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February 25, 2002

VIA FASCIMILE & UPS NEXT DAY AIR

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RE: Apalachicola-Chattahoochee-Flint River Basin Compact

Gentlemen:

On January 15, 2002, the States of Alabama, Florida, and Georgia announced what they viewed as significant progress on the Apalachicola-Chattahoochee-Flint (ACF) River compact discussions and extended the Compact through March 18, 2002. As we understood it, the States of Florida and Georgia indicated that an agreement in principle to use certain quantitative elements ("the numbers") of a formula most recently presented by Florida and to continue to work on written terms of an agreement. At the present time, there are at least two versions of a written draft, one posted by Florida and one posted by Georgia. In addition to these considerations, representatives of the State of Alabama posted a summary of formula numbers and key components for a formula prior to the January 15 announcement.

I congratulate all of the States and we appreciate the effort that this progress has required. In response to your requests for our input, I am forwarding these early current impressions of the Federal agencies on the now public ACF concepts and accompanying questions. I hope that we can further explore these areas in our March 6, 2002, meeting.

In addition, given the nearness of the March 18 date and in the spirit of further encouraging collaborative discussion within that timeframe, I would also like to offer the opportunity for members of all of our respective technical teams to have preliminary discussions on these topics. To that end, I would be glad to arrange for a teleconference on February 28, 2002, at 2 PM EST. At that time, representatives of the teams of all of the States could join with representatives of the Corps of Engineers, the Department of the Interior and its agencies, the Southeast Power Administration, and the Environmental Protection Agency to begin to explore the matters outlined in the accompanying document and questions. As I know we all agree, this would not be negotiation. Instead, I envision an opportunity for informal discussion which could make our March 6 session more productive. I hope your staff will join us in this further effort to encourage dialogue. With regard to the teleconference (and keeping in mind that there may be

limitations on the numbers of lines available), please contact Heather Hallows (706 689 2254) by Noon, February 27, if you would like to participate.

The formula drafts have just been made public, differing versions of draft text exist, and the ACF Compact now extends only through March 18. These factors lead me to underscore that any technical comments and "programmatic" observations we now express are preliminary and may, in fact, be revised, modified, or negated as our federal analysis proceeds. Indeed, we are raising a number of questions where we simply lack sufficient understanding of the current proposals and their different intents to proceed further with any evaluation.

Here, unlike the ACT context, there are at least two versions of text language. Here, there is the prospect of a time line which may not permit – as did the ACT timeline – the same opportunity for a useful exchange of written questions and answers. Here, unlike in the ACT, the States' January 15 concepts employ differing modeling approaches to reflect the quantitative regimes. Moreover, here, unlike in the ACT, the federal agencies have only recently received the current models of the States of Florida and Georgia. Modeling review – a key element in understanding the intent of the States through their written words and in grasping the implications of the formula for all areas which it would impact – will take considerable time and resources to complete.

We have made it a practice in the ACF to assure that federal agencies are available to the States for information discussions and technical assistance. We are continuing to do so and intend to do so in the future as well. For instance, I am hopeful that we will soon have information on the so-called un-impaired flows analysis which will be useful to the states as well. In addition to their technical expertise, however, the federal agencies are called upon to monitor a variety of federal programs and are responsible for a variety of key areas of interest. Although not an exhaustive list, these key areas of interest include: I Compensation; II Congressional Federal Project Authorizations; III Operational Practicability and Flow and Reservoir Levels; IV Water Quality, Ecology, and Biodiversity; V Recreation and Public Use; VI Adaptive management; and VII Public Participation During Implementation.

Our observations on these latter areas are presented, essentially, in two parts. First, the federal legal and program framework is discussed and, second, specific suggestions are made keeping in mind the fact that two written drafts are now public. We hope to allow you to see what we would consider, based on both technical expertise and management of federal programs, if we were approached to conceptualize a basinwide allocation formula. Because there are textual differences in the current drafts and because we have not yet modeled the formula, there are limitations inherent in our suggestions. Still, if these are issues that we would consider in a basinwide approach, it seems reasonable for you to assume that they are issues we would also consider in evaluating formula proposals.

The enclosures also identify a variety of questions concerning the tentative drafts, both as written and as intended. Additional guidance on these questions, on clarification of the intent of certain elements of the written proposals, and on further questions as we continue our evaluations is pivotal to our ability to understand the proposals and to provide meaningful impressions.

We cannot suggest whether a particular proposal, in whole or in part, is "fatally flawed." Further, we cannot, as noted in our December 13 ACT meeting – take a formal position on specific flows, specific reservoir levels, or specific reservoir operations. We will not predict concurrence or nonconcurrence and will not speak to whether current language is consistent with or poses a violation, or potentially a violation, of federal law. We can make no final conclusions (either on my own behalf or on behalf of the federal agencies I represent) nor can we presume to have all the information necessary to do so. I have a responsibility myself under the Compact to make a concurrence or nonconcurrence decision later and to do so after various legal and public reviews, including NEPA. Everything we say here and any language ideas we surface here are conditioned on what those reviews might later reveal and what new information we might learn. Moreover, these comments focus on parts 1, 2, and 3 of the current drafts. Given the shortness of time, we have not yet had the opportunity to address other provisions.

Finally, with the prospect of a March 18 date lying ahead, the passage of every day brings us more quickly to the possibility that the formal State-level notice and comment period envisioned by the Compact will be triggered and, subsequently, followed by the 255 day federal review period. I strongly urge the States to consider extending both the March 18 date to allow for more meaningful comment before ACF Commission action and the 60-day State-level notice and comment period. A premature and short notice and comment period, coupled with a subsequent formal 255 day period, could lock the states into a schedule which would make it difficult -- if not impossible -- to gather informed feedback from the federal team as well as the growing numbers of stakeholders. The significant progress which the ACF States have announced and the goal of the Compact warrants the best opportunity for success we can all provide. Thus, I look forward to hearing your thoughts on this matter with the hope that we can openly address those issues that remain outstanding.

Sincerely,

Lindsay Thomas

CC:
Governor Siegelman
Governor Bush
Governor Barnes
Richard Hanan – AL
Trey Glenn – AL
Buddy Cox – AL
Doug Barr – FL
Teri Donaldson – FL
Harold Reheis – GA
Clay Long – GA
Peter Conroy – Alternate Federal Commissioner
Jim Brookshire – US Department of Justice
Federal Points-of-Contact

Attachment – February 25, 2002, Federal Commissioner to ACF Committee

Within the contours indicated by the February 25, 2002, letter of the Federal Commissioner, we offer these preliminary current impressions.

I. Compensation

A. Federal Framework. As written, implementation of the ACF water allocation formula proposals would have an adverse impact on the current Federally authorized project purposes of hydropower and flood control at the Buford and West Point reservoir projects, and hydropower at the Walter F. George and Jim Woodruff reservoir projects. Other project purposes such as navigation and recreation could also be adversely impacted. These impacts result from the revision of guide curves so that they reduce the magnitude of the flood control pool at certain times of the year, the reallocation of reservoir storage from conservation storage to water supply, the creation of reservoir operational zones which limit or constrain the amount of hydropower production, and from the reserving of water for the purpose of meeting downstream flow targets. Reallocation or addition of storage that would have a serious effect on other authorized project purposes or that would involve major structural or operational changes requires Congressional approval. Title 16 U.S.C. 825s and U. S. Army Corps of Engineers (COE) Engineer Regulation 1105-2-100 specify the requirement to compensate the Federal government for the adverse effects of project modifications on hydropower.

Under the provisions of Section 5 of the Flood Control Act of 1944 (16 U.S.C. 825s) and other Acts, power developed at projects under the jurisdiction of the Chief of Engineers, which is not required in the operation of such projects, shall be delivered to the Department of Energy (Southeastern Power Administration (SEPA)) for marketing. SEPA is, in turn, required by law to transmit and dispose of power and energy so as to encourage the most widespread use at the lowest possible rates to consumers, consistent with sound business principles. Rates for sale of power to recover the allocated costs are established by SEPA and approved by the Federal Energy Regulatory Commission.

Compensation is an important and necessary part of a complete allocation formula. This issue must be addressed to assure that the proper formal process and procedure is followed in identifying all the parties who will be impacted and in determining the measure of impact and the appropriate level of restitution. These procedures will determine who must pay and how such payment will be determined.

The amount of compensation due to the Federal treasury is determined by the U.S. Army Corps of Engineers pursuant to guidance in ER 1105-2-100. The cost of reallocated storage is generally computed as the highest of the benefits or revenues forgone, the replacement cost, or the updated cost of storage in the Federal project. If the reallocation is from flood control it is appropriate to utilize the replacement cost of equivalent protection (i.e., mitigation costs). Compensation will be sought whenever there is a loss of revenue of existing purposes (e.g., hydropower revenues), or when additional operation and/or maintenance expenses to existing purposes are incurred because of new water supply allocations.

At the same time that we cannot overlook the obligation for compensation, we must also be aware of the need that appropriate congressional authorizations must be obtained. Project repayment costs are developed and assigned based on authorized purposes receiving certain benefits from the projects and paying allocated costs based upon the benefits received in utilizing the entire designated conservation pool of a project. Any restriction which does not allow the project purposes to utilize the entire conservation pool must be accompanied by a Congressional re-authorization.

The costs which were allocated to the hydropower purpose represent a major portion of the construction cost for these projects. It is SEPA's responsibility to ensure the Government expenditures allocated to the hydropower purpose are repaid to the United States Treasury. In addition, SEPA must pay hydropower's allocated portion of each project's annual operating (O&M) costs. It would not be fair or equitable to expect an authorized purpose to pay originally allocated costs or annual O&M if the purpose no longer receive the benefits from the project envisioned when Congress authorized the project.

Compensation issues which are among the most important to the Federal Government are:

(1) Compensation for Water Withdrawals / Reallocation of Storage Water withdrawals may have a significant impact to the authorized hydropower purpose. They reduce generating capacity and energy production of a project which, in turn, could impact SEPA's ability to repay allocated costs. It is imperative to account accurately for all withdrawals, and to assure that the proper regulations and procedures are followed when permitting withdrawals, reallocating storage, and collecting revenue for withdrawals and storage.

(2) **Compensation for Zones with generation restrictions.** Anything adversely impacting the operation of a project, such as the creation of zones which reserves storage at a project by restricting generation or reducing storage in the flood control pool is a compensation issue.

(3) **Compensation for operational restrictions/reductions in capacity and energy.** SEPA considers any restriction a compensation issue when it impacts SEPA's ability to utilize the peaking resource to meet SEPA customers' generation requirements.

Whenever the **benefits** to the hydropower purpose are reduced, either through reallocation of storage, creation of zones with generation restrictions, operational restraints, or other reductions to capacity and energy, the **costs** allocated to hydropower must also be appropriately reduced. It is also essential that any reduction or loss of hydropower as a result of the aforementioned conditions be appropriately compensated. Compensation would also be required for increased costs to or loss of benefits to other project purposes.

B. Specific Suggestions. Operational changes to the Federal projects in the ACF Basin could result in the need for compensation due to increased costs or loss of benefits for the Federal project. In order to provide clearly for full compensation of all adverse effects of the formula on hydropower or other project purposes, a basinwide water allocation formula would clearly recognize that compensation will be owed the Federal Government for:

- Creation of zones with generation restrictions,
- Changes in amount or timing of hydropower production due to implementation of reservoir operational procedures specified in the formula, and
- Reallocation of storage for water supply or other purpose of the formula such as downstream water supply requirements or for achieving downstream flow targets.
- Mitigation for flood damages due to reduction in flood control storage.

An acceptable formula would clearly recognize that an agreement on compensation will be required prior to implementation of formula provisions.

Attachment – February 25, 2002, Federal Commissioner to ACF Committee

Within the contours indicated by the February 25, 2002, letter of the Federal Commissioner, we offer these preliminary current impressions.

II. Congressional Federal Project Authorizations.

A. Federal Framework.

(1) In the ACF Basin, there are several pieces of authorizing legislation. Section 2 of the River and Harbor Act of 1945 (P.L. 79-14) approved the general plan recommended in House Document 342, Seventy-sixth Congress, for development of the Apalachicola, Chattahoochee, and Flint Rivers, Georgia and Florida, for the multiple purposes of navigation, hydroelectric power generation and flood control. A modification to the 1945 general plan was authorized by Section 1 of the River and Harbor Act of 1946 (P.L. 79-525), in accordance with the report of the Chief of Engineers dated May 13, 1946 (House Document 300, Eightieth Congress) to include Buford multi-purpose reservoir (Lake Lanier), the Fort Benning Lock and Dam, and the Upper Columbia and Jim Woodruff multi-purpose developments. The navigation feature of the project was to be provided by dredging, channel contraction works, construction of a series of locks and dams, and flow regulation by the upstream reservoirs. In the Apalachicola River portion of the project the 1946 amendment provided that "…local interests furnish free of cost to the United States, as and when required, all rights-of-way, spoil-disposal areas, easements and other lands required for the provision and maintenance of a navigation channel in the Apalachicola River…". Further modifications authorized by Congress in 1953 (House Committee Public Works Resolution adopted May 19,1953) substituted the now George W. Andrews and Walter F. George Locks & Dams for the Upper Columbia multi-purpose project and Fort Benning Locks and Dam. The Flood Control Act of October 23, 1962 authorized West Point Lake in accordance with House Document No. 570, 87th Congress. Other ancillary project purposes were added to these congressionally authorized projects by laws that apply generally to all Corps reservoirs. These other laws include the Flood Control Act of 1944 (PL 78-534) which provides authority to add recreation as a purpose and to contract for use of surplus water for domestic purposes; the Water Supply Act of 1958 (PL 85-500, Title III) which provides authority to include storage for municipal and industrial water supply); the Fish and Wildlife Coordination Act of 1958 (PL 85-624) which provides authority to modify projects to conserve fish and wildlife; the Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) which establishes the goal to restore and maintain the quality of the Nation's waters; and the Endangered Species Act of 1973 (PL 93-205) which provides authority for operating projects to protect threatened or endangered fish and wildlife.

(2) The authorizing legislation and current authorized purposes for the various ACF Federal reservoir projects are as follows.

- Buford Dam and Lake Lanier. Buford Dam and Lake Lanier were authorized by the River and Harbor Act of 1945 (PL 79-14,) as amended by Section 1 of the River and Harbor Act of 1946 (P.L. 79-525). The authorized project purposes for the reservoir are: flood control; hydroelectric power generation, navigation, recreation, water quality, water supply, and, fish and wildlife conservation.
- West Point Dam and Lake. West Point Lake was authorized by the Flood Control Act of October 23, 1962 (PL 87-874). The authorized project purposes for the reservoir are: flood control; hydroelectric power generation, navigation, recreation, water quality, and, fish and wildlife conservation.
- Walter F. George Lock and Dam. Walter F. George Lock and Dam was authorized by the River and Harbor Act of 1945 (PL 79-14) as amended by Section 1 of the River and Harbor Act of 1946 (P.L. 79-525), and further amended by House Committee Public Works Resolution adopted May 19,1953. The authorized project purposes for the reservoir are: hydroelectric power generation, navigation, recreation, water quality, and fish and wildlife conservation.

- George W. Andrews Lock and Dam. George W. Andrews Lock and Dam. was authorized by the River and Harbor Act of 1945 (PL 79-14) as amended by Section 1 of the River and Harbor Act of 1946 (P.L. 79-525), and further amended by House Committee Public Works Resolution adopted May 19,1953. The authorized project purposes for the reservoir are: navigation, recreation, and water quality.
- Jim Woodruff Lock and Dam and Lake Seminole. Jim Woodruff Lock and Dam and Lake Seminole were authorized by the River and Harbor Act of 1945 (PL 79-14) as amended by Section 1 of the River and Harbor Act of 1946 (P.L. 79-525). The authorized project purposes for the reservoir are: hydroelectric power generation, navigation, recreation, water quality, and, fish and wildlife conservation.

(3) The Flood Control Act of December 30, 1963 (House Document 567, 87th Congress) approved the general plan for development of the Flint River consisting of three headwater reservoirs at Spewrell Bluff, Lazer Creek, and Lower Auchumpkee Creek and two locks & dams below Albany, Georgia (Raccoon Creek and Lower Vada) and it authorized construction of the Spewrell Bluff Reservoir. The Flood Control Act of October 27, 1965 authorized construction of the Lazer Creek and Lower Auchumpkee Creek projects. The State of Georgia, however, did not support these projects, and they were deauthorized by Section 1002 of the Water Resources Development Act of 1986 (PL 99-662).

(4) The COE currently operates the congressionally authorized Federal projects to satisfy the multiple purposes for which they are authorized. This is achieved by balancing resource use through regulating the project releases to conserve as much water as possible while attempting to maximize all project functions consistent with the project authorization. Implementation of a basin-wide water allocation formula will require that Congress consider the changed priorities against the backdrop of the project authorizations included in the authorities cited above. Project modifications or changes in project operations would likely serve a different mix of purposes than when the projects were originally authorized.

B. Specific Suggestions. The current ACF formula proposals and the ACF Compact state that Federal agencies have, in implementation of the formula, an obligation to the maximum extent practicable to exercise their powers, authority, and discretion in a manner consistent with the allocation formula so long as the exercise of such powers, authority, and discretion is not in conflict with Federal law. Within existing authorities and discretion there may be some provisions of the formula that the COE may implement to a limited degree immediately after the formula is adopted. Once required implementation studies are complete and Congress has authorized required project modifications, the formula may then be implemented to a greater extent.

Implementation of the water allocation formula will require or may potentially require:

- Reallocation of storage to water supply, pursuant to the Water Supply Act of 1958;
- Reallocation of storage for meeting downstream flow targets or water withdrawal requirements;
- Reduction in navigation channel depths to be maintained as a result of reductions in flow;
- Mitigation for reduction in flood control storage due to changes in reservoir guide curves; and,
- Compliance with Federal environmental statutes, such as the National Environmental Policy Act, Fish and Wildlife Coordination Act, and Endangered Species Act.

The current ACF draft formulas anticipate seeking Congressional authorization to approve reallocation of reservoir storage to water supply and possible changes in authorized project purposes. Section 1.4 of the proposal could be modified to acknowledge that, if Congress does not authorize reallocation of storage for water supply in response to Georgia's initiative required by Section 1.2, item (b) of the Georgia Proposal (section 1.2, item a of the Florida Proposal), Georgia will request that the Corps conduct appropriate studies in accordance with applicable laws and policies and make recommendations in a report to Congress regarding necessary modifications in project authorization or other actions

required to fully implement the formula. In the event that Georgia should be successful in obtaining Congressional authorization of reallocation without a report having been submitted to Congress, a study would be necessary to define the modifications to the project required to implement the provisions of the formula. The language in Section 1.2 (Performance) could be modified to acknowledge the need for studies prior to implementing the formula. Such a study would be conducted and a report prepared in accordance with COE regulations and policies.

Attachment – February 25, 2002, Federal Commissioner to ACF Committee

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III. Operational Practicability and Flow and Reservoir Levels.

A. Federal Framework. Water allocation proposals can be framed generally in terms of goals and targets or specifically in terms of detailed operating guidelines governing operations at reservoirs. The operational feasibility of a proposal, however, is limited by the ability to project hydrological implications. In general, the more detailed a water allocation proposal the more it risks the prospect that accuracy and responsiveness of a modeling analysis will be greater than can be achieved in "real time". Further, in any event, a model cannot accurately reflect the unknown hydrologic conditions of the future. In addition to modeling and predictive limitations, detailed instructions in an allocation formula raise operational demands which may have unintended consequences. In addition, the more specific the guidelines contained in the proposal the less flexibility the COE has to operate the projects for the multiple Congressionally authorized purposes.

Authorities for the allocation of storage and regulation of projects owned and operated by the Corps of Engineers are contained in Federal legislative authorization acts and referenced project documents. In the ACF Basin, there are several pieces of authorizing legislation. Section 2 of the River and Harbor Act of 1945 (P.L. 79-14) approved the general plan recommended in House Document 342, Seventy-sixth Congress, for development of the Apalachicola, Chattahoochee, and Flint Rivers, Georgia and Florida, for the multiple purposes of navigation, hydroelectric power generation and flood control. A modification to the 1945 general plan was authorized by Section 1 of the River and Harbor Act of 1946 (P.L. 79-525), in accordance with the report of the Chief of Engineers dated May 13, 1946 (House Document 300, Eightieth Congress) to include Buford multi-purpose reservoir (Lake Lanier), the Fort Benning Lock and Dam, and the Upper Columbia and Jim Woodruff multi-purpose developments. The navigation feature of the project was to be provided by dredging, channel contraction works, construction of a series of locks and dams, and flow regulation by the upstream reservoirs. In the Apalachicola River portion of the project the 1946 amendment provided that "…local interests furnish free of cost to the United States, as and when required, all rights-of-way, spoil-disposal areas, easements and other lands required for the provision and maintenance of a navigation channel in the Apalachicola River…". Further modifications authorized by Congress in 1953 (House Committee Public Works Resolution adopted May 19,1953) substituted the now George W. Andrews and Walter F. George Locks & Dams for the Upper Columbia multi-purpose project and Fort Benning Locks and Dam. The Flood Control Act of October 23, 1962 authorized West Point Lake in accordance with House Document No. 570, 87th Congress. The COE currently operates the congressionally authorized Federal projects to satisfy the multiple purposes for which they are authorized. This is achieved by balancing resource use through regulating the project releases to conserve as much water as possible while attempting to maximize all project functions consistent with the project authorization.

As stated previously, the current ACF formula proposals and the ACF Compact state that Federal agencies have, in implementation of the formula, an obligation to the maximum extent practicable to exercise their powers, authority, and discretion in a manner consistent with the allocation formula so long as the exercise of such powers, authority, and discretion is not in conflict with Federal law. Within existing authorities and discretion there may be some provisions of the formula that the COE may implement to a limited degree immediately after the formula is adopted. Once required implementation studies are complete and after Congress has authorized required project modifications, the formula may then be implemented to a greater extent. Operations specified in the formula that conflict with congressionally authorized purposes would not be fully implemented unless and until the necessary change in project authorization is obtained and the necessary changes in the water control plan have been approved.

B. Specific Suggestions. The current ACF proposals provide detailed guidelines regarding operations of the Federal reservoir projects. Further, the States have developed models that demonstrate operation

of the Federal projects to satisfy these specific operational requirements of the allocation formula. However, the modeled concepts of how the federal reservoir projects may be operated to meet the various flow targets may not be possible in "real time." From an operational perspective, and considering flow times from the projects to the to the flow target points, the "real time" operation may have to be accomplished in a different manner in order to accomplish the desired goals or objectives. An alternative approach would be for the formula to specify operational goals such as reallocation of storage to water supply, interbasin transfer limitations, and specified minimum flows, and allow the COE the flexibility to develop operational procedures to satisfy, to the greatest extent practicable and consistent with existing Federal law, all authorized project purposes. Eliminating detailed operational guidelines and providing for more flexibility and discretion in the COE operational decisions could also avoid unintended consequences.

The language of the proposal in sections 2.1 and 2.2 could be simplified as follows: "The COE shall operate the ACF federal reservoir projects in the manner necessary to satisfy the water supply and minimum flow requirements specified herein together with the other authorized project purposes. The COE, following Congressional authorization of implementation measures recommended by the report required by Section 1.4, shall develop and adopt a Water Control Plan, which would include a Drought Contingency Plan as required by ER 1110-2-1941, for the implementation of the terms of this Agreement and for the operation of Federal reservoirs consistent with this Agreement and as authorized by Congress. The Water Control Plan shall be developed in full consultation with the Signatory Parties and the ACF Commission and in accordance with applicable COE regulations and policies. This Water Control Plan may provide for the maximum production of hydropower consistent with meeting the water supply and minimum flow requirements of the allocation formula and other authorized project purposes and may be periodically revised to account for changes required to improve compliance with the provisions of this Agreement. The Drought Contingency Plan developed as part of the Water Control Plan will be coordinated with the Drought Plan developed by the ACF Committee to insure consistency. In carrying out the ACF water allocation formula, the COE will periodically modify its Water Control Plan (with appropriate compliance with COE regulations pertaining to obtaining public participation and with all environmental requirements) in consultation with the ACF Commission to meet the allocation formula operating criteria required by the Compact to the maximum extent practicable and consistent with federal law, including Congressional authorizations of any Federal multi-purpose project."

Attachment – February 25, 2002, Federal Commissioner to ACF Committee

Questions on Florida Proposal

1. **Section 2.2 A, Georgia's Water Supply Needs.** Would waters imported into the basin by the State of Alabama belong exclusively to Alabama? How would the COE be able to account for waters imported into the ACF Basin when making operational decisions on a daily basis to meet the other requirements specified in the agreement. How would return flows be estimated?

2. **Section2.2 C-Releases for the Sole Purpose of Supporting the Environmental Needs of Florida and Alabama.** What is daily flow? Does this mean the 750 cfs flow at Peachtree Creek is a daily average flow as stated in the Georgia 01-16 02 proposal? Or is it a minimum daily flow? Georgia Rules and Regulations would seem to require 750 cfs at all times. Would this preclude the reduction of the release from Buford to provide a minimum flow of 650 cfs during the cooler months, as requested during the past two years in order to conserve storage within Lake Lanier? This relief will likely be necessary in order to meet the estimated 705 MGD demand during extended drought conditions.

3. **Section 2.3 C6, – Minimum Monthly Average Flows at USGS Gaging Station #02358000. (Drought Relief in Effect). Tables 4 and 8:** Is this the average flow for the month? Or is the daily flow not to fall below this minimum flow computed for the particular month? Or is it computed on a weekly basis. Narrative says the releases necessary to meet the minimum monthly flow is computed on a weekly basis.

4. **Section 2.1 B. – Navigation:** It is unclear whether this section restricts releases in support of the project purpose of navigation, or whether the primary purpose of this section is to restrict the use of navigation windows during drought or extended periods of low water. It appears to allow the use of navigation windows if the COE determines that alternative means of transport are impracticable, or in emergency circumstances. It could also be interpreted to mean that routine releases to support the project purpose of navigation (without the use of navigation windows) would be allowed if not conducted during drought conditions and consistent with other provisions of the proposed agreement. Clarification of the intent of this section would assist in a determination of potential for conflict with the authorized project purpose of navigation.

5. **Section 2.2 – Specific Instructions for Operation of Buford Dam and Lake Lanier Reservoir:** There is no reference to any increase in the top of the conservation pool for Lake Lanier, as shown in the Georgia 01-16-02 proposal. It is unclear whether this is also intended in the Florida proposal.

6. **Section 2.5 – Record Keeping and Reporting Requirement – B.:** Would there also be a requirement for weekly or monthly reporting to the COE of the municipal and industrial withdrawals from and returns to the ACF basin, since such information may affect operational decisions by the COE made on a weekly basis. Such withdrawals and returns may vary on a monthly or seasonal basis due to fluctuations in demand, shutdowns or expansion of industries, or conservation measures put into effect.

Attachment – February 25, 2002, Federal Commissioner to ACF Committee

Questions on Georgia Proposal

1. **Section 2.2 - Operation of Dams for Flow Requirements – A.:** Would this preclude the reduction of the release from Buford to provide a minimum flow of 650 cfs during the cooler months, as requested during the past two years in order to conserve storage within Lake Lanier? This relief will likely be necessary in order to meet the estimated 705 MGD demand during extended drought conditions.

2. **Section 2.2 – Operation of Dams for Flow Requirements - C. and D.:** Clarification is needed regarding how the monthly average release is determined. Does the monthly average release from Jim Woodruff Dam reflect the minimum mean daily flow? Monthly average daily flow?

3. **Section 2.2 E.:** Clarification is needed regarding the intent for the 5000 cfs release from Jim Woodruff Dam. This section specifies the weekly average release of 5000 cfs. Tables B-1 and B-2 show monthly average flow. Florida proposal says mean daily flow for the month. Which releases are expected from project operations and how will they be determined (i.e., weekly average, monthly average, minimum daily average?)?

4. **Section 2.3 – Operation of Dams for Navigation:** It is unclear whether this section restricts releases in support of the project purpose of navigation, or whether the primary purpose of this section is to restrict the use of navigation windows during drought or extended periods of low water. It appears to allow the use of navigation windows if the COE determines that alternative means of transport are impracticable, or in emergency circumstances. It could also be interpreted to mean that routine releases to support the project purpose of navigation (without the use of navigation windows) would be allowed if not conducted during drought conditions and consistent with other provisions of the proposed agreement. Clarification of the intent of this section would assist in a determination of potential for conflict with the authorized project purpose of navigation.

5. **Section 2.4 – Operation of Dams for Hydropower:** Is it intended that hydropower generation accomplished by means of conjunctive releases for other project purposes or to meet minimum flow requirements “shall” or “shall not” count against the limit of hydropower generation shown in Table B-5. It is our understanding that this table defines limits of releases for sole purpose of hydropower generation, which would be inconsistent with counting generation during conjunctive releases. Is this intended to be different from the allowances in the Florida proposal?

6. **Section 2.5 – Operation of Dams and Reservoirs, General Instructions - H.:** We note that the Florida proposal only mentions waters imported in to the ACF Basin by the State of Georgia into Lake Lanier belonging exclusively to the State of Georgia. What accounting system would be employed to prevent these waters from being released to meet other requirements of the agreement? How would the COE be able to account for these waters when making operational decisions on a daily basis to meet the other requirements specified in the agreement?

7. **Section 2.6 – Recordkeeping and Reporting Requirements – C.:** Would there also be a requirement for weekly or monthly reporting to the COE of the municipal and industrial withdrawals from and returns to the ACF basin, since such information may affect operational decisions by the COE made on a weekly basis. Such withdrawals and returns may vary on a monthly or seasonal basis due to fluctuations in demand, shutdowns or expansion of industries, or conservation measures put into effect.

8. **Section 3.3 – ACF Committee Responsibilities – C. Monitoring and Reporting, 2.e.:** Does this include reservoir data and release data obtained for regional or county reservoirs within the

basin, since the operation of these reservoirs in upstream tributaries can affect the yield of the Federal reservoirs?

9. **Table B-1:** What do these flows represent? Monthly average flow? Mean daily flow for the month? Minimum daily average flow as shown in the Florida proposal dated 01-14-02?

10. **Table B-2:** What do these flows represent? Minimum mean daily average flow as shown in the Florida proposal?

Within the contours indicated by the February 25, 2002, letter of the Federal Commissioner, we offer these preliminary current impressions.

IV. Water Quality, Ecology and Biodiversity

A. Federal Framework. Several federal statutes are relevant to the protection of water quality, ecology and biodiversity in the ACF Basin and apply to the federal evaluation of a water allocation formula forwarded by the states to the Federal Commissioner. These statutes and their general purposes include:

> **Clean Water Act** -- restore and maintain the chemical, physical and biological integrity of the nation's waters.
>
> **Endangered Species Act** -- conservation of listed species and the ecosystems upon which they depend.
>
> **Fish and Wildlife Coordination Act** -- equal consideration of fish and wildlife in federal projects and permits; requires consultation with the U.S. Fish and Wildlife Service.
>
> **Federal Power Act** -- equal consideration of fish and wildlife, recreation and other environmental quality aspects in federal licensing of hydropower facilities.
>
> **Water Resource Development Act of 1990** -- Corps-operated hydropower facilities are inherently governmental functions, not commercial activities (Sec 314); environmental protection is one of the primary purposes in planning, designing, constructing, operating and maintaining water resource projects (Sec 306).
>
> **ACF Compact** -- "It is the intent of the parties to this Compact to develop an allocation formula for equitably apportioning the surface waters of the ACF Basin among the states while protecting the water quality, ecology and biodiversity of the ACF as provided in ... applicable federal laws" (Article VII(a)).

Climate-driven flow regimes and reservoir levels define the basin's fresh water aquatic habitat conditions and strongly influence its estuarine habitat conditions. The principle means by which people alter flow regimes are consumptive uses and reservoir operations; therefore, federal review of water quality, ecology, and biodiversity issues will necessarily focus on how the formula addresses consumptive uses and reservoir operations. The current Florida and Georgia proposals both represent a new system of operations for the ACF federal reservoirs. The measurable goal of this system is to maintain a schedule of minimum flows under specific circumstances of reservoir storage and climatic conditions. Evaluating its effects on water quality, ecology, and biodiversity will necessarily involve the use of hydrologic models of the system, and also models that represent habitat and water quality conditions as a function of hydrology. Our development of models to represent the current proposals is ongoing, as is our validation and review of the model Florida has provided. We have not yet received a model intended to represent implementation of Georgia's proposal, which has many of the same numbers as the Florida proposal, but differs substantially in several respects as to how to apply those numbers.

B. Specific Suggestions

1. Consumptive Demands

The effects on water quality, ecology, and biodiversity of implementing the system of reservoir operations proposed by Florida in its 1/14/2002 draft and by Georgia in its 1/16/2002 draft would depend greatly on the amount of water consumption in the basin. However, consumption is not explicitly

quantified in the proposals except for the upper Chattahoochee, where the consumption almost equals the dry-year yield of the upper basin in excess of the 750 cfs minimum flow requirement. The possibility of extra-basin water transfers and new reservoirs creating new evaporative losses and supporting new consumptive use is not addressed in the proposals. To evaluate the effects of the proposals, federal agencies will need to understand the consumptive uses and extra-basin transfers that the states expect would be supported if a proposal is adopted. We recommend that the states incorporate the following into the appropriate sections of a joint proposal:

- Quantify the consumptive use expected by each state within each major subbasin based on most-likely needs projections in 10-year increments for the duration of the agreement.
- Include estimates of water consumption in the basin in the list of monitoring tasks and commit the Commission to supporting these tasks.
- Provide a process for dealing with the ramifications of new reservoirs and extra-basin transfers on the implementation of and compliance with the agreement.
- Use the monitoring data as the basis for decisions on how best to implement the agreement, as discussed under Adaptive Management.

2. Minimum Flows

Both proposals specify minimum flow rates for three locations in the basin: the Chattahoochee River at the mouth of Peachtree Creek in Atlanta, Georgia, the Chattahoochee River at Columbus, Georgia, and the Apalachicola River at Chattahoochee, Florida. It appears as though the Corps bears sole responsibility for maintaining these minimum flow rates through its operations of the federal reservoirs, although flow rates during low-flow periods are strongly influenced by state-regulated consumptive uses as well as federal reservoir operations.

Of the three locations for which minimum flow is specified, the minimum flow schedule specified for the Apalachicola River is the most complex. At all times and during “drought relief,” which is triggered when certain surface water and climatic conditions occur simultaneously, the proposal requires a weekly average minimum of 5,000 cfs. This requirement would avoid some impacts to freshwater mussels protected under the Endangered Species Act, which the U.S. Fish and Wildlife Service identified to the Corps by letter dated August 10, 2000. The same letter also described impacts resulting from releases less than 6,000 cfs. Because basin-wide consumption expectations are not quantified under this agreement, and because the minimum flow levels specified depend on surface water conditions, the frequency with which consumption and storage development could trigger the bottom line flow of 5,000 cfs is unknown.

Under both proposals, minimum flow rates greater than 5,000 cfs are required in the Apalachicola River depending on the month, storage in West Point and W.F. George reservoirs, and drought relief indicators. This concept is innovative and promising. We note that the minimum flow rates included in tables 4 and 8 (Florida proposal) and tables B-1 and B-2 (Georgia proposal) appear relatively low, and in many instances represent unprecedented seasonal conditions. Attachments A and B show the historical frequency of occurrence of the proposed minimum flows (source USGS Water Resources Division).

It appears possible, if not likely, that higher minimum flow rates could be supported while meeting the states’ expected water consumption levels, depending on quantification of those consumption levels. Federal agencies are willing to assist the states in exploring combinations of monthly minimum flows linked to surface water and climatic conditions that would insure adequate protection of water quality, ecology, and biodiversity under the federal authorities listed above.

3. Reservoir Levels and Operations

The language in Section 2 of both proposals is highly prescriptive with respect to federal reservoir operations. Federal agency comments and suggestions related to the practicability of these operations are given in Part III of these comments. As written, it appears that implementing either Florida's or Georgia's version of Section 2 would result generally in higher- than-historic reservoir levels. Generally higher levels would translate to changes in river flow rates as well, and both changes could affect water quality, ecology, and biodiversity. Changes in reservoir retention time are of particular interest in evaluating reservoir water quality characteristics. Water quality and the timing of reservoir level fluctuations strongly influence reservoir fish productivity and shoreline erosion potential. Some changes in the historic patterns of reservoir levels could have both beneficial and detrimental effects on fish and wildlife. The possibility that we raise in Part III of unintended consequences resulting from a highly prescriptive reservoir operations program applies also to water quality, ecology, and biodiversity concerns. Therefore, we reiterate the recommendation that the states simplify Section 2 of their proposals. We suggest restructuring Section 2 as a statement of minimum flow and water supply goals, leaving the operational means of achieving those goals to the Water Control Plan process and Adaptive Management (Part IV).

4. Drought Relief

The Florida and Georgia proposals specify two surface water indicators and two climatic indicators that would operate together to provide temporary "relief" from the 1-year monthly average minimums. When triggered, the values in Table 8 (Florida) and B-2 (Georgia) apply as the required minimum for 1 month at time until the indicators return to non-drought levels. As noted in our comments on Minimum Flows above, we find merit in the concept of linking minimum flow rates to surface water and climatic conditions. However, many of the non-drought flows given in Table 4 (Florida) and B-1 (Georgia) appear to us to represent a drought condition (see Attachment A) and many of the drought relief flows (Table 8, Florida, and Table B-2, Georgia) are lower than have ever occurred (see Attachment B). The effect of the drought relief provision of both proposals will depend not only on the flow rates, but on the values selected for the drought relief indicators, which will determine when relief is and is not in effect. The potential for triggering drought relief could be increased by increases in consumption, either by over-utilization of the storage in West Point and Walter F. George reservoirs, or by depletions to the flows of the Flint River measured at Newton, Georgia.

We've reviewed the surface water and climatic indicators computed for the years 1939 to 2000 (62 years) provided to us by the Florida negotiating team. Since West Point Reservoir was not completed until 1975, only the Flint River gage at Newton is available before then to use as the surface water indicator. Drought relief would have occurred in 33 months in the years 1939 to 2000, or about 4 percent of the months, triggering the drought-relief flow requirements. One or both of the climatic indicators, the Palmer and Standard Precipitation Indices, meet the drought criteria in an additional 59 months of the 1939-2000 record without an accompanying surface water indicator to trigger drought relief. In 17 of these 59 months, the flow of the Flint River at Newton exceeded the drought criteria by less than 300 cfs. Therefore, depleting the flow of the Flint by 300 cfs relative to the historic record could be expected to increase the frequency of drought relief events to 50 months (33 plus 17) out of 62 years, or about 7 percent of the months. The potential to decrease flows 7 percent of the time to unprecedented low levels is an issue of great relevance to the protection of water quality, ecology, and biodiversity in the basin.

We suggest that the states consider adjusting the threshold values (i.e., less likely to be triggered) for the drought relief indicators. The degree of the adjustment would depend on any changes made to the non-drought and drought minimum flow values, as discussed above. We suggest that the states set drought relief flows at levels not less than the lowest historic monthly flows and roughly comparable in historic frequency of occurrence to the expected frequency of drought relief.

C. Questions related to Water Quality, Ecology and Biodiversity

Questions on Florida Proposal

At this time, we've prepared questions that pertain to water quality, ecology, and biodiversity issues for the Florida proposal only. We will address the Georgia proposal as soon as possible.

Section/Topic

1.5 State Implementation. What kinds of measurable water management actions would the states take to implement the agreement? Please provide at least one or more specific hypothetical examples.

Section 2 – General question. Can the states provide the results of their evaluations of the effects of implementing this section on water quality, ecology, and biodiversity?

2.2 B and 2.3 B Hydropower. By expressing limits on releases from the federal dams "solely for the production of hydropower" in terms of weekly hours of generation, it is difficult to interpret the effect of these provisions on flows and levels. The actual daily discharge associated with an hour of power generation at each facility depends on how many turbines are operated and at what capacities, which vary over time. It is also possible to add an additional turbine at West Point Dam, which would substantially alter the meaning of an hour of power generation. How are the states translating hydropower hours to daily discharge in their estimation of the effect of these provisions? What is the reason for expressing these provisions in hours, and would the states object to a conversion to daily discharge?

2.3 C-3 5,000 cfs weekly average flow at gage 02358000 (Chattahoochee, FL). We note that in the model results provided by the state of Florida that daily flows are not less than 5,000 cfs at this location. The U.S. Fish and Wildlife Service has informed the Corps of the need to initiate formal consultation under section 7 of the Endangered Species Act for operations that would result in daily releases from Jim Woodruff Dam of less than 5,000 cfs, and the Corps is collecting data necessary for that consultation should the need arise. Do the states object to expressing this provision in terms of a daily discharge instead of a weekly discharge?

2.3 C-4 1,850 cfs weekly average flow at gage 02341500 (Columbus, GA). We are assuming that the language here to provide "a flow of 1,850 cfs" means provide "at least a flow of 1,850 cfs." Is this correct?

2.3 C-5 Minimum flow at gage 02348000 (Chattahoochee, FL) when drought relief is not in effect.

e. Estimate weekly release to meet minimum monthly flow. Is the intent here to insure that each weekly discharge equals or exceeds the minimum monthly discharge amounts given in Table 4, or may some weeks in a month fall short of the monthly minimum if other weeks in the same month exceed it sufficiently?

f. Releases for authorized purposes. Fish and wildlife, water quality, and recreation are authorized purposes for Buford, West Point, W.F. George, and Jim Woodruff dams. Current operating guidelines address such issues as tailwater water quality and effects of reservoir fluctuations on fish spawning. How are the states accounting for these authorized purposes in their evaluation of the effects of their proposals on federal reservoir operations? When water control plans are revised, the U.S. Fish and Wildlife Service expects to engage the Corps in an evaluation of reservoir operation alternatives that might improve fish and wildlife benefits from the projects. How do the states intend for their proposals to constrain such an evaluation, if at all?

g. Augmentation releases. This section defines a condition and specifies an action under that condition, but it is not clear what alternative action is intended for when the condition is not satisfied. We assume that if the release for authorized purposes estimated under "f" exceeds the release for minimum flow estimated under "e" (instead of f < e as given in this section) that the Corps would release the amount under "f". Further, the use of the term "augmentation" following the statement "if f < e" implies that augmentation is the amount by which minimum flow support (e) exceeds an authorized purposes release (f). However, we see that augmentation release is defined in Appendix A as reservoir outflow minus inflow. Please confirm whether we are interpreting the language correctly.

j. This section instructs the Corps to release the amount estimated under "g" when that amount is less than the maximum flow augmentation release. "g" is the estimated augmentation release, defined in Appendix A as reservoir outflow minus inflow. We are interpreting the language in "g" through "j" to mean "if a release for authorized purposes won't meet the minimum flow, estimate the amount in addition to reservoir inflow that may be needed to meet the minimum flow, and if that amount is less than the maximum augmentation limit, release that amount plus the inflow." However, section "j" could also be interpreted to mean "release only the amount that exceeds reservoir inflow and is less than the maximum augmentation limit and retain the reservoir inflow in storage." Please confirm whether we are interpreting the language correctly.

2.3 C-6 Minimum flow at gage 02348000 (Chattahoochee, FL) when drought relief is in effect. As noted above in our comments on drought relief, the potential frequency of triggering drought relief appears somewhat out of sync with the flow levels in Table 8 (Florida) and B-2 (Georgia). Have the states evaluated the potential for either adjusting the indicators so that relief is triggered less often or increasing the relief flow levels or both, and if so, what other benefits are sacrificed, e.g., water supply reliability, hydropower, etc.? All of our other questions under section 2.3 C-5 above pertain to this section as well, since the language is nearly identical and only the tables differ. We assume that the word "maximum" in paragraph "f" should instead read "minimum."

2.3 E. Conjunctive releases. The use of the phrase "solely for hydropower" earlier in section 2.3 suggests that the maximum hours given in Tables 2 and 3 (Florida) and B-5 (Georgia) apply in all instances to releases used to generate power that are above and beyond releases necessary for all other purposes, which may generate power conjunctively. Put another way, the Corps may always add the maximum hours release amounts on top of releases for other purposes if they need that additional release for power. However, this section "E" says that the maximum hours tables apply only in the limited instance when hydropower requires the greatest release among the various purposes for releases. Our question is how the maximum hours tables apply in this instance. Are they applied to the difference between the release needed for power and the next greatest release needed for another purpose, or to the entire amount of the release needed for power?

2.4 Middle Chattahoochee. This section appears to establish a process for allocating future pollutant loadings in the Middle Chattahoochee. Please provide the legal authorities that would empower the states to do this within the allocation formula?

3.1 Para. 1. Commission Oversight. An action "to suspend, reduce, or postpone the implementation of any of the obligations imposed upon the COE" could represent a fundamental change in the agreement. Do the states foresee that such action would be subject to federal Commissioner concurrence, as would a formal modification of the formula?

Para 4. We are supportive of developing a list of indicators as outlined in this paragraph and determining the data necessary to assess these indicators. How do the states intend to support this activity? How is this activity related to the monitoring efforts listed in section 3.3 C?

3.2 B. Drought Plan. Such a plan would represent a substantial new portion of the allocation formula. Do the states foresee that the drought plan would be subject to federal Commissioner concurrence, as would a formal modification of the formula?

3.3 C. Monitoring and Reporting. How do the states intend to support this activity?

Attachment – February 25, 2002, Federal Commissioner to ACF Committee

Within the contours indicated by the February 25, 2002, letter of the Federal Commissioner, we offer these preliminary current impressions.

V. Recreation and Public Use

A. Federal Framework

The National Park Service (NPS) is responsible for the administration of Chattahoochee River National Recreation Area, a unit of the National Park System. As a result, NPS has a strong interest on the downstream flows which may affect the forty-eight mile segment of the Chattahoochee River located downstream of Buford Dam -- the precise segment that the National Park Service has been directed to manage. The adequacy of flows with respect to CRNRA is a critical concern. For instance, even reductions in Buford Dam releases associated with hydropower generation may have an impact on the CRNRA which is located downstream from the dam. The park's enabling legislation states that "*The Congress finds the natural, scenic, recreation, historic and other values of a forty-eight-mile segment of the Chattahoochee River and certain adjoining lands in the State of Georgia from Buford Dam downstream to Peachtree Creek are of special national significance, and that such values should be preserved and protected from developments and uses which would substantially impair or destroy them".* Furthermore Congress states that *"The recreation area shall consist of the river and its bed together with the lands, waters and interests therein*." (16USC460ii). Id.

The chief interest of the NPS is to assure that resources, policies, and laws for which it is responsible have been factored into the proposed water allocation formulas. Within the park's enabling legislation (Section 460ii-2(b)) Congress states that *"In planning for the development and public use of the recreation area, the Secretary shall consult with the Secretary of the Army* [i.e. the Corps of Engineers at Buford Dam] *to assure that public use of adjacent or related water resource development or flood control projects and that of the recreation area are complementary."* The relationship between Georgia, Florida, the NPS regarding the water allocation of the Chattahoochee River is perhaps different than their relationship with the other federal agencies, such as the U.S. Fish and Wildlife Service (USFWS) and the Environmental Protection Agency (EPA). The USFWS and EPA have regulatory responsibilities. In contrast, the National Park Service is primarily a land management agency. For instance, Congress states that "*The Federal Energy Regulatory Commission shall not license the construction of any dam, water conduit, reservoir, powerhouse, transmission line, or other project works under the Federal Power Act (16 U.S.C. 791a et seq.), on or directly affecting the recreation area, and no department or agent of the United States shall assist by loan, grant, license, or otherwise in the construction of any water resources project that would have a direct and adverse effect on the values for which such area is established, except where such project is determined by the State of Georgia to be necessary for water supply or water quality enhancement purposes and authorized by the United States Congress."* (460ii-3a). Later, the park's enabling legislation states that "*Each agency or instrumentality of the United States conducting Federal action upon federally owned lands of waters which are administered by the Secretary and which are located within the authorized boundary of the recreation area shall not commence such action until such time as the Secretary* [i.e. the park's Superintendent] *has concurred in such action."* (460ii4d(5)). Id.

B. Specific Suggestions

Both Florida and Georgia's draft proposals anticipate monitoring needs on the river. In that regard, it is important to remember that permitting and implementation of a monitoring program within the recreation area must be coordinated with that National Park Service. The management and approval of monitoring or research activities within the forty-eight-mile segment of the Chattahoochee River within the NPS area is the responsibility of the National Park Service. In addition, NPS will be responsible for evaluating the impacts of these activities on the NRA.

Long term drought plans identified in the proposals have not yet been developed. As a result, it is unclear how drought conditions will, over the extended life of the proposals, be managed. The effects of greater fluctuation of river levels and lower tributary levels on the recreation area's resources will be an important area of interest to the NPS.

In general, each proposal calls upon the COE to manage flows and reservoirs in specific ways. NPS will have a critical interest (especially with regard to the operation of Buford Dam) in how the formulas affect the needs, requirements and mandates regarding the resources of Chattahoochee River NRA. Given the critical concerns of the NPS with regard to the NRA, the NPS is requesting to be included in the list of potential non-voting members of the ACF Committee (the USGS, USFWS, COE, and EPA will be non-voting members).

C. Questions related to Recreation and Public Use

How will the allocation formulas account for non-permitted users of less than 100,000 gallons per day (through the year 2050)? Florida, Section 1.3; Georgia, Section 1.5.

Within the contours indicated by the February 25, 2002, letter of the Federal Commissioner, we offer these preliminary current impressions.

VI. Adaptive Management

A. Federal Framework. "Adaptive Management" like, "market analysis" in business, is a process which enables an agency to make adjustments in its management plans based upon evaluations of monitoring results. In the classic adaptive management program, an agency assesses a management problem, designs a management plan to address that problem, implements the plan, monitors the effects of the plan, evaluates the information gathered, and makes adjustments to the plan, if needed. Implementation of adaptive management programs is particularly advantageous in the management of natural resources because, typically, so little is known beforehand about the consequences of our actions on the many components of complex ecosystems. Uncertainties in our ability to predict the effects of a water allocation formula on the ACF basin's water quality, ecology, and biodiversity would favor an adaptive management process that enables the appropriate parties to adjust how the formula is implemented to meet future conditions and avoid potential issues of controversy.

Although there are no federal laws explicitly requiring the states to craft an allocation formula that is amenable to adaptive management, there are numerous federal natural resources programs resting on federal law that are based upon adaptive management models. Some federal laws will come into play during the implementation of the ACF basin water allocation formula. Thus, if included in the formula, the monitoring and evaluation components of an adaptive management program would enable the states and federal government to coordinate their implementation of the formula with pertinent federal laws and make mid-course adjustments as necessary. For example, the Environmental Protection Agency engages in a 5-year review process with respect to its NPDES permits, 40 CFR Part 122. Water quality standards under the Clean Water Act are reviewed periodically, 40 CFR 131. In the management of its reservoirs, the Corps of Engineers has operational flexibility to adjust to changing conditions in order to meet authorized purposes. Whenever the Fish and Wildlife Service issues a biological opinion in an endangered species consultation with another federal agency, it always includes a provision that requires both agencies to reinitiate consultation if either learns of unanticipated impacts or relevant new information, 50 CFR 402.16.

These are but a few of the examples of natural resource adaptive management programs executed by various branches of the federal government. Many of these programs will be implemented in a manner that is parallel to the states' water allocation formula. Thus, it is doubly important that the formula meshes with and is complementary to these federal programs and the federal discretion which they involve. A water allocation formula that would preclude or overly constrain adjustments in management would greatly increase the likelihood that federal agencies will not be able to implement all elements of that formula in order to comply with other applicable federal laws. A formula that instead defines broad but measurable objectives, and provides for a process of adaptive management to develop the specific means of achieving those objectives consistent with other laws, stands a much better chance of full implementation over the course of the almost 50-year plus time frames that have been proposed. Thus, adaptive management would not impede the function of the Commission, but would measurably enhance its ability to manage water within the basin.

The basic format of an adaptive management program is already present within the allocation formula, as contained in the sections on Periodic Review (FL 3.5, GA 3.5), Water Supply (FL 2.1, GA 2.5), Use Limitations (FL 2.4, GA 2.9)), ACF Basin Commission Structure (FL 3.2, GA 3.2), Drought Plan (FL 3.3B, GA 3.3B), Monitoring and Reporting (FL 3.3C, GA 3.3C), and the Scientific Advisory Panel (FL 3.4, GA 3.4). The following proposals (combined with V. Public Participation below) are not intended to alter the allocation formula. Rather the intent is to expand upon the formula's existing provisions and create an

adaptive management program in which the activities and functions of the ACF Commission, state governments, and federal agencies are fully integrated.

Within the contours indicated by the February 25, 2002, letter of the Federal Commissioner, we offer these preliminary current impressions.

VII. Public Participation During Implementation

A. Federal Framework. There are many federal programs that have 5 year or shorter review periods to insure that regulated activities are consistent with statutory authorizations and new technology or other factors are considered. In the case of NPDES permits and Water Quality Standards, these must be reviewed and modified in accordance with statutory requirements and implementing regulations**.**

For example, typical Federal review periods for water resource activities involve up to 5 year cycles:

- NOAA National Marine Sanctuary Management Plans
- NOAA National Estuarine Research Reserve Management Plans
- Clean Water Act NPDES Permits, 33 USC '1342
- EPA/STATE CWA Basin Cycles Continual Planning Process, 33 USC '1313(e), including TMDL development 33 USC '1313(d).
- Clean Water Act Dredge and Fill Permits, 33 USC ' 1344
- Clean Water Act 33 USC '1313(c) Triennial Water Quality Standard reviews

Public participation is, in some instances, required or provided at several decision nodes: the scope of content to define issues to be reviewed; information and data provided during technical evaluation; and comments on generated reports and findings prior to final publication and or action. Under most statutory provisions, public participation is required to give affected parties the opportunity to review and comment on actions that may affect their interests. It also provides decision makers with important information that is relevant to their regulatory decisions.

Public participation is consistent with the requirements of the ACF Compact.

- Compact language requires that the Commission meet once every year [Section VI(e)].
- Compact language requires all meetings to be open to the public [Section VI(f) & XI].
- Compact language requires the adoption of procedures to ensure public participation in the development, review, and approval of any subsequent modifications to the initial allocation formula [Section XI].

To insure consistency and allow for the use of information gathered, the ACF Formula could consider providing 5-year review periods.

B. Adaptive Management (VI) & Public Participation During Implementation (VII)
Specific Suggestions

Based on our current impressions, the following annotations on the Florida January 14, 2002 Draft Allocation Formula Agreement are provided to address issues identified under the concepts of adaptive management and public participation. In italics and prior to each proposed edit, an explanation is provided as background.

1. *The non-voting members of the ACF Committee need to include additional federal representation to insure that the federal government can provide full and timely comments on issues raised. This would include specifically the National Park Service and the second paragraph could also be edited to allow the Federal Commissioner to appoint additional representatives as needed to address issues that are in front of the Committee.*

3.2 - ACF Committee Structure and Operation
Upon the Effective Date of this agreement, an ACF Committee shall be established in accordance with this Section. The ACF Committee shall be composed of voting and non-voting members. The voting members shall consist of one member and one alternate member appointed by the Governor of the State of Alabama, one member and one alternate member appointed by the Governor of the State of Florida, and one member and one alternate member appointed by the Governor of the State of Georgia. Each State shall have one vote. All decisions and actions of the ACF Committee shall require unanimous approval. In a voting member=s absence, the alternate member shall be considered the voting member for that State and shall cast the State=s vote and shall otherwise exercise the same power and authority as the voting member representing that State.

The non-voting members shall include a representative of the USGS, a representative of the COE, a representative of the NPS, a representative of the APCO, and ~~a representative~~ other representatives appointed by the Federal Commissioner. The ACF Committee may, by unanimous vote, select other Persons to meet with the ACF Committee from time to time or on a regular basis, but, the invitation to such Person shall not be intended as a recognition of any asserted interest of that Person and may be withdrawn at any time. No actions taken by the ACF Committee or its members shall be construed as actions of the ACF Basin Commission under the ACF Compact, except as expressly delegated to the ACF Committee by this Agreement or by future actions of the ACF Basin Commission.

2. *The drought plan is an integral part of the Compact and the allocation formula. The plan will clearly modify any allocation of water within the Allocation Agreement. It will have to be reviewed under NEPA, most likely as a supplement to the planned EIS for the Allocation Agreement. Under the proposed formula, the Federal Commissioner does not have a review or concur/non-concur role. The edits below acknowledge that the Drought Plan is a critical part of the Formula. They also reflect the record of the comments received during the drought plan as a deliverable to the Basin Commission. This will provide a clearer record of the Plan and allow the Federal Commissioner to complete a NEPA analysis and review of the plan in a timely manner. In addition, to ensure the protection of the natural resources and public use of the system we have added an additional bullet for consideration in the development of the drought plan.*

3.3 B. Drought

1. Drought Plan

Within three (3) years of the effective date of this Agreement, the ACF Committee shall, develop and submit to the ACF Basin Commission for approval a drought plan for the ACF Basin including a record of comments received during the development of the Drought Plan. Upon approval, the Commission shall submit the Drought Plan to the Federal Commissioner for review and concurrence/non-concurrence consistent with the review criterion of the Water Compact *(Article VII (a)).* Until a drought plan has been approved by the ACF Basin Commission and become effective, the Interim drought plan set forth in this Subsection 3.3 shall apply.

The drought plan, which may incorporate all or part of the interim drought plan, may include without limitation:

- Procedures for identifying the onset and progression of drought stages, using any appropriate combinations of flow, rainfall, soil moisture, and reservoir level indicators;
- A tiered process of notices and mitigating actions; ~~and~~
- Procedures for identifying the recession and termination of drought stages; and
- Procedures for protecting natural resources and public uses

3. *We agree that providing an electronic data base for public access is the most efficient means to provide this information in a timely manner. However, we believe the data base should include all data obtained. Recognizing the inherent costs associated with this type of program, we have suggested a requirement to seek funding to support the monitoring program. We need a definition or explanation of "reasonable and practicable" as used in C.2. to better understand the basis for not monitoring and reporting. As part of providing meaningful information to the Committee, the Commission, and the public, we have recommended sending the monitoring information to the Scientific Advisory Panel for the development of an annual monitoring report. The change to 3.3.C.2.f. clarifies the possible sources of data that should be utilized. Also includes a new provision, 3.3.C.2.h. Provides for a comparison of withdrawals to the demand assumptions used in the modeling and development of the allocation formula to track how consumption compares with the assumed withdrawals.*

3.3 C. Monitoring and Reporting

1. Within twelve (12) months of the effective date of this Agreement, the ACF Committee shall create an electronic database that shall be accessible by the public. The electronic database ~~may~~ shall include data obtained by the ACF Committee pursuant to Paragraph C.2 of this Subsection 3.3.

2. As of the effective date of this Agreement, the ACF Committee shall use best efforts to secure funding from governmental or other sources of funding to carry out a program of monitoring within the ACF Basin. T~~, to~~ the extent reasonable and practicable, the ACF Committee shall monitor and collect the following:

f. Wildlife and biota data obtained from any qualified sources including, federal, state or local wildlife or environmental agencies to ~~provide information~~ build a database on species and habitats including any biotic performance indicators within the ACF Basin and establish long-term trend information on the natural resources of the system.

h. By the end of the second quarter of each calendar year at a minimum, each State shall provide to the ACF Committee information for the preceding four quarters (compiled on a monthly basis) summarizing for the preceding calendar year all Surface Water Withdrawals and Returns in excess of 0.10 MGD within the ACF Basin and a comparison to the annual demand assumptions used in the modeling and development of the

allocation formula, and all Interbasin Transfers from the ACF Basin to another Basin, among other specifications identified by the ACF Basin Commission. Additionally, each State shall provide to the ACF Commission the location (defined by latitude and longitude) of each Withdrawal and Return and shall update this information as necessary. In the event the ACF Basin Commission determines that drought conditions exist anywhere within the ACF Basin, the ACF Commission may require that the States provide the information described in this Paragraph C.2.f of this Subsection 3.3 on a more frequent basis.

4. *Adds an annual data reporting requirement that must be done by the Scientific Advisory Panel and reported to the Committee. This will allow all data collected to be readily available in a report format for Committee and public review. It also includes a public review and comment role for all reports generated by the Scientific Advisory Panel. We have also included an additional matter for review by the Scientific Advisory Panel. This last requirement tiers off of the data reporting requirement in C.2.f., expanding on the collection and analysis of wildlife and biota data to provide a basis for determining if ecological impacts are occurring as a result of the ACF formula implementation, thus allowing adaptive management.*

3.4 - Scientific Advisory Panel

Within three (3) years of the effective date of this Agreement a Scientific Advisory Panel shall be formed and shall consist of twelve experts in the fields of hydrology, water quality, and biology. Four panel members shall be experts in hydrology, four in water quality, and four in biology. Each member will serve a three-year term. The three Governors and the Federal Commissioner will each select three panel members, one from each field of expertise. A chairperson will be elected by the panel members each year. Panel members will not be entitled to compensation by the ACF Basin Commission. The Scientific Advisory Panel shall develop and submit to the Committee annual reports summarizing and including all data collected under subsection 3.3.C.2, and review, consider, study, and make recommendations to the ACF Committee on such matters as are referred to the panel by the ACF Basin Commission. Such matters shall include but are not limited to:

- developing a list of ACF Basin performance indicators that reflect the overall status of water resources and the natural systems that depend on them; that measure biotic response to water flow alteration; and that determine the effects of water management on ecosystems;
- determining what data will be necessary to fully assess the performance indicators and recommending the collection of such data;
- reviewing monitoring data, reports, and status of ACF Basin performance indicators;
- recommending to the ACF Committee modifications to monitoring and reporting requirements if such modification are appropriate;
- preparing and submitting to the ACF Committee an annual report summarizing the foregoing;
- preparing and submitting to the ACF Committee the reports described in Subsection 3.5 of this Agreement.

The Scientific Advisory Panel shall synthesize Wildlife and Biota data collected under C.2. above to determine if existing programs are sufficient to identify ecological impacts that result from implementation of the ACF Allocation Formula. If the Scientific Advisory Panel determines that existing monitoring programs are inadequate, the Scientific Advisory Panel shall develop a monitoring proposal in partnership with any state of federal agency or any other public or private entity and submit this report to the ACF Basin Commission. All reports prepared by the Scientific Advisory Panel shall include the opportunity for public input.

5. *There is concern that 10 years is a long period of time before the first review and for the subsequent reviews of the formula are conducted. As noted, experience in the permitting and other regulatory programs has led the federal agencies to focus on a 5-year or less review period as a reasonable scope of time (e.g. to review and possibly modify permits, water quality standards (triennial review) or assess compliance with the ESA). This interval will also provide additional information to be used by the states and the federal government to use in making timely regulatory decisions.*

The other strikeout is tied to changes to the Scientific Advisory Panel discussed above. These changes are consistent with the approach discussed in Subsection 3.4.

3.5 - Public Participation

On or before the ~~tenth and twenty-fifth anniversaries~~ fifth anniversary and each subsequent fifth anniversary of the date on which performance under Section 2 of this Agreement commences, the ACF Basin Commission shall publish a report discussing the implementation and effectiveness of this Agreement. Such report shall be made available to the public. At a minimum, the ACF Basin Commission shall conduct at least one public hearing within each of the States of Alabama, Florida, and Georgia, soliciting public comments on the report and this Agreement. Such public hearings shall be conducted by the ACF Basin Commission or its designated representatives. The ACF Basin Commission shall respond in writing to all comments regarding the report and shall publish a final report, which shall include the written response to all comments, within 120 days of the conclusion of the public hearings. ~~Thereafter, the~~ The Commission may publish additional reports and provide the public an opportunity to review and comment upon such reports.

Attachment A -- Historical statistics (1922-2001) for non-drought minimum flows

[Non-drought minimum flows are from table 4 of the ACF Allocation Formula Agreement (Florida version) and are the minimum monthly mean flows required at the Apalachicola River at Chattachoochee, Florida, gaging station with no drought relief in effect. Zones represent reservoir levels from high (Zone I) to low (Zone IV) and are determined by total composite storage for West Point Lake and Lake Walter F. George as specified in Appendix B of the agreement. Percentage of months in 80-year period of record with monthly mean flows at or below non-drought minimum flows were calculated as follows: ((number of months with mean monthly flow less than non-drought minimum) / 80) x 100. These percentages were calculated individually by month, but without regard to reservoir zones or drought-relief/non-drought conditions. Historical flows in the first three columns give the maximum, mean, and minimum monthly mean flows for the period of record to show the range of flows under all conditions. **Values in bold type represent non-drought minimum flows that are lower than 90% of the monthly mean flows in the period of record.**]

	Historical monthly mean flow, in cfs[1]			ZONE I non-drought minimum flow, in cfs	Percentage of months in 80-year period of record with monthly mean flows at or below indicated flow [1]	ZONE II non-drought minimum flow, in cfs	Percentage of months in 80-year period of record with monthly mean flows at or below indicated flow [1]	ZONE III non-drought minimum flow, in cfs	Percentage of months in 80-year period of record with monthly mean flows at or below indicated flow [1]	ZONE IV non-drought minimum flow, in cfs	Percentage of months in 80-year period of record with monthly mean flows at or below indicated flow [1]
	Maximum	Mean	Minimum								
January	108,100	28,510	7,260	**10,000**	**2.5%**	**9,000**	**1.3%**	**7,300**	**1.3%**	**7,300**	**1.3%**
February	67,310	33,460	10,420	**11,000**	**1.3%**	**11,000**	**1.3%**	**10,400**	**0%**	**10,400**	**0%**
March	171,600	40,810	12,780	**13,000**	**1.3%**	**12,500**	**0%**	**11,000**	**0%**	**11,000**	**0%**
April	80,700	34,020	10,880	**12,500**	**1.3%**	**12,500**	**1.3%**	**12,200**	**1.3%**	**12,200**	**1.3%**
May	53,260	21,820	8,410	**11,000**	**7.5%**	**10,000**	**6.3%**	**8,500**	**1.3%**	**5,000**	**0%**
June	43,670	17,050	4,830	12,000	21%	11,000	18%	**9,000**	**8.8%**	**5,000**	**1.3%**
July	87,780	16,890	5,120	12,000	29%	10,000	14%	**8,500**	**5.0%**	**5,000**	**0%**
August	32,250	15,150	4,750	11,000	21%	9,000	11%	**7,000**	**5.0%**	**5,000**	**1.3%**
September	29,900	12,320	5,550	10,500	36%	8,000	15%	**6,500**	**5.0%**	**5,000**	**0%**
October	38,500	12,350	5,320	9,500	33%	7,500	18%	**5,300**	**0%**	**5,000**	**0%**
November	31,790	13,080	5,520	8,000	16%	**7,000**	**10%**	**5,600**	**1.3%**	**5,000**	**0%**
December	70,390	19,850	7,580	**8,000**	**3.8%**	**7,500**	**0%**	**7,300**	**0%**	**5,000**	**0%**

Attachment B -- Historical statistics (1922-2001) for drought-relief minimum flows

[Drought-relief minimum flows are from table 8 of the ACF Allocation Formula Agreement (Florida version) and are the minimum monthly mean flows required at the Apalachicola River at Chattachoochee, Florida, gaging station with drought relief in effect. Zones represent reservoir levels from high (Zone I) to low (Zone IV) and are determined by total composite storage for West Point Lake and Lake Walter F. George as specified in Appendix B of the agreement. Percentage of months in 80-year period of record with monthly mean flows at or below drought-relief minimum flows were calculated as follows: ((number of months with mean monthly flow less than drought-relief minimum) / 80) x 100. These percentages were calculated individually by month, but without regard to reservoir zones or drought-relief/non-drought conditions. Historical flows in the first three columns include 25th percentile flows which represent typical dry conditions, and 10th percentile and minimum flows which typically occur during drought conditions. **Values in bold type represent drought-relief minimum flows that are less than the lowest monthly mean flows in the period of record.**]

	Historical montly mean flow, in cfs [1]			ZONE I drought-relief minimum flow, in cfs	Percentage of months in 80-year period of record with monthly mean flows at or below indicated flow [1]	ZONE II drought-relief minimum flow, in cfs	Percentage of months in 80-year period of record with monthly mean flows at or below indicated flow [1]	ZONE III drought-relief minimum flow, in cfs	Percentage of months in 80-year period of record with monthly mean flows at or below indicated flow [1]	ZONE IV drought-relief minimum flow, in cfs	Percentage of months in 80-year period of record with monthly mean flows at or below indicated flow [1]
	25th percentile	10th percentile	Minimum								
January	16,950	13,110	7,260	**7,000**	**0%**	**7,000**	**0%**	**5,000**	**0%**	**5,000**	**0%**
February	23,120	16,440	10,420	**9,500**	**0%**	**9,000**	**0%**	**5,000**	**0%**	**5,000**	**0%**
March	25,500	20,110	12,780	**10,000**	**0%**	**9,000**	**0%**	**5,000**	**0%**	**5,000**	**0%**
April	21,360	17,740	10,880	**10,000**	**0%**	**9,000**	**0%**	**5,000**	**0%**	**5,000**	**0%**
May	14,650	12,120	8,410	9,500	3.8%	9,000	3.8%	**5,000**	**0%**	**5,000**	**0%**
June	12,880	9,390	4,830	9,500	11%	9,000	8.8%	5,000	1.3%	5,000	1.3%
July	11,610	9,650	5,120	9,000	5.0%	8,500	5.0%	**5,000**	**0%**	**5,000**	**0%**
August	11,530	8,630	4,750	8,000	7.5%	6,500	5.0%	5,000	1.3%	5,000	1.3%
September	9,600	7,310	5,550	6,500	5.0%	6,000	2.5%	**5,000**	**0%**	**5,000**	**0%**
October	8,720	6,960	5,320	6,000	7.5%	**5,300**	**0%**	**5,000**	**0%**	**5,000**	**0%**
November	9,040	7,090	5,520	5,600	1.3%	5,600	1.3%	**5,000**	**0%**	**5,000**	**0%**
December	11,600	9,390	7,580	**7,000**	**0%**	**6,000**	**0%**	**5,000**	**0%**	**5,000**	**0%**