

No. 142, Original

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**In The  
Supreme Court of the United States**

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STATE OF FLORIDA,

*Plaintiff,*

v.

STATE OF GEORGIA,

*Defendant.*

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**GEORGIA'S REPLY BRIEF IN SUPPORT OF ITS MOTION TO EXCLUDE  
OPINIONS AND TESTIMONY BY FLORIDA BASED ON THE "LAKE  
SEMINOLE" MODEL**

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## INTRODUCTION

Georgia's opening brief showed that Florida's "Lake Seminole" model does not meet the legal standard for admissibility under Federal Rule of Evidence 702 and *Daubert* because the model is fundamentally unscientific, unprincipled, and litigation-driven. In its opposition brief, Florida does not refute or even contest the key facts that justify exclusion of the "Lake Seminole" model:

1. Dr. Hornberger conducted ResSim modeling of **over 50%** reductions in Georgia's water use and found **no increase** in streamflow into Florida during many months of dry and drought years. (Hornberger Tr. 417:11-418:1.)
2. These ResSim modeling results—nowhere reported or discussed in Dr. Hornberger's report—directly contradict the opinions Dr. Hornberger ultimately offers. (*Id.* 415:21-416:5.)
3. Dr. Hornberger's "Lake Seminole" model was built to guarantee the model output would show that any and all increased flows generated on the Flint River would immediately pass through to Florida. (*Id.* 786:2-786:17.)
4. Dr. Hornberger's "Lake Seminole" model was deliberately engineered to deliver results "consistent with" Florida's litigation "position." (*Id.* 787:13-17.)

Although Florida claims that Georgia's motion "does not remotely resemble the work [Dr. Hornberger] actually performed," these undisputed facts tell a different story. (Fla.'s Opp'n at 1 (hereafter, "Opp'n").) Dr. Hornberger admitted under oath that he chose not to report his own modeling using the well-established Corps' ResSim model, which contradicted Florida's litigation position and strongly supports Georgia's analysis, and instead built a new model (the "Lake Seminole" model) that is rigged to generate only Florida's preferred results. Florida does not and cannot dispute these facts. These uncontested facts establish that Dr.

Hornberger’s “Lake Seminole” model is unreliable, result-oriented, and inadmissible.

Florida’s opposition brief attempts to distract the Court from the fundamental problems with the “Lake Seminole” model by raising a host of irrelevant arguments, none of which justify the model’s admission. For the most part, Florida’s arguments focus on the results of Georgia’s and Florida’s experts’ analyses, not the methodology used by Dr. Hornberger for developing his “Lake Seminole” model. But *Daubert* is about methodology, not results. None of Florida’s arguments change the fact that Dr. Hornberger’s methodology is not “objective,” “independent,” or “based on scientifically valid principles.” *Moore v. Ashland Chem. Inc.*, 151 F.3d 269, 276 (5th Cir. 1998) (en banc).

## ARGUMENT

### **I. FLORIDA DOES NOT CONTEST EVIDENCE ESTABLISHING DR. HORNBERGER’S MODELING AND ANALYSIS ARE CHERRY-PICKED AND RESULT-ORIENTED.**

Florida does not contest any of the key facts supporting Georgia’s motion. *First*, Florida does not contest that Dr. Hornberger conducted a modeling analysis of consumption caps using ResSim, the established model developed and used by the Corps for exactly this type of exercise, and found that decreases in Georgia’s agricultural water use by 50% resulted in 0 cfs increase in state-line flows during key summer and fall months of dry and drought years. (Hornberger Tr. 417:11-418:1.) Florida does not dispute these results, nor does it contest that Dr. Hornberger chose not to include these results in his report. (*Id.* 415:21-416:5.) These uncontested facts show that Dr. Hornberger’s work was “cherry-picked” and

that his “selective use of facts” and “failure to . . . even mention . . . material facts” render his opinions unreliable under *Daubert*. *Holden Metal & Aluminum Works, Ltd. v. Wismarq Corp.*, No. 00 C 0191, 2003 WL 1797844, at \*2 (N.D. Ill. Apr. 3, 2003); *LeClercq v. Lockformer Co.*, No. 00 C 7164, 2005 WL 1162979, at \*4 (N.D. Ill. Apr. 28, 2005); *ABS Entm’t, Inc. v. CBS Corp.*, No. CV 15-6257 PA (AGRx), 2016 WL 4259846, at \*7-8 (C.D. Cal. May 30, 2016); see also *In re Zoloft (Sertraline Hydrochloride) Prods. Liab. Litig.*, MDL No. 2342, 2015 WL 7776911, at \*10, \*16 (E.D. Pa. Dec. 2, 2015) (excluding expert’s opinions because he “selectively” reported results and data “only when such [results and data] support his opinion[s]”).

**Second**, Florida does not contest that after Dr. Hornberger’s ResSim modeling was conducted, Florida tasked a team of litigation consultants with creating a totally new and different model—the “Lake Seminole” model—which is mathematically engineered to force all increased flows generated on the Flint River to pass through to Florida without allowing for the ability of the Corps to operate its five reservoirs in tandem as a single, integrated system to offset increased flows from the Flint River. (Hornberger Tr. 58:15-19, 66:17-67:1.) In other words, the “Lake Seminole” model makes it impossible to generate a result that is inconsistent with Florida’s litigation position. Florida does not challenge this, nor does it challenge that the model was created to deliver Florida’s preferred result by deliberate design. Dr. Hornberger admitted that he created the “Lake Seminole” model to “mimic” Florida’s “view” and “belief” and deliver only results “consistent with” Florida’s litigation position. (Hornberger Tr. 786:2-787:17.) Dr. Hornberger

then relies on the very same model to opine, based on completely circular reasoning, that reducing Georgia's water use would lead to "marked improvements" in state-line flows. Hornberger Rep't at 4 (Feb. 29, 2016). This is not objective, it is not principled, and it is not science. By admitting his "modeling" is designed to deliver Florida's preferred result, Dr. Hornberger's methodology abandons "any pretense of the use of mathematics and statistics in any objective, independent or disciplined way." *Remien v. EMC Corp.*, No. 04 C 3727, 2008 WL 597439, at \*2-3 (N.D. Ill. Mar. 3, 2008); *see also ABS*, 2016 WL 4259846, at \*7-8.

These undisputed facts are sufficient to show that Dr. Hornberger's "Lake Seminole" model analysis is not "scientifically valid" or "the product of reliable principles and methods." *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 589-93 (1993); Fed. R. Evid. 702. By failing to challenge any of the above facts, Florida has failed to satisfy its burden and "prove by a preponderance of the evidence that the testimony is reliable." *Moore*, 151 F.3d at 276. These facts therefore justify exclusion of the "Lake Seminole" model under *Daubert*.

## **II. FLORIDA RAISES UNRELATED AND IRRELEVANT ISSUES TO DISTRACT FROM DR. HORNBERGER'S FLAWED METHODOLOGY.**

Florida's brief does not even attempt to show that Dr. Hornberger's development and use of the "Lake Seminole" model is reliable or objective. Instead, Florida focuses on issues unrelated to the actual subject of Georgia's motion: Dr. Hornberger's flawed methodology. Florida's arguments are both wrong and irrelevant, and none justify admission of the "Lake Seminole" model.

**First**, Florida tries to justify the “Lake Seminole” model’s complete inability to perform a simulation of **decreased** inflows to Lake Seminole by claiming the model is only meant to be used “to answer a specific remedy question”—i.e., the effect of **increased** inflows to Lake Seminole. (Opp’n at 17-18.) Florida says the “Lake Seminole” model simply cannot simulate “unprecedented ahistorical circumstances.” (*Id.* at 18.) But that is the entire purpose of any model—to be able to simulate hypothetical conditions that have not necessarily occurred in the past. Dr. Hornberger claims his “Lake Seminole” model is the “most faithful[]” model ever to exist of the ACF reservoir system (Hornberger Tr. 416:6-16), but then admits that it cannot perform the most basic function of simulating a **decrease** in inflow to the reservoir. That argument makes no sense. If the model can only simulate flows in a single direction, that means there is something fundamentally wrong with the model. Also, Dr. Hornberger used his ResSim model to simulate decreased flows under a future use scenario, so such a flow condition is not so “unprecedented” that a model cannot simulate it. More importantly, for the single, narrow scenario that the “Lake Seminole” model **can** simulate, Florida admits that the “Lake Seminole” model can only generate a single result—the result Florida wants. That is not modeling. That is rigging results.

**Second**, Florida criticizes the Corps’ model, ResSim, claiming that the model does not produce “the most accurate results.” (Opp’n at 2.) Florida points to these purported flaws as the basis for creating the “Lake Seminole” model in the first place. But Florida’s criticisms of ResSim are entirely pre-textual since both Georgia



and Florida witnesses—including Florida’s *own expert* with 30 years of experience in Corps reservoir operations, who was conspicuously dropped from Florida’s trial witness list—have testified to the reliability and robustness of ResSim for performing modeling of reservoir operations under hypothetical conditions such as this.<sup>1</sup> ResSim is the official Corps model for reservoir simulation and water resources management used by the Corps throughout the United States. Florida’s only expert with actual experience managing real-world reservoir operations (Mr. Barton) testified that he was not aware of *any* model better than ResSim at simulating the ACF reservoir system. (Barton Tr. 134:24-135:2.) And Florida conveniently ignores that Dr. Hornberger himself deemed ResSim suitable for his future use modeling analysis that he did include in his report. More fundamentally, even if Florida was justified in creating a new model to replace ResSim—the need to build a new model does not justify building a rigged model.

*Third*, instead of defending Dr. Hornberger’s work, Florida now claims that the “goodness of fit” analysis he performed for the “Lake Seminole” model was only “an interim step” analysis and is actually completely meaningless as a method for assessing the accuracy of the model’s final output. (Opp’n at 16-17.) This is after Dr. Hornberger conducted a “goodness of fit” analysis no less than twice—including to correct for errors identified by Georgia in Dr. Hornberger’s original analysis—and touted the results of his “goodness of fit” analysis as evidence of the predictive

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<sup>1</sup> Mr. Barton described ResSim as “widely used,” “very dependable,” “reliable,” and “state of the art.” Barton Tr. 130:5-134:23. Mr. Barton also testified “that everyone agreed that the model was very much acceptable for use on the ACF system.” *Id.* 134:24-135:2.

capability of his “Lake Seminole” model. Now, confronted with facts that disprove Dr. Hornberger’s conclusion and clearly show the inferiority of the “Lake Seminole” model, Florida is changing its story once again. Florida now expects this Court to believe that the “Lake Seminole” model’s final output has *literally perfect* goodness of fit—i.e., the model is an absolutely flawless reflection of reality, even though those “goodness of fit” results are included nowhere in any of Dr. Hornberger’s reports or supplements produced to Georgia. *Id.* (citing Hornberger Tr. 957:16-21). But no model perfectly matches reality. In fact, the only way to get a perfect fit is to rig the model, because otherwise, modeled results will always differ at least slightly from the observed record. Consequently, Florida’s extreme position that the “Lake Seminole” model is absolutely perfect at matching reality is Florida’s only response to its own expert’s analysis showing the “Lake Seminole” model’s inferiority to ResSim. Florida’s position only proves that Georgia is right about the “Lake Seminole” model in the first place.

*Finally*, Florida points to results from Dr. Hornberger’s ResSim modeling showing a handful of months of “important additional flows” under a particular consumption cap scenario. (Opp’n at 18.) While this argument is obviously irrelevant to Georgia’s motion in that it focuses on results and not methodology, it is also entirely misleading and, upon closer inspection, proves Georgia’s case. Florida does not contest that its own expert modeled a *50%* decrease in Georgia’s agricultural water use and found *no impact whatsoever* on state-line flow for most of June-July 2000; the entire period May 24-June 19, 2007; all of August 2007;

all of July 2012; and all of November 2012. Hornberger Tr. at 417:11-418:1. The “important additional flows” Florida points to are based on a cherry-picked set of data, and do not change the fact that for many months of many dry years, Florida’s own expert analysis shows that the benefit to Florida of severe cutbacks in Georgia’s water use is nothing.

Florida’s claim in its response that cutbacks in Georgia produce “important additional flows” also ignores how much increased *inflow* to the reservoirs actually materialized as *outflow* under that scenario. Saying that a consumption cap produces 700 cfs of outflow in a single month is meaningless without showing what degree of cutback was necessary to produce that increased outflow (e.g., did the 700 cfs increase in flow result from a reduction in water use upstream of 700 cfs, 1,000 cfs, or 1,400 cfs). As a review of Dr. Hornberger’s modeling results shows, many of the months that Florida claims show “important additional flows” at the state line are the result of far greater cutbacks in Georgia’s water use. For example, under Dr. Hornberger’s ResSim own analysis, the average proposed cutback in the May-October period for the drought years of 2007 and 2011 was about 1,200 cfs, while the corresponding average increase in outflows was only about 300-400 cfs, less than *one-third* of the cutback.<sup>2</sup> In other words, Florida’s modeling not only shows many months of *zero* impact, it also shows that for months of *some* impact at the state line, the increase is far less than the amount of the proposed cutback. This is further evidence supporting Georgia’s long-held position—now borne out by

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<sup>2</sup> Hornberger model run: “Gradient\_USACE\_OIF\_02192016\_HalfAgIBTAddBack.”

Florida’s own expert analysis—that the vast majority of flows generated by cutbacks in Georgia would not materialize as additional flow at the state line during the low-flow periods of drought years, as a result of Corps reservoir operations.

**CONCLUSION**

Georgia has put forward evidence that Dr. Hornberger’s “Lake Seminole” modeling analysis is result-oriented, litigation-driven, and unreliable. Florida has failed to challenge most of this evidence. Georgia respectfully requests that this Court grant Georgia’s motion and exclude any opinions or testimony from Florida based on the “Lake Seminole” model under Rule 702 and *Daubert*.

Date: October 7, 2016

Respectfully submitted,

*/s/ Craig S. Primis*

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Before the Special Master

Hon. Ralph I. Lancaster

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**CERTIFICATE OF SERVICE**

This is to certify that the GEORGIA'S REPLY BRIEF IN SUPPORT OF ITS MOTION TO EXCLUDE OPINIONS AND TESTIMONY BY FLORIDA BASED ON THE "LAKE SEMINOLE" MODEL has been served on this 7th day of October, 2016, in the manner specified below:

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