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October 14, 2016

VIA EMAIL

The Honorable Ralph I. Lancaster Jr., Special Master
Florida v. Georgia, No. 142, Original
Supreme Court of the United States
PIERCE ATWOOD LLP
Merrill's Wharf
254 Commercial Street
Portland, ME 04101

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Re: *Florida v. Georgia*, No. 142, Original

Dear Special Master Lancaster:

We write to convey Florida's pre-filed direct testimony in this matter. Below, this letter briefly identifies and summarizes Florida's pre-filed direct testimony in the order in which we will endeavor to present it at trial, subject to possible scheduling issues for particular witnesses. In response to the Court's recent question at the October 11 Pretrial Conference, Florida believes that the Court's review of these materials may be most efficient if conducted in the order they are identified herein.

We also make two specific notes about Florida's pre-filed direct testimony. First, in accord with the Court's recommendation to both parties during its June 8, 2016 status conference, Florida has endeavored to streamline its case by limiting the number of overlapping or duplicative expert and lay witnesses. Second, Florida has also sought to streamline each of its pre-filed direct submissions. Florida proposed what it believed to be reasonable stipulations regarding authenticity. However, Georgia has not agreed to stipulate to authenticity for a broad range of documents, including documents from Georgia's own files. Therefore, many of Florida's pre-filed direct examinations address authenticity. Florida still hopes that Georgia will enter a reasonable stipulation on these issues.

Florida's presentation will center on a number of thematic elements, likely in the following sequence:

FLORIDA'S EFFORTS TO PROTECT THE APALACHICOLA BASIN AND BAY

- Secretary Jonathan Steverson: Secretary Steverson is the current Florida Department of Environmental Protection (FDEP) Secretary. He will describe the Apalachicola Basin and Bay, testify to Florida's investments in and protection of the region, and address the myriad reasons the Apalachicola River and Bay are essential to protect.
- Secretary David Struhs: Secretary Struhs served as FDEP Secretary for several years during which Florida and Georgia attempted to negotiate a reasonable water allocation and a limitation on Georgia's consumptive use in the region, including during the period of the ACF Compact. Secretary Struhs will explain why those negotiations failed.

HARMS TO APALACHICOLA RIVER

- Theodore Hoehn: Mr. Hoehn has served as riverine biologist for the State of Florida since 1984 and has spent his career working on the Apalachicola River. Mr. Hoehn's testimony will describe the riverine ecosystem, including with many photographs and maps, and will identify the deterioration he has seen on the Apalachicola River and the reasons it is occurring.
- Dr. David Allan: Dr. Allan is a Ph.D. biologist and among the most prominent experts in the United States on riverine ecology. Dr. Allan will opine that adequate flow from upstream is essential to maintain river-floodplain connectivity and support biological communities throughout the Apalachicola riverine corridor. He will document harm to the Apalachicola River and floodplain ecosystem over recent decades as a result of the diminished flows from upstream and how additional flow would protect the ecosystem.

HARMS TO APALACHICOLA BAY

- Mark Berrigan: Mr. Berrigan is a former State of Florida employee who spent more than thirty years monitoring the oyster fishery in Apalachicola Bay before retiring in 2013. Mr. Berrigan will explain that the collapse of the oyster fishery in 2012 was caused by the dramatic reduction in the amount of freshwater flows from the Apalachicola River into the Bay. Relying on his first-hand observations and extensive experience with the Bay, he testifies that salt-water predators invaded the Bay when River flows declined significantly in 2011-2012. Mr. Berrigan also describes his Fall 2012 presentation to the County Board of County Commissioners in which he explained to the Apalachicola community that low river flows caused the collapse.
- Dr. David Kimbro: Dr. David Kimbro is a Ph.D. in Ecology who engaged in an extensive multi-year research project evaluating the cause of the 2012 oyster fisheries collapse in Apalachicola Bay. Dr. Kimbro will testify that, from 2013-2016, he engaged in observations, experimentation, and mathematical modeling to determine the cause. Dr. Kimbro concludes that cause of the collapse in 2012 was a reduction in freshwater from the Apalachicola River into Apalachicola Bay. He explains that this reduction allowed

high salinity conditions to develop and in turn promoted oyster disease, oyster predators, and oyster recruitment failure. Dr. Kimbro will also identify the federal government's conclusions that the 2012 Oyster Crash was principally caused by extreme drought year low flows.

- Eric Sutton: Mr. Sutton is the Assistant Executive Director of FWCC. He will testify on the agency's submission of information and data to the federal government (the National Oceanic and Atmospheric Administration, NOAA) in connection with Florida's request for the declaration of a commercial fisheries disaster in Apalachicola Bay following the collapse of the oyster fishery in 2012. Mr. Sutton will testify that NOAA granted the request, highlighting the conclusions of NOAA scientists that drought and low river flows were the principal causes of the collapse. Mr. Sutton will also provide testimony on the efforts FWCC devotes to protecting the oyster fishery in Apalachicola Bay.
- Major Robert Beaton: Major Beaton is a law enforcement officer with the Florida Fish & Wildlife Conservation Commission (FWCC). He will explain the enforcement of fishery regulations governing oyster harvesting and testify that FWCC vigilantly enforces these regulations and dismisses the notion that overharvesting and the collection undersize oysters was pervasive in the Bay.
- Dr. Wilson White: Dr. White is a Ph.D. who specializes in the development of mathematical models to evaluate changes in aquatic species such as oysters. Dr. White will testify that well-established mathematical modeling techniques verify that high salinity conditions in Apalachicola Bay in 2012 led to increased predators in the Bay. The model rejects the idea that over-harvesting caused the collapse of the oyster fishery.
- Dr. Marcia Greenblatt: Dr. Greenblatt has a Ph.D. in water resources engineering. She will testify regarding her modeling of salinity patterns in Apalachicola Bay and how decreased flows have caused higher salinities in the Bay.
- Dr. Patricia Glibert: Dr. Glibert is an estuarine ecologist with a Ph.D. in biology from Harvard University, and she is a tenured professor at the University of Maryland. She will opine that Apalachicola Bay has suffered increasingly from reductions in freshwater flow that are changing the character of the estuary, slowly turning it more marine-like—that is, an environment with water characteristics and species that resembles the Gulf of Mexico or the open ocean, rather than a the unique estuarine environment Florida has been working to preserve. She will describe how further degradation as flows decrease in the future could lead to permanent harm to the Bay ecosystem, but how increases in flow will allow the Bay ecosystem to become stabilized, so that it is able to recover to its historic state.
- Thomas Ward: Mr. Ward is longtime oyster dealer and fisherman born and raised in Apalachicola. Mr. Ward will testify about what has happened to his oyster business and local oyster harvests, how the oyster collapse in Apalachicola Bay has affected the

Apalachicola community, and why, based on first hand observations, Mr. Ward has concluded the collapse of oysters is a result of insufficient freshwater in the Bay.

HYDROLOGY AND ECONOMY

- Dr. George Hornberger: Dr. Hornberger is an elected member of the National Academy of Engineering and a nationally prominent hydrologist. Based on his work in conjunction with other hydrology experts for Florida, Dr. Hornberger will describe the fundamental concepts of hydrology at work in the ACF Basin and explain a series of his expert opinions, including on the impacts of Georgia's consumptive water use.
- Dr. Dennis Lettenmaier: Dr. Lettenmaier is also an elected member of the National Academy of Engineering, and an internationally prominent expert on the relationship between climate and hydrology and streamflow. Dr. Lettenmaier will testify that Georgia's consumptive water use—rather than any long term changes in climate variables in the region—have caused significant declines in flow on the Apalachicola River during drought periods.
- Dr. Peter Shanahan: Dr. Shanahan is a hydrologist with expertise on the movement of water in rivers and streams, including how federal dams and reservoirs affect this movement. Dr. Shanahan will testify that the Army Corps of Engineers would not (and largely could not) operate the federal reservoir system to prevent water conservation by Georgia from resulting in additional streamflow on the Apalachicola River.
- Dr. David Sunding: Dr. Sunding is a former Senior Economist from President Clinton's Counsel of Economic Advisors, and an expert on agricultural economics, natural resource economics and a range of other relevant and highly specialized economic analyses. He has served as an expert witness in a number of water resource disputes between states, and is the chief economic adviser to the State of California in a project to restore streamflows in the Sacramento-San Joaquin Delta Estuary. He will testify to the many feasible and low-cost conservation measures that Georgia could take to lower its water consumption.
- Brett Cyphers: Brett Cyphers is the current Executive Director of the Northwest Florida Water Management District (NFWFMD). He will describe Florida's management of its water resources in the Florida portion of the Apalachicola-Chattahoochee-Flint River Basin and testify about the ways NFWFMD implements its core mission to protect Florida's water supply, water quality, and natural systems.
- Dr. Steven Scyphers: Dr. Scyphers is an expert in the relationships between communities and natural resources. He will testify to the significant sociocultural value of the Apalachicola River and Bay and the impact that the degradation of those resources would have on local communities.
- Dr. G. Mathias Kondolf: Dr. Kondolf is a fluvial geomorphologist, specializing in environmental river management and restoration. He has visited and extensively studied

the Apalachicola River since 2007. He will testify that Florida's efforts to stop dredging on the River (which was previously done for barge traffic to upstream Georgia ports), have allowed a portion of the harm to the River and floodplain to be reversed through natural riverine and fluvial processes. He concludes that maintaining an adequate flow regime is needed to keep the River healthy while it continues the natural process of self-healing.

In addition to these Florida pre-filed direct exams, Florida also intends to call at least two hostile witnesses. Florida is consulting with Georgia regarding their available dates:

(1) Harold Reheis, the former Director of Georgia's Environmental Protection Division. Dr. Reheis will authenticate and describe a number of internal Georgia documents from the 1992-2003 time-period (including a number of the materials cited in Florida's Pretrial Brief.)

(2) Dr. Gail Cowie, a current employee of Georgia's Environmental Protection Division. Dr. Cowie will also authenticate and address a number of internal Georgia documents, including documents demonstrating that Georgia was actively considering but has not yet implemented a number of measures that would increase river and stream flows in the Flint Basin and flows to Florida.

Further, the Court's Case Management Order 20 indicates that that rebuttal testimony would be appropriate if a party could not have been anticipated the need when it filed direct testimony.¹ Under present circumstances, it is difficult to know the scope of Georgia's case and whether further witness testimony might be required for rebuttal purposes. Florida does not currently anticipate calling the individuals below live in this case. If Georgia's presentation suggests that it may be necessary ultimately to call these witnesses, Florida desires to be ready to do so. Accordingly, testimony for the following witnesses has been provisionally filed:

- Dr. Scott Douglass: Dr. Douglass is a civil engineer with expertise on Bay related issues. Dr. Douglass would respond to Georgia's apparent allegations that future sea-level rise will at some point wipe out the Bay, and thus that steps to protect the Bay now are not warranted.

¹ In its recent filings (including its recent Status Report and Pretrial Brief), Georgia repeatedly suggested to the Court that Florida has tried to hide previously designated expert witnesses by withdrawing them from its witness list. As described above, Florida was following the Court's recommendation to the parties at the June 9, 2016 status conference. While Florida strongly objects to the way in which Georgia is attempting to characterize these previously designated witnesses' depositions (and can if necessary respond to those characterizations forcefully and at great length), the Federal Rules of Evidence do not permit Georgia to rely on withdrawn experts' prior statements. *See, e.g., Soitec, SA v. Silicon Genesis Corp.*, No. 99-10826, 2002 WL 34453284 (D. Mass. Feb. 25, 2002) (refusing to permit one party to rely upon deposition testimony of the opposing party's non-testifying expert). Of course, if Georgia is allowed to use such mischaracterized deposition testimony as evidence, Florida will counter those mischaracterizations, consuming additional trial time.

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- Dr. Gerrit Hoogenboom: Dr. Hoogenboom is currently a professor in the University of Florida's Department of Agricultural and Biological Engineering, and was previously was a Professor in Agrometeorology and Crop Modeling in the Department of Biological and Agricultural Engineering at the University of Georgia and founder and coordinator of the Georgia Automated Environmental Monitoring Network. He has over three decades of experience using advanced computer models to help farmers increase productivity while reducing the amount of water needed for irrigation water, including over a decade working in Georgia. If necessary, Dr. Hoogenboom will testify that computer models show how changes in the amount of irrigation water applied to the four major crops in the Georgia portion of the ACF Basin (peanuts, corn, soybean, and cotton) can be feasible. Dr. Sunding relies on the work of Dr. Hoogenboom in developing various remedy scenarios for this matter.
- Dr. Adelbert Bottcher: Dr. Bottcher is an agricultural engineer who specializes in the study and design of irrigation systems and agriculture water management tools. If necessary, Dr. Bottcher will testify that Georgia farmer can use a variety of commercially available technologies and techniques to dramatically improve irrigation efficiency. He will also testify that it is economically feasible to drill deep aquifer irrigation wells and that irrigation water use meters do not over-estimate water use.
- Shannon Hartsfield: Mr. Hartsfield has been an oysterman in Apalachicola for more than 30 years. He may testify about the oyster collapse in Apalachicola Bay, the effect it has had on the oystering community, and why he believes more freshwater is necessary for the oyster population to recover.
- Dr. Samuel Flewelling: Dr. Flewelling is a hydrologist who would testify to the surge in Georgia's water use—particularly since the 1970s, when large-scale pumping for agricultural began its rapid increase.
- Dr. David Langseth: Dr. Langseth is a hydrologist with expertise in groundwater. Dr. Langseth would testify to the strong connection between ground water and surface water and the impacts that Georgia's pumping of water from agricultural water has on streamflow.

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In addition to these provisional pre-filed direct exams, Florida also submits as provisional pre-filed testimony the authentication affidavit of David “Woody” Hicks authenticating a range of documentation he and his colleagues at the Jones Ecologic Center prepared. Mr. Hicks was a technical advisor to Georgia on hydrology issues. Florida believes it is unnecessary, and indeed would waste both the Court’s time and Mr. Hick’s time to call him live simply to perform the same authentication task as his sworn affidavit accomplishes. But because Georgia seems to object to the authenticity of these exhibits, Florida is providing this affidavit to the Court as provisional pre-filed direct testimony.

Respectfully submitted,

/s/ Philip J. Perry
Philip J. Perry
Of Latham & Watkins LLP
Counsel for Florida

cc: Georgia Litigation Team