area are extremely limited. As a result, metro Atlanta depends on surface water (water in rivers in lakes) for its water supplies. While metro Atlanta is located in an area with generally abundant rainfall, river flows are not always sufficient to meet the area's water supply needs, especially during the summers and during periods of drought. Therefore, metro Atlanta depends on the ability to store water in two reservoirs operated by the U.S. Army Corps of Engineers (Corps) to provide safe and clean water supplies for its residents and businesses.

Lake Lanier is located in the ACF Basin on the Chattahoochee River, about 50 miles upstream of Atlanta. Some metro Atlanta communities in the ACF Basin withdraw water stored in Lake Lanier directly from the reservoir. Other communities withdraw water from the Chattahoochee River below the reservoir. These communities also depend on water stored in Lake Lanier because they rely on water released from the reservoir to meet their water supply needs.



In the ACT Basin, the Cobb County-Marietta Water Authority and City of Cartersville withdraw water from Allatoona Lake, while the Etowah River both upstream and downstream of the lake supplies water to other jurisdictions. In addition, the Cobb County-Marietta Water Authority has constructed the Hickory Log Creek Reservoir, which will be used to store water and to supplement water supplies from Allatoona Lake.



Background of the Tri-State Litigation

The ACF and ACT Basins lie at the center of more than two decades of litigation between Alabama, Florida and Georgia. During the 1980s, the State of Georgia, the Atlanta Regional Commission (ARC), the Corps, the U.S. Environmental Protection Agency, and others collaborated on a multi-year study looking at how metro Atlanta communities should meet their water supply needs. This study concluded that the most environmentally sensitive and cost-effective solution was for metro Atlanta communities to use water stored in Lake Lanier and Allatoona Lake.

In 1989, the Corps released a draft plan to implement the study’s recommendations. This plan would have allowed metro Atlanta communities to purchase storage space in the Corps’ reservoirs so they could store water for municipal and industrial water supply. In return, metro Atlanta communities would sign storage contracts agreeing to pay the federal government for the entire cost of constructing the portions of the reservoirs they were using, along with their fair share of the costs of operating and maintaining the projects. At the time, the Corps concluded that metro Atlanta’s water supply uses would have “no significant environmental impacts.”

The “Tri-State Water Wars Litigation” began in 1990, when Alabama sued the Corps to prevent it from finalizing this plan. Georgia and Florida joined the litigation, and it was stayed several months later to give the states and the Corps time to negotiate. In 1992, Alabama, Florida, Georgia and the Corps entered into a Memorandum of Understanding, agreeing to suspend the litigation while conducting a “comprehensive study” of the water resources in the two basins. The three states and the Corps also agreed that metro Atlanta communities could continue to withdraw what water they needed, and even increase withdrawals, to meet reasonable increases in demand, while the study was in progress.

The comprehensive study was never completed, but it led to the ratification of interstate water compacts for each basin in 1997. In reality, the compacts were agreements to negotiate—they established a

framework to negotiate a formula to determine each state's fair share of the water but they did not actually divide the water among the three states. Like the 1992 agreement, however, each compact allowed metro Atlanta communities to make reasonable increases in withdrawals to meet growing demands. Unfortunately, the states were unable to reach agreement. Negotiations on the water allocation formulas failed in the ACF in 2003 and in the ACT in 2004, at which point the compacts dissolved.

Litigation resumed with the termination of the compacts. It quickly mushroomed from the single case filed by Alabama in 1990 to eight separate cases in six different federal courts in Alabama, Georgia, Florida, and Washington, D.C., all challenging various aspects of the Corps' operation of its reservoirs. Some of these cases focused on the Corps' operations of the dams and withdrawals by metro Atlanta for drinking water supplies. Others challenged the Corps' compliance with environmental laws, such as the **Endangered Species Act** and the **National Environmental Policy Act**. The ACF cases were consolidated in federal court in Jacksonville, Florida, while the ACT case remained in federal court in Alabama.

Although there were many steps along the way, the cases were ultimately resolved in 2011 and 2012, respectively. In the ACF, the federal court in Jacksonville issued a decision 2010 that rejected claims by Florida that the Corps' operations violated the Endangered Species Act, which Florida did not appeal. This was followed in 2011 by a decision from the United States Court of Appeals for the Eleventh Circuit, which included two key rulings:

- *First*, the Eleventh Circuit dismissed the cases brought by Alabama, Florida and others challenging the Corps' water supply operations at Lake Lanier. The court explained that Alabama, Florida, and the other plaintiffs had filed suit too early, and thus prevented the Corps from taking action to finalize its water supply operations.
- *Second*, the Eleventh Circuit ruled that Congress had specifically authorized the Corps to provide water from Lake Lanier to meet metro Atlanta's water supply needs when it authorized the Corps to construct Lake Lanier. The court explained that Congress understood metro Atlanta's water supply needs would grow as the area developed into the future, and recognized the value of providing an "assured" supply of water to metro Atlanta.

The court directed the Corps to evaluate how much water it could provide to metro Atlanta under this clarified authority, and to make a final decision regarding its water supply operations at Lake Lanier. In 2012, the Army released a legal opinion finding that it could supply up to 705 million gallons per day to metro Atlanta, but that any final decision on water supply operations would need to be made after environmental studies are completed. The Corps is in the process of completing those studies now, and a final decision is expected in 2017.

In the ACT, the court ruled in 2012 that Alabama's challenges to the Corps' water supply operations at Allatoona Lake were also premature and dismissed Alabama's case. Later that year, Alabama voluntarily dismissed its last remaining claim challenging Cobb County-Marietta Water Authority's construction of the Hickory Log Creek Reservoir, thus bringing the first round of the Water Wars litigation to a close.

A timeline of significant events in the ACF and ACT litigation is below:

ACF and ACT Lawsuits (1990-2012)

1946	Congress authorizes construction of Buford Dam and Lake Lanier in the River and Harbor Act of 1946. The Act recognizes that a primary purpose of Lake Lanier is to meet Metro Atlanta's water supply needs as they grow into the future.
1963	CCWMA enters into a contract with the Corps, authorizing it to store water in Allatoona Lake for water supply.
1970s	The Corps, Georgia, ARC, EPA and other federal agencies and local governments engage in a multi-year study of how best to meet Metro Atlanta's long-term water needs. Ultimately, the "Metropolitan Atlanta Area Water Resources Management Study" (MAWRS) concludes that a "reregulation dam" should be constructed below Buford Dam and Lake Lanier in what is now the Chattahoochee River National Recreation Area. This dam would capture peaking hydropower releases from Buford Dam, making them available to meet water supply needs into the future.
1981	CCMWA requests that it be allowed to purchase additional storage space in the Allatoona Lake.

- 1986** Congress authorizes the Corps to construct the reregulation dam envisioned by the MAWRS in the Water Resources Development Act of 1986.
- 1989** After reconsidering the environmental and economic impact of the reregulation dam, the Corps decides that the most efficient means to meet long-term water needs is to “reallocate storage” in Lake Lanier and Allatoona Lake. The Corps releases a Draft “Post-Authorization Change Report” proposing to reallocate storage in Lake Lanier instead of constructing the previously authorized reregulation dam. At the same time, the Corps releases a draft proposal to reallocate more storage in Allatoona Lake for water supply to CCMWA and the City of Cartersville. The Corps proposes to issue new storage contracts for Lake Lanier and Allatoona Lake, under which Metro Atlanta water suppliers would reimburse the federal government in today’s dollars for the cost of constructing the reallocated storage.
- 1990** The State of Alabama begins the litigation by filing suit against the Corps to block proposed actions in the ACF and ACT basins. Over time, other lawsuits by various parties are filed and eventually all of the ACF cases are consolidated in federal court in Jacksonville, Florida before Judge Paul Magnuson. The cases were heard in two phases – one addressing challenges to the Corps of Engineers’ **authority to operate Lake Lanier for water supply** and the second dealing with issues surrounding the **Endangered Species Act**.
- 1992** Alabama, Florida, Georgia, and the Corps sign a Memorandum of Agreement under which they agree to stay Alabama’s lawsuit and study the ACF and ACT Basins so they can reach a water-sharing agreement.
- 1997** The states adopt interstate compacts for the ACF and ACT Basins. The compacts do not include a water allocation formula, leaving that to future negotiations. The compacts specifically provide that water suppliers in Metro Atlanta can increase withdrawals to meet reasonable increases in demand, which all parties understood would occur.
- 2004- 2007** Alabama terminates the ACT Compact and resumes litigation. Alabama challenges the Corps’ water supply operations and CCMWA’s water supply withdrawals from the reservoir.
- 2008** CCMWA completes construction on the Hickory Log Creek Reservoir. Alabama challenges the Clean Water Act permit authorizing construction of the project.
- July 17, 2009** Judge Magnuson issues a ruling declaring that water supply is not an authorized purpose of Lake Lanier, and imposes, in his words, a “draconian” injunction that would have cut metropolitan Atlanta’s water supply in half. Georgia is given three years to obtain Congressional approval for additional authorization.
[Memorandum and Order of the U.S. District Court, Middle District of Florida, In re Tri-State Water Rights Litigation](#)(Phase I) (PDF)
- September 2009** The State of Georgia, the other Georgia parties (ARC, Cobb County-Marietta Water Authority, the City of Atlanta, DeKalb County, Atlanta-Fulton Water

Resources Commission, the City of Gainesville and Gwinnett County) and the U.S. Army Corps of Engineers appeal the district court ruling. The 11th Circuit Court of Appeals agrees to hear the case, over Alabama and Florida's objection.

July 21, 2010

Judge Magnuson issues a ruling rejecting all claims by Florida that Corps' operations violate the Endangered Species Act. He directs the Corps to prepare an updated Environmental Impact Statement under the National Environmental Policy Act that fully considers the effects of current and future water supply withdrawals from Lake Lanier, explaining that "all decisionmakers would benefit from the comprehensive analysis of a range of potential activities in the ACF basin."

Florida appeals, but later dismisses its appeal voluntarily.

[Memorandum and Order of the U.S. District Court, Middle District of Florida, In re Tri-State Water Rights Litigation \(Phase II\)\(PDF\)](#)

June 28, 2011

The 11th Circuit overturns Judge Magnuson's decision, finding that **water supply is a fully authorized purpose of Lake Lanier**. The Court of Appeals explains that Congress intended Lake Lanier to be a primary water supply source for metro Atlanta, and that Congress understood when it authorized the project that water supply needs would grow as the population of metro Atlanta increased.

The Court of Appeals also dismisses challenges by Alabama, Florida, and others to the Army's water supply operations, finding that Alabama's suit was filed before the Army could make any final decisions about how the project should be operated.

The 11th Circuit gave the Corps one year to reevaluate its authority to meet metro Atlanta's future water supply needs in light of the court's conclusion that water supply is an authorized purpose of Lake Lanier.

[11th Circuit Court Ruling\(PDF\)](#)

June 25, 2012

As directed by the 11th Circuit, the Corps issues a legal opinion concluding that it has the legal authority to grant Georgia's entire water supply request, which would allow withdrawals from Lake Lanier and the Chattahoochee River of 705 million gallons per day. The opinion states, however, that an environmental impact statement would need to be completed before any final decisions can be made.

[The Corps' Opinion\(PDF\)](#)

June 2012

The U.S. Supreme Court effectively upholds the 11th Circuit's decision. The Court denies requests by Alabama, Florida, and others seeking review of the 11th dismissal of their suits against the Corps and by denying Alabama's and Florida's requests to review the 11th Circuit's key holding that water supply is an authorized purpose of Lake Lanier.

July 2012

The U.S. District Court for the Northern District of Alabama dismisses Alabama's challenges to the Army's operation of Allatoona Lake and CCMWA's water supply withdrawals for lack of jurisdiction. This resolves identical claims brought by others in Alabama, including Alabama Power Company.

The Court's Opinion is available [here](#).

October 2012 Alabama voluntarily dismisses its challenge to the permit that authorized construction of the Hickory Log Creek Reservoir, which has already been built. This brings the original “Water Wars” litigation to a close.

Water District’s Home page

New & Newsworthy

Florida Case Against Georgia Before Special Master

Florida’s complaint related to equitable apportionment of waters in the Apalachicola-Chattahoochee-Flint (ACF) basin is now before a Special Master appointed by the Supreme Court.

[Learn more about litigation history in the basin](#)

Georgia Seeks Answers to Water Supply Needs

Atlanta Regional Commission, Cobb County-Marietta Water Authority and the State of Georgia filed lawsuits against the U.S. Army Corps of Engineers to prompt a response to water supply requests that have been pending for more than 30 years. Alabama has also challenged the Corps new Water Control Manual for the ACT Basin.

Water Wars Questions

1. What was the original intended purpose for Lake Lanier?
2. Which two river basins does the amount of water getting to the Gulf of Mexico involve?
3. How does the metro Atlanta population today compare to the population in 1992?
4. Which Lakes border Alabama and Georgia?
5. What is the majority of the water in the Flint River basin used for in south Georgia?
6. How is the endangered species act being invoked by Florida in the Multi State Lawsuits?
7. Why is the oyster industry dependent on a steady flow of water?
8. How many gallons of water were used daily by metro Atlanta in 1992? Today?
9. How did the Deep Water Horizon oil spill affect the Oyster Farmers in the Apalachicola area?
10. How are the Federal Powers Act, the Clean Water Act and the Endangered Species Act being invoked in the series of lawsuits?
 - a. Federal Powers Act-
 - b. Clean Water Act-
 - c. Endangered Species Act-
 - d. National Environmental Policy Act-
11. Which type of power plants use a lot of water?
12. What year was Atlanta required devise a long term water use plan?
13. When was a second dam below Lanier proposed in Congress?
14. What is the underlying bedrock for a lot of metro Atlanta and how does that affect the water table?
15. How many more reservoirs are needed for metro Atlanta?
16. What regulations have been passed in the metro Atlanta area to reduce water usage?