

Georgia Environmental Protection Division
Middle Chattahoochee Water Council
U.S. Army Corps of Engineers Water Control Manual Status

I. BACKGROUND ON ARMY CORPS OPERATION OF RESERVOIR LEVELS IN THE APPALACHICOLA-CHATTAHOOCHEE-FLINT (ACF) BASIN

The U.S. Army Corps of Engineers (Corps of Engineers) Mobile District operates five Federal reservoir projects on the Chattahoochee River: Buford Dam (Lake Lanier), West Point Dam, Walter F. George Lock and Dam, George W. Andrews Lock and Dam, and Jim Woodruff Lock and Dam (Lake Seminole). These are multi-purpose projects for which operations have been congressionally authorized (see Section 2 of the Water Development and Conservation Plan, Table 2-1).

The Corp of Engineer's current ACF operations are guided by the Master Water Control Manual drafted in 1989 and interim operating procedures established in 2006 and later in 2008. The manual has never received congressional authorization and has been the centerpiece for the highly contentious tri-state water wars. The manual is intended to set operational guidelines to "*achieve and balance all authorized project purposes*" by operating the federal projects as a system¹.

In March of 2006 the Corps of Engineers consulted with the US Fish and Wildlife Service (USFWS), regarding the effects of existing operations at Jim Woodruff Dam and releases to the Apalachicola River on endangered and threatened species and associated critical habitat. Specific species included:

- the gulf sturgeon;
- the fat threeridge mussel;
- the purple bankclimber mussel; and
- the chipola slabshell mussel.

The formal consultation on what was termed the Interim Operation Plan was completed with the issuance of a Biological Opinion in September of 2006. The Corps of Engineers consulted with USFWS in April of 2008, to consider further revising the Interim Operation Plan, to be known as the Revised Interim Operation Plan (RIOP) to include a drought contingency plan while still

¹ Andy Ashley, Chief of Water Management USACOE, Mobile District, *ACF Water Control Manual Update*, slides presented at the Middle Chattahoochee Water Council meeting on June 22, 2010.

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providing support for federally listed species and their critical habitat. USFWS issued a final Biological Opinion in June of 2008, determining that this RIOP would not significantly impact the federally listed species. While the RIOP is intended to govern releases from Jim Woodruff dam, the Corps of Engineers attempts to operate the entire system of Federal Reservoirs while trying to meet the project purposes during critical drought periods.

The Corps of Engineers has defined four action zones for Buford, West Point, and Walter F. George that were intended to balance system-wide storage and authorized uses. Although the 1989 Water Control Manual does not fully explain the action zones on which it based the Apalachicola-Chattahoochee-Flint Basin operations, the Corps uses the action zones to manage the lakes at the highest level possible for recreation and other purposes that benefit from high lake levels. The Corps describes those action zones as follows:

- Action Zone 1 indicates that releases can be made in support of seasonal navigation when the channel has been adequately maintained and hydropower releases, water supply, and water quality releases are met. If all the lakes are in Zone 1 or above, the river system would operate in a fairly normal manner.
- Action Zone 2 indicates that water to support seasonal navigation may be limited. Hydropower generation is supported at a reduced level. Water supply and water quality releases are met. Minimum flow targets are met.
- Action Zone 3 indicates that water to support seasonal navigation may be significantly limited. Hydropower generation is supported at a reduced level. Water supply and water quality releases are met. Minimum flow targets are met.
- Action Zone 4 indicates that navigation is not supported. Hydropower demands will be met at minimum level and may only occur for concurrent uses. Water supply and water quality releases are met. Minimum flow targets are met.
- Drought Zone indicates that a lower level of storage within Action Zone 4 has been reached. More specifically, the drought zone includes a volume of water equal to the approximate sum of the inactive storage in lakes Lanier, West Point and Walter F. George plus the Action Zone 4 storage in Lake Lanier.

According to the RIOP, the Corps of Engineers releases seasonal outflows from Woodruff Dam based upon basin inflow and available storage, measured in terms of composite storage. A minimum release from the Woodruff Lock and Dam at Lake Seminole of 5,000 cubic feet per

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second is established to address protection of endangered and threatened species and critical habitat in the Apalachicola River. Per the RIOP, this flow target can be reduced to 4,500 cubic feet per second when the composite storage of the three major reservoirs falls within the drought zone. The flow release requirements per the RIOP are summarized in Table I-1.

Table I-1. RIOP Releases from Jim Woodruff Lock and Dam

Months	Composite Storage Zone	Basin Inflow (BI) (cfs)	Releases from JWLD (cfs)	Basin Inflow Available for Storage ¹
March - May	Zones 1 and 2	$\geq 34,000$	$\geq 25,000$	Up to 100% BI $> 25,000$
		$\geq 16,000$ and $< 34,000$	$\geq 16,000 + 50\% \text{ BI} > 16,000$	Up to 50% BI $> 16,000$
		$\geq 5,000$ and $< 16,000$	$\geq \text{BI}$	
		$< 5,000$	$\geq 5,000$	
	Zone 3	$\geq 39,000$	$\geq 25,000$	Up to 100% BI $> 25,000$
		$\geq 11,000$ and $< 39,000$	$\geq 11,000 + 50\% \text{ BI} > 11,000$	Up to 50% BI $> 11,000$
		$\geq 5,000$ and $< 11,000$	$\geq \text{BI}$	
		$< 5,000$	$\geq 5,000$	
June - November	Zones 1,2, and 3	$\geq 24,000$	$\geq 16,000$	Up to 100% BI $> 16,000$
		$\geq 8,000$ and $< 24,000$	$\geq 8,000 + 50\% \text{ BI} > 8,000$	Up to 50% BI $> 8,000$
		$\geq 5,000$ and $< 8,000$	$\geq \text{BI}$	
		$< 5,000$	$\geq 5,000$	
December - February	Zones 1,2, and 3	$\geq 5,000$	$\geq 5,000$ (Store all BI $> 5,000$)	Up to 100% BI $> 5,000$
		$< 5,000$	$\geq 5,000$	
At all times	Zone 4	NA	$\geq 5,000$	Up to 100% BI $> 5,000$
At all times	Drought Zone	NA	$\geq 4,500$ ²	Up to 100% BI $> 4,500$

¹ Consistent with safety requirements, flood control purposes, and equipment capabilities.

² Once composite storage falls below the top of the Drought Zone ramp down to 4,500 cfs will occur at a rate of 0.25 ft/day drop.

Source: Biological Opinion on the U.S. Army Corps of Engineers, Mobile District, Revised Interim Operating Plan for Jim Woodruff Dam and the Associated Releases to the Apalachicola River, U.S. Fish and Wildlife Service Panama City Field Office, Florida June 1, 2008

The data presented in Table I-1 is illustrated in Figures I-1 through I-3 showing the seasonal relationship between basin inflow and required releases below the Jim Woodruff Lock and Dam. These figures have been re-adapted from a Georgia Water Resources Institute of Georgia Tech Modeling Presentation given at the Middle Chattahoochee Region’s Council Meeting 7 held September 14, 2010². These graphic were derived from the basin inflow versus releases relationships shown in Table I-1.

² This presentation is provided on the Middle Chattahoochee Council’s website as the Georgia Water Resources Institute of Georgia Tech Modeling Presentation supplemental document.

http://www.middlechattahoochee.org/pages/our_plan/index.php

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Figure I-1. Spawning Period RIOP Requirements

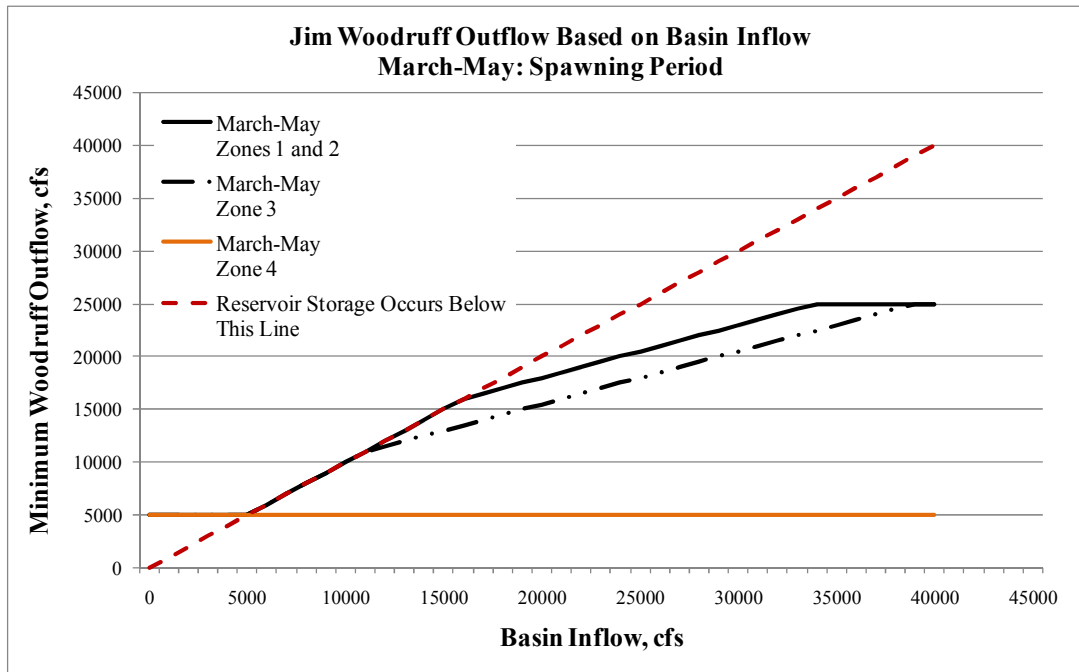
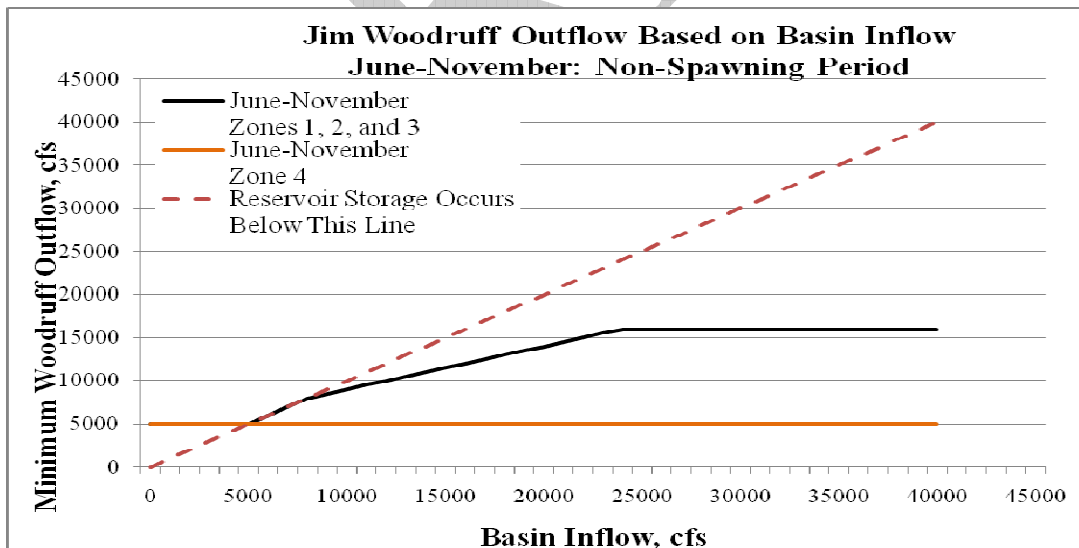


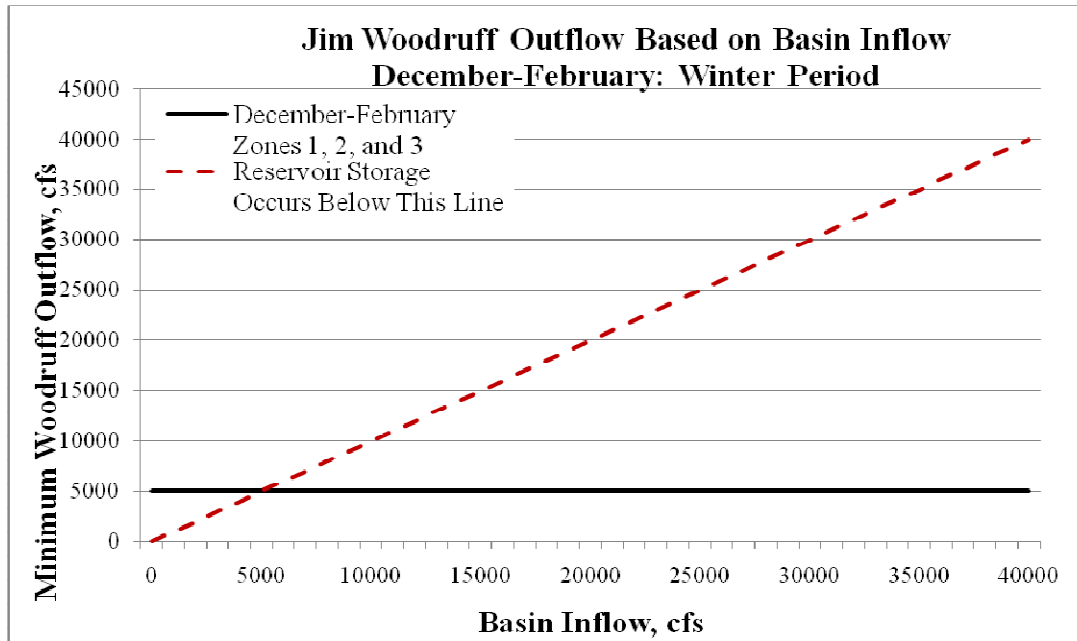
Figure I-1 shows that the seasonal inflow targets below which water can be held back for storage are exceedingly stringent. This has had the effect of prolonging storage deficits throughout the basin on the order of several years when drought conditions are experienced.

Figure I-2. Non-Spawning Period RIOP Requirements



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Figure I-3. Winter Period RIOP Requirements



II. Summary of Multi-District Litigation Rulings (Phases 1 and 2)

At the time the Middle Chattahoochee Water Development & Conservation Plan (WDCP) was being written, federal Judge Magnuson had issued two rulings on the consolidated litigation between the Corps of Engineers, Georgia, Alabama, and Florida disputing Corps operations of the Federal reservoirs. Phase 1 of the ruling, filed on July 17, 2009, addressed issues relating to the Corps’ operation of Buford Dam and Lake Lanier. The results of this ruling included the following major decisions:

- The Water Supply Act of 1958 requires congressional approval for major structural or operational changes outside of a projects authorized use. The Army Corps’ operations in the ACF Basin, specifically for the Lake Lanier/Buford Dam project, violate the stipulations defined in the Water Supply Act of 1958.
- The Corps’ execution of water supply contracts and installation of water intake structures in Lake Lanier were done so without proper congressional authorization.
- Judge Magnusson denied the action by Columbus Water Works to seek additional flows from upstream resources.

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The Court has called for a stay in Phase 1 of this litigation for three years, to allow Georgia, Alabama, and Florida to obtain Congress's approval for the operational changes the water-supply providers request. During this time operation of the ACF Basin will continue under the 1989 draft Water Control Manual. In the absence of an agreement between the parties, the authorized withdrawal quantities for Lake Lanier will be reduced back to the baseline operation of the mid 1970's.

The Judge emphasized the relevance of adhering to original authorizations as an important element in water resource planning. The Judge stated that the draconian ruling presented in Phase 1 is based upon the recognition of how far operation within the basin has strayed from original congressional authorizations.

In Phase 2 of the Multi-District Litigation, filed on July 21, 2010, Judge Magnuson addressed claims made that the Corps' flow management requirements below Woodruff Dam violated the Endangered Species Act (ESA) and the National Environmental Protection Act (NEPA). The Army Corps received Biological Opinions from the U.S. Fish and Wildlife Service in 2006 regarding Interim Operations Plan (IOP) flows and impacts to listed species and again in June 2008 to address revisions to the IOP (RIOP) which included extraordinary drought operations (EDO) established during the drought of 2007. The results of this ruling included the following major decisions:

- The Judge found no evidence to the claims that minimum flows and flow ramping procedures below Woodruff Dam were in violation of the ESA. Furthermore, no basis for dismissal of the Biological Opinions produced by the U.S. Fish and Wildlife Service were deemed to be warranted.
- The Judge identified that the Corps' operation of the ACF Basin under the draft 1989 Water Control Manual was founded without proper environmental analysis and is in violation of the NEPA.
- The Judge ruled that an Environmental Impact Statement, required under the NEPA will not be required for the interim operating plan since it is set to expire in July 2012.
- An Environmental Impact Statement will be required of the Corps for the update to the ACF Water Control Manual.
- Once again Judge Magnuson denied action by the Columbus Water Works to seek more flow for waste assimilation needs.

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III. U.S. Army Corps of Engineers Water Control Manual Update for the ACF Basin

The interim operating protocol of the RIOP is scheduled to be revised or replaced in June 2012 by an updated Master Water Control Manual. The manual is expected to include updated protocol with regards to drought operations and an updated Environmental Impact Statement as required by NEPA. The Corp of Engineer's response to the 2009 Magnuson Ruling was to reopen scoping on the Master Water Control Manual update. Subsequently, the Corps of Engineers, Mobile District conducted public scoping in fall 2008 to initiate preparation of an Environmental Impact Statement (EIS) regarding implementation of an updated Master Water Control Manual for the Apalachicola-Chattahoochee-Flint (ACF) River Basin (Master Manual) in Alabama, Florida, and Georgia³. The Corp of Engineers reopened the public scoping in fall 2009⁴. During both scoping processes, stakeholders from the area comprising the Middle Chattahoochee Water Council provided comments.

The updated Master Water Control Manual will reflect Judge Magnuson's court ruling of July 17, 2009 reverting the Buford Dam project to mid 1970's baseline operation. The Governors of Alabama, Georgia, and Florida, however, may submit a reservoir operation agreement for consideration and possible referral to Congress if consensus is achieved. On March 9, 2011, Georgia requested that such restrictions on the use of Lake Lanier for water supply be overturned in front of the eleventh U.S. Circuit Court of Appeals, which has not yet made their final ruling.

As a matter of record for the Middle Chattahoochee Council's efforts in writing the Water Development & Conservation Plan, it should be made clear that the Master Water Control Manual update had not been issued at the time of the plan preparation. A draft manual and revised IOP are scheduled to be published for public comment in July 2011, after the Council is scheduled to deliver a recommended Water Development and Conservation Plan to EPD.

As noted in Sections 2, 3, 5, 6, 7, and 8 of the Middle Chattahoochee Region's Water Development and Conservation Plan, the Council has made clear that the 1989 Water Control

³ USACOE Mobile District, *Final Scoping Report, Environmental Impact Statement, Update of the WCM for the ACF in AL, FL and GA*, January 2009.

⁴ USACOE Mobile District, *Updated Scoping Report, Environmental Impact Statement, Update of the WCM for the ACF in AL, FL and GA*, March 2010.

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Plan and the current RIOP are both inadequate. In fact, the Council has stated that these operational practices contribute to many of the river and lake problems that cause social, economic, biological, supply and quality gaps along the Chattahoochee. In his ruling in Phase 2 of the Multi-District Litigation Judge Magnusson stated: ‘The Corps’s rather cavalier attitude towards its duties under NEPA is distressing to say the least. The Court is troubled by the Corps’s refusal to take responsibility for its utter failure to conduct any sort of environmental analysis whatsoever on the plan (1989 WP) by which it operated the ACF basin for more than 20 years.’”

For the Council this means that stakeholders along the middle Chattahoochee reach of the river have been denied the opportunity to participate in the vetting of the current water control plan in accordance with NEPA standards. This comment by Judge Magnusson underscores the need for this Council and all stakeholders throughout the ACF system to remain vigilant, and to hold agencies engaged in making changes accountable for their proposed actions pursuant to NEPA. The Council has also been clear that a desired state of operations of the ACF Basin would look more like the results presented by Dr. Aris Georgakakis of Georgia Tech at Council Meeting 7 held September 14, 2010.⁵ It is the Council’s expectation that the revised Master Control Manual and new IOP will provide similar results and put forth significant operational changes contemplated by the Council to address the gaps.

⁵ An important aspect to keep in mind is that the models being utilized by EPD were developed and are similar to those developed by Georgia Tech. Any differences of the model outputs are due primarily to modified inputs or constraints. Dr. Georgakakis emphasized that with the same inputs and constraints, the two models will yield essentially the same result.