APPENDIX D

GAEPD MOTION FOR PRELIMINARY INJUNCTION

19 OCTOBER 2007

UNITED STATES DISTRICT COURT
MIDDLE DISTRICT OF FLORIDA
JACKSONVILLE DIVISION

IN RE TRI-STATE WATER RIGHTS LITIGATION	Civil Action File No. 3:07-MD-1-PAM *State of Georgia v. United States Army Corps of Engineers*, No. 3:07-CV-251 (*Georgia II*)

MOTION OF THE STATE OF GEORGIA FOR PRELIMINARY INJUNCTION AND MEMORANDUM OF LAW IN SUPPORT THEREOF

TABLE OF CONTENTS

Page

I. INTRODUCTION AND SUMMARY

The State of Georgia is suffering a drought of historic proportions and is facing potentially dire and irreparable consequences if the United States Army Corps of Engineers does not immediately stop depleting the reservoir storage that remains in the Apalachicola-Chattahoochee-Flint (ACF) River Basin. The Corps' current reservoir operations in the ACF Basin are dictated by what is called the "IOP,"[1] developed by the Corps in 2006. As the Corps will acknowledge, in developing the IOP, the Corps never anticipated a drought of this severity or of this duration. If the Corps continues to make the releases dictated by the IOP, the Corps' own projections show a substantial risk that the federal storage reservoirs in the ACF Basin--Lake Lanier, West Point Lake, and Lake Walter F. George--could be drained of all conservation storage and that, as a result, the flow in the Chattahoochee River and Apalachicola River could drop severely. If this occurs,

[1] "Interim Operations at Jim Woodruff Dam and Release to the Apalachicola River In Support of Listed Mussels and Gulf Sturgeon," as modified ("IOP"). Although its title implies that it applies only to releases from Jim Woodruff Lock and Dam ("JWLD") on the Georgia – Florida border, the IOP in fact dictates the releases that the Corps must make from all of the federal reservoirs in the ACF Basin.

there will be serious water shortages for people living in Georgia and deaths of federally-protected species in the Apalachicola River in Florida.

The State of Georgia must emphasize that the risk that the system will be drained of all or nearly all conservation storage is not speculative and it is not remote. In fact, the projections upon which this Motion is based come directly from the Corps. Climatologists from the Corps, climatologists contributing to the U.S. Drought Monitor, and Georgia's climatologist concur that the ACF Basin currently is experiencing the most severe category of drought (called an "exceptional" drought) and that conditions will remain drier than normal through the winter of 2008. The State of Georgia is unaware of any climatological forecast that is more optimistic. Among the range of hydrological scenarios that the Corps is using in it projections, even the most optimistic shows a steady decline in the federal reservoirs that, even if it does not deplete all system storage this year, will place the reservoirs at even greater risk of emptying next year.

Because these conditions threaten irreparable harm, and because the State of Georgia has exhausted every other means of obtaining relief, the State hereby moves for a preliminary injunction ordering the Corps to operate as follows:

> (1) While Adjusted Basin Inflow is below 5,000 cubic feet per second (cfs), the Corps shall release no more water from JWLD than is necessary to maintain a flow,

> as measured at the Chattahoochee gage on the Apalachicola River, equal to Adjusted Basin Inflow;
>
> (2) When Adjusted Basin Inflow exceeds 5,000 cfs, the Corps shall release no more water than necessary to maintain a flow, as measured at the Chattahoochee gage on the Apalachicola River, of 5,000 cfs;
>
> (3) The Corps shall not deviate from the foregoing flow requirements because of any "rampdown" restrictions.
>
> "Adjusted Basin Inflow" is defined as the amount of water that would flow by Woodruff Dam during a given time period if all of the Corps' reservoirs maintained a constant water surface elevation during that period, plus Georgia's municipal and industrial consumptive demands from the Chattahoochee River and Lake Lanier (which are deemed for purposes of this order to be 457 cfs during October, 369 cfs during November, 352 cfs during December, 302 cfs during January, and 345 cfs during February).

These emergency changes to the IOP would remain in effect until the earlier of: (a) March 1, 2008; (b) a decision on the merits of *Georgia II*, which is scheduled to be resolved in Phase I of this litigation; or (c) further order of this Court, with the understanding that motions for modification of this relief may be appropriate in the event that conditions improve and the threat of depletion of reservoir system conservation storage is materially reduced.

As explained fully below, this Motion meets all of the requirements for preliminary injunctive relief. First, there is a substantial likelihood that Georgia will succeed on the merits of its claim that the IOP is arbitrary and capricious

because the Corps, in developing the IOP, failed to anticipate a drought of this magnitude or build into the IOP failsafe provisions for unanticipated conditions. Second, the harm if the motion is not granted clearly is irreparable in every respect: The damage caused by the Corps' failure to anticipate this drought will be irreparable by the time this case comes up for trial in the ordinary course.

With respect to the balance of the harms and the public interest, the choice is clear. There is a possibility that the Corps' projections are overly pessimistic and that the relief sought by this injunction will turn out to have been unnecessary to avert a severe crisis in the next several months. If this Court should grant this motion and conditions do improve, however, the Court will have the power and ability to order further adjustments or relief as the conditions warrant - and the requested relief expressly contemplates this possibility. On the other hand, if this Court should deny this motion and the Corps' projections turn out to be correct, then it will be too late, the water will be gone. Under these circumstances, clearly, the law, the equities, and common sense compel the same conclusion that this motion must be granted.

The relief sought in this motion will not be sufficient to cure all of the fatal defects in the IOP. This motion is directed at the Corps' operations in the upcoming several months - until March 2008, when a different set of rules for the

Gulf sturgeon spawning season applies. Even if this relief is granted, it is highly likely that unless the Corps voluntarily alters the IOP's releases for the Gull sturgeon spawn, additional preliminary injunctive relief will be necessary to address the fatal flaws in that portion of the flow regime. As set forth in the *Georgia II* complaint, the IOP requires massive releases in the Gulf sturgeon spawning season that far surpass the ability of the system or the needs of the species. In fact, the over-releases during these months earlier in 2007 prevented the reservoirs from refilling and have, in part, contributed to the need to seek the relief sought in this motion. If this motion is granted, there will be a relative improvement in reservoir storage at the beginning of March, when the higher flows are required, but likely not nearly enough to afford the over-releases required by the IOP. Rather than bringing a motion for relief from the rules governing the March through May time frame, however, the State of Georgia has filed this motion focusing on the threat posed by the flow requirement of 5,000 cfs that is in effect from now through February, 2008.

II. FACTS

A. The ACF River Basin

1. Chattahoochee, Flint, and Apalachicola Rivers

The Chattahoochee River originates in northeastern Georgia and flows through Atlanta to the southwest until it turns south and forms, at its western bank, the border between Georgia and Alabama. The river flows for a distance of 434 miles across Georgia before joining the Flint River at Lake Seminole at the Florida border. Upon crossing into Florida, the river becomes the Apalachicola River. The Apalachicola River flows for approximately 106 miles from the dam to the Gulf of Mexico at Apalachicola Bay. The flow of the Chattahoochee River is regulated by a series of reservoirs that the Corps operates. There are no federal storage reservoirs on the Flint River, thus, the Corps of Engineers has no role in determining the flow in the Flint River.

2. Lake Lanier

Lake Lanier is near the headwaters of the Chattahoochee River in northeast Georgia, north of Atlanta. Only 6% of the drainage area of the ACF Basin flows into Lake Lanier. Yet, Lake Lanier provides the majority of storage capacity (64%) among the federal reservoirs within the ACF Basin. As the chief hydrologist for the Corps' mobile district has stated:

> Because it is so difficult to refill Lake Lanier due to its small drainage area, coupled with the fact that storage in Lanier represents such a large and important part of the overall ACF system, particular care should be given in insuring that adequate storage remains in Lake Lanier to insure that all project purposes can be met, particularly during multi-year drought periods.

Affidavit of Dr. Doug Otto, case no 90-1331, (N.D. Ala.), Doc. 502, Exhibit 1, at ¶ 36.

The conservation storage pool (storage pool available to meet project purposes such as water supply, hydropower, and recreation) of Lake Lanier is between elevations 1,071 feet and 1,035 feet above mean sea level. When the conservation storage pool is full, the total quantity of water stored is approximately 1,087,600 acre-feet. At an elevation of 1,056.53 feet (the elevation as of the morning of October 19, 2007), less than 54% of the conservation storage pool remains. At an elevation of 1,050 feet, 35.6% of the conservation pool would remain; at 1,048 feet, 30.3% would remain; at 1,039, 8.6% would remain.

The Cities of Gainesville, Buford, Cumming, the Town of Flowery Branch, and Gwinnett and Forsyth County withdraw water directly from Lake Lanier to meet their municipal and industrial water supply needs. *See* Exhibit 1 at ¶ 26. In addition, the City of Atlanta, Fulton County, Cobb County-Marietta Water Authority, and other local government utilities depend upon releases from Lake

Lanier to provide a flow in the Chattahoochee River for municipal and industrial withdrawals. *Id.* Georgia EPD estimates that approximately 2.85 million people in the Atlanta area depend upon Lake Lanier and the upper Chattahoochee River to meet their water supply needs. *Id.* The City of Gainesville relies on the waste assimilative capacity of Lake Lanier in making its returns of treated effluent to the Lake, and the City of Atlanta, Counties of Cobb and Gwinnett, and other local governments in the metropolitan area rely on the Corps to maintain a flow of 750 cfs in the Chattahoochee River to maintain the waste assimilative capacity of the River. *Id.*

In addition, recreational use Lake Lanier also supports a multi-billion dollar economy. Lake levels have a direct impact on recreation and the recreational economy of the lake. According to the Corps, recreation at Lake Lanier begins to suffer (i.e., some boat launching ramps unusable, most beaches unusable, navigation hazards begin to surface) when the reservoir falls to an elevation of 1,066 feet. Major impacts to concession and recreational areas are observed at an elevation of 1,063 feet. Many docks and ramps are inaccessible, and there are major impediments to navigation, at 1,060 feet.

3. West Point Lake

Another Corps storage reservoir, West Point Lake, is located on the Chattahoochee River approximately 155 miles southwest of Lake Lanier. West Point Lake holds up to 306,100 acre-feet of storage within its conservation storage pool. The top of conservation storage at West Point Lake is 635 feet, and the bottom of the conservation pool is at 620 feet.

The City of LaGrange withdraws water from West Point Lake for municipal and industrial needs. Two of the locations at which LaGrange withdraws water are exposed at the current lake elevation. *Id.* at ¶ 28. The City of West Point relies on withdrawals immediately downstream of West Point Dam. Further downstream, the City of Columbus withdraws water from the Chattahoochee River and relies on the waste assimilative capacity of the Chattahoochee River to meet the needs of approximately 225,000 people. West Point Lake also supports a significant recreational economy. *Id.*

4. Lake Walter F. George (a.k.a., Lake Eufala)

The third Corps storage reservoir on the Chattahoochee, Lake Walter F. George (a.k.a. Lake Eufaula) is located approximately 80 miles downstream from West Point Dam. Lake Walter F. George holds up to 244,400 acre-feet of storage within its conservation storage pool. The top of conservation storage at Walter F.

George is 190 feet, and the bottom of the conservation pool is at 184 feet. Among other things, releases from Lake Walter F. George provide flow in the Chattahoochee River for cooling water at Plant Farley, a nuclear power plant operated by Southern Nuclear Company near Columbia, Alabama.

5. Jim Woodruff Dam/Lake Seminole

Lake Seminole is the southernmost Corps reservoir within the ACF River Basin. JWLD, which discharges into the Apalachicola River at the Georgia-Florida border, has essentially no storage, operates as a run-of-river project, and relies on the storage reservoirs upstream to support its releases, particularly during dry times.

B. The IOP

On March 7, 2006, the Corps introduced a new operating regime for the federal reservoirs in the ACF Basin, the IOP. *See Georgia II* Administrative Record GAII 002499-002526. The announcement of the IOP coincided with the Corps' commencement of formal consultation with the Fish and Wildlife Service concerning the effect of the Corps' ACF reservoir operations on two species of federally-protected freshwater mussels living in the Apalachicola River (the endangered fat threeridge mussel and the threatened purple bankclimber) and threatened Gulf sturgeon, a species of fish that spawns and spends its early life in

the Apalachicola River. The March 7, 2006 Corps letter to the Service that initiated formal consultation stated or at least implied that the subject matter of the consultation was the Corps' existing (pre-IOP) operations, and that the Corps was putting the IOP in place only as a protective measure pending completion of the consultation. *Id.* In later correspondence, however, the Corps revealed instead that the subject matter of the consultation was the IOP, and that, for all practical purposes, the IOP was the Corps' new operating regime, at least unless and until modified by the Corps in consultation with the Service. *See Georgia II* Administrative Record GA II 003996-003998.

The IOP establishes rules for releases from JWLD for the stated purpose of providing an appropriate flow regime for the Gulf sturgeon and two species of mussels. There is one set of rules that applies during the months when the Gulf sturgeon commonly spawns in the Apalachicola River (March to May) and another set of rules that applies for the remainder of rest of the year (June through February). The releases that the Corps is required to make from JWLD depend upon the amount of "basin inflow" – a defined term that is roughly equivalent to the amount of water that is coming into the ACF Reservoirs. In addition, the IOP prescribes certain "down ramping rates," which prohibit the Corps from reducing

the river stage more than a certain amount per day, even if the naturally-occurring Basin Inflows dropped more precipitously.[2]

The Corps developed and began implementing the IOP before seeking input from the State of Georgia (or, to our knowledge, Alabama or Florida) as to the potential impact of the IOP on the federal reservoirs, streamflows, users of water, and environmental and biological needs throughout the ACF Basin. As will be shown in greater detail below, the Corps in particular failed to model the impact of the IOP during a multi-year drought or a drought similar to the one the ACF Basin now is experiencing.

The Service issued its Biological Opinion and Conference Report on the U.S. Army Corps of Engineers, Mobile District, Interim Operating Plan for Jim Woodruff Dam and the Associated Releases to the Apalachicola River ("Biological Opinion") on September 5, 2006. *See Georgia II* Administrative Record GAII 005291-005468. In the Biological Opinion, the Service concluded that the Corps'

[2] On June 12, 2006 the Corps proposed several modifications to the IOP as a result of "lessons learned" by the Corps during the first several months of operation under the IOP. *See Georgia II* Administrative Record GAII 003996-004011. The proposed modifications included a change in the method for computing basin inflows to manage releases under the IOP from the use of the 3-day average to the use of a 7-day average; tying computations of basin inflows and releases to the Chattahoochee gage; clarifying how releases for gradual ramping rate are captured in the volumetric computation of release to meet he volumetric computations of basin inflows; and changes to hydropower generation operation at Jim Woodruff powerhouse.

operations pursuant to the IOP would not appreciably affect the survival and recovery of the federally-protected species that were the subject of the Biological Opinion nor appreciably affect the ability of their critical habitats to serve the essential functions of such habitats. *See Georgia II* Administrative Record GAII 005439-005441. The Biological Opinion stated that the IOP could cause the "take" of the fat threeridge and purple bankclimber mussels within the meaning of the Endangered Species Act if the Corps' decision to store water in the ACF Reservoirs (rather than to release it downstream) allowed these mussels to be exposed. *See Georgia II* Administrative Record GAII 005442-005444.

Based upon its conclusion that the IOP might cause a "take" of federally-protected mussels in low flow conditions,[3] the Service, pursuant to Section 7(b)(4)(C) of the Endangered Species Act, issued "reasonable and prudent measures" that the Corps must follow to obtain protection against liability for the death of individual mussels. In a letter dated February 16, 2007 to the United States Fish and Wildlife Service, the Corps announced that it had modeled and was proposing a modification to the IOP in response to one of the reasonable and

[3] Though not germane to this motion, the State of Georgia, in the *Florida* case, is challenging the Service's conclusion that the minimum flows prescribed by the IOP (assuming they could be maintained without fail) would cause a "take" of federally-protected mussels.

prudent measures. *See Georgia II* Administrative Record GAII 008522-008523. The Corps refers to this modification as "Concept 5."[4]

The IOP, as modified through Concept 5, specifies two sets of rules, one for March through May[5] and the other for June through February. For June through February, the following applies:

> (a) when Basin Inflows are greater than or equal to 23,000 cfs, the Corps would release no less than 16,000 cfs from Woodruff; (b) when Basin Inflows are between 10,000 cfs and 23,000 cfs, the Corps would release between 70% of Basin Inflows, but not less than 10,000 cfs; and (c) when Basin Inflows are less than 10,000 cfs, the Corps would release 100% of Basin Inflows, but not

[4] In the February 16, 2007 letter, the Corps stated that under Concept 5, the Corps would "provide for a higher desired minimum flow of 6,500 for normal to wet years," would lower the minimum flow to 5,000 cfs when composite storage in the ACF Reservoirs falls to the top of Zone 3, and that the Corps would lower "the storage/flow thresholds during the March-May spawning period to 35,800 cfs and 18,000 cfs, respectively."

[5] The IOP calls for higher flows in March through May, during the Gulf sturgeon spawning period:

> During the months of March through May: (a) when Basin Inflows are greater than or equal to 35,800 cubic feet per second (cfs), the Corps would release no less than 25,000 cfs from Woodruff; (b) when Basin Inflows are between 18,000 cfs and 35,800 cfs, the Corps would release between 70% of Basin Inflows, but not less than 18,000 cfs; and (c) when Basin Inflows are less than 18,000 cfs, the Corps would release 100% of Basin inflows, but not less than either 6,500 when the composite storage of the ACF Basin is in Zones 1 and 2, or 5,000 cfs when composite storage falls below the top of Zone 3.

> less than either 6,500 when the composite storage of the ACF Basin is in Zones 1 and 2, or 5,000 cfs when composite storage falls below the top of Zone 3.

The IOP also limits, year around, the rate at which the Corps can "ramp-down" releases as Basin Inflow fall. The ramp-down rates result in further depletion of reservoir storage.

C. Flaws in the IOP

There are at least three critical, and related, flaws in the June to February rules of IOP that have given rise to the rapid drop in reservoir storage last year and this year. First, in designing the IOP, the Corps did not consider the effect that it would have during a drought of the severity that we are now experiencing. The Corps' analysis that preceded its implementation of the IOP evaluated the IOP against historical conditions, with the worst drought being the drought of 2000-2001. As explained further below, over the past several months, the drought of 2007 has been worse than any prior single-year drought. Given that the ACF Basin has experienced droughts with increasing frequency and severity over the past 26 years (1981, 1988, 1998-2001 and now 2006-2007), it could not be unexpected or considered even unlikely that the Basin would see a new record drought developing in the near future. The Corps brushed aside this flaw, however, relying on computer modeling that did not project droughts of the severity that we are now

experiencing. The Administrative Record in this case establishes with convincing clarity that the Corps developed the IOP without considering extreme drought conditions and, had the Corps anticipated conditions such as those we are now experiencing, the Corps would never had adopted the IOP in its present form.

Second, the Corps established a number of flow thresholds and an absolute flow floor for the Apalachicola River without biological justification. Most relevant for purposes of this motion, the Corps imposed an arbitrary and absolute floor of 5,000 cfs. The 5,000 cfs originated in Corps operating procedures as the flow believed to be necessary to satisfy the cooling water needs of a relatively small power plant on the Apalachicola River in Florida. *See* Affidavit of Dr. Doug Otto, case no. 90-1331, (N.D. Ala.), Doc. 502, Exhibit 1, at 7716. Neither the Corps nor the Fish and Wildlife Service has ever, neither before the IOP was developed or after, established that maintaining a flow of 5,000 cfs is necessary to the survival of any federally-protected species. The Biological Opinion concluded that the 5,000 cfs floor was sufficient, but this in no way leads to the conclusion that without it there will be jeopardy to the continued existence or recovery of any species. Nevertheless, the IOP in its current form maintains 5,000 cfs as an absolute minimum, never to be breached.

This leads into the third flaw, which is the fact that the 5,000 cfs floor is imposed without respect to weather conditions and without respect to the amount of reservoir storage remaining. This "hard floor" has no fail-safe mechanism. No matter how dismal the climatic forecast, and no matter how empty the reservoirs, the IOP requires the Corps to continue releasing enough water from JWLD to maintain the 5,000 cfs flow rate in the Apalachicola River.

Georgia is suffering from the real effects of these flaws this year and stands to suffer worse before the year is out. Of even greater concern, however, is that, multiplied over extended or successive droughts, the IOP's flaws will cause even greater harm.

D. Georgia's Challenges to the IOP

Within several weeks after the Corps adopted the IOP in 2006, drought conditions had developed in Georgia, and Georgia began voicing its criticism of this and other flaws in the IOP. The Administrative Record and the record of this litigation show that, on many occasions since March 2006, the State of Georgia has provided detailed written explanations and analyses of its concerns that the IOP, under conditions similar to the worst drought of record (2000-2001) would rapidly and significantly deplete ACF Basin conservation storage. *See Georgia II* Administrative Record GAII 003301-003310, GAII 003522-003523, GAII

003901-003903, GAII 003904-003912, GAII 007570-007575, GAII 007745.01-007745.23; Affidavit of Dr. Wei Zeng, Case no. 06-1473, (N.D. Ga.) Doc. 3, Exhibit A.

When the Corps failed to alter the IOP notwithstanding the problems with it that Georgia had illustrated, Georgia filed the *Georgia II* action on June 20, 2006, seeking judicial review of the IOP, and alleging that the IOP was arbitrary and capricious because, *inter alia,* the Corps failed to consider the possibility of an extended severe drought. Litigation over the IOP quickly shifted to the *Alabama* litigation after Georgia filed its suit. Climatic and hydrological conditions during the summer of 2006 never reached the severity seen this year, and the three States and the Corps were even able to reach a short-term agreement over modification of the IOP during from June 30, 2006 to July 24, 2006. *See* N.D. Al. 90-1331, Doc. 490, Ex. A. The winter of 2006 saw a return to more normal rainfall. Because of the combination of the IOP and the drought, however, Lake Lanier did not refill during the winter of 2006-07 and began the year at a lower level (1063.3) than has been experienced at the beginning of any year since the multi-year drought of 1998-2002 drought, making it more susceptible to significant drawdown as the drought of 2007 developed.

E. Conditions Worsen

Drought conditions returned in 2007. Taken together, climatic and hydrologic conditions show that the drought of 2007 is the worst of record, particularly in the northern part of the State. For the six month period of March through August, a time when Georgia normally receives the majority of its precipitation, rainfall in the northern portion of the ACF Basin was the lowest on record, far eclipsing the droughts of 2000, 1988, and 1986. *See* Exhibit 1 at ¶ 7 and at Attachment A, Figure 2. Over the same months, rainfall within the Flint River Basin and the middle reach of the Chattahoochee River, has matched the levels of the year 2000 as the lowest on record. *Id.* at ¶ 8 and at Attachment A, Figures 3 and 4. Rainfall within the lower reach of the Chattahoochee River was only slightly higher than in the drought of 1986 and was worse than in 2000 and 1988. *Id.* at ¶ 9 and at Attachment A, Figure 5.

Final rainfall data for the month of September throughout the basin is not yet available, but we know that drought conditions have worsened. The United States Geological Survey recently released a fact sheet stating that "the 2007 drought in Georgia worsened during September, bringing many of the State's rivers and

streams to their lowest levels ever recorded for the month."[6] Moreover, the current map of the U.S. Drought Monitor shows the northern third of Georgia to be experiencing "Exceptional" drought, the most severe category. *See* http://drought.unl.edu/dm/monitor.html.

Low precipitation levels have resulted in record low basin inflow, which is the total amount of flow entering the entire ACF system. The year 2000 saw the lowest basin inflow on record as of that time for the May to September period. Georgia's calculations indicate that the May through September cumulative flow in 2007 is 15% to 20% lower than in 2000, the previous all-time low. See Exhibit 1 at ¶ 11 and Attachment A, Figure 6.

Conditions are not projected to improve any time soon. The Southeast Climatologist Consortium forecasted "La Nina" conditions causing a drier and warmer cool season (October 2007 through March 2008). *See* Exhibit A at ¶ 12. The U.S. Drought Monitor's forecast concurs with this assessment, predicting abnormally dry conditions to remain through May 2008.[7] This means that it is

[6] This fact sheet is available at the USGS web site, at http://ga.water.usgs.gov/drought/drought_sept2007.pdf.

[7] *See* http://www.cpc.ncep.noaa.gov/products/predictions/multi_season/13_seasonal_outlooks/color/page4.gif

very likely that we will see the drought worsen in the next few months and may well experience further record-breaking conditions in 2008.

The 2007 drought has taken a serious toll on the federal reservoirs. To make matters worse, the Corps has been operating under the IOP this year. The IOP has required the Corps to release essentially all of the basin inflow entering the system and exhaust large quantities of storage to maintain a minimum flow of 5,000 cfs at Chattahoochee, Florida. The Corps spends a great deal of storage controlling rampdowns after rainfall events and has release a significant quantity of water in excess of even what the IOP requires. *See Georgia II* Administrative Record GAII009957-009960. Dry conditions in the fall of 2006 prevented the Corps from replenishing a "significant credit due to down ramping" that had accumulated in 2006. *Id.* Even though the Corps tried to make up for those over-releases in the spring of 2007, they were only able to recover "a portion of the storage previously used for down ramping." *Id.* In addition, the Corps' efforts to balance over-releases do not include over-releases "for other project purposes, such as hydropower generation, flood control, or to maintain head limits." *Id.*

The current basin inflow to the ACF system as of October 11, 2007, was around 2,000 cfs, which means that the Corps had to use 3,000 cfs-day (or 6,000 acre-feet) of system storage to meet the flow requirement of 5,000 cfs at the

Chattahoochee gage. See Exhibit 1 at Attachment A, p. 2. If basin inflow does not improve significantly in the near future, according to the Corps, this level of augmentation would deplete system conservation storage in 100 days.

As of October 11, 2007, the composite storage of the entire ACF system (the sum of remaining conservation storage from Lanier, West Point, and Walter F. George) was down to 702,907 acre-feet, or 42.9% of the system capacity. By comparison, system storage was at 1.39 million acre-feet on May 1, 2007. *See* Exhibit 1 at Attachment A, p. 2. By Georgia's calculations, as of October 11, 2007, the Corps had used more than 600,000 acre-feet of storage to augment flow at Chattahoochee, Florida over the past 5 months. *Id.*

As of 6 a.m. on October 19, the elevation at Lake Lanier, the largest storage reservoir and the source of drinking water for approximately 2.85 million people, was down to 1056.5 feet.[8] This is more than fourteen feet below its normal pool level and is approximately four feet lower than the elevation a month ago. West Point Lake elevation is at 621.9 feet. This is more than thirteen feet below its normal pool level, and less than two feet away from the bottom of its conservation pool. At this elevation, only approximately 9% of conservation storage in the lake

[8] *See* Corps' Mobile District water management website, http://water.sam.usace.army.mil/acfframe.htm.

remains. The elevation at Lake Walter F. George as of the same date, was at 185 feet, which is only a foot away from the bottom of its conservation pool. At that elevation, only 17.5% of conservation storage remains.

The State of Georgia has been in active daily discussions with the officials at all levels of the Corps and the U.S. Fish and Wildlife Service in an effort to secure meaningful relief. On October 12, 2007, Georgia EDP Director Carol A. Couch wrote Col. Byron Jorns, the Commander and District Engineer of the Corps, Mobile District, explaining Georgia's concerns and requesting, formally, the relief that Georgia seeks in this Motion. Dr. Couch's letter is attached hereto as Attachment A to Exhibit 1. In his October 17, 2007 response, Col. Jorns stated:

> Due to the severe nature and predicted duration of the continuing drought conditions, we have initiated discussions with the USFWS to address concerns that remaining storage within the ACF system may be depleted before drought conditions abate. This potential depletion could result in the inability to operate the projects in a way that fulfills all the authorized purposes, to comply with the provisions of the ESA, and to assure that operational decision making minimizes the adverse effect on other water uses and needs within the basin during this time of drought Our discussions are exploring possible interim drought contingency options that may provide some temporary modifications to the IOP and could allow some additional water to be stored to place the reservoirs in a better position to meet minimum needs if the drought conditions continue into 2008 as predicted. We are reviewing the additional information you have provided, as well as information we are developing on the potential impacts to listed species, to assist in our evaluation of possible options.

See Exhibit 1, at Attachment B. Though Col. Jorns' letter is helpful to the extent that it recognizes that the Corps has the flexibility to make temporary modifications to the IOP, the letter falls short of making any commitment and gives no time-table for the implementation of any changes.

F. Georgia's Conservation Measures

Georgia takes seriously its obligation to conserve water. In response to these exceptional drought conditions, on September 28, 2007, Georgia EPD took the unprecedented step of imposing the highest level of restrictions on water use in our state's history. Since imposing these restrictions, we have already seen a dramatic 15% drop in water use in the Atlanta metro area alone. *See* Exhibit 1 at ¶ 14. Alarmed by the reality that the water sources they rely on are being drained, many communities and industries have gone beyond the state ban on outdoor watering by limiting other water uses and implementing even more rigorous conservation measures. *Id.*

As to agriculture, the season of heaviest water consumption is the earlier in the year. If drought conditions persist as projected, the Director of Georgia EPD has determined that it is likely that in 2008, she will declare a drought under the Flint River Drought Protection Act, which is codified at O.C.G.A. § 12-5-540 through 12-5-550. *Id.* at ¶ 15. Under that Act, in order to invoke the Act in any

given year, the EPD Director must declare a drought prior to March 1 of the given year. The Act triggers the authority of the EPD Director to determine the agricultural acreage that should not be irrigated to maintain acceptable streamflows in the Flint River and conduct an "irrigation reduction auction" to limit irrigation. *See* O.C.G.A. § 12-5-546.

G. Current Projections of the Impact on Reservoir Levels

On or about October 4, 2007, the Corps provided Georgia, Alabama, Florida, and interested stakeholders with the computer models that it is using to project the ACF Basin elevations that will result from the IOP for the remainder of this year. As the ACF Basin is in a drought worse than any experienced previously, the Corps' simulation does not assume that the amount of water flowing into the basin will be as in the past. Instead, it assumes multiple scenarios as to inflows. One scenario is that inflows for each individual day will be within the lower 2% for that day over the historical record. A second scenario assumes that inflow for each day will be in the lower 5% of the historical record. A third assumes that inflow for each day will be in the lower 10% of the historical record.

These Corps models paint a very grim picture. Assuming that inflow will be at the 10% level, Lake Lanier would fall to the extreme level of below 1,048 feet by the end of this year, and if the drought continues its present severity throughout

2008, Lake Lanier would fall to 1044 feet by the end of February 2008, and at least 1,035 feet, the bottom of conservation storage (or lower) by the end of 2008. *See* Exhibit 1 at Attachment A, Figure 16, and Attachment C, Figure 1. Both West Point Lake and Lake Walter F. George would hover around the bottom of their conservation pools from late November through all of 2008. *Id.* If one assumes that inflow will be at the 5% or 2% levels, the results will, of course, be even worse. Lake Lanier would fall as low as 1,039 feet by the end of this year and would fall to the bottom of conservation storage (1,035 feet) before the end of January 2008. *See* Exhibit 1 at Attachment A, Figure 12. West Point and Walter F. George would reach the bottom of their conservation storage pools beginning in November and would remain empty through next February. *Id.* at Figures 13, 14. Even if one assumes, more optimistically, that inflow conditions in 2008 will improve to year 2000 levels, the current IOP rules will cause Lake Lanier to fall to between 1,044 and 1,038 feet by the end of 2008. *See* Exhibit 1 at Attachment C, Figure 5. The Corps' own modeling results show that when all conservation storage is depleted (at 1,035), the 5,000 cfs flow in the Apalachicola River would not be maintained and would fall well below 1,000 cfs. *See* Exhibit A, Attachment A, Figure 11.

It could (and undoubtedly will) be argued that the 2% and even the 5% inflow assumptions are overly pessimistic because they assume so little rain. It must be remembered, however, that inflows for March through August this year, particularly in the northern part of the basin where Lake Lanier is located, were substantially (15-20%) below the levels seen in the previous drought of record, the drought is believed to have worsened during September, and dry conditions are forecasted for the winter. Therefore, something worse than even the worst conditions experienced historically, over the next few months, should be assumed. Moreover, even if the inflow conditions are somewhat pessimistic, that does not mean that the modeled results are overly pessimistic. In fact, some key assumptions of the model are overly optimistic as compared with actual Corps operations. For example:

(1) The models do not take into account the effect of the IOP's rampdown limitations, which cause the Corps to draw from storage to limit river fall rates following rainfall events. Those rampdown restrictions can cause rainfall events to deplete, rather than enhance storage, particularly where the rainfall occurs below one or more of the federal reservoirs.

(2)The model assumes that the Corps will release precisely 5,000 cfs, not the more than 5,130 cfs that the Corps actually releases as a minimum because of

physical limitations of Jim Woodruff Dam, or other over-releases that the Corps makes due to operational imprecision.[9] Though this 130 cfs difference appears insignificant, the average net consumption within the State of Georgia for municipal and industrial water supply out of the ACF Basin for the month of October will be approximately 450 cfs.

At present, actual inflows currently appear to be tracking at between the 5% and 10% levels. The drawdown of Lake Lanier has followed the 10% scenario over the past couple of weeks, but West Point has dropped more precipitously than under the 10% scenario, necessitating an increase in the releases that will be needed from Lake Lanier to maintain the 5,000 cfs flow in the Apalachicola River.

H. Impact of Low Reservoir Levels and Flows

The effects of draining the federal reservoirs to these levels would severe and would be felt throughout the ACF Basin.

Operating the ACF River Basin under the IOP is causing a steady and dangerous depletion of system storage. The depletion of system storage during the dry months of 2006, and the releases prescribed by the IOP during the Gulf sturgeon spawning season, prevented Lake Lanier from refilling in 2007 and made

[9] *See* http://waterdata.usgs.gov/nwis/uv/?site_no=02358000&PARAmeter_cd=00060,00065; Vaughn e-mail, *Georgia II* Administrative Record GAII 010324.

it more susceptible to significant drawdown this year. Even with the granting of the relief sought in this motion, Lake Lanier will start 2008 at a dangerously low level, and again be overtaxed during the 2008 sturgeon season.

As noted above, applying the Corps 10% hydrology, which the system is currently tracking, Lake Lanier would fall to 1052 feet by the end of December 2007, to 1,044 by February 2008, and to 1,035 feet by the end of 2008, while West Point Lake and Lake Walter F. George will remain around the bottom of their conservation pools. *See* Exhibit 1 at Attachment C, Figure 1. Even if conditions in 2008 improve to only as bad as in 2000, Lake Lanier will fall to between 1,044 and 1,038. *Id.* at Figure 5. Moreover, conditions will continue to fall with the return of the wetter season in March, 2008, because the IOP's rules for the Gulf sturgeon spawn will not allow the lakes to keep pace with the demands.

In addition, a number of local governments have water supply intakes within the Lake Lanier conservation pool that would be exposed. The shared intake for Forsyth County and the City of Cumming withdraws at levels of 1,053 feet and 1,048 feet. *See* Exhibit 1 at ¶ 27. The State's best information at this point is that as the lake falls below 1,053, Forsyth and Cumming will lose approximately one-third of their pumping capacity. *Id.* The other third will be lost at an elevation below 1,048 feet. The City of Buford, with intakes at 1,062, 1,052, 1,042, and

1,032 feet will experience serious water supply problems if Lake Lanier falls to 1,035 feet. *Id.*

The City of LaGrange will also incur substantial hardship as West Point Lake continues to drop. The city operates with intakes at levels 628, 623, 618, and 600 feet. Current lake elevations are at 621.88 (midnight on October 19), which leaves the top two intakes out of the water. There is an older intake at 582, but it apparently has never been used and is probably not functional. In addition, the low lake levels have increased blue-green algae outbreaks, which causes significant increases in treatment costs and other water supply problems. Also at West Point Lake, virtually all shoreline related recreation and most surface use has been eliminated. Damage to marinas and residential docks and boats is extensive. Marinas, almost all boat ramps, campgrounds, beaches and other facilities are no longer accessible or usable. *Id.* at ¶ 28.

Moreover, as the reservoir falls lower in the conservation pool, the quality of the water decreases and the cost of treating the water so that it is suitable for domestic use increases significantly. *Id.*

At the elevations experienced this summer and fall at Lake Lanier, West Point Lake, and Lake Walter F. George, Georgia already has suffered a major economic impact. It is highly unlikely that Lake Lanier will refill or even return to

above recreational impact levels next summer based upon the Corps projections through the end of this year, and that, if the drought continues into next year, Georgia once again will see greatly reduced revenue associated with recreation at these lakes.

III. REQUESTED RELIEF

Georgia prays for an Order of this Court stating as follows:

> The Corps shall alter the Interim Operations Plan so as to operate in accordance with the following:
>
> (1) While Adjusted Basin Inflow is below 5,000 cubic feet per second (cfs), the Corps shall release no more water from JWLD than is necessary to maintain a flow, as measured at the Chattahoochee gage on the Apalachicola River, equal to Adjusted Basin Inflow;
>
> (2) When Adjusted Basin Inflow exceeds 5,000 cfs, the Corps shall release no more water than necessary to maintain a flow, as measured at the Chattahoochee gage on the Apalachicola River, of 5,000 cfs;
>
> (3) The Corps shall not deviate from the foregoing flow requirements because of any "rampdown" restrictions.

These emergency changes to the IOP shall remain in effect until the earlier of:

> (1) March 1, 2008; or
>
> (2) A decision on the merits of *Georgia II*, which is scheduled to be resolved in Phase I of this litigation; or
>
> (3) Further order of the Court.

> Modification of this relief is appropriate in the event that climatic and hydrological conditions within the ACF Basin improve in a manner that materially reduces the threat of serious and irreparable depletion of reservoir system conservation storage.
>
> For the purposes of this preliminary injunction, "Adjusted Basin Inflow" is defined as the amount of water that would flow by Woodruff Dam during a given time period if all of the Corps' reservoirs maintained a constant water surface elevation during that period, plus Georgia's municipal and industrial consumptive demands from the Chattahoochee River-Lake Lanier System (which are deemed for purposes of this motion to be 457 cfs during October, 369 cfs during November, 352 cfs during December, 302 cfs during January, and 345 cfs during February).

The benefits of granting the requested relief include the following (all using the Corps' basin inflow projections):

- Assuming the most dire conditions, that inflow is at or below the 2% level for the rest of 2007 and through 2008, Lake Lanier will be approximately 6 feet higher (1,047 versus 1,039 feet) as of the end of 2007, and will retain at least some conservation storage until June 2008. *See* Exhibit 1 at Attachment C, Figure 1. The models project West Point Lake and Lake Walter F. George to reach the bottom of conservation storage, but at least there would be some conservation storage remaining in the system to meet emergency needs. *Id*. at Figures 2, 3. The flow in the Apalachicola River at

Chattahoochee, Florida would not drop below 2,000 cfs, whereas if the IOP continues unabated, the flow will drop below 2,000 cfs for more than a month and will reach a low of under 1,000 cfs. *See* Exhibit 1 at Attachment A, Figure 15.

- If inflow is in the lower 2% for the remainder of 2007 and improves to 2000 hydrologic conditions in 2008, Lake Lanier will remain approximately eight feet higher throughout 2008 than the elevation that will result if the IOP is not modified. *See* Exhibit 1 at Attachment C, Figure 5.
- If inflow is in the lower 10% for the rest of 2007 and 2008, Lake Lanier would be approximately seven feet higher (1,054 versus 1,047 feet) as of the end of this year and would retain at least some conservation storage through most of 2008 to support Georgia's needs and provide at least some flow support at Chattahoochee, Florida. *See* Exhibit 1 at Attachment C, Figure 1. West Point and Walter F. George would remain slightly higher than under the IOP in 2008. *Id*. at Figures 2, 3.
- If inflow is in the lower 10% for the remainder of 2007 and improves to 2000 conditions in 2008, Lake Lanier will be approximately 10 feet higher as of the end of 2008. *Id*. at Figure 5. West Point and Walter F. George

would remain slightly higher than under the IOP for much of 2008. *Id*. at Figures 6, 7.

IV. ARGUMENT AND CITATION OF AUTHORITY

A. Legal Standard

The purpose of a preliminary injunction is "to protect a party from irreparable harm and to preserve the court's power to render a meaningful decision after a trial on the merits." *Alabama v. United States Army Corps of Engineers*, 424 F.3d 1117, 1127 (11th Cir. 2005). The traditional standard for issuing injunctive relief in the Eleventh Circuit requires that the moving party show: (1) a substantial likelihood of success on the merits; (2) that irreparable injury will be suffered if relief is not granted; (3) that the threatened injury outweighs the harm the relief would inflict on the non-movant; and (4) that entry of relief would serve the public interest. *Id.,* at 1128.[10]

[10] Some might characterize this motion as seeking a mandatory injunction and, as such, is governed by those cases holding that a higher standard must be met. But this is largely semantics: the State could move the Court for an order directing the Corps to *stop* operating the reservoirs in accordance with the IOP – a request for relief that would be unquestionably prohibitory but also would require the Court to enter far more coercive relief. Even under a higher standard, however, Georgia has met its burden.

B. Likelihood of Success on the Merits

"A substantial likelihood of success on the merits requires a showing of only *likely* or probable, rather than certain success." *Schiavo v. Schiavo*, 358 F. Supp. 2d 1161, 1163 (M.D. Fla. 2005). When the balance of the equities weighs in favor of issuing injunctive relief "the Plaintiff need only show a substantial case on the merits." *Id.* (internal quotation omitted).

In its *Georgia II* Amended Complaint (Case 3:07-md-00001-PAM-HTS, Doc. No. 15), the State of Georgia seeks judicial review of the IOP. Georgia alleges that the IOP should be set aside because it requires substantially higher releases from the federal reservoirs in the ACF Basin than have occurred in the past or that are "necessary or prudent" for the preservation of the endangered species. ¶ 8. Georgia further alleges that the IOP "was adopted without considering all relevant factors and without following the procedures prescribed for adoption of water control plans under applicable regulations." *Id.*

In the *Georgia II* complaint, and in statements to the Corps both before and after the filing of the *Georgia II* litigation, the State of Georgia has consistently maintained that the IOP was flawed because the Corps in formulating the IOP did not take into consideration the possibility of a sustained severe drought. *E.g., Amended Complaint,* ¶ 49. The evidence in the Administrative Record establishes

without question that the Corps in fact did not anticipate a drought as severe as the one of 2007. As discussed above, none of the computer modeling that the Corps performed in connection with the development of the IOP showed reservoir levels or river flows as low as the system is now experiencing. If the Corps had considered more seriously the data and hydrologic modeling presented to the Corps by the State of Georgia and the ARC, it would have taken the possibility of a severe drought into consideration and adjusted the IOP's flow rules accordingly.

Under the APA, agency action is arbitrary and capricious if the agency "entirely failed to consider an important aspect of the problem." *Motor Vehicle Mfg. Assoc. v. State Farm Auto Ins. Co.,* 463 U.S. 29, 43 (1983). Though the recent weather has provided early proof of the severity of the Corps' error, the mistake was made when the IOP was formulated.

The Corps implemented the IOP under the assumption that the region would never experience a drought worse than what had been recorded in the past fifty years. Statisticians can prove that such an assumption is likely to be proven false in several years. Indeed, with the previous worst drought occurring in 2000 and 2001, and the second worst drought occurring in the 1980's, the Corps' guiding assumption in developing the IOP was that, contrary to the experience of the past

twenty years, the ACF River Basin was about to enjoy a long period without a new record drought.

In addition, the Corps also failed to build into the IOP a "fail-safe" mechanism that would suspend the flow augmentation rules in the event that an exceptional or sustained drought threatened the ability of the system to meet basic needs. Taken at face value, the IOP requires the Corps to release 5,000 cfs -- a number that has never been justified from a biological perspective -- into the Apalachicola River even after the reservoirs have been emptied of all their storage. This is, of course, a physical impossibility. Yet, the Corps has in fact acknowledged that if these weather conditions persist, there will come a day when it simply runs out of water and can meet no flow requirement. But, until then, the Corps fully intends to release 5,000 cfs even though a lower release would clearly be more responsible for all the species, human and endangered, relying upon ACF River Basin.

There is, therefore, a substantial likelihood that the State of Georgia will prevail on its claim that the Corps' adoption of the IOP was "arbitrary and capricious" and should be set aside.

C. Irreparable Harm

There can be no dispute that the harm that the State of Georgia will endure if this motion is not granted is in every sense "irreparable." The harm will be irreparable -- in the sense that the granting of the motion is necessary to preserve the issue for trial -- because the failure to grant the motion during this extreme drought will in effect deny Georgia the relief it seeks on the merits -- which is relief from the IOP when the ACF Basin is experiencing an extreme drought. *See United States v. State of Alabama*, 791 F.2d 1450, 1459 (11th Cir. 1986) ("The purpose of a preliminary injunction is to prevent irreparable injury so as to preserve the court's ability to render a meaningful decision on the merits.") The harm will be irreparable -- in the sense that the losses sustained cannot be recovered in the future -- because, obviously, there is no way to put the water lost back into the system. Finally, the harm will be irreparable in the economic sense in that there will be no way to calculate the actual losses sustained by the State and its citizens who rely so heavily on the system. *See Phillips v. Crown Central Petroleum Corp.*, 602 F.2d 616, 630 (4th Cir. 1979) ("A future injury of uncertain date and incalculable harm is irreparable harm, and protection from such an injury is a legitimate end of injunctive relief."); *Danielson v. Local 275, Laborers International Union of North America*, 479 F.2d 1033, 1037 (2d Cir. 1973)

("Irreparable injury is suffered where monetary damages are difficult to ascertain or are inadequate.").

D. Balance of Harms and the Public Interest

Given the nature of the interests involved in this case, the considerations of the balance of harms and the public interest collapse: granting the motion is in the public interest because the benefits of granting the motion far outweigh its costs.

The benefit of granting the motion is that it will materially reduce the risk of a catastrophic loss of total system storage. *See* Part III, *supra*.

On the other side of the equation, granting the motion will unfortunately result in flows in the Apalachicola below 5,000 cfs. This harm is outweighed by the benefits for the following reasons.

First, except when the Adjusted Basin Inflows are over 5,000 cfs, the relief sought in this motion is simply to eliminate the augmentation of flows to the Apalachicola, not to reduce those flows to a level substantially below what would be occurring if there were no reservoirs. Second, there is little or no biological or environmental "magic" associated with the 5,000 cfs figure. The 5,000 cfs figure came from the Corps, not from the Fish and Wildlife Service. In fact, the Corps' stated purpose for the original 5,000 cfs flow in its water control plan was to assure "an adequate water supply for downstream industrial use." Affidavit of Dr. Doug

Otto, Case No. 90-1331 (N.D. Ala.), Doc. 502, Exhibit 1, at 7116. In the Biological Opinion, the Service did *not* conclude that 5,000 cfs was necessary for the survival of any endangered species. Instead, the Service took the 5,000 cfs figure from the Corps – and the reason the Corps had given for flows of 5,000 cfs was to sustain Florida's *industrial* use downstream – and concluded that flows of 5,000 cfs would not run afoul of the Endangered Species Act. *See* Declaration of Gail Carmody, Case No. 90-1331 (N.D. Ala.) Doc. 494, Exhibit 1, at p. 10.

The State of Georgia is not arguing that reduced flows in the Apalachicola will not cause some harm. But there is no evidence that it will cause a violation of the Endangered Species Act. Moreover, if the Corps' own projections are correct, keeping the flows at the artificial 5,000 cfs level will not be possible in any event if this severe drought conditions persists. If the motion is not granted, there is a significant risk that the Corps will empty the reservoirs and be physically unable to meet the 5,000 cfs flow requirement or the water supply needs up and down the ACF Basin. If there were enough water, of course flows of 5,000 cfs or greater would be beneficial. But that is not the choice. The choice is instead between emptying all the reservoirs now to meet the 5,000 cfs level for 100 days – the "eat, drink, and be merry" option – or saving what little storage is left to be able to survive this persistent and severe drought.

This motion is necessarily based upon projected rainfall and resulting hydrologic conditions. Those conditions may improve to an extent that the relief sought in this motion is no longer necessary to protect the system. If that occurs, the State of Georgia agrees that the issue should be revisited and the relief revised to the extent necessary. If the relief sought in this motion is not granted, however, and the projections prove accurate, the water storage necessary to survive a sustained drought will have already been lost. The balance of harms, and the public interest, clearly support the granting of this motion.

Georgia has conferred with the other parties regarding this motion. The Atlanta Regional Commission, Lake Lanier Association, and Gwinnett County support the motion, and Southeastern Federal Power Customers conditionally support this Motion. The City of Columbus, which is not yet a party but will become one if the Judicial Panel on Multidistrict Litigation transfers Columbus' suit against the Corps to this Court, also supports this Motion. The Federal Defendants, Florida, and Alabama, oppose the motion. All parties wish to be heard with regard to the Motion.

V. CONCLUSION

For the foregoing reasons, Georgia's Motion for Preliminary Injunction should be granted.

Respectfully submitted this 19th day of October, 2007.

THURBERT E. BAKER
GA Bar No. 033887
Attorney General

ROBERT S. BOMAR
GA Bar No. 066400
Deputy Attorney General

ISAAC BYRD
GA Bar No. 101150
Deputy Attorney General

/s/ R. Todd Silliman
Clay C. Long
Georgia Bar No. 457000
Bruce P. Brown
Georgia Bar No. 064460
R. Todd Silliman
Georgia Bar No. 646005
John C. Allen
Georgia Bar No. 159073
McKenna Long & Aldridge, LLP
303 Peachtree Street, N.E.,
Suite 5300
Atlanta, Georgia 30308
(404) 527-4000
(404) 527-4198 (Fax)

ATTORNEYS FOR THE STATE OF GEORGIA

CERTIFICATE OF SERVICE

This is to certify that on this 19th day of October 2007, a true and correct copy of the foregoing MOTION OF THE STATE OF GEORGIA FOR PRELIMINARY INJUNCTION AND MEMORANDUM OF LAW IN SUPPORT was filed with the Clerk of the Court using the CM/ECF system, and was served upon counsel of record by all parties to this proceeding by electronic notification or by depositing copies thereof in United States Mail, postage prepaid, properly addressed to:

Attorneys for Alabama Power Company
Edward S. Allen
Thomas L. Casey, III
C. Grady Moore, III
Spencer M. Taylor
Sean W. Shirley
Balch & Bingham LLP
1901 Sixth Avenue North
PO Box 306
Birmingham, AL 35201-0306

Attorneys for Atlanta Regional Commission
Patricia T. Barmeyer
Lewis B. Jones
King & Spalding LLP
1180 Peachtree Street, NE
Atlanta, Georgia 30309

Eddie Leitman
Lynne Stephens O'Neal
Christopher R. Hood
Leitman, Siegal & Payne, P.C.
Land Title Building, Suite 400
600 20th Street North
Birmingham, Alabama 35203-2601

Attorneys for Gwinnett County
William M. Droze
Gregory W. Blount
David Montgomery Moore
Troutman Sanders LLP
Bank of America Plaza
600 Peachtree St., NE., Ste 5200
Atlanta, Georgia 30308

Attorney for Lake Lanier Association
Clyde Y. Morris
Clyde Y. Morris, LLC
2375 Whippoorwill Lane
Gainesville, Georgia 30501

Attorney for Sierra Club
J. Gregory Allen
Beasley, Allen, Crow, Methvin, Portis & Miles, P.C.
Post Office Box 4160
Montgomery, Alabama 36103-4160

Attorneys for Southeastern Federal Power Customers, Inc.
Orlando E. Vidal
Clinton A. Vince
Sullivan & Worcester
1666 K Street, NW, Suite 700
Washington, DC 20006

David A. Fitzgerald
Schiff Hardin
1666 K Street Suite 300
Washington, D.C. 20006

Attorneys for State of Alabama
R. Craig Kneisel
William D. Little, III
Office of the Attorney General
Civil Environmental Protection Div.
Room 303, 11 South Union Street
Montgomery, Alabama 36130

Matthew H. Lembke
Joel M. Kuehnert
William Crumbly Byrd, II
Bradley Arant Rose & White, LLP
1819 5th Avenue North
Birmingham, AL 35203

William S. Cox, III
John M. Johnson
Nikaa Baugh Jordan
Warren B. Lightfoot
W. Larkin Radney, IV
Haley A. Andrews
Jackson R. Sharman, III
Lightfoot, Franklin & White, LLC
400 20th Street North
Birmingham, AL 35203

Attorneys for State of Florida
Jonathon A. Glogan
Florida Attorney General's Office
Department of Legal Affairs
P.S.-01, The Capital
Tallahassee, FL 32399-1050

Parker D. Thomson
Luca R. Bronzi
Natalie Barefoot
Hogan & Hartson, L.L.P.
1111 Brickell Avenue, Suite 1900
Miami, Fl 33131

James T. Banks
Hogan & Hartson, L.L.P.
555 Thirteenth Street, N.W.
Washington, D.C. 20004

Donald Blankenau
Jaron J. Bromm
Thomas R. Wilmoth
Blackwell Sanders Peper Martin LLP
Suite 1400
206 S. Thirteenth Street
Lincoln, NE 68508-2019

Lauren J. Caster
Fennemore Craig PC
3003 North Central Avenue, Suite 2600
Phoenix, AZ 85012-2913
Christopher M. Kise
Executive Office of the Governor
PL 08, The Capital
400 South Monroe Street
Tallahassee, Florida 32399-0001

Attorneys for United States Corp of Engineers and Federal Defendants
James Anthony Maysonett
Jennifer L. Allaire
US Department of Justice, Environment & Natural Resources
Ben Franklin Station
601 D. Street, N.W.
Washington, DC 20004

Ruth Ann Storey
US Department of Justice, Environment & Natural Resources
General Litigation Section
Ben Franklin Station
PO Box 663
Washington, DC 20044-0663

Joseph A. Gonzales
Deborah Shoemake
U.S. Army Corps of Engineers
109 St. Joseph Street
Mobile, Alabama 36601

Alice H. Martin
Sharon D. Simmons
US Attorney's Office
1801 Fourth Avenue North
Birmingham, AL 35203-2101

Julia B. Anderson
Stephen H. McClain
Mary Christine Roemer
US Attorney's Office
Northern District of Georgia
75 Spring Street, SW
600 United States Courthouse
Atlanta, GA 30303

Attorney for United States Fish and Wildlife Service and Federal Defendant
James A. Maysonett
U.S. Department of Justice
ENRD, WMRS
601 D. Street, N.W.
Washington, DC 20004

Attorneys for Water Works and Sanitary Sewer Board of the City of Montgomery
Robert E. Sasser
Charlanna Spencer
R. Brian Tipton
Mathew J. Bauer
Sasser, Littleton & Stidham, P.C.
One Commerce Street, Suite 700
P.O. Drawer 4539
Montgomery, Alabama 36102-4539

Chad E. Stewart
Marsh, Cotter & Stewart LLP
203 East Lee Street
P.O. Box 310910
Enterprise, AL 36331

MDL Panel
Jeffery N. Luthi
Clerk of the Panel
One Columbus Circle, NE
Thurgood Marshall Federal Judiciary Building
Room G-255, North Lobby
Washington, DC 20002

/s/ R. Todd Silliman
Counsel for the State of Georgia

UNITED STATES DISTRICT COURT
MIDDLE DISTRICT OF FLORIDA
JACKSONVILLE DIVISION

IN RE TRI-STATE WATER RIGHTS LITIGATION	Civil Action File No. 3:07-MD-1-PAM *State of Georgia v. United States Army Corps of Engineers*, No. 3:07-CV-251 (*Georgia II*)

DECLARATION OF CAROL A. COUCH, Ph.D.

I, CAROL A. COUCH, Ph.D., declare and state as follows:

1. I am over 21 years of age and am under no legal disability. I make this declaration of my own personal knowledge based upon information known to or made available to me in the execution of my professional responsibilities.

2. I am the Director of the Environmental Protection Division of the Georgia Department of Natural Resources (Georgia EPD).

3. As Director I am responsible for administering or enforcing 26 state statutes and 4 federally delegated authorities that are, in total, comprehensive of the protection of Georgia's air, land and water resources. I am responsible for administering Georgia's permitting programs for ground and surface water withdrawals, drinking water supply and quality, ambient surface water quality,

storm water, and dam safety. My office directs and coordinates Georgia's water conservation and drought management activities. I am chairperson of the Georgia Water Council which oversees the development of statewide water resource planning and policies.

4. I hold a Bachelor of Science Degree from the Georgia Institute of Technology, a Master of Science Degree in Biology from the University of South Carolina, and a Ph.D. in Ecology from the University of Georgia. I have sixteen years of experience in the conduct and management of water resources research and environmental protection. From 1992 to 1997 I was the lead biologist for the United States Geological Survey water quality study of the Apalachicola-Chattahoochee-Flint (ACF) river basin.

5. On October 12, 2007, I authored a letter to Colonel Byron Jorns, Commander of the Corps of Engineers' Mobile District, regarding climatic and hydrologic conditions in the ACF Basin, and Georgia's concerns about the Corps' continued operations under the Interim Operations Plan (IOP). That letter compiles information that I obtained from members of my staff, in particular Dr. Wei Zeng, specializing in the areas of basin hydrological assessment and modeling. The letter references and discusses computer simulations of the effect of the IOP and certain emergency modifications to the IOP through March 1, 2008.

A true and correct copy of that October 12, 2007 letter is attached to this Declaration as Attachment A. A copy of Colonel Jorns' response is attached hereto as Attachment B.

6. I requested that my staff perform further computer simulations of the IOP and emergency modifications that Georgia is now proposing, extend those simulations through the end of 2008. An October 19, 2007 memorandum from Feng Jiang of my staff providing that analysis also is attached to this Declaration as Attachment C.

7. For the six month period of March through August, 2007, a time when Georgia normally receives the majority of its precipitation, rainfall in the northern portion of the ACF Basin was the lowest on record, far eclipsing the droughts of 2000, 1988, and 1986.

8. Over the same six month period, rainfall within Climatic Division Four, which includes the Flint River Basin and the middle reach of the Chattahoochee River, has matched the levels of the year 2000 as the lowest on record.

9. Rainfall within Climatic Zone Seven, which includes the lower reach of the Chattahoochee River, was only slightly higher than in the drought of 1986 and was worse than in 2000 and 1988.

10. Final rainfall data for the month of September throughout the basin has not yet been made available, but current indications are that it was very dry. The United States Geological Survey recently released a fact sheet stating that "the 2007 drought in Georgia worsened during September, bringing many of the State's rivers and streams to their lowest levels ever recorded for the month." This fact sheet is available at the USGS web site, http://ga.water.usgs.gov/drought/drought_sept2007.pdf.

11. Low precipitation levels have resulted in record low basin inflow (total amount of flow entering the entire ACF system). The year 2000 saw the lowest basin inflows on record as of that time for the May to September period. Calculations made by Georgia EPD indicate that the May through September cumulative flow in 2007 is 15% to 20% lower than in 2000.

12. Conditions are not projected to improve any time soon. In September, the Southeast Climate Consortium forecasted that La Nina conditions were developing. This information is available on the Consortium's website at http://www.agclimate.org/Development/apps/agClimate/controller/perl/agClimate.pl/agClimate.pl?function=climforecast/current.html&location=local&type=html&primary=2&major=1&sub=1. This means that the southeast region should expect a drier and warmer cool season (October 2007 through March 2008).

13. Among my responsibilities are administering state statutes and rules governing water conservation and drought management. Georgia has an active and aggressive commitment to water conservation. Georgia mandates and enforces year-round, statewide limitations on outdoor water use that apply regardless of drought status. Additional restrictions on outdoor water use are implemented as described in the Georgia Drought Management Plan. The Drought Plan was adopted by the Georgia Board of Natural Resources in March 2003 and includes both pre-drought mitigation, conservation strategies and drought response strategies.

14. In response to these exceptional drought conditions, on September 28, 2007, Georgia EPD took the unprecedented step of imposing the highest level of restrictions on water use in our state's history. Since imposing these restrictions, we have already seen a dramatic 15% drop in water use in the Atlanta metro area alone. Alarmed by the reality that the water sources they rely on are being drained, many communities and industries have gone beyond the state ban on outdoor watering by limiting other water uses and implementing even more rigorous conservation measures.

15. No specific restrictions on agricultural water use are currently in effect for the remainder of this year and the first two months of 2008, in part

because agricultural consumption during the October-February timeframe is minimal. If drought conditions persist as projected, I have determined that it is likely that in 2008, I will declare a drought under the Flint River Drought Protection Act, which is codified at O.C.G.A. § 12-5-540 through 12-5-550.

16. As we continue to monitor the drought and our water supplies, we will consider the additional, emergency measures that are legally available to the State and local governments and determine any that need to be taken.

17. Under Georgia statute I am responsible for enforcing compliance with the Water Conservation Program adopted by the Metropolitan North Georgia Water Planning District (MNGWPD). The MNGWPD is comprised of sixteen counties in the metropolitan region of Atlanta and serves a population of greater than 4 million. Water conservation measures adopted and aggressively practiced in the MNGWDP include conservation pricing, rain sensor shut-off switches on irrigation systems, sub-unit water metering, leak detection programs, residential and commercial water audits, and public awareness and education programs.

18. The 2007 drought has taken a serious toll on the federal reservoirs located in Georgia. To make matters worse, the Corps has been operating under the IOP this year. The IOP has required the Corps to release essentially all of the

basin inflow entering the system and exhaust large quantities of storage to maintain a minimum flow of 5,000 cfs at Chattahoochee, Florida.

19. The Corps spent a great deal of storage controlling rampdowns after rainfall events and has released a significant quantity of water in excess of even what the IOP requires.

20. The current basin inflow to the ACF system is around 2,000 cfs. The Corps has been releasing an average of approximately 2,600 cfs-day of system storage to meet the flow requirement of 5,000 cfs. If basin inflow does not improve significantly in the near future, this level of augmentation will deplete the system storage in a matter of 100 days.

21. By calculations made by Georgia EPD, as of October 11, 2007, the Corps had used more than 600,000 acre-feet of storage to support flow at Chattahoochee, Florida over the prior 5 months.

22. During an ACF Basin drought conference call with stakeholders several weeks ago, the Corps of Engineers announced that in light of the record-low rainfall and inflows, it had modeled the effect of the IOP over the next three months assuming the hydrological scenarios: that basin inflow for each day will be at the (a) 2% non-exceedence level (that is, basin inflow will be within the lowest 2% in history), (b) 5% non-exceedence level, and (c) 10% non-level.

23. On October 4, 2007, the Corps provided the State of Georgia with those computer models. The Corps modeling of the 10% hydrology indicates that Lake Lanier would fall to 1052 feet by the end of December 2007 and to 1044 by February 2008, while West Point Lake and Lake Walter F. George will remain around the bottom of their conservation pools.

24. If one assumes that basin inflow will be at the 5% or 2% levels, the results will be even worse. Lake Lanier would fall as low as 1039 feet by the end of this year and would empty before the end of January 2008. West Point and Walter F. George would be empty beginning in November and would remain empty through next February. In addition, the Corps' own modeling results show that when all conservation storage is depleted, the 5,000 cfs flow in the Apalachicola River would not be maintained and would fall well below 1,000 cfs.

25. The models do not take into account the effect of the IOP's rampdown limitations, which cause the Corps to draw from storage to limit river fall rates following rainfall events. Those rampdown restrictions can cause rainfall events to deplete, rather than enhance storage, particularly where the rainfall occurs below one or more of the federal reservoirs.

26. The Cities of Gainesville, Buford, Cumming, the Town of Flowery Branch, and Gwinnett and Forsyth County withdraw water directly from Lake

Lanier to meet their municipal and industrial water supply needs. In addition, the City of Atlanta, Fulton County, Cobb County-Marietta Water Authority, and other local government utilities depend upon releases from Lake Lanier to provide a flow in the Chattahoochee River to allow them to withdraw water for municipal and industrial needs. Georgia EPD estimates that approximately 2.85 million people in the Atlanta area depend upon Lake Lanier and the upper Chattahoochee River to meet their water supply needs. The City of Gainesville relies on the waste assimilative capacity of Lake Lanier in making its returns of treated effluent to the Lake, and the City of Atlanta, Counties of Cobb and Gwinnett, and other local governments in the metropolitan area rely on the Corps to maintain a flow of 750 cfs in the Chattahoochee River to maintain the waste assimilative capacity of the River.

27. According to the best information made available to me, the water shared supply intake for Forsyth County and the City of Cumming withdraws at levels of 1053 feet and 1048 feet. As the lake falls below 1053, Forsyth and Cumming lose approximately one-third of their pumping capacity. The other two-thirds will be lost at an elevation below 1048 feet. The City of Buford has intakes at 1062, 1052, 1042, and 1032 feet and would experience serious hydrological problems with their intake at an elevation of 1035 feet.

28. The City of LaGrange will also incur substantial hardship as West Point Lake continues to drop. The city operates with intakes at levels 628, 623, 618, and 600 feet. Current lake elevations are at 621.88 (midnight on October 19), which leaves the top two intakes out of the water. There is an older intake at 582, but to the best of our knowledge it has never been used and is probably not functional. In addition, the low lake levels have increased blue-green algae outbreaks, which causes significant increases in treatment costs and other water supply problems. Also at West Point Lake, virtually all shoreline related recreation and most surface use has been eliminated. Damage to marinas and residential docks and boats is extensive. Marinas, almost all boat ramps, campgrounds, beaches and other facilities are no longer accessible or usable. I understand that studies performed at the direction of the City of LaGrange estimate a current economic impact of $243 million as a result of the current low lake levels.

I certify under penalty of perjury that the foregoing is true and correct.

Executed on October 19, 2007.

Carol A. Couch, Ph.D.

Georgia Department of Natural Resources
2 Martin Luther King Jr., Drive, Suite 1152 East Tower, Atlanta, Georgia 30334
Noel Holcomb, Commissioner
Carol A. Couch, Ph.D., Director
Environmental Protection Division
(404) 656-4713

October 12, 2007

Col. Byron Jorns
Commander and District Engineer
Department of the Army
Mobile District, Corps of Engineers
190 Saint Joseph Street
Mobile, Alabama 36602-3630

Re: Request for Immediate Alteration of IOP Releases

Dear Colonel Jorns:

Since I last wrote to you on September 14, 2007 concerning the status of the federal reservoirs within the Apalachicola-Chattahoochee-Flint (ACF) River Basin, conditions have deteriorated. Reservoir storage is falling to levels not seen in decades, and the climatic forecasts through next winter suggest that the drought will worsen. The Corps' own computer modeling shows that under these conditions, if the Corps continues to operate under the existing Interim Operations Plan (IOP), there is serious risk that the reservoirs will be drained of all conservation storage. If that occurs, there will be severe water shortages for millions of Georgians, and the flow in the Chattahoochee and Apalachicola Rivers will fall dramatically below current levels, harming the biological species that depend on those flows. The Corps must take action now to avert this catastrophe.

Below I provide information concerning 2007 climatic and hydrologic conditions and review the projections of conditions through next February if the Corps continues to operate according the existing IOP. These data lay bare the conclusion that the IOP must be adjusted immediately pending discussions over longer-term modifications. Accordingly, I propose specific short-term adjustments of the IOP and provide the computer modeling showing the relief that this adjustment may provide.

THE DROUGHT OF 2007

Taken together, climatic and hydrologic conditions show that this is the worst drought of record. The ACF Basin in Georgia mainly falls within Climatic Divisions Two, Four, and Seven, with small portions of it in Climatic Divisions 1, 3, 5, and 8. Figure 1 illustrates how precipitation within these Climatic Divisions during March through August of this year compares with the commonly recognized prior droughts of record. For the six month period of March through August, a time when Georgia normally receives the majority of its precipitation, cumulative rainfall deficit in Climatic Divisions Two, which include the northern portion of the ACF Basin was the worst in the past half century, far eclipsing the droughts of 2000, 1988, and 1986. Over the same months, cumulative rainfall deficit within Climatic Division Four, which includes the upper Flint River Basin and the middle reaches of the Chattahoochee River, has matched the

Attachment A

levels of the year 2000 as the lowest in the past half century. Rainfall within Climatic Zone Seven, which includes the lower reaches of the Chattahoochee River and the Flint River, was only slightly higher than in the drought of 1986 and was worse than in 2000 and 1988.

We do not yet have final rainfall data for the month of September throughout the basin, but we know it was very dry. The United States Geological Survey recently released a fact sheet stating that "the 2007 drought in Georgia worsened during September, bringing many of the State's rivers and streams to their lowest levels ever recorded for the month." This fact sheet is available at the USGS web site, at http://ga.water.usgs.gov/drought/drought_sept2007.pdf.

Low precipitation levels have resulted in extremely low stream flows across the ACF Basin (Figures 2 through 5 showing the lowest average flow in the period May through August) and record low basin inflow (total amount of flow entering the entire ACF system). Figure 6 compares basin inflow for the years 2007 and 2000. The year 2000 saw the lowest basin inflows on record as of that time for the May to September period. Our calculations indicate that the May through September cumulative flow in 2007 is 15% to 20% lower than in 2000.

Conditions are not projected to improve any time soon. Several weeks ago, the Southeast Climatologist Consortium forecasted that La Nina conditions were developing. This means that we should expect a drier and warmer cool season (October 2007 through March 2008). We did not experience a La Nina following or during the most severe drought years in the past. This means that it is very likely that we will see the drought worsen in the next few months and may well experience further record-breaking conditions in 2008.

ACF RESERVOIRS AT SERIOUS RISK OF DEPLETION

The 2007 drought has taken a serious toll on the federal reservoirs. To make matters worse, the Corps has been operating under the IOP this year. The IOP has required the Corps to release essentially all of the basin inflow entering the system and exhaust large quantities of storage to maintain a minimum flow of 5,000 cfs at Chattahoochee, Florida. The Corps spent a great deal of storage controlling rampdowns after rainfall events, and has released a significant quantity of water in excess of even what the IOP requires.

The current basin inflow to the ACF system is around 2,000 cfs, which means that the Corps has to use 3,000 cfs-day (or 6,000 acre-feet) of system storage to meet the flow requirement of 5,000 cfs. If basin inflow does not improve significantly in the near future, this level of augmentation will deplete the system storage in a matter of 117 days.

As of October 11, 2007, the composite storage of the entire ACF system (the sum of remaining conservation storage from Lanier, West Point, and Walter F. George) is down to 702,907 acre-feet, or 42.9% of the system capacity. (See Figure 7.) By comparison, system storage was at 1.39 million acre-feet on May 1, 2007. By our calculations, the Corps has used more than 600,000 acre-feet of storage to support flow at Chattahoochee, Florida over the past 5 months.

As of October 11, 2007, the elevation at Lake Lanier, the largest storage reservoir and the primary source of drinking water for over four million of people in Georgia, is down to 1057.9 feet. This is more than thirteen feet below its normal pool level and is 2.7 feet lower than the elevation when I last wrote you on September 14 of this year. West Point Lake elevation is at 622.2 feet. This is approximately thirteen feet below its normal pool level, and only two feet

Attachment A

away from the bottom of its conservation pool. Elevation at Lake Walter F. George is at 185.2 feet, which is only a foot away from its inactive storage.

GEORGIA'S CONSERVATION MEASURES

Georgia takes seriously its obligation to conserve water under these drought conditions. In response to these exceptional drought conditions, on September 28, 2007, I took the unprecedented step of imposing the highest level of restrictions on water use in our state's history. Since imposing these restrictions, we have already seen a dramatic 15% drop in water use in the Atlanta metro area alone. Alarmed by the dire reality that the water sources they rely on are being drained and that they may not be refilled anytime soon, many communities and industries have gone beyond the state ban on outdoor watering by limiting other water uses and implementing even more rigorous conservation measures.

No specific restrictions on agricultural water use are currently in effect for the remainder of this year and the first two months of 2008, in part because agricultural consumption during the October-February timeframe is minimal. If drought conditions persist as projected, however, it is likely that prior to March 2008 I will declare a drought under the Flint River Drought Protection Act and trigger the agricultural demand reduction measures under that statute.

As we continue to monitor the drought and our water supplies, we will consider the additional, emergency measures that are legally available to the State and local governments and determine any that need to be taken. Reducing and managing consumptive demands is a major focus of our drought response and emergency planning.

MODELING AND PROJECTION OF THE ACF RESERVOIRS

We have continued to update our computer models of the potential impact of the IOP going forward, particularly over the next several months. During an ACF Basin drought conference call with stakeholders several weeks ago, the Corps of Engineers announced that it in light of the record-low rainfall and inflows, it had modeled the effect of the IOP over the next three months assuming the hydrological scenarios: that basin inflow for each day will be at the (a) 2% non-exceedence level (that is, basin inflow will be within the lowest 2% in history), (b) 5% non-exceedence level, and (c) 10% non-exceedence level. On October 4, 2007, the Corps provided us with those computer models. These models, the outputs of which are shown in the attached Figures 8 through 11, paint a very grim picture. Assuming that basin inflow will be at the 10% level, Lake Lanier would fall to the extreme level of below 1048 feet by the end of this year (and 1044 feet by the end of February 2008, as shown in Figures 8 and 16). Both West Point Lake and Lake Walter F. George would hover around the bottom of their conservation pools from late November through at least the first two months of 2008 (Figures 9, 10, 17, and 18). If one assumes that basin inflow will be at the 5% or 2% levels, the results will, of course, be even worse. Lake Lanier would fall as low as 1039 feet by the end of this year and would empty before the end of January 2008 (Figure 12). West Point and Walter F. George would be empty beginning in November and would remain empty through next February (Figures 13 and 14). Of course, the serious effects of draining the lakes would be felt throughout 2008 and perhaps for years to come.

The effects of draining the federal reservoirs to these levels would be felt throughout the ACF Basin. Water supply intakes in Lake Lanier begin to be exposed as the Lake falls to the lower

Attachment A

1050's. At a level of 1039 feet, nearly all water supply intakes would be exposed, and at 1035 feet the lake is effectively empty and unable to provide for any water supply or flow augmentation. Water supply intakes at West Point Lake would be in jeopardy at the projected lake levels. At the bottom of the Basin, the flow in the Apalachicola River would plummet below the 5,000 cfs flow that the Corps has expended so much storage to maintain. Using the Corps' model, we see that at the 5% and 2% basin inflow levels, the flow in the Apalachicola River at the Chattahoochee gage falls to well below 1,000 cfs (Figure 11). As under any of these scenarios the lakes will begin next year extremely low and not have an appreciable opportunity to refill, it is reasonable to expect that the flow in the Apalachicola River would fall even lower in 2008.

NECESSARY SHORT-TERM MODIFICATIONS TO THE IOP

The foregoing illustrates that if the Corps continues to expend massive quantities of reservoir storage to provide a flow of 5,000 cfs, and not to store a substantial amount of the basin inflows, it will risk creating widespread water supply shortages affecting millions of people within Georgia and a steep drop in the flows available to meet the needs of endangered species in the Apalachicola River. Informed by this data, the Corps clearly has no choice but to alter its ACF reservoir operations immediately.

It is apparent that the Corps must cease immediately augmenting basin inflows for the production of any specific minimum flow in the Apalachicola River. While basin inflows are below 5,000 cfs, the Corps should only make releases from Jim Woodruff Dam equivalent to basin inflow. When rainfall events produce a basin inflow in excess of 5,000 cfs, the Corps should release no more than 5,000 cfs. The flow in the Apalachicola River has been at the 5,000 cfs level essentially all summer and early fall. Temporary pulses of more than 5,000 cfs in reaction to rainfall events will provide no benefit to the endangered species that the Corps is seeking to protect. The Corps should eliminate any rampdown restrictions. While flows are within the range of 5,000 cfs or less, the reduction in flows will roughly follow natural drops and will not be severe. Moreover, rampdown restrictions have the perverse effect of causing reservoir storage to fall after rainfall events, as the amount of storage used during the rampdown often exceeds the amount of any storage gained during the rainfall event.

The modeling of these adjustments to the IOP indicates that they will significantly benefit the federal reservoirs and help prevent a more precipitous drop in the flow in the Apalachicola River. Figures 12 through 15 compare the projected results of these modified reservoir operations against the IOP assuming that basin inflow at the 2% non-exceedence level, and Figures 16 through 19 make the same comparison at the 10% non-exceedence level.

Assuming basin inflows at the 2% level, these modifications to the IOP would keep Lake Lanier approximately ten feet higher at the end of this year and through February 2008, and would prevent West Point Lake and Walter F. George from emptying this year. The modeling suggests that modifications to reservoir balancing would be needed under this scenario to prevent West Point and Walter F. George from reaching the bottom in 2008. Under these assumptions, after an initial drop, the flow in the Apalachicola River would be more stable than under the IOP, and the minimum flow in the Apalachicola River would be more than 1,000 cfs higher than the minimum flow that would be experienced under the IOP. Thus, there are benefits throughout the basin.

Attachment A

Assuming the more optimistic scenario that basin inflow at the 10% level, Lake Lanier would be approximately seven feet higher as of the end of the year if the IOP is modified and would be more than ten feet higher at the end of February 2008. As with the 2% basin inflow scenario, the proposed modifications would save West Point Lake and Lake Walter F. George from emptying this year, just barely, and would produce more significant benefits to those lakes in January and February of 2008. At the 10% basin inflow level, the flow in the Apalachicola River would be near the 5,000 cfs level most of the time as basin inflow would be at or above 5,000 cfs for much of that time. Under this scenario, the significant benefits to reservoir storage outweigh the reduction in flow in the Apalachicola River.

DISCUSSIONS ON LONGER-TERM MODIFICATIONS SHOULD BEGIN NOW

The above changes are proposed as immediate and short-term, to avoid exhaustion of reservoir storage over the next four and a half months. These, of course, are not the only or final modifications that will be needed to the IOP. The experience of this year demonstrates that significant long-term, year-round adjustments to the IOP are needed. If the Corps does not make changes to the rules that will apply during the next Gulf sturgeon spawning period (March-May) and the remainder of next year, we may well end up in the same spot next year, or even worse. The above changes will, however, address the emergency situation and give the Corps an opportunity to undertake discussions with the Fish and Wildlife Service and the affected States on the longer-term changes that are needed. Georgia commits to be fully engaged in such discussions and encourages the Corps to include Florida and Alabama in considering longer-term modifications.

REQUEST FOR RESPONSE

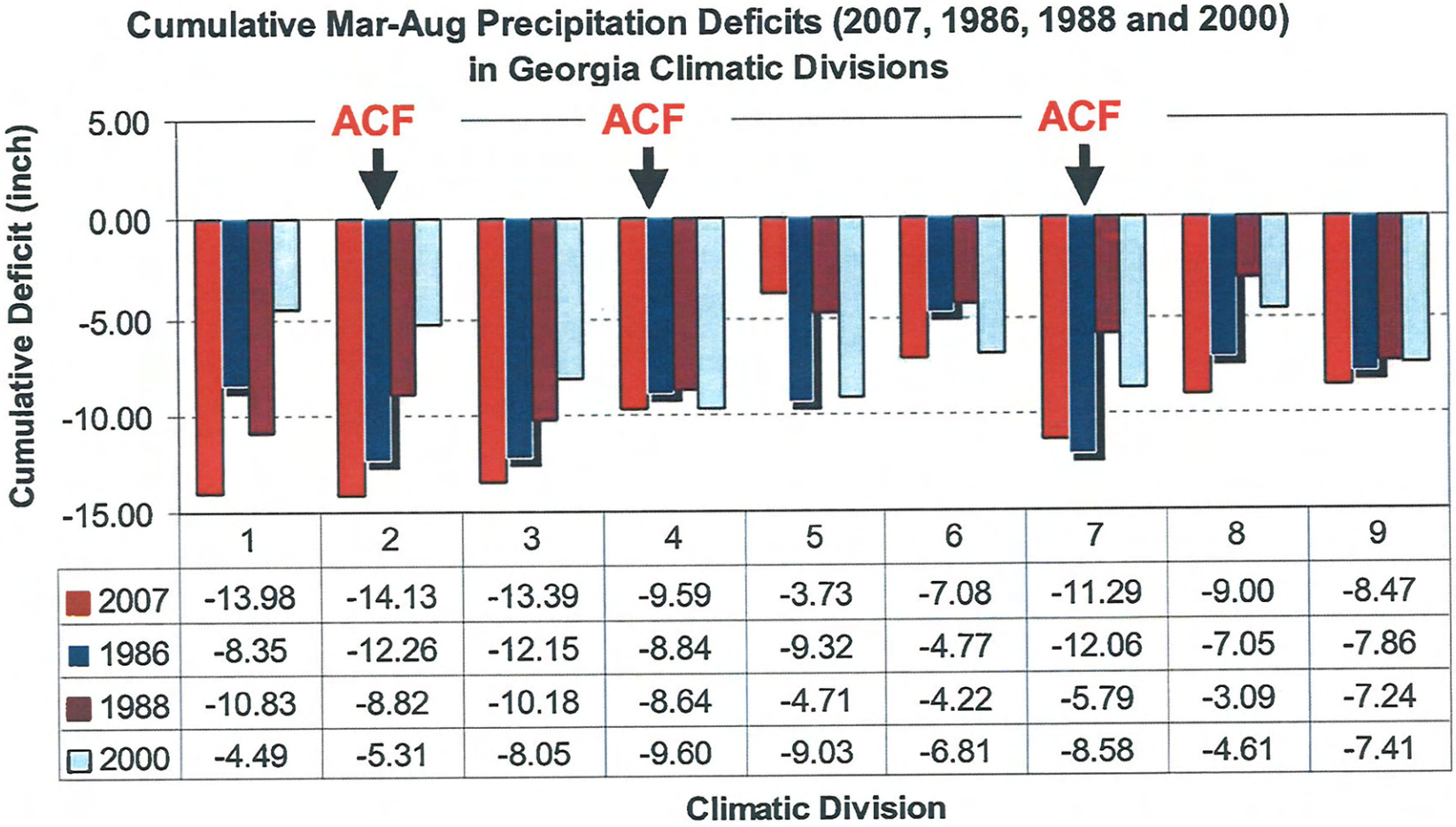
In light of the exigent circumstances, I need your prompt response to this request for specific alteration of the reservoir operating rules under the IOP. Given that time is of the essence, please inform me in writing no later than October 17, 2007 as to whether you intend to make these changes so that Georgia can assess its options.

Sincerely,

Carol A. Couch

cc: Brigadier General Joseph Schroedel, South Atlantic Division, U.S. Army Corps of Engineers
Governor Sonny Perdue
Ms. Joanne Brandt, Corps of Engineers Inland Environmental Team
Mr. Onis Trey Glenn, Alabama Department of Environmental Management
Mr. Michael Sole, Secretary, Florida Dept. of Environmental Protection

Attachment A



	1	2	3	4	5	6	7	8	9
2007	-13.98	-14.13	-13.39	-9.59	-3.73	-7.08	-11.29	-9.00	-8.47
1986	-8.35	-12.26	-12.15	-8.84	-9.32	-4.77	-12.06	-7.05	-7.86
1988	-10.83	-8.82	-10.18	-8.64	-4.71	-4.22	-5.79	-3.09	-7.24
2000	-4.49	-5.31	-8.05	-9.60	-9.03	-6.81	-8.58	-4.61	-7.41

Fig. 1 Six-month precipitation deficits in Georgia Climatic Divisions as compared to those of previous severe drought years

Attachment A

Case 3:07-cv-00251-PAM-HTS Document 17-3 Filed 10/19/2007 Page 1 of 12

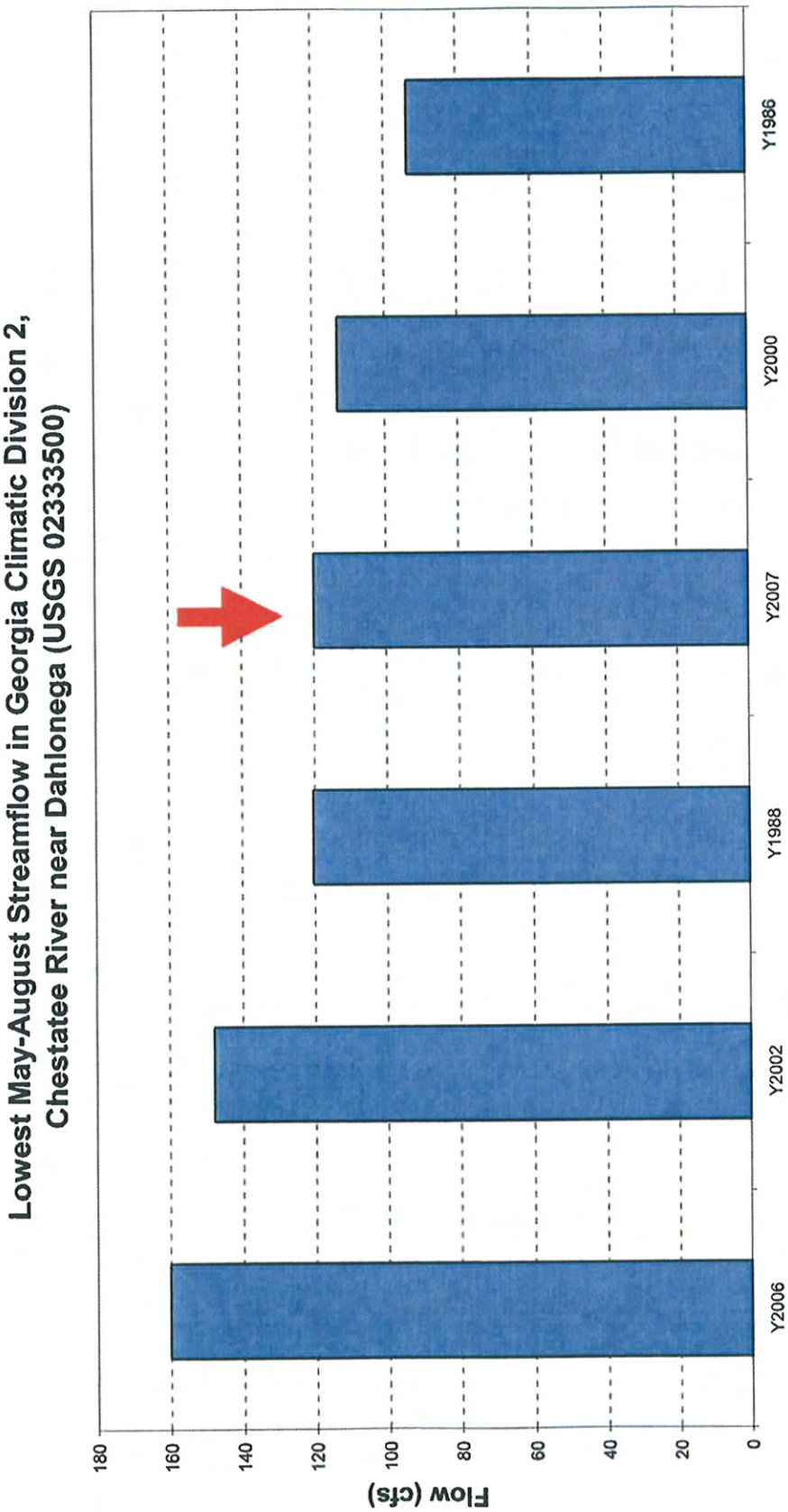


Fig. 2 Low stream flow at Chestatee River in 2007 as compared to those in previous severe drought years

Attachment A

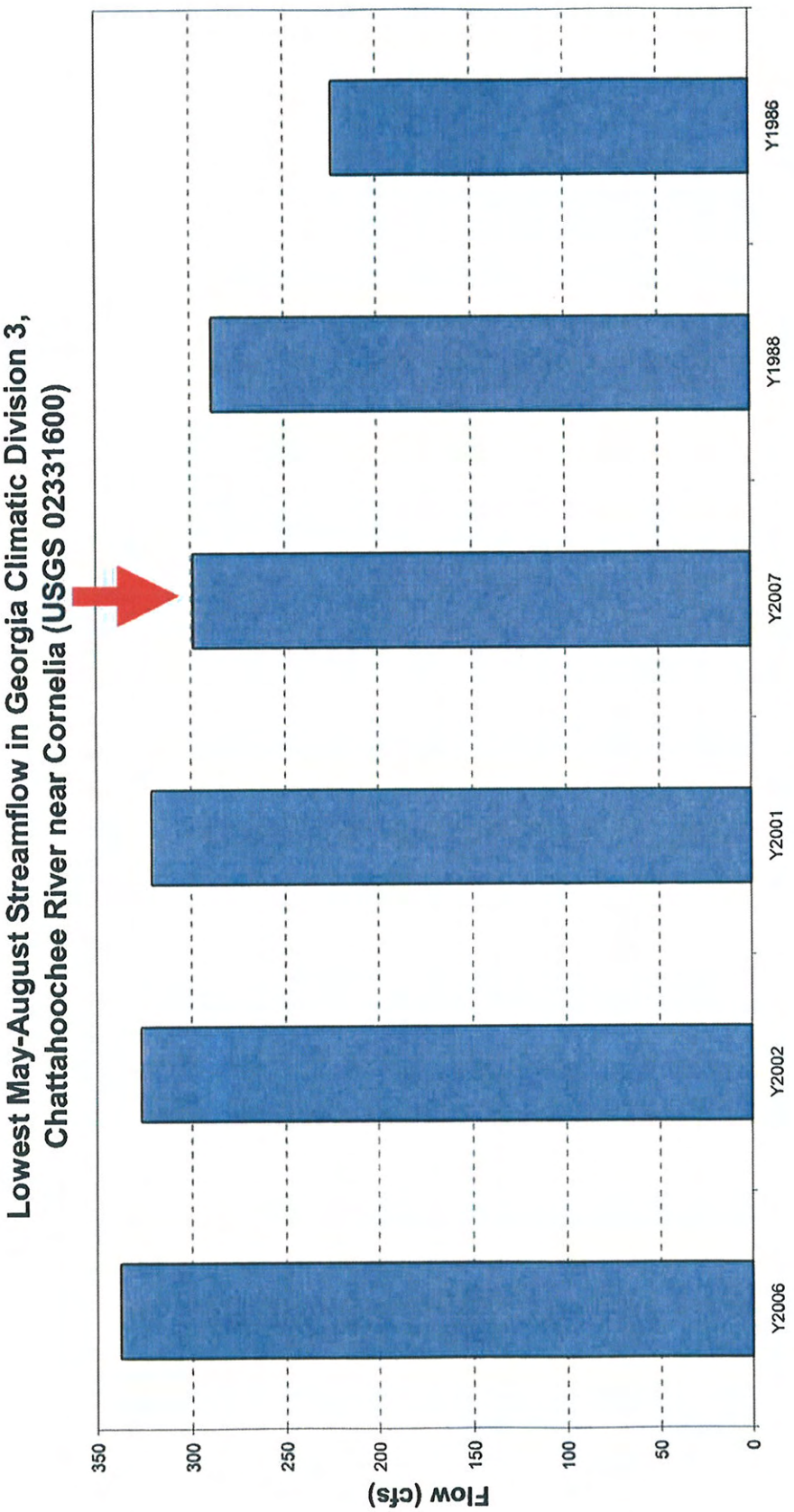


Fig. 3 Low stream flow at Chattahoochee River in 2007 as compared to those in previous severe drought years

Attachment A

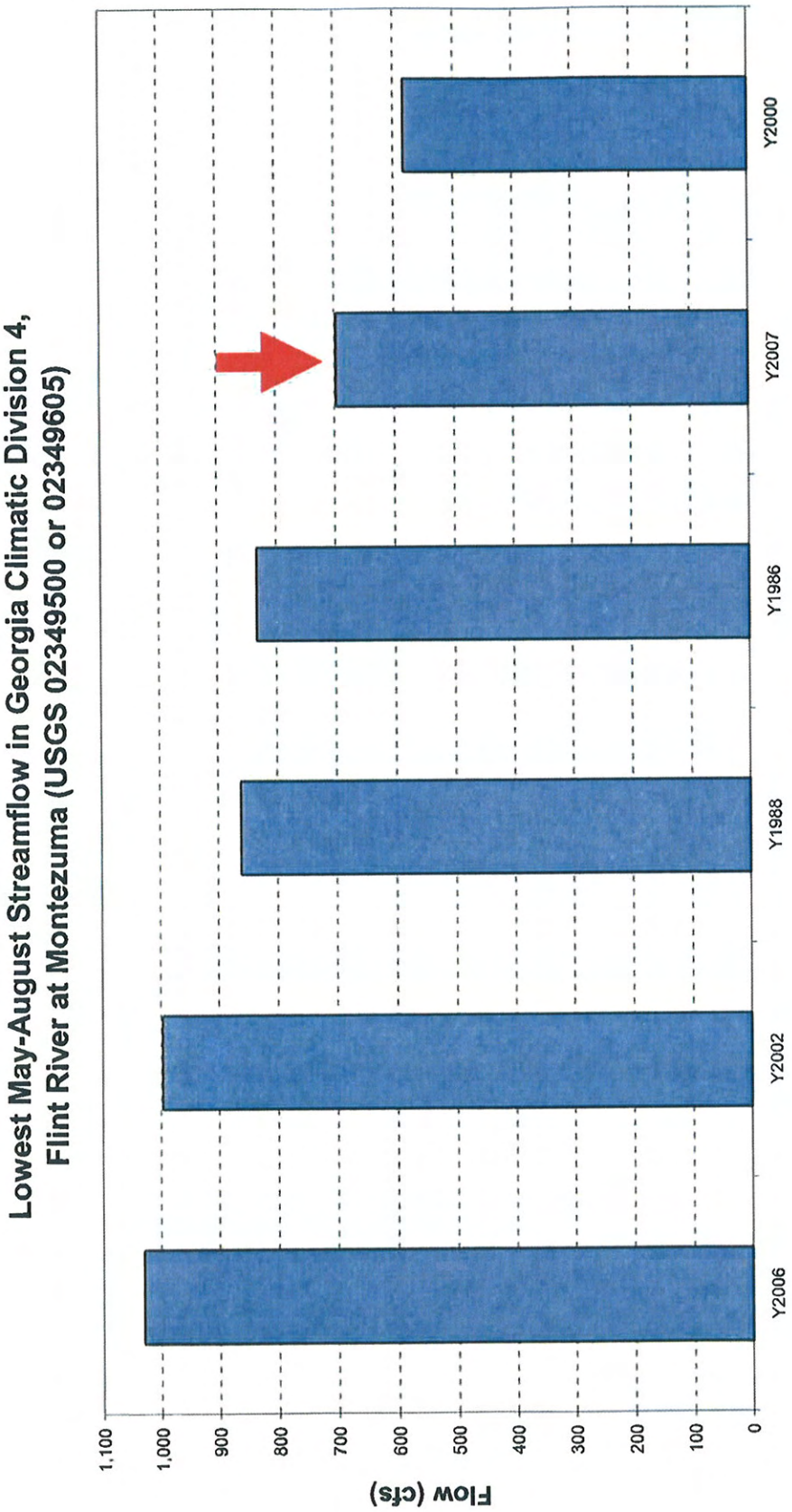


Fig. 4 Low stream flow at Flint River in 2007 as compared to those in previous severe drought years

Attachment A

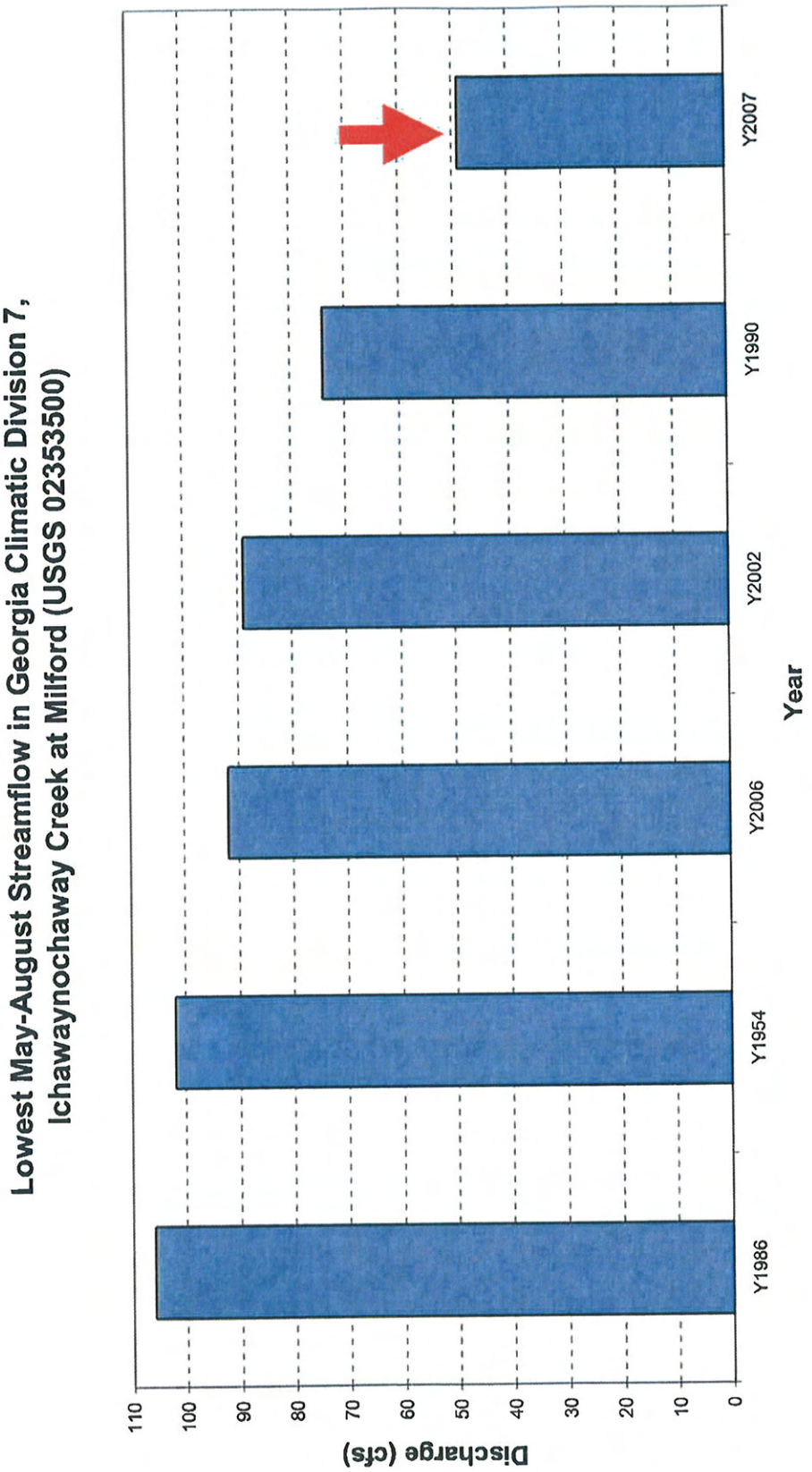


Fig. 5 Low stream flow at Ichawaynochaway Creek in 2007 as compared to those in previous severe drought years

Attachment A

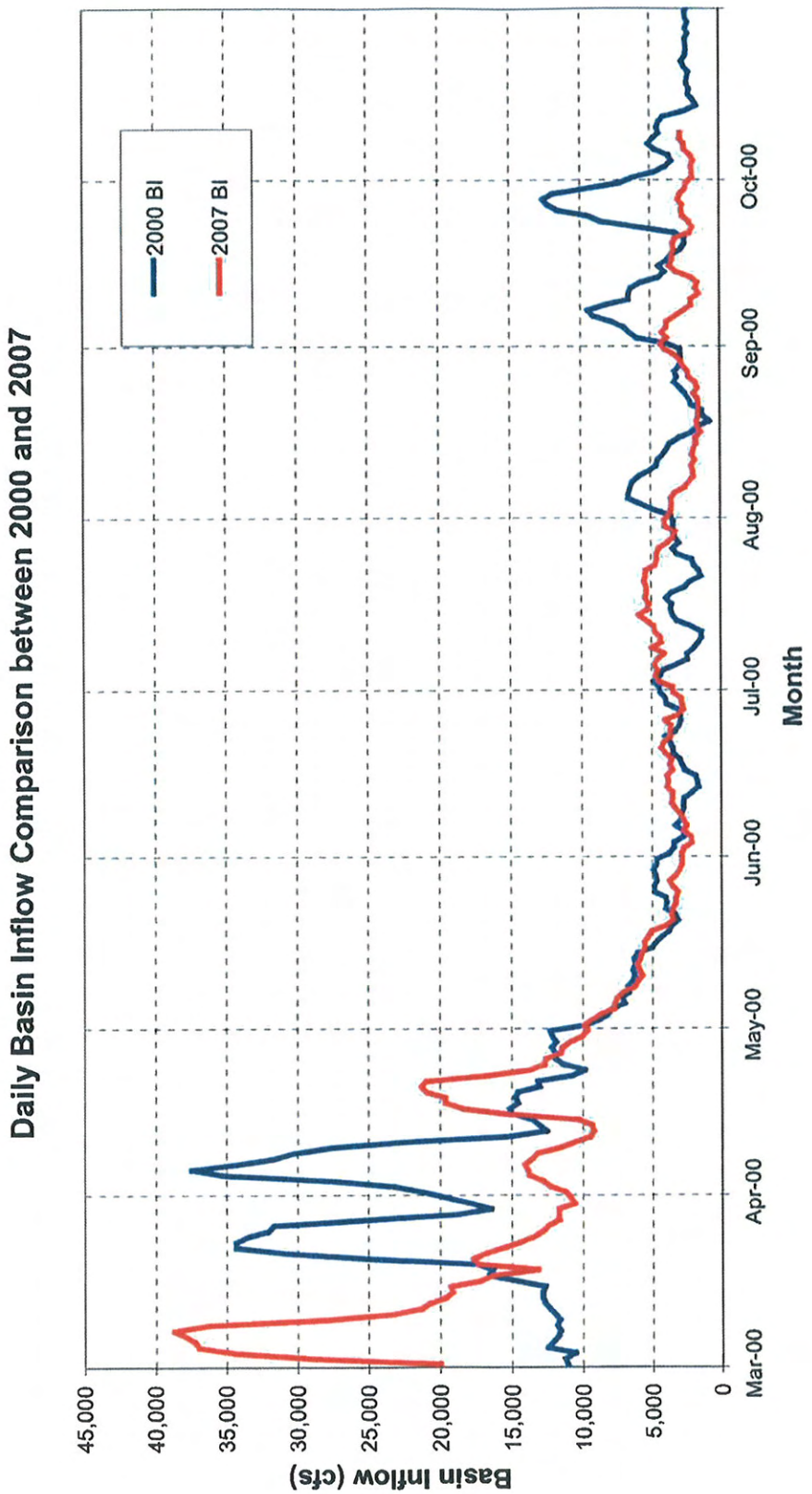


Fig. 6 Basin Inflow of 2007 compared to that of 2000

Attachment A

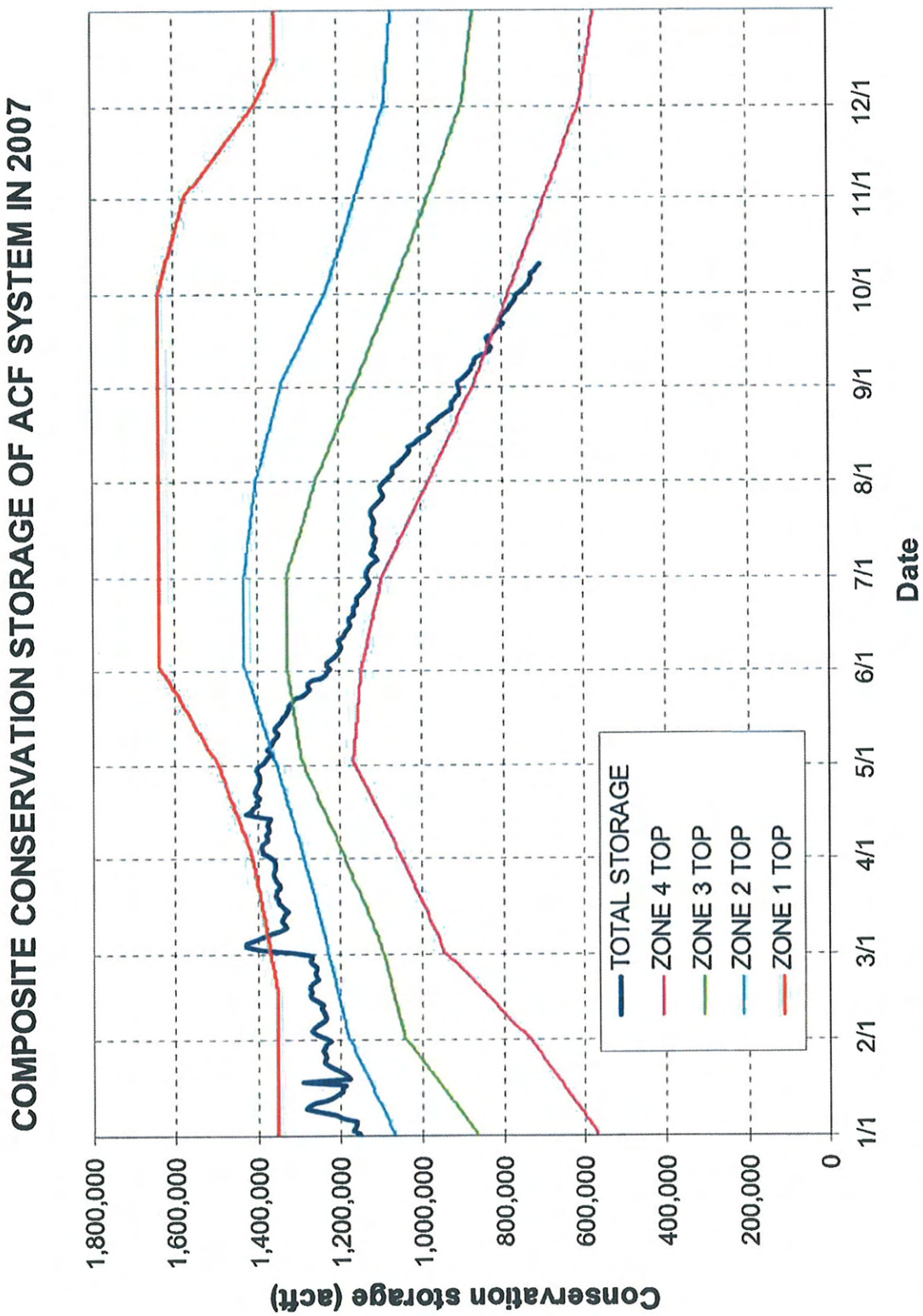


Fig. 7 Composite system storage in the ACF Basin in 2007

Attachment A

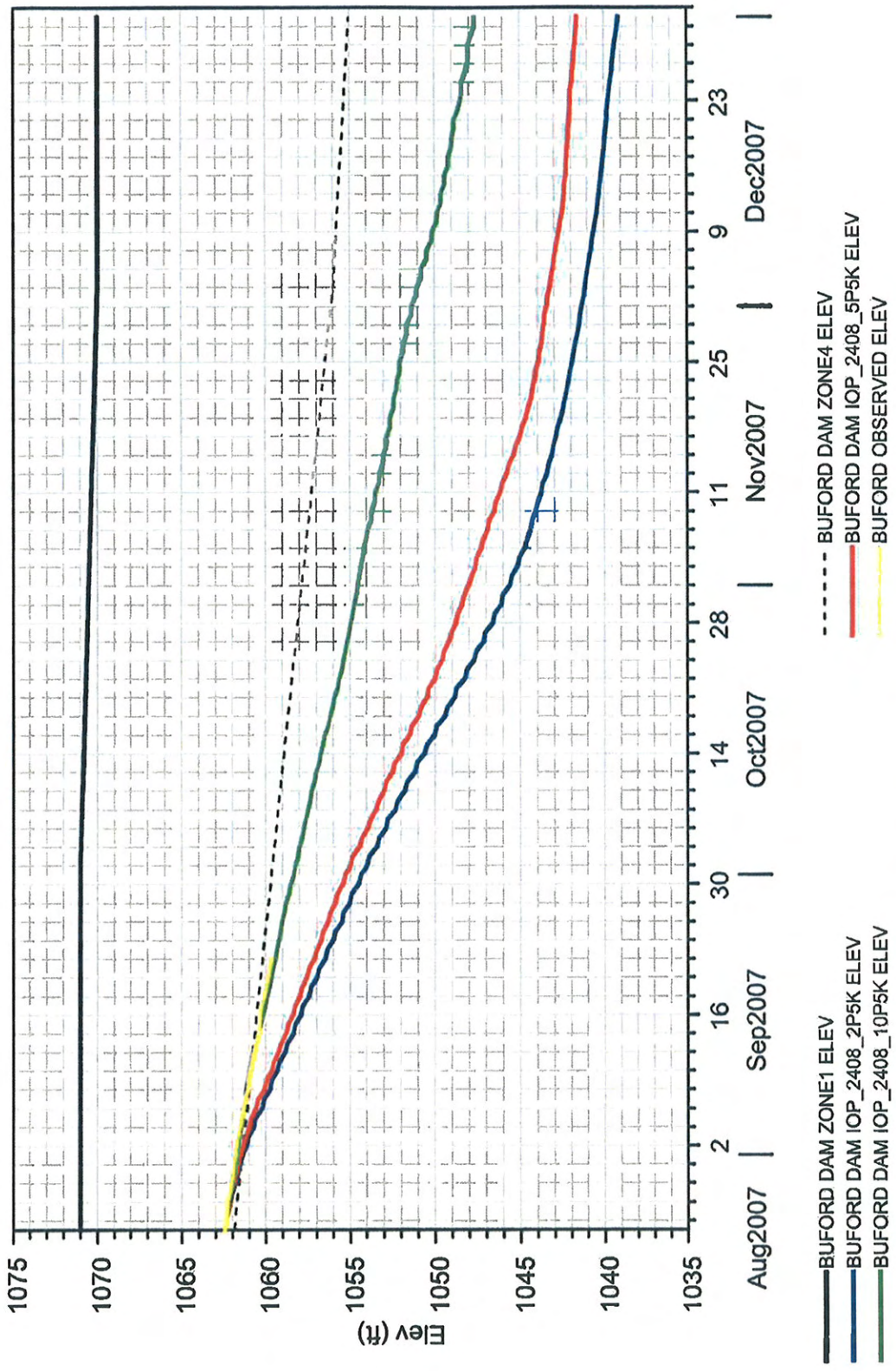


Fig. 8 Year 2007 Lanier elevation projected by the Corps of Engineers

Attachment A

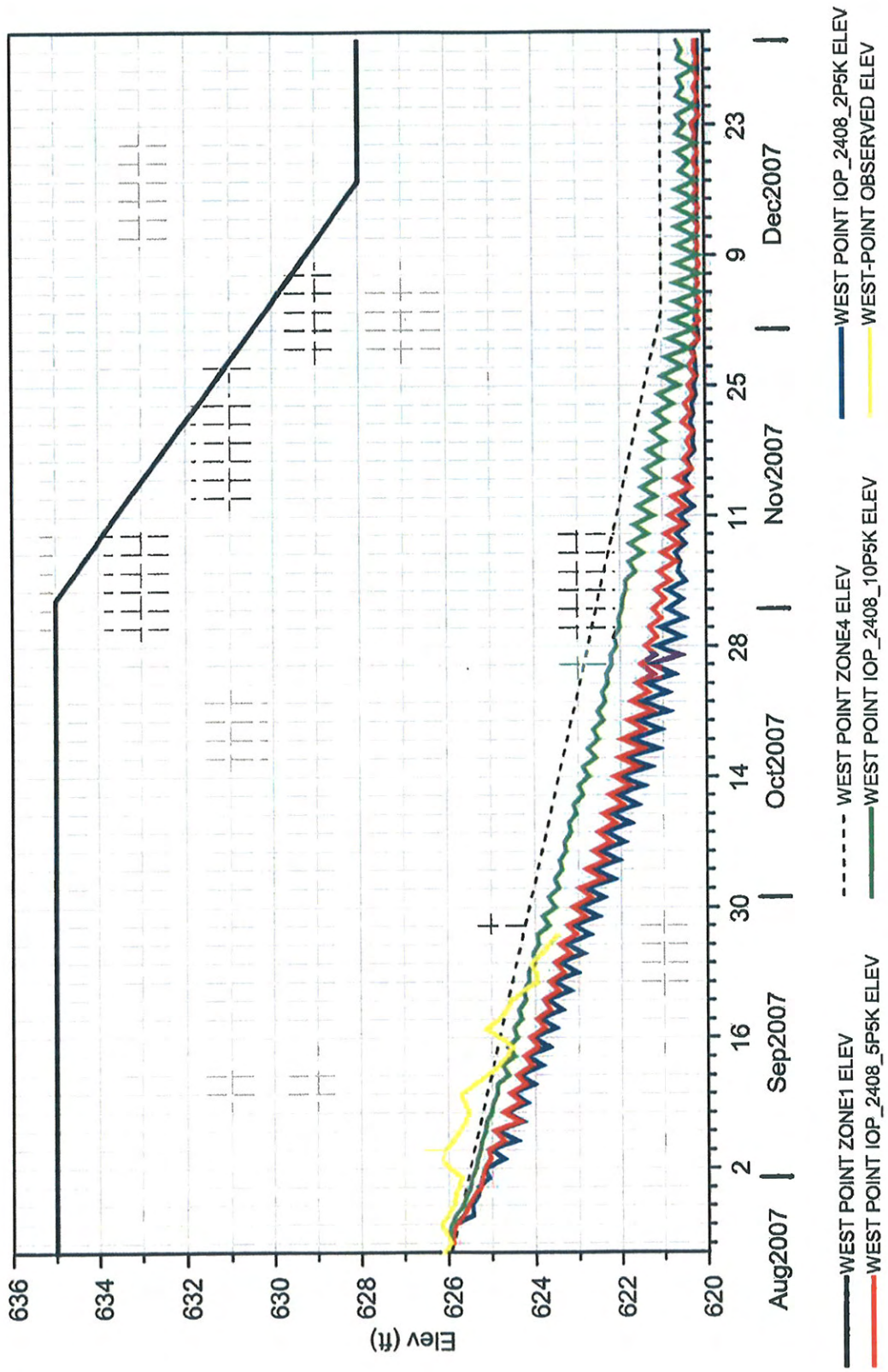


Fig. 9 Year 2007 West Point elevation projected by Corps of Engineers

Attachment A

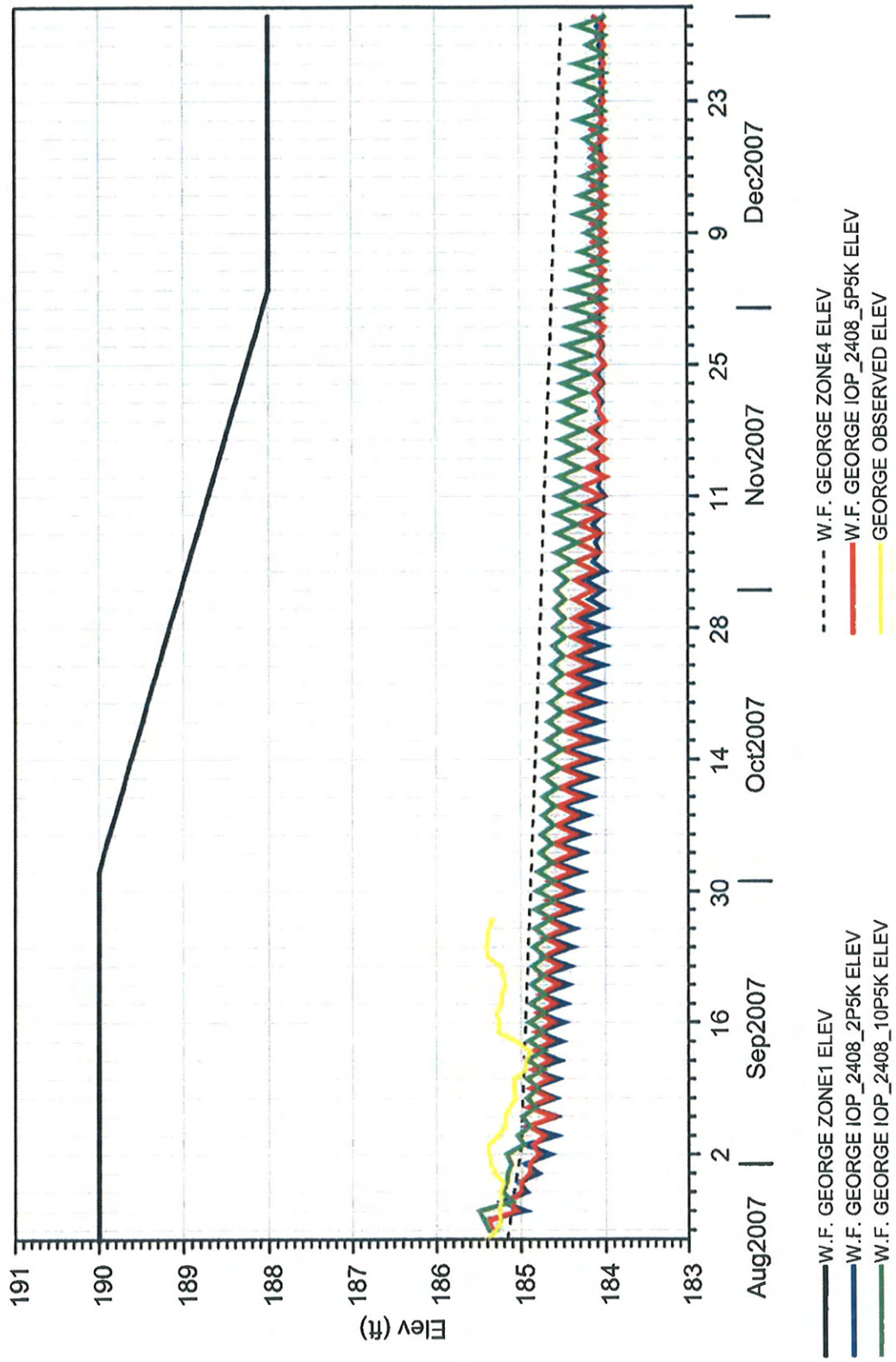


Fig. 10 Year 2007 Walter F. George elevation projected by Corps of Engineers

Attachment A

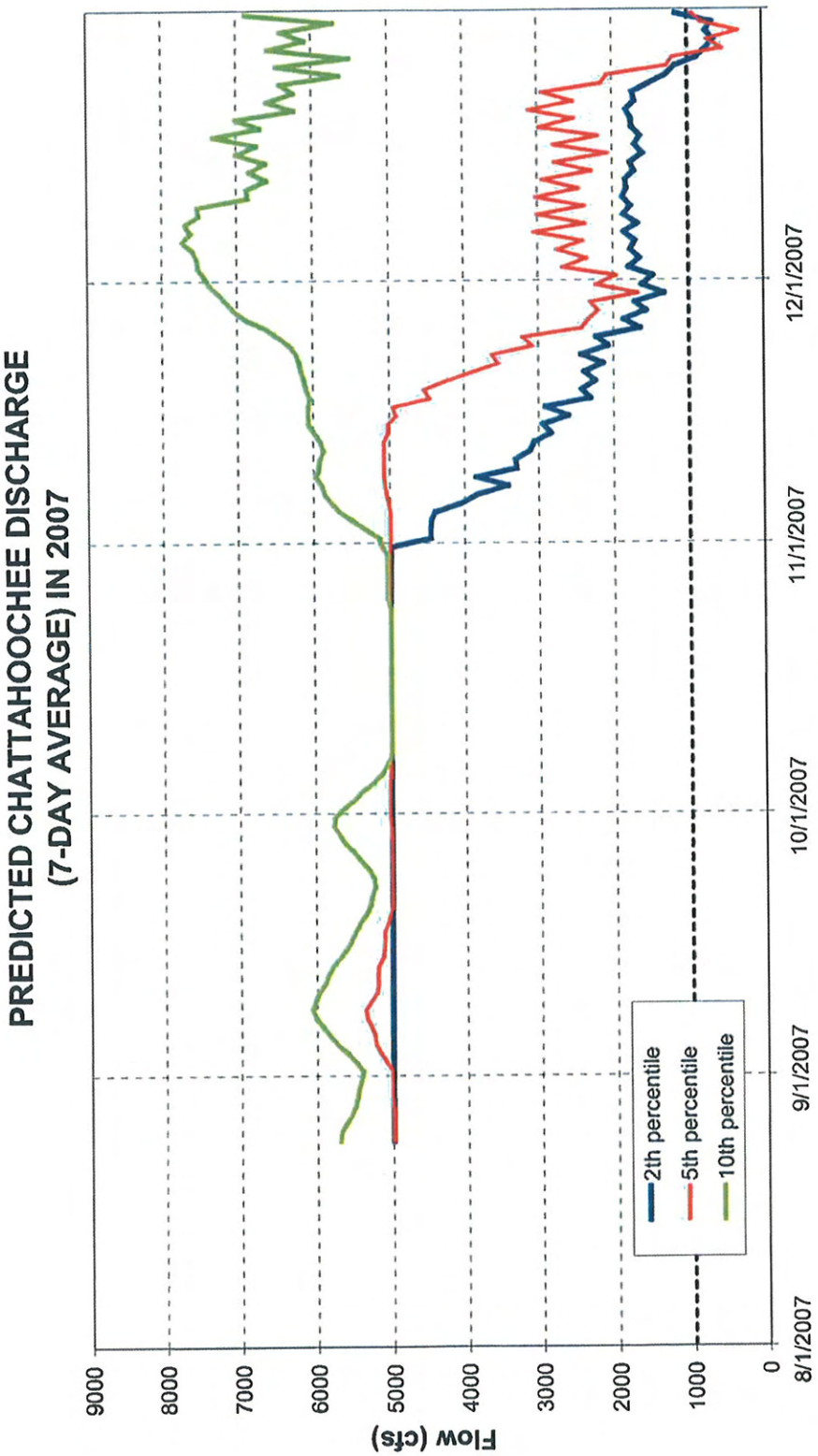


Fig. 11 Year 2007 flow at Chattahoochee, Florida projected by Corps of Engineers' model

Attachment A

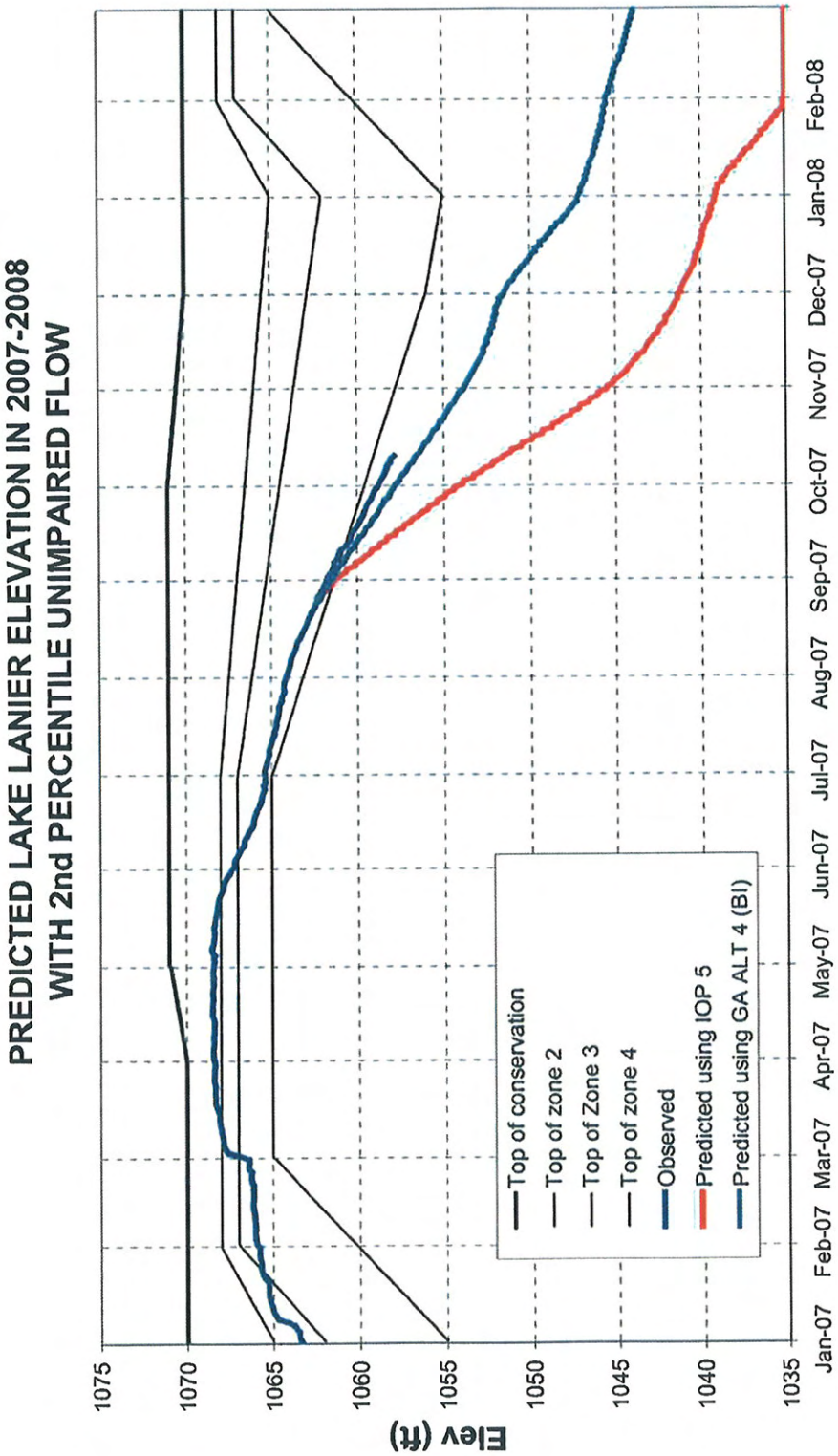


Fig. 12 Effects of emergency measures proposed by Georgia on Lanier elevation (using Corps model and 2 percentile hydrology)

Attachment A

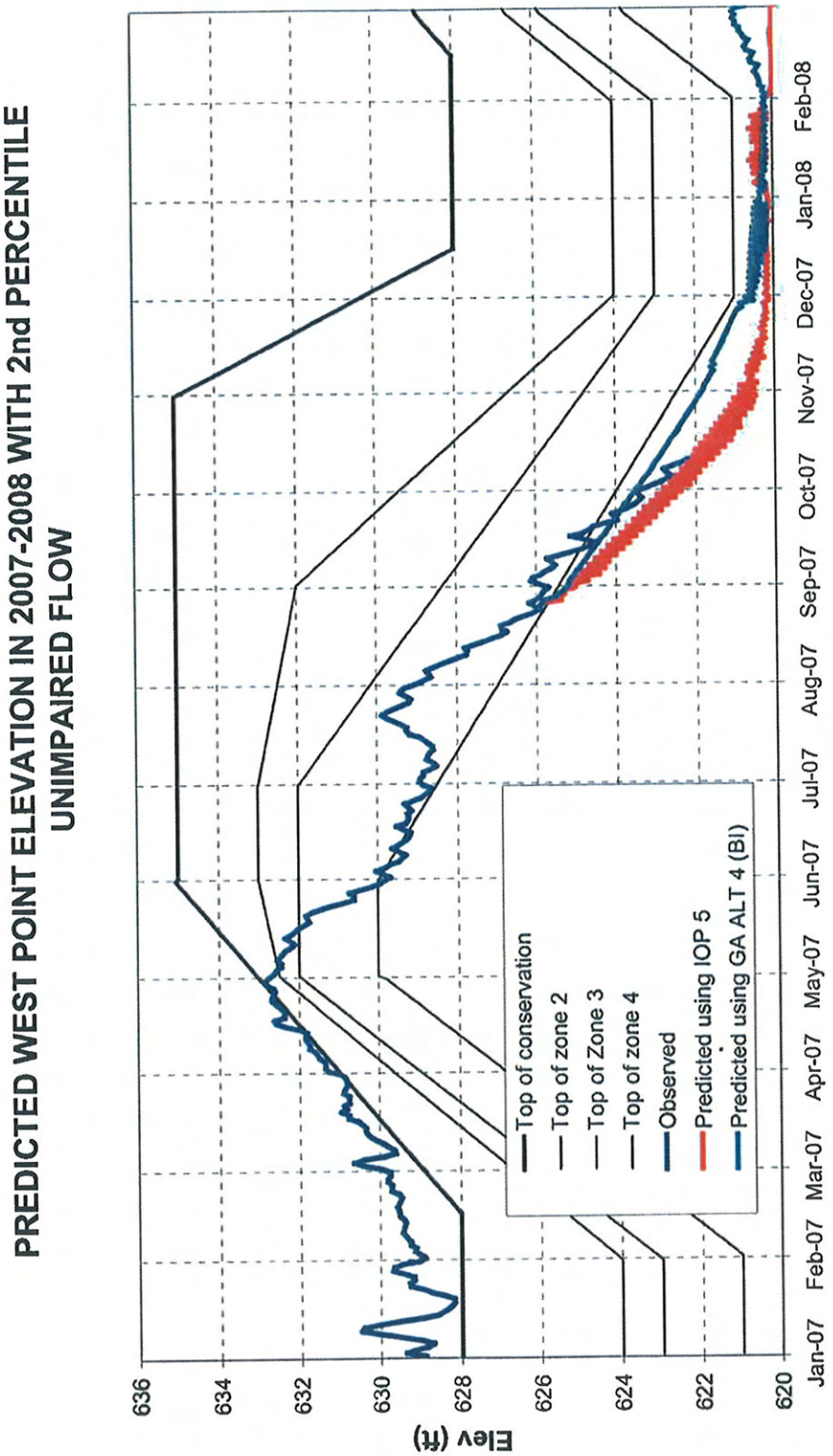


Fig. 13 Effects of emergency measures proposed by Georgia on West Point elevation (using Corps model and 2 percentile hydrology)

Attachment A

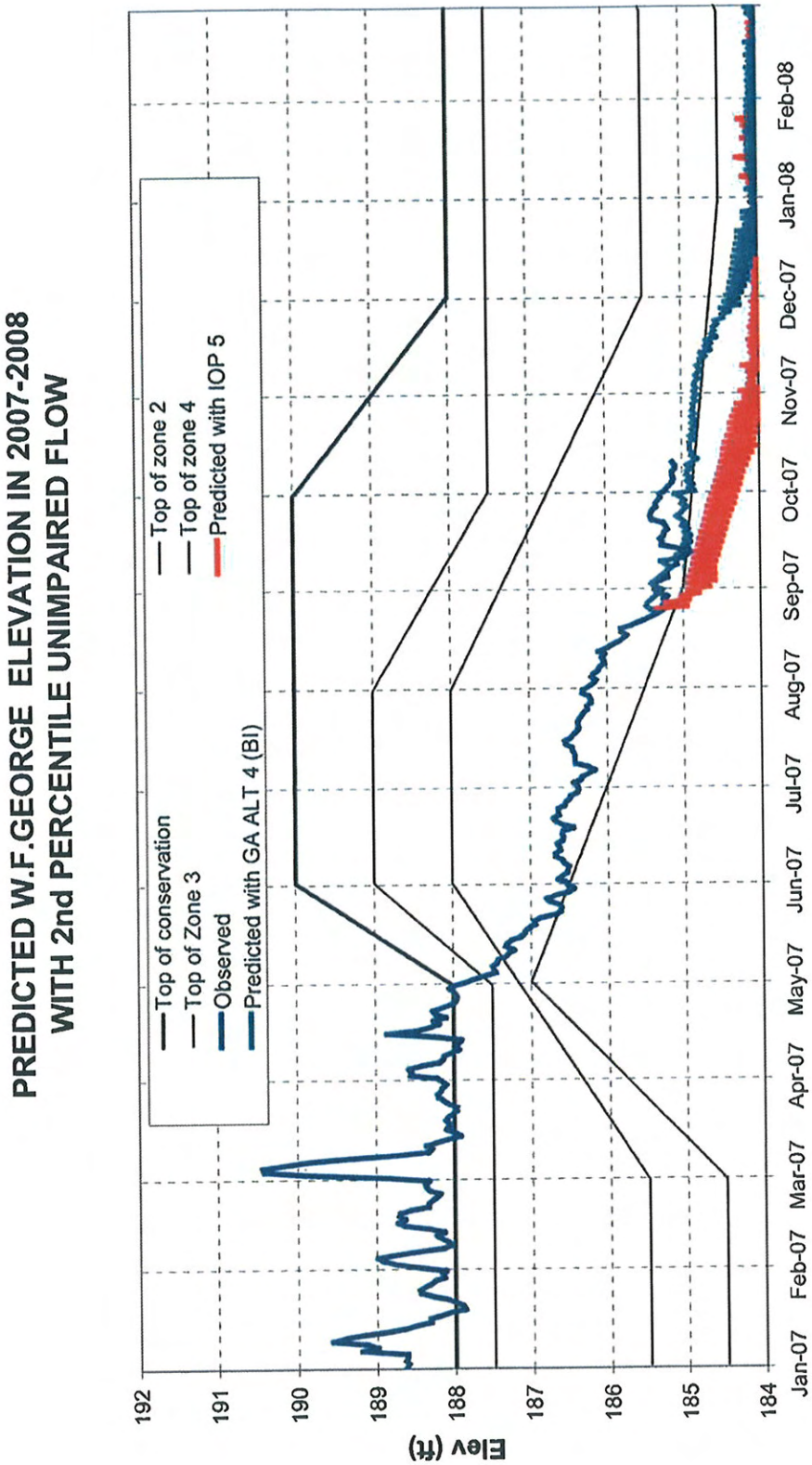


Fig. 14 Effects of emergency measures proposed by Georgia on W.F. George elevation (using Corps model and 2 percentile hydrology)

Attachment A

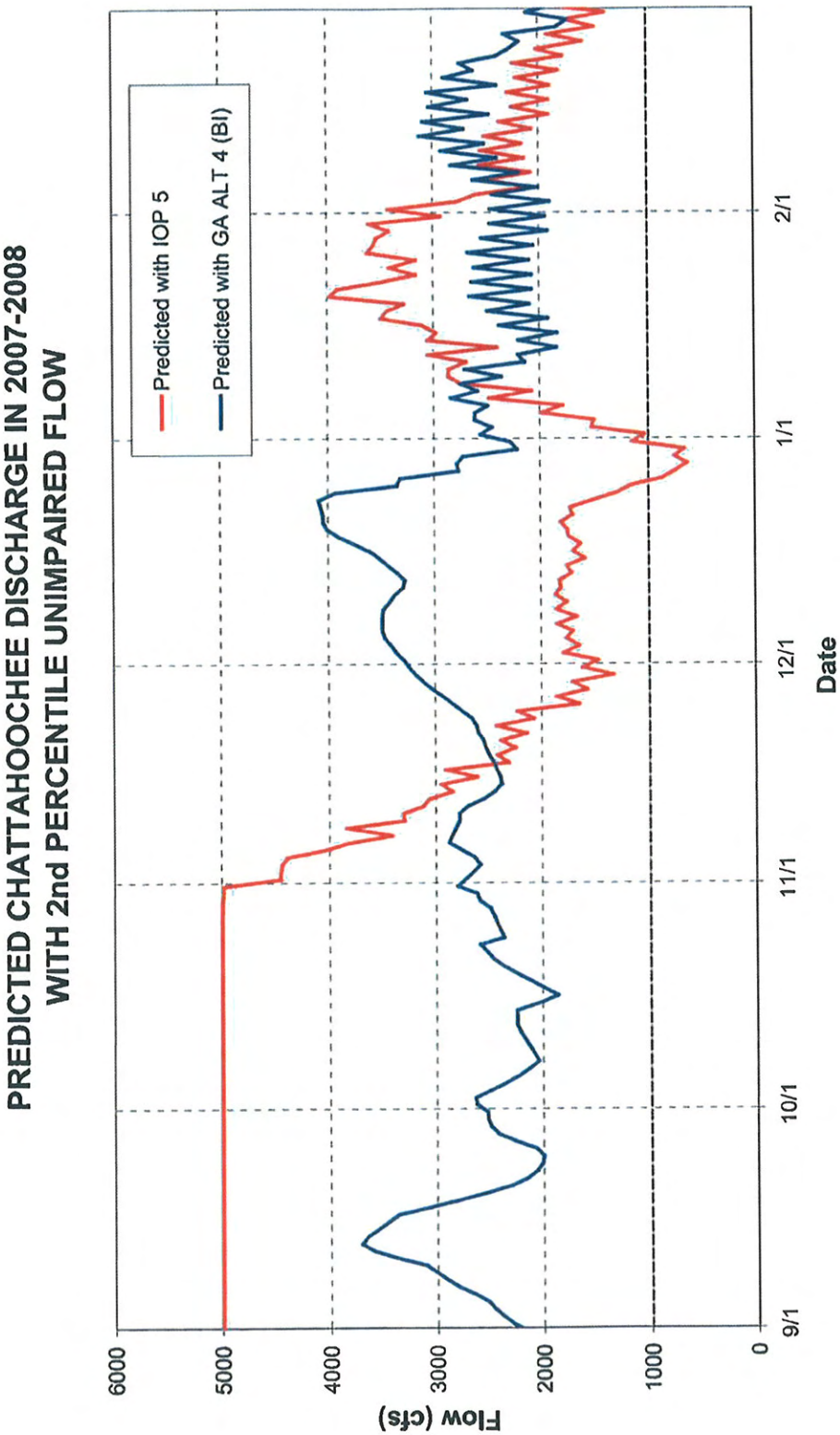


Fig. 15 Flow at Chattahoochee, Florida under the proposed changes to the IOP (Corps' 2 percentile hydrology)

Attachment A

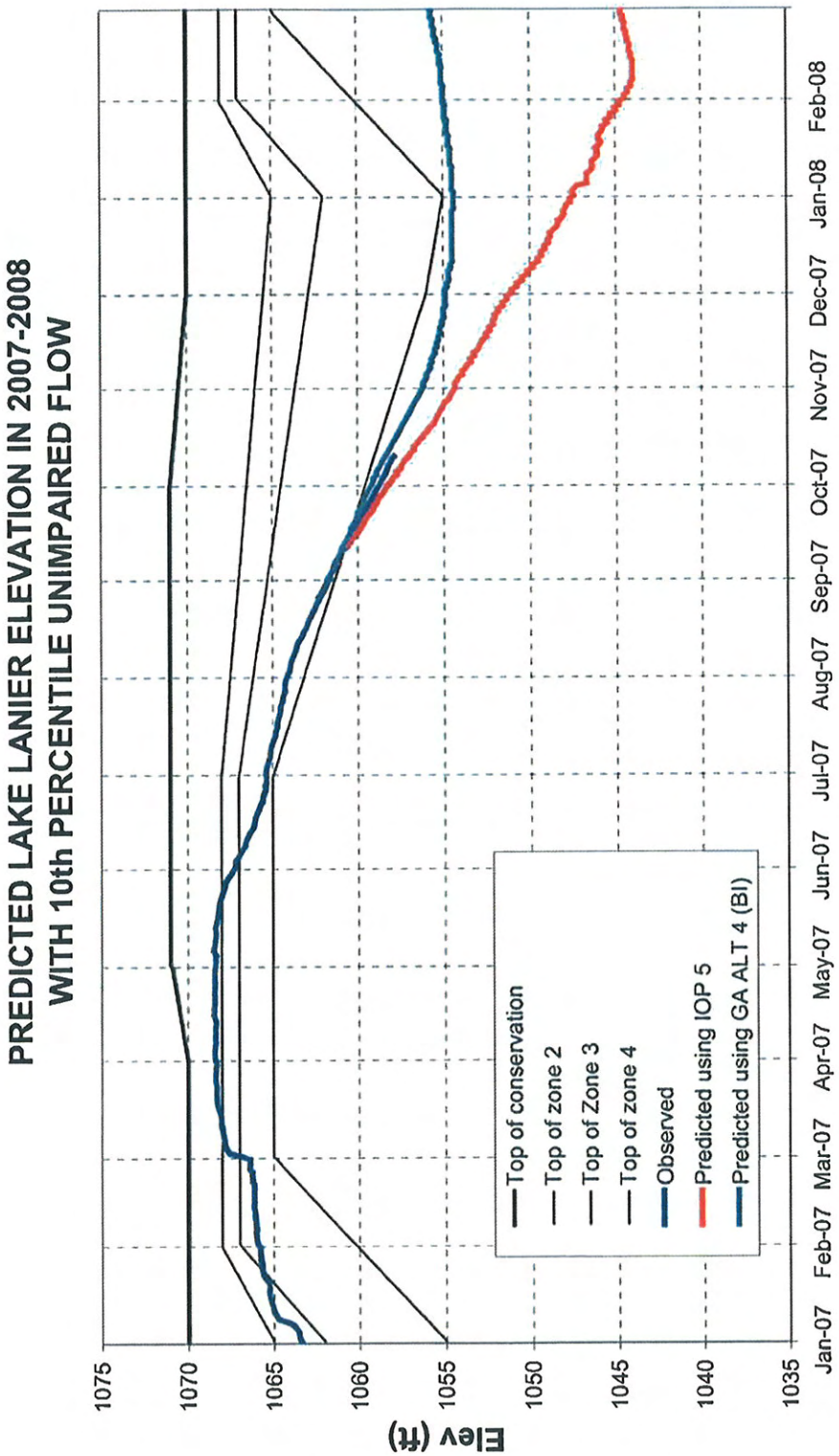


Fig. 16 Effects of emergency measures proposed by Georgia on Lanier elevation (using Corps model and 10 percentile hydrology)

Attachment A

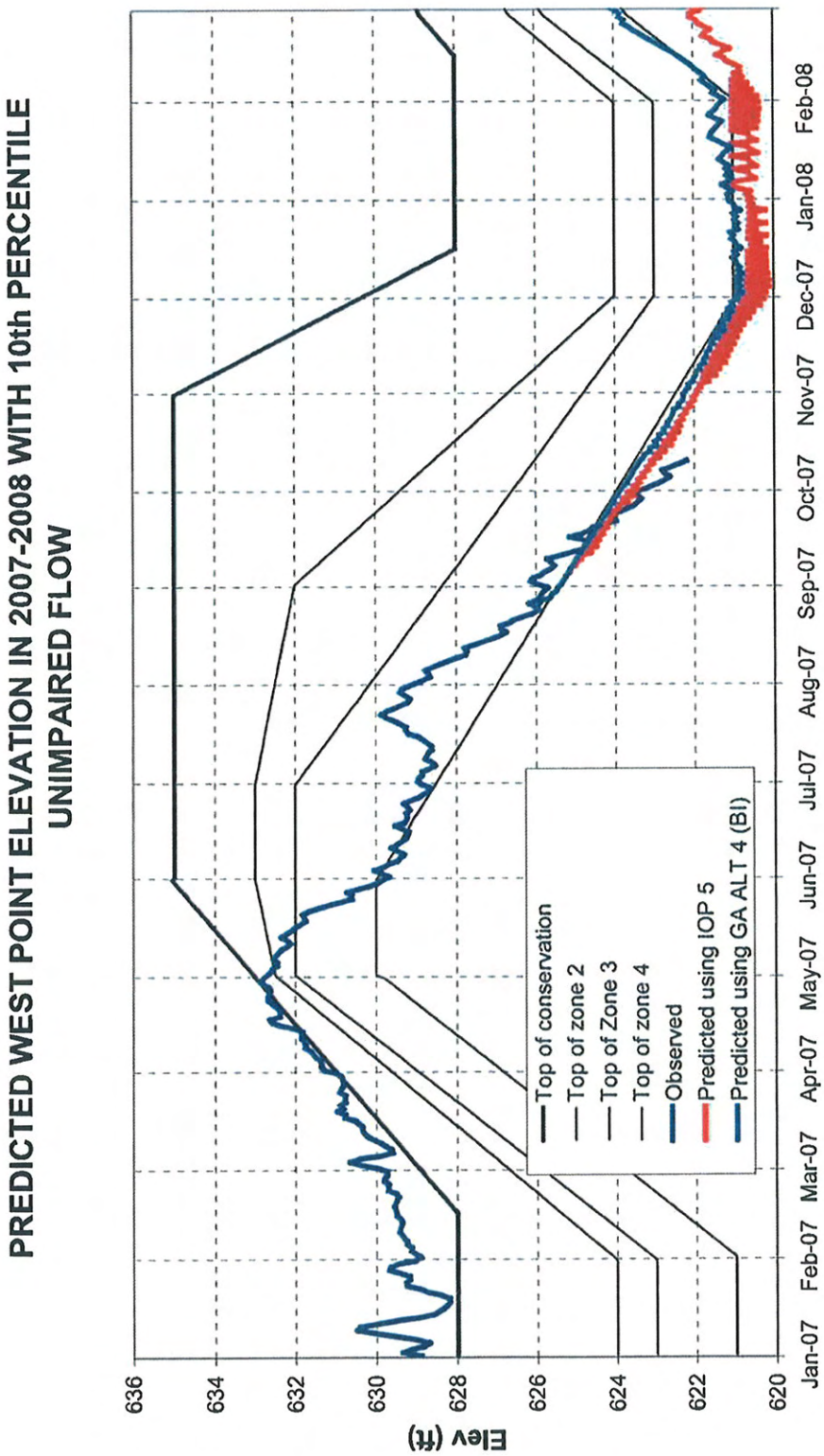


Fig. 17 Effects of emergency measures proposed by Georgia on West Point elevation (using Corps model and 10 percentile hydrology)

Attachment A

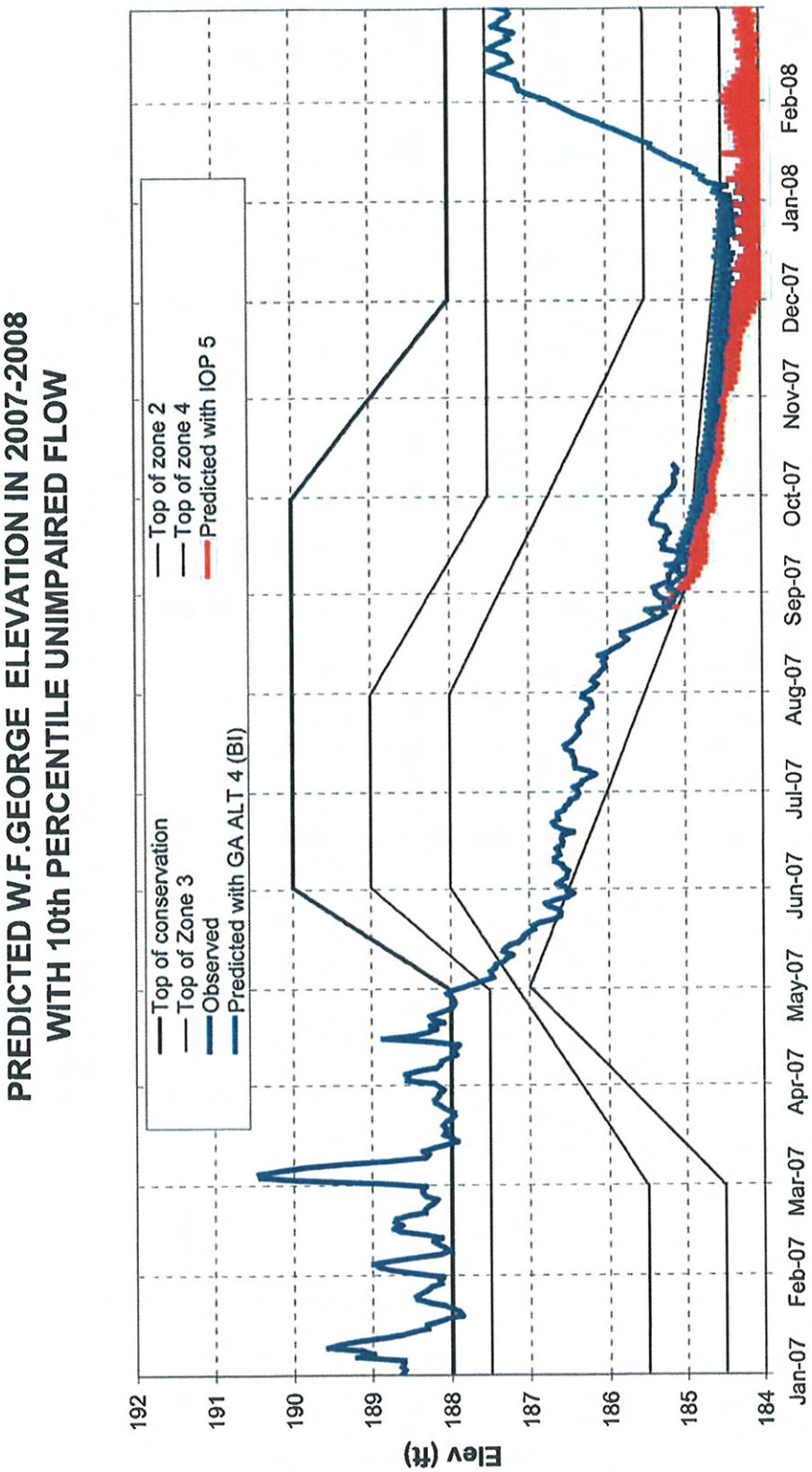


Fig. 18 Effects of emergency measures proposed by Georgia on W.F. George elevation (using Corps model and 10 percentile hydrology)

Attachment A

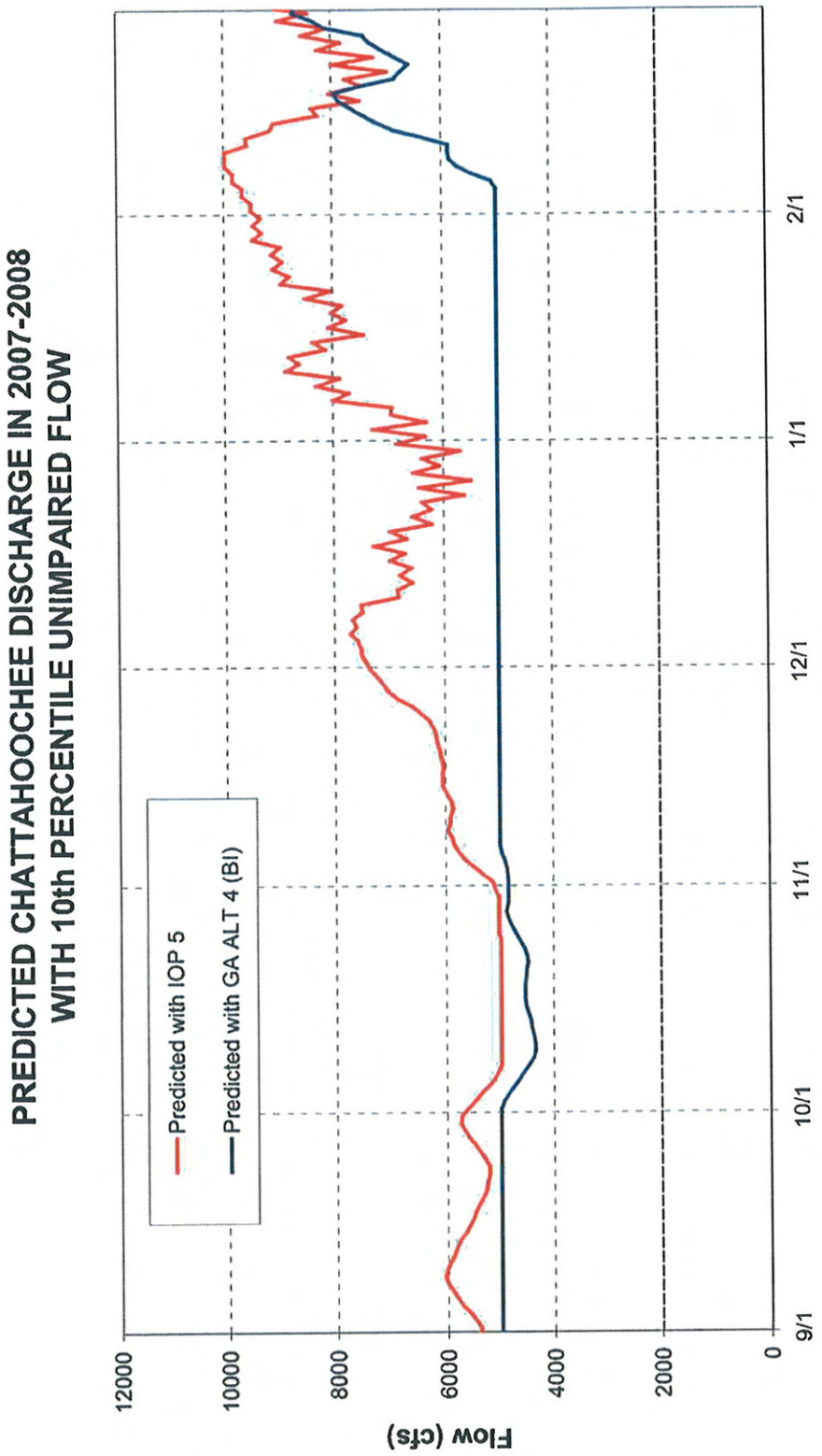


Fig. 19 Flow at Chattahoochee, Florida under the proposed changes to the IOP (Corps' 10 percentile hydrology)

Attachment A

From: Holland, Robert G SAD [mailto:Robert.G.Holland@sad01.usace.army.mil]
Sent: Wednesday, October 17, 2007 4:29 PM
To: Holland, Robert G SAD
Subject: Reply to State of Georgia Letter to Corps of Engineers on Releases from Lake Lanier

Inland Environment Team
Planning and Environmental Division

Carol A. Couch, PhD, Director
Environmental Protection Division
Georgia Department of Natural Resources
2 Martin Luther King Jr. Drive
Suite 1152 East Tower,
Atlanta, Georgia 30334

Dear Dr. Couch:

Thank you for your letter dated October 12, 2007 relating your concerns regarding the status of the Federal reservoirs in the Apalachicola, Chattahoochee, and Flint Rivers (ACF) Basin as we continue to experience severe and record drought conditions within the basin. We also have been tracking the progress and impacts of the drought conditions and have been relaying the current and projected pool elevations and current and projected rates of release of water from the reservoirs and forecasted impacts to stakeholders within the basin during recent ACF Basin Drought Summit teleconferences to assist in planning for drought contingency actions by all parties. As noted in our last teleconferences, drought conditions are predicted to continue at least for the next several months, and our planning will need to address the contingencies of a multiple year drought.

We are currently operating in accordance with the terms of the Interim Operations Plan (IOP), as developed in formal consultation with the U.S. Fish and Wildlife Service (USFWS) pursuant to Section 7 of the Endangered Species Act (ESA), and consistent with the requirements of our current water control plan. Section 7 consultation was required to determine whether our operations at Jim Woodruff Dam would cause adverse effects to federally listed species, including the threatened Gulf sturgeon, the endangered Fat threeridge mussel, and the threatened Purple bankclimber. The Biological Opinion issued by USFWS on September 5, 2006, concluded that the IOP would not result in jeopardy of the listed species, nor adversely modify or destroy critical habitat for these species; and included an Incidental Take Statement (ITS), Reasonable and Prudent Measures (RPMs), and mandatory terms and conditions to minimize harm. Operations must be conducted in accordance with the approved IOP, the RPMs and mandatory terms and conditions in order to maintain compliance with the ESA. Additional consultation would be required to modify the IOP or any of the terms and conditions of the Biological Opinion.

The current IOP terms were approved in follow-on consultation with the USFWS on February 28, 2007. Provisions of the IOP include:

- Required minimum flow of 5,000 cfs, consistent with current water control plan requirement, and a desired minimum flow of 6,500 cfs when hydrological and/or climatological conditions allow;
- Flow/release schedules based on a proportion of basin inflow specific for the sturgeon spring spawning period (March through May); and other portions of the year (June through February); with thresholds based on flow needs of sturgeon, listed mussels, or host fish for mussels;
- Ramping down restrictions to minimize isolation or exposure of sturgeon, mussels, and host fish for mussels.

Attachment B

Due to the severe nature and predicted duration of the continuing drought conditions, we have initiated discussions with the USFWS to address concerns that remaining storage within the ACF system may be depleted before drought conditions abate. This potential depletion could result in the inability to operate the projects in a way that fulfills all the authorized purposes, to comply with the provisions of the ESA, and to assure that operational decision making minimizes the adverse effect on other water uses and needs within the basin during this time of drought Our discussions are exploring possible interim drought contingency options that may provide some temporary modifications to the IOP and could allow some additional water to be stored to place the reservoirs in a better position to meet minimum needs if the drought conditions continue into 2008 as predicted. We are reviewing the additional information you have provided, as well as information we are developing on the potential impacts to listed species, to assist in our evaluation of possible options.

We appreciate the efforts that Georgia and the water users within the State of Georgia have taken and are planning to take in meeting the challenges of reduced water resources in the basin as a consequence of these severe drought conditions. I hope you and the other States and stakeholders will continue to share information that can assist us in planning and managing for this drought. We will keep all parties informed of our plans and anticipated water management actions on the regularly scheduled drought teleconference calls.

If you have any additional information, or questions regarding our operations, please feel free to contact me.

Sincerely,

Byron G. Jorns
Colonel, Corps of Engineers
District Commander

Copy furnished:

Michael Soles, Florida Department of Environmental Protection, Tallahassee, FL
Trey Glenn, Alabama Department of Environmental Management, Montgomery, AL
Gail Carmody, U.S. Fish and Wildlife Service, Panama City, FL

Attachment B

Memorandum
To: Carol Couch
From: Feng Jiang
Date: Oct 19, 2007
Re: ACF Basin Modeling Results

The purpose of this memorandum is to summarize technical analysis of effects of IOP 5 and Georgia Alternative 4 operation in ACF basin.

Settings

This summary contains two sets of results. For the first set, we used the 2%, 5%, and 10% non-exceedence level basin inflow through Aug 24, 2007 to the end of 2008. We simulated two operations: one is IOP 5, the other is Georgia Alternative 4, in which the flow target in Jim Woodruff is set to 5000 cfs if the basin inflow is over 5000 cfs, and equal to basin inflow if it is below 5000 cfs. For the second set of results, we used 2%, 5% and 10% non-exceedence basin inflow in the rest of 2007 and 2000 hydrology in 2008.

Results

For this analysis, we focus on the elevation of Lake Lanier, West Point, and W.F. George, and the flow at Chattahoochee River. The first set of results (Figures 1 to 4) show the consequences of IOP 5 operation. For Lake Lanier (Figure 1), it will be drained at the beginning of Feb 2008 under 2% non-exceedence hydrology. Even under 10% non-exceedence hydrology, it will be drained on Sep 23, 2008, which means no water supply will be supported by Lanier. If Georgia Alternative 4 is adopted, even under 2% non-exceedence hydrology, the Lake can last to June 16, 2008. For West Point (Figure 2), if we continue IOP 5 operation, the Lake will go below the bottom of conservation pool with 2% and 5% non-exceedence hydrology. If Georgia Alternative 4 is adopted, the Lake will be drained for only a short period during October to November 2008. For W.F. George (Figure 3), the picture is also grim. With the IOP 5 operation, the Lake will be drained on May 18, 2008 under 2% non-exceedence hydrology, on June 13, 2008 under 5% non-exceedence hydrology, and June 20, 2008 under 10% non-exceedence hydrology. If Georgia Alternative 4 is adopted, the lake will be drained for a short period during Oct to Nov 2008.

The flows at Chattahoochee (Figure 4) also shows the effects of IOP 5. With IOP 5 operation, even under 10% non-exceedence hydrology, the 5000 cfs target will be violated as early as Dec 2007. Under the 2% and 5% non-exceedance hydrology, the flow will be below 5000 cfs at the end of Oct or middle of Nov 2007. On the contrary, if we adopt Georgia Alternative 4, we can release more water on the spawning season in 2008, which will be very beneficial to the mussels and other organisms downstream.

The second sets of results (Figure 5 to 8) also show the same pattern. Under 2% hydrology in 2007 and 2000 hydrology in 2008, Lake Lanier (Figure 5) will reach 1039 ft at the end of 2008, which is only 4 ft above the bottom of conservation pool. If Georgia

Attachment C

Alternative 4 is adopted, the level will rise to 1049 ft, 10 ft higher than with IOP 5 operation. Under the 10% hydrology and 2000 hydrology in 2008, we also see 10 ft advantage over IOP 5 operation. The elevation of West Point (Figure 6) and W.F. George (Figure 7) also clearly show the benefits of Georgia Alternative 4 compared with IOP 5. For the flows in Chattahoochee River (Figure 8), we also see more steady flow with Georgia Alternative 4 than with IOP 5.

Attachment C

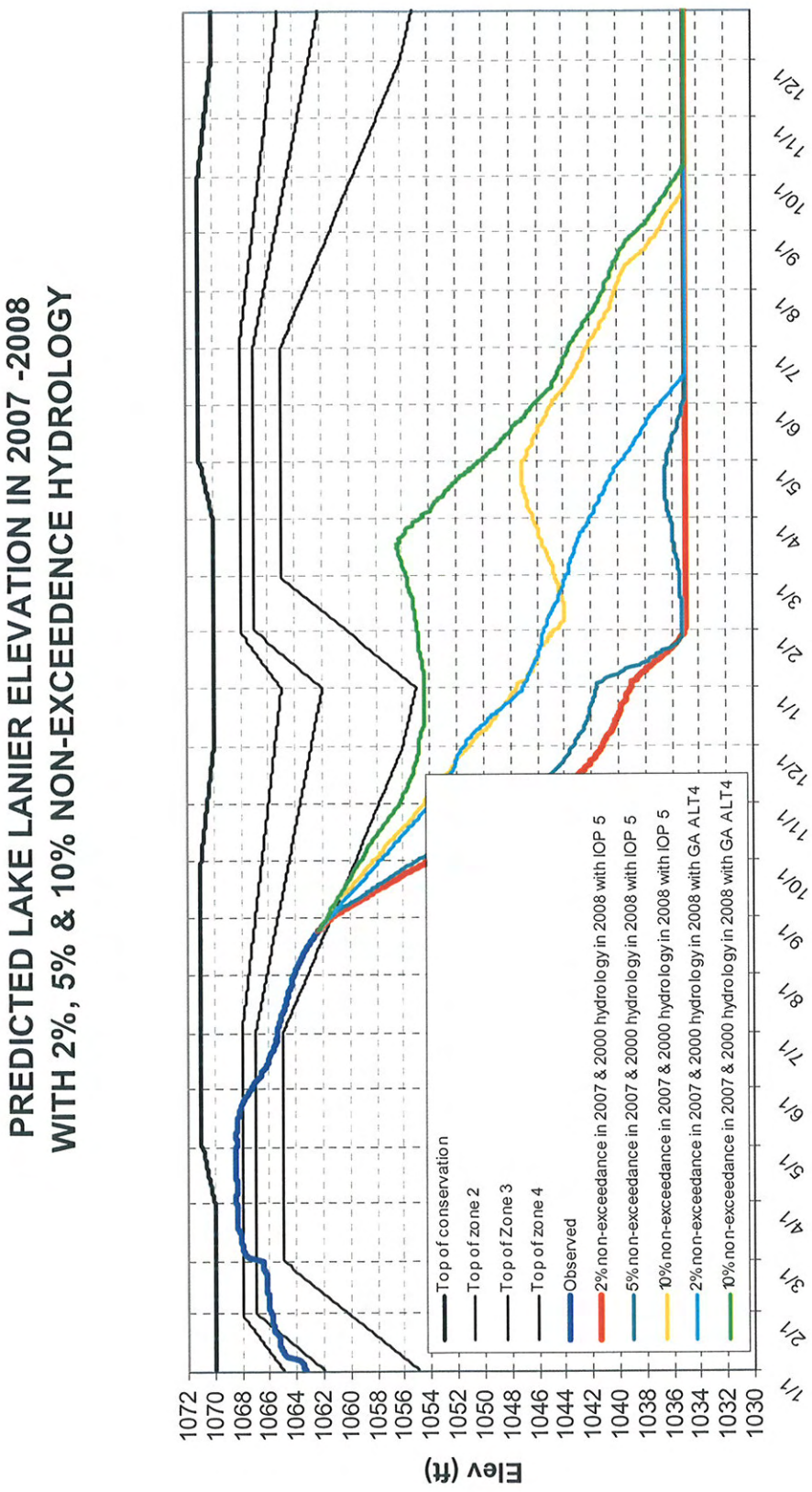


Figure 1. Predicted Lake Lanier elevation in 2007-2008 with 2%, 5%, and 10% non-exceedence hydrology

Attachment C

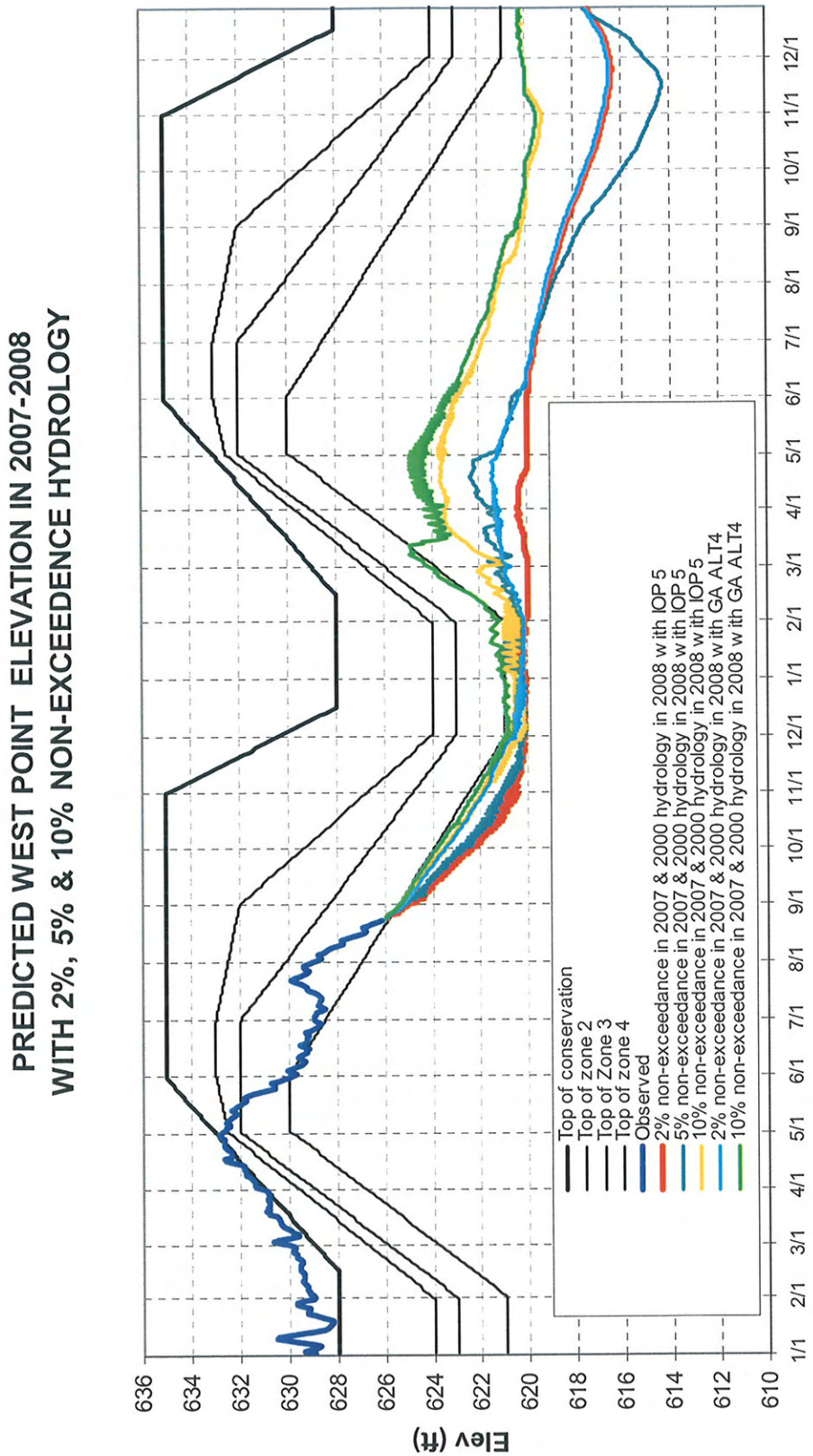


Figure 2. Predicted West Point elevation in 2007-2008 with 2%, 5%, and 10% non-exceedence hydrology

Attachment C

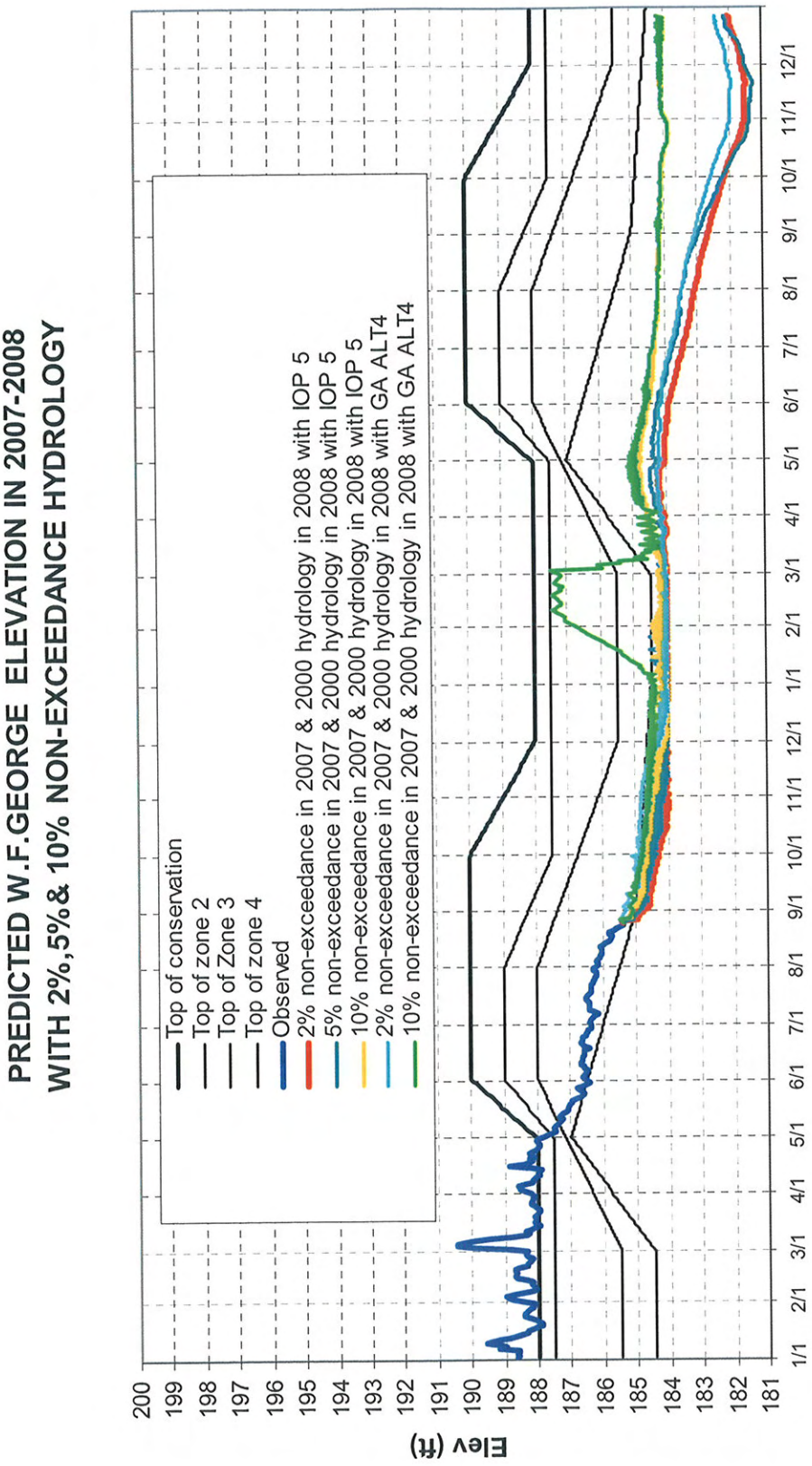


Figure 3. Predicted W.F. George elevation in 2007-2008 with 2%, 5%, and 10% non-exceedence hydrology

Attachment C

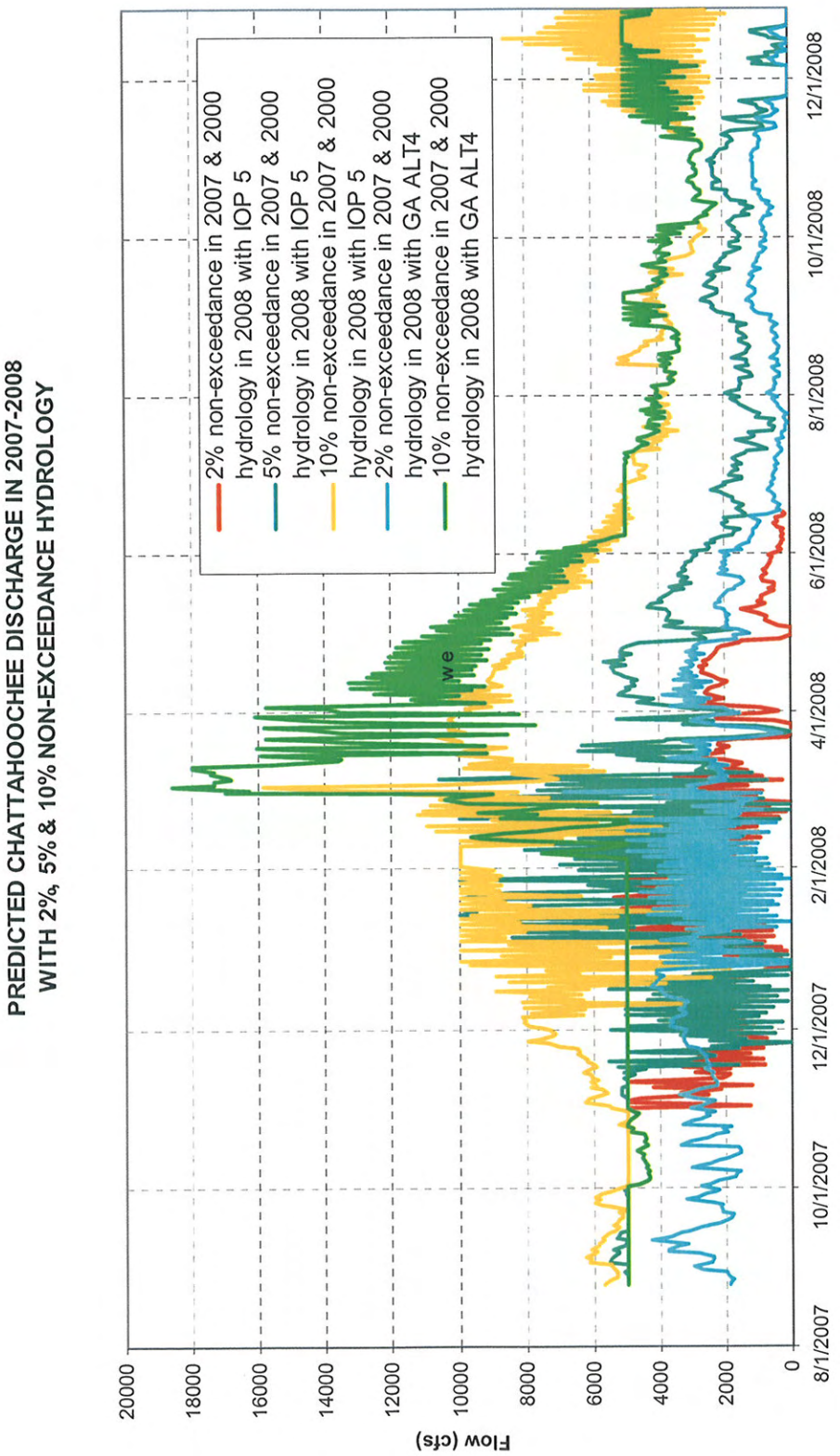


Figure 4. Predicted Chattahoochee discharge in 2007-2008 with 2%, 5%, and 10% non-exceedence hydrology

Attachment C

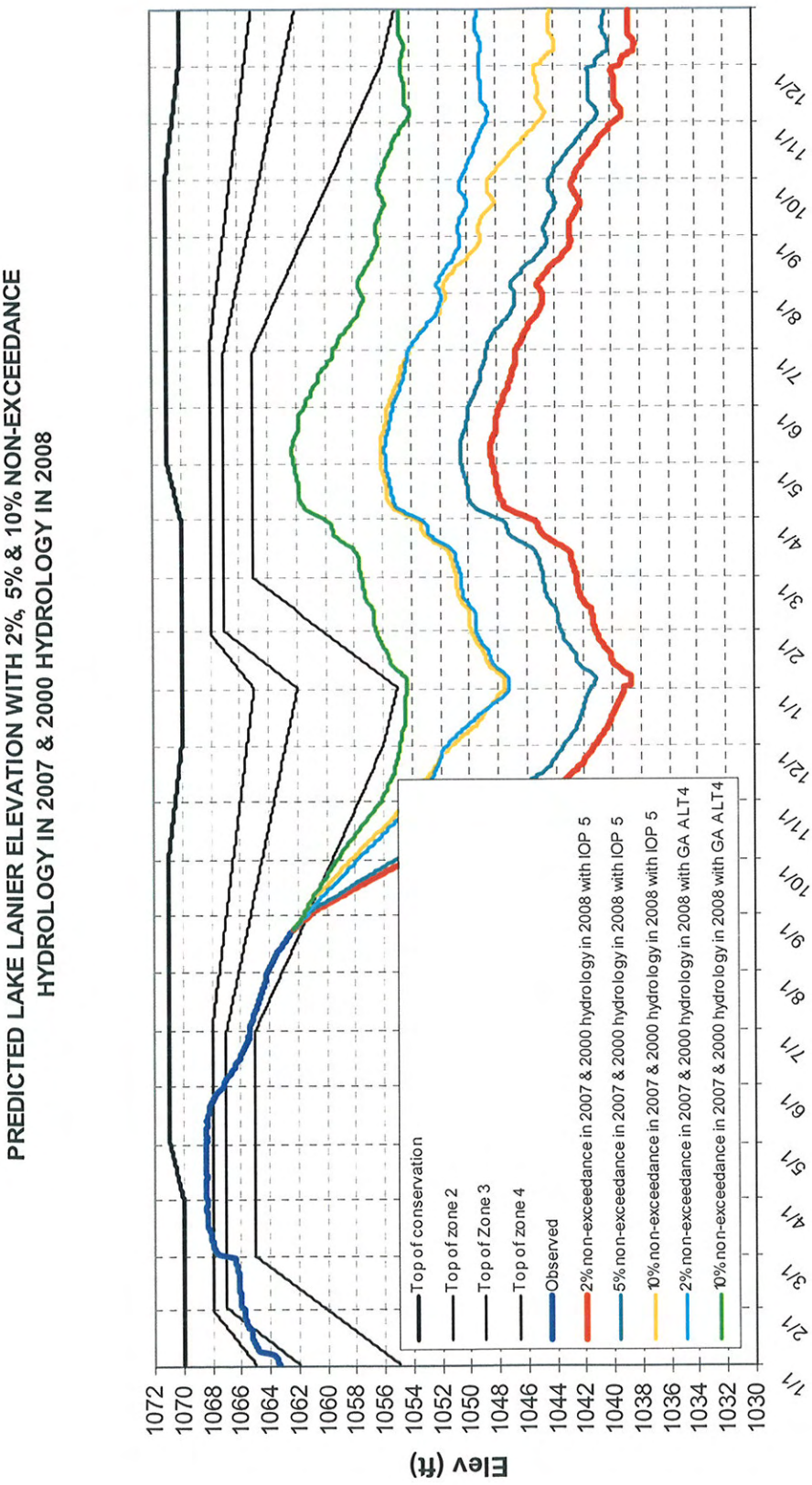


Figure 5. Predicted Lake Lanier elevation with 2%, 5%, and 10% non-exceedence hydrology in 2007 and 2000 hydrology in 2008

Attachment C

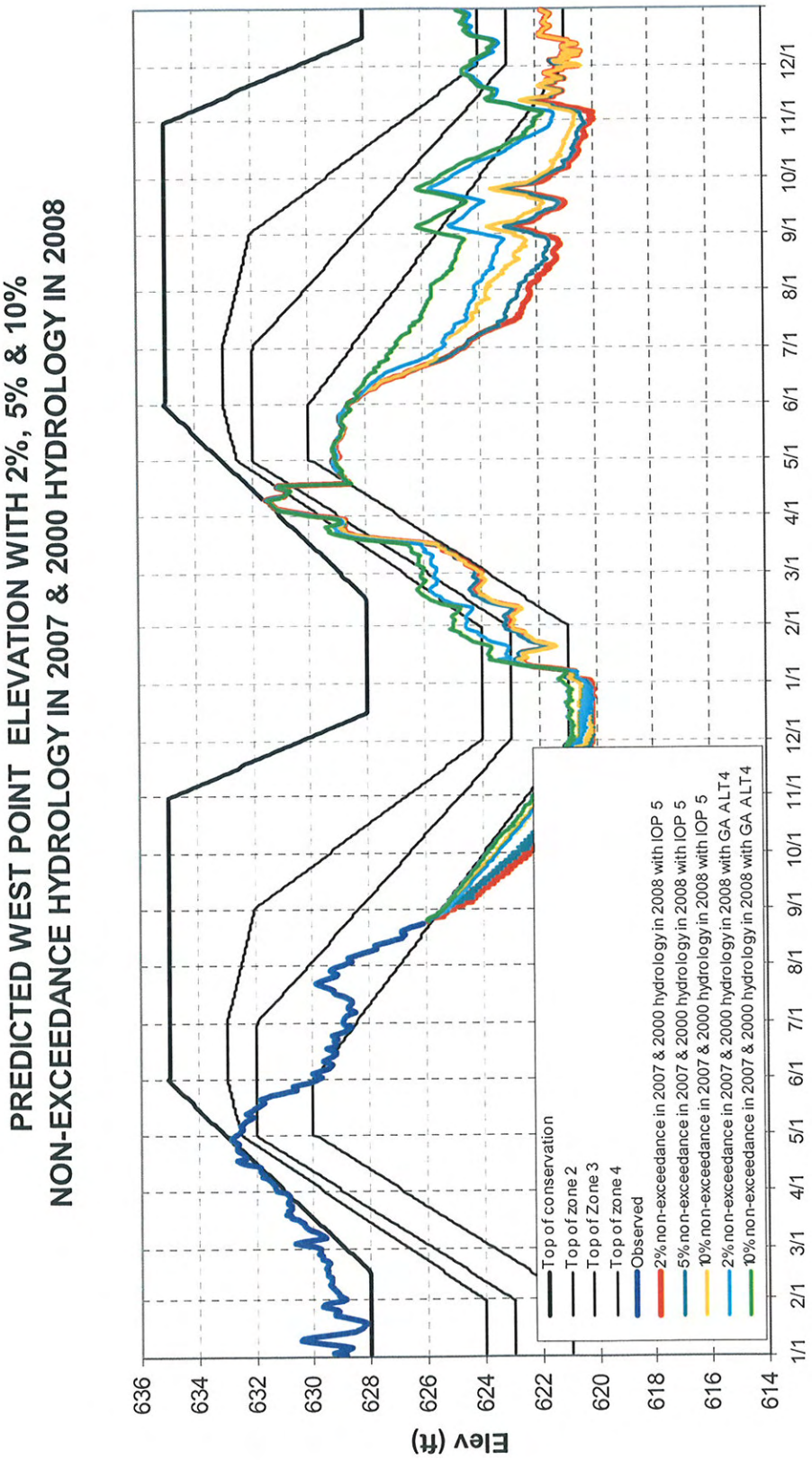


Figure 6. Predicted West Point elevation with 2%, 5%, and 10% non-exceedence hydrology in 2007 and 2000 hydrology in 2008

Attachment C

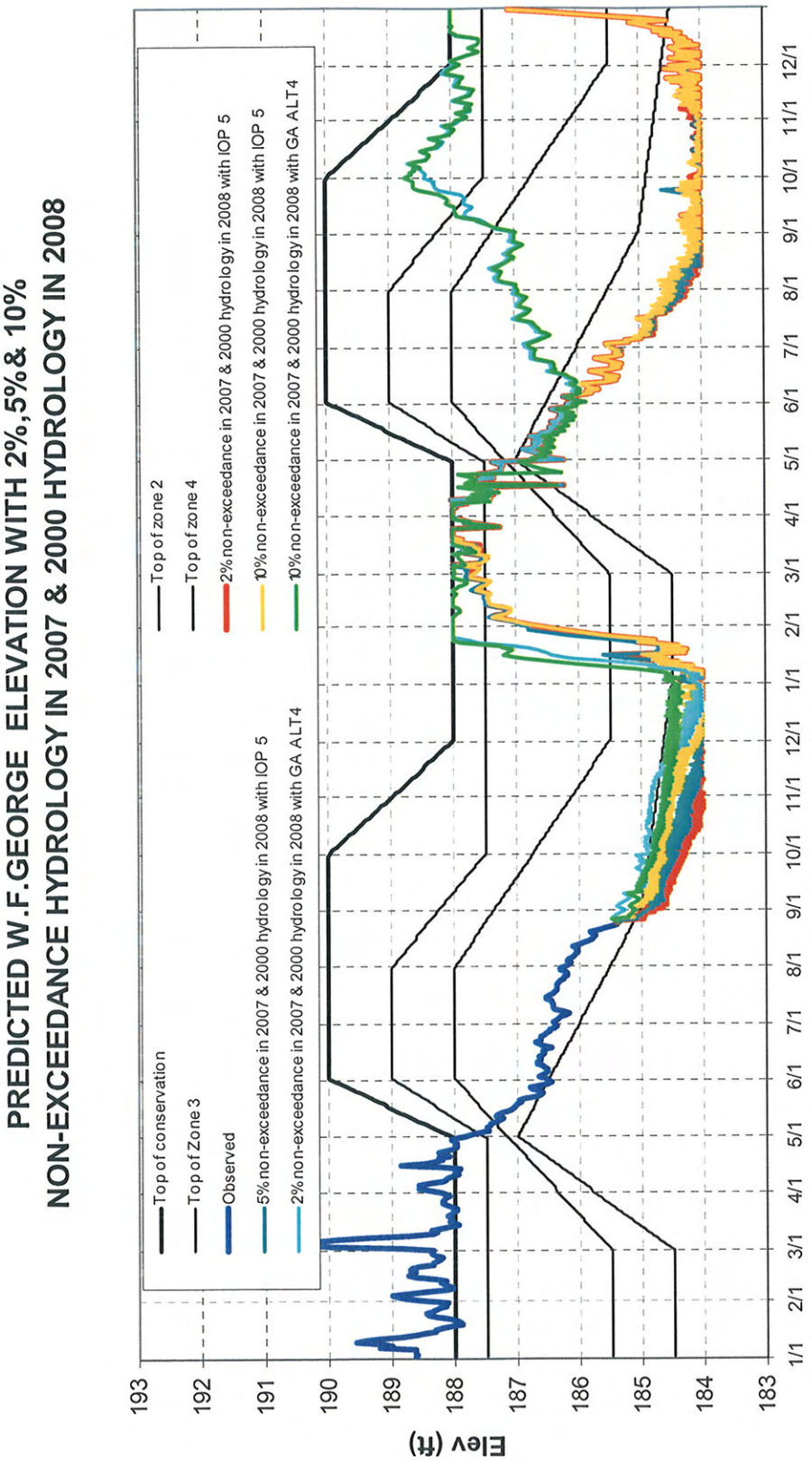


Figure 7. Predicted W.F. George elevation with 2%, 5%, and 10% non-exceedence hydrology in 2007 and 2000 hydrology in 2008

Attachment C

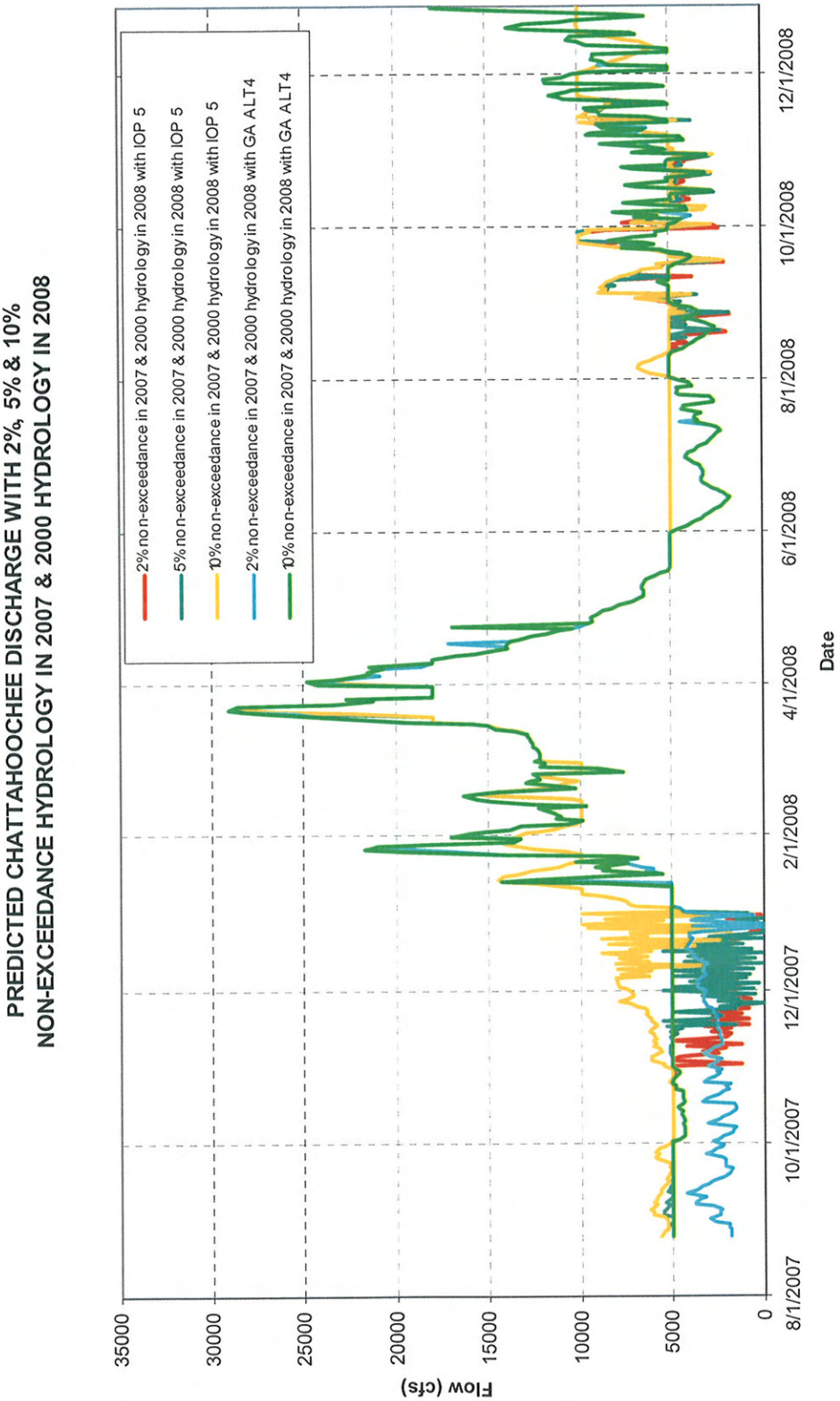


Figure 8. Predicted Chattahoochee discharge with 2%, 5%, and 10% non-exceedence hydrology in 2007 and 2000 hydrology in 2008

Attachment C